



The Town of Hilton Head Island Regular Design Review Board Meeting

Tuesday, March 22, 2011

1:15 p.m. – Benjamin M. Racusin Council Chambers

AGENDA

As a Courtesy to Others Please Turn Off All Cell Phones and Pagers during the Meeting.

1. **Call to Order**
2. **Roll Call**
3. **Freedom of Information Act Compliance**
Public notification of this meeting has been published, posted, and mailed in compliance with the Freedom of Information Act and the Town of Hilton Head Island requirements.
4. **Approval of Agenda**
5. **Approval of Minutes** - Meeting of March 8, 2011
6. **Staff Report**
7. **Board Business**
8. **Unfinished Business**
 - A) DR070089- Ocean Walk Phasing Plan
 - B) DR110014- 1400 Main Street- Minor External Change
 - C) DR110015- 1301 Main Street- Minor External Change
 - D) DR110017- Bomboras Grille (Coligny Plaza)- Addition Alteration
9. **New Business**
 - A) DR110018- Verizon Antennae Co-locate- Hidden Trail
10. **Appearance by Citizens**
11. **Adjournment**

Please note that a quorum of Town Council may result if four (4) or more of Town Council members attend this meeting.

Town of Hilton Head Island
DESIGN REVIEW BOARD
Minutes of the Tuesday, March 8, 2011 Meeting
1:15pm – Benjamin M. Racusin Council Chambers

DRAFT

Board Members Present: Acting Chairman Todd Theodore, Jennifer Moffett, Ted Behling,
Galen Smith, Scott Sodemann and Deborah Welch

Board Members Absent: Chairman Tom Parker

Council Members Present: Bill Ferguson

Town Staff Present: Mike Roan, Urban Design Administrator
Richard Spruce, Plans Review Administrator
Kathleen Carlin, Administrative Assistant

1. CALL TO ORDER

Chairman Theodore called the meeting to order at 1:15pm.

2. ROLL CALL

3. FREEDOM OF INFORMATION ACT COMPLIANCE

4. APPROVAL OF THE AGENDA

The staff recommended a change in the review order of today's New Business applications. The staff recommended that the Humane Association application be heard first. The Board agreed to the change in review order; and the revised agenda was **approved** by general consent.

5. APPROVAL OF THE MINUTES

The minutes of the February 22, 2011 meeting were **approved** as presented by general consent.

6. STAFF REPORT

None

7. BOARD BUSINESS

None

8. UNFINISHED BUSINESS

None

9. NEW BUSINESS

Humane Association - 10 Humane Way DR110016 - Alteration/Addition

Mr. Roan presented an in-depth review of the application including the site plan, facades, the exposed concrete masonry unit, and the elevations. The applicant is proposing to renovate a 1,323 square foot portion of the existing Atherton Annex building and add a new 1,918 square foot building adjacent to the existing building. The goal is to eliminate the mismatched exterior

of the existing building; and replace it with exterior finishes in keeping with the recently renovated Adoption Center. The colors and materials will match the existing. A hodge-podge of existing chain link fencing, freestanding kennels, and an open roof over concrete slab structure will be eliminated.

The staff believes that the renovation and the addition are in keeping with the first phase of improvements. There are functional and visibility issues to consider when reviewing the CMU elevations relative to typical. There is no landscape element to this submittal. Mr. Roan stated that any foundation plantings would be impractical given the use of the dog-run and the daily maintenance of the building. The exterior views are blocked by heavy wax myrtle vegetation at the buffers. At the completion of staff's presentation, Acting Chairman Theodore requested that the applicants make their presentation.

Mr. James Baker, with Tom Peeples Builders, and Ms. April Fisher, with Court Atkins Architects, presented statements in support of the application. The Board and the applicants discussed the project. As part of their discussion, the Board stated a preference for addressing the primary elevation of the north side of the renovated building with a stucco treatment. Following this discussion, Chairman Theodore requested that a motion on this application be made.

Mr. Sodemann made a **motion** to **approve** the Humane Association - 10 Humane Way application with the condition that the applicant shall address the primary elevation of the north side of the renovated building with a stucco treatment and colors to match the existing Administration Building. Ms. Welch **seconded** the motion and the motion **passed** with a vote of 6-0-0.

Hinchey's Chicago Bar and Grill Deck – DR110007 Alteration/Addition

Mr. Roan presented a brief history of the application. This project is for the addition of an outside deck on the side of Hinchey's Restaurant on the Southeastern side of the Metropolitan Hotel. The Board's previous comments regarding the railing details, the width of the stairs, and the skirting have been addressed by the applicant. Staff believes that the railing detail incorporates the improvements proposed by the Board. The top rail should probably have a larger dimension than the post. Also, the finishes (stain, paint, etc.) should be clarified and the landscape material (Viburnum, Indian Hawthorn, etc.) should be identified by the applicant.

The Board discussed the project and the recent design improvements. The Board reviewed the railing detail and stated a preference for a heavier top rail. The applicant was not present at today's meeting for comments or questions from the Board. Following the Board's discussion, Chairman Theodore requested that a motion on this application be made.

Mr. Behling made a **motion** to **approve** the Hinchey's Chicago Bar and Grill Deck application with the following conditions: (1) the deck shall be unfinished; (2) the applicant shall return to the Board if he wishes to paint or finish the deck; (3) 3-gallon Indian Hawthorne or equivalent shrubs shall be placed in front of and along the sides of the deck; (4) the cable rail may be continuous if the applicant desires or as submitted; (4) the cap of the railing shall be increased to 3". Ms. Moffett **seconded** the motion and the motion **passed** with a vote of 6-0-0.

1400 Main Street – DR110014 - Minor External Change

Mr. Roan provided an in-depth review of the application including the site, the elevations, colors and materials, and the landscaping. The applicant is proposing to add visual interest to the back of the building. The back side of the property is currently painted one shade of beige. The applicant would like to repaint the façade in three colors, adding low screening walls, and plantings. Green fabric shed awnings are proposed to cover the existing vent structures. Mr. Roan distributed fabric and paint samples for the Board's review.

Regarding the proposed color palette, the staff has questions about the color of the end units. Staff recommended that the applicant match that color making it the baseline color (and then find two harmonious colors to go with the baseline color). This would prevent a change in the existing baseline color.

The staff believes that the project is a good update to the back of the building, but some points still need to be clarified. Details of the screen wall should be provided, and details of the landscaping still need to be provided. The paint palette provides variety and interest to the elevation (but there is the question of tying it into the existing color of the end walls on the end units). A paint key should be provided to clarify the applications. The applicant was not available at today's meeting for questions or comments from the Board.

The Board discussed the project including the landscaping, the color palette, and details regarding the awnings. The Board questioned the size of the awnings, the pairs of awnings, and the number of awnings. Additional information is needed. Regarding the landscaping, the applicant may wish to consider the addition of a medium-size palm or a live oak tree spaced strategically as this may help break up the area and reduce the number of awnings.

At completion of the discussion, the Board recommended that today's application be withdrawn by staff on behalf of the applicant in order to address the above referenced concerns. The size of the individual awnings is important. The color shade should be wrapped around successfully as referenced above. The staff agreed to withdraw today's application on behalf of the applicant. Staff will meet with the applicant to discuss the Board's recommendations.

1301 Main Street – DR110015 – Minor External Change

Mr. Roan introduced the application and stated its location in Main Street Village. Mr. Roan presented an in-depth review of the application. The applicant is proposing to modify the building's existing windows on two locations. The applicant would like to replace three single windows to a large bay window. The purpose of the proposed change is to increase street presence and to have a larger display area.

The staff believes that the change in fenestration feels slightly under-proportioned. And, while not recommended, if the bays are installed, they should be in keeping with the façade. The Board discussed the project and stated a strong preference for the existing window system versus the proposed bay window system. The existing window system has the correct scale and symmetry for the building. The applicant was not available at today's meeting for questions or comments from the Board. Following final comments, Chairman Theodore requested that a motion be made.

Mr. Behling made a **motion** to **deny** today's application for 1301 Main Street. Mr. Smith **seconded** the motion and the motion **passed** with a vote of 6-0-0.

Bomborals Grille (Coligny Plaza) – DR110017 - Addition/Alteration

Mr. Roan introduced the application and stated its location in Coligny Plaza. Mr. Roan presented an in-depth review of the application including the site, the elevations, and the bike path. Staff is concerned that today's submission does not indicate where the entry points are located. Additional information is required on the entry points coming from the bike path. Staff is concerned that there is no real spatial definition in today's submission. There needs to be separation from the bike path. Staff has requested additional information regarding the landscaping plan. Mr. Roan presented an in-depth review of the existing landscaping.

The Board discussed details of the application including the overall site and the bike path. The Board agreed with staff's concerns regarding the need for additional information. The Board stated that they support the idea of an outdoor café; however, additional information is required.

The Board requested that the applicant provide an up-to-date site plan and up-to-date photos. The Board reviewed a sample of the pavers and questioned how the pavers will be applied. Care should be taken with the installation of the pavers. The applicant should consider traffic flow and the usability of the space. Accurate site information is required as well as a complete landscape plan. Details regarding the bike parking should be provided. The shape/design of the project might be reconsidered -- additional thought in design should be given integrating the landscaping. The Board would like to see how the applicant perceives the outdoor café's seating arrangement—the applicant should consider circulation and the need for bike parking as well.

The Board recommended that today's application be withdrawn in order for these items to be addressed by the applicant. Mr. Roan stated that the staff will meet with the applicant to discuss today's recommended direction. The application was withdrawn by staff on behalf of the applicant.

10. APPEARANCE BY CITIZENS

None

11. ADJOURNMENT

The meeting was adjourned at 2:20.m.

Submitted By:

Approved By:

Kathleen Carlin
Administrative Assistant

Todd Theodore
Acting Chairman



March 7, 2011

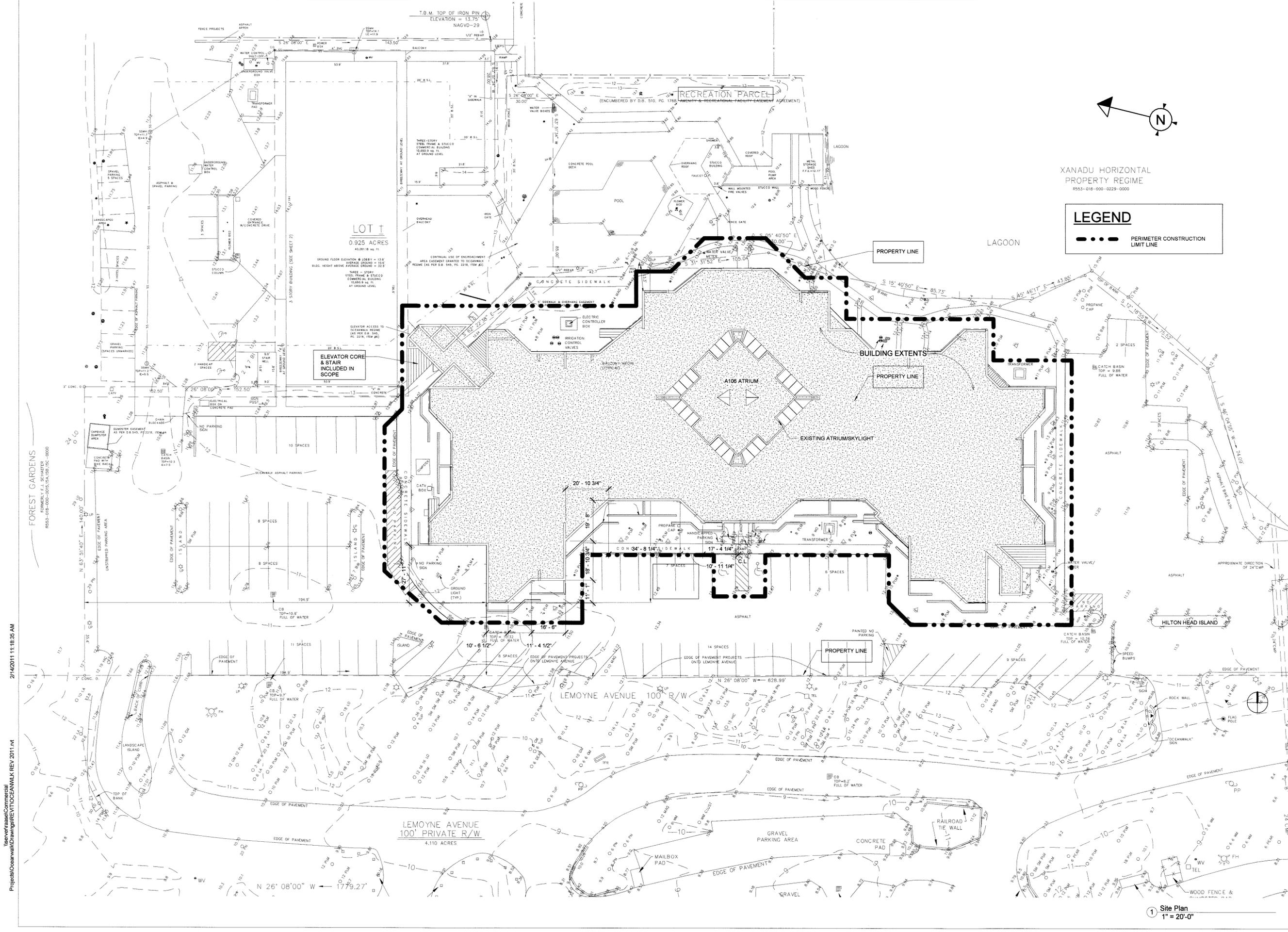
Oceanwalk Villas Condominiums
Limited Exterior Repair Scope Phased

D.L. Ogden Architecture, LLC, on behalf of OceanWalk HOA, is proposing a revision in scope to the repair/replacement on selected exterior assemblies at the above referenced Project. In general, the work will entail removal of the all existing outward wall windows and adjacent stucco finish veneer and substrate sheathing. In addition, all guardrails are to be replaced at all elevated balconies.

The areas to receive a new exterior stucco veneer and sheathing substrate over its current framed assembly are shaded on the Elevation Sheets provided and also designated on the Floor Plan levels. All outer wall windows in those areas and associated flashing will be replaced. The exterior façade as a whole will remain divided, as previously approved, into upper and lower portions by a stucco “water table” trim band. The lower two floor levels, will receive a dark taupe color; while the upper three floor levels, a color that matches the existing premises. It is proposed that the new stucco system texture be applied to closely match the existing rough texture that is found on the building today. The existing stucco veneer will receive a sealer/primer and paint coating to match the proposed new color configuration (as shown on the Partial Color Elevation attachment). The guard rails will be a dark bronze. Simple details remain proposed such as the Water Table trim and new window trim pop outs. A majority of building will remain the same color with the other proposed colors as a complimentary color to existing elements and neighborhoods in proximity thereto. Additionally, it will offer a visible coordination during the Construction Phasing as Proposed in the next Paragraph.

This Project was previously approved when submitted with a more extensive renovation to the buildings’ exterior; however, due to continuing economic conditions the HOA only has limited access to funds. For this reason, they have requested that the Project scope be revised to reflect that submitted and all associated work be completed in 4 Phases. A Phasing Plan is provided showing the 1st through 4th Phase. The first Phase is the Front of the building facing Lemoyne Avenue and the 2nd Phase will be the South side facing Xanadu Villas and South Forest Beach Road . While the 3rd and 4th phases are to the rear and far side, away from prominent Public views. The Phases are proposed to commence at the earliest this late spring otherwise early summer and will take approximately 3 years to complete all Phases. A proposed Phasing schedule is as follows:

- PHASE 1: May 15, 2011 – August 31, 2011
- PHASE 2: March 15, 2012 – May 31, 2012
- PHASE 3: March 15, 2013 – June 30, 2013
- PHASE 4: November 1, 2013 – February 1, 2014



ARCHITECT:

D.L. OGDEN
 architecture

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 Bluffton, SC 29910
 p 843.815.4780 f 843.815.3192
 www.dloarch.com

MECHANICAL / PLUMBING ENGINEER:

ELECTRICAL ENGINEER:

STRUCTURAL
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 843.815.3191
 Dan Moulton, PE Principal

Oceanwalk Villas

EXTERIOR REPAIR

Hilton Head Island, SC

REGISTERED SEAL

REGISTERED SEAL

ISSUE	DATE	DESCRIPTION
1	01/29/2008	Schematic Development
2	04/28/2008	Bid Set
3	06/23/2008	For Permit
4	11/23/2008	Repair Revisions
5	07/19/2010	Repair Rev. Pricing Set
6	02/8/2011	Scope limits with Phasing

PROJECT #: 0733-2011
 PROJECT MANAGER: DLO
 DRAWN BY: ARJ, JAA

Site Plan

PROPOSED

SP100

1 Site Plan
 1" = 20'-0"

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Project: Oceanwalk\Drawings\REVIT\OCEANWALK REV 2011.rvt
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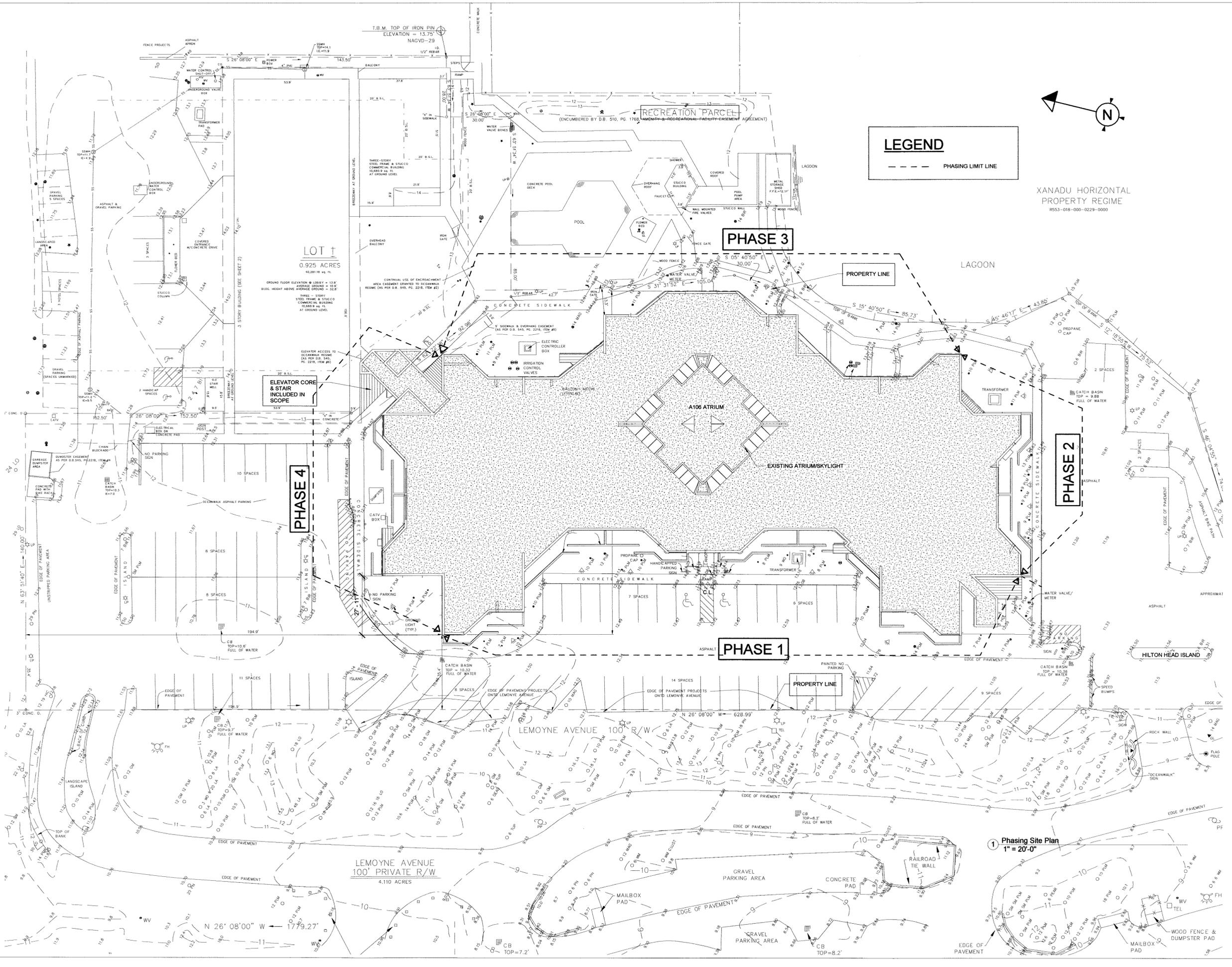
Oceanwalk
Villas
 EXTERIOR REPAIR
 Hilton Head Island, SC

REGISTERED SEAL
 REGISTERED SEAL

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PROJECT #: 0733
 PROJECT MANAGER: Approver
 DRAWN BY: Checker

Phasing Plan
SP101



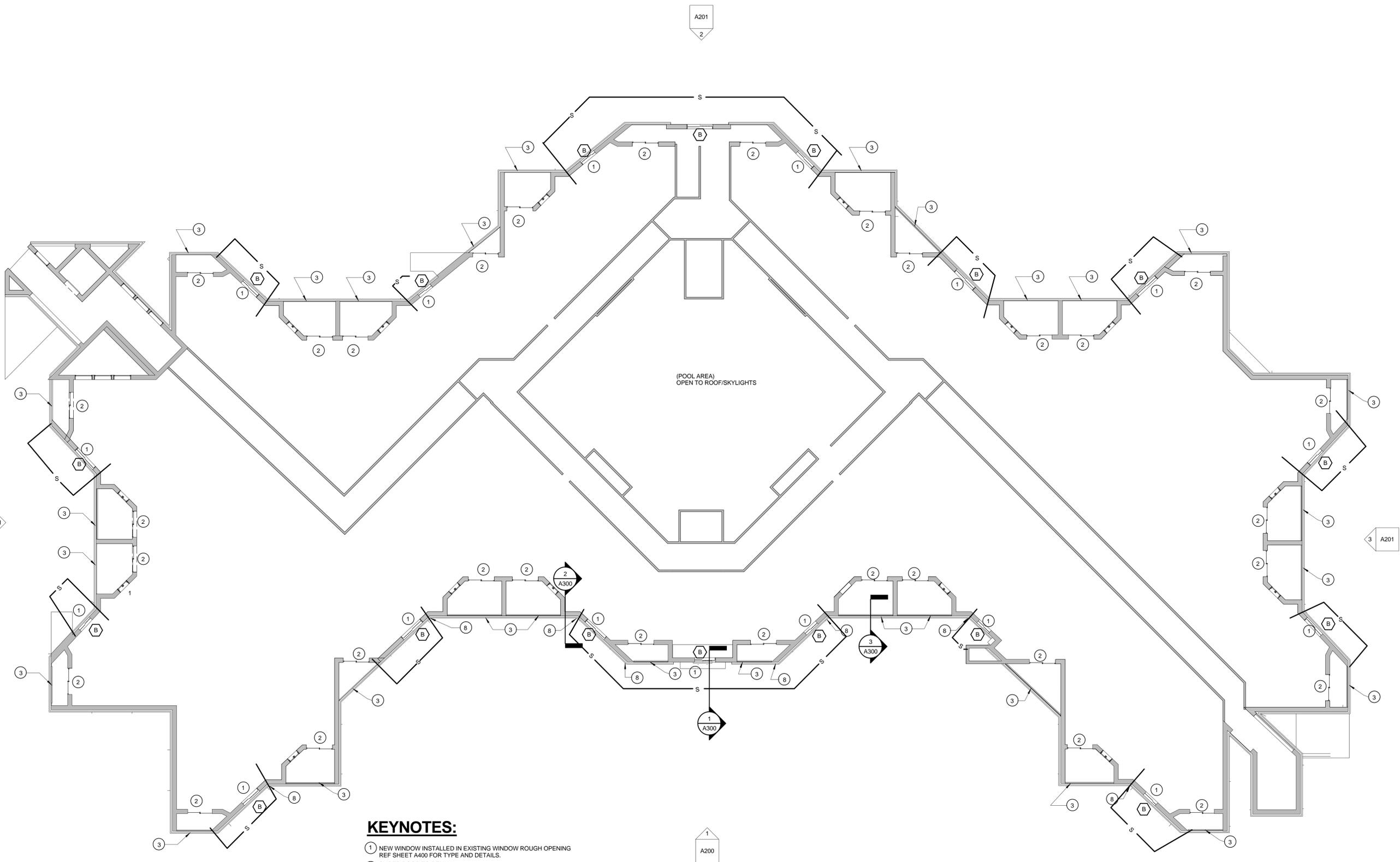
1 Phasing Site Plan
 1" = 20'-0"

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KEYNOTES:

- 1 NEW WINDOW INSTALLED IN EXISTING WINDOW ROUGH OPENING
REF SHEET A400 FOR TYPE AND DETAILS.
- 2 SLIDER DOOR TO REMAIN.
- 3 BALCONY RAILING LOCATION. INSTALL NEW RAILING IN SET FROM EXISTING RAILING
PRIOR TO EXISTING RAILING REMOVAL. RE: SHEET A201 FOR PROFILE/DETAILS; FIELD
MEASURE FOR PROPER LENGTHS REQUIRED
- 4 NOT USED.
- 5 NOT USED
- 6 NOT USED.
- 7 REPLACE INTERIOR DRYWALL AS REQUIRED BASED ON DEMOLITION AND
INSPECTION, REF EST2 REPORT FOR DETAILS.
- 8 NEW STUCCO PILASTER DETAIL. STARTING AT LEVEL 3. REF 6/A 200 FOR DETAILS,
AND NEW WORK ELEVATIONS FOR EXTENTS.
- 9 NOT USED.
- 10 NOT USED.

Legend

- CJ Existing Control Joint
- S — New Stucco Wall System Extents
- Existing Wall Assembly
- - - Overhead Wall

ARCHITECT:



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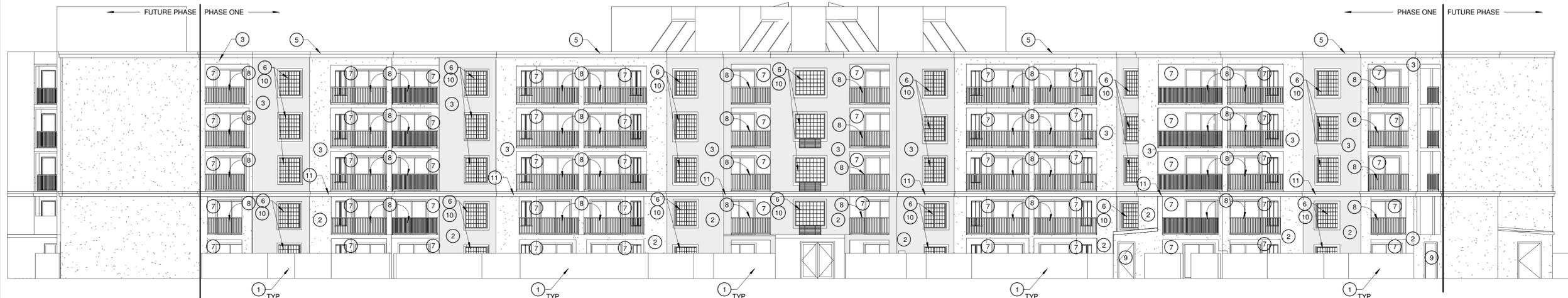
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6	02/8/2011	Scope limits with Phasing

PROJECT #: 0733-2011
PROJECT MANAGER: Approver
DRAWN BY: Checker

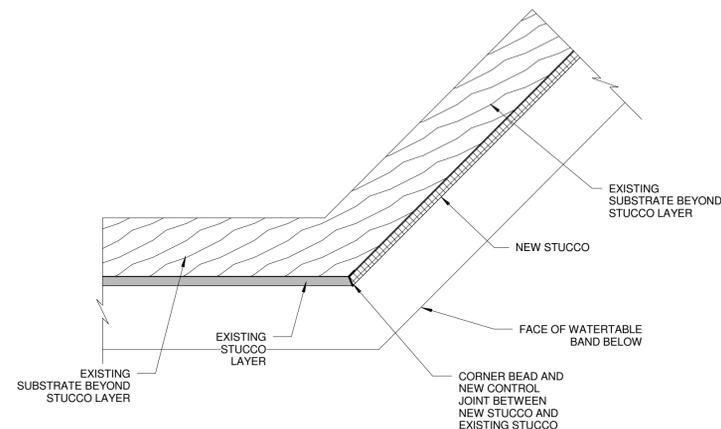
Level 2-5 Typ.
Plan
A102



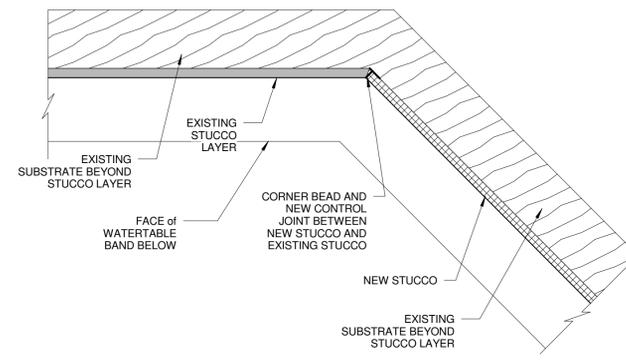
NOTE: REF A201 FOR TYPICAL NEW BALCONY DETAILS, NOTES AND DIMENSIONS.

FINISH KEY:
 PT-1: SHERWIN WILLIAMS, SW6638 FLATTERING PEACH (MATCH EXISTING) STUCCO FINISH FOR UPPER FLOORS (3-5) & INSIDE ALL BALCONIES (1-5)
 PT-2: SHERWIN WILLIAMS, SW6124 CARDBOARD STUCCO FINISH FOR LOWER FLOORS (1-2)
 PT-3: SHERWIN WILLIAMS, SW7032 WARM STONE STUCCO FINISH FOR HIGH CORNICE, WATER TABLE & WINDOW TRIM

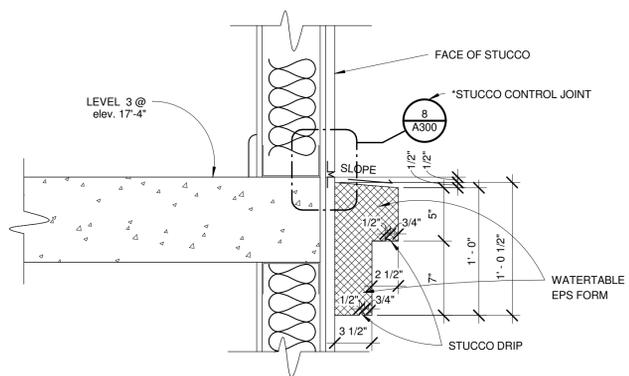
1 WEST ELEVATION (FRONT)
3/32" = 1'-0"



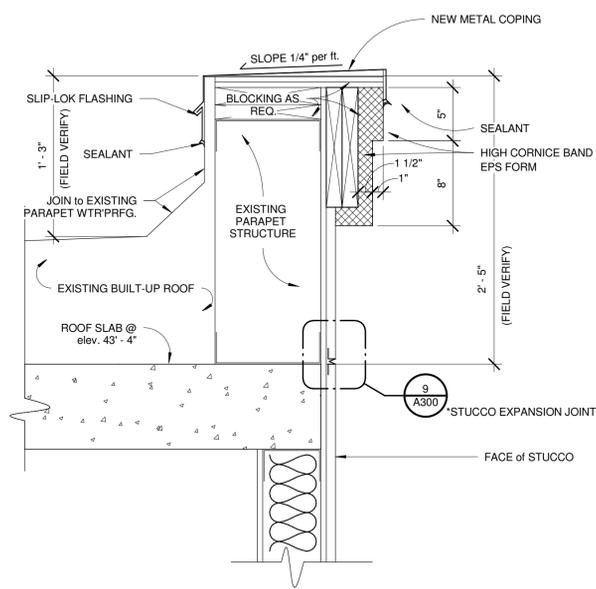
4 OUTSIDE CORNER TRANSITION DETAIL
1 1/2" = 1'-0"



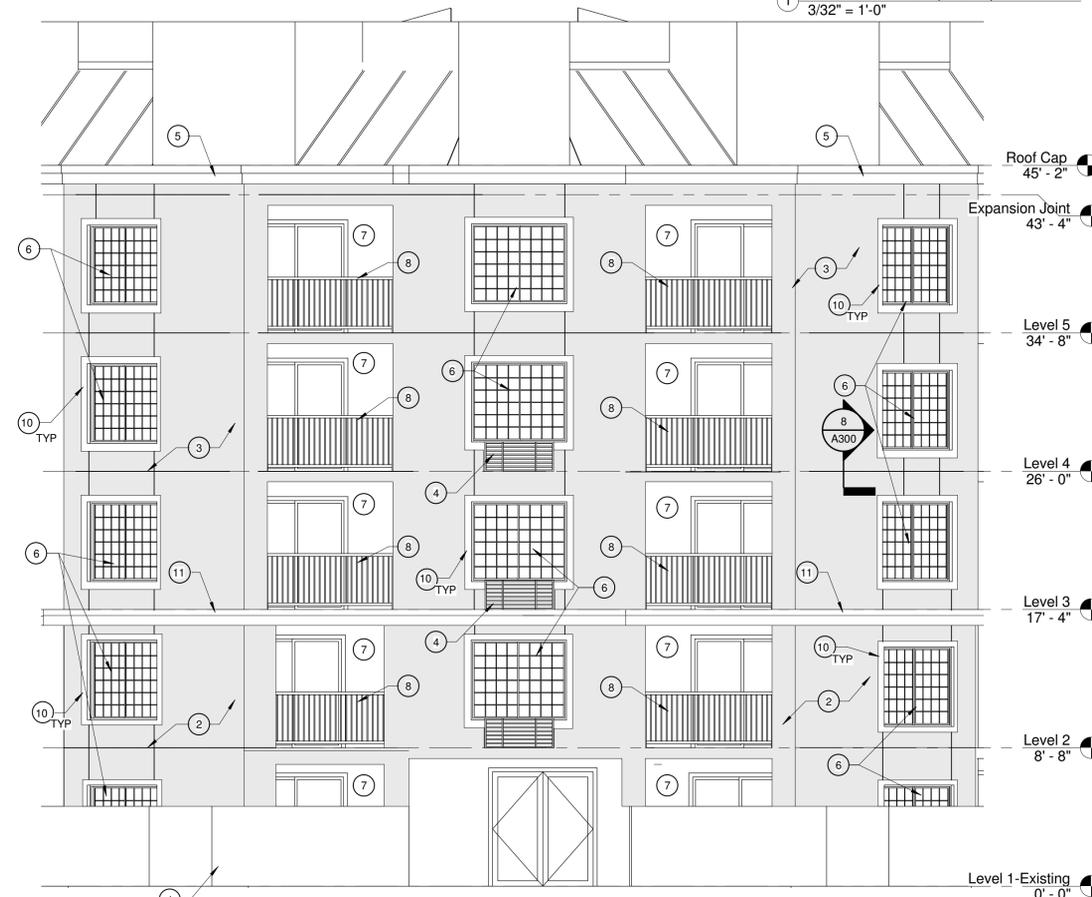
3 INSIDE CORNER TRANSITION DETAIL
1 1/2" = 1'-0"



6 Base of Pilaster & Watertable Detail
1 1/2" = 1'-0"



5 Top of Pilaster & High Cornice Detail
1 1/2" = 1'-0"



2 ENTRANCE BAY ELEVATION
3/16" = 1'-0"

KEYNOTES:

- 1 NEW STUCCO FINISH ON LOW WALL - PT-2 (SEE FINISH LEGEND)
- 2 NEW PAINT COLOR OVER EXISTING AND NEW STUCCO SYSTEM AT LEVELS 1-2 (NEW STUCCO AREAS INDICATED BY SHADING) COLOR = PT-2. SEE FINISH LEGEND. (REF GENERAL SPECS FOR NEW STUCCO SYSTEM DETAILS.)
- 3 NEW PAINT COLOR OVER EXISTING AND NEW STUCCO SYSTEM AT LEVELS 3-5 (NEW STUCCO AREAS INDICATED BY SHADING) COLOR = PT-1. SEE FINISH LEGEND. (REF GENERAL SPECS FOR NEW STUCCO SYSTEM DETAILS.)
- 4 REPLACE P.T.A.C. HOUSINGS WITH NEW METAL WALL SLEEVE IF REQUIRED, AND NEW ALUMINUM LOUVERED COVER SIMILAR TO AMANA AGK SPECIFICATION.
- 5 NEW HIGH CORNICE DETAIL, REF 3/A301 FOR DETAIL. STUCCO FINISH = PT-3. SEE FINISH LEGEND.
- 6 NEW WINDOW ASSEMBLY, REF A400 FOR TYPE AND DETAILS.
- 7 EXTERIOR RECESSED BALCONY AREAS TO RECEIVE NEW PAINT FINISH OVER EXISTING STUCCO. FINISH = PT-1. SEE FINISH LEGEND. (EXISTING SLIDER TO REMAIN)
- 8 NEW METAL RAILING AS SPECIFIED AND DETAILED. REF A201
- 9 STRIP AND REPAINT EXISTING EXTERIOR DOORS (PT-2).
- 10 NEW STUCCO TRIM = PT-3. SEE FINISH LEGEND.
- 11 NEW WATERTABLE DETAIL. REF 6/A200 (THIS SHEET) STUCCO FINISH COLOR = PT-3. SEE FINISH LEGEND.

NOTE: REF A201 FOR TYPICAL NEW BALCONY DETAILS, NOTES AND DIMENSIONS.

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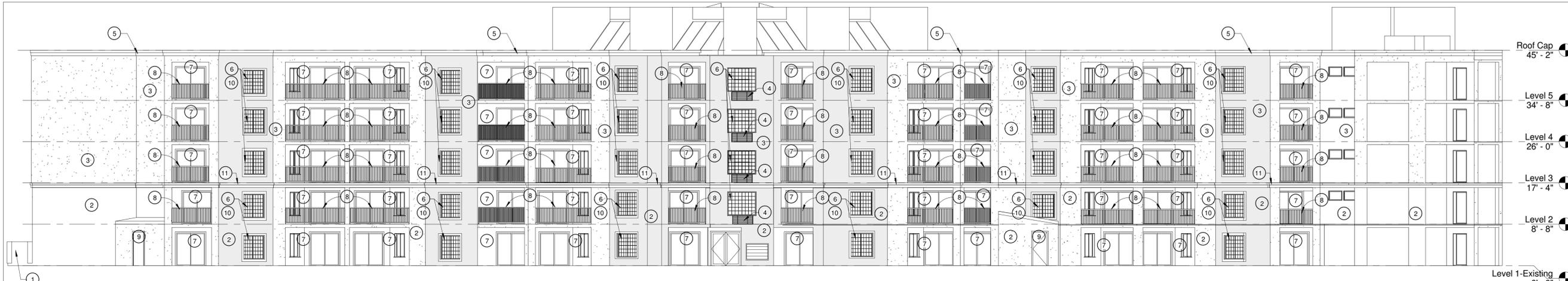
Oceanwalk
 Villas
 EXTERIOR REPAIR
 Hilton Head Island, SC

REGISTERED SEAL
 REGISTERED SEAL

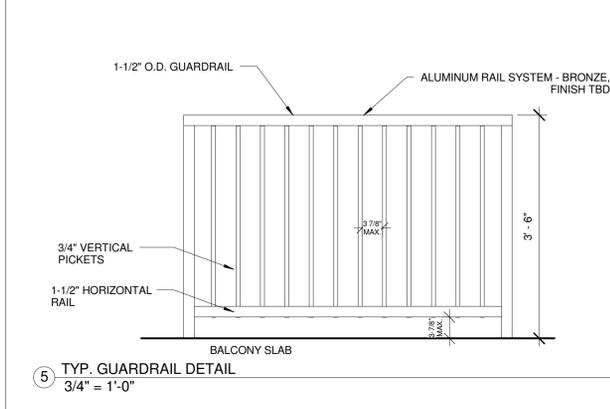
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6 02/8/2011	Scope limits with Phasing
7 03/7/2011	Finish Revisions/Submission

PROJECT #: 0733-2011
 PROJECT MANAGER: JL
 DRAWN BY: ARJ

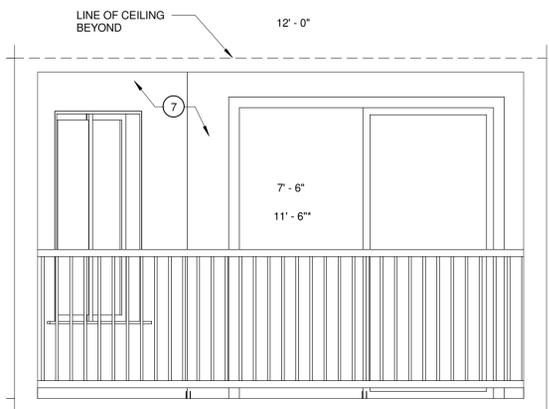
West Elevation &
 Dtls
 A200



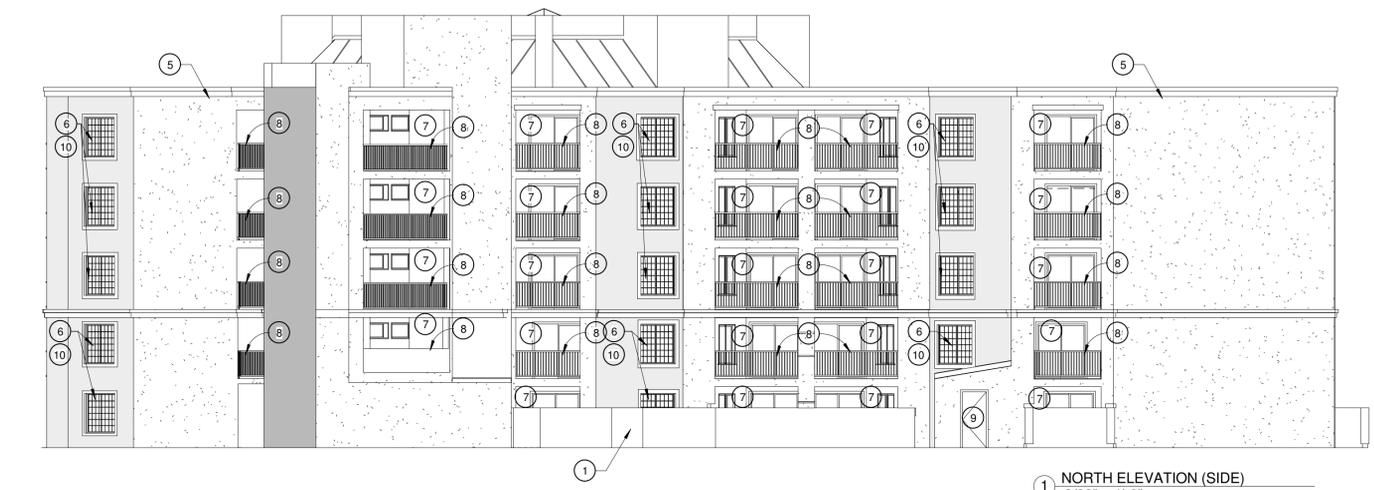
2 EAST ELEVATION (BACK)
3/32" = 1'-0"



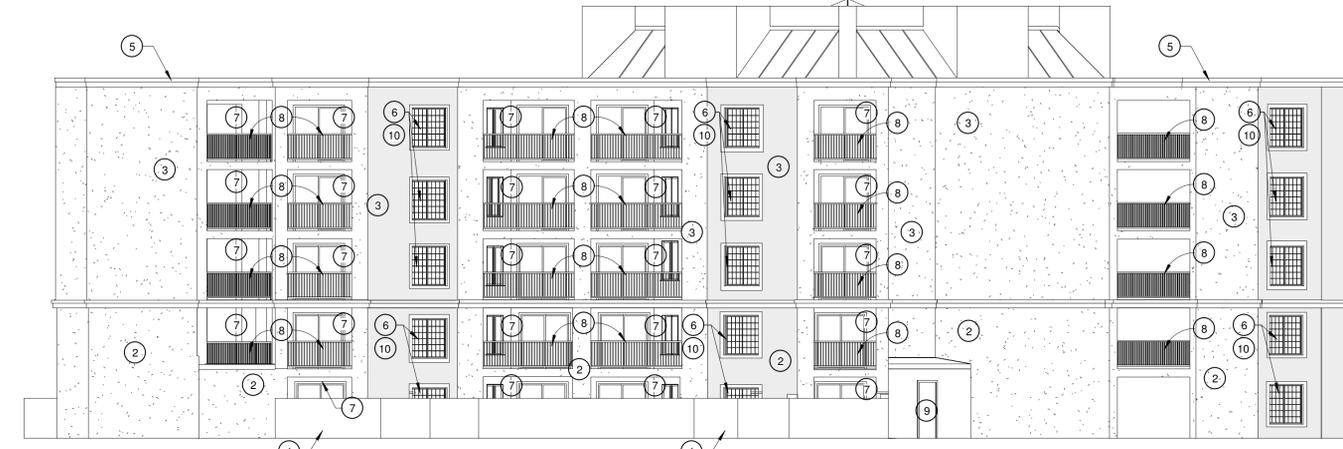
5 TYP. GUARDRAIL DETAIL
3/4" = 1'-0"



4 WIDE BALCONY DETAIL
1/2" = 1'-0"



1 NORTH ELEVATION (SIDE)
3/32" = 1'-0"



3 SOUTH ELEVATION (SIDE)
3/32" = 1'-0"

FINISH KEY:

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PT-2: SHERWIN WILLIAMS, SW6124 CARDBOARD STUCCO FINISH FOR LOWER FLOORS (1-2)

PT-3: SHERWIN WILLIAMS, SW7032 WARM STONE STUCCO FINISH FOR HIGH CORNICE, WATER TABLE & WINDOW TRIM

- KEYNOTES:**
- 1 NEW STUCCO FINISH ON LOW WALL = **PT-2** (SEE FINISH LEGEND)
 - 2 NEW PAINT COLOR OVER EXISTING AND NEW STUCCO SYSTEM AT LEVELS 1-2 (NEW STUCCO AREAS INDICATED BY SHADING) COLOR = **PT-2** SEE FINISH LEGEND. (REF GENERAL SPECS FOR NEW STUCCO SYSTEM DETAILS.)
 - 3 NEW PAINT COLOR OVER EXISTING AND NEW STUCCO SYSTEM AT LEVELS 3-5 (NEW STUCCO AREAS INDICATED BY SHADING) COLOR = **PT-1** SEE FINISH LEGEND. (REF GENERAL SPECS FOR NEW STUCCO SYSTEM DETAILS.)
 - 4 REPLACE P.T.A.C. HOUSINGS WITH NEW METAL WALL SLEEVE IF REQUIRED, AND NEW ALUMINUM LOUVERED COVER SIMILAR TO AMANA AGK SPECIFICATION.
 - 5 NEW HIGH CORNICE DETAIL, REF 3/A301 FOR DETAIL. STUCCO FINISH = **PT-3** SEE FINISH LEGEND.
 - 6 NEW WINDOW ASSEMBLY, REF A400 FOR TYPE AND DETAILS.
 - 7 EXTERIOR RECESSED BALCONY AREAS TO RECEIVE NEW PAINT FINISH OVER EXISTING STUCCO. FINISH = **PT-1** SEE FINISH LEGEND. (EXISTING SLIDER TO REMAIN)
 - 8 NEW METAL RAILING AS SPECIFIED AND DETAILED. REF A201
 - 9 STRIP AND REPAINT EXISTING EXTERIOR DOORS (**PT-2**)
 - 10 NEW STUCCO TRIM = **PT-3** SEE FINISH LEGEND.
 - 11 NEW WATERTABLE DETAIL. REF 6/A200 (THIS SHEET) STUCCO FINISH COLOR = **PT-3** SEE FINISH LEGEND.

*BALCONY WIDTH VARIES.
(V.I.F. FOR FINISHED DIMENSIONS
OF TYPICAL BALCONIES)

ARCHITECT:

D.L. OGDEN
architecture

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Oceanwalk
Villas
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PROJECT #: 0733-2011
PROJECT MANAGER: DLO
DRAWN BY: ARJ, JAA

East Elev. & Dtls
A201

OCEANWALK

EXTERIOR FINISH REVISIONS

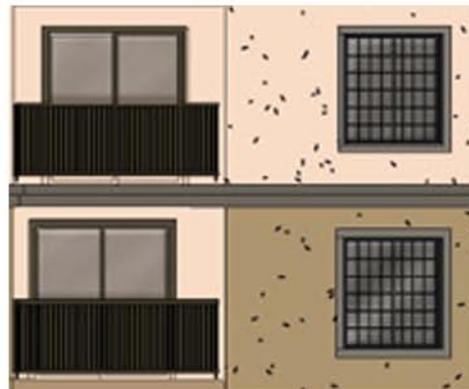
MARCH 7, 2011



PT-1
SW6638 FLATTERING PEACH
(MATCH EXISTING)

PT-2
SW6124 CARDBOARD

PT-3
SW7032 WARM STONE



ENLARGED VIEW

PAINT FINISH LOCATIONS

- PT-1 UPPER 3 FLOORS
INSIDE ALL BALCONIES
- PT-2 LOWER 2 FLOORS
- PT-3 WATER TABLE
HIGH CORNICE
WINDOW TRIM

DESIGN TEAM/ DRB COMMENT SHEET

*The comments below are staff recommendations to the Design Review Board (DRB),
and do not constitute DRB approval or denial*

PROJECT Ocean Walk Villas Phasing Plan

DRB# DR070089

DATE 3-22-11

RECOMMEND X
APPROVE

RECOMMEND
APPROVE W/COND.

RECOMMEND
DENY

ARCHITECTURAL DESIGN

Applicant has logically re-phased the project and addressed all the Board's conditions. There are two different paint schedules submitted, incorporating the existing color and accents. The main difference is in the application of Finish #2, relative to the water table. Both options are included. Either meets the criteria of the Design Guide, and their respective merits can be discussed at the meeting. Hard color samples will be provided at the meeting

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/N/A	COMMENTS OR CONDITIONS
Structure is designed to be appropriate to the neighborhood		
Promotes pedestrian scale and circulation		
Design is unobtrusive and set into the natural environment		
Utilizes natural materials and colors		
Avoids distinctive vernacular styles		
Design is appropriate for its use		
All facades are have equal design characteristics		
Avoids monotonous planes or unrelieved repetition		
Has a strong roof form with enough variety to provide visual interest		
Minimum roof pitch of 6/12		
Overhangs are sufficient for the façade height.		
Forms an details are sufficient to reduce the mass of the structure		
Human scale is achieved by the use of proper proportions and architectural elements		
Utilizes a variety of materials, textures and colors		
Incorporates wood or wood simulating materials		
Windows are in proportion to the facade		
Details are clean, simple and appropriate while avoiding excessive ornamentation		
Utilities and equipment are		

concealed from view		
Decorative lighting is limited and low wattage and adds to the visual character		
Accessory elements are design to coordinate with the primary structure		

LANDSCAPE DESIGN		
NA		

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
Treats the Landscape as a major element of the project		
Provides Landscaping of a scope and size that is in proportion to the scale of the development		
Landscape is designed so that it may be maintained in its natural shape and size		
Preserves a variety of existing native trees and shrubs		
Provides for a harmonious setting for the site's structures, parking areas or other construction		
Location of existing trees and new trees provides street buffers, mitigation for parking lots, and an architectural complement that visually mitigates between parking lots and building(s)		
Shrubs are selected to complement the natural setting, provide visual interest and screen less desirable elements of the project		
A variety of species is selected for texture and color		
Provides overall order and continuity of the Landscape plan		
Native plants or plants that have historically been prevalent on the Island are utilized		
A variety of sizes is selected to create a "layered" appearance for visual interest and a sense of depth		
The location of existing mature trees is taken into account in placement of shrubs so as not to damage tree roots		

Proper spacing and location for plants to reach their mature size and natural shape while avoiding excessive or unnatural pruning		
Proposed groundcovers are evergreen species with low maintenance needs		
Large grassed lawn areas encompassing a major portion of the site are avoided		
The adjacent development is taken into account in determining the most appropriate buffer so as not to depart too dramatically from the neighborhood		
Ornamentals and Annuals are limited to entrances and other focal points		

NATURAL RESOURCES PROTECTION

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
An effort has been made to preserve existing trees and under story plants		NR has no comments on this project.
Supplemental and replacement trees meet LMO requirements for size, species and number		
Wetlands if present are avoided and the required buffers are maintained		
Sand dunes if present are not disturbed		

MISCELLANEOUS COMMENTS/QUESTIONS

NARRATIVE IN SUPPORT OF MODIFICATIONS TO

1400 MAIN STREET

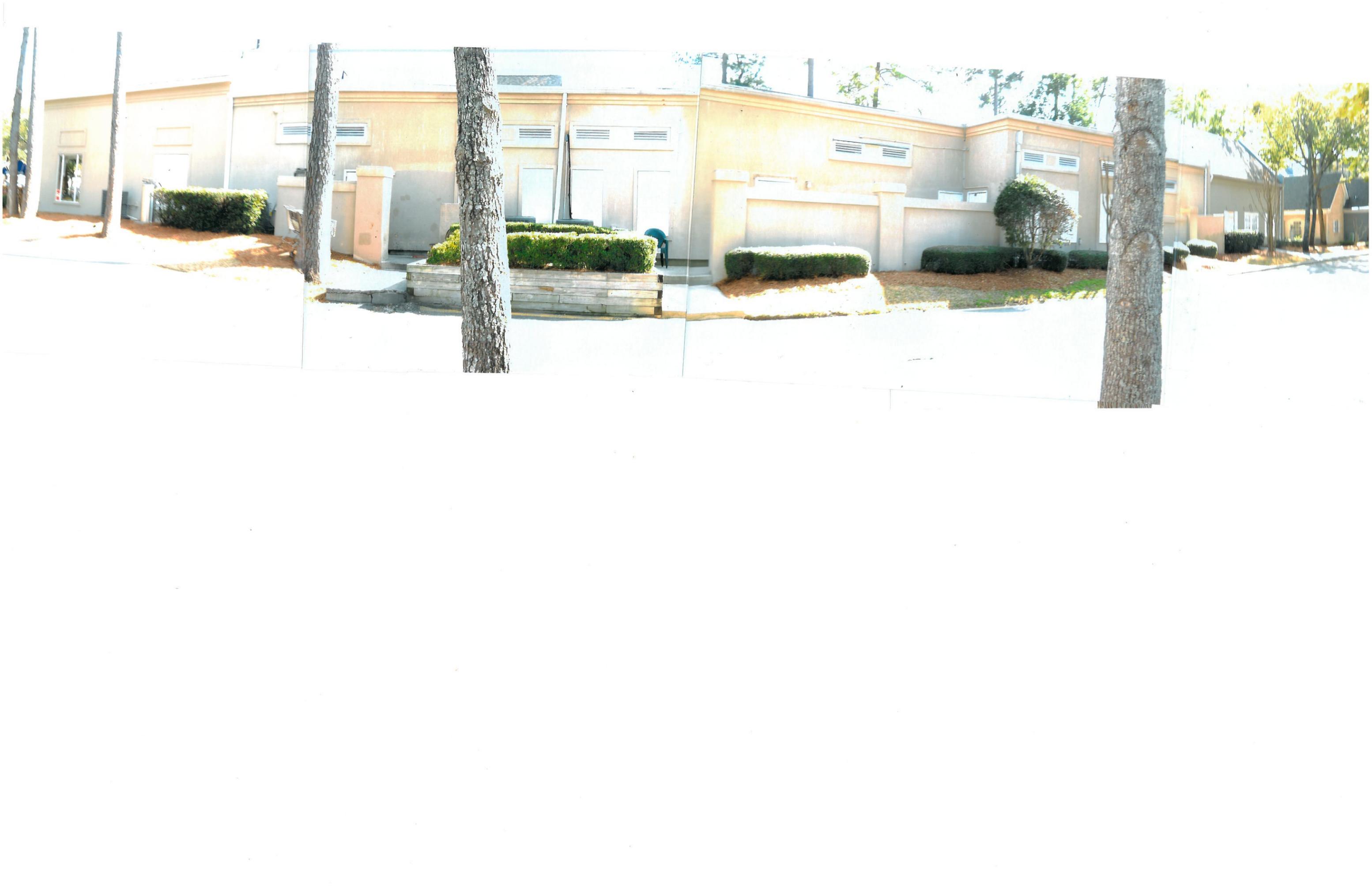
Applicant desires to add visual interest to the back side of his property. It is currently one shade of beige and has little visual detail. Modifications include repainting the façade in three harmonious colors and adding plantings. Walls in disrepair will be repaired. The end units will remain the same color. Green fabric awnings will cover existing vent structures. Awnings may be combined at vents in close proximity to each other. No modifications to any other part of the building are contemplated.

Note: Add 4 16' Bocted Sabel Palmetto's as shown.

All existing foundation plantings remain the same except for 1 existing crepe myrtle too close to building. (To be removed and replaced by Sabel Palmetto)









latté

2163-60



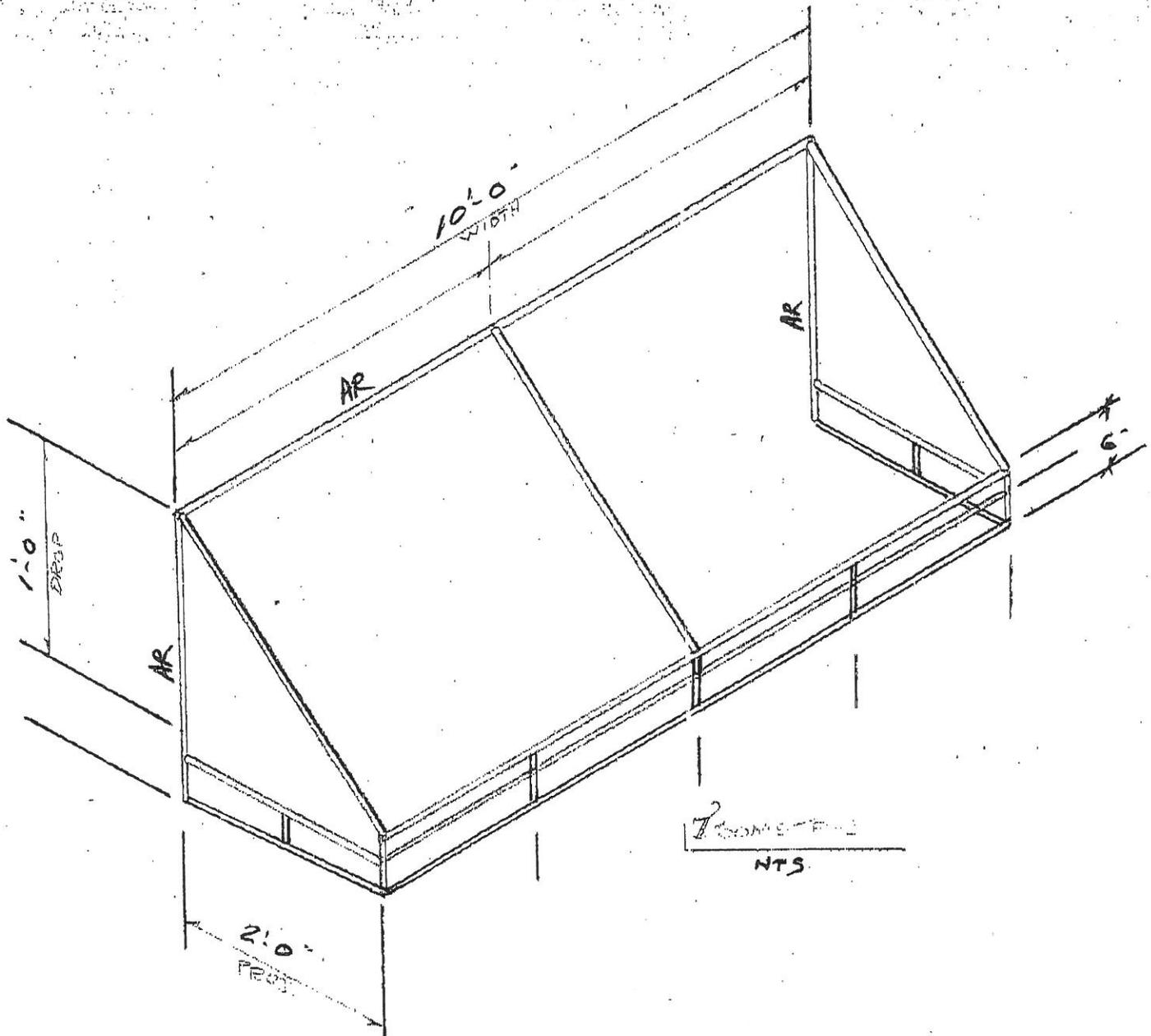
burlap

2163-50



metallic gold

2163-40



AWNING STRUCTURE

DESIGN TEAM/ DRB COMMENT SHEET

*The comments below are staff recommendations to the Design Review Board (DRB),
and do not constitute DRB approval or denial*

PROJECT 1400 Main Street DRB# DR1100014

DATE 3/22/2011 RECOMMEND APPROVE RECOMMEND APPROVE W/COND. RECOMMEND DENY

ARCHITECTURAL DESIGN

In response to the 3-8-11 comments

1. No new walls for construction, only repairs to existing
2. Applicant has offered including planting four (4) sabal palmettos, at the Board's request
3. The end units are not to receive new paint colors, so there is no potential mis-match around the corners
4. Numbered left to right, the applicant wishes to consolidate awnings 3 & 4, 7 & 8, 13 & 14

Still some details that need to be addressed relative to the relationship(s) between the awnings and pop-out trim, and a clarification of the paint color locations. Moving towards the Board's requirements for approval, but some points need to be clarified.

Some translation will be required between the "photo-rendering" of the landscaping and the photographs of the existing building.

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/N/A	COMMENTS OR CONDITIONS
Structure is designed to be appropriate to the neighborhood		
Promotes pedestrian scale and circulation		
Design is unobtrusive and set into the natural environment		
Utilizes natural materials and colors		
Avoids distinctive vernacular styles		
Design is appropriate for its use		
All facades are have equal design characteristics		
Avoids monotonous planes or unrelieved repetition		
Has a strong roof form with enough variety to provide visual interest		
Minimum roof pitch of 6/12		
Overhangs are sufficient for the façade height.		
Forms an details are sufficient to reduce the mass of the structure		
Human scale is achieved by the use of proper proportions and architectural elements		

Utilizes a variety of materials, textures and colors		
Incorporates wood or wood simulating materials		
Windows are in proportion to the facade		
Details are clean, simple and appropriate while avoiding excessive ornamentation		
Utilities and equipment are concealed from view		
Decorative lighting is limited and low wattage and adds to the visual character		
Accessory elements are design to coordinate with the primary structure		

LANDSCAPE DESIGN
See above

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
Treats the Landscape as a major element of the project		
Provides Landscaping of a scope and size that is in proportion to the scale of the development		
Landscape is designed so that it may be maintained in its natural shape and size		
Preserves a variety of existing native trees and shrubs		
Provides for a harmonious setting for the site's structures, parking areas or other construction		
Location of existing trees and new trees provides street buffers, mitigation for parking lots, and an architectural complement that visually mitigates between parking lots and building(s)		
Shrubs are selected to complement the natural setting, provide visual interest and screen less desirable elements of the project		
A variety of species is selected for texture and color		
Provides overall order and continuity of the Landscape plan		
Native plants or plants that have historically been prevalent on the Island are		

utilized		
A variety of sizes is selected to create a “layered” appearance for visual interest and a sense of depth		
The location of existing mature trees is taken into account in placement of shrubs so as not to damage tree roots		
Proper spacing and location for plants to reach their mature size and natural shape while avoiding excessive or unnatural pruning		
Proposed groundcovers are evergreen species with low maintenance needs		
Large grassed lawn areas encompassing a major portion of the site are avoided		
The adjacent development is taken into account in determining the most appropriate buffer so as not to depart too dramatically from the neighborhood		
Ornamentals and Annuals are limited to entrances and other focal points		

NATURAL RESOURCES PROTECTION

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
An effort has been made to preserve existing trees and under story plants		NR has no comments on this project.
Supplemental and replacement trees meet LMO requirements for size, species and number		
Wetlands if present are avoided and the required buffers are maintained		
Sand dunes if present are not disturbed		

MISCELLANEOUS COMMENTS/QUESTIONS



Town of Hilton Head Island
 Community Development Department
 One Town Center Court
 Hilton Head Island, SC 29928
 Phone: 843-341-4757 Fax: 843-842-8908
www.hiltonheadislandsc.gov

FOR OFFICIAL USE ONLY	
Date Received:	2/21/11
Accepted by:	DW
App. #: DR	110015
Meeting Date:	3/8/11

Applicant/Agent Name: DALE JOHNSON Company: JOHNSON PARTNERSHIP
 Mailing Address: 32 OFFICE PARK RD. #104 City: H.H.I. State: SC Zip: 29928
 Telephone: 785-4666 Fax: _____ E-mail: _____
 Project Name: MODIFICATIONS Project Address: 1303 MAIN STREET
 Parcel Number [PIN]: R _____
 Zoning District: _____ Overlay District(s): _____

DESIGN REVIEW BOARD (DR) SUBMITTAL REQUIREMENTS

Digital Submissions may be accepted via e-mail by calling 843-341-4757.

Project Category:

- New Development – Conceptual
 New Development – Final, indicate Project Number
 Alteration/Addition
 Minor External Change

Submittal Requirements for *All* projects:

- Architectural Review Board (ARB) Notice of Action (if applicable): When a project is within the jurisdiction of an ARB, the applicant shall submit such ARB's written notice of action per LMO Section 16-3-1004. Submitting an application to the ARB to meet this requirement is the responsibility of the applicant.
- Filing Fee, New Development \$175, Alterations/Additions \$100, Minor External \$50 cash or check made payable to the Town of Hilton Head Island.

Additional Submittal Requirements:

New Development – Conceptual Approval

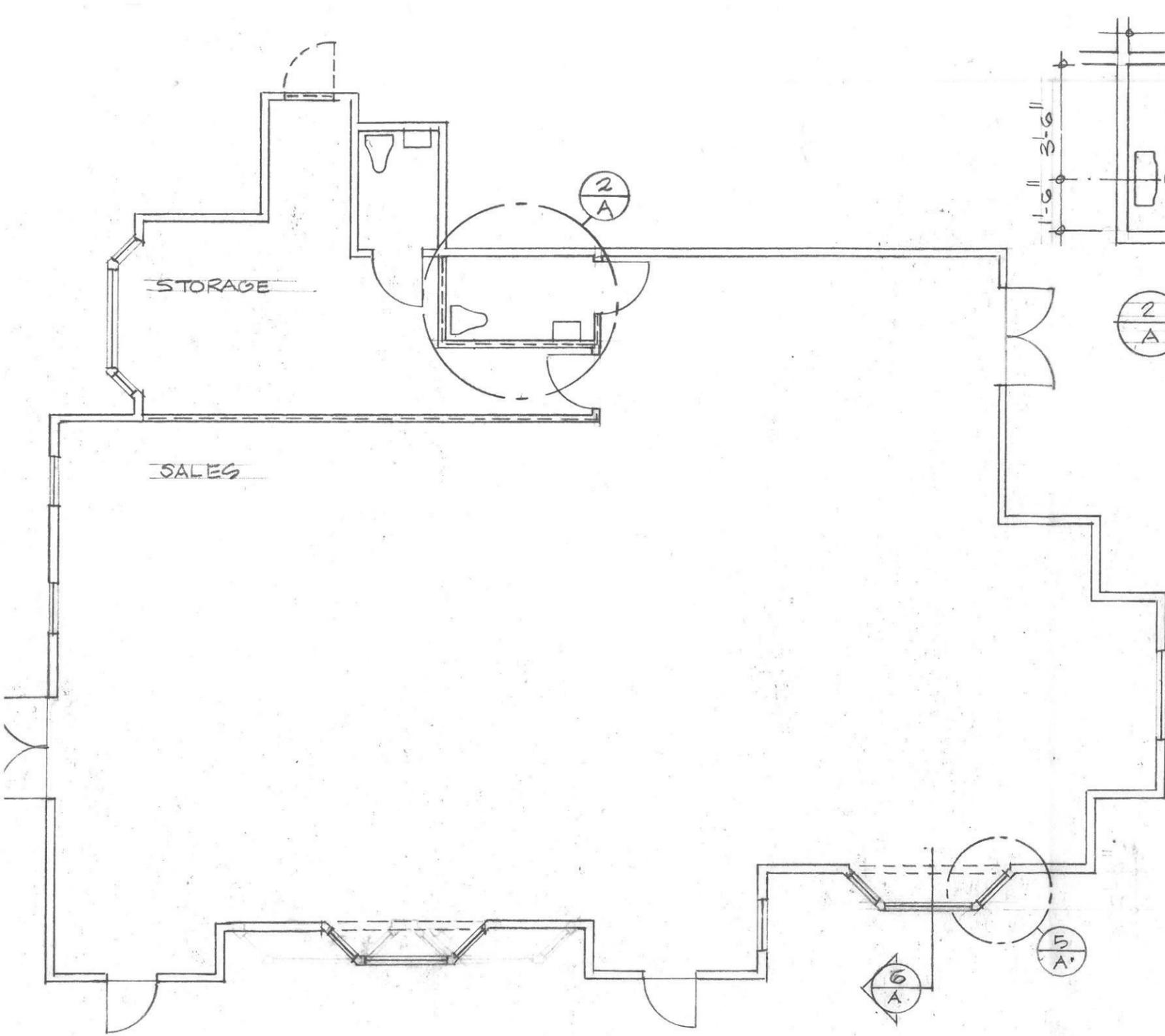
- _____ A survey (1"=30' minimum scale) of property lines, existing topography and the location of trees meeting the tree protection regulations of Sec. 16-3-405, and if applicable, location of bordering streets, marshes and beaches.
- _____ A site analysis study to include specimen trees, access, significant topography, wetlands, buffers, setbacks, views, orientation and other site features that may influence design.
- _____ A draft written narrative describing the design intent of the project, its goals and objectives and how it reflects the site analysis results.
- _____ Context photographs of neighboring uses and architectural styles.
- _____ Conceptual site plan (to scale) showing proposed location of new structures, parking areas and landscaping.
- _____ Conceptual sketches of primary exterior elevations showing architectural character of the proposed development, materials, colors, shadow lines and landscaping.

NARRATIVE IN SUPPORT OF MODIFICATIONS TO

1301 MAIN STREET

Applicant desires to modify the windows on two locations to replace three single windows to a large bay window. This will allow the tenants to have more presence on the street with a larger display area.



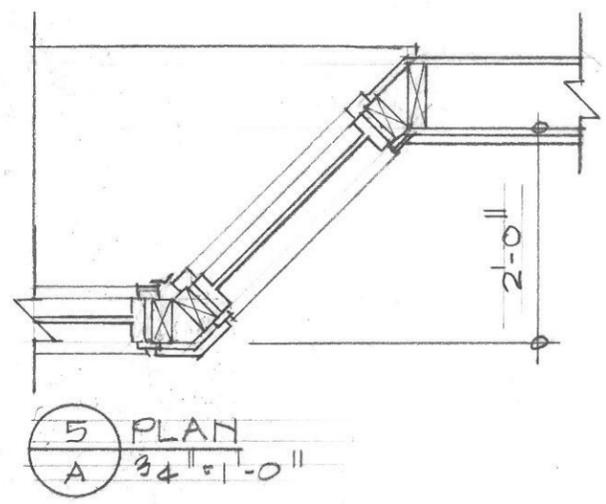
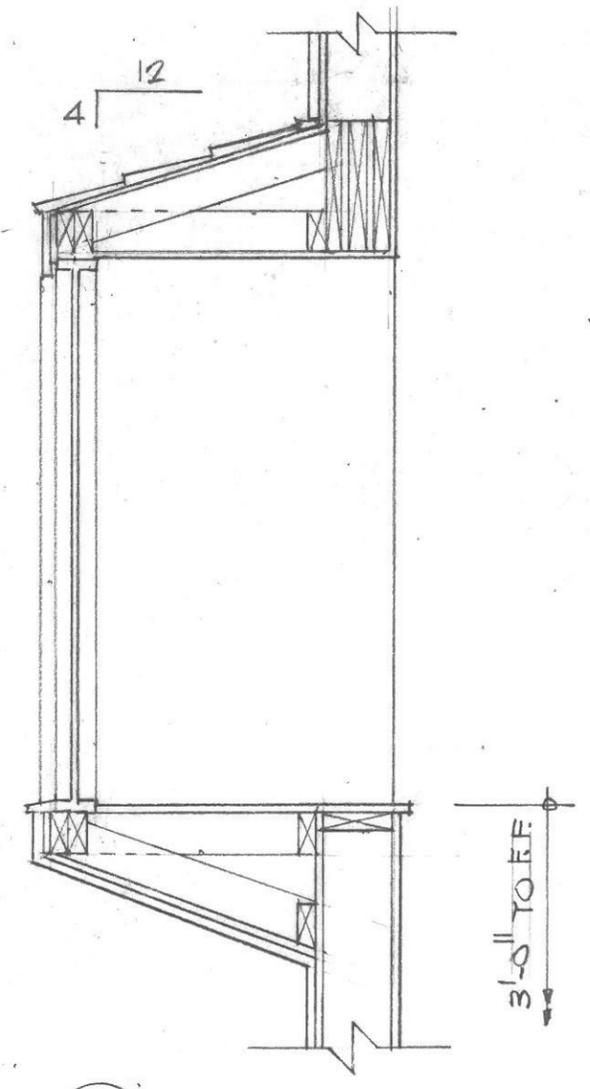
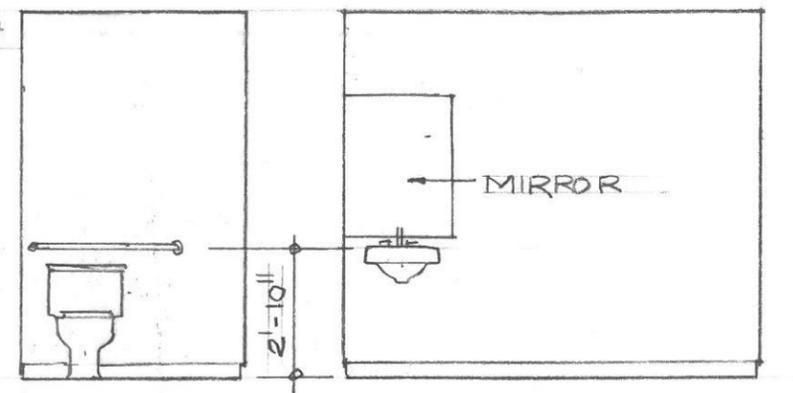
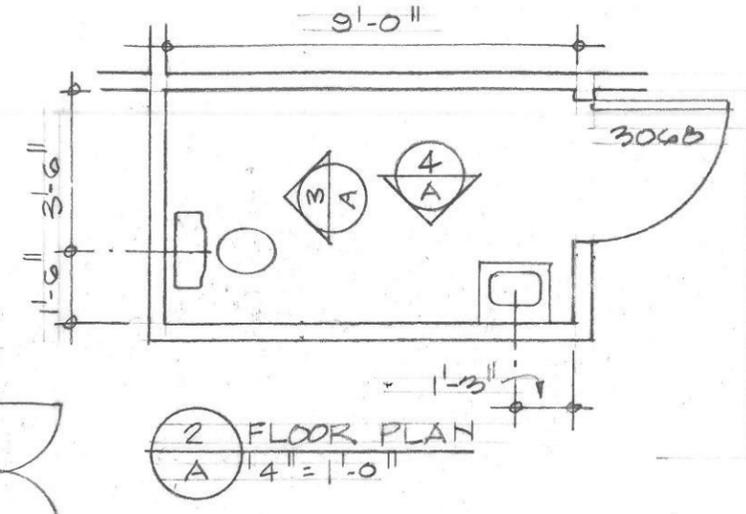


1 FLOOR PLAN
A 8" = 1'-0"

EXISTING

TO BE REMOVED

NEW 2x4 & GWI² WALL



295 TO 130B MAIN STREET

an Partnership ARCHITECTS

Courtyard Building
Island, SC 29928



DESIGN TEAM/ DRB COMMENT SHEET

*The comments below are staff recommendations to the Design Review Board (DRB),
and do not constitute DRB approval or denial*

PROJECT 1301 Main Street

DRB# DR1100015

DATE 3/22/2011

RECOMMEND
APPROVE

RECOMMEND
APPROVE W/COND.

RECOMMEND
DENY

ARCHITECTURAL DESIGN

Previously denied application.

Applicant has widened one bay to keep in proportion to the dormers on the left.

Application doesn't specify bay roof material. Single panes are discordant with existing windows.

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Promotes pedestrian scale and circulation		
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Utilizes natural materials and colors		
Avoids distinctive vernacular styles		
Design is appropriate for its use		
All facades are have equal design characteristics		
Avoids monotonous planes or unrelieved repetition		
Has a strong roof form with enough variety to provide visual interest		
Minimum roof pitch of 6/12		
Overhangs are sufficient for the façade height.		
Forms an details are sufficient to reduce the mass of the structure		
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Incorporates wood or wood simulating materials		
Windows are in proportion to the facade		
Details are clean, simple and appropriate while avoiding excessive ornamentation		

Utilities and equipment are concealed from view		
Decorative lighting is limited and low wattage and adds to the visual character		
Accessory elements are design to coordinate with the primary structure		
LANDSCAPE DESIGN		
N/A		
DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
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NATURAL RESOURCES PROTECTION

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
An effort has been made to preserve existing trees and under story plants		NR has no comments on this project.
Supplemental and replacement trees meet LMO requirements for size, species and number		
Wetlands if present are avoided and the required buffers are maintained		
Sand dunes if present are not disturbed		

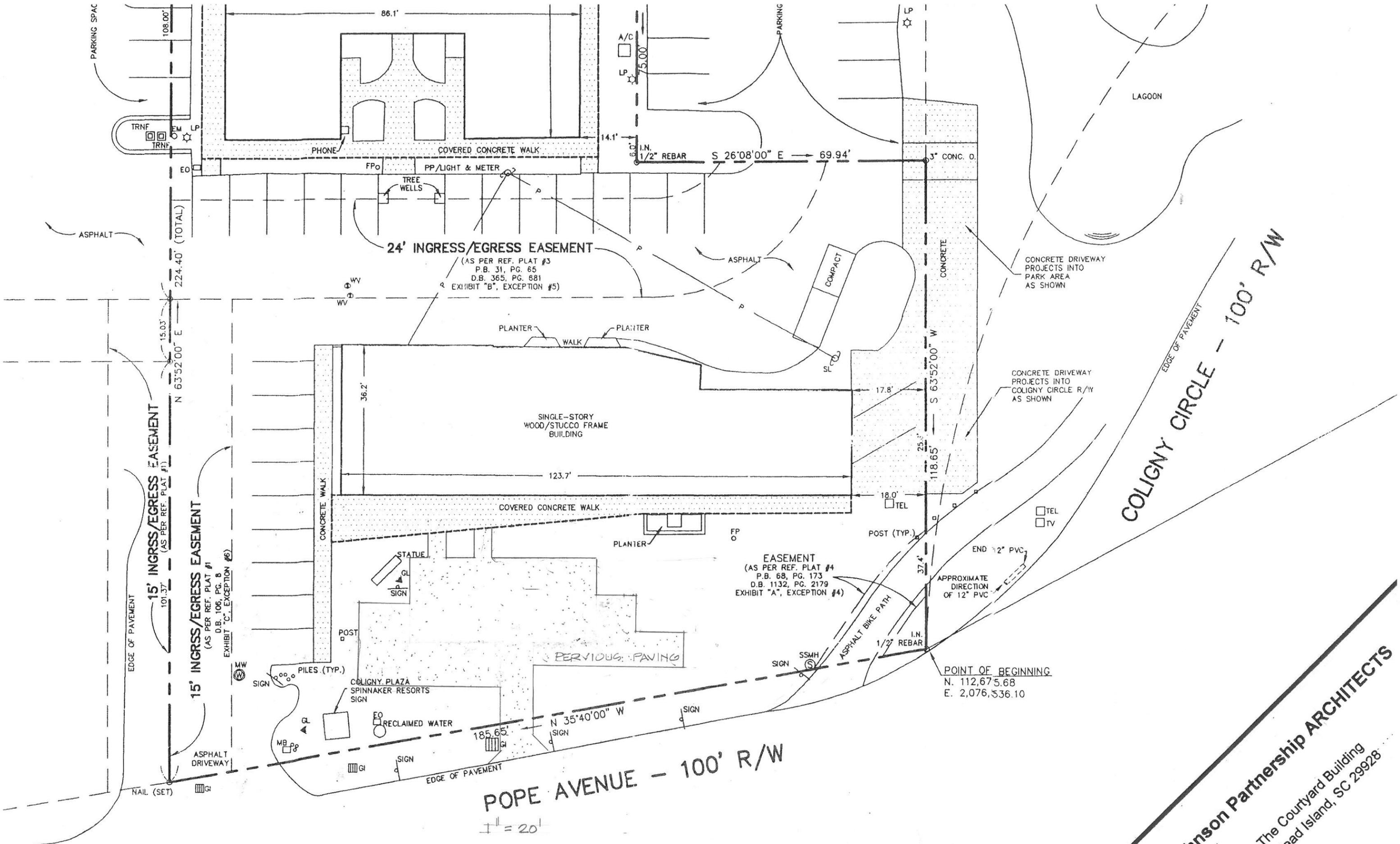
MISCELLANEOUS COMMENTS/QUESTIONS

NARRATIVE IN SUPPORT OF PATIO CONSTRUCTION

Applicant desires to construct a 20 x 45' pervious patio on the Coligny Circle side of his business. No trees will be affected and plantings will be placed as required.



BOMBORAS GRILLE



24' INGRESS/EGRESS EASEMENT
 (AS PER REF. PLAT #3
 P.B. 31, PG. 65
 D.B. 365, PG. 681
 EXHIBIT "B", EXCEPTION #5)

15' INGRESS/EGRESS EASEMENT
 (AS PER REF. PLAT #1)
 N 63°52'00" E 224.40' (TOTAL)

15' INGRESS/EGRESS EASEMENT
 (AS PER REF. PLAT #1)
 D.B. 106, PG. 8
 EXHIBIT "C", EXCEPTION #6)

EASEMENT
 (AS PER REF. PLAT #4
 P.B. 68, PG. 173
 D.B. 1132, PG. 2179
 EXHIBIT "A", EXCEPTION #4)

POINT OF BEGINNING
 N. 112,675.68
 E. 2,076,536.10

POPE AVENUE - 100' R/W

COLIGNY CIRCLE - 100' R/W

The Johnson Partnership ARCHITECTS
 104 The Courtyard Building
 Hilton Head Island, SC 29928

1" = 20'

DESIGN TEAM/ DRB COMMENT SHEET

*The comments below are staff recommendations to the Design Review Board (DRB),
and do not constitute DRB approval or denial*

PROJECT Bomboras (Coligny Plaza) DRB# DR1100017

DATE 3/22/2011 RECOMMEND APPROVE RECOMMEND APPROVE W/COND. RECOMMEND DENY

ARCHITECTURAL DESIGN

Applicant wishes to break from existing walkway to allow for controlled hostess access. Non-linear geometry of access points is in keeping with that same function. Applicant has expanded pad, and it is not to encroach the 12.5' buffer allowed for outdoor seating.

Landscape plan will need to be updated and resubmitted.

Staff is recommending approval with conditions based on the validity of the proposed use, but the application materials leave too many questions to be answered, relative to the Board's earlier comments, and the applicant will need to be present to clarify any their concerns

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Windows are in proportion to		

the facade		
Details are clean, simple and appropriate while avoiding excessive ornamentation		
Utilities and equipment are concealed from view		
Decorative lighting is limited and low wattage and adds to the visual character		
Accessory elements are design to coordinate with the primary structure		

LANDSCAPE DESIGN		
Will need to be submitted prior to approval		

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
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NATURAL RESOURCES PROTECTION

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Sand dunes if present are not disturbed		

MISCELLANEOUS COMMENTS/QUESTIONS



Kimley-Horn
and Associates, Inc

P.O. Box 33068
Raleigh, North Carolina
27636-3068

Transmittal

TEL 919 677 2000
FAX 919 677 2050

Date: 2/17/2011 Job No. 019472226
To: Town of Hilton Head
One Town Center Court
Hilton Head, SC 29928
ATTN.: Mike Roan
Re: Verizon : North Hilton Head

We are sending you

- Attached Under separate cover via _____ the following items:
 Shop drawings Prints/Plans Samples Specifications Change orders

<i>Copies</i>	<i>Date</i>	<i>No.</i>	<i>Description</i>
3	02-17-11	1	North Hilton Head Site Plan
1	02-17-11	2	\$100.00 Fee
1	02-17-11	3	Design Review Application
3	08-18-10	4	Structural Analysis Report

These are transmitted as checked below:

- For your use Approved as submitted Resubmit __ copies for approval
 As requested Approved as noted Submit __ copies for distribution
 For review and comment Returned for corrections Return _____ corrected prints

Remarks _____

Copy To: File Signed Jenny Adams



Kimley-Horn
and Associates, Inc.

February 17, 2011

Town of Hilton Head
One Town Center Court
Hilton Head, SC 29928
Attention: Mike Roan

☐
P.O. Box 33068
Raleigh, North Carolina
27636-3068

RE: Verizon Wireless – North Hilton Head

Dear Mr. Roan,

Kimley-Horn respectfully submits drawings on behalf of Verizon Wireless for commercial building review from the Town of Hilton Head. A brief summary of the proposed project is provided below:

Verizon currently has equipment within an existing fenced compound located on Hidden Trail in Hilton Head. Verizon proposes to add three antennas to their existing array located at 135' on the existing tower. Verizon's equipment on the ground will not change. The additional antennas will not increase the height of the tower

Upon completion of your review and approval, the contractor will pay any additional fees associated with the review and complete any additional forms or provide signatures required by the Town of Hilton Head. If you have any additional questions, please do not hesitate to contact me by phone (919-677-2000) or e-mail (Jenny.Adams@kimley-horn.com).

Very truly yours,

KIMLEY-HORN AND ASSOCIATES, INC.
Jennifer G. Adams
Permitting Coordinator



Town of Hilton Head Island
 Community Development Department
 One Town Center Court
 Hilton Head Island, SC 29928
 Phone: 843-341-4757 Fax: 843-842-8908
 www.hiltonheadislandsc.gov

FOR OFFICIAL USE ONLY	
Date Received:	_____
Accepted by:	_____
App. #: DR	_____
Meeting Date:	_____

Applicant/Agent Name: Jenny Adams Company: Kimley-Horn for Verizon
 Mailing Address: 3001 Weston Parkway City: Cary State: NC Zip: 27513
 Telephone: 919-678-4125 Fax: 919-677-2050 E-mail: jenny.adams@kimley-horn.com
 Project Name: Verizon-North Hilton Head Project Address: 15 Hidden Trail, Hilton Head, SC
 Parcel Number [PIN]: R510 008 000 0111 0000
 Zoning District: _____ Overlay District(s): _____

DESIGN REVIEW BOARD (DR) SUBMITTAL REQUIREMENTS

Digital Submissions may be accepted via e-mail by calling 843-341-4757.

Project Category:
 New Development – Conceptual
 New Development – Final, indicate Project Number
 Alteration/Addition
 Minor External Change

Submittal Requirements for *All* projects:

- Architectural Review Board (ARB) Notice of Action (if applicable): When a project is within the jurisdiction of an ARB, the applicant shall submit such ARB's written notice of action per LMO Section 16-3-1004. Submitting an application to the ARB to meet this requirement is the responsibility of the applicant.
- Filing Fee, New Development \$175, Alterations/Additions \$100, Minor External \$50 cash or check made payable to the Town of Hilton Head Island.

Additional Submittal Requirements:

New Development – Conceptual Approval

- _____ A survey (1"=30' minimum scale) of property lines, existing topography and the location of trees meeting the tree protection regulations of Sec. 16-3-405, and if applicable, location of bordering streets, marshes and beaches.
- _____ A site analysis study to include specimen trees, access, significant topography, wetlands, buffers, setbacks, views, orientation and other site features that may influence design.
- _____ A draft written narrative describing the design intent of the project, its goals and objectives and how it reflects the site analysis results.
- _____ Context photographs of neighboring uses and architectural styles.
- _____ Conceptual site plan (to scale) showing proposed location of new structures, parking areas and landscaping.
- _____ Conceptual sketches of primary exterior elevations showing architectural character of the proposed development, materials, colors, shadow lines and landscaping.

Additional Submittal Requirements:

New Development – Final Approval

- _____ A final written narrative describing how the project conforms with the conceptual approval and design review guidelines of Sec. 16-4-503.
- _____ Final site development plan meeting the requirements of Sec. 16-3-303.F.
- _____ Final site lighting and landscaping plans meeting the requirements of Sec. 16-3-304 and Sec. 16-3-305.
- _____ Final floor plans and elevation drawings (1/8"=1'-0" minimum scale) showing exterior building materials and colors with architectural sections and details to adequately describe the project.
- _____ A color board (11"x17" maximum) containing actual color samples of all exterior finishes, keyed to the elevations, and indicating the manufacturer's name and color designation.
- _____ Any additional information requested by the Design Review Board at the time of concept approval, such as scale model or color renderings, that the Board finds necessary in order to act on a final application.

Additional Submittal Requirements:

Alterations/Additions *and* Minor External Changes

- _____ A written narrative describing how project conforms to design guidelines of Section 16-4-503.
- _____ Photographs and/or drawings of existing development.
- _____ Drawings of the proposed development – 11"x 17".
- _____ Material/color samples of existing and proposed changes - 8 1/2"X 14" *Maximum*; Stating manufacturer and material name

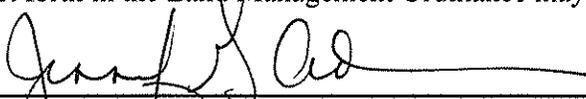
Note: All application items must be received by the deadline date in order to be reviewed by the DRB per LMO Section 16-3-106.

A representative for each agenda item is strongly encouraged to attend the meeting.

Are there recorded private covenants and/or restrictions that are contrary to, conflict with, or prohibit the proposed request? If yes, a copy of the private covenants and/or restrictions must be submitted with this application. YES NO

To the best of my knowledge, the information on this application and all additional documentation is true, factual, and complete. I hereby agree to abide by all conditions of any approvals granted by the Town of Hilton Head Island. I understand that such conditions shall apply to the subject property only and are a right or obligation transferable by sale.

I further understand that in the event of a State of Emergency due to a Disaster, the review and approval times set forth in the Land Management Ordinance may be suspended.


SIGNATURE *Agent for Verizon*

2 | 17 | 11
DATE



Structural Analysis Report

135 ft. Tapered Monopole

Global Tower Services

750 Park of Commerce Boulevard
Suite 300
Boca Raton, FL 33487-3612

P: 605.422.1548
F: 605.422.1550

**15 Hidden Trail, Hilton Head, SC 29902
Beaufort County
(SC-5036, Hargray Main Street)**

**Alltel Communications LLC
Alltel Site Number: N/A
Alltel Site Name: North Hilton Head**

Prepared by:

**Global Tower Services, LLC
Michael T. De Boer, P.E.
Director of Structural Engineering**

August 18, 2010

**Global Tower Services, LLC
August 18, 2010
Hargray Main Street
SC-5036**

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INTRODUCTION

We have completed the structural analysis for the existing 135 ft. tapered monopole located in Beaufort County (15 Hidden Trail, Hilton Head), SC. The objective of the analysis is to determine if the existing tapered monopole design is in conformance / compliance with the current codes and standards for the proposed equipment installation.

TSTower written by TowerSoft was utilized in performing the analysis. This program is a commercially available software program which was used to create a non-linear three-dimensional beam model and calculate member stresses for various loading conditions.

DESCRIPTION OF STRUCTURE

The existing structure is a 135 ft. tapered monopole originally manufactured by LeBlanc Communications Inc., Sioux City, IA. The existing monopole consists of four (4) sections with slip connections.

Original tower drawings provided by LeBlanc Communications Inc. were used to model the monopole steel. (LeBlanc Project No. 94-45-041, March 10, 1994). The monopole shaft is 65 ksi, the base plate is 50 ksi steel and the anchor bolts are 75 ksi.

The monopole, for the purpose of analysis, is considered to be in good condition with no defects.

DESIGN PARAMETERS

- | | |
|------------------------------|----------------------------------|
| - Standard: | ANSI/TIA-222-G-2005 |
| - Local Code: | International Building Code 2006 |
| - Basic Wind Speed: | 125 mph (3-sec gust) |
| - Serviceability Wind Speed: | 60 mph (3-sec gust) |
| - Basic Wind Speed with Ice: | N/A |
| - Design Ice Thickness: | 0.25 (inch) |
| - Structure Class: | II |
| - Exposure Category: | B |
| - Topographic Category: | 1 |
| - Importance Factor: | 1 |

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ANTENNA LOADING INFORMATION

Existing and Reserved Loading Information

Antenna Description/Mount	Qty	Elev. (ft.)	TX Lines	Qty	Customer
DB846H80E-SX / Platform Mount	6	135	1 5/8"	6	Alltel
DB948G65E-M / Sector Frames	9	130	1 5/8"	9	Hargray
TMA's / Sector Frames	6	130			Hargray
Scala AP18-1900/063D/DT2 / T-Frames	4	120	7/8" (exterior)	4	Airgate
Scala AP17-1900/090D / T-Frames	2	120	7/8" (exterior)	2	Airgate
4' MW Grid Dish / T-Frames	1	120	7/8"	1	Abandoned
DAPA 2980.011 / LP Platform	9	105	7/8" (exterior)	9	Nextel

Note: All lines are considered installed inside the monopole shaft unless otherwise noted.

Proposed Loading Information

Antenna Description/Mount	Qty	Elev. (ft.)	TX Lines	Qty	Customer
Antel BXA-70063-8CF-EDIN-2 / Platform Mount	3	135	1 5/8"	6	Alltel

Note: Final configuration is nine (9) antennas and twelve (12) lines. All lines are considered installed inside the monopole shaft unless otherwise noted.

ANALYSIS RESULTS

Structure

The existing 135 ft. tapered monopole is **structurally capable** of supporting the proposed equipment. (See table below)

Monopole	% Capacity	Results
Monopole Shaft	80	Pass
Base Plate	67	Pass
Anchor Bolts	93	Pass

(105 percent is considered acceptable.)

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ANALYSIS RESULTS continued

Foundation

The existing foundation has also been evaluated. The existing foundation was found to be **acceptable** with the proposed equipment installed. (See table below)

Foundation Component	Design Reactions	*Original Reactions	% Capacity	Results
Overturning Moment	4573.80 Ft-Kips	5544.45 Ft-Kips	82	Pass
Shear	51.80 Kips	69.12 Kips	75	Pass

***These have been factored by 1.35 to equate to the LRFD reactions.**

Tower Rating: 93%

SUMMARY AND CONCLUSIONS

The existing 135 ft. tapered monopole located in Beaufort County (15 Hidden Trail, Hilton Head), SC is **structurally acceptable** based upon the EIA-222-G 2005 Standard and the 2006 International Building Code with the proposed equipment installed.

If any other changes are proposed, another structural analysis should be performed to assure the tower is in compliance / conformance with the applicable codes and standards.

Should any further questions arise, please contact the Global Tower Services, LLC Engineering Department at 605-422-1548.

Global Tower Services, LLC



Michael T. De Boer, P.E.

Director of Structural Engineering



8/20/10

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Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but not necessarily limited, to:

- Information supplied by the client regarding the structure itself, the antenna and transmission line loading on the structure and its components, or relevant information.
- Information from drawings in possession of Global Tower Services, LLC, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Global Tower Services, LLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we consider that all structures were constructed in accordance with the drawings and specifications and are in an uncorroded condition and have not deteriorated; and we, therefore consider that their capacity has not significantly changed from the original design condition.

All services will be performed to the codes and standards specified by the client, and we do not imply to meet any other code and standard requirements unless explicitly agreed to in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes and standards, the client shall specify the exact requirements. In the absence of information to the contrary, all work will be performed in accordance with the revision of ANSI/TIA/EIA-222 requested.

All services are performed, results obtained and recommendations made in accordance with the generally accepted engineering principles and practices. Global Tower Services, LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Global Tower Services, LLC

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Disclaimer of Warranties

The engineering services by **Global Tower Services, LLC** in connection with this Structural Analysis are limited to a computer analysis of the tower structure, size and capacity of its members. **Global Tower Services, LLC** does not analyze the fabrication, including welding, except as included in this report.

The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines. Any mention of structural modifications are reasonable estimates and should not be used a precise construction document. Precise modification drawings are obtainable from **Global Tower Services, LLC** but are beyond the scope of this report.

Global Tower Services, LLC makes no warranties, expressed or implied, in connection with this report and disclaim any liability arising from material, fabrication and erection of this tower. **Global Tower Services, LLC** will not be responsible whatsoever for or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of **Global Tower Services, LLC** pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Monopole Profile

File: C:\Program Files\TSTower\TSTOWER Input\SC-5036_081810_Alltel.out

Contract:

Project: Structural Analysis for 140' Monopole

Date and Time: 8/19/2010 2:37:15 PM

Revision: 1

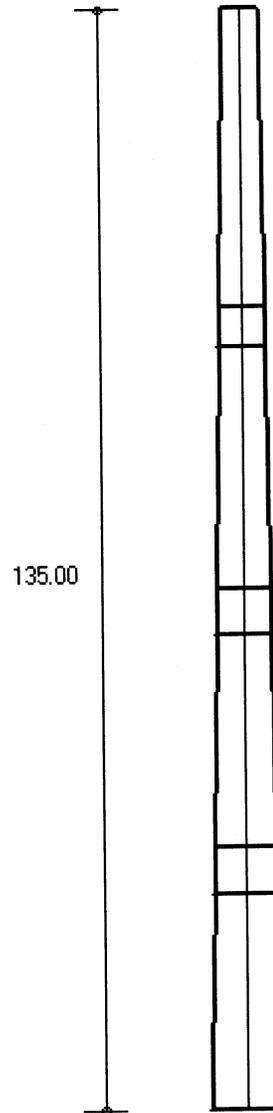
Site: SC-5036 (Hargray Main Street)

Engineer: Mike De Boer

DESIGN SPECIFICATION

Design Standard: ANSI/TIA-222-G-2005 Add.2
 Basic Wind Speed (No Ice) = 125.0 (mph)
 Basic Wind Speed (With Ice) = 30.0 (mph)
 Design Ice Thickness = 0.25 (in)
 Structure Class = II
 Exposure Category = B
 Topographic Category = 1

Sct.	Length (ft)	Overlap (ft)	Top Dia. (in)	Bot Dia. (in)	Thick. (in)
1	32.50	6.03	44.76	51.80	0.5000
2	37.50	5.43	38.94	47.06	0.5000
3	40.00	4.76	32.19	40.86	0.3750
4	41.22	0.00	24.92	33.85	0.3125



MAXIMUM BASE REACTIONS

	Bare	Iced
Download (Kips)	45.2	52.1
Shear (Kips)	51.8	2.2
Moment (Kipsft)	4573.8	200.1

APPENDIX B

Calculations



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File: C:\Program Files\TSTower\TSTOWER Input\SC-5036_081810_Alltel.out
Contract: Revision: 1
Project: Structural Analysis for 140' Monopole Site: SC-5036 (Hargray Main Street)
Date and Time: 8/19/2010 2:37:15 PM Engineer: Mike De Boer

Section A: PROJECT DATA

Project Title: Structural Analysis for 140' Monopole
Customer Name: Alltel Communications
Site: SC-5036 (Hargray Main Street)
Contract No.:
Revision: 1
Engineer: Mike De Boer
Date: Aug 19 2010
Time: 02:35:34 PM

Design Standard: ANSI/TIA-222-G-2005 Addendum 2

GENERAL DESIGN CONDITIONS

Start wind direction: 0.00 (Deg)
End wind direction: 330.00 (Deg)
Increment wind direction: 30.00 (Deg)
Elevation above ground: 0.00(ft)
Gust Response Factor Gh: 1.10
Structure class: II
Exposure category: B
Topographic category: 1
Material Density: 490.1(lbs/ft³)
Young's Modulus: 29000.0(ksi)
Poisson Ratio: 0.30
Weight Multiplier: 1.00

WIND ONLY CONDITIONS:

Basic Wind Speed (No Ice): 125.00(mph)
Directionality Factor Kd: 0.95
Importance Factor I: 1.00
Wind Load Factor: 1.60
Dead Load Factor: 1.20

WIND AND ICE CONDITIONS:

Basic Wind Speed (With Ice): 30.00(mph)
Directionality Factor Kd: 0.95
Importance Factor I: 1.00
Ice Thickness: 0.25(in)
Ice Density: 56.19(lbs/ft³)
Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Load Factor: 1.00

WIND ONLY SERVICEABILITY CONDITIONS:

Serviceability Wind Speed: 60.00(mph)
Directionality Factor Kd: 0.85
Importance Factor I: 1.00
Wind Load Factor: 1.00
Dead Load Factor: 1.00

Analysis performed using: TowerSoft Finite Element Analysis Program



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Contract:

Revision: 1

Project: Structural Analysis for 140' Monopole

Site: SC-5036 (Hargray Main Street)

Date and Time: 8/19/2010 2:37:15 PM

Engineer: Mike De Boer

Section B: STRUCTURE GEOMETRY

Total Height (ft)	Bottom Diameter (in)	Top Diameter (in)
135.00	51.80	24.92

Sect. No	Length (ft)	Overlap (ft)	Bot Dia. (in)	Top Dia. (in)	Thick. (in)	Sides	Joint Type	Yield Stress (ksi)	Mass (lbs)	Calculated Taper (in/ft)
1	32.50	6.03	51.80	44.76	0.5000	12-sided	Flange	65.0	8488.2	0.21670
2	37.50	5.43	47.06	38.94	0.5000	12-sided	Telescopic	60.0	8712.1	0.21670
3	40.00	4.76	40.86	32.19	0.3750	12-sided	Telescopic	60.0	5928.9	0.21670
4	41.22	0.00	33.85	24.92	0.3125	12-sided	Telescopic	60.0	4094.0	0.21670

Total Mass:

27223.2



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Contract:

Revision: 1

Project: Structural Analysis for 140' Monopole

Site: SC-5036 (Hargray Main Street)

Date and Time: 8/19/2010 2:37:15 PM

Engineer: Mike De Boer

Section C: ANTENNA DATA

Structure Azimuth from North: 0

ANTENNAS

Ant No.	Elev. (ft)	Antenna (#) Type	Ant. Azim.	Mount. Radius (ft)	Mount Type	Mount Azim.	Tx Line (#)Type	Mounting Pipe Size (in)	Mounting Pipe Length (ft) Full Shielded	Ka
1	120.00	(1) GP4	0	1.62		0				1.00
Vert. Offset 0.00 (ft)										

ANTENNA AND MOUNT WIND AREAS AND WEIGHTS

Ant No.	Antenna/Mount	Frontal Bare Area (ft) ²	Lateral Bare Area (ft) ²	Frontal Iced Area (ft) ²	Lateral Iced Area (ft) ²	Weight Bare (lbs)	Weight Iced (lbs)	Frequency GHz	Allowable Signal Loss dB	Gh Mount Ka
1	GP4	8.00	1.37	23.19	0.63	59.52	175.71	6.00	10	1.10



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Revision: 1

Project: Structural Analysis for 140' Monopole

Site: SC-5036 (Hargray Main Street)

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Engineer: Mike De Boer

Section D: TRANSMISSION LINE DATA

Transmission Lines Position

No.	Bot El (ft)	Top El (ft)	Desc.	Radius (ft)	Az.	Orient.	No.	Shielded	Shielded Lines	Antenna
1	0.00	130.00	LDF7P-50A	0.00	0.00	0.00	9	Yes	9	
2	0.00	120.00	LDF5P-50A	0.00	0.00	0.00	6	Yes	4	
3	0.00	105.00	LDF5P-50A	0.00	0.00	0.00	9	Yes	6	
4	0.00	135.00	LDF7P-50A	0.00	0.00	0.00	12	Yes	12	
5	0.00	130.00	LDF6P-50A	0.00	0.00	0.00	1	Yes	1	
6	0.00	120.00	LDF5P-50A	0.00	0.00	0.00	1	No	0	

Transmission Lines Details

No.	Desc.	Width (in)	Depth (in)	Unit Mass (lb/ft)
1	LDF7P-50A	2.01	2.01	0.92
2	LDF5P-50A	1.10	1.10	0.33
3	LDF5P-50A	1.10	1.10	0.33
4	LDF7P-50A	2.01	2.01	0.92
5	LDF6P-50A	1.55	1.55	0.66
6	LDF5P-50A	1.10	1.10	0.33

Utilization of the cross-section for TX Lines: 12.88%



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Site: SC-5036 (Hargray Main Street)

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Engineer: Mike De Boer

Section F: POINT LOAD DATA

Structure Azimuth from North:0.00

POINT LOADS

No.	Description	Elev. (ft)	Radius (ft)	Azim. (Deg)	Orient. (Deg)	Vertical Offset (ft)	Tx Line	Comments
1	(9) DB948G65E-M	130.00	0.00	0.0	0.0	0.00		Hargray (0.80)
2	T-Frames	130.00	0.00	0.0	0.0	0.00		Hargray
3	(4) AP18-1900/063D/DT2	120.00	0.00	0.0	0.0	0.00		Airgate (0.85)
4	T-Frames	120.00	0.00	0.0	0.0	0.00		Airgate
5	(9) DAPA 2980-011	105.00	0.00	0.0	0.0	0.00		Nextel (0.80)
6	LP Platform	105.00	0.00	0.0	0.0	0.00		Nextel
7	(2) AP18-1900/090D	120.00	0.00	0.0	0.0	0.00		Airgate (1.0)
8	(6) DB846H80E-SX	135.00	0.00	0.0	0.0	0.00		Alltel (0.85)
9	(3) BXA-70063-8CF-EDIN-2	135.00	0.00	0.0	0.0	0.00		Alltel (1.0)
10	Platform Mount	135.00	0.00	0.0	0.0	0.00		Alltel
11	(6) TMA's	130.00	0.00	0.0	0.0	0.00		Cricket

POINT LOADS WIND AREAS AND WEIGHTS

No.	Description	Frontal Bare Area (ft^2)	Lateral Bare Area (ft^2)	Frontal Iced Area (ft^2)	Lateral Iced Area (ft^2)	Weight Bare (Kips)	Weight Iced (Kips)	Gh
1	(9) DB948G65E-M	35.64	35.64	39.82	39.82	0.13	0.42	1.10
2	T-Frames	18.00	18.00	21.00	21.00	1.00	1.25	1.10
3	(4) AP18-1900/063D/DT2	10.37	10.37	12.31	12.31	0.04	0.10	1.10
4	T-Frames	18.00	18.00	21.00	21.00	1.00	1.25	1.10
5	(9) DAPA 2980-011	60.48	60.48	68.69	68.69	0.24	0.76	1.10
6	LP Platform	21.00	21.00	24.00	24.00	1.50	2.00	1.10
7	(2) AP18-1900/090D	9.10	9.10	10.72	10.72	0.03	0.08	1.10
8	(6) DB846H80E-SX	28.56	28.56	32.59	32.59	0.90	0.32	1.10
9	(3) BXA-70063-8CF-EDIN-2	30.90	30.90	34.02	34.02	0.07	0.23	1.10
10	Platform Mount	30.00	30.00	36.00	36.00	2.00	2.50	1.10
11	(6) TMA's	6.00	6.00	8.00	8.00	0.13	0.25	1.10



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Site: SC-5036 (Hargray Main Street)

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Section H: STRUCTURE DISPLACEMENT DATA

Load Combination

Max Envelope

Wind Direction

Maximum displacements

Elev. (ft)	N-S Disp (in)	W-E Disp (in)	Vert.Disp (in)	N-S Rot (deg)	W-E Rot (deg)	Twist Rot (deg)
135.00	-85.9	-84.9	-2.7	-5.23	5.29	-0.01
127.71	-77.9	-77.0	-2.4	-5.20	5.26	-0.01
120.42	-69.9	-69.1	-2.0	-5.11	5.17	-0.01
113.13	-62.1	-61.4	-1.7	-4.96	5.02	0.01
105.84	-54.6	-54.0	-1.4	-4.75	4.81	0.01
98.55	-47.5	-46.9	-1.2	-4.50	4.55	0.01
93.78	-43.0	-42.5	-1.0	-4.30	4.35	0.01
87.82	-37.7	-37.3	-0.8	-4.06	4.11	0.01
81.86	-32.7	-32.4	-0.7	-3.80	3.85	0.01
75.90	-28.1	-27.8	-0.5	-3.52	3.57	0.01
69.93	-23.9	-23.6	-0.4	-3.23	3.27	0.01
63.97	-19.9	-19.7	-0.3	-2.93	2.96	0.01
58.55	-16.7	-16.5	-0.2	-2.65	2.68	0.01
53.34	-13.9	-13.8	-0.2	-2.43	2.45	0.01
48.13	-11.4	-11.3	-0.1	-2.20	2.22	0.01
42.92	-9.1	-9.0	-0.1	-1.97	1.99	0.01
37.71	-7.0	-7.0	-0.1	-1.74	1.76	0.01
32.50	-5.2	-5.2	0.0	-1.51	1.53	0.01
26.47	-3.5	-3.4	0.0	-1.24	1.26	0.00
22.06	-2.4	-2.4	0.0	-1.03	1.05	0.00
17.65	-1.5	-1.5	0.0	-0.83	0.84	0.00
13.24	-0.9	-0.9	0.0	-0.62	0.62	0.00
8.82	-0.4	-0.4	0.0	-0.41	0.42	0.00
4.41	-0.1	-0.1	0.0	-0.20	0.21	0.00
0.00	0.0	0.0	0.0	0.00	0.00	0.00



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Section J: ANTENNA DISPLACEMENT DATA

Load Combination Max Envelope

Wind Direction Maximum displacements

Ant.	Elev. (ft)	N-S Disp (in)	W-E Disp (in)	Vert Disp (in)	N-S Rot (Deg)	W-E Rot (Deg)	Twist Rot (Deg)	Allow. (Deg)
1	120.00	-66.0	-65.2	-1.9	-5.03	5.09	0.01	2.21



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Site: SC-5036 (Hargray Main Street)

Date and Time: 8/19/2010 2:37:15 PM

Engineer: Mike De Boer

Section K: POLE OUTPUT LOAD DATA

Load Combination	Max Envelope			
Wind Direction	Maximum Loads			
Elev. (ft)	Axial Ld. (kips)	Shear Ld. (kips)	Torque (kipsft)	Bend Mom. (kipsft)
135.00	5.41	8.70	0.00	0.07
127.71	5.41	8.70	1.43	63.15
127.71	7.97	12.91	1.42	63.31
120.42	7.97	12.91	3.52	157.34
120.42	10.87	17.39	4.03	157.42
113.13	10.87	17.39	6.72	283.21
113.13	12.23	19.07	6.47	283.38
105.84	12.23	19.07	9.33	421.30
105.84	16.31	25.79	8.88	421.48
98.55	16.31	25.79	12.59	608.22
98.55	17.82	28.10	12.17	608.35
93.78	17.82	28.10	14.72	741.30
93.78	19.35	29.63	14.05	741.39
87.82	19.35	29.63	17.23	917.51
87.82	21.11	31.32	16.39	917.49
81.86	21.11	31.32	19.55	1103.75
81.86	22.52	32.96	18.68	1103.63
75.90	22.52	32.96	21.75	1299.78
75.90	23.96	34.57	20.69	1299.67
69.93	23.96	34.57	23.65	1504.36
69.93	25.45	36.17	22.33	1504.27
63.97	25.45	36.17	25.17	1719.60
63.97	26.91	37.66	23.69	1719.52
58.55	26.91	37.66	26.13	1924.07
58.55	29.19	39.07	24.72	1923.99
53.34	29.19	39.07	26.92	2125.99
53.34	31.63	40.43	25.46	2125.92
48.13	31.63	40.43	27.55	2336.27
48.13	33.39	41.72	25.91	2336.21
42.92	33.39	41.72	27.85	2553.32
42.92	35.20	42.97	26.03	2553.26
37.71	35.20	42.97	27.81	2776.94
37.71	37.04	44.18	25.81	2776.89
32.50	37.04	44.18	27.40	3005.46
32.50	39.08	45.44	24.96	3005.42
26.47	39.08	45.44	26.57	3279.25
26.47	41.90	46.59	24.22	3279.21
22.06	41.90	46.59	25.22	3485.24
22.06	44.44	47.54	22.91	3485.22
17.65	44.44	47.54	23.74	3693.95
17.65	46.10	48.48	21.28	3693.93
13.24	46.10	48.48	21.94	3908.42
13.24	47.78	49.41	19.35	3908.41
8.82	47.78	49.41	19.82	4125.47
8.82	49.49	50.35	17.08	4125.46
4.41	49.49	50.35	17.37	4348.36
4.41	51.21	51.29	14.50	4348.36
0.00	51.21	51.29	14.59	4573.79
Base	52.08	51.83	14.59	4573.79



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Contract:

Revision: 1

Project: Structural Analysis for 140' Monopole

Site: SC-5036 (Hargray Main Street)

Date and Time: 8/19/2010 2:37:15 PM

Engineer: Mike De Boer

Section L: STRENGTH ASSESSMENT DATA

Elev. (ft)	Load Combination Axial Ld (kips)	Max Envelope Wind Direction Axial Cap (kips)	Moment (kipsft)	Mom. Cap (kipsft)	Assess.
135.00	5.41	1682.35	0.07	842.46	0.016
127.71	5.41	1790.37	63.15	954.82	0.080
127.71	7.97	1790.37	63.31	954.82	0.087
120.42	7.97	1891.00	157.34	1070.03	0.167
120.42	10.87	1891.00	157.42	1070.03	0.174
113.13	10.87	1963.83	283.21	1175.16	0.266
113.13	12.23	1963.83	283.38	1175.16	0.269
105.84	12.23	2032.90	421.30	1282.66	0.355
105.84	16.31	2032.90	421.48	1282.66	0.365
98.55	16.31	2098.23	608.22	1392.18	0.471
98.55	17.82	2098.23	608.35	1392.18	0.474
93.78	19.35	2695.19	741.39	1804.06	0.444
87.82	19.35	2769.22	917.51	1927.31	0.507
87.82	21.11	2769.22	917.49	1927.31	0.510
81.86	21.11	2839.67	1103.75	2051.93	0.570
81.86	22.52	2839.67	1103.63	2051.93	0.572
75.90	22.52	2907.62	1299.78	2178.42	0.630
75.90	23.96	2907.62	1299.67	2178.42	0.632
69.93	23.96	2973.06	1504.36	2306.58	0.686
69.93	25.45	2973.06	1504.27	2306.58	0.688
63.97	25.45	3036.00	1719.60	2436.22	0.740
63.97	26.91	3036.00	1719.52	2436.22	0.742
58.55	29.19	4333.19	1923.99	3493.35	0.579
53.34	29.19	4456.67	2125.99	3696.52	0.602
53.34	31.63	4456.67	2125.92	3696.52	0.604
48.13	31.63	4580.15	2336.27	3905.44	0.626
48.13	33.39	4580.15	2336.21	3905.44	0.627
42.92	33.39	4703.63	2553.32	4120.10	0.648
42.92	35.20	4703.63	2553.26	4120.10	0.649
37.71	35.20	4818.24	2776.94	4332.53	0.669
37.71	37.04	4818.24	2776.89	4332.53	0.670
32.50	37.04	4903.17	3005.46	4522.92	0.693
32.50	39.08	4903.17	3005.42	4522.92	0.694
26.47	41.90	5272.39	3279.21	4896.76	0.698
22.06	41.90	5345.41	3485.24	5069.87	0.715
22.06	44.44	5345.41	3485.22	5069.87	0.716
17.65	44.44	5416.88	3693.95	5244.35	0.733
17.65	46.10	5416.88	3693.93	5244.35	0.733
13.24	46.10	5486.81	3908.42	5420.12	0.750
13.24	47.78	5486.81	3908.41	5420.12	0.750
8.82	47.78	5555.19	4125.47	5597.09	0.766
8.82	49.49	5555.19	4125.46	5597.09	0.766
4.41	49.49	5622.03	4348.36	5775.17	0.782
4.41	51.21	5622.03	4348.36	5775.17	0.782
0.00	51.21	5687.32	4573.79	5954.26	0.797



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Contract:

Project: Structural Analysis for 140' Monopole
 Date and Time: 8/19/2010 2:37:15 PM

Revision: 1

Site: SC-5036 (Hargray Main Street)
 Engineer: Mike De Boer

Section M: SECTION PROPERTIES DATA

Elev. (ft)	Diam. (in)	Width (in)	Thick. (in)	W/t	Area (in ²)	S (in ³)
135.0	24.9	6.1	0.313	19.4	24.7	148.58
127.7	26.5	6.5	0.313	20.7	26.3	168.40
127.7	26.5	6.5	0.313	20.7	26.3	168.40
120.4	28.1	6.9	0.313	22.1	27.9	189.45
120.4	28.1	6.9	0.313	22.1	27.9	189.45
113.1	29.7	7.3	0.313	23.4	29.5	211.75
113.1	29.7	7.3	0.313	23.4	29.5	211.75
105.8	31.2	7.7	0.313	24.8	31.1	235.29
105.8	31.2	7.7	0.313	24.8	31.1	235.29
98.5	32.8	8.2	0.313	26.1	32.7	260.07
98.5	32.8	8.2	0.313	26.1	32.7	260.07
93.8	33.9	8.4	0.313	27.0	33.7	276.92
93.8	33.2	8.2	0.375	21.7	39.6	318.17
87.8	34.5	8.5	0.375	22.7	41.2	343.84
87.8	34.5	8.5	0.375	22.7	41.2	343.84
81.9	35.8	8.8	0.375	23.6	42.7	370.50
81.9	35.8	8.8	0.375	23.6	42.7	370.50
75.9	37.1	9.2	0.375	24.5	44.3	398.15
75.9	37.1	9.2	0.375	24.5	44.3	398.15
69.9	38.4	9.5	0.375	25.4	45.8	426.80
69.9	38.4	9.5	0.375	25.4	45.8	426.80
64.0	39.7	9.9	0.375	26.4	47.4	456.44
64.0	39.7	9.9	0.375	26.4	47.4	456.44
58.5	40.9	10.2	0.375	27.2	48.8	484.29
58.5	40.1	9.7	0.500	19.5	63.7	616.11
53.3	41.2	10.1	0.500	20.1	65.5	651.94
53.3	41.2	10.1	0.500	20.1	65.5	651.94
48.1	42.4	10.4	0.500	20.7	67.3	688.79
48.1	42.4	10.4	0.500	20.7	67.3	688.79
42.9	43.5	10.7	0.500	21.3	69.1	726.65
42.9	43.5	10.7	0.500	21.3	69.1	726.65
37.7	44.6	11.0	0.500	21.9	70.9	765.52
37.7	44.6	11.0	0.500	21.9	70.9	765.52
32.5	45.8	11.3	0.500	22.5	72.8	805.40
32.5	45.8	11.3	0.500	22.5	72.8	805.40
26.5	47.1	11.6	0.500	23.2	74.9	852.82
26.5	46.1	11.3	0.500	22.7	73.3	816.40
22.1	47.0	11.6	0.500	23.2	74.8	851.21
22.1	47.0	11.6	0.500	23.2	74.8	851.21
17.6	48.0	11.9	0.500	23.7	76.3	886.74
17.6	48.0	11.9	0.500	23.7	76.3	886.74
13.2	48.9	12.1	0.500	24.2	77.9	923.00
13.2	48.9	12.1	0.500	24.2	77.9	923.00
8.8	49.9	12.4	0.500	24.7	79.4	959.99
8.8	49.9	12.4	0.500	24.7	79.4	959.99
4.4	50.8	12.6	0.500	25.2	80.9	997.71
4.4	50.8	12.6	0.500	25.2	80.9	997.71
0.0	51.8	12.9	0.500	25.8	82.5	1036.15

Note: w/t values marked with * (asterisk) indicate width to thickness exceeding maximum allowable values by standards.

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Contract:

Revision: 1

Project: Structural Analysis for 140' Monopole

Site: SC-5036 (Hargray Main Street)

Date and Time: 8/19/2010 2:37:15 PM

Engineer: Mike De Boer

BASE PLATE DETAILS

Maximum base reactions

Axial Load(Kips) = 45.18
Shear Load(Kips) = 51.83
Bending Moment(Kipsft)
= 4573.79
Torque(Kipsft) = 14.59

Anchor Rod Data

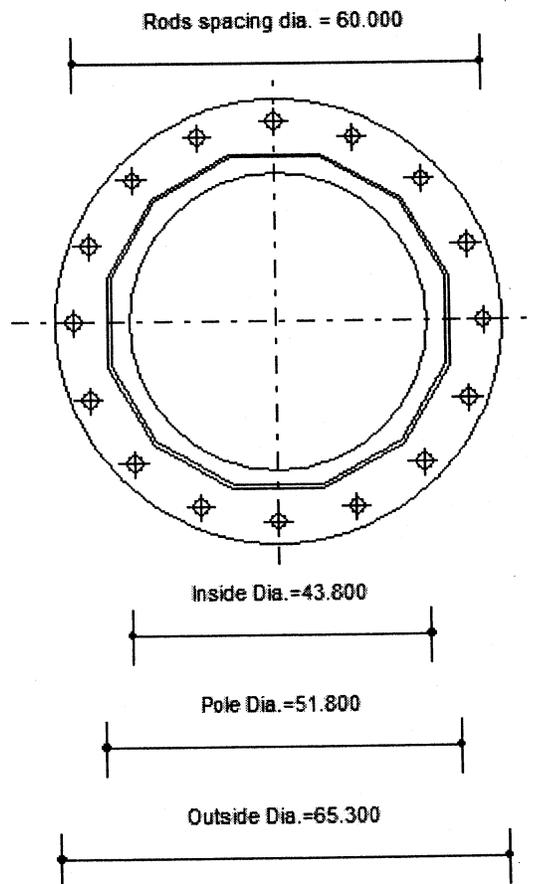
No of rods = 16
Grade = A615 Gr.75
Size = 2 1/4 in
Lar * (in) = 2.000
Shear Load(Kips) = 3.60
Axial Load(Kips) = 231.51
Shear Cap. (Kips) = 134.18
Axial Cap. (Kips) = 243.56
Assessment Ratio = 0.93

Plate Data

Thickness(in) = 3.000
Grade = A572 gr.50
Max. Stress(ksi) = 30.1
Allow. Stress(ksi) = 45.0
Assessment Ratio = 0.67

Plate Bottom above Concrete

* Lar = Length from top of concrete
to bottom of anchor rod leveling nut.



File: C:\Program Files\TSTower\TSTOWER Input\SC-5036_081810_Alltel.out

Contract:

Project: Structural Analysis for 140' Monopole

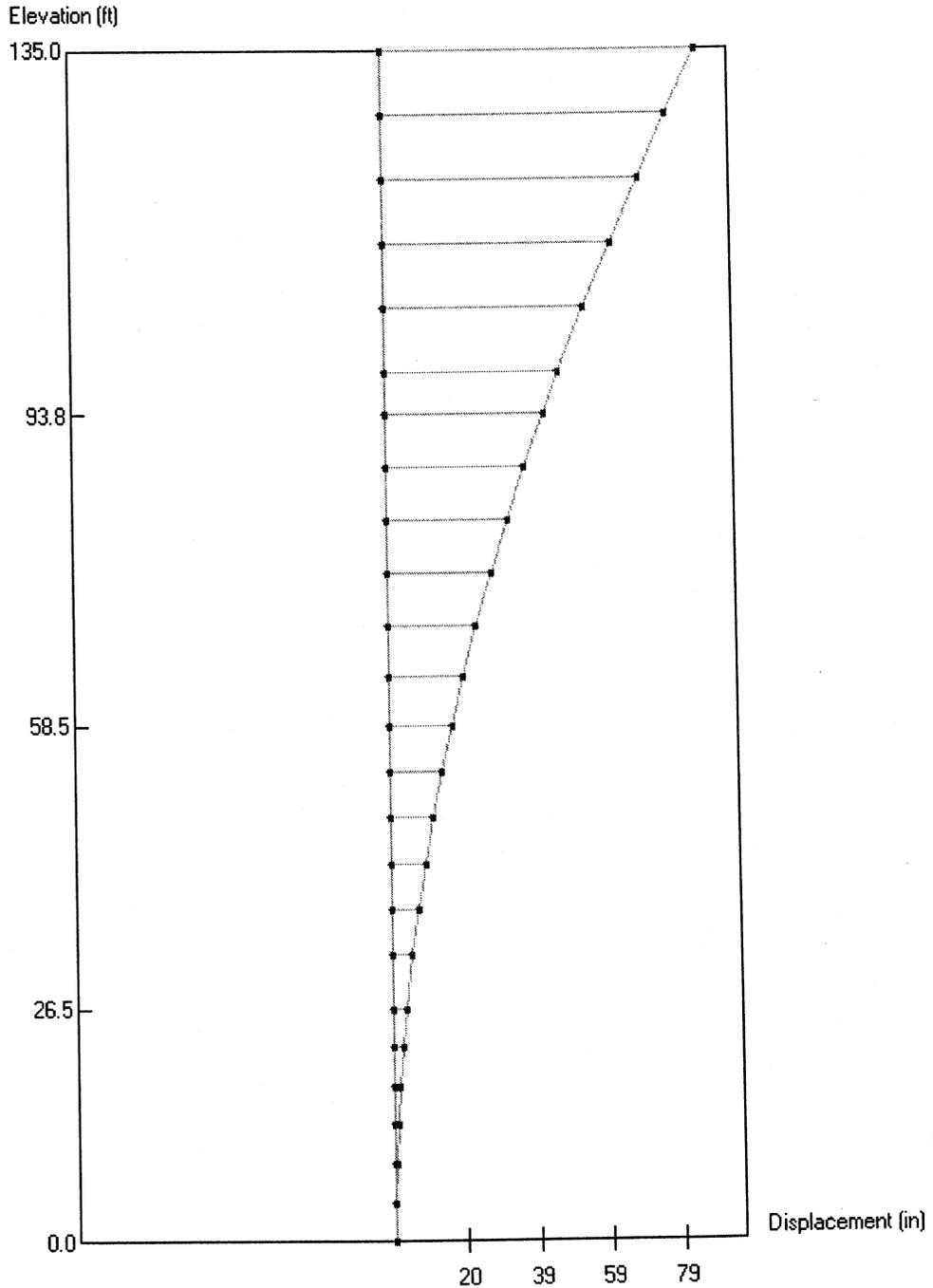
Date and Time: 8/19/2010 2:37:15 PM

Revision: 1

Site: SC-5036 (Hargray Main Street)

Engineer: Mike De Boer

Horizontal Displacement Diagram
Max. Envelope (All Loading Cases)



File: C:\Program Files\TSTower\TSTOWER Input\SC-5036_081810_Alltel.out

Contract:

Revision: 1

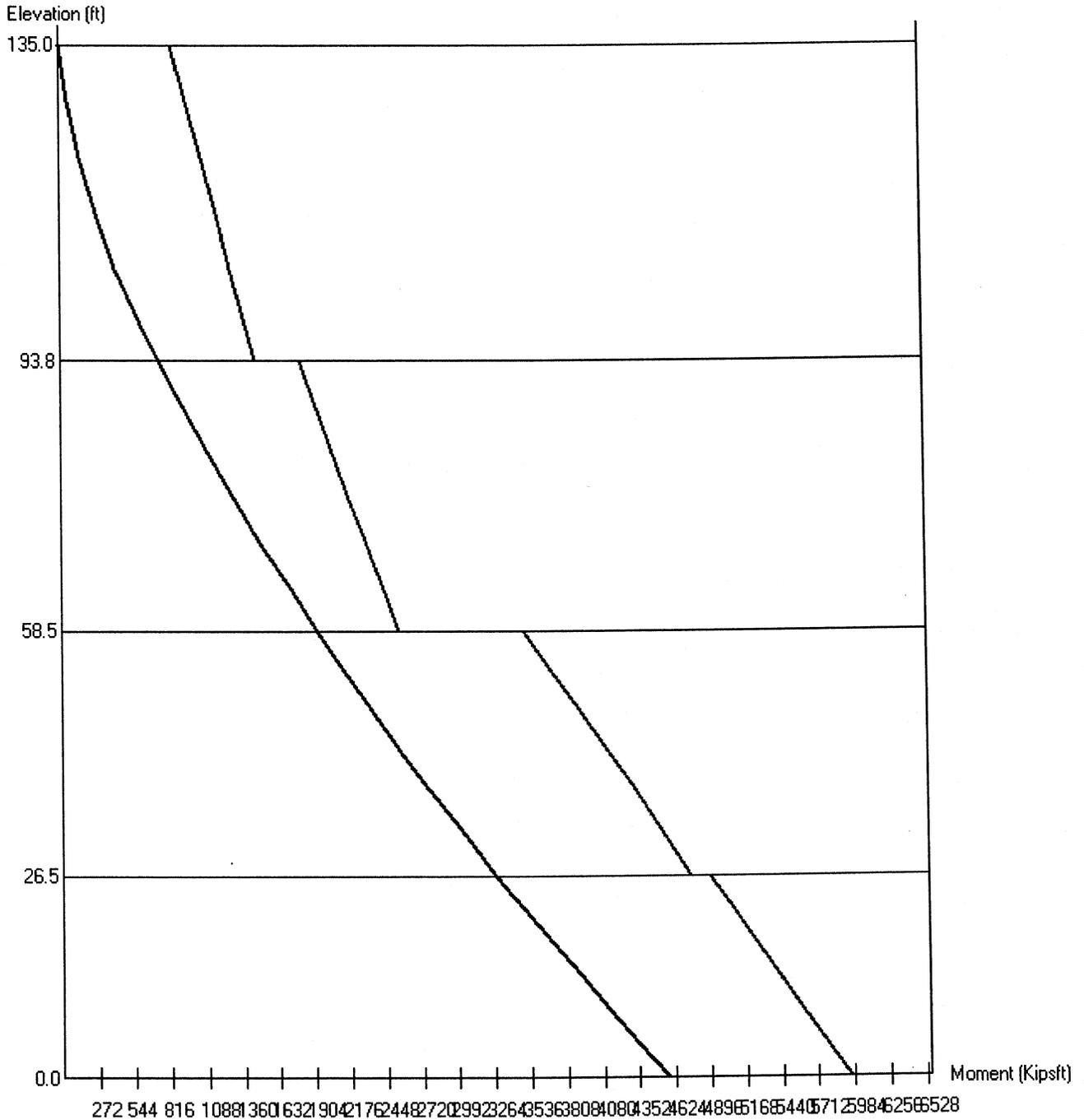
Project: Structural Analysis for 140' Monopole

Site: SC-5036 (Hargray Main Street)

Date and Time: 8/19/2010 2:37:15 PM

Engineer: Mike De Boer

Bending Moment Diagram
Max. Envelope (All Loading Cases)



— Moment — Capacity

Drawing name: K:\PAL_Wireless\000Verizon\Charleston LTE - 019472226\North Hilton Head - 019472226\CAD\CD\North Hilton Head.dwg C1 Feb 17, 2011 5:39pm by: jennyadams



verizon wireless
 8921 RESEARCH DRIVE
 CHARLOTTE, NORTH CAROLINA 28262

PROJECT INFORMATION:

VERIZON NAME:
 NORTH HILTON HEAD

15 HIDDEN TRAIL
 HILTON HEAD, SC 29902

CURRENT ISSUE DATE:

02/17/11

ISSUED FOR:

CONSTRUCTION

REV.: DATE: ISSUED FOR: BY:

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CONSULTANT:


 Kimley-Horn
 and Associates, Inc.
 NC License F-0102
 P.O. Box 33068
 Raleigh, NC 27636-3068

CONSULTANT:

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DRAWN BY: CHK.: APV.:

JGA	JGA	JGA
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LICENSER:

**FOR
 ILLUSTRATIVE
 PURPOSES ONLY-
 NO SIGNATURE
 REQUIRED**

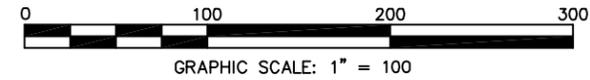
SHEET TITLE:

**OVERALL SITE
 PLAN**

SHEET NUMBER: REVISION:

C1	0
	019472226

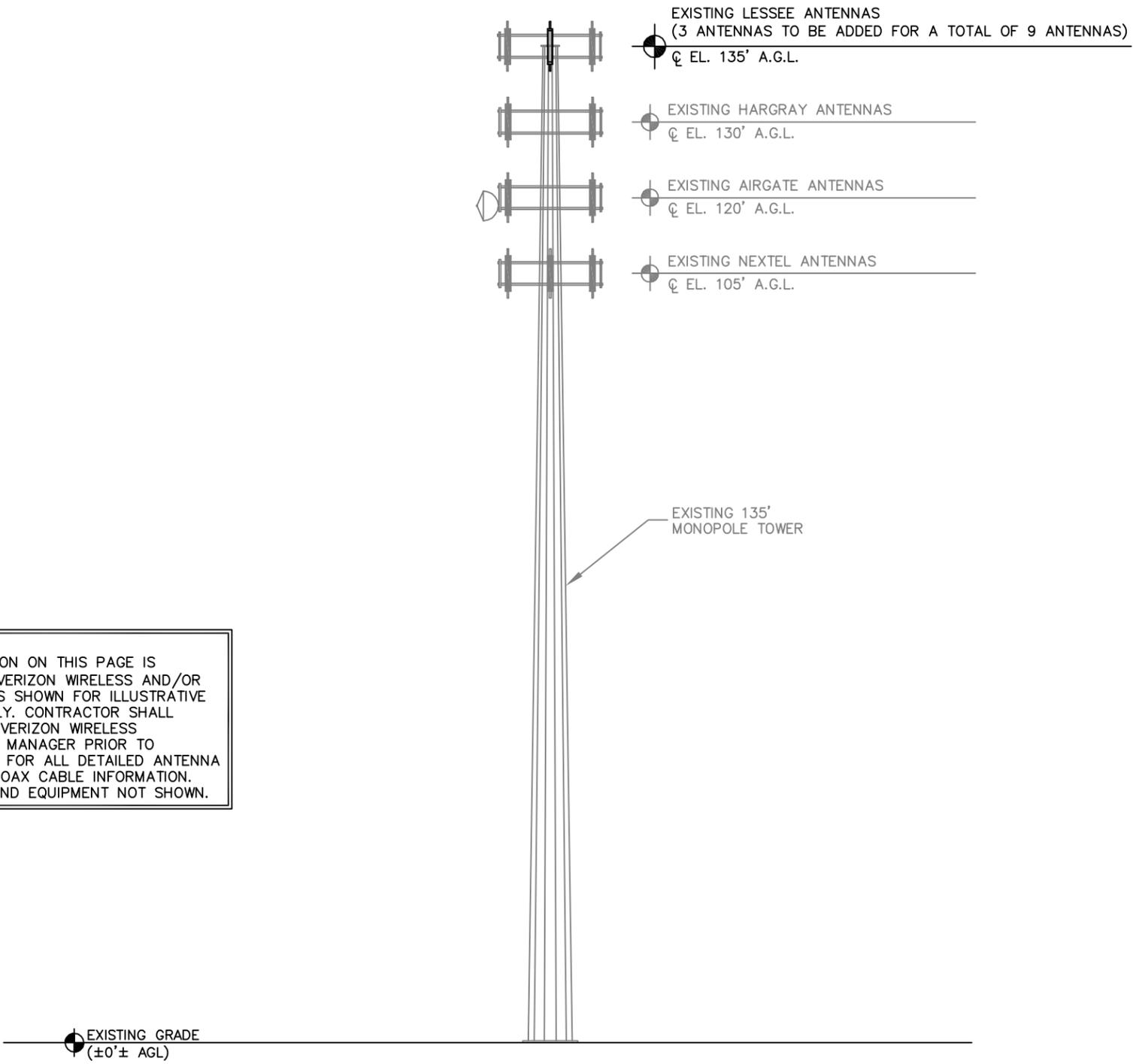
1 OVERALL SITE PLAN
C1 SCALE : 1" = 100'



SURVEY NOTE:
 1. VERIZON WIRELESS STAFF SHALL COORDINATE WITH THE PROPERTY OWNER AND/OR TOWER OWNER TO OBTAIN THE PROPER EASEMENT AGREEMENTS TO CONSTRUCT AND MAINTAIN EQUIPMENT IN AND AROUND THE TOWER COMPOUND.
 2. THE OVERALL SITE PLAN CREATED USING BEAUFORT COUNTY GIS.

Drawing name: K:\RAL_Wireless\000Verizon\Charleston LTE - 019472226\North Hilton Head - 019472226\CAD\North Hilton Head.dwg C2 Feb 17, 2011 5:39pm by: jenny.odams

NOTE:
ALL INFORMATION ON THIS PAGE IS PROVIDED BY VERIZON WIRELESS AND/OR OTHERS AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR SHALL CONTACT THE VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION FOR ALL DETAILED ANTENNA MOUNT, AND COAX CABLE INFORMATION. EXISTING GROUND EQUIPMENT NOT SHOWN.



1
C2

SELF-SUPPORT TOWER ELEVATION

NOT TO SCALE



PROJECT INFORMATION:

VERIZON NAME:
NORTH HILTON HEAD

15 HIDDEN TRAIL
HILTON HEAD, SC 29902

CURRENT ISSUE DATE:
02/17/11

ISSUED FOR:
CONSTRUCTION

REV.:	DATE:	ISSUED FOR:	BY:

CONSULTANT:

Kimley-Horn
and Associates, Inc.
NC License F-0102
P.O. Box 33068
Raleigh, NC 27636-3068

CONSULTANT:

DRAWN BY:	CHK.:	APV.:
JGA	JGA	JGA

LICENSER:

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SHEET TITLE:
TOWER ELEVATION

SHEET NUMBER: C2	REVISION: 0
019472226	

DESIGN TEAM/ DRB COMMENT SHEET

*The comments below are staff recommendations to the Design Review Board (DRB),
and do not constitute DRB approval or denial*

PROJECT Verizon Antennae Co-Locate DRB# DR1100018

DATE 3/22/2011 RECOMMEND APPROVE RECOMMEND APPROVE W/COND. RECOMMEND DENY

ARCHITECTURAL DESIGN		
The co-location of three (3) new antennae on an existing halo on an existing tower		
DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/N/A	COMMENTS OR CONDITIONS
Structure is designed to be appropriate to the neighborhood		
Promotes pedestrian scale and circulation		
Design is unobtrusive and set into the natural environment		
Utilizes natural materials and colors		
Avoids distinctive vernacular styles		
Design is appropriate for its use		
All facades are have equal design characteristics		
Avoids monotonous planes or unrelieved repetition		
Has a strong roof form with enough variety to provide visual interest		
Minimum roof pitch of 6/12		
Overhangs are sufficient for the façade height.		
Forms an details are sufficient to reduce the mass of the structure		
Human scale is achieved by the use of proper proportions and architectural elements		
Utilizes a variety of materials, textures and colors		
Incorporates wood or wood simulating materials		
Windows are in proportion to the facade		
Details are clean, simple and appropriate while avoiding excessive ornamentation		
Utilities and equipment are concealed from view		
Decorative lighting is limited and low wattage and adds to the visual character		

Accessory elements are design to coordinate with the primary structure		
LANDSCAPE DESIGN		
NA		
DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
Treats the Landscape as a major element of the project		
Provides Landscaping of a scope and size that is in proportion to the scale of the development		
Landscape is designed so that it may be maintained in its natural shape and size		
Preserves a variety of existing native trees and shrubs		
Provides for a harmonious setting for the site's structures, parking areas or other construction		
Location of existing trees and new trees provides street buffers, mitigation for parking lots, and an architectural complement that visually mitigates between parking lots and building(s)		
Shrubs are selected to complement the natural setting, provide visual interest and screen less desirable elements of the project		
A variety of species is selected for texture and color		
Provides overall order and continuity of the Landscape plan		
Native plants or plants that have historically been prevalent on the Island are utilized		
A variety of sizes is selected to create a "layered" appearance for visual interest and a sense of depth		
The location of existing mature trees is taken into account in placement of shrubs so as not to damage tree roots		
Proper spacing and location for plants to reach their mature size and natural shape while avoiding		

excessive or unnatural pruning		
Proposed groundcovers are evergreen species with low maintenance needs		
Large grassed lawn areas encompassing a major portion of the site are avoided		
The adjacent development is taken into account in determining the most appropriate buffer so as not to depart too dramatically from the neighborhood		
Ornamentals and Annuals are limited to entrances and other focal points		

NATURAL RESOURCES PROTECTION		
No activity shall occur during any active Osprey nesting on tower.		

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
An effort has been made to preserve existing trees and under story plants		
Supplemental and replacement trees meet LMO requirements for size, species and number		
Wetlands if present are avoided and the required buffers are maintained		
Sand dunes if present are not disturbed		

MISCELLANEOUS COMMENTS/QUESTIONS