



**HISTORIC PRESERVATION BOARD MEETING
CITY OF ST. PETE BEACH
COMMISSION CHAMBERS**

155 Corey Avenue
St. Pete Beach, FL 33706

Thursday, May 2, 2024
2:30 PM

Call to Order
Pledge of Allegiance
Roll Call

REGULAR MEETING

1. Approval of the Agenda -

Action Request: Motion to approve the May 2, 2024 agenda.

2. Audience Comments -

Comments shall be limited to three minutes for general or agenda items. Please complete a comment card and submit it to the Clerk. Once you are called, please come to the podium and state your name and address for the record.

3. Approval of Minutes

a. March 7, 2024 Workshop and Regular Minutes

4. Action Items -

a. Election of Officers 2024-25

Sec. 22-208. - Officers.

The members of the historic preservation board shall elect a chair and a vice-chair for a one-year term each.

Current Chair Bill Loughery; Current Vice Chair Tia Hockensmith

Requested Action:

Motion to appoint _____ as the Committee Chair for 2024-25.

Motion to appoint _____ as the Committee Vice Chair for 2024-25.

5. Discussion Items

a. Land Development Code Division 20 & 40 - Draft Review

Staff seeks Historic Preservation Board input on collected proposed modifications to the Pass-A-Grille Overlay District and Community Redevelopment District: Eighth Avenue. After Board review, this item will be scheduled for joint workshop review with the City Commission in Summer 2024.

b. Flood Mitigation Options for Historic Buildings

Review of the Secretary of Interior's new guidelines for rehabilitating historic properties in floodplain areas.

c. Historic Grant Status

Updates on current and pending historic survey grants.

d. Mixed-use Redevelopment Along Eighth Avenue

Staff requests input from the Historic Preservation Board regarding whether reconstruction of a detached accessory dwelling on existing and maintained commercial parcels along Eighth Avenue meets the intent of "Residential uses as a component of a vertically mixed-use development", as permitted in the CRD-EA. This would be in lieu of constructing dwelling units on the upper floor(s) of a commercial structure, which may more explicitly meet the requirement.

6. Information Items -

a. Exclusion of properties east of 19th through 21st Ave from the Pass-a-Grille Overlay District

This item provides context for the exclusion of the commercial properties east of Pass-A-Grille Way between 19th and 21st Aves when the current zoning map was adopted in 2003.

b. New residences: 3101 & 3105 Pass-A-Grille Way

Providing, for informational purposes, new home plans for 3101 and 3105 Pass-A-Grille Way. These properties underwent rezoning and subdivision in 2018 through 2020 and are located in the RM Residential District outside of the Pass-A-Grille Overlay District, but are located south of 32nd Ave.

7. Next Meeting: June 6, 2024

8. Adjournment -

APPEAL: In accordance with 286.0105, Florida Statute (Notices of meetings and hearings must advise that a record is required to appeal), if a person decides to appeal any decision made by this committee, board, agency, or commission with respect to any matter considered at this meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

AMERICANS WITH DISABILITIES ACT (ADA): In accordance with the Americans with Disabilities Act and Florida Statutes, if any person with a disability defined by the ADA needs special accommodation to participate in this proceeding, then not later than two business days prior to the proceeding, he or she should contact City Hall at (727) 367-2735.

The public is cordially invited to attend this meeting.

All agenda material is available for review at City Hall or www.stpetebeach.org.

DRAFT HISTORIC PRESERVATION BOARD MINUTES

March 7, 2024 - 2:30 PM

PRESENT: Bill Loughery, Chair
Sean Hurley, Member
Danielle Dashiell, Member
Holly Young, Member

ABSENT: Tia Hockensmith, Vice Chair

STAFF PRESENT: Jennifer McMahon, Chief Operating Officer; Matthew McConnell, Assistant City Attorney; Ariana Wilson, Admin. Assistant Clerk's Office; Kristin Coman, Senior Planner; Brandon Berry, Senior Planner; Lynn Rosetti, Consultant

Chair Loughery called the meeting to order at 2:31 PM.

1. Approval of the Agenda – Ms. McMahon requested to add a discussion item on The Island Festival and Chair Loughery requested an update on the alleyway garbage project.

Motion: Chair Loughery moved, and Member Dashiell seconded the approval of the agenda with the additions; the motion carried unanimously.

2. Audience Comments – There were no audience comments.
3. Approval of Minutes – a. **February 1, 2024 Workshop and Regular Meeting**

Motion: Member Dashiell moved, and Member Young seconded the approval of the February 1, 2024 regular and workshop minutes as presented; the motion carried unanimously.

4. Action Items –

a. Local Historic Designation #24008: 3601 Casablanca Ave.

Consultant Lynn Rosetti reviewed a presentation that included exhibits, photos, and zoning criteria. Her presentation is made part of the record. Staff recommendation was for approval.

Resident Martin Lott was present and expressed his support for the historic designation.

Motion: Member Young moved, and Chair Loughery seconded the approval of the Local Historic Designation #24008: 3601 Casablanca Ave.; the motion carried unanimously.

b. Certificate of Appropriateness #24009 & FEMA Variance #24010: 3601 Casablanca Ave.

Consultant Lynn Rosetti reviewed a presentation that included exhibits, photos, and zoning criteria. Her presentation is made part of the record. Staff recommendation was for approval. Ms. Rosetti informed the board that the Applicant provided extensive details of future plans with the property. These plans can be found in the meeting packet.

Applicant and property owner, Mike Clarke was present and gave a brief summary of the property and what he has experienced over the years with flooding.

Motion: Member Young moved, and Chair Loughery seconded the approval of the Certificate of Appropriateness for #24009: 3601 Casablanca Ave. and the FEMA Variance for #24010: 3601 Casablanca Ave.; the motion carried unanimously.

5. Discussion Items

a. Historic Survey Grant Update

Ms. McMahon informed the board that the Historic Survey Grant was approved and the state approved the survey vendor, Cardno. She stated this is going on the March 26th City Commission agenda to approve the expenditure and start an agreement with Cardno. Surveying will take place in the Don CeSar Neighborhood and Belle Vista. She informed the Board that the City also applied to do another survey next year for Corey Ave.

b. Island Festival – Added

Ms. McMahon stated The Gulf Beaches Museum is doing their annual event, The Island Festival. It will take place on March 23rd from 11 AM – 4 PM. There will be vendors, a car show, and walking tours are available.

c. Alley Update – Added

Public Works Director Mike Clarke was present and provided an update. With a lot of assistance from the Parks and Rec Department, overgrown vegetation has been trimmed back and that project should be completed tomorrow. However, the county water utilities project has begun. This project is a replacement of all water lines servicing homes from 22nd to 9th Ave. They will be installing a new pipe in the alleyway system, which requires them to have equipment in the alleyway. This project could take a couple of weeks up to a month to complete therefore the ‘grand opening’ will have to be postponed until the equipment can be moved out of the way for the trucks. In the meantime, they have found there are a lot of other encroachments of wires in trees both electrical and communications. Duke Energy has been contacted and they have an upcoming appointment to walk the alleyway to identify the trees that they will take care of. Letters will go out to property owners of removals.

6. Adjournment – Next meeting April 4, 2024.

Chair Loughery adjourned the meeting at 3:16 PM.

These minutes will be considered for approval at the April 4, 2024, Historic Preservation Board meeting.

HISTORIC PRESERVATION BOARD WORKSHOP

MINUTES

March 7, 2024 – 1:30 PM

PRESENT: Bill Loughery, Chair
Sean Hurley, Member
Holly Young, Member

ABSENT: Tia Hockensmith, Vice Chair
Danielle Dashiell, Member

STAFF PRESENT: Jennifer McMahon, Chief Operating Officer; Matthew McConnell, Assistant City Attorney; Ariana Wilson, Admin. Assistant Clerk's Office; Kristin Coman, Senior Planner; Brandon Berry, Senior Planner; Lynn Rosetti, Consultant; Tara Salmieri, Consultant

Chair Loughery called the meeting to order at 1:30 PM.

1. Discussion Items –

a. **LDC Division 40 - COMMUNITY REDEVELOPMENT DISTRICT - EIGHTH AVENUE Amendments**

Consultant Ms. Salmieri was present via Zoom and stated she reviewed the video record of the last workshop. Three main items were discussed. Here are her takeaways from the concerns of the board:

- The overlay
- Updating the purpose and intent
- Storefront character and rooftop activity

Discussion ensued:

- Overlay CRD-EA; purpose and intent
- Pass-A-Grille overlay has standards in them, Ms. Salmieri stated they used the same design criteria that Pass-A-Grille has and applied it to the CRD-EA.
- Three different kinds of “canopies” or awnings; Ms. Salmieri displayed the designs and reviewed each one with the board.
- She suggested adding verbiage that says, “Alternative designs may be considered by the Historic Preservation Board”. This will allow the board to rely on a design book to give flexibility.

Member Hurley questioned why they would open the design style to other styles if the goal were to achieve the arcade style which is the existing style. He also questioned how to keep the basic build style similar to the original.

A brief Q&A on specific designs ensued.

Storefront character design discussion:

- Looking at pedestrian scale, any active use would have that standard apply to them.
- Most of the historic buildings would be 80% as a maximum.
- Reducing the height in the text from 35 to 25 but making a reference to base flood elevation.

Chair Loughery questioned if they could make it a requirement for floodproofing for commercial property. Ms. Salmieri reminded the board that a City expert previously had a discussion with the committee regarding this topic and she was not comfortable with making that a requirement.

Discussion ensued regarding the design criteria, redevelopment, and restrictions.

Mr. Hurley presented some Aerial photographs that show the difference in height before Base Flood Elevation was considered for 8th Ave. The photos are made part of the video record.

Rooftop activity discussion:

Ms. Salmieri stated when she reviewed the video from the previous workshop, she heard discussions on whether the board wants to prohibit rooftop activity or create a conditional use requirement. She informed the board that the City already has a conditional use requirement for certain aspects of rooftop activity. She questioned if the board wanted additional items through conditional use that aren't already included for restaurants and bars.

Mr. Berry informed the board the specifics can be found under the conditional use provisions in the CRD-EA, but it only applies to rooftop dining, drinking, and music, therefore other forms of an assembly deck are not currently regulated.

Discussion ensued regarding roof dining and drinking areas needing a certificate of appropriateness.

Ms. Salmieri discussed why there are two districts and why there is one in an overlay. She determined the easiest way to enforce the current standards is to have them remain in different districts.

Discussion ensued regarding the zoning maps and how they were created.

Attorney McConnell suggested going back to legal advertisements and maps to see how it was advertised. Ms. Salmieri will review her old documents when she first started this project.

Chair Loughery discussed a design book and stated he would like Ms. Salmieri's input in how the design book is put together.

Member Dashiell entered at 2:26 PM

2. Adjournment - Chair Loughery adjourned the workshop at 2:26 PM.

These minutes will be considered for approval at the April 4, 2024 Historic Preservation Board meeting.

**HISTORIC PRESERVATION BOARD MEETING
CITY OF ST. PETE BEACH
COMMISSION CHAMBERS**

Agenda Report

Action Request: None - for discussion purposes.

Strategic Objective:

Date: May 2, 2024

Prepared By: Tara Salmieri

Through: Jennifer McMahon, Chief Operating Officer

Summary of Issue: Staff seeks Historic Preservation Board input on collected proposed modifications to the Pass-A-Grille Overlay District and Community Redevelopment District: Eighth Avenue. After Board review, this item will be scheduled for joint workshop review with the City Commission in Summer 2024.

Funding: N/A

Attachments:

1. LDC Division 20 & 40 Proposed Amendments - Pre-Workshop

Memorandum

To: Historic Preservation Board Members

From: Tara Salmieri, AICP

Date: April 19, 2024

Re: **Final Draft Documents for PAGHOD and CRDEA/May 2, 2024 HPB Meeting**

Attached are two final draft documents: (Div. 40) and 1) the PAG Historic Overlay District (Div. 20) and 2) CRD-EA Zoning district. The intent for the upcoming discussion is to finalize the recommended draft language as provided in strike-thru and underline for revisions to both Division 40 & Division 20 in the City's LDC. The following table provides the input that was received during multiple workshops (August 16th 2023, September 7, 2023, November 2, 2023, February 1st 2024 and March 7th 2024) and staff input and review and the location of drafted text, by section of each document (attached) for the HPB's review and acceptance. The shaded grey rows identify the most recent requests from staff and the input from the last three workshops.

Workshop Requests/Staff Input	Section	Comment
PAGHOD		
Update Sec. 20.01, purpose, and intent	Sec.20.01	
Cleaned up the language in purpose and intent, add historic contributing structures	Sec 20.01	
Sec. 20.07 Density, intensity, and assembly of parcels (d) should be clear on lot/split and assembly-	Sec. 20.14	
HPB wants to review applications on both conditions	Sec. 20.07 (d)	
Clarified the sq.ft for redevelopment of a structure to add "livable"	Sec. 20.07 (b)	
Updated (d) commission and if applicable	Sec. 20.07 (d)	
Reduced setbacks, create a nte number	Sec. 20.10	
Clean up the language for 20.11, Minimum Building Type(s)	Sec. 20.11; Sec. 20.13	

Workshop Requests/Staff Input	Section	Comment
PAGHOD		
Remove 20.13 Residential Development option for SFH if the underlying is no longer permitted	Removed	
20.14 Vacant Parcels (c) make this a new section or title this more consistent with the standard, there should be a section specifically on lot splits, parcel assembly, etc.	Sec 20.14	
Require all developments to be reviewed by the HRB	Sec. 20.24(e)	
Create Maximum criteria for House large to ensure that the mass/scale is not overwhelming in the district		Determined this should not be an issue, no update was made
(provide a mechanism to permit the lot width to be increased, by HPRB/Council	Sec 20.11	Allows applicant to go before HPB
Height, consider reducing the height for the commercially zoned parcels (outside of 8 th avenue)		Opted to not decrease height, parcel size/parking will cap the height
Rooftop equipment should be regulated and screened from waterways, vehicles and pedestrians	Sec. 20.23(e)	
- Alleys should be required to be used for parking instead of the front of the home	Sec 20.18 (c); Sec 20.19	
Zone 1 should be further detailed on parking requirements (says row/street but it is the front of the home and should be clear)	Sec 20.18 (c); Sec. 20.19; Sec. 20.22	Building Typologies (zone 1) updated
Design review and required drawings create a requirement that all applications within the PAG are required to go before the HPRB, might create a new section	Sec. 20.24(e)	
Driveways and garages should be reviewed to create a more historic feel in the new development.	Sec. 20.22	
Require applicants to submit color elevations and architectural design for the HPRB to get a better feel for what is being proposed	Sec.20.24 (b)(3)	
PAG Historic Overlay District is the district name, will be updated throughout the document		
Accessory structure criteria should default to the LDC Sec 6.13 and is consistent with the overall city approach		Removed accessory structure definitions and dimensional standards in each building type
Updated Definitions, add building design elements as defined in FS, modify Zone 1: definitions, principal building	Sec 20.02	
Create standards for waste management	Sec. 20.24	
Create a design guidebook	Separate from the LDC	Create a companion document that provides guidelines for more details on preferred design

Workshop Requests/Staff Input	Section	Comment
PAGHOD		
Workshop Requests/Staff Input	Section	Comment
CRDEA District		
Update purpose and intent to be consistent with the PAGHOD	Sec 40.1	
Provide dimensions for any architectural elements for design clarity Look at 20.16 private frontages and if relevant to 8 th avenue no changes are needed.	Sec 40.14 General Building Design	Added some basic design standards (from PAG) will add additional refinements, per request from staff for a design guidebook.
How BFE is measured, commercial. Determine whether or not non-residential can be flood proofed and not raised.	Sec. 40.14(g)	Extensive discussion on issues with requiring flood proof.
Building Height maximum	Sec. 40.8	HPB request a total height 40' inclusive of BFE.
Provide requirements for design	Sec. 40.14; Sec, 40.15	Added a design guidebook
Limit the lot assembly and/or set maximum building lengths fronting each street and sideyard minimum separation of buildings.	Sec. 40.13	Added additional language for ROW and easement vacation requests
HPB wants to review applications on both conditions (also add not being able to lot combine along 8 th avenue)	Sec. 40.13; Sec. 40.14(f)	Provided a building length standard.
Require using the alleys for access to rear parking (when provided)	Sec. 40.11	
Review building cut sheets to meet CR-DEA		Reviewed, determined not to need the building types
Added "arcades are preferred"	Sec. 40.14 (d)	
CRDE 9 th avenue has some residential and how residential is reviewed if they are not part of the overlay.	Sec. 40.14 (f)	Provided an overall building length requirement to address the issue
Maintain the zoning district, but require Historic Board Review and Recommendations, add language from the PAG Overlay so it is consistent with the review of the overall PAG area.	Sec. 40.15	
Added application narrative to describe how the design guidebook is being met	Sec. 40.15(d)	
Create standards for waste management	Sec 40.15 (e)	
Rooftop equipment should be regulated and screened from waterways, vehicles and pedestrians	Sec. 40.14(e)	

DIVISION 20 PAG PASS-A-GRILLE HISTORIC OVERLAY DISTRICT¹

Sec. 20.01. Purpose and intent.

The City recognizes that the Pass-a-Grille Area was developed prior to the development of suburban zoning regulations. The ~~(PAG)~~ Pass-a-Grille Historic Overlay District, herein referred as PAGHOD, is intended to allow for structures that are considered contributing to the National Register Historic District to be considered conforming regarding base flood elevations and uses of property within the Pass-a-Grille area situated south of 32nd Avenue. The PAGHOD intends in order to ensure that new and redevelopment of any structures and uses will shall be compatible with the character of existing historic contributing structures development, including the area within the designated PAGHOD. Also, to recognize that the existing parcel size's, uses and platted and parcels meet the overall character of the district PAG and shall be permitted to continue as viable uses lots while allowing for improvements to existing structures, additions and new development that is consistent with the existing mass and scale within the district.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.02. Definitions.

- (a) ~~Accessory structure envelope means provisions for the setbacks and maximum building footprints permitted for accessory structures that are not specifically named and regulated under sections 6.12 or 6.13. Accessory structures are ancillary to the principle building structure and shall be located at the rear or side of the parcel. The following is provided as a non-exhaustive list of accessory structures subject to this envelope: carriage houses, pool houses, detached living quarters, and detached storage buildings that exceed standards for residential or commercial storage buildings found in the aforementioned sections.~~
- (ba) *Balance* means the relationship among the elements of a building on either side of an imaginary centerline through the middle of a building. Buildings are either symmetrically or asymmetrically balanced.
- (be) *Balanced, asymmetrically* means the shape(s) and design of a building may not match exactly, but instead have equal visual weight they are still visually balanced.
- (ce) *Balanced, symmetrically* means the shapes on one side of the centerline match the shapes on the other side. The two halves are visually equally.
- (de) *Building design elements* means the external building color; the type or style of exterior cladding material; the style or material of roof structures or porches; the exterior nonstructural architectural ornamentation; the location or architectural styling of windows or doors; the location or orientation of the garage; the number and type of rooms; and the interior layout of rooms. The term does not include the height, bulk,

¹Editor's note(s)—Ord. No. 2016-19, § 2(Exh. A), adopted Feb. 28, 2017, repealed Div. 20, §§ 20.1—20.14, and reenacted a new Div. 20, §§ 20.1—20.24, as set out herein. Former Div. 20 pertained to similar subject matter and derived from Ord. No. 03-7, § 3, adopted May 1, 2003; Ord. No. 2004-18, §§ 7, 8, adopted Aug. 24, 2004; Ord. No. 2008-32, § 1, adopted Aug. 26, 08; Ord. No. 2010-03, § 1(Att. A), adopted April 27, 2010; and Ord. No. 2011-03, § 3, adopted May 24, 2011.

[orientation, or location of a dwelling on a zoning lot; or the use of buffering or screening to minimize potential adverse physical or visual impacts or to protect the privacy of neighbors.](#)

(ef) Building height: Provisions for permitted heights in feet (ft). The maximum height for first floor residential development shall be fourteen (14) feet and twenty (20) feet for non-residential. The maximum height for second story and higher shall not exceed fourteen (14) feet. Each building lot typology provides the range of height appropriate for the building type. No new or substantially improved building within the [PAG Overlay District](#) [PAGHOD](#) and having the underlying zoning designation of THD, RU-2 Residential, RLM-2 Residential, or RM Residential [height measurements](#) shall be ~~constructed not to exceed~~ twenty-eight (28) feet in height to the midpoint of a sloped roof or top of the parapet of a flat or low sloped roof, or thirty-two (32) feet overall, as defined below:

- a. For any structure with habitable space located less than eight (8) feet above natural grade, height shall be measured from the property's required Design Flood Elevation.
- b. For any structure with habitable space beginning at or higher than eight (8) feet above natural grade, height shall be measured from eight (8) feet above natural grade.

Base flood elevation requirements are outlined in section 98-33 of the City's Code of Ordinances.

(fg) Building envelope: Provisions for the minimum and maximum setbacks permitted by front, side, and rear yards. There is a minimum and maximum setback for each lot type. The maximum and minimum frontage refers to the proportion of the lot width along which the primary building façade must be within the minimum and maximum front setback.

(gh) Compatible design means architectural design and construction that will fit harmoniously into the district based on scale, ~~materials~~, and quality of construction with adjacent buildings and structures.

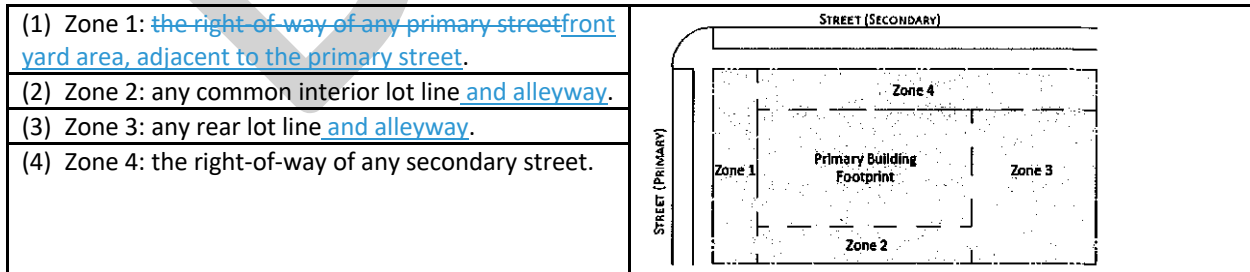
(hi) Lot requirements: Provisions for minimum and maximums, lot depth, lot size and the permitted lot coverage.

(ij) Lot, waterfront: A zoning lot which abuts any body of water or the beach. All lots not considered waterfront shall be considered interior for rear setback purposes.

(jk) Mass, primary: largest shape of a building.

(kl) Mass, secondary: additional shapes that form the façade of the building

(lm) Parking provisions: The amount of parking shall be determined by Division 23 of the Land Development Code. Parking provisions provide zones where parking is permitted. The parking zone refers to any uncovered parking area located on the parcel. Driveways are permitted in any zone provided the frontage requirements have been met as required by building type. The diagram illustrates a primary and secondary street. Primary streets are streets that are addressed to the parcel of land. Secondary streets may or may not have access to the parcel. Zones are defined and illustrated by the lot area between the principal building frontage and:



(~~ann~~) *Private frontages*, refers to the area that is attached or integrated into the primary building.

(~~no~~) *Principal building*, means a principal or main building which: occupies the major or central portion of a lot; is the chief or main building on a lot, or; constitutes, by reason of its use, the primary purpose for which the lot is used;

(~~op~~) *Proportion* means the relationships of one part of a façade to the whole. A house that is correctly proportionate establishes a visual relationship between all parts of its exterior. The voids, primary, and secondary masses should all be proportional to one another in order maintain architectural harmony.

(~~opq~~) *Proximity* means that objects that are close together should complement each other.

(~~pr~~) *Rhythm* means the use of repetitive elements in order to establish architectural harmony. It is based off of three main principles: the principle of Proximity, the principle of Similarity, and the principle of Continuation. These principles are part of a larger set known as *Gestalt Principles*.

(~~qs~~) *Similarity* means how our eyes are easily able to group objects together that share common textures, colors, or features.

(~~rst~~) *Voids* means windows, doors, or other openings that create negative space allowing for breaks within a primary or secondary mass.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17; Ord. No. 2021-08, § 2, 6-22-2021; Ord. No. 2021-22, § 2, 10-12-21)

Sec. 20.03. Permitted principal uses and structures.

Subject to the provisions or restrictions contained in this section and elsewhere in this Code, permitted uses and structures in the ~~PAG Overlay District~~PAGHOD are as follows:

- (a) All uses permitted in the underlying zoning district; and
- (b) Transient occupancy in single-family or multi-family dwellings, so long as any such transient occupancy of less than thirty (30) days does not occur more than three times in any 12-month period on any parcel.
- (c) Uses that are in existence, upon date of adoption, shall be permitted as limited uses within an existing structure. Additions, improvements and renovations will be permitted, if the building meets the standards set forth in this division of the Code.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.04. Permitted accessory uses and structures.

- (a) Uses and structures, as regulated in sections 6.12 and 6.13, which are customarily accessory and clearly incidental and subordinate to permitted or permissible uses and structures, and are not of a nature prohibited under section 20.5.
- (b) Home occupations, subject to the conditions set forth in section 6.5 of this Code.
- (c) Residential docks, including tie poles, shall be in conformance with the provisions of section 6.23 and other applicable codes and ordinances of the city, county or state.
- (d) Temporary structures shall follow the provisions of section 6.11.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.05. Allowable conditional use.

Subject to the provisions or restrictions contained in this section and elsewhere in this Code, allowable conditional uses in the ~~PAG Overlay District~~[PAGHOD](#) are as follows:

- (a) All permitted conditional uses allowed for in the underlying zoning district.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.06. Prohibited uses and structures.

All uses and structures not of a nature specifically or provisionally permitted herein or within the underlying zoning district are hereby prohibited in the ~~PAG Overlay District~~[PAGHOD](#).

Any use which the City Commission, upon appeal, and after investigating similar uses elsewhere, shall determine to be potentially noxious, dangerous or offensive to residents of the ~~PAG Overlay District~~[PAGHOD](#) or to those who pass by on public roadways, by reason of odor, smoke, noise, glare, fumes, gas, fire, explosion or emission of particulate matter or likely for other reasons to be incompatible with the character of the PAG area, is hereby prohibited in the ~~PAG Overlay District~~[PAGHOD](#).

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.07. Density, intensity and assembly of parcels.

- (a) The maximum residential density permitted in the ~~PAG Overlay District~~[PAGHOD](#) shall not exceed the number of units per acre permitted by the underlying Future Land Use map for undeveloped parcels of land.
- (b) The existing residential density, exceeding one density unit, of an existing residential structure shall be permitted to rebuild on the existing parcel of land, with the same density as the existing structure(s) has, if the building was constructed prior to (insert adoption date) and can meet the lot requirements, by building type, in section 20.15 of this Division. In addition, any new construction cannot exceed the existing [livable](#) developed square footage and must match the existing form and mass as defined in section 20.22 herein.
- (c) The existing hotel/motel units shall be permitted to rebuild on the existing parcel of land, with the same number of units that already exist as a rental/leasable room within the existing built hotel if the building was constructed prior to (insert adoption date) and can meet the lot requirements of a Boutique Hotel Building Type as provided in section 20.15 of this Division.
- (d) No more than two lots of record may be combined to accommodate additions to existing structures, [and the assembly is reviewed by the Historic Preservation Board and Board of Adjustment \(when applicable\) and approved by City commission as provided in Sec. 20.14.](#)

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.08. Maximum floor area ratio.

Maximum floor area ratio (FAR) for non-residential uses: Underlying Zoning District requirements.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.09. Maximum impervious surface ratio.

If a parcel opts for new construction or addition to a single family home using the underlying zoning district standards, the ISR shall be determined by the underlying zoning district. The ratio's listed below are subject to any of the building types, defined in section 20.15 that are used.

Maximum impervious surface ratio (ISR) for residential and transient accommodation uses: 0.70.

Maximum impervious surface ratio (ISR) for non-residential uses: Underlying Zoning District requirements or existing building footprint.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.10. Reduced setbacks for contributing structures granted a certificate of appropriateness.

Proposed additions to [or renovations of](#) contributing structures may be eligible for a reduction in setback requirements if the proposed plans have been reviewed, approved, and issued a certificate of appropriateness by the Historic Preservation Board pursuant to Division 28. The purpose of this regulation is to ensure the design is compatible design with neighboring structures.

Design review shall be based on the requirements set forth in the underlying zoning district and the [PAG Overlay District](#) ~~PAGHOD~~-herein and for consistency with the Secretary of Interior's Standards for Rehabilitation. If the Historic Preservation Board finds that an addition is consistent with the Secretary of the Interior's Standards and that the addition would not preclude the structure's continued designation as a contributing structure, and approves a certificate of appropriateness for the plans, then the applicant can request a reduction to any and all of the setbacks, provided the setbacks are consistent within the same block of the proposed addition by providing the historical setback data for the street block (both faces) the parcel is on and the historical setbacks along that particular street that will be evaluated by the Historic Board. The following setbacks shall be considered:

Setback	
Front yard	10 feet(1)
Secondary front yard	5 feet
Side yard	10 percent of the lot width (each)
Rear yard	10 feet

[\(1\) Not to exceed more than 3' of a variation from the average historic setback as described above.](#)

[When the setbacks provided above are in conflict with the setbacks provided for the recipient's building type listed in section 20.15., the setbacks in this section shall prevail provided that a Certificate of Appropriateness has been issued for the addition.](#)

The addition must still meet impervious surface, floor area, height, herein and the landscaping, and buffering standards as identified in this division. The reductions in setbacks do not abrogate the responsibility of the designer or homeowner to incorporate these requirements into the plan.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.11. Minimum building type requirements.

Lots of record within the [PAG Overlay District](#) ~~PAGHOD~~- shall be deemed conforming [even if the parcel does not meet the minimum lot width/depth standards and can meet the setback requirements as noted in each building type that would be assigned to said parcel. The building type shall be selected based on the overall minimum and maximum lot size criteria per building type if the lot width and/or length is not met. The final](#)

determination of what building type to be used, is determined by the City Manager or designee. If an applicant is not satisfied with the assignment of building type, an application to consider building type selection must be reviewed by the Historic Preservation Board and may also require an prior to hearing of the practical difficulty variance application as outlined in the LDC, Sec. 3.12 Variance process, despite the width and size regulations in the building types, so long as the lots are not further subdivided, and the condition existed prior to the adoption of the Division. No more than two lots of record may be combined to accommodate additions to existing structures.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.12. Subdivision of lots.

Lots within the ~~PAG Overlay District~~PAGHOD shall not be subdivided to a size smaller than the platted lot of record and/or building lot types in this division. Existing structures that are listed as contributing structures in the most recent Historic Resources Survey or that are locally designated historic structures are exempt from the setbacks imposed by this division; however, additions and accessory structures shall comply with the standards in section 20.15, by building type. All other structures shall also comply with the setbacks and required yards imposed by the building types in this Division, section 20.15.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.13 Applicability and Building Type Assignment

Any other applicable standards within this division, not expressly stated in this section, shall apply to new development, additions, and redevelopment of parcels located in the PAGHOD Overlay, as outlined in this division.

(a) Residential and Non-Residential Parcels of Land:

(1) Redevelopment & New Development

- a. Parcel(s) of land that are assigned a non-residential zoning district, shall be permitted a non-residential building type found in section 20.15 that is consistent with the underlying uses permitted in the parcel(s) assigned underlying Zoning District and section 20.07.
- b. The parcel of land shall meet the lot width and lot depth as identified, by building type, in section 20.15, to determine the appropriate non-residential building type standard that applies to that parcel.

(2) Addition(s)

- a. Parcel of land within the PAGHOD shall meet the building type standard that is most consistent with the lot width/lot depth of that parcel.
 - i. Setbacks shall be met, and
 - ii. Accessory additions shall only be permitted within the side and/or rear of the parcel, and-
 - iii. If front-facing elevation is changed, the landscape standards and architectural elements must be met.

Sec. 20.13. Residential development option for single family homes.

Any parcel within the PAG Overlay District with a Residential Zoning District designation of RU-2, RLM-2, or RM may develop a single family residential house using the underlying residential zoning standards for additions or new construction: If an applicant uses the underlying residential zoning district standards, for new construction or additions the following standards shall be met:

- (a) Underlying Zoning Districts minimum lot requirements;
- (b) Underlying Zoning Districts Minimum yard requirements;
- (c) Underlying Zoning Districts Maximum floor area ratio standards; and
- (d) Height shall not exceed twenty eight (28) feet in height to the midpoint of a sloped roof or top of the parapet of a flat or low sloped roof, and measured from the base flood elevation determined under the most restrictive applicable standard the building side, further provided that the overall roof height shall not exceed thirty two (32) feet.

Any other applicable standards within this division, not expressly stated in this section, shall apply to new development and redevelopment as outlined in this division.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.14. Vacant parcels Lot Split, Assembly of Parcels, Vacation of Easements and/or Right-of-ways..

The following ~~procedures shall be followed~~ requirements are to be provided for any lot splits, assembly of parcels, request to vacate easements or right-of-ways:

- (a) For parcels of land within a residential zoning district and:

Any parcel of land that is vacant, at the time of adoption, shall only be permitted either:

- (1) A residential building type found in section 20.15 that is consistent with the underlying uses permitted in the Zoning District and section 20.07. The parcel of land shall meet the lot width and lot depth as identified, by building type found in section 20.15, to determine the appropriate standards to apply to that parcel, or
- (2) Provisions listed in section 20.13 of this division.

- (b) Parcels of land within non-residential land use districts:

Any parcel of land that is vacant, at the time of adoption of the PAG Overlay District, shall be permitted any of the non-residential building types found in section 20.15 that are consistent with the existing lot width/depth of the parcel of land.

- (c) ~~Assembly of parcels or lot splits of a or parcel splits shall:~~

- (1) Submit an application to the Historic Preservation Board (HPB) for a recommendation and proceed to City Commission for final determination.
- (2) The applicant shall provide documentation for the HPB to determine the compatibility and respect for the existing character of the PAGHOD, which will review:
 - a. Historical plat and scale of the overall character of PAGHOD to ensure the application is consistent with the overall intent of the district.-

b. Determine if recommending the parcel split or assembly will support or negatively impact the overall character of the area by permitting the use and the scale of the parcel of land and/or development size.

~~only be permitted through the City Commission, to determine the compatibility and respect for the existing character of the PAG Overlay District.~~

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

DRAFT

Sec. 20.15. Permitted building types.

Building types are permitted by the following criteria:

- (a) Existing Parcel Size, and
- (b) Existing Density, Units and Rooms [as outlined in Sec.20.07](#)

An applicant must provide a survey of the parcel to verify the actual parcel size (lot width/lot depth) or use the City's parcel data information. If the applicant believes the lot width and depth are different than the City's records, the applicant will be required to have a survey of the lot for verification.

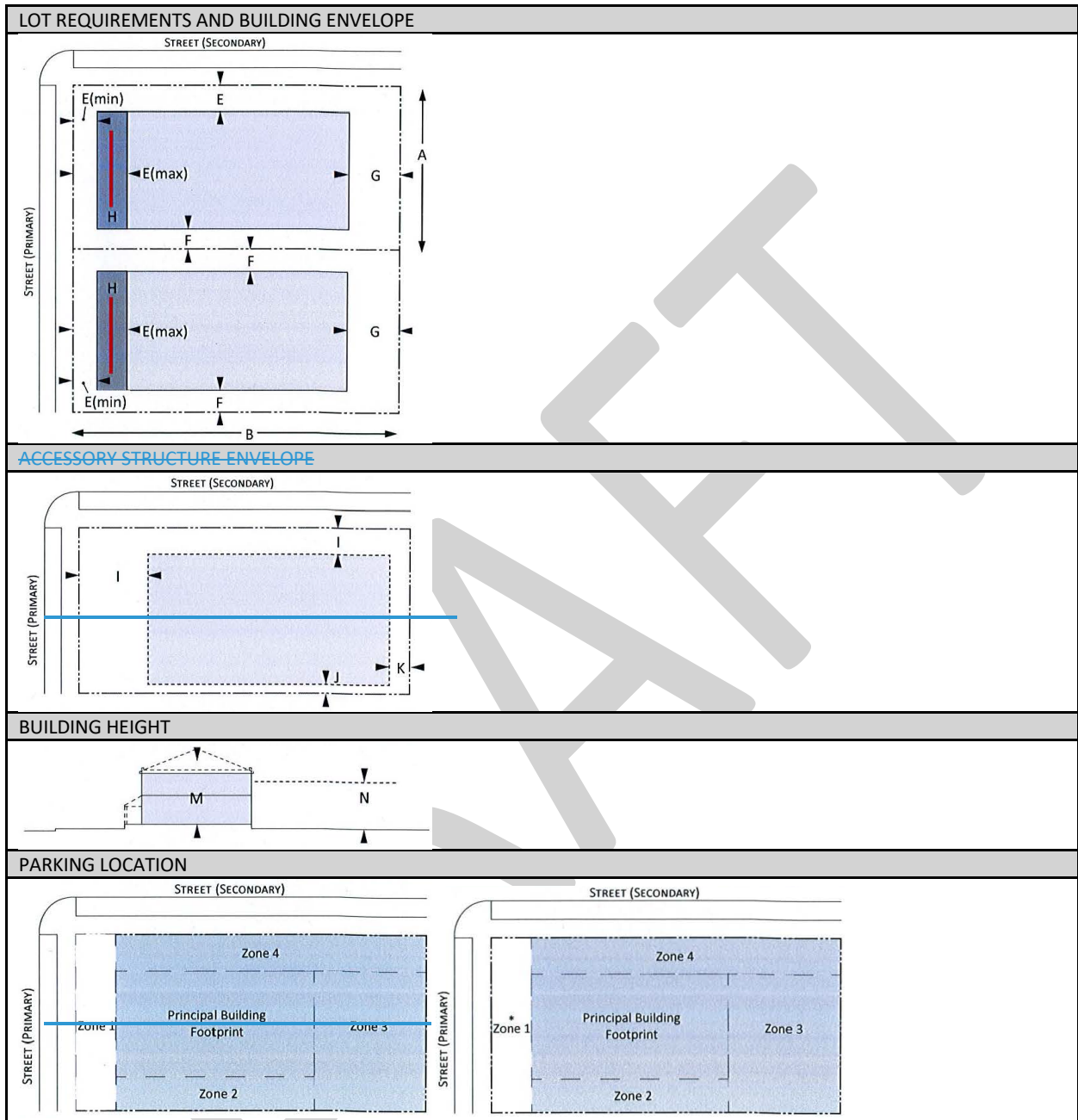
	HOUSE-LARGE
A building lot located and designed to accommodate a detached building with large side, rear and front yards.	

LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft) (1)	60	—
B - Lot Depth (ft) (1)	100	—
C - Lot Size (sf)	6,000	—
D - Lot Coverage (%)	—	60
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft) (2)(3)	10	15
Secondary Street Setback	7	—
F - Side Setback (ft)	7	—
G - Rear Setback (ft) (interior lot)	15	—
Rear Setback (ft) (waterfront lot)	20	—
Garage Adjacent to Alley	5	—
H - Frontage Buildout (%)	50	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
I - Street Setback (ft)	10-30	—
J - Side Setback (ft)	25-10	—
K - Rear Setback (ft) (interior lot)	—10	80
L - Rear Setback (ft) (waterfront lot)	20	—
M - Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principle Principal Building (ft)	—	28-32' as defined in Sec. 20.17
N - Accessory Structure(s) (ft)	—	28'
PARKING PROVISIONS		
Location (2)	Zone 2,3, and 4	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	P, S, CY	

[\(1\) maximum building lot width and lot size may be determined if two lots are being combined to ensure compatibility with the surrounding existing homes.](#)

[\(2\)](#) a lot that is adjacent to the bay or beach is permitted to exceed the maximum setback requirements.

[\(3\)](#) when a parcel is not located with alleyway access, the maximum setback may increase up to 5' if a driveway is necessary to park up to one vehicle and will be permitted up to one vehicle to park in Zone 1.



*may be permitted to park one vehicle in Zone 1 if access to alleyway is not available.

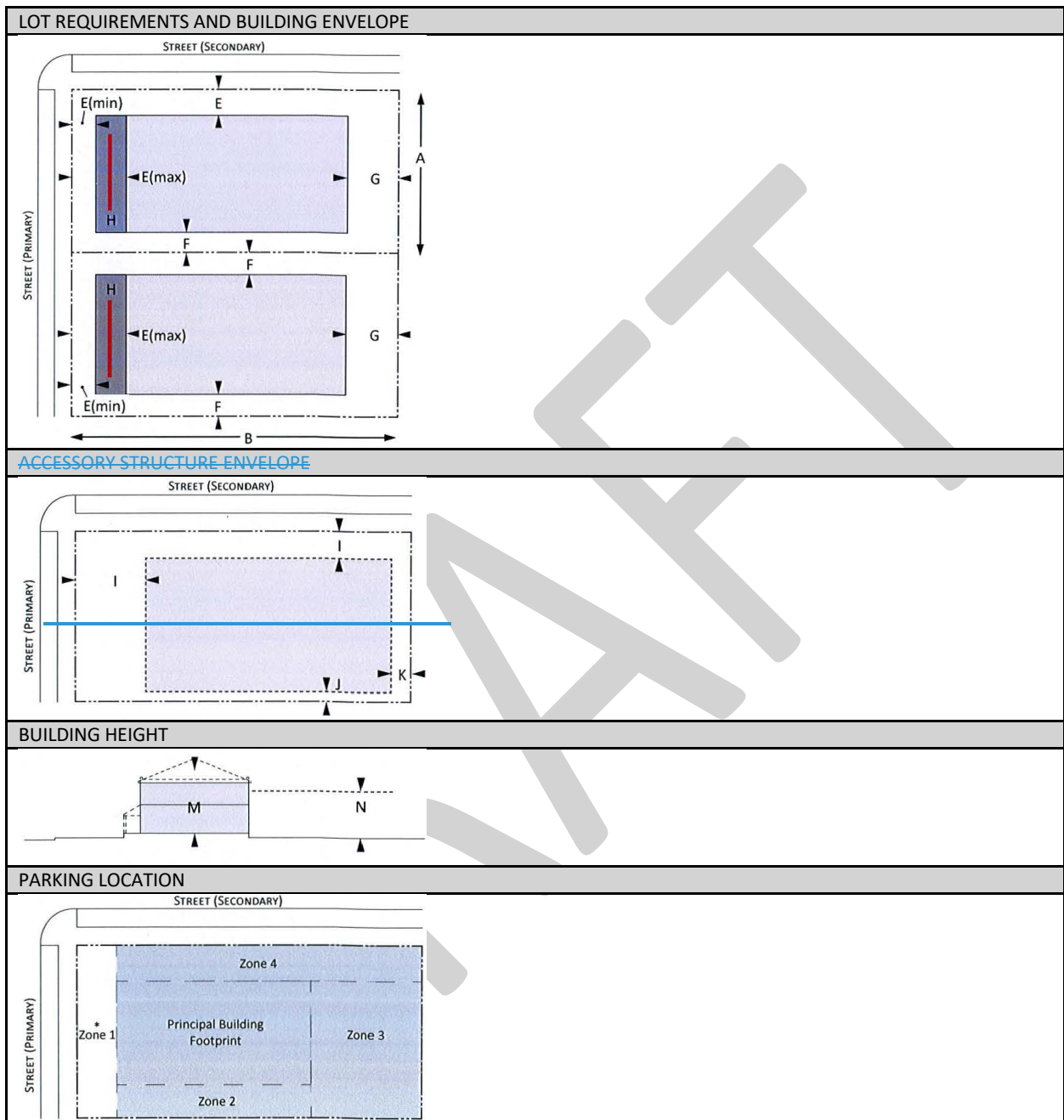
HM	HOUSE-MEDIUM
A building lot located and designed to accommodate a detached building with small side yards and a large front yard.	

LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft) (1)	40	55
B - Lot Depth (ft) (1)	100	—
C - Lot Size (sf)	4,000	—
D - Lot Coverage (%)	—	70
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft) (2)(3)	10	15
Secondary Street Setback	5	—
F - Side Setback (ft)	5	—
G - Rear Setback (ft) (interior lot)	15	—
Rear Setback (ft) (waterfront lot)	20	—
Garage Adjacent to Alley	5	—
H - Frontage Buildout (%)	50	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
— Street Setback (ft)	30	
— Side Setback (ft)	10	—
— Rear Setback (ft) (interior lot)	10	—
— Rear Setback (ft) (waterfront lot)	20	—
— Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)	—	'28-32' as defined in Sec. 20.17
— Accessory Structure(s) (ft)	—	28'
PARKING PROVISIONS		
Location (2)	Zone 2,3, and 4	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	P, S, CY	

[\(1\) maximum building lot width and lot size may be determined if two lots are being combined to ensure compatibility with the surrounding existing homes.](#)

[\(2\)](#) a lot that is adjacent to the bay or beach is permitted to exceed the maximum setback requirements.

[\(3\) when a parcel is not located with alleyway access, the maximum setback may increase up to 5' if a driveway is necessary to park up to one vehicle and will be permitted up to one vehicle to park in Zone 1.](#)



*may be permitted to park one vehicle in Zone 1 if access to alleyway is not available.

HS	HOUSE-SMALL
A building lot located and designed to accommodate a small detached building with small side and front yards. A maximum of one dwelling unit is permitted.	

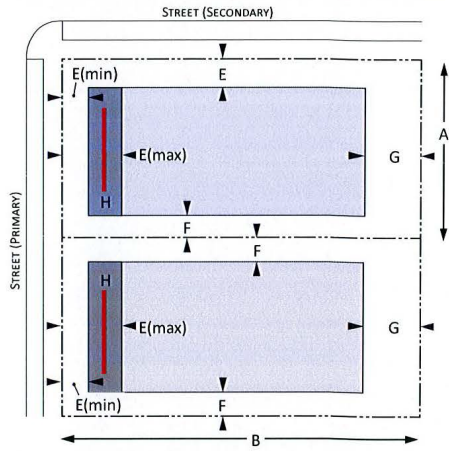
LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft) (1)	32	40
B - Lot Depth (ft) (1)	50	120
C - Lot Size (sf)	1,600	4,800
D - Lot Coverage (%)	—	90-70
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft) (2)(3)	5	10
Secondary Street Setback (ft)	5	—
F - Side Setback (ft)	3	—
G - Rear Setback (ft) (interior lot)	10	—
Rear Setback (ft) (waterfront lot)	20	—
Garage Adjacent to Alley	5	—
H - Frontage Buildout (%)	50	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
— Street Setback (ft)	30	
— Side Setback (ft)	10	—
— Rear Setback (ft) (interior lot)	10	—
— Rear Setback (ft) (waterfront lot)	20	—
— Building Footprint (sf)	—	400
BUILDING HEIGHT		
M - Principal Building (ft)	—	'28-32' as defined in Sec. 20.17
— Accessory Structure(s) (ft)	—	28'
PARKING PROVISIONS		
Location (2)	Zone 2,3,4	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	CY , P , S , CY	

[\(1\)](#) maximum building lot width and lot size may be determined if two lots are being combined to ensure compatibility with the surrounding existing homes.

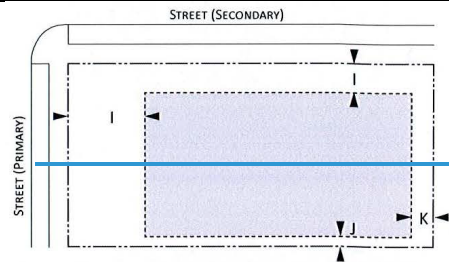
[\(2\)](#) a lot that is adjacent to the bay or beach is permitted to exceed the maximum setback requirements.

[\(23\)](#) when a parcel is not located with alleyway access, the maximum setback for the driveway area only, may increase up to 10' if a driveway is necessary to park up to one vehicle and will be permitted up to one vehicle to park in Zone 1.

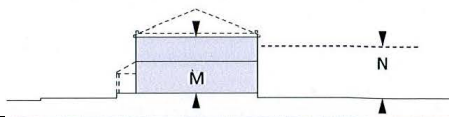
LOT REQUIREMENTS AND BUILDING ENVELOPE



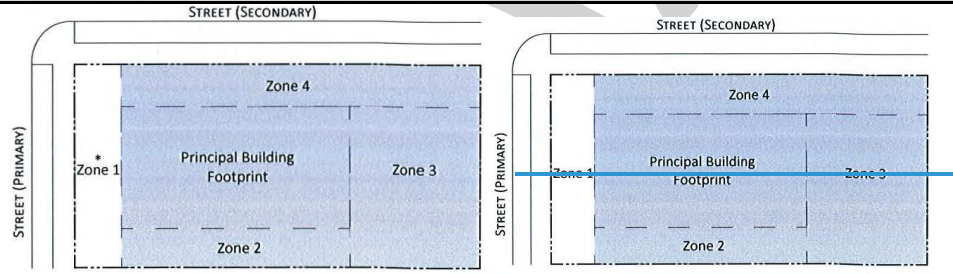
ACCESSORY STRUCTURE ENVELOPE



BUILDING HEIGHT



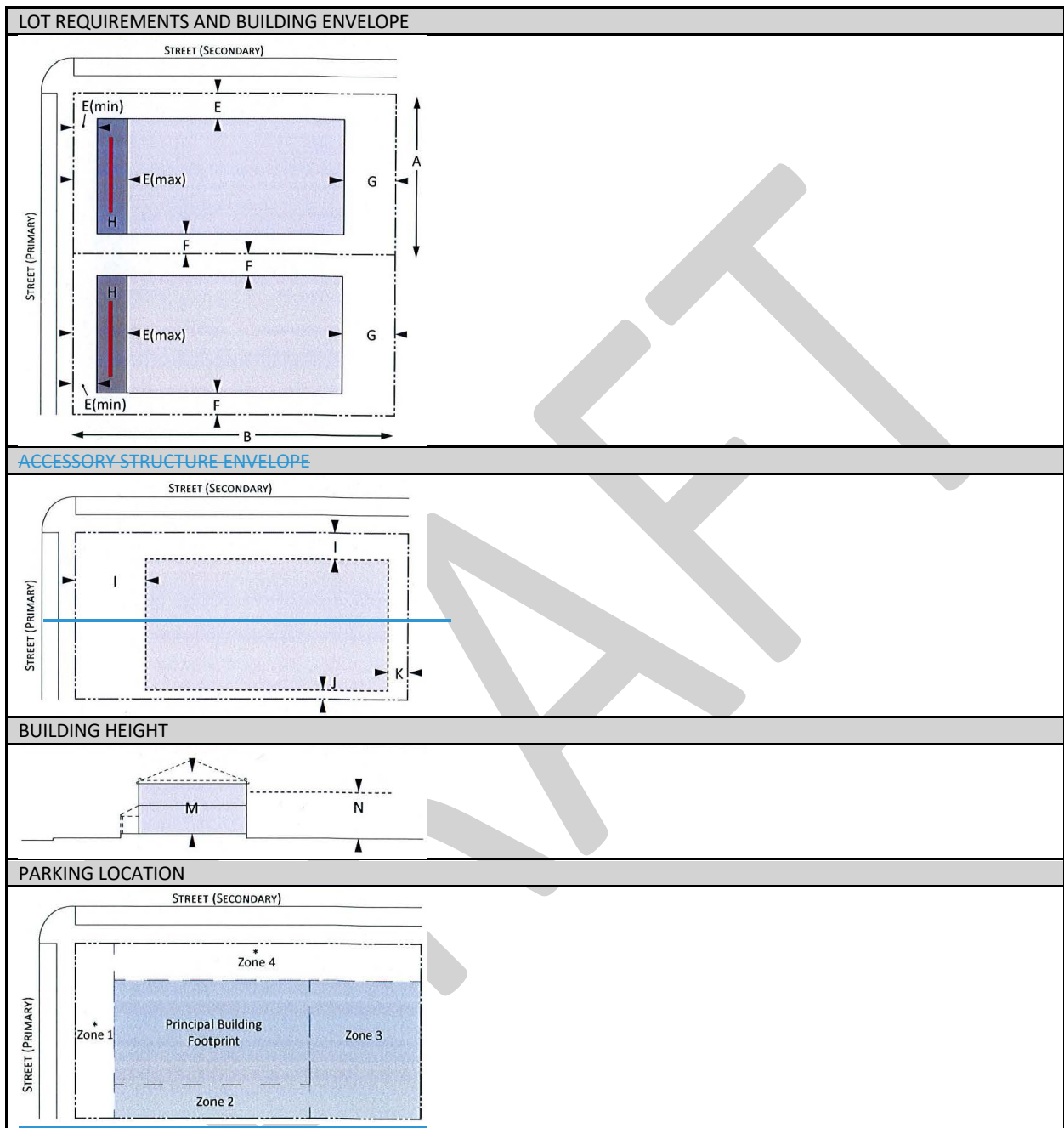
PARKING LOCATION



*may be permitted to park one vehicle in Zone 1 if access to alleyway is not available.

AH	APARTMENT HOUSE
A building lot located and designed to accommodate a detached building which resembles a large house but which contains multiple dwellings above and beside each other. A maximum of 4 units are permitted in this building lot. (The units have to <u>must</u> be existing prior to redevelopment as stated in section 20.07 Density, intensity and assembly of parcels).	

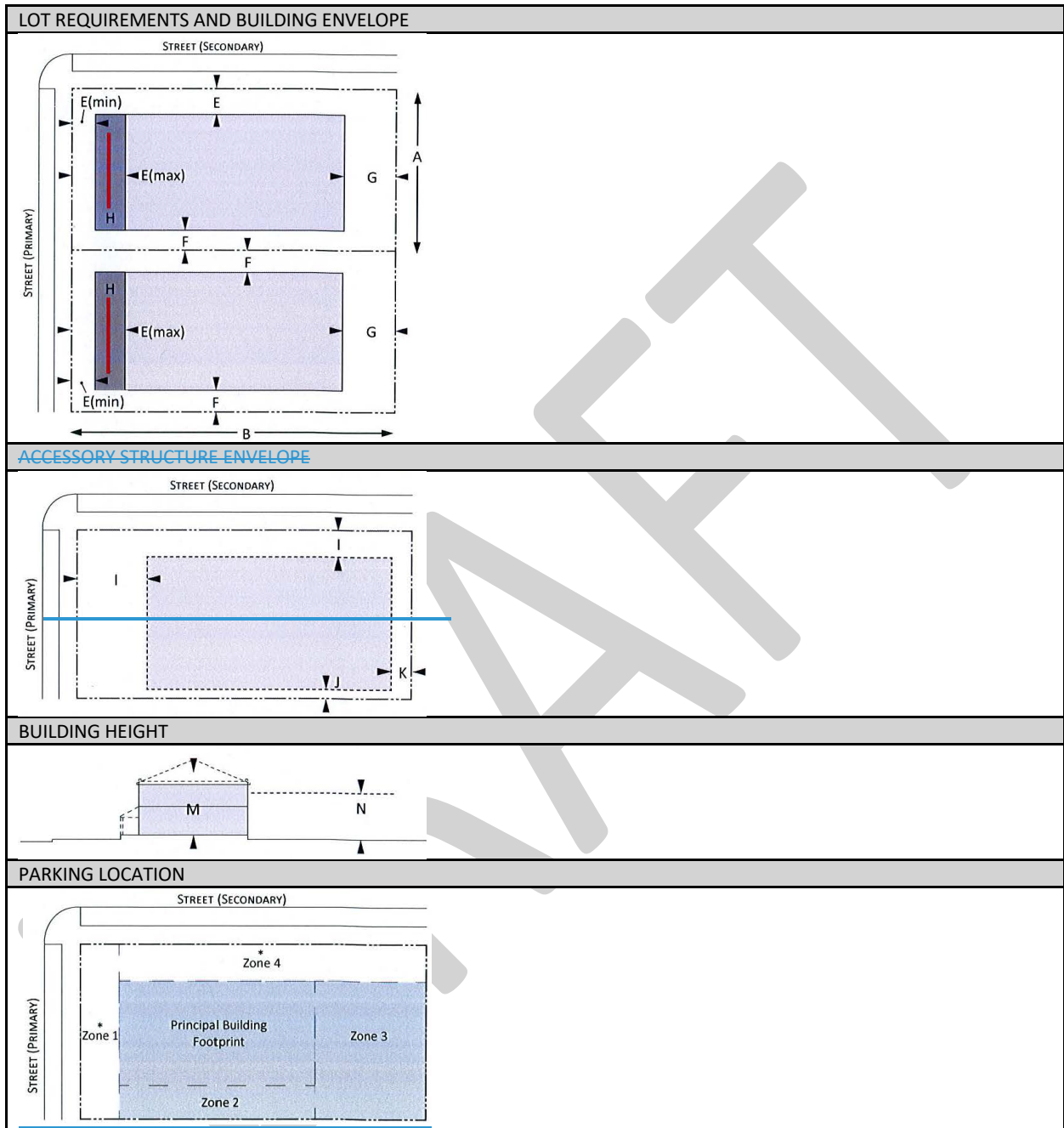
LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	40	55
B - Lot Depth (ft)	80	—
C - Lot Size (sf)	3,200	—
D - Lot Coverage (%)	—	70
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	10	15
Secondary Street Setback (ft)	5	—
F - Side Setback (ft)	5	—
G - Rear Setback (ft) (interior lot)	15	—
Rear Setback (ft) (waterfront lot)	20	—
Garage Adjacent to Alley	5	—
H - Frontage Buildout (%)	60	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
I - Street Setback (ft)	30	
J - Side Setback (ft)	10	—
K - Rear Setback (ft) (interior lot)	10	—
L - Rear Setback (ft) (waterfront lot)	20	—
M - Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)	—	'28-32' as defined in Sec. 20.17
N - Accessory Structure(s) (ft)	—	2
PARKING PROVISIONS		
Location	Zone 2, 3 and 4	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	P, S, CY	



*may be permitted to park one vehicle in Zone 1 if access to alleyway is not available.

AS	APARTMENT BUILDING-SMALL
A building lot located and designed to accommodate multiple dwellings above or beside each other in a building that occupies most of its building lot width and is placed close to the sidewalk. (The units have to <u>must</u> be existing prior to redevelopment as stated in section 20.07 Density, intensity and assembly of parcels).	

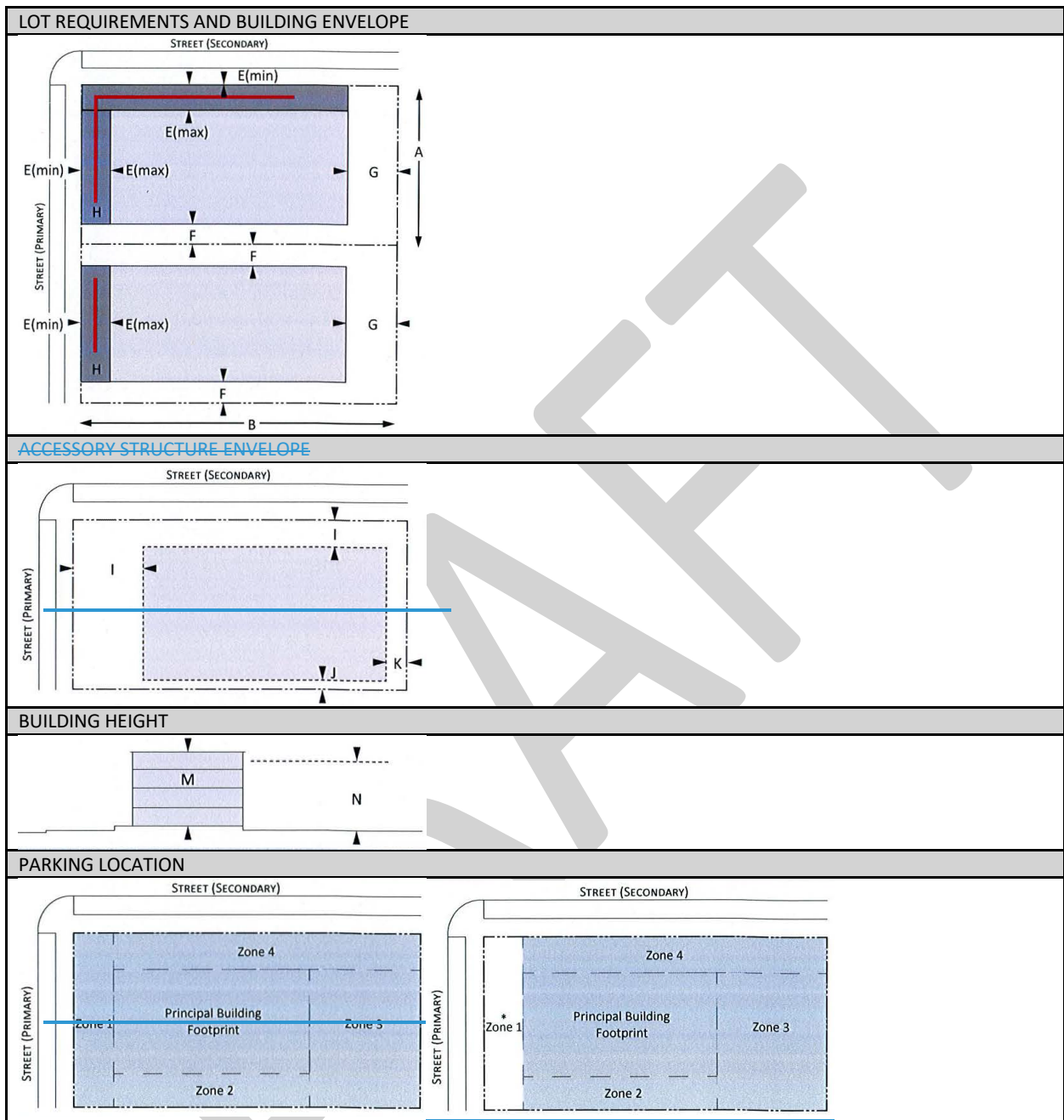
LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	60	90
B - Lot Depth (ft)	100	120
C - Lot Size (sf)	6,000	10,800
D - Lot Coverage (%)	—	75
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	15	20
Secondary Street Setback (ft)	7	—
F - Side Setback (ft)	7	—
G - Rear Setback (ft) (interior and waterfront lot)	20	—
Garage Adjacent to Alley	5	—
H - Frontage Buildout (%)	60	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
— Street Setback (ft)	30	
— Side Setback (ft)	10	—
—K Rear Setback (ft) (interior lot)	10	—
— Rear Setback (ft) (waterfront lot)	20	—
—L Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)	—	'28-32' as defined in Sec. 20.17
—N Accessory Structure(s) (ft)	—	28'
PARKING PROVISIONS		
Location	Zone 2 and 3	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF.	P, F, S, CY	



*may be permitted to park one vehicle in Zone 1 if access to alleyway is not available.

AM	APARTMENT BUILDING-MEDIUM
A building lot located and designed to accommodate multiple dwellings above or beside each other in a building that occupies most of its building lot width and is placed close to the sidewalk. (The units have to be existing prior to redevelopment as stated in section 20.07 Density, intensity and assembly of parcels).	

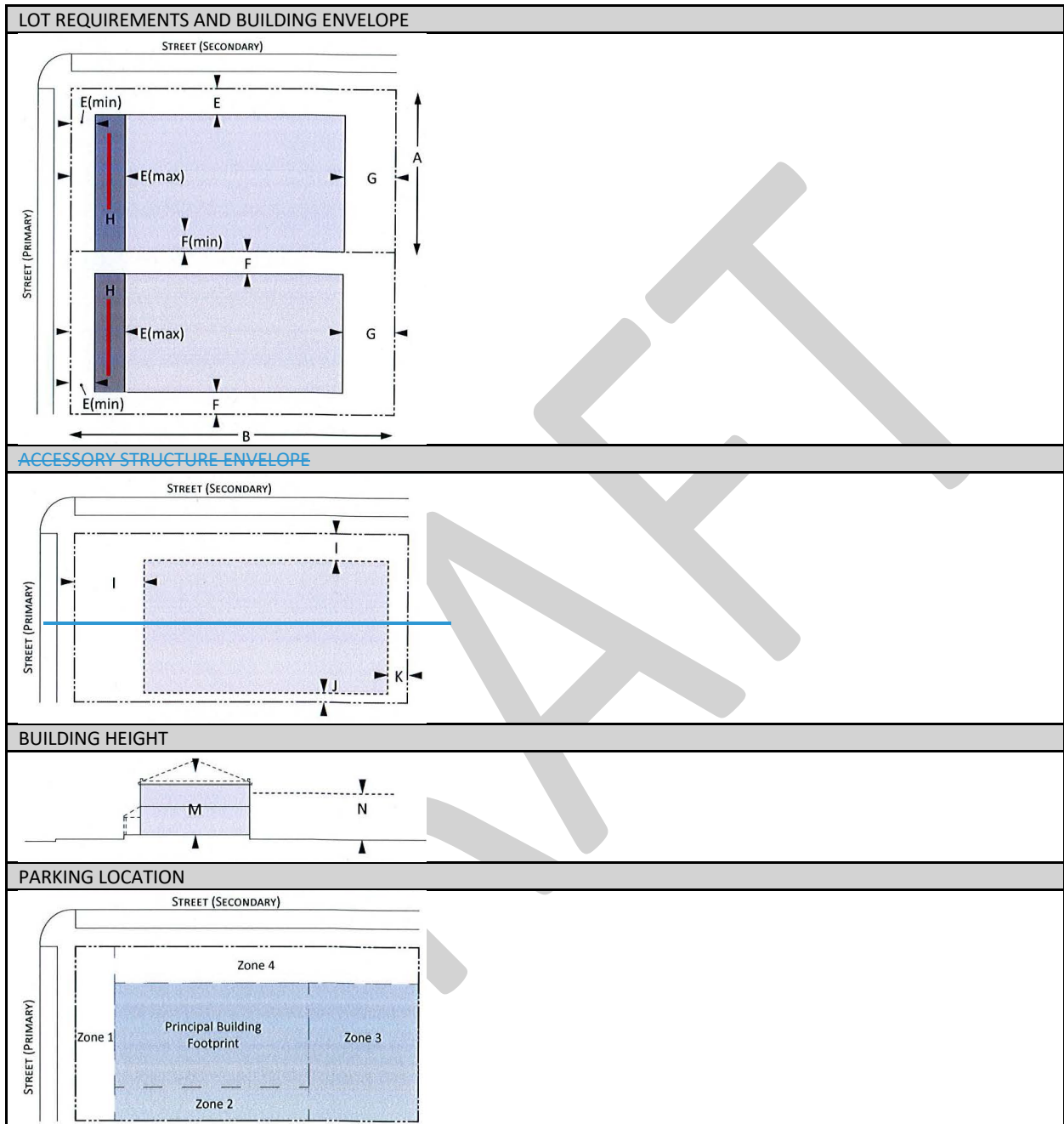
LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	90	200
B - Lot Depth (ft)	120	120
C - Lot Size (sf)	10,800	24,000
D - Lot Coverage (%)	—	75
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	15	25
Secondary Street Setback (ft)	10	—
F - Side Setback (ft)	10	—
G - Rear Setback (ft) (interior lot)	15	—
Rear Setback (ft) (waterfront lot)	20	—
Garage Adjacent to Alley	5	—
H - Frontage Buildout (%)	60	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
— Street Setback (ft)	30	
— Side Setback (ft)	10	—
— Rear Setback (ft) (interior lot)	10	—
— Rear Setback (ft) (waterfront lot)	20	—
— Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)	—	'28-32' as defined in Sec. 20.17
— Accessory Structure(s) (ft)	—	28'
PARKING PROVISIONS		
Location	Zone 2 and 3	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	CY, P, F, S	



*may be permitted to park one vehicle in Zone 1 if access to alleyway is not available.

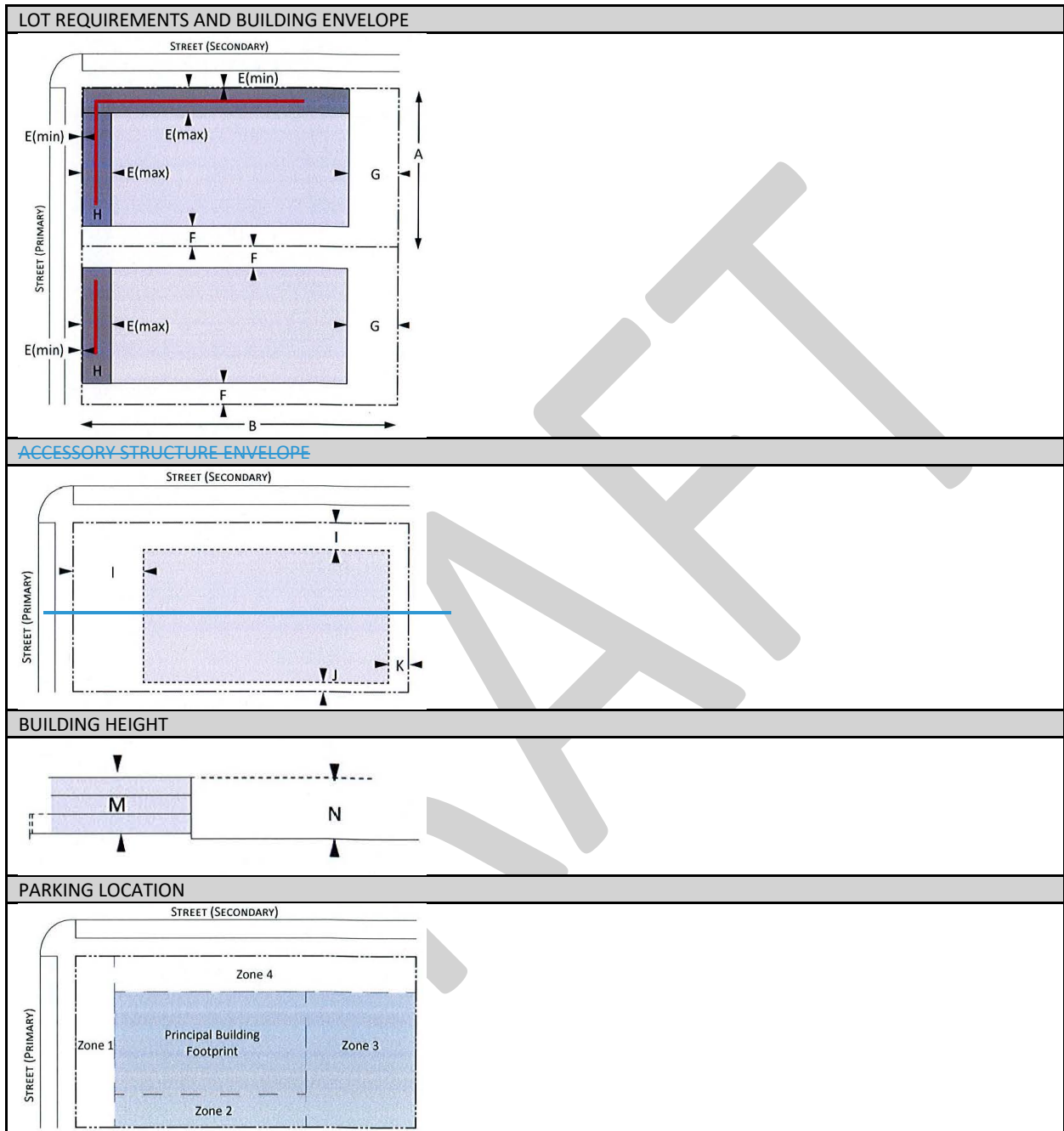
CA	COURTYARD APARTMENT
A building lot located and designed to accommodate multiple dwellings arranged around and fronting on a central garden or courtyard that may be partially or wholly open to a street and/or alleyway. (The units have to be existing prior to redevelopment as stated in section 20.07 Density, intensity and assembly of parcels).	

LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	50	200
B - Lot Depth (ft)	80	120
C - Lot Size (sf)	4,000	24,000
D - Lot Coverage (%)	—	80
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	10	15
Secondary Street Setback (ft)	5	—
F - Side Setback (ft)	5	—
G - Rear Setback (ft) (interior and waterfront lots)	20	—
Garage Adjacent to Alley	5	—
H - Frontage Buildout (%)	60	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
J - Street Setback (ft)	30	
J - Side Setback (ft)	10	—
K - Rear Setback (ft) (interior lot)	10	—
K - Rear Setback (ft) (waterfront lot)	20	—
L - Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)	—	'28-32' as defined in Sec. 20.17
N - Accessory Structure(s) (ft)	—	28'
PARKING PROVISIONS		
Location	Zone 2 and 3	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	F	



CS	COMMERCIAL / MIXED-USE - SMALL
A building lot located and designed to accommodate a multi story building with commercial, office and/or multiple dwellings in any story that is designed for smaller lot sizes.	

LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	20	60
B - Lot Depth (ft)	80	120
C - Lot Size (sf)	1,600	7,200
D - Lot Coverage (%)	—	80
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	10	15
Secondary Street Setback (ft)	5	—
F - Side Setback (ft)	0	—
G - Rear Setback (ft) (interior lot)	15	—
Rear Setback (ft) (waterfront lot)	20	—
Alley	5	—
H - Frontage Buildout (%)	60	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
J - Street Setback (ft)	30	
J - Side Setback (ft)	10	—
K - Rear Setback (ft) (interior lot)	10	—
 Rear Setback (ft) (waterfront lot)	20	—
L - Building Footprint (sf)	—	600
BUILDING HEIGHT		
M - Principal Building (ft)	—	underlying zoning district
N - Accessory Structure(s) (ft)	—	25
PARKING PROVISIONS		
Location	Zone 2 and 3	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	C	

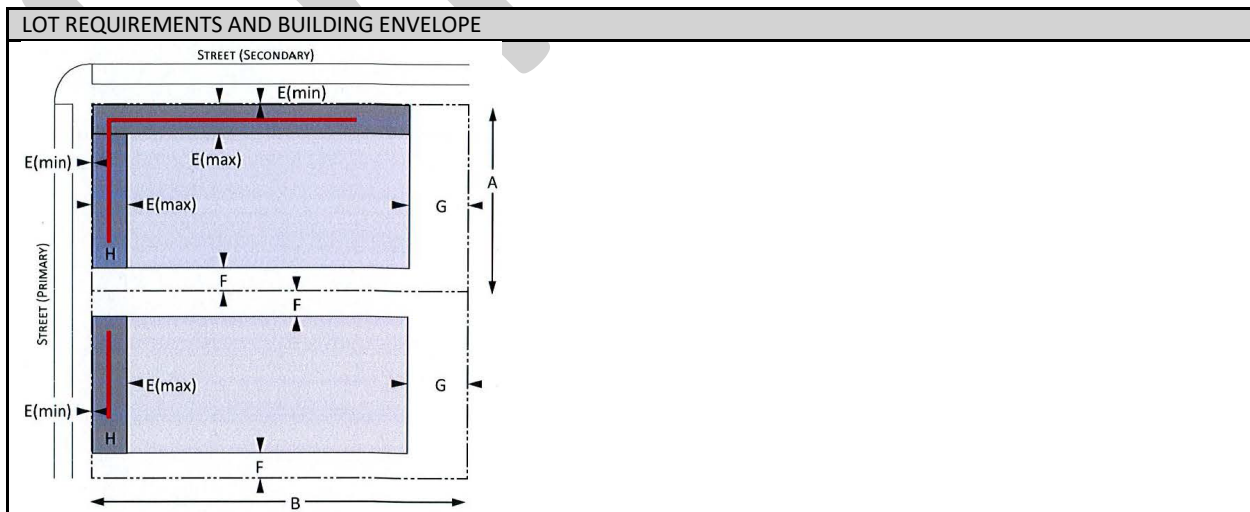


CM

COMMERCIAL /
MIXED-USE - MEDIUM

A building lot located and designed to accommodate a multi story building with commercial, office and/or multiple dwellings in any story that is designed for average lot sizes.

LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	60	150
B - Lot Depth (ft)	—	350
C - Lot Size (sf)	—	52,500
D - Lot Coverage (%)	—	90
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	10	15
Secondary Street Setback (ft)	5	—
F - Side Setback (ft)	0	—
G - Rear Setback (ft) (interior and waterfront lots)	20	—
Alley	5	—
H - Frontage Buildout (%)	60	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
— Street Setback (ft)	30	—
— Side Setback (ft)	10	—
— Rear Setback (ft) (interior lot)	10	—
— Rear Setback (ft) (waterfront lot)	20	—
— Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)	—	underlying zoning district
— Accessory Structure(s) (ft)	—	25
PARKING PROVISIONS		
Location	Zone 2 and 3	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	C	

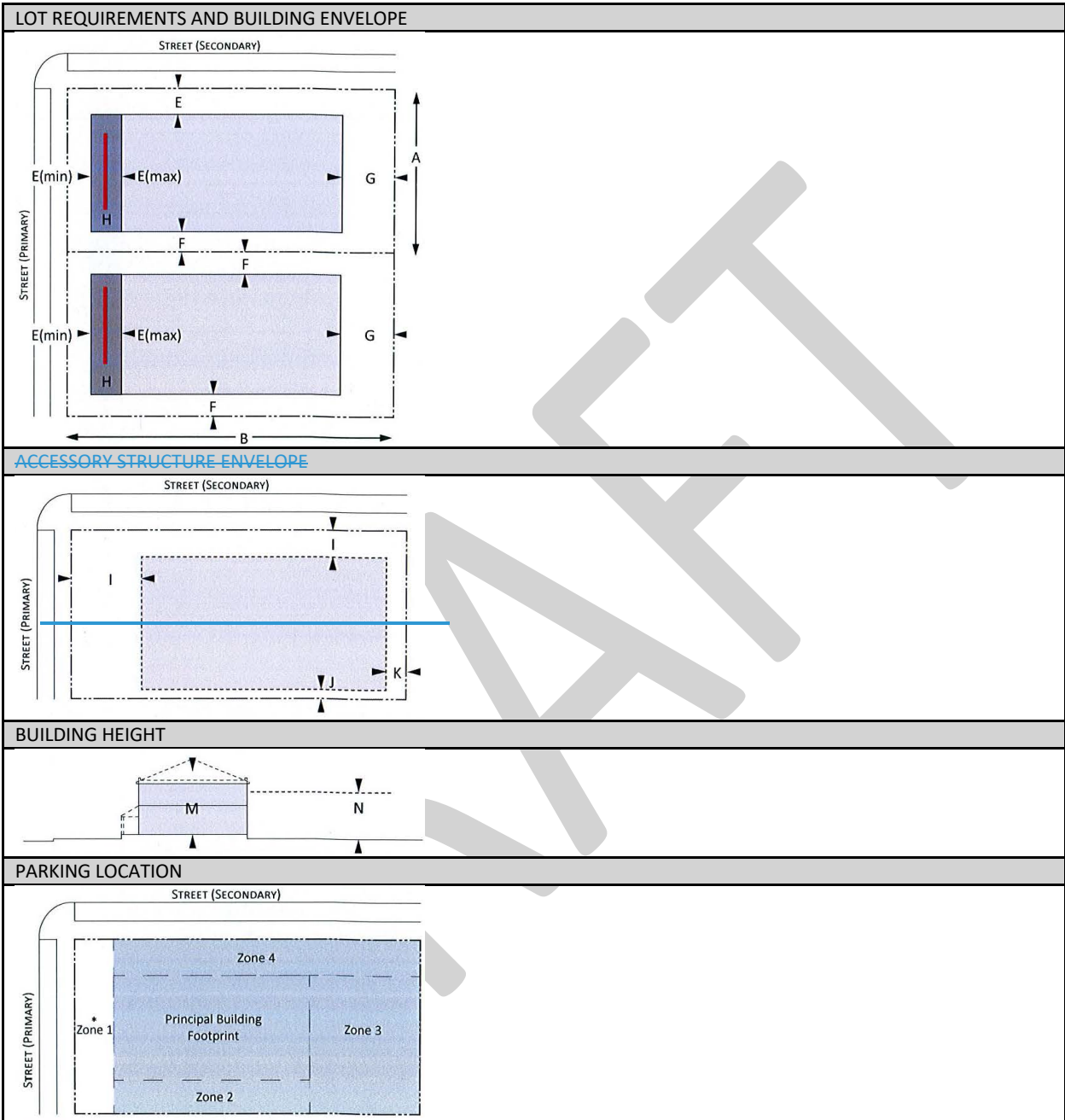


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BH	BOUTIQUE HOTEL
A building lot located and designed to accommodate lodging. The number of rooms will be confirmed by existing operating hotel rooms. (The units have to be existing prior to redevelopment as stated in section 20.07 Density, intensity and assembly of parcels).	

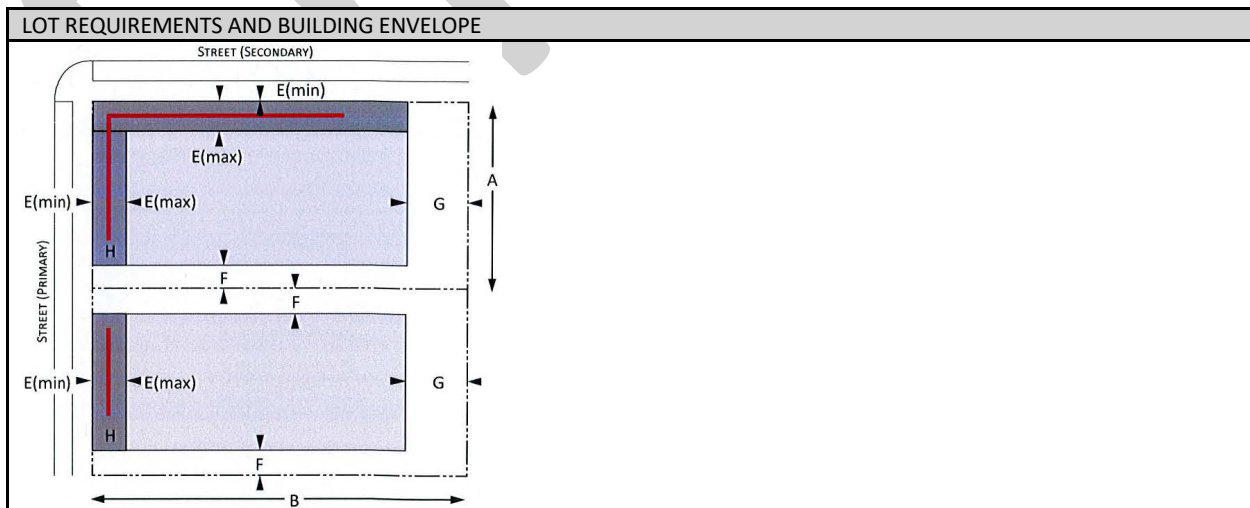
LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	40	105
B - Lot Depth (ft)	90	125
C - Lot Size (sf)	—	13,125
D - Lot Coverage (%)	—	80
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	15	20
Secondary Street Setback (ft)	10	—
F - Side Setback (ft)	10	—
G - Rear Setback (ft) (interior lot)	15	—
Rear Setback (ft) (waterfront lot)	20	—
Garage Adjacent to Alley	5	—
H - Frontage Buildout (%)	60	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
— Street Setback (ft)	30	—
— Side Setback (ft)	10	—
— Rear Setback (ft) (interior lot)	10	—
— Rear Setback (ft) (waterfront lot)	20	—
— Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)(1)	—	'28-32' as defined in Sec. 20.17
— Accessory Structure(s) (ft)	—	28'
PARKING PROVISIONS		
Location	Zone 2,3, and 4	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	C, P, F, CX , S	

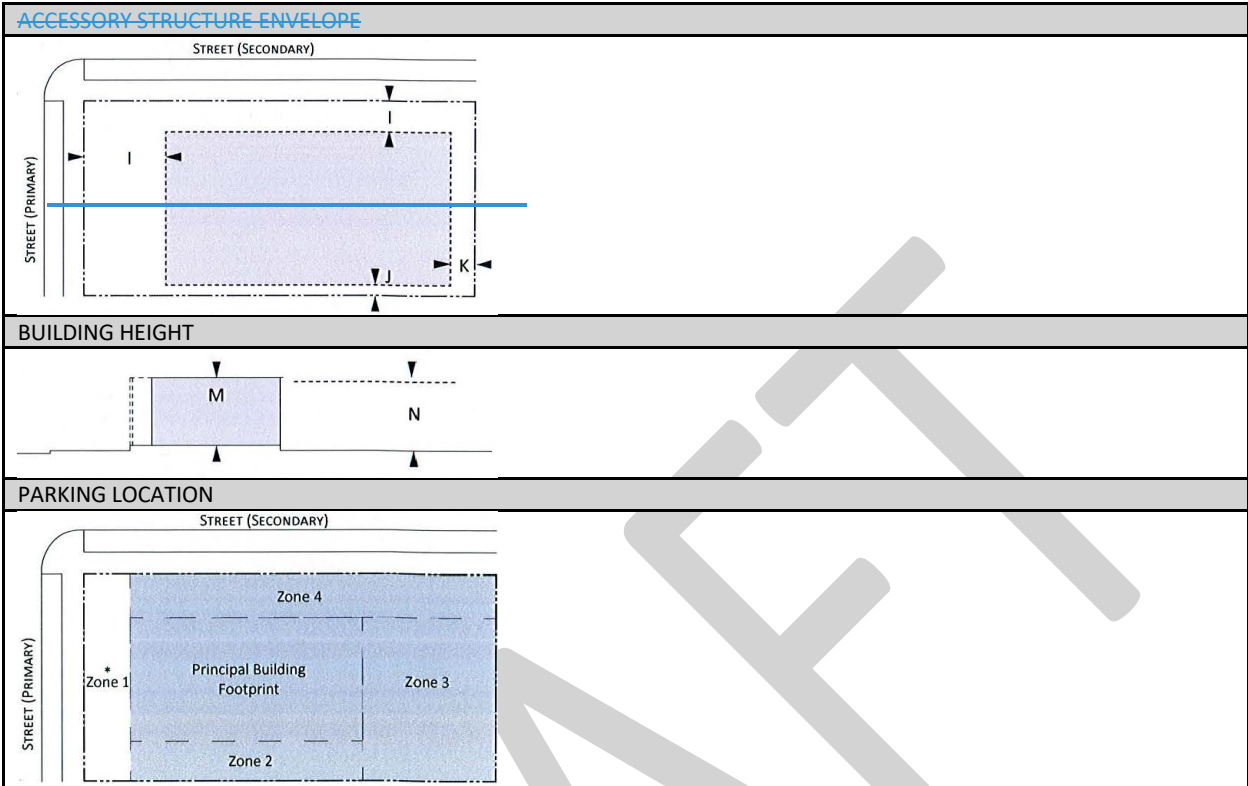
(1) may exceed the height up to 35' as outlined by the code if the property is along Gulf Way and that portion of the building that exceeds the 32' in height shall be set back an additional one foot from the front setback line for every foot in height increase.



SS	SINGLE STORY COMMERCIAL BUILDING-SMALL
A building lot located and designed to accommodate single use office and retail.	

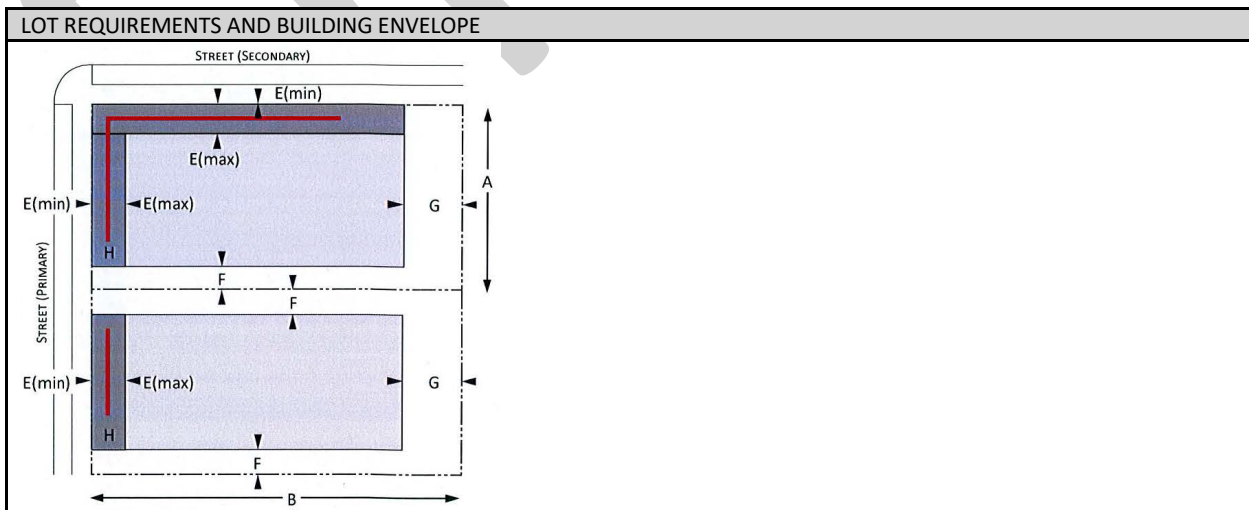
LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	30	50
B - Lot Depth (ft)	80	120
C - Lot Size (sf)	4,000	6,000
D - Lot Coverage (%)	—	80
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	10	15
Secondary Street Setback (ft)	5	—
F - Side Setback (ft)	0	—
G - Rear Setback (ft) (interior and waterfront lots)	20	—
Alley	5	—
H - Frontage Buildout (%)	60	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
—J— Street Setback (ft)	30	
—J— Side Setback (ft)	10	—
—K— Rear Setback (ft) (interior lot)	10	—
—K— Rear Setback (ft) (waterfront lot)	20	—
—L— Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)	—	underlying zoning district
—N— Accessory Structure(s) (ft)	—	25
PARKING PROVISIONS		
Location	Zone 2,3, and 4	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	C, G, A	

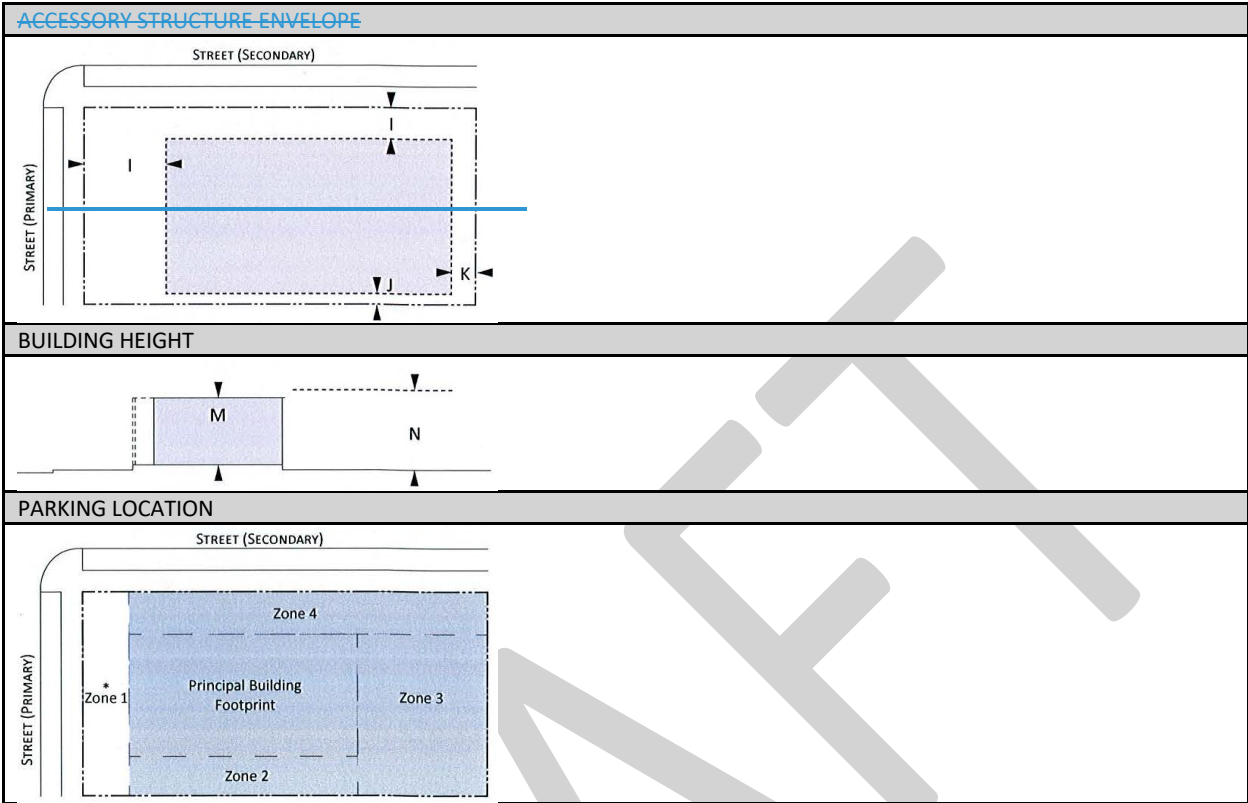




SM	SINGLE STORY COMMERCIAL BUILDING-MEDIUM
A building lot located and designed to accommodate single use office and retail.	

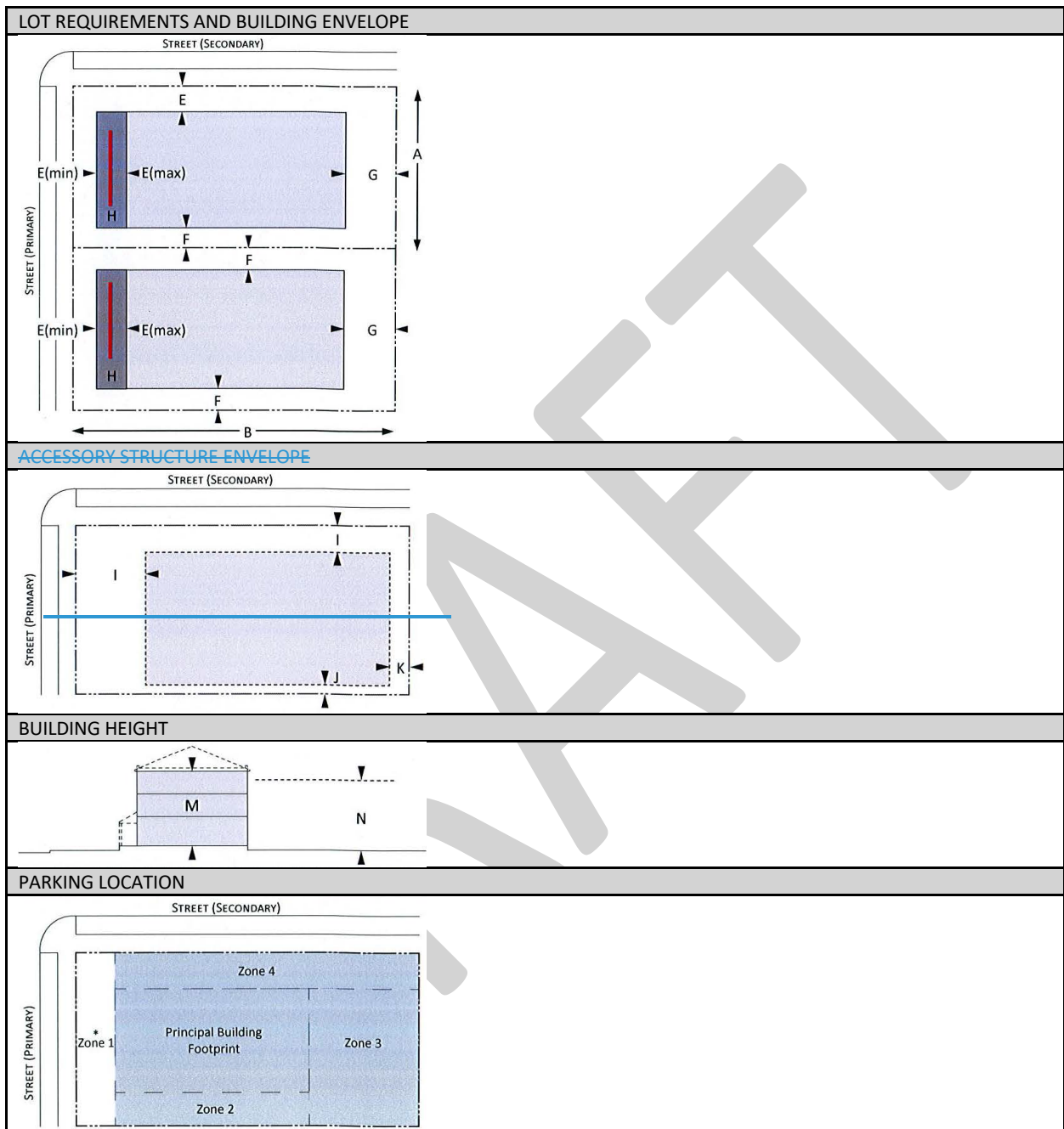
LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	60	150
B - Lot Depth (ft)	—	350
C - Lot Size (sf)	—	52,500
D - Lot Coverage (%)	—	90
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	10	15
Secondary Street Setback (ft)	5	—
F - Side Setback (ft)	0	—
G - Rear Setback (ft) (interior and waterfront lots)	20	—
Alley	5	—
H - Frontage Buildout (%)	60	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
—J— Street Setback (ft)	30	—
—J— Side Setback (ft)	10	—
—K— Rear Setback (ft) (interior lot)	10	—
—K— Rear Setback (ft) (waterfront lot)	20	—
—L— Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)	—	underlying zoning district
—N— Accessory Structure(s) (ft)	—	25
PARKING PROVISIONS		
Location	Zone 2, 3 and 3-4	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	C	





IN	INSTITUTION BUILDING
A building lot located and designed to accommodate a building containing public or civic uses such as community services, day care, education, government, places of worship, or social services. This typology is only for permitted and exiting institutional buildings.	

LOT REQUIREMENTS	MIN	MAX
A - Lot Width (ft)	—	—
B - Lot Depth (ft)	—	—
C - Lot Size (sf)	—	—
D - Lot Coverage (%)	—	—
BUILDING ENVELOPE	MIN	MAX
E - Street Setback (ft)	10	25
Secondary Street Setback (ft)	10	—
F - Side Setback (ft)	10	—
G - Rear Setback (ft) (interior lot)	15	—
Rear Setback (ft) (waterfront lot)	20	—
Alley	5	—
H - Frontage Buildout (%)	50	—
ACCESSORY STRUCTURE ENVELOPE	MIN	MAX
— Street Setback (ft)	30	—
— Side Setback (ft)	10	—
— Rear Setback (ft) (interior lot)	10	—
— Rear Setback (ft) (waterfront lot)	20	—
— Building Footprint (sf)	—	800
BUILDING HEIGHT		
M - Principal Building (ft)	—	35
N - Accessory Structure(s) (ft)	—	28'
PARKING PROVISIONS		
Location	Zone 2,3, and 4	
PRIVATE FRONTAGES (PF)		
Select a minimum of 1 PF listed	no requirement	

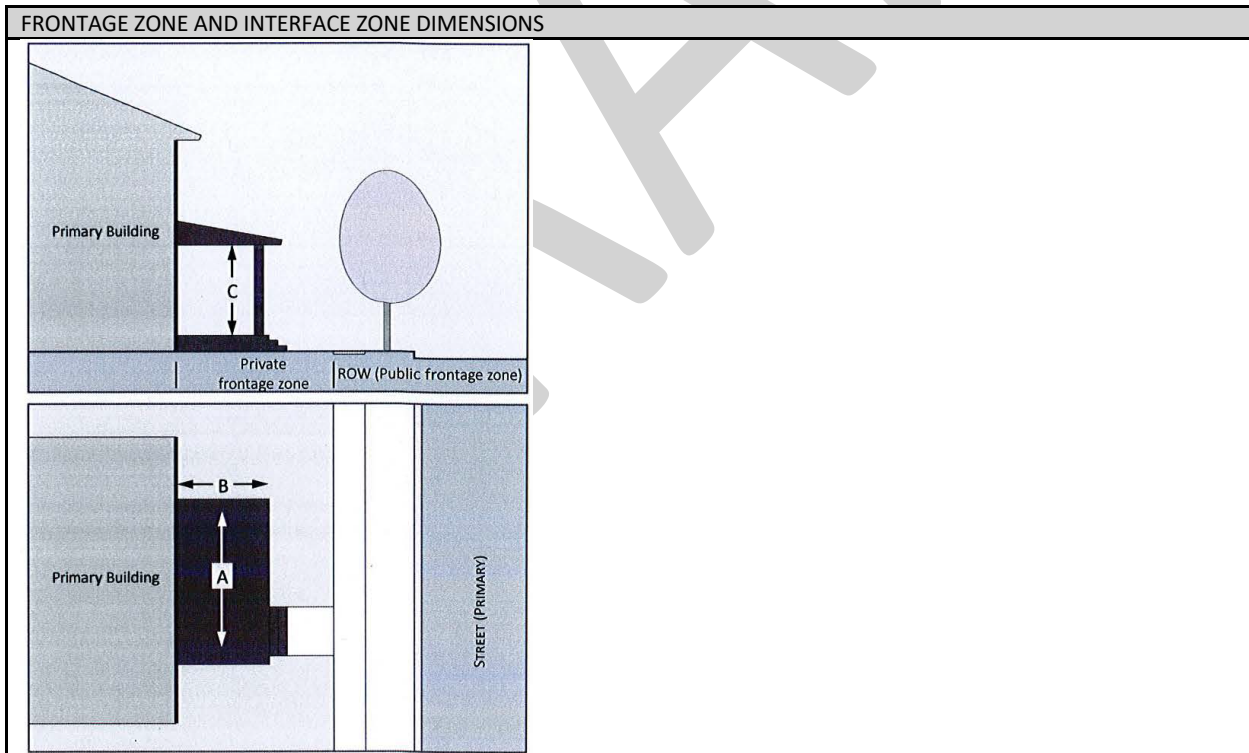


Sec. 20.16. Private frontage.

The building types in section 20.15 provide the acceptable private frontages (i.e. porches, stoops, etc.) for that building type. If there are multiple frontages provided in the table, the applicant may choose what private frontage to provide per building. A minimum of one frontage will be required for new construction, [or redevelopment of a building that is being substantially improved by 50%, as provided in each building summary sheet](#), by Building Type. The private frontage area may count towards the calculation of the frontage build out requirement under the "Building Envelope" category, by building type, in section 20.15. [Private frontage details are exclusive of specific building design elements and are regulated by setbacks, mass and scale.](#)

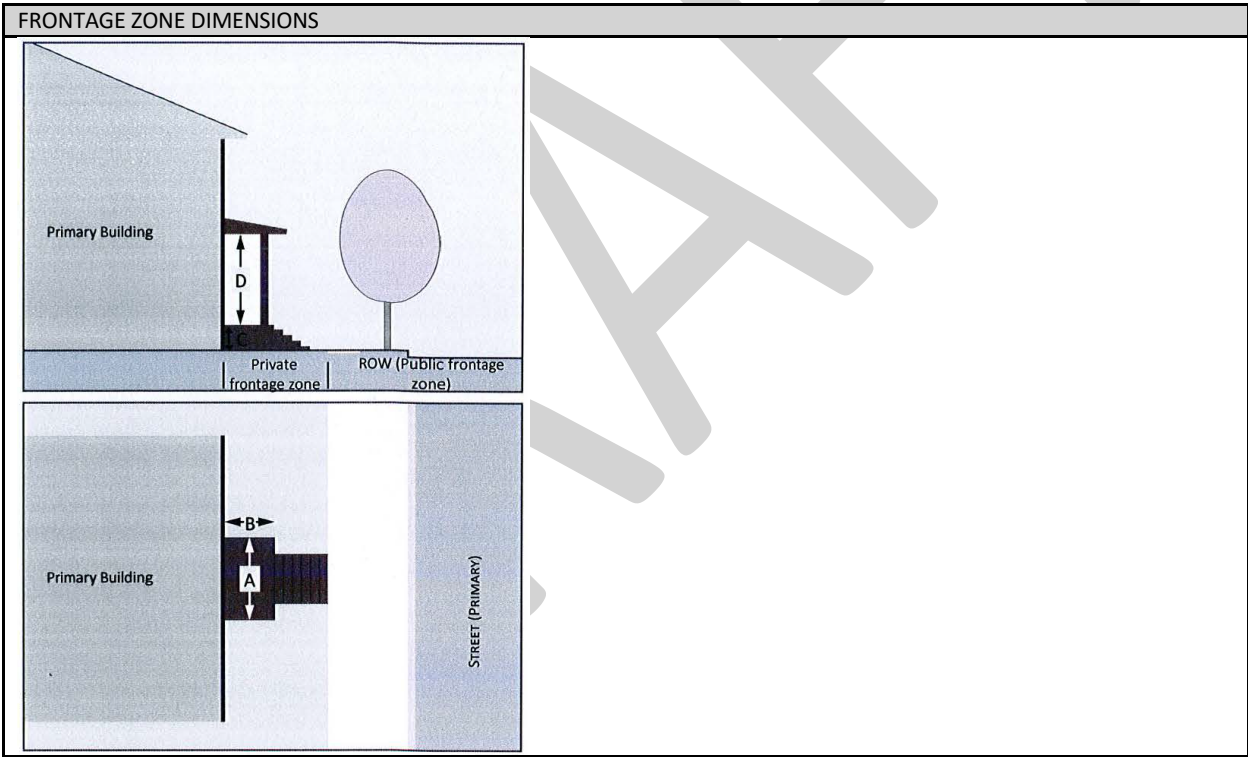
P	PORCH
The façade is setback from the front lot line per applicable street setback requirements. The façade includes an attached front porch structure. A wide variety of porch designs are possible.	

FRONTAGE ZONE (FZ)	MIN	MAX
Porch structure requirements:		
A - Width (clear) (ft)	10	—
B - Depth (clear) (ft)	5	—
C - Height (clear) (ft)	7	—
INTERFACE ZONE (IZ)		
Landscape with path (3' wide min) from sidewalk to structure		



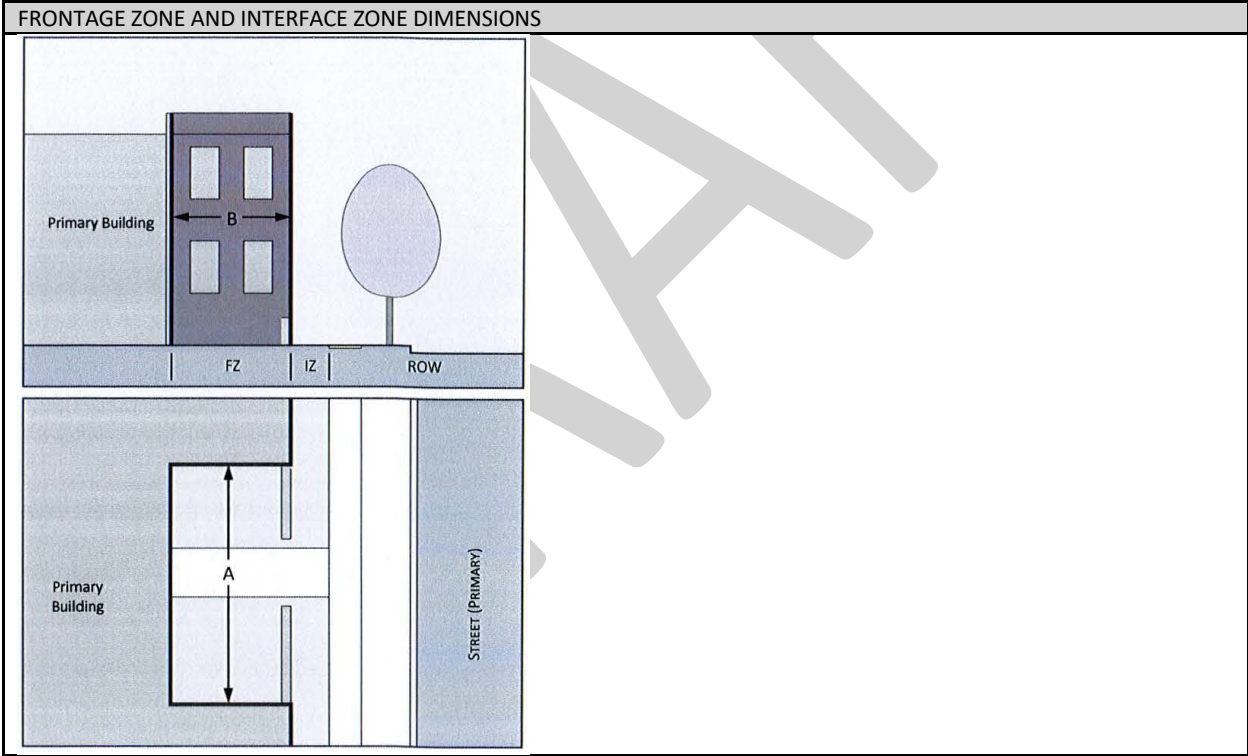
S	STOOP
The façade is set back from the front lot line per applicable street setback requirements. The façade includes an attached entry stoop (an elevated landing with stairs) that is placed at or near the front lot line pursuant to the street setback required for the building type. The ground floor is elevated to provide privacy. The stoop may include a roof, however it is not required.	

FRONTAGE ZONE (FZ)	MIN	MAX
Stoop structure requirements:		
A - Width (clear) (ft)	5	10
B - Depth (clear) (ft)	3	8
C - Height (stoop) (in)	18	24
D - Height (clear) (ft)	7	—
INTERFACE ZONE (IZ)		
Landscape with path (3' wide min) from sidewalk to structure		



F	FORECOURT
The façade is set back from the front lot line per applicable street setback requirements. A portion of the façade is recessed to form an uncovered court. The court is suitable for outdoor dining, gardens, vehicle drop-offs, formal entries etc. A fence or wall may be used to define the private space of the court. The court may be elevated behind a retaining wall at or near the front lot line with entry steps to the court. The forecourt area may not have a permanent roof structure. Cafe's, seating area's may provide shade, umbrella's or any temporary shelter(s) that provide shade.	

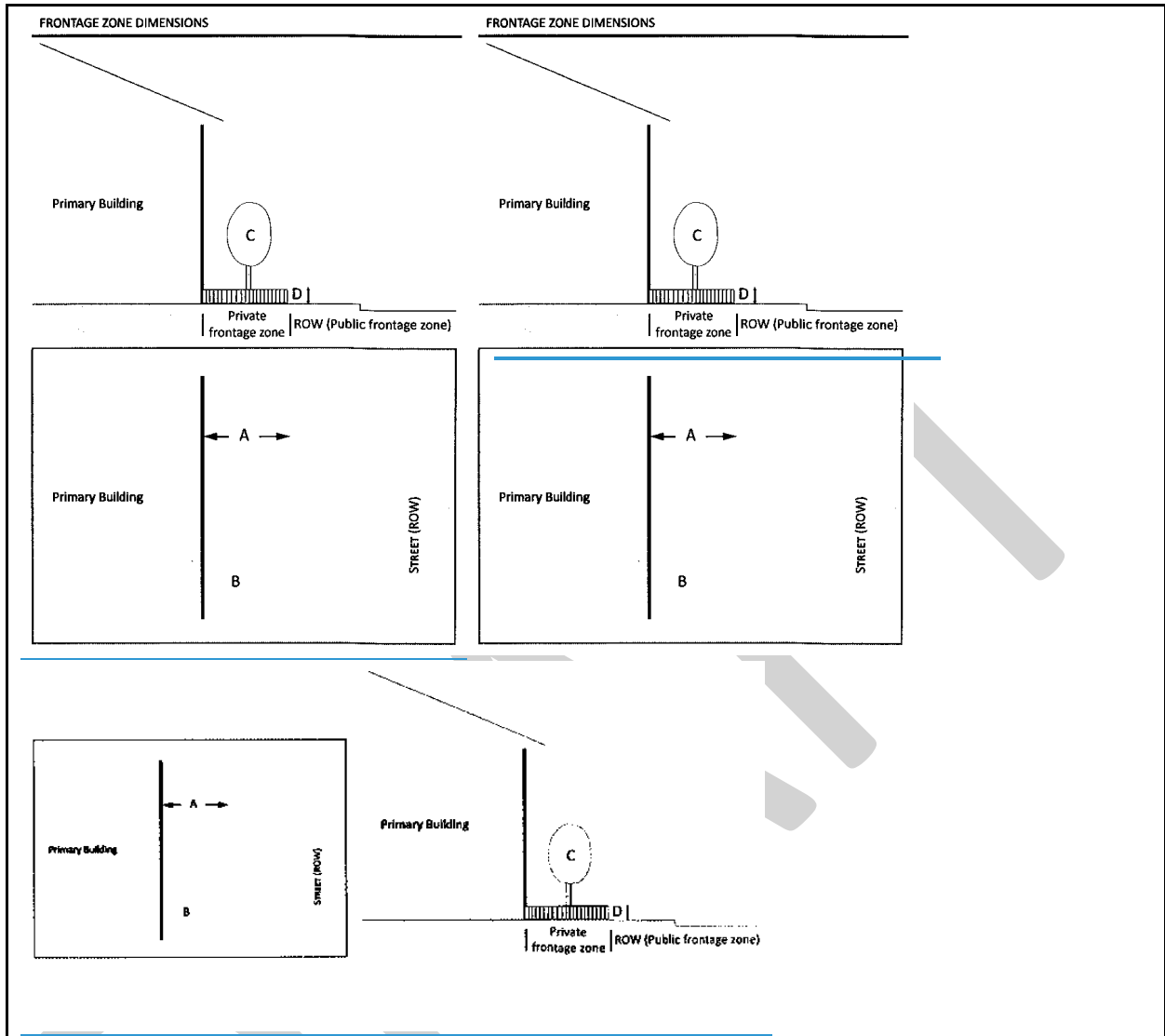
FRONTAGE ZONE (FZ)	MIN	MAX
Courtyard requirements:		
A - Width (clear) (ft)	12	—
B - Depth (clear) (ft)	12	50
INTERFACE ZONE (IZ)		
Landscape with path (6' wide min) from sidewalk to structure		
OTHER REQUIREMENTS		
None		



	COMMON YARD
The façade is set back from the front lot line per applicable street setback requirements. The common yard may include a two to four foot in height decorative fence that shall be constructed of wood, shell, or concrete material. The front yard is required to have a minimum of 1 canopy tree, shrubs, and ground cover. <u>The common yard is located at the between the front lot line and build-to-line of the parcel. Pools, accessory structures may not be located in the common yard area.</u>	

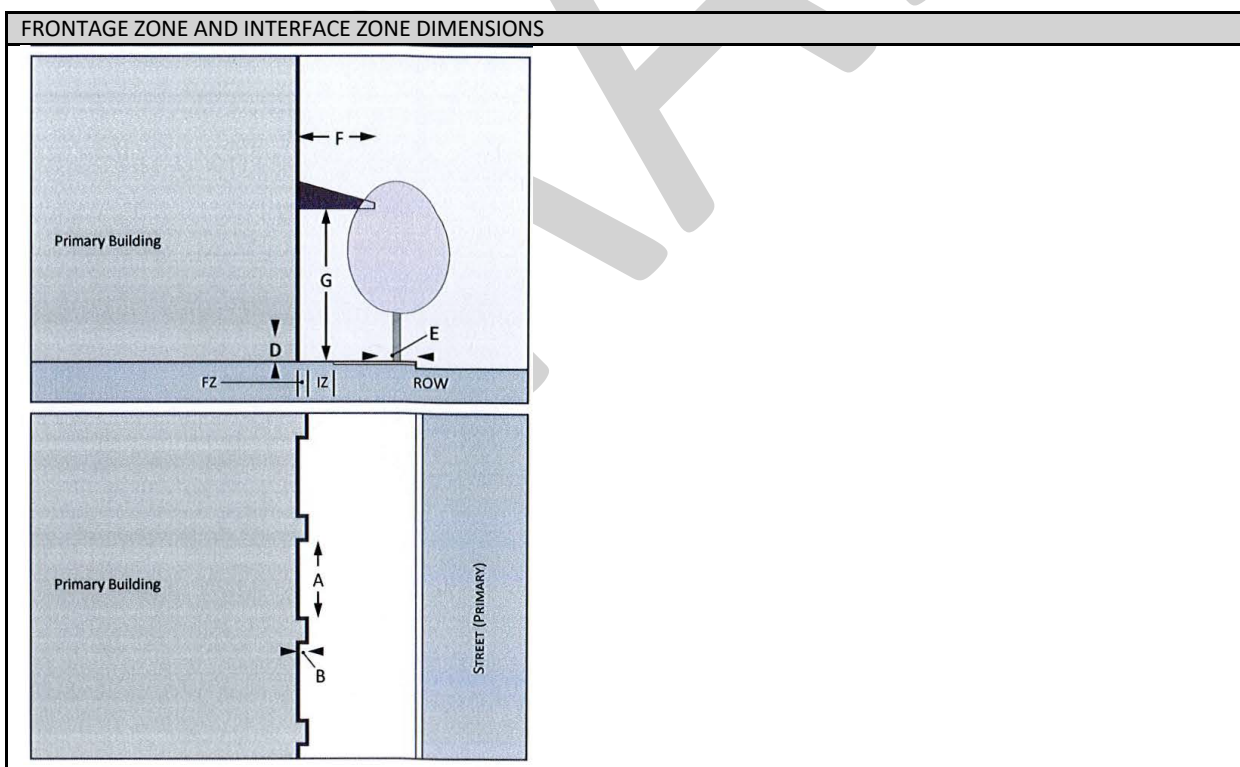
FRONTAGE ZONE (FZ)-T BUFFER	MIN	MAX
Stoop structure requirements:		
A - Landscape	grass and or ground cover	
B - Shrubs, ground cover <u>(c)(1)a.</u>	10 (3 gallon) <u>3'</u> <u>height</u>	—
C - Tree (canopy tree)	1	—
D <u>— Front/sideyard</u> Fence Height (feet) <u>(c)(1)b</u>	2'	4'

FRONTAGE ZONE DIMENSIONS



C	COMMERCIAL
The façade is setback from the front lot line per applicable street setback requirements, typically at or near the front lot line with the entrance at sidewalk grade. The façade may include an awning, shed roof, or gallery (a lightweight colonnade with no habitable building space above it) that covers the sidewalk and may extend into the right-of-way. The facade has a substantial amount of glazing at the sidewalk level. Recessed entrances are acceptable.	

FRONTAGE ZONE (FZ)	MIN	MAX
Building facade requirements:		
A - Distance between openings (ft)	10	20
B - Door recess (ft)	—	5
C - Ground floor transparency (%)	60	—
D - Height to bottom of window (ft)	—	2.5
INTERFACE ZONE		
Extended sidewalk from right-of-way edge to structure		
OPTIONAL ELEMENTS	MIN	MAX
AWNING or GALLERY		
E - Setback from curb (ft)	2	—
F - Depth (clear) (ft)* (Gallery min 8')	4	10
G - Height (clear) (ft)	8	—
OTHER REQUIREMENTS		
None		



(Ord. No. 2016-19, § 2(Exh. A), 2-28-17; Ord. No. 2021-08, § 2, 6-22-2021; Ord. No. 2021-22, § 2, 10-12-21)

Sec. 20.16. Private frontage.

The building types in section 20.15 provide the acceptable private frontages (i.e. porches, stoops, etc.) for that building type. If there are multiple frontages provided in the table, the applicant may choose what private frontage to provide per building. A minimum of one frontage will be required for new construction when listed on the chart, by Building Type. The private frontage area may count towards the calculation of the frontage build-out requirement under the "Building Envelope" category, by building type, in section 20.15.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.17. Building height.

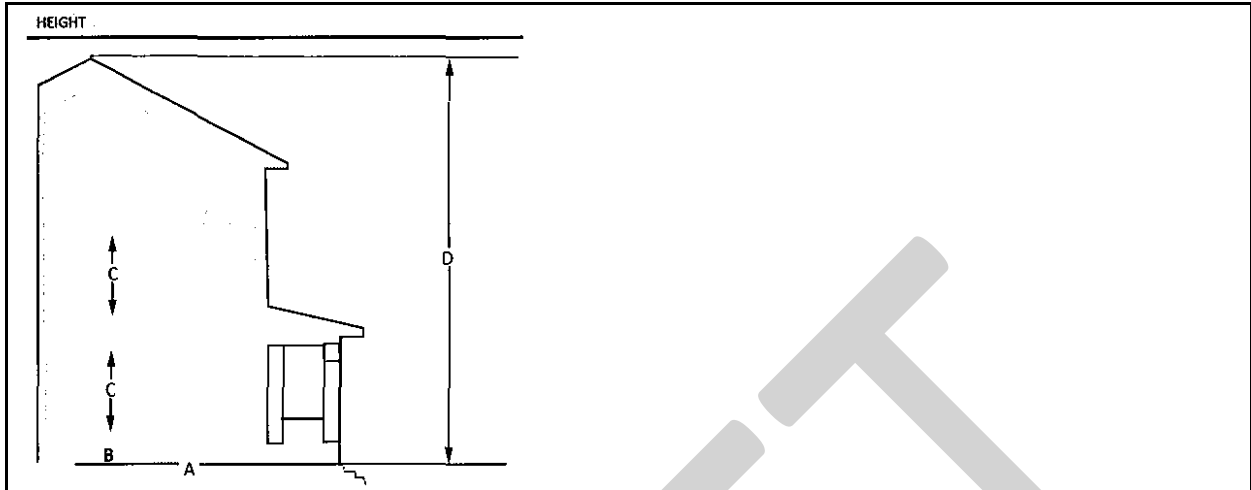
Each building lot typology in section 20.15 provides the range of height appropriate for the building type. No new or substantially improved building within the ~~PAG Overlay District~~PAGHOD and having the underlying zoning designation of THD, RU-2 Residential, RLM-2 Residential, or RM Residential shall be constructed to exceed twenty-eight (28) feet in height to the midpoint of a sloped roof or top of the parapet of a flat or low sloped roof, or thirty-two (32) feet overall, as defined below:

- a. For any structure with habitable space located less than eight feet above natural grade, height shall be measured from the property's required Design Flood Elevation.
- b. For any structure with habitable space beginning at or higher than eight feet above natural grade, height shall be measured from eight feet above natural grade.

Base flood elevation requirements are outlined in section 98-33 of the City's Code of Ordinances.

	MIN	MAX
Building facade requirements:		
A - Base Flood Elevation (BFE) refer to Sec. 98-33		
B - Finished Grade (FG)	Determined by the BFE & FG	
C - Height of Floors (liveable)	8	14
D - Total Height (Measurement from the required DFE)	—	—
Residential*	—	28-32*
Commercial (non-residential)	—	Refer to Underlying Zoning District
* Not to exceed 28 feet in height to the midpoint of a sloped roof or top of the parapet of a flat or low sloped roof, and measured from the location specified above, further provided that the overall roof height shall not exceed 32 feet.		

HEIGHT



(Ord. No. 2016-19, § 2(Exh. A), 2-28-17; Ord. No. 2021-08, § 2, 6-22-2021)

Sec. 20.18. Minimum off-street parking requirements.

- (a) *Residential*: Shall be in accordance with the requirements of Division 23 of the Land Development Code, Off Street Parking and Loading.
- (b) *Nonresidential*: may reduce the number of spaces, if on-street parking is available, then an applicant can count any on-street parking within 500 feet of the parcel.

(c) Access to and location of parking areas:

(1) Parcels abutting an alley of at least fifteen feet width shall not place parking in the front yard of the zoning lot, nor will be provided driveway access from the primary street. Parking may be placed in the rear or side yard. Access shall be provided via the alley.

(2) Parcels without alley access shall be granted a curb cut from the primary street and may provide parking in the front yard with an additional five foot setback from the garage and or principal structure as provided in the building types.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.19. Alleyways and Driveways.

(a) ~~(a)~~ The ~~PAG Overlay District~~PAGHOD-has existing alleyways that shall be maintained and used as an alleyway for access to parcels located along an alleyway.

- (b) Under no circumstance shall an existing alley be reduced in the width and length.
- (c) Parking is permitted adjacent to an alleyway or where the City has identified, through signage, that vehicles may park within the alleyway. Under no circumstance shall a parked vehicle impede the vehicular movement.
- (d) Alleyways shall not be permanently closed or vacated.

(e) One driveway is permitted for each parcel. When a parcel has access to an alleyway, that alleyway shall be the primary access to the parcel's driveway and parking area that is consistent with the parking area

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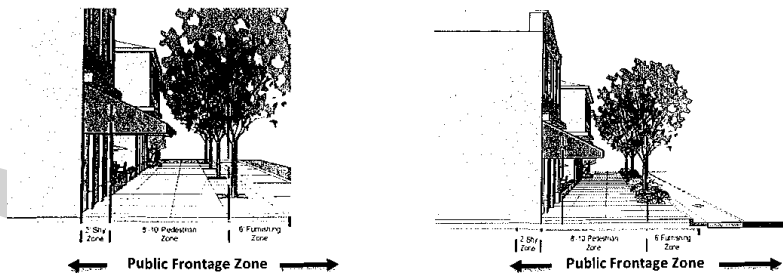
placement as outlined in Sec. 20.15, Permitted Building Types. If a circular driveway is proposed and/or more than one driveway access point is requested, the applicant must provide:

- (1) Overall landscape plan for the primary frontage of the building to ensure Sec. 20.21 Screening of elevated building criteria is met prior to considering multiple access point(s).
- (2) If an impact to the landscape and elevated building criteria needs to be reduced, justification shall be provided that demonstrates a need for the driveway. The priority would be transportation circulation and safety and shall be reviewed and determined by the City.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.20. Landscaping standards.

- (a) *Streetscape standards.* When the City requires improvements to the "Public Frontage" Zone which includes: Furnishing zones, pedestrian zones and a shy zone, the following standards shall apply.
- (1) *Furnishing Zone that is a minimum of six feet in depth and may include street lights, benches and canopy trees.* A furnishing zone shall include one of the following: Tree Grate Standards. One canopy tree per 30 feet in lineal building shall be provided the entire length of the parcel the building is fronting.
 - (2) *Planter Beds.* A minimum width of 6 feet with a maximum length of 25 feet that contains 1 canopy tree per bed and 100 percent ground cover.
 - (3) *Pedestrian Zone.* 8—10 feet of unobstructed sidewalk
 - (4) *Shy zone.* Comprised of 12 inches to 2 feet that includes the area from the edge of the building to the edge of the pedestrian zone.



(b) (b) Landscape Buffers may be required between any uses within the ~~PAG Overlay District~~ PAGHOD.

- (c) Front Buffers for all residential building types, excluding the Apartment Building, shall provide the following:
- (1) Front fence or landscape buffer (common yard) shall be provided and include the following:
 - a. An opaque hedge, height not to exceed 3 feet when fully matured and/or
 - b. *Knee wall and/or fence.* Permitted materials are wood, shell or concrete material consistent with the overall architecture and design of the primary residence. The fence setback and visibility standards of section 20.15 shall apply to the building type selected for development, except that no fence exceeding four feet in height shall be installed closer to the front lot line than the principal structure to which it is ancillary.

Sec. 20.21. Screening of elevated buildings.

A building required by section 98-33 of the City's Code of Ordinances, to be elevated more than three feet above grade shall mask the fact that it is elevated through the use of appropriate architectural screening so that the building, when viewed from public rights-of-way, appears to have been constructed at, or near, natural grade as follows:

- (a) Architectural screening shall:
 - (1) Create a visual continuity that is integrated with the overall design and architecture of the home using doors, garage doors, entryways, staircase and/or archways.
 - (2) No more than 20 percent of the area being screened can be transparent.
- (b) Landscape screening shall be installed around the portions of the buildings (accessory and principal) that are elevated and facing the public street:
 - (1) A minimum 3-foot-wide landscape area the length of the principal building and garage (if visible from the street) except where driveways are approved. Displaced landscaping from driveways shall be relocated elsewhere in the front yard.
 - (2) One understory tree per 20 lineal feet (or portion thereof) of the elevated building length/width viewed from public rights-of way.
 - (3) Planted with shrubs, ornamental grasses and groundcovers to provide 100 percent coverage of the landscape area within one growing season. The landscape design shall (unless spatially impractical) provide layering of plant materials that includes larger background shrubs and low foreground groundcovers. All plant material should be Florida friendly plantings as defined and identified by University of Florida/IFS horticulture experts.
 - (4) Permanent mulch materials, such as organic mulches, stones, and recycled inorganic groundcover materials are not permitted in lieu of vegetation, unless they are provided as accent or focal points that enhance the landscape design.
- (c) Apartment building types (apartment house, apartment building small and apartment building medium shall also meet the following standards:
 - (1) Parking may only be accessed from the side or rear of the building.
 - (2) No portion of the primary-principal building shall have garage doors facing any street.
 - (3) Parking may be located within the BFE provided the primary face of the building is architecturally designed to be consistent with front entryways of homes that are integrated and not visually seen from any street.

Sec. 20.22. General building design (residential).

In addition to the required private frontages and the standards provided in each frontage, the following standards shall be applied to all residential building types (house and apartment building types) in order to maintain the overall mass and scale, of the PAGHOD community's existing housing stock.

The following standards are included to provide a minimum criteria needed to review the overall design, mass and scale as outlined below while allowing an applicant flexibility in the design of the building. The design criteria are typical design elements used by architects to ensure a higher quality development and exclude specific building design elements.

Any single family or attached residential structure that follows the criteria outlined in section 20.15, Permitted Building Types, must design the building with the following architectural elements:

- (a) The mass of a building must include:
 - (1) *Primary mass*. The building shall have a distinct primary mass.
 - (2) *Secondary mass*. A building should also include secondary mass (private frontage requirements) that form the façade of the building.
 - (3) Voids that allow for natural breaks in the mass.
 - (b) Proportional design elements shall include:
 - (1) Windows in varying, yet similar arrangements.
 - (2) Appropriate vertical visual consistency at the centerline of the façade.
 - (3) Appropriate ratios of visual width between top and bottom halves of the elevation (bottom ½ clearly supports the top).
 - (4) Overall design shall be symmetrically or asymmetrically balanced.
 - (c) Design must include the following rhythms:
 - (1) Proximity (objects close together complement each other).
 - (2) Similarity- common textures, colors or features.
 - (d) Garage Design elements shall include:
 - (1) Garage, attached to the principal structure and visible from the public right-of-way, shall be designed and integrated into the overall design elements of the principal structure. Garage doors shall not “dominate” the front façade or be the focal point of the building by the use of contrasting colors, textures that are not part of the overall design of the primary structure. Using elements that are consistent with this subsection, (a), (b) and (c) are required. Height of a garage shall not exceed more than one story of the principal building.
 - (2) Garage, Detached from the principal structure, shall have a complementary appearance to that of the principal structure such as wood, stone, and/or manufactured products such as brick, stucco, or decorative concrete block. Architectural elements such as awnings, parapets, decorative molding, and windows should be utilized to create compatibility and consistency between the appearance of the principal dwelling unit and the detached garage.
 - (e) Pool location. Pools shall not be permitted in the front yard setback area or be considered subject to the principal building setback area.
- Design Guidebook, The design guidebook shall be used for both non-residential, mixed-use and residential development as a tool to assess compatibility within the PAGHO, provide design concepts that reflect and support the historic character of the district.
- (a) A design guidebook for the PAGHOD, provides for overall design concept ideas for implementation of design within the district for all development. Specific materials, color, textures, and architectural style are not required, but will be provided as context and character of the area itself and every effort to compliment the overall historic design of the area should be made for new development.

Sec. 20.23. General building design (non-residential and mixed-use buildings).

In addition to the required private frontages and the standards provided in each frontage, the following standards shall be applied to non-residential and mixed-use building types only.

- (a) *Public entrance.* Buildings that are open to the public shall have an entrance for pedestrians from the street to the building interior. This entrance shall be designed to be a distinctive and prominent element of the architectural design, and shall be open to the public during business hours. Buildings shall incorporate lighting and changes in mass, surface or finish which places an emphasis to the entrance.
- (b) *Building orientation.* The primary-principal building entrances shall be visible and directly accessible from a street or park space that has a sidewalk or pedestrian path.
- (c) *Storefront character.* Buildings shall express a "storefront character". This guideline is met by providing all of the following features along the building frontage as applicable.
 - (1) Regularly spaced and similar-shaped windows with window hoods or trim (all building stories).
 - (2) *Large display windows on the ground floor.* All street-facing, park-facing and plaza-facing structures shall have windows covering a minimum of 40 percent and a maximum 80 percent of the ground floor of each storefront's linear frontage. Blank walls shall not occupy over 50 percent of a street-facing frontage and shall not exceed 20 linear feet without being interrupted by a window or entry. Mirrored glass, obscured glass and glass block cannot be used in meeting this requirement. Display windows may be used to meet this requirement if the first floor has not been design as a flood proof first floor.
- (d) *Building façade.* A clear visual division shall be maintained between the ground level floor and upper floors with either a cornice line or awning from 12 feet to 16 feet above grade, whichever applies to the proposed development. No more than 20 feet of horizontal distance of wall shall be provided without architectural relief for building walls and frontage walls facing the street. All buildings excluding single family detached homes shall utilize at least three of the following design features to provide visual relief along all elevations of the building:
 - (1) Divisions or change in materials (materials should be drawn from a common palette).
 - (2) Window bays.
 - (3) Separate entrances and entry treatments, porticoes extending at least five (5) feet.
 - (4) Variation in roof lines.
 - (5) Balconies: 6 feet maximum may project into the front or side street setbacks.
 - (6) Dormers.
 - (7) Canopies, extending at least five (5) feet.
 - (8) Gables.
 - (9) Overhang extending at least five (5) feet.
 - (10) Recessed entries (at least three [3] feet from the primary façade).
 - (11) Protruding entries (at least three [3] from the primary façade).

- (12) Covered porch entries.
- (13) Cupolas shall be permitted on sloped roofs and are exempt from the height limitations up to twelve feet above the roof line.
- (14) Buildings shall provide a foundation or base, typically from ground to bottom of the lower windowsills, with changes in volume or material.

(e) *Roof-Based Mechanical Equipment and Other Roof Penetrations.* All roof-based mechanical equipment, as well as vents, pipes, antennas, satellite dishes, and other roof penetrations (except chimneys), shall be located on the side or rear elevations and be configured and screened with similar architectural details that are consistent with the overall building design which should blend into the overall architectural design of the building that shields view, as seen from a pedestrian, vehicle or vessel from a waterway, street, sidewalk, alleyway, and other public right-of-way.

Design Guidebook, The design guidebook shall be used for both non-residential, mixed-use and residential development as a tool to assess compatibility within the PAGHO, provide design concepts that reflect and support the historic character of the district.

(b) A design guidebook for the PAGHOD, provides for overall design concept ideas for implementation of design within the district for all development. Specific materials, color, textures, and architectural style are not required, but will be provided as context and character of the area itself and every effort to compliment the overall historic design of the area should be made for new development.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

Sec. 20.24. Design review and required drawings.

An applicant shall be subject to the City's permit process and, in addition, any development within the PAG Overlay District using the building types, as provided in this division, and which qualifies for design review under section 20.13, shall submit :

(a) ~~architectural~~ Architectural elevations of all facades of all structures subject to this division ~~and~~ shall be a required exhibit for plan approval which does not subrogate any requirements outlined in Division 5, Site plan approval procedures, and building permit process.

(1) Such exhibits shall include colors, materials, building dimensions, mass and scale proportions, location of service areas and mechanical equipment, screening devices, parking, site furnishings, lighting fixtures, all signage, and any other information as determined necessary to ensure consistency with the intent of this division ~~and the PAGHOD Design Book.~~

(2) All elevations and overall design ~~must be signed and sealed by a licensed architect registered in the State of Florida~~ and must provide a summary and illustrations that identify each standard listed in section 20.22 or 20.23 of this division. ~~The City may request review by the~~

(3) ~~Provide 11x17 architectural design packet that clearly illustrates the building elevations, mass and scale, screening of elevated portion(s) of the building (landscape or architectural elements).~~

(b) Landscape and Elevated screening plan(s) shall be submitted as part of the site plan.

(c) The City's Architect, or design review designee, shall review and determine if the applicant has met the criteria in this Division and provide a summary of approval or recommended changes to the submitted architecture design and/landscape of the project.

-
- (d) The Historic Preservation Board shall review to ensure compatibility of new construction, renovations or additions within the ~~PAG overlay district~~PAGHOD.
- (e) Identify, through the use of the design book, how the proposed project is meeting the intent of the district.
- (f) Waste Management Plan shall be provided for all development, excluding freestanding quadplex, triplex, duplex and single-family residential, to ensure an overall strategy for recycling and trash collection has been implemented that includes:
- (1) The Site Plan shall include the area(s) for outdoor storage of recycling and/or trash receptables, location and design. It is encouraged to have joint dumpsters and/or compactors in alleys to serve groups of businesses to the extent possible.
 - i. If storage area is located outside, provide the overall design and location of such receptacles and overall screening from public rights-of way (excluding alleys), waterways.
 - ii. If the storage area is located in an- alley and not visible from the public street, screening will not be required. Screening of storage areas shall be required in all alleyways where the area is not obscured by a permanent structure from the street.
 - (2) Restaurant requirements, provide a description of how fats, oils and grease generated by the restaurants is being stored. If outside of the facility, provide the design and storage area to be used for review and approval by the City.
 - (3) City will review the waste management plan to ensure the access is sufficient for garbage pickup and will approve and/or deny the location, design and type of storage permitted.

(Ord. No. 2016-19, § 2(Exh. A), 2-28-17)

DIVISION 40 COMMUNITY REDEVELOPMENT DISTRICT—EIGHTH AVENUE (CRD-EA)¹

Sec. 40.1. Purpose and intent.

The CRD-EA district is intended to encourage and promote the continuance of the existing mixed use development pattern and architectural aesthetic of the area, as well as encourage the infill of vacant or under-developed lots. The City recognizes that the CRD-EA was developed prior to the development of suburban zoning regulations and is intended to allow for structures that are considered contributing to the National Register Historic District to be considered conforming regarding base flood elevations and uses of property within the boundaries of the CRD-EA. The CRD-EA intends to ensure that new and redevelopment of any structures and uses shall be compatible with the character of existing historic structures within the district.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.2. Permitted principal uses and structures.

Subject to the provisions or restrictions contained in this section and elsewhere in this Code, permitted uses in the CRD-EA district are as follows:

- (a) Residential uses as a component of a vertically mixed-use development;
- (b) Temporary Lodging;
- (c) Eating and drinking establishments, specialty food such as gourmet take out, catering, coffee shops, etc. and sit-down restaurants;
- (d) Offices;
- (e) Retail sales;
- (f) Private, specialized instruction, such as computer training, real estate courses, self-improvement classes, career training or fitness instruction;
- (g) Artist studios, art galleries, and museums;
- (h) Personal service businesses such as barbershops, beauty shops, tailoring, garment alteration and repair, shoe repair, dry cleaning drop-off and pick-up and other personal service uses similar in character and impact;
- (i) Vehicle for hire—limited to rental of bicycles and individual motorized vehicles such as segways, mopeds/scooters;
- (j) On-site parking facilities;

¹Editor's note(s)—Ord. No. 2013-06, § 1(Exh. A), adopted Jan. 22, 2013, repealed the former Div. 40, §§ 40.1—40.11, and enacted a new Div. 40 as set out herein. The former Div. 40 pertained to Community Redevelopment District—Eighth Avenue (CRD-EA) and derived from Ord. No. 2010-18, § 1(Exh. A), adopted 11-8-11.

- (k) Other uses similar in character, nature and impact to permitted uses listed above.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.3. Permitted secondary uses and structures.

- (a) Transit facilities;
- (b) Public recreation and other governmental or civic uses.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.4. Allowable conditional uses and structures:

The purpose of this section is to allow for single-family and two-family residential uses and structures for only saving and/or moving locally designated historic structures, as well as address rooftop uses. In no case shall a new construction single-family home be allowed in the 8th Avenue CRD.

- (a) Single-family residential, subject to the following conditions:
 - (1) The structure is eligible for local historic designation pursuant to Section 28.22 of the Land Development Code;
 - (2) The applicant applies for designation of the structure as historic and the Historic Preservation Board approves the request;
 - (3) The applicant applies for and is granted a certificate of appropriateness for any alterations to the exterior of the structure and moving the structure if a structure is proposed to be moved to the 8th Ave District, consistent with the Secretary of the Interior's Standards and Guidelines for Rehabilitation or Preservation of Historic Structures and Division 28 of the Land Development Code;
 - (4) The applicant applies for and is granted the conditional use pursuant to Section 4.4 of the Land Development Code;
- (b) Roof dining and/or drinking areas, subject to section 6.24 of this Code as may be applicable.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13; Ord. No. 2020-24, § 2, 12-1-20)

Sec. 40.5. Permitted accessory uses and structures.

- (a) Uses and structures, as regulated in sections 6.12 and 6.13, which are customarily accessory and clearly incidental and subordinate to permitted or permissible uses and structures. Where setbacks of accessory uses in sections 6.12 and 6.13 conflict with this section, the standards in this section shall apply;
- (b) Home occupations, subject to the conditions set forth in section 6.5 of this Code.
- (c) Temporary uses under the provisions of section 6.11 of this Code.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.6. Prohibited uses and structures.

Existing non-historic single family residences currently located in the 8th Avenue district may continue as legal non-conforming uses or can be adaptively reused as uses permitted in Sections 40.2 and 40.3.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.7. Density and intensity.

Density and intensity of use for commercial and residential components shall be inclusive, i.e. the same land area on a zoning lot may be used to support both use types without proration. For the purpose of determining mixed uses, transient accommodations shall be considered residential uses and may be combined with ground floor commercial within a mixed-use project. The intensity of the commercial use shall be determined by floor area ratio and the density of the transient accommodation shall be determined by units per acre.

Residential use - Shall not exceed 24 dwelling units per acre.

Transient accommodation use - Shall not exceed 50 units per acre.

Non-residential use - Shall not exceed a floor area ratio (FAR) of 1.0 for single use commercial structures or 1.50 for mixed-use development. Projects that consist of a non-residential uses mixed with a transient accommodation or residential use shall provide a minimum FAR of .40 for the non-residential use.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.8. Building height.

Height shall not exceed 35 feet [which includes the Base Flood Elevation](#).

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.9. Setbacks.

For structures that front 8th, 9th or Gulf Way:

Front yard: A minimum of 75 percent of the building frontage shall be built in line with the buildings adjacent to it, or set back no greater than two (2) feet, whichever distance from the front property line is less. In cases where vacant lots are adjacent to the lot which is proposed for development, no more than 75 percent of the building frontage shall be set back more than two (2) feet from the front property line. In the event there are existing buildings on both sides of the proposed building, and the adjacent buildings are not set back the same distance from the front property line, then the proposed structure may be built to the average frontage of the two adjacent buildings.

Marquees, canopies, colonnades, arcades, or fixed awnings may project over the public right-of-way, provided such projection does not extend over the back of curb line. Foundational structures, that support such projections, may be placed in the public right-of-way provided that such items and overhangs are subject to a development and public right-of-way use agreement with the city. The second story of the primary structure may extend over the public right-of-way, provided such projection does not extend over the back of curb line. That portion of the second story which projects over the public right-of-way may not be enclosed but may be roofed and screened as a porch or open balcony. A third story shall extend no more than the second floor structural face and may provide an open balcony. A third story shall not be enclosed by solid walls or windows and may not contain a roof, but may contain a pergola structure which does not provide more that 50% opacity. Structures may not project over alleys.

Structural face, as it used in this section, is defined as those portions of the principal structure and accoutrements which protrude toward the lot line and are most closely parallel to the front lot line. Pergola as defined herein is garden feature forming a shaded walkway, passageway, or sitting area of vertical posts or pillars that usually support cross-beams and a sturdy open lattice.

(Supp. No. 47)

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Secondary front yard: No secondary front yard setback for primary structure; Marquees, canopies, colonnades, arcades, or fixed awnings may project over the public right-of-way provided such projection does not extend over the back of curb line. Foundational structures, that support such projections, may be placed in the public right-of-way provided that such items and overhangs are subject to a development and public right-of-way use agreement with the city. Structures may not project over alleys.

Side yard: None

Rear yard: 10 feet minimum. Parking may be placed in the rear setback.

For structures that front Pass-a-Grille Way:

Front yard: 10 feet

Secondary front yard: 5 feet

Sideyard: 5 feet

Rear yard: 10 feet. Parking can be placed in the rear yard setback.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13; Ord. No. 2015-16, § 1, 8-25-15; Ord. No. 2017-30, § 2, 2-27-18)

Sec. 40.10. Maximum impervious surface ratio.

Maximum impervious surface ratio (ISR) for all uses: 0.90

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.11. Minimum off-street parking requirements and access requirements.

- (1) *Number of parking spaces required:* Subject to Division 23 of the Land Development Code.
- (2) *Access to and location of parking areas:*
 - a. Parcels abutting an alley shall not place parking in the front yard of the zoning lot, nor will be provided driveway access from the main thoroughfare. Parking may be placed in the rear or side yard. Access shall be provided via the alley.
 - b. Parcels without alley access shall be granted a curb cut from the main thoroughfare and may provide parking in the front yard.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.12. Landscaping and buffering.

In order to accommodate the form and scale of historic development patterns on 8th Avenue, the CRD-EA District shall be exempt from the buffering and landscaping requirements in Division 22 of this Code.

(Ord. No. 2013-06, § 1(Exh. A), 1-22-13)

Sec. 40.13 Assembly or Lot Split of a Parcel(s), Vacation of Easements or Right-of-ways.

The following requirements are to be provided for any lot splits, assembly of parcels, request to vacate easements or right-of-ways:

Assembly or lot splits of a parcel are required to:

- (1) Submit an application to the Historic Preservation Board for a recommendation prior to the Board Of Adjustment and City Commission.
- (2) The applicant shall provide documentation for the Historic Preservation Board to determine the compatibility and respect for the existing character of the CRDEA District, which will review:
 - a. Historical plat and scale of the overall character of Pass-a-Grille (PAG) to ensure the application is consistent with the overall intent of the PAG area.
 - b. Determine if recommending the parcel split or assembly will support or negatively impact the overall character of the area by permitting the use and the scale of the parcel of land and/or development size.

Sec. 40.14 General Building Design

A design guidebook for the CRD-EA provides for overall design concept ideas for implementation of design within the district. Specific materials, color, textures and architectural style are not required, but will be provided as context and character of the area itself and every effort to compliment the overall historic design of the area should be made for new development. The following standards shall be applied to non-residential building types only.

- (a) *Public entrance.* Buildings that are open to the public shall have an entrance for pedestrians from the street to the building interior. This entrance shall be designed to be a distinctive and prominent element of the architectural design, and shall be open to the public during business hours. Buildings shall incorporate lighting and changes in mass, surface or finish which places an emphasis to the entrance.
- (b) *Building orientation.* The principle building entrances shall be visible and directly accessible from a street or park space that has a sidewalk or pedestrian path.
- (c) *Storefront character.* Buildings shall express a "storefront character". This guideline is met by providing all of the following features along the building frontage as applicable.
 - (1) Regularly spaced and similar-shaped windows with window hoods or trim (all building stories).
 - (2) *Large display windows on the ground floor.* All street-facing, park-facing and plaza-facing structures shall have windows covering a minimum of 40 percent and a maximum 80 percent of the ground floor of each storefront's linear frontage. Blank walls shall not occupy over 50 percent of a street-facing frontage and shall not exceed 20 linear feet without being interrupted by a window or entry. Mirrored glass, obscured glass and glass block cannot be used in meeting this requirement. Display windows may be used to meet this requirement if the first floor has not been design as a flood proof first floor.
- (d) *Building façade.* A clear visual division shall be maintained between the ground level floor and upper floors with either a cornice line or awning from 12 feet to 16 feet above grade, whichever applies to the proposed development. No more than 20 feet of horizontal distance of wall shall be provided without architectural relief for building walls and frontage walls facing the street. All buildings excluding single family detached homes shall utilize at least three of the following design features to

provide visual relief along all elevations of the building with arcades being one of the preferred design features:

- (1) Divisions or change in materials (materials should be drawn from a common palette).
- (2) Window bays.
- (3) Separate entrances and entry treatments, porticoes extending at least five (5) feet.
- (4) Variation in roof lines.
- (5) Balconies: 6 feet maximum may project into the front or side street setbacks.
- (6) Dormers.
- (7) Canopies, extending at least five (5) feet.
- (8) ~~Gables.~~Arcades.
- (9) Overhang extending at least five (5) feet.
- (10) Recessed entries (at least three [3] feet from the primary façade).
- (11) Protruding entries (at least three [3] from the primary façade).
- (12) Covered porch entries.
- (13) Cupolas shall be permitted on sloped roofs and are exempt from the height limitations up to twelve feet above the roof line.
- (14) Buildings shall provide a foundation or base, typically from ground to bottom of the lower windowsills, with changes in volume or material.
- (e) *Roof-Based Mechanical Equipment and Other Roof Penetrations.* All roof-based mechanical equipment, as well as vents, pipes, antennas, satellite dishes, and other roof penetrations (except chimneys), shall be located on the rear elevations and be configured and screened with similar architectural details that are consistent with the overall building design.
- (f) *Maximum Building Length.* The maximum building length on a parcel shall not exceed eighty (80) feet. If more than one building is located on a parcel of land, a minimum separation for each building shall be ten (10) feet. The building separation area may include walkways, seating areas, and/or landscape/hardscape.
- (g) *Height.* If a development does not flood proof the first floor, which would raise the primary building to the Base Flood Elevation, the design of the structure, measured from at grade, shall provide:
 - (1) A minimum of 10' stepback on each side of that floor that is located at or over 35' in height, measured from grade.
 - (2) Balconies/seating area(s) shall be reviewed, by the Historic Preservation Board, to ensure compatibility of the existing uses and structures is maintained. Hours of access, restrictions on seating may be outlined at the time of the HPRB review.

Sec. 40.15 Design Review and Required Drawings

An applicant shall be subject to the City's permit process. In addition, any development within the CRDEA, shall submit:

-
- (a) Architectural elevations of all facades of all structures subject to this division and shall be a required exhibit for plan approval which does not subrogate any requirements outlined in Division 5, Site plan approval procedures, and building permit process.
- (1) Such exhibits shall include colors, materials, building dimensions, mass and scale proportions, location of service areas and mechanical equipment, screening devices, parking, site furnishings, lighting fixtures, all signage, and any other information as determined necessary to ensure consistency with the intent of this division.
 - (2) All elevations and overall design must be signed and sealed by a licensed architect registered in the State of Florida.
 - (3) Provide 11x17 architectural design packet that clearly illustrates the building elevations, mass and scale, screening of elevated portion(s) of the building (landscape or architectural elements).
- (b) The City's Architect, or design review designee, shall review and determine if the applicant has met the criteria in this Division and provide a summary of approval or recommended changes to the submitted architecture design and/landscape of the project.
- (c) The Historic Preservation Board shall review to ensure compatibility of new construction, renovations or additions within the PAG overlay district.
- (d) Identify, through the use of the design book, how the proposed project is meeting the intent of the district.
- (e) Waste Management Plan shall be provided for all development, excluding freestanding quadplex, triplex, duplex and single-family residential, to ensure an overall strategy for recycling and trash collection has been implemented that includes:
- (1) The Site Plan shall include the area(s) for outdoor storage of recycling and/or trash receptables, location and design. It is encouraged to have joint dumpsters and/or compactors in alleys to serve groups of businesses to the extent possible.
 - i. If storage area is located outside, provide the overall design and location of such receptacles and overall screening from public rights-of way (excluding alleys), waterways.
 - ii. If the storage area is located in an east-west alley and not visible from a public street, screening will not be required. Screening of storage areas shall be required in all north-south alleys when the area is not obscured by a permanent structure.
 - (2) Restaurant requirements, provide a description of how fats, oils and grease generated by the restaurants is being stored. If outside of the facility, provide the design and storage area to be used for review and approval by the City.
 - (3) City will review the waste management plan to ensure the access is sufficient for garbage pickup and will approve and/or deny the location, design, gate style and type of storage permitted.

**HISTORIC PRESERVATION BOARD MEETING
CITY OF ST. PETE BEACH
COMMISSION CHAMBERS**

Agenda Report

Action Request: N/A - For discussion purposes.

Strategic Objective:

Date: May 2, 2024

Prepared By: Lynn Rosetti, Consultant

Through: Jennifer McMahon, Chief Operating Officer

Summary of Issue: Review of the Secretary of Interior's new guidelines for rehabilitating historic properties in floodplain areas.

Funding:

Attachments:

1. GUIDELINES ON FLOOD ADAPTATION FOR REHABILITATING HISTORIC BUILDINGS (2021)



THE SECRETARY
OF THE INTERIOR'S
STANDARDS FOR
REHABILITATION &

GUIDELINES
ON **FLOOD**
ADAPTATION FOR
REHABILITATING
HISTORIC
BUILDINGS



U.S. Department of the Interior
National Park Service
Technical Preservation Services

These Guidelines were previously issued as a text-only version in November 2019. This illustrated version was revised to include diagrams, photographs, and other changes and replaces the prior version.

This publication has been prepared pursuant to the National Historic Preservation Act, which directs the Secretary of the Interior to develop and make available information concerning historic properties. Additional information offered by Technical Preservation Services is available on our website at www.nps.gov/tps. Comments about this publication should be made to: Technical Preservation Services, National Park Service, 1849 C Street NW, Mail Stop 7243, Washington, DC 20240.

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THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION & GUIDELINES ON **FLOOD ADAPTATION** FOR REHABILITATING HISTORIC BUILDINGS

Jenifer Eggleston
Jennifer Parker
Jennifer Wellock

U.S. Department of the Interior
National Park Service
Technical Preservation Services
Washington, DC

2021

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ACKNOWLEDGEMENTS

The Guidelines on Flood Adaptation for Rehabilitating Historic Buildings was produced in response to a request for technical preservation guidance specific to historic properties at risk of flooding. A collaborative effort, the work could not have been completed without the assistance of our many preservation partners and colleagues.

We wish to acknowledge and thank the following people and organizations for their generous assistance with this publication.

Individuals from a number of groups provided valuable comments and assistance, including local preservation partners, design and other technical professionals, State Historic Preservation Offices (SHPO) and Tribal Historic Preservation Offices (THPO) throughout the country – particularly those who participated in the “Adapting Historic Buildings for Flooding” workshops in 2017 – the National Conference of State Historic Preservation Officers (NCSHPO), the National Association of Tribal Historic Preservation Officers (NATHPO), the National Trust for Historic Preservation, and our Federal agency historic preservation partners at the Advisory Council on Historic Preservation (ACHP), the Department of Housing and Urban Development (HUD), and the Federal Railroad Administration (FRA).

We especially appreciate the comments provided for this project and the prior work undertaken by the Federal Emergency Management Agency (FEMA) and their technical bulletins which were extensively referenced for this project.

We also acknowledge the contributions of the National Park Service Cultural Resources, Partnerships, and Science Directorate; our colleagues at Regional and Park-specific locations; and the staff of the Technical Preservation Services (TPS) office for their thoughtful engagement with this topic. More specifically we thank Brian Goeken for his many hours of editing and review as we finalized this publication.

The illustrations found throughout this publication would not have been possible without Tina Roach with Technical Preservation Services who coordinated this effort and the many individuals and organizations who were willing to share their photographs.

Finally, we thank the many individual property owners we met along the way that have been impacted by flooding. Your experiences and recovery helped us to understand the complex nature of the issue.



[1] The historic Shockoe Bottom neighborhood in Richmond, VA, experienced significant riverine flooding in 1985, with inundation levels reaching close to a story in height.
Photo: Jeffrey Ruggles/Virginia Commonwealth University Libraries

FOREWORD

Flooding risk has long been a major challenge for many historic properties. Changing weather patterns, stronger hurricanes, other extreme weather events, sea level rise, nuisance flooding, king tides, and continuing development in floodplains are some of the causes of flooding. Flooding events are occurring at increased frequency and magnitude. Some historic properties that have never flooded before may now be exposed to this risk, and those that flooded infrequently in the past may experience more instances of flooding or of water reaching higher levels than ever before.

The goal of the *Guidelines on Flood Adaptation for Rehabilitating Historic Buildings* is to provide information about how to adapt historic buildings to be more resilient to flooding risk in a manner that will meet *The Secretary of the Interior's Standards for Rehabilitation*. Resilience in this publication means the capacity of a historic property to withstand and recover from a flooding event.

The Guidelines on Flood Adaptation should be used in conjunction with the Guidelines for Rehabilitating Historic Buildings that are part of *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings*, issued in 2017. Like the Guidelines for Rehabilitating Historic Buildings, these guidelines are intended to focus primarily on historic buildings and their sites and settings.



[2] Communities have historically employed numerous methods in response to flooding, including wholesale property buyouts and removal. The 1915 flood in Cedar Falls, WA, led to an early example of a “buyout zone” to remove buildings damaged and at risk. Photo: Snoqualmie Valley Museum Collection: PO.074.0786



[3] King tides and nuisance flooding are changing the way community residents live. A flooded street in Miami, FL, disrupts access to buildings and businesses. Photo: Joe Raedle/Getty Images



[4] As this 1933 image of North Tower Avenue in Centralia, WA, shows, flooding events have long been a major challenge for many communities. Photo: Lewis County Historical Museum



[5] In 2007 the Old Customs House located in the Yukon-Charley Rivers National Preserve, AK, was significantly damaged by riverine flooding. Historic properties that may not have flooded before are increasingly affected by larger flood events. *Photo: Carl Stapler/NPS*

The treatments described here are a means of preserving historic properties located in flood-prone areas and making them more resilient to flooding hazards. Flood events can be particularly destructive to historic buildings and therefore may require greater adaptive treatments. While many of these treatments can be undertaken with minimal effects on the historic character of a property, some may require more change than would normally be acceptable. Such treatments are generally not appropriate when a historic building does not have a flood risk. The treatment selected should always be one that minimizes changes to the building's historic character. Adaptation treatments

should reduce the risk of flood damage as much as possible, but should do so without destroying significant historic materials, features, or spaces.

The National Park Service has developed these guidelines for adapting historic buildings to flooding risks in accordance with its directive to provide information concerning professional methods and techniques to ensure the preservation and rehabilitation of the historic properties that are an important part of the nation's heritage.

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION (36 CFR PART 68)

The *Standards for Rehabilitation* are codified in National Park Service regulations 36 CFR Part 68 and are regulatory only for projects receiving Historic Preservation Fund grant assistance and other Federally-assisted projects. The Standards can be used to guide work on any historic building. A separate version of the *Standards for Rehabilitation* codified in 36 CFR Part 67 is used for “certified historic structures” pursuant to the Federal Historic Preservation Tax Incentives Program.

The following Standards (36 CFR Part 68) are to be applied to specific rehabilitation projects in a reasonable manner, taking into consideration economic and technical feasibility, as well as the property’s significance, existing physical condition, and available documentation.

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations or related new construction will not destroy historic materials, features and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

INTRODUCTION TO THE STANDARDS

The Secretary of the Interior acting through the National Park Service is responsible for establishing standards for all cultural resources programs and for advising Federal agencies on the preservation of historic properties listed in or eligible for listing in the National Register of Historic Places, including National Historic Landmarks. In partial fulfillment of this responsibility, *The Secretary of the Interior's Standards for the Treatment of Historic Properties* have been developed to guide work undertaken on historic properties; there are separate standards for preservation, rehabilitation, restoration, and reconstruction.

The *Secretary of the Interior's Standards for Rehabilitation* are one of the four sets of standards that comprise the overall treatment standards and address the most prevalent treatment. "Rehabilitation" is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historic, cultural, or architectural values.

The treatment standards were developed by the Secretary of the Interior to determine the appropriateness of proposed work on historic properties. The Standards for Rehabilitation guide Federal agencies in carrying out their responsibilities for historic properties in Federal ownership or control and are used by state and local officials in reviewing both Federal and non-Federal rehabilitation proposals. In addition, the Standards are used to determine if a rehabilitation project qualifies as a "certified rehabilitation" for Federal Historic

Preservation Tax Incentive purposes. They have also been widely adopted and used by local historic district and planning commissions, local governments, non-profit organizations, design and building professionals, and the general public.

The intent of the Standards is to assist in the long-term preservation of the historic character of a property through the retention of its historic materials, features, and spaces. The Standards pertain to historic buildings of all materials, construction types, sizes, and occupancies and address both the exterior and the interior of the building. They also encompass a building's site and setting, including landscape features as well as attached, adjacent, or related new construction.



[6] Flood waters can also damage interior spaces. This historic home in Bay St. Louis, MS, was severely impacted by the storm surge from Hurricane Katrina. Even with such dramatic damage, it is crucial to properly assess the condition of historic materials and identify what remains and can be retained. In this case, most of the woodwork, the wood wainscot, upper sections of plaster in some rooms, and some areas of flooring were cleaned, dried, and repaired. Photo: Mississippi Department of Archives and History, Mississippi Historic Resources Inventory (HRI) Database. <http://www.apps.mdah.ms.gov/Public>

GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

INTRODUCTION TO THE GUIDELINES

The Standards for Rehabilitation are a series of ten principals about maintaining and preserving the historic character and features of a historic property. Guidelines give more detailed, best-practice advice to apply the Standards during project planning by providing general design and technical recommendations. Unlike the Standards, guidelines are not codified as program requirements. The *Guidelines for Rehabilitating Historic Buildings* issued in 2017 should be consulted along with any topic-specific guidelines.

Guidelines are presented in a “Recommended” vs. “Not Recommended” format. Those approaches, treatments, and techniques that are consistent with the Standards for Rehabilitation are listed in the “Recommended” column on the left; those approaches, treatments, and techniques which could adversely affect a building’s historic character are listed in the “Not Recommended” column on the right. These Guidelines are intended to be used in the context of rehabilitating historic buildings and include sections on a building’s site and setting. They are not meant to fully address the treatment of cultural landscapes, archeological resources, historic districts, and other types of historic resources.

RECOMMENDED	NOT RECOMMENDED
Repairing masonry walls and other masonry features by repointing the mortar joints where there is evidence of deterioration, such as disintegrating mortar, cracks in mortar joints, loose bricks, or damaged plaster on the interior.	Removing non-deteriorated mortar from sound joints and then repointing the entire building to achieve a more uniform appearance.
Removing deteriorated lime mortar carefully by hand raking the joints to avoid damaging the masonry.	
Using power tools only on horizontal joints on brick masonry in conjunction with hand chiseling to remove hard mortar that is deteriorated or that is non-historic material which is causing damage to the masonry units. Mechanical tools should be used only by skilled masons in limited circumstances and generally not on short, vertical joints in brick masonry.	Allowing unskilled workers to use masonry saws or mechanical tools to remove deteriorated mortar from joints prior to repointing.

Example of “Recommended” and “Not Recommended” format from the 2017 Guidelines for Rehabilitating Historic Buildings, page 84.

USING THE GUIDELINES ON FLOOD ADAPTATION

Unlike other versions of the Guidelines, which are organized principally by material or building feature, the *Guidelines on Flood Adaptation for Rehabilitating Historic Buildings* are organized by flood adaptation measures. The most common treatments undertaken to create more resilient properties have been included in these Guidelines and are described using definitions provided by the Federal Emergency Management Agency (FEMA). The adaptation treatments are:

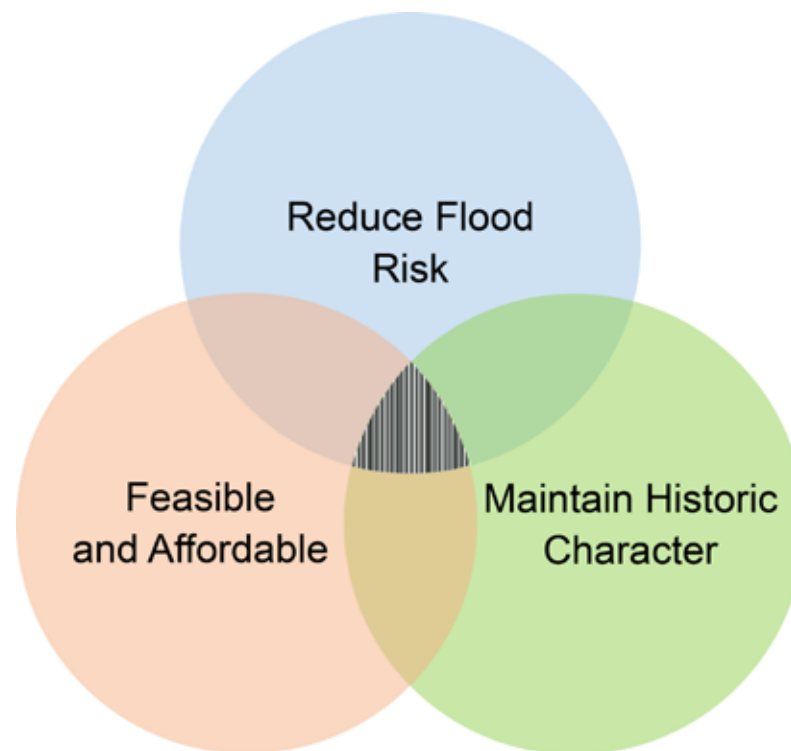
- Planning and Assessment for Flood Risk Reduction
- Temporary Protective Measures
- Site and Landscape Adaptations
- Protect Utilities
- Dry Floodproofing
- Wet Floodproofing
- Fill the Basement
- Elevate the Building on a New Foundation
- Elevate the Interior Structure
- Abandon the Lowest Floor
- Move the Historic Building

The “Planning and Assessment for Flood Risk Reduction” section should be completed for all projects prior to selecting an adaptation treatment. While “Temporary Protective Measures” and “Protect Utilities” are treatments that generally result in minimal changes to a building, **the treatment approaches are not organized in a particular order**. The impacts of the other adaptation treatments to the historic building will vary greatly depending on multiple factors such as location and site conditions of a property, historic significance, flood risk, physical and structural attributes, and its features, materials, and architectural style. For example, elevating a building on a new foundation may have a minimal impact on one building’s historic character, yet for another property the same treatment may change the building’s historic character significantly and not meet the Standards for Rehabilitation. Selecting more than one treatment or combining treatment approaches may be necessary to make the building more resilient to flooding and/or to minimize the impacts to the historic character and appearance of the property.

The *Guidelines on Flood Adaptation for Rehabilitating Historic Buildings* are general and intended to provide guidance in interpreting and applying the Standards to rehabilitation projects involving buildings that are at a risk for flooding. They are not meant to give case-specific advice. They cannot tell property owners or developers which features of a historic building are important in defining its historic character and, therefore, must be retained. (See *Preservation Brief 17: Architectural Character – Identifying the Visual Aspects of Historic Buildings as an Aid to Preserving their Character*.) This case-by-case determination is best accomplished with the assistance of qualified historic preservation professionals in the very early stages of project planning. For any treatment undertaken, assemble the appropriate project team, including experienced architects, engineers, and other professionals. Obtain any necessary approvals or certifications prior to beginning work on the project.

Achieving greater resilience and reducing flood risk must be balanced with economic and technical feasibility while minimizing the impacts to the historic character of the building. These Guidelines are designed to help identify and evaluate the different adaptation options in order to select a treatment that meets the Standards for Rehabilitation. Wherever possible, the Guidelines provide “Recommended” methods of implementing each type of adaptation in order to preserve as much of the historic character of a building and its site and setting as possible. All of the “Recommended” treatments may not apply to every project. Technical limitations are identified for each treatment.

These Guidelines do not address disaster response or short-term recovery. The Guidelines may be used after a flood event as properties undergo rehabilitation and adaptation to address the damage and future flooding risk. Limited information about drying and cleaning after a flood is included with Wet Floodproofing because it is an integral part of that adaptation.



[7] Technical and economic limitations must be considered when attempting to reduce flood risk and create greater resilience; changes must also respect the historic character of the property. This can be a challenging balance for a project to achieve.

"The Guidelines on Flood Adaptation for Rehabilitating Historic Buildings should only be applied to historic properties with an established risk of flooding."

The Guidelines on Flood Adaptation for Rehabilitating Historic Buildings should only be applied to historic properties with an established risk of flooding. This risk can be determined by quantifiable and/or science-based projections or a community model or projection for flood risk areas. Such maps and models take into account river flow, storm tides, hydraulic analysis, rainfall, and topographic surveys among other factors.

A project meets the Standards when the overall effect of all work is consistent with the property's historic character. **Treatments that might not be considered in other rehabilitation contexts because of their impacts on the historic character of a property may be acceptable in the context of adapting the property to flooding hazards.** Even in this context, the selected treatment should always be one that minimizes the changes to the building's historic character and appearance while addressing the risk. Adaptation treatments should increase the building's resilience to flooding risks as much as possible, but should do so without destroying significant historic materials, features, or spaces.

The entire scope of the project, including alterations related to flood adaptation as well as any other work to the building or site, must be evaluated. The amount of change to features and spaces that can be accepted within the Standards will vary according to the roles they play in establishing the character of the property.

Aspects less critical to the historic character may be altered more substantially with less effect on the character of the building as a whole. However, the cumulative effect of changes that are numerous or substantial can in some instances alter the overall character of the building, in which case the rehabilitation project will not meet the Standards.

Finally, the Guidelines address unconventional treatments and situations when a historic building may not be able to be retained and preserved. Demolition is not a treatment that meets the Standards for Rehabilitation. These two sections are included solely for informational purposes.

"Treatments that might not be considered in other rehabilitation contexts because of their impacts on the historic character of a property may be acceptable in the context of adapting the property to flooding hazards."

ASSESSING THE RISK AND SELECTING AN ADAPTATION TREATMENT

Before undertaking any work to adapt a historic building to be more resilient to potential flooding, research about the actual flood risk as well as about the historic property must be undertaken. Proposed alterations to the property will need to be adequate to address the identified risk.

Property owners should take into account the characteristics of the potential flood. These characteristics include the direction the water will likely flow, the expected speed and depth of the water, the duration of the flood, whether there will be wave action, the potential for water-borne debris, the water salinity, and contamination of the flood waters. The applicable Federal, state, and local code requirements and regulations must also be considered.



[8] Understanding the characteristics of a flood are critical to understanding property risk. Significant structural damage occurred to this building as a result of a riverine flood in Cedar Rapids, IA, in 2008.
Photo: Greg Januska



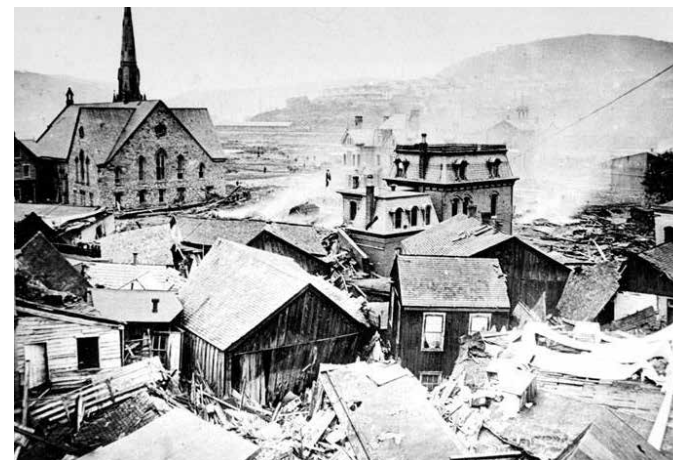
[9] Fast-moving flood waters can undermine a foundation or scour out land around a building. The Little Church of the Pines in Salina, CO, was left structurally compromised after heavy rains caused flooding in the Front Range of the Rocky Mountains in 2013. *Photo: Burton Construction burton-construction.com*

"Established flood risk level" describes the property-specific height of anticipated floodwater."

These guidelines use the term “**established flood risk level**” to describe the property-specific height of anticipated floodwater. This measurement should be based upon recognized flood data, past flood events, site-specific reports, and other applicable information. Often this height is dictated by local floodplain ordinances and codes and can be higher than the predicted flood level. In order to remain more general, this document purposefully does not use terms for flood risk defined by other agencies. The use of “established flood risk level” is an attempt to avoid confusion and the appearance of providing interpretation of Federal, state, and local regulatory terms for flood risk.

Prior to planning or undertaking any work, the spaces, features, materials, and finishes of the historic property affected by the flooding or the proposed adaptive treatment should be documented. The property’s existing capacity to sustain and recover from flooding, as well as its physical condition and use, should be evaluated. Those spaces, features, and materials that are important to the historic character and significance of the property should be identified for retention and preservation. Existing materials and features that provide additional resiliency to flooding may also be considered for retention, improvement, or enhancement. In regions where buildings were historically adapted to frequent flooding, traditional treatment approaches should be considered.

It may also be helpful to consider adapting a historic property in scalable phases, particularly for coastal properties at risk from rising sea levels and increasing flood risk. Where the magnitude and time horizon of the risk are uncertain, it is important to build in future capacity where economically and technically feasible – for example, a flood wall with an



[10] The Great Johnstown Flood of 1889, caused by a catastrophic dam failure, shows the extent of damage that can occur from a large-scale, fast-moving flood event. Whole buildings were destroyed, others were shifted from their foundations, and massive amounts of debris caused considerable loss of life, damage, and destruction. *Photo: NPS*



[11] Flood forces are powerful and can result in a building being shifted from its foundation. This historic property in Gulfport, MS, was knocked off of its piers by Hurricane Katrina in 2005. *Photo: Jennifer V.O. Baughn/ Mississippi Department of Archives and History, January 26, 2006*

over-engineered foundation that can be extended higher in the future.

These Guidelines are intended to assist property owners undertaking a flooding adaptation project, recognizing that, as with any rehabilitation project, there are always other design, programmatic, financial, and regulatory requirements that must also be considered in planning such projects. Among these, the National Flood Insurance Program (NFIP) may have significant financial impacts and influence design decisions. The NFIP is administered by the FEMA and implemented by state and local governments. This program is responsible for providing flood insurance, improving floodplain management, and developing Flood Insurance Rate Maps (FIRM). These Guidelines are not an attempt to interpret or provide guidance on the NFIP or which treatments may or may not reduce flood insurance costs.

The NFIP includes a provision that provides relief for historic buildings from certain floodplain requirements. The provision is applied at the discretion of state or local governments and might not be available to all historic property owners. It is not designed to reduce flood risk or insurance rates. The NFIP uses the term “historic structures” (44 CFR Part 59) and defines them as follows:

- Listed individually in the National Register of Historic Places or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register.
- Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily

determined by the Secretary to qualify as a registered historic district.

- Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior.
- Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the Secretary of the Interior or directly by the Secretary of the Interior in states without approved programs.

The provision for historic buildings within the NFIP allows for alternative compliance when prescriptive flood code requirements would result in a project that does not meet the Standards for Rehabilitation. However, using this provision to avoid taking any steps to address or help minimize the flood risk of a historic property is not recommended.

The following sections describing the adaptation treatments are intended to provide information about potential preservation concerns so that property owners can engage in active decision-making about how to adapt their historic buildings to be more resilient to flooding risk. Evaluations, documentation, and planning are critical but should result in a timely and purposeful decision. Factors including flood risk, economic and technical feasibility, and historic character should be appropriately balanced and inform the decision-making process. The decision should result in an adaptive treatment and implementation plan for the property or documentation explaining why no action is currently necessary. Good stewardship requires making a choice.



(a) Graphic: FEMA



(b) Graphic: Adapting to Rising Tides

[12] Maps can help property owners identify the flood risks at their site, and it may be necessary to consult a number of sources for this information.

(a) Flood Insurance Rate Maps (FIRM) are created by a program within the Federal Emergency Management Agency (FEMA). They are regulatory and are the official maps that show special flood hazard areas. (b) Community flood models or supplementary maps adopted by a local jurisdiction may include more data, future projections, or other flood risk information. Comparing these two maps for the northeast quadrant of San Francisco, the modeling shown in (b) includes sea level rise data and identifies additional sections of the city that are likely to flood.

PLANNING AND ASSESSMENT FOR FLOOD RISK REDUCTION

For historic properties at risk of flooding, treatments should be undertaken to avoid or minimize the impacts and to ensure the continued preservation of the property and its historic character. Planning and risk assessment for potential flooding should therefore be undertaken proactively, and properties should be maintained in good condition, monitored regularly, and appropriately documented as part of any treatment plan for the property.

A historic building may have existing characteristics, features, or materials that themselves have inherent resilience to flood hazards and can help address or minimize the impacts of flooding. When applicable and appropriate these characteristics, features, or materials should be taken into consideration early in the planning stages of a rehabilitation project before proposing any new treatments. When new adaptive treatments are needed, they should be carried out in a manner that will have the least impact on the historic character of the building, its site, and setting. In adapting a building to be more resilient to flooding risks, the goal should always be to minimize the impacts to the building's historic character to the greatest extent possible. It is helpful to record the decision-making process for future evaluation.



[13] The Church of Our Lord Chapel, Karluk, AK, was built in 1888 and is the oldest Russian Orthodox Church in Alaska. In danger of collapse into the Karluk River, the erosion of the bluff has been rapidly escalating, and the church sits only 25 feet from the edge. The vulnerability of the property at the edge of a river requires frequent monitoring, but a more long-term solution will be necessary for the continued preservation of the building. Photo: Tom Pillifant

All planning and assessment for reducing flood risks should include the following:

- Identify the historic property's flood risks and vulnerabilities and any existing capacity for resilience.
- Monitor the condition of the property and regularly reevaluate its flooding risks and vulnerabilities.
- Document the historic property. *The Secretary of the Interior's Standards for Architectural and Engineering Documentation* or *Preservation Brief 43: Preparation and Use of Historic Structure Reports* can serve as a guide.
- Review and understand the compliance requirements of the local floodplain ordinance and related local regulations.
- Identify and assess all feasible adaptation treatment options to determine how they will address the flooding risk.
- For each treatment option, evaluate the impacts of any potential alterations to the historic property's character-defining spaces, features, and materials, and its site and environment.
- Consideration should be given to how local communities have decided to adapt to the risk of flooding hazards and treat historic properties impacted by these risks. Also consider the future viability of community infrastructure, such as roads, sewers, and other utilities and services.
- Select the time frame for which the adaptation treatment is expected to adequately reduce the risk. This could be tied to the length of a mortgage or some other point in the future.
- Always select an adaptive treatment that minimizes the impacts to the historic character and appearance of an individual property and/or a larger historic district.



(a) Photo: Greg Hartman/The Catholic Telegraph



(b) Photo: Hawaiian Electric



(c) Photo: Tom Foster

[14] (a) Flood markers like this one in Cincinnati, OH, can provide evidence of past flood events and serve as a community reminder of the risk of flooding. (b) This tsunami marker located in Hilo Bay on Moku Ola Island, HI, (c) notes the high wave heights along the trunk of a coconut palm tree. A nearby interpretive marker discusses the damage done by significant past storms.

PLANNING AND ASSESSMENT FOR FLOOD RISK REDUCTION



[15] Surveying and documenting existing building conditions is always recommended prior to implementing an adaptation strategy. NPS Historic American Building Survey (HABS) staff photograph the 1833 Lockkeepers House on the National Mall in Washington, DC, prior to the building's relocation and restoration. Photo: Heritage Documentation Programs/NPS

RECOMMENDED	NOT RECOMMENDED
Identifying historic materials, features, and spaces that are important in defining the historic character of the property when planning and undertaking flooding adaptation treatments.	
Developing and implementing a plan to reduce the risk of damage or destruction to the historic building.	Failing to proactively analyze and address a flooding risk.
Identifying and evaluating the vulnerabilities of the historic property to the impacts of flooding using the most current climate information and data available.	Failing to identify and periodically reevaluate the potential vulnerability of the building, its site, and setting to the impacts of flooding.
Assessing the potential impacts of known vulnerabilities on character-defining features of the building, its site, and setting.	
Reevaluating and reassessing potential impacts on a regular basis.	
Documenting the property and character-defining features as a record and guide for future repair work, should it be necessary, and storing the documentation in a safe location with at least one duplicate at a secure site.	Failing to document the historic property and its character-defining features with the result that such information is not available in the future to guide repair work.

PLANNING AND ASSESSMENT FOR FLOOD RISK REDUCTION

RECOMMENDED

NOT RECOMMENDED

Maintaining the building, its site, and setting in good repair, and regularly monitoring character-defining features.	Failing to regularly monitor and maintain the property and the building systems in good repair.
Using and maintaining existing historic and non-historic characteristics, features, and materials of the historic building, its site, setting, and larger environment (such as a site wall that keeps out flood waters) that may help to avoid or minimize the impacts of flooding.	
Undertaking work to prevent or minimize the loss, damage, or destruction of the historic property while retaining and preserving significant features and the overall historic character of the building, its site, and setting.	Carrying out adaptive measures intended to address the impacts of flooding that are unnecessarily invasive or will otherwise adversely impact the historic character of the building, its site, or setting.



(a) Photo: Tina Roach/NPS



(b) Photo: Jennifer Wellock/NPS



(c) Photo: Taylor Masonry

[16] Maintenance of existing exterior features such as roofing and gutters can help a building be more resilient to flood and storm events as well as assist in the long-term preservation of the property. (a) Moss on the roof and plants growing in the gutter indicate a wet condition and clogged gutter. (b) A disconnected downspout has been allowed to undermine the foundation and expose the building's sanitary system. (c) Masonry along the sidewalk shows signs of rising damp and salt damage. Stopping decay as a preventative measure is one way to manage long-term risk and damage from flooding.

PLANNING AND ASSESSMENT FOR FLOOD RISK REDUCTION

RECOMMENDED

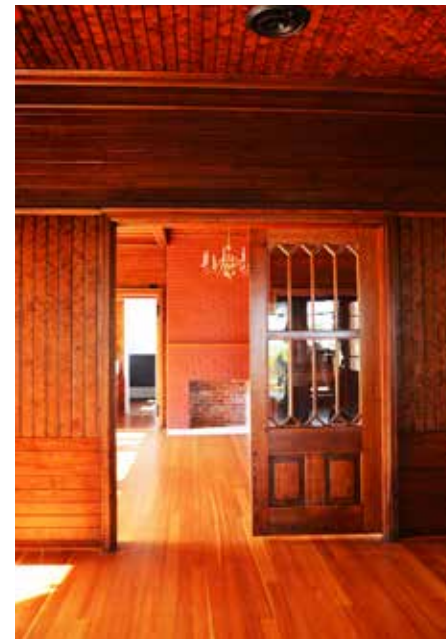
NOT RECOMMENDED

Ensuring that, when planning work to adapt for flooding, all feasible alternatives are considered, and that the options requiring the least alteration are considered first.	Failing to plan for flood risk and to make a treatment decision, even if the decision is that no intervention is currently necessary.
Replacing damaged or deteriorated historic materials in kind where the traditional material is flood-damage resistant. Replacing damaged or deteriorated historic materials that are not resilient to flooding with proven flood-damage resistant substitute materials that match the appearance and design.	

[17] (a) Interior woodwork at the Charnley-Norwood House, known as Bon Silene, in Ocean Springs, MS, withstood a storm surge of 30 feet from Hurricane Katrina in 2005. Interior walls, ceilings, and cabinetry are constructed of curly heart pine. Milled from the heart of Longleaf pine trees, heart wood is known to be insect and rot resistant. (b) The restoration project, which included repairs to the interior wood paneling, was completed in 2014.

(a) Photo: Mississippi Department of Archives and History, Mississippi Historic Resources Inventory (HRI) Database. <http://www.apps.mdah.ms.gov/Public> (altered)

(b) Photo: Tall Architects



PLANNING AND ASSESSMENT FOR FLOOD RISK REDUCTION

RECOMMENDED	NOT RECOMMENDED
Utilizing local and regional traditions (such as elevating residential buildings) for adapting buildings in response to flooding when compatible with the historic character of the building, its site, and setting.	Utilizing an adaptation treatment traditionally used in another region or one typically used for a different building type or architectural style which is not compatible with the historic character of the property.
Using special exemptions and variances when prescribed adaptive treatments to protect buildings from flooding would otherwise negatively impact the historic character of the building, its site, and setting, while still taking steps to address or help minimize flood risk.	Using a special exemption or variance to avoid taking any steps to address or help minimize the impacts of flood risk on a historic property.



(a) Photo: Long Island Museum



(b) Photo: Nancy Solomon/Long Island Traditions

[18] (a) This bay house, known as the Pidherney House, sits along Reynolds Channel on the South Shore of Long Island, NY. Bay houses were not primary residences, but simple and resilient structures used as base camps for clamming, fishing and hunting. The buildings rest on mudsills supported by piers above the wetlands. Most have a porch or deck that faces south for prevailing winds and incorporate features such as a hatch (b) which enabled water to enter and exit the building during an extreme high tide.

PLANNING AND ASSESSMENT FOR FLOOD RISK REDUCTION

RECOMMENDED	NOT RECOMMENDED
Considering adaptive options, whenever possible, that would protect multiple historic resources, if the treatment can be implemented without negatively impacting the historic character of the overall historic property, district, or archeological resources, other cultural or religious features, or burial grounds.	Failing to consider other properties nearby in planning flood adaptations, therefore increasing the risk or exposure to neighboring properties.
Reassessing the risks, property conditions, and local, state, and federal regulations on a regular schedule and after any flood event.	



[19] Community-scale interventions, such as this combination of a flood wall, levee, and floodgates in Galena, IL, can protect multiple historic resources and maintain the character and integrity of entire historic districts and neighborhoods. *Photo: GalenaGuide.com*



[20] Temporary measures such as sandbags can be a simple and inexpensive solution for protecting buildings in low-lying and vulnerable areas, but they are not meant to withstand moving floodwaters for extended time periods. *Photo: Eduardo Munoz/Reuters*



[21] A rural homeowner has deployed a water-filled temporary dam or water bladder to act as a floodwall around their residence. Water bladders require a storage area when not in use and the resources and time to fill them when a flood is imminent. *Photo: Aqua Dam, Inc*



[22] This floodgate is a temporary solution that can only be deployed with enough notice of a potential flood event. Storage of the gate apparatus must be on or close to the property with ready access in order to be actively deployed. *Photo: Liz Petrella/NPS*



[23] A combination of different temporary measures can be an effective short-term solution to flooding. In this case, a building wrap of waterproof fabric is anchored by sandbags. *Photo: Chapelboro.com*

TEMPORARY PROTECTIVE MEASURES

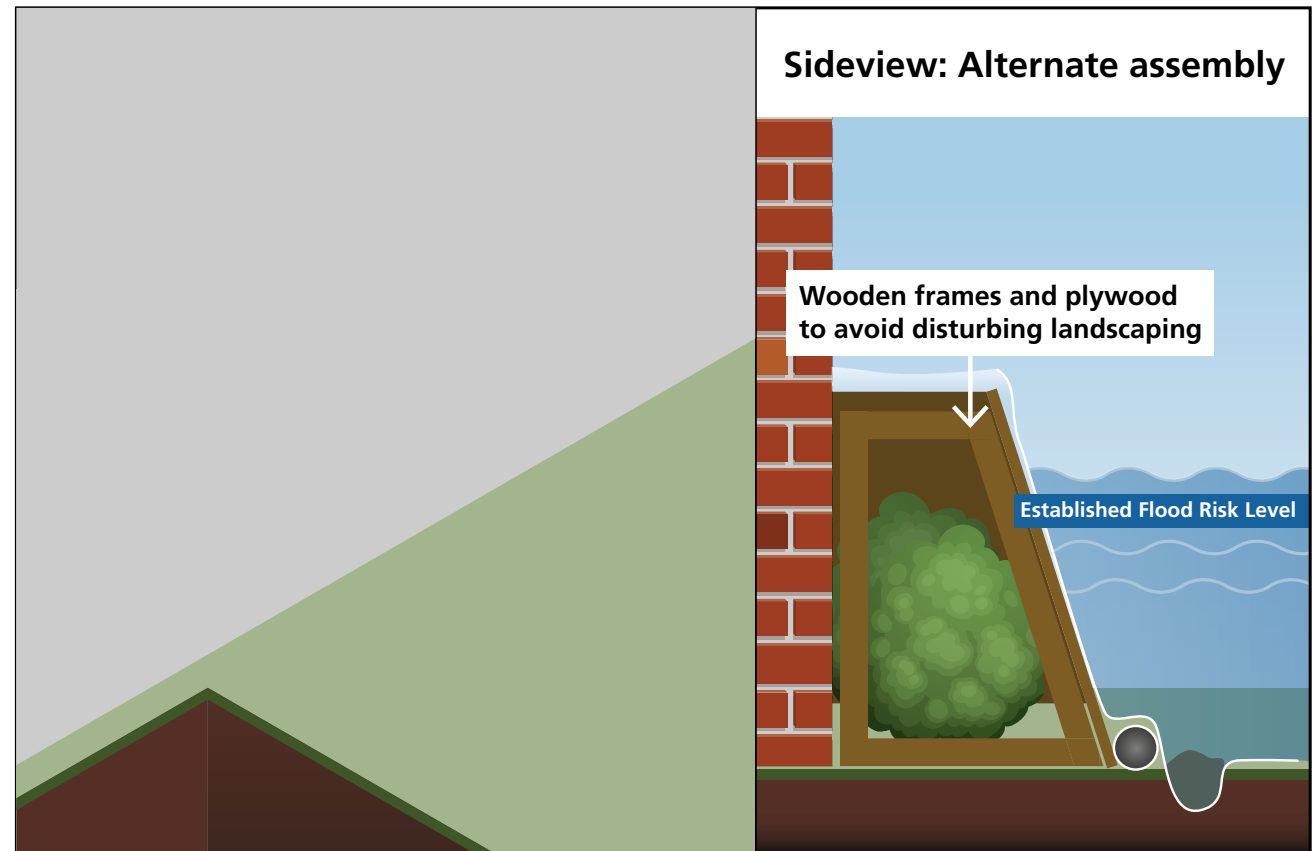
Temporary or non-permanent protective measures use materials or systems that can be deployed or activated when flooding is predicted and removed or stored when the flood waters have receded. Temporary measures are generally the most affordable options and can have a low impact on the historic character of the property because they rarely involve permanent changes to the property. However, temporary measures may not be well suited for areas subject to frequent flooding. Temporary measures require time and people to quickly deploy them, so they are not a good option in locations where flooding may occur without sufficient warning time. Although someone may need to be on site to deploy the system, property owners or tenants themselves should secure the property as best they can and move to a safe location outside the flood zone for the duration of the event.

Temporary measures include sandbags, temporary dams, temporary floodgates, and flood-wrapping systems. Sandbags are the most widely recognized tool used to protect a property from flood water, but there are also synthetic products that function in a similar fashion. Temporary dams are intended to encircle a building or close gaps in floodwalls. Temporary floodgates are removable barriers installed in windows, doorways, and other openings. Flood wrapping systems cover the most vulnerable portion of an existing structure to create a temporary impervious barrier. Wrapping systems do not lend additional strength or stability to a structure, therefore any building using such a system must be able to withstand the forces of the flood.

No temporary system is failproof. There can be water seepage with these materials and systems, and they should be used in conjunction with pumps and emergency generators. Generators should be elevated above the established flood risk level or located within a floodproof enclosure. If a temporary measure is breached or overtopped, the deployed system should be removed to promote drying once it is safe to return and flood waters have receded. With any of these systems, if custom-sized or special components are needed for certain locations (like a floodgate for a specific-width opening), it is important that they be easy to locate and identify to facilitate timely installation when flooding is predicted.

Technical Limitations:

- Temporary protective measures are generally designed for relatively shallow floods of limited duration.
- Deployment takes time and varies depending on the equipment or system and the labor available to put it in place.
- Equipment requires storage space, and, if stored off site, the logistics of getting the temporary barrier or system to the site must be factored into deployment time.
- During a flood event, temporary measures must not rely on continual on-site monitoring, as evacuation from the flooded area may be required until emergency personnel allow property owners to return.



[24] This diagram illustrates the installation of a temporary waterproof building wrap on a historic masonry building. The fasteners should be attached at the mortar joint and not directly into the brick or stone. The wrap should continue below grade to help protect the property from scour and potential seepage. An alternate installation method (also illustrated) involves constructing a wood frame to support the wrapping material and can be placed around plantings or other site features. *Graphic: Blank Space LLC for NPS*

TEMPORARY PROTECTIVE MEASURES

RECOMMENDED	NOT RECOMMENDED
Selecting a temporary barrier, system, or equipment that will protect the historic building from the predicted type of flooding and that can be deployed using the labor, equipment, and warning time available.	Selecting a system or equipment inadequate to protect the historic building from predicted flooding and/or cannot be deployed in time.
Evaluating and ensuring the ability of masonry walls and temporary flood barriers or other systems covering masonry openings to withstand the forces of flooding. Reinforcing walls as necessary to withstand such forces.	Reinforcing masonry walls to withstand the forces of flooding in a manner that destroys historic materials and features or diminishes the historic character of the property.
Installing fastening devices or stanchions to attach the temporary barrier or system in concealed or secondary locations of the building, and in a manner that does not damage, alter, or otherwise impact the historic character of the property.	Installing fastening devices or stanchions where they would damage, alter, or otherwise impact the distinctive materials, features, and spaces of the property.



[25] Permanent stanchions at windows and doors in this former industrial mill in Baltimore, MD, are used to attach temporary floodgates to protect openings in the event of a flood. Depending on their size, color, and finish, these stanchions can be quite noticeable. In the case of an industrial property, this may not cause a significant change in historic character. In a different type of building, it is important to ensure that such permanent features blend in and are as visually unobtrusive as possible. *Photo: Jennifer Parker/NPS*

TEMPORARY PROTECTIVE MEASURES

RECOMMENDED	NOT RECOMMENDED
Establishing procedures, responsibilities, and regular training for deploying temporary barriers and other systems.	
Installing pumps to remove water that breaches the temporary barrier or other system. Ensuring that the water is pumped an adequate distance to avoid seeping back in.	
Investing in a generator as a backup to operate pumps if there is a power failure during or after a flood. Installing a generator in a floodproof enclosure or above the established flood risk level.	



[26] Water can still seep through sandbag barriers. A property owner should have a pumping system with back-up generators to remove water from behind the barrier. Photo: Ted Jackson, NOLA.com | The Times-Picayune. The Advocate, 7/29/2019. The Times-Picayune/The Advocate

TEMPORARY PROTECTIVE MEASURES

RECOMMENDED

Providing sufficient clearance between the temporary barrier and the walls of a historic structure to ensure that the force of the water against the barrier is not transferred to the historic building.
Obtaining removable flood barriers for openings in any existing solid masonry perimeter site walls that are strong enough or reinforced to withstand the forces of a flood.
Relocating furnishings and valuable collections to higher floors, upper shelves, or off-site to protect them from seepage or possible failure of the temporary barrier or system. Using water-tight containers for storage whenever possible.

NOT RECOMMENDED

Erecting temporary barriers that are in direct contact with any significant historic building, structure, or object on the site.
Assuming that temporary barriers or other systems will keep out all water and, therefore, not planning ahead for possible seepage or failure of a temporary barrier or system.



(a) Photo: Andy Abeyta



(b) Photo: Paramount Theatre

[28] The Paramount Theatre in Cedar Rapids, IA, has combined exterior and interior temporary protection measures. In this example, (a) the exterior of the lobby has been protected by a temporary waterproof building wrap anchored with sandbags. (b) Interior seats can be removed at the lower levels and stored safely. Should flood waters enter the building, interior elements will not be damaged or become waterborne debris.

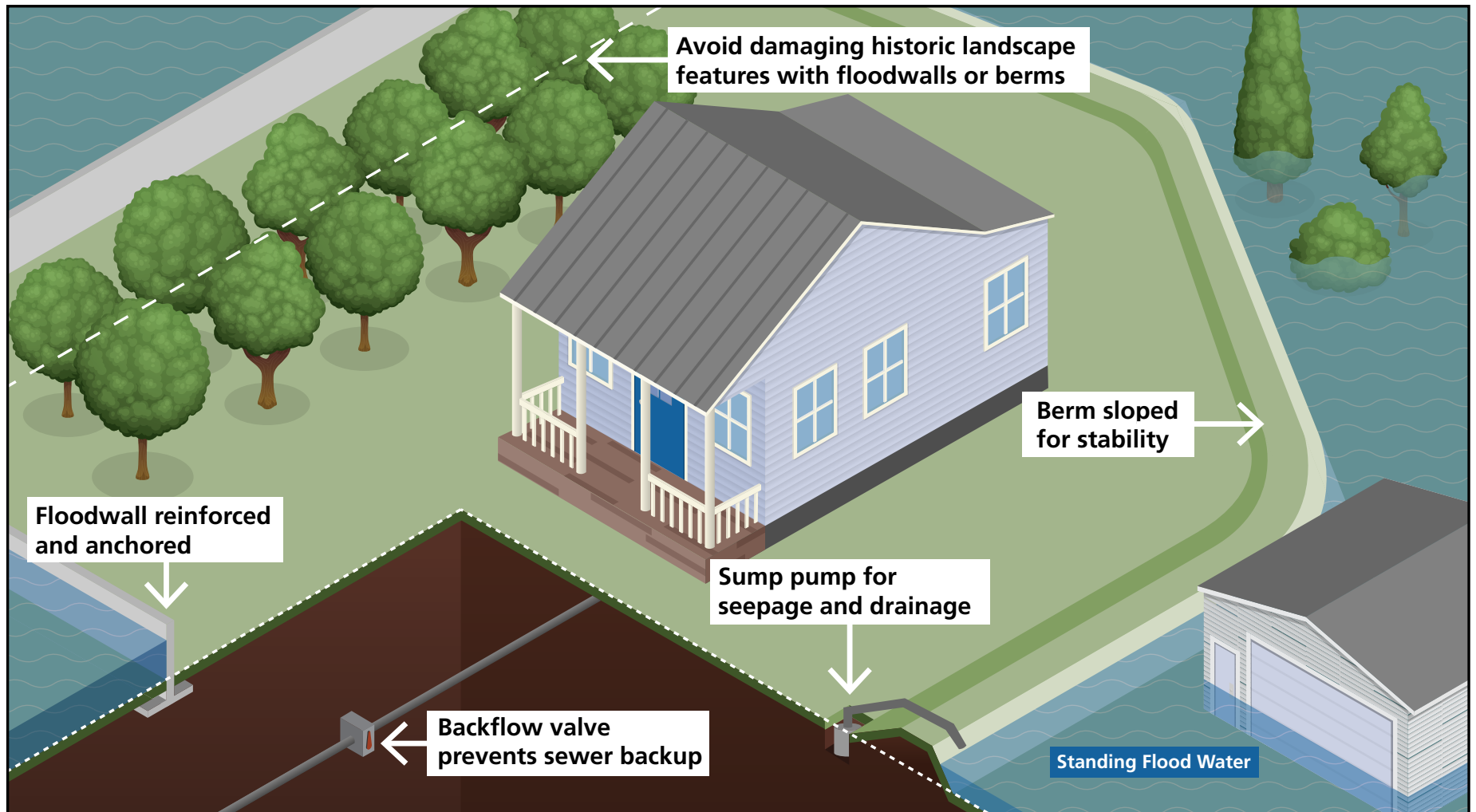


(a) Photo: New Jersey Historic Trust



(b) Photo: Ocean City Department of Public Works and Office of Emergency Management

[27] (a) This historic train station in Ocean City, NJ, has installed permanent stanchions in the historic wood door jamb. (b) When flooding is predicted, temporary floodgates can slide into the stanchions to keep water from entering low-level openings. The permanent stanchions are a dark color that blends with the dark brown historic wood door jambs.



[29] New site structures like a floodwall or berm can protect a historic property from flooding. When choosing a location, avoid damaging or interrupting the historic setting and its significant site and landscape features. There should be a method to remove water that enters the site in the form of rain, seepage through barriers, or overtopping. *Graphic: Blank Space LLC for NPS*

SITE AND LANDSCAPE ADAPTATIONS

A range of site and landscape interventions can be implemented to protect a historic building from flooding, both on the property itself as well as off-site. The advantage of these options is that the historic building generally remains unaltered. The relationship of a building to the site and setting is important to the preservation of historic character.

Changes to the site and landscape should be carefully planned to avoid negatively impacting the property's historic integrity and any historic landscape features, archeological resources, and other cultural or religious features. Site and landscape changes can also impact the integrity of a historic district.

The different types of site interventions include basic regrading, large engineered structures, and infrastructure projects that may protect many properties in a neighborhood or district. Storm-water management systems, berms, and floodwalls can all be used to control water on a single site, and each of these site interventions can also be 'scaled up' to protect multiple properties and larger areas. Levees and the restoration of natural flood control systems like living shorelines, dunes, marshes, and wetlands are additional tools for larger-scale interventions.

Site mitigation will change how water moves through and around a property. Altering the existing site conditions must be done with thoughtful examination of potential impacts to neighboring properties adjacent to and downstream from a property.

Technical Limitations:

- Site or landscape adaptation measures can make flooding worse for other properties, and codes or regulations may not allow their use in certain locations.
- Adding a new site or landscape feature is not possible on-site for properties that are already on fully developed sites (i.e., the building occupies the majority of the lot), although it may be possible to modify an existing feature like a site wall.



[30] This low-scale floodwall in Washington state provides flood protection without compromising the historic character of the property or obstructing views of the historic house from the street. A deployed floodgate can seal the opening at the driveway during a flood event. Photo: French Wetmore



[31] This small-scale levee or berm has provided flood protection to this property in Chase County, KS, since the 1940s. Photo: Steve Samuelson



(a) Photo: New Leaf Redevelopment Consulting



(b) Photo: New Leaf Redevelopment Consulting

[32] A new permanent floodwall incorporated the edge of (a) an existing loading dock to serve as (b) both flood protection and guard rail at the former Smulekoffs Furniture Store in Cedar Rapids, IA.



[33] A large floodwall protects the historic downtown of Cape Girardeau, MO, from the Mississippi River. Photo: VisitCape



[34] Some flood protection structures are historic, such as this seawall in St. Augustine, FL. The seawall was constructed in sections over time beginning in 1696 near the Castillo de San Marcos. Photo: Jennifer Wellock/NPS



(a) Photo: Tina Roach/NPS



(b) Photo: US Army photo by Alfredo Barraza

[35] (a) Stone-clad floodwalls on the National Mall in Washington, DC, provide anchor points for (b) a temporary paneled floodgate that can be installed in the gap to protect downtown Washington from Potomac River flooding. This structure is part of the District of Columbia Levee System constructed by the U.S. Army Corps of Engineers and operated and maintained by the National Park Service (NPS). The NPS annually practices closing the gate across 17th Street to ensure performance and to practice preparedness. Located between the Washington Monument and the Lincoln Memorial, it is designed to blend into the historic landscape.



[36] Raised streets may require additional access points to residential and commercial properties if the sidewalks and buildings are not also raised. This 1890s historic example from Old Salem, NC, incorporated new brick stairs and railings. Additional considerations for accessibility would need to be addressed today.
Photo: Jennifer Wellock/NPS

SITE AND LANDSCAPE ADAPTATIONS

RECOMMENDED

Identifying, retaining, and preserving features of the historic site and setting that are important in defining its overall historic character before undertaking site mitigation work or changing the landscape or its features.
Altering the site or setting in locations that are not critical to the significance of the historic character of the property.
Retaining the topography and historic relationship between buildings and the site and setting. Elevating roads, sidewalks, and infrastructure along with buildings in a coordinated and planned effort while maintaining the historic spatial relationships and setting to the greatest extent feasible.

NOT RECOMMENDED

Removing or substantially changing site features that are important in defining the overall historic character of the property so that, as a result, the historic character of the property is diminished.
Damaging or destroying significant historic landscape features, designs, or plantings in order to establish a new site or landscape feature to protect the property from flood risks.
Changing the grade level of the site if it substantially diminishes its historic character.

[37] Following the 1900 Hurricane that devastated Galveston, TX, a large portion of the island was raised by elevating the buildings and adding new fill. (a) This historic image shows the original grade with buildings in the process of being put on raised foundations and the newly elevated road under construction. (b) The same view after the roads and sites were elevated.



(a) Photo: Courtesy of the Rosenberg Library, Galveston, Texas



(b) Photo: Courtesy of the Rosenberg Library, Galveston, Texas

SITE AND LANDSCAPE ADAPTATIONS

RECOMMENDED

Protecting and maintaining buildings, site, and landscape features by providing proper drainage to ensure that water does not erode foundation walls, drain toward the building, or damage or erode the landscape.

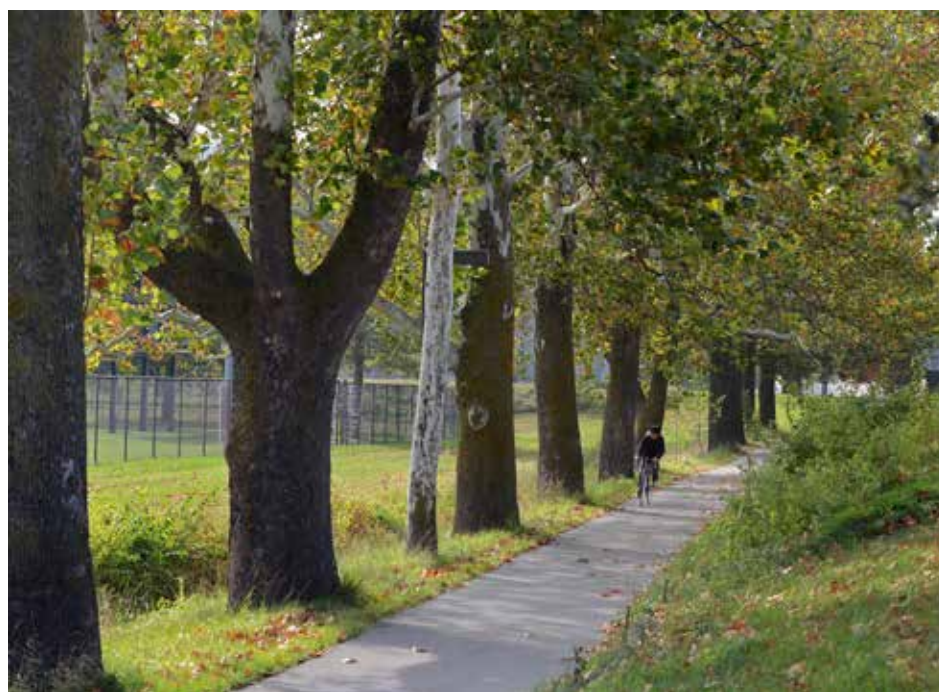
Surveying and documenting areas where the terrain will be altered or new features constructed to determine the potential impact to important landscape features, archeological resources, other cultural or religious features, or burial grounds.

NOT RECOMMENDED

Failing to ensure that site drainage is adequate so that buildings and site features are damaged or destroyed.

Changing the site grading so that water does not drain properly or is redirected toward other buildings or structures.

Failing to survey the building site prior to beginning work, which may result in damage or loss of important landscape features, archeological resources, other cultural or religious features, or burial grounds.



[38] Historic landscape features should be protected and avoided when selecting a location for berms, levees, or floodwalls. At Iowa State University in Ames, IA, a line of approximately 50 sycamore trees known as “Sycamore Row” marked a historic path that connected university grounds. In 2013, a new berm proposed to protect a nearby building was relocated so that the trees would not be removed. *Photo: Inside Iowa State*

SITE AND LANDSCAPE ADAPTATIONS

RECOMMENDED

NOT RECOMMENDED



[39] Street and sidewalk improvements that include bio-swales or other water retention systems can be effective devices to collect or direct water and alleviate flooding as shown here in Milwaukee, WI. Photo: Liz Petrella/NPS

Avoiding and protecting (e.g., preserving in place) important site features, archeological resources, other cultural or religious features, or burial grounds.	Leaving known site features or archeological material unprotected so that it is damaged as a result of adaptation work.
Planning and carrying out any necessary site investigation before adaptation work begins, using professional archeologists and methods, when preservation in place is not feasible.	Allowing unqualified personnel to conduct archeological investigations, which can result in damage or loss of important archeological material.
Improving or restoring on-site or adjacent natural systems such as living shorelines, wetlands, and beaches and dunes. Selecting new infrastructure that is able to retain floodwaters on site, such as a cistern, bio-swale, permeable pavers, green roofing, and associated rain collection systems.	
Designing new or improving existing storm-water management systems to reduce surface floods and reverse-flow flooding (water moving backward through the system to flood through drains).	Damaging or destroying historic materials, features, or spaces of the historic building, site, and setting in order to add or improve storm-water management.

SITE AND LANDSCAPE ADAPTATIONS

RECOMMENDED

NOT RECOMMENDED

Constructing a levee, berm, or embankment on adjacent or nearby land outside the historic site or district to minimize impacts to the character of the historic property and increase the area of protection for the historic site or district.	Damaging or destroying important landscape features, archeological resources, other cultural or religious features, or burial grounds in order to construct the flood protection.
Designing a new floodwall or berm or improving an existing barrier to provide flooding protection to a historic site.	
Ensuring that the new or modified floodwall or berm is compatible with the historic character of the property.	Constructing a tall floodwall or berm that is incompatible with the historic character of the site or setting such that it blocks the property from significant viewsheds, or alters the appearance of the property from the public right-of-way.



(a) Photo: National Archives

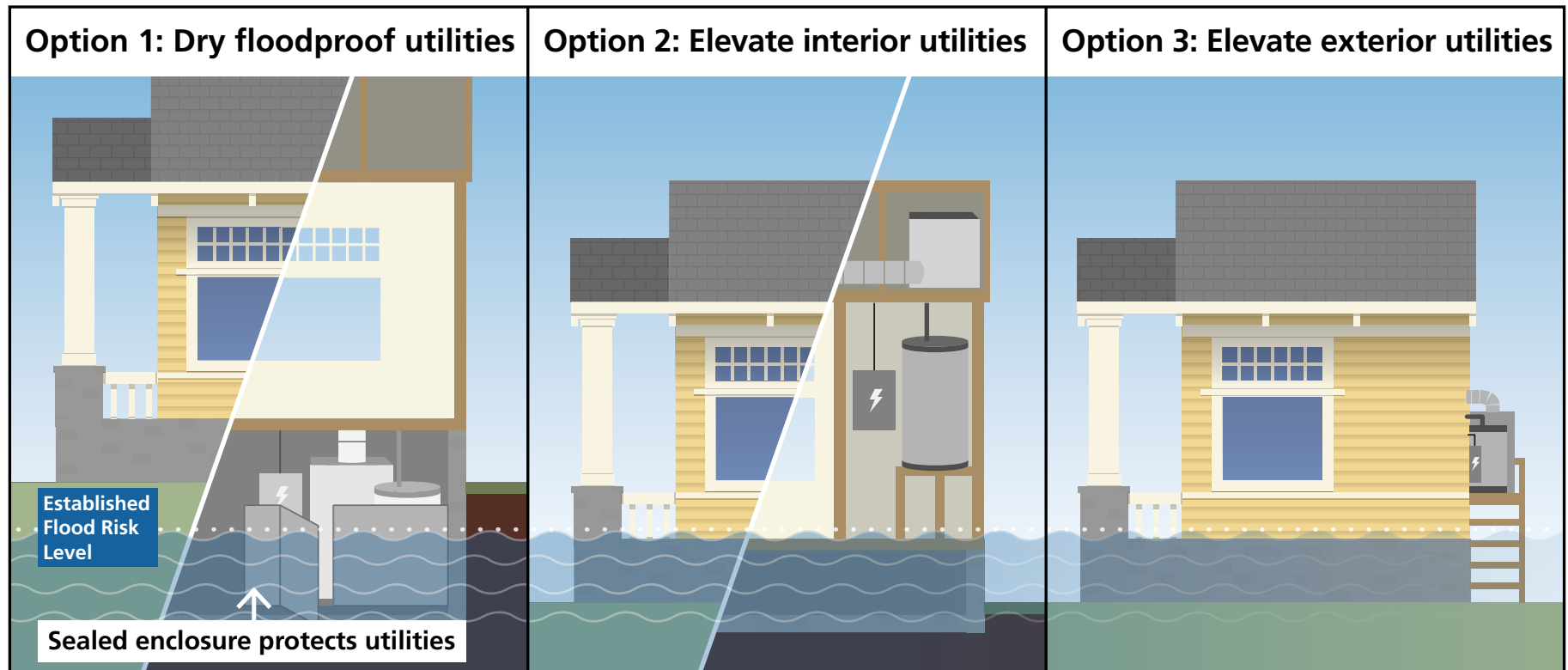


(b) Photo: National Archives



(c) Photo: National Archives

[40] (a) At the National Archives in Washington, DC, an existing site wall was modified to provide flood protection. A new self-closing floodgate was installed behind an existing historic gate to create a continuous barrier. (b) The floodgate is recessed into the ground. (c) During a flood event, the rising waters will activate hydraulic controls at the gate, causing it to rise within the opening and block water from entering the lower levels of the building.



[41] There are three options for protecting vulnerable portions of mechanical, electrical, and plumbing systems from flood damage. They can be protected in place with waterproof enclosures, moved to a higher location within the building, or located on an exterior elevated platform, roof, or other elevated location. *Graphic: Blank Space LLC for NPS*

PROTECT UTILITIES

Utilities and mechanical systems for historic buildings are often placed in basements to conceal them from sight. Any part of these systems that is in flood-vulnerable locations should be elevated or relocated above the established flood risk level. Utilities and mechanical systems should be relocated to utilitarian or insignificant spaces in historic buildings that are unlikely to flood. Exterior utilities and mechanical systems should similarly be elevated to protect them from flooding and placed in locations that minimize as much as possible their visibility and impact on the historic character and appearance of the building.

When planning a project involving mechanical, electrical, plumbing, or fire suppression systems, it is helpful to be aware of the service life of the various features of the systems involved. Sometimes it may be necessary to keep the systems, in whole or in part, in the existing location even though it is a known flood risk area of the property. This part of the system will need to be placed within a watertight enclosure or be sacrificial and replaced after a flood. Depending on the frequency of expected flooding, the cost of that part of the system, and its expected service life, sacrificing system components may be economically reasonable.

The protection of utilities should be addressed as part of any adaptation treatment. While utilities are not specifically addressed in all other treatments described in these Guidelines, this section is generally applicable.

Technical Limitations:

- The new location for the equipment must provide adequate space and meet ventilation requirements.
- The relocated equipment must be accessible for monitoring, servicing, and inspection.

PUBLIC UTILITIES

RECOMMENDED	NOT RECOMMENDED
Relocating all utilities above the established flood risk level or protecting them in place with a watertight or impermeable enclosure.	Relocating systems and utilities to a historically significant interior space or a highly visible location.
Relocating and anchoring exterior mechanical equipment and fuel tanks to an elevated platform that is compatible with the building’s historic character and is, preferably, on a secondary or otherwise less visible elevation.	Constructing a new platform for exterior equipment with incompatible materials and/or in a highly visible location if it can otherwise be avoided.



[42] Mechanical equipment that remains in a basement that is likely to flood should be enclosed behind waterproof walls. The walls may be partial height, as shown in this example, if flood waters are not expected to exceed that height. In other cases, waterproof enclosures must fully surround the equipment, which can be accessed by submarine-quality doors or hatches. *Photo: Quinn Evans*

PUBLIC UTILITIES

RECOMMENDED

NOT RECOMMENDED

Using fencing or landscaping to screen exterior mechanical equipment and reduce its visibility.	
Relocating interior mechanical equipment to utilitarian or insignificant spaces within the building that are unlikely to flood.	



[43] Relocating mechanical equipment in interior spaces should be limited to utilitarian spaces like closets or mechanical rooms. *Photo: Mary Lane Carleton*



[44] Access issues must be considered when relocating exterior mechanical equipment on an elevated platform. If electrical or gas meters are moved to higher locations, stairs or a ladder may be required by the utility company to facilitate meter reading. *Photo: p3elevation.com*

PUBLIC UTILITIES

RECOMMENDED	NOT RECOMMENDED
Relocating ducts, pipes, and conduit to spaces that are unlikely to flood to the extent practical; and concealing such systems within walls, attics, chases, and soffits in historically-finished spaces.	Relocating ducts, pipes, and conduit to primary spaces and leaving them exposed, or concealing the systems in a manner that will change the overall character of the space.
Insulating the outside of ducts in the established flood risk area so that insulation can be removed after a flood to promote drying.	Selecting ducts with integral insulation that is not flood-damage resistant and will be located in the established flood risk area.
Installing an electrical disconnect well above the established flood risk level in an easy to access location. This should be separate from the utility panel.	
Eliminating electrical service to (or separating it from) flood-prone areas of the building or site with minimal disturbance to historic features and finishes.	Damaging or destroying historic interior or exterior features, finishes, or materials to an excessive degree in order to access wall cavities for re-wiring.

[45] The exterior mechanical equipment of (a) this historic barracks building at Fort Hancock in Sandy Hook, NJ, was (b) elevated on an exterior platform at the back of the building. The platform was designed to have a minimal profile and painted a dark color to blend in with the building foundation.



(a) Photo: Marilou Ehrler/NPS



(b) Photo: Denver Service Center/NPS

PUBLIC UTILITIES

RECOMMENDED

NOT RECOMMENDED

Installing backflow prevention devices in water and sewer lines.	
Installing sump pumps at the lowest level of the structure that are powered by a back-up power source.	

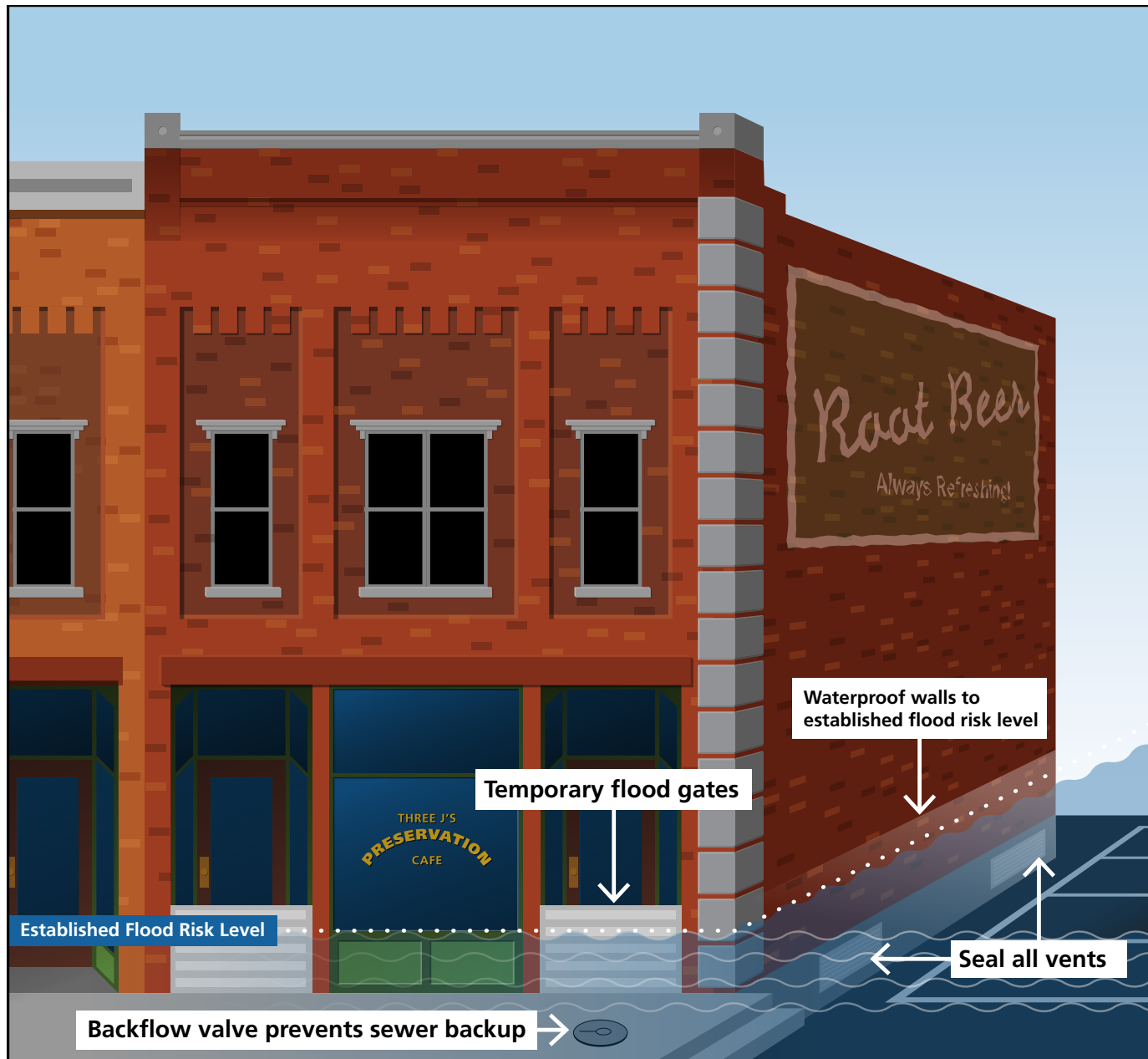


[46] For many buildings in flood-prone areas, having a generator on site may be a necessity to provide emergency power for pumps and other mechanical equipment. This public library in Hoboken, NJ, has a generator located on a flat roof high above any flood waters and not visible from the street. Photo: David V. Abramson for Hoboken Public Library

Case Study



Protect utilities is a treatment that is often combined with other adaptations. To learn about how several treatments, including utility relocation, were used in combination at a historic property, refer to Case Study 4: Combined Flood Adaptations to Protect a Rhode Island Livery on page 139.



[47] Dry floodproofing is intended to keep all flood waters out of a building. This adaptation will include waterproofing walls, sealing openings, and installing backflow prevention devices. Any waterproof coatings should be carefully researched before applying them to historic wall surfaces and materials. *Graphic: Blank Space LLC for NPS*

DRY FLOODPROOFING

Dry floodproofing is an adaptation method designed to keep water out of a building. This treatment requires establishing a watertight seal on the exterior of the foundation and sealing all interior spaces below the established flood risk level. This adaptation measure may involve significant alterations that impact historic spaces, features, and materials affecting the building's historic character and appearance. In order to dry floodproof a property, all openings (windows, doors, and any utility penetration) that extend or are completely below the established flood risk level must be designed to be temporarily or permanently sealed. Exterior foundation surfaces must be impervious to water. This can be accomplished with a waterproof coating or membrane. Walls must be reinforced and anchored to withstand flooding forces, including buoyancy and debris impact, and an engineered drainage system must be installed. Impacts to historic character are likely to be less for buildings where dry floodproofing is only necessary below grade, thus eliminating the visibility of the alterations.

The aspect of dry floodproofing that can pose the greatest concern from a preservation perspective is waterproofing. There are numerous products and technologies that are available, from tar to synthetic materials, and each product has different performance standards and the potential to negatively impact the historic materials to which it is applied.



[48] A waterproof coating is applied to the interior surface of lower-level walls of the public library in Hoboken, NJ. Prior to applying such a coating, the product should be researched by building science professionals with knowledge of historic materials and methods to ensure that the coating will not cause damage to or accelerate deterioration of the structure. Photo: David V. Abramson for Hoboken Public Library

It is important that a product be thoroughly researched before applying it to a historic building, properly applied, and monitored after installation. Waterproof coatings are vapor impermeable and can trap moisture in the wall or on the interior wall surface and cause deterioration or damage to historic materials.

Because of the strength of flood forces, dry floodproofing is generally not recommended for projected flood inundation levels that are more than three feet, particularly for unreinforced masonry. This adaptation method will require a high frequency of maintenance when exposed to repeated flooding. It is a more appropriate treatment to use where the flood risk is infrequent or below three feet.

Technical Limitations:

- This adaptation method is only appropriate for load-bearing masonry buildings or frame buildings with masonry foundations where the established flood risk level is below the top of the foundation since masonry walls can be made to withstand flooding forces.
- The treatment requires regular maintenance, monitoring, and repair to perform effectively in repetitive flood events, as system components such as sealants and membranes can degrade or become damaged.
- This method is not recommended if flooding is anticipated at levels higher than three feet due to structural and other considerations.
- Any building component below the established flood risk level, which could include foundations, walls, slab, stair, or sanitary systems, must be able to withstand hydrostatic forces.

STRUCTURAL CONSIDERATIONS

RECOMMENDED

NOT RECOMMENDED

Evaluating the strength of masonry walls and footings of historic buildings to ensure that they are strong enough to withstand floodwater pressure and flood-borne debris.	Proceeding with dry floodproofing without assessing the structural stability of the historic building.
Anchoring the structure to the foundation with engineered solutions, to prevent movement or collapse of the historic building.	Altering visible foundation walls to an extent that the historic character of a building is compromised.



(a) Photo: Liz Petrella/NPS



(b) Photo: Liz Petrella/NPS

[49] These photos from an industrial mill in Baltimore, MD, show (a) the structural reinforcing required at large window openings that extend below the established flood risk level. Rather than blocking these windows, either permanently or temporarily, the owner elected to use aquarium glass in the lower sash. The steel reinforcing will later be concealed by wood trim. Certain compromises in the glass color and transparency, as well as frame details and muntin profiles, were necessary to accommodate the thicker glass in the lower sash. Photo (b) shows a side-by-side mock-up of two options for simulated muntins on the aquarium-glass panels on the lower sash.

SITE DRAINAGE

RECOMMENDED	NOT RECOMMENDED
Preparing to effectively manage the incoming floodwaters and addressing moving and removing the water from the site and historic building after the flooding.	
Installing a drainage system around the foundation and footings of the historic building to avoid undermining the building and to allow for proper site drainage.	Ignoring potential impacts to the historic landscape, archeological features, or other historic resources that could be caused by the installation of a drainage system.
Installing a backflow valve to prevent sewer and drain backups.	
Installing one or more sump pumps, if needed, to effectively control water on the site and reduce hydrostatic pressure post-flooding.	

[50] To keep water out of a building, openings on secondary elevations may be permanently infilled with masonry to match or blend in with the walls. Any sills or lintels should be preserved in place, and the masonry infill should be inset to preserve the historic fenestration pattern. *Photo: Jennifer Parker/NPS*



COVERINGS AND COATINGS

RECOMMENDED

Designing temporary or permanent closures for all openings (i.e., windows and doors) that are below or extend into the established flood risk level while maintaining the historic character of the building.

Blocking character-defining window or door openings on a primary or highly visible façade that extend into the flood protection zone with temporary flood shields.

Blocking openings on secondary elevations or in less visually prominent locations with temporary flood shields or compatible masonry infill recessed within the opening to retain the profile of the opening.

NOT RECOMMENDED

Blocking character-defining openings such as the historic building's windows and doors permanently in a nonreversible manner.



(a) Photo: National Flood Protection



(b) Photo: National Flood Protection

[51] Even temporary flood shields may require permanent stanchions or fasteners. (a) At this garden entrance door in Charleston, SC, mounting panels and anchors are permanently installed. The mounting panels are painted the same color as the building to minimize their appearance. (b) When a flood event is predicted, the temporary stanchions and flood panels may be fixed in place.



[52] Permanently installed flood barriers can be designed to be compatible with a building's historic features and character, as with this operable flood door on a circa 1770 commercial building in Ellicott City, MD. Photo: Liz Petrella/NPS



(a) Photo: Belk Architecture



(b) Photo: Flood Panel LLC



(c) Photo: Courtesy of Chrysler Museum of Art

[53] There are many options for temporary flood barriers at doors and storefronts. (a) At Revolution Mill in Greensboro, NC, the barrier is located on the interior side of the opening. Racks on the adjacent wall provide a permanent onsite storage location for the panels. (b) A post-and-panel barrier system on this Main Street commercial building provides a narrow profile design that protects the storefront without encroaching on the public sidewalk. (c) A jamb-mounted panel system is set back in an arched entrance at the Chrysler Museum of Art in Norfolk, VA.

COVERINGS AND COATINGS

RECOMMENDED

NOT RECOMMENDED

Installing stanchions, fasteners, or tracks for flood shields in concealed or secondary locations, and in a manner that does not damage, alter, or otherwise impact the historic character of the property.	Installing flood shield fasteners where they would damage, alter, or otherwise impact the historic character of the property.
Building a low wall or curb around basement windows that is compatible with the historic building to keep flood waters out.	



(a) Photo: Doug Kerr <https://creativecommons.org/licenses/by-sa/2.0/>



(b) Photo: Mark G. Benz

[54] Burnham Memorial Hall in Lincoln, VT, uses temporary flood barriers with permanently installed stanchions to prevent water from entering through basement-level windows and doors. The stanchions are noticeable, but do not significantly impact the historic character and appearance of the building due to their location on a secondary elevation.



[55] A low flood wall or curb that is compatible with the historic character of the property can be constructed around basement windows to keep flood waters out. Photo: Jennifer Parker/NPS

COVERINGS AND COATINGS

RECOMMENDED	NOT RECOMMENDED
Installing required air vents in foundation walls that can be sealed in the event of flooding.	
Covering or coating the exterior of foundation wall surfaces with a proven waterproof membrane or coating at or below the established flood risk level.	Covering or coating portions of the walls above the established flood risk level.
Wrapping the foundation with a temporary, removable waterproof membrane instead of applying a permanent waterproof coating, when possible.	



[56] To create a watertight seal around the building, any existing vents or openings below the established flood risk level must be sealed during a flood. Vents that cannot be sealed internally will require an exterior and/or interior cover to keep water from entering the building. *Photo: Chelius Carter*

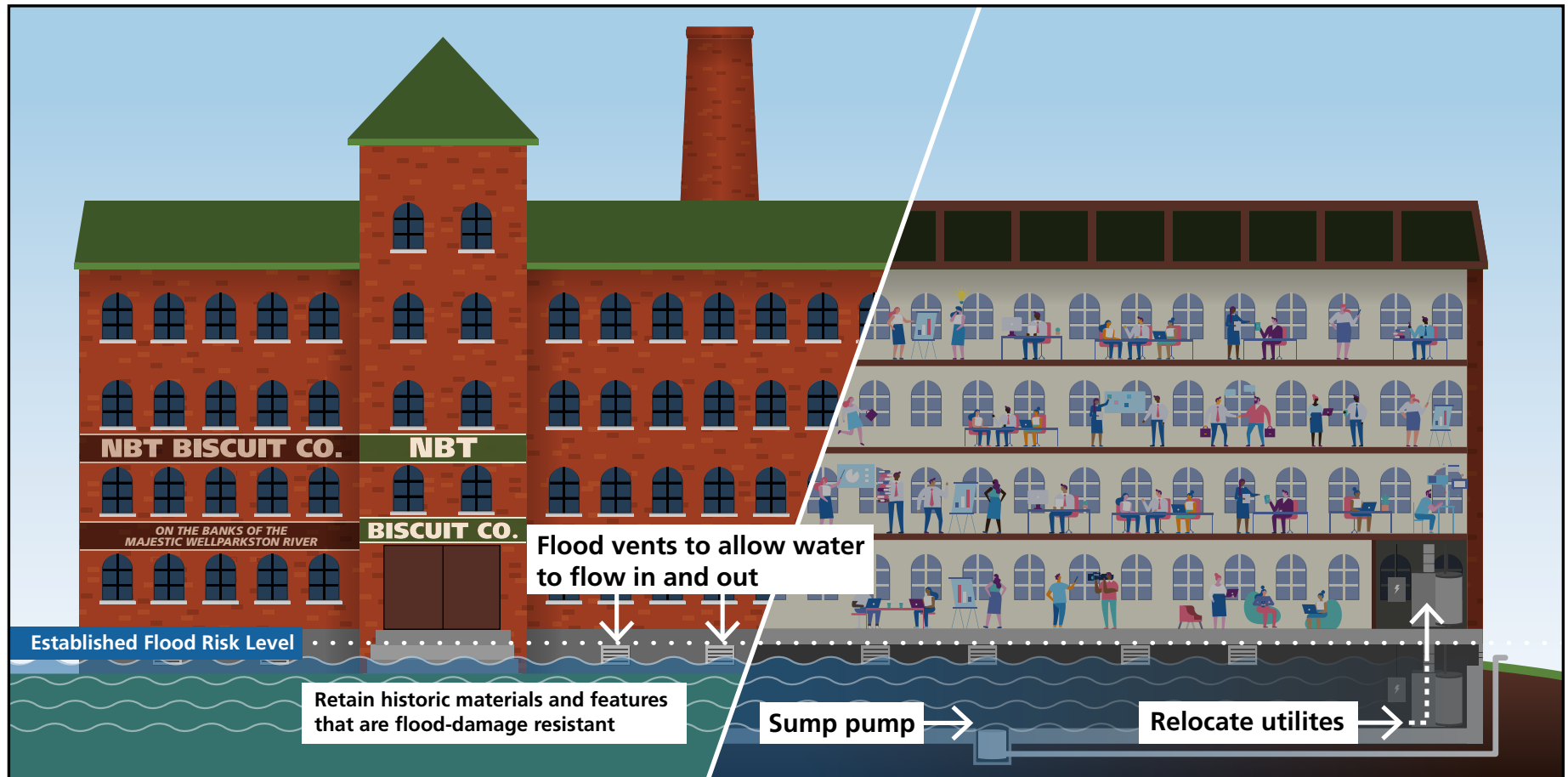
COVERINGS AND COATINGS

RECOMMENDED	NOT RECOMMENDED
	Applying coatings or coverings in a manner that alter or damage the historic character of the building.
Applying a waterproof coating on the building that is compatible with and does not damage the historic masonry.	Applying a waterproof coating that is incompatible with the historic masonry or that is not watertight and could cause damage or deterioration.
Inspecting applied coatings or membranes on a regular basis to ensure performance and periodically reapplying the coating or replacing the covering.	Failing to maintain a waterproof coating or membrane after it has been applied, or reassessing it after a flood event.

Case Study



To learn about how this treatment was used at a historic property, refer to Case Study 1: Dry Floodproofing a Wisconsin Main Street Building on page 127.



[57] Wet floodproofing as an adaptation allows water to safely enter and exit a building during a flood event. Utilities must be relocated or protected, and openings or flood vents are required to allow water to flow in and out of the building. Any historic or other materials in the spaces that will flood must be flood damage resistant. A sump pump is needed to drain the floodwater.

Graphic: Blank Space LLC for NPS

WET FLOODPROOFING

Wet floodproofing allows water to enter a historic building during a flood event and drain out as the flood waters recede. It is not recommended where flooding is expected to exceed 24 hours in duration. Because this approach allows flood waters to enter the building, which will likely cause damage to historic materials, features, and finishes, it is best to limit this treatment to buildings where the area of inundation is an unfinished space if the building is not constructed of flood damage-resistant materials.

Wet floodproofing requires water to move in, through, and out of the building at a consistent rate, largely controlled by vents. The total number, size, and locations of the vents or openings is based on the square footage of the building and the anticipated performance of the vents. Water must also be able to move through the interior spaces of the flooded portions of the building, such as through doors and other openings. The building may require structural reinforcement and anchoring to the foundation to allow it to withstand the force of the flood waters.

All mechanical, electrical, and plumbing systems must be elevated above the established flood risk level or otherwise designed to withstand floodwaters (see Protect Utilities). Where the floodwater may not drain naturally from the lowest levels of the property, a drainage system must also be designed and installed to help remove the water from the building.



(a) Photo: Local 4 News/WHBF-TV



(b) Photo: City of Davenport, Iowa

[58] This property located in Davenport, IA, experienced a significant flooding event in the spring of 2019. The (a) engineered vents at the base of the wall (b) allowed the flood waters to move in, through, and out of the building at a controlled rate.

Interior spaces must be altered to allow for inundation, potential contamination, draining, cleaning, and drying. This can require removal and replacement of historic materials. If the lower level is finished, materials that will be in contact with the water may need to be replaced with more water-resistant and impervious materials. For example, gypsum wall board will need to be completely removed and replaced with a flood-damage resistant substitute material such as marine-grade wood to avoid moisture and mold issues. Because water will wick up through many materials, a horizontal waterstop joint is recommended to limit the amount of materials that will require drying and cleaning.

Any wall cavities will need to be opened and accessed after each flood to clean and dry. Additionally, all interior furnishings and personal effects must be moved from the area prior to the flooding event to protect them from damage of the flood waters. After the flood, the cleaning process can involve harsh chemicals, power washing, and additional material removal and replacement. Be aware that drying and cleaning can take extended periods of time, and the building may not be habitable during this process. The drying process can be moderately accelerated by using dehumidifiers and fans.



[59] Flood waters can have a significant impact on historic building interiors. Historic features and materials can often be retained and repaired and should not be preemptively removed or replaced. Much of the interior of this flooded historic property in Gulfport, MS, was able to be cleaned and retained.
Photo: Jenifer Eggleston/NPS

The primary preservation concern about this adaptation method is the potential loss of historic materials. It is crucial to identify and document the condition of the historic materials, features, and finishes before selecting this treatment. Some traditional materials perform as well as recommended modern flood-damage resistant materials and should be retained. Many historic buildings have been altered over time and may no longer retain a high degree of historic interior materials or features (e.g., plaster has been replaced with drywall). In these instances it may be possible to replace those features with flood-damage resistant material without impacting the historic character of the building. Flood-damage resistant substitute materials may be used to replace deteriorated or damaged historic materials and features below the established flood risk level.

This adaptation method is generally not appropriate for a historic building that still retains a high level of historic materials, features, and finishes that are not flood-damage resistant at or below the established flood risk level because it could result in their loss.

Technical Limitations:

- This adaptation is not viable for buildings where flooding will likely exceed 24 hours due in part to the potential for damage, contamination, and biological growth possible over longer exposures to floodwater.
- Any building component below the established flood risk level, which could include foundations, walls, slab, stair, or sanitary systems, must be able to withstand hydrostatic forces.
- The building has to dry out after a flood, so this method is not suitable if there is inadequate ventilation of the flooded area.
- This adaptation requires a lengthy cleaning process and drying time, and, therefore, is best selected when flood waters will be limited to non-living spaces (i.e., basements, crawlspaces, garages, etc.) or for nonresidential properties.



(a) Photo: Ken Uracius/Stone & Lime

[60] Fort Jefferson located on the Dry Tortugas, FL, in the Atlantic Ocean exists in a wet environment with high salinity levels. (a) The iron components embedded in the masonry walls have reacted to these environmental factors, causing rust jacking, spalling masonry, and partial collapses (Exterior walls are shown before and (b) after repairs). Properties exposed to saltwater flooding are likely to encounter additional or accelerated damage and deterioration and may need materials science professionals involved in adaptation project planning.



(b) Photo: Ken Uracius/Stone & Lime

STRUCTURAL NEEDS

RECOMMENDED

NOT RECOMMENDED

Evaluating the strength of walls and footings of historic buildings to ensure that they are strong enough to withstand floodwater pressure and flood-borne debris.	Proceeding with wet floodproofing without assessing the structural stability of the historic building.
Anchoring the structure, where necessary, to prevent movement or collapse of the historic building.	Altering visible foundation walls to an extent that the historic character of a building is affected.

UTILITIES

RECOMMENDED

NOT RECOMMENDED

Relocating all utilities above the established flood risk level or protecting them in place with a watertight or impermeable enclosure.	Relocating systems and utilities to a historically significant interior space or a highly visible location.
Installing a Ground Fault Circuit Interrupter (GFCI) to protect the electrical system of the historic building and prevent possible fires.	



[61] This electrical box is protected with a removable waterproof plastic covering. Alternatively, electrical outlets can be located above the flood inundation level. Photo: Liz Petrella/NPS



(a) Photo: Jenifer Eggleston/NPS



(b) Photo: Jennifer Wellock/NPS

[62] The design, materials, and placement of existing and new foundation vents should be considered as a property is wet floodproofed. (a) If the vents are on primary or highly visible facades like this historic property in New Orleans, LA, their retention is recommended. (b) New vents can be made to match historic vents, but it might be necessary to install more of this type than those that are specifically engineered to operate during a flood.

SITE DRAINAGE AND VENTING

RECOMMENDED	NOT RECOMMENDED
Following the recommended structural engineering guidance for the number, size, and placement of hydrostatic flood vents, as well as any other ventilation requirements.	Ignoring industry standards for flood venting requirements resulting in the loss of structural stability of the building in a flood event.
Retaining historic foundation vents in highly visible locations where feasible.	Selecting a non-engineered vent system (i.e. faux historic) where engineered vents would result in significantly fewer openings in the foundation.
Selecting a compatible design and placement for new vents, or painting vents to blend in with the foundation material.	Installing vents in highly visible locations without consideration of rhythm of fenestration.
Designing a system for draining the building as flood waters recede outside the building.	Failing to regulate the rate of water draining from the property, potentially causing structural damage to the building or neighboring properties.



[63] When new venting is required, the placement and design should be compatible with the existing property. The insulated, engineered vent added to the door of this property in Sandy Hook, NJ, has been painted to blend in. Photo: Tina Roach

INTERIOR ALTERATIONS

RECOMMENDED

Retaining historic materials, features, and finishes that are flood-damage resistant.

Removing non-historic finishes and furnishings that absorb and trap moisture, such as carpets.

Using substitute materials that are more flood-damage resistant when replacing deteriorated or destroyed historic materials and features that are compatible with the historic character of the building. Replacing character-defining features with a substitute material that matches the design and appearance of the historic component.

NOT RECOMMENDED

Removing intact, undamaged, or repairable historic materials, features, and finishes in anticipation of a possible flood.

Selecting flood-damage resistant replacement materials and features that are potentially destructive or incompatible with the historic building.



(a) Photo: Shannon O'Hara



(b) Photo: Shannon O'Hara

[64] The Bendit House built in 1953 and located in Houston, TX, experienced flooding in 2017 during Hurricane Harvey. Much of the original brickwork, terrazzo flooring, and solid lumber millwork was cleaned, repaired, and retained. Some of the newer paneling and more porous surfaces had to be replaced to allow for drying and repair.

INTERIOR ALTERATIONS

RECOMMENDED	NOT RECOMMENDED
Relocating, if necessary, electrical outlets and panels above the established flood risk level in a manner compatible with the historic character of the building by placing them in less visible locations and possibly concealing them with existing features such as a door frame or chair rail.	Relocating electrical outlets or panels above the established flood risk level in a highly visible location that impacts the historic character of the interior spaces.
	Making new openings in walls which damage or destroy historic materials and features or otherwise impact the historic character of the building in order to allow the movement of water.
	Applying impermeable coatings that cannot be easily removed, or otherwise sealing the building envelope in a way that may cause damage to the building.
Relocating furnishings and possessions to higher floors, upper shelves, or off-site to protect them from flood waters.	Leaving furnishings and possessions in the flooded part of the building resulting in flood-borne debris.



[65] Flood waters often must be actively pumped out of and away from the property, as seen in this image from Des Moines, IA. The pumping process should be designed to control the shift in hydrostatic pressure on the building and remove all flood waters that do not naturally drain or recede from the property. *Photo: Chris Snider*

The following wet floodproofing treatments are intended for interior spaces that have been significantly altered in the past or irrevocably destroyed or damaged such that the spaces possess a low level of historic integrity. These treatments do not meet the Standards for Rehabilitation if the interior spaces still retain a high level of historic materials, features, or finishes, because it could result in their loss and significantly diminish the building's historic character.

RECOMMENDED	NOT RECOMMENDED
Installing interior flood-damage resistant materials in a manner that limits destruction of the historic materials and features.	Selecting flood-damage resistant materials that are incompatible and potentially destructive to the historic envelope.
Using flood-damage resistant substitute materials that are compatible with the existing historic interior finishes and character.	Installing flood-damage resistant materials without considering their impact on the historic character of the building.
Selecting and installing impervious materials that allow air circulation within the building envelope.	Installing and applying materials and treatments that prevent the proper movement of air and water vapor through the building envelope or interior walls.
Installing a horizontal waterstop joint in the wall that prevents the wicking of moisture during a flooding event in a manner that does not compromise the structural integrity of the wall or causes the loss of intact historic features.	Removing or damaging structural materials and intact historic features to install a water- stopping joint in a wall.



[66] In order to limit the absorption of flood waters, a horizontal waterstop joint can be installed in a building's walls depending upon the wall material and construction. This was also done historically, as shown in this historic brick wall with slate embedded in the mortar to limit water wicking up the wall. Photo: eagle/stock.adobe.com

Case Study



For more information about wet floodproofing a historic building, refer to Case Study 2: Wet Floodproofing a New Jersey Cottage on page 131.

PROPERTY CLEAN-UP POST-FLOODING

RECOMMENDED

NOT RECOMMENDED

Using the gentlest means possible for effectively removing surface grime and killing flood-borne bacteria. This can include a low-pressure water wash and appropriate cleaners.	Using abrasive materials or methods to clean the flood-impacted building.
Identifying and assessing the flood-damaged building to determine the impacts to the historic materials and features. Determining which materials and features can be cleaned, dried, and repaired and which materials must be replaced.	Removing flood-impacted materials and features without proper assessment or consideration of their historic value or ability to be cleaned and repaired.
Allowing all the materials that were submerged or in contact with the flood waters to properly dry using dehumidifiers and fans before repairing the building.	Accelerating or force drying the building with heat in order to expedite repair of the damaged building.



(a) Photo: Jenifer Eggleston/NPS



(b) Photo: Karen Gadbois <https://creativecommons.org/licenses/by-sa/2.0/> (altered)



(c) Photo: Rusty Costanza, The Times-Picayune, 8/28/2010. The Times-Picayune/The Advocate

[67] (a) The “Steamboat Houses” (built 1905 and 1913) in New Orleans, LA, are located in close proximity to the Mississippi River and were constructed to withstand flooding. Much of the ground-floor (b) exterior and (c) interior of the houses were constructed of glazed brick, tile floors, and hardwoods that can be dried out, gently cleaned, and put back into use.



(a) Photo: Reid Thomas/North Carolina Historic Preservation Office



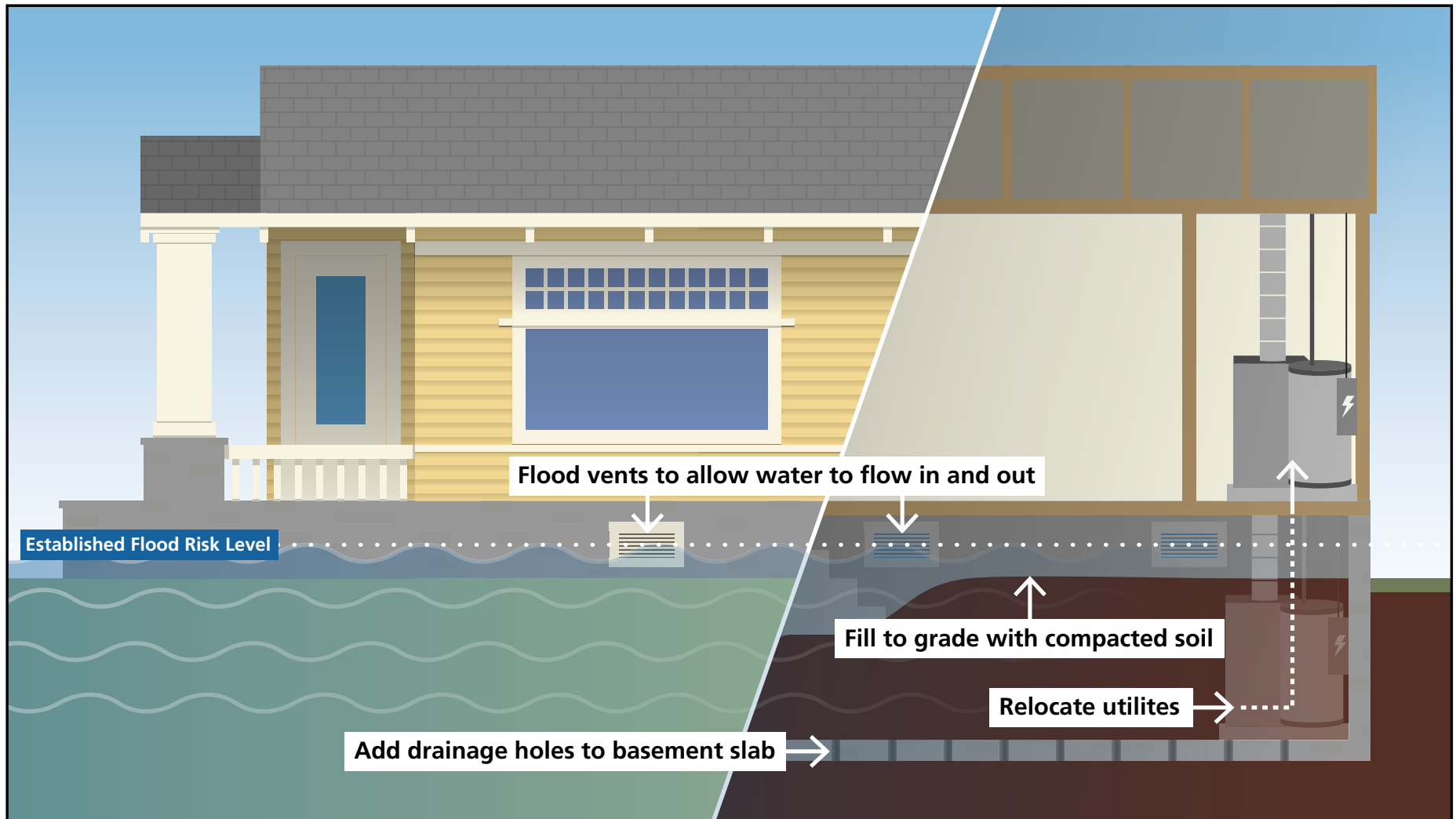
(b) Photo: Reid Thomas/North Carolina Historic Preservation Office

[68] Opening portions of walls, bringing in fans and dehumidifiers, and moving materials that have been in contact with flood waters will allow a property to properly dry. This church in Ocracoke, NC, is shown here being dried out before the flood damage is repaired. In implementing a wet floodproofing strategy, it may be desirable to replace lower sections of the walls with removable panels if a previous flood has already damaged the historic wall finish materials beyond repair.

Case Study



Wet floodproofing is often combined with other adaptations. To learn about how a historic property used this treatment, refer to Case Study 4: Combined Flood Adaptations to Protect a Rhode Island Livery on page 139.



[69] Before filling the basement, the slab or floor must be perforated to allow drainage. All utilities at the basement level must be moved up to a higher floor or exterior elevated platform, roof, or other elevated location. The basement interior must be filled with sand, gravel, soil, and/or grout until level with the exterior grade. Flood vents must be added to allow water to flow under and through the building. *Graphic: Blank Space LLC for NPS*

FILL THE BASEMENT

One flood protection treatment measure for a historic building that will generally have minimal impact on its character is to fill in the basement. However, this method can only be used for a basement that is below ground level on all sides and of masonry construction. A walkout basement would not be a candidate for this adaptation treatment. An unintended consequence of this treatment is a basement can hold water during a flood event, and that water would be displaced if the basement is filled. Although filling a basement may have less impact on the historic character of a resource, it will result in the loss of space and/or access to any historically important features in the basement. If the basement contributes to the significance of the property or includes significant historic features, such as a kitchen space, dumbwaiter, or an innovative historic heating system, this treatment is generally not recommended.

Local ordinances may define basements in different ways. In some cases, a basement is considered occupied space that therefore needs to be protected from flooding. In other instances a basement is viewed as only unfinished space that can flood. A property owner will need to learn the specific rules in their community.

Fill material can be compacted gravel, soil, sand or grout and must reach the same level as the ground surrounding the building. In some cases the fill material will settle further and more material must be added to maintain the necessary fill height equal to the surrounding ground level.



(a) Photo: Nick Balding/www.baldingbrothers.com



(b) Photo: Angie Edwards.

[70] (a) A wood-paneled former game room remains in the basement of (b) this house in Wilmington, NC. This historic interior space contributes to the character of the property and should be carefully considered in reaching any decision to fill the basement.

Technical Limitations:

- The treatment can only be used on buildings with basements of masonry construction due to structural considerations.
- Access and clearance to the basement must be sufficient to allow compacting equipment to enter and to be removed after the basement has been filled.

STRUCTURAL CONSIDERATIONS

RECOMMENDED

Assessing the strength of basement walls and footings to ensure they are strong enough to support the fill after it is compacted.

Modifying and anchoring basement walls and footings, when necessary, to provide enough strength to support the fill as long as the modifications do not significantly alter the visible exterior portions of the foundation.

NOT RECOMMENDED

Filling in a basement without assessing or evaluating the strength of the basement walls and footings to ensure they are strong enough to support the fill when compacted.

Altering visible exterior foundation walls to an extent that the historic character of a building is negatively impacted.



(a) Photo: New Leaf Redevelopment Consulting



(b) Photo: New Leaf Redevelopment Consulting

[71] Utilitarian basements are ideal candidates for an infill treatment. Furnaces, hot water heaters, and similar mechanical equipment should be moved to a higher secondary space. This house in Cedar Rapids, IA, filled the unfinished masonry basement to create a small crawlspace. (a) Wood posts were replaced with concrete block piers. (b) The basement was filled until it was level with the exterior grade.

DRAINAGE

RECOMMENDED

NOT RECOMMENDED

Removing or breaking up a non-porous or concrete basement floor slab prior to adding fill or creating drainage holes and trenches in the existing floor. All foundations and footings should be identified and protected before beginning work.	Filling in a basement without addressing potential drainage issues that may arise as a result of the fill.
Installing a pumping system in an accessible location to drain the space if necessary.	Neglecting to install a pumping system if needed to facilitate drainage.

SYSTEMS RELOCATION

(SEE PROTECT UTILITIES)

RECOMMENDED

NOT RECOMMENDED

Relocating all systems and utilities currently within the basement, including HVAC, plumbing, and electrical, above the established flood risk level to a secondary interior space with minimal significance and visibility, such as an attic or closet.	Relocating systems and utilities to a historically-significant interior space or a highly-visible location.
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FILLING THE BASEMENT

RECOMMENDED	NOT RECOMMENDED
Using a fill material, such as gravel, soil, or sand that could be removed in the future.	Using fill material such as concrete that will be difficult to remove in the future.
Compacting the fill so that it protects the basement adequately from water entering the space.	Leaving the fill material loose without compacting it.
Filling a basement to the required fill height which is equal to the surrounding ground level.	Adding insufficient fill material that is not enough to reach the required fill height.
Monitoring and supplementing the fill in place with additional fill if needed to maintain the required fill height.	



[72] Filling a basement requires access to bring the fill below grade and to maneuver compacting equipment in the space. In this example, a prior flood-damaged section of the foundation wall created an opening that allowed earthmoving equipment access to the basement. The exterior will be repaired once work is complete below grade. Photo: Mitch Paine



(a) Photo: Northern Neck Planning District Commission



(b) Photo: Northern Neck Planning District Commission



(c) Photo: Northern Neck Planning District Commission

[73] *The process of elevating a building:* This small house is shown (a) before, (b) during, and (c) after being raised and placed onto a new foundation. The building is raised on temporary steel beams and braced on cribbing as the concrete-block foundation is built below, before being set down upon the new foundation. The building will require additional design and landscape features to finish the foundation and mask some of the change in height.

ELEVATE THE BUILDING ON A NEW FOUNDATION

This adaptation method involves raising the height of a building by lifting the building from the existing foundation, constructing a higher foundation, and resetting the building on the new base. While this is one of the most common solutions for addressing flood risk, the historic character and appearance of the building can be considerably impacted when the change in height of the new foundation is significantly different from the original height. Elevating a building on a new foundation can greatly affect the historic character and integrity of the building, and any associated historic district, if not carefully planned and considered.

This adaptation treatment can generally protect a historic building from any type of flooding if the water does not reach the new first floor after elevation. The anticipated flood type will dictate the foundation treatment. For example, in a fast-moving flood a building that is properly tied to the piers of an open foundation will generally have less damage than a building on a closed foundation. In other circumstances, break-away walls may be the only type of solid infill allowable below the established flood risk level. Local zoning and building code requirements may limit how, and to what height, a building may be elevated.

Consultation with a local floodplain administrator or other knowledgeable professional will help identify requirements specific to a location or site. The local floodplain administrator may also be able to provide information about the future viability of community infrastructure impacted by flood events such as roads, sewers, and other utilities and services. Continued access to infrastructure should be considered; there could be a point in the future when an elevated building no longer has services or road access.

In general, this method of adaptation is easiest for frame buildings above crawlspaces, piers, or post foundations. Large masonry buildings, row houses, slab-on-grade construction, and downtown commercial buildings sharing party walls can be more challenging and expensive to elevate and, in some cases, impractical or infeasible. For example, in cases of multiple connected properties, like a block of row houses, close coordination and agreement among property owners would be necessary as well as shared financing and liability.

Buildings can generally be elevated a nominal amount without a major impact on the property's historic character. How high will depend on the historic character and appearance of the specific property. Thoughtful design will take into account both the flood risk and the existing historic design.

[74] Elevating masonry buildings built to the side lot lines can be difficult but has been done historically. This illustration shows an entire merchant block in Chicago being elevated at one time in 1857, as part of a larger plan to elevate the entire downtown area by four feet. Photo: Chicago History Museum, ICHi-059709



[75] (a) It can be challenging to elevate ranch houses, which generally sit close to grade, more than a nominal amount without impacting their historic character and appearance. (b) This is probably as high as this house can be lifted and still maintain its historic character without significant site work to help disguise the change in elevation. The thin, dark-colored railings at the front porch and stairs visually recede.



(a) Photo: Rubion Construction Co., LLC



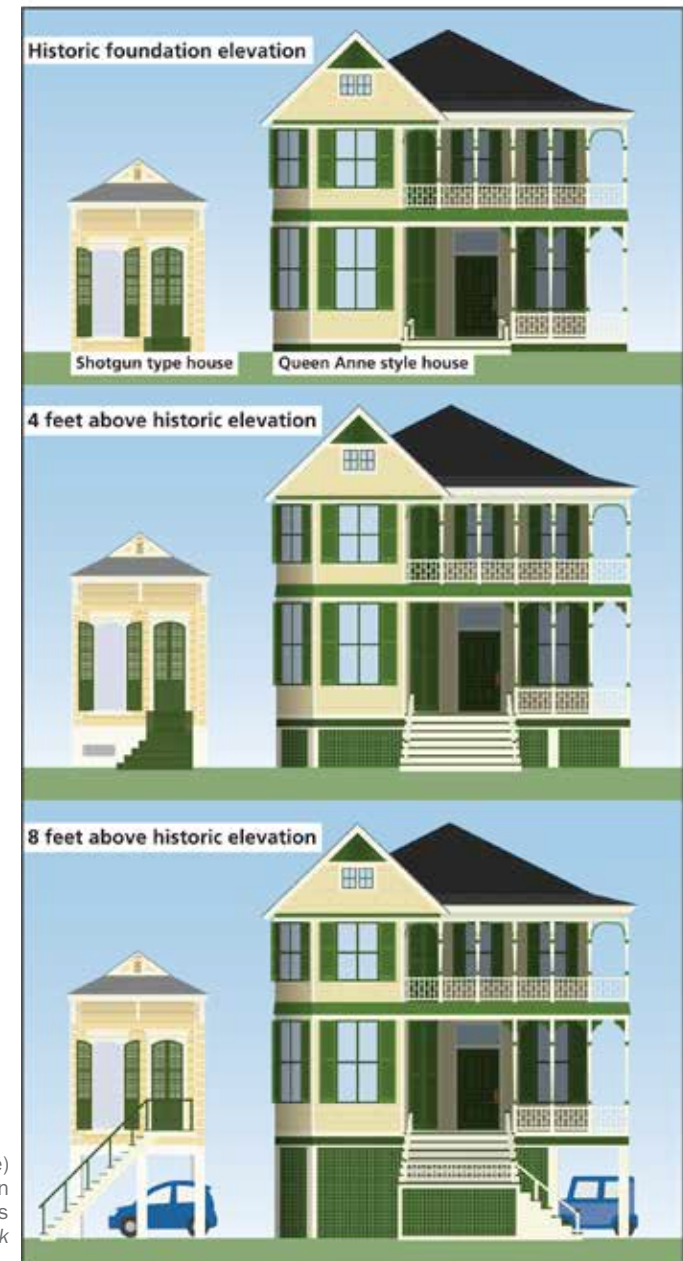
(b) Photo: Rubion Construction Co., LLC

The size, scale, height, and massing of a building will affect how much change in height may be acceptable without impacting the historic character of the property. **Establishing a universal standard or measurement for how high any given building can be elevated is not possible.** Generally, there is less perceived impact on the character of a historic building when the proportional and massing relationships of the foundation to the body of the building and the overall vertical or horizontal emphasis of the building are maintained. In order to maintain the overall historic character and appearance of the building, it is important to consider the following aspects of the site, setting, and design.

Property Considerations:

- topography and landscaping
- the shape and size of the lot
- placement and setbacks of the building on the site
- building footprint in relation to the shape and size of the lot
- massing and form including the existing overall width to height ratio
- building height and number of floors
- horizontal or vertical orientation
- property type
- construction type
- relative visibility of the foundation or basement
- mass of foundation in comparison to the main mass of the building

[76] Massing, scale, and proportions (tall vs. wide) are some of the important factors to consider when elevating a building and evaluating the impact on its historic character and appearance. *Graphic: Blank Space LLC for NPS*





(a) Photo: Westfield Architects & Preservation Consultants



(b) Photo: Westfield Architects & Preservation Consultants

[77] Elevating a building on a small site can require a change in access to the front door. In this example the main entry was retained, but the new stair had to be oriented to the side due to front setback requirements. The change in height has been masked with foundation plantings.

A smaller-scale building may be difficult to elevate more than a few feet without having an impact on its historic character. With some exceptions, elevating a small building to a height approaching a full story will not meet the Standards for Rehabilitation.

The historic setting, features, spaces, and materials of a building should be preserved if they are important in conveying the historic associations, character, and significance of the property. As the height of a building increases, meeting the Standards will be more challenging because of the substantial change to the character and appearance of foundations, basements, porches or terraces, and staircase height and length, as well as other exterior features and materials. For buildings within historic districts, elevations should be coordinated to maintain the historic spatial and architectural relationships among buildings and the character of the district. Local preservation guidelines can help provide standardized design and treatment approaches for elevating buildings specific to the district.

Where there is a tradition of elevating buildings, there may be more flexibility to increase the height of a foundation. In this historic context, a more significant degree of change may be acceptable while still maintaining the historic character of the property. Traditional adaptive approaches may be specific to certain regions, to building or construction types in those areas, and have common materials or design features. It is important to maintain the material and foundation treatments of the regional tradition.

Technical Limitations:

- The historic building must be structurally stable and/or repaired or temporarily reinforced in order to be raised onto a new foundation.
- There must be a structural system that can support the building on temporary cribbing while a new foundation is constructed. For example, buildings in which a structural slab also functions as the floor or subfloor do not have a platform that would support the walls when lifted.
- The building must be able to be physically separated from neighboring buildings, although attached buildings that are one structure can be elevated together.
- Constrained sites may control how high a building can be elevated due to limited space available to construct or extend stairs to provide access.
- Foundation type (open vs. closed) may be prescribed by the local ordinance.



[78] In many areas that have a history of flooding, buildings may have already been raised. Wheeling Island in the middle of the Ohio River in Wheeling, WV, was inundated by thirty-three floods between the 1860s and 1960s. During this period buildings on the island were constructed on tall foundations or were lifted onto higher foundations or berms after flood events. *Photo: Library of Congress, Prints & Photographs Division, photograph by Carol M. Highsmith (altered)*



[79] Buildings on a concrete slab can be more challenging to lift. In some cases, as shown in this example, the existing slab can be lifted and still remain the floor for the interior spaces. In other instances, the slab may need to remain at grade, with a new elevated floor structure constructed above. Photo: p3elevation.com

PLANNING AND PREPARATION

RECOMMENDED

NOT RECOMMENDED

Identifying, retaining, and preserving materials and features of the building that are important in defining its overall historic character before elevating the building.	
Assessing the impact of elevating a building on its historic character, including the aspects of the site, setting, and design of the property (see the Property Considerations list on page 76).	
	Elevating a building that was specifically designed to connect to or interact with the landscape without planning how to retain this spatial relationship, such as buildings with interior spaces that open onto a terrace or outdoor courtyard.

[80] A building cannot be easily elevated without impacting the historic character and appearance of the property when it has been designed to be closely connected to the landscape. For the David Cohen House in Siesta Key, FL, the architect Paul Rudolph designed the house to sit low to the ground and to have strong visual relationships to the exterior. Windows with large expanses of glass can be completely opened to the outside, bringing the outside in. Features such as flooring and wall materials continue from interior to exterior spaces. Elevating the building's spatial relationship to the surrounding landscape would not be a recommended treatment for this property.



(a) Photo: Seibert Architects



(b) Photo: Seibert Architects

PLANNING AND PREPARATION

Case Study



Elevating a building can be combined with other adaptations, particularly when it is not feasible or desirable to elevate substantially above grade. To learn about how several treatments were used in combination at a historic property, refer to Case Study 4: Combined Flood Adaptations to Protect a Rhode Island Livery on page 139.

RECOMMENDED

NOT RECOMMENDED

Documenting the building in photographs and/or graphics, particularly any features that may be lost or altered, prior to beginning work.	
Elevating later additions and porches that also contribute to the historic significance of the building along with the main structure.	Demolishing later additions and porches without regard to their historic significance.
Repairing any structural deficiencies, such as rotten sill plates and termite damage, before beginning work to separate the building from the existing foundation.	Lifting a building from its foundation without first conducting a thorough inspection and repairing any identified structural issues.
Protecting fragile features and materials subject to damage from minor movements or vibrations of the structure, like decorative plaster.	



[81] When planning to elevate a building, it is helpful to create mock-ups or visual representations to illustrate the new floor height in comparison to the existing height in order to evaluate the impact on the historic character of the building. In this example, the proposal is to elevate the building to 6 feet above the existing first-floor level. Photo: Dianne Selditch/SoundWaters



[82] Little can be done to mask or alter the appearance of a tall foundation. Once a building has been elevated the equivalent of a story or more, the overall proportions and scale of the building is often changed, resulting in diminished historic character. *Photo: Courtesy of the Southern Forest Products Association*



(a) Photo: Rubion Construction Co., LLC

[83] This historic house has been elevated and altered to an extent that it has lost its historic character and integrity. As part of the project to elevate the house, a new story was added beneath the original one-story building. Elevating a small-scale or one-story building by an additional story is almost always not an appropriate adaption.



(b) Photo: Rubion Construction Co., LLC

HEIGHT OF THE ELEVATION

RECOMMENDED

Identifying and retaining the historic massing, scale, size, form, and proportional relationships of the major elements of the historic building and/or the historic district.

Designing a new foundation that preserves the historic character of the building.

NOT RECOMMENDED

Elevating a building without considering the impact to the massing, size, scale, form, and proportional relationships of the historic building and/or the historic district.

Designing a new foundation that is too tall, so that its size and scale are out of proportion to the historic building and, diminishing its character.



(b) Photo: Charles E. Leche



(a) Photo: Courtesy of Preservation in Print with permission of the photographer

[84] This property in Mandeville, LA, is in an area of high flood risk and was elevated by an additional six feet. This necessitated a new stair and piers. In this case the original tapered porch columns were retained, and new brick piers were installed below. The new stairs are in their original location and orientation. The new porch balustrade emphasizes the porch level, while dark-colored lattice encloses a utility area below and helps to visually tie the building to the ground without it appearing like an additional story has been added to this one-story building.



(a) Photo: Ward Wight Sotheby's International Realty via Pinterest



(b) Photo: Andrea Tingey/NJ Dept. of Environmental Protection, Historic Preservation Office

[85] The Bay Head Yacht Club in Bay Head, NJ, was elevated after it was damaged by wave action from Superstorm Sandy in 2012. (a) The club building was constructed in 1928 on piers to allow easy access to the water, and the building sits entirely over Barnegat Bay. To lift the building eleven feet, 100 new concrete-filled steel pilings were driven 80-feet deep. (b) The change in elevation is less noticeable due to the massing, horizontal orientation, scale, and character of the building. As part of the project, missing historic architectural features, like the dormers, were reconstructed based on photographic documentation and physical evidence.

HEIGHT OF THE ELEVATION

RECOMMENDED

NOT RECOMMENDED

Using existing attributes and features such as large lot size, tall building height, visible foundation, porches or terraces, and stairs/steps to minimize the impact of alterations to the historic character of the property. For example, an existing porch can be altered to create a wider skirting board to mask a portion of the change in height.	Altering the building's important character-defining features to mask the change in height, such as elongating first-floor windows.
	Adding conjectural features from other buildings to mask a change in height, such as adding a new porch where none existed historically.
Applying historic regional or local traditions that have developed to adapt certain building types to flooding risks.	Applying regional or local traditions to property or construction types that are not associated with that location.
Elevating a building already on a visible historic foundation, such as a raised basement or crawlspace.	Elevating a building on grade or with no visible foundation more than a few feet without concealing or masking the change in height of the foundation using site alterations or other design techniques.
	Elevating a small-scale or one-story building to a height approaching a full additional story.



(a) Photo: Courtesy of Ketchikan Museums: David Nicoll image, Tongass Historical Society Collection, THS 75.6.10.2



(b) Photo: Stephen Reeves

[86] The Creek Street Historic District in Ketchikan, AK, is made up of "stilt" buildings, with piers or pilings as foundations. This type of construction is common in several parts of the U.S., including Alaska, the Puget Sound area of Washington, and other coastal areas around the country. Future flood adaptations in these places could use these local building traditions that evolved historically in response to flooding.

Case Study



To learn about how this treatment was used at a historic property, refer to Case Study 3: Elevating a House on the Mississippi Gulf Coast on page 135.

NEW FOUNDATION

RECOMMENDED

NOT RECOMMENDED

Constructing a new foundation that is compatible with the historic character of the building.	Constructing a new foundation that alters the overall proportions, massing, or scale of the building without making site alterations, such as regrading or adding elevated planting beds at the foundation, to minimize the appearance of the increased height.
Salvaging and reusing historic materials and features, like stone, brick, decorative vents, etc., from the historic foundation to construct the new foundation, particularly where visible.	Demolishing a historic foundation without saving salvageable materials for reuse.
Matching the new foundation to the visual characteristics of the historic foundation.	Designing a new foundation with a different architectural expression or appearance than the historic foundation.
Maintaining the visual appearance of piers or posts if a historically open foundation must be closed, such as using infill material that is recessed between piers and darker in color.	
	Selecting an open foundation for a building that historically had a closed crawlspace or basement without using design techniques to mask the change.

NEW FOUNDATION

RECOMMENDED

Using creative design techniques to minimize the perception of the change in height and appearance of the foundation of the historic building where compatible.

Creating an illusion of solidity in tall open foundations by installing louvers or traditional lattice between piers or posts.

Creating an illusion of a shorter foundation in wood-clad buildings by lowering the transition point from visible foundation materials to siding or weatherboard.

Installing flood vents in solid foundation walls. Reusing historic foundation vents in highly visible locations where feasible.

Selecting a compatible design and placement for new vents, or painting vents to blend with the foundation material.

NOT RECOMMENDED

Designing new foundation treatments that mask the change in elevation to a point that alters the historic proportions of the building and changes its historic character.

Installing flood vents in a haphazard pattern or in locations that compete with the architectural rhythm or historic character of the building.



(a) Photo: Courtesy of Julie Nucci and James Overhiser



(b) Photo: Courtesy of Julie Nucci and James Overhiser



(c) Photo: Courtesy of Julie Nucci and James Overhiser

[87] This Greek Revival temple-front residence in Owego, NY, was flooded in 2011. The building sits close to the ground, with little visible foundation, and it was substantially elevated to reduce flood risk. In this case, the lot size, massing, and style of the property enabled it to be raised on a new plinth foundation. This compilation of images shows (a) the original location; (b) during the flood, which inundated the first floor; and (c) after the building was repaired and elevated to its new height. The treatments to visually minimize the new height include a new foundation with flood vents and a change in the new stair design and materials: stone at the first run of stairs, then wood above a landing, that breaks the stairs into two smaller runs. Plantings and new fill also help disguise the change in height.



(a) Photo: Sean Clifford/NPS



(b) Photo: Tina Roach/NPS

[88] (a) Lattice, louvers, or any other screening at the foundation should be located between piers (and generally recessed within the opening). (b) Lattice attached to the surface of posts or piers and without finished edges is generally not compatible with the character of traditional buildings.



[89] This building in Louisiana has been raised on piers, but the foundation piers are set back from the face of the building, do not line up with the porch posts, and are visually undersized. New foundation piers, posts, and columns should have a visual appearance that more closely matches traditional foundation placement, size, and materials, even if that requires wrapping more modern, slender steel members with a masonry veneer. Photo: Roderick Scott

NEW FOUNDATION

RECOMMENDED

NOT RECOMMENDED

Retaining a substantial visual connection of the building to the ground when using an open foundation type. Using piers, posts, or columns large enough in width or circumference to visually support the structure, with the number and placement of piers, posts, or columns similar to that of traditional building practices or style, even if the new technology structurally requires fewer supports.	Failing to retain a substantial visual connection of the building to the ground when constructing a new, higher foundation. Selecting piers, posts, or columns that are visually undersized. Recessing all foundation materials; failing to extend historic columns, piers, or pilasters to the ground; or selecting a color scheme that creates an effect of a floating or unsupported building.
Relocating all utilities above the established flood risk level or protecting them in place with a watertight or impermeable enclosure. (See Protect Utilities)	Relocating systems and utilities to a historically significant interior space or a highly visible location.
Concealing, insulating, and protecting utility connections and any ducts or pipes located underneath the building in an open foundation.	

[90] While the use of architectural screening is recommended, it should generally be divided by foundation piers that have a relationship to existing porch elements. In this case, there are too few visible piers, which creates a “floating” or disconnected visual effect. Those that can be seen are undersized relative to the building and gives the impression of inadequate support. *Photo: FEMA*



ACCESS

RECOMMENDED	NOT RECOMMENDED
Retaining the historic access locations and the approach or orientation to the building and its front or main entrance, where feasible.	Abandoning historic primary entry points or significantly altering the path to a front or main entrance, when it can be avoided.
Keeping the physical features that identify the historic access points.	
Matching new stairs, railings, or ramps with the style and features of the historic design; and salvaging and reusing historic features to the extent possible.	



(a) Photo: Jennifer Parker/NPS



(b) Photo: Louissette Scott

[91] Providing access can be a particularly challenging issue when elevating a property. (a) In this example, although there was enough room on the lot to maintain the original stair configuration on the front of the building, the stairs were instead located under the porch. In some historic homes this is a traditional way to gain access between porch floors, but it is rare for the primary entrance and should be avoided at the front of the building unless it was a historic configuration. (b) For a building with a smaller mass, a new monumental, double-run staircase like this can easily overwhelm the original building and change its historic character.

ACCESS

RECOMMENDED

Constructing railings with traditional proportions, or, if a taller rail is necessary to meet code, retaining a horizontal rail at the traditional railing height.

Breaking up the run of stairs with a landing or changing the design or materials, where appropriate, when a long run of stairs is required because of the change in elevation.

Minimizing the perceived change in height by altering the material in the lower section of the stairs where terraces, raised planters, or regrading is used.

Consider using stone, brick, or another material that blends in with the landscape.

NOT RECOMMENDED

Noticeably altering the design and proportions of a historic railing, so that it changes the historic character of the feature.

Installing a long run of stairs that changes the historic character of the building and its site and setting if it can be avoided.



[92] Matching new stairs with the style and features of the historic property is a recommended way to integrate the new foundation and access points. Concrete stairs with landscape planters referencing the new foundation material helps maintain a visual consistency. Photo: p3elevation.com

[93] This home has used elevated planting beds across the front of the house to bring the landscaping up higher and help screen the change in height. The stairs are stone, to blend in with the foundation and the planters, and a landing breaks up the long run of stairs at a point that aligns with the top of the planters. This provides a visual reference point for what was the original foundation height. The garage remains at grade level. Photo: FloodSavvy.com





(a) Photo: Roderick Scott



(b) Photo: Courtesy of Preservation Long Island



(c) Photo: Roderick Scott

[94] Providing access for people with impaired mobility is an important consideration as part of elevating a building. Ramps, lifts, and elevators have all been used successfully, but the placement and design of such new features should be compatible with the historic building. (a) It is best to run ramps along the side of the building rather than projecting in front of the building or located in the front yard. (b) A switchback ramp was constructed along a side elevation of a former lifesaving station in New York that is located on a constrained site between a public beach and a street. (c) This platform for a lift is located on a secondary elevation and detailed to blend with the historic railing of the porch.

ACCESS

RECOMMENDED

Providing access via an exterior elevator, lift, or ramp located and designed to be compatible with the historic character of the property. Floodproofing or locating the operating system of the elevator or lift above the established flood risk level.

Minimizing the impact of ramps by installing them on secondary elevations when it does not compromise accessibility or by screening them with plantings on more visible locations.

NOT RECOMMENDED

Installing elevators, lifts, or incompatible ramps at a primary entrance or relocating primary entrances to secondary locations to provide access without assessing other options or locations.



(a) Photo: Jeff Rosenberg/Mississippi Dept. of Archives and History



(b) Photo: Jeff Rosenberg/Mississippi Dept. of Archives and History

[95] At this Rosenwald School in Mississippi, (a) ramp access has been created within the footprint of a wide porch. (b) Locating a ramp behind the porch columns allows the new feature to blend in more with the historic architecture.

ASSOCIATED SITE ALTERATIONS

(SEE ALSO SITE AND LANDSCAPE ADAPTATIONS)

RECOMMENDED

NOT RECOMMENDED

Altering the landscape by adding fill or constructing raised planters to reduce the amount of new foundation that is visible.	Altering a landscape, garden, or archeological site that has historic significance in its own right or that is integral to the significance of the site in conjunction with the building.
Designing new driveways, parking areas, or patios so that they are as unobtrusive as possible and are compatible with the historic character of the property and the district.	Adding new site features in prominent locations where they negatively impact the historic character of the building site or result in the loss of historic landscape features or plant materials.
Using permeable surfaces where possible.	Adding new driveways and curb cuts to facilitate parking underneath an elevated house.



(a) Photo: Robert Joseph Glazar/Alabama SHPO



(b) Photo: Evolve Vacation Rentals



(c) Photo: Grant files/Alabama SHPO

[96] Damaged by Hurricane Katrina, the Charles Marks house located along the Gulf Coast of Alabama used fill soils to camouflage the new foundation height on the water side while retaining the existing grade on the street side. (a) The original structure was supported by low, tapered concrete piers, approximately 18-inches high with an open crawlspace. (b) To bring this coastal structure into compliance with FEMA regulations, the house was elevated approximately 6.5 feet above its original height. (c) To mitigate the visual impact on the water-facing façade of the house, sand was used as fill on the site to raise the grade to within approximately 18 to 24 inches of the floor joists. The new grade gradually falls away toward the edges of the property. Retaining walls were necessary in some places to contain the sand.



(a) Photo: Courtesy of the National Czech & Slovak Museum & Library, Cedar Rapids, Iowa

[97] Fill soils can help to reduce the visible foundation. The new elevated height of this building in Cedar Rapids, IA, has been disguised by retaining the historic full-width front stair, adding a new center stair extending to the sidewalk, and filling the front of the lot to gently slope the grade to cover the new foundation on either side of the stair.



(b) Photo: Jennie Morton, Herringbone Freelance

[98] (a) This small Creole cottage was built in 1890. The house is located in a V-zone, an area designated by FEMA flood maps with a defined flood risk that includes additional hazards from waves. (b) After elevating the house, the new floor level is approximately thirteen feet above the surrounding grade. In addition to elevating the house, parking was created underneath the building, with a driveway placed directly in the center of the front yard. These changes emphasize the new elevated height of the building, impact its setting and appearance, and eliminate access to the front doors. These alterations significantly change the historic character of the building and do not meet the Standards.



(a) Photo: Rubion Construction Co., LLC



(b) Photo: Jennifer Parker/NPS

IN HISTORIC DISTRICTS

RECOMMENDED

Elevating buildings in historic districts that are similar in style and size to consistent heights if that is the character of the district while maintaining the historic spatial and architectural relationships between the buildings.

Elevating buildings in districts with a tradition or history of elevating buildings.

NOT RECOMMENDED

Elevating buildings in historic districts that are similar in style and size to different heights unless that is the historic character of the district.



[99] Consideration should be given to the overall impact on the historic character and appearance of a district. A significantly different or random change in foundation height is inconsistent with the historic character of this district. *Photo: Jennifer Parker/NPS*



[100] Elevating the interior floor level above the established flood risk requires several building alterations, including constructing a new floor, elevating any utilities, and creating access to the new floor level. The original floor to ceiling height must be substantial enough to allow space for the new elevated first floor. *Graphic: Blank Space LLC for NPS*

ELEVATE THE INTERIOR STRUCTURE

This treatment involves removing the existing first- or ground-floor level and replacing it with a new floor plate at a level above the established flood risk level while the exterior structure remains virtually unchanged. This treatment is most suitable for buildings with large-volume first-floor spaces, such as Main Street commercial buildings. For historic buildings that are more challenging to elevate, such as attached row houses, raising the lowest interior floor out of the established flood risk level may be a good alternative to elevating the entire structure. The existing first floor must have a ceiling height tall enough to accommodate the change, preferably without needing to alter ceilings or upper floors. All systems that lie below the new first-floor elevation, such as electrical and plumbing, will also need to be relocated to reduce the potential for loss and damage due to flooding. In order to limit flood damage, existing basements, crawlspaces, and newly-created spaces beneath the new floor level will need to be filled to a level even with grade (see Fill the Basement), have automatic flood vents installed to allow water to flow through the non-inhabited area (see Wet Floodproofing), or be sealed to keep water out (see Dry Floodproofing).

The new floor height should generally be limited to a level below the sills of first-floor windows or storefronts. Alternatively, the new floor should be held back from exterior walls to reduce visibility of the alteration from the exterior. This treatment may require changes to ground-level access points of the building. If the change in floor height is fairly minimal, subtle exterior alterations may solve access issues, but, more commonly, the new floor height is accessed within the building by constructing an interior stair or ramp.

This treatment can have a significant impact on historic buildings with intact, character-defining first-floor spaces. Generally, the first floor contains many of the building's character-defining interior spaces, features, and materials. Depending on the historic integrity of the building before the adaptation begins, such changes can result in the loss of historic character.

Properties with a historically significant first-floor interior stair will require careful alterations to be able to retain the functionality and appearance of the stair. Every effort should always be made to retain the stair, if possible, and relocate existing decorative features and materials that would otherwise be impacted (i.e., wainscot, baseboards, etc.). Buildings with significantly altered interiors may generally be more suitable for this type of treatment.

Technical Limitations:

- Existing floor-to-ceiling height of the first floor must be tall enough to accommodate the change in floor level without impacting the ceiling or structure above.
- Additional technical limitations will depend on which treatment (dry or wet floodproofing) is selected for the space below the elevated first-floor structure. Please refer to those treatments.

PLANNING AND PREPARATION

RECOMMENDED	NOT RECOMMENDED
Identifying, retaining, and preserving materials and features of the building that are important in defining its overall historic character before elevating the interior structure of the building.	Elevating the interior structure in a manner that results in the destruction of the historic character of the building.
Documenting the building in photographs and/or graphics, particularly any features that may be lost or altered, prior to beginning work.	

STRUCTURAL CONSIDERATIONS

Several structural and technical considerations associated with this treatment must be carefully evaluated. These include assessing the walls, columns, and footings for structural capacity and potentially anchoring the building differently, depending on the existing connections. Refer to Fill the Basement, Wet Floodproofing or Dry Floodproofing, as applicable.
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EXTERIOR CONSIDERATIONS

RECOMMENDED

Maintaining original entrances and fenestration patterns on the exterior of the building. Access to the new floor level from the original entrance level should generally be made on the interior of the building.

Maintaining storefront glass and bulkhead heights at their original locations.

NOT RECOMMENDED

Altering the appearance of historic access points by lengthening or shortening original entries.

Altering the appearance of the storefront by obscuring the original storefront windows or adding or extending the height of the bulkhead areas when elevating the interior floors.



(a) Photo: Galveston Historical Foundation



(b) Photo: Galveston Historical Foundation

[101] (a) The storefront doors of this commercial property have been floodproofed and the interior floor elevated. Unfortunately, the new floor resulted in a change to the storefront. The inappropriate change in appearance is apparent in comparison to the neighboring building. (b) The bottom of the storefront glass is now above shoulder level for an average-height adult pedestrian. This is not a recommended treatment.



(a) Photo: The Roebuck, David Chance Photography

[102] The first-floor level in this former warehouse building in Norfolk, VA, has been elevated, with a ground-floor lift installed to connect the lobby entrance with the new finished floor. The new interior floor level is held back from the primary entrance and is not visible from the exterior, minimizing the overall impact of the change. First-floor windows were high enough above the historic floor level that the new floorplate is below the windows where it meets the exterior wall.



(b) Photo: The Roebuck, David Chance Photography

EXTERIOR CONSIDERATIONS

RECOMMENDED

Retaining original windows on primary or highly visible facades, and protecting those windows that extend below the established flood risk level with temporary flood shields.
Installing a new floor at a level below the sills of first-floor windows or storefronts, or holding back the new floor from exterior openings sufficient to minimize the visibility of the alteration.
Preserving the historic character of the building if creating access to parking or storage underneath the new floor level. For example, adding a new exterior service entrance on the back of a building or other less visible location.

NOT RECOMMENDED

Removing or blocking historic windows on primary or highly visible facades with a new floor structure that abuts the windows.
Locating a new floor structure at a level above existing window sills or door thresholds, allowing it to be visible from the exterior or otherwise altering the building's historic character.
Putting in new storage or garage doors that alter the rhythm of the fenestration pattern, features, and appearance of the historic building.



(a) Photo: OPC Allan Investments LLC, Allan Development Company, and Allan Custom Homes, Inc.

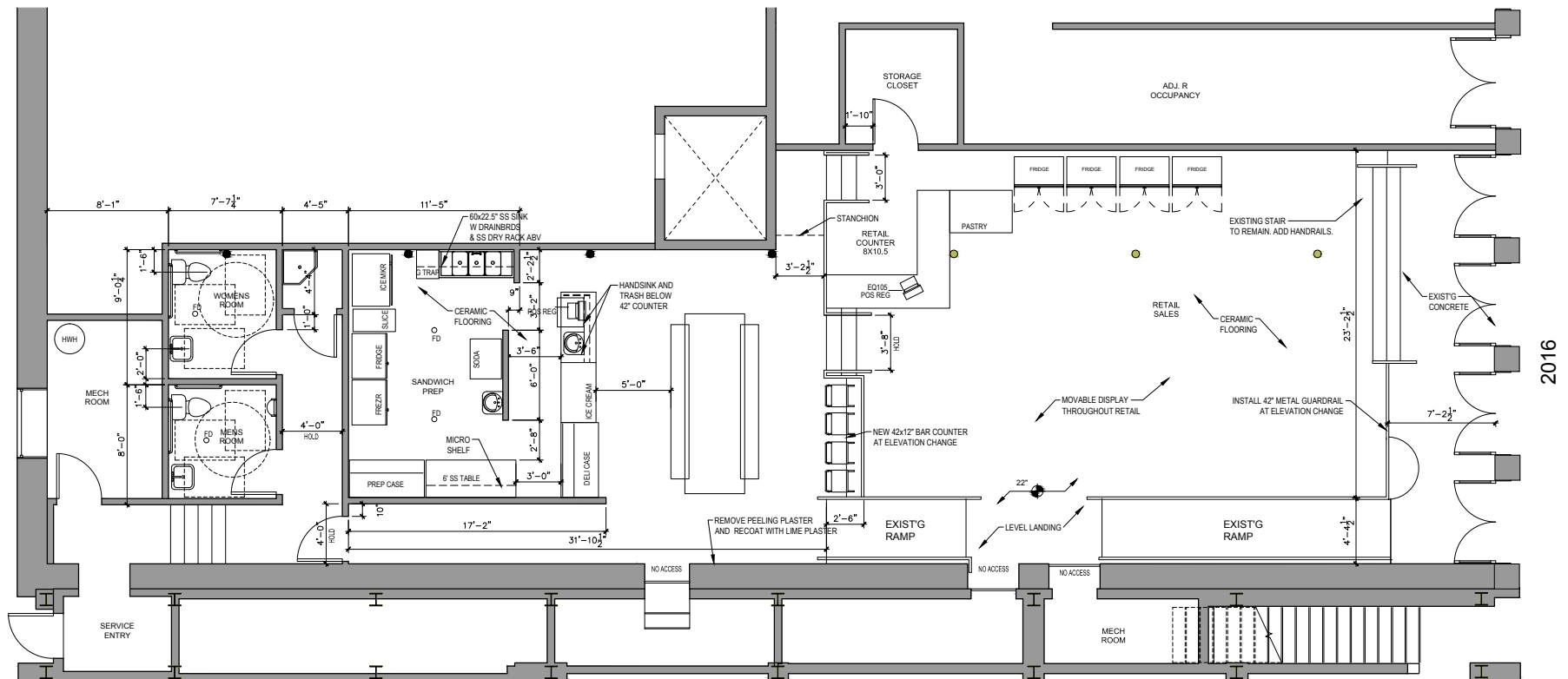


(b) Photo: OPC Allan Investments LLC, Allan Development Company, and Allan Custom Homes, Inc.

[103] This former grocery store in Cedar Rapids, IA, has a new interior floor constructed to be level with the sills of the storefront windows. This alteration does not change the exterior appearance of the historic storefront openings. The new floor extends outside to fill the corner recessed entrance, and new steps and a ramp were added to the side of the building. (a) Before the project began with storefronts boarded up. (b) After construction has been completed.

PLANNING AND PREPARATION

RECOMMENDED	NOT RECOMMENDED
Preserving character-defining spaces, features, and finishes when elevating the interior structure.	
Maintaining the historic character of entrances, while floodproofing the non-elevated access spaces.	Installing incompatible features and finishes to floodproof the non-elevated access spaces.
Adding interior ramps or stairs that are compatible with the historic character of the entrance while maintaining historic features such as lobby spaces or commercial storefront spaces.	Placing ramps or stairs in a location that disrupts the character and appearance of historic interior spaces and damages or removes historic interior materials and finishes.
Retaining historic materials and features such as original trim and reinstalling it at the new floor level.	Destroying historic features unnecessarily above the new elevated floor level.
	Destroying character-defining ceiling features and finishes if the new floor requires the ceiling to be elevated to maintain a useable floor height.
	Elevating the first-floor structure to a height that causes a 'domino effect' requiring removal and replacement of ceilings and floors above.



(a) Drawing: Brax Easterwood, Architect, for Galveston Historical Foundation

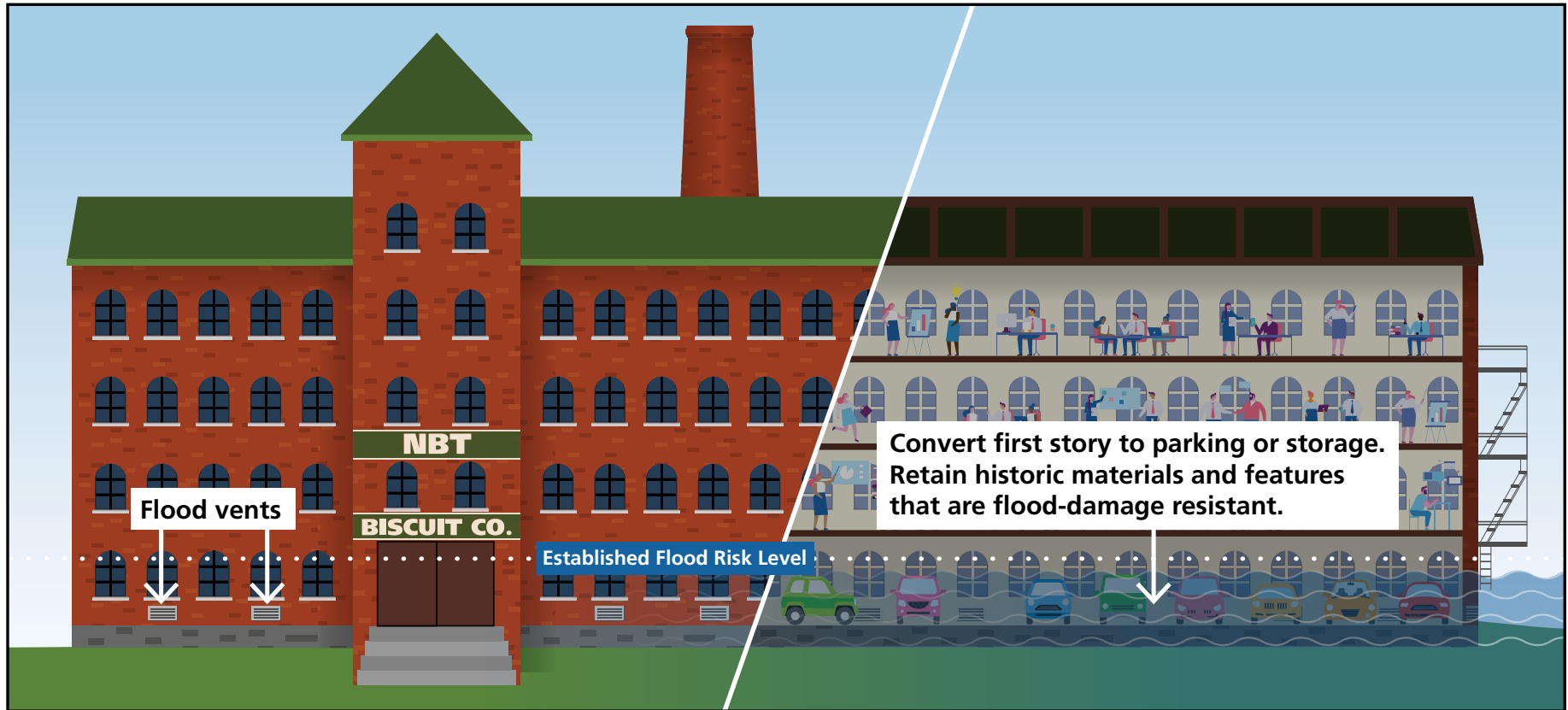
[104] The interior of this commercial space on The Strand in Galveston, TX, has a new floor placed seven feet back from the front of the building (railings have not yet been installed). This allows the street-level entrance to remain at grade, with new stairs and a ramp located within the building. The new floor has two levels, with building systems, bathrooms, and a preparation kitchen on the upper level for more protection from possible flooding. The new floor-to-ceiling height in the elevated interior is still high enough to maintain the original character of the commercial space.



(b) Photo: Galveston Historical Foundation



(c) Photo: Galveston Historical Foundation



[105] Abandoning the first story of a building to prevent damage from flooding must be combined with either dry or wet floodproofing. This graphic illustrates the wet floodproofing option. Occupied spaces are moved to the upper floors of the building, and the lowest floor is converted to parking, storage, and access spaces to the upper floors. Flood vents or openings are added or modified to allow water to flow in and out of the building. Durable historic features and finishes should be retained and replaced in kind if damaged or deteriorated. *Graphic: Blank Space LLC for NPS*

ABANDON THE LOWEST FLOOR

This adaptation method requires modifying a multi-story building to relocate all living spaces to floors above the established flood risk level. Any abandoned story below the established flood risk level must be altered and adapted into a utilitarian wet or dry floodproofed space. A local floodplain ordinance may determine which floodproofing method is allowable. This option is best suited for multi-story masonry buildings. Historic buildings with unfinished interior spaces that are constructed of durable materials, for example, mills or industrial buildings with load-bearing masonry walls, are likely candidates. This treatment is not recommended for light-frame construction. Due to concerns about life-safety and potential repetitive damage, this adaptation requires losing occupiable space within the building. After the project is complete, the abandoned floor may only be used for parking, storage, and building access.

The abandoned story can be dry or wet floodproofed (see Dry Floodproofing and Wet Floodproofing). Wet floodproofing is not recommended as a treatment for a building with a significant amount of historic integrity at the first story.

Abandoning the lowest story will also shift the location of the conditioned space within the building envelope. Such a shift may have unintended consequences for historic materials by changing the number of freeze-thaw cycles or the location of the dew point within a wall. It is important to consult a professional who can help model or predict such changes and how they might be addressed.

This treatment will result in the loss of usable floor area in the building, and owners may therefore decide to recover the lost floor area by adding to the building or making other alterations. New rooftop and other additions to historic buildings should follow the guidance in the Guidelines for Rehabilitating Historic Buildings.

Technical Limitations:

- The building must be at least two stories.
- This method cannot be used for light-frame buildings, as all walls in a flood zone must be made resistant to water damage.
- Additional technical limitations will depend on which treatment (dry or wet floodproofing) is selected for the abandoned floor. Please refer to those treatments.

PLANNING AND PREPARATION

RECOMMENDED	NOT RECOMMENDED
Evaluating the strength of walls, columns, and footings to ensure they are strong enough to withstand flooding and support the retrofit of abandoning the lowest floor of the building.	Abandoning the lowest floor without proper reinforcement of the lower levels to withstand flood forces.
Documenting the interior materials, features, finishes, and spaces on the first story prior to abandoning it.	

STRUCTURAL CONSIDERATIONS

Several structural issues associated with this treatment must be evaluated. These include assessing the walls, columns, and footings for structural capacity and potentially anchoring the building differently, depending on the existing connections. Refer to Fill the Basement, Wet Floodproofing or Dry Floodproofing, as applicable.



(a) *Preservation and Design Studio*



(b) *Preservation and Design Studio*



(c) *Preservation and Design Studio*

[106] This project in Texas included the conversion of former retail tenant spaces into parking as part of a larger rehabilitation. Although the conversion was not due to flood-related issues, the design principles are the same. (a) The character and transparency of the storefronts were maintained along the sidewalk. New partition walls create an interior display space and conceal the new parking area from view. (b) The altered interior retained no historic features or finishes prior to the project. (c) The space was opened up into a single parking area, and the walls and ceilings were finished to maintain the historic character. Vehicular access is provided on a secondary side elevation of the building, visible in photo (a).

EXTERIOR AND INTERIOR CONSIDERATIONS

RECOMMENDED	NOT RECOMMENDED
	Selecting wet floodproofing for the abandoned story if the interior spaces still retain a high level of historic materials, features, or finishes.
Retaining historic materials, features, and finishes that are flood-damage resistant. Removing non-historic finishes and furnishings that absorb and trap moisture, such as carpets.	Removing intact, undamaged, or repairable historic materials, features, and finishes in anticipation of a possible flood.
Maintaining and using existing access points (entrances, stairs, and elevator shafts) to gain access to upper floors.	Relocating interior access points (stairs and elevator shafts) so that the original circulation patterns and historic relationships between interior features and spaces are altered.
Keeping new interior stairs, elevators, or lifts within the first-story space away from windows or storefronts at the original first floor.	Inserting new interior stairs, elevators, or lifts that cut across the glazed areas of windows so that they are highly visible from the exterior.
Designing secondary egress from the new first story so that it is compatible with the historic character of the building and does not destroy historic materials.	Installing a means of secondary egress from the new first story without considering its impact on the historic character and appearance of the building.
Creating compatible new openings or altering existing openings, if necessary for new parking or storage areas in the abandoned story, on secondary elevations.	Creating new openings or altering existing openings for parking or storage uses on the primary facade(s).



(a) Courtesy of the Library of Virginia, illustration dated August 1871 from Ephraim Baker Records, Accession 50152.



(b) Jennifer Parker/NPS



(c) Jennifer Parker/NPS

[107] (a) The former Green Furniture Factory in Alexandria, VA, was converted to apartments with parking on the first floor. (b) This project would not meet the Standards because the ground-floor openings were changed significantly and (c) a large rooftop addition was also added. Historic windows and doors on primary elevations should be retained and preserved even when the interior space becomes storage or parking.

[108] Some buildings were intentionally constructed to allow for relocation. For instance, many historic diners are similar in structure to early mobile homes. *Photo: Jim Paveglio, Geddes Building Movers, Inc.*



[109] At times, moving a house over water may provide more space to maneuver and facilitate keeping the building in one piece as it is moved. *Photo: Courtesy of mywhome.com*



[110] In the past, buildings were moved considerable distances or around obstacles that may today seem insurmountable without modern heavy equipment and technology. This turn-of-the-twentieth-century postcard from Pittsburgh, PA, shows an extreme example, advertised as “the greatest house-moving feat ever accomplished.” *Photo: Eichleay Engineering Corporation Records and Photographs, Detre Library & Archives, Heinz History Center*

MOVE THE HISTORIC BUILDING

Moving a historic building requires separating the building from its foundation and relocating it to a new site and foundation. Relocating a historic building is generally not a recommended preservation practice. In certain communities, however, there is a tradition of moving buildings. In some instances, whole neighborhoods and communities were relocated together. Moving a historic building is usually considered only when the property is expected to flood repeatedly, succumb to river or shoreline erosion, or is subject to permanent inundation due to sea level rise or subsidence. Moving a structure is more challenging, both technically and financially, when it is masonry construction, and it is not feasible for buildings with shared walls, like row houses, unless they are moved together.

The building must be strong enough to withstand the travel required in the relocation. Historic buildings that are in poor condition, or have structural deficiency or damage, may require additional reinforcement prior to a move. It is always preferable that a historic building be moved in one piece. In some cases, porches or small additions may need to be removed, relocated separately, and reattached to the building after relocation. The various construction periods, additions, and ancillary structures of a property should be considered in determining what needs to be moved to the new location.

Prior to the move, photographs of the building from all elevations should be taken, and interior finishes should be temporarily protected during the move (see NPS Tech Note 2: Temporary Protection). Graphics may be required if any sections of the building will need to be reassembled. (See HCRS Publication: Moving Historic Buildings).

The primary goal in selecting a new site should be a location that eliminates or reduces the flood risk. The new site should provide as similar a setting as possible to the original. In siting the historic building, consideration should be given to such factors as the original directional orientation of the building and if it had a strong visual relationship to a landscape or other feature, such as a road. The new foundation should match the original in height, design, and materials.

Moving a building to a new site requires a significant amount of preparation. Depending on the distance and the route to the new location, coordination with local highway departments, police departments, local permitting agencies, and utility companies may be required. If the building passes through more than one locality, each government entity may charge for permits, police assistance, etc.

State and Tribal Historic Preservation Offices (SHPO/THPO) play a vital role in determining whether the building's historic designation can be retained in a new location, as per Federal regulations (36 CFR Part 60). Properties may be delisted from the National Register of Historic Places if moved without prior review. Building owners should work with the SHPO or THPO prior to moving. Relocations that include Federal buildings, assistance, or permitting will involve the SHPO or THPO as part of the Section 106 review process prior to the move (see 36 CFR Part 60 and 36 CFR Part 800).

Technical Limitations:

- The building must be structurally stable to move safely or feasibly disassembled and reassembled on the new site.
- Masonry buildings can be more difficult to move.
- The new site must be located outside of the established flood risk area but similar in character to the original setting.
- Routes between the historic location and the new proposed site must be suitable for transporting a building.



(a) Photo: Tricia Sandahl/City of Mason City, Iowa



(b) Photo: Jeff Heinz, The Globe Gazette



(c) Photo: Robin Anderson, Mason City Chamber of Commerce

[111] In Mason City, IA, four historic houses were moved as a group from sites bordering the Winnebago River to a new location several blocks away. (a) The buildings were located in similar proximity to one another on their new sites. (b) One of the four houses that was relocated was the Egloff House, built in 1938 and seen here on the original site. (c) It was moved in two sections and located on the new site with an almost identical paved driveway, concrete patios, and sidewalks.

PLANNING AND PREPARATION

RECOMMENDED	NOT RECOMMENDED
Finding an available site with as similar a setting as possible to the original site of the building that also eliminates or reduces the flood risk.	Relocating a building to a site that is noticeably different from the original setting of the building if it can be avoided. Selecting a site that does not reduce the flood risk.
Documenting the historic building with photographs, a site plan with the four directional cardinal points noted, and the relationships to outbuildings and other site and landscape features noted.	Moving a historic building without documenting the existing conditions at the original site.
Hiring a professional building mover to undertake the move and ensuring that the move is adequately covered by cargo insurance for all phases of the relocation project. Special permits may be required from state or local governments and utility companies.	
Moving a historic building in one piece, without disassembling portions or sections of it, whenever feasible. Ensuring that disassembled sections or units of a historic building are clearly marked with each unit's orientation, i.e., front and back, individually numbered, and its location on the building marked on a plan and elevation graphics. Providing a secure location for storage of all disassembled components.	Losing or unintentionally damaging archeological data that may exist on the original and new site.



(a) Photo: NPS



(b) Photo: NPS



(c) Photo: NPS



(d) Photo: Lydia Zepeda

[112] The Ipsut Creek Patrol Cabin located in Washington state within Mount Rainier National Park was impacted by (a) significant flooding in 2006 that (b) resulted in a washout of the soils beneath the cabin. It was determined that the log cabin should be moved to a less flood-prone area. Prior to being relocated, the cabin was documented. (c) Each feature and building component were tagged and then carefully disassembled. (d) Finally, the building was reconstructed in a new location within the park with reduced risk for flooding.

MOVING CONSIDERATIONS

RECOMMENDED	NOT RECOMMENDED
Providing protection by bracing or covering fragile features and materials such as chimneys, stucco, interior plasterwork, windows, and decorative trim prior to the move.	
Retaining later features and additions to a building that contribute to the historic character when moving a structure.	Removing later additions for the move that may have acquired significance.
Moving outbuildings important to the historic character of the property to the new site.	Moving only the main building when there are outbuildings and other features that are important in defining the historic significance of the property.
Ensuring the moved building will have no negative effects on neighboring properties in the new location and will not diminish their integrity of setting.	



[113] Fragile features like chimneys should be evaluated and braced before a building is moved. *Photo: Mike Booher/NPS*

RELOCATION

RECOMMENDED	NOT RECOMMENDED
Constructing a foundation that is structurally adequate to support the historic building and obtaining the necessary permits prior to relocating the building.	Constructing a new foundation that is structurally inadequate. Altering the building to provide additional living or storage space under the building without masking the additional foundation height.
Retaining the historic relationship between buildings and the landscape.	Placing the historic building in the new location without consideration of the orientation, setting, or environment of the original historic site, diminishing its historic character.
Making appropriate repairs to sill plates and floor joists while the building is on temporary cribbing and these features are accessible and visible.	
Allowing adequate time for the historic building to settle on the new foundation before repairing finishes or chimney features.	
Placing historic outbuildings at the new site in the proper location and distance from the main building based on documentation.	Placing outbuildings and other important features on the new site without regard to their original use, locational relationship, or distance from the main historic building.



(a) Photo: U.S. Coast Guard

[114] (a) The Cape Hatteras Lighthouse, Principal Keeper's Quarters, and Double Keeper's Quarters located in North Carolina were moved inland in 1999 to save the structures from the encroaching sea. (b) At the new site the three structures were located the same distance and orientation to one another, preserving significant spatial characteristics and relationships of the complex.



(b) Photo: Courtesy of Outer Banks Visitors Bureau



(a) Photo: Mike Crews Photography

[115] (a) The Mies van der Rohe-designed Farnsworth House in Plano, IL, near the Fox River has regularly experienced flooding events since it was constructed in 1951. One method of flood protection under consideration for the house is to integrate a hydraulic system into the building's foundation. (b) The hydraulic lifts would be located in a concrete pit below the house and attached to its concrete slab/foundation. During a flooding event, the hydraulic lifts move the house and slab above the flood level and return it to its original elevation after flood waters recede.



(b) Graphic: Silman

UNCONVENTIONAL ADAPTATIONS AND INNOVATIVE TECHNIQUES

There are a number of potential treatments in the developmental or experimental phase for adapting historic properties for flood risk. Some are in the prototype phase for retrofitting historic properties and are being tested for their performance and include:

- Hydraulic lift and anchoring systems to allow a building to remain at existing foundation height and be lifted above the flood risk level during a flooding event.
- Buoyant foundations with guideposts, also known as “amphibious architecture,” to allow a building to float. Buildings are retrofitted with buoyancy blocks, vertical guideposts, and a structural sub-frame.

Innovative large-scale site and landscape flood protection adaptations are also being undertaken at the community level to protect historic buildings, districts, landscapes, and entire neighborhoods. In addition to the treatments in the Site and Landscape Adaptations section, which are focused primarily on treatments that can be applied to a single historic site, large-scale flood protection infrastructure projects generally involve many stakeholders, require significant resources and funding, and include:

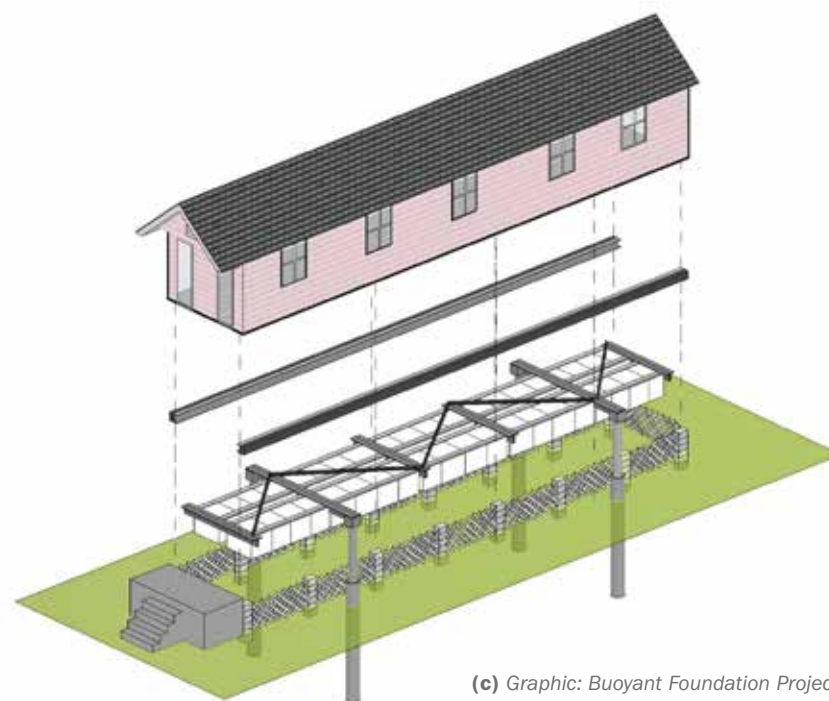
- Mechanized sea walls that can be constructed as large-scale protection. For example, the MOSE flood protection system in Venice, Italy, begun in 2003, is being constructed in phases.



(a) Photo: E. C. English, renders by the Buoyant Foundation Project



(b) Photo: E. C. English, renders by the Buoyant Foundation Project



(c) Graphic: Buoyant Foundation Project

[116] (a) Properties with smaller, symmetrical footprints such as these shotgun houses are potential candidates for exploring a “buoyant foundation” approach to flood mitigation. (b) A buoyant or amphibious foundation allows a building to float during a flood event. (c) This system consists of the following primary components: buoyancy blocks that are placed under the building to allow it to float; vertical guideposts that keep the building centered above the foundation as it floats and are aligned to reconnect it with the foundation; a structural frame that ties the system together; and utilities that can either seal and break away or have long connections that can uncoil.



(a) Photo: Courtesy of the City of Frederick: Department of Economic Development



(b) Photo: Courtesy of the City of Frederick: Department of Economic Development

[117] Frederick, MD, suffered severe flooding events and is among numerous communities exploring better ways to live with and manage, retain, and move water at a large community scale. This phased flood-control project improves an existing creek and surrounding public spaces. The creek's capacity to carry water is significantly increased via a system of underground conduits that move flood waters through the city at a more controlled rate. (a) This section drawing shows the four conduits with a city bus for scale. (b) Baker Park at the west end of the improvement area is designed to flood next to the choke point where water enters the conduits. (c) The creek improvements create a community gathering place downtown with events, art installations, and inviting paths to walk.



(c) Photo: Jennifer Wellock/NPS

- Re-engineered existing flood protection systems and reestablished natural systems that protect larger areas and landscapes. Flood protection in the modern era has primarily relied on hardened protective systems like dams and levees designed to keep water out of a particular area. There is a growing interest in reestablishing or redesigning natural water drainage systems and removing such hard-engineered solutions and replacing them with more soft-engineered flood protection strategies. Activities may include widening previously controlled river channels, reestablishing canals, and designing other large-scale water retention areas. Projects may also reestablish coastal barriers and riverbanks with ecological solutions like shellfish reefs, native plantings, and living shorelines that reduce erosion and buffer flood effects like waves, inundation, and tides.

As these technologies become more widely used, the potential benefits and consequences to historic properties will need to be evaluated.



(a) Brett Duke, NOLA.com | The Times-Picayune, 1/27/2018. The Times-Picayune/The Advocate



(b) Photo: Avery Island Archives

[118] Avery Island, LA, listed in the National Register of Historic Places and the historic home of Tabasco brand pepper sauce, has engaged in a program of reclaiming marshlands largely lost to manmade canal systems, erosion, and subsidence. By “canal plugging,” using marsh vegetation like cordgrass, the Island has been able to protect and reestablish marsh lands and create a more sustainable and protected shoreline.



(a) Map: Union County, PA, GIS Department



[120] If a property is demolished, carefully salvaging historic materials can help other historic properties undergoing rehabilitation and give a 'second life' to these otherwise lost materials.
Photo: Jenifer Eggleston/NPS



(b) Photo: Pennsylvania State Historic Preservation Office, September 26, 2018.

[119] Often "buyout zones" are identified in a community to purchase and remove properties to eliminate continued risk of flooding. (a) One such example is in Lewisburg, PA, where repetitive flooding events resulted in the creation of a "buyout zone" to demolish repeatedly damaged properties along a tributary to the West Branch Susquehanna River. (b) The use of the land after removal is restricted to permanent open space.

DEMOLITION

In this section demolition refers to the complete removal of a historic building and any related structures in order to clear a historic site within an established flood risk area. It is important to understand that **demolition is not a treatment that meets the Standards for Rehabilitation (or any of the Standards for the Treatment of Historic Properties.)**

This action may be incentivized where property buyouts have been identified as part of the community mitigation plan. In these and possibly other situations, a government agency may purchase a property and demolish the structure to eliminate continued property risk and allow for open space. In other cases, private property owners may choose to demolish an existing historic building in order to eliminate their flood risk, allowing them to rebuild in a more flood-resilient method or relocate.

The Standards were created to support the preservation of historic buildings. Demolition is never a recommended treatment. However, in making land-use and planning decisions for a community or neighborhood, there may be situations when it is necessary to identify sacrificial historic sites or structures. Demolition could be chosen to remove buildings most at risk, in order to provide space needed to undertake adaptive measures to protect other, more important historic buildings, or to allow for new structures designed to withstand water damage in future flood events. Such a decision should be made after research of the historic property or district has been completed, in order to fully understand the significance of the building(s) that would be lost and identify the risk reduction that would result.

Preservations Considerations

- Evaluating and considering all feasible alternatives before deciding to demolish any historic structure, such as adapting the property to flood risks, donating or selling the building, or moving it out of the established flood risk area.
- Documenting the building in photographs and/or graphics or 3-D scans prior to demolition.
- Ensuring that archeological resources are identified and protected prior to allowing heavy equipment into the area.
- Protecting neighboring properties from damage during demolition.
- Salvaging historic materials prior to demolition for reuse.



(a) Photo: Sean Clifford/NPS



(b) Photo: Sean Clifford/NPS

[121] This storm-battered historic cottage on the Gulf Coast displayed a clear statement to not demolish the building post-Hurricane Katrina. Many properties are lost to demolition after damaging storm and flooding events. Adapting these buildings to be more resilient to flood risks will help preserve and protect them from such loss.

CASE STUDY 1: DRY FLOODPROOFING A WISCONSIN MAIN STREET BUILDING DRIVER OPERA HOUSE, DARLINGTON, WISCONSIN



Figure 1: This 1993 flood was one of several events that led to the listing of the Main Street Historic District in the National Register. Photo: Lafayette County Historical Society

Darlington is a small town in Wisconsin with a population around 2,400 people located in the southwestern area of the state. The town developed on the banks of the Pecatonica River and has flooded frequently throughout its history.

A series of devastating floods in the early 1990s instigated several flood mitigation projects. These efforts led to recognition of the importance of the town's history by completing a nomination of the Main Street Historic District for listing in the National Register of Historic Places. The district was listed in 1994 and includes the Driver Opera House as "one of the most unusual buildings in Darlington."

The Driver Opera House was constructed in 1883 of Milwaukee Cream City brick with polychrome brick accents. It was designed with ground-floor commercial spaces and a multi-functional assembly space on the upper floor. Plays, concerts, dances, and other entertainment took place in the building until the 1950s.

A community organization was formed in 2007 to raise funds to operate and renovate the building. The first phase of the rehabilitation project was to protect the property from future flooding by dry floodproofing the building, and the second phase will focus on rehabilitating the upper-floor assembly space which retains a historic stage and various architectural features.

The dry floodproofing project included several elements to adequately strengthen and prepare the structure for future flooding. The crawlspace was filled and fitted with a drainage system that relieves some of the external pressures on foundation walls and redirects water that seeps through doors and floodgates. Utilities were relocated to a secondary space above the established flood risk level.

Existing masonry walls were repaired and reinforced from the interior by the addition of a new concrete slab and knee walls (shown in green in Figure 2.) The 18-inch slab not only provides additional strength but also acts as ballast and works with anchor ties to prevent the building from floating off its foundation.

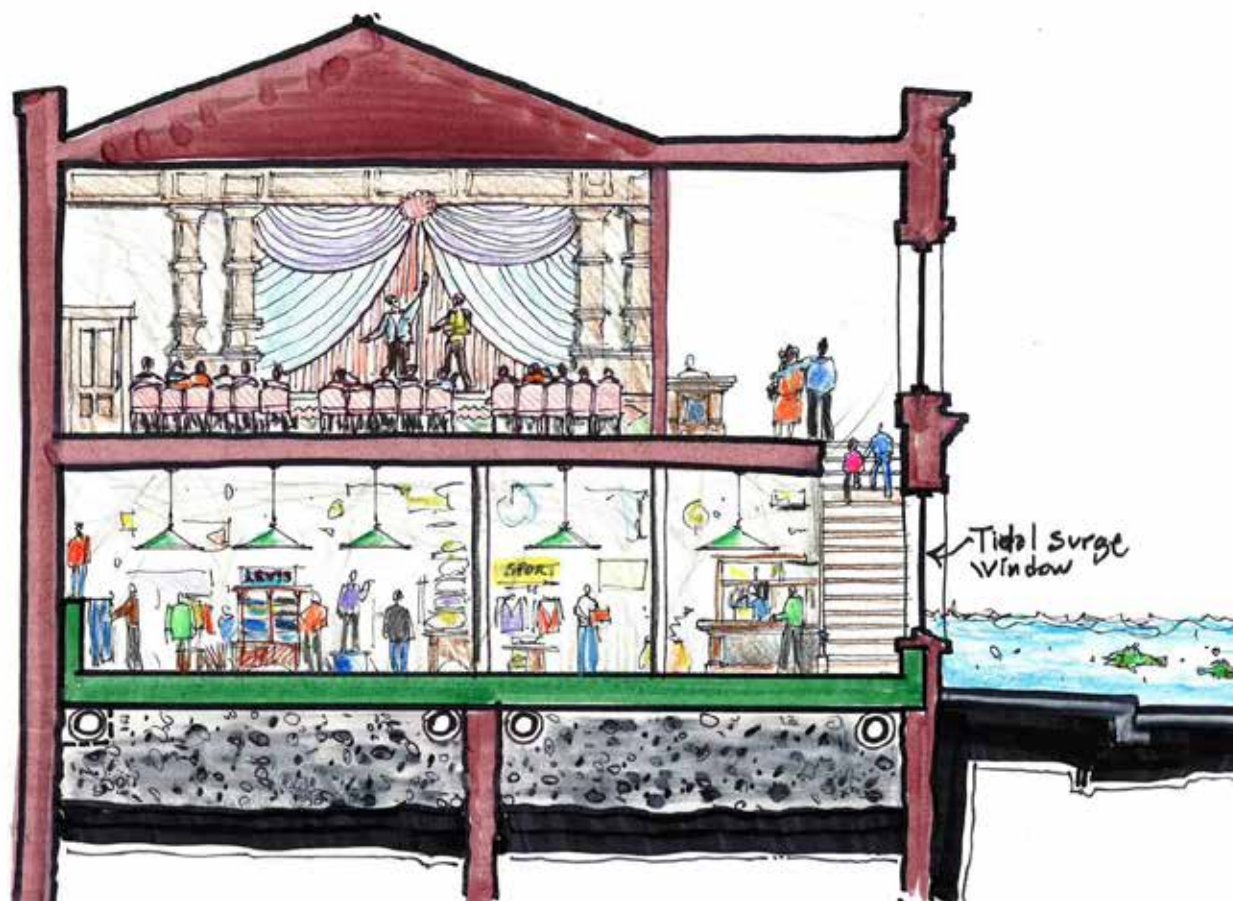


Figure 2: Concept drawing showing proposed alterations to the Driver Opera House for dry floodproofing. Ultimately the storefronts were protected by a two-stage barrier, as shown in Figure 4. Graphic: KONTEXT architects llc



Figure 3: The historic storefronts and brick bulkhead were extant before floodproofing work began on the Driver Opera House. Photo: KONTEXT architects llc

Above grade, the storefronts were largely reconstructed to repair and improve the historic design to be stronger and more flood resilient. The new waterproof barrier consists of a two-part system with a lower level of protection that aligns with the historic storefront sill, and a taller, code-compliant interior barrier is inset from the storefront by approximately 18 inches (see Figure 4). The shorter concrete knee wall provides stronger backup for flood-related impacts to the historic brick storefront bulkhead. Existing steel columns are anchored to the new concrete foundation and the second-floor structure. With the exception of the glass, the storefront framing and features are also anchored and engineered to resist flood-born debris impacts and hydrostatic forces. All of the materials to the exterior of the tallest flood barrier are waterproof and decay resistant.

The dry floodproofing measures were completed before Darlington flooded again in March 2019, an event described by local media as the worst flood since 1993. The architects of the project sought information about how the building performed.

“We are delighted to report that the Driver Opera House came through the floods with flying colors! The river reached 4” above the door thresholds on Main Street, and 5” above the door thresholds on Ann Street. All floodproofing systems worked exactly as designed – the floodgates seeped some water as expected, the trench drains inside the doors caught all of it, and the sump pump immediately sent it back out. No other water, and no messes to clean up – for the first time in living memory.” – Board of the Driver Opera House Center for the Arts ∞

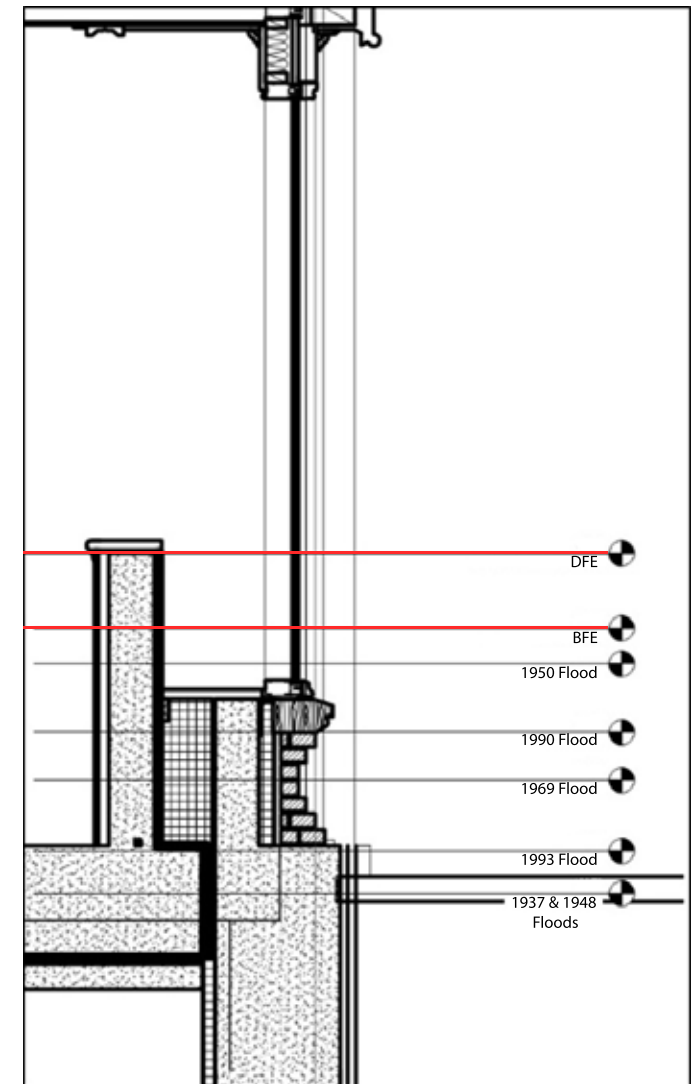


Figure 4: Section graphic of two-stage barrier at storefronts. Labels (from top to bottom) show the design flood elevation (DFE), base flood elevation (BFE), and various past flood events. Drawing: KONTEXT architects llc



Figure 5: Door jambs were designed with integral anchors for attaching removable floodgates. The anchors are visible but painted to blend in. Photo: Heidi Brenum



Figure 6: Exterior of the building after the dry floodproofing project is complete. The exterior steel storefront framing is a historic feature, painted green above the storefront and cream below after rehabilitation. Photo: Dave Kettering/Telegraph Herald



Figure 7: Floodproofing measures kept the water out of the Driver Opera House during a 2019 flood. Photo: Brian Mesmer

CASE STUDY 2: WET FLOODPROOFING A NEW JERSEY COTTAGE

METHODIST CAMP COTTAGE, OCEAN CITY, NEW JERSEY



Figure 1: View of the cottage from the street prior to Hurricane Sandy in 2012. No significant, visible exterior alterations were undertaken as part of the project to wet floodproof the house as part of the storm recovery. Photo: Mary Delaney Krugman, JD, MSHP

This cottage is one of twenty-two original “wooden tents” constructed as part of an 1885 Methodist camp meeting site. In the first decade of the twentieth century, these structures were sold and relocated to new sites including this cottage that was moved to its present location around 1905.

Wet floodproofing is generally most suitable for buildings or areas of buildings that are not occupied. Under some circumstances, property owners may decide that this strategy works well for an occupied structure such as this cottage that serves as a second home in Ocean City, NJ.

Mary Delaney Krugman, a professional historic preservation consultant, purchased the property in 2002 and began undertaking small projects to remove later alterations; uncover historic features and finishes; and address some flood resiliency needs. When Hurricane Sandy hit Ocean City in 2012, the deteriorated dining room floor had been replaced with a mahogany floor designed specifically to withstand flooding. A new addition had been constructed at the rear of the house and was elevated four feet above the main first-floor level to comply with floodplain requirements for new construction. The new addition contains all of the appliances and building systems for the house. These flood-resilient measures performed well during the storm that inundated the main level of the cottage with eighteen inches of flood water. The historic living and dining rooms that had neither been fully renovated nor elevated sustained considerable damage.

In the aftermath of Hurricane Sandy, layers of wall finishes were removed to allow the building to dry out and prevent mold growth. Most of the layers were non-historic later alterations susceptible to water absorption and mold growth. Very little material was salvageable.

Krugman had previously made the decision that elevating the historic cottage would not be the appropriate solution for the property. The relationship of the cottage to the landscape is a character-defining feature of the “wooden tent” that was important to preserve. Because she did not want to experience a similar post-flood clean-up and repair process in the future, Krugman decided to apply a wet floodproofing approach to her renovation and repairs.

The living room floor was structurally insufficient, and the entire house lacked anchoring between the frame structure and the foundation. A concrete structural slab was constructed under the living room. Hurricane ties were added to secure the frame house to the foundation, and the new living room floor was constructed to match the dining room floor that successfully survived Hurricane Sandy. The floor includes marine-grade materials and a gap between the subfloor and finish floor to allow air circulation and drying after a flood.

Walls were finished with flood-damage resistant cement wall board and closed cell insulation panels. A space was provided on the exterior wall for air circulation within the wall cavities. The baseboard and crown molding included slots and removable trim pieces to open the walls at the top and bottom, allowing air to circulate so as to dry out the wall cavities post-flood. The slots are filled with an insulating foam strip behind removable trim pieces. The foam insulation is removed immediately after a flood event.



Figure 2: In-progress repairs after Hurricane Sandy. Walls are open to the interior for initial drying. A new concrete structural slab has been topped with treated wood sleepers in preparation for a new flood-damage resistant mahogany floor. Photo: Mary Delaney Krugman, JD, MSHP

Krugman considered her furniture choices as she completed the project. Most contents can be relocated to the second story or elevated rear addition before a predicted flood event. However, large pieces of furniture like sofas are not easily relocated. To solve this problem, Krugman purchased lighter-weight furniture and devised a block-and-tackle system attached to hooks in the ceiling that allows the living-room sofas to be lifted above an inundation event.

All of these changes result in a property that maintains the historic character and features of interior spaces and can perform well during the next flood. Clean-up will be necessary, but there should be relatively few significant repairs required before the home is functional again. ♪



Figure 3: Instead of solid wall material, an open lattice was installed under the stair to vent an otherwise inaccessible space. Photo: Mary Delaney Krugman, JD, MSHP



Figure 4: Crown molding covers an opening at the top of walls to allow air to circulate and dry wall cavities after a flood, seen here before the sacrificial insulating foam strip has been applied. Photo: Mary Delaney Krugman, JD, MSHP



Figure 5: Mahogany wood floor and baseboard with a gap at the base for future venting. Foam insulation strip fills the gap and will be covered with removable trim. Photo: Mary Delaney Krugman, JD, MSHP



Figure 6: The living room before Hurricane Sandy included non-historic wall and floor finishes. Windows and doors were also non-historic and made of materials that absorbed floodwater, warped, and/or could not easily be cleaned. Photo: Mary Delaney Krugman, JD, MSHP



Figure 7: After repairs and wet floodproofing measures have been implemented, the new floor and wall surfaces are flood-damage resistant. The front door and windows were also replaced with more compatible designs using flood-damage resistant materials Photo: Mary Delaney Krugman, JD, MSHP



Figure 8: A pulley system lifts heavy or bulky furniture above predicted flood waters. All other contents can be moved to upper levels of the house. Photo: Mary Delaney Krugman, JD, MSHP

CASE STUDY 3: ELEVATING A HOUSE ON THE MISSISSIPPI GULF COAST

HONOR-ATTAYA COTTAGE, OCEAN SPRINGS, MISSISSIPPI



Figure 1: A Queen Anne house (center) on its original site facing Biloxi Bay before 1918. Photo: Robert and Willene Dunnaway Friar/Courtesy of Ocean Springs Archives

Elevating a building is one of the most common choices for flood adaptation, particularly for single-family residences in flood-prone areas. In coastal regions subject to hurricanes and tropical storms, elevating buildings is often a traditional method to adapt them to withstand such events.

This one-story Queen Anne-style cottage (See Figure 1) was constructed circa 1890 on a lot facing Biloxi Bay in Ocean Springs, Mississippi. With little natural protection from hurricanes, the original builders constructed the house and its neighbor on tall, open-pier foundations with lattice screening between the piers. The houses were also sited on the top of a small rise in an attempt to keep the

interiors above any potential storm surge. Constructing houses on such tall foundations was historically—and remains—common practice in the Gulf Coast region. By 1918 both houses had been moved to make way for the construction of a larger house on the beach-front lot. The Queen Anne house was relocated a short distance to a new, and slightly higher, site on the same block, approximately 500 feet farther from the bay. Comparing photographs (See Figures 1 and 2), the foundation constructed at the new site appears to have been shorter in height than the original.

In the 1980s the house was listed as a contributing resource within the Old Ocean Springs Historic District. It was

severely damaged in 2005 by Hurricane Katrina which caused massive damage to many properties along the Gulf Coast. The storm completely destroyed and washed away the L-shaped front porch, part of the roof was stripped away, and the pier foundation was swept out from under the house. When the storm surge receded, the house was left sitting directly on the ground.

As part of the hurricane recovery efforts and to increase future storm resiliency, the owners made the decision to repair the house and elevate it more than its pre-Katrina

height so that the first floor is above the established flood risk level. This approach followed the historic traditions of both the house and the local community practice in response to flooding. Every effort was made to match the historic details of the foundation by using reinforced, square-brick piers with painted latic screening between the piers and building up the ground level around the piers. The stairs access the porch in the historic location, but the new extended run necessitated by the increase in height is turned at a 90-degree angle below the landing, allowing a surviving tree to remain in front of the house. ♪



Figure 2: View from the street in 2001 before Hurricane Katrina. Credit: Ray Bellande/Ocean Springs Archives



Figure 3: Hurricane Katrina destroyed the wrap-around front porch and knocked the house off the pier foundation. This photo was taken after the site had been cleared and windows and doors were temporarily boarded. Photo: Mississippi Department of Archives and History, Mississippi Historic Resources Inventory (HRI) Database. <http://www.apps.mdah.ms.gov/Public>



Figure 4: This photo of the hurricane damage shows that part of the roof was stripped away, and debris littered the site around the house. Photo: Mississippi Department of Archives and History, Mississippi Historic Resources Inventory (HRI) Database. <http://www.apps.mdah.ms.gov/Public>



Figure 5: A taller foundation was constructed to elevate the house above the established flood risk level. While the house is higher than it was historically, the change is still in keeping with the historic character of the house, which had been on a tall foundation historically. The change is also consistent with historic regional traditions of adapting buildings to flood events. Additionally, the details of the foundation, with the brick piers and painted lattice, matches features of the historic design. The stairs access the porch in the historic location, but the extended run required by the taller foundation is turned 90 degrees below the landing to allow a surviving tree to remain in front of the house. A small retaining wall behind the tree holds fill that was added around the house to mask some of the change in height. Photo: Mississippi Department of Archives and History, Mississippi Historic Resources Inventory (HRI) Database. <http://www.apps.mdah.ms.gov/Public>

CASE STUDY 4: COMBINED FLOOD ADAPTATIONS TO PROTECT A RHODE ISLAND LIVERY

LANPHEAR'S STABLE, WATCH HILL, RHODE ISLAND



Figure 1: Historic view of Lanphear's Stable. Photo: Courtesy of The Watch Hill Preservation Society



Figure 2: Aerial view showing the proximity of the bay to the historic livery, marked by the arrow. Photo: Mott & Chace Sotheby's International Realty

The oldest part of Lanphear's Stable, also known as Holdredge's Garage, was constructed circa 1885 in the village of Watch Hill, RI. The building housed a livery that catered to the needs of summer travelers visiting local hotels and resorts. By 1910 the building was enlarged to include additional stable and barn space, as well as an apartment for the owner and boarding house rooms for chauffeurs and grooms on upper levels. It is a contributing building within the Watch Hill Historic District listed in the National Register of Historic Places.

The former livery is sited on low ground in close proximity to Watch Hill Cove, and flooding is a significant concern. A rehabilitation project began in 2014 to address the flood risks and adapt the building into a mixed-use retail, office, and residential property. The established flood risk level for this property at the time of the project was approximately eight to nine feet above the existing grade.

A significant character-defining feature of the livery is the relationship between the building and the site. While the project team determined that elevating the building completely out of the flood risk was possible, it would alter that important relationship.

Instead, the building was lifted two feet above grade to provide some measure of flood protection while maintaining the historic character of the property and easy pedestrian access to the new retail spaces on the lowest level.

Elevating this 7,000-square-foot building was complicated, even though the frame structure is relatively lightweight and easy to separate from the existing stone foundation. Existing interior and exterior finishes were removed prior to work beginning. Historic materials were marked and stored for future reinstallation. With the structural components exposed, the building was stabilized and divided into five separate sections. Each section was lifted independently to a temporary height of eight feet above the ground.

This provided access underneath the building to construct a new foundation of helical piers supporting a reinforced concrete slab with spread footings.



Figure 3: The structure was lifted in sections several feet in the air to provide space and access for foundation work. Photo: GNCB Consulting Engineers

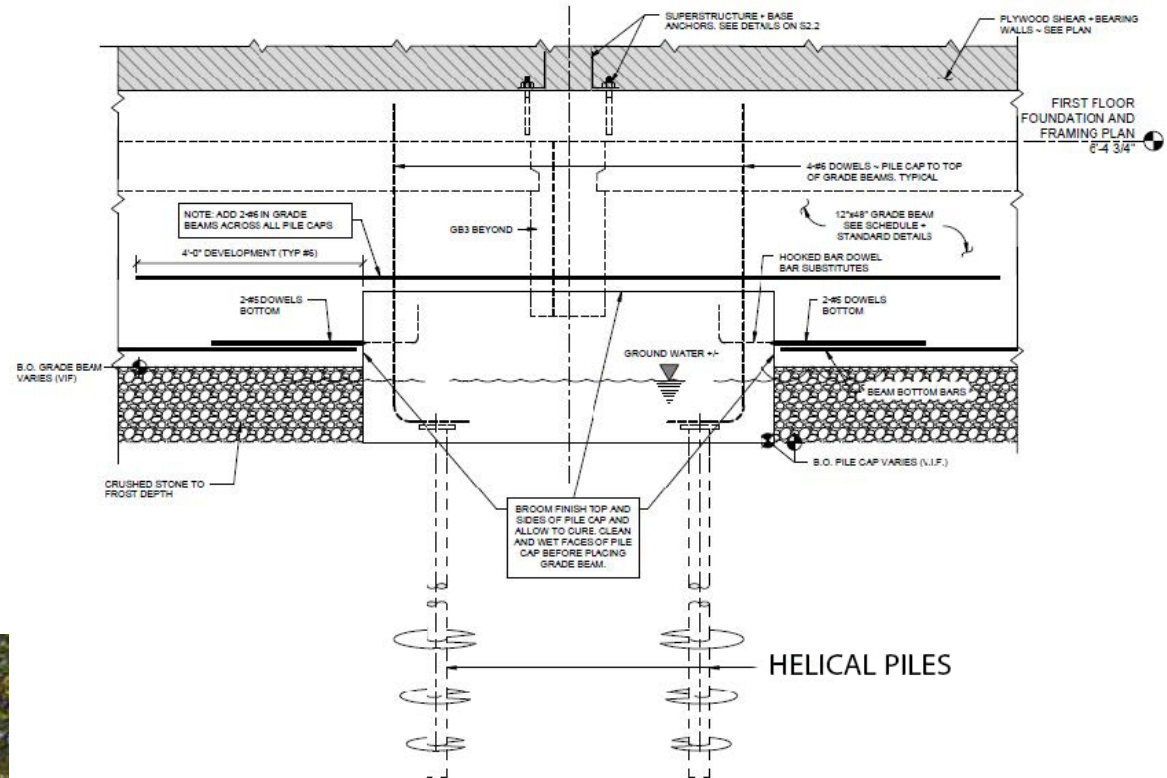


Figure 4: Cross section of the new foundation showing helical piers below spread footings and a reinforced concrete slab. Drawing: GNCB Consulting Engineers

Since elevating the building did not eliminate the flood risk to the first level of the building, the lowest level was wet floodproofed. This treatment included strengthening the ground-floor structural frame, installing engineered flood vents, and using flood-damage resistant materials at the floors and walls of interior spaces. The condition of the building before the project began required a substantial amount of replacement materials for deteriorated features and finishes. Almost all materials were replaced in kind with durable marine-grade wood.

Utilities and equipment were relocated to a new elevated mechanical room created in the back of the upper floor that required new exterior louvers for adequate ventilation.

By selecting a combination of flood adaptation treatments—elevating the building, wet floodproofing, and elevating utilities—the project team was able to preserve the historic character and features of Lanphear’s Stable while making the building more resilient to future floods. ♡



Figure 5: View of the building after the floodproofing and rehabilitation project was complete. The historic barn doors and many historic windows were preserved. Damaged or missing shingle siding was replaced in kind. The foundation is now two feet taller than it was at the start of the project. Wet floodproofing of the first floor provides additional resiliency and protection for floods that exceed the new elevation height. Photo: Pariseault Builders



Figure 6: The mechanical room was relocated to the upper floor at the back of the building, discernible in this photo by the louvered vents. Photo: Jennifer Wellock/NPS



Figure 7: As part of wet floodproofing the building, engineered vents near the bottom of exterior walls are designed to allow water to flow in and out of the building during a flood. This allows water pressure to equalize on both sides of the wall and reduce stress to the structural system. Photo: Jennifer Wellock/NPS



U.S. Department of the Interior
National Park Service
Technical Preservation Services

**HISTORIC PRESERVATION BOARD MEETING
CITY OF ST. PETE BEACH
COMMISSION CHAMBERS**

Agenda Report

Action Request: N/A - For discussion purposes.

Strategic Objective:

Date: May 2, 2024

Prepared By: Lynn Rosetti, Consultant

Through: Jennifer McMahon, Chief Operating Officer

Summary of Issue: Updates on current and pending historic survey grants.

Funding:

Attachments:

**HISTORIC PRESERVATION BOARD MEETING
CITY OF ST. PETE BEACH
COMMISSION CHAMBERS**

Agenda Report

Action Request: None - for discussion purposes.

Strategic Objective:

Date: May 2, 2024

Prepared By: Brandon Berry, Senior Planner

Through: Jennifer McMahon, Chief Operating Officer

Summary of Issue: Staff requests input from the Historic Preservation Board regarding whether reconstruction of a detached accessory dwelling on existing and maintained commercial parcels along Eighth Avenue meets the intent of "Residential uses as a component of a vertically mixed-use development", as permitted in the CRD-EA. This would be in lieu of constructing dwelling units on the upper floor(s) of a commercial structure, which may more explicitly meet the requirement.

Funding: N/A

Attachments:

**HISTORIC PRESERVATION BOARD MEETING
CITY OF ST. PETE BEACH
COMMISSION CHAMBERS**

Agenda Report

Action Request: None - for informational purposes.

Strategic Objective:

Date: May 2, 2024

Prepared By: Brandon Berry, Senior Planner

Through: Jennifer McMahon, Chief Operating Officer

Summary of Issue: This item provides context for the exclusion of the commercial properties east of Pass-A-Grille Way between 19th and 21st Aves when the current zoning map was adopted in 2003.

Funding: N/A

Attachments:

1. Ord 2003-08 (PAG Overlay Only)
2. 05-01-03 City Commission Meeting Minutes

ORDINANCE NO 2003-8

AN ORDINANCE OF THE CITY OF ST. PETE BEACH, PINELLAS COUNTY, FLORIDA, ADOPTING A NEW OFFICIAL ZONING MAP; CHANGING THE ZONING DESIGNATION OF ALL PROPERTIES WITHIN THE CITY; AND PROVIDING AN EFFECTIVE DATE.

THE CITY COMMISSION OF THE CITY OF ST. PETE BEACH, PINELLAS COUNTY, FLORIDA DOES ORDAIN:

Section One (1). The names of the zoning districts on the Official Zoning Map are hereby changed as follows:

From:	To:
R1-70 Single family Residential	RU-1 Residential
R1-60 Single family Residential	
R1-50 Single family Residential (part)	RU-2 Residential
R-2 One and Two-family Residential	
R1-50 Single family Residential (part)	RLM-1 Residential
R-3 Multiple family (low rise) Residential	RM Residential
R-3A Multiple family (low rise) Residential	RLM-2 Residential
R-3B Tourist Residential	RFO Resort Facilities Overlay
RO-1 Residential/Office-One	
RO-2 Residential/Office-Two	ROR Residential/Office/Retail
ROR Residential/Office/Retail	
C-1 Neighborhood Commercial	
C-2 Tourist Residential	RFM Resort Facilities Medium
C-2A Tourist Commercial	
C-3 General Commercial	CG-1 Commercial
	CG-2 Commercial

Section Two (2). The following new districts have added:

INS Institutional

R/OS Recreation/Open Space

TU Transportation/Utility

RFO Resort Facilities Overlay

PAG Pass-a-Grille Overlay

Section Three (3). The Official Zoning Map of the City of St. Pete Beach, as amended above, is attached to this ordinance and is hereby adopted. Any ordinance in conflict with the provisions of this ordinance is hereby repealed.

Section Four (4). That this ordinance shall take effect on June 1, 2003.

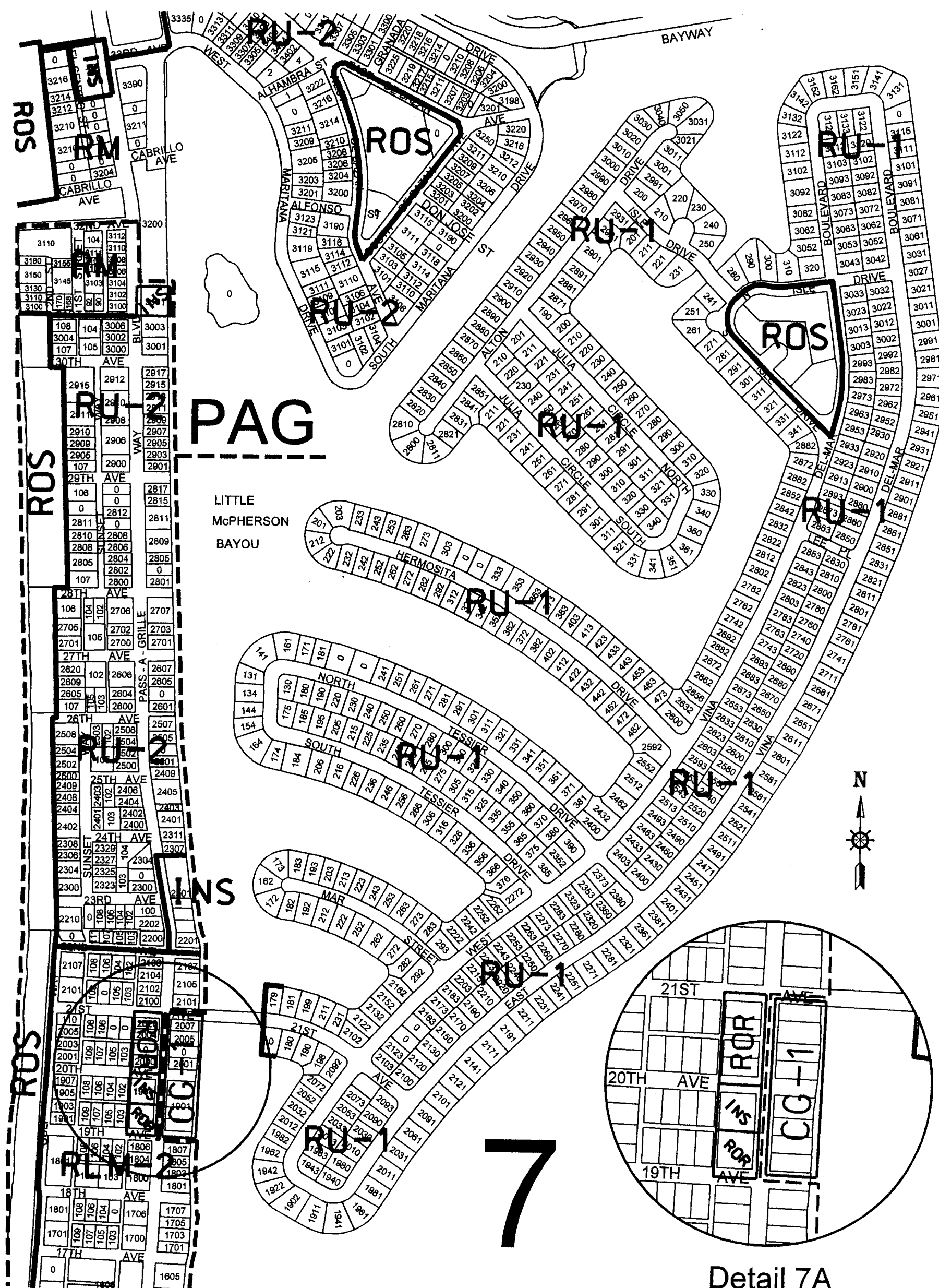
Passed on First Reading April 15, 2003

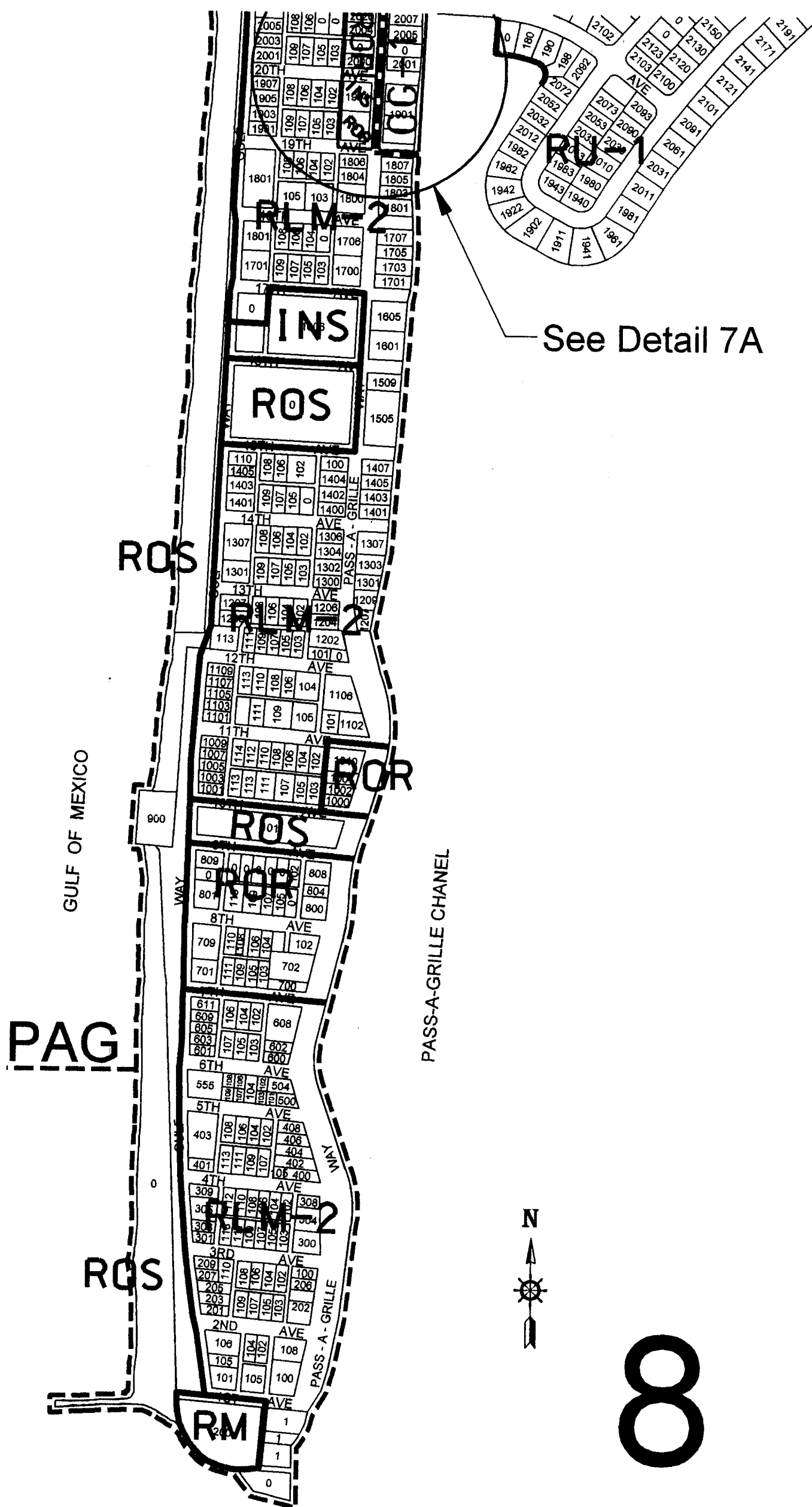
Passed on Final Reading May 1, 2003

ATTEST

Theresa McMaster
Theresa McMaster, City Clerk

Ward Friszolowski
Ward Friszolowski, Mayor





- B. ORDINANCE NO. 2003-09, FINAL READING AND PUBLIC HEARING, AN ORDINANCE OF THE CITY OF ST. PETE BEACH, PINELLAS COUNTY, FLORIDA AMENDED THE CODE OF ORDINANCES, CHAPTER 22 – BOARDS, COMMITTEES, ETC. BY ADDING ARTICLE X, SISTER CITY COMMITTEE; PROVIDING FOR THE CREATION OF THE SISTER CITY COMMITTEE; PROVIDING FOR THE NUMBER OF MEMBERS; PROVIDING FOR APPOINTMENT; PROVIDING FOR THE TERM OF OFFICE; PROVIDING FOR THE ELECTION OF CHAIRMEN, OFFICERS, AND CONDUCT OF MEETING; PROVIDING FOR REMOVAL FROM OFFICE; PROVIDING FOR THE POWERS AND DUTIES OF THE COMMITTEE; AND PROVIDING AN EFFECTIVE DATE.
- C. AUTHORIZATION FOR THE CITY MANAGER TO ENTER INTO A CONTRACT IN THE AMOUNT OF \$22,900.00 WITH SEAWAY MARINE, INC., TO CONSTRUCT THE REVISED UPHAM BEACH PROJECT

A motion was made by Commissioner Christman to approve the Consent Agenda by reading its title in its entirety. The motion was seconded by Vice Mayor Kreider and approved by a unanimous roll call vote.

- 3. ORDINANCE NO. 2003-07, FINAL READING AND PUBLIC HEARING, AN ORDINANCE OF THE CITY OF ST. PETE BEACH, PINELLAS COUNTY, FLORIDA PROVIDING FOR THE REPEAL OF CHAPTERS 126 AND 134 OF THE CODE OF ORDINANCES; ARTICLE III, COASTAL CONSTRUCTION AND EXCAVATION AND SECTIONS 98-96 THROUGH 98-98 OF ARTICLE IV, SEAWALLS, BULKHEADS AND RETAINING WALLS OF CHAPTER 98 OF THE CODE OF ORDINANCES; ARTICLE II, DEVELOPMENT, MAINTENANCE AND PRESERVATION OF DUNES OF CHAPTER 114 OF THE CODE OF ORDINANCES; ARTICLE II, TREES OF CHAPTER 130 OF THE CODE OF ORDINANCES; AND ANY OTHER CHAPTER, ARTICLE OR SECTION OF THE CODE IN CONFLICT WITH THE LAND DEVELOPMENT CODE HEREINAFTER ADOPTED; AND PROVIDING FOR THE ADOPTION OF THE LAND DEVELOPMENT CODE, WHICH PROVIDES THE FOLLOWING: DIVISION 1, INTRODUCTION; DIVISION 2, DEFINITIONS; DIVISION 3, ADMINISTRATION OF THE LAND DEVELOPMENT CODE; DIVISION 4, CONDITIONAL USE PERMITS; DIVISION 5, SITE PLAN APPROVAL PROCEDURES; DIVISION 6, SUPPLEMENTAL REGULATIONS; DIVISION 7, INTRODUCTION TO DISTRICT REGULATIONS; DIVISION 8, RU-1 RESIDENTIAL DISTRICT; DIVISION 9, RU-2 RESIDENTIAL DISTRICT; DIVISION 10, RLM-1 RESIDENTIAL DISTRICT; DIVISION 11, RLM-2 RESIDENTIAL DISTRICT; DIVISION 12, RM RESIDENTIAL DISTRICT; DIVISION 13, ROR RESIDENTIAL/OFFICE/RETAIL DISTRICT; DIVISION 14, RFM RESORT FACILITIES MEDIUM DISTRICT; DIVISION 15, CG-1 COMMERCIAL DISTRICT; DIVISION 16, CG-2 COMMERCIAL DISTRICT; DIVISION 17, INS INSTITUTIONAL DISTRICT; DIVISION 18, R/OS RECREATION/OPEN SPACE DISTRICT; DIVISION 19, TU TRANSPORTATION/UTILITY DISTRICT; DIVISION 20, PAG PASS-A-GRILLE OVERLAY DISTRICT; DISTRICT 21, RFO RESORT FACILITIES OVERLAY DISTRICT; DISTRICT 22, LANDSCAPING AND TREE PROTECTION; DIVISION 23, OFF-STREET PARKING AND LOADING; DIVISION 24, SUBDIVISIONS; DIVISION 25, COASTAL PROTECTION AND CONSERVATION; AND PROVIDING AN EFFECTIVE DATE.

A motion was made by Commissioner Blank to approve, on Final Reading, Ordinance No. 2003-07 by reading its title in its entirety. The motion was seconded by Commissioner Nicklaus.

Vice Mayor Kreider questioned the proposed ROR district between 10th and 7th Avenues and asked whether building heights would be changed. Jerry Speece, Senior Planner, replied that this district was currently zoned C-1, which has a 35 foot height limit and, under the new Code, it would be zoned ROR and in the Pass-a-Grille Overlay District, which also has a 35 foot height limit, so there would be no change in height. He noted that the only area in Pass-a-Grille with a 50 foot height limit were the two blocks on the east side of Pass-a-Grille Way between 19th and 21st Avenues currently zoned C-3. He stated that the proposed zoning was CG-1, which also had a 50 foot height limit, and that their recommendation was that these two half blocks not be included in the Overlay District.

Mr. Bonfield addressed several minor changes regarding the grandfathering of non-conforming density, noting that in Division 3 pages 34 and 35, the proposed LDRS had been clarified to state that "substantial improvement" would trigger conformity with the density requirements of the Code. He also noted that the definition of "substantial damage or improvement" in Division 2 pages 23 and 24 had been changed to match the definition used by Building Services and FEMA.

Commissioner Blank noted that there would probably be more changes after the Master Plan was completed, so that any other "glitches" they may find could be easily rectified. Both Mayor Friszolowski and Vice Mayor Kreider agreed.

Mayor Friszolowski then called for audience comments.

Rick Falkenstein, 6441 4th Palm Point, stated that he just wanted to ensure that all current conditional uses and special exceptions were included in the new ROR district in Pass-a-Grille.

Judy Kelly, 362 – 44th Avenue, asked if there would be any reconsideration of increased density in Belle Vista. Mayor Friszolowski replied that the single-family residential neighborhoods such as Belle Vista would not be addressed by the master plan, so density would not be changed.

Ruth Ledner, 1205 Gulf Way, asked what "overlay" meant. Mr. Speece replied that an overlay district was a district that "overlays" the underlying districts and had special regulations that would supersede those of the underlying districts.

The motion on the floor was then approved by a unanimous roll call vote.

4. **ORDINANCE NO. 2003-08, FINAL READING AND PUBLIC HEARING, AN ORDINANCE OF THE CITY OF ST. PETE BEACH, PINELLAS COUNTY, ADOPTING A NEW OFFICIAL ZONING MAP; CHANGING THE ZONING DESIGNATION OF ALL PROPERTIES WITHIN THE CITY; AND PROVIDING AN EFFECTIVE DATE.**

A motion was made by Commissioner Nicklaus to approve, on Final Reading, Ordinance No. 2003-08 by reading its title in its entirety. The motion was seconded by Vice Mayor Kreider.

Mr. Speece cautioned the Commission not to forget the amendment to the Map for the two block area discussed during Agenda Item 3. Mr. Devito asked Mr. Speece to provide a precise description to the City Clerk.

The motion was amended by both Commissioner Nicklaus and Vice Mayor Kreider to incorporate the recommended changes to the new official Zoning Map, effective May 15, 2003. The amended motion was approved by a unanimous roll call vote.

5. AWARD OF CONTRACT TO ABSOLUTE LINE TECHNOLOGY TO CLEAN, TELEWISE AND SEAL 8 INCH SANITARY SEWER MAINS

A motion was made by Vice Mayor Kreider that the City Commission authorize the City Manager to sign a contract with Absolute Line Technologies, based on the contract with the City of Belleair Beach, to clean, televise and seal 8 inch sewer main lines in an amount not to exceed \$70,000. The motion was seconded by Commissioner Nicklaus and approved by a unanimous voice vote.

6. AWARD OF CONTRACT TO COMMUNICATIONS SYSTEMS MANAGEMENT FOR TELEPHONE SYSTEM FOR CITY HALL

Mr. Bonfield stated that the old telephone system was moved to the new City Hall last year, but that it was now eight years old and had become outdated and costly to maintain. He stated that Steve Gallaher and Lou Dellalonga had reviewed many replacement options and were recommending waiving the bid procedure and purchasing a system through Communications Systems Management, which would cost less than a similar system through the Government Services Administration. Mr. Bonfield noted that monies were in the budget to purchase this new telephone system and that he recommended its purchase.

Commissioner Blank asked Mr. Gallaher if there would still be a front desk person answering the phone with this new system. Mr. Gallaher responded that a "real person" would continue to answer the main number. He also noted that the proposed new system would pay for itself in maintenance cost savings over the next three years and that this system would serve all City departments except Fire Station 22.

A motion was made by Commissioner Blank that the bid requirements be waived and that the City Manager to authorized to enter into an agreement with Communications Systems Management for a new phone system for City Hall in an amount not to exceed \$53,869.00. The motion was seconded by Vice Mayor Kreider and approved by a unanimous voice vote

7. DISCUSSION OF VACATING RIGHT-OF-WAY ON GULF WAY BETWEEN 12TH AND 21ST AVENUES

Mr. Bonfield noted that it came to the City's attention about a year ago that the original plat of properties fronting Gulf Way between 12th and 21st Avenues showed a depth of 100.9 feet but the measured distance was actually 120 feet. He referenced copies of surveys, which were provided to the Commission on various properties between 12th and 21st Avenues, which showed two lines on the Gulf Way side – one being the ownership line and the other being a survey-for-use line. He noted that this 20 foot strip was public

**HISTORIC PRESERVATION BOARD MEETING
CITY OF ST. PETE BEACH
COMMISSION CHAMBERS**

Agenda Report

Action Request: None - for informational purposes.

Strategic Objective:

Date: May 2, 2024

Prepared By: Brandon Berry, Senior Planner

Through: Jennifer McMahon, Chief Operating Officer

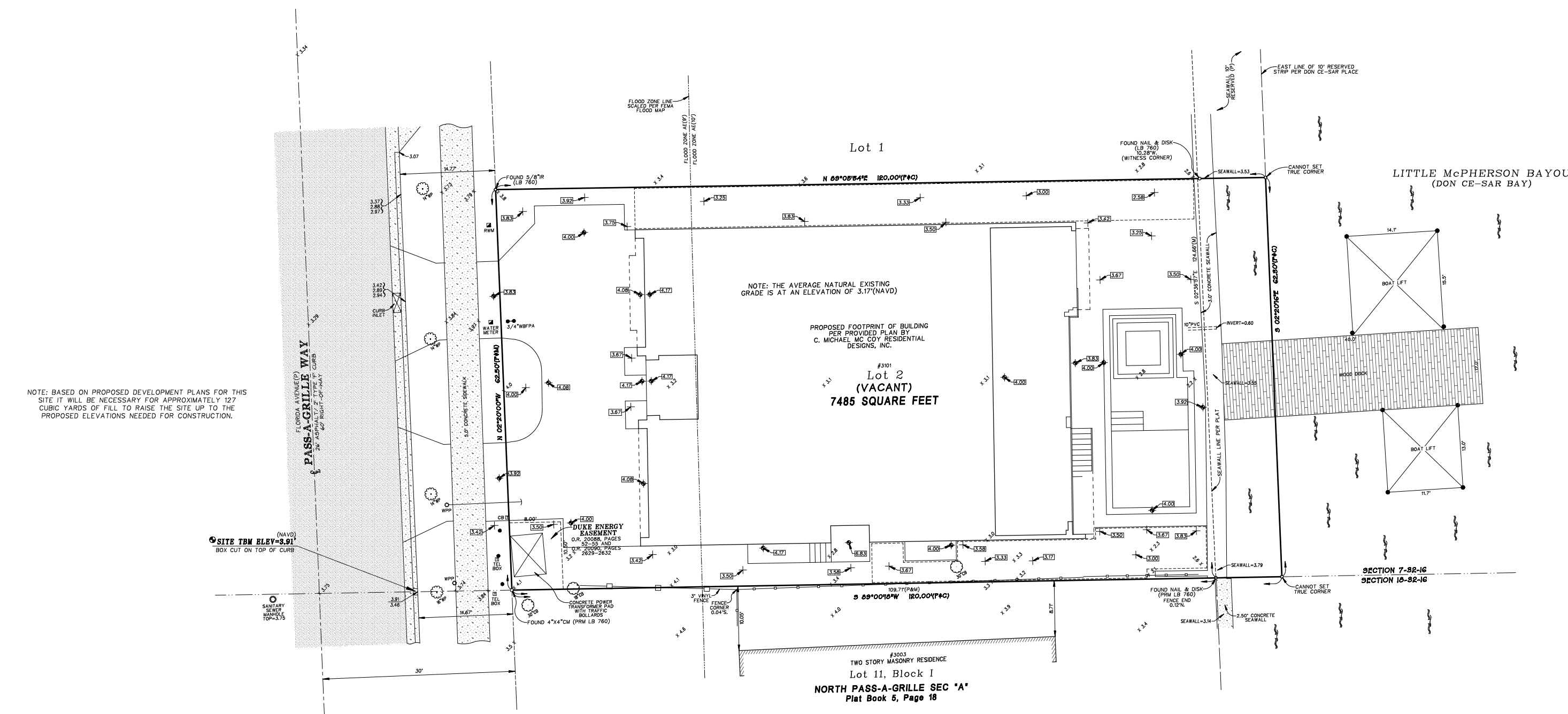
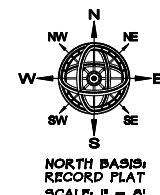
Summary of Issue: Providing, for informational purposes, new home plans for 3101 and 3105 Pass-A-Grille Way. These properties underwent rezoning and subdivision in 2018 through 2020 and are located in the RM Residential District outside of the Pass-A-Grille Overlay District, but are located south of 32nd Ave.

Funding: N/A

Attachments:

1. 3101 Pass-a-Grille Way Home Plans
2. 3105 Pass-a-Grille Way Home Plans

LEGAL DESCRIPTION:
LOT 2, JOHN HORRELL, ACCORDING TO THE MAP OR PLAT THEREOF AS RECORDED IN PLAT BOOK 145, PAGES 77 AND 78 OF THE PUBLIC RECORDS OF PINELLAS COUNTY, FLORIDA.



ABBREVIATIONS:
 C = CENTERLINE
 CAL = CALCULATED
 CB = CONVENTIONAL FREE
 CL = CLEARING
 CONC = CONCRETE
 CP = CASCADILLA PALM TREE
 CR = CREEK
 ELEV = ELEVATION
 IDENT = IDENTIFICATION
 IS = IRISH ROSS
 LB = LICENSED BUSINESS
 M = MEASURED
 OR = OFFICIAL RECORDS
 PL = PLAT
 PC = PERCENT OF CURVATURE
 (PCT) = PLAT AND CALCULATED
 PERM = PERMANENT
 PWS = PERMANENT WETLAND MONITORING
 RAW = RECYCLED WATER METER (S)
 S = SEA GRAPES
 TEM = TEMPORARY BENCHMARK
 TSP = TROPICAL PALM TREE

NOTE:

This survey was prepared without the benefit of a title search and is subject to all easements, rights-of-way and other matters of record.

Survey not valid without the signature and the original raised seal of a Florida Licensed Surveyor and Mapper.

This survey is made for the exclusive use of the current owners of the property and also those who purchase, mortgage or guarantee the title thereto within one (1) year from latest date shown hereon.

CERTIFICATION

I hereby certify that the information presented hereon meets the requirements of Chapter 150, Administrative Code.

JOHN C. BRENDLA AND ASSOCIATES, INC.
Professional Land Surveyors and Mappers

**BOUNDARY AND TOPOGRAPHIC
SURVEY WITH TREES**
#3101 PASS-A-GRILLE WAY
ST. PETE. BEACH, FL

4015 82nd Avenue North
Pinellas Park, Florida 33781
Telephone (727) 576-7546
Facsimile (727) 577-9932

[illegible]

FB: 979 PG: 44
FB: 936 PG: 17
Job Number: 1608-72-2
Survey Date: 9/05/16
Drawn: DS

Sheet Index		
Sheet Groupings	Sheet #	Description
General Drawings		
	G-1	Index, Survey & Notes
	G-2	Specs, Notes & Zoning
Civil Drawings		
	C-1	Drainage Plan, Site Plan & Details
Architectural Plans		
	A-1.1	First Floor Plan & Schedules
	A-1.2	Second Floor Plan & Schedules
	A-1.3	Third Floor Plan & Schedules
	A-1.4	Roof Attic Plan, Roof Plan & Schedule
Exterior Elevations		
	A-2.1	West Elevation (front)
	A-2.2	North Elevation (left side)
	A-2.3	East Elevation (rear)
	A-2.4	South Elevation (right side)
	A-2.5	Perspective Views
Sections		
	A-3.1	Building Sections (1-4)
	A-3.2	Building Sections (5-8)
Details		
	A-4.1	Details
Electrical Plans		
	E-1.1	First & Second Floor Electrical
	E-1.2	Third & Attic Floor Electrical

Mamdouh R Elkhoully

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY MAMDOUH R. ELKHOULY, P.E., ON THE DATE ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED, AND THE SIGNATURE MUST BE VERIFIED ON ALL ELECTRONIC COPIES.

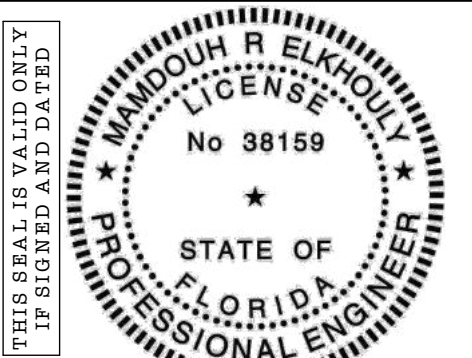


C. Michael McCoy
Residential Designs, Inc.
Post Office Box 1305
Crystal Beach, Florida 34681
(phone) 727.492.2683
www.mccoyresidentialdesigns.com

STRUCTURAL ENGINEER OF RECORD

KOLY INTERNATIONAL, INC.
760 4th AVENUE SOUTH
ST. PETERSBURG, FL 33701
TELEPHONE: (727) 898-2270
M.R. ELKHOULY, P.E. #38159
CERTIFICATE # CA-0004704

THIS SEAL IS VALID ONLY
IF SIGNED AND DATED



THIS DRAWING IS ISSUED FOR CONSTRUCTION AFTER
BEING REVIEWED BY THE ENGINEER OF RECORD TO
ENSURE COMPLIANCE WITH KOLY INTERNATIONAL, INC
STRUCTURAL DRAWINGS AND FEMA REGULATIONS

The Chamberlin Residence

Custom Waterfront Residence

PROJECT LOCATION:

MUNICIPALITY: City of St. Pete Beach

CONTRACTOR: Tom Pici & Son Builders, Inc.

ADDRESS: 7211 1st Ave. S, St. Petersburg, FL

PLAN REVISION LOG

[illegible]

DATE: OCTOBER 18, 2023

PROJECT NO: 23-01

DRAWN BY: CMM

SCALE:

BID ISSUE DATE: 00/00/00

PERMIT ISSUE DATE: 00/00/00

CONSTRUCTION ISSUE DATE: 00/00/00

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SHEET TITLE

Index, Survey & Notes

G~1

SHEET 1

OF 17

REFER TO STRUCTURAL DRAWINGS
FOR DESIGNATIONS & DETAILS OF
ALL SHOWN LOAD BEARING WALLS,
POINTS, COLUMNS & BEAMS

Florida Product Approval Schedule

Final selections to be selected by Owner

Category/Subcategory	Manufacturer	Product Description	Approval No.
1. EXTERIOR DOORS [see plans & schedules for door types]			
A. SWINGING FRENCH	MARVIN	COASTLINE	FL33689, FL34006
	P.G.T. INDUSTRIES	WINGUARD	FL253
	ANDERSEN	400 SERIES STORMWATCH	FL14285.2
B. ENTRANCE DOOR	MARVIN	COASTLINE	FL34006, FL34008
C. MULTI-SLIDE (SLIDING GLASS)	MARVIN	COASTLINE	FL33565
	P.G.T. INDUSTRIES	WINGUARD	FL251
	EURO-WALL	EURO VISTA	FL34003
D. GLIDING PATIO (SLIDING GLASS)	MARVIN	ULTIMATE	FL37163
	ANDERSEN	400 SERIES STORMWATCH	FL14429.7
F. GARAGE SECTIONAL	MARVIN	COASTLINE	FL33694
	OVERHEAD DOOR	THERMACORE-WINDSTORM	FL32170
	CLOPAY	WINDCODE	FL15279-R6
G. FIBERGLASS	MASONITE CORP.	STORMGUARD FIBERGLASS	FL22378
H. COMPOSITE	THERMA TRU	S8200	FL20468.4
J. SIDELITE/TRANSOM			
K. OTHER			
2. WINDOWS [see plans & schedules for window types]			
A. SINGLE HUNG	MARVIN	COASTLINE	FL33620
	P.G.T. INDUSTRIES	WINGUARD	FL239
B. CASEMENT	MARVIN	COASTLINE	FL34015
	P.G.T. INDUSTRIES	WINGUARD	FL245
	ANDERSEN	400 SERIES STORMWATCH	FL12496.4
C. AWNING	MARVIN	COASTLINE	FL34093
	P.G.T. INDUSTRIES	WINGUARD	FL2329
D. FIXED CASEMENT	MARVIN	COASTLINE	FL34706
	P.G.T. INDUSTRIES	WINGUARD	FL243
	ANDERSEN	400 SERIES STORMWATCH	FL12496.4
E. PICTURE/DIRECT GLAZED	MARVIN	COASTLINE	FL33666, FL33676
	P.G.T. INDUSTRIES	WINGUARD	FL243
	ANDERSEN	400 SERIES STORMWATCH	FL15905.3
F. MULLION	MARVIN	ALUMINUM TUBE MULLION	FL34545, FL18596
	P.G.T.	ALUMINUM TUBE MULLION	FL261
G. OTHER			
3. PANEL WALL			
A. SIDING	JAMES HARDIE BUILDING PRODUCTS	FIBER CEMENT SIDING	FL10477, FL13192, FL13223, FL32103
B. SOFFITS	JAMES HARDIE BUILDING PRODUCTS	FIBER CEMENT PANELS	FL13265
C. MASONRY SIDING	CULTURED STONE	ADHERED MASONRY VENEER	FL15047
D. OTHER			
4. ROOFING PRODUCTS			
A. NON-STRUCTURAL METAL ROOFING	MBCI	GALVANIZED METAL ROOF PANELS	FL11903
B. UNDERLAYMENTS	OWENS CORNING	SELF-ADHERED WATERPROOF MEMBRANE	FL9777
C. OTHER			
5. SHUTTERS			

6. SKYLIGHTS			

7. STRUCTURAL COMPONENTS			
A. CONNECTORS	SIMPSON STONG-TIE		FL11473, FL13872, FL10856, FL13904
B. TRUSS PLATES	SIMPSON STONG-TIE		FL15363-R3
C. ENGINEERED LUMBER	BY TRUSS CO.		BY TRUSS CO.
D. PRE-CAST CONCRETE LINTEL	CAST-CRETE		FL158
E. OTHER			

8. NEW PRODUCTS			
A. NEW TECHNOLOGY	SMART VENT	FLOOD/VENTILATION VENT	FL5822
	FLOOD FLAP	FLOOD/VENTILATION VENT	FL17381

GENERAL NOTES:

- 1) THE ABOVE LISTED PRODUCT APPROVAL NUMBERS MAY BE INCOMPLETE. IN THIS CASE, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR OR PRODUCT SUPPLIER TO PROVIDE THE COMPLETE NUMBER WITH DECIMALS AND THE REVISION VERSION, IF APPLICABLE.
- 2) THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE APPROVAL NUMBER(S) FOR ANY PRODUCT SUBSTITUTIONS NOT LISTED IN THIS SCHEDULE.

ZONING COMPLIANCE WORKSHEET

PROJECT INFORMATION:

- PROJECT TITLE: THE CHAMBERLIN RESIDENCE (Custom Single-Family Residence)
- PROJECT ADDRESS: 3101 PASS-A-GRILLE WAY (LOT 2)
- OWNER INFORMATION: MR. & MRS. CALE CHAMBERLIN
- CONTRACTOR: TOM PICI & SON BUILDERS, INC.

ZONING & USE:

- MUNICIPALITY: CITY OF ST. PETE BEACH
- ZONING DESIGNATION: RM RESIDENTIAL DISTRICT
- PROPOSED LAND USE: DETACHED SINGLE-FAMILY RESIDENCE

FLOOD ZONE INFORMATION:

- FLOOD ZONE: AE(9') & AE(10')
- BASE FLOOD ELEVATION (BFE): 10' NAVD
- MINIMUM FREEBOARD: (+) 1'
- DESIGN FLOOD ELEVATION (DFE): 11' NAVD

ZONING LAND REQUIREMENTS:

- MINIMUM LOT SIZE (S/F): 5,000 (REQUIRED) 7,485 (ACTUAL)
- MINIMUM LOT WIDTH: 50' (REQUIRED) 62.5' (ACTUAL)

LAND DEVELOPMENT RESTRICTIONS:

- MAX. BUILDING HEIGHT (MIDPOINT PITCHED ROOF): 35' (ALLOWED) 34'-2" (PROPOSED)
- BUILDING HEIGHT MEASURED FROM: 8' ABOVE GRADE
- MINIMUM YARDS (SETBACKS): 20' (FRONT) 6.25' (SIDE-10% OF LOT WIDTH) 20' (REAR)
- OPEN BALCONIES & OPEN STAIRS (SETBACKS): 3' (FRONT & REAR YARD)
- MINIMUM POOL SETBACKS: 3' (REAR TO WATER'S EDGE) 6.25' (SIDES)
- MAXIMUM POOL/SPA/PATIO HEIGHT ABOVE GRADE: 2' (ALLOWED)
- ELEVATED ANCILLARY EQUIPMENT SETBACKS: SAME AS STRUCTURE (NO ENCROACHMENT ALLOWED)
- AT GRADE ANCILLARY EQUIPMENT SETBACKS: 3.25' (SIDE)

LOT COVERAGE CALCULATIONS: SEE ISR WORKSHEET ON THIS SHEET (MAX. 70% ALLOWED)

- MIN. FRONT YARD GREENSPACE: 300 SF (24% OF 1,250 SF) 349 SF (PROPOSED=28%)
- MIN. LOT GREENSPACE: 1,718 SF (24% OF 6,871 SF) 1,923 SF (PROPOSED=28%)

FENCE & WALL REQUIREMENTS:

- MAX. HEIGHT ABV. GRADE (YARDS): 4' (FRONT) 8' (SIDE) 4' (WATERFRONT)

LANDSCAPING REQUIREMENTS: PER SECTION 22.5 OF THE LDR

- MINIMUMUM # OF TREES: 3 T.B.S.



Impervious Surface Ratio (ISR) Worksheet

Impervious surface means any material that prevents absorption of storm water into the ground.

Impervious surface ratio (ISR) means a measurement of the intensity of hard-surfaced development on a site. An impervious surface ratio is the relationship between the total area covered by impervious surfaces on a site and the gross land area of the zoning lot, excluding any portion of the property lying Gulfward of the city's coastal construction and excavation setback line. The impervious surface ratio is calculated by dividing the square footage of the area of all impervious surfaces on the site by the square footage of the gross land area, excluding any portion of the property lying Gulfward of the city's coastal construction and excavation setback line.

Owner Name & Address

Contractor/Applicant Name & Address

Phone 941-650-4590

Phone 727-709-3953

Email ccchamberlin@wm.nceusa.com

Email piciteam@aol.com

Property Address 3101 Pass-a-Grille Way (Lot 2)

Total Lot Area (sq. ft.) 6,871 (to seawall centerline)

Required Calculations:

EXISTING IMPERVIOUS SURFACE:		
Building Footprint:		sq. ft.
Parking and Driveway:		sq. ft.
Pool and/or Patio areas:		sq. ft.
Walkways:		sq. ft.
Other:		sq. ft.
TOTAL EXISTING IMPERVIOUS SURFACE:		sq. ft.

sq. ft.	6,871	sq. ft.	=	Existing Impervious Surface Ratio
Total Existing Impervious Surfaces	÷	Lot Area	=	

PROPOSED IMPERVIOUS SURFACE:		
Building Footprint:	3,283	sq. ft.
Parking and Driveway:	340 (turf block)	sq. ft.
Pool and/or Patio areas:	778	sq. ft.
Walkways:	138	sq. ft.
Other:	81	sq. ft.
TOTAL PROPOSED IMPERVIOUS SURFACE:	4,620	sq. ft.

4,620	sq. ft.	6,871	sq. ft.	=	67%
Total Proposed Impervious Surfaces	÷	Lot Area	=	Proposed Impervious Surface Ratio	

Flood Resistant Construction (general specifications)

Florida Building Codes, 7th Edition (2020)

FBC, Building...

- 1) Flood-resistant design shall conform to Sec. 1612.4. Refer to ASCE 24-14, Flood Resistant Design and Construction for specific requirements.
- 2) Elevation requirements for Flood Design Class 2: BFE (base flood elevation) + 1 foot (freeboard). *Note: Local municipality freeboard = 1' for a DFE of 11' NAVD.*
- 3) All enclosures walls below BFE must have flood openings, including walls intended to breakaway under wave loads.
- 4) Enclosed areas are limited to uses for parking, storage and building access.
- 5) Utility equipment and machinery that serve buildings are required to be elevated at or above the DFE.

FBC, Residential...

- 1) Dwellings designated to be in the Coastal A Zones (CAZ) must comply with the requirements for Zone V per Sec. R322.3.
- 2) Sec. R309.3 requires garages, if below the BFE, to be used solely for parking, access or storage, meet the requirements of Sec. 322 (for enclosed areas below the BFE).
- 3) Use of flood damage-resistant materials is required below the elevations required in R322.2 (Zone A) and R322.3 (Zone V and Coastal A Zones). These materials are capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage. Refer to FEMA Technical Bulletin 2, Flood Damage-Resistant Materials Requirements for approved materials and installation methods.
- 4) The area below elevated dwellings may be enclosed by foundation walls or framed walls. To minimize damage due to hydrostatic loads, flood openings are required (see FEMA Technical Bulletin 1, Openings in Foundation Walls and Walls of Enclosures).
- 5) Pools in flood hazard areas (including A Zones) are required to conform to the requirements of ASCE 24, which preclude obstructing flow that causes damage to other buildings.
- 6) Sec. R322.3 includes specific requirements that apply in coastal high-hazard areas, commonly referred to as "Zone V," and "Coastal A Zones" (CAZ):
 - a) Minimum elevation requirements call for the bottom of the lowest horizontal structural member of the lowest floor to be elevated to or above the BFE plus 1 foot or DFE whichever is higher. The additional elevation called "freeboard" is required in all flood hazard areas.
 - b) Foundations are limited to pilings or columns.
 - c) An exterior door is required at the top of stairways that provide access to dwellings and that are enclosed by breakaway walls. A door is not required at the top of the stairways if the lower entry (below the DFE) is enclosed with shear-walls.

ASCE 24-14 Flood Resistant Design and Construction (general notes)

Building Performance...

- 1) Stairways and ramps must be designed and constructed to resist flood loads and to minimize transfer of flood loads to foundations or to break away without causing damage to the main structure.
- 2) A door is not required at the top of the stairways if the lower entry is enclosed with shear-walls.
- 3) In Coastal High Hazard Areas (Zone V) and Coastal A Zones:
 - a) Buildings must be supported on piles, drilled shafts, caissons, or other deep foundations (including columns, and shear walls) and foundation depth must take into account erosion and local scour.
 - b) Stem-walls supporting floors and back-filled with soil or gravel are allowed in Coastal A Zones if designs provide for the effects of local scour and erosion.
 - c) Pools must be elevated or designed to breakaway without producing damaging debris, or designed to remain in the ground without obstructing flow that causes damage. Pools must be structurally independent of buildings and structures.

Flood Damage-Resistant Materials...

- 1) Flood damage-resistant materials must be used below specified elevations.
- 2) Metal connectors and fasteners exposed to salt water, salt spray or other corrosive agents must be stainless steel or equivalent corrosion resistant material, or hot-dipped galvanized after fabrication.
- 3) Where preservative treated wood is required, treatment must be in accordance with AWPA requirements.

Attendant Utilities and Equipment...

- 1) Attendant utilities and equipment must be at or above specified elevations or must be specifically designed, constructed, and installed to prevent floodwaters from entering or accumulating within components.
- 2) Fuel supply lines must be equipped with float operated automatic shut-off valves.
- 3) Where required to meet life safety provisions of the code, certain exterior electrical components may be installed below the design flood elevation provided they are installed on a non-breakaway structural element.
- 4) Tanks that are below the design flood elevation and that are attached to or beneath buildings must be installed and anchored to resist at least 1.5 times the potential buoyant and other flood forces assumed to act on empty tanks.
- 5) Elevator cabs that descend below the design flood elevation must be equipped with controls that prevent the cab from descending into floodwaters. Elevator shafts must be designed to resist flood loads, but are not required to have flood openings or breakaway walls.

REFER TO STRUCTURAL DRAWINGS FOR DESIGNATIONS & DETAILS OF ALL SHAFT LOAD BEARING WALLS, POINTS, COLUMNS & BEAMS

C. Michael McCoy
Residential Designs, Inc.
Post Office Box 1305
Crystal Beach, Florida 34681
(phone) 727.492.3683
www.mccoyresidentialdesigns.com

STRUCTURAL ENGINEER OF RECORD
KOZY INTERNATIONAL, INC.
760 4th AVENUE SOUTH
ST. PETERSBURG, FL 33701
TELEPHONE: (727) 898-2270
M.K. ELKHOUTLY, P.E. #58159
CERTIFICATE # CA-0034704

THIS SEAL IS VALID ONLY IF SIGNED AND DATED

NO 38159
STATE OF FLORIDA
PROFESSIONAL ENGINEER

THIS DRAWING IS ISSUED FOR CONSTRUCTION AFTER BEING REVIEWED BY THE ENGINEER ON BEHALF OF ENSURE COMPLIANCE WITH KOZY INTERNATIONAL, INC. STRUCTURAL DRAWINGS AND FEMA REGULATIONS

The Chamberlin Residence
Custom Waterfront Residence
PROJECT LOCATION:
3101 Pass-A-Grille Way (lot 2) St. Pete Beach, FL
MUNICIPALITY: City of St. Pete Beach
CONTRACTOR: Tom Pici & Son Builders, Inc.
ADDRESS: 7211 1st Ave. S, St. Petersburg, FL

PLAN REVISION LOG		
MARK	DATE	DESCRIPTION
▲	11/10/23	Misc. revisions per Planning / Zoning review dated 11-8-23
▲	12/8/23	Misc. revisions to 2nd & 3rd Floor Plans & doors/windows

DATE:	OCTOBER 18, 2023
PROJECT NO:	23-01
DRAWN BY:	CMM
SCALE:	
BID ISSUE DATE:	00/00/00
PERMIT ISSUE DATE:	00/00/00
CONSTRUCTION ISSUE DATE:	00/00/00

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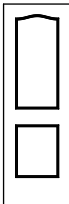
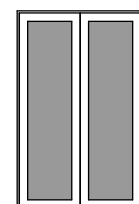
SHEET TITLE

Specs, Notes & Zoning

G-2

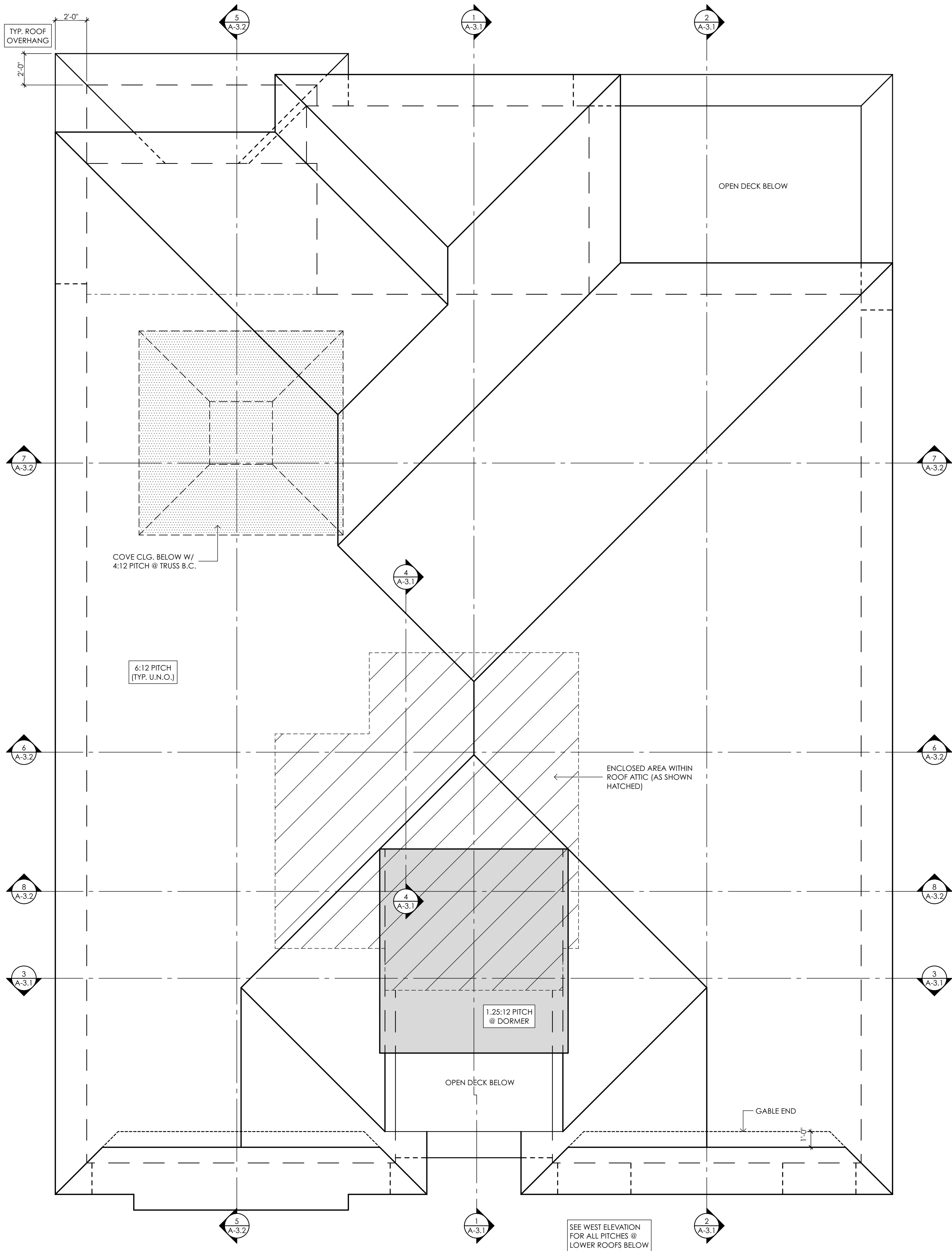
SHEET 2

OF 17

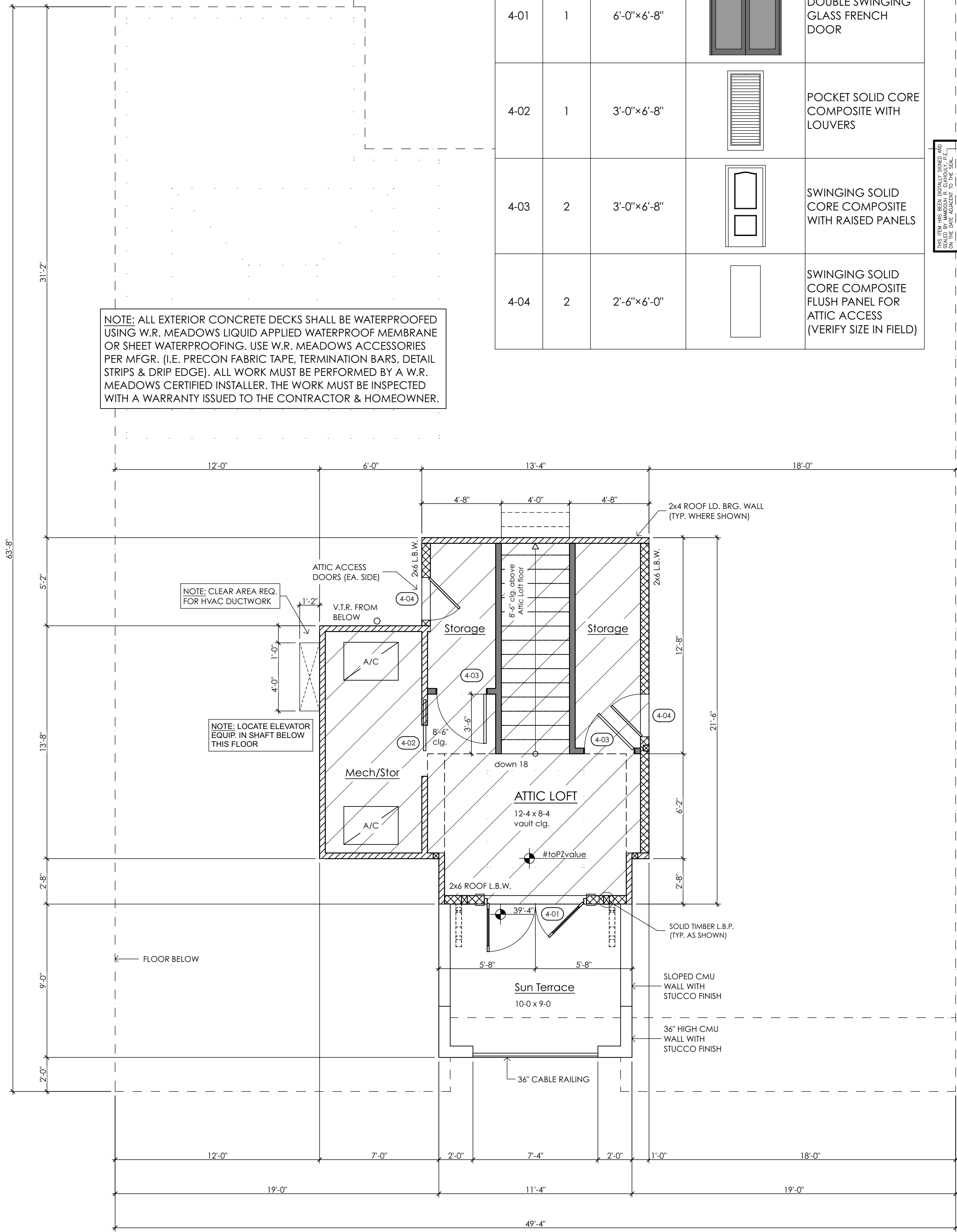
3rd FLOOR DOOR SCHEDULE (impact glazing @ exterior locations)				
MARK	QTY.	SIZE	ELEVATION	TYPE
3-08	2	2'-8"x8'-0"		POCKET SOLID CORE COMPOSITE WITH RAISED PANELS
3-09	2	5'-0"x8'-0"		DOUBLE SWINGING GLASS FRENCH DOOR
3-10	2	3'-6"x8'-0"		SINGLE POCKET GLASS DOOR

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ROOF & SECTION PLAN



ROOF ATTIC PLAN

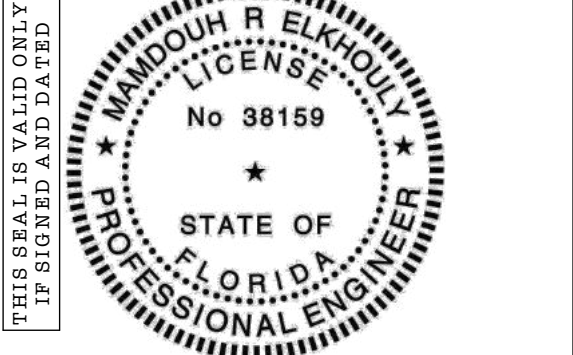
REFER TO STRUCTURAL DRAWINGS FOR DESIGNATIONS & DETAILS OF ALL SHOWN LOAD BEARING WALLS, POINTS, COLUMNS & BEAMS

ATTIC FLOOR DOOR SCHEDULE (impact glazing @ exterior locations)				
MARK	QTY.	SIZE	ELEVATION	TYPE
4-01	1	6'-0"×6'-8"		DOUBLE SWINGING GLASS FRENCH DOOR
4-02	1	3'-0"×6'-8"		POCKET SOLID CORE COMPOSITE WITH LOUVERS
4-03	2	3'-0"×6'-8"		SWINGING SOLID CORE COMPOSITE WITH RAISED PANELS
4-04	2	2'-6"×6'-0"		SWINGING SOLID CORE COMPOSITE FLUSH PANEL FOR ATTIC ACCESS (VERIFY SIZE IN FIELD)

THIS SEAL IS VALID ONLY IF SIGNED AND DATED BY THE ENGINEER OR ARCHITECT. PRINTED COPIES OF THIS DOCUMENT ARE NOT VALID. THIS SEALING MUST BE OBTAINED ON ALL DRAWINGS.

C. Michael McCoy
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760 4TH AVENUE SOUTH
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TELEPHONE: (727) 898-2270
M.K. ELKHOUTLY, P.E. #58159
CERTIFICATE # CA-0004704



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The Chamberlin Residence
Custom Waterfront Residence
PROJECT LOCATION:
3101 Pass-A-Grille Way (lot 2) St. Pete Beach, FL
MUNICIPALITY: City of St. Pete Beach
CONTRACTOR: Tom Pici & Son Builders, Inc.
ADDRESS: 7211 1st Ave. S, St. Petersburg, FL

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▲	12/8/23	Misc. revisions to 2nd & 3rd Floor Plans & doors/windows

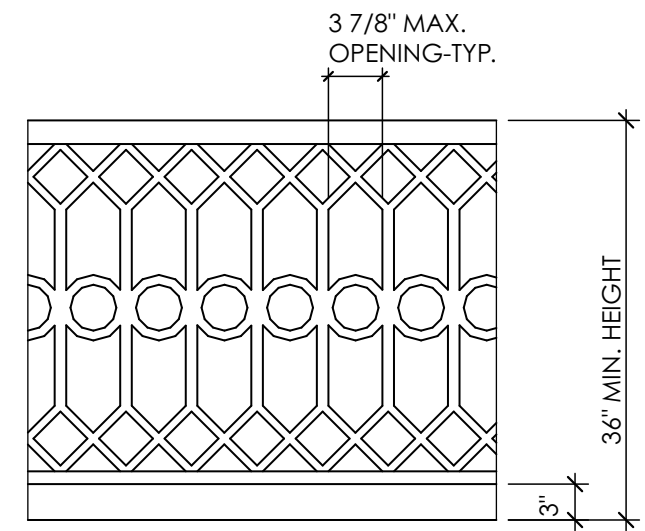
DATE: OCTOBER 18, 2023
PROJECT NO: 23-01
DRAWN BY: CMM
SCALE: 1/4" = 1'-0"
BID ISSUE DATE: 00/00/00
PERMIT ISSUE DATE: 00/00/00
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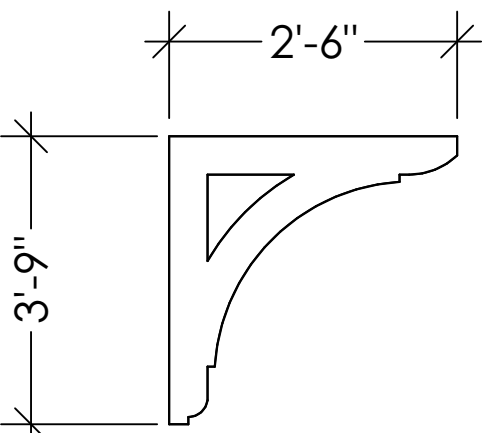
SHEET TITLE
Roof Attic Plan, Roof Plan & Schedule

A~1.4

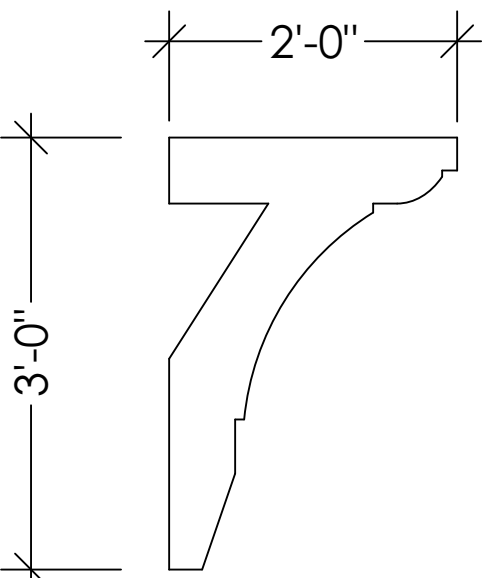
SHEET 7	OF 17
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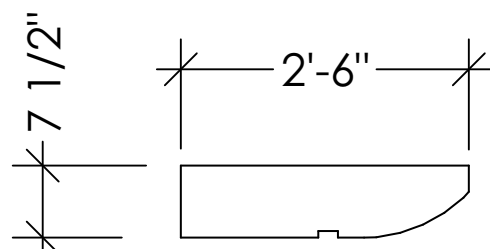
FRONT RAILING DETAIL
NOT TO SCALE



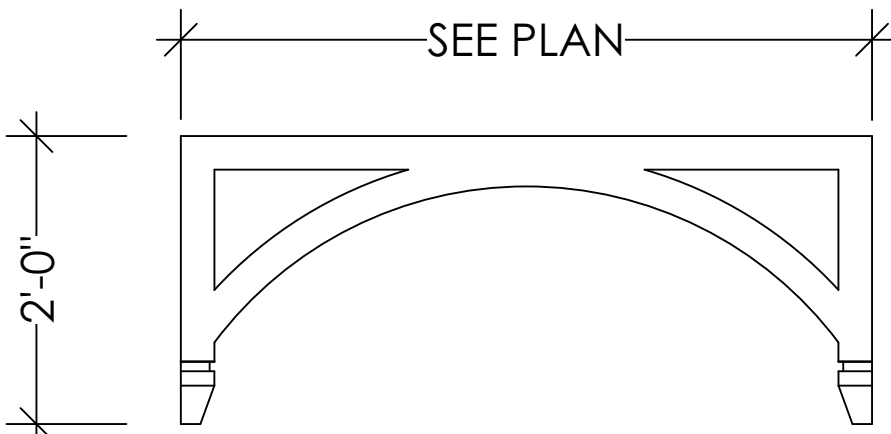
ROOF BRACKET #1



ROOF BRACKET #2



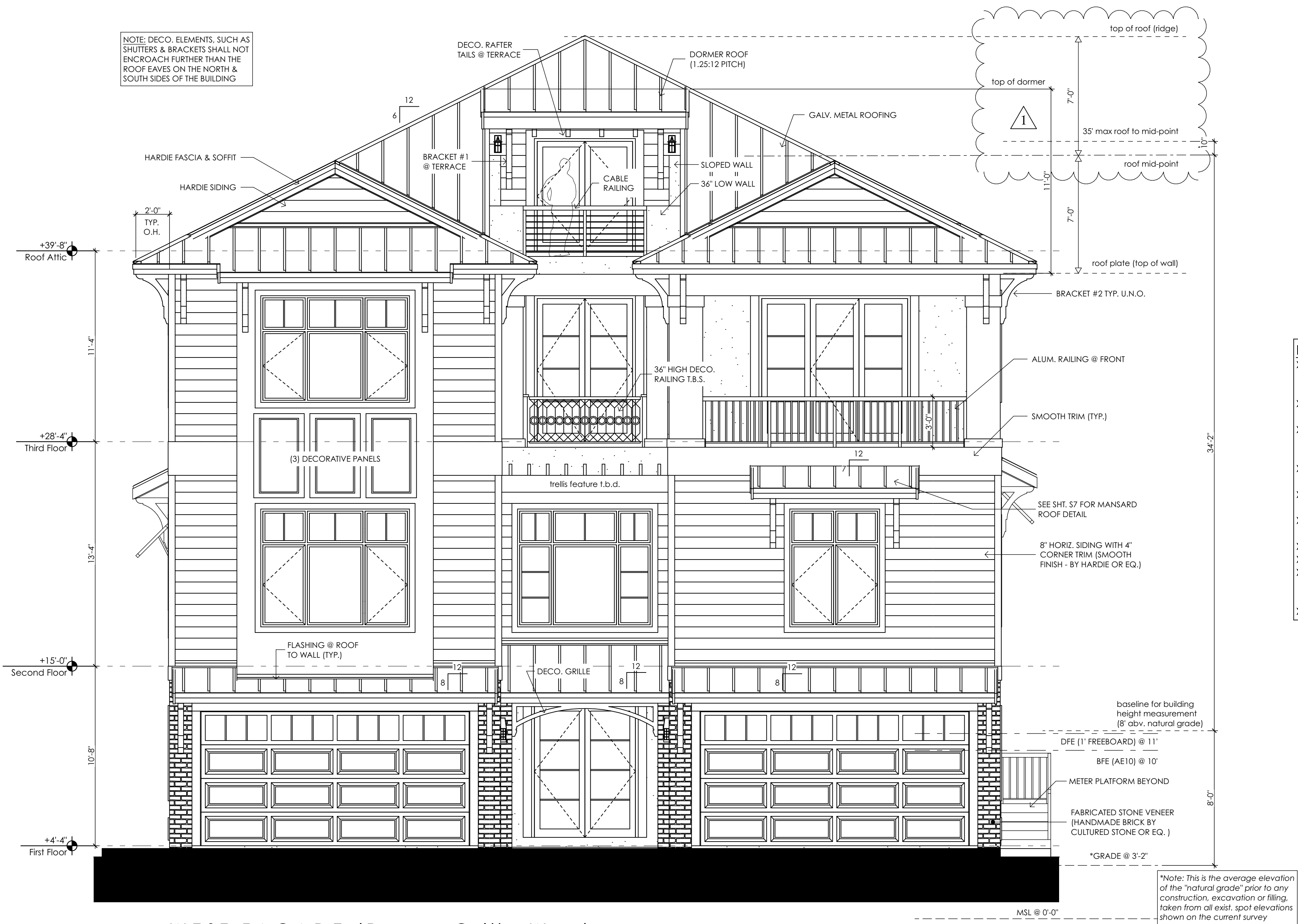
RAFTER TAIL



DECO. PANEL GRILLE

RAILING NOTE:
THIS ILLUSTRATION IS FOR SCHEMATIC
PURPOSES. FINAL DESIGN & MATERIAL
SELECTIONS TO BE SELECTED BY THE
OWNER. DETAILS & SPECIFICATIONS BY
OTHERS. SUBMIT FINAL DRAWINGS, ETC.,
TO MCCOY RESIDENTIAL DESIGNS PRIOR
TO FABRICATION FOR APPROVAL.

NOTE: DECO. ELEMENTS, SUCH AS
SHUTTERS & BRACKETS SHALL NOT
ENCROACH FURTHER THAN THE
ROOF EAVES ON THE NORTH &
SOUTH SIDES OF THE BUILDING



- EXTERIOR FINISH SPECIFICATIONS:
- ▶ ROOFING: MIN. 29 GA. GALVANIZED METAL PANELS W/GALVALUME COATING & SMOOTH FINISH (PANEL STYLE T.B.S. BY OWNER)
 - ▶ FASCIA: "HARDIETRIM" 5/4 SMOOTH FINISH PRIMED FOR PAINT (JAMES HARDIE OR EQ.)
 - ▶ OVERHANG SOFFIT: T&G WOOD (PINE) W/FINISH T.B.D. (PAINT OR STAIN) OR HARDIE SOFFIT PANELS [NON-VENTED BEADED]
 - ▶ EXTERIOR CEILINGS: T&G WOOD (PINE) OR HARDIE SOFFIT PANELS (NON-VENTED BEADED)
 - ▶ SIDING: "HARDIEPLANK" 8" LAP SMOOTH FINISH PRIMED FOR PAINT (James Hardie OR EQ.)
 - ▶ STUCCO: MIN. 3/4" THICKNESS OVER CONC./ MASONRY & 7/8" OVER FRAME (IF APPLICABLE)
 - ▶ STUCCO FINISH (BODY): FLOAT/SAND FINISH
 - ▶ STUCCO FINISH (TRIM): SMOOTH
 - ▶ ARCHITECTURAL MILLWORK: EXTRUDED PVC BY HARDIE BOYS (FOAM OPTIONAL). SEE PLANS FOR LOCATIONS & THIS SHEET FOR PROFILES.
 - ▶ GUTTERS/DOWNSPOUTS: CONSULT WITH OWNER

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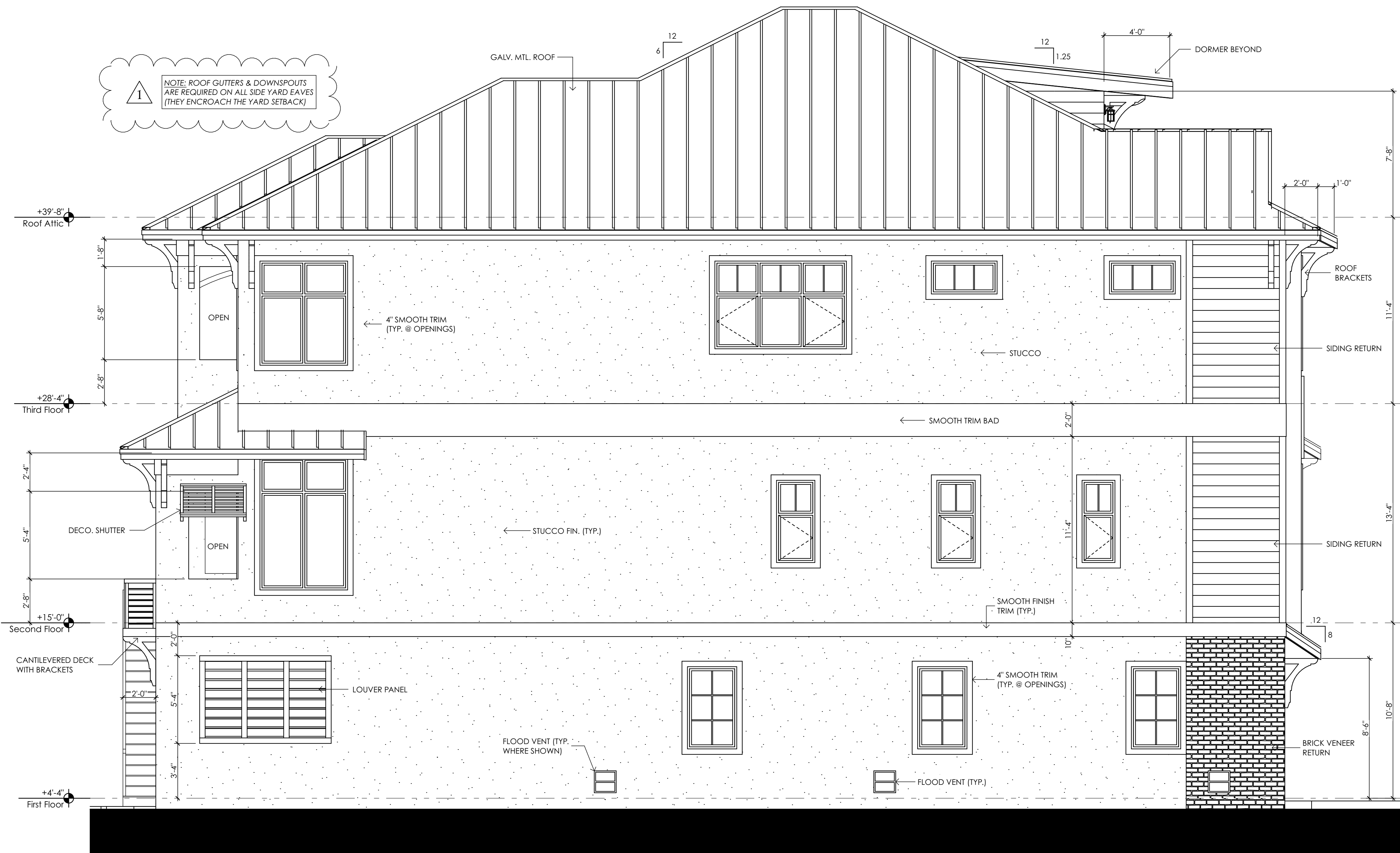
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SHEET TITLE
West Elevation (front)
A~2.1
SHEET 8 OF 17

REFER TO STRUCTURAL DRAWINGS
FOR DESIGNATIONS & DETAILS OF
ALL SHOWN LOAD BEARING WALLS,
POINTS, COLUMNS & BEAMS



NORTH FACADE

STUCCO VENEER REQUIREMENTS:
APPLY STUCCO FINISH (CONFORMING TO ASTM C 926 & 1083)
WITH THE FOLLOWING MINIMUM THICKNESSES:

A. CMU WALLS - MIN. 5/8" APPLIED IN (2) COATS.
B. EXTERIOR FRAME WALLS- MIN. 7/8" APPLIED IN (2) COATS
OVER GALV. METAL LATH OVER (2) LAYERS 15# FELT PAPER
VAPOR BARRIER, OR (1) LAYER OF PLASTIC HOUSE WRAP
(TYVEK OR EQ.) OVER (1) LAYER OF 15# FELT PAPER OVER
MIN. 1/2" CDX PLYWOOD SHEATHING.
C. WEEP SCREEDS ARE REQUIRED AT THE BOTTOM OF ALL
STUCCO CLAD FRAME WALLS, BEAMS OR FEATURES.
D. TYP. FRAME WALL/ROOF OPENING - EXTERIOR WINDOW, DOOR
& SKYLIGHT FLASHING, INSTALLATION & MOISTURE RESISTANT
CONSTRUCTION OF EXTERIOR WOOD WALLS SHALL ADHERE TO
THE REQUIREMENTS OF ASTM E2112 & E2266.

REFER TO STRUCTURAL DRAWINGS
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CERTIFICATE # CA-0004704



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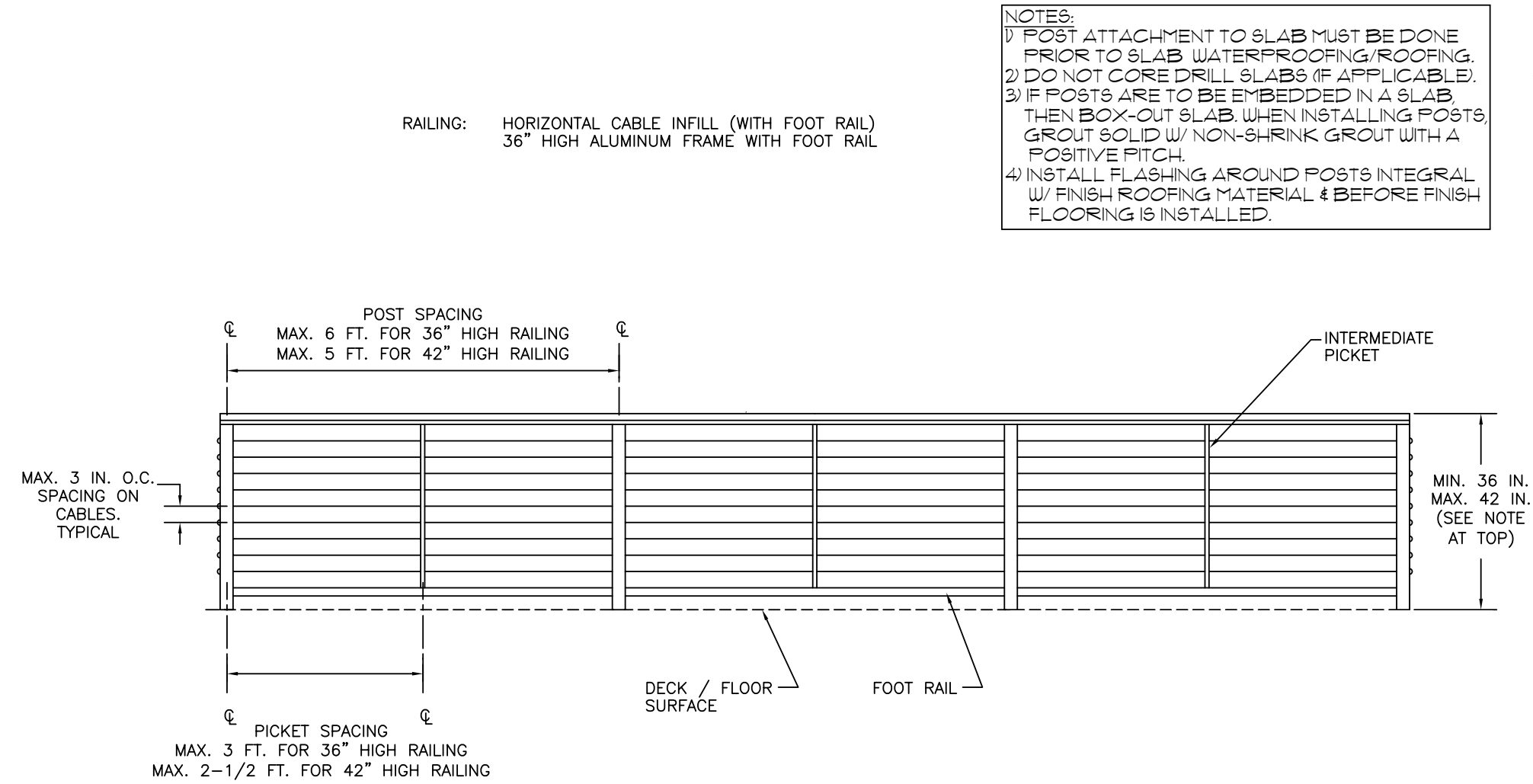
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SHEET TITLE

North Elevation (left side)

A~2.2

SHEET 9 OF 17



TYP. HORIZONTAL CABLE GUARDRAIL DETAIL
(FOR SCHEMATIC PURPOSES, NOT TO SCALE)

GENERAL NOTES & SPEC'S:

1. ALL GUARDRAILS SHALL CONFORM TO THE REQUIREMENTS OF SECTION R301 OF THE CURRENT FLORIDA BUILDING CODE RESIDENTIAL.
2. GUARDRAILS @ PORCHES, BALCONIES OR LANDINGS SHALL BE MINIMUM 36" HIGH PER FBC SEC. R301.
3. FINAL DETAILS & SPECIFICATIONS BY OTHERS.

RAILING SYSTEM SPECIFICATION:

EXTRUDED HIGH-STRENGTH ALUMINUM (POWDER COATED) RAILING SYSTEM W/ STAINLESS STEEL HORIZ. CABLES AS MFG. BY FEENEY, INC. OR EQUAL (DESIGN RAIL®). PROVIDE SURFACE MTD. HEAVY DUTY POSTS, FOOT RAIL & CAP RAIL (T.B.S. BY OWNER) W/ COLOR T.B.S. ALL DETAILS SHOP DRAWINGS AND SPECIFICATIONS BY MANUFACTURER.

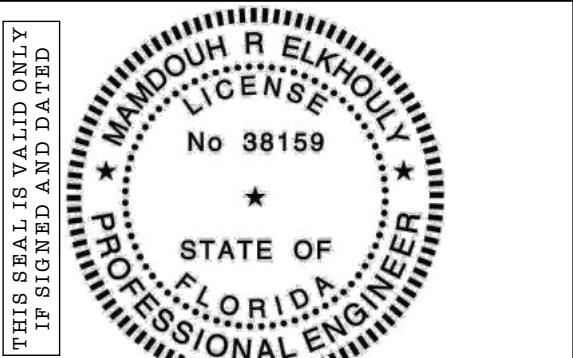


EAST FACADE (Don Ce-Sar Bay)

REFER TO STRUCTURAL DRAWINGS
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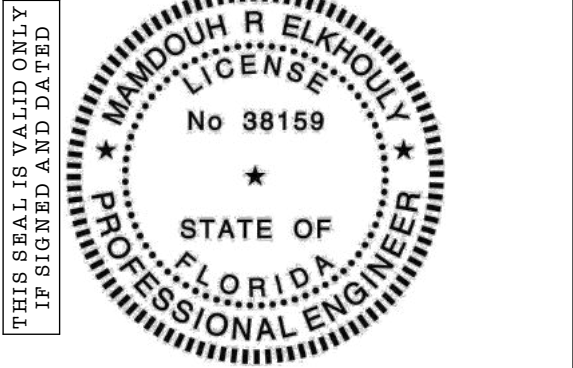
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SHEET TITLE
East Elevation (rear)
A~2.3
SHEET 10 OF 17



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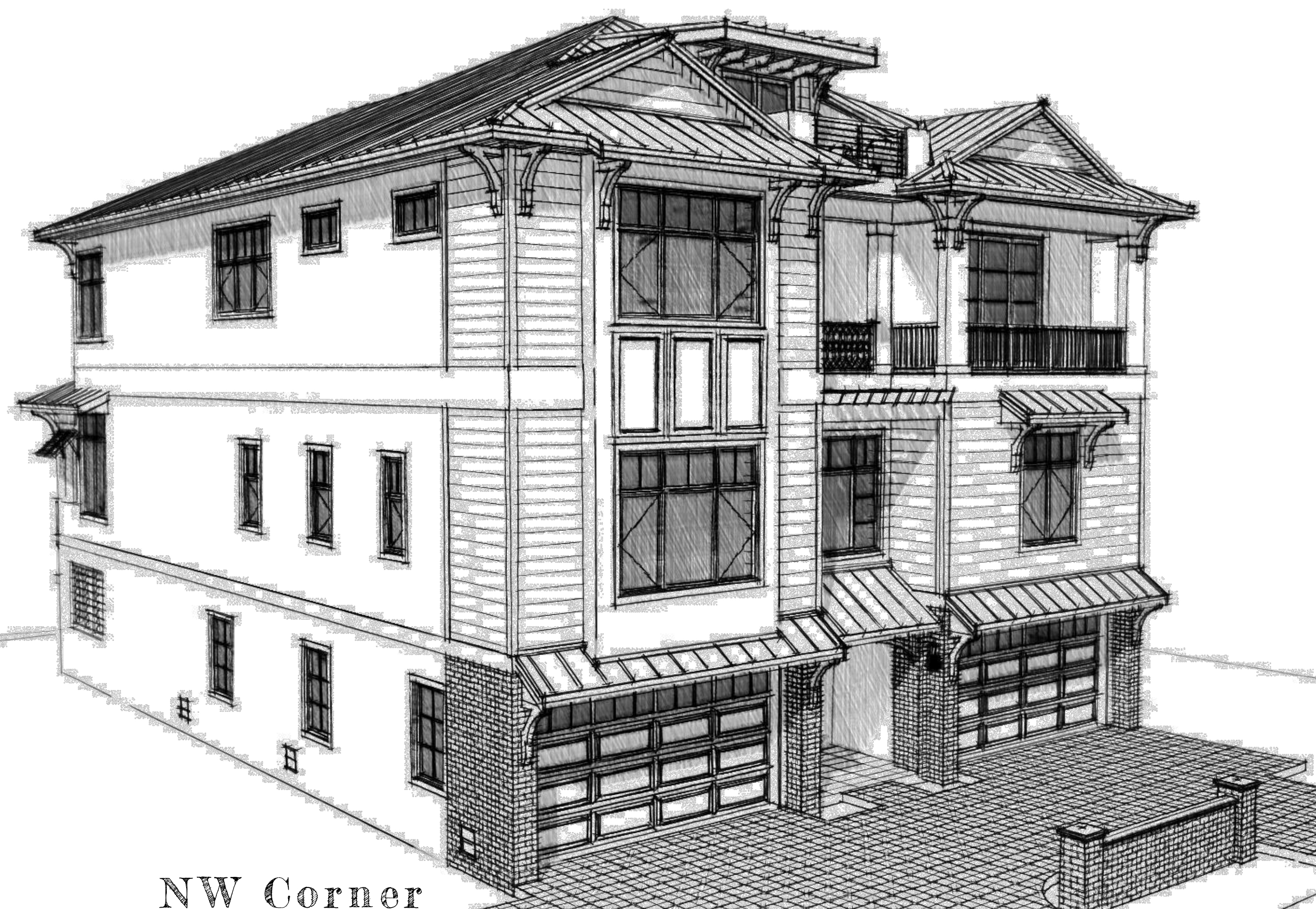
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SHEET TITLE	
South Elevation (right side)	
A~2.4	
SHEET 11	OF 17

REFER TO STRUCTURAL DRAWINGS FOR DESIGNATIONS & DETAILS OF ALL SHOWN LOAD BEARING WALLS, POINTS, COLUMNS & BEAMS



West Facade



NW Corner



SE Corner



East Facade

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STRUCTURAL ENGINEER OF RECORD

The Chamberlin Residence

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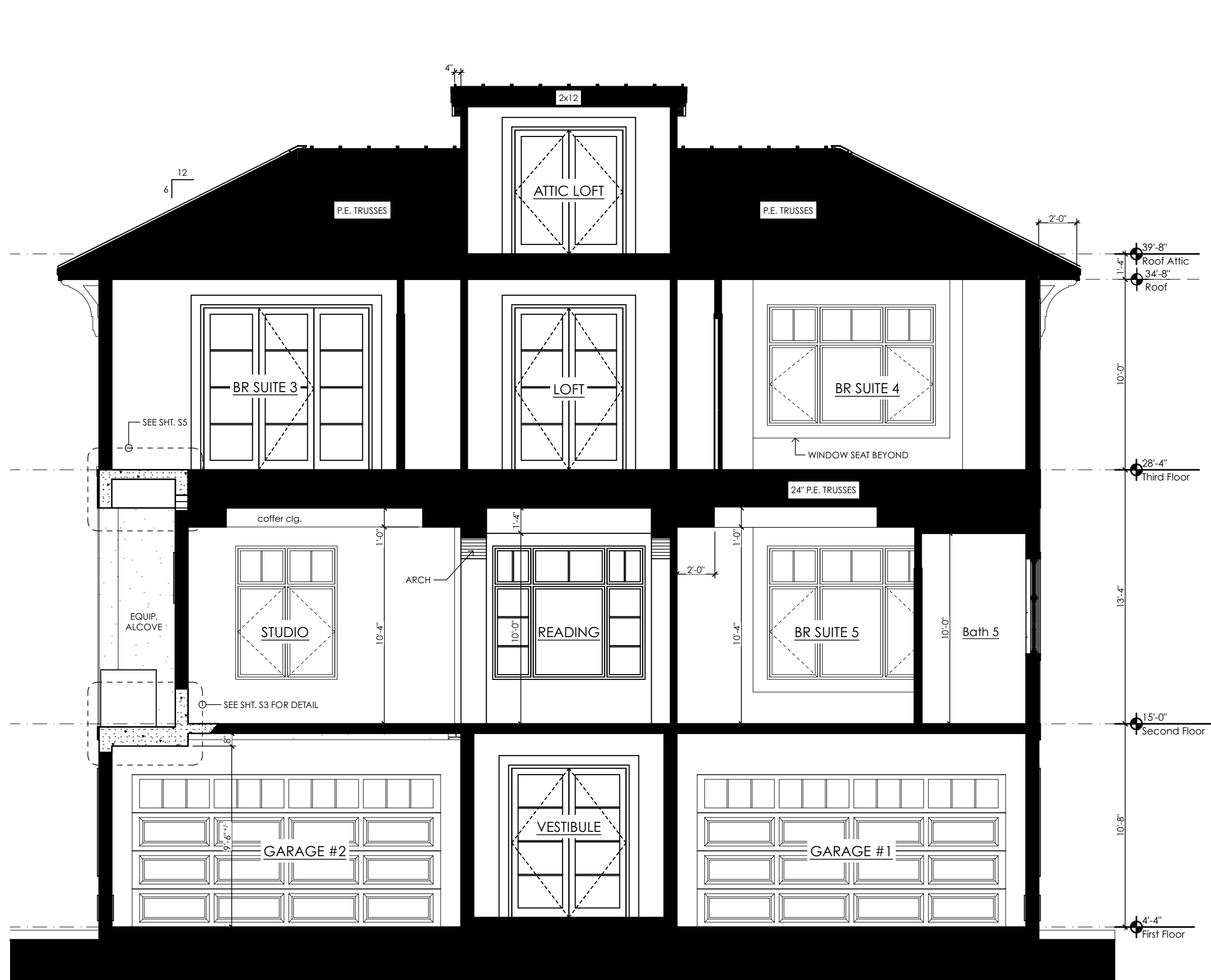
SHEET TITLE

Perspective Views

A~2.5

SHEET 12

OF 17

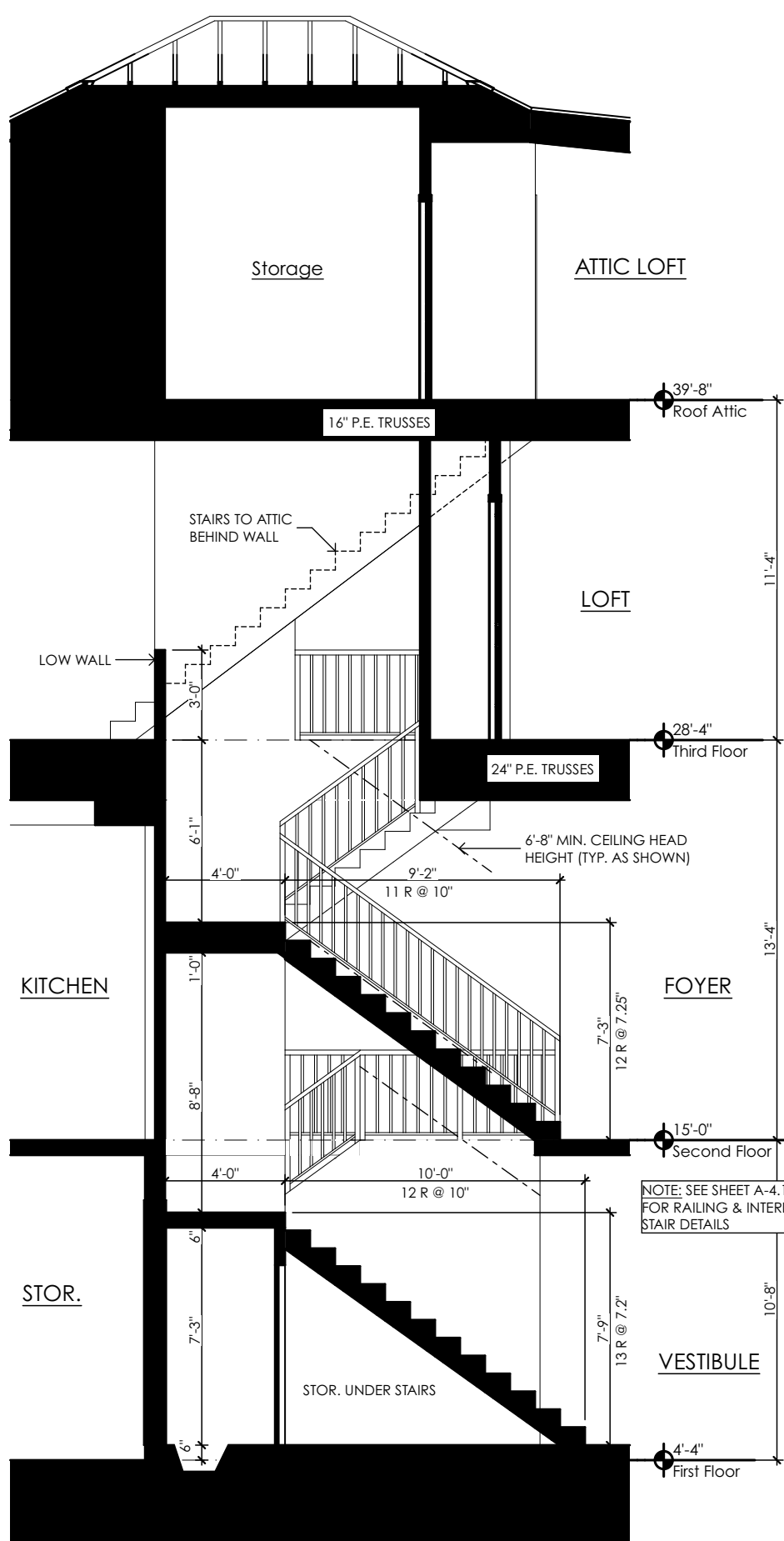


3: BUILDING SECTION



1: BUILDING SECTION

TYPICAL INSULATION SPECIFICATIONS:
1. SPRAY FOAM PLASTIC SHALL MEET THE REQUIREMENTS OF FBC SECT. R316 AS MANUFACTURED BY CERTAINTEE CORP. ("CERTASPRAY"), ICYNENE OR EQUAL. THE EFFECTIVE R-VALUE IS AS FOLLOWS:
(a) OPEN-CELL= R-3.7 @ 1" THICK; (b) CLOSED-CELL= R-6 @ 1" THICK
2. MINIMUM R-20 VALUE @ ROOF ATTIC
3. CLOSED SOFFITS & NO ROOF VENTS @ ROOF AREAS WITH FOAM INSUL. UNLESS OTHERWISE DIRECTED BY THE MANUFACTURER
4. FOAM INSULATION MUST BE SEPARATED FROM STORAGE & HABITABLE SPACES W/MIN. 1/2" GYP. BOARD OR APPROVED THERMAL BARRIER



4: STAIR SECTION



2: BUILDING SECTION

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SHEET TITLE
Building Sections (1-4)
A~3.1
SHEET 13 **OF 17**



6: BUILDING SECTION



5: BUILDING SECTION



8: BUILDING SECTION



7: BUILDING SECTION

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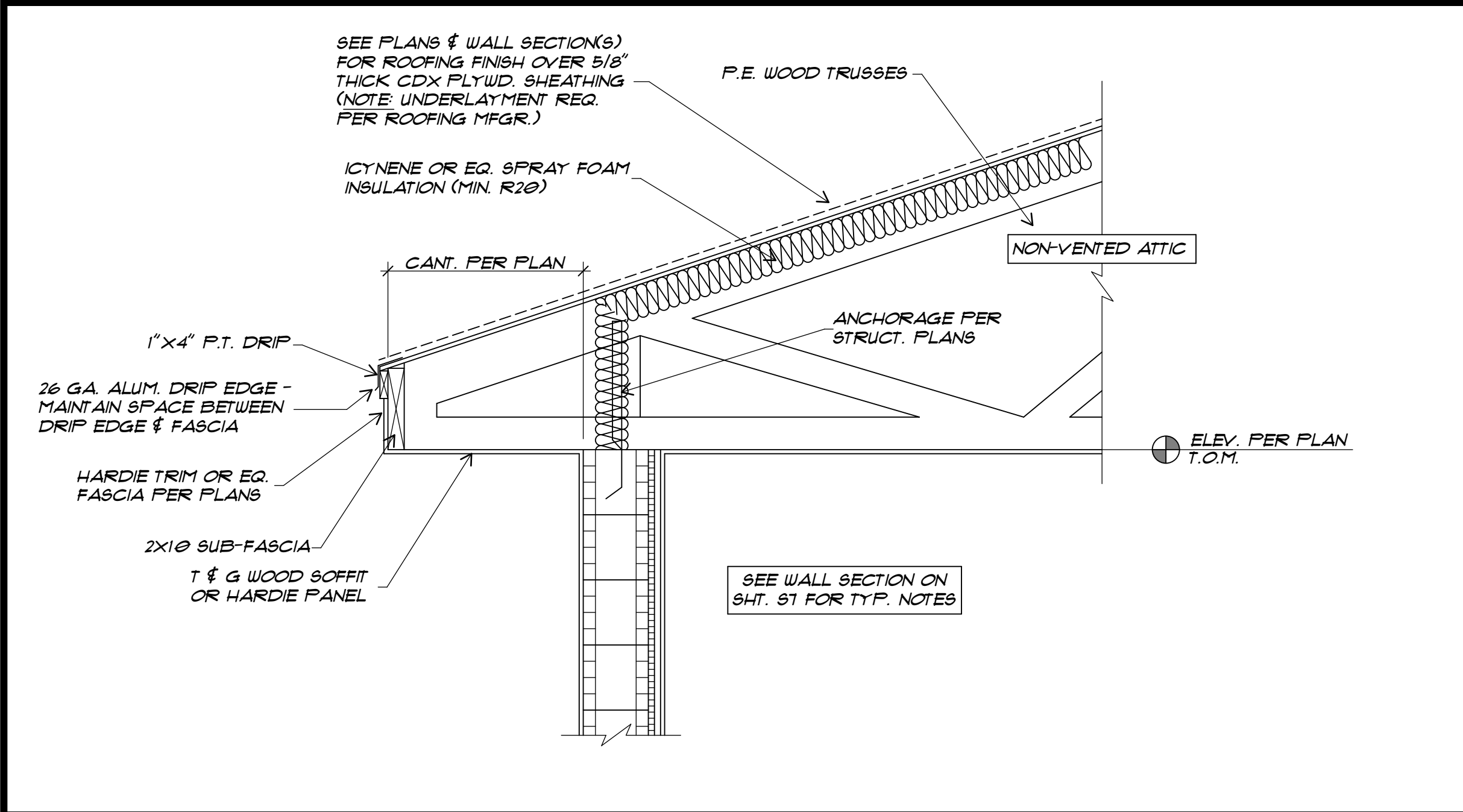
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▲	11/10/23	Misc. revisions per Planning/ Zoning review dated 11-8-23
▲	12/8/23	Misc. revisions to 2nd & 3rd Floor Plans & doors/windows

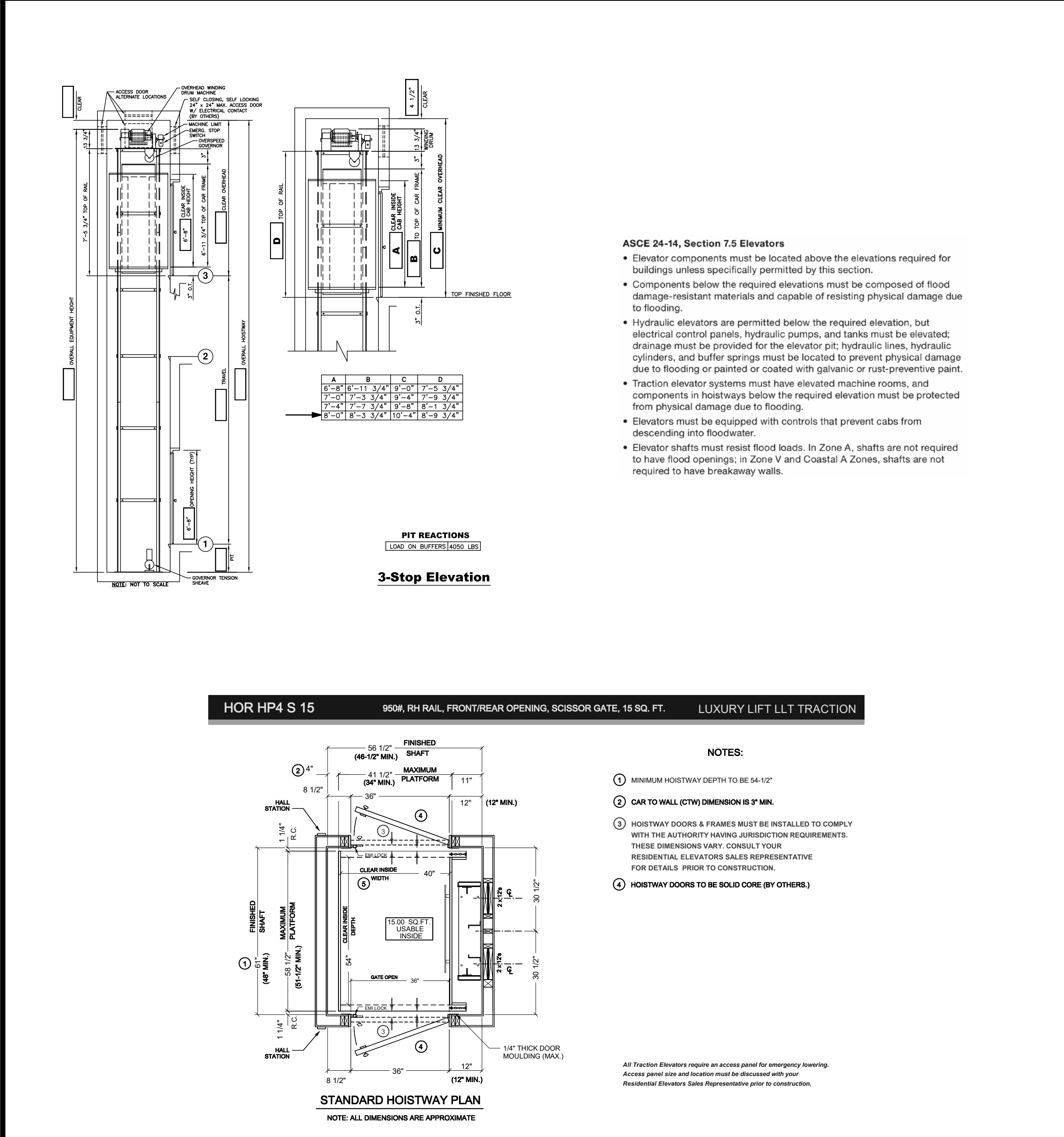
DATE: OCTOBER 18, 2023
PROJECT NO: 23-01
DRAWN BY: CMM
SCALE: 3/16" = 1'-0"
BID ISSUE DATE: 00/00/00
PERMIT ISSUE DATE: 00/00/00
CONSTRUCTION ISSUE DATE: 00/00/00

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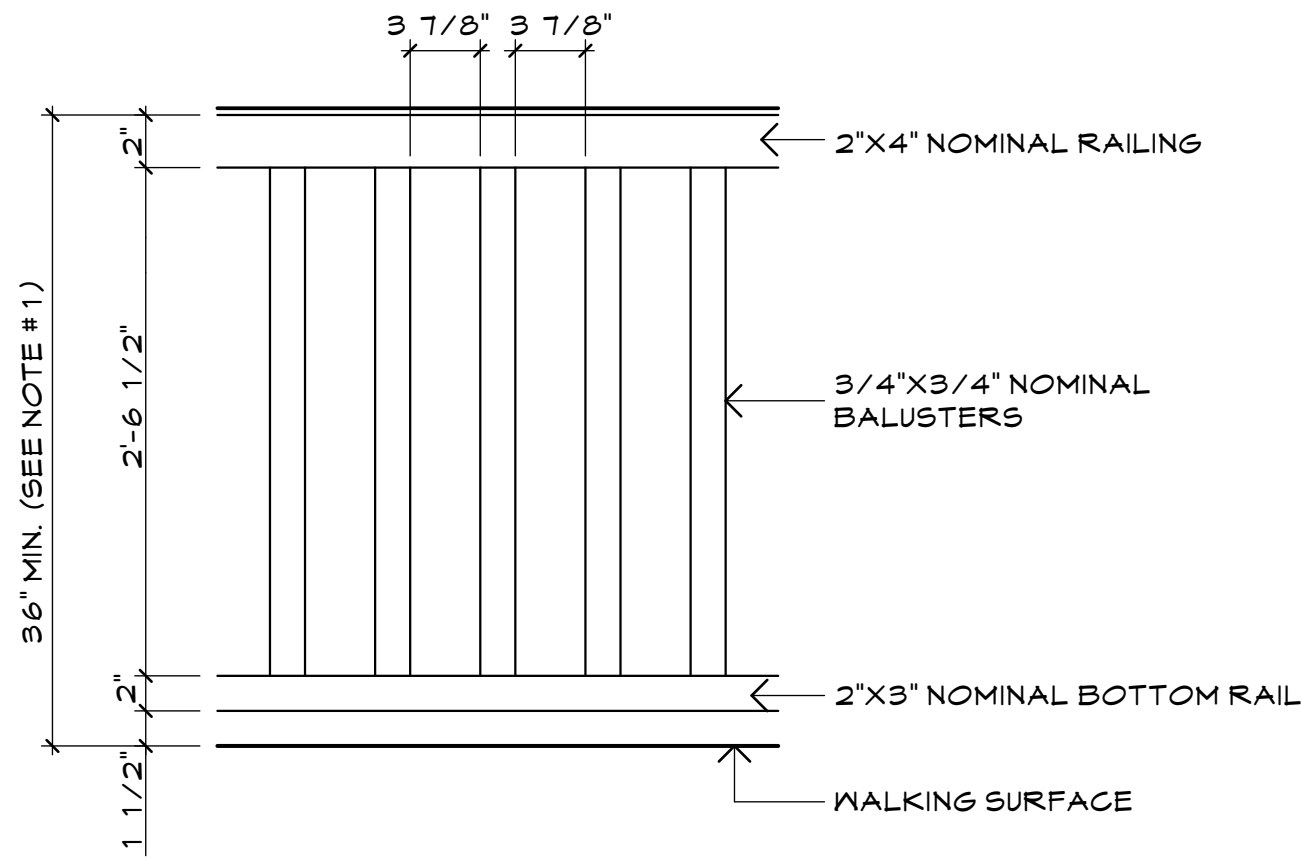
SHEET TITLE
Building Sections (5-8)
A~3.2
SHEET 14 **OF 17**



TYPICAL FASCIA DETAIL (plumb cut)

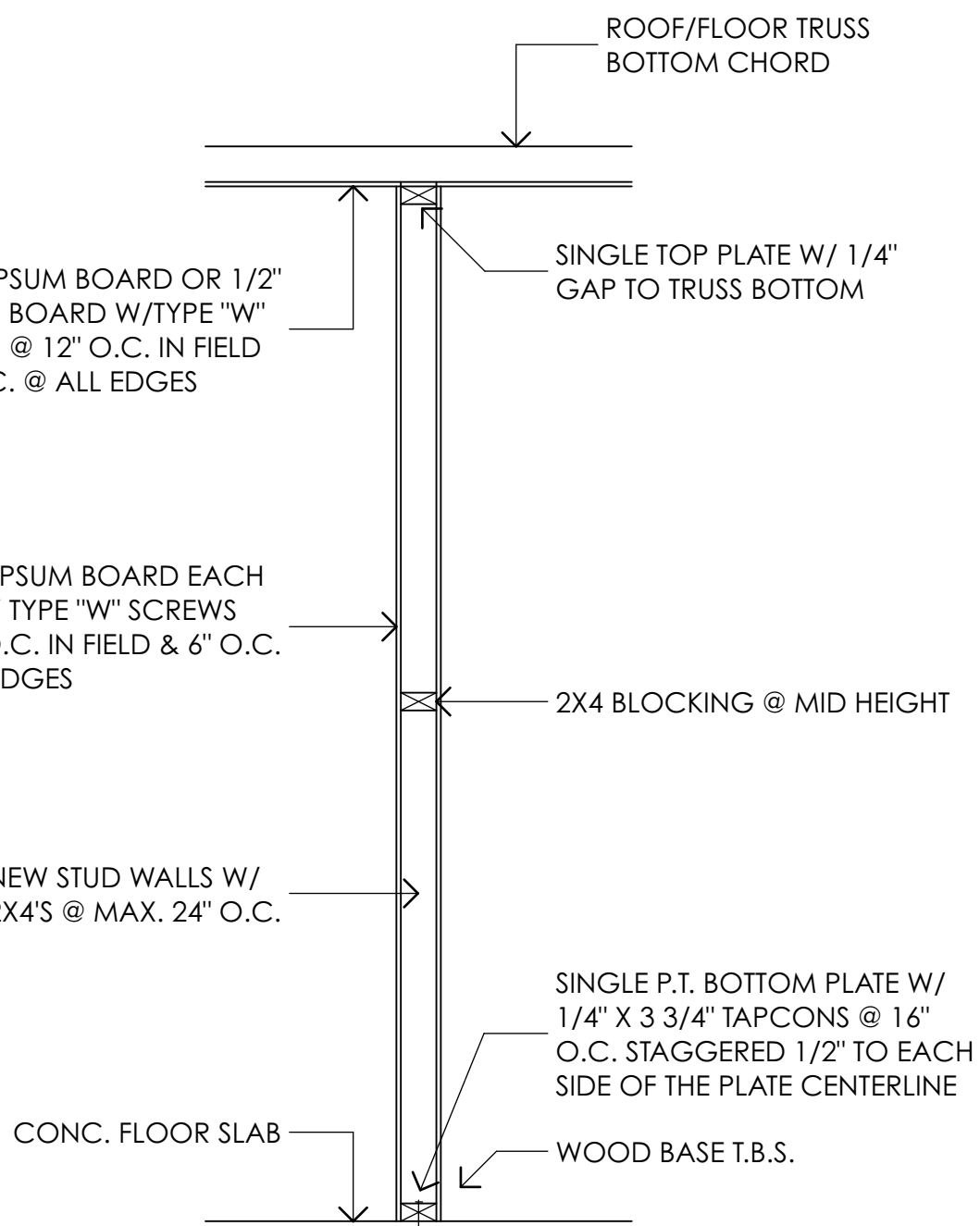


ELEVATOR DETAILS

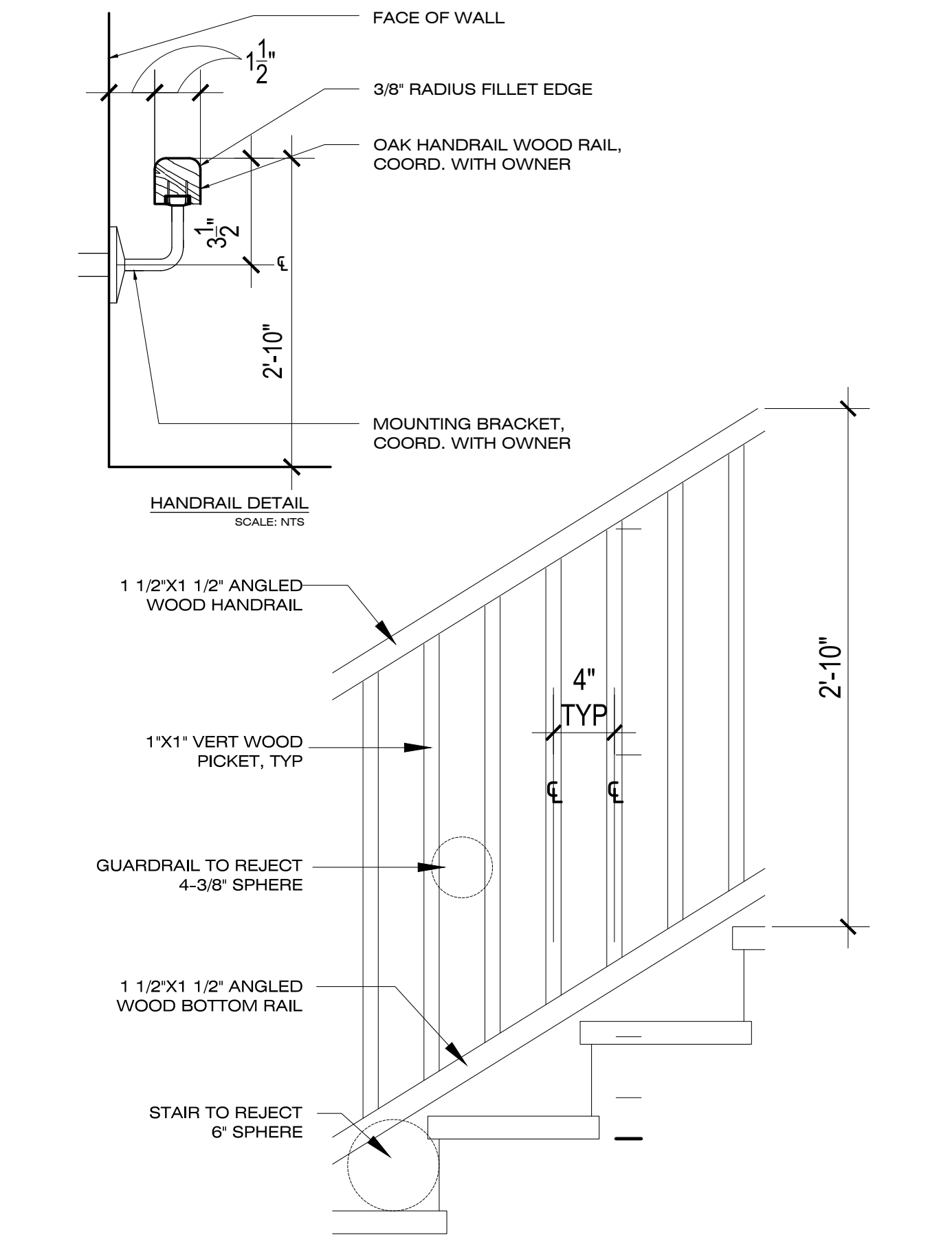


- NOTES:
- STAIRWAY HANDRAILS SHALL BE BETWEEN 34"-38" ABOVE THE LEADING EDGE OF EACH TREAD.
 - ALL HANDRAILS, EXTENSIONS AND GUARDRAILS SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS R3 11 & 3 12 OF THE CURRENT FLORIDA BUILDING CODE, RESIDENTIAL 410.12 OF THE CURRENT FLORIDA BUILDING CODE, BUILDING.
 - HANDRAILS FOR STAIRWAYS SHALL BE CONTINUOUS FOR THE FULL LENGTH OF THE FLIGHT (I.E. DIRECTLY ABOVE THE TOP & LOWEST NOSING EDGE OF THE FLIGHT).
 - THIS DETAIL IS SCHEMATIC AND INTENDED TO ILLUSTRATE THE MINIMUM OR MAXIMUM ALLOWABLE DIMENSIONS. THE ACTUAL DESIGN AND PROFILE MAY VARY. CONSULT W/ OWNER FOR ALL MATERIAL SELECTIONS & FINAL DESIGN.

TYP. RAILING DETAILS



TYP. INTERIOR WALL DETAIL (NON-LOAD BEARING)



2020 F.B.C. (1st Edition) SECTION R311 REQUIREMENTS: (refer to the Code for all criteria)

Riser Height - Maximum riser height shall be 7 3/4" measured vertically between leading edges of adjacent treads.

Tread Depth - The minimum tread depth shall be not less than 10 inches measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge.

Winder Treads - Minimum tread depth of 10 inches (measured as above) at the Walkline (a point 12 inches from the side where the treads are narrower). Winder treads shall have a minimum tread depth of 6 inches at any point within the clear width of the stair.

TYP. INTERIOR STAIR DETAIL

REFER TO STRUCTURAL DRAWINGS FOR DESIGNATIONS & DETAILS OF ALL SHOWN LOAD BEARING WALLS, POINTS, COLUMNS & BEAMS

C. Michael McCoy
Residential Designs, Inc.
Post Office Box 1305
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(phone) 727.492.3683
www.mccoyresidentialdesigns.com

STRUCTURAL ENGINEER OF RECORD
KOLY INTERNATIONAL, INC.
760 4th AVENUE SOUTH
ST. PETERSBURG, FL 33701
TELEPHONE: (727) 898-2270
M.K. ELKHOUTY, P.E. #58159
CERTIFICATE # CA-0034704



THIS DRAWING IS ISSUED FOR CONSTRUCTION AFTER BEING REVIEWED BY THE ENGINEER OF RECORD TO ENSURE COMPLIANCE WITH KOLY INTERNATIONAL, INC. STRUCTURAL DRAWINGS AND TEMA REGULATIONS.

The Chamberlin Residence
Custom Waterfront Residence
PROJECT LOCATION:
3101 Pass-A-Grille Way (lot 2) St. Pete Beach, FL
MUNICIPALITY: City of St. Pete Beach
CONTRACTOR: Tom Pici & Son Builders, Inc.
ADDRESS: 7211 1st Ave. S, St. Petersburg, FL

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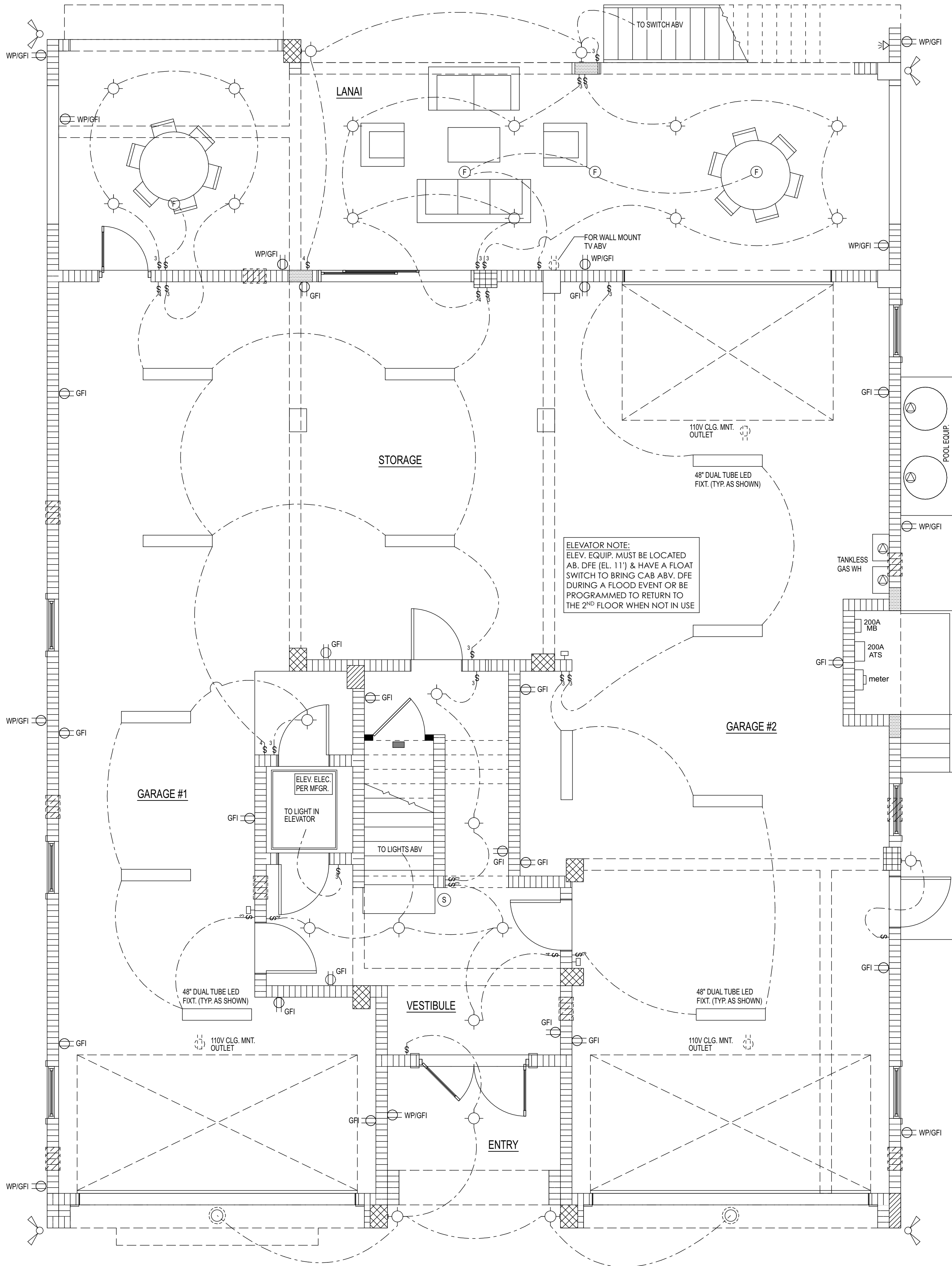
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SHEET TITLE

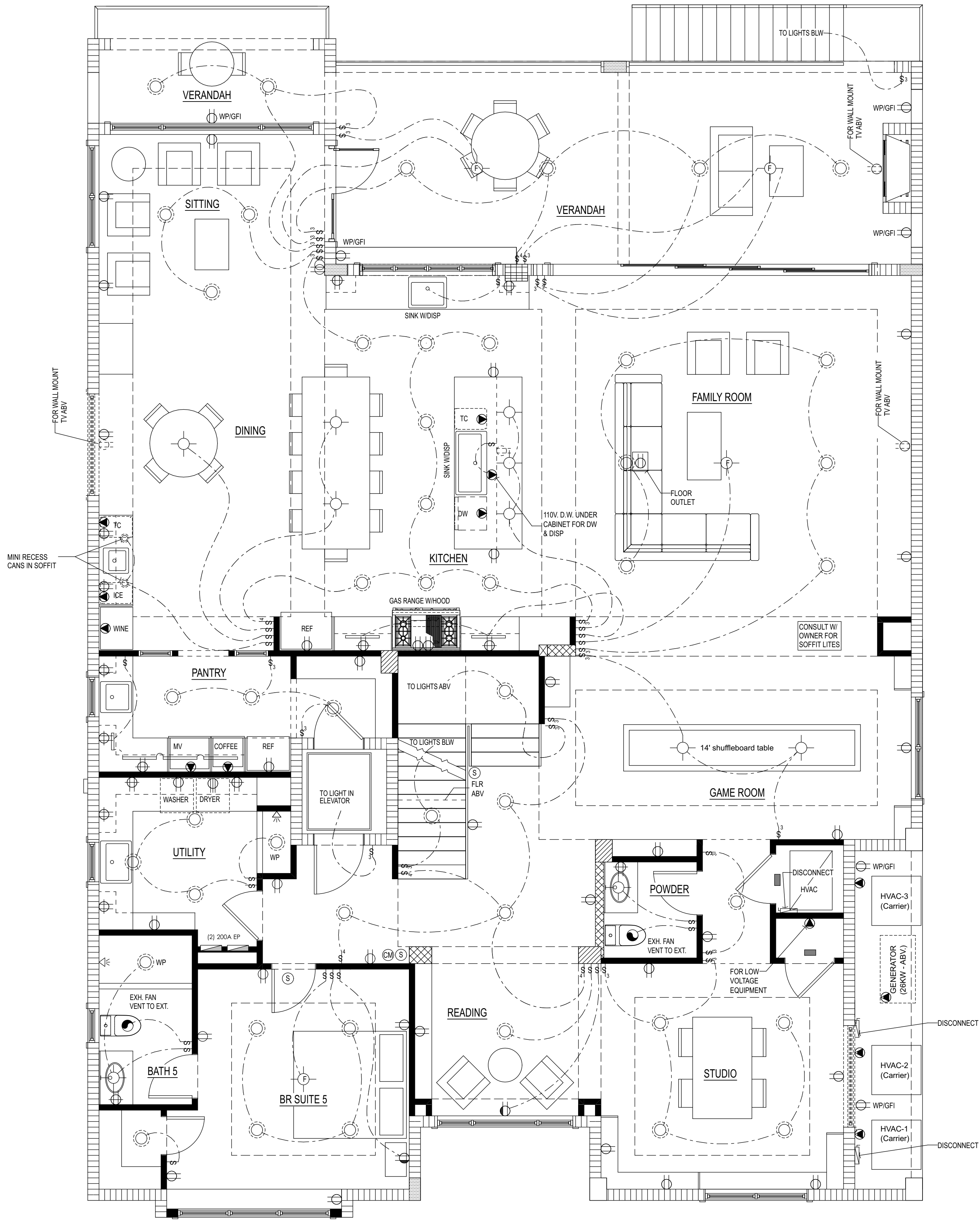
Details

A~4.1

SHEET 15 OF 17



FIRST FLOOR ELECTRICAL PLAN
SEE SHEET E-1.2 FOR SYMBOL LEGEND



SECOND FLOOR ELECTRICAL PLAN
SEE SHEET E-1.2 FOR SYMBOL LEGEND

C. Michael McCoy
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STRUCTURAL ENGINEER OF RECORD

The Chamberlin Residence

Custom Waterfront Residence

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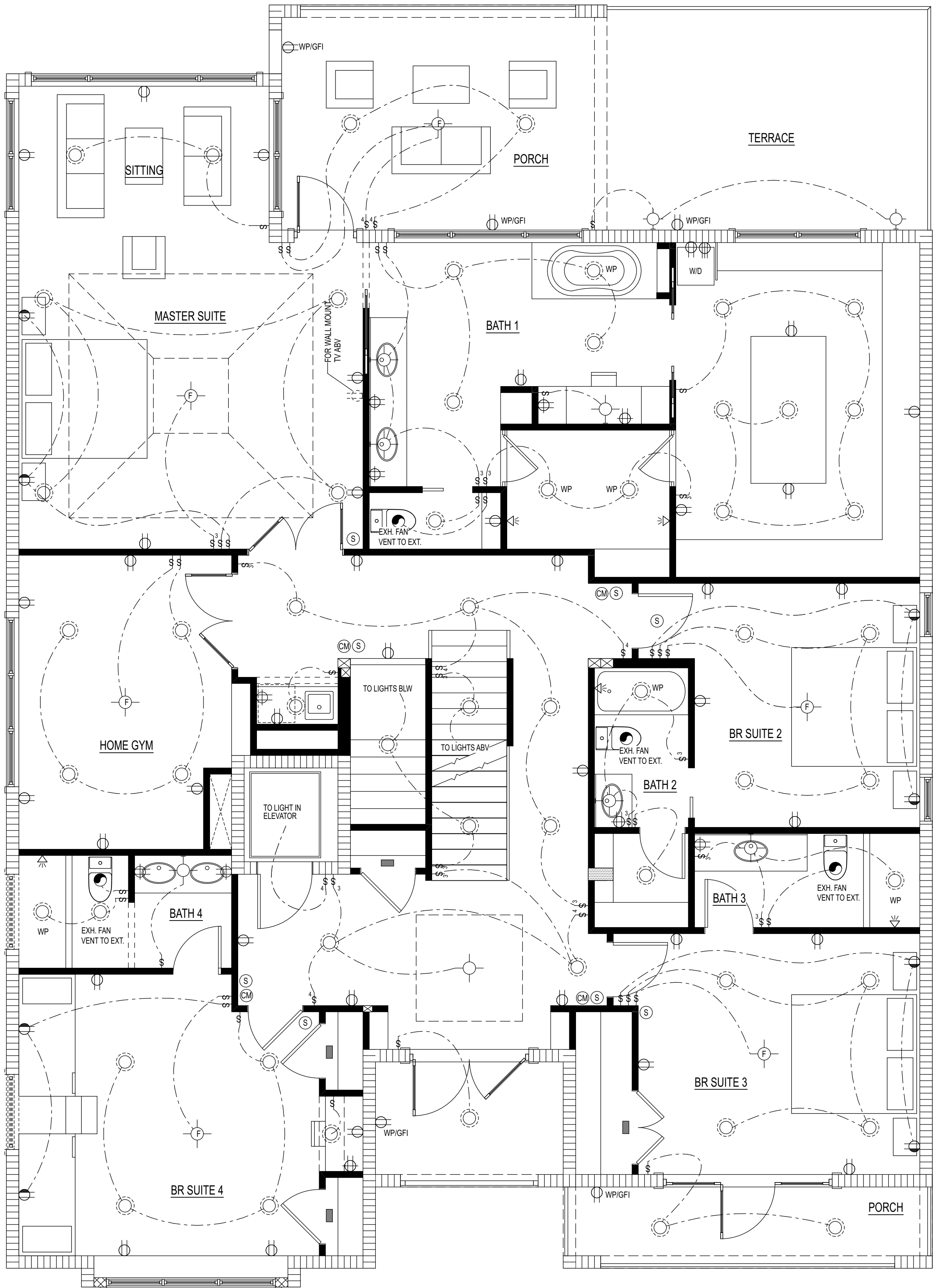
SHEET TITLE

First & Second Floor
Electrical

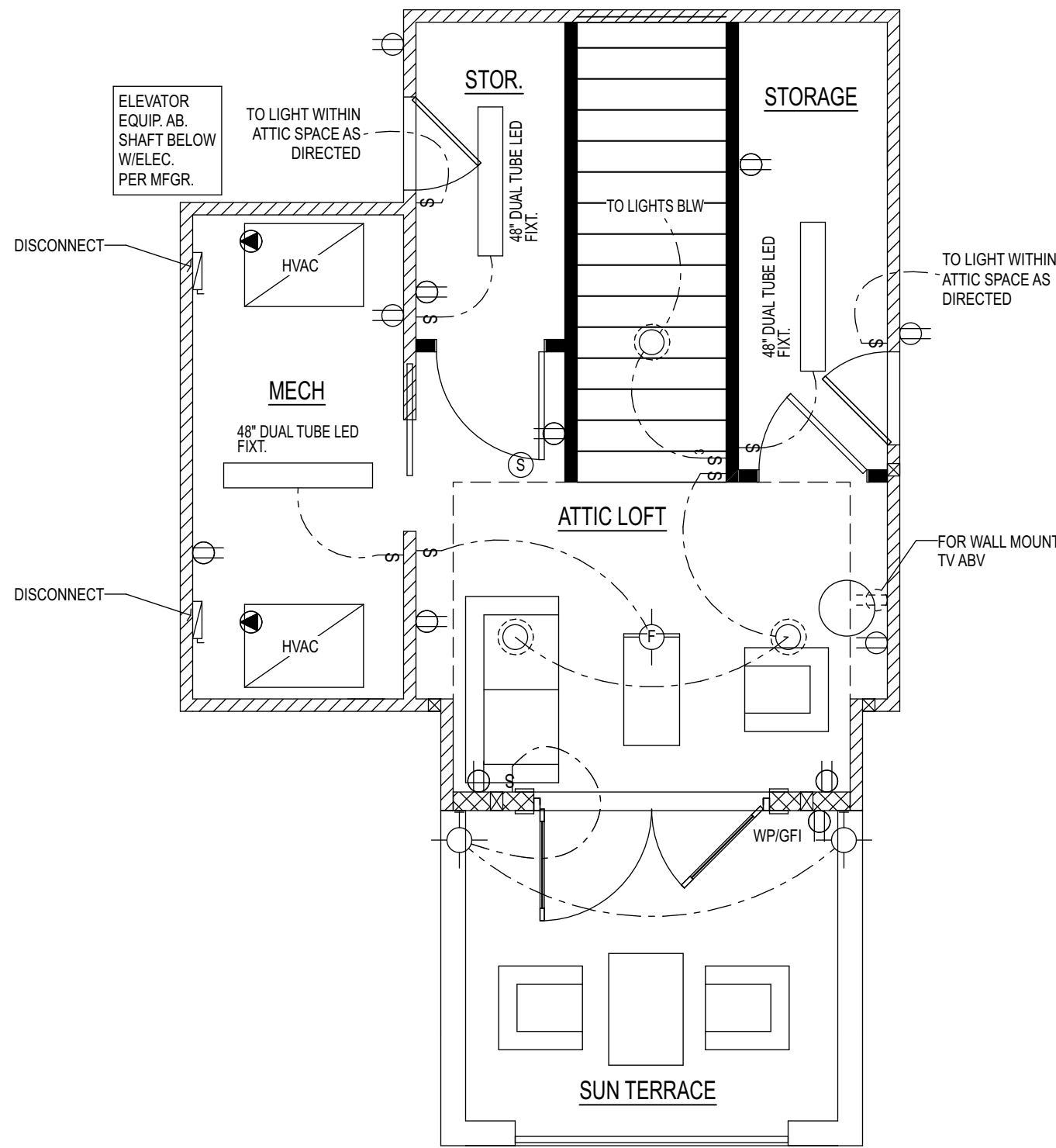
E~1.1

SHEET 16

OF 17



THIRD FLOOR ELECTRICAL PLAN



ATTIC FLOOR ELECTRICAL PLAN

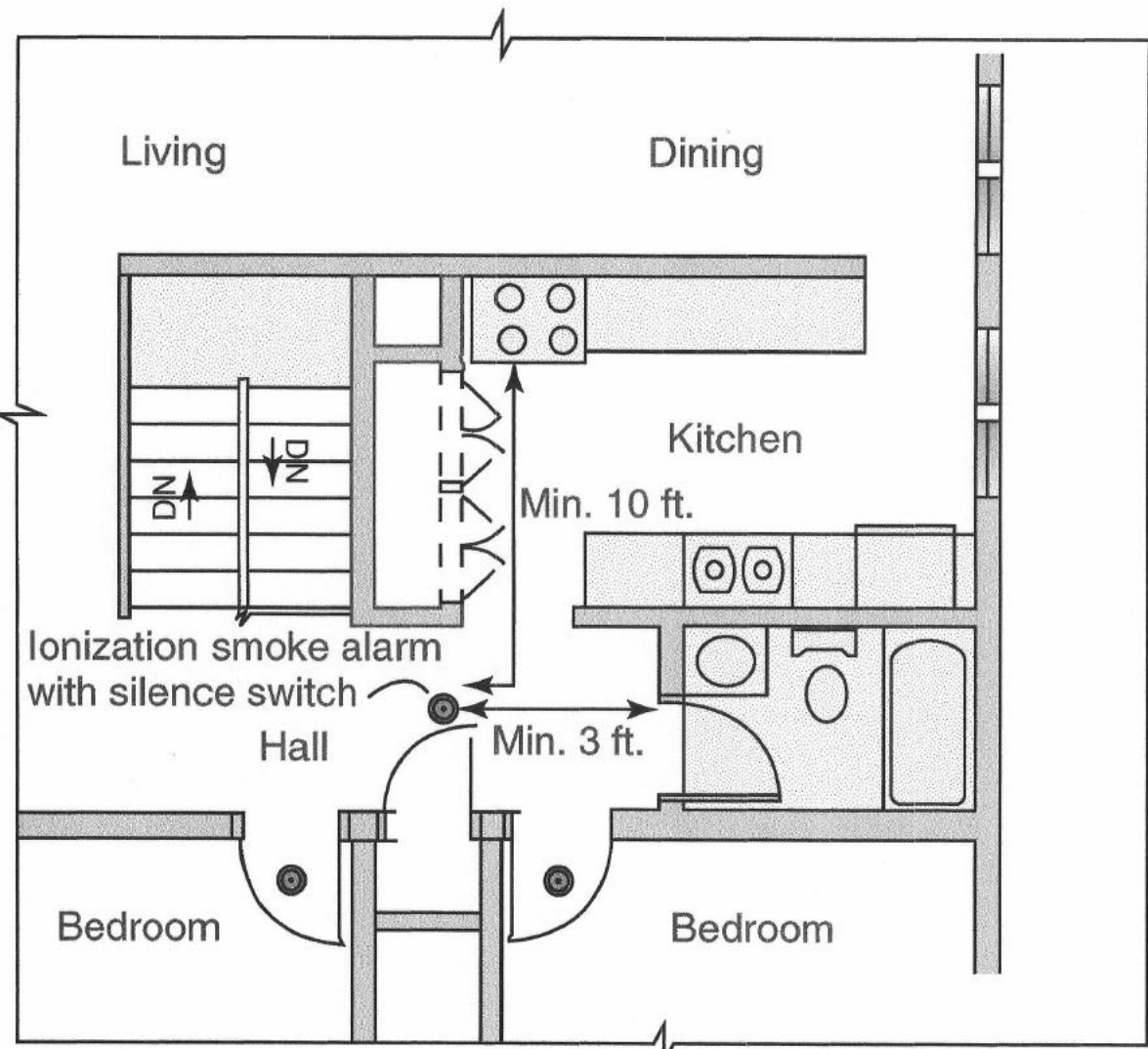
ELECTRICAL PLAN SPECIFICATIONS & GENERAL NOTES:

NOTE: ALL ELECTRICAL DISCONNECTS, SWITCHES, RECEPTACLES & FIXTURES SHALL BE LOCATED ABOVE THE D.F.E. AS NOTED WITHIN THE PLAN SET (EXCEPTION: AS ALLOWED BY THE BUILDING OFFICIAL FOR MINIMUM BUILDING ACCESS)

1. THE ELECTRICAL PLANS ARE CONCEPTUAL. THE ELECTRICAL CONTRACTOR SHALL PERFORM A WALK-THRU WITH THE OWNER PRIOR TO ROUGH-IN, IN ORDER TO ESTABLISH THE FINAL REQUIREMENTS AND LAYOUT. ELECTRICAL CONTRACTOR SHALL COMPLY WITH ALL CURRENT NEC REQUIREMENTS.
2. CONSULT WITH OWNER FOR INTERCOM, SECURITY & AUDIO-VISUAL SYSTEMS.
3. ALL FIXTURES, SWITCH TYPES, DIMMERS, PLATES, ETC. T.B.S. BY OWNER.
4. CONSULT WITH OWNER FOR ALL EXTERIOR LIGHTING REQUIREMENTS, INCLUDING LANDSCAPE, POOL, SECURITY, DRIVEWAY, ETC.
5. ALL 120 VOLT OUTLETS NOT LABELED GFI (GFCI PROTECTED) SHALL BE AFCI PROTECTED (ARC FAULT INTERRUPTER).
6. ALL SMOKE DETECTORS SHALL COMPLY W/NFPA 72 & FBCR314 & SHALL BE INTERCONNECTED PER FBCR314.4.
7. ALL CARBON MONOXIDE ALARMS SHALL COMPLY W/FBCR315.
8. COMBINATION SMOKE & CARBON MONOXIDE ALARMS ARE PERMITTED & SHALL COMPLY W/FBCR315.1.2.
9. ALL EXTERIOR LIGHTS & RECEPTACLES SHALL BE WEATHER-PROOF.
10. ALL TELEPHONE SERVICE SHALL BE CAT-5 MINIMUM. COORDINATE ALL CABLE, TELEPHONE AND COMPUTER NETWORK WITH OWNER.
11. ALL ELECTRICAL & EQUIPMENT SHALL BE LOCATED ABOVE THE DFE, EXCEPT AS ALLOWED BY THE LOCAL BUILDING AUTHORITY.
12. CONSULT W/THE BUILDING OFFICIAL FOR ENTRYWAY LIGHTING SWITCHES THAT ARE ALLOWED BELOW THE DFE.
13. INSTALL 75% HIGH-EFFICIENCY LIGHTING AS REQUIRED PER FL ENERGY CODE.
14. GARAGE OUTLETS MUST BE ON A SEPARATE BRANCH CIRCUIT.
15. CONSULT WITH OWNER FOR ALL LOW VOLTAGE AND LED LIGHTING LOCATIONS & REQUIREMENTS.
16. PROVIDE ELECTRICAL POWER AS REQUIRED AT ALL EXTERIOR WINDOWS & SLIDING GLASS DOORS FOR POWERED SHADES.
17. PROVIDE IN-CABINET RECEPTACLES IN BATHROOMS AS DIRECTED BY OWNER.

ELECTRICAL LEGEND

- | | | | |
|--|---|--|---|
| | DUPLEX OUTLET | | ROUND RECESS LIGHT FIXTURE |
| | DUPLEX OUTLET, CABINET LOCATIONS | | ROUND RECESS LIGHT FIXTURE (EYEBALL TRIM) |
| | SPLIT DUPL. OUTLET, TOP PLUG IS 'HOT' | | EXHAUST FAN / LITE COMBO |
| | WEATHERPROOF DUPL. OUTLET (110V AT 12" AFF) | | PREWIRED JUNCTION BOX FOR LIGHT FIXTURE |
| | 220V OUTLET | | CEILING MOUNT SMOKE |
| | SPECIAL PURPOSE CONNECTION | | CARBON MONOXIDE DETECTOR |
| | TELEPHONE OUTLET (1 CAT-5) | | LED UC LIGHT STRIP |
| | TELEVISION OUTLET (1 RG-6) | | LED LIGHT FIXTURE |
| | MEDIA PORT (1 RG-6 AND 1-CAT-5) | | EXHAUST FAN |
| | MULTI MEDIA PORT (2 RG-6 AND 2-CAT-5) | | WALL MOUNT CHIMES |
| | SWITCH | | FLOOD LIGHT |
| | 3-WAY SWITCH | | THERMOSTAT (AS DIRECTED) |
| | 4-WAY SWITCH | | SECURITY KEY PAD (AS DIRECTED) |
| | DIMMER SWITCH | | ELECTRICAL METER |
| | PUSH BUTTON (GARAGE DOOR, DOORBELL, ETC.) | | ELECTRICAL SERVICE PANEL |
| | CEILING MOUNT LIGHT FIXTURE | | GAS DROP |
| | WALL MOUNT LIGHT FIXTURE | | |
| | CEILING FAN PREWIRE | | |



Smoke alarm distances from bathrooms and cooking appliances

STRUCTURAL ENGINEER OF RECORD

The Chamberlin Residence

Custom Waterfront Residence

PROJECT LOCATION:

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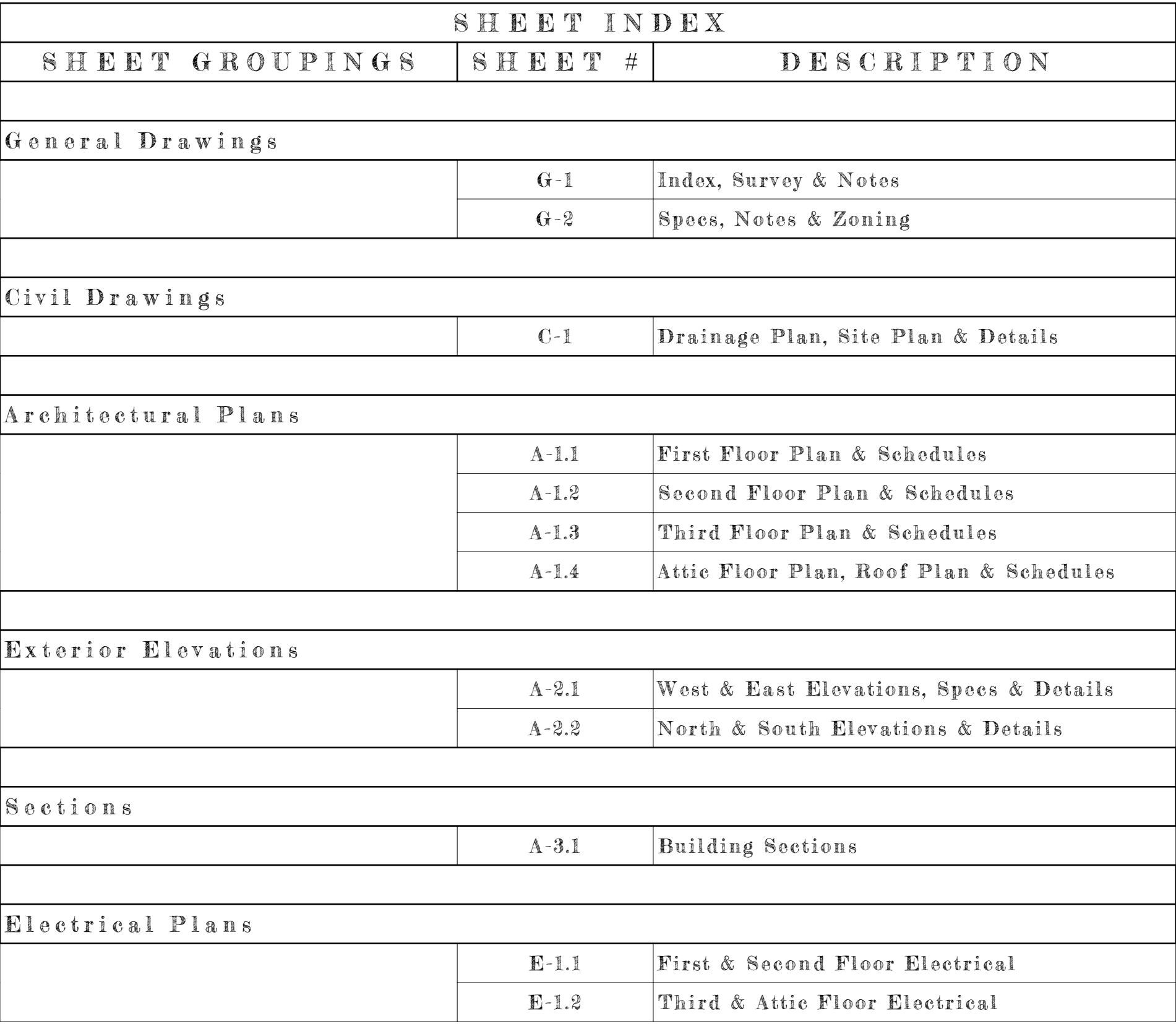
SHEET TITLE

Third & Attic Floor
Electrical

E~1.2

SHEET 17

OF 17



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ON THE DATE ADJACENT TO THE SEAL.

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PLAN REVISION LOG

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SHEET TITLE

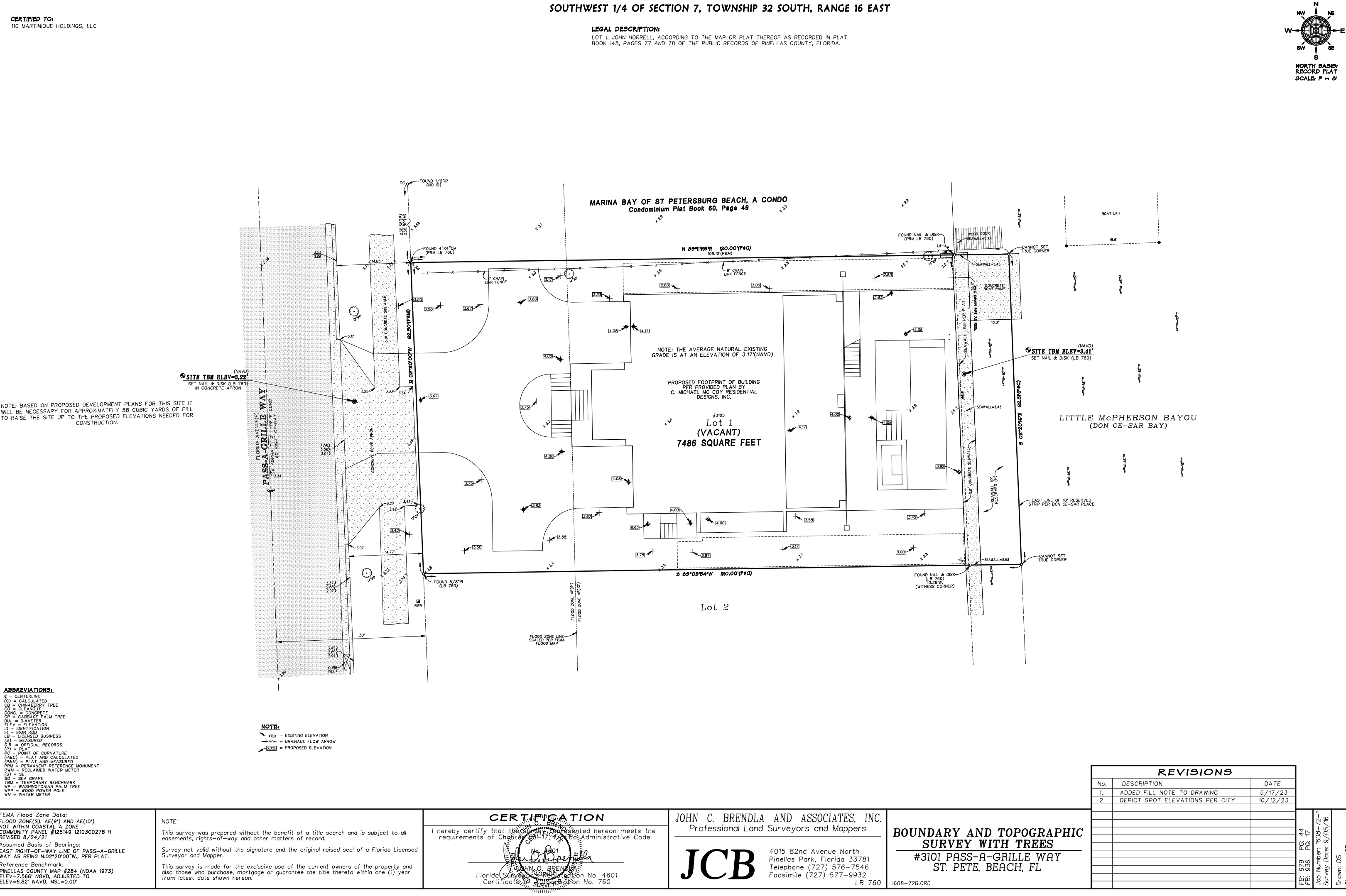
SHEET 1 OF 12

CONTRACTOR SHALL PROVIDE THE FOLLOWING:

- NEITHER THE STRUCTURAL ENGINEER OF RECORD (KOLY INTERNATIONAL) NOR G. MICHAEL MCCOY PRESIDENTIAL DESIGNS, INC. ARE RESPONSIBLE FOR THE DESIGN, ENGINEERING, INSTALLATION, PLACEMENT OR PERFORMANCE OF THE FOLLOWING SYSTEMS, IN WHOLE OR IN PART:
- ELECTRICAL, MECHANICAL AND LOCAL CALCULATION
 - PLUMBING SYSTEMS, INCLUDING ROOF DRAINS, SCUPPERS, GUTTERS AND DRAINAGE
 - MECHANICAL SYSTEMS, INCLUDING HVAC
 - CIVIL ENGINEERING, INCLUDING SITE PLAN AND SITE DRAINAGE
 - POOL, SPA AND DECK DESIGN (INCLUDING FOUNDATION)
 - FIRE PROTECTION SYSTEMS
 - PRE-ENGINEERED STRUCTURAL COMPONENTS (TRUSSES, CONNECTION HARDWARE, ETC.)
 - FLASHING DETAILS, SPECIFICATIONS AND APPLIED METHODS OF INSTALLATION FOR ALL ROOFS, DECKS, SLABS, FLOORS, PORCHES, WALL OPENINGS, PENETRATIONS, ETC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL SUGGESTIVE METHODS FOR THE ABOVE ITEMS MAY BE INCLUDED WITHIN THE CONSTRUCTION DOCUMENTS (E.G. PLANS, DETAILS, & SPECIFICATIONS). HOWEVER, RESPONSIBILITY FOR THE DESIGN, ITS PERFORMANCE, AND/OR INSTALLATION IS NOT IMPLIED OR GUARANTEED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR OF RECORD, ALL SUB-CONTRACTORS, AND SUPPLIERS AND MANUFACTURERS OF THE MATERIALS TO BE SUBMITTED FOR THE CONTRACT APPROVED AND REVIEWED. MATERIALS, SPECIFICATIONS AND INDUSTRY STANDARD METHODS OF CONSTRUCTION AND INSTALLATION ARE FOLLOWED. THE ENGINEER AND BUILDING DESIGNER SHALL BE HELD HARMLESS AGAINST ANY AND ALL CLAIMS.

THIS SHALL BE UNDERSTOOD BY THE OWNER, CONTRACTOR, SUB-CONTRACTORS, THEIR EMPLOYEES, AGENTS AND/OR REPRESENTATIVES THAT C. MICHAEL MCGOY (INDIVIDUALLY AND/OR THE CORP.) SHALL BE HELD HARMLESS IN THE EVENT OF ANY WORK ILLUSTRATED IN THESE DOCUMENTS. THE GENERAL BEARING OF THE CONTRACTOR, ARCHITECT, BUILDING, ETC. IS OBTAINED AS THE ONLY BINDING INSTRUCTIONS FOR THIS PROJECT. ANY SUBSEQUENT DIRECTIVES (WHETHER ORALLY, WRITTEN OR IN GRAPHIC FORM) SHALL NOT BE CONSIDERED BINDING UNLESS SAME BEARS THE SIGNATURE AND RAISED SEAL OF THE ENGINEER OF RECORD. THE GENERAL CONTRACTOR SHALL BEAR ALL RESPONSIBILITY FOR THE WORKMANSHIP AND METHODS OF CONSTRUCTION, INSTALLATION OR MAINTENANCE OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL CODES, ORDINANCES AND REGULATIONS, THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY STANDARDS. FURTHERMORE, GOOD ENGINEERING PRACTICES SHALL BE UTILIZED AT ALL TIMES.

REFER TO STRUCTURAL DRAWINGS
FOR DESIGNATIONS & DETAILS OF
ALL SHOWN LOAD BEARING WALLS,
POINTS, COLUMNS & BEAMS



Florida Product Approval Schedule

Final selections to be selected by Owner

Category/Subcategory	Manufacturer	Product Description	Approval No.
1. EXTERIOR DOORS [see plans & schedules for door types]			
A. SWINGING FRENCH	MARVIN	COASTLINE	FL33689, FL34006
	P.G.T. INDUSTRIES	WINGUARD	FL253
	ANDERSEN	400 SERIES STORMWATCH	FL14285.2
B. ENTRANCE DOOR	MARVIN	COASTLINE	FL34006, FL34008
C. MULTI-SLIDE (SLIDING GLASS)	MARVIN	COASTLINE	FL33565
	P.G.T. INDUSTRIES	WINGUARD	FL251
	EURO-WALL	EURO VISTA	FL34003
D. GLIDING PATIO (SLIDING GLASS)	MARVIN	ULTIMATE	FL37163
	ANDERSEN	400 SERIES STORMWATCH	FL14429.7
F. GARAGE SECTIONAL	MARVIN	COASTLINE	FL33694
	OVERHEAD DOOR	THERMACORE-WINDSTORM	FL32170
	CLOPAY	WINDCODE	FL15279-R6
G. FIBERGLASS	MASONITE CORP.	STORMGUARD FIBERGLASS	FL22378
H. COMPOSITE	THERMA TRU	S8200	FL20468.4
J. SIDELITE/TRANSOM			
K. OTHER			
2. WINDOWS [see plans & schedules for window types]			
A. SINGLE HUNG	MARVIN	COASTLINE	FL33620
	P.G.T. INDUSTRIES	WINGUARD	FL239
B. CASEMENT	MARVIN	COASTLINE	FL34015
	P.G.T. INDUSTRIES	WINGUARD	FL245
	ANDERSEN	400 SERIES STORMWATCH	FL12496.4
C. AWNING	MARVIN	COASTLINE	FL34093
	P.G.T. INDUSTRIES	WINGUARD	FL2329
D. FIXED CASEMENT	MARVIN	COASTLINE	FL34706
	P.G.T. INDUSTRIES	WINGUARD	FL243
	ANDERSEN	400 SERIES STORMWATCH	FL12496.4
E. PICTURE/DIRECT GLAZED	MARVIN	COASTLINE	FL33666, FL33676
	P.G.T. INDUSTRIES	WINGUARD	FL243
	ANDERSEN	400 SERIES STORMWATCH	FL15905.3
F. MULLION	MARVIN	ALUMINUM TUBE MULLION	FL34545, FL18596
	P.G.T.	ALUMINUM TUBE MULLION	FL261
G. OTHER			
3. PANEL WALL			
A. SIDING	JAMES HARDIE BUILDING PRODUCTS	FIBER CEMENT SIDING	FL10477, FL13192, FL13223, FL32103
B. SOFFITS	JAMES HARDIE BUILDING PRODUCTS	FIBER CEMENT PANELS	FL13265
C. MASONRY SIDING	CULTURED STONE	ADHERED MASONRY VENEER	FL15047
D. OTHER			
4. ROOFING PRODUCTS			
A. NON-STRUCTURAL METAL ROOFING	MBCI	GALVANIZED METAL ROOF PANELS	FL11903
B. UNDERLAYMENTS	OWENS CORNING	SELF-ADHERED WATERPROOF MEMBRANE	FL9777
C. OTHER			
5. SHUTTERS			

6. SKYLIGHTS			

7. STRUCTURAL COMPONENTS			
A. CONNECTORS	SIMPSON STONG-TIE		FL11473, FL13872, FL10856, FL13904
B. TRUSS PLATES	SIMPSON STONG-TIE		FL15363-R3
C. ENGINEERED LUMBER	BY TRUSS CO.		BY TRUSS CO.
D. PRE-CAST CONCRETE LINTEL	CAST-CRETE		FL158
E. OTHER			

8. NEW PRODUCTS			
A. NEW TECHNOLOGY	SMART VENT	FLOOD/VENTILATION VENT	FL5822
	FLOOD FLAP	FLOOD/VENTILATION VENT	FL17381

GENERAL NOTES:

- 1) THE ABOVE LISTED PRODUCT APPROVAL NUMBERS MAY BE INCOMPLETE. IN THIS CASE, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR OR PRODUCT SUPPLIER TO PROVIDE THE COMPLETE NUMBER WITH DECIMALS AND THE REVISION VERSION, IF APPLICABLE.
- 2) THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE APPROVAL NUMBER(S) FOR ANY PRODUCT SUBSTITUTIONS NOT LISTED IN THIS SCHEDULE.

ZONING COMPLIANCE WORKSHEET

PROJECT INFORMATION:

- PROJECT TITLE: MARTINIQUE HOLDINGS (Custom Single-Family Residence)
- PROJECT ADDRESS: 3105 PASS-A-GRILLE WAY (LOT 1)
- OWNER INFORMATION: MARTINIQUE HOLDINGS, LLC
- CONTRACTOR: TOM PICI & SON BUILDERS, INC.

ZONING & USE:

- MUNICIPALITY: CITY OF ST. PETE BEACH
- ZONING DESIGNATION: RM RESIDENTIAL DISTRICT
- PROPOSED LAND USE: DETACHED SINGLE-FAMILY RESIDENCE

FLOOD ZONE INFORMATION:

- FLOOD ZONE: AE(9') & AE(10')
- BASE FLOOD ELEVATION (BFE): 10' NAVD
- MINIMUM FREEBOARD: (+) 1'
- DESIGN FLOOD ELEVATION (DFE): 11' NAVD

ZONING LAND REQUIREMENTS:

- MINIMUM LOT SIZE (S/F): 5,000 (REQUIRED) 6,884 (ACTUAL)
- MINIMUM LOT WIDTH: 50' (REQUIRED) 62.5' (ACTUAL)

LAND DEVELOPMENT RESTRICTIONS:

- MAX. BUILDING HEIGHT (MIDPOINT PITCHED ROOF): 35' (ALLOWED) 33'-6" (PROPOSED)
- BUILDING HEIGHT MEASURED FROM: 8' ABOVE GRADE
- MINIMUM YARDS (SETBACKS): 20' (FRONT) 6.25' (SIDE-10% OF LOT WIDTH) 20' (REAR)
- OPEN BALCONIES & OPEN STAIRS (SETBACKS): 3' (FRONT & REAR YARD)
- MINIMUM POOL SETBACKS: 3' (REAR TO WATER'S EDGE) 6.25' (SIDES)
- MAXIMUM POOL/SPA/PATIO HEIGHT ABOVE GRADE: 2' (ALLOWED)
- ELEVATED ANCILLARY EQUIPMENT SETBACKS: SAME AS STRUCTURE (NO ENCROACHMENT ALLOWED)
- AT GRADE ANCILLARY EQUIPMENT SETBACKS: 3.25' (SIDE)

LOT COVERAGE CALCULATIONS: SEE ISR WORKSHEET ON THIS SHEET (MAX. 70% ALLOWED)

- MIN. FRONT YARD GREENSPACE: 300 SF (24% OF 1,250 SF) 616 SF (PROPOSED=49%)
- MIN. LOT GREENSPACE: 1,652 SF (24% OF 6,884 SF) 2,217 SF (PROPOSED=32%)

FENCE & WALL REQUIREMENTS:

- MAX. HEIGHT ABV. GRADE (YARDS): 4' (FRONT) 8' (SIDE) 4' (WATERFRONT)

LANDSCAPING REQUIREMENTS: PER SECTION 22.5 OF THE LDR

- MINIMUMUM # OF TREES: 3 T.B.S.



Impervious Surface Ratio (ISR) Worksheet

Impervious surface means any material that prevents absorption of storm water into the ground.

Impervious surface ratio (ISR) means a measurement of the intensity of hard-surfaced development on a site. An impervious surface ratio is the relationship between the total area covered by impervious surfaces on a site and the gross land area of the zoning lot, excluding any portion of the property lying Gulfward of the city's coastal construction and excavation setback line. The impervious surface ratio is calculated by dividing the square footage of the area of all impervious surfaces on the site by the square footage of the gross land area, excluding any portion of the property lying Gulfward of the city's coastal construction and excavation setback line.

Owner Name & Address

Contractor/Applicant Name & Address

Mamdouh R Elkholy

Digitally signed by Mamdouh R Elkholy
Date: 2023.12.13 09:20:58 -0500

Phone 313-220-2133

Phone 727-709-3953

Email pmancina@nceusa.com

Email piciteam@aol.com

Property Address 3105 Pass-a-Grille Way (Lot 1)

Total Lot Area (sq. ft.) 6,884 (to seawall centerline)

Required Calculations:

EXISTING IMPERVIOUS SURFACE:		
Building Footprint:		sq. ft.
Parking and Driveway:		sq. ft.
Pool and/or Patio areas:		sq. ft.
Walkways:		sq. ft.
Other:		sq. ft.
TOTAL EXISTING IMPERVIOUS SURFACE:		sq. ft.

PROPOSED IMPERVIOUS SURFACE:		
Building Footprint:	1,996	sq. ft.
Parking and Driveway:	1,371	sq. ft.
Pool and/or Patio areas:	1,009	sq. ft.
Walkways:	0	sq. ft.
Other:	193	sq. ft.
TOTAL PROPOSED IMPERVIOUS SURFACE:	4,569	sq. ft.

sq. ft.	6,884	sq. ft.	
Total Existing Impervious Surfaces	÷	Lot Area	= Existing Impervious Surface Ratio

4,569	sq. ft.	6,884	sq. ft.	66.4%
Total Proposed Impervious Surfaces	÷	Lot Area	=	Proposed Impervious Surface Ratio

Flood Resistant Construction (general specifications)

Florida Building Codes, 7th Edition (2020)

FBC, Building...

- 1) Flood-resistant design shall conform to Sec. 1612.4. Refer to ASCE 24-14, Flood Resistant Design and Construction for specific requirements.
- 2) Elevation requirements for Flood Design Class 2: BFE (base flood elevation) + 1 foot (freeboard). *Note: Local municipality freeboard ± 1' for a DFE of 11' NAVD*
- 3) All enclosures walls below BFE must have flood openings, including walls intended to breakaway under wave loads.
- 4) Enclosed areas are limited to uses for parking, storage and building access.
- 5) Utility equipment and machinery that serve buildings are required to be elevated at or above the DFE.

FBC, Residential...

- 1) Dwellings designated to be in the Coastal A Zones (CAZ) must comply with the requirements for Zone V per Sec. R322.3.
- 2) Sec. R309.3 requires garages, if below the BFE, to be used solely for parking, access or storage, meet the requirements of Sec. 322 (for enclosed areas below the BFE).
- 3) Use of flood damage-resistant materials is required below the elevations required in R322.2 (Zone A) and R322.3 (Zone V and Coastal A Zones). These materials are capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage. Refer to FEMA Technical Bulletin 2, Flood Damage-Resistant Materials Requirements for approved materials and installation methods.
- 4) The area below elevated dwellings may be enclosed by foundation walls or framed walls. To minimize damage due to hydrostatic loads, flood openings are required (see FEMA Technical Bulletin 1, Openings in Foundation Walls and Walls of Enclosures).
- 5) Pools in flood hazard areas (including A Zones) are required to conform to the requirements of ASCE 24, which preclude obstructing flow that causes damage to other buildings.
- 6) Sec. R322.3 includes specific requirements that apply in coastal high-hazard areas, commonly referred to as "Zone V," and "Coastal A Zones" (CAZ):
 - a) Minimum elevation requirements call for the bottom of the lowest horizontal structural member of the lowest floor to be elevated to or above the BFE plus 1 foot or DFE whichever is higher. The additional elevation called "freeboard" is required in all flood hazard areas.
 - b) Foundations are limited to pilings or columns.
 - c) An exterior door is required at the top of stairways that provide access to dwellings and that are enclosed by breakaway walls. A door is not required at the top of the stairways if the lower entry (below the DFE) is enclosed with shear-walls.

ASCE 24-14 Flood Resistant Design and Construction (general notes)

Building Performance...

- 1) Stairways and ramps must be designed and constructed to resist flood loads and to minimize transfer of flood loads to foundations or to break away without causing damage to the main structure.
- 2) A door is not required at the top of the stairways if the lower entry is enclosed with shear-walls.
- 3) In Coastal High Hazard Areas (Zone V) and Coastal A Zones:
 - a) Buildings must be supported on piles, drilled shafts, caissons, or other deep foundations (including columns, and shear walls) and foundation depth must take into account erosion and local scour.
 - b) Stem-walls supporting floors and back-filled with soil or gravel are allowed in Coastal A Zones if designs provide for the effects of local scour and erosion.
 - c) Pools must be elevated or designed to breakaway without producing damaging debris, or designed to remain in the ground without obstructing flow that causes damage. Pools must be structurally independent of buildings and structures.

Flood Damage-Resistant Materials...

- 1) Flood damage-resistant materials must be used below specified elevations.
- 2) Metal connectors and fasteners exposed to salt water, salt spray or other corrosive agents must be stainless steel or equivalent corrosion resistant material, or hot-dipped galvanized after fabrication.
- 3) Where preservative treated wood is required, treatment must be in accordance with AWPA requirements.

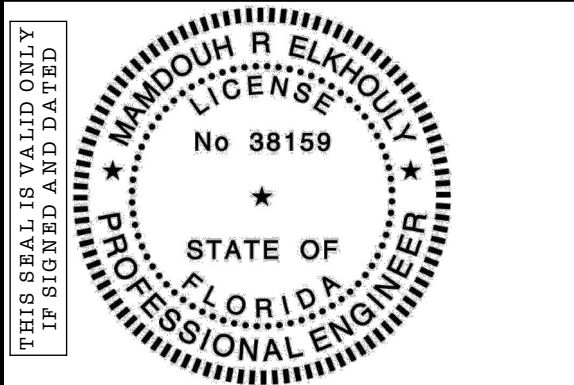
Attendant Utilities and Equipment...

- 1) Attendant utilities and equipment must be at or above specified elevations or must be specifically designed, constructed, and installed to prevent floodwaters from entering or accumulating within components.
- 2) Fuel supply lines must be equipped with float operated automatic shut-off valves.
- 3) Where required to meet life safety provisions of the code, certain exterior electrical components may be installed below the design flood elevation provided they are installed on a non-breakaway structural element.
- 4) Tanks that are below the design flood elevation and that are attached to or beneath buildings must be installed and anchored to resist at least 1.5 times the potential buoyant and other flood forces assumed to act on empty tanks.
- 5) Elevator cabs that descend below the design flood elevation must be equipped with controls that prevent the cab from descending into floodwaters. Elevator shafts must be designed to resist flood loads, but are not required to have flood openings or breakaway walls.

REFER TO STRUCTURAL DRAWINGS FOR DESIGNATIONS & DETAILS OF ALL SHAFT LOAD BEARING WALLS, POINTS, COLUMNS & BEAMS



STRUCTURAL ENGINEER OF RECORD
KOLY INTERNATIONAL, INC.
760 4th AVENUE SOUTH
ST. PETERSBURG, FL 33701
TELEPHONE: (727) 898-2270
M.K. ELKHOLY, P.E. #58159
CERTIFICATE # CA-0034704



THIS DRAWING IS ISSUED FOR CONSTRUCTION AFTER BEING REVIEWED BY THE ENGINEER ON 8/3/2023 TO ENSURE COMPLIANCE WITH KOLY INTERNATIONAL, INC. STRUCTURAL DRAWINGS AND TEMA REGULATIONS

Martinique Holdings, LLC
Custom Waterfront Residence
PROJECT LOCATION:
3105 Pass-A-Grille Way (lot 1) St. Pete Beach, FL
MUNICIPALITY: City of St. Pete Beach
CONTRACTOR: Tom Pici & Son Builders, Inc.
ADDRESS: 7211 1st Ave. S, St. Petersburg, FL

PLAN REVISION LOG		
MARK	DATE	DESCRIPTION
△	12/9/23	Misc. revisions per Planning/ Zoning review dated 11-22-23

DATE:	OCTOBER 13, 2023
PROJECT NO:	23-02
DRAWN BY:	CMM
SCALE:	
BID ISSUE DATE:	00/00/00
PERMIT ISSUE DATE:	00/00/00
CONSTRUCTION ISSUE DATE:	00/00/00

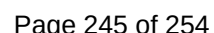
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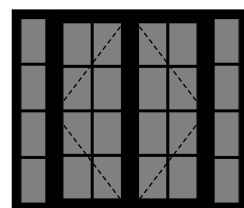
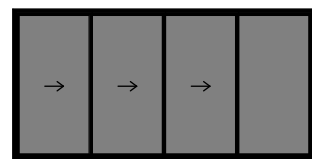
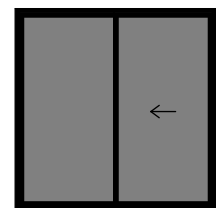
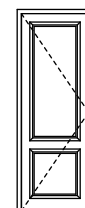
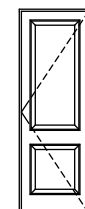
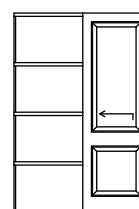
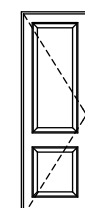
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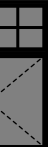
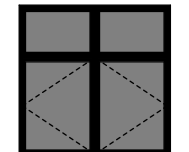
Specs, Notes & Zoning

G-2

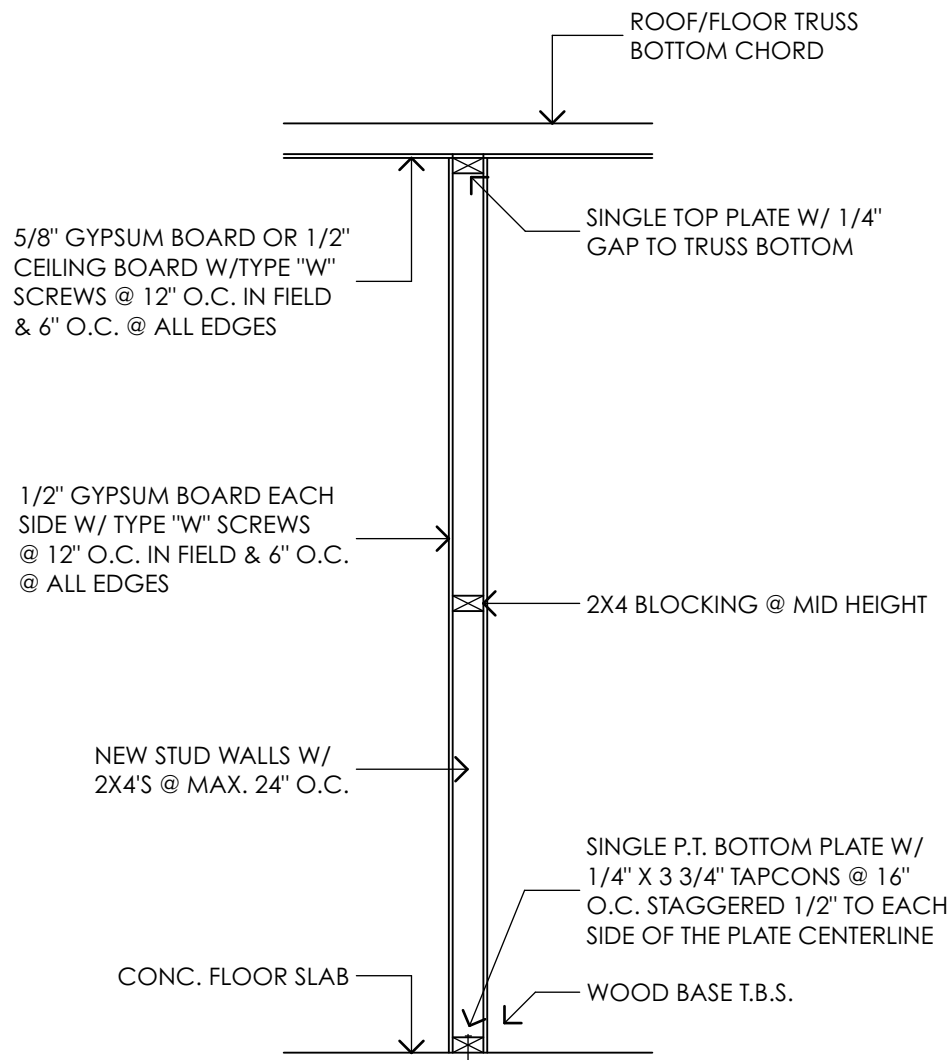
SHEET 2 OF 12



2nd FLOOR DOOR SCHEDULE				
MARK	QTY.	SIZE	ELEVATION	TYPE
2-01	1	9'-4"×8'-0"		(2) 3080 SWINGING GLASS FRENCH WITH FIXED GLASS SIDELITES
2-02	1	16'-0"×8'-0"		(4) PANEL MULTI SLIDE GLASS DOOR
2-03	1	8'-0"×8'-0"		(2) PANEL SLIDING GLASS DOOR
2-04	1	3'-0"×8'-0"		SWINGING SOLID CORE COMPOSITE WITH RAISED PANELS
2-05	4	2'-8"×8'-0"		SWINGING SOLID CORE COMPOSITE WITH RAISED PANELS
2-06	1	2'-8"×8'-0"		POCKET SOLID CORE COMPOSITE WITH RAISED PANELS
2-07	4	2'-6"×8'-0"		SWINGING SOLID CORE COMPOSITE WITH RAISED PANELS

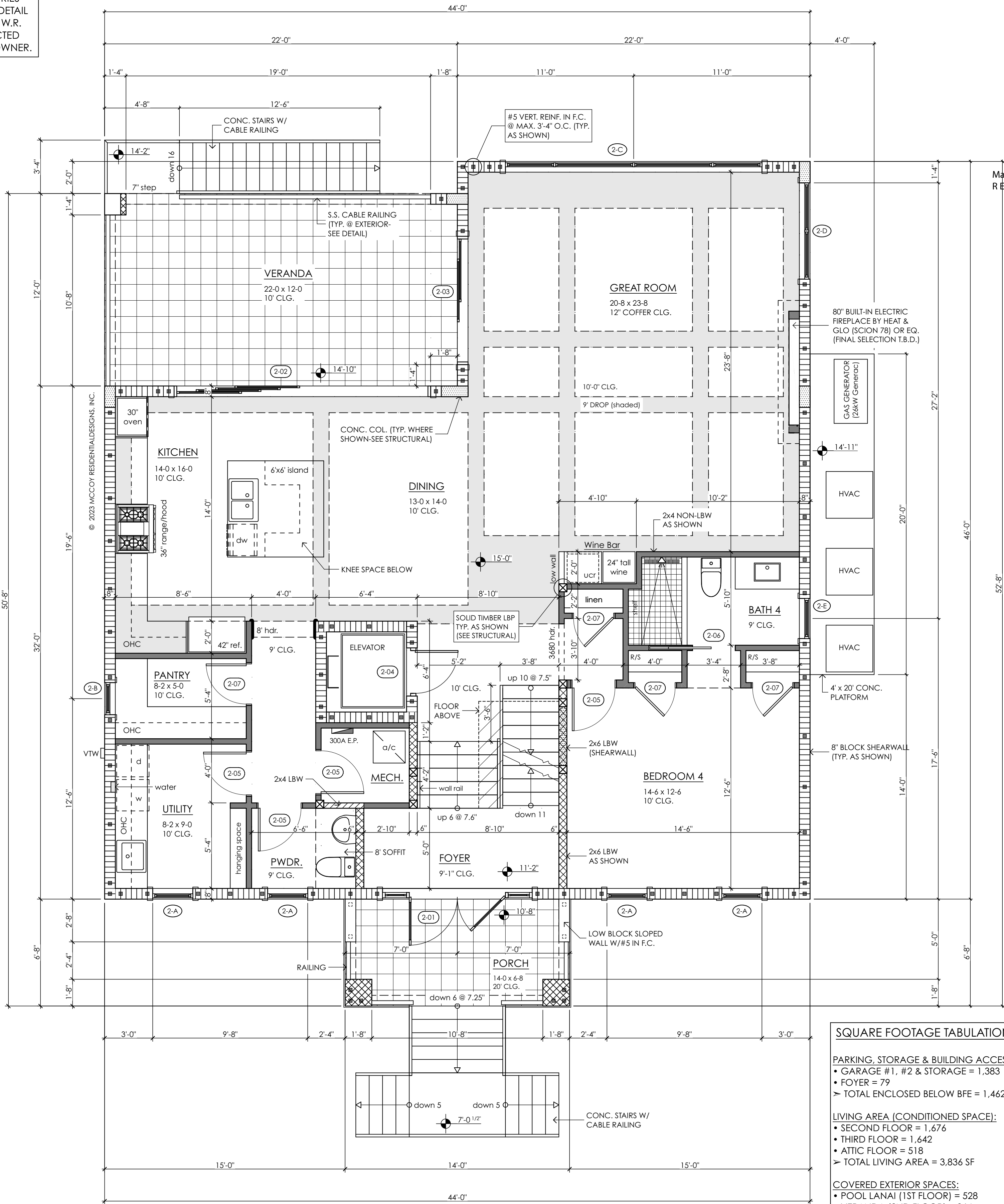
2nd FLOOR WINDOW SCHEDULE (IMPACT RESISTANT GLAZING)					
MARK	QTY.	SIZE	HEAD HEIGHT	ELEVATION	TYPE
2-A	4	2'-6"×6'-0"	8'-0"		2640 CASEMENT WITH 2620 FIXED GLASS TRANSOM
2-B	1	2'-0"×4'-0"	8'-0"		2040 FIXED GLASS CASEMENT
2-C	1	16'-0"×6'-0"	8'-0"		(2) 3040 CASEMENT W/ 3020 FIXED GLASS TRANSOM & (2) 5040 CENTER FIXED PICTURE W/ (2) 5020 FIXED GLASS TRANSOM
2-D	1	6'-0"×6'-0"	8'-0"		(2) 3040 CASEMENT WITH (2) 3020 FIXED GLASS TRANSOM
2-E	1	2'-6"×4'-0"	8'-0"		2640 CASEMENT

NOTE: ALL EXTERIOR CONCRETE DECKS SHALL BE WATERPROOFED USING W.R. MEADOWS LIQUID APPLIED WATERPROOF MEMBRANE OR SHEET WATERPROOFING. USE W.R. MEADOWS ACCESSORIES PER MFGR. (I.E. PRECON FABRIC TAPE, TERMINATION BARS, DETAIL STRIPS & DRIP EDGE). ALL WORK MUST BE PERFORMED BY A W.R. MEADOWS CERTIFIED INSTALLER. THE WORK MUST BE INSPECTED WITH A WARRANTY ISSUED TO THE CONTRACTOR & HOMEOWNER.



TYP. INTERIOR WALL DETAIL

(NON-LOAD BEARING)



SECOND FLOOR PLAN

SQUARE FOOTAGE TABULATION:

PARKING, STORAGE & BUILDING ACCESS:

- GARAGE #1, #2 & STORAGE = 1,383
- FOYER = 79
- TOTAL ENCLOSED BELOW BFE = 1,462 SF

LIVING AREA (CONDITIONED SPACE):

- SECOND FLOOR = 1,676
- THIRD FLOOR = 1,642
- ATTIC FLOOR = 518
- TOTAL LIVING AREA = 3,836 SF

COVERED EXTERIOR SPACES:

- POOL LANAI (1ST FLOOR) = 528
- VERANDA (2ND FLOOR) = 264
- PORCH (2ND FLOOR) = 93
- PORCH (3RD FLOOR) = 244
- PORCH (ATTIC FLOOR) = 117
- TOTAL PORCHES = 1,246 SF

OPEN EXTERIOR SPACES:

- TERRACE (ATTIC FLOOR) = 180

REFER TO STRUCTURAL DRAWINGS
FOR DESIGNATIONS & DETAILS OF
ALL SHOWN LOAD BEARING WALLS,
POINTS, COLUMNS & BEAMS



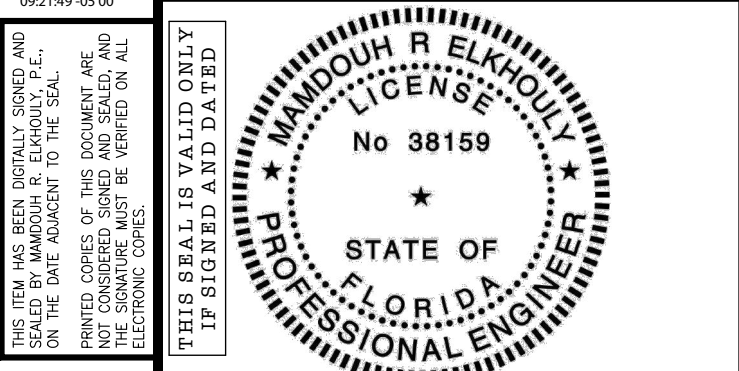
C. Michael McCoy
Residential Designs, Inc.

Post Office Box 1305
Crystal Beach, Florida 34681
(phone) 727.492.2683

www.mccoyresidentialdesigns.com

STRUCTURAL ENGINEER OF RECORD

KOLY INTERNATIONAL, INC.
760 4th AVENUE SOUTH
ST. PETERSBURG, FL 33701
TELEPHONE: (727) 898-2270
M.R. ELKHOULY, P.E. #38159
CERTIFICATE # CA-0004704



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ENSURE COMPLIANCE WITH KOLY INTERNATIONAL, INC.
STRUCTURAL DRAWINGS AND FEMA REGULATIONS

Martinique Holdings, LLC

Custom Waterfront Residence

PROJECT LOCATION:
3105 Pass-A-Grille Way (lot 1) St. Pete Beach, FL

MUNICIPALITY: City of St. Pete Beach

CONTRACTOR: Tom Pici & Son Builders, Inc.
ADDRESS: 7211 1st Ave. S, St. Petersburg, FL

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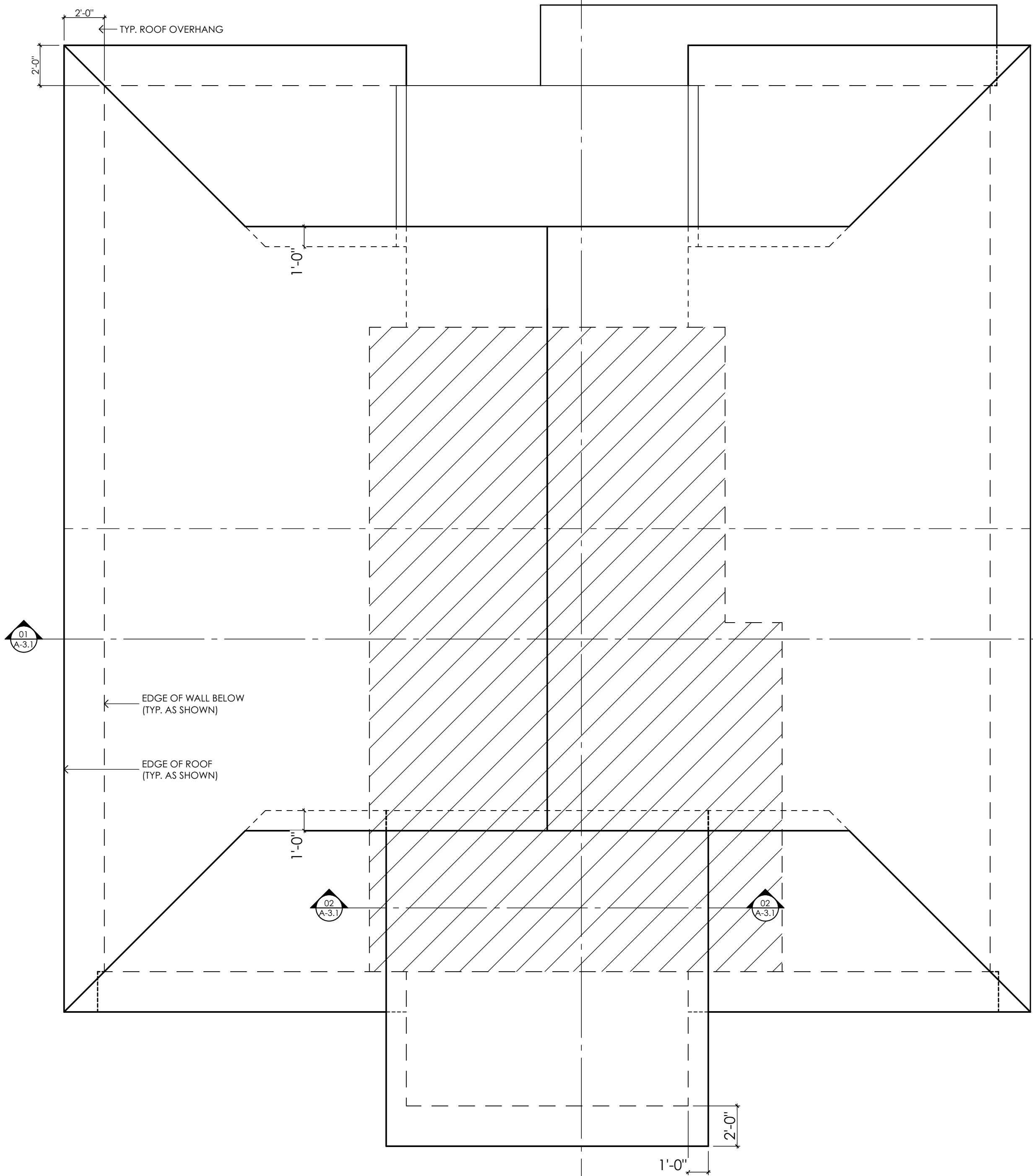
DATE:	OCTOBER 13, 2023
PROJECT NO:	23-02
DRAWN BY:	CMM
SCALE:	1/4" = 1'-0"
BID ISSUE DATE: 00/00/00	
PERMIT ISSUE DATE: 00/00/00	
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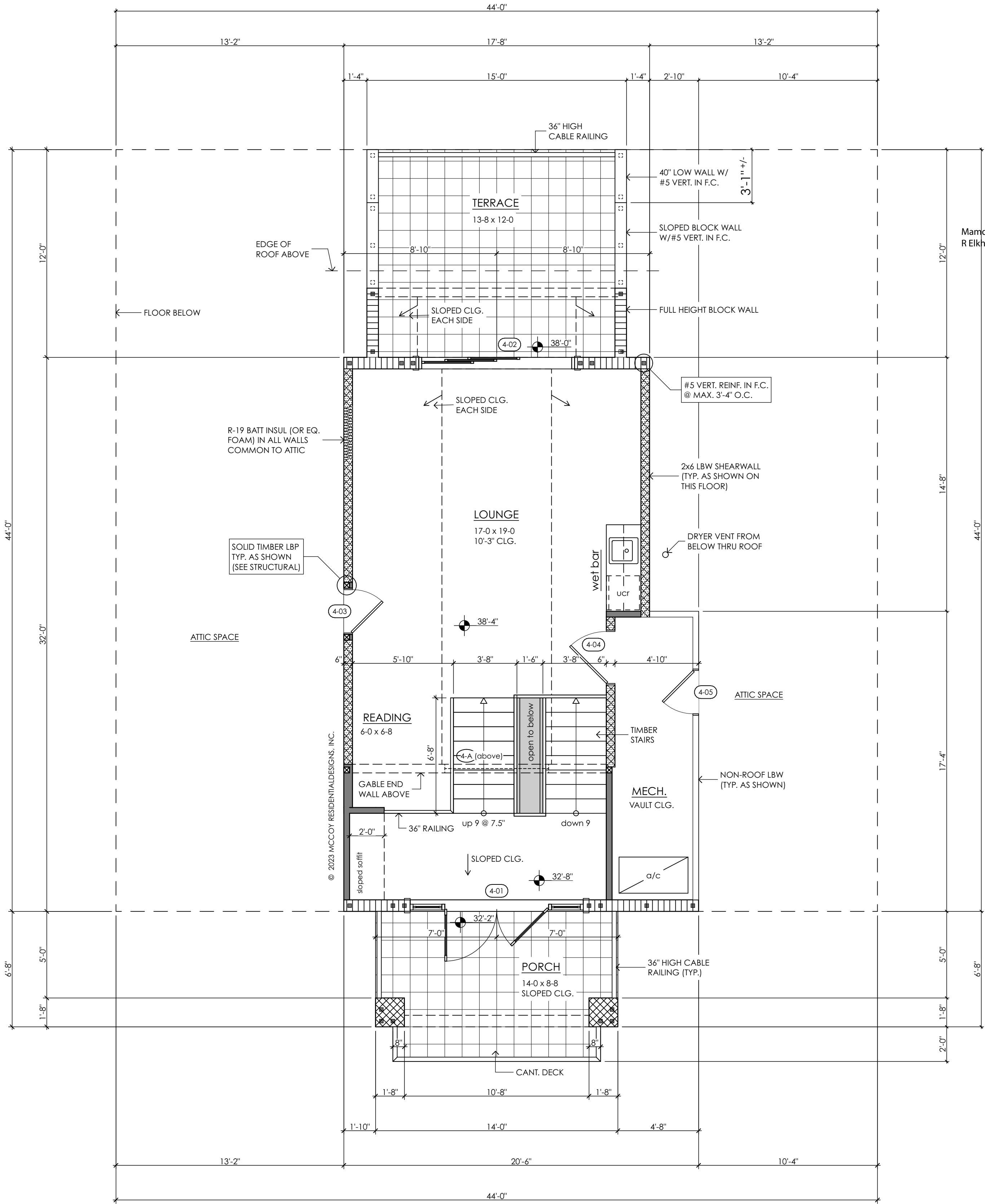
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SHEET TITLE	
Second Floor Plan & Schedules	
A~1.2	
SHEET 5	OF 12

ATTIC FLOOR DOOR SCHEDULE					ATTIC FLOOR DOOR SCHEDULE				
MARK	QTY.	SIZE	ELEVATION	TYPE	MARK	QTY.	SIZE	ELEVATION	TYPE
4-01	1	10'-0"×6'-8"		(2) 3068 SWINGING GLASS FRENCH WITH FIXED GLASS SIDELITES	4-04	1	3'-0"×6'-8"		SWINGING SOLID CORE COMPOSITE WITH RAISED PANELS
4-02	1	9'-0"×8'-0"		(3) PANEL MULTI SLIDE GLASS DOOR	4-05	1	2'-6"×5'-0"		SWINGING SOLID CORE COMPOSITE FLUSH PANEL FOR ATTIC ACCESS (VERIFY SIZE IN FIELD)
4-03	1	2'-6"×6'-8"		SWINGING SOLID CORE COMPOSITE WITH RAISED PANELS					



ROOF & SECTION PLAN



ATTIC LEVEL PLAN

ATTIC FLOOR WINDOW SCHEDULE (IMPACT RESISTANT GLAZING)					
MARK	QTY.	SIZE	HEAD HEIGHT	ELEVATION	TYPE
4-A	1	6'-0"×1'-9"	SEE SECTION 2		6019 FIXED GLASS TRANSOM (FIELD VERIFY SIZE)

REFER TO STRUCTURAL DRAWINGS FOR DESIGNATIONS & DETAILS OF ALL SHOWN LOAD BEARING WALLS, POINTS, COLUMNS & BEAMS

C. Michael McCoy
Residential Designs, Inc.
Post Office Box 1305
Crystal Beach, Florida 34681
(phone) 727.492.3683
www.mccoymrresidentialdesigns.com

STRUCTURAL ENGINEER OF RECORD
KOBY INTERNATIONAL, INC.
760 4th AVENUE SOUTH
ST. PETERSBURG, FL 33701
TELEPHONE: (727) 898-2270
M.K. ELKHOUTLY, P.E. #F8159
CERTIFICATE # CA-0034704

Digitally signed by Mamdouh R Elkhoutly
DN: cn=Mamdouh R Elkhoutly, o=Koby International, Inc., email=elkhoutly@kobyintl.com, c=US
Date: 2023.12.13 09:23:11 -0500

THIS SEAL IS VALID ONLY IF SIGNED AND DATED BY THE ENGINEER OR ARCHITECT.
THIS SEAL IS VALID ONLY IF SIGNED AND DATED BY THE ENGINEER OR ARCHITECT.

STATE OF FLORIDA
PROFESSIONAL ENGINEER
No 38159

THIS DRAWING IS ISSUED FOR CONSTRUCTION AFTER BEING REVIEWED BY THE ENGINEER OR ARCHITECT TO ENSURE COMPLIANCE WITH KOBY INTERNATIONAL, INC. STRUCTURAL DRAWINGS AND TERA REGULATIONS.

Martinique Holdings, LLC
Custom Waterfront Residence
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CONTRACTOR: Tom Pici & Son Builders, Inc.
ADDRESS: 7211 1st Ave. S, St. Petersburg, FL

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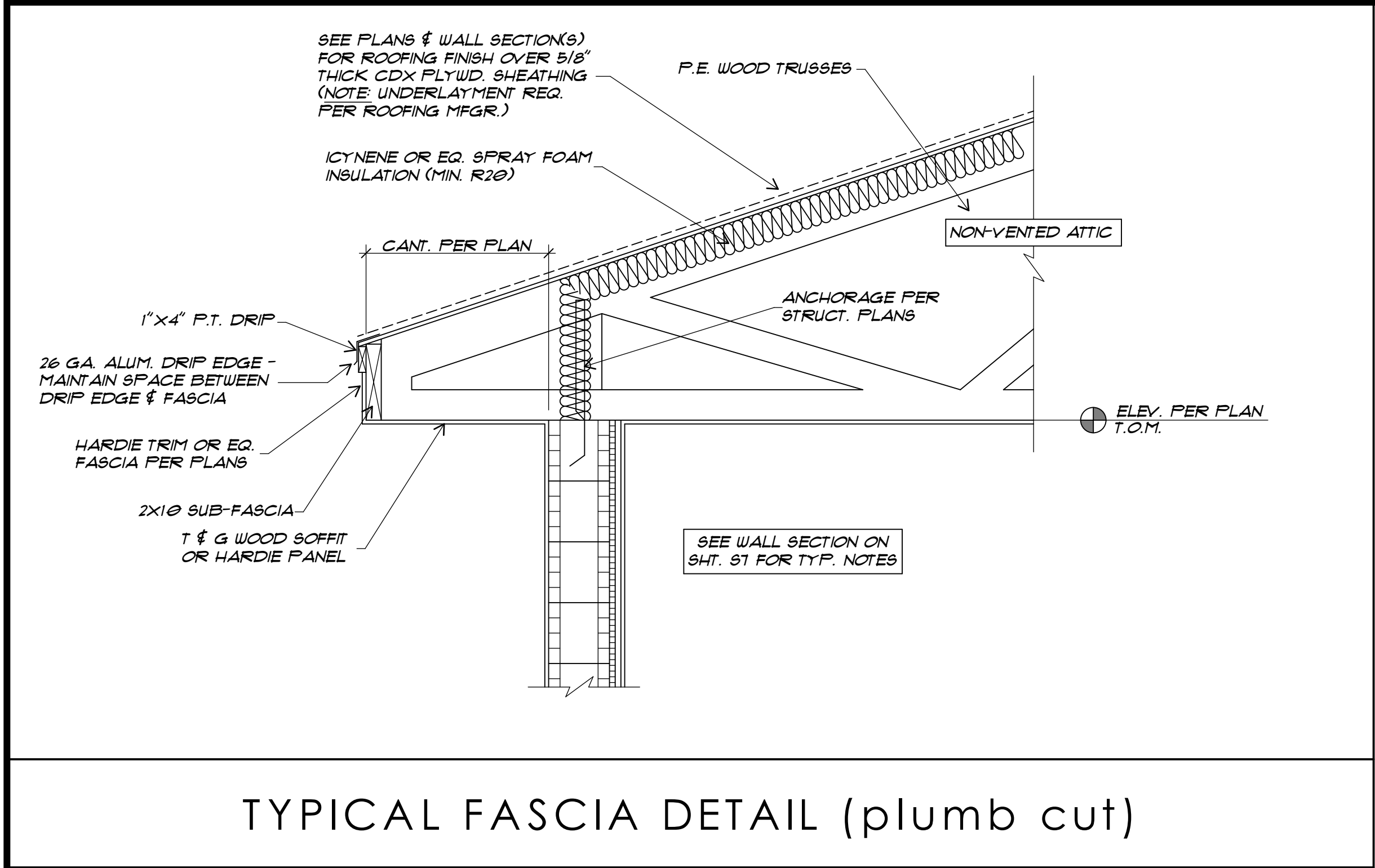
DATE: OCTOBER 13, 2023
PROJECT NO: 23-02
DRAWN BY: CMM
SCALE: 1/4" = 1'-0"
BID ISSUE DATE: 00/00/00
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CONSTRUCTION ISSUE DATE: 00/00/00

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SHEET TITLE
Attic Floor Plan, Roof Plan & Schedules

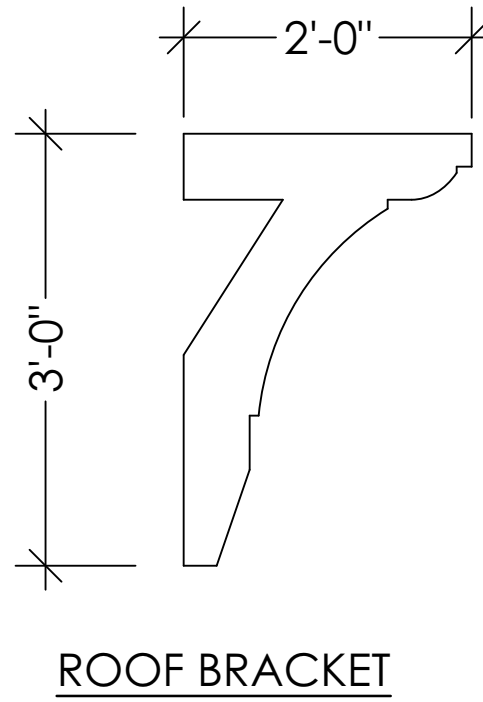
A~1.4

SHEET 7 OF 12



- EXTERIOR FINISH SPECIFICATIONS:**
- ▶ ROOFING: MIN. 29 GA. GALVANIZED METAL PANELS W/GALVALUME COATING & SMOOTH FINISH (PANEL STYLE T.B.S. BY OWNER)
 - ▶ FASCIA: "HARDIETRIM" 5/4 SMOOTH FINISH PRIMED FOR PAINT (JAMES HARDIE OR EQ.)
 - ▶ OVERHANG SOFFIT: T&G WOOD (PINE) W/FINISH T.B.D. (PAINT OR STAIN) OR HARDIE SOFFIT PANELS (NON-VENTED BEADED)
 - ▶ EXTERIOR CEILINGS: T&G WOOD (PINE) OR HARDIE SOFFIT PANELS (NON-VENTED BEADED)
 - ▶ SIDING: "HARDIEPLANK" 8" LAP SMOOTH FINISH PRIMED FOR PAINT (James Hardie OR EQ.)
 - ▶ STUCCO: MIN. 3/4" THICKNESS OVER CONC./ MASONRY & 7/8" OVER FRAME (IF APPLICABLE)
 - ▶ STUCCO FINISH (BODY): FLOAT/SAND FINISH
 - ▶ STUCCO FINISH (TRIM): SMOOTH
 - ▶ ARCHITECTURAL MILLWORK: EXTRUDED PVC BY HARDIE BOYS (FOAM OPTIONAL).
 - ▶ GUTTERS/DOWNSPOUTS: CONSULT WITH OWNER

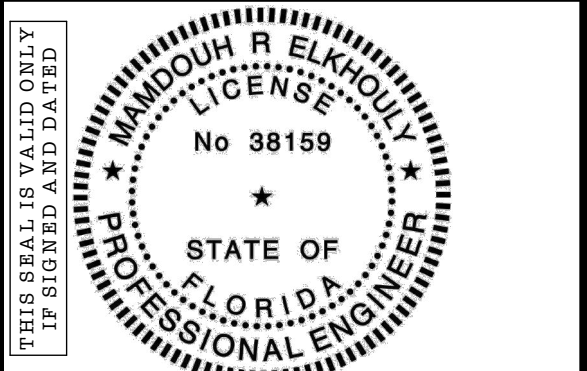
- STUCCO VENEER REQUIREMENTS:**
APPLY STUCCO FINISH (CONFORMING TO ASTM C 926 & 1083) WITH THE FOLLOWING MINIMUM THICKNESSES:
- A. CMU WALLS - MIN. 5/8" APPLIED IN (2) COATS.
 - B. EXTERIOR FRAME WALLS - MIN. 7/8" APPLIED IN (2) COATS OVER GALV. METAL LATH OVER (2) LAYERS 15# FELT PAPER VAPOR BARRIER, OR (1) LAYER OF PLASTIC HOUSE WRAP (TYVEK OR EQ.) OVER (1) LAYER OF 15# FELT PAPER OVER MIN. 1/2" CDX PLYWOOD SHEATHING.
 - C. WEEP SCREEDS ARE REQUIRED AT THE BOTTOM OF ALL STUCCO CLAD FRAME WALLS, BEAMS OR FEATURES.
 - D. TYP. FRAME WALL/ROOF OPENING - EXTERIOR WINDOW, DOOR & SKYLIGHT FLASHING, INSTALLATION & MOISTURE RESISTANT CONSTRUCTION OF EXTERIOR WOOD WALLS SHALL ADHERE TO THE REQUIREMENTS OF ASTM E2112 & E2266.



REFER TO STRUCTURAL DRAWINGS FOR DESIGNATIONS & DETAILS OF ALL SHOWN LOAD BEARING WALLS, POINTS, COLUMNS & BEAMS

C. Michael McCoy
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M.K. ELKHOUTLY, P.E. #58159
CERTIFICATE # CA-0034704



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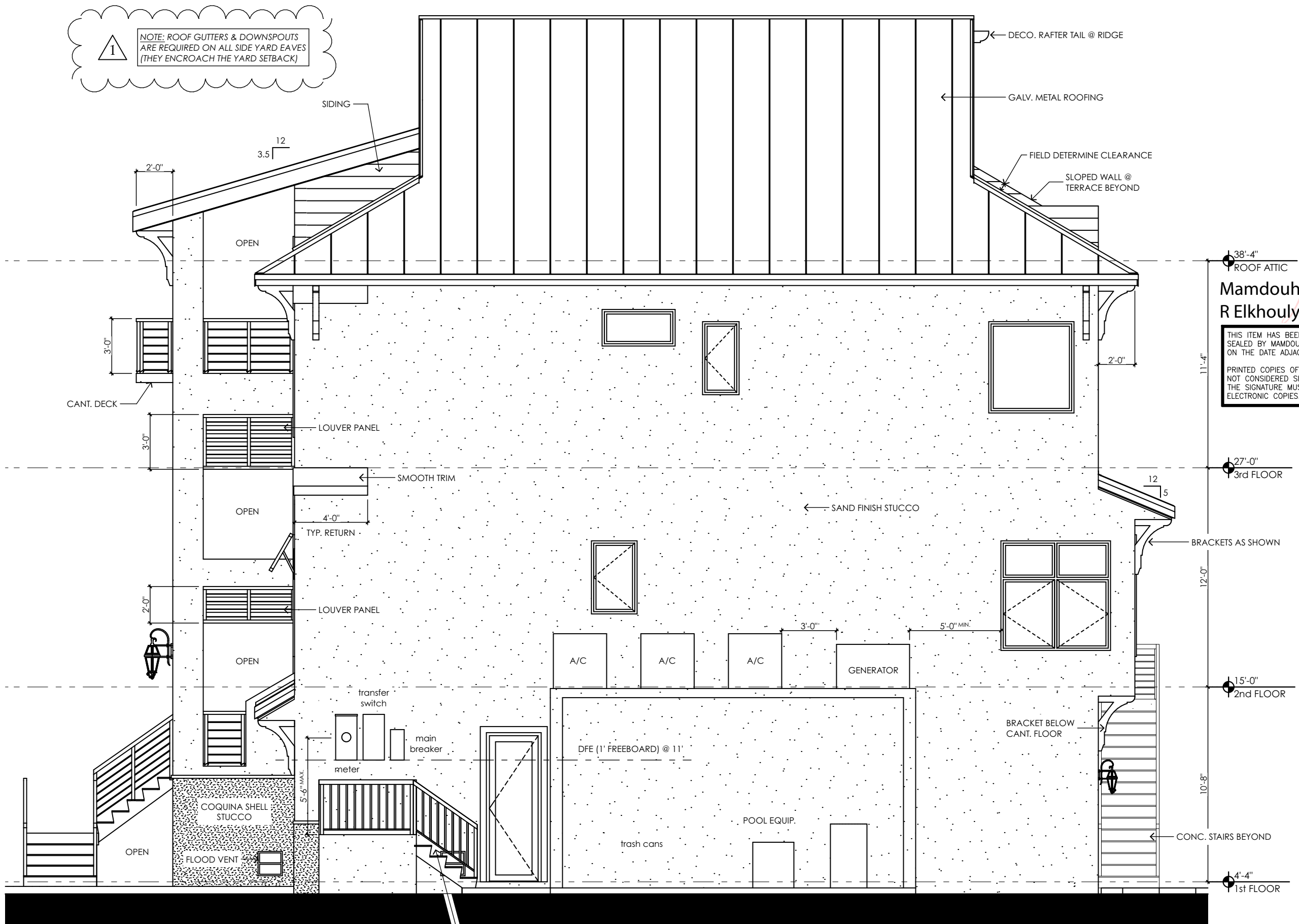
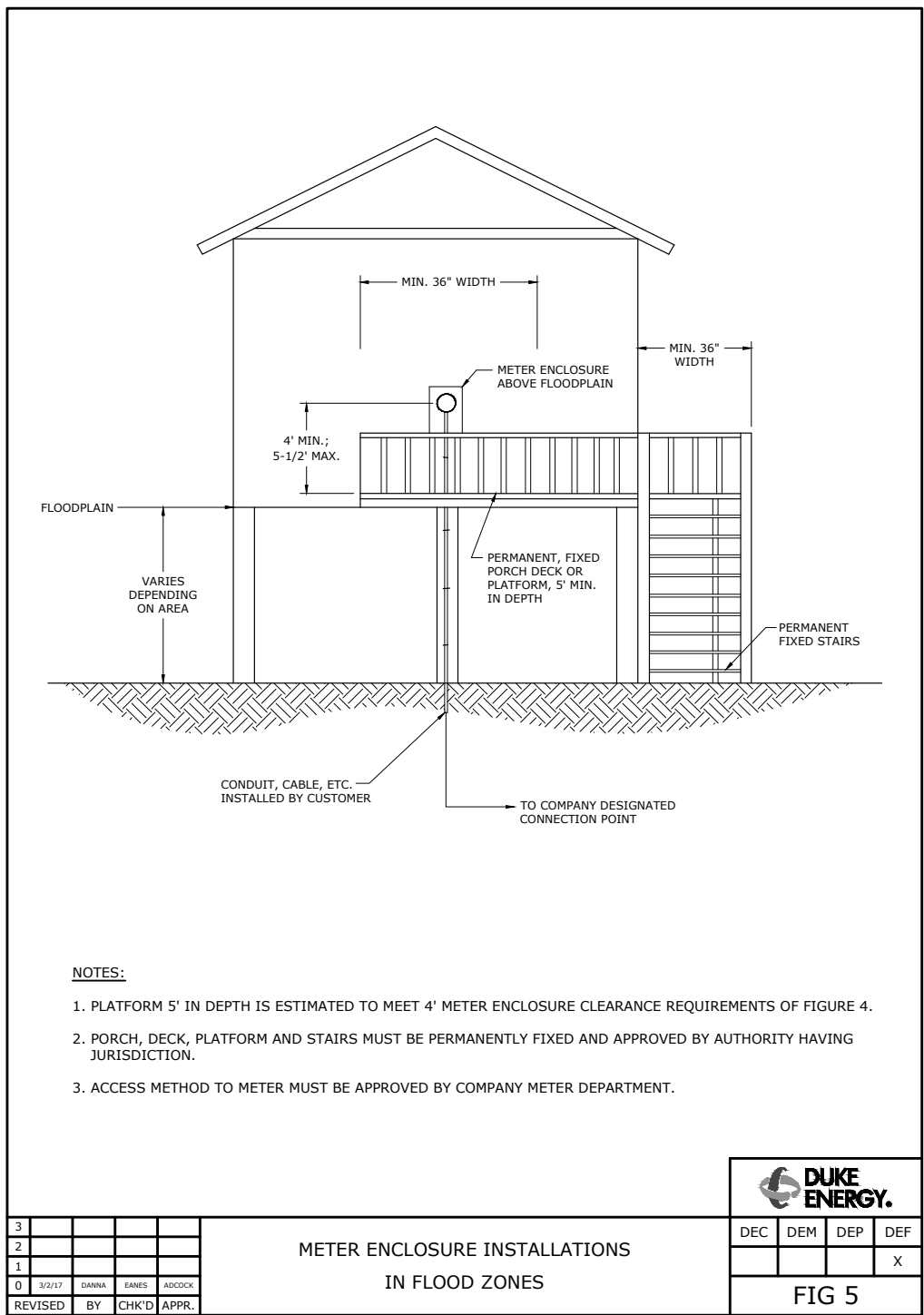
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BID ISSUE DATE: 00/00/00
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CONSTRUCTION ISSUE DATE: 00/00/00

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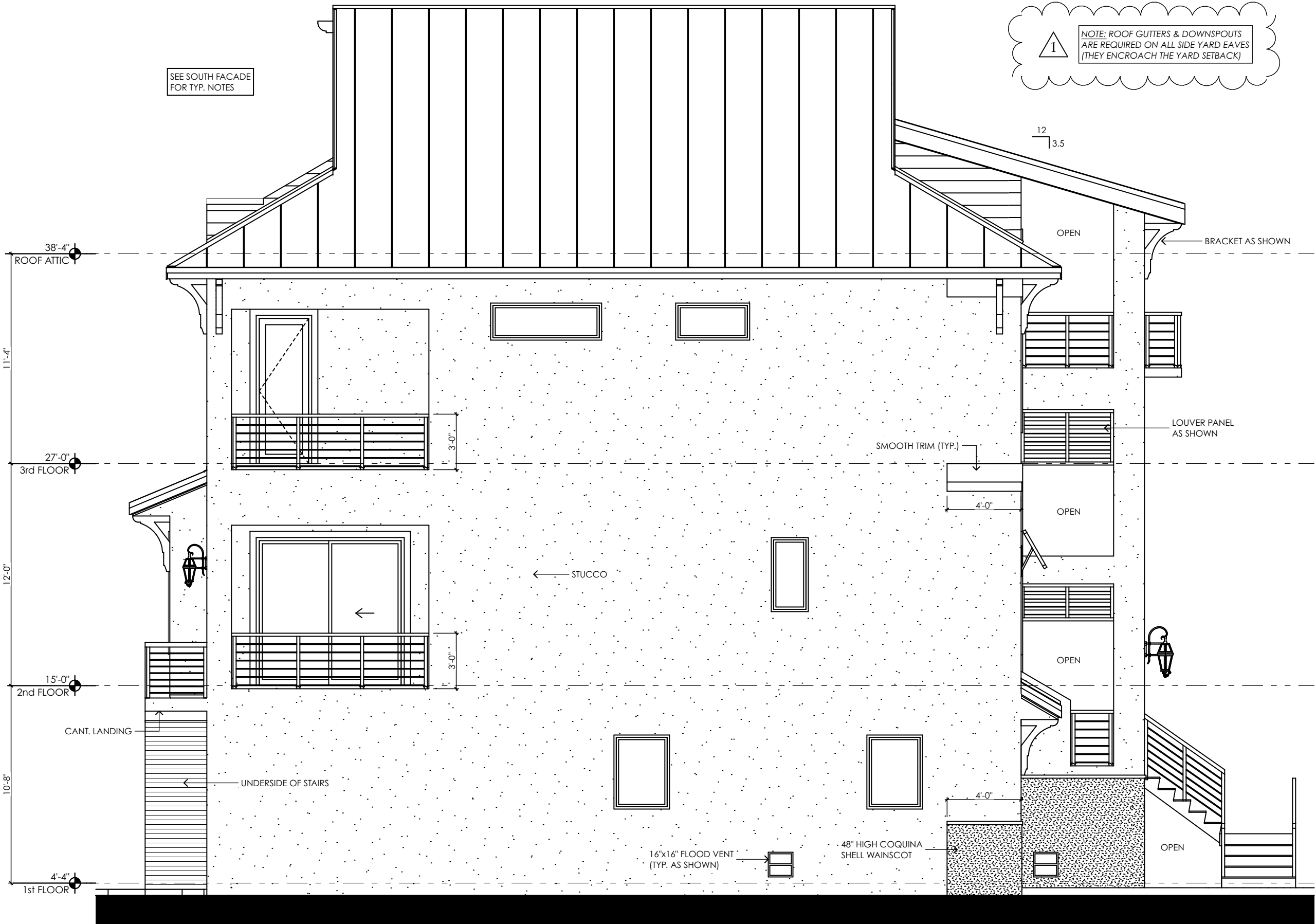
SHEET TITLE
West & East Elevations,
Specs & Details

A~2.1

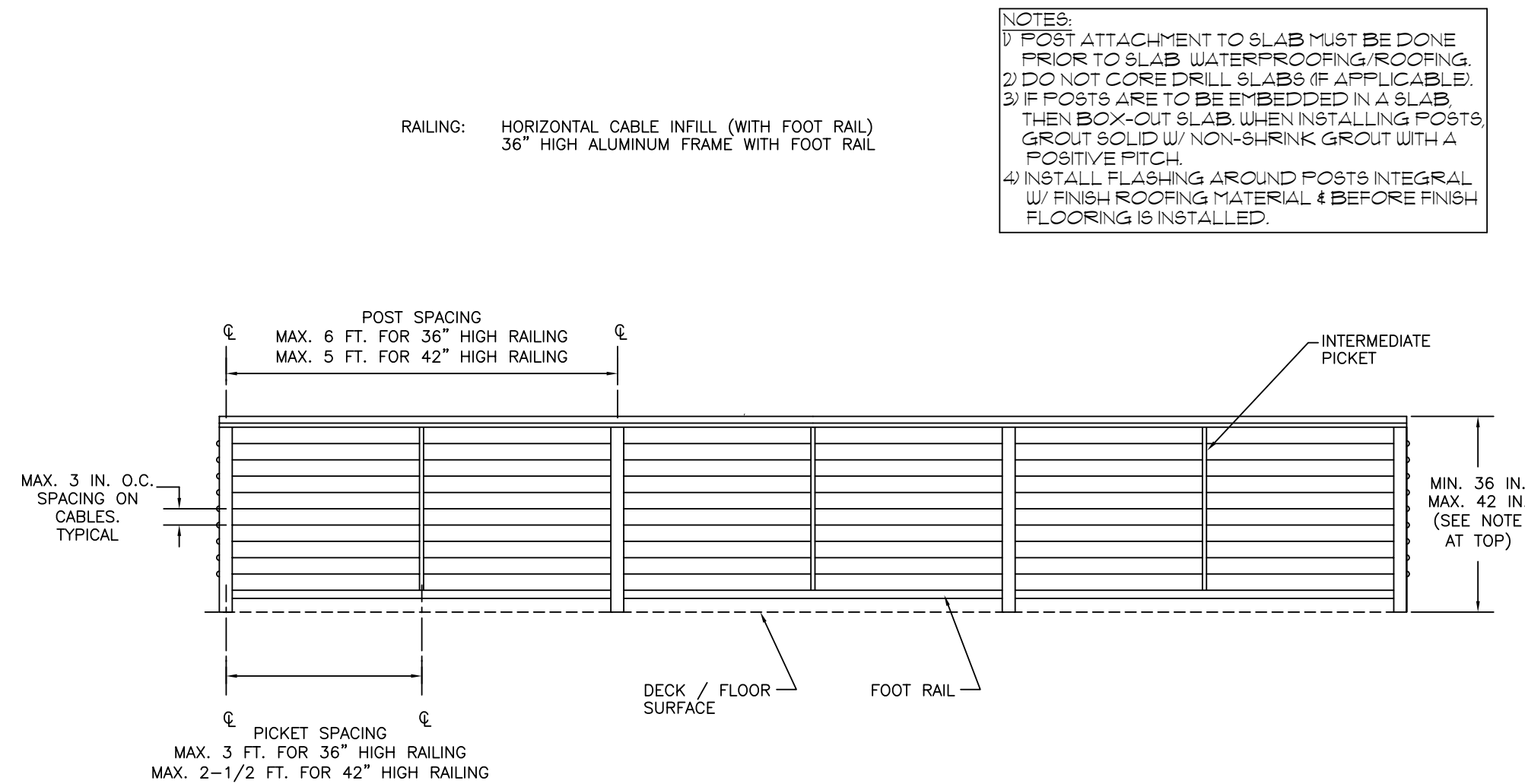
SHEET 8	OF 12
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SOUTH FACADE



NORTH FACADE



TYP. HORIZONTAL CABLE GUARDRAIL DETAIL
(FOR SCHEMATIC PURPOSES, NOT TO SCALE)

- GENERAL NOTES & SPEC'S:**
1. ALL GUARDRAILS SHALL CONFORM TO THE REQUIREMENTS OF SECTION R301 OF THE CURRENT FLORIDA BUILDING CODE RESIDENTIAL.
 2. GUARDRAILS @ PORCHES, BALCONIES OR LANDINGS SHALL BE MINIMUM 36" HIGH PER FBC SEC. R301.
 3. FINAL DETAILS & SPECIFICATIONS BY OTHERS.
- RAILING SYSTEM SPECIFICATION:**
EXTRUDED HIGH-STRENGTH ALUMINUM (POWDER COATED)
RAILING SYSTEM W/ STAINLESS STEEL HORIZ. CABLES AS
MFG. BY PEENEY INC. OR EQUAL (DESIGN RAIL #). PROVIDE
SURFACE MID-HEAVY DUTY POSTS FOOT RAIL & CAP
RAIL (T.B.S. BY OWNER) W/ COLOR T.B.S. ALL DETAILS, SHOP
DRAWINGS AND SPECIFICATIONS BY MANUFACTURER.

C. Michael McCoy
Residential Designs, Inc.
Post Office Box 1305
Crystal Beach, Florida 34681
(phone) 727.492.3683
www.mccoymrresidentialdesigns.com

STRUCTURAL ENGINEER OF RECORD
KOBY INTERNATIONAL, INC.
760 4TH AVENUE SOUTH
ST. PETERSBURG, FL 33701
TELEPHONE: (727) 898-2270
M.K. ELKHOLLY, P.E. #58159
CERTIFICATE # CA-0004704

Mamdouh R Elkholy
Digitally signed by Mamdouh R Elkholy
Date: 2023.12.13 09:23:56 -0500

THIS SEAL IS VALID ONLY IF SIGNED AND DATED

STATE OF FLORIDA
PROFESSIONAL ENGINEER
No 38159

THIS DRAWING IS ISSUED FOR CONSTRUCTION AFTER BEING REVIEWED BY THE ENGINEER ON 03.03.2023 TO ENSURE COMPLIANCE WITH KOBY INTERNATIONAL, INC. STRUCTURAL DRAWINGS AND DESIGN REGULATIONS.

Martinique Holdings, LLC
Custom Waterfront Residence
PROJECT LOCATION:
3105 Pass-A-Grille Way (lot 1) St. Pete Beach, FL
MUNICIPALITY: City of St. Pete Beach
CONTRACTOR: Tom Pici & Son Builders, Inc.
ADDRESS: 7211 1st Ave. S, St. Petersburg, FL

PLAN REVISION LOG		
MARK	DATE	DESCRIPTION
△	12/9/23	Misc. revisions per Planning/Zoning review dated 11-22-23

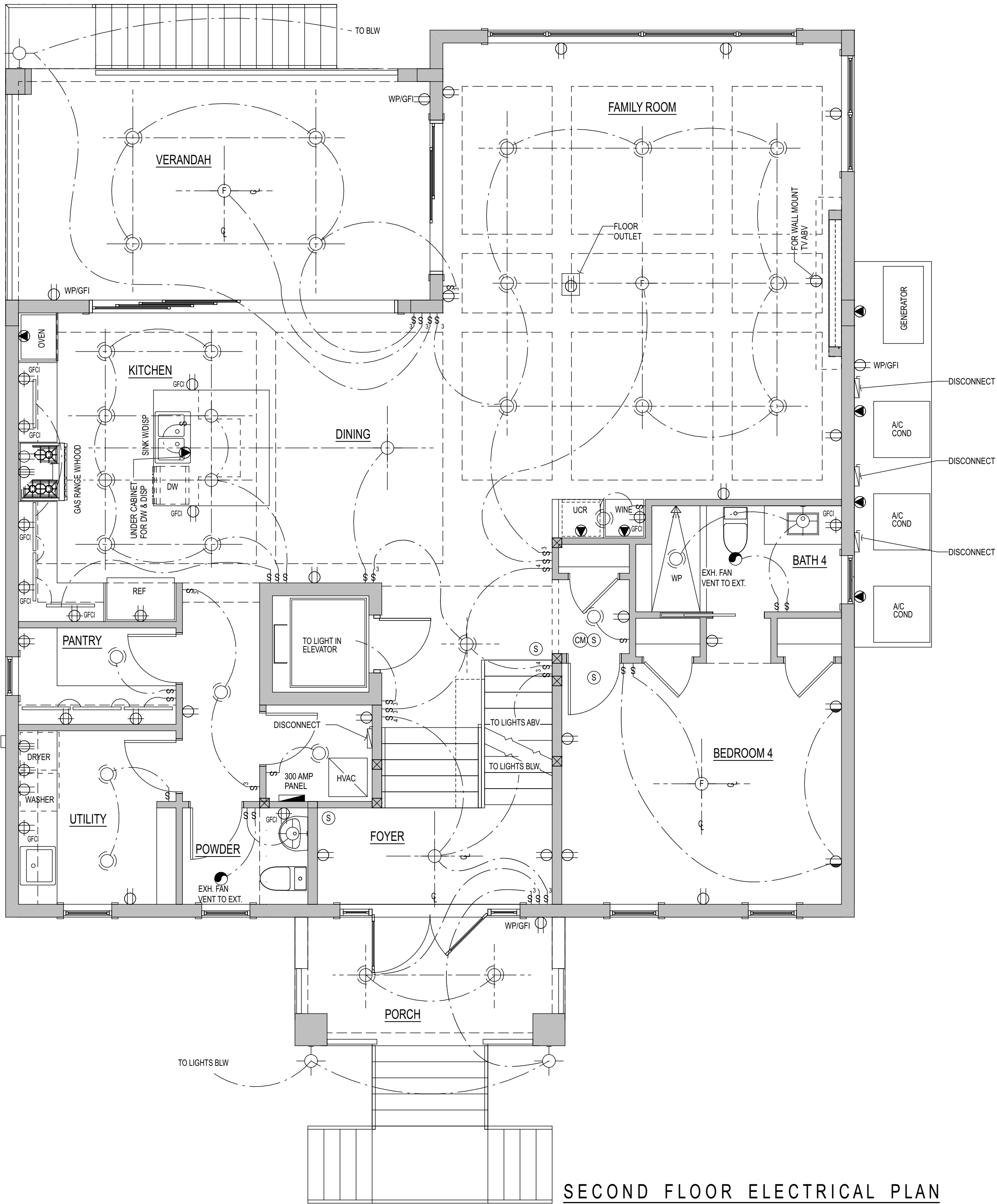
DATE:	OCTOBER 13, 2023
PROJECT NO:	23-02
DRAWN BY:	CMM
SCALE:	3/16" = 1'-0"
BID ISSUE DATE:	00/00/00
PERMIT ISSUE DATE:	00/00/00
CONSTRUCTION ISSUE DATE:	00/00/00

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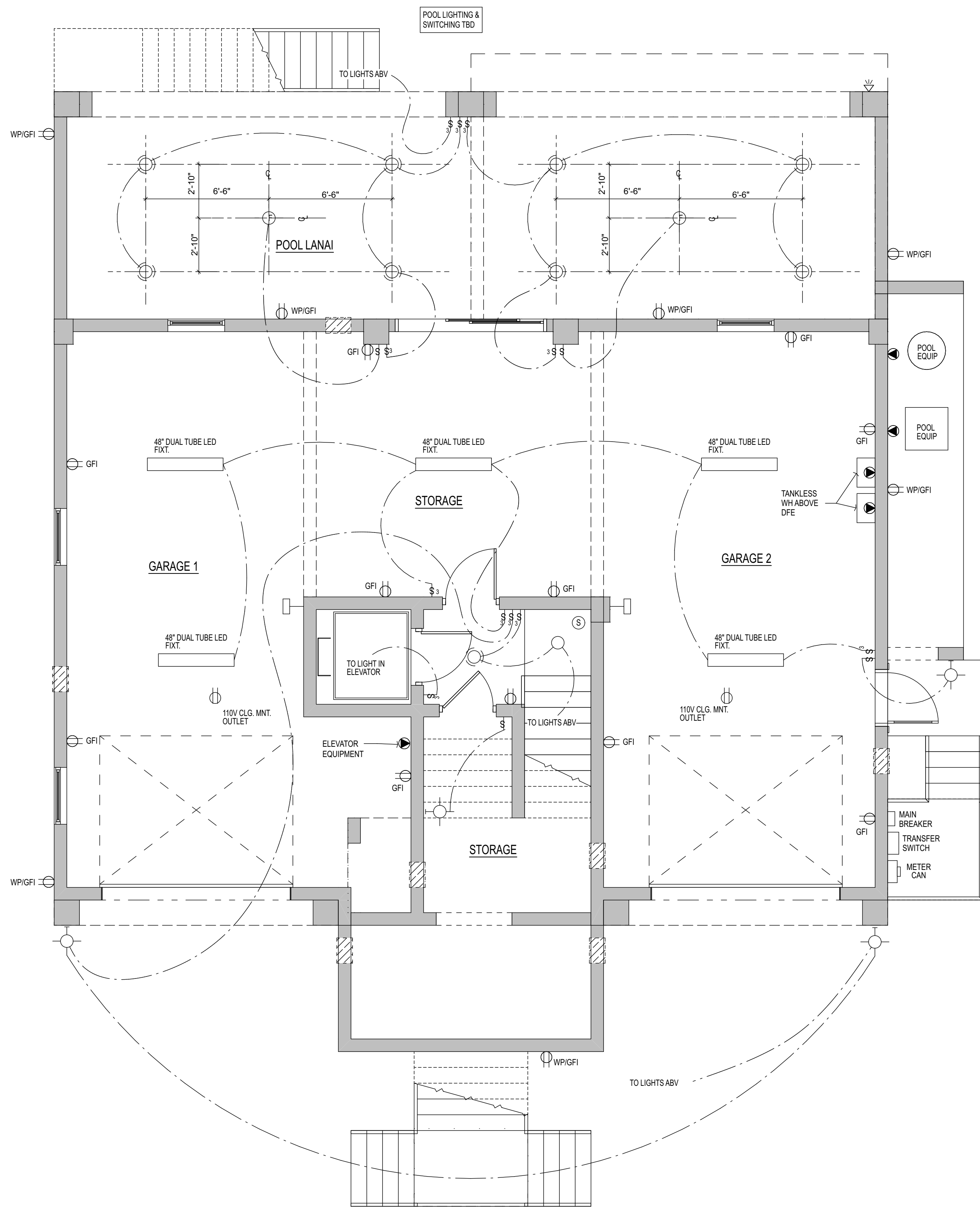
SHEET TITLE
North & South Elevations
& Details

A-2.2

REFER TO STRUCTURAL DRAWINGS FOR DESIGNATIONS & DETAILS OF ALL SHOWN LOAD BEARING WALLS, POINTS, COLUMNS & BEAMS



ELECTRICAL LEGEND			
	DUPLEX OUTLET		CEILING FAN PREWIRE
	DUPLEX OUTLET, CABINET LOCATIONS		ROUND RECESS LIGHT FIXTURE
	SPLIT DUPL. OUTLET, TOP PLUG IS "HOT"		ROUND RECESS LIGHT FIXTURE (EYEBALL TRIM)
	WEATHERPROOF DUPL. OUTLET (110V AT 12" AFF)		EXHAUST FAN / LITE COMBO
	220V OUTLET		PREWIRED JUNCTION BOX FOR LIGHT FIXTURE
	SPECIAL PURPOSE CONNECTION		CEILING MOUNT SMOKE
	TELEPHONE OUTLET (1 CAT-5)		CARBON MONOXIDE DETECTOR
	TELEVISION OUTLET (1 RG-6)		LED UC LIGHT STRIP
	SWITCH		LED LIGHT FIXTURE
	3-WAY SWITCH		EXHAUST FAN
	4-WAY SWITCH		FLOOD LIGHT
	DIMMER SWITCH		ELECTRICAL METER
	PUSH BUTTON		ELECTRICAL SERVICE PANEL
	CEILING MOUNT LIGHT FIXTURE		
	WALL MOUNT LIGHT FIXTURE		



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MARK	DATE	DESCRIPTION
△	12/9/23	Misc. revisions per Planning / Zoning review dated 11-22-23

DATE:	OCTOBER 13, 2023
PROJECT NO:	23-02
DRAWN BY:	CMM
SCALE:	1/4" = 1'-0"
BID ISSUE DATE:	00/00/00
PERMIT ISSUE DATE:	00/00/00
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SHEET TITLE
First & Second Floor
Electrical

E~1.1

SHEET 11 OF 12



International Code Council®

NOTE: ALL ELECTRICAL DISCONNECTS, SWITCHES, RECEPTACLES & FIXTURES SHALL BE LOCATED ABOVE THE D.F.E. AS NOTED WITHIN THE PLAN SET (EXCEPTION: AS ALLOWED BY THE BUILDING OFFICIAL FOR MINIMUM BUILDING ACCESS)

1. THE ELECTRICAL PLANS ARE CONCEPTUAL. THE ELECTRICAL CONTRACTOR SHALL PERFORM A WALK-THRU WITH THE OWNER PRIOR TO ROUGH-IN, IN ORDER TO ESTABLISH THE FINAL REQUIREMENTS AND LAYOUT. ELECTRICAL CONTRACTOR SHALL COMPLY WITH ALL CURRENT NEC REQUIREMENTS.
2. CONSULT WITH OWNER FOR INTERCOM, SECURITY & AUDIO-VISUAL SYSTEMS.
3. ALL FIXTURES, SWITCH TYPES, DIMMERS, PLATES, ETC. T.B.S. BY OWNER.
4. CONSULT WITH OWNER FOR ALL EXTERIOR LIGHTING REQUIREMENTS, INCLUDING LANDSCAPE, POOL, SECURITY, DRIVEWAY, ETC.
5. ALL 120 VOLT OUTLETS NOT LABELED GFI (GFCI PROTECTED) SHALL BE AFCI PROTECTED (ARC FAULT INTERRUPTER).
6. ALL SMOKE DETECTORS SHALL COMPLY W/NFPA 72 & FBCR314 & SHALL BE INTERCONNECTED PER FBCR314.4.
7. ALL CARBON MONOXIDE ALARMS SHALL COMPLY W/FBCR315.
8. COMBINATION SMOKE & CARBON MONOXIDE ALARMS ARE PERMITTED & SHALL COMPLY W/FBCR315.1.2.
9. ALL EXTERIOR LIGHTS & RECEPTACLES SHALL BE WEATHER-PROOF.
10. ALL TELEPHONE SERVICE SHALL BE CAT-5 MINIMUM. COORDINATE ALL CABLE, TELEPHONE AND COMPUTER NETWORK WITH OWNER.
11. ALL ELECTRICAL & EQUIPMENT SHALL BE LOCATED ABOVE THE DFE, EXCEPT AS ALLOWED BY THE LOCAL BUILDING AUTHORITY.
12. CONSULT W/THE BUILDING OFFICIAL FOR ENTRYWAY LIGHTING SWITCHES THAT ARE ALLOWED BELOW THE DFE.
13. INSTALL 75% HIGH-EFFICIENCY LIGHTING AS REQUIRED PER FL ENERGY CODE.
14. GARAGE OUTLETS MUST BE ON A SEPARATE BRANCH CIRCUIT.
15. CONSULT WITH OWNER FOR ALL LOW VOLTAGE AND LED LIGHTING LOCATIONS & REQUIREMENTS.



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PLAN REVISION LOG

[illegible]

DATE: OCTOBER 13, 2023

PROJECT NO: 23-02

DRAWN BY:	CMM
SCALE:	1/4"

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

BID ISSUE DATE: 00/00/00

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SHEET TITLE

Third & Attic Floor Electrical

E~ 1.2

SHEET 12

OF 12