

Building Assessment *for*
MORGAN CREEK GRILL
80 41st Ave, Isle of Palms

City of Isle of Palms



April 11, 2019

SMH
architecture • planning • interiors

HILL
CONSTRUCTION

Building Assessment *for*
MORGAN CREEK GRILL

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The City of the Isle of Palms retained Hill Construction of Charleston, SC and SMHa of Mt Pleasant, SC to perform a visual building assessment of the City owned structure located at 41st Street, currently operated as the Morgan Creek Grill. Our team reviewed existing conditions including parking requirements, and assessed the building's compliance with current building codes, handicap accessibility, flood plain regulations, and basic structural integrity. Considering probable options for improvements, we then completed a comparative cost analysis. The full detailed report of our assessment is contained herein. In our team's view, any decision as to the future of this building should consider three primary practicalities:

1. The general condition of this building reflects its age and level of use. In short, after almost 35 years, the building is tired. Deferred maintenance and happenstance modifications have resulted in conditions that create life-safety issues that must be addressed without delay.
2. Any renovation of this building is limited by the fact that finish floor currently sits below the allowed FEMA Base flood elevation and 1-foot freeboard by the Isle of Palms and is thus subject to a 50% limit on construction cost based on the appraised market value of the building.
3. The available parking for this site limits the number of dining seats that can legitimately be supported, and as such major modifications to the building would subject the property to additional regulatory and zoning approvals.

Building Options

Whereas the City owns this structure and intends to continue to lease the building to be operated as a restaurant there are many issues to consider. The complicated disposition of this property involves legal, operational, financial, political and real estate decisions.

As a matter strictly considering this building as a real estate asset, we believe that the available options can be characterized into three paths forward.

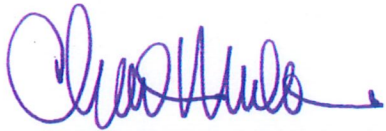
1. Life safety and significant code issues. If nothing else is done, the floor must be replaced under the walk-in coolers and the temporary tents need to be removed or modified so that they meet applicable codes. Those and several other life-safety issues identified in the report should be addressed first.
2. Renovation. Due to the cost of construction restrictions imposed by FEMA requirements, we have provided an "a la carte" menu of individual improvements that can be undertaken provided they stay below 50% of the market value of the building structure. These items would have to be completed within any excess funds after the Option 1 items above are addressed.

3. Tear down and rebuild. Recognizing the significant value of the current building siting, it is our belief that the best value would be in the building back any building on the existing timber pile foundation. Building back could likely entail a smaller building that can be supported by existing and available parking and other zoning determinations.

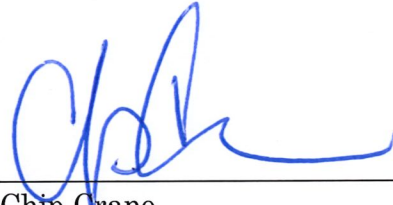
Estimates of probable costs for these three options are provided within the body of the assessment in sections titled "Renovate" and "Build New". These potential costs would need to be reviewed after a final scope of work is established and concurrent with a market appraisal of the existing building.

Our team has appreciated the opportunity to assist the City with this assessment and we thank the City Staff that has been extremely helpful in understanding many of the complicated nuances that impact the subject property. We look forward to assisting City Council as you contemplate the next steps with this project.

Respectfully submitted,



Charles S. Muldrow, AIA, NCARB
SMHa
Principal



Chip Crane
Hill Construction
President

Building Assessment *for*
MORGAN CREEK GRILL

EXISTING CONDITIONS

**PHOTOS
PARKING REPORT**

EXISTING CONDITIONS

The subject property, commonly known as the Morgan Creek Grill, is a two-story commercial restaurant, located adjacent to the Intercoastal Waterway and Morgan Creek on the Isle of Palms, South Carolina. The building is a wood frame structure, elevated on a crawl space on driven wood pilings, and totals approximately 8,651 square feet. The first-floor totals about 5,504 square feet of conditioned space. The second-floor totals about 3,147 square feet, however, portions of that calculated area is enclosed by “temporary” tent structures, that are semi-enclosed. The restaurant seats approximately 377 patrons.

The existing building enjoys a proximity to the waterways that would not be allowed under current regulations, and thus exudes a visual prominence from the water. As understood by the local testimonies, the restaurant is a commercial success and is noted to be quite busy during tourist season. The grounds around the restaurant features numerous entertainment venues including a ground level bar, a stage and seating area, an oyster cooker and tables, and corn hole boards.

Parking is shared by other commercial ventures on the site including the Marina and Marina Store, the boat ramp, some water activity companies, and some boat charters. Parking is generally a complex issue due to leases and individuals understanding of those leases with the City. Per the **attached memo** from Douglas Kerr, Director of Building and Planning, dated July 27, 2016, the restaurant that is subject of this study requires 102 parking spaces based on seating of 325 patrons plus employees.

The existing building itself, appears to have been primarily constructed in the 1970’s or 1980’s. The building is clad in a wood board and batten, and has a prominent mansard roof at the first floor roof level, with additional architectural appendages rising above that. Over the years, the building has been added onto in various manners, including the enclosure of a triangular porch or deck, the addition of an 8’ wide office / storage room, and the permanent addition of two tent structures on the second floor, and an associated “lean-to” structure that joins the tents together. It is difficult to describe the manner in which some additions and connections have been made, but it is easy to observe that many constructed elements did not follow common construction practices.

There is an interior open monumental stair that connects the first floor to the original second floor conditioned space. However, all other means of access are via exterior wood stairways. There is a handicapped accessible ramp that connects grade to the first floor. The second floor is not accessible for the disabled as there is no elevator access.

The assessment of this structure noted numerous age-related code deficiencies, i.e. changes in the building code have made certain elements now obsolete. However, those deficiencies in and of themselves are not generally problematic or required to be corrected unless impacted directly by a renovation. In that regard, this assessment did not attempt to identify every single deficiency or code violation. This assessment thus focused on items that could have negative impact to the health, safety and welfare of the patrons and employees of the restaurant, and that could provide some guidance to the City of Isle of Palms in to “what” and “how” a renovation of this building might be focused.

Building Assessment *for*
MORGAN CREEK GRILL

EXISTING CONDITIONS
PHOTOS

EXISTING CONDITIONS

PHOTOS



View from parking lot



View from waterway



View from docks



View from outdoor activities



Mansard roofline with tent



Mansard roofline at entry feature

EXISTING CONDITIONS

PHOTOS



View from waterway



Proximity to bulkhead



Outdoor stage venue



Ground level bar



Top of bar is landing for stair to second floor



Stair access to accessible ramp

EXISTING CONDITIONS

PHOTOS



Accessible ramp to first floor



Service dock



Primary entry



Service dock stair access



Primary entry door alcove

EXISTING CONDITIONS

PHOTOS



Hostess reception at first floor



Private dining room, first floor



First floor bar



Main dining room looking toward enclosed



First floor kitchen



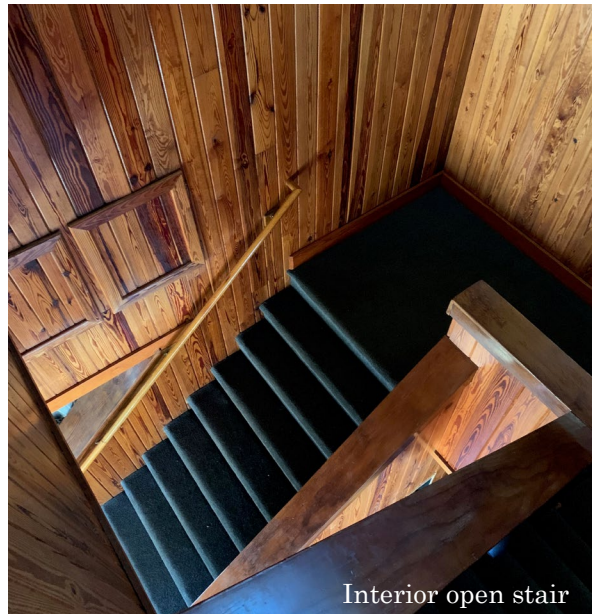
Enclosed porch

EXISTING CONDITIONS

PHOTOS



Second floor kitchen



Interior open stair



Tent connections



White tent support



Green Tent



Lean-to connection

EXISTING CONDITIONS

PHOTOS



Enclosed porch, shallow foundation



Pile foundation. Insulation falling down



Beer coolers in crawl space / flood plain



Structural issues at coolers in kitchen



Open sanitary drains



Shoring attempt with no connectivity

Building Assessment *for*
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EXISTING CONDITIONS
PARKING REPORT

CITY OF ISLE OF PALMS

South Carolina



DEPARTMENT OF BUILDING, PLANNING AND LICENSING

MEMORANDUM

TO: Linda Tucker, City Administrator

FROM: Douglas Kerr, Director of Building and Planning

RE: Parking compliance at the marina site

DATE: July 27, 2016

I understand that the assertion has been made that the parking at the marina site does not conform to the City's zoning ordinance. I believe the basis for this comment is a table entitled "Parking Requirements" in the Existing Parking and Traffic Condition Assessment done by ATM (see attached). This table shows a total "requirement" of 228 spaces; however it should be noted that most of the numbers in this table are not included in the City's zoning ordinance requirement. The table follows guidelines and suggestions from OCRM, SCDNR and SOBA, which are not part of the City's code.

The City's parking code does not include requirements or parking standards for marinas, boat ramps, charter boats, tour boats or jet ski rentals. In fact the City's code only includes requirements for 12 categories of commercial uses (three of which are restaurants) and leaves the rest of the categories to be determined by the Zoning Administrator (see attachment). Therefore, to state that the marina site requires 228 parking spaces to be in compliance with the City's code is not accurate. ATM explains the challenges they had in establishing the recommended parking spaces for the site on page 10 of the attached assessment.

The only uses located on the site with a clear requirement in the City's code are the restaurant and the marina store. According to ATM's table, these two uses require 102 and 23 spaces respectively. The attached graphic identifies those uses with a clear City code requirement as well as those with no specific City code requirement and amount of space taken by parking associated for each. This graphic is solely for illustrative

purposes to show the lack of clear guidance in the City's code and should not be taken as a guide of which uses have which spaces or any other purposes.

Needless to say, ATM faced a challenging task when trying to come up with their best judgement of how many spaces should be on site, but their numbers cannot be taken as fact in terms of City zoning compliance.

I think everyone would agree that parking on the site and how it relates to the zoning code is an important consideration; however, the existing zoning code clearly did not contemplate such a complex and unique site. Therefore, I believe it would be short sighted to make judgements on the future of the marina based on what the existing code requires. I suggest the City rely on the experts in determining the number of parking spaces necessary for the site and then determine if a code change is necessary to account for all of the uses that are not currently accounted for in the code.

Parking Requirements

Each of the main site components have specific or recommended parking requirements to help ensure functional and efficient operation. A summary of these requirements is presented in the following table.

Feature	Size	Required/Recommended Parking Spaces	Code/Guideline
Boat Ramp	3 Lane	60-150 (trailer)	SOBA/SCDNR
Marina	~55 slips	19	OCRM
Restaurant	325 Seats	82	IOP
	60 Employees	20	IOP
Marina Store	3856 SF	16	IOP
	7 Employees	7	IOP
Tidal Wave Watersports	200 SF Dock Hut	3	IOP
	20 Employees	20	IOP
Barrier Island Eco Tours	2 40-ft. Boats	3	IOP
	8 Employees	8	IOP
Coastal Expeditions	225 SF Hut	3	IOP
	2 Employees	2	IOP
Charter Vessels	11 Boats	33	IOP
	12 Employees	12	IOP
Total "Requirements"			
	Trailer Spaces	60-150	
	Standard Spaces	228	

Table 1 – Site Parking “Requirements”

The required or recommended parking spaces for each site component come from a variety of sources, including the States Organization for Boating Access (SOBA), South Carolina Department of Natural Resources (SCDNR), the South Carolina Department of Health and Environmental Control (SCDHEC), Ocean and Coastal Resource Management (OCRM), and the Isle of Palms Code of Ordinances. It is noted, however, that some of the uses on the subject site are unique and may not specifically fit into a well-defined use or use category with regard to parking. This makes the determination of the appropriate number of parking spaces to adequately serve the site somewhat subjective. Further, parking management techniques are often applied to waterfront developments that can reduce the overall need for dedicated parking spaces through shared use and other management strategies.

A brief examination of each site use, applicable parking standard, and calculation of required/recommended parking spaces is provided below.

- Boat Ramp – SOBA provides guidelines for the design of boat ramps and boat launching facilities. SCDNR also has published guidelines for the design of boat launching facilities. Both entities

recommend 20 to 30 trailer parking spaces per boat ramp lane for ramps with high turnover and 30 to 50 parking spaces per boat ramp lane for ramps with low turnover.

Therefore, the need for 60 (minimum for high turnover boat ramp site) to 150 (maximum for low turnover site) is suggested by these guidelines.

The classification of the turnover at the site is certainly subjective, but no fewer than 60 trailer spaces should be provided to properly accommodate the existing 3-lane boat ramp.

- The marina facility at the subject site provides berthing for approximately 55 vessels. OCRM requires at least one parking space for every three boat slips and generally analyzes parking during marina permit application reviews. OCRM parking requirements for the subject marina would total approximately 19 car parking spaces.
- The Morgan Creek Grill offers up to 325 seats, according to restaurant management and has up to 60 staff working onsite during the peak summer season. The Isle of Palms Code of Ordinances indicates that one parking space must be provided for every four restaurant seats, and one space for every three employees must also be provided. This equates to 82 patron parking spaces and 20 employee spaces.
- ATM interprets that the marina store may be classified as a “Retail business not otherwise specifically mentioned” as per the Isle of Palms Code of Ordinances. Parking requirements for this type of business include one space for each 250 square feet of gross retail floorspace not used for storage, three spaces minimum. In addition, one space per employee must be provided. The store has approximately 3,856 such square feet of space. This equates to 16 spaces for the structure and seven parking spaces for employees (number of employees provided by B. Berrigan).
- Tidal Wave Watersports, Barrier Island Eco Tours, Coastal Expeditions, and fishing charter vessels businesses operate on the subject site and are difficult to classify. No clear classification of these businesses is found in the Isle of Palms’ Code of Ordinances, therefore, ATM calculated the total parking requirements for each business using the same use category as the marina store. No traditional retail space exists for these businesses. The number of employees was provided during interviews with the operators: one captain for each inshore charter vessel and one captain plus one mate for a single larger charter vessel.

Site redevelopment will consider the above-described parking requirements and guidelines. The addition of vertical drystack storage at the site will add another factor to the overall traffic parking program at the site. OCRM requires one parking space for every three dry storage spaces to properly accommodate drystack storage. Drystack storage may well curtail the demand for trailer parking, however, as additional boat storage opportunities will be provided for trailer-sized vessels. Parking for other amenities such as parks and other public amenities will need to be considered as well.

Sec. 5-4-111. - Purpose of requirements.

Unless otherwise stated in this chapter, areas suitable for parking or storing automobiles in off-street locations shall be required in all zoning districts at the time of the initial construction of any principal building; or when a structural alteration or other change in a principal building results in an increase in dwelling units, guestrooms, floor area, seating or bed capacity, or which changes the use so as to require more parking to serve such use, or when a change in use occurs. Such off-street parking area shall have direct access to a street or alley, and shall be landscaped in accordance with a plan as approved by the Zoning Administrator.

(Code 1994, § 5-4-111)

Sec. 5-4-112. - Required parking spaces.

The number of off-street parking spaces shall be calculated on the basis of the use of the land or principal building on a lot, according to requirements indicated in columns 2 and 3:

Column 1	Column 2	Column 3
Use or Use Category	Parking Spaces Required	Additional Requirements
Residential uses:		
One-family dwelling	One (1) space (does not have to be paved)	
Two-family dwelling	Two (2) spaces (same as above)	
Multifamily dwelling townhouse/condominium	Two (2) spaces per dwelling unit	
Boardinghouse/roominghouse	One (1) space per each sleeping room	Plus one (1) space per employee
Group dwelling	One space per each two (2) bedrooms	
Public and semipublic uses:		
Medical and dental office and outpatient clinic	One (1) space per each two hundred (200) square feet of gross floorspace (minimum of four (4) spaces)	

Church or other places of worship	One (1) space per five (5) fixed seats in main assembly hall	Or five (5) spaces per classroom, whichever is greater
Places of public assembly or recreation containing main assembly room	One (1) space per each one hundred (100) square feet of gross floor area in the main assembly room	
Country club or golf club	One (1) space per each five (5) members	Plus one (1) space/two (2) employees
Library, museum, art gallery or similar building	Ten (10) spaces	Plus one (1) space per each five hundred (500) square feet of floor area
Club, fraternity, sorority or lodge	One (1) space per sleeping room or suite	Or one (1) space/five (5) members, whichever is greater, one (1) space per each three (3) employees
Commercial uses:		
Office buildings	One (1) space per three hundred (300) feet of gross floor area (four (4) spaces minimum)	
Bank, savings and loan or similar lending establishment	One (1) space per each two hundred (200) square feet of gross floorspace	
Service or repair establishments	One (1) space per each two hundred fifty (250) square feet of gross floor area not used for storage	
Retail business not otherwise specifically mentioned	One (1) space per each two hundred fifty (250) square feet of gross retail floorspace not used for storage (three (3)	Plus one (1) space per employee

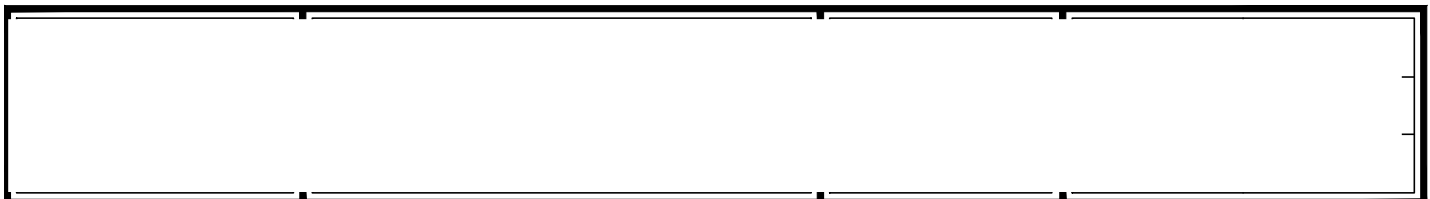
	spaces minimum)	
Theater, nightclub, bar and similar places of assembly	Two (2) spaces per each four (4) seating accommodations	Plus one (1) space per each three (3) employees on shift of greatest employment.
Automobile service station	One (1) space per employee but in all cases, a minimum of five (5) spaces	Plus one (1) space per each grease rack or wash rack
Motel, hotel and tourist court	One (1) space per sleeping room or suite	Plus one (1) space per each three (3) employees
Furniture, home furnishings, appliance, machinery, equipment, automotive farm and boat sales and service	One (1) space per three hundred (300) square feet of retail floor area (three (3) spaces minimum)	Except that automobile sales and service must have ten (10) spaces minimum
Shopping center	Five and one-half (5½) spaces per one thousand (1,000) square feet of gross leaseable area	
Restaurant	One (1) space per each four (4) seats	Plus one (1) space per each three (3) employees on shift of greatest employment
Drive-in restaurant	One (1) space per each thirty-five (35) square feet of gross building area	Plus one (1) space per each three (3) employees on shift of greatest employment
Take-out restaurant	One (1) space per each one hundred (100) square feet of gross building area	Plus one (1) space per each three (3) employees on shift of greatest employment

(Code 1994, § 5-4-112)

Sec. 5-4-113. - Application of parking requirements.

- (a) Location of off-street parking areas. Except as provided in section 5-4-113(h) and section 5-4-115, all parking spaces required herein shall be located on the same lot with the principal building or use or uses served.
- (b) *Mixed uses.* Where more than one (1) principal or accessory use, whether with the same or different parking requirements, occupy the same building or premises or in the case of joint use of a building or premises, by more than one (1) use having the same parking requirements, the parking spaces required shall equal the sum of the requirements of the various uses computed separately.
- (c) *Change in use, alteration of use, or extension of use.* Off-street parking spaces shall be provided in accordance with these regulations whenever a building or use is changed, altered, or enlarged in floor area, number of employees, number of dwelling units, seating capacity or otherwise.
- (d) *Requirements for uses not specifically listed.* The parking space requirements for a use not specifically listed in section 5-4-112 shall be the same as for a listed use of similar characteristics of parking demand, as determined by the Zoning Administrator.
- (e) *Compilation of total employment.* Except as otherwise provided, the number of employees shall be determined based on the maximum number of employees at the premises at any one time on an average day or average night, whichever number is greater. Seasonal variations in employment may be considered in determining an average day.
- (f) *Fractional computation.* Where fractional spaces result, the parking spaces required shall be construed to be the next higher whole number.
- (g) *Requirements for GC-2 district.* Notwithstanding any other provision of this chapter to the contrary, off-street parking is permitted within the GC-2 district on any lot which contains at least one hundred twenty feet (120') of frontage on a public street. Any automobile parking pursuant to this section shall comply with the provisions of section 5-4-12(n) and (o). There shall be no off-street parking permitted for any lot within the GC-2 district which contains less than one hundred twenty feet (120') of frontage on a public street.
- (h) *Parking spaces in public right-of-way in commercial districts.* Notwithstanding any other provision of this chapter to the contrary, the calculation of the number of parking spaces required in the commercial districts pursuant to section 5-4-112 may include any parking spaces in the public right-of-way that are located on the same side of the street and contiguous to the lot with the principal building or use or uses served.

(Code 1994, § 5-4-113; Ord. No. 2015-11, § 3, 9-29-2015)



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CODES

ASSESSMENT CODES

The subject property was reviewed relative to both the 2015 International Building Code (IBC) and the 2015 International Existing Building Code (IEBC). It is important to note that the provisions of the IEBC applies to the repair, alteration, change of occupancy, or addition to existing buildings. The intent of the IEBC is to provide flexibility to permit the use of alternative approaches to safeguard the public health, safety and welfare insofar as they are affected by the repair, alteration or addition to the existing building. There are numerous references back to the IBC, and as a general rule of thumb, if any component of the building is updated, it must be constructed in accordance with the current IBC. Element that are existing that are not currently “code compliant” are not mandated to be changed to brought into code compliance unless certain thresholds are met. It is stressed that such statements are generalizations, and there are numerous exceptions in the IEBC, but seemingly useful to discuss options for this property.

It is noted that nothing in either the IBC or the IEBC prohibits the Building Official from declaring a situation “unsafe” and requiring action on the part of the building Owner to correct such situations. That authority is outlined in Sections 115 and 116 of the International Existing Building Code (IEBC).

Within the IEBC, there are three compliance paths to determine if proposed work is code compliant and permissible. Without a defined scope of work to compare against code provisions for any of the three paths to compliance, it is impossible to say whether the work is allowable or not. The exception to this is when the building is subject to flood provisions of the code, and the work is deemed to be a “Substantial Improvement” in which the cost of the work (repair, alteration, addition or improvement) exceeds 50 percent of the market value of the structure. A Substantial Improvement of a building located in a flood zone requires that all aspects of the building be brought into current code compliance with flood provisions.

Of particular note, any project for improvement of a building required to correct an existing health, sanitary, or safety code violation identified by the code official and that is the minimum necessary to ensure safe living conditions is NOT counted toward the Substantial Improvement definition or calculation. The existing structural condition noted with the floor framing of the walk-in cooler and freezer within this report likely falls within this exception.

A Building Code review of the IBC and the IEBC is included herein, and summarized below. Any work undertaken would also have to comply with the complete IBC family of Codes, including the International Mechanical Code (IMC), the International Plumbing Code (IPC), the International Fire Code (IFC), and the National Electric Code (NEC). Engineers were not engaged in this process to review the finer points of those codes, but deviations were noted by the assessment team when observed. Provisions of the code regarding accessibility requirements are included in a separate section of this report.

International Existing Building Code - IEBC

Work undertaken utilizing the International Existing Building Code (IEBC) may follow one of three paths to ascertain compliance. The three paths are a) the Prescriptive compliance method, b) the Work area compliance method, or c) the Performance compliance method. Regardless of the method utilized, a Structural Engineer would be required to perform a seismic evaluation in accordance with the IBC or ASCE 41.

Prescriptive Compliance Method:

- Existing materials in compliance with requirements or approvals in effect at the time of erection or installation shall be permitted to remain. Like materials may be permitted for repairs or alterations provided there is no hazard to life, health or property created.
- Any Addition shall be per the current IBC.
- Alterations shall be made to ensure that the existing building with the addition are no less safe than the existing building was prior to the addition. Existing building with any addition shall comply with the height and area provisions of Chapter 5 of the IBC.
- Buildings in a flood hazard area are subject to the 50 percent rules around substantial improvement as noted above.
- Gravity loads on existing structures cannot be increased more than 5 percent. Lateral load increases must be evaluated to be in compliance.
- Stairways and handrails are not required to be altered where not in compliance with current code. Any alteration shall be “no less conforming”.
- Substantial Structural Damage shall be rehabilitated to the applicable provisions of the current International Building Code (IBC).
- Any replacement glass or windows shall be as required for a new installation.
- Accessibility requirements contains numerous exceptions, however it is our understanding that one of the stated goals for any alterations is to make this building more accessible.

Work Area Compliance Method:

- This method is utilized when the “Work Area” for any repair, alteration, addition or improvement can be defined within the building and does not apply to the whole building.
- Scope of Work, once determined, is classified as a Repair, or an Alteration – Level 1, Level 2, or Level 3.
- Structural repairs shall comply with the detailing provisions of the IBC for new buildings.
- Existing Electrical or Mechanical systems shall be allowed to be repaired or replaced with like materials.
- Plumbing materials and fixtures shall comply with the current IBC.
- Alterations – Level 1 are lowest level of alterations. Of particular note, roof diaphragms must be improved to current wind conditions if over 50 percent of the roofing materials are removed. Accessibility requirements are similarly allowed latitude in seeking compliance. Compliance with the current Energy Conservation Code is not required.
- Alterations – Level 2 are required to meet all requirements of Level 1 plus: fire ratings of any vertical openings (with exceptions), sprinkler, fire alarm, and means of egress requirements. An accessible route shall be provided. Structural, electrical, and mechanical improvements to the current code are mandated where impacted by the work. Compliance with the current Energy Conservation Code is not required.

- Alterations – Level 3 requirements primarily address high-rise buildings and are not germane to this building.
- There are additional requirements outlined for Changes of Occupancy or Additions. Again, compliance with the current Energy Conservation Code is not required.

Performance Compliance Method:

- This method utilizes a system of points to maintain or increase the current degree of public health, safety and welfare in existing buildings without requiring full compliance as outlined in the other two compliance methods. The intended scope of work needs to be refined to complete the calculations utilizing this method, but in a nutshell, trade-offs for non-compliance in one area might be offset by improvements in adding fire sprinkler protection, fire alarm systems, fire detection, means of egress, smoke compartmentalization, and other life safety enhancements.

International Building Code - IBC

The IBC covers all new construction work, and as outlined above, new work undertaken as part of a repair, alteration, addition or improvement (where required). Our review of the existing building was undertaken as if the building were required to be code compliant, essentially to reflect where deviations occur. Deviations noted are not intended to imply that all such condition must be rectified. Conversely, some deviations may be code violations that the building official may deem a detriment to the health, safety and welfare of the public and may require corrective action.

Summary of findings:

- Building is a two-story structure over a crawl space, utilized as a restaurant. Occupancy is thus Assembly – A2.
- Construction is primarily wood framing, including floor, wall and roof framing. Construction classification is thus Type V-B as defined in the Code. Building is fully sprinklered (fire protection).
- Building Height is limited to 60 feet by the Code. It appears to be within that limit.
- Building Area is (approximately) First Floor at 5,504 sf, and Second Floor at 3,147, equaling a total of 8,651 sf. No existing drawings were available, and these areas are thus approximate, but are well within allowable areas for the construction type. These areas do include infilled porches and “temporary” tent structures.
- The structure is not fire protected and is not required to be.
- Most egress stairs are exterior wood stairs, which is allowable. There is one interior open stairway. Rise and run dimensions, rail heights, and rail geometry is not in compliance with the current IBC, but is “grandfathered” unless modified or reconstructed.
- The first floor has one accessible route via a ramp. The ramp is slightly steeper than allowed in one section. Rail geometry is non-compliant with the current IBC, but is “grandfathered” unless modified or reconstructed.
- There is not an accessible route to the second floor. There is no elevator.

- The occupant load based on Code calculations per building area is 394 people. Counting actual seats in the dining areas resulted in a slightly smaller occupant load of around 375 people. Egress capacity is sufficient for that quantity.
- More than two exit doors are available from both floors. However, all but the main entry door should have panic hardware and do not.
- Because the occupant load is greater than 300 persons in an Assembly occupancy, the Wind and Seismic Occupancy Risk Category is elevated to a Category III, which should be taken into account in any structural repairs.
- Plumbing fixture count is sufficient for the calculated occupant load – excluding any occupants at the ground level bar, fire pits, volley ball courts or outdoor stage venue.

Noteworthy code violations

As noted in this report, non-compliance with the existing Code in itself does not require corrective action. While numerous deviations to the current code were observed, the following items likely require the attention of the Building Official.

- There is serious degradation of the structural floor system supporting the walk-in refrigerator and freezer in the Kitchen. Condensation has “rotted out” the wood floor joists and the plywood subfloor. There are areas where the floor joists and the subfloor have completely rotted away to the point that the underside of the metal floor (or possibly the concrete slab floor) of the refrigerator / freezer are exposed in the crawl space. A “repair” has been attempted that is comprised of steel beams shored up to the underside of the wood subfloor (or cooler floor) and seated upon 6 x 6 blocks, which bear upon a stud wall constructed on top of an existing slab under the building. None of these components are actually attached to the other through any mechanical means. We feel this situation presents a dangerous condition and needs the direct attention of the Building Official.
- There are two tents on the second floor – ostensibly Temporary Structures as defined in the Code. As such they are limited to being erected for only 180 days, without meeting all applicable sections of the code. They have clearly been installed over 180 days, and it is believed that they do not meet many aspects of the current Code, or past versions of the Code, relative to wind and seismic resistance, impact glazing, and generally accepted construction practices.
- None of the egress doors have panic hardware as required by 1010.1.10, however, there is one egress door from the infilled porch on the first floor that due to settlement or swelling is very difficult to push open. We feel that this should be corrected / repaired.
- There are a number of code violations in the crawl space relative to flood plain requirements. Most significantly, there are “permanently” installed beer coolers. It is noted that these pieces of equipment also have less than the minimum 7-foot clear headroom required by the code. Additionally, there are several extension cords and power strips in the crawl space.



Plywood totally deteriorated. Underside of cooler.



Steel beam blocked up, no connectivity



Beer coolers in crawl space / flood plain



Temporary tents on second floor



Exit door, no panic hardware



Equipment in crawl space, extension cords



Egress, railing discontinuous
Lack of egress lighting



Insulation falling down or missing in floor

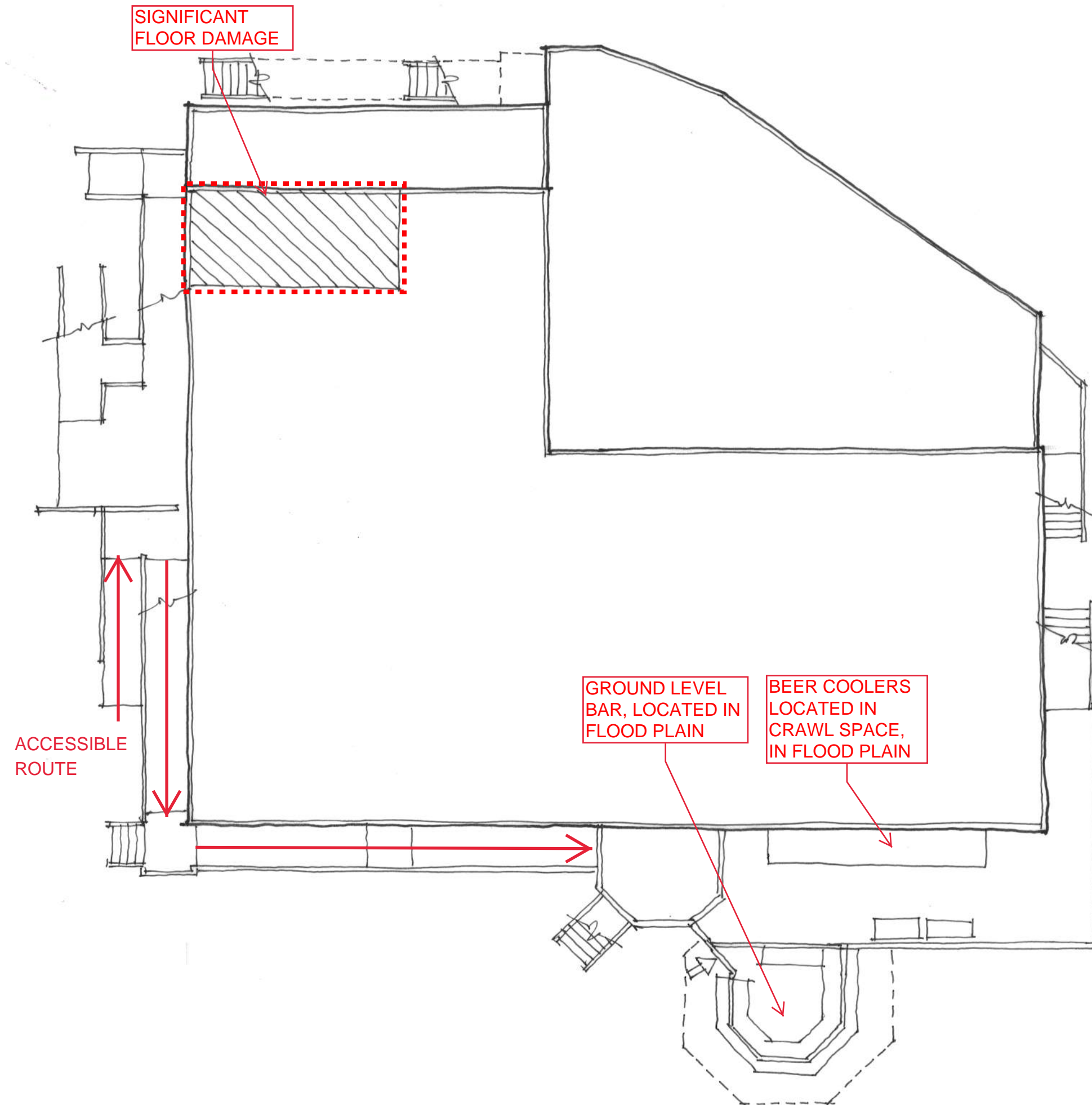


Insufficient landing depth at top of stair



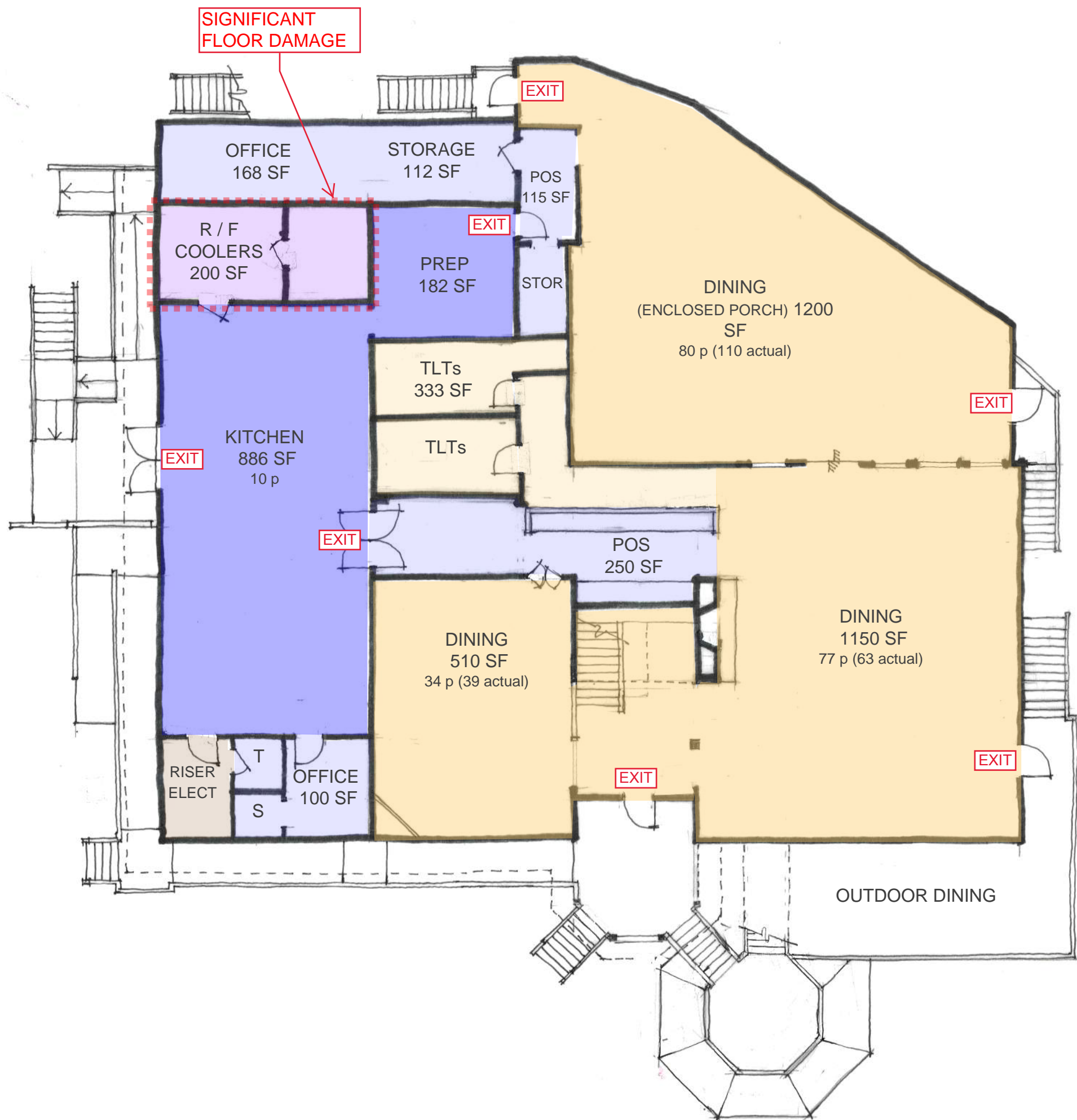
Open electrical connections

Building Assessment *for*
MORGAN CREEK GRILL
80 41st Ave, Isle of Palms
City of Isle of Palms

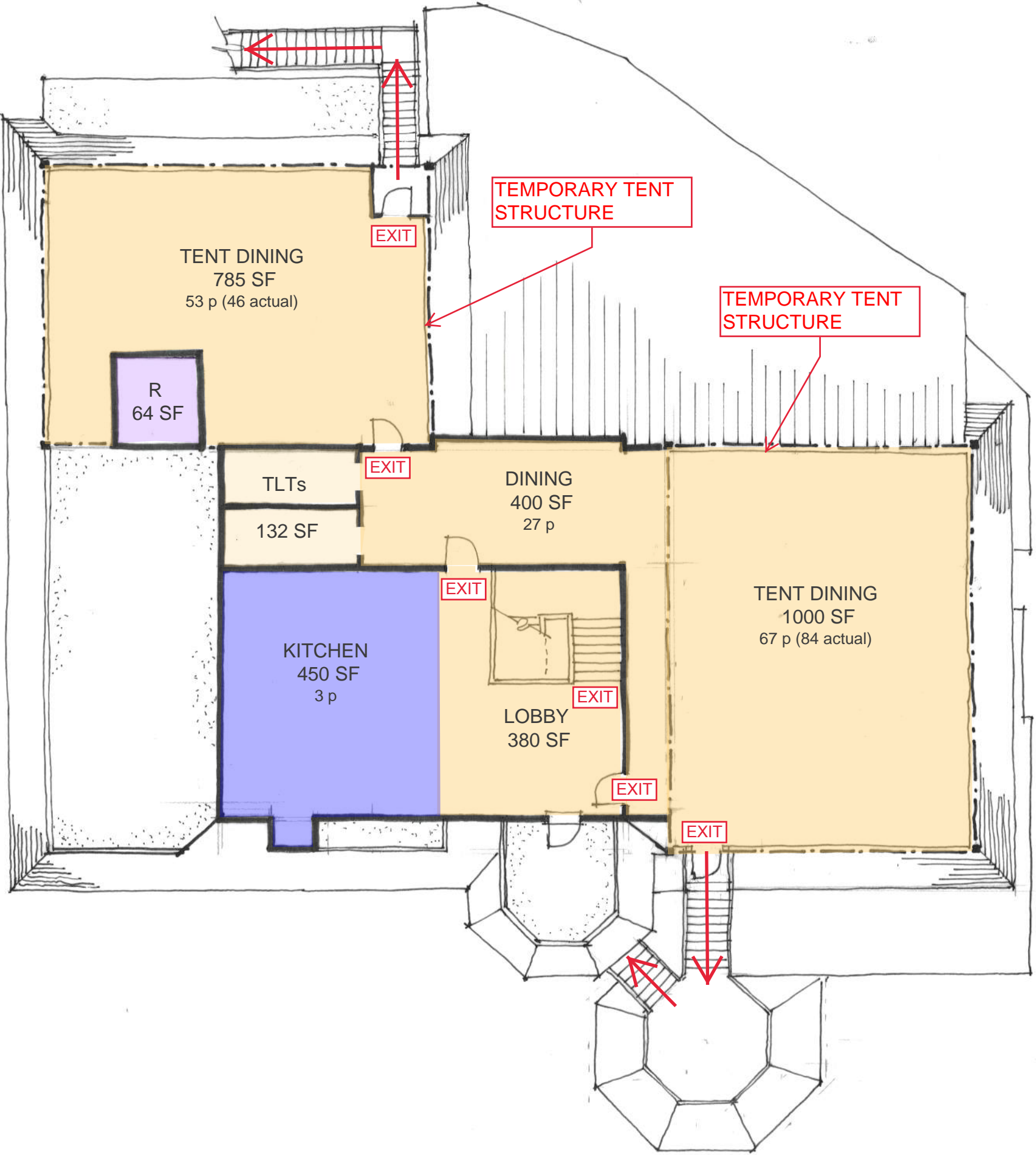


GROUND FLOOR / CRAWL SPACE
February 4, 2019 3/32" – 1'-0"





Building Assessment *for*
MORGAN CREEK GRILL
80 41st Ave, Isle of Palms
City of Isle of Palms



MORGAN CREEK GRILL, IOP - CODE REVIEW

Date: February 7, 2019

Phase: Conditions Assessment

By:

ADMINISTRATION:

Jurisdiction: City of Isle of Palms

Inspections: Douglas Kerr, 843-886-9912, dkerr@iop.net

CODE REFERENCES:

A. International Building Code w SC Amendments/ International Existing Building Code, 2015 Edition.

B. International Mechanical Code, 2015 Edition.

C. International Plumbing Code, 2015 Edition.

D. International Fire Code, 2015 Edition.

E. International Fuel Gas Code, 2015 Edition.

F. International Energy Conservation Code, 2009 Edition

G. ADA Standards for Accessible Design, 2010 Edition

H. ICC 117.1 2017 edition

OVERALL AREA CALCULATIONS

Total	
IBC Floor Area Gross (1002.1) For Building Code requirements primarily dealing with Occupancy Egress requirements (stairs, corridors, doors, etc). Also, this number is similar to gross usable/leasable floor areas. Floor area within the inside perimeter of the exterior walls, exclusive of vent shafts and courts, without deduction for corridors, stairs, interior walls, columns, etc. The floor area of the building without enclosing walls shall be the usable area under horizontal projections above. The gross floor area shall not include shafts with no openings (mechanical) or courts.	1st: 5,504 GSF 2nd: 3,147 GSF T: 8,651 GSF
IBC Floor Area Net (1002.1) For Building Code requirements primarily dealing with Occupancy Egress requirements. The actual occupied area not including unoccupied accessory areas such as corridors, stairways, toilet rooms, mechanical room, and closets	See Life Safety Plans

EXISTING BUILDING CODE

General Scope of Proposed Renovations

Repairs, alternations, and correction of life safety code deficiencies to an existing building without a change of use or occupancy.

IEBC Chapter 2: Definitions

Project **may or may not be** a Substantial Improvement. To determine if the project is a Substantial Improvement, the cost of the work cannot exceed 50% of the market value of the structure. Does not include correcting code

This is used in determining the need for compliance with the flood provisions of this code.

a. Cost of the Work	(sd estimate) update with final cost	\$ -	
b. Less cost of code violation corrections			
Sprinkler System		\$ -	

Fire Alarm System		\$ -	
Electrical Panel Replacement		\$ -	
c. Less cost of Historic Structure renovations		\$ -	
d. Net Cost of repairs and alternations		\$ -	
e. Market value based upon appraisal.	\$0.00 x \$0/sf	\$ -	
f. Net cost of repairs as a percentage (%) of market value. Less than 50% is not a Substantial improvement.		#DIV/0!	< 50% or > 50%

IEBC Chapter 3: Compliance Method -

Prescriptive Compliance Method	301.1.1
Work Area Compliance Method	301.1.2
Performance Compliance Method	301.1.3

Determine which compliance method is most advantageous to the project. The Performance Compliance Method is used where full compliance with Chapters 5 through 13 cannot be met. It requires evaluation of a number of factors found in Chapter 14 and the completion of a Summary Sheet (Table 1401.7).

IEBC Chapter 4: Prescriptive Compliance Method

IEBC 401.2.1 Existing materials in compliance may remain

IEBC 401.2.2 New and replacement materials must be permitted by IBC

IEBC 401.2.3 Review this paragraph regarding existing seismic force-resisting systems requirements with your structural engineer.

IEBC 401.3 Code Violations in Existing Building

List code violations - provide references

IEBC 402 Additions

Review Section 402 and list items that apply - provide references

IEBC 403 Alterations

Review Section 403 and list items that apply - provide references

IEBC 404 Repairs

Repairs are routine maintenance and abatement of wear due to normal service conditions. (404.1)

Review Section 404 and list items that apply - provide references

IEBC 406 Glass Replacement and Replacement Windows

Glass replacement shall be as required for new installations. (406.1)

Review Section 406 if replacing windows.

IEBC 407 Change of Occupancy

This project **does/does not** involve a change in occupancy.

Review Section 407 for further requirements if there is a change in occupancy. If there is no change in occupancy, review with the authority having jurisdiction to determine any requirements. (407.1)

IEBC 408 Historic Buildings

All / A portion of the building is considered Historic and is Contributory to the City of Charleston Historic District.

The proposed work does not constitute a substantial improvement and therefore is not required to comply with Section 1612 of the IBC. (408.3)

The proposed work constitutes a substantial improvement, but meets the requirements of Exception (1, 2, or 3), and therefore is not required to comply with Section 1612 of the IBC. (408.3)

IEBC 410 Accessibility for Existing Buildings

Select the appropriate category and edit accordingly. If compliance in an alteration is infeasible, provide explanations. Review entire Section 410 and elaborate on any items that apply.

This project is an alteration of an existing facility and does not reduce or have the effect of reducing accessibility of the remainder of the facility. (410.3)

This project is an alteration of an existing facility. Compliance with this section is technically infeasible, but provides access to the maximum extent technically feasible. (410.6)

This project **does/does not** involve a change in occupancy. (410.4)

This project is an addition and shall meet the accessibility provisions of the code.

IEBC Chapters 5 - 13: Work Area Compliance Method

Determine Classification Level of the Work based on Sections 502 - 505.

IEBC Chapter 5: Classification of Work

IEBC Chapter 5, Section 503, Alteration - Level 1: Alterations include the removal and replacement or the covering of existing materials, elements, equipment, or fixtures using new materials, elements, equipment, or fixtures that serve the same purpose.

Edit the above paragraph to indicate what is being removed, replaced or covered.

IEBC Chapter 5, Section 504, Alteration - Level 2: Alterations include a work area less than 50% of the building area. All work shall also conform to the provisions of Level 1 alterations.

IEBC Chapter 5, Section 505, Alteration - Level 3: Alterations include work area exceeding 50% of the building area. All work shall also conform to the provisions of Level 1 and Level 2 alterations.

IEBC Chapter 7: Alterations - Level 1

IEBC 702 - Building Elements and Materials: All Interior Finishes will comply with Chapter 8 of the IBC 2015.

IEBC 703 - Fire Protection: **This building will remain un-sprinklered, maintaining the level of fire protection provided.**

IEBC 704 - Means of Egress: Means of Egress of the entire facility shall be fully compliant with IBC requirements.

IEBC 705 - Accessibility: The entire facility is designed to be fully accessible.

IEBC 706 - Reroofing: **There is no reroofing work in the scope of this project.**

IEBC 707 - Structural: **No addition or replacement of roofing or replacement of equipment resulting in additional deadloads is in the scope of this project.**

Read Chapter 7 in its entirety.

IEBC Chapter 8: Alterations - Level 2

IEBC 801.2: All work shall comply with requirements of IEBC Chapter 7: Alterations - Level 1. See above.

IEBC 803.1 - Scope: The requirements of this section are limited to work areas in which Level 2 alterations are being performed.

IEBC 803.6 Fire Resistance Ratings: The required fire resistance ratings of building elements and materials shall meet the requirements of the current building code where an automatic sprinkler system has been added throughout the building and where approved by the code official.

IEBC 804, Paragraph 804.2.2 - Fire Protection: The occupant load of the work area is **more / not more** than 30 persons and the work area **does / does not** exceed 50% of the total floor area. Therefore, **an / no** automatic sprinkler system is required.

IEBC 804.4 - Fire Alarm and Detection: The building **is / is not** currently equipped with a fire alarm system. **Existing alarm-notification appliances shall be automatically activated throughout the building. (or) A fire alarm system and alarm-notification appliances within the work shall be provided and automatically activated.**

Review this section in its entirety since specific occupancy groups are identified.

IEBC 805 - Means of Egress: The work area **does / does not** include exits or corridors shared by more than one tenant and **is / is not** required to meet the requirements of this Section.

If the work area includes exits or corridors shared by more than one tenant, read the entire section

IEBC 806 - Accessibility: The building and its new elements are designed to be fully accessible.

Section 705 allows non-compliance for elements where the compliance of the element is shown to be technically infeasible.

IEBC 807 - Structural: New structural elements **are / are not** part of the scope of this project.

IEBC 808 - Electrical: **Existing lighting and power in the work area is being replaced and will meet all requirements of the IEC.**

IEBC 809 - Mechanical: **Mechanical system is being replaced and will meet all requirements of the IMC.**

IEBC 810 - Plumbing: **All existing plumbing fixtures are being replaced. The quantities exceed the amount required. See Section 14 - Plumbing Fixtures below.**

IEBC 811 - Energy Conservation: Level 2 Alterations are permitted without requiring the entire building to comply with the IECC 2009. Compliance with the IECC 2009 is limited to new construction.

IEBC Chapter 11: Additions

IEBC 1101.1 The addition **does / does not** impact the existing building. **The portion that impacts the existing building complies with this code.**

IEBC 1102.1 - Height Limitations: The addition does not increase the height of the existing building beyond that permitted in Chapter 5 of the IBC.

IEBC 1102.2 - Area Limitations: The addition **does / does not** increase the area of the existing building beyond that permitted in Chapter 5 of the IBC. *If it does, include:* **The addition is separated from the existing building by fire rated construction as required by the IBC.**

Review Section 1103 Structural with your structural engineer.

IEBC 1105.1 Accessibility: The addition meets all requirements for accessibility.

FIRM/FEMA Strategy

NGVD 29 Datum: Per elevation Certificate provided this property is located within an AE -13 flood zone designation, as shown on Flood Insurance Rate Map (Map no. 455416-0003, Dated 03/18/91). The City of Isle of Palms enforces a 1-foot freeboard, thus requiring finish floor to be at 14.0' (NGVD 29 datum). This structure's finish floor is at 13.5' - i.e. 6" below required elevation NGVD 29 Datum.

NAVD 88 Datum: PROPOSED MAPS: In yet unadopted proposed maps, this property will be located within an AE -12 flood zone designation, as shown on Flood Insurance Rate Map (Map no. 45019C0542K, Dated 09/09/16). The City of Isle of Palms enforces a 1-foot freeboard, thus requiring finish floor to be at 13.0' (NAVD 88 datum). With the datum change this structure's finish floor will be at 12.5' on any revised Flood Certificate - i.e. still 6" below required elevation NAVD 88 Datum.

The following information references FEMA guidelines relative to the Substantial Improvement / Substantial Damage Desk Reference Publication, FEMA P-758, May 2010.

The cost of improvements **may not** exceed 50% of the value of the structure only (Pre-construction cost without sitework) without bringing building into compliance with FEMA regulations.

Per Table 6-1a, Compliance Matrix (A Zones): the scope of work is categorized as follows:

Scope of Work would need to be determined to understand what is allowed and not allowed per FEMA document.

1 Use and Occupancy - Chapter 3 IBC

		Reference	Notes
First Floor - Restaurant	Assembly - A2	303.3	
Second Floor - Restaurant	Assembly - A2	303.3	

2 Types of Construction - Chapter 6

	Condition	Reference	Notes
Classification - Type V-B	Sprinklered	602.5	2.1

Notes:

2.1 Type V construction is that type of construction in which the structural elements, exterior walls and interior walls are of any materials permitted by this code.

3 Building Height - Chapter 5

3.1 Any modification to the existing building would presummably not change its existing height.

3.2 If an addition were undertaken or a new building of same Occupancy and Contruction Type, the height would be limited to 60 feet. (T504.3)

4 Building Area - Chapter 5

	Area (sf)	Allowed Type V-B	Reference	Notes
A2 - Sprinklered - First Floor	5,504	18,000	T506.2	
A2 - Sprinklered - Second Floor	3,147	18,000	T506.2	
Totals	8,651		T506.2	

4.1 Areas include porches that have been enclosed with temporary structures on the second floor.

5 Fire Protection Rating and Rated assembly (UL,FM) - Chapter 6

Element	Type V-B	Rated Assembly	Reference	Notes
Structural frame including columns, girders, trusses	0		T601	
Bearing Walls - Exterior	0		T601	
Bearing Walls - Interior	0		T601	
Exterior walls/partitions	X < 5'	1 Hr	T602	
	5 ≤ X < 10'	1 Hr	T602	
	10' ≤ X < 30'	n/a	T602	
	X ≥ 30'	n/a	T602	
Interior Non-Bearing walls/partitions	0		T601	
Floor Construction including beams & joists	0		T601	
Roof Construction includ. beams & joists	0		T601	

6 Fire Protection Requirements - Chapters 7 & 10

Maximum Area of Exterior Wall Openings (T705.8)

Fire Separation Distance	UP/NS	UP/S	P	Notes
0 to <3ft	not permitted	not permitted	not permitted	existing
3 to <5ft	not permitted	15%	15%	existing
5 to <10ft	10%	25%	25%	existing
10 to <15ft	15%	45%	45%	existing
15 to <20ft	25%	75%	75%	existing
20 to <25ft	45%	NL	NL	existing
25 to <30ft	70%	NL	NL	existing
30 ft or greater	NL	NR	NR	existing

Element	Rating	Opening Protective	Reference	Notes
Exterior Open Stairways	0		1027	
Elevator Shaft	n/a		713.4	6.1
Elevator Lobby	n/a		3006.1.1	
Elevator Machine Room	n/a		3005.4	
Occupancy Separation	n/a		T508.4	
Corridor	0		T1020.1	
Fire Barriers	n/a		T707.3.10	

6.1 x

7 Interior Finishes - Chapter 8

	Occupancy	Finish Class (Sprinklered)	Reference	Notes
Exit Enclosures and Passageways	A2	B	T803.11	
Corridors	A2	B	T803.11	
Rooms and Enclosed Spaces	A2	C	T803.11	

8 Fire Protection Systems - Chapter 9

8.1 The building is equipped with an Automatic Sprinkler System (903) and Fire Alarm Detection System (907).

8.2 An Automatic Sprinkler System is required due to the Fire Area exceeding 5000 sf, and the occupant load exceeding 100 people. (903.2.1.2)

9 Occupant Load - Chapter 10

Occupancy Type A (Assembly -
unconcentrated) Non-Separated Uses

	Area	Occupant Load Factor	Net/Gross	Occupant Load
First Floor - Restaurant Dining	3,088	15	Net	206
First Floor - Kitchen	1,745	200		9
First Floor - Business	671	200		4
Total Occupancy - First Floor	5,504			219

Occupancy Type A (Assembly -
unconcentrated) Non-Separated Uses

	Area	Occupant Load Factor	Net/Gross	Occupant Load
Second Floor - Restaurant Dining	2,565	15	Net	171
First Floor - Kitchen	450	200		3
First Floor - Business	132	200		1
Total Occupancy - Second Floor	3,147			175

9.1 It is noted that actual seating count for the dining areas was counted at 342 seats, versus 377 calculated at 15 sf/person.

10 Means of Egress - Chapter 10

	Code Req.	Reference	Notes
Egress Width per person	0.2" stairs 0.15" level	1005.3.1 1005.3.2	
Exit Access Travel Distance	200 ft	T1017.2	
Dead End Corridor Limit	20 ft	1020.4	
Minimum Number of Exits	2	T1006.2.1	
Minimum Corridor Width	44" , 48" accessible	T1020.2	
Minimum Stair Width	44"	1009.3	
Maximum Travel Distance	250 ft	T1017.2	
Common Path of Egress Travel	75 ft	T1006.2.1	
Area of Refuge	Not required when sprinklered	1009.3	

10.1 An Accessible Means of Egress is not required in existing buildings (1009.1, Except. 1)

10.2 Egress doors are required to have panic hardware, except for main entry door. (1010.1.10)

10.3 Reference ANSI A177.1-2017 for scoping requirements that dictate an elevator

11 Design Loads

	Category	Reference	Notes
Wind and Seismic Occupancy Risk	III	T1604.5	11.1

11.1 Because occupant load (as calculated and counted) is greater than 300 person in an Assembly occupancy, Risk Category is a higher standard.

11.2 In wind-borne debris regions, glazing in buildings shall be impact-resistant or protected with an impact-resistant covering meeting the requirements of an approved impact-resisting standard or ASTM E 1996 and ASTM E 1886 referenced therein as follows:

- Glazed openings located within 30ft of grade shall meet the requirements of the Large Missile Test of ASTM E 1996.
- Glazed openings located more than 30ft above grade shall meet the provisions of the Small Missile Test of ASTM E 1996.

12 Zoning

12.1 Assessment team has been advised by City Officials that current on-site parking does not meet Zoning Code for size of restaurant. Shared parking with Marina is up for interpretation.

12.3 This property is not located in a Fire District (as defined by IBC).

13 Plastics - Chapter 26

Does the project contain foam plastic insulation as defined in Section 2602? No
Is the foam insulation separated from the habitable spaces by a thermal barrier? na

14 Plumbing Fixtures - Chapter 29

	Toilets Men	Toilets Women	Lavs	DF
Required on First Floor	1 wc/1 ur	2	2	nr
Total Provided First Floor	1 wc/2 ur	2	3	nr
Required on Second Floor	1 wc/1 ur	1	2	nr
Total Provided Second Floor	1 wc/1 ur	1	2	nr

Notes:

14.1 Existing facilities are not accessible. Purpose of renovation would be to make facilities accessible insofar as technically feasible. The number of fixtures should be increased where possible within the limitations of existing

14.2 Toilet counts are not taking into account outdoor dining and activities at grade.

15 Temporary Structures - Chapter 31

15.1 Tents are regarded as Temporary Structures and limited to 180 days. Tents must comply with the International Fire Code. Tents erected for more than 180 days must comply with applicable sections of the code.

15.2 Tents must comply with structural strength, accessibility, light, ventilation, and sanitary requirements of this code as necessary to ensure public health, safety, and welfare.

Building Assessment *for*
MORGAN CREEK GRILL

ASSESSMENT
ACCESSIBILITY

ASSESSMENT

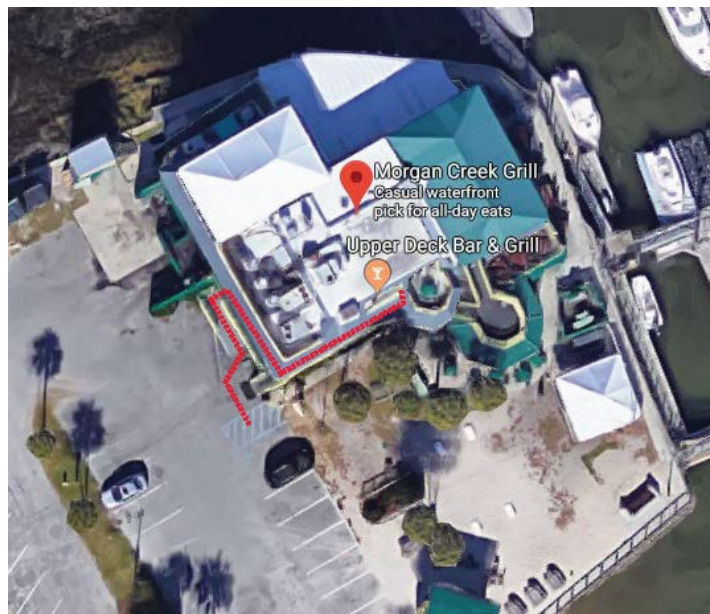
ACCESSIBILITY

The subject property was reviewed relative to Chapter 11 of the International Building Code (IBC) and by reference, ICC A117.1 – 2017 (formerly ANSI A117.1). The Americans with Disabilities Act is a civil law – not a building code, and as such the American with Disabilities Act Accessibility Guidelines (ADAAG), which use the text and illustrations of ANSI A117.1-1980, may have variations and have not been updated as has the code reference document.

International Building Code – IBC: Chapter 11

Scoping requirements for a given use are found in Chapter 11 of the IBC. The following are salient points:

- Walk-in coolers and freezers are exempt.
- An Accessible Route shall connect public transportation, accessible parking, public streets or sidewalks to an accessible building entrance.
 - Currently, the accessible route contains gravel and obstacles to the ramp. The ramp is slightly too steep (over 1:12) in one section.
- An accessible route is not required to stories and mezzanines that have an aggregate area of not more than 3,000 sf and are located above accessible levels.
 - It is noted that second floor of the subject property actually has an area of 3,147 sf.
- 60% of public entrances shall be accessible.
 - Only one door – the main entrance – is served by the existing ramp
- Accessible toilets shall be provided.
 - No toilets in the building meet the requirements for accessibility.
- Passenger elevators on an accessible route shall comply with Chapter 30.
 - There is not an elevator serving the building.
- Accessible parking spaces shall be provided per the schedule in Table 1106.1
 - There is one accessible space provided for (apparently) 35 parking spaces on site. 2 should be provided for that quantity.



ICC A117.1-2017

Chapter 4 – Accessible Routes

- Changes in level shall comply with Section 303, which require a threshold not exceed ½” with a beveled edge. (403.4)
 - There are numerous instances of this requirement being exceeded, most notably from the main 1st floor Dining Room into the enclosed porch, and at all Toilet Rooms.
- Walking surfaces shall not be steeper than 1:20. The cross slope of a walking surface shall not be steeper than 1:48. (403.3)
 - The cross slope in the enclosed porch is steeper than allowed to be accessible.
- Doors shall have a clear width of 32 inches. (404.2.2)
 - Toilet room doors are too narrow.
- Maneuvering clearances at doors shall comply with Section 404.2.3.
 - Maneuvering clearances at all Toilet room doors and some exit doors do not comply.
- Door hardware, handles, pulls, latches and other operable parts shall have a shape that is easy to grasp with one hand and does not require tight grasping, pinching, or twisting of the wrist to operate. (404.2.6)
 - Most exterior doors are simply push-pulls. Toilet room doors are push-pulls. There are other doors that have knob hardware in lieu of lever handles.
- Closing speed and opening force are as per 404.2.7 and 404.2.8.
 - These parameters were not checked or verified. There are no power operated doors in the facility.
- Ramp slopes shall not be steeper than 1:12. (405.2)
 - One section of the existing ramp was noted to have a slope greater than 1:12. Albeit very slightly.
- The clear width of a ramp shall be 36”. Handrails shall not project into that clear width. (405.5)
 - The existing ramp is in compliance.
- The landing at the top or bottom of a ramp shall comply with 405.7, i.e. be 60 inches minimum in depth.
 - There is an electrical box at the bottom of the existing ramp than reduces the clear depth to less than 60 inches.
- Handrails on ramps shall comply with Section 505.
 - Geometry of handrails on the existing ramp does not comply.
- Edge protection shall comply with 405.9.
 - Edge protection at the side of the ramp is not provided.
- Elevators shall comply with Section 407.
 - An elevator is not provided in this facility. The first floor is accessed by way of a ramp. The second floor is not accessible.

Chapter 5 – General Site and Building Elements

- Parking spaces shall comply with Section 502.
 - One accessible parking space is provided on the site. Two are required for the quantity of parking spaces. Minutia of parking space was not reviewed.
- Stairway treads and risers shall be uniform in height and depth. Risers shall be a maximum of 7 inches. Treads shall be a minimum of 11 inches. (504.2)
 - There are several of the exterior stairs that measured slight variations from allowable parameters, but they were not significant.
- Visual contrast shall be on the leading edge of each tread and landing in accordance with 504.6
 - Visual contrast is not provided.
- Handrails shall comply with Section 505
 - Geometry of handrails on the existing exterior stairs does not comply. Continuity is likewise not provided as per 505.3
- Stair rails and ramp rails should have top extensions as per 505.10.2 and bottom extensions as per 505.10.3.
 - Extensions of rails are not provided at the existing stairs or ramp. The railing at the ramp actually terminate prior to the end of the ramp.

Chapter 6 – Plumbing Elements and Facilities

- Drinking fountains are not provided, but are not required in restaurants.
- Turning space shall be provided in the toilet room. Doors shall not swing into the clear floor space. (603.2)
 - Existing toilet rooms on both floors are not in compliance.
- Water closets and toilet compartments shall comply with Section 604.
 - Existing water closets and their toilet compartment on both floors are not in compliance. A specific listing of irregularities would be inconsequential.
- Lavatories and sinks shall comply with Section 606.
 - Existing lavatories on both floors are not in compliance. Pedestal sinks provide some level of accessibility better than a base cabinet, but are still not compliant.

Legal Opinions

In the course of this building assessment, the question was posed as to what the legal responsibility is to provide accessibility to the second floor if equivalent accommodation is provided on the first floor that is accessed by the ramp. The following is an excerpt from a research report by Veronica Rose, prepared for the State of Connecticut General Assembly. This opinion is provided for your information.

The question was asked if the Americans with Disabilities Act (ADA) requires restaurants to be handicapped accessible.

The answer is **yes**. For ADA purposes, a restaurant is a place of public accommodation subject to the act's accessibility standards. This means that any restaurant opened for first occupancy after January 26, 1993 must be readily accessible to people with disabilities, unless it is structurally impracticable to meet the requirements. The standard applies to everything from parking spaces to entrances, dining areas, and restrooms.

Restaurants that opened for first occupancy before the 1993 cutoff date do not have to be fully accessible. But they must remove architectural and communication barriers if readily achievable and, if not readily achievable, provide an alternative method of making goods and services available to people with disabilities. Also, if any major renovations take place after January 26, 1992, the renovated area of the facility must be made readily accessible to people with disabilities, to the maximum extent feasible.

New Facilities

ADA requires that restaurants and other places of public accommodation constructed for first occupancy after January 26, 1993 be designed and built to be readily accessible to people with disabilities, unless it is "structurally impracticable" to do so (42 USC § 12183(a)(1)). "Readily accessible" means that a reasonable number of elements, such as parking spaces and bathrooms, are handicapped accessible.

Existing Facilities

ADA requires owners of restaurants and other public accommodations that predate the 1993 cutoff date to remove barriers where readily achievable (e.g., eliminate turnstiles, widen doors, and install ramps). When not readily achievable, they must provide an alternative method of making their goods and services available to people with disabilities. "Readily achievable" means "easily accomplishable and able to be carried out without much difficulty or expense" (42 USC § 12181(8)). Readily achievable modifications include lowering telephones and installing grab bars where only routine wall reinforcement is required.

ADA also requires existing public accommodations to (1) make reasonable modifications to their policies, practices, and procedures to make their goods or services available to people with disabilities if modification would not fundamentally alter the goods or services and (2) provide auxiliary aids for people with disabilities if doing so would not alter the nature of the goods or services or impose an undue burden on the establishments.

Alterations

If alterations are made to an existing restaurant or other public accommodation after January 26, 1992, the altered portion of the facility must be handicapped accessible to the maximum extent feasible (42 USC § 12183(a)(2)). DOJ has indicated that it will construe this provision to apply to alterations that require a state, county, or local government permit. According to DOJ's regulations, "alterations" include remodeling, renovation, and changes in structural parts or configuration of walls but exclude normal maintenance, painting, or asbestos removal. "To the maximum extent feasible" means that features being altered must be made handicapped accessible unless it is not technically feasible.

When a proposed alteration to an existing restaurant or other public accommodation could affect the usability of, or access to, an area containing a primary function, the path of travel to the altered area and to the bathrooms, telephones and drinking fountains serving that area must be made accessible, unless the cost of the path-of-travel alterations are disproportionate to the cost and scope of the overall alterations (42 USC § 12183(a)(2)). The cost is disproportionate if it exceeds 20 percent of the cost of the underlying alteration (28 CFR § 36.403(f)). In this case, the path of travel must be made handicapped accessible without going over the 20 percent, giving priority to those elements that provide the greatest access.

ADA does not require alterations; but it requires alterations that affect usability to be made in a manner that provides handicapped access.



Start of ramp to first floor. Note electrical box in the way of the landing and the railing ending before the bottom of the ramp.



Ramp essentially serves its intended purpose but is not code compliant in a number of areas.

Photos – Accessibility Issues



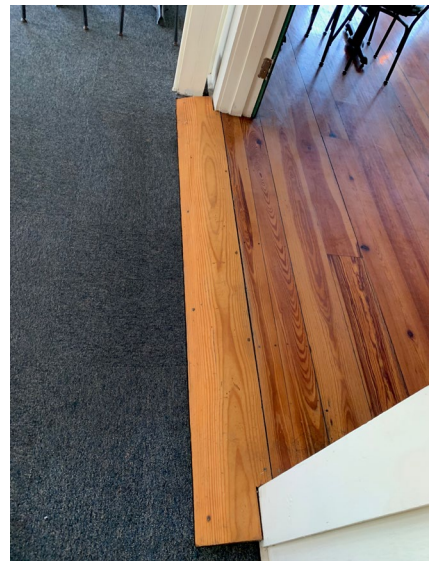
Exterior access to second floor dining.



Interior access to second floor dining.



Infill porch slopes approximately 6 inches, creating a significant cross-slope in the room.



Approximately 1-1/2" threshold into enclosed porch.

Photos – Accessibility Issues



Men's Room on first floor



Women's Room on first floor



Men's WC compartment



Women's WC compartment #1



Women's WC compartment #2



Men's Room on second floor



Women's Room on second floor

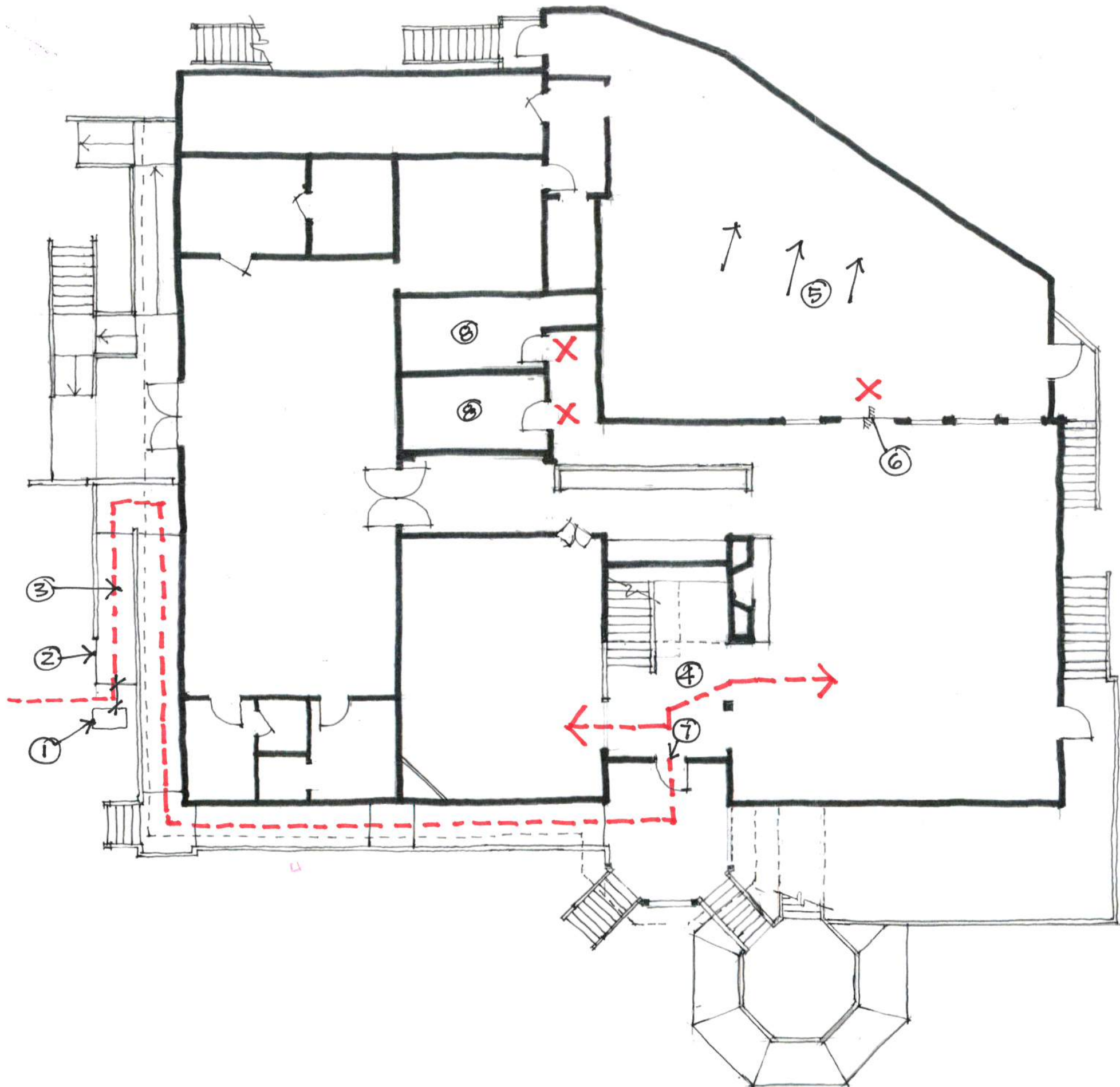


Staff toilet

Building Assessment for
MORGAN CREEK GRILL
 80 41st Ave, Isle of Palms
 City of Isle of Palms

ACCESSIBILITY

- 1 ELECTRIC BOX LIMITS ACCESS TO THE RAMP.
- 2 HANDRAIL IS NOT CONTINUOUS.
- 3 RAMP EXCEEDS 1:12 SLOPE (SLIGHTLY).
- 4 NO ELEVATOR ACCESS TO THE SECOND FLOOR.
- 5 FLOOR SLOPE IS GREATER THAN 1/4" PER FOOT, i.e. THIS SECTION OF RESTAURANT IS NOT ACCESSIBLE.
- 6 THRESHOLD EXCEEDS 1/2".
- 7 ONLY ONE MEANS OF ACCESSIBLE EGRESS. TWO REQUIRED.
- 8 TOILET IS NOT ACCESSIBLE.

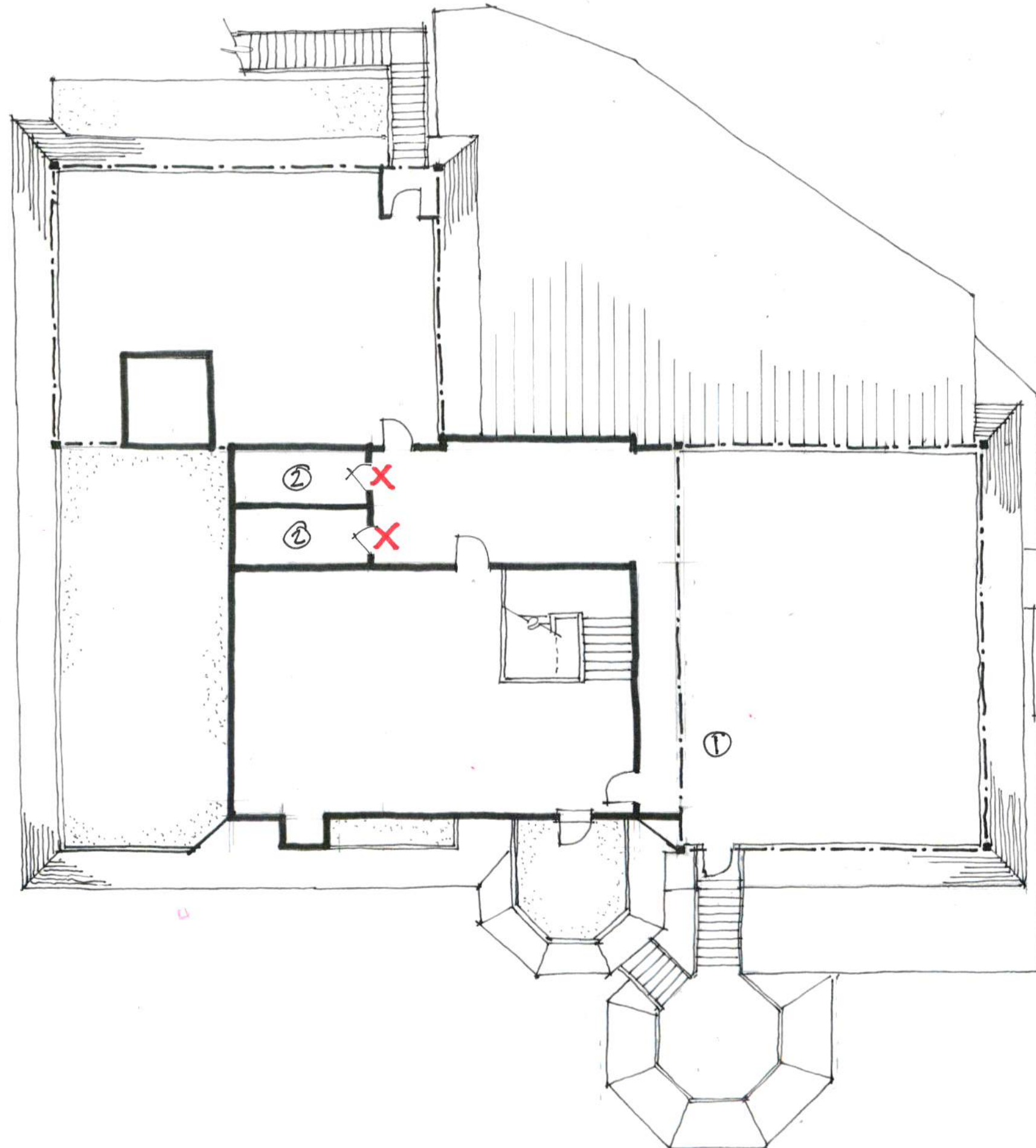


FIRST FLOOR

February 4, 2019

3/32" = 1'-0"





Building Assessment *for*
MORGAN CREEK GRILL
80 41st Ave, Isle of Palms
City of Isle of Palms

ACCESSIBILITY

- 1 SECOND FLOOR IS NOT ACCESSIBLE,
THUS ADDITIONAL CONSIDERATIONS ARE
INCONSEQUENTIAL.
- 2 TOILET IS NOT ACCESSIBLE.

SECOND FLOOR
February 4, 2019 3/32" - 1'-0"



Building Assessment *for*
MORGAN CREEK GRILL

ASSESSMENT
FLOOD PLAIN

ASSESSMENT

FLOOD PLAIN

The subject property was reviewed relative to its status under the current NFIP FIRM (Flood Insurance Rate Map and the proposed Firm Map, which has not yet been adopted by the City of the Isle of Palms. The amount of renovation or improvements that can legally be made to this property is determined by a review of the FIRM, the International Building Code, the proposed cost of the work, and the assessed value of the existing structure – as will be explained herein.

Currently, the City of the Isle of Palms, and this site, are subject to a FIRM dated November 17, 2004, which is based upon a 1929 Datum (NGVD 29). The Flood Certificate for this building shows its finish floor elevation as 13.5'. The building is located in an AE-13 flood zone designation as shown on FIRM No. 455416-0003, dated March 18, 1991. The City of Isle of Palms enforces a 1-foot freeboard, thus requiring this building's finish floor elevation to be at 14.0'. Hence the finish floor is currently 6 inches below the required flood elevation.

Presumably, the City of Isle of Palms will adopt the new (proposed) FIRM, dated September 9, 2016, and as can be found on the city government website. It is somewhat confusing, but important to understand that the new / proposed FIRM is based on 1988 Datum (NGVD 88) which is one foot lower than the old datum. In the new FIRM, the building is located in an AE-12 flood zone designation as shown on FIRM No. 45019C0542K. Again, with the City's 1-foot freeboard requirement, the finish floor needs to be at elevation 13.0', but with the datum change the existing building will have a finish floor elevation of 12.5' based on the new 1988 datum. The net result is that there is no change to the status of this building. It is and will remain 6 inches below the required flood elevation.

As previously discussed in the Code section of this report, when a building is subject to flood provisions of the Code, the amount of work that can be undertaken to make improvements is restricted. The proposed work is deemed to be a "Substantial Improvement" when the cost of the work (repair, alteration, addition or improvement) exceeds 50 percent of the market value of the structure. A Substantial Improvement of a building located in a flood zone requires that all aspects of the building be brought into current code compliance with flood provisions.

This provision of the building code and FEMA regulations (FEMA P-758) will require that an appraisal be completed for the building, exclusive of site costs. Any proposed improvements (with some exceptions) will have to be priced and cumulatively be less than 50% of the appraised value. If the value of the improvements are over 50%, the finish floor elevation of the existing building will have to be raised to the FIRM plus 1-foot freeboard elevation.

Flood Plain Observations

The above information notwithstanding, the assessment team noted several non-compliant situations that are not allowed to exist in a flood plain. Some assessments will be contradicted by the current Tenant, under the premise that “moveable equipment” may be placed in the flood plain if it can be evacuated when faced with an impending flood event. Such equipment would likely be identified in a Flood Management Plan and the applicability of such equipment would be subject to review and acquiescence by the Building Official.

Observations: Equipment Located in the Flood Plain

- The entire compliment of bar equipment in the octagonal on-grade bar. This structure is part of the structure for the means of egress from the second floor, as its roof is also the landing from the second-floor stair. This bar is an important component of the grade level entertainment value this property enjoys, and the assessment team felt that characterizing this bar equipment as “moveable equipment” was a reasonable public policy that is utilized at many waterfront establishments in the Charleston area.
- The Draft Beer Coolers are installed under the front porch in the Flood Plain.
- An Ice Machine is installed under the front porch in the Flood Plain.
- There are several condenser units – presumably for refrigeration items in the restaurant above - is installed under the building in the Flood Plain.
- There are non-GFI outlets installed under the building, as well as extension cords and power strips.
- We question how the Flood Certificate, completed by Wade Surveying in 2003, accounted for the finish floor elevation of the enclosed porch dining. As noted elsewhere, the finish floor of that area slopes down from the main restaurant and is approximately 8” below the FFE indicated for the first floor.

Attached Documents:

- 2003 Elevation Certificate
- Current FIRM – NGVD 29 Datum
- Proposed FIRM – NGVD 88 Datum
- FEMA article explaining the vertical datum change

Photos – Flood Plain Issues



Draft beer coolers – seemingly permanent installation



Condenser unit



Condenser unit. Electrical outlet



Ice Machine and Waitress service station
view from back side under porch.

FEDERAL EMERGENCY MANAGEMENT AGENCY
NATIONAL FLOOD INSURANCE PROGRAM

O.M.B. No. 3067-0077
Expires December 31, 2005

ELEVATION CERTIFICATE

Important: Read the instructions on pages 1 - 7.

SECTION A - PROPERTY OWNER INFORMATION

BUILDING OWNER'S NAME CITY OF ISLE OF PALMS		For Insurance Company Use: Policy Number
BUILDING STREET ADDRESS (Including Apt., Unit, Suite, and/or Bldg. No.) OR P.O. ROUTE AND BOX NO. #80-41ST AVE		Company/NAIC Number
CITY ISLE OF PALMS	STATE SC	ZIP CODE
PROPERTY DESCRIPTION (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) MARINA RESTAURANT TMS # 571-08-00-007		
BUILDING USE (e.g., Residential, Non-residential, Addition, Accessory, etc. Use Comments section if necessary.) RESTAURANT		
LATITUDE/LONGITUDE (OPTIONAL) (##°-##'-###" or ##.#####°)	HORIZONTAL DATUM: <input type="checkbox"/> NAD 1927 <input type="checkbox"/> NAD 1983	SOURCE: <input type="checkbox"/> GPS (Type): <input type="checkbox"/> USGS Quad Map <input type="checkbox"/> Other:

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP COMMUNITY NAME & COMMUNITY NUMBER ISLE OF PALMS 455416		B2. COUNTY NAME CHARLESTON		B3. STATE SC	
B4. MAP AND PANEL NUMBER 455416-0003	B5. SUFFIX E	B6. FIRM INDEX DATE 3/18/91	B7. FIRM PANEL EFFECTIVE/REVISED DATE 3/18/91	B8. FLOOD ZONE(S) AE	B9. BASE FLOOD ELEVATION(S) (Zone AO, use depth of flooding) ELEV 13

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in B9.

☐ FIS Profile ☒ FIRM ☐ Community Determined ☐ Other (Describe):

B11. Indicate the elevation datum used for the BFE in B9: ☒ NGVD 1929 ☐ NAVD 1988 ☐ Other (Describe):

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☒ No
Designation Date:

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: ☐ Construction Drawings* ☐ Building Under Construction* ☒ Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

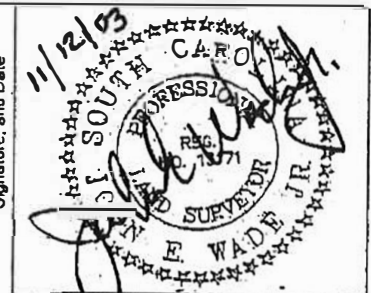
C2. Building Diagram Number **5** (Select the building diagram most similar to the building for which this certificate is being completed - see pages 6 and 7. If no diagram accurately represents the building, provide a sketch or photograph.)

C3. Elevations - Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO
Complete Items C3a-i below according to the building diagram specified in Item C2. State the datum used. If the datum is different from the datum used for the BFE in Section B, convert the datum to that used for the BFE. Show field measurements and datum conversion calculation. Use the space provided or the Comments area of Section D or Section G, as appropriate, to document the datum conversion.
Datum **NGVD 29** Conversion/Comments

Elevation reference mark used **WADE SURV 13M** Does the elevation reference mark used appear on the FIRM? ☐ Yes ☒ No

<input type="checkbox"/> a) Top of bottom floor (including basement or enclosure)	<u>13.5</u> ft.(m)
<input type="checkbox"/> b) Top of next higher floor	<u>24.5</u> ft.(m)
<input type="checkbox"/> c) Bottom of lowest horizontal structural member (V zones only)	<u>NA</u> ft.(m)
<input type="checkbox"/> d) Attached garage (top of slab)	<u>NA</u> ft.(m)
<input type="checkbox"/> e) Lowest elevation of machinery and/or equipment servicing the building	<u>13.5</u> ft.(m)
<input type="checkbox"/> f) Lowest adjacent grade (LAG)	<u>7.3</u> ft.(m)
<input type="checkbox"/> g) Highest adjacent grade (HAG)	<u>8.1</u> ft.(m)
<input type="checkbox"/> h) No. of permanent openings (flood vents) within 1 ft. above adjacent grade	<u>NA</u>
<input type="checkbox"/> i) Total area of all permanent openings (flood vents) in C3h	<u>NA</u> sq. in. (sq. cm)

License Number, Embossed Seal, Signature, and Date



SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information.

I certify that the information in Sections A, B, and C on this certificate represents my best efforts to interpret the data available.

I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

CERTIFIER'S NAME JOHN F. WADE JR.	LICENSE NUMBER SCRLS 13171
TITLE SURVEYOR	COMPANY NAME JOHN E. WADE JR RLS
ADDRESS PO BOX 656	CITY ISLE OF PALMS
SIGNATURE <i>John E. Wade Jr.</i>	STATE SC
DATE 11/12/03	ZIP CODE 29451
	TELEPHONE (843) 886-6262

IMPORTANT: In these spaces, copy the corresponding information from Section A.		For Insurance Company Use:
BUILDING STREET ADDRESS (Including Apt., Unit, Suite, and/or Bldg. No.) OR P.O. ROUTE AND BOX NO. #80 41ST AVE RESTAURANT		Policy Number
CITY ISLE OF PALMS	STATE SC	Company NAIC Number

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

COMMENTS C3E PLUMBING

☐ Check here if attachments

SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zone AO and Zone A (without BFE), complete Items E1 through E4. If the Elevation Certificate is intended for use as supporting information for a LOMA or LOMR-F, Section C must be completed.

- E1. Building Diagram Number ____ (Select the building diagram most similar to the building for which this certificate is being completed - see pages 6 and 7. If no diagram accurately represents the building, provide a sketch or photograph.)
- E2. The top of the bottom floor (including basement or enclosure) of the building is ☐ ft.(m) ☐ in.(cm) ☐ above or ☐ below (check one) the highest adjacent grade.
- E3. For Building Diagrams 6-8 with openings (see page 7), the next higher floor or elevated floor (elevation b) of the building is ☐ ft.(m) ☐ in.(cm) above the highest adjacent grade.
- E4. For Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? ☐ Yes ☐ No ☐ Unknown. The local official must certify this information in Section G.

SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here.

PROPERTY OWNER'S OR OWNER'S AUTHORIZED REPRESENTATIVE'S NAME

ADDRESS CITY STATE ZIP CODE

SIGNATURE DATE TELEPHONE

COMMENTS

☐ Check here if attachments

SECTION G - COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below.

- G1. ☐ The information in Section C was taken from other documentation that has been signed and embossed by a licensed surveyor, engineer, or architect who is authorized by state or local law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)
- G2. ☐ A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.
- G3. ☐ The following information (Items G4-G9) is provided for community floodplain management purposes.

G4. PERMIT NUMBER	G5. DATE PERMIT ISSUED	G6. DATE CERTIFICATE OF COMPLIANCE/OCCUPANCY ISSUED
-------------------	------------------------	---

G7. This permit has been issued for: ☐ New Construction ☐ Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building is: _____

G9. BFE or (in Zone AO) depth of flooding at the building site is: _____

LOCAL OFFICIAL'S NAME TITLE

COMMUNITY NAME TELEPHONE

SIGNATURE DATE

COMMENTS

☐ Check here if attachments

EXISTING FIRM MAP



APPROXIMATE SCALE

MAP SCALE 1" = 500'



NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP
CHARLESTON COUNTY,
SOUTH CAROLINA
AND INCORPORATED AREAS

PANEL 542 OF 855

(SEE MAP INDEX FOR PANELS NOT PRINTED)

CONTAINS:
COMMUNITY
NUMBER
SUFFIX
450486
0542
450487
0542

NOTE: Use The MAP NUMBER shown below, along with the panel number shown above, to obtain the COMMUNITY NUMBER shown above, which should be used on insurance applications for the subject community.

MAP NUMBER
45019C05421

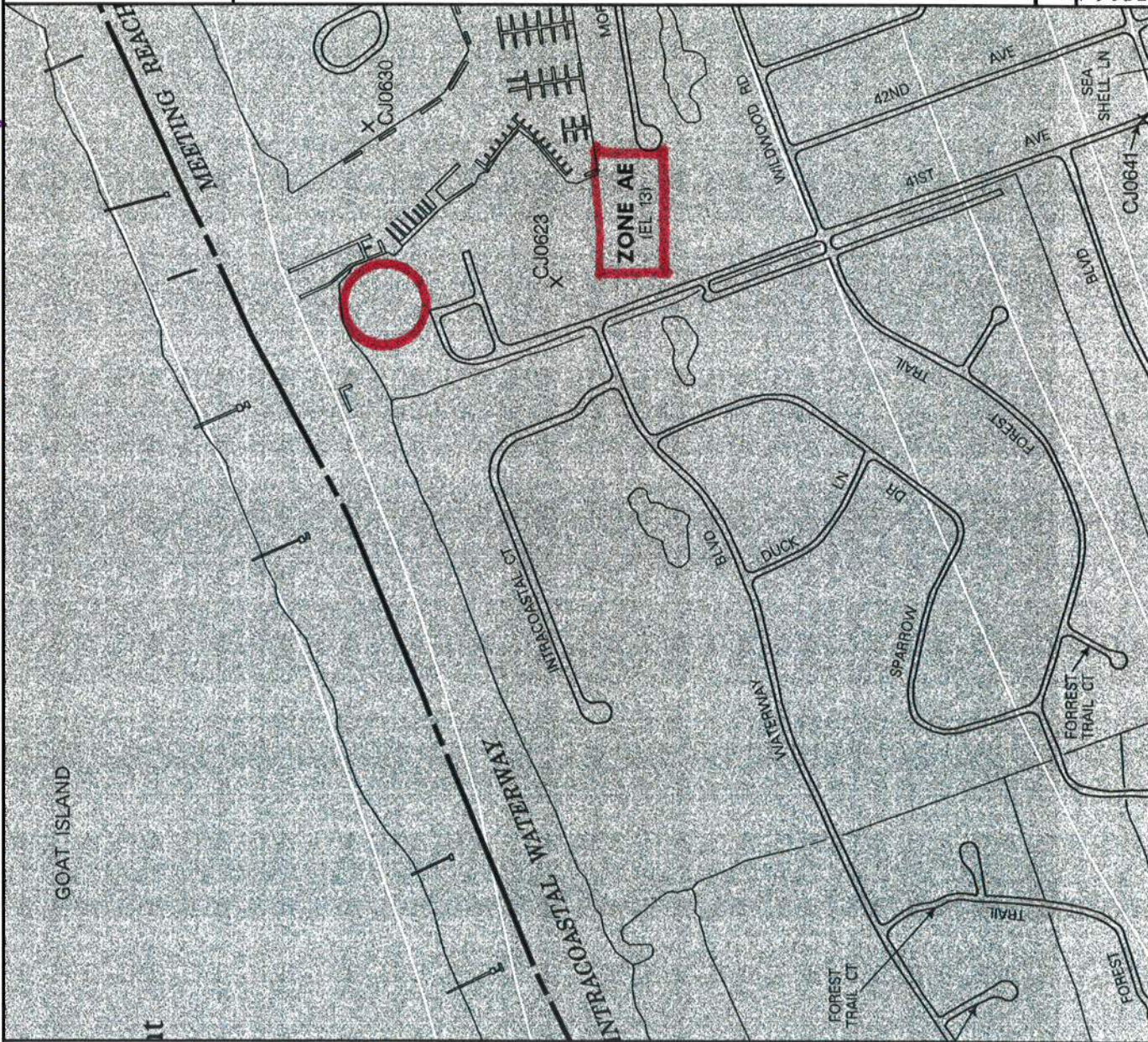
EFFECTIVE DATE:
NOVEMBER 17, 2004



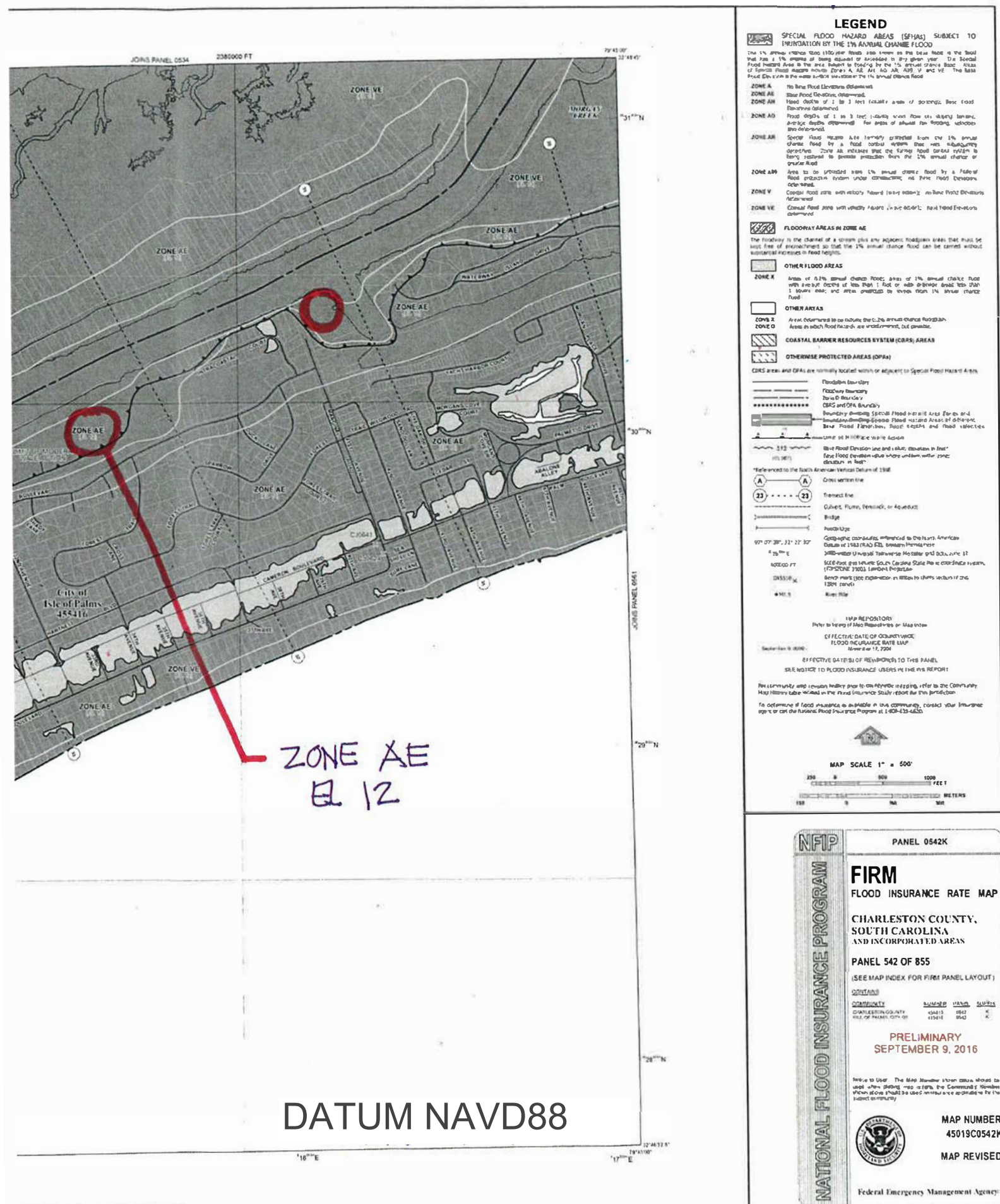
Federal Emergency Management Agency

DATUM NGVD29

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov



PROPOSED FIRM MAP



Vertical Datum

NEW MAPPING STUDIES CONVERT TO UPDATED VERTICAL DATUM



WHAT IS A VERTICAL DATUM?

A vertical datum is a base measurement point (or set of points) from which all elevations are determined. Without a common datum, surveyors would calculate different elevation values for the same location. Historically, that common set of points has been the National Geodetic Vertical Datum of 1929 (NGVD29). However, as a result of advances in technology, an updated vertical datum was created and has been officially adopted by the Federal Government as a new basis for measuring heights: the North American Vertical Datum of 1988 (NAVD88).

WHY IS FEMA USING NAVD88?

NAVD88 is more compatible with modern surveying and mapping technologies like Global Positioning Systems (GPS). It also is more accurate than the previous national vertical datum, NGVD29, which no longer is supported by the Federal Government.

FEMA's Map Modernization effort provides an excellent opportunity to incorporate NAVD88 into flood hazard information. This change will support the accurate measurement of elevation by FEMA and National Flood Insurance Program (NFIP) stakeholders, and will avoid the problems of maintaining information based on an obsolete datum.

HOW DOES FEMA'S USE OF NAVD88 AFFECT YOU?

The most frequent users of vertical datum include floodplain managers, surveyors, engineers, builders, and insurance agents and companies. Historically, the most common vertical datum used by FEMA has been NGVD29. Many existing documents (e.g., Flood Insurance Rate Maps [FIRMs], Elevation Certificates, Flood Insurance Studies [FISs]) provide elevation values based on the old datum.

When working with these documents, elevation values based on different vertical datums cannot be used together directly. All the information being used (elevation values on FIRMs, Elevation Certificates, other maps and documents) must be reviewed to ensure they are all based on the same datum,

- Determine what datums are used on the documents.
- If the datums are the same, continue to use the maps and other information together.
- If the datums are different, stop and convert all the elevation numbers to the same datum before using the information.

Every user of elevation data on FEMA's products needs to be aware of the datums on which their elevation values are based, differences in datums among the different

WHO IS AFFECTED?

Property owners should not be affected by a vertical datum change. Insurance rates (where elevation data are required and rates aren't grandfathered) and building codes will be based on the Base Flood Elevations (BFEs)* shown on new Digital Flood Insurance Rate Maps (DFIRMs). However, users of elevation data from multiple sources (e.g., a FIRM and Elevation Certificate) must take care that the elevation values are based on the same vertical datum. If they are not, the values must be converted to the same datum before they are used. Failure to do so can result in improper design (e.g., building at the wrong elevation) or misrating the insurance premium. These users include floodplain managers, surveyors, builders, and insurance agents.

* Base Flood Elevation - The water-surface elevation resulting from a flood that has a 1-percent chance of occurring in any given year.



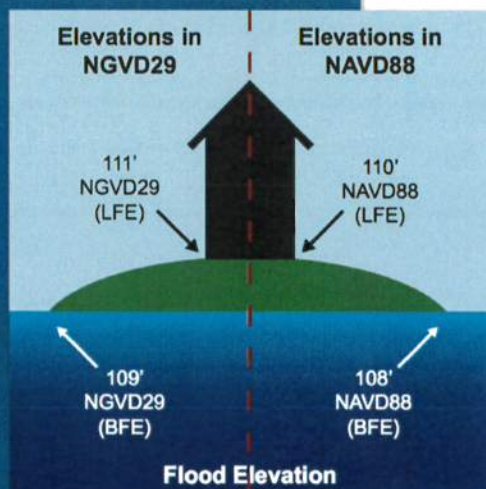
FEMA

Vertical Datum

NEW MAPPING STUDIES CONVERT TO UPDATED VERTICAL DATUM

data sources they are using, the required datum conversion, and how to apply it. Particular care must be taken when comparing elevation data on a new FIRM panel using NAVD88 with data from a previous FIRM panel that was produced using NGVD29. The user must be sure to convert elevation values to one common vertical datum. For example, insurance agents and companies must be especially careful about using elevations based on similar vertical datums when using the NFIP's "grandfathering" rule for rating. They must avoid using a Base Flood Elevation (BFE) value from a FIRM based on NGVD29 with a building's lowest floor

elevation (LFE) from an Elevation Certificate based on NAVD88. The error could be significant if they are not first converted to the same vertical datum. Similarly, when calculating a new premium with a BFE based on NAVD88 and a building's LFE based on NGVD29 from an older Elevation Certificate, the elevations should be converted to the same vertical datum.



WHAT IS THE EFFECT OF THE DATUM CHANGE ON FLOOD HAZARD INFORMATION?

The datum change does not change the relationship of the ground heights to the water surface. It does change the value assigned to those heights that are printed on the maps and other documents or encoded in digital data.

For example, the figure to the left shows a hypothetical building and nearby water surface. The LFE of the structure is 111 feet measured using NGVD29, but 110 feet using NAVD88. Similarly, the BFE is 109 feet measured using NGVD29, but 108 feet using NAVD88. The difference between the elevations is the same with both datums: 2 feet.

This figure also illustrates two other points raised previously:

- 1) The main effect of the datum change is a different value assigned to an elevation. For example, in the figure, the lowest floor of the same structure is assigned one value when measured using NAVD88 and a different value when measured using NGVD29. Elevations in a local area all shift by the same amount, so the relative relationships are not changed.



Vertical Datum

NEW MAPPING STUDIES CONVERT TO UPDATED VERTICAL DATUM



- 2) When comparing two values, they have to be measured from the same datum. For example, do not compare the LFE of the structure measured using NAVD88 (110 feet) with a BFE measured using NGVD29 (109 feet). This would yield an incorrect difference in elevations. Using this example, the difference would be incorrectly calculated to be 1 foot (110 – 109), compared to the correct elevation difference of 2 feet (110 – 108).

WHAT INFORMATION DOES FEMA PROVIDE ON CONVERTING BETWEEN VERTICAL DATUMS?

The difference between the two datums varies from location to location. FEMA provides guidelines regarding where conversion factors (offset values) should be calculated and the process for converting unrevised elevation data from old flood studies into new flood studies. The exact conversion factors will be listed in the accompanying FIS. General conversion factors also may be shown on the FIRM panel. Where a county boundary and a flooding source with unrevised NGVD29 flood elevations meet, an individual offset will be calculated and applied during the creation of the new DFIRM.

STAY INFORMED ABOUT THE CHANGE

Flood maps are changing, and so is the vertical datum being used. Floodplain managers, surveyors, engineers, builders, insurance agents and companies, and other users of elevation data from multiple sources (e.g., a FIRM and Elevation Certificate) must take care that the elevation values they use are based on the same vertical datum. If they are not the same, the values must be converted to the same datum before they are used. Failure to do so can result in improper design (e.g., building at the wrong elevation) or misrating the insurance premium. The property owners' risk is not affected by a vertical datum change because all elevations in the local area are changed by the same amount.

FURTHER INFORMATION

If additional details are needed, the following resources may be helpful.

- For FEMA's guidelines regarding vertical datum conversions, visit: <http://www.fema.gov/library/viewRecord.do?id=2206> and click on Appendix B.
- FEMA's NAVD88 policy, presented in Procedure Memorandum 41 (March 2006), can be found at: http://www.fema.gov/plan/prevent/fhm/pl_memo41.shtm
- Additional information on vertical datums, including the conversion from NGVD29 to NAVD88 at any location, can be found by visiting the National Geodetic Survey site: <http://www.ngs.noaa.gov>
- For more information about flood insurance, visit: <http://www.floodsmart.gov>
- For additional details about FEMA's Map Modernization effort, go to: http://www.fema.gov/plan/prevent/fhm/mm_main.shtm



FEMA

Building Assessment *for*
MORGAN CREEK GRILL

ASSESSMENT
STRUCTURAL

ASSESSMENT

STRUCTURAL

The subject property was reviewed for the purposes of identifying visible structural deficiencies for which repairs could be estimated as part of a package of improvements to the building. The assessment team was advised prior to undertaking this review, that there was a known problem under the walk-in cooler / freezer at the kitchen. This structural review is thus somewhat general in nature. A structural engineer was not part of the assessment team, and no structural analysis / calculations were completed as part of this scope of services.

The following items were identified as actual or probable structural deficiencies. Some of these elements need immediate attention and corrective action. Others are recommended to be reviewed in depth by a registered structural engineer.

1. Structure of floor at walk-in cooler / freezer
2. Structure of enclosed porch
3. Structure of “add-on” rooms off kitchen
4. Temporary structures i.e. tents on second floor

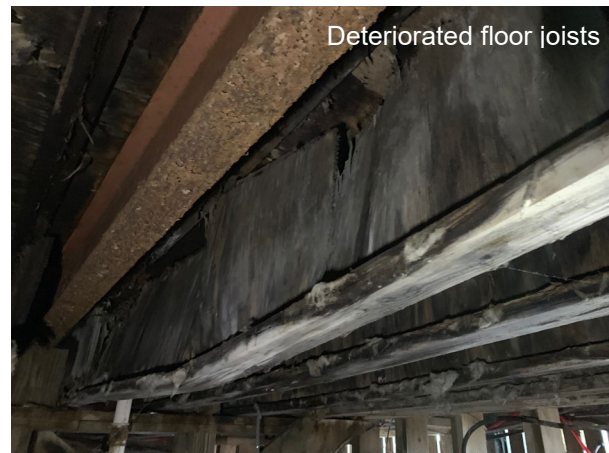
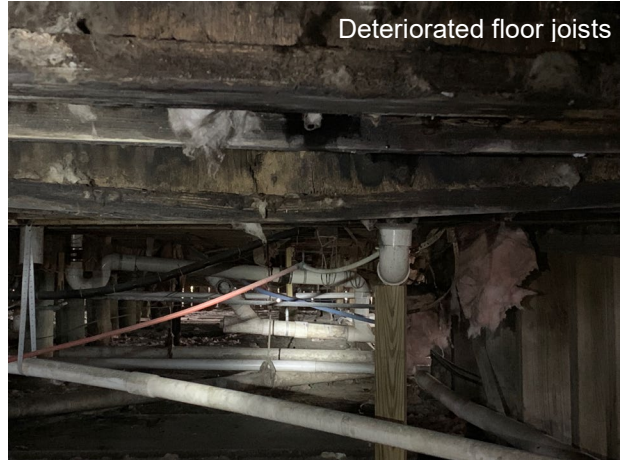
Observations: Structure of floor at walk-in cooler / freezer

This situation requires the immediate attention of the City of Isle of Palms (as Owner), the Tenant, and the Building Official. Condensation at the underside of the cooler / freezer has resulted in the complete deterioration of the plywood subfloor and a number of the wood floor joists. In some instances the plywood and the wood joists are completely gone. A “repair” was undertaken at some point that installed steel beams at the underside of the plywood subfloor. That repair is insufficient and tenuous. It consists of steel beams shored up by 4 x 4 wood blocking, bearing on a wood wall, which bears on an existing slab that preexisted under the restaurant. None of these components are attached or tied to the other in any meaningful way.

Any repair will require the removal of the cooler / freezer, the partial demolition of flooring system in the immediate area, the reconstruction of such flooring system to current engineering standards, and the reinstallation of the cooler / freezer. The reintroduction of the cooler / freezer should take into account the condensation issue and be designed to avoid the problem in the future.



Photos – Structure of floor at walk-in cooler / freezer



Photos – Structure of floor at walk-in cooler / freezer



Exposed cooler floor



Exposed cooler floor

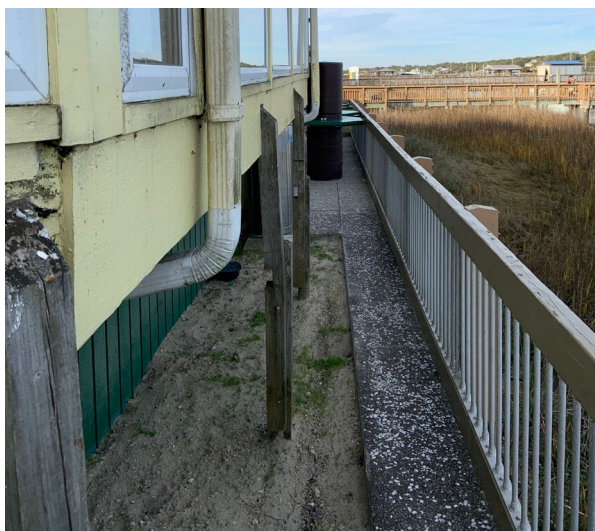


Observations: Structure of enclosed porch

The assessment team speculate that there are a number of potential issues with the enclosed porch. Whereas the existing restaurant building should have been designed for uniformly distributed live loads of 100 psf, and it is on a timber pile foundation, the Code requires any porch or deck to be designed to the same live load as the primary occupancy. It appears the now enclosed porch is on a foundation consisting of treated 6 x 6 or 8 x 8 posts on a shallow concrete foundation.

The perimeter of this porch was once a cantilevered structure, that has been “shored up” on the outside building line with 4 x 4 posts bolted to other 4 x 4 posts, that are simply in the ground, much like fence posts.

It is also noted that the enclosed porch – because it was once a porch – slopes away from finish floor. It is not clear that the Flood Elevation Certificate took that finish floor elevation into account, and by regulation, the lowest finish floor elevation determines the flood elevation for the entire structure.



Observations: Structure of “add-on” rooms off kitchen

In much the same way that the enclosed porch has a different foundation system than the primary original building, the assessment team speculates that that foundation system for the 8-foot wide office / storage addition off the rear of the kitchen is similarly a shallow foundation.

This issue would only be reasonable to address if combined with a more comprehensive renovation. We did not observe any differential settlement at this location at this time.



Observations: Temporary structures i.e. tents on second floor

Temporary structures, such as tents, are addressed in Section 3103 if the International Building Code (IBC). A tent may be erected for a period of less than 180 days, or otherwise must meet all provisions of the Code.

There are two on the second floor of the subject property; a “green tent” and a “white tent”. The green tent is more or less an enclosed space, with non-impact glazing on the perimeter. The white tent is more or less an open structure, with some areas of glazing or wind screens. Both have been erected for longer than 180 days, and do not meet all aspects of the Code. Structurally these tents have suspect connectivity that is likely dangerous in a high wind scenario. There is similarly a wood roof structure connecting the two tents that raises structural concerns. If these tent structures are to remain on the second floor we recommend review by a qualified structural engineer and subsequent corrective action.

Because the white tent is open, there should be guardrails at 42” above finish floor that prevent the passage of a 4” sphere and meet the structural requirements of 1607.8 in the IBC. The railing / fall protection under the white tent is inadequate and could pose a danger to the public.





Building Assessment *for*
MORGAN CREEK GRILL

RECOMMENDATIONS

**RENOVATE
BUILD NEW**

RECOMMENDATIONS

As outlined in this assessment report, the subject property has issues related to Building Code compliance, Zoning relative to parking, Accessibility for the disabled, FEMA Flood Plain requirements, and Structural Issues; in addition to deferred maintenance / poor construction.

In determining what improvements take precedent, the fact that the existing building's finish floor elevation is located below the NFIP FIRM + 1' freeboard institutes a 50% rule that both informs decisions and limits decisions at the same time.

If the decision is to renovate the existing building, the repairs, additions, alterations and improvements cannot exceed 50% of the value of the existing structure. This requires the City of Isle of Palms as Owner to have an appraisal of the structure completed. For instance, if the structure appraises for \$1.3 million (about \$150/sf), then all improvements cannot exceed \$650,000.

If the decision is to tear the existing building down and rebuild it new, then the limitations on the project would appear to be budget, available parking, and a new setback for the OCRM critical line that would move the building back from the bulkhead. (There is possibly the option of tearing down the building to the existing floor structure, increasing the depth of the floor framing by +6 inches, and rebuilding back from there.)

Both options are explored herein...

Building Assessment *for*
MORGAN CREEK GRILL

RECOMMENDATIONS
RENOVATE

RECOMMENDATIONS

RENOVATE

Renovations and Additions within a 50% limitation

SMHa has developed a Concept Scheme that seeks to address many of the problematic issues that have been identified in this assessment report. Hill Construction has provided an “al la carte” menu for the Owner and the Tenant to prioritize within the 50% limitation based on an appraisal. The proposed scope of work includes:

Demolition

- Removal of walk-in cooler / freezer. Store for reuse (or new).
 - Demolition of floor system under walk-in cooler / freezer. This demolition would include all impacted floor joists whether directly under the cooler or not.
 - Demolition of front entry porch and porch immediately to the right. (see future elevator). Includes demolition of octagonal deck above at second floor. This includes demolition of exterior stair to second floor.
 - Demolition of Enclosed Porch. This porch has a sloped floor, is not on piles, and structurally suspect.
 - Demolition of Green Tent and flooring / roof structure to allow for addition of a new second floor.
 - Demolition of White Tent and flooring. This area to return to roofing.
 - Demolition of 8-foot add-on structure.
-
- Demolition of grade level bar. It is intended that a new elevator be located here. It is also possible to retain this bar if the elevator is accessed by the ramp vs. 3 stops.
 - Interior demolition of first floor toilets.
 - Interior demolition of second floor toilets.
 - Demolition of existing handicapped ramp.
 - Demolition of mansard roof. This is aesthetic issue to make exterior more contemporary / less dated. <Lower priority>
 - Demolition of loading dock. Dock is currently functional, just old and in need of a refresh.

First Floor Renovations / Additions

- New structure and flooring at location of walk-in cooler / freezer. Reinstall existing or provide new walk-ins.
- Convert former toilet rooms into a new business office and new secure alcohol storage that was displaced by demolition of 8-foot add-on.
- Convert former private dining room into two accessible toilets, both with one additional fixture for outside entertainment venue. Portion of space to be utilized for Draft Beer coolers, to be relocated out of the flood plain.
- Construct new indoor / outdoor flex dining space, two stories. To be open air in nice weather, and closed off and heated in cold weather. This structure would be on piles.
- Provide new double doors, clad wood, from dining room into flex space and onto waterway porch dining.

- Construct new wrap around porch, which will serve as new entry porch on parking lot side, and wrap around to connect to flex dining. Serves as landing for all floors for new elevator.
- Install new machine room-less elevator. Three stops if octagonal bar is demolished. Two stops if to be served by the HC ramp.
- Construct new exterior entry stair on front and rear of building.
- Construct new accessible ramp, ADA compliant. Point of entry to ramp to be equivalent to main entry stair to front door.

Second Floor Renovations / Additions

- Construct new indoor second floor above existing dining room. This new space to be fully air-conditioned and heated.
- Convert existing space into two accessible toilets. Reconstruct roof to code. Provide new point of service waitress station.
- Relocate existing walk-in cooler to be on the roof as current, but easily accessible.
- Construct new indoor / outdoor flex dining space, two stories. To be open air in nice weather, and closed off and heated in cold weather.
- Provide new double doors, clad wood, from dining room into flex space and onto waterway porch dining.
- Construct new wrap around porch, which will serve as new entry porch on parking lot side, and wrap around to connect to flex dining. Serves as landing for all floors for new elevator. Portion of second floor porch to have roof. Portion is open deck.
- Install new machine room-less elevator.
- Construct new exterior entry stair on front and rear of building.
- Reroofing over kitchen and former white tent area.

RECOMMENDATIONS

RENOVATE

A La Carte Renovation Estimate

Repair Structure & Replace Walk-in Refrigerator	\$	120,000
Private Dining converted to Bathrooms/Beer Storage moved to 1st floor. Relocate Office and Liquor Storage to Old Bathroom Location	\$	230,000
2nd Floor Restroom Renovations	\$	115,000
Install New Elevator/Shaft/Pit/ Siding	\$	350,000
Upgrade 2nd floor Kitchen (HVAC, Electrical/Flooring)	\$	90,000
1st Floor Kitchen Upgrades (HVAC/Ansul/Equipment, Finishes	\$	150,000
Install new flex dining space on 1st and 2nd floor	\$	475,000
New Permanent 2nd floor to replace temporary tent bar structure	\$	375,000
New Wrap around Porches on both floors	\$	275,000
Construct new exterior stairs and ramps/lighting	\$	135,000
Remove rear Tent/flooring and reroof	\$	65,000
Demo and Repair loading dock	\$	85,000
Demolish Mansard Roof	\$	135,000
General maintenance, Upgrades Improvements	\$	325,000
Sitework/Paving/Landscaping Repair Allowance	\$	125,000
	\$	3,050,000
	SF	8,651
	\$/SF	\$ 353
Discount if Entire Scope is Completed (Not "a la Carte")	\$	2,592,500
	\$	8,651
	\$	300

Building Assessment *for*
MORGAN CREEK GRILL

RECOMMENDATIONS

BUILD NEW

RECOMMENDATIONS

BUILD NEW

Rebuild Building on Existing Pile Foundation

To demolish the existing building and build a new restaurant on this site opens up an array of possibilities as to size and design aesthetics. However, a new building would require the building to be set back from the OCRM critical line much further than the current building.

An additional consideration is to rebuild a new restaurant on the existing pile foundation, but elevate first finish floor more than 6 inches above the current finish floor elevation. It is presumed for this exercise that the layout and size of the building would approximate that shown for our concept above.

Benefits of this concept:

- The building would retain its premium location on the water's edge.
- Deferred maintenance issues, which are essentially not address in a <50% value limitation, would be non-existent. Everything other than the pilings would be new.
- There would be greater design freedom to design a contemporary building, energy efficient, and fully code compliant.

RECOMMENDATIONS

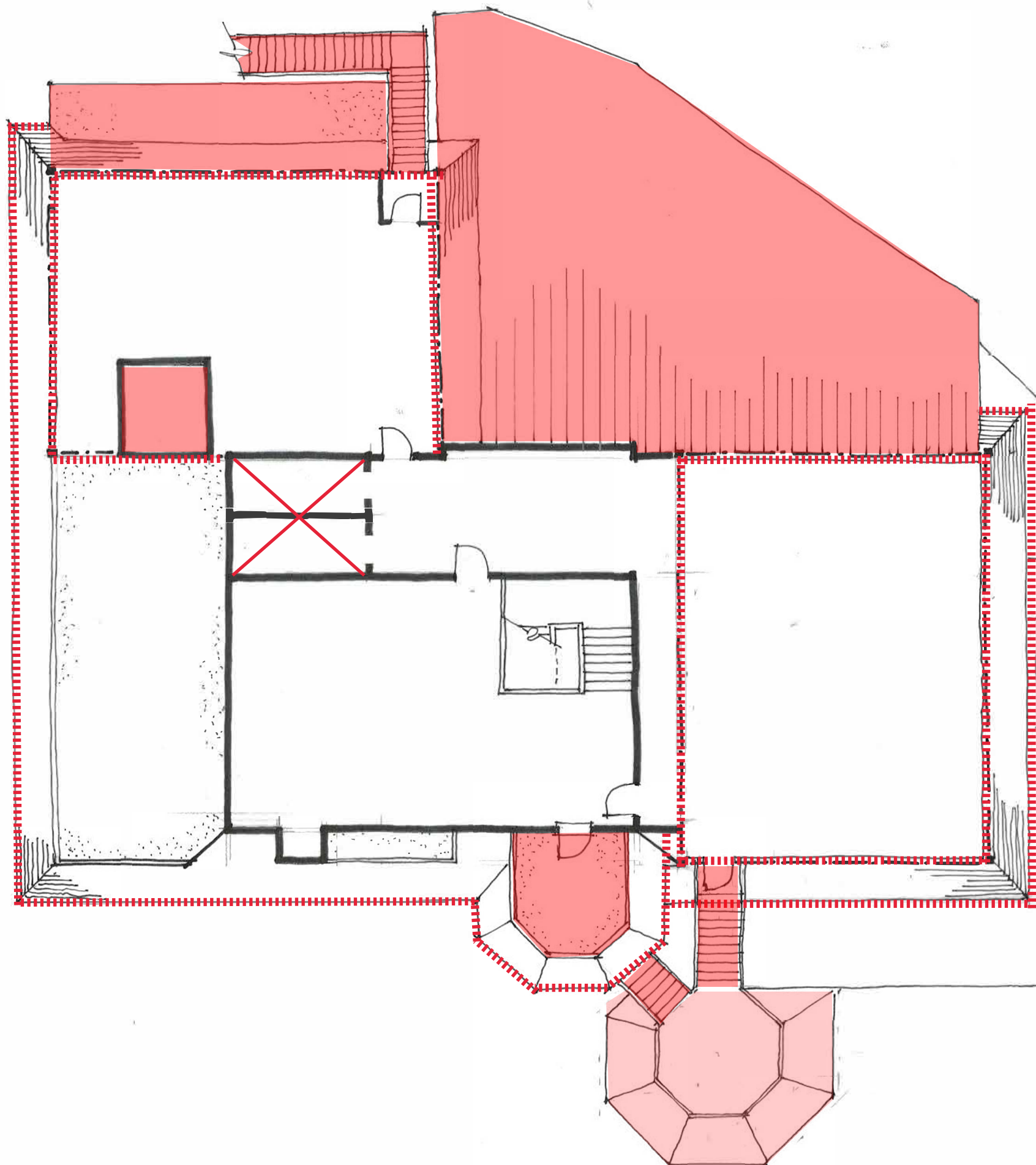
BUILD NEW

Build New Estimate (1)

Demolish Replace with new, similar 8,651 SF restaurant with 2 kitchens, 2 bars, full design, and kitchen/bar equipment. This would have approximately 300 seats and a similar two-story layout as reflected in the attached renovation plans. The require parking spaces would be an issue with this approach. This concept considers keeping Existing Pile and 1st floor framing.	
SF	8,651
\$/SF	\$ 498
Budget	\$ 4,308,198

Build New Estimate (2)

Demolish and Replace with new, similar 4,500 SF restaurant with 2 kitchens, 2 bars (one large and one smaller), full design, and kitchen/bar equipment. This would have approximately 150 seats and a similar tot he first floor layout in renovation plans. The require parking spaces would need minor modifications with this approach. This concept considers keeping Existing Pile and 1st floor framing.	
SF	4,500
\$/SF	\$ 552
Budget	\$ 2,484,000



Building Assessment *for*
MORGAN CREEK GRILL
 80 41st Ave, Isle of Palms
 City of Isle of Palms

SUGGESTED DEMOLITION

- 1 COMPLETE DEMOLITION OF ENCLOSED PORCH.
- 2 COMPLETE DEMOLITION REMOVAL OF BOTH TEMPORARY TENT STRUCTURES, AND ASSOCIATED WALKING SURFACES
- 3 DEMOLITION OF MANSARD ROOF PERIMETER.
- 4 GUTTING OF EXISTING TOILETS.
- 5 DEMOLITION OF OCTAGONAL ENTRY FEATURE AND ASSOCIATED STAIRS TO THE SECOND FLOOR, AND DECKING.
- 6 DEMOLITION OF ADD-ON STRUCTURE CURRENTLY USED FOR OFFICE AND STORAGE.
- 7 OPTIONAL - DEMOLISH GROUND FLOOR BAR TO ALLOW FOR ELEVATOR ACCESS AT GROUND LEVEL, OR MAY BE MODIFIED TO ALLOW FOR ELEVATOR CONSTRUCTION.

SECOND FLOOR - DEMOLITION

March 13, 2019

3/32" - 1'-0"



Building Assessment for
MORGAN CREEK GRILL

80 41st Ave, Isle of Palms

City of Isle of Palms

SUGGESTED DEMOLITION

- 1 COMPLETE DEMOLITION OF ENCLOSED PORCH.
- 2 REMOVE WALK-IN COOLER AND REFRIGERATOR. DEMOLISH DAMAGED FLOOR STRUCTURE.
- 3 GUTTING OF EXISTING TOILETS.
- 4 DEMOLITION OF OCTAGONAL ENTRY FEATURE AND ASSOCIATED STAIRS TO THE SECOND FLOOR, AND DECKING.
- 5 DEMOLITION OF ADD-ON STRUCTURE CURRENTLY USED FOR OFFICE AND STORAGE.
- 6 OPTIONAL - DEMOLISH GROUND FLOOR BAR TO ALLOW FOR ELEVATOR ACCESS AT GROUND LEVEL, OR MAY BE MODIFIED TO ALLOW FOR ELEVATOR CONSTRUCTION.
- 7 OPTIONAL - DEMOLISH EXITING ACCESSIBLE RAMP.
- 8 OPTIONAL - DEMOLISH EXISTING SERVICE DOCK DUE TO DEFERRED MAINTENANCE.

FIRST FLOOR - DEMOLITION

March 13, 2019

3/32" - 1'-0"



Building Assessment *for*
MORGAN CREEK GRILL
80 41st Ave, Isle of Palms
City of Isle of Palms

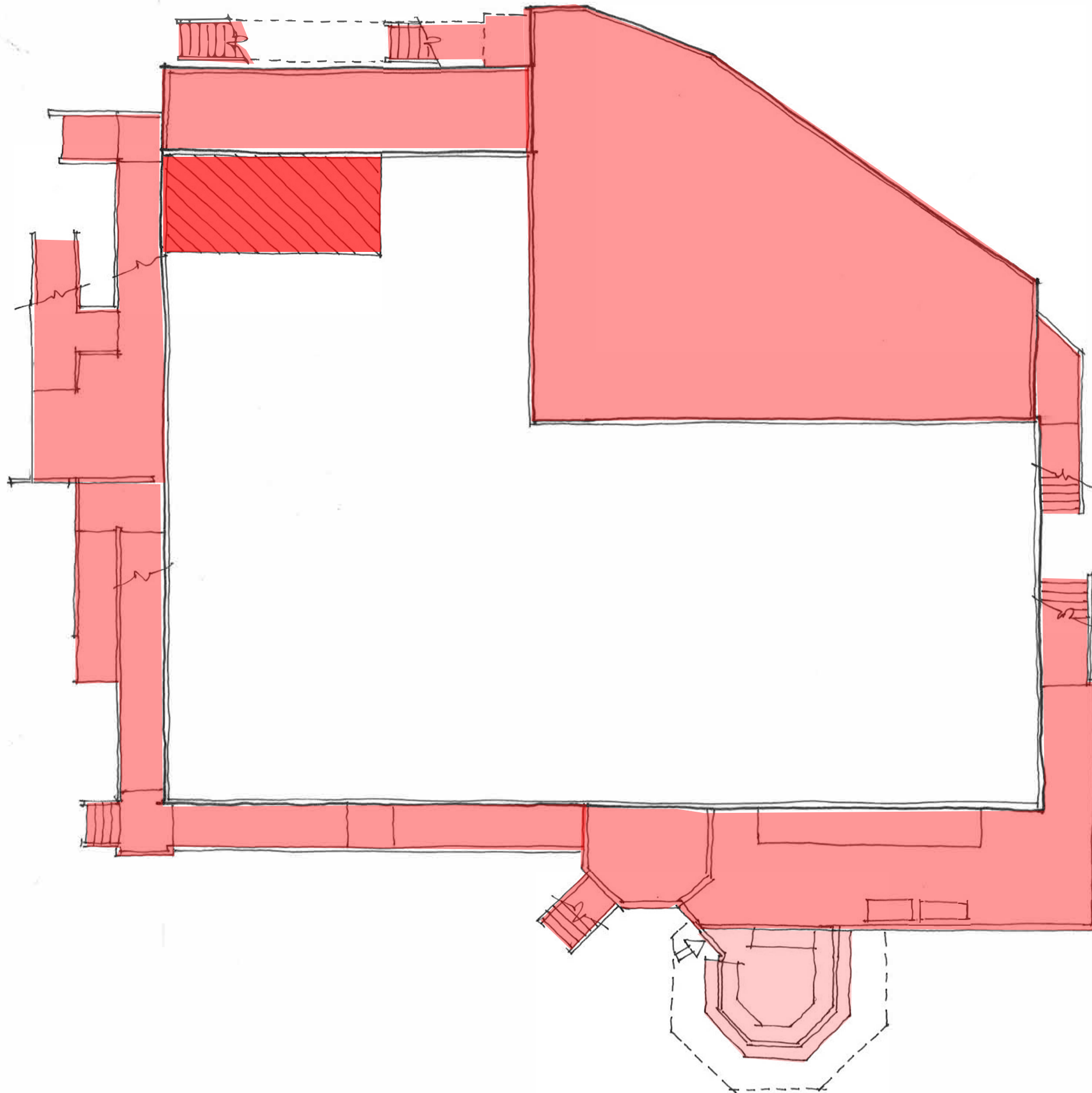
SUGGESTED DEMOLITION

- 1 COMPLETE DEMOLITION OF ENCLOSED PORCH.
- 2 REMOVE WALK-IN COOLER AND REFRIGERATOR. DEMOLISH DAMAGED FLOOR STRUCTURE.
- 3 DEMOLITION OF OCTAGONAL ENTRY FEATURE AND ASSOCIATED STAIRS TO THE SECOND FLOOR, AND DECKING.
- 4 DEMOLITION OF ADD-ON STRUCTURE CURRENTLY USED FOR OFFICE AND STORAGE.
- 5 OPTIONAL - DEMOLISH GROUND FLOOR BAR TO ALLOW FOR ELEVATOR ACCESS AT GROUND LEVEL, OR MAY BE MODIFIED TO ALLOW FOR ELEVATOR CONSTRUCTION.
- 6 OPTIONAL - DEMOLISH EXITING ACCESSIBLE RAMP.
- 7 OPTIONAL - DEMOLISH EXISTING SERVICE DOCK DUE TO DEFERRED MAINTENANCE.

**GROUND FLOOR / CRAWL SPACE -
DEMOLITION**

March 13, 2019

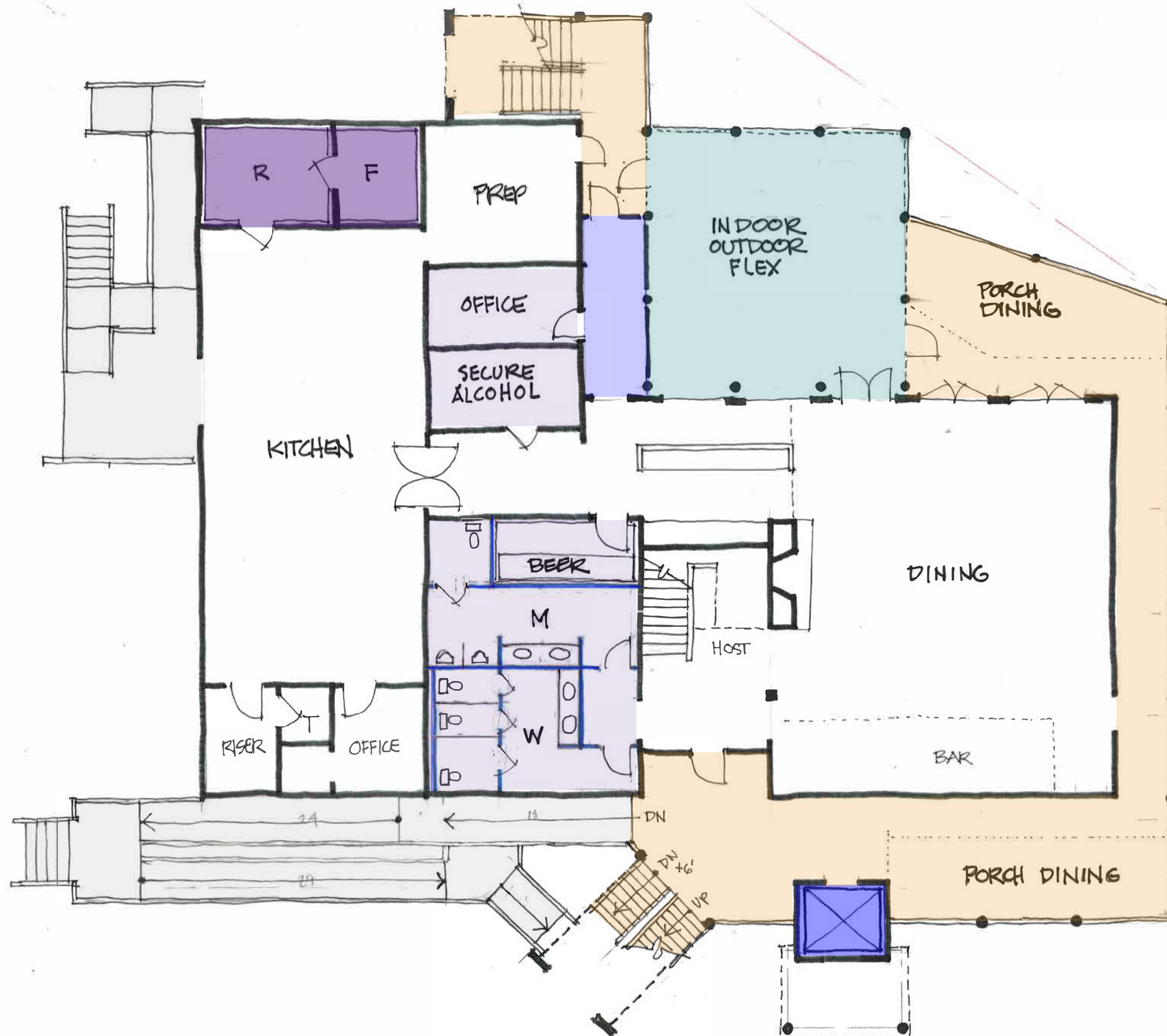
3/32" - 1'-0"



Building Assessment for MORGAN CREEK GRILL

80 41st Ave, Isle of Palms

City of Isle of Palms



RENOVATION OPTIONS

- 1 REMOVE WALK-IN REFRIGERATOR / FREEZER. RECONSTRUCT FLOOR. REPLACE OR REINSTALL WALK-INS.
- 2 CONSTRUCT NEW TWO STORY INDOOR / OUTDOOR FLEX DINING THAT CAN BE OPENED UP IN THE SUMMER OR ENCLOSED IN THE WINTER.
- 3 INSTALL NEW ELEVATOR. ACCESS CAN BE FROM TOP OF RAMP IF GROUND LEVEL BAR REMAINS.
- 4 CONSTRUCT WRAP-AROUND PORCH PROVIDING ACCESSIBILITY TO ENTIRE FACILITY. NEW ENTRY STAIR AT MAIN ENTRY CONNECTING ALL LEVELS. NEW TWO STORY STAIR ON WATER SIDE CONNECTING ALL LEVELS.
- 5 RENOVATE PRIVATE DINING INTO NEW ACCESSIBLE TOILETS AND INDOOR BEER COOLERS.
- 6 RENOVATE OLD TOILETS INTO NEW OFFICE AND SECURE ALCOHOL STORAGE.
- 7 OPTIONAL - CONSTRUCT NEW ACCESSIBLE RAMP WITH SAME POINT OF ENTRY.
- 8 OPTIONAL - RECONSTRUCT SERVICE DOCK DUE TO DEFERED MAINTENANCE.

CONCEPT: FIRST FLOOR

March 13, 2019

3/32" - 1'-0"



Building Assessment for MORGAN CREEK GRILL

80 41st Ave, Isle of Palms

City of Isle of Palms



RENOVATION OPTIONS

- 1 CONSTRUCT A FULLY CONDITIONED SECOND FLOOR DINING ROOM OVER THE TOP OF THE EXISTING DINING ROOM.
- 2 CONSTRUCT NEW TWO STORY INDOOR / OUTDOOR FLEX DINING THAT CAN BE OPENED UP IN THE SUMMER OR ENCLOSED IN THE WINTER.
- 3 INSTALL NEW ELEVATOR. ACCESS CAN BE FROM TOP OF RAMP IF GROUND LEVEL BAR REMAINS.
- 4 CONSTRUCT WRAP-AROUND PORCH PROVIDING ACCESSIBILITY TO ENTIRE FACILITY. NEW ENTRY STAIR AT MAIN ENTRY CONNECTING ALL LEVELS. NEW TWO STORY STAIR ON WATER SIDE CONNECTING ALL LEVELS.
- 5 RENOVATE PART OF THE EXISTING BUILDING INTO TWO NEW SINGLE USER ACCESSIBLE TOILETS
- 6 RENOVATE OLD TOILETS INTO NEW OFFICE AND SECURE ALCOHOL STORAGE.
- 7 RE-ROOF BUILDING TO PROVIDE SLOPE, CLEARANCES, POSITIVE DRAINAGE.
- 8 OPTIONAL - CONTINUE PARAPET UP - DELETE DATED MANSARD ROOF PERIMETER.

CONCEPT: SECOND FLOOR

March 13, 2019

3/32" - 1'-0"

