



The Town of Hilton Head Island Regular Design Review Board Meeting

Tuesday, December 14, 2010

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 November 23, 2010
6. **Staff Report**
7. **Board Business**
8. **New Business**
 - A) DR100047- One Hot Mama's Awning
 - B) DR100048- Lawton Canal Antennae Co-Locate
 - C) DR100049- First Presbyterian Church Renovation
 - D) DR100050- Spanish Wells Road Antennae Co-Locate
 - E) DR100051- The Lodge
 - F) SIGN100174- Providence Presbyterian Church
9. **Appearance by Citizens**
10. **Adjournment**

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

The Town of Hilton Head Island
DESIGN REVIEW BOARD
Minutes of the Tuesday, November 23, 2010 Meeting **DRAFT**
1:15pm – Benjamin M. Racusin Council Chambers

Board Members Present: Chairman Tom Parker, Vice Chairman Todd Theodore,
Jennifer Moffett, Scott Sodemann, Galen Smith and Deborah Welch

Board Members Absent: Ted Behling

Council Members Present: None

Town Staff Present: Mike Roan, Urban Design Administrator
Kathleen Carlin, Administrative Assistant

1. CALL TO ORDER

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

2. ROLL CALL

3. FREEDOM OF INFORMATION ACT COMPLIANCE

4. APPROVAL OF THE AGENDA

The agenda was **approved** as presented by general consent.

5. APPROVAL OF THE MINUTES

The minutes of the November 9, 2010 meeting were **approved** as amended by general consent.

6. STAFF REPORT

Mr. Roan stated that there will be a three-week break between today's meeting and the next DRB meeting on December 14th. There is only one Board meeting in the month of December.

7. BOARD BUSINESS

Ms. Deborah Welch was sworn in today as the newest member of the Design Review Board. Mayor Pro Tem Ken Heitzke performed the swearing in ceremony on behalf of the Town. Mr. Heitzke, fellow Board members, and the staff welcomed Ms. Welch to the Design Review Board.

8. UNFINISHED BUSINESS

(Vice Chairman Theodore and Ms. Moffett recused themselves from the review of the following application due to a potential conflict of interest. Conflict of Interest forms were completed, signed, and attached to the record).

Barony Beach Bar - DR100043

Mr. Roan presented the background information on the application. The previous conceptual review of this project was well received by the Board. The applicant has satisfactorily responded

to the Board's request for additional information with regard to the roof details, ADA accessible seating, and details regarding the hood element.

Mr. Roan presented a review of the building, the site plan, and the landscaping plan. Today's plan reflects additional details regarding the kitchen ventilation system. The applicant will paint the kitchen exhaust to match the roof color.

Mr. Roan stated that the applicant has re-routed the sidewalk to eliminate any tree removal concerns. The applicant has submitted a very good landscaping plan, and the Natural Resources Department has no additional comments on the submission. The staff recommended approval of the application. At the completion of this presentation, Chairman Parker requested that the applicant make his presentation.

Mr. Tom Crews, Architect, presented comments in support of the application. The Board and the applicant discussed the project; and the Board agreed with the staff's recommendation to approve the application. Following final comments, Chairman Parker requested that a motion be made.

Mr. Sodemann made a **motion to approve** the Barony Beach - Bar application as presented. Mr. Smith **seconded** the motion and the motion **passed** with a vote of 6-0-0.

9. NEW BUSINESS

The Boardroom - DR100046 Addition/Alteration

Mr. Roan introduced the project and stated its location in Hilton Head Plaza. The applicant is proposing to further expand the outdoor seating at Reilley's Plaza. The material selection and detailing creates a humanly scaled space. Per Building and Fire Code regulations, the added exterior seating will have to be calculated into the existing occupant load to ensure that the plumbing fixtures are the proper number for the presumed loading. Any usable space created under the roof overhang will require a sprinkler system. A full landscape plan will be required for the areas designated on the plan.

Mr. Roan presented an in depth review of the project, including the entry doors, the proposed lighting, and signage details. Mr. Roan stated that there is a discrepancy in the applicant's narrative regarding the amount of pervious and impervious paving material. A pervious paver will be required. The staff believes that the project is a nice addition to the property.

Mr. Roan described the plans for the expanded seating, the new courtyard, and the three different types of pavers. The standard palette provides a nice variety of colors and contrast. The staff recommended approval of the application. Following this presentation, Chairman Parker requested that the applicant make his presentation.

Mr. Don Baker, Architect, presented statements in support of the application. The applicant and the Board discussed the types of pavers, the proposed lighting, the entry doors, and the final landscape plans. The Board agreed with the staff's recommendation to approve the application pending receipt of an approved landscape plan. Following final comments, Chairman Parker requested that a motion be made.

Ms. Welch made a **motion to approve** The Boardroom application with the condition that the applicant shall submit a landscape plan that is commensurate with staff's recommendations. Mr. Sodemann **seconded** the motion and the motion **passed** with a vote of 6-0-0.

Grant's Mini-Mart/ Exxon - SIGN100175

Mr. Roan introduced the project and stated its location on William Hilton Parkway. This application seems to be primarily maintenance related. The applicant would like to re-paint the perimeter of the canopy a Dove Grey color. They would like to paint the underside of the canopy white. Mr. Roan reviewed a sample of the proposed Dove Grey color. The steel posts will be painted a dark grey to match; and the posts on the sign will be painted to match. The red Exxon banner sign (located between the posts) will be removed and will not be replaced. The staff recommended approval of the application.

The Board discussed the project and agreed with staff's recommendation to approve the application. Following final comments, Chairman Parker requested that a motion be made.

Mr. Sodemann made a **motion** to **approve** the Grant's Mini-Mart/Exxon sign application as presented. Ms. Moffett **seconded** the motion and the motion **passed** with a vote of 6-0-0.

10. APPEARANCE BY CITIZENS

None

11. ADJOURNMENT

The meeting was adjourned at 2:00pm.

Submitted By:

Approved By:

Kathleen Carlin
Administrative Assistant

Tom Parker
Chairman



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: 11/22/10
Accepted by: DR
App. #: DR 100047
Meeting Date: 11/23/10

Applicant/Agent Name: Rich Bohrer Company: R Bohrer General Const LLC
Mailing Address: 10 Seabury Park Lane City: Hilton Head State: SC Zip: 29926
Telephone: 681-5464 Fax: 681-5909 E-mail: rbohrer318@aol.com
Project Name: One Hot Home's Project Address: 71 Greenwood Drive
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 Alteration/Addition
 New Development – Final, indicate Project Number 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

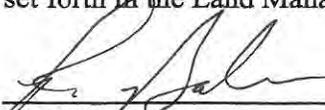
Note: All application items must be received by the deadline date in order to be reviewed by the DRB per LMO Section 16-3-106.

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

11/20/10

DATE

To: 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

From: Rick Bohrer, Rick Bohrer General Contractors, LLC
RE: Awning for One Hot Mamas
November 22, 2010

ENCLOSED:

Dale Johnson- Architects drawing of proposed awning.

Canvas Sample from Hilton Head Awnings/ Coastal Canvas

This project is in the courtyard at One Hot Mama's and not visible from any roads.

The drawing is updated by Dale Johnson per earlier request of Mike Roan.

Sincerely,

* FIREPLACE TO BE CHANGED TO GAS
* SPRINKLER SYSTEM TO BE ADDED ..

Rick Bohrer

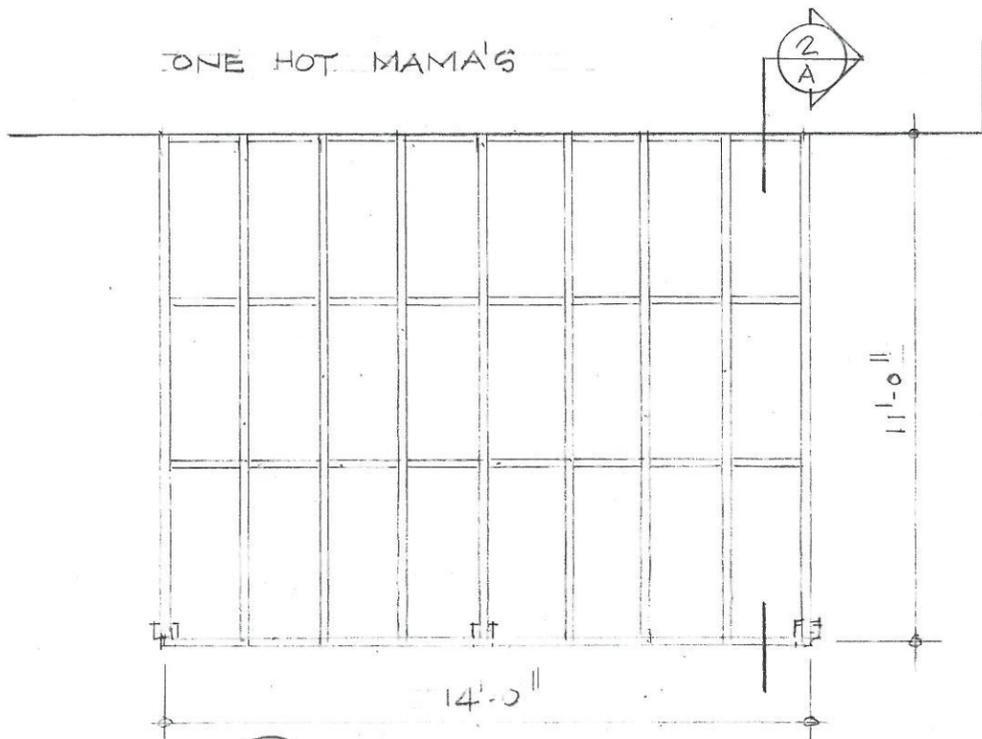
RICK BOHRER GENERAL CONTRACTORS LLC

⁶⁸¹⁻⁵⁴⁶⁴
~~843-554-3466~~

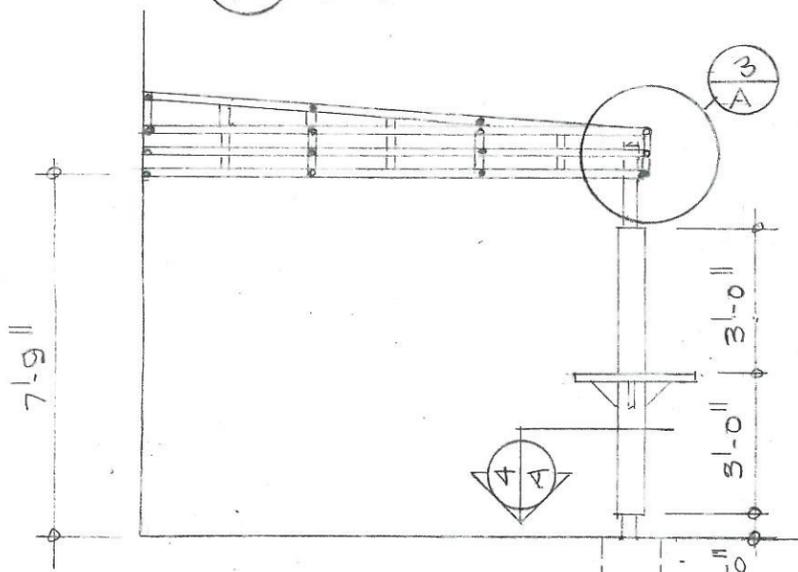


ONE HOT MAMA'S AWNING

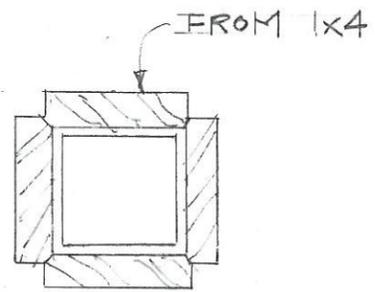
DR 100047



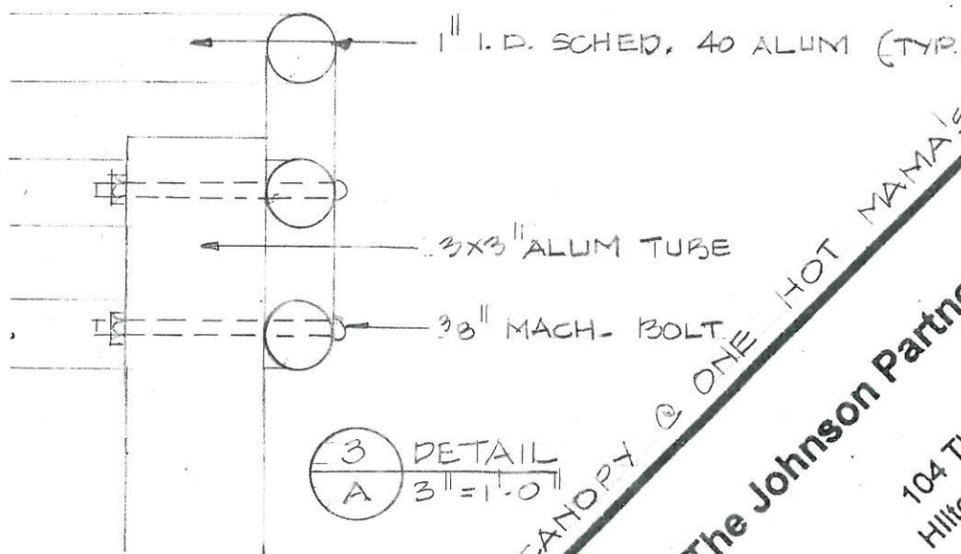
1 PLAN
A 1/4" = 1'-0"



2 SECTION
A 1/4" = 1'-0"



4 DETAIL
A 3/8" = 1'-0"



3 DETAIL
A 3/8" = 1'-0"

CANOPY @ ONE HOT MAMA'S SOUTH END

The Johnson Partnership ARCHITECTS

104 The Courtyard Building
Hilton Head Island, SC 29928

A

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 The Lodge Awning

DRB# DR100047

DATE 12/14/2010

RECOMMEND
APPROVE

RECOMMEND
APPROVE W/COND.

RECOMMEND
DENY

ARCHITECTURAL DESIGN		
A replacement of a previously existing awning over the outdoor bar- Applicant will need to verify how and where the awning resolves into the wall and connecting parapet feature in the courtyard		
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		
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Previously looked at by the Fire Department and the requirements are that the material shall be flame resistant and the fireplace in the center of the patio shall be changed to a gas fireplace only.



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

Applicant/Agent Name: Jonathan Yates Company: Nexsen Pruet
 Mailing Address: 205 King St. City: Charleston State: SC Zip: 29401
 Telephone: 843-720-1708 Fax: 843-414-8224 E-mail: jyates@nexsenpruet.com
 Project Name: Harbor Town Project Address: 2 Laniton Canal Rd.
 Parcel Number [PIN]: R550 018 00A 450B 0000
 Zoning District: TBD Overlay District(s): _____

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 Filing Fee, New Development \$175, Alterations/Additions \$100, Minor External \$50 cash or check made payable to the Town of Hilton Head Island. attached to email

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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 *Jonathan L. Guterl*

DATE *11/18/10*

THE TOWN OF HILTON HEAD ISLAND

DESIGN REVIEW BOARD

2010 REGULAR MEETING SCHEDULE

DRB Powers and Duties	Application Procedure
<p>The Design Review Board has the following powers:</p> <ul style="list-style-type: none"> A. To review development within the Corridor Overlay District; B. To review applications for sign permits throughout the community; C. To periodically review and recommend for adoption such amendments to the Land Management Ordinance as it may deem appropriate. 	<p>General applications must be completed and submitted not later than 12:00pm 14 days prior to the meeting date at which the application will be reviewed. New Development applications must be completed and submitted not later than 12:00pm 21 days prior to the meeting date at which the application will be reviewed.</p> <p>An Application Check-In Conference is recommended for all applications to determine whether the application meets the minimum requirements for acceptance. Application Check-In Conferences must be scheduled by appointment with the Community Development Department staff.</p>

<u>DRB MEETING DATE:</u>	<u>DEADLINE FOR GENERAL APPLICATIONS</u>	<u>DEADLINE FOR NEW DEVELOPMENT APPLICATIONS</u>
January 12, 2010	December 29, 2009	December 22, 2009
January 26, 2010	January 12, 2010	January 5, 2010
February 9, 2010	January 26, 2010	January 19, 2010
February 23, 2010	February 9, 2010	February 2, 2010
March 9, 2010	February 23, 2010	February 16, 2010
March 23, 2010	March 9, 2010	March 2, 2010
April 13, 2010	March 30, 2010	March 23, 2010
April 27, 2010	April 13, 2010	April 6, 2010
May 11, 2010	April 27, 2010	April 20, 2010
May 25, 2010	May 11, 2010	May 4, 2010
June 8, 2010	May 25, 2010	May 18, 2010
June 22, 2010	June 8, 2010	June 1, 2010
July 13, 2010	June 29, 2010	June 22, 2010
July 27, 2010	July 13, 2010	July 6, 2010
August 10, 2010	July 27, 2010	July 20, 2010
August 24, 2010	August 10, 2010	August 3, 2010
September 14, 2010	August 31, 2010	August 24, 2010
September 28, 2010	September 14, 2010	September 7, 2010
October 12, 2010	September 28, 2010	September 21, 2010
October 26, 2010	October 12, 2010	October 5, 2010
November 9, 2010	October 26, 2010	October 19, 2010
November 23, 2010	November 9, 2010	November 2, 2010
* December 14, 2010	November 30, 2010	November 23, 2010
* <i>December has only one meeting due to the Holidays</i>		
All meetings are held in Council Chambers at 1:15pm on the second & fourth Tuesdays of each month.		

Leah M. Yorston
Project Assistant

November 23, 2010

VIA FEDERAL EXPRESS

Design Review Board
Town of Hilton Head Island
1 Town Center Court
Hilton Head Island, SC 29928

Re: Conterra/"Harbor Town" Co-Location Site 2 Lawton Canal Road,
Hilton Head Island, SC 29928

Dear Ms. McIver,

On behalf of our client, Conterra, please find enclosed for your review one (1) set of site plans for the above referenced location, a Design Review Board Application, and a check for \$100.

Jonathan Yates and I are the liaisons for this proposed project, and if you should have any questions, comments, or requests for further documentation please do not hesitate to contact me at 843-579-7828 or Jonathan at 843-720-0103.

Thank you

Very truly yours,



Leah M. Yorston

Charleston

Charlotte

Columbia

Greensboro

Greenville

Hilton Head

Myrtle Beach

Raleigh

November 17, 2010

Mr. Graham M. Andress
Tower Engineering Professionals, Inc.
3703 Junction Boulevard
Raleigh, NC 27603-5263

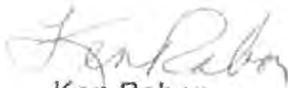
Re: CSA MAINTENANCE SITE
(2 LAWTON CANAL ROAD)

Dear Mr. Andress:

The Sea Pines Architectural Review Board approved the application you submitted to install a microwave dish on the monopole at the above referenced address. It will not be necessary to pay an escrow deposit for compliance and clean up but please call me when the project is complete so I can do a final inspection.

You may call me if you have any questions.

Sincerely,



Ken Rabon
Administrator

Cc: Leah Lyorspon

GENERAL NOTES:

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED CONTERRA ULTRA BROADBAND OR IT'S DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF SOUTH CAROLINA.
3. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2009 EDITION.
4. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
5. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
7. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
8. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
10. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
11. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
12. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. ALL WORK SHALL COMPLY TO LOCAL CODES AND THE ACI 318-05, "BUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE".
15. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
16. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN IT PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOFROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REWORKED OR REPLACED.
17. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
18. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
19. ALL BUILDING DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

PLANS PREPARED FOR:



2101 Rexford Road, Suite 200E
Charlotte, NC 28211
(704) 264-9625

PROJECT INFORMATION:

HARBOR TOWN

2 LAWTON CANAL ROAD
HILTON HEAD ISLAND, SC 29928
(BEAUFORT COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
3703 JUNCTION BOULEVARD
RALEIGH, NC 27603-5263
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



I	11-5-10	CONSTRUCTION
O	11-5-10	PRELIMINARY
REV	DATE	ISSUED FOR:

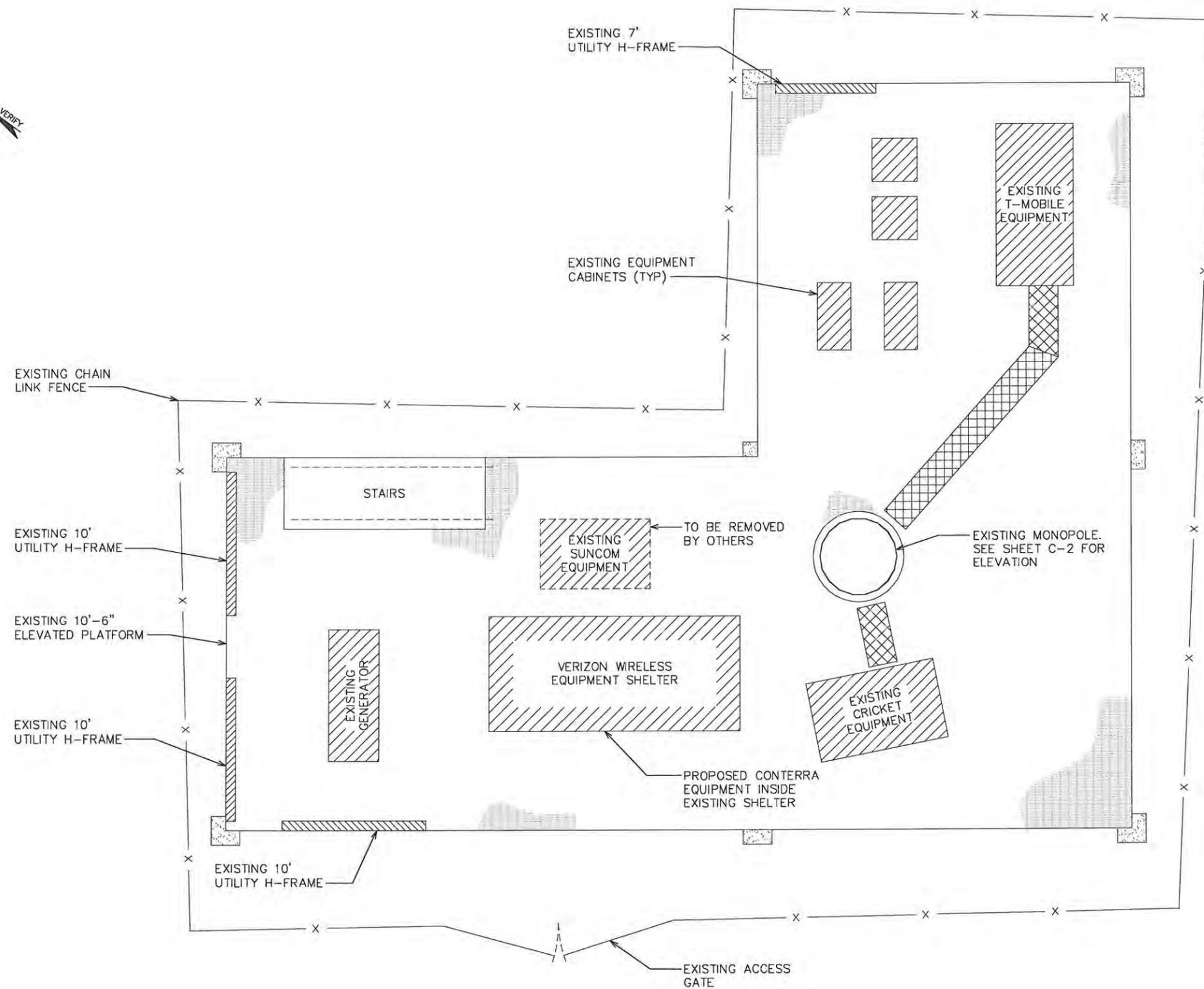
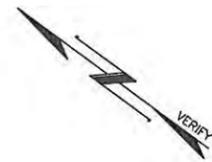
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SHEET TITLE:

PROJECT NOTES

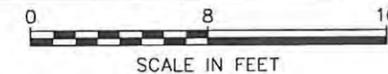
SHEET NUMBER: **N-1** REVISION: **1**

TEP #: 103909



COMPOUND DETAIL

SCALE: 1/8" = 1'-0"



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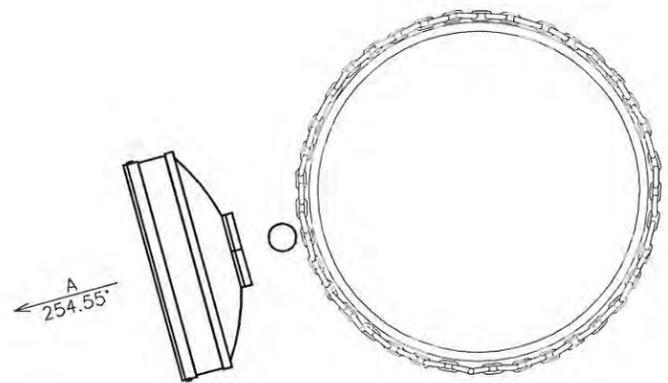
SHEET TITLE:
COMPOUND DETAIL

SHEET NUMBER:
C-1

REVISION:
1
 TEP #: 103909

ANTENNA/COAX SCHEDULE

ANTENNA	ANTENNA MODEL	TRUE AZIMUTH	MOUNTING HEIGHT	ANTENNA TILT	COAX SIZE	COAX LENGTH
A	ANDREW VHLPX800-11-XP	254.55°	☉ @ 100'	T.B.D	LMR-400	175'±



NOTE:

VERIFY ANTENNA MOUNT LOCATION WITH STRUCTURAL ANALYSIS REPORT

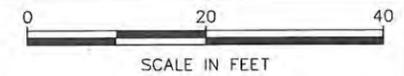
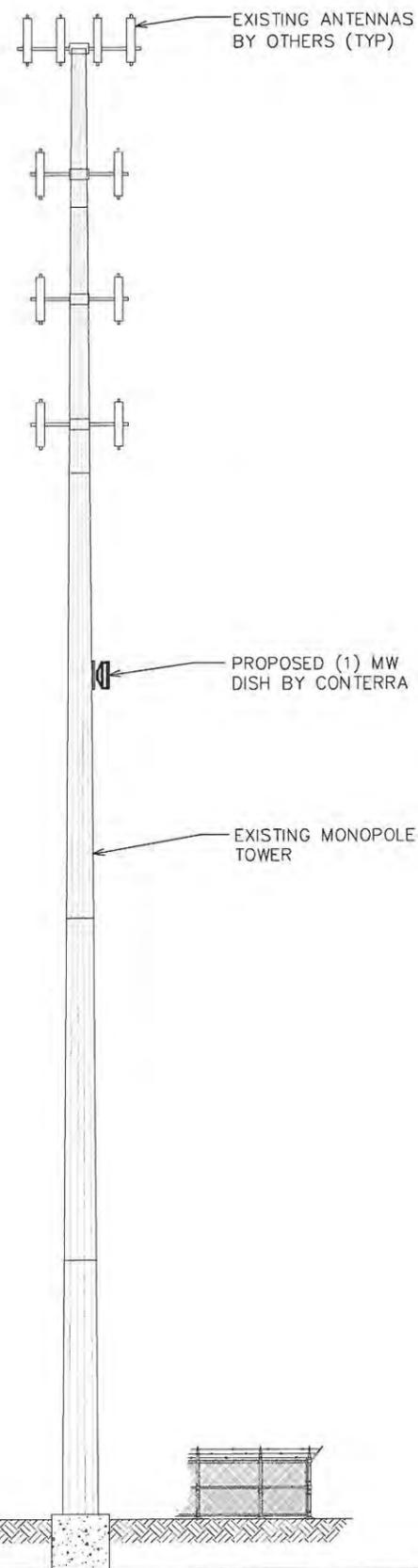
ANTENNA MOUNT ORIENTATION

SCALE: N.T.S.

175'-0"±
T/ TOWER

100'-0"±
☉ PROPOSED DISH

0'-0" (REFERENCE)
B/ TOWER



TOWER ELEVATION

SCALE: 1" = 20'

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0	11-5-10	PRELIMINARY

DRAWN BY: CMT CHECKED BY: GMA

SHEET TITLE:
TOWER ELEVATION

SHEET NUMBER: **C-2** REVISION: **1**
 TEP #: 103909

ELECTRICAL NOTES:

SCOPE:

1. SHALL INCLUDE ALL LABOR, MATERIALS AND APPLIANCES REQUIRED FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR OPERATION OF ALL WORK SHOWN ON THE DRAWING AS SPECIFIED HEREIN:

- | | |
|------------------------|-------------------------------|
| 1. ELECTRIC SERVICE | 4. MISCELLANEOUS MATERIALS |
| 2. CONDUIT AND RACEWAY | 5. TELEPHONE CONDUITS |
| 3. CONDUCTORS | 6. LIGHTNING ARRESTING SYSTEM |

CODES

1. THE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST EDITIONS OF:
- | | |
|---|---|
| A. THE NATIONAL ELECTRICAL SAFETY CODE | D. LOCAL AND STATE AMENDMENTS |
| B. THE NATIONAL ELECTRIC CODE - NFPA-70 | E. REGULATIONS OF THE SERVING UTILITY COMPANY |
| C. THE NATIONAL ELECTRIC CODE - NEC | |
2. ALL PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
3. AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

TESTING

1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST ALL EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. ALL TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

GUARANTEE

1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER. WITHOUT EXPENSE TO THE OWNER ALL WARRANTY CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

CO-ORDINATION:

1. CONTRACTOR SHALL COORDINATE ALL WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH ALL SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

EXAMINATION OF SITE

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS PARAGRAPH WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING ALL WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

CUTTING, PATCHING AND EXCAVATION:

1. COORDINATION OF ALL SLEEVES, CHASES, ETC., WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. ALL CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. ALL NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE WORK UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING SHALL BE PROVIDED BY THIS CONTRACTOR.
3. SEAL ALL PENETRATION THROUGH WALL AND FLOORS WITH APPROVED GROUT.

EXTERIOR CONDUIT:

1. ALL EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.

RACEWAYS

1. ALL CONDUCTORS SHALL BE INSTALLED IN CONDUIT. ALL CONDUIT SHALL BE RIGID STEEL, EMT OR SCH40 PVC AS INDICATED ON THE DRAWINGS.
2. WHERE INSTALLED ON EXTERIORS AND EXPOSED TO DAMAGE, ALL CONDUIT SHALL BE RIGID STEEL. ALUMINUM CONDUIT SHALL NOT BE ALLOWED.
3. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT.
4. UNDERGROUND CONDUITS SHALL BE RIGID STEEL OR SCHEDULE 40 PVC AS INDICATED ON THE DRAWINGS.
5. ALL CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. ALL CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
6. PROVIDE SUPPORTS FOR ALL CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. ALL CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.
7. BURIAL DEPTH OF ALL CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION.
8. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND BUILDING OWNER.

EQUIPMENT:

1. ALL DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETERMINED BY THE LOCAL UTILITY. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT, AND COORDINATE INSTALLATION WITH THE LOCAL UTILITY BEFORE STARTING WORK.

CONDUCTORS

1. FURNISH AND INSTALL CONDUCTORS CALLED FOR IN THE DRAWINGS. ALL CONDUCTORS SHALL HAVE TYPE THWN (MIN) (75 DEGREE) INSULATION, RATED FOR 600 VOLTS.
2. ALL CONDUCTORS SHALL BE COPPER, THE USE OF ALUMINUM CONDUCTORS SHALL NOT BE ALLOWED. ALL CONDUCTORS SHALL BE UL LISTED AND SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
- | |
|---|
| A. MINIMUM WIRE SIZE SHALL BE #12 AWG. |
| B. ALL CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND SMALLER MAY BE SOLID OR STRANDED. |
| C. CONNECTION FOR #10 AWG AND SMALLER SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS. |
| D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP-ON SLEEVES WITH NYLON INSULATOR. |
3. ALL CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.
4. THE RACEWAY SYSTEM SHALL BE COMPLETE BEFORE INSTALLING CONDUCTORS

PENETRATIONS:

1. CONTRACTOR SHALL COMPLY WITH UL PENETRATION DETAILS FOR PENETRATIONS OF ALL RATED WALLS, ROOF, ETC.

GROUNDING

1. ALL ELECTRICAL NEUTRALS, RACEWAYS AND NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED BY ONE POINT ONLY.
2. PROVIDE GROUND CONDUCTOR IN ALL RACEWAYS.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 - LIGHTNING PROTECTION AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE AND RADIO EQUIPMENT MANUFACTURER.

ABBREVIATIONS AND LEGEND

A - AMPERE	PVC - SCH40 RIGID NON-METALLIC CONDUIT
AFG - ABOVE FINISHED GRADE	RGS - RIGID GALVANIZED STEEL CONDUIT
ATS - AUTOMATIC TRANSFER SWITCH	SW - SWITCH
AWG - AMERICAN WIRE GAUGE	TGB - TOWER GROUND BAR
BCW - BARE COPPER WIRE	UL - UNDERWRITERS LABORATORIES
BFG - BELOW FINISHED GRADE	V - VOLTAGE
BKR - BREAKER	W - WATTS
C - CONDUIT	XFMR - TRANSFORMER
CKT - CIRCUIT	XMTR - TRANSMITTER
DISC - DISCONNECT	
EGR - EXTERNAL GROUND RING	
EMT - ELECTRIC METALLIC TUBING	
FSC - FLEXIBLE STEEL CONDUIT	
GEN - GENERATOR	
GPS - GLOBAL POSITIONING SYSTEM	
GRD - GROUND	
IGB - ISOLATED GROUND BAR	
IGR - INTERIOR GROUND RING (HALO)	
KW - KILOWATTS	
NEC - NATIONAL ELECTRIC CODE	
PCS - PERSONAL COMMUNICATION SYSTEM	
PH - PHASE	
PNL - PANEL	
PNLBD - PANELBOARD	

----	E	----	UNDERGROUND ELECTRICAL CONDUIT
----	T	----	UNDERGROUND TELEPHONE CONDUIT
			KILOWATT-HOUR METER
----		----	UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
			GROUND ROD
			CADWELD
			GROUND ROD WITH INSPECTION WELL

PLANS PREPARED FOR:



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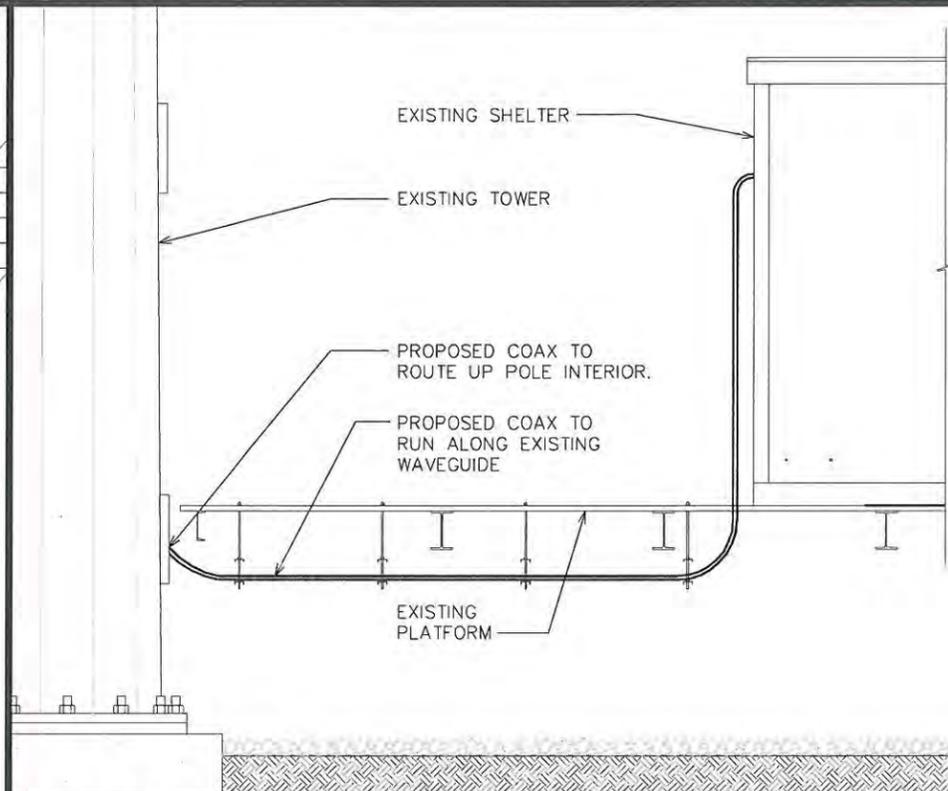
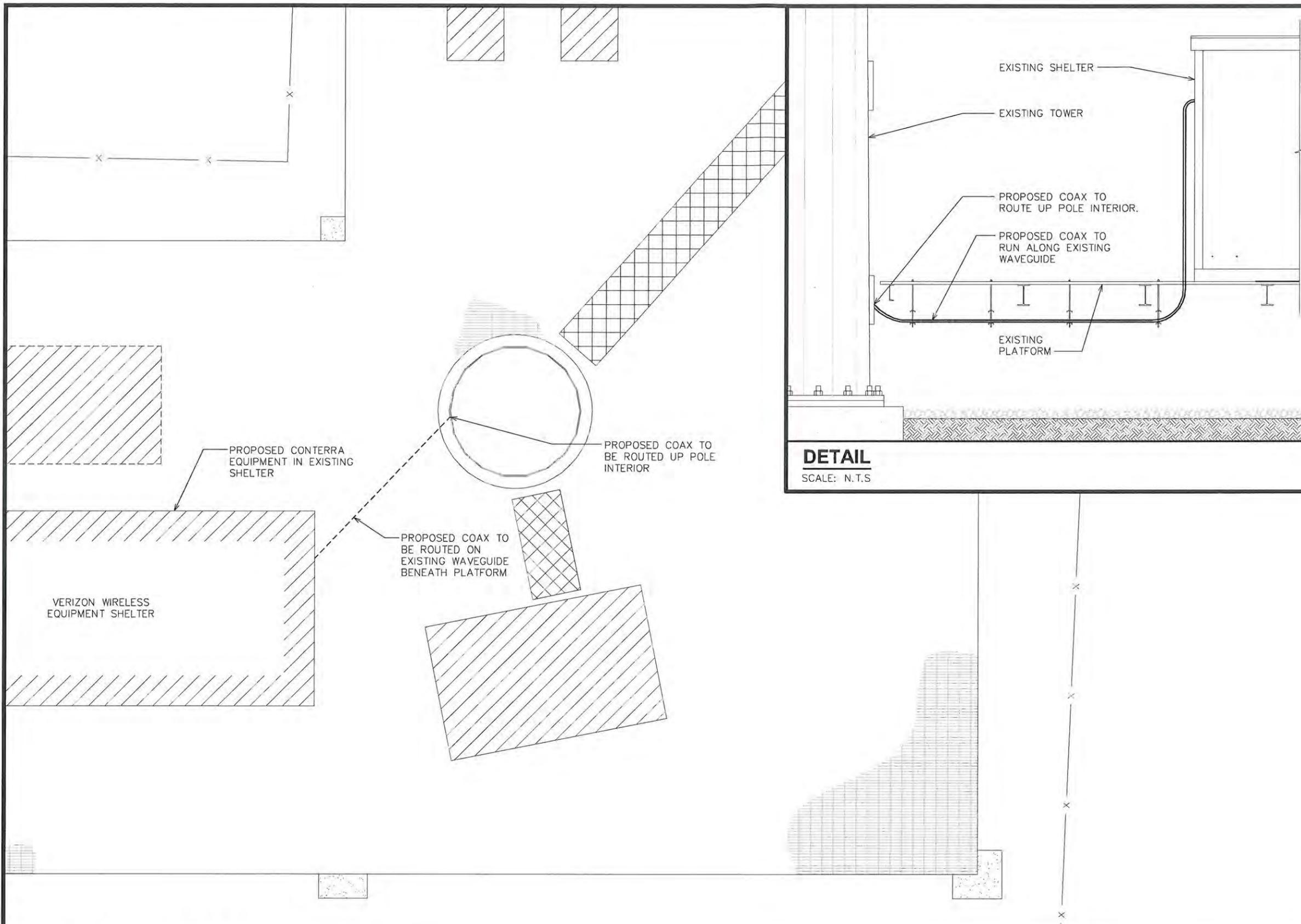
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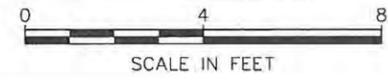
SHEET TITLE:

ELECTRICAL NOTES

SHEET NUMBER: E-1	REVISION: 1 TEP #: 103909
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DETAIL
SCALE: N.T.S



POWER ROUTING PLAN
SCALE: 1/4" = 1'-0"

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SHEET TITLE:
SERVICE ROUTING PLAN

SHEET NUMBER:
E-2

REVISION:
1
 TEP #: 103909

DRAWING NOTES:

- ① GROUND TEST WELL
- ② CONTERRA TOWER GROUND BAR SEE SHEET E-4 FOR DETAILS.
- ③ #2 TINNED SOLID COPPER GROUND WIRE FROM GROUND BAR TO TOWER GROUND RING
- ④ EXISTING TOWER GROUND RING. (CONTRACTOR TO VERIFY)
- ⑤ EXISTING VERIZON EQUIPMENT SHELTER

GROUNDING NOTES:

- 1. CONTRACTOR SHALL VERIFY THAT GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 AWG BARE TINNED COPPER WIRE. THE TOP OF THE GROUND RODS AND THE RING CONDUCTOR SHALL BE 2 FEET BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 10'-0" CENTERS (PROVIDE AND INSTALL AS REQUIRED PER PLAN BELOW).
- 2. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250.30.
- 3. GROUND RING CONNECTION CONDUCTORS SHALL BE OF EQUAL LENGTH, MATERIAL, AND BONDING TECHNIQUE.
- 4. CONTRACTOR SHALL ENSURE GROUND RING IS WITHIN 12 TO 36 INCHES OF THE EQUIPMENT PAD. PROVIDE AND INSTALL GROUNDING CONNECTIONS SHOWN BELOW AS NEEDED PER EXISTING SITE GROUNDING SYSTEM. CONTRACTOR SHALL VERIFY ALL EXISTING SITE GROUNDING CONDITIONS BEFORE STARTING WORK OR PURCHASING EQUIPMENT.
- 5. BOND GROUND BAR TO EXTERNAL GROUND RING WITH 1 RUN OF #2 BARE, TINNED, SOLID COPPER CONDUCTOR IN PVC. CONNECT BAR END WITH 2 HOLE LUG, AND "CADWELD" THE OTHER END TO THE EXTERNAL GROUND ROD.
- 6. ALL DOWN CONDUCTORS MUST GO DOWN

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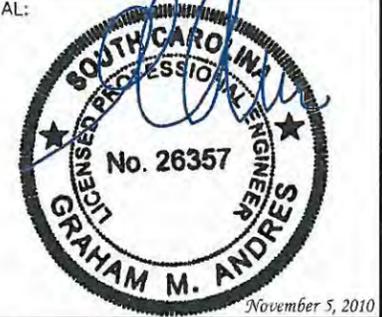
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EQUIPMENT GROUNDING PLAN

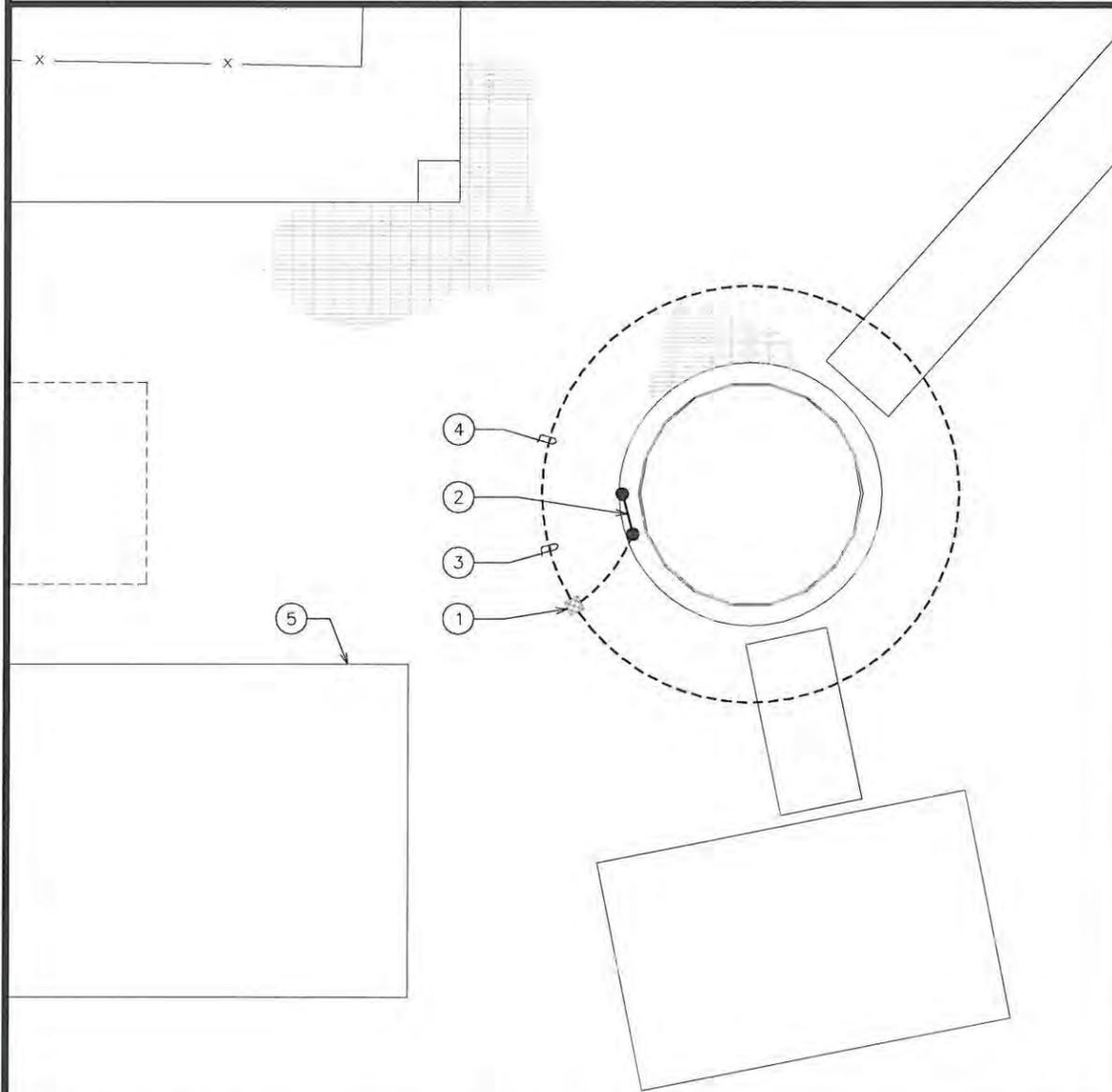
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E-3

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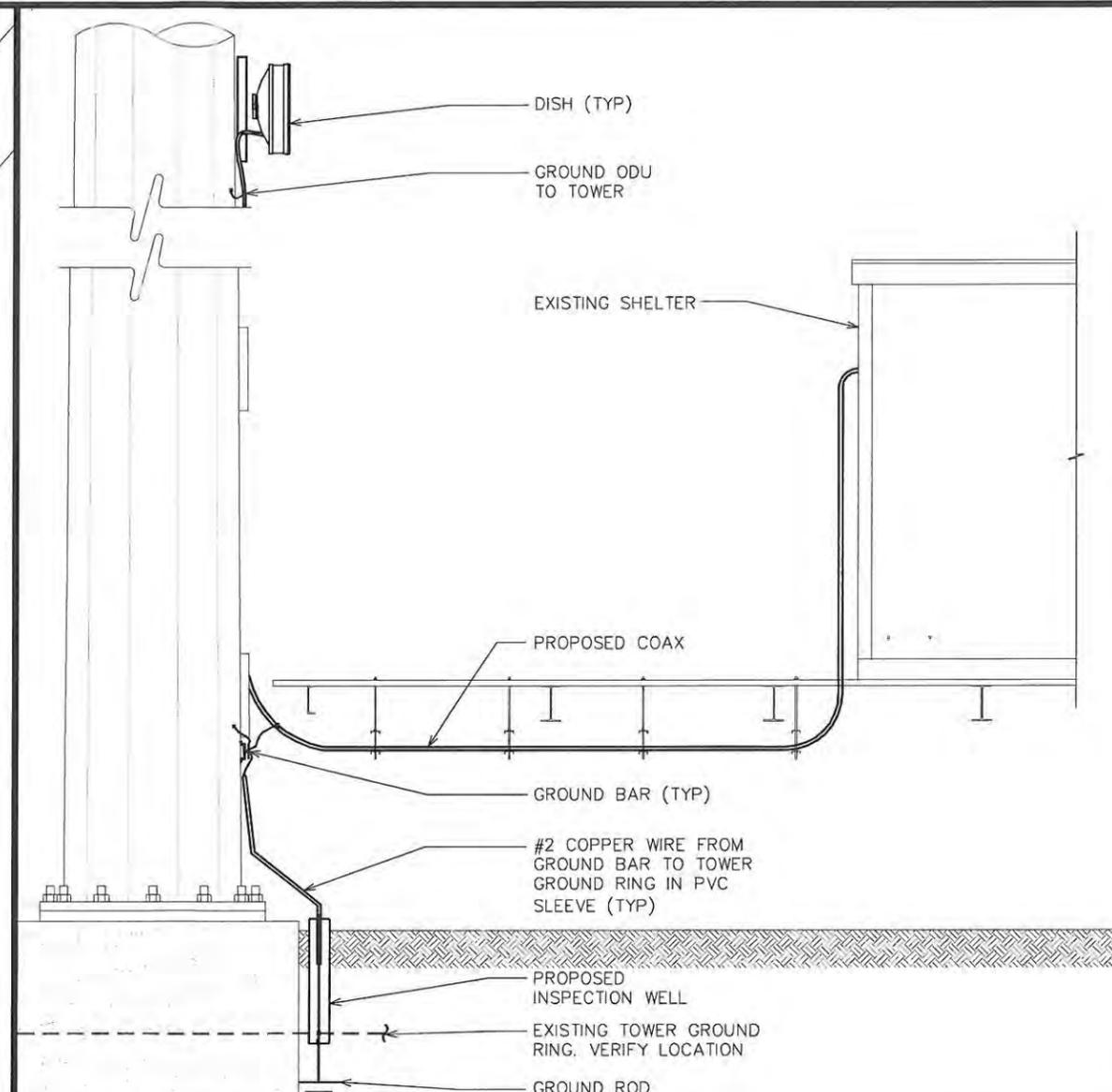
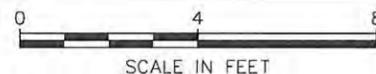
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TEP #: 103909



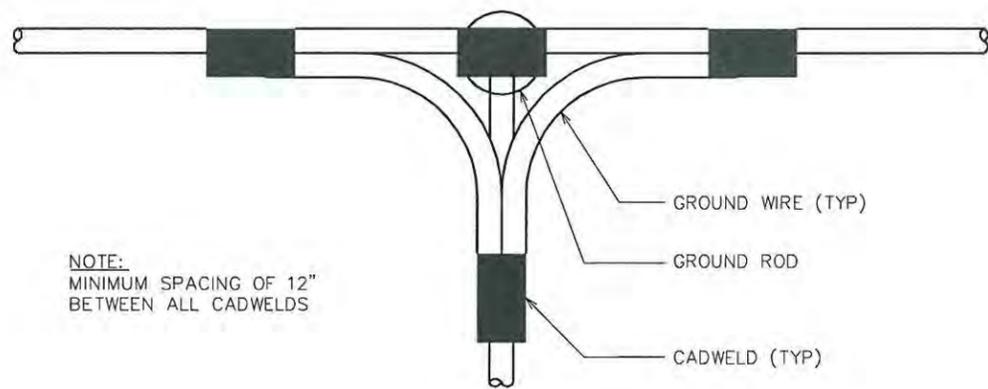
EQUIPMENT GROUNDING PLAN

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



GROUNDING AT TOWER

SCALE: N.T.S.



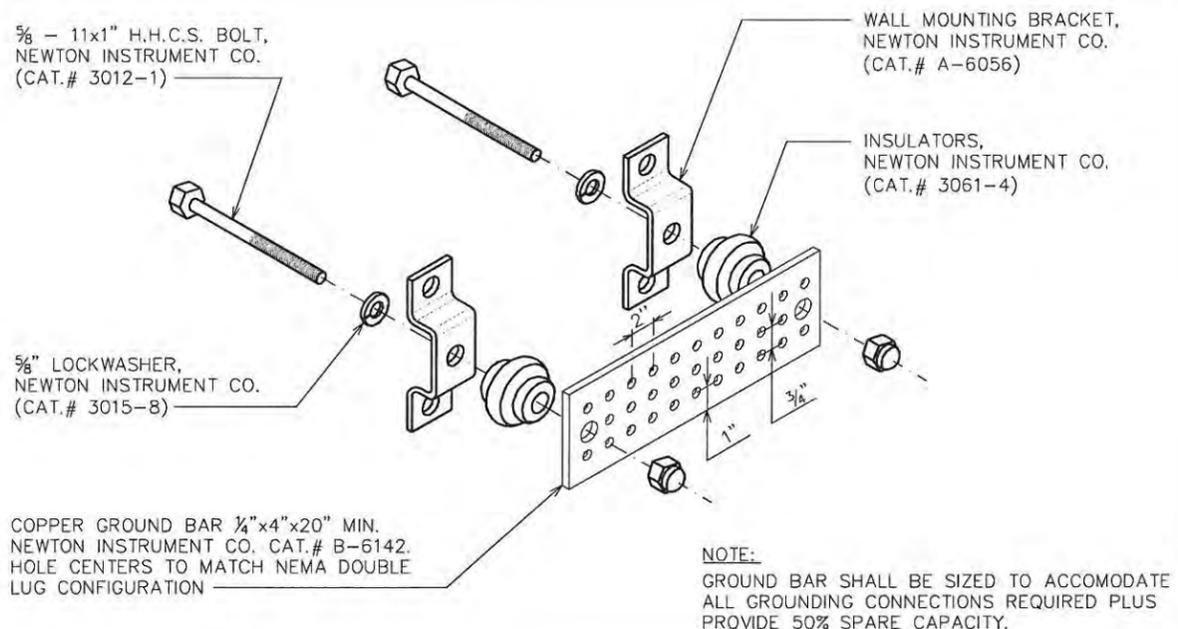
NOTE:
MINIMUM SPACING OF 12"
BETWEEN ALL CADWELDS

TOP VIEW

SIDE VIEW

CADWELD GROUNDING DETAIL

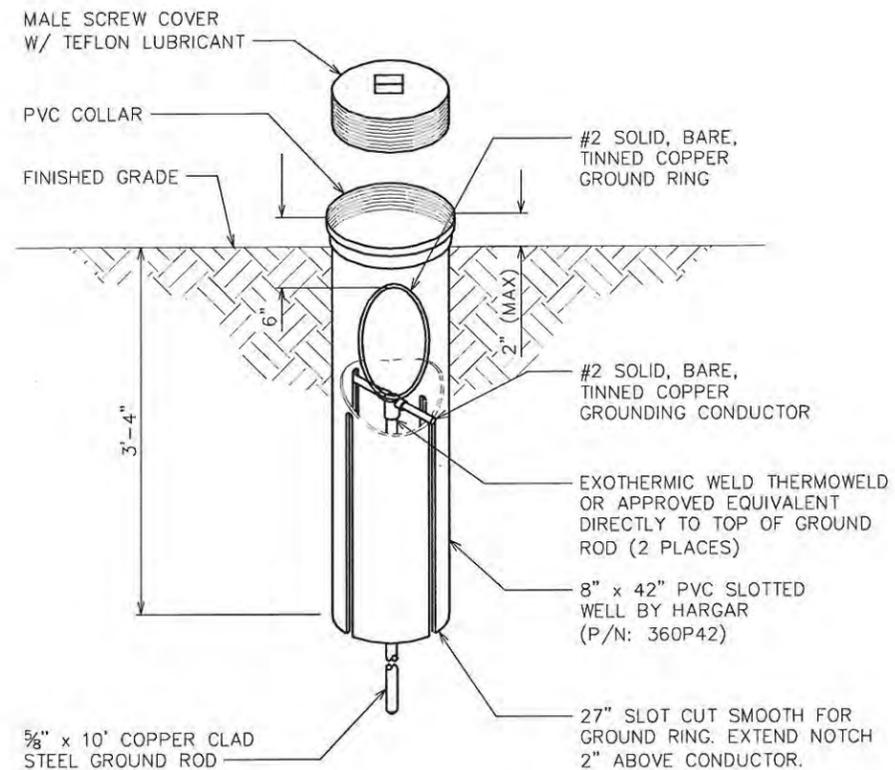
SCALE: N.T.S.



NOTE:
GROUND BAR SHALL BE SIZED TO ACCOMODATE
ALL GROUNDING CONNECTIONS REQUIRED PLUS
PROVIDE 50% SPARE CAPACITY.

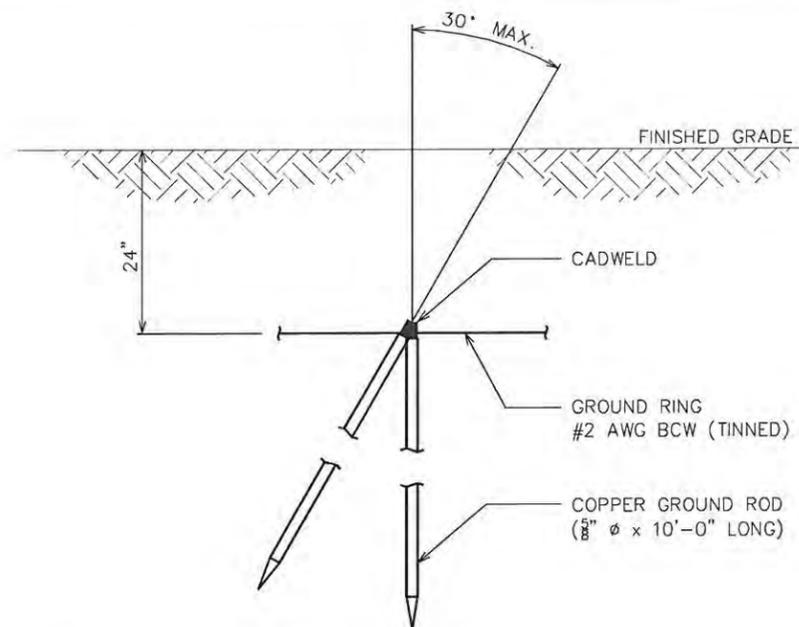
STANDARD GROUND BAR DETAIL

SCALE: N.T.S.



GROUND ROD WITH INSPECTION WELL

SCALE: N.T.S.



COPPER-CLAD STEEL GROUND ROD

SCALE: N.T.S.

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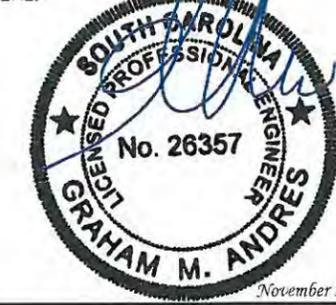
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SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER: E-4	REVISION: 1 TEP #: 103909
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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 Lawton Canal Cell Tower Co-Locate

DRB# DR100048

DATE 12/14/2010

RECOMMEND APPROVE

RECOMMEND APPROVE W/COND.

RECOMMEND DENY

ARCHITECTURAL DESIGN		
A co-locate 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		
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.
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

FIRST PRESBYTERIAN CHURCH PHASE II – MODIFICATIONS & ADDITIONS

BACKGROUND

This work represents the second phase of a four phase master plan to upgrade The First Presbyterian Church campus. Phase I was completed and occupied earlier this month. A key requirement for this building program is to accomplish it with minimum interruption of operations.

The wing of the church building complex which will be modified was originally constructed in 1982-83 to be used for Christian Education Classrooms. The subsequent building program of 1988-89 added another wing to the C.E. Building which was intended to also be used for Christian Education as well as Day Care.

The '88-'89 program included an administration wing which was never built. Over time the use of the '82-'83 C.E. wing was modified to house a large number of the church staff. This arrangement has proven to be inefficient and marginally functional as presently configured.

PROPOSED PHASE II MODIFICATIONS AND ADDITIONS

The scope of this Phase II work is limited to the original 1982-83 Christian Education structure. A new exit access stair will be added along with a new primary entrance to the structure which will provide weather protection and improved user access along with required visual control of the entrance by administrative reception staff.

The existing west entrance will be eliminated; door and side lights removed and two double hung windows added to restore that wall to its original configuration.

Aside from the work described above, the only other exterior changes involve the elimination of several double hung windows and the addition of several new double hung windows.

All exterior building colors and materials will match existing.

The site design will require only minimal site disturbance, minor landscape alterations and no tree removal. Two areas of existing concrete walk on the western side of the building will be removed, as they are no longer needed for building access. Concrete walks along the front of the building and accessing the parking lot will be replaced with a new exposed aggregate walk. A new, exposed aggregate walk will be installed on-grade and will provide additional access from the parking lot to the new, covered entryway. Landscape replacement material will complement the existing and recently installed Phase 1 landscaping.

Existing Project Photographs
First Presbyterian Church
Phase II – Additions and Modifications
Hilton Head Island, South Carolina
November 30, 2010



View facing North Wing of Church and proposed area for new covered entry



Location of covered entry and existing walkway to be replaced

Existing Project Photographs - Continued
First Presbyterian Church



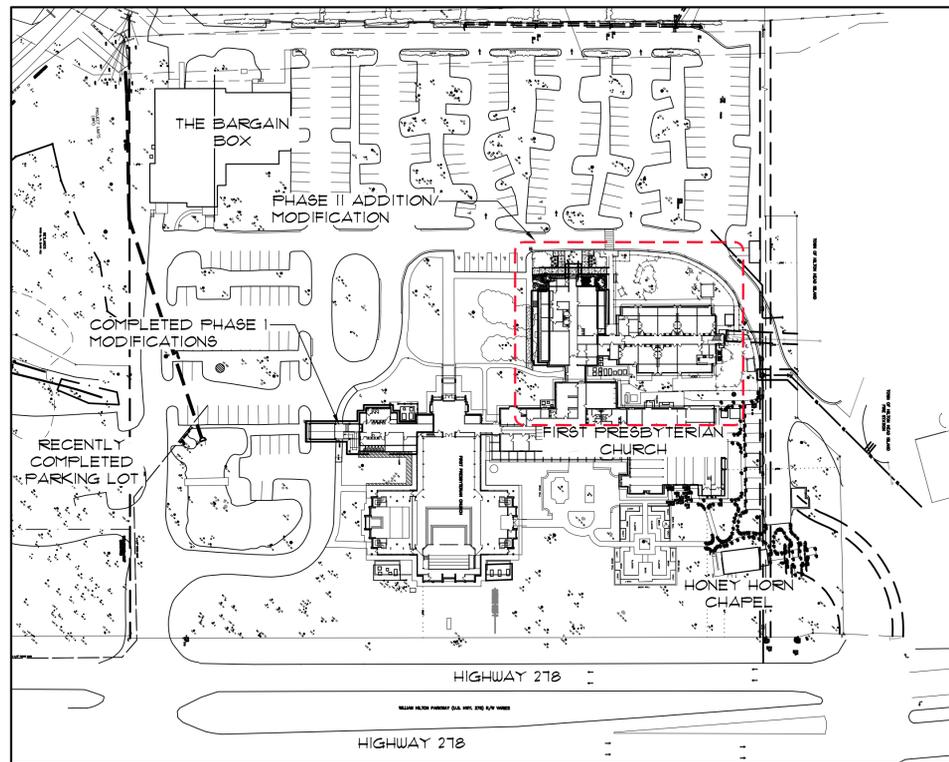
Location of new internal stairwell and exterior landscaping



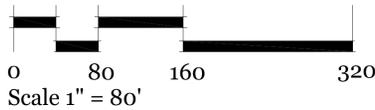
Sliding glass door and existing concrete walk to doors to be removed and replaced with 3' walk



Existing walk at window to be removed. Location of temporary mulch path



CONTEXT PLAN



GENERAL SITE PLAN AND LAYOUT NOTES:

1. THIS BUILDER'S SET HAS BEEN CREATED TO ILLUSTRATE THE GENERAL DESIGN INTENT OF THE PROJECT. THE CONTRACTOR SHALL WORK CLOSELY WITH THE OWNER'S REP. AND NOTIFY HIM AS ADDITIONAL INFORMATION IS NEEDED TO PROPERLY CONSTRUCT/INSTALL/BUILD ELEMENTS DEPICTED HEREIN.
2. TEMPORARY EROSION & SEDIMENT CONTROLS (MAY BALES, SILT FENCES, ETC.) SHALL BE INSTALLED AT INLETS, PIPES, & LIMITS OF WORK AREAS WHERE SURFACE RUN-OFF OCCURS UNTIL SOIL STABILIZATION IS COMPLETE.
3. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND REPORT ANY DISCREPANCIES AND UNUSUAL CONDITIONS TO OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND VERIFYING ALL UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND IS RESPONSIBLE FOR ANY DAMAGE TO THEM DURING CONSTRUCTION.
5. ALL AREAS THAT ARE DISTURBED BY CONSTRUCTION INSIDE OR OUTSIDE THE LIMIT OF WORK SHALL BE REPAIRED, GRADED AND GRASSSED AT THE CONTRACTOR'S EXPENSE.
6. TREE PROTECTION FENCES SHALL BE MAINTAINED IN PLACE AT ALL TIMES UNTIL WORK IS COMPLETED.
7. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND ALL LOCAL, STATE, AND FEDERAL AGENCIES AND REGULATIONS.
8. ALL FIELD ADJUSTMENTS SHALL RECEIVE APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION.
9. CONTRACTOR SHALL STAKE ALL WORK TO BE COMPLETED AND OBTAIN APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE RESOLVED PRIOR TO CONSTRUCTION.
10. ALL CONCRETE SHALL BE 3000 PSI UNLESS OTHERWISE NOTED.
11. CONSTRUCT EXPANSION JOINTS WHERE WALKS MEET CURBS, STEPS, WALLS, OR FIXED SLABS OR AS NOTED.
12. CONTRACTOR SHALL PROTECT THE PUBLIC FROM CONSTRUCTION AREAS AND ASSOCIATED ACTIVITY DURING CONSTRUCTION.

HARDSCAPE LEGEND:

- EXPOSED AGGREGATE WALK
- EXISTING WALK TO BE REMOVED

PLANT SCHEDULE:

TREES							
QUAN	ABBREV	BOTANICAL/COMMON NAME	HEIGHT	SPREAD	CONT.	SPACING	NOTES
1	CERC	<i>Cercis canadensis</i> 'Forest Pansy' Forest Pansy Redbud	8-10'	4-6'	cont.	AS SHOWN	1 1/2" CAL. MIN.
SHRUBS							
QUAN	ABBREV	BOTANICAL/COMMON NAME	HEIGHT	SPREAD	CONT.	SPACING	NOTES
33	AZAC	<i>Azalea x 'Conleb'</i> Autumn Embers Encore Azalea	12-18'	12-18"	cont.	AS SHOWN	FULL
6	CAMS	<i>Camellia Sasangua</i> 'Yuletide' Yuletide Camellia	18-24"	18-24"	cont.	AS SHOWN	FULL
3	GARJ	<i>Gardenia jasminoides</i> 'radicans' Dwarf Gardenia	8-12"	12-18"	cont.	AS SHOWN	FULL
GROUNDCOVERS							
QUAN	ABBREV	BOTANICAL/COMMON NAME	HEIGHT	SPREAD	CONT.	SPACING	NOTES
48	LIRE	<i>Liriope muscari</i> 'Evergreen giant' Evergreen Giant Liriope			1 GAL	AS SHOWN	FULL POT
650ft ²	MULCH	Pinestraw					Spread to 3" depth

GENERAL PLANTING NOTES:

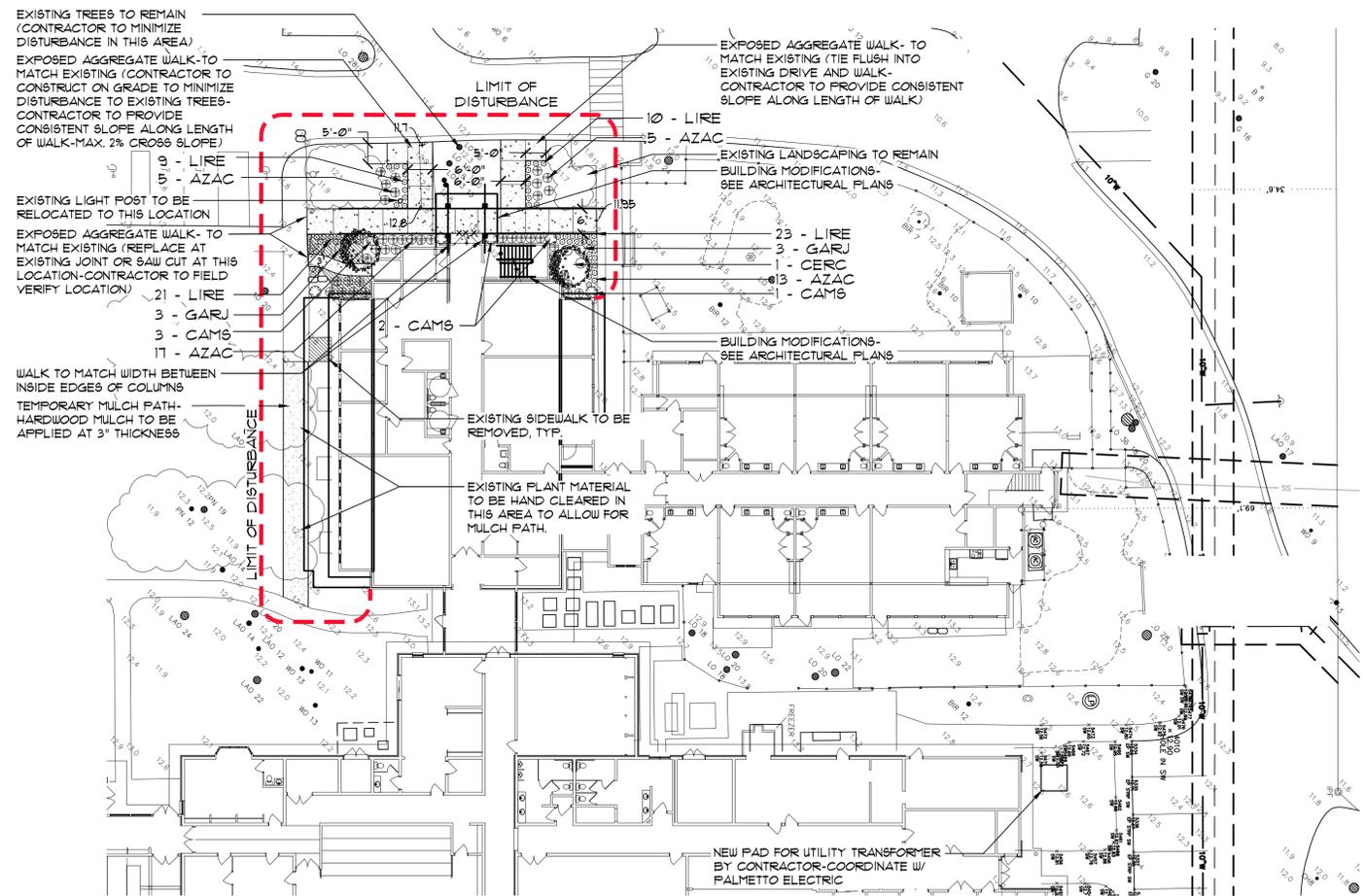
1. ANY DEVIATION FROM THESE PLANS MUST BE SPECIFICALLY APPROVED BY LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
2. NOTIFY LANDSCAPE ARCHITECT OF ANY SITE CONDITIONS WHICH MAY NECESSITATE MODIFICATION TO THE PLAN. LANDSCAPE ARCHITECT SHALL, IF NECESSARY, MAKE "IN-FIELD MODIFICATIONS".
3. FINE GRADING SHALL CONSIST OF HAND RAKED SMOOTH, FREE OF DEBRIS, ALL AREAS TO RECEIVE LANDSCAPE PLANTING AND/OR FINE STRAW MULCH.
4. CONTRACTOR IS RESPONSIBLE FOR INSPECTION OF EXISTING CONDITIONS AND PROMPTLY REPORTING ANY DISCREPANCIES. CONTRACTOR TO PERFORM SOIL TESTS AS NECESSARY.
5. CONTRACTOR IS RESPONSIBLE FOR LOCATING EXISTING UTILITIES AND ANY DAMAGE HE IS RESPONSIBLE FOR THAT MAY OCCUR TO EXISTING UTILITIES.
6. PLANT SCHEDULE WAS PREPARED FOR ESTIMATING PURPOSES. CONTRACTOR SHALL MAKE OWN QUANTITIES TAKEOFF USING DRAWINGS TO DETERMINE QUANTITIES TO HIS SATISFACTION, REPORTING PROMPTLY ANY DISCREPANCIES WHICH MAY AFFECT BIDDING.
7. WARRANT EXTERIOR PLANTS, FOR ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION, AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM LACK OF ADEQUATE MAINTENANCE, NEGLIGENCE, OR ABUSE BY OWNER, OR INCIDENTS THAT ARE BEYOND CONTRACTOR'S CONTROL.
8. FURNISH NURSERY-GROWN EXTERIOR PLANT MATERIALS COMPLYING WITH ANSI Z601, WITH HEALTHY ROOT SYSTEMS DEVELOPED BY TRANSPLANTING OR ROOT PRUNING. PROVIDE WELL-SHAPED, FULLY BRANCHED, HEALTHY, VIGOROUS STOCK FREE OF DISEASE, INSECTS, EGGS, LARVAE, AND DEFECTS SUCH AS KNOTS, SUN SCALD, INJURIES, ABRASIONS, AND DISFIGUREMENT.
9. ALL PLANT BEDS TO RECEIVE WEED INHIBITOR OF PREEN OR EQUAL.

IRRIGATION NOTES

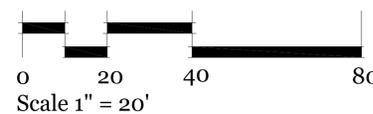
1. ALL PLANT BEDS AND AREAS TO RECEIVE 100% IRRIGATION COVERAGE.
2. IRRIGATION SYSTEM TO MEET ALL LOCAL AND NATIONAL PLUMBING AND ELECTRICAL CODES.
3. AVOID SPRAYING ROADS, PARKING AND WALKS.
4. CONTRACTOR TO TIE SYSTEM INTO EXISTING SYSTEM AS NECESSARY. COORDINATE WITH OWNER.
5. CONTRACTOR SHALL PROVIDE 3 SETS OF AS-BUILT IRRIGATION DRAWINGS AFTER CONSTRUCTION IS COMPLETE AND APPROVED BY THE OWNER.

MULCHING NOTES

1. MULCH ALL PLANTING BEDS WITH FINE STRAW TO A 3" DEPTH.



PHASE II ADDITIONS/MODIFICATIONS SITE AND PLANTING PLAN



PLAN IS SUBJECT TO CHANGE.



PO Box 23619 • Hilton Head Island, SC 29925
843.681.6618 • 843.681.7288 • www.woodandpartners.com

ADDITIONS & MODIFICATIONS
 LANDSCAPE DEVELOPMENT PLANS
 PHASE II
 HILTON HEAD ISLAND, SC

DRAWN BY:
TR/TG
CHECKED BY:

This drawing is an instrument of service & remains the property of Wood+Partners Inc. It may not be copied or reproduced in any manner without written permission.

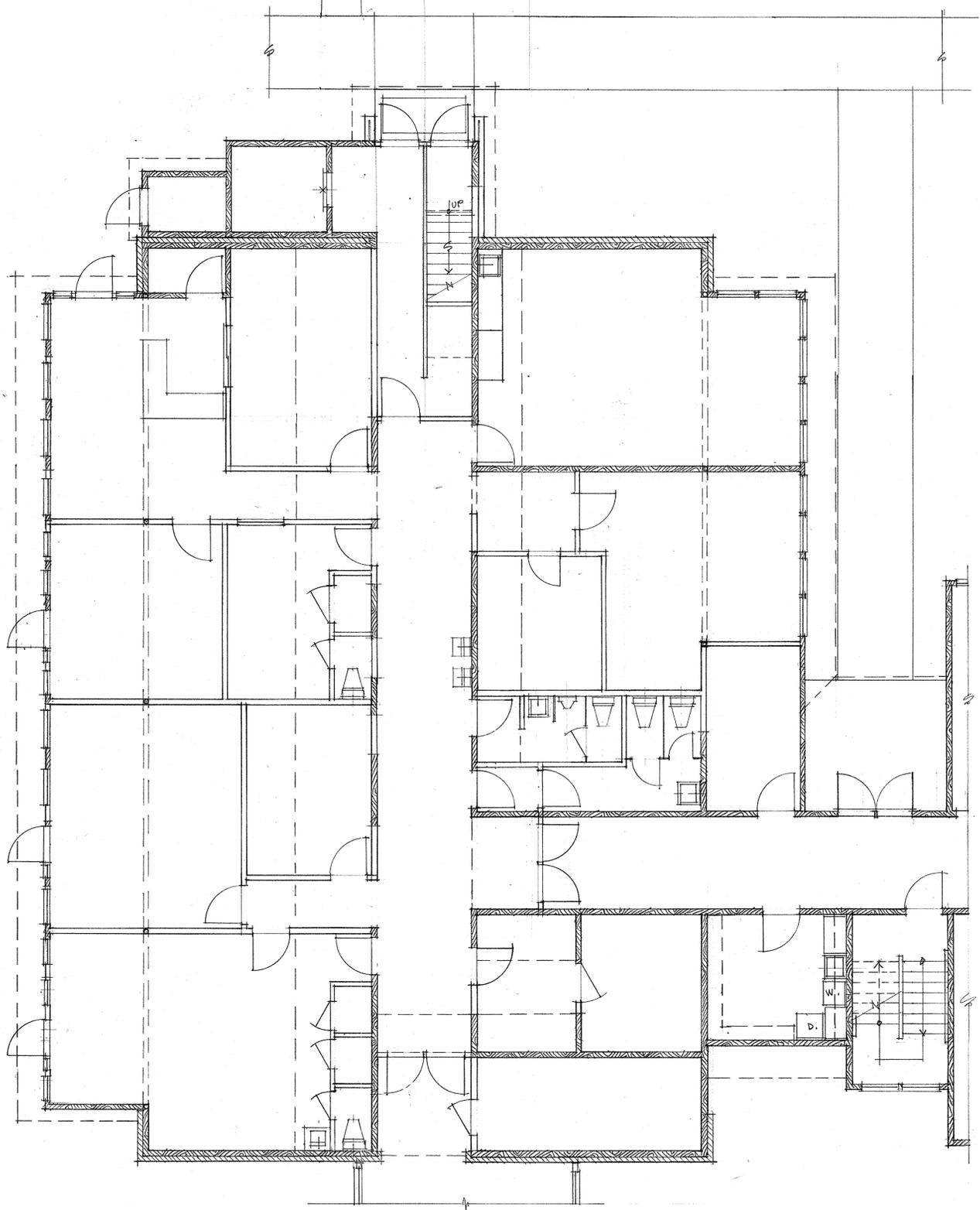
REVISION DATE BY
PLAN REV COMMENTS 08-13-10 TG

DATE
November 30, 2010
PROJECT NUMBER
01-10014
SHEET TITLE
SITE PLAN
& DETAILS

SHEET NUMBER

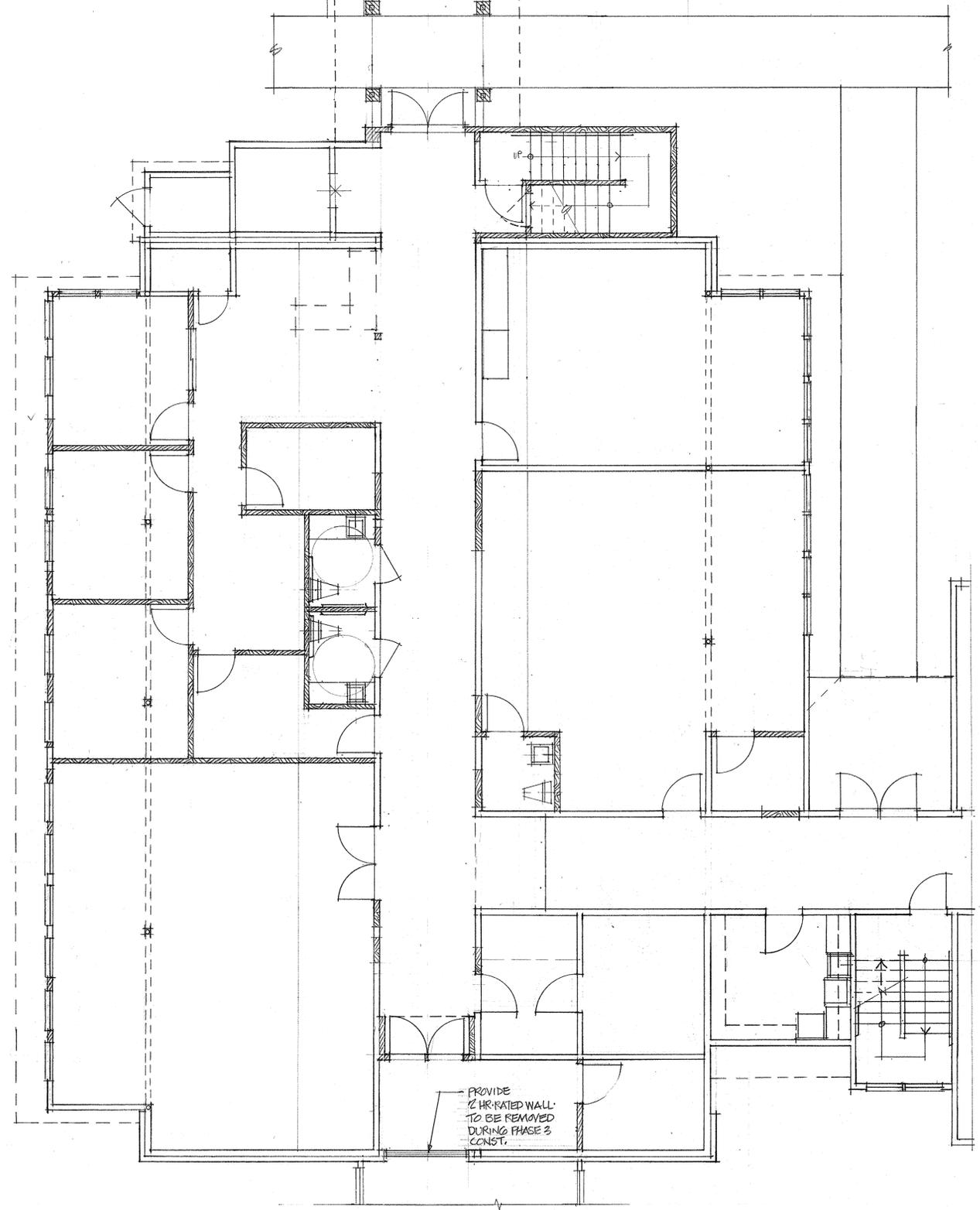
L1

• NOTE:
CROSS HATCHED AREAS INDICATE
AREAS TO BE PRESERVED ON DEMO. PLAN

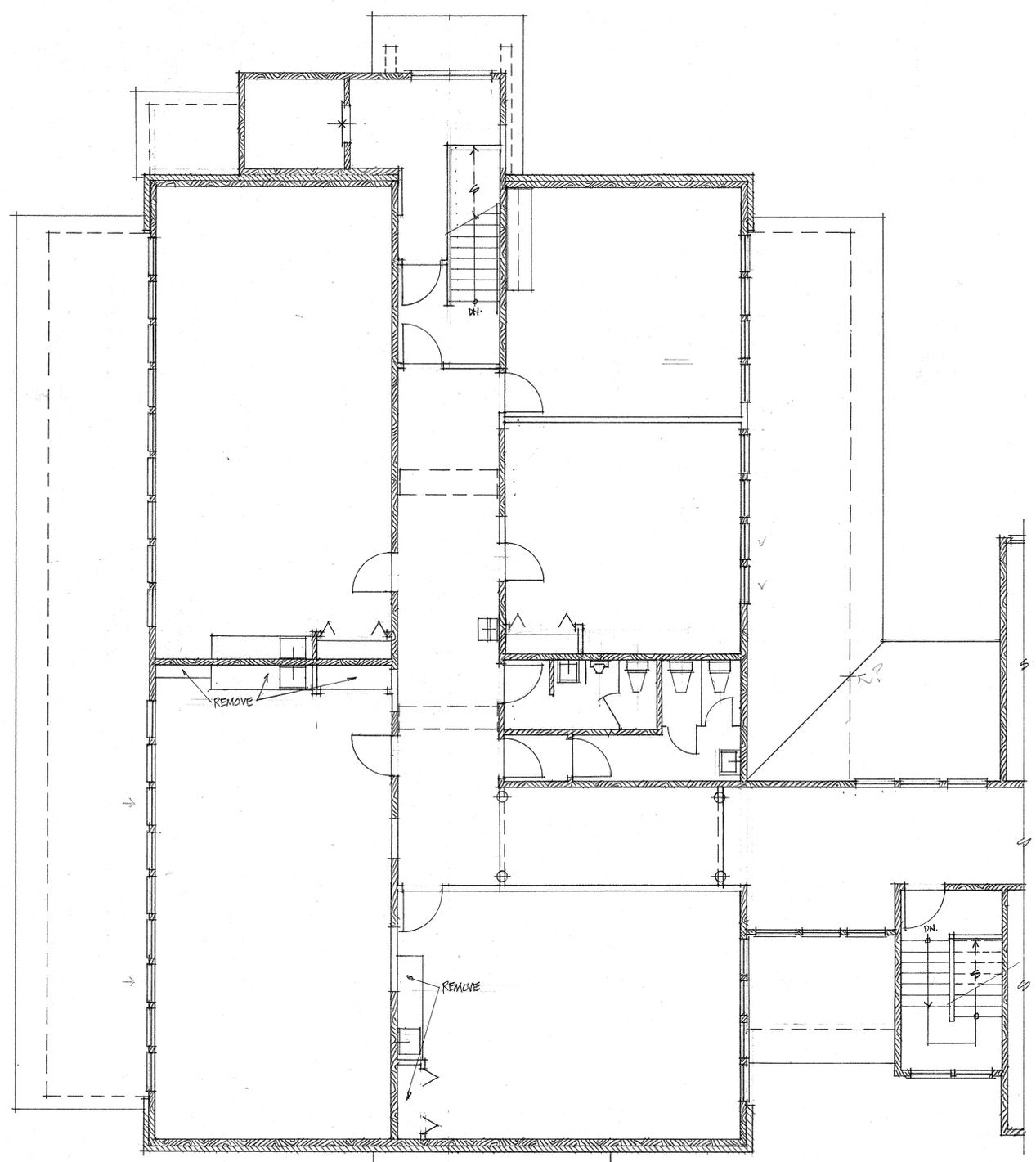


1 FIRST FLOOR / DEMOLITION PLAN
3/16" = 1'-0"

• NOTE:
SHADED/HATCHED AREAS INDICATE
NEW CONSTRUCTION ON MOD. & ADDNS. FLOOR PLAN

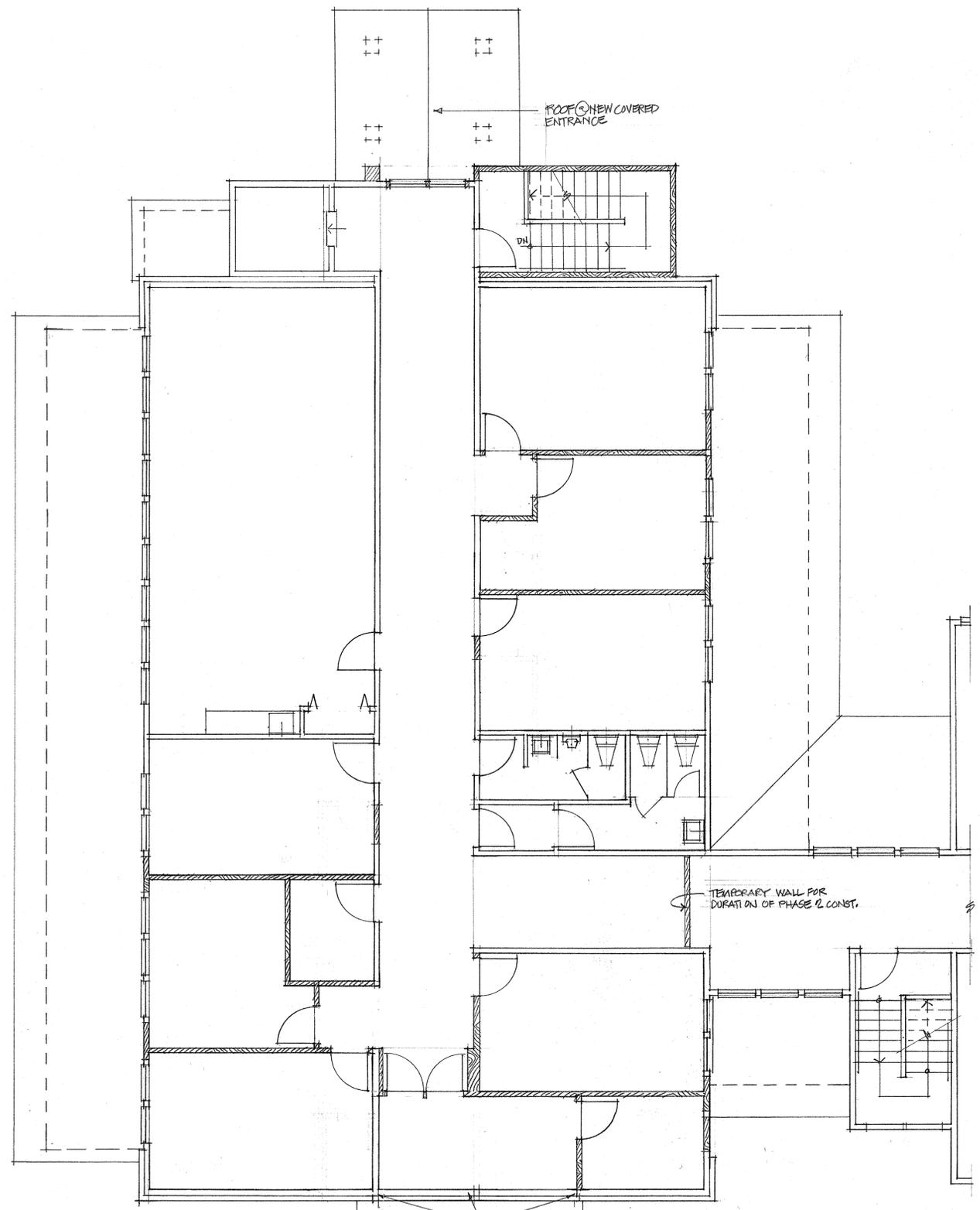


2 FIRST FLOOR PLAN / MODIFICATIONS & ADDITIONS
3/16" = 1'-0"



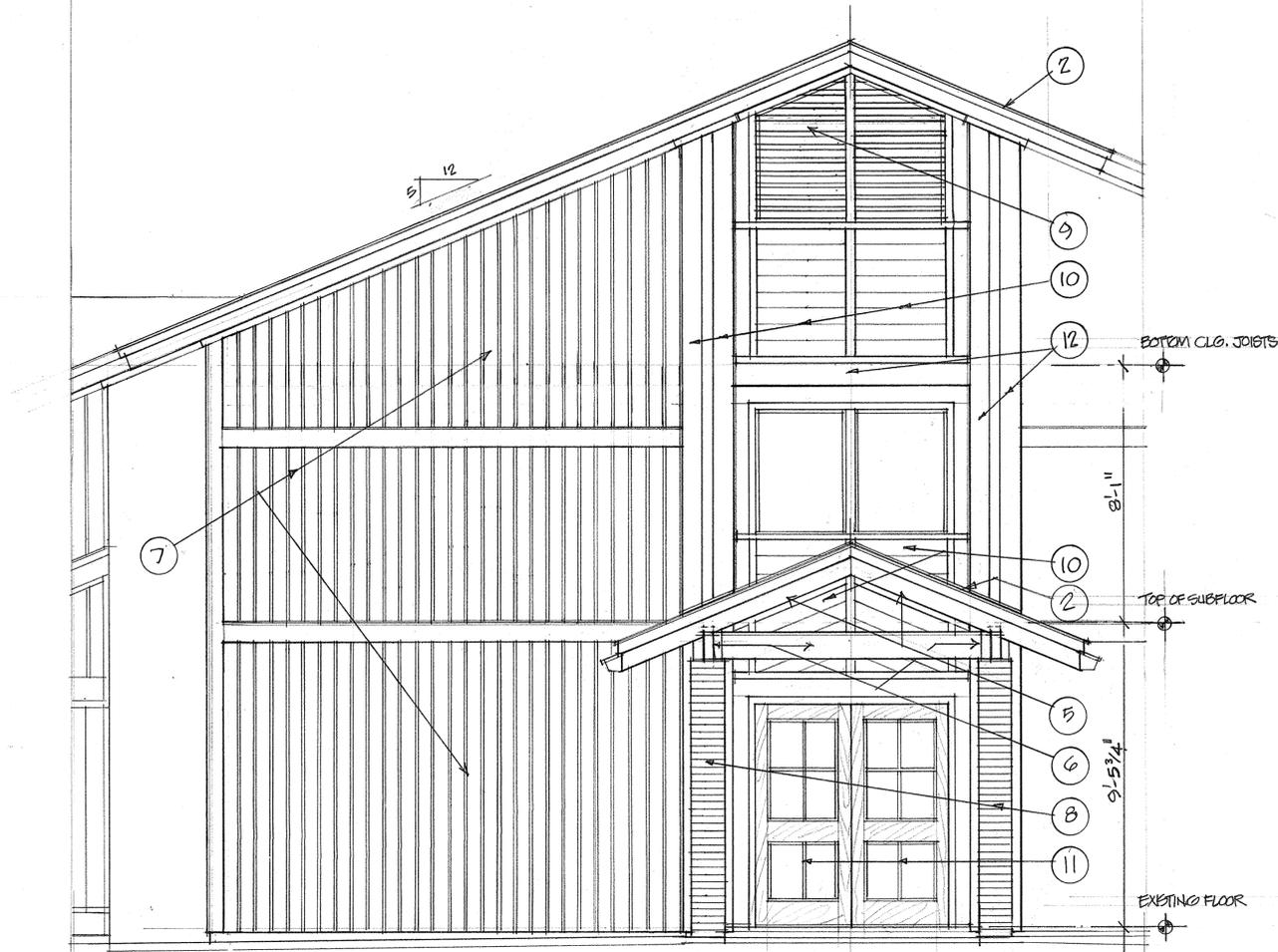
NOTE:
CROSS HATCHED AREAS ON DEMO. PLAN
INDICATE CONST. WHICH WILL BE PRESERVED.

1
A-2
SECOND FLOOR / DEMOLITION PLAN
3/16" = 1'-0"



NOTE:
CROSS HATCHED AREA ON MOD. & ADDN.
FLOOR PLAN INDICATES NEW CONSTRUCTION

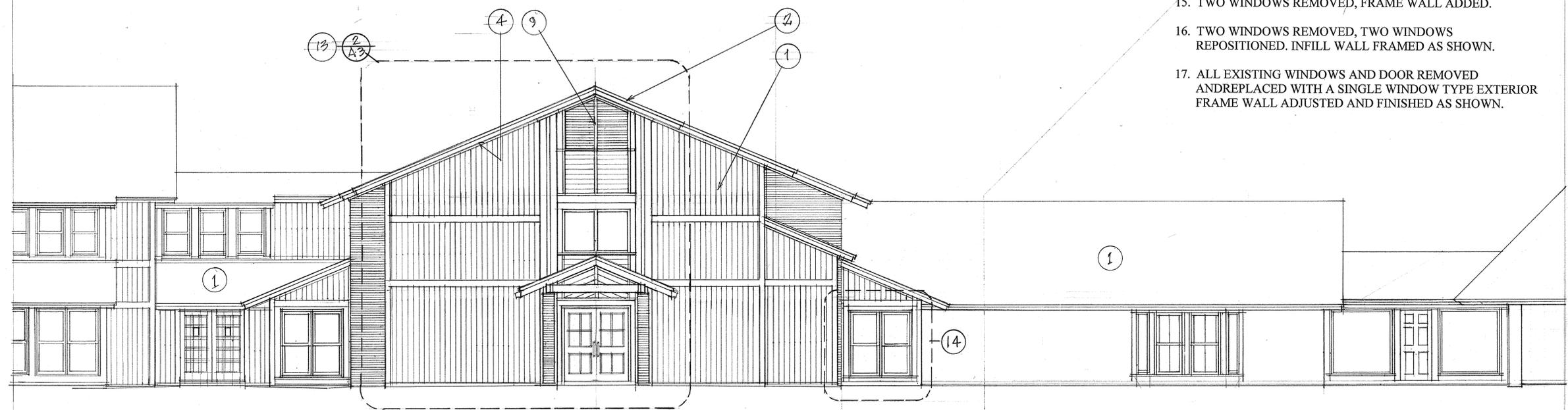
2
A-2
SECOND FLOOR PLAN / MODIFICATIONS & ADDITIONS
3/16" = 1'-0"



2 WEST ELEVATION (PARTIAL) SHOWING NEW CONSTRUCTION
3/8" = 1'-0"

MISCELLANEOUS SPEC NOTES

1. EXISTING CONSTRUCTION - NO CHANGES REQUIRED.
2. ROOFING AT NEW CONSTRUCTION WILL BE CERTAINTeed "LANDMARK", COBBLESTONE GRAY TO MATCH EXISTING.
3. ALL FASCIA BOARDS AND MISCELLANEOUS EXTERIOR TRIM WILL BE S4S CYPRESS (SELECT).
4. NEW SLOPED SOFFITS WILL BE 1/2" EXTERIOR GRADE PLYWOOD TO MATCH EXISTING.
5. FLAT CEILING @ NEW COVERED ENTRY WILL BE @ 13/16" X 9-1/4" SMOOTH FACE CYPRESS "V" JOINT (PATTERN #141) PRIMED FOR PAINT FINISH.
6. EXPOSED BEAMS ARE GLUE LAMINATED (KDAT).
7. TYPICAL VERTICAL SIDING WILL BE 13/16" X 7-1/4", ROUGH FACE OUT, CYPRESS SIDING (PATTERN #139).
8. NEW FACE BRICK WILL BE ENGINEER MODULAR WITH 3/8" MORTAR JOINTS. (3-5/8" X 7-5/8" X 2-13/16")
9. SHOP FABRICATED WOOD LOUVER PANEL.
10. HORIZONTAL AND DIAGONAL SIDING IS 7-1/4" X 13/16" CYPRESS SIDING PATTERN #139, ROUGH FACE OUT, CUT LEG TO ACHIEVE TIGHT JOINT FINISH.
11. CUSTOM FABRICATED SAPELE MAHOGANY ENTRY DOORS, IMPACT GLAZED, MIN. D.P. RATING OF 35.
12. ONE BY EIGHT (1 X 8) CYPRESS TRIM, SMOOTH FACE (S4S).
13. NEW CONSTRUCTION ENCLOSING NEW STAIR AND COVERED ENTRANCE.
14. PRESENT ENTRANCE REMOVED AND WALL RESTORED TO ORIGINAL DESIGN WITH ADDITION OF TWO NEW WINDOWS.
15. TWO WINDOWS REMOVED, FRAME WALL ADDED.
16. TWO WINDOWS REMOVED, TWO WINDOWS REPOSITIONED. INFILL WALL FRAMED AS SHOWN.
17. ALL EXISTING WINDOWS AND DOOR REMOVED AND REPLACED WITH A SINGLE WINDOW TYPE EXTERIOR FRAME WALL ADJUSTED AND FINISHED AS SHOWN.



1 WEST ELEVATION
3/16" = 1'-0"

Phase II. Modifications and Additions:
FIRST PRESBYTERIAN CHURCH
540 William Hilton Parkway
Hilton Head Island, SC

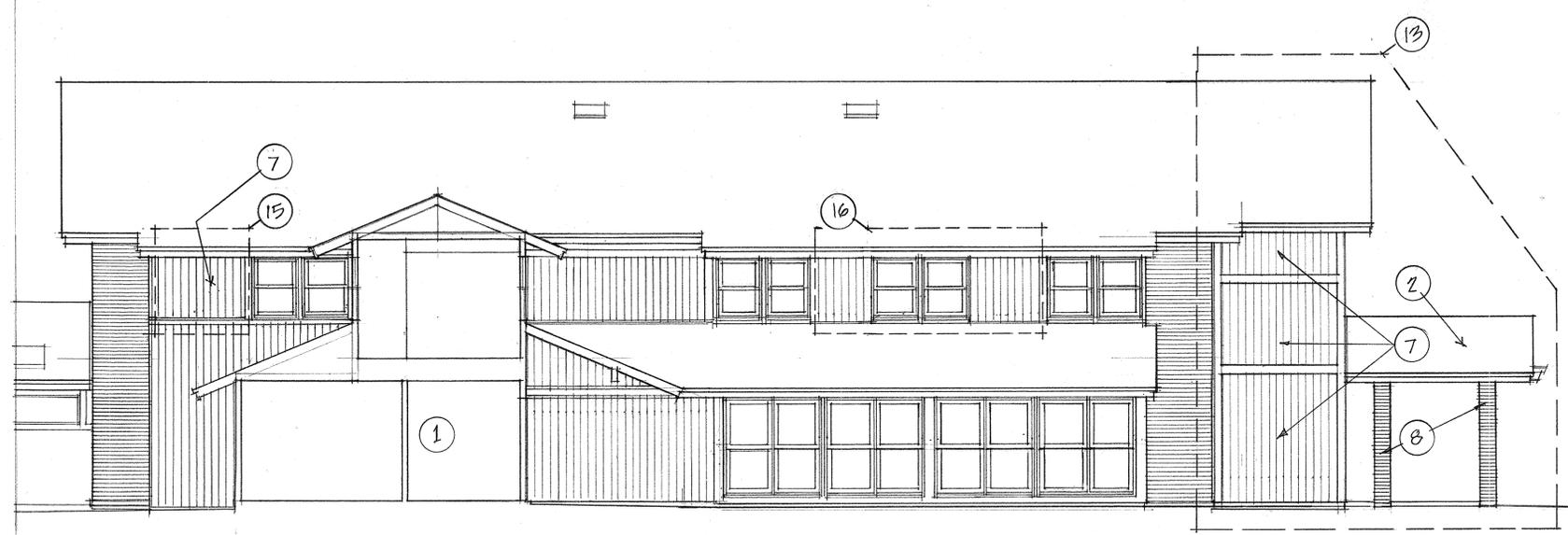
JOB NO. 1004.2
DATE NOV. 30, 2010
DRAWN BY LEE
CHECKED BY

REVISIONS

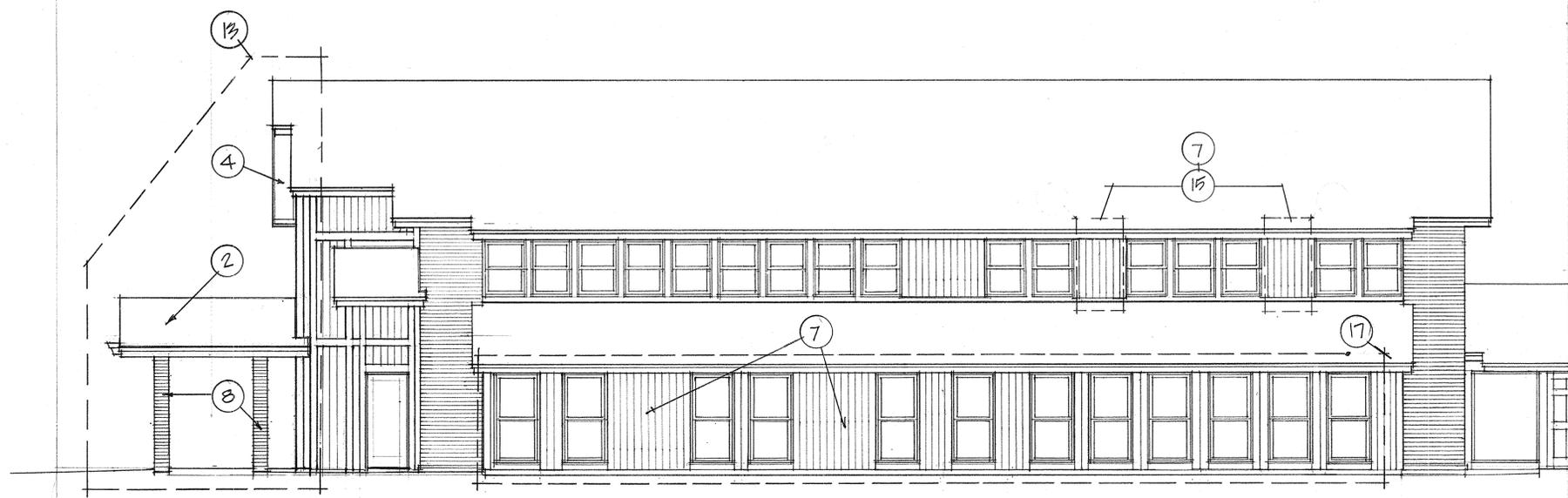
SHEET

A.3

OF 4



2 NORTH ELEVATION
A-4 3/16" = 1'-0"



1 SOUTH ELEVATION
A-4 3/16" = 1'-0"

MISCELLANEOUS SPEC NOTES

1. EXISTING CONSTRUCTION – NO CHANGES REQUIRED.
2. ROOFING AT NEW CONSTRUCTION WILL BE CERTAINTED "LANDMARK", COBBLESTONE GRAY TO MATCH EXISTING.
3. ALL FASCIA BOARDS AND MISCELLANEOUS EXTERIOR TRIM WILL BE S4S CYPRESS (SELECT).
4. NEW SLOPED SOFFITS WILL BE 1/2" EXTERIOR GRADE PLYWOOD TO MATCH EXISTING.
5. FLAT CEILING @ NEW COVERED ENTRY WILL BE @ 13/16" X 9-1/4" SMOOTH FACE CYPRESS "V" JOINT (PATTERN #141) PRIMED FOR PAINT FINISH.
6. EXPOSED BEAMS ARE GLUE LAMINATED (KDAT).
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8. NEW FACE BRICK WILL BE ENGINEER MODULAR WITH 3/8" MORTAR JOINTS. (3-5/8" X 7-5/8" X 2-13/16")
9. SHOP FABRICATED WOOD LOUVER PANEL.
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11. CUSTOM FABRICATED SAPELE MAHOGANY ENTRY DOORS, IMPACT GLAZED, MIN. D.P. RATING OF 35.
12. ONE BY EIGHT (1 X 8) CYPRESS TRIM, SMOOTH FACE (S4S).
13. NEW CONSTRUCTION ENCLOSING NEW STAIR AND COVERED ENTRANCE.
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15. TWO WINDOWS REMOVED, FRAME WALL ADDED.
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17. ALL EXISTING WINDOWS AND DOOR REMOVED AND REPLACED WITH A SINGLE WINDOW TYPE EXTERIOR FRAME WALL ADJUSTED AND FINISHED AS SHOWN.

Phase II. Modifications and Additions:
FIRST PRESBYTERIAN CHURCH
540 William Hilton Parkway
Hilton Head Island, SC

JOB NO. 1004-2
DATE NOV 30 2010
DRAWN BY LP
CHECKED BY

REVISIONS

SHEET

A.4

OF 4

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

DRB#

DATE

RECOMMEND APPROVE

RECOMMEND APPROVE W/COND.

RECOMMEND DENY

ARCHITECTURAL DESIGN

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

Accessory elements are design to coordinate with the primary structure	NA	
--	----	--

LANDSCAPE DESIGN

Existing trees take added importance in softening the new, large Pattern 139 addition for the stairwell, and they also constrain the ability to increase the bed size in front of this wall, given the new covered entry configuration. Every attempt should be made to minimize the impact on the existing trees and landscaping, as noted. The size and placement of the proposed azaleas and redbud anchoring the corner should be carefully considered as well.

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

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

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		Because of large trees near sidewalks to be replaced, sidewalk must go back in same footprint, or must be on top of existing grade.
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: _____
 Accepted by: _____
 App. #: DR _____
 Meeting Date: _____

Applicant/Agent Name: Michael Flint on behalf of Company: Clewwise US LLC
 Mailing Address: 496 Long Point Rd City: Mt. Pleasant State: SC Zip: 29464
 Telephone: 843-224-0616 Fax: 843-971-8889 E-mail: michael.flint@americantower.com
 Project Name: Clewwise @ Indigo Run Project Address: 282 Spanish Wells Rd.
 Parcel Number [PIN]: R 510 007 000 0092 0000
 Zoning District: AM-4 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 Alteration/Addition
 New Development – Final, indicate Project Number 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

Please note pages A-3 - A-5 for equip. specs + pictures within the Construction Drawings.

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

11/19/10

DATE



Town of Hilton Head Island
Design Review Board
1 Town Center Court
Hilton Head Island, SC 29928

RE: Co-location onto existing tower located at Spanish Wells Rd.

To Whom It May Concern:

Clearwire is proposing a co-location of panel antennas onto the existing American Tower site that is located off of Spanish Wells Rd. Clearwire is proposing to install 3 panel antennas to the existing tower at a RAD center of 165', which will not increase the height of the tower. They will also be placing an outdoor cabinet onto a 6'x6' platform that will be elevated 7', as a requirement per the A-7-14 flood zone. The placement of the elevated platform and the cabinet will not result in the fence/compound having to be expanded. This activity falls in accordance with the special exception that was granted to construct the tower as Clearwire is trying to use the existing structure that is in place to co-locate their antennas and equipment.

Thanks,

Michael Flint
American Tower Corporation
michael.flint@americantower.com

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OF SERVICE, ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER CORPORATION AND THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. REPRODUCTION OR PUBLICATION BY ANY METHOD, IN WHOLE OR IN PART, IS PROHIBITED EXCEPT BY WRITTEN PERMISSION FROM AMERICAN TOWER CORPORATION. TITLE TO THESE PLANS AND/OR SPECIFICATIONS SHALL REMAIN WITH AMERICAN TOWER CORPORATION WITHOUT PREJUDICE AND VISUAL CONTACT WITH THEM SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.



AMERICAN TOWER
STRUCTURAL ENGINEERING
8505 FREEPORT PARKWAY
SUITE 135
IRVING, TX 75063
(972) 999-8900 Tel.
(972) 999-8940 Fax
NYSE:AMT

SITE NUMBER:
97960

SITE NAME:
INDIGO RUN

SITE ADDRESS:
600 WEST OF GRANT DR
& SPANISH WELLS ROAD
HILTON HEAD ISLAND, SC 29926



STAMP HERE:

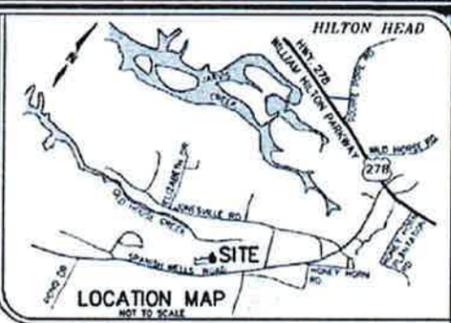
DRAWN BY:	PP
CHECKED BY:	SAE
DATE DRAWN:	08-13-2010
JOB NO.:	455613K2
SHEET TITLE:	
SHEET NUMBER:	S-1
REV. #	0

DATE: 9 APRIL, 1996
 Drawn: DRB
 Design: KAW
 Checked: KAW
 Approved: RDB
 CAD File: 6085BDRY.dwg
 P.L. & Fig. 19-89
 P.B. & Fig.
 Pl. Board App'l.
 Date: Revision No.

CORNERSTONE
SURVEYING & ENGINEERING, INC.
200 E. Broad Street, Suite 100, Charleston, SC 29403-4100
Phone: 803.781.0100

A BOUNDARY SURVEY PLAT FOR TRACT "F" and LEASE AREA "A" PART OF THE "HONEY HORN PLANTATION" a.k.a. THE ABBY WRIGHT TRACT LEASE AREA "A" to be LEASED TO 360° COMMUNICATIONS COMPANY LOCATED IN THE TOWN OF HILTON HEAD, HILTON HEAD ISLAND, BEAUFORT COUNTY, SOUTH CAROLINA

Proj. No.: 96085
Sheet 1 of 1



D.C.R.M. CRITICAL LINE STATEMENT

THE AREA SHOWN ON THIS PLAT IS A GENERAL REPRESENTATION OF THE D.C.R.M. CRITICAL LINE STATEMENT. THE D.C.R.M. CRITICAL LINE STATEMENT IS THE PROPERTY OF AMERICAN TOWER CORPORATION AND IS SUBJECT TO CHANGE OVER TIME. BY GENERALLY DELINEATING THE PERMIT AUTHORITY OF THE D.C.R.M. CRITICAL LINE STATEMENT, THE SURVEYOR DOES NOT WARRANT THE ACCURACY OF ANY CRITICAL AREA ON THE SUBJECT PROPERTY UNLESS SHOWN HEREON OR NOTED OTHERWISE.

SCALE: _____ DATE: _____
 THE CRITICAL LINE SHOWN ON THIS PLAT IS VALID FOR THREE YEARS FROM DATE OF THIS SIGNATURE, SUBJECT TO THE CAUTIONARY LANGUAGE ABOVE.

REFERENCES:

- U.S.C.S. 1:50,000 SERIES (TOPOGRAPHIC) QUAD MAP DESIGNATED BLUFFTON, SC. 1956, MAD 27, NAD 83
- BEAUFORT COUNTY TAX MAP, (HILTON HEAD ISLAND) #R500-007-000 & #R510-007-000
- REFERENCE PLATS AND DEEDS FOUND ON RECORD IN THE BEAUFORT COUNTY R.M.C. OFFICE THAT ARE RELEVANT TO THE SUBJECT PROPERTY
- DEEDS PLATS SURVEY OF PARCELS DATE
 787/1249 29/231 TMS# -0092 R -0158 6-3-81
 and 1253 49/108 4-2-81
 890/1837 24/106 TMS# -0278 5-20-83 (REV. 5-17-94)
 227/1648 35/273 TMS# -0167 2-11-78 (EXEMPTED)
 833/2543 29/175 TMS# -0147H 6-5-81
 357/405 30/28 TMS# -0214C 6-5-81
 495/2705 15/786 TMS# -0216A 11-18-81
- SURVEY PLAT OF A 2.06 ACRE TRACT (aka TRACT "F" ON PLAT 32/51, DATED 4-2-81) A SECTION OF THE ABBY WRIGHT TRACT, AS DONE BY COASTAL SURVEYING CO., INC. AND DATED 3-11-86. PLAT RECORDED IN THE BEAUFORT COUNTY R.M.C. OFFICE IN PLAT BOOK/PAGE: _____

NOTES:

- THIS IS NOT A VALID TRUE COPY OF THIS DOCUMENT UNLESS IT BEARS THE ORIGINAL SIGNATURE AND THE RAISED, EMBOSSED SEAL OF THE SURVEYOR NOTED HEREON
- ANYTHING SHOWN OUTSIDE THE DEFINED BOUNDARY OF THIS PLAT IS FOR DESCRIPTIVE PURPOSES ONLY
- THIS PLAT HAS BEEN DONE FOR 360° COMMUNICATIONS COMPANY, IN ACCORDANCE WITH THEIR PLANNED USE AND PURPOSE OF THE INFORMATION SHOWN HEREON. ALL OTHER PARTIES ARE SUBSEQUENTLY PUT ON NOTICE AS TO THE LIMITED DEGREE OF RELIANCE UPON THIS PLAT BY THIRD PARTIES.
- THE PUBLIC RECORDS REFERENCED ON THIS PLAT ARE ONLY THOSE USED FOR THE ESTABLISHMENT OF THE BOUNDARY OF THIS PROPERTY. THEY ARE NOT AND DO NOT CONSTITUTE A TITLE SEARCH.
- THE LATITUDE AND LONGITUDE OF THE PROPOSED CELLULAR AND COMMUNICATIONS TOWER SITUATED WITHIN LEASE AREA "A" ARE AS FOLLOWS:
 LATITUDE: 32°37'09" N MAD 83 (1988 ADJUSTMENT)
 LONGITUDE: 80°45'21" W MAD 83 (1988 ADJUSTMENT)
 a) GROUND ELEVATION AT THE PROPOSED TOWER SITE: 61' MVD 88
- THIS PROPERTY MAY BE SUBJECT TO VARIOUS UTILITY EASEMENTS (I.E. POWER, TELEPHONE, SANITARY AND/OR STORM SEWER) THAT WERE NOT NOTED EITHER IN THE REFERENCE DEEDS OR REFERENCE PLATS ASSOCIATED WITH THIS PROPERTY. THE UTILITIES SHOWN HEREON ARE BASED ON FIELD SURFACE LOCATIONS, AND WERE NOT VERIFIED AS TO SIZE, DEPTH, MATERIAL, and/or COVERAGE.
- ACCORDING TO F.E.M.A. FIRM PANEL 450250 0000 D, DATED 4/7/87, THIS PROPERTY IS LOCATED IN FLOOD ZONE A7, (ELEVATION 14' MVD 28)
- THE D.C.R.M. CRITICAL LINE DELINEATION SHOWN HEREON FOR LEASE AREA "A" WAS FIELD DELINEATED ON 4-3-86 BY THE D.C.R.M.-D.E.C. OFFICE (BEAUFORT, S.C.), AND SUBSEQUENTLY FIELD SURVEYED BY CORNERSTONE SURVEYING & ENGINEERING, INC.
- THE CENTRAL ELECTRIC COOPERATIVE "115" POWER LINE EASEMENT SHOWN HEREON IS REFERENCED AS "EMPHAT A" IN DEED BOOK/PAGE 529/786H-1848, AND DEBATED AS "PART OF A-5-ONE B" ON A PLAT OF "HONEY HORN PLANTATION" WHICH WAS FOUND RECORDED IN PLAT BOOK/PAGE 32/53 (BEAUFORT COUNTY R.M.C.). THE EASEMENT WIDTH FOR TRACT A-5-ONE B IS SHOWN AS 115' ON THE AFORESAID PLAT. HOWEVER, THE ACTUAL WIDTH AS DETERMINED BY THE EXISTING MONUMENTS SURVEYED ON BOTH SIDES OF THIS PARCEL, # R500-007-000-0092-0000 (CALBOGUE RIVER PARTNERSHIP) IS LESS THAN 115'. AS THE POWERLINE EASEMENT FRAMES IN FRONT OF AND ALONG TRACT "F" AND LEASE AREA "A", NO SURVEYING WAS DONE BY C.S.E. TO RECORDE THIS DISCREPANCY.
- THE "40' INGRESS-EGRESS EASEMENT" SHOWN AT THE SOUTHEAST CORNER OF TRACT "F" IN LEASE AREA "A" IS BASED ON THE SURVEY PLAT DONE BY COASTAL SURVEYING CO., INC. (SEE REFERENCE #4) FOR TRACT "F". THE EASEMENT IS SHOWN ON THE REFERENCED PLAT, BUT IS NOT DELINEATED WITH ANY BEARING AND DISTANCES, NOR NOTED AS TO THE APPROVAL, R/W OR DEDICATION OF THE EASEMENT.

LINE TABLE

LINE	BEARING	DISTANCE	COURSE	BEARING	DISTANCE
L1	S 78°11'25"E	28.60	L10	S 22°55'34"E	1.80
L2	N 71°13'00"E	10.00	L11	S 41°34'41"E	1.00
L3	S 61°32'07"E	20.25	L12	N 71°13'00"E	2.00
L4	N 83°00'00"E	10.00	L13	S 42°41'14"E	42.31
L5	N 83°00'00"E	10.00	L14	N 26°58'13"W	21.63
L6	N 56°17'37"E	30.42			
L7	N 56°17'37"E	30.42			
L8	N 57°22'40"E	10.20			
L9	N 55°53'09"E	38.82			

TRACT DATA: TRACT F & LEASE AREA "A"

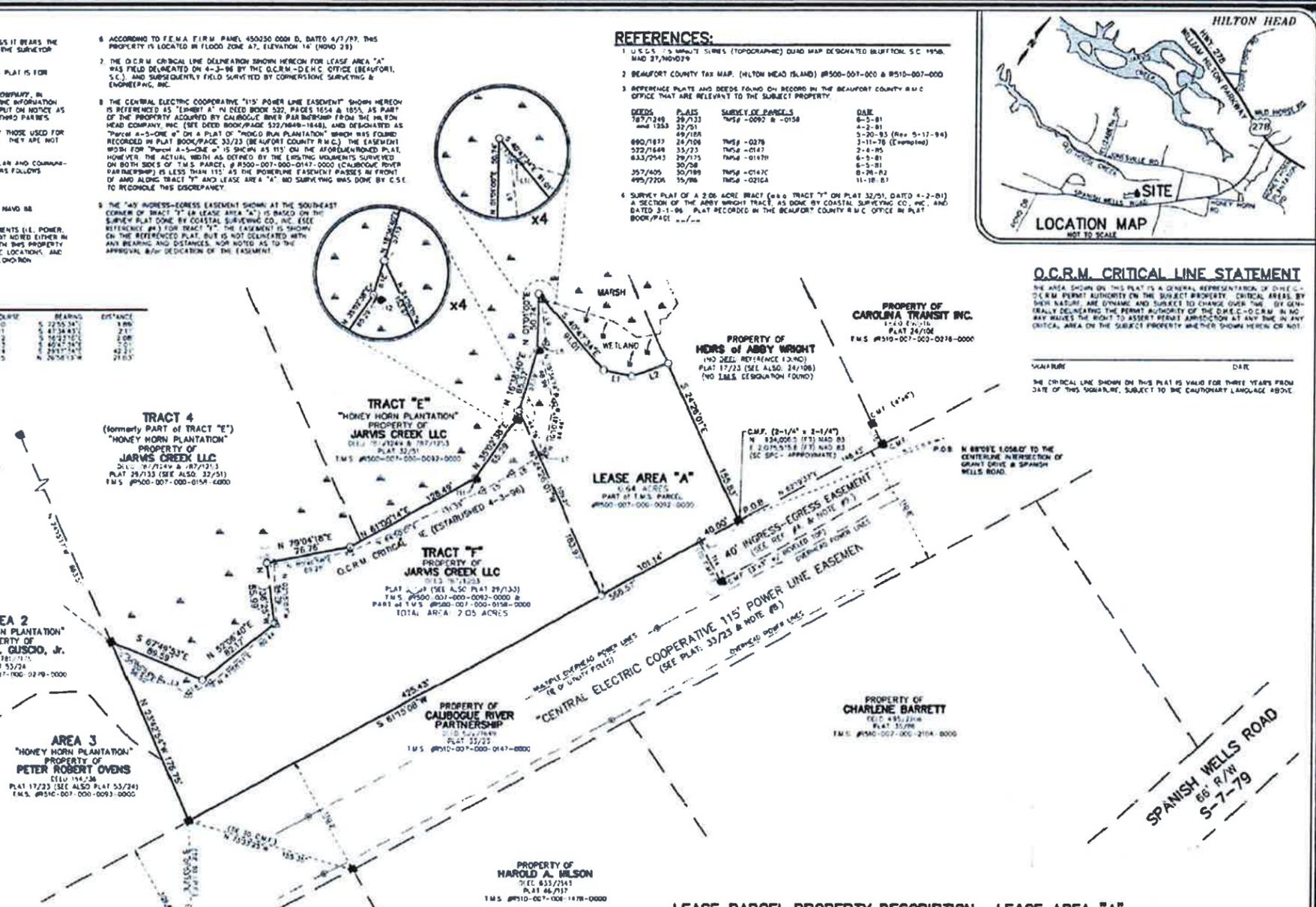
OWNER: JARVIS CREEK LLC, A SOUTH CAROLINA LIMITED LIABILITY CORPORATION
 REFERENCE DEED: 787/1249 (SEE ALSO 787/1253, QUIT-CLAIM DEED)
 REFERENCE PLAT: 32/51 (SEE ALSO REF. #4)
 T.M.S. # R500-007-000-0092-0000 & -0158-0000
 TRACT AREA: TRACT "F" (TOTAL) - 2.05 ACRES
 TOTAL UPLAND AREA: 1.90 ACRES (42,890 SQ.FT.)
 CRITICAL AREA: 0.54 ACRES (11,931 SQ.FT.)
 LEASE AREA "A" - 0.64 ACRES (27,878 SQ.FT.)
 UPLAND AREA: 0.60 ACRES (25,948 SQ.FT.)
 CRITICAL AREA: 0.04 ACRES (1,030 SQ.FT.)
 TRACT "F" AREA w/o LEASE AREA "A" - 1.41 ACRES
 UPLAND AREA: 1.30 ACRES (28,947 SQ.FT.)
 CRITICAL AREA: 0.11 (2,949 SQ.FT.)

LEGEND

- PROPERTY LINE (P.L.)
- LEASE AREA "A" BOUNDARY LINE
- ADJOINER BOUNDARY
- INGRESS-EGRESS EASEMENT (I.E.E.)
- D.C.R.M. CRITICAL LINE
- OVERHEAD UTILITY LINE
- PERPENDICULAR OFFSET/FE
- IRON PIN SET (IF REBAR)
- IRON PIN FOUND (I/P) AND UNLESS NOTED OTHERWISE)
- CONCRETE MONUMENT FOUND, C.M.F.
- (3"x3" SQUARE UNLESS NOTED OTHERWISE)
- COMPUTED POINT, NO MONUMENT SET
- POINT OF BEGINNING
- REVIEW
- BIGHT-OF-WAY
- LINE LABEL (SEE TABLE)
- THE REFERENCE LINE LABEL (SEE TABLE)
- SQUARE FEET
- HIGHWAY
- UTILITY POLE
- MARSH
- WETLAND

I, Robert David Stanton, a Registered Professional Land Surveyor in the State of South Carolina, hereby state that to the best of my knowledge, information, and belief, the survey shown hereon was made in accordance with the requirements of the Uniform Standards Manual for the Practice of Land Surveying in South Carolina, and reads or exceeds the requirements for a class "A" survey as specified therein.

Robert David Stanton, P.L.S. & P.C. South Carolina Registration Number 11083



LEASE PARCEL PROPERTY DESCRIPTION- LEASE AREA "A"

All that parcel, lot, or tract of land situated being and being in the Town of Hilton Head, Hilton Head Island, Beaufort County, South Carolina, and designated hereon as LEASE AREA "A", being part of TRACT "F" of "HONEY HORN PLANTATION", a.k.a. "A" Section of the Abby Wright Tract, being now or formerly, the property of JARVIS CREEK LLC, about to be leased to 360° COMMUNICATIONS COMPANY, and being more particularly described as follows:

BEGINNING at a concrete monument (2-1/4" x 2-1/4" square) found at the eastern corner of TRACT "F" and being on the northeastern side of a 115' wide utility easement, said boundary also being the northeastern side of a 40' non-exclusive ingress-egress easement and the common line with the property, now or formerly, of Calboogue River Partnership, said monument being 5.821537' from a 3" x 3" square concrete monument also found on the northeastern side of the aforementioned utility and access easements and the property of Calboogue River Partnership;

THENCE S 61°50'08" E 84.14' along the southeastern side of LEASE AREA "A" to an iron pin (8" rebar) set on the common boundary between TRACT "F" and the property of Calboogue River Partnership, said monument being 5.821537' from a 3" x 3" square concrete monument also found on the northeastern side of the aforementioned utility and access easements and the property of Calboogue River Partnership;

THENCE N 10°26'45"E 5.718' to an iron pin (8" rebar) set;

THENCE N 08°50'07" E 20.74' to an iron pin (8" rebar) set;

THENCE S 40°47'34"E 58.61' to an iron pin (8" rebar) set;

THENCE S 78°12'25"E 36.50' to an iron pin (8" rebar) set;

THENCE N 71°13'00"E 38.45' to an iron pin (8" rebar) set on the northeastern side of LEASE AREA "A";

THENCE S 24°24'04"E 155.83' along the common boundary of TRACT "F"/LEASE AREA "A" with the property, now or formerly, of Carolina Transit, Inc., to a concrete monument being (2-1/4" x 2-1/4" square) and the POINT OF BEGINNING for LEASE AREA "A";

Said LEASE AREA "A" having an area of 0.64 acres, and having access from State Road 66 R/W, as a Spanish Wells Road 66' R/W, via an existing 40' Non-Exclusive Ingress-Egress Easement situated along the eastern and eastern side of T.M.S. Parcel # R500-007-000-0147-0000, now or formerly, the property of CALBOGUE RIVER PARTNERSHIP, and being more particularly shown on said lease parcel survey plat entitled "A BOUNDARY SURVEY PLAT FOR TRACT "F" AND LEASE AREA "A" PART OF "HONEY HORN PLANTATION", aka THE ABBY WRIGHT TRACT, ABOUT TO BE LEASED TO 360° COMMUNICATIONS COMPANY", as done by Cornerstone Surveying & Engineering, Inc., and dated 9 April, 1996. The survey and plat referenced above is hereby incorporated into this lease parcel property description by specific reference to a more complete and accurate description of the boundary of LEASE AREA "A".

NOTE:
THIS SURVEY IS PROVIDED FOR REFERENCE PURPOSES ONLY. IT WAS SUPPLIED PREVIOUSLY BY A LICENSED SURVEYOR AND AMERICAN TOWER CORPORATION DOES NOT VERIFY ITS ACCURACY.

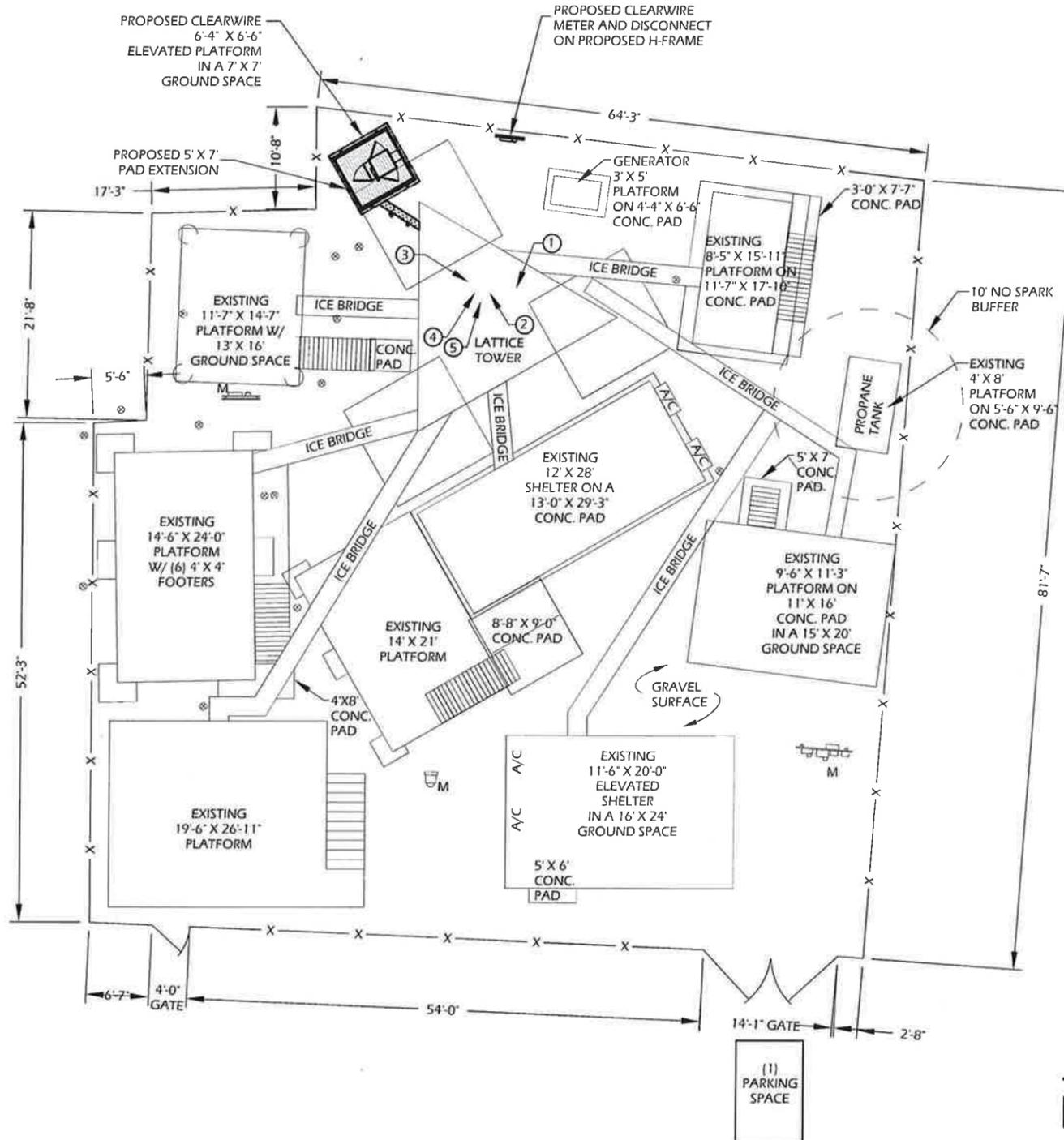
SCALE: 1" = 120'-0" (11 X 17)
1" = 60'-0" (24 X 36)



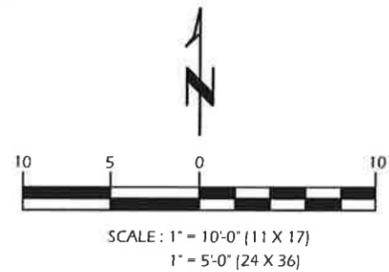
COMPOUND VIEW

LEGEND

—X—X—	CHAIN LINK FENCE
— — — —	PROPERTY LINE
— · — · —	LEASE AREA
— OHT/OHP —	OVERHEAD TELEPHONE/ OVERHEAD POWER
— — — —	UNDERGROUND UTILITY LINES
— · — · —	UTILITY EASEMENT



1 SITE PLAN



- CIVIL LEGEND:
- ① PROPOSED CLEARWIRE GROUND SPACE
 - ② PROPOSED 54" WDAP CABINET
 - ③ PROPOSED DAP CABINET MOUNTED TO THE EDGE OF THE PROPOSED PLATFORM ON 36" PLINTH. THE TELCO ENCLOSURE OF THE CABINET NEEDS TO HANG OVER THE EDGE OF THE PROPOSED PLATFORM TO ALLOW THE POWER, TELCO & GPS TO PENETRATE THE CABINET WITHOUT CUTTING THE FIBERCRETE PAD.
 - ④ PROPOSED WEATHERPROOF ELECTRICAL PANEL
 - ⑤ PROPOSED 2"Ø SCH 40 PVC POWER CONDUIT

GENERAL NOTES:

HEIGHT: EXCLUDING THE TOWER, NO EXISTING OR PROPOSED STRUCTURE (INCLUDING GROUND EQUIPMENT) WILL EXCEED THE HEIGHT LIMITATIONS OF THE DISTRICT.

LIGHTING: THE PROPOSED INSTALLATION AND EXISTING FACILITY WILL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.

GRADE: EXISTING GRADE WILL BE MAINTAINED FOR PROPOSED CONSTRUCTION.

PARKING: ONE PARKING SPACE IS REQUIRED, ONE EXISTING.

SIGNAGE: EXTERIOR SIGNS ARE NOT PROPOSED EXCEPT AS REQUIRED BY THE FCC.

STORM WATER CONTROL: THE PROPOSED FACILITY WILL RESULT IN AN INSIGNIFICANT INCREASE IN STORM WATER RUNOFF. CONSEQUENTLY, NO WATER QUALITY CONTROL DEVICES ARE PROPOSED.

UTILITIES: SANITARY SEWER SERVICE AND POTABLE WATER ARE NOT APPLICABLE PER THE USE. IF APPLICABLE, SUBCONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO EXCAVATING.

DRIVEWAY: A DRIVEWAY PERMIT IS NOT REQUIRED FOR THIS PROJECT. THE PROJECT WILL NOT REQUIRE RIGHT-OF-WAY OR PROPERTY TO BE DEDICATED FOR PUBLIC USE.

MISC: NO NOISE, SMOKE, DUST, VAPORS OR ODOR WILL RESULT FROM THIS PROJECT.

clearwire®

4400 CARILLON POINT
KIRKLAND, WA 98033

PHONE: (425) 216-7600
FAX: (425)-216-7900

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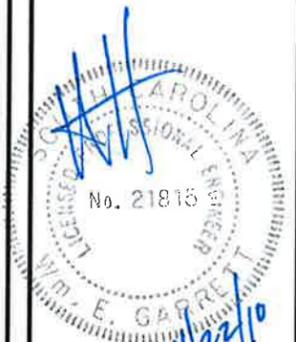
AMERICAN TOWER®
STRUCTURAL ENGINEERING

8505 FREEPORT PARKWAY
SUITE 135
IRVING, TX 75063
(972) 999-8900 Tel.
(972) 999-8940 Fax
NYSE:AMT

SITE NUMBER:
97960

SITE NAME:
INDIGO RUN

SITE ADDRESS:
600 WEST OF GRANT DR
& SPANISH WELLS ROAD
HILTON HEAD ISLAND, SC 29926



STAMP HERE:

DRAWN BY:	PP
CHECKED BY:	SAE
DATE DRAWN:	08-13-2010
JOB NO.:	455613K2

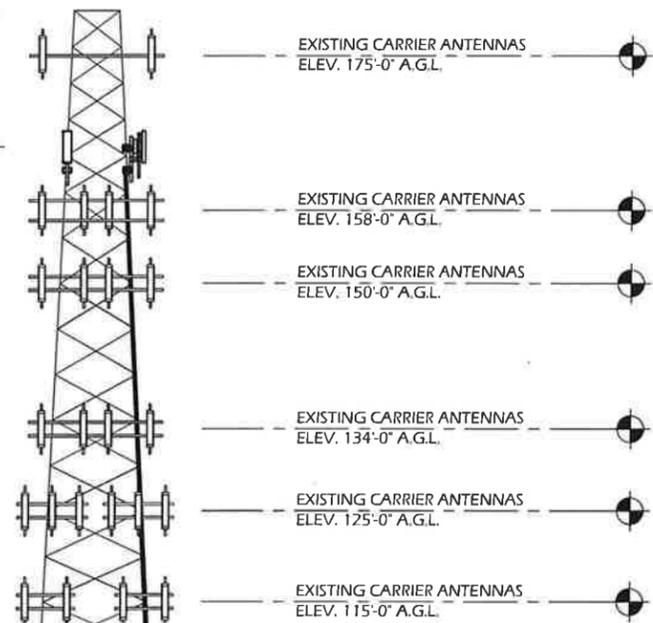
SHEET TITLE:
SITE PLAN

SHEET NUMBER:
A-1

REV. #
0

TOP OF EXISTING GUYED TOWER
ELEV. 180'-0" A.G.L.

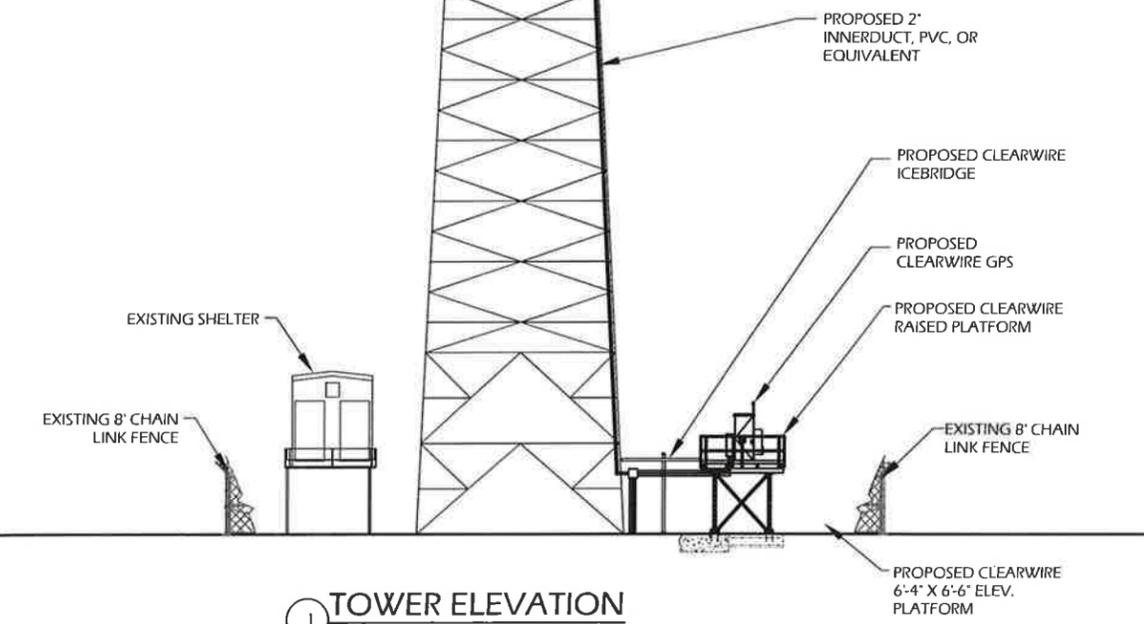
PROPOSED CLEARWIRE ANTENNAS AND BTS
ELEV. 165'-0" A.G.L.



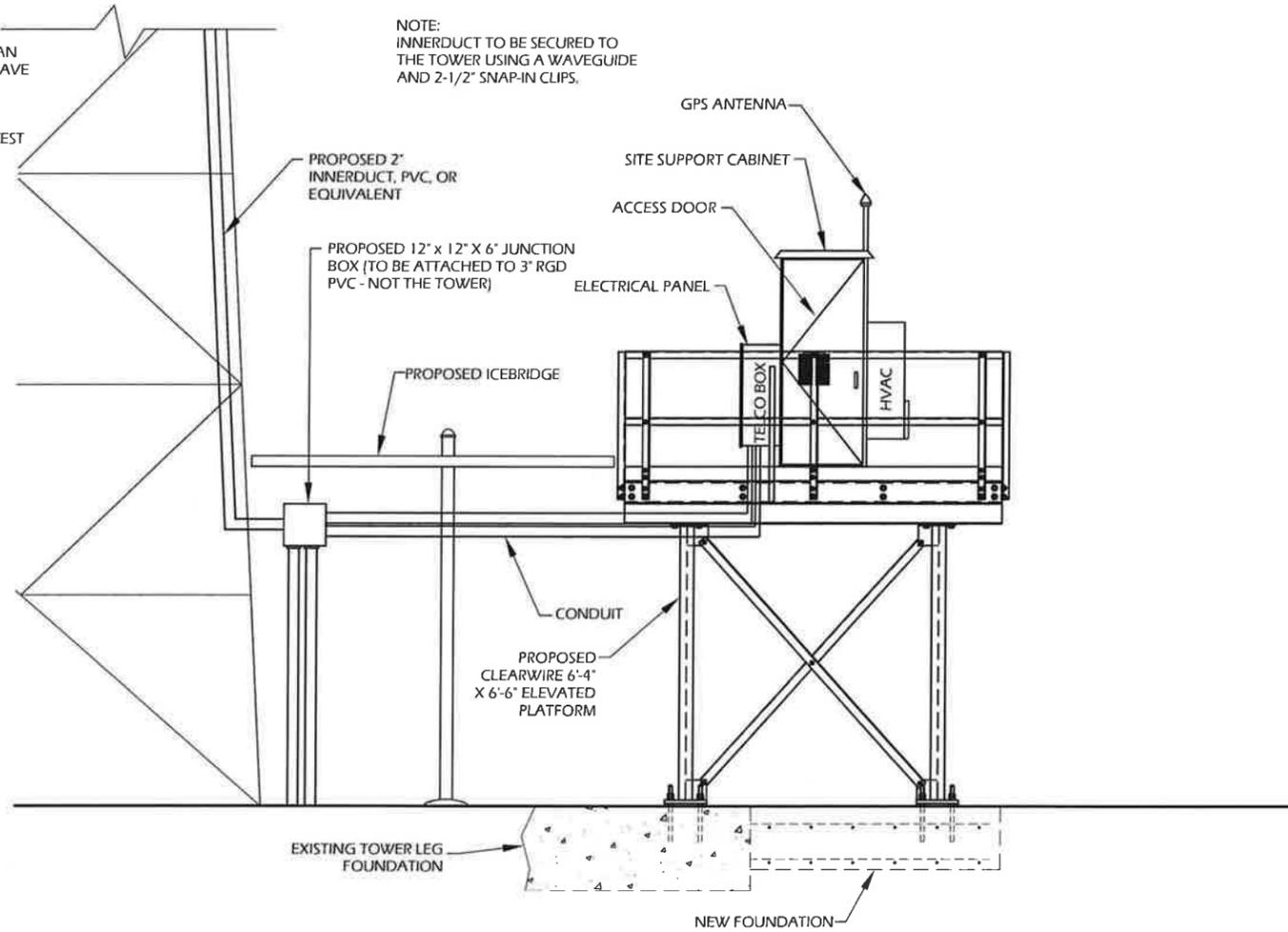
- NOTE:
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH AMERICAN TOWER PROJECT MANAGER (LISTED ON THE T-1 PAGE) THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK.
 - ALL COAX, ANTENNAS AND MOUNTS TO BE INSTALLED PER THE LATEST INFORMATION ON FILE WITH THE AMERICAN TOWER ENGINEERING DEPARTMENT.

RF CONFIGURATION			
	SECTOR 1	SECTOR 2	SECTOR 3
AZIMUTH	0	120	240
ANTENNA Ht (ft)	165'	165'	165'
# OF ANTENNAS	1	1	1
ANTENNA MODEL	ARGUS LLPX310R-V1	ARGUS LLPX310R-V1	ARGUS LLPX310R-V1
ELECTRICAL DOWN-TILT	0	0	0
MECHANICAL DOWN-TILT	0	0	0
CABLE QUANTITY & LENGTH (ft)	(2) 190'	(2) 190'	(2) 190'
CABLE TYPE (inches)	* 5/16"	* 5/16"	* 5/16"
BTS	(1) HUAWEI	(1) HUAWEI	(1) HUAWEI

* 5/16" ETHERNET CABLE AND POWER CABLE TO RUN IN A 3" RGD SCH. 40 PVC.
NOTE:
(6) ETHERNET CABLES TO RUN THROUGH A 2" INNERDUCT, PVC OR EQUIVALENT UP THE TOWER PER THE STRUCTURAL ANALYSIS.



1 TOWER ELEVATION
NOT TO SCALE



2 ENLARGED ELEVATION
NOT TO SCALE

clearwire®

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KIRKLAND, WA 98033
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8505 FREEPORT PARKWAY
SUITE 135
IRVING, TX 75063
(972) 999-8900 Tel.
(972) 999-8940 Fax
NYSE:AMT

SITE NUMBER:
97960
SITE NAME:
INDIGO RUN
SITE ADDRESS:
600 WEST OF GRANT DR
& SPANISH WELLS ROAD
HILTON HEAD ISLAND, SC 29926



STAMP HERE:
DRAWN BY: PP
CHECKED BY: SAE
DATE DRAWN: 08-13-2010
JOB NO: 455613K2

SHEET TITLE:
TOWER ELEVATION
SHEET NUMBER: **A-2**
REV. #: **0**

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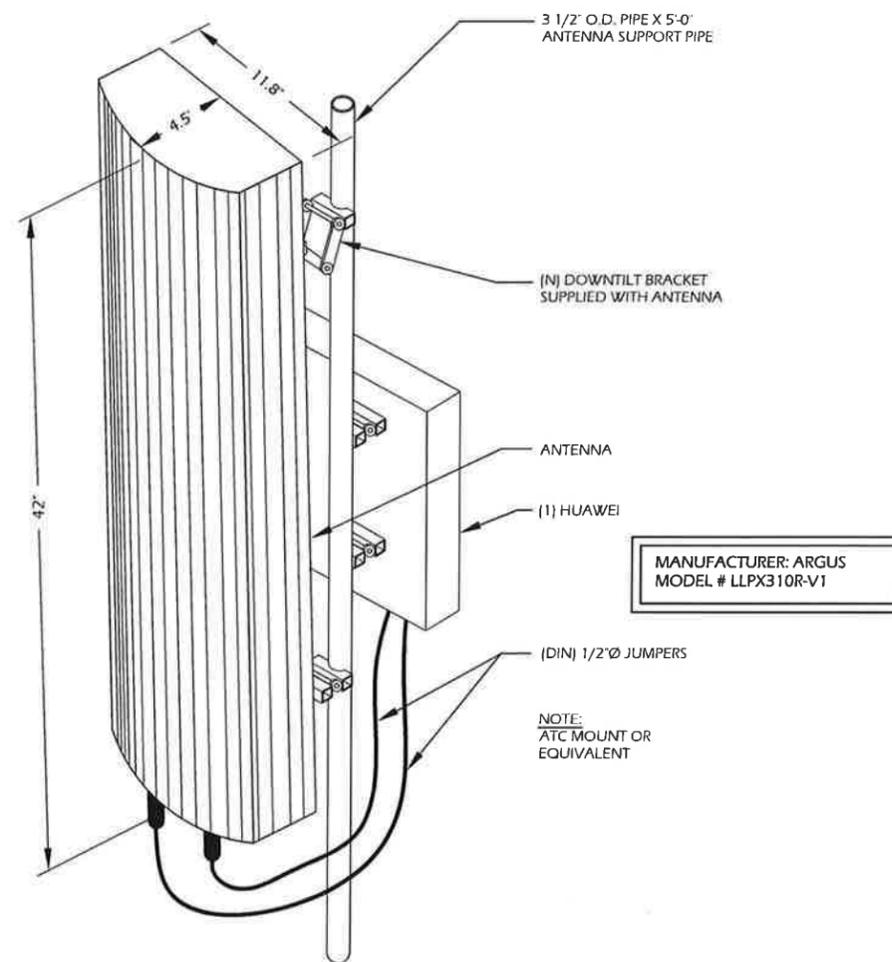
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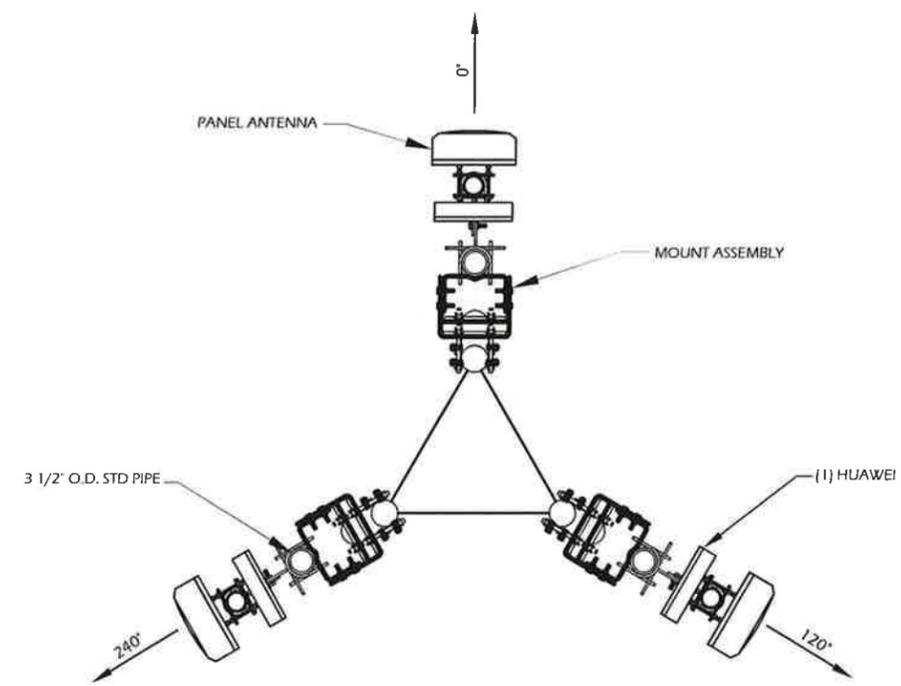
SHEET TITLE:

MOUNT
DETAILS

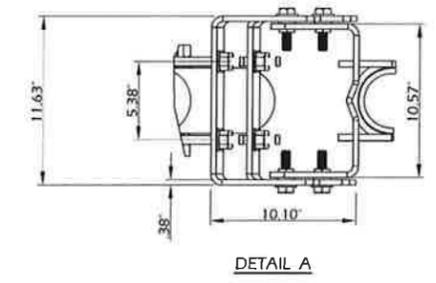
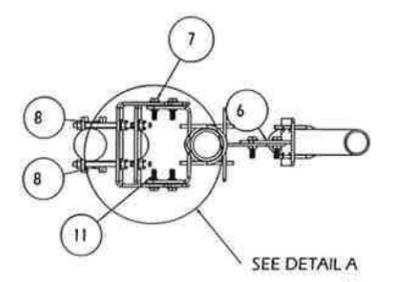
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A-3	0



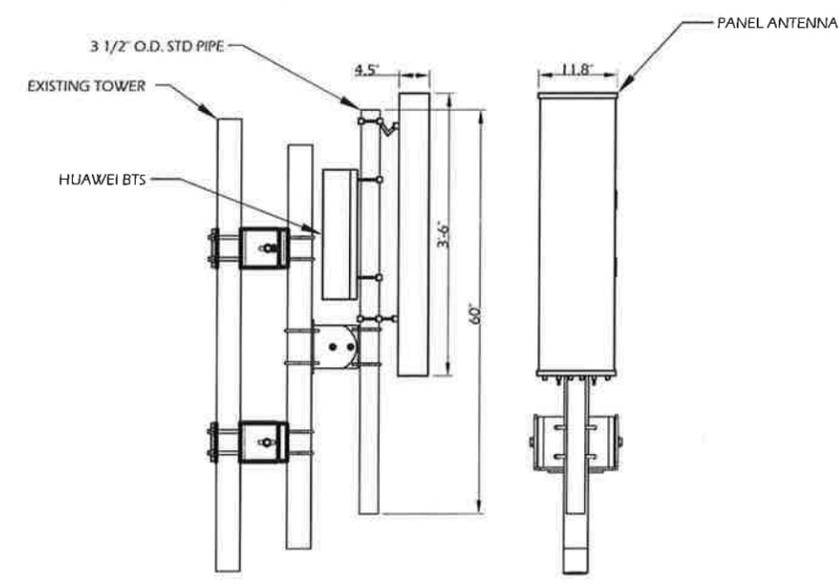
1 ANTENNA SPECIFICATIONS
NOT TO SCALE



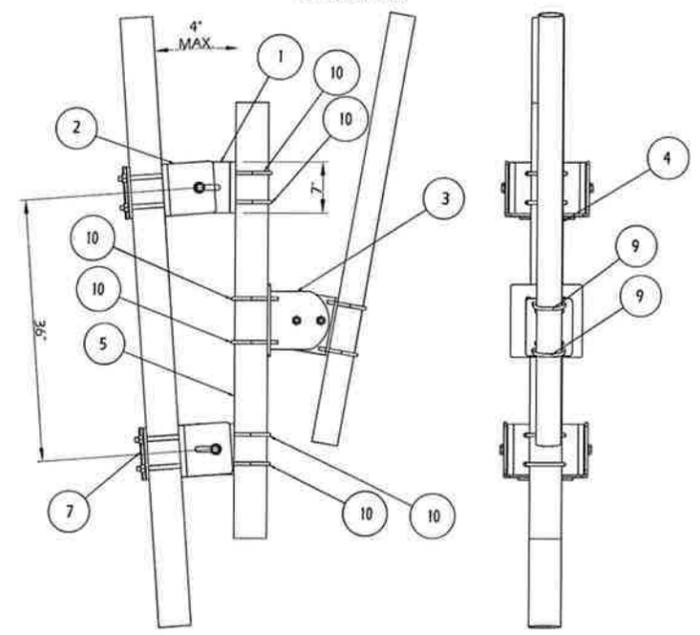
4 PLAN VIEW
NOT TO SCALE



DETAIL A



3 PIPE MOUNT ELEVATION
NOT TO SCALE

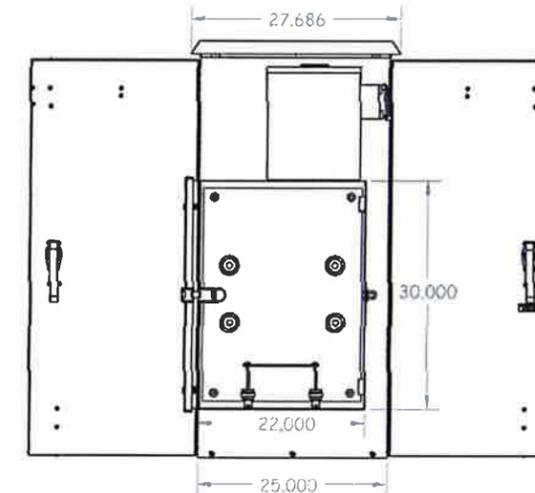
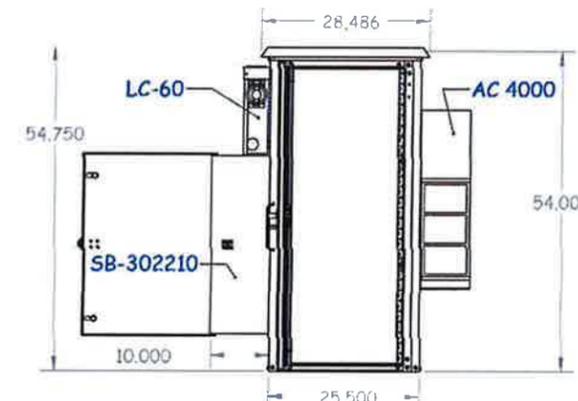
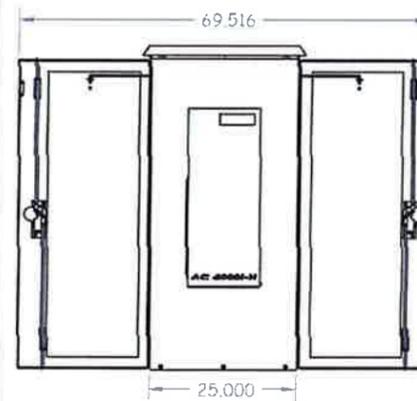
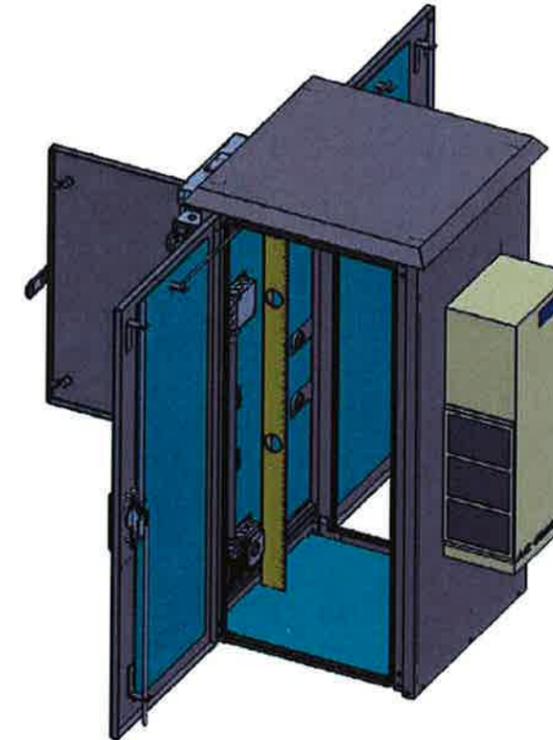
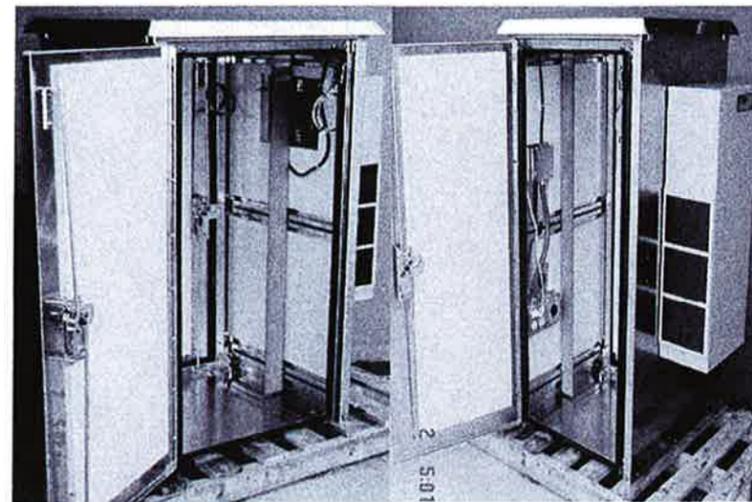
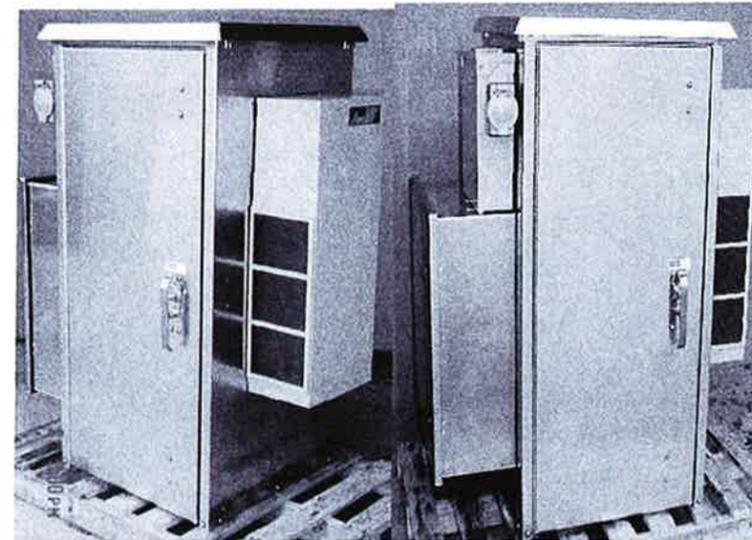


2 MOUNT ASSEMBLY
NOT TO SCALE

NOTE:
1. ITEM #4 & ITEM #9 MUST BE SPECIFIED PER JOB.
2. ITEM #6 WILL CHANGE TO PL6 IF ITEM #4 CHANGES TO 4-1/2" O.D. PIPE

ITEM #	QTY	PART NUMBER	DESCRIPTION
11	6	BOLT	3/8" X 1", A325 BOLT ASSY, (1) HHN-FLW-LKW
10	6	UB-12450	U-BOLT, 1/2" DIA, FOR 4.50" O.D.
9	2	UB-12350	U-BOLT, 1/2" DIA, FOR 3.5" O.D.
8	8	TR-1	5/8" THREADED ROD, 8" LONG
7	2	PL1	HALF CLAMP, 7 5/8" X 7 1/8" X 3/8" THICK PLATE
6	1	PL5	T PLATE WELDMENT, 2-3/8", 2-7/8", OR 3-1/2" O.D. PIPE
5	1	P2	4 1/2" O.D. PIPE, 60" LONG
4	1	P3	3 1/2" O.D. PIPE, 60" LONG
3	1	MS-TP1	T-PLATE ASSY, SINGLE ANTENNA MNT
2	2	UPB2	UNIVERSAL PIPE TO PIPE CHANNEL BRACKET
1	2	UPB1	UNIVERSAL PIPE TO PIPE CHANNEL BRACKET

UL CONFORMITY MARK	
EACH UNIT IS MARKED AND CONFORMS TO UL STD 60950-1(ITE) AND UL STD 1008 (MANUAL TRANSFER)	
GENERAL	
WEIGHTS:	254 LBS. ASSEMBLED 309 LBS. SHIPPING WEIGHT
DOORS:	TWO-SECURED BY THREE POINT LOCKING SYSTEM LOCKS VIA CUSTOMER SUPPLIED PADLOCKS SEALED WITH 13/16" ALUMINUM FILLED GASKETS
MATERIALS:	0.125" ALUMIFLEX FINISH: FLAT ALUMINUM RF PROPERTIES: NON-FERROUS
HANDLES:	STAINLESS STEEL
EXTERIOR SCREWS:	STAINLESS WITH NEMA WASHERS & NYLON LOCKING NUTS
RACKING SPECIFICATIONS	
RAILS:	TWO STANDARD (FOR ADDITIONAL RAIL SEE ACCESSORIES) ALODINE COATED HOLES TAPPED TO 10 X 32 THREADS EACH RAIL SUPPORTED BY THREE R-STRUTS 0.125" MATERIAL (ALUMIFLEX)
SPACING:	19" EIA STANDARD
POSITIONING:	ALL RAILS ARE FULLY ADJUSTABLE FROM FRONT TO REAR
INSIDE VERTICAL HEIGHT:	53 3/4" INCHES
USABLE RACK UNITS:	28 RU (+1 1/2" ADDITIONAL IN BOTTOM OF BATTERY)
USABLE DEPTH:	MAXIMUM 21 1/2" MINIMUM 19 3/4" (SEE BELOW)
DOOR OPENING CLEARANCE	
WIDTH:	19 1/2" INCHES
HEIGHT:	49 13/16" INCHES
EXTERIOR CABINET DIMENSIONS	
MAIN BODY:	WIDTH 25 1/2 INCHES HEIGHT: 54 1/4 INCHES DEPTH: 25 1/4 INCHES
ALUMISHIELD:	WIDTH: 28 1/16 INCHES HANG DOWN HEIGHT: 1 3/4 INCHES DEPTH: 27 1/4 INCHES
HANDLES:	PROTRUDE 1 7/8 INCHES
TOTAL SPACE OCCUPIED:	WIDTH: 28 1/16" HEIGHT: 54 1/2 INCHES DEPTH: 29 INCHES
INSIDE CLEARANCE - LESS RAILS	
WIDTH:	23 5/8 INCHES
HEIGHT:	54 INCHES
DEPTH:	SEE RACKING SPECIFICATIONS
ACCESSORIES INCLUDED	
ACCESSORIES:	R7-54DXCW COMES WITH THE FOLLOWING: <ul style="list-style-type: none"> SIDE-WALL MOUNTED 4000BTU AIR-CONDITIONER WITH 400 WATTS OF HEAT. 26"H X 22"W X 10"D SIDE SPOOL-UP BOX WITH REMOVALBLE PLYWOOD BACKPLATE AND 10" INSULATED COPPER GROUND-BAR. THERE IS A 2" CABLE PASSTHROUGH SEALED WITH A HAND DRILLED RUBBER STOPPER. A 100AMP MAIN, 8 SPACE LOAD-CENTER WITH A SIDE-MOUNTED 30AMP GENERATOR PLUG WITH MANUAL TRANSFER SWITCH. INTERIOR ELECTRICAL INCLUDES JUNCTION BOX TIED VIA CONDUIT TO 110V QUAD RECEPTACLE AND A 220V TWIST LOCK RECEPTACLE. 18" FLUORESCENT LIGHTBAR. FRONT & REAR DOORS ARE EQUIPED WITH DOOR ALARM SWITCHES AND WINDLOCKS. INTERIOR OF ENCLOSURE IS LINED WITH R3.3 CLOSED CELL FOAM INSULATION. RAIL SCREWS AND PAD MOUNTING HARDWARE INCLUDED. CUSTOM PALLET FOR SHIPPING AND STORAGE.
WARRANTY	
PERIOD:	15 YEARS-UNCONDITIONAL



1 CABINET ELEVATIONS

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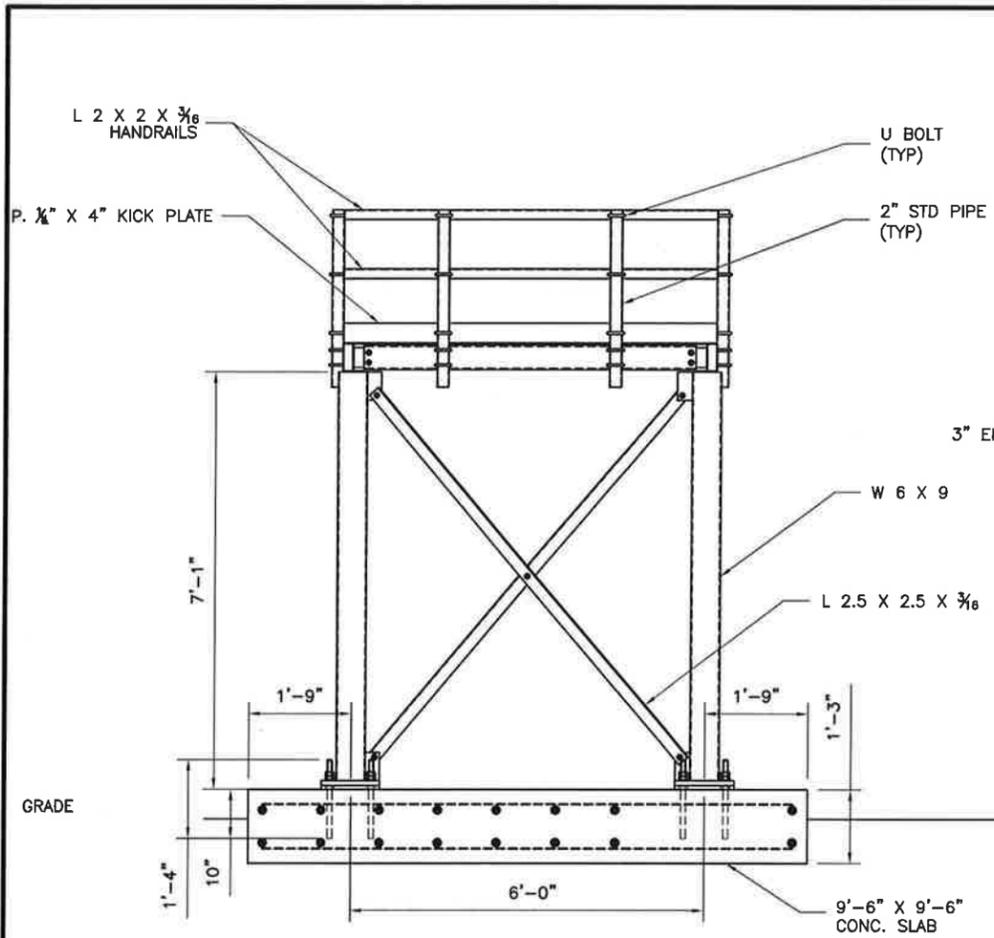
SITE NUMBER:
97960
SITE NAME:
INDIGO RUN
SITE ADDRESS:
600 WEST OF GRANT DR
& SPANISH WELLS ROAD
HILTON HEAD ISLAND, SC 29926



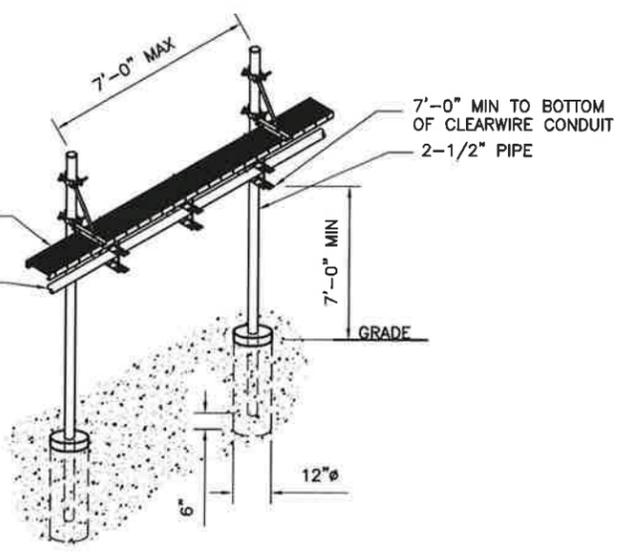
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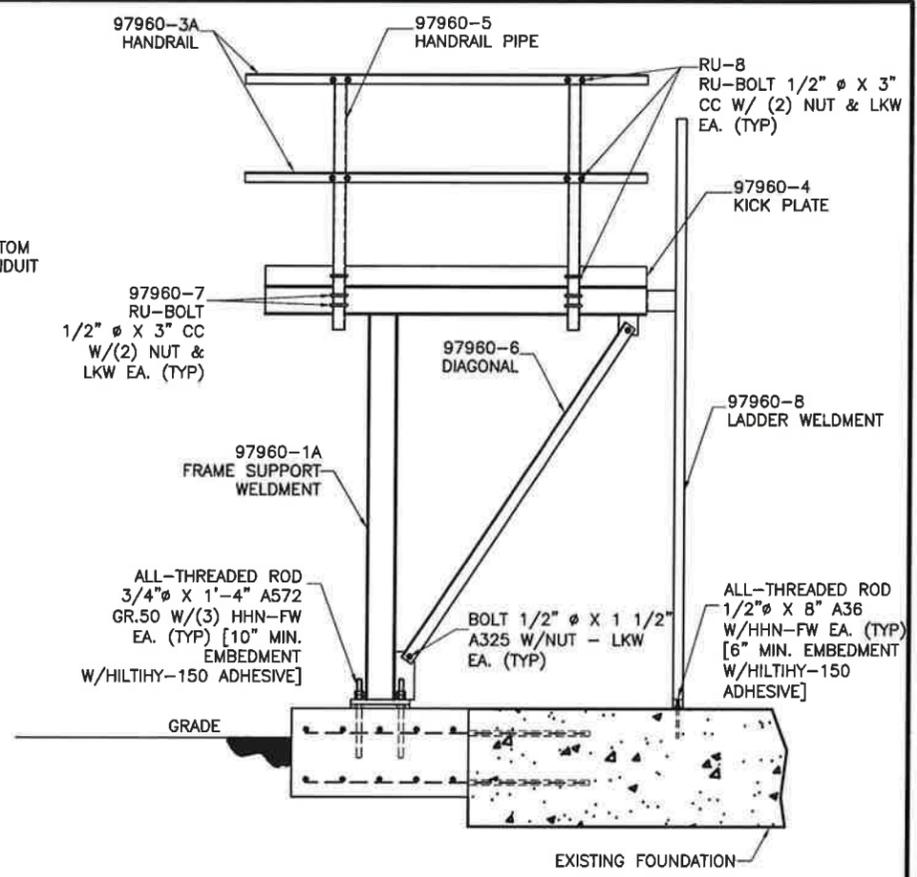
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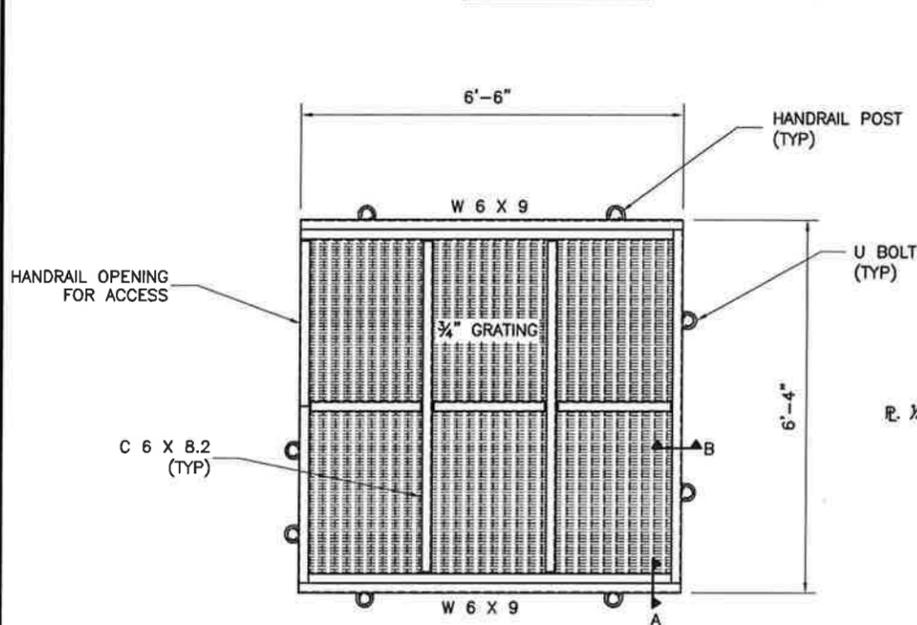
FRONT VIEW



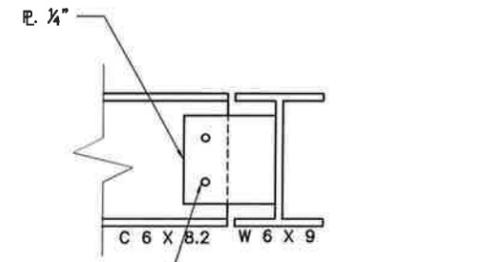
2 WAVEGUIDE BRIDGE DETAIL
NOT TO SCALE



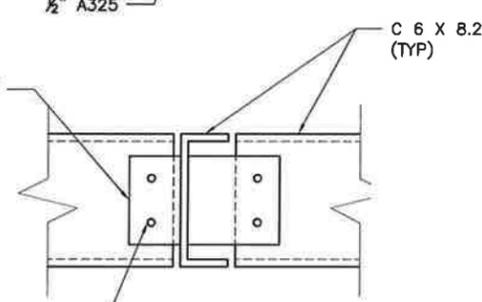
SIDE VIEW



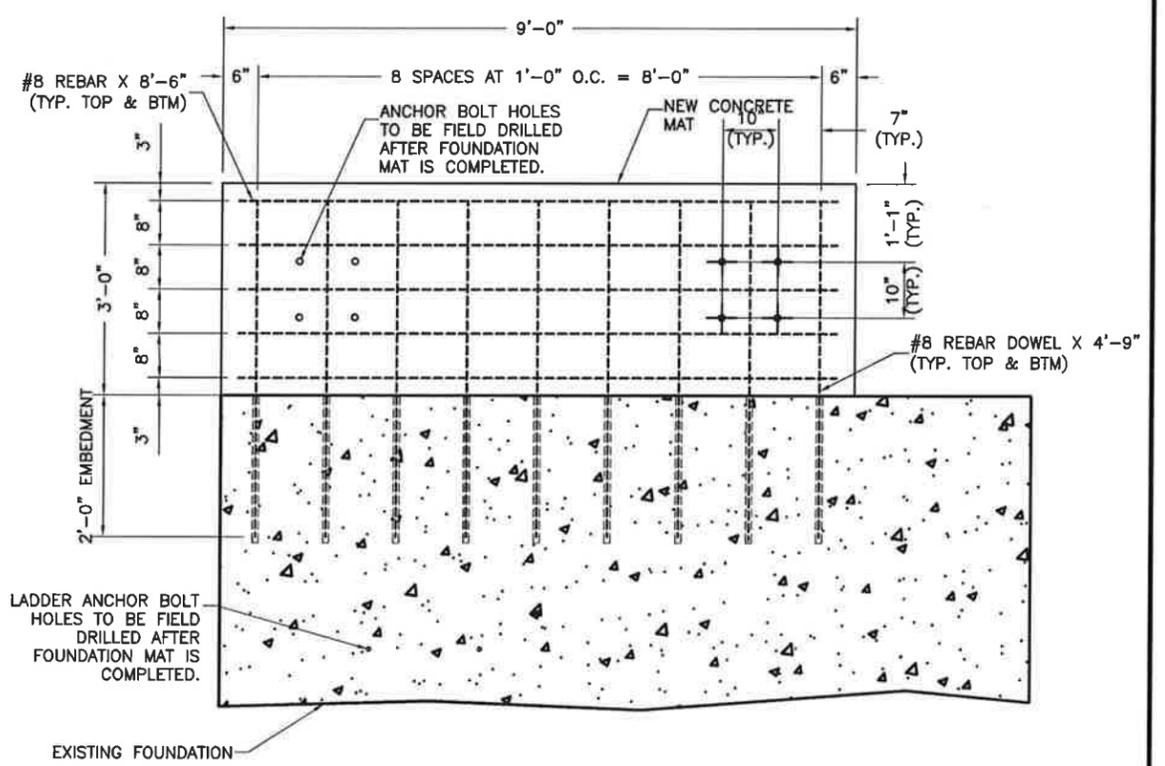
TOP VIEW



DETAIL A



DETAIL B



CONCRETE PAD FOUNDATION
FOR FOUNDATION INFORMATION SEE
MOD DRAWING #45561343

1 ELEVATED PLATFORM DETAILS
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97960

SITE NAME:

INDIGO
RUN

SITE ADDRESS:

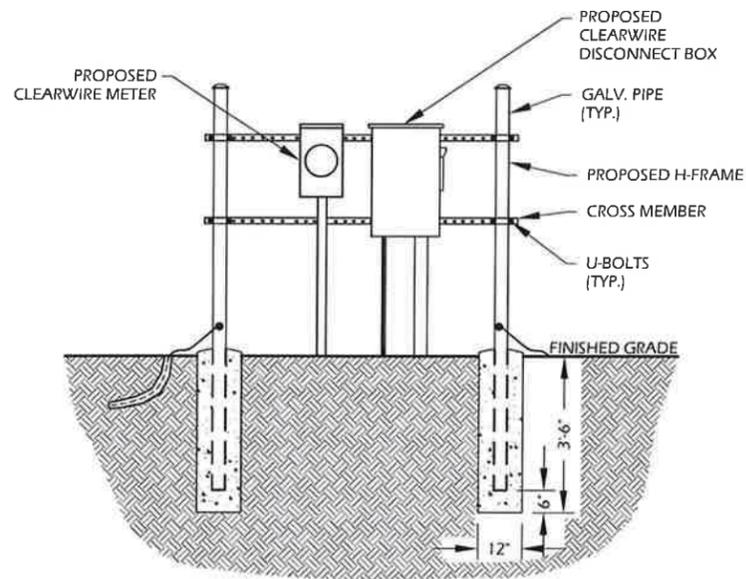
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SHEET TITLE:
PLATFORM &
ICE BRIDGE
DETAILS

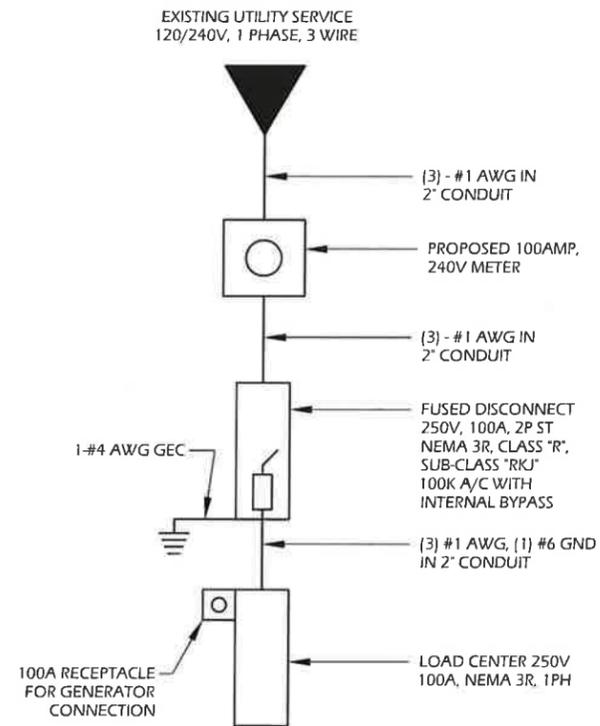
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A-5	1



METER RACK DETAILS



TELCO PHOTO



ONE-LINE DIAGRAM
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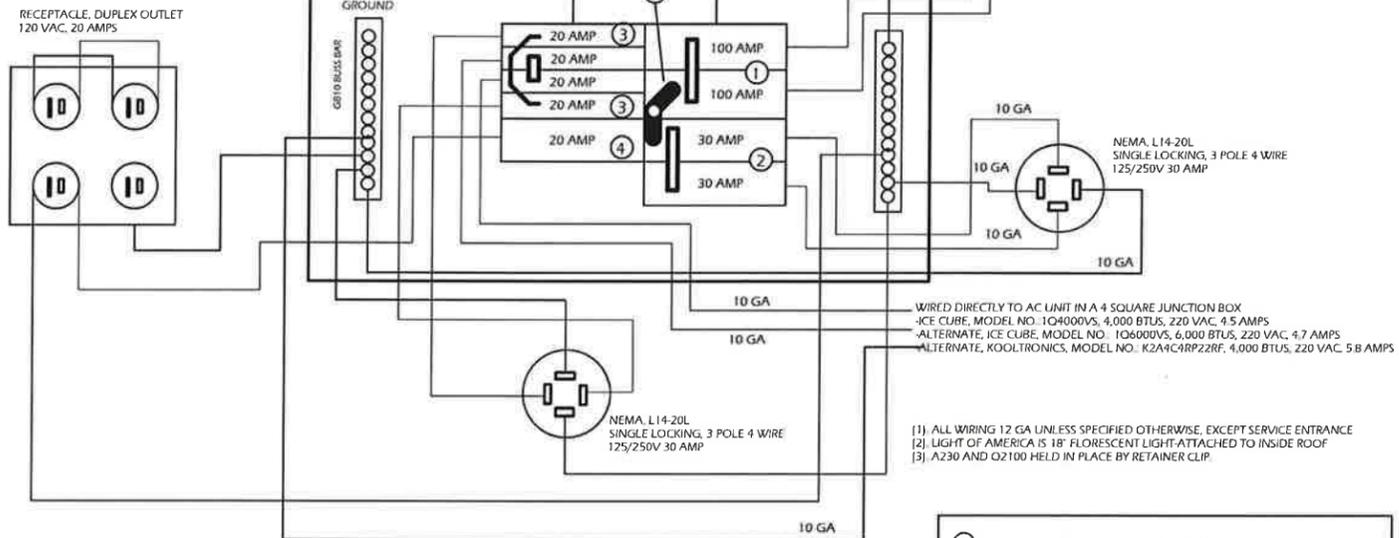
1 POWER AND TELCO DETAILS
NOT TO SCALE

GENERAL NOTES:

- OBTAIN PERMIT AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO CLEARWIRE TECHNOLOGIES, INC.
- SCHEDULE AND ATTEND INSPECTION RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.
- REDLINED AS-BUILTS ARE TO BE DELIVERED TO CLEARWIRE TECHNOLOGIES, INC. REPRESENTATIVE.
- PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.
- FURNISH AND INSTALL THE COMPLETE ELECTRICAL SYSTEM, TELCO SYSTEM, AND THE GROUNDING SYSTEM AS SHOWN ON THESE DRAWINGS.
- ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER AND SHALL BE SUBJECT TO APPROVAL BY CLEARWIRE TECHNOLOGIES, INC. REPRESENTATIVE.
- CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.
- PROTECT ADJACENT STRUCTURES AND FINISHED FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.
- REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE SITE OWNERS REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY. USE OF THE PROPERTY'S DUMPSTER IS PROHIBITED.
- CONTRACTOR TO CONFIRM AVAILABLE CAPACITY AT EXISTING UTILITY PEDESTAL AND ADVISE ENGINEER OF SERVICE SIZE AND FAULT CURRENT LEVEL.
- IF PEDESTAL DOES NOT HAVE ADEQUATE CAPACITY, CONTRACTOR TO SUBMIT COST QUOTATION TO UPGRADE. UPON APPROVAL OF SUBMITTED COST QUOTATION, THE CONTRACTOR SHALL PROVIDE NEW SERVICE AND/OR UPGRADE SERVICE. FEEDERS AND EQUIPMENT/ELECTRODE GROUNDING CONDUCTORS SIZED ACCORDINGLY.
- CONTRACTOR SHALL VERIFY SEPARATION DIMENSION BETWEEN POWER COMPANY ELECTRICAL CONDUITS AND LP GAS PIPES AS PER UTILITY COMPANY, LOCAL CODES, NEC, NFPA, AND GAS TANK MANUFACTURER'S SPECIFICATION.
- CONTRACTOR SHALL VERIFY THAT THE TOTAL NUMBER OF SERVICE ENTRANCE DISCONNECTS IN THE EXISTING UTILITY COMPANY PEDESTAL MUST NOT EXCEED SIX. IF THE NEW SERVICE ADDED EXCEEDS THIS VALUE, CONTRACTOR MUST COORDINATE WITH THE UTILITY COMPANY AND AUTHORITY HAVING JURISDICTION. THE RUNNING OF AN ADDITIONAL EXCLUSIVE AND DEDICATED SERVICE LATERAL SET FOR THE NEW LOAD ADDED TO THE COMPOUND AS PER NEC ARTICLE 230-2[B].
- THE EQUIPMENT/PROTECTIONS MUST BE RATED FOR STANDARD AIC RATE HIGHER THAN INCOMING EQUIPMENT AND/OR UTILITY COMPANY AIC RATE.

SIEMENS LOAD CENTER W0816ML1125
125 APM, 8 SPACES
1 PHASE, 3 WIRE 120/240 VAC

NOTE LIGHTS OF AMERICA MODEL 7000 PLUGS INTO ONE OUTLET. THE OTHER THREE OUTLETS ARE FOR SERVICE PERSONNEL ONLY.



MANUFACTURE	PART NUMBER	DESCRIPTION	APPROVALS
SIEMENS ELECTRICAL DISTRIBUTION	W0816ML1125	LOAD CENTER NEMA 3R	UL FILE E10703
SIEMENS ELECTRICAL DISTRIBUTION	Q120, Q2100, Q230, Q22020	CIRCUIT BREAKER	UL FILE EB2615
SIEMENS ELECTRICAL DISTRIBUTION	QML12	MECHANICAL LOCK OUT BAR	UL FILE E10703
PASS SEYMOUR	L14-20R	SINGLE RECP 20 AMP TWIST LOCK	UL 49B
SIEMENS ELECTRICAL DISTRIBUTION	N/A	BACK FEED MAIN BREAKER BUSS	UL FILE E10703
LEVITRON INCORPORATED	2715 FLANGE INLET	4 PRONG 220V 30 AMP CONNECTOR	UL FILE E13399

3 LOAD SCHEDULE
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SITE NAME:

INDIGO
RUN

SITE ADDRESS:
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& SPANISH WELLS ROAD
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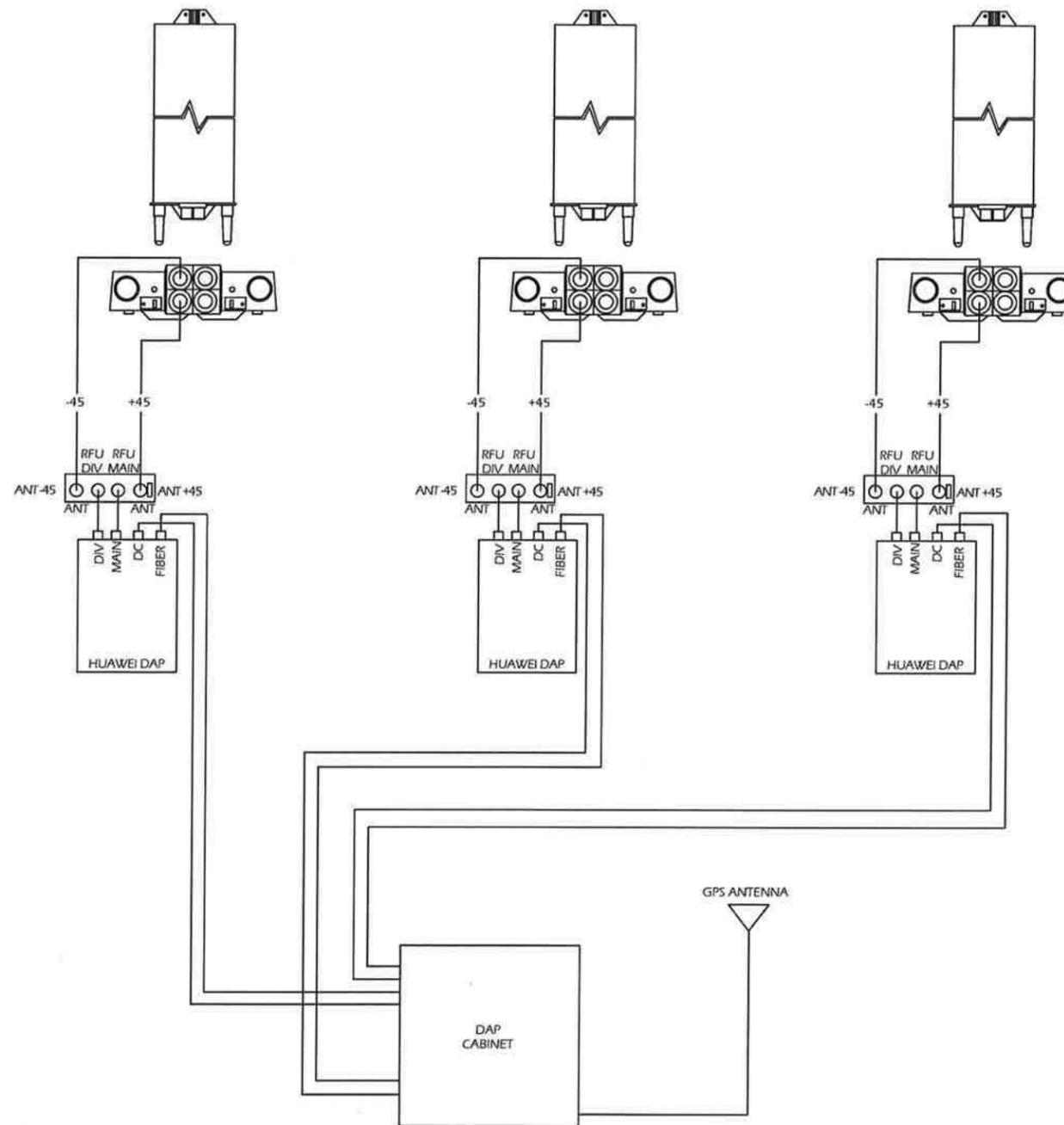
JOB NO: 455613K2

SHEET TITLE:

TELCO, METER
RACK DETAILS
AND LOAD
SCHEDULE

SHEET NUMBER: E-2

REV. # 0



THE TOWER TOP "N" FEMALE CONNECTOR ON THE MAIN FEED LINE WILL BE OMITTED AND REPLACED WITH AN "N" MALE TO ALLOW CONNECTION TO THE SURGE SUPPRESSOR.

* NOTE: ALL UN-USED ANTENNA PORTS MUST HAVE 50OHM TERMINATORS INSTALLED, ANY "N" STYLE TERMINATORS NEED TO BE WEATHERPROOFED.

1 DAP HEAD INSTALLATION
NOT TO SCALE

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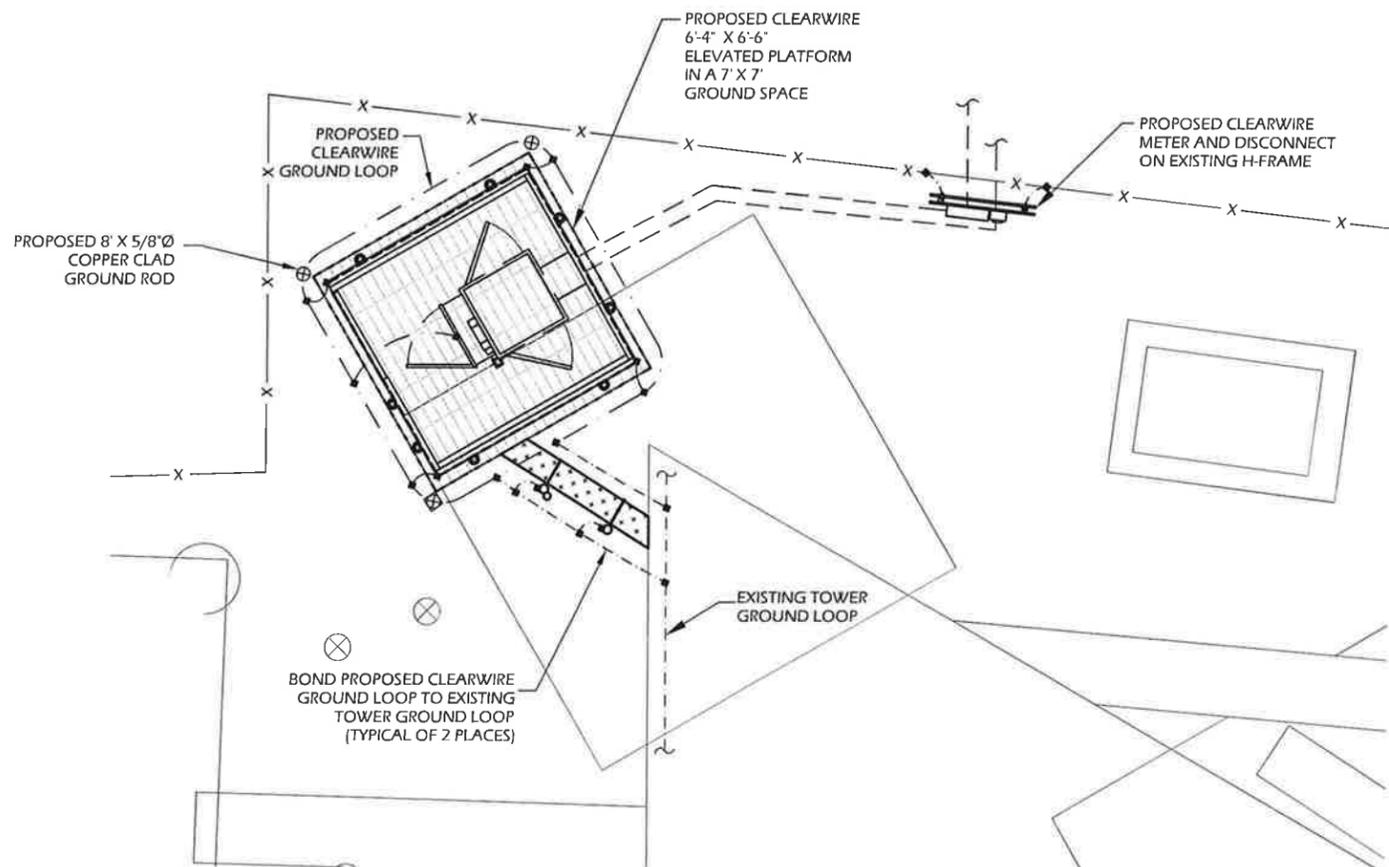


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SHEET TITLE:
**DAP HEAD
INSTALLATION**

SHEET NUMBER:	REV. #
E-3	0



GROUNDING NOTES:

1. GROUNDING SHALL COMPLY WITH NEC ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OF LISTED FOR THEIR INTENDED USE.
3. GROUND WIRES SHALL BE TINNED #2 AWG BARE SOLID CU UNLESS NOTED OTHERWISE.
4. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC (CADWELD) UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINE METAL. WHERE GROUND WIRES ARE CADWELD TO GALVANIZED SURFACE. SPRAY CADWELD WITH GALVANIZING PAINT.
5. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
6. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETSS KOPR-SHIELD (TM OF JET LUB INC.), PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
7. WHERE BARE COPPER GROUND WIRES ARE ROUTED AWAY FROM THE CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1'-0" ABOVE GRADE AND SEAL TOP WITH SILICONE MATERIAL.
8. PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROXIMATE ANTI-OXIDIZATION PAINT.
9. GROUNDING WIRE CONNECTIONS SHALL BE 3-CRIMP C-TAP COMPRESSION TYPE. SPLIT BOLTS ARE NOT ACCEPTABLE.
10. GROUND RODS SHALL BE COPPER CLAD STEEL 5/8" X 8' SPACE NOT LESS THAN 8' O.C.
11. CONNECTORS SHALL BE CRIMPED USING HYDRAULIC CRIMPING TOOLS.
12. SURFACE CONNECTIONS SHALL BE MADE TO BARE METAL. PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. APPLY NON-OXIDIZING AGENT TO CONNECTIONS.
13. COPPER BUSES SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
14. GROUNDING CONDUCTORS SHALL BE RUN THROUGH PVC SLEEVE WHERE ROUTED THROUGH WALLS, FLOORS, AND CEILING. ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.
15. HARDWARE (I.E. NUTS, BOLTS, WASHER, ETC.) IS TO BE STAINLESS STEEL.
16. EXOTHERMIC WELDS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS.
17. THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDED USING LOCKNUTS AND BONDING NUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTORS, RECEPTACLES AND EQUIPMENT BRANCH CIRCUITS SHALL BE GROUNDED WITH A FULL SIZED EQUIPMENT GROUNDING CONDUCTOR RUN IN THE CIRCUIT'S CONDUIT.
18. INSTALL GROUND BUSHINGS ON ALL METALLIC CONDUIT AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANEL BOARD.
19. GROUND BARS (SECTOR, COLLECTOR, MASTER) SHALL BE BARE 1/4" X 4" COPPER; LARGE ENOUGH TO ACCOMMODATE THE REQUIRED NUMBER OF GROUND CONNECTIONS. THE HARDWARE SECURING THE MIGB SHALL ELECTRICALLY INSULATE THE MIGB FROM ANY STRUCTURE TO WHICH IT IS FASTENED.
20. APPLY THOMAS & BETSS KOPR-SHIELD OR APPROVED EQUAL TO MAKING MECHANICAL CONNECTIONS. CONNECTIONS SHALL BE MADE WITH STAINLESS STEEL BOLTS, NUTS AND LOCK WASHERS 3/8" DIAMETER MIN. WHERE GALVANIZING IS REMOVED FROM METAL IT SHALL BE PAINTED OR TOUCHED UP WITH 'GALVONOX' OR EQUAL.
21. ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANEL, FRAME OF EQUIPMENT AND WHERE EXPOSED FOR GROUNDING CONDUCTORS TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE WITH STAINLESS STEEL SELF-TAPPING SCREWS.
22. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTOR AND PVC CONDUITS SHALL BE PVC TYPE (NON-CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
23. ALL BOLTS, WASHERS AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
24. THE CONTRACTOR SHALL ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT RESISTANCE TO EARTH DOES NOT EXCEED 5.0 OHMS. PROVIDE A COPY OF TESTING REPORT, INCLUDING THE METHOD AND INSTRUMENTS USED TO VERIFY RESISTANCE TO CLEARWIRE REPRESENTATIVE.
25. BOND CABINET THROUGH THE MAIN GROUND BAR.

LEGEND:

- CADWELD
- ⊗ PROPOSED 8x5/8"Ø COPPER CLAD GROUND ROD

1 GROUNDING PLAN
 SCALE: 1" = 10'-0" (11 X 17)
 1" = 5'-0" (24 X 36)

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SITE NUMBER:
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SITE NAME:
INDIGO RUN

SITE ADDRESS:
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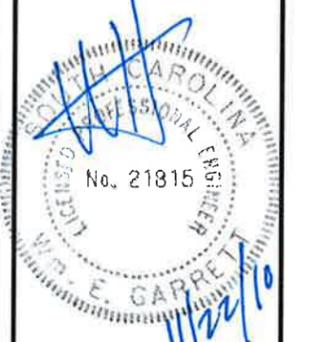
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GROUNDING PLAN

SHEET NUMBER:	REV. #
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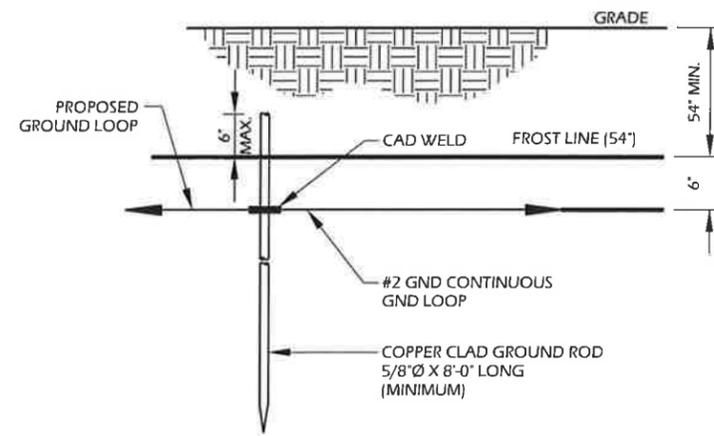
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SHEET TITLE:

GROUNDING SCHEMATIC DIAGRAM

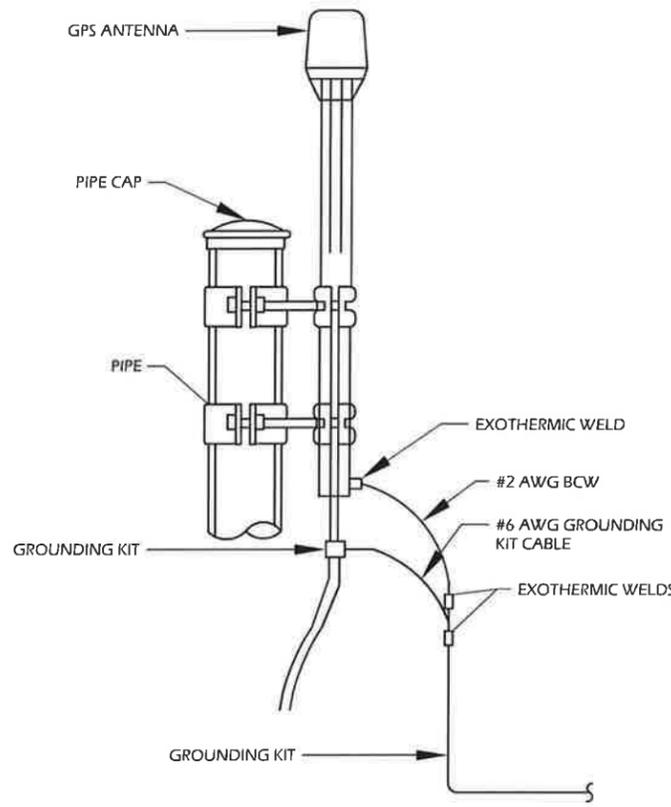
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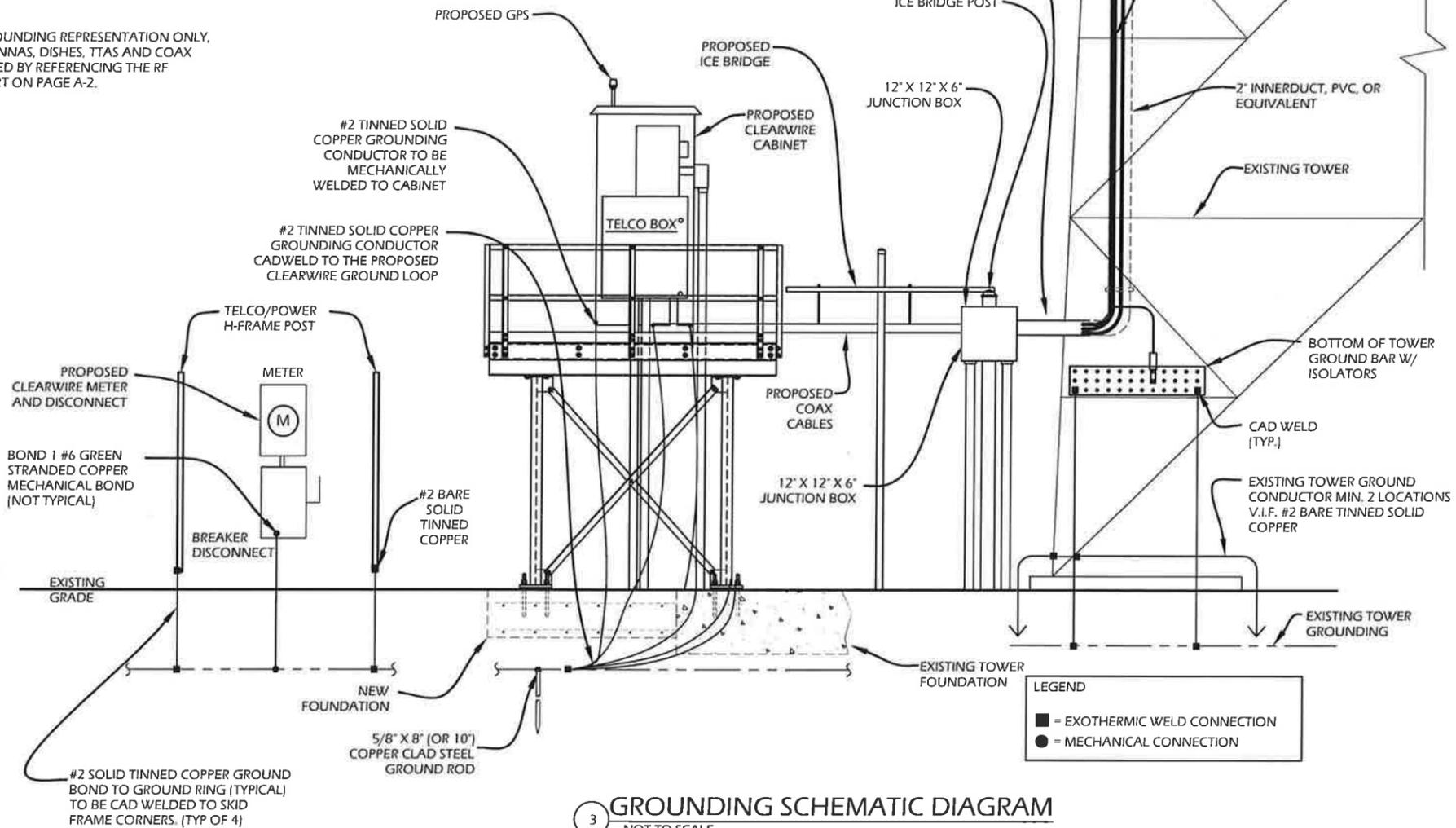


3 TYPICAL GROUND ROD DETAIL
NOT TO SCALE

NOTE:
THIS DETAIL IS FOR GROUNDING REPRESENTATION ONLY.
THE NUMBER OF ANTENNAS, DISHES, TTAS AND COAX
SHOULD BE DETERMINED BY REFERENCING THE RF
CONFIGURATION CHART ON PAGE A-2.



1 GPS ANTENNA GROUNDING
NOT TO SCALE



3 GROUNDING SCHEMATIC DIAGRAM
NOT TO SCALE

LEGEND

■	= EXOTHERMIC WELD CONNECTION
●	= MECHANICAL CONNECTION

NOTE:
HAND DIG AS REQUIRED TO PROTECT ALL EXISTING UNDERGROUND (V.I.F)

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1.0 GENERAL REQUIREMENTS (AS REQUIRED)

1) GENERAL SPECIFICATIONS

- a) ALL REFERENCES TO THE OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED CLEARWIRE OR ITS DESIGNATED REPRESENTATIVE
- b) WORK SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. ALL NECESSARY LICENSES, CERTIFICATES, PERMITS, ETC., REQUIRED BY AUTHORITY HAVING JURISDICTION SHALL BE PROCURED AND PAID FOR BY THE CONTRACTOR
- c) ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO DO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS AGREEMENT, THE CONTRACTOR ATTESTS THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY TO COMPLETE THE WORK, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PREFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK.
- d) THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND CONDITIONS AT THE JOB SITE WHICH COULD AFFECT THE WORK UNDER THIS CONTRACT. ALL MANUFACTURES RECOMMENDED SPECIFICATIONS, EXCEPT THOSE SPECIFICATIONS HEREIN, WHERE MOST STRINGENT SHALL BE COMPLIED WITH.
- e) DO NOT SCALE THE DRAWINGS. DIMENSIONS ARE EITHER TO THE FACE OF FINISHED ELEMENTS OR TO THE CENTER LINE OF ELEMENTS, UNLESS NOTED OTHERWISE. CRITICAL DIMENSIONS SHALL BE CONFIRMED WITH SITE MEASUREMENTS. VERIFY WITH ATC AS APPLICABLE.
- f) WHERE ONE DETAIL IS SHOWN FOR ONE CONDITION, UNLESS NOTED OTHERWISE, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS, EVEN THOUGH NOT SPECIFICALLY MARKED ON THE DRAWINGS.
- g) DRAWINGS FORMING THIS SET ARE COMPLIMENTARY AND MUST BE READ AS ONE TOTAL DOCUMENT. DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF ATC. THESE DRAWINGS WERE PREPARED TO BE SUBMITTED TO GOVERNMENTAL BUILDING AUTHORITIES FOR REVIEW FOR COMPLIANCE WITH APPLICABLE CODES. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO EXECUTE CONSTRUCTION INDICATED HEREIN ACCORDING TO THE APPLICABLE BUILDING CODES.
- h) THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT DESCRIBED HEREIN.
- i) THE CONTRACTOR SHALL OBTAIN AUTHORIZATION FROM ATC TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.

2) MATERIALS

- a) WHERE PAVING, CONCRETE SIDEWALKS OR PATHS MEET EXISTING CONSTRUCTION, THE CONTRACTOR SHALL MATCH THE EXISTING PITCH, GRADE, AND ELEVATION SO THE ENTIRE STRUCTURE SHALL HAVE A SMOOTH TRANSITION.
- b) THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT AND MAINTAIN EXISTING CONDITIONS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGES THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY
- c) ALL MATERIALS FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM DEFECTS AND FAULTS AND IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION.
- i) THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUANTITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED AND SHALL ONLY INSTALL SAID SUBSTITUTIONS AFTER APPROVAL BY THE OWNER OR THE OWNER'S ENGINEER.
- ii) ALL MATERIAL FURNISHED UNDER THIS CONTRACT SHALL BE NEW UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF (1) YEAR FOLLOWING SUBSEQUENT COMPLETION OF PROJECT OR AS SPECIFIED. THE CONTRACTOR SHALL REPAIR OR REPLACE AT HIS EXPENSE ALL WORK THAT MAY DEVELOP DEFECTS IN MATERIAL OR WORKMANSHIP WITHIN THE WARRANTY PERIOD.

- iii) THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR ARE TO BE RESPONSIBLE FOR VERIFYING EXISTING SITE CONDITIONS AND DIMENSIONS AND THE LOCATION OF BURIED UTILITIES AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF WORK.
- iv) CONFLICTS AND OMISSIONS WHICH COULD HAVE BEEN DISCOVERED BY FILED VERIFICATION AND INSPECTION, WHETHER INDICATED ON THE CONTRACT DOCUMENT OR NOT, WILL NOT BE ENTERTAINED OR PAID.
- d) MINIMUM BEND RADIUS OF ANTENNAS CABLES SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURER RECOMMENDATIONS.
- e) CABLE ROUTING SHOWN IS DIAGRAMMATIC. ACTUAL ROUTE OF ANTENNA CABLES SHALL BE DETERMINED IN THE FIELD.

3) VERIFICATION

- a) THE CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST BETWEEN THE LOCATIONS OF ANY AND ALL MECHANICAL, ELECTRICAL, PLUMBING, OR STRUCTURAL ELEMENTS, AND THAT ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE ARE MET. NOTIFY THE ATC OF ANY CONFLICTS, THE ATC HAS THE RIGHT TO MAKE MINOR MODIFICATIONS IN THE DESIGN OF THE CONTRACT WITHOUT THE CONTRACTOR GETTING ADDITIONAL COMPENSATION.
- b) THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER.
- c) THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE LOCAL POWER AND TELEPHONE UTILITIES AND THE CONSTRUCTION MANAGER TO CONFIRM THE SOURCE OF SERVICE PRIOR TO CONDUIT INSTALLATION. THE GENERAL CONTRACTOR SHALL OBTAIN WRITTEN CONFIRMATION OF EXPECTED DATE OF COMPLETION OF THE POWER CONNECTION FROM THE POWER COMPANY.
- d) ACCESS TO PROPOSED WORK SITE MAY BE RESTRICTED, THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
- e) THE ENGINEER HAS NOT CONDUCTED, NOR DOES IT INTEND TO CONDUCT ANY INVESTIGATION TO DETERMINE THE PRESENCE OF ANY HAZARDOUS MATERIAL INCLUDING BUT NOT LIMITED TO ASBESTOS, LEAD PAINT, AND PCB'S WITHIN THE CONFINES OF THE PROJECT. THE ENGINEER WILL NOT ACCEPT ANY RESPONSIBILITY FOR THE ABATEMENT OR RESULTING CLAIMS FOR DAMAGES OR LOSSES AS RESULT OF THE PRESENCE OF HAZARDOUS MATERIALS. IF EVIDENCE OF HAZARDOUS MATERIAL IS DISCOVERED, SUSPEND WORK AS REQUIRED BY GOVERNING STATUES, AND NOTIFY ATC (AMERICAN TOWER CORPORATION). DO NOT PROCEED WITH WORK UNTIL INSTRUCTED BY ATC.

4) CLEAN-UP

- a) THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEAN UP OF ALL TRADES AND REMOVE ALL DEBRIS FROM THE CONSTRUCTION SITE. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE BUILDING, SITE, AND ANY OTHER SURROUNDING AREAS TO A BETTER THAN NEW CONDITION WHILE MEETING THE APPROVAL OF ATC AND THE LANDLORD

5) SAFETY

- a) THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, ETC. ACCORDING TO APPLICABLE CODES, STANDARDS, AND PRACTICES. THIS INCLUDES, BUT IS NOT LIMITED TO THE ADDITION OF TEMPORARY BRACING, GUYS, OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- b) THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- c) THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE OSHA, LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.

clearwire®

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AMERICAN TOWER®
STRUCTURAL
ENGINEERING

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 (972) 999-8900 Tel.
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 NYSE:AMT

SITE NUMBER:
97960
 SITE NAME:
INDIGO RUN
 SITE ADDRESS:
 600 WEST OF GRANT DR
 & SPANISH WELLS ROAD
 HILTON HEAD ISLAND, SC 29926



STAMP HERE:

DRAWN BY:	PP
CHECKED BY:	SAE
DATE DRAWN:	08-13-2010
JOB NO.:	455613K2

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:	REV. #
GN-1	0

- d) THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR DAMAGES TO THE EXISTING FACILITY AND INSTALLATION RESULTING FROM CONSTRUCTION AND GENERAL NEGLIGENCE. REPAIR ALL DAMAGES AND RESTORE FACILITY AND INSTALLATIONS TO THE SATISFACTION OF ATC AND THE LANDLORD AT NO EXTRA CHARGE. NOTIFY ATC OF ANY SUCH DAMAGES PROMPTLY AND REPAIR TO 100% SATISFACTION IMMEDIATELY.
- e) CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA. ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.

STRUCTURAL STEEL NOTES

6) STRUCTURAL STEEL SPECIFICATIONS

- c) THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST AISC SPECIFICATIONS.
- d) UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF ASTM A36. ALL BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 HIGH STRENGTH BOLTS.
- e) ALL WELDING SHALL BE IN ACCORDANCE WITH THE LATEST AWS STRUCTURAL WELDING CODE. ALL WELDERS SHALL PROVIDE PROPER CERTIFICATION OF QUALIFICATION TO THE LANDLORD OR ATC PRIOR TO COMMENCING WORK AT THE SITE.
- f) ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS.
- g) HOLES SHALL NOT BE FLAME CUT THROUGH STEEL UNLESS APPROVED BY THE ENGINEER.
- h) WELDS SHALL BE MADE WITH E-70XX ELECTRODES UNLESS NOTED OTHERWISE.
- i) HOT-DIP GALVANIZE ALL ITEMS AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING SHALL BE DONE IN ACCORDANCE WITH ASTM A123, A153A, A153M, A653A, A653M AND ASTM G90, AS APPLICABLE.
- j) REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO A TEMPERATURE SUFFICIENT TO MELT THE METALLIC IN STICK OR PASTE: SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF ANY EXCESS MATERIAL.
- k) A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
- l) ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
- m) ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. A BOLT THAT ENDS BELOW THE FACE OF THE NUT AFTER TIGHTENING WILL NOT BE PERMITTED.

RF NOTES

7) RF SPECIFICATIONS

- a) ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR.
- b) THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
- c) RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70) CHAPTER 8
- d) ALL SPECIFIED MATERIAL FOR EACH LOCATION (I.E. OUTDOORS, INDOORS, RISER, SHAFTS, ETC) SHALL BE APPROVED, LISTED OR LABELED AS REQUIRED BY THE NEC.
- e) RADIO SIGNAL CABLE SHOULD BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR LATTICE TOWERS WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURES RECOMMEND CABLE SUPPORT ACCESSORIES SHALL BE USED.
- f) DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM THE BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
- g) ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS (OR APPROVED EQUIVALENT) THAT MEETS IP68 STANDARDS.
- h) SUBCONTRACTOR SHALL PAINT ANTENNAS WHEN REQUIRED BY THE LANDLORD, ATC, OR LOCAL JURISDICTION WITH APPLICABLE AUTHORITY IN ACCORDANCE WITH ANTENNA MANUFACTURES' SURFACE PREPARATION AND PAINTING REQUIREMENTS.
- i) CABLE SHIELDS, AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER, WITHIN (10) FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT (6) INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF TOWER THAT ARE BETWEEN (100) FEET AND (200) FEET HIGH, AND AT INTERVALS OF (100) FEET OR LESS ON TOWERS THAT ARE HIGHER THAN (200) FEET.

8) ABBREVIATIONS

A/C	AIR CONDITIONING	L	LENGTH, LITER
AC	ALTERNATING CURRENT	LAT	LATITUDE
ACI	AMERICAN CONCRETE INSTITUTE	LC	LIGHTING CONTROL
ADA	AMERICAN WITH DISABILITIES ACT	LF	LINEAR FEET (FOOT)
AFF	ABOVE FINISHED FLOOR	LG	LONG
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LONG	LONGITUDINAL
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS	M	METER
ASPH	ASPHALT	MAX	MAXIMUM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MECH	MECHANICAL
ATS	AUTOMATIC TRANSFER SWITCH	MFG	MANUFACTURE
AUX	AUXILIARY	MFR	MANUFACTURER
AVG	AVERAGE	MIN	MINIMUM
AWG	AMERICAN WIRE GAUGE	MISC	MISCELLANEOUS
AWS	AMERICAN WELDING SOCIETY	MPP	MAIN POWER PANEL
B	BALLARD	MTD	MOUNTED
BAT	BATTERY	N	NORTH (FOR COORDINATES)
BEG	BEGIN	NA	NOT APPLICABLE
BLDG	BUILDING	NEC	NATIONAL ELECTRIC CODE
BM	BENCH MARK	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
BOS	BOTTOM OF STRUCTURE	NTS	NOT TO SCALE
BRKR	BREAKER	OHE	OVERHEAD ELECTRIC
C	CABINET	OHT	OVERHEAD TELEPHONE
C/C	CENTER TO CENTER	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
C/L	CENTER LINE, CLASS	P/N	PART NUMBER
CONC	CONCRETE, CONCENTRIC	PB	PULL BOX
CSC	FIBER OPTIC CABINET	PERP	PERPENDICULAR
CONST	CONSTRUCTION	PH	PHASE
CONT	CONTINUOUS	PL	PROPERTY LINE
CONTR	CONTRACTOR	PNL	PANEL
CTR	CENTER	PP	POWER POLE
Cu	COPPER	PRELIM	PRELIMINARY
dB	DECIBEL	PSF	POUNDS PER SQUARE FOOT
DC	DIRECT CIRCUIT	PSI	POUNDS PER SQUARE INCH
DEG	DEGREE	PVC	POLYVINYL CHLORIDE PIPE
DET	DETAIL	QTY	QUANTITY
DIA	DIAMETER	RAD	CENTER OF RADIATION
DIM	DIMENSION	RF	RADIO FREQUENCY
DISC	DISCONNECT	REF	REFERENCE
DOT	DEPARTMENT OF TRANSPORTATION	REINF	REINFORCING, REINFORCEMENT
DWG	DRAWING	REQ	REQUIRED
E	EAST (FOR COORDINATES)	REQD	REQUIRED
EC	ELECTRICAL CONTRACTOR	RET	RETAINING
ELEC	ELECTRIC	RND	ROUND
EOP	EDGE OF PAVEMENT	ROW	RIGHT OF WAY
EQUIP	EQUIPMENT	S	SOUTH
EXH	EXHAUST	SCH	SCHEDULE
EXT	EXTERNAL	SECT	SECTION
F/F	FACE TO FACE OR FLAT TO FLAT	SF	SQUARE FEET
FAA	FEDERAL AVIATION ADMINISTRATION	SPEC	SPECIFICATION
FCC	FEDERAL COMMUNICATIONS COMMISSION	SQ	SQUARE
FF	FINISHED FLOOR	STR	STRUCTURAL
FG	FINISHED GRADE	SURF	SURFACE
FLEX	FLEXIBLE	T	TELEPHONE
FLR	FLOOR	TBD	TO BE DETERMINED
FND	FOUNDATION	TD	TELCO DEMARK
FTG	FOOTING	THK	THICKNESS
GAS	GAS (NATURAL), GALVANIZED IRON	TOS	TOP OF STEEL
GAL	GALLON	TRN	TRANSFORMER
GALV	GALVANIZED	TX/RX	TRANSMIT & RECEIVE
GEN	GENERATOR	TYP	TYPICAL
GFI	GROUND FAULT	UG	UNDERGROUND
GPS	GLOBAL POSITIONING SYSTEM	UGP	UNDERGROUND ELECTRIC
GND	GROUND	UGT	UNDERGROUND TELEPHONE
GR	GRADE	V	VOLT
GR BM	GRADE BEAM	VAR	VARIES
H	HEIGHT	VERT	VERTICAL
HORIZ	HORIZONTAL		
HT	HEIGHT		
HTR	HEATER		
HVAC	HEATING, VENTILATING AND AIR CONDITIONING		
HYD	HYDRANT		
JB	JUNCTION BOX		
IB	ICE BRIDGE		
IBC	INTERNATIONAL BUILDING CODE		
ID	INSIDE DIAMETER, INTERNAL DIAMETER		
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS		
IN	INCH		
INSUL	INSULATION		
INT	INTERIOR		
K	KIPS (1000 LBS)		
KSI	KIPS PER SQUARE INCH		
kv	KILOVOLT		
KVA	KILOVOLT-AMPS		
KW	KILOWATT		
KWH	KILOWATT HOUR		



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SITE NUMBER:
97960

SITE NAME:
INDIGO RUN

SITE ADDRESS:
600 WEST OF GRANT DR
& SPANISH WELLS ROAD
HILTON HEAD ISLAND, SC 29926



STAMP HERE:

DRAWN BY:	PP
CHECKED BY:	SAE
DATE DRAWN:	08-13-2010
JOB NO:	455613K2

SHEET TITLE:

GENERAL NOTES & ABBREVIATIONS

SHEET NUMBER:	REV. #
GN-2	0

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 Spanish Wells Tower Co-Locate

DRB# DR100050

DATE 12/14/2010

RECOMMEND APPROVE

RECOMMEND APPROVE W/COND.

RECOMMEND DENY

ARCHITECTURAL DESIGN		
A new antennae co-locate with a minimal cabinet expansion on the ground behind an existing fence		
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		
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		If any tree pruning or removal is required to complete this project, please call Natural Resources at 341-4690.
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



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 180 ft Sabre Self Supported Tower
ATC Site Name : Indigo Run, SC
ATC Site Number : 97960
Proposed Carrier : Clearwire
Carrier Site Name : N/A
Carrier Site Number : SC-HMPS003
County : Beaufort
Eng. Number : 45561321
Date : September 2, 2010
Usage : 95% Legs, 103% Diagonals,
68% Horizontals

Submitted by:
Christina Minor
Project Engineer

American Tower Engineering Services
400 Regency Forest Drive
Cary, NC 27518
Phone: 919-468-0112



9/3/10



AMERICAN TOWER®
CORPORATION

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Submitted by:
Christina Minor
Project Engineer

American Tower Engineering Services
400 Regency Forest Drive
Cary, NC 27518
Phone: 919-468-0112

Introduction

The purpose of this report is to summarize results of the structural analysis performed on the 180 ft. Sabre Self Supported Tower located at 600 ft. west of the Intersection of Grant Drive & Spanish Wells Road, Hilton Head Island, SC 29926, Beaufort County (ATC Site No. 97960). The tower was originally designed and manufactured by Sabre Communications Corporations (Drawing No. SA0670-S, dated June 4, 1996). The tower has been modified per design by ATC (Job No. 72122801, dated June 29, 2005 and Job No. 26033134, dated May 5, 2006 and Job No. 42810735, dated July 7, 2009).

Analysis

The tower was analyzed using Semaan Engineering Solutions, Inc., Software. The analysis assumes that the tower is in good, undamaged, and non-corroded condition.

Basic Wind Speed: 100 mph (Fastest Mile)
Radial Ice: 87 mph (Fastest Mile) w/ 1/2" ice
Code: ANSI/TIA/EIA-222-F /
2003 IBC Criteria per Section 1609.1.1, Exception (5) and Section 3108.4

Antenna Loads

The following antenna loads were used in the tower analysis.

Existing Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
175.0	6	Andrew ETW200VS12UB	Sector Frames	(6) 1 5/8"	T-Mobile
	3	Andrew TMBX-6517-R2M			
	3	Andrew TMBXX-6517-R2M			
158.0	6	Amphenol LPA-70080/8CF	Sector Frames	(12) 1 5/8"	Alltel
150.0	6	Decibel DB980F65E-M	Sector Frames	(6) 1 5/8" (1) 1/2"	Hargray Wireless
	6	TTA			
134.0	12	77" x 14" Panels	Sector Frames	(12) 1 5/8" (1) 3/8"	AT&T Wireless
	6	14" x 9" TTA			
	6	Andrew ETM190G-12UB			
125.0	8	Decibel DB876G105AXY	Sector Frames	(12) 1 5/8" (6) 7/8"	Sprint Nextel
	6	14" x 9" TTA			
	2	Scala AP22-1850/033D			
	4	Scala AP18-1900/063D			
115.0	4	Decibel DB848H90E-XY	Sector Frames	(6) 7/8"	Verizon
	12	CSS DUO4-8686			

Antenna Loads (continued)

Proposed Antennas

Elev. (ft)	Qty	Antennas	Mount	Coax	Carrier
165.0	3	Huawei DBS3900 WiMax	Side Arms	(6) 5/16"*	Clearwire
	3	Argus LLPX310R			

() to be installed inside of a 2" conduit*

Install proposed coax on any tower face.

Results

The maximum structure usage is: 103% (Acceptable Overstress)

Leg Forces	Original Design Reactions	Current Analysis Reactions	% Of Design w/ 1.35 Multiplier
Uplift (Kips)	319.0	377.0	119
Axial (Kips)	348.0	445.8	128
Shear (Kips)	19.0	48.1	253

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Conclusion

Based on the analysis results, the structure meets the requirements per ANSI/TIA/EIA-222-F and 2003 IBC standards.

The tower and foundation can support the existing and proposed antennas with the TX line distribution as described in this report.

If you have any questions or require additional information, please call 919-466-5619.

Standard Conditions

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

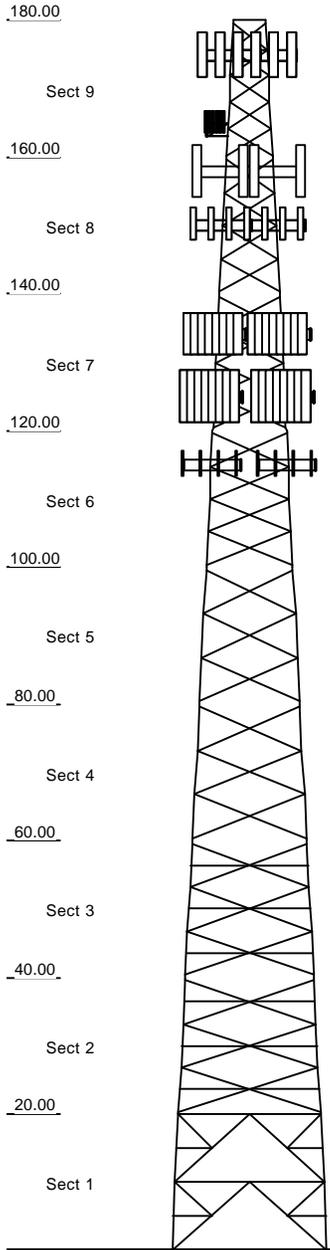
- Information supplied by the client regarding the structure itself, the antenna and feed line loading on the structure and its components, or other relevant information.

- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and are in an un-corroded condition and have not deteriorated; and we, therefore, assume that their capacity has not significantly changed from the "as new" condition.

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

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



Copyright Semaan Engineering Solutions, Inc
 Loads: 100 mph no ice
 87 mph w / 1/2" radial ice

Job Information		
Tower : 97960	Location : Indigo Run, SC	Base Width : 23.00 ft
Code : TIA/EIA-222 Rev F	Shape : Triangle	Top Width : 5.00 ft
Client : Clearwire		

Sections Properties				
Section	Leg Members		Diagonal Members	Horizontal Members
1	SOL 50ksi	4 1/4" SOLID	DAE 36ksi 3X3X0.25	DAE 36ksi 2.5X2.5X0.1875
2	SOL 50ksi	4 1/4" SOLID	SAE 36ksi 4X4X0.25	
3 - 4	SOL 50ksi	4" SOLID	SAE 36ksi 3.5X3.5X0.375	
5	SOL 50ksi	3 3/4" SOLID	SAE 36ksi 3X3X0.3125	
6	SOL 50ksi	3 1/4" SOLID	SAE 36ksi 3X3X0.25	
7	SOL 50ksi	3" SOLID	SAE 36ksi 2.5X2.5X0.25	
8	SOL 50ksi	2 3/4" SOLID	SAE 36ksi 2X2X0.1875	
9	SOL 50ksi	2 1/4" SOLID	SAE 36ksi 1.5X1.5X0.25	SAE 36ksi 1.5X1.5X0.25

Discrete Appurtenance			
Elev (ft)	Type	Qty	Description
175.00	Panel	3	Andrew TMBXX-6517-R2M
175.00	Mounting Frame	3	Round Sector Frame
175.00	Panel	3	Andrew TMBX-6517-R2M
175.00	Panel	6	Andrew ETW200VS12UB
165.00	Straight Arm	1	Side Arms
165.00	Panel	3	Arqus LLPX310R
165.00	Panel	3	Huawei DBS3900 WiMax
158.00	Mounting Frame	3	Flat Sector Frame
158.00	Panel	6	Amphenol LPA-70080/8CF
150.00	Panel	6	TTA
150.00	Mounting Frame	3	Round Sector Frame
150.00	Panel	6	Decibel DB980F65E-M
134.00	Panel	6	Andrew ETM190G-12UB
134.00	Panel	6	14" x 9" TTA
134.00	Panel	12	77" x 14" Panels
134.00	Mounting Frame	3	Flat Sector Frame
125.00	Panel	4	Decibel DB848H90E-XY
125.00	Panel	4	Scala AP18-1900/063D
125.00	Panel	2	Scala AP22-1850/033D
125.00	Mounting Frame	3	Flat Sector Frame
125.00	Panel	6	14" x 9" TTA
125.00	Panel	8	Decibel DB876G105AXY
115.00	Mounting Frame	3	Flat Sector Frame
115.00	Panel	12	CSS DUO4-8686

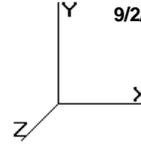
Linear Appurtenance			
Elev (ft)		Qty	Description
From	To		
5.000	180.00	1	Climbing Ladder
5.000	175.00	6	1 5/8" Coax
5.000	174.99	1	Wave Guide
5.000	165.00	3	2" Conduit
0.000	165.00	6	5/16" Coax
5.000	158.00	12	1 5/8" Coax
5.000	157.99	1	Wave Guide
5.000	150.00	1	1/2" Coax
5.000	150.00	6	1 5/8" Coax
5.000	149.99	1	Wave Guide
5.000	134.00	1	3/8" Coax
5.000	134.00	12	1 5/8" Coax
5.000	133.99	1	Wave Guide
5.000	125.00	6	7/8" Coax
5.000	125.00	12	1 5/8" Coax
5.000	124.99	1	Wave Guide
5.000	115.00	6	7/8" Coax
5.000	114.99	1	Wave Guide

Uplift 376.95 k Moment 8,301.98 ft-k
 Vert 445.75 k Total Down 59.43 k
 Horiz 48.12 k Total Shear 81.17 k

Site Number: 97960
 Location: Indigo Run, SC

9/2/2010 10:58:25 AM

Code: TIA/EIA-222 Rev F



Gh : 1.12

Section Forces

LoadCase Normal No Ice 100.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
9	170.0	40.89	9.29	24.55	0.00	0.28	2.35	1.00	1.00	0.61	24.28	2.98	0.00	1,634.0	0.0	2,609.31	163.63	2,772.94	1
8	150.0	39.46	12.15	31.90	0.00	0.28	2.36	1.00	1.00	0.61	31.56	11.90	0.00	2,632.2	0.0	3,299.73	631.54	3,931.27	1
7	130.0	37.88	27.33	41.29	0.00	0.34	2.19	1.00	1.00	0.63	53.34	11.90	0.00	3,845.5	0.0	4,953.86	606.24	5,560.10	2
6	110.0	36.11	38.52	58.07	0.00	0.40	2.06	1.00	1.00	0.65	76.42	11.90	0.00	4,977.7	0.0	6,368.91	577.99	6,946.90	2
5	90.00	34.10	35.84	59.74	0.00	0.34	2.19	1.00	1.00	0.63	73.44	11.90	0.00	5,745.1	0.0	6,151.90	545.78	6,697.68	2
4	70.00	31.74	42.79	60.57	0.00	0.32	2.24	1.00	1.00	0.62	80.54	11.90	0.00	7,003.0	0.0	6,407.55	507.96	6,915.51	2
3	50.00	28.83	61.81	60.57	0.00	0.34	2.20	1.00	1.00	0.63	99.90	11.90	0.00	8,228.5	0.0	7,085.97	461.40	7,547.37	2
2	30.00	25.60	72.00	61.41	0.00	0.33	2.21	1.00	1.00	0.63	110.48	11.90	0.00	8,235.5	0.0	7,008.37	409.75	7,418.13	2
1	10.00	25.60	45.50	49.60	0.00	0.22	2.54	1.00	1.00	0.59	74.96	8.93	0.00	7,985.4	0.0	5,469.56	307.32	5,776.88	2
														50,287.0	0.0			53,566.78	

LoadCase 60 deg No Ice 100.00 mph Wind at 60 deg From Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
9	170.0	40.89	9.29	24.55	0.00	0.28	2.35	0.80	1.00	0.61	22.42	2.98	0.00	1,634.0	0.0	2,409.65	163.63	2,573.29	1
8	150.0	39.46	12.15	31.90	0.00	0.28	2.36	0.80	1.00	0.61	29.13	11.90	0.00	2,632.2	0.0	3,045.72	631.54	3,677.26	1
7	130.0	37.88	27.33	41.29	0.00	0.34	2.19	0.80	1.00	0.63	47.87	11.90	0.00	3,845.5	0.0	4,446.27	606.24	5,052.52	2
6	110.0	36.11	38.52	58.07	0.00	0.40	2.06	0.80	1.00	0.65	68.71	11.90	0.00	4,977.7	0.0	5,726.80	577.99	6,304.79	2
5	90.00	34.10	35.84	59.74	0.00	0.34	2.19	0.80	1.00	0.63	66.27	11.90	0.00	5,745.1	0.0	5,551.48	545.78	6,097.26	2
4	70.00	31.74	42.79	60.57	0.00	0.32	2.24	0.80	1.00	0.62	71.98	11.90	0.00	7,003.0	0.0	5,726.70	507.96	6,234.66	2
3	50.00	28.83	61.81	60.57	0.00	0.34	2.20	0.80	1.00	0.63	87.54	11.90	0.00	8,228.5	0.0	6,209.19	461.40	6,670.60	2
2	30.00	25.60	72.00	61.41	0.00	0.33	2.21	0.80	1.00	0.63	96.08	11.90	0.00	8,235.5	0.0	6,094.95	409.75	6,504.70	2
1	10.00	25.60	45.50	49.60	0.00	0.22	2.54	0.80	1.00	0.59	65.86	8.93	0.00	7,985.4	0.0	4,805.51	307.32	5,112.83	2
														50,287.0	0.0			48,227.91	

LoadCase 90 deg No Ice 100.00 mph Wind at 90 deg From Face with No Ice

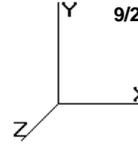
Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
9	170.0	40.89	9.29	24.55	0.00	0.28	2.35	0.85	1.00	0.61	22.88	2.98	0.00	1,634.0	0.0	2,459.57	163.63	2,623.20	1
8	150.0	39.46	12.15	31.90	0.00	0.28	2.36	0.85	1.00	0.61	29.74	11.90	0.00	2,632.2	0.0	3,109.22	631.54	3,740.76	1
7	130.0	37.88	27.33	41.29	0.00	0.34	2.19	0.85	1.00	0.63	49.24	11.90	0.00	3,845.5	0.0	4,573.17	606.24	5,179.41	2

Site Number: 97960
 Location: Indigo Run, SC

9/2/2010 10:58:26 AM

Code: TIA/EIA-222 Rev F



Gh : 1.12

Section Forces

6	110.0	36.11	38.52	58.07	0.00	0.40	2.06	0.85	1.00	0.65	70.64	11.90	0.00	4,977.7	0.0	5,887.33	577.99	6,465.32	2		
5	90.00	34.10	35.84	59.74	0.00	0.34	2.19	0.85	1.00	0.63	68.06	11.90	0.00	5,745.1	0.0	5,701.59	545.78	6,247.37	2		
4	70.00	31.74	42.79	60.57	0.00	0.32	2.24	0.85	1.00	0.62	74.12	11.90	0.00	7,003.0	0.0	5,896.91	507.96	6,404.88	2		
3	50.00	28.83	61.81	60.57	0.00	0.34	2.20	0.85	1.00	0.63	90.63	11.90	0.00	8,228.5	0.0	6,428.39	461.40	6,889.79	2		
2	30.00	25.60	72.00	61.41	0.00	0.33	2.21	0.85	1.00	0.63	99.68	11.90	0.00	8,235.5	0.0	6,323.30	409.75	6,733.06	2		
1	10.00	25.60	45.50	49.60	0.00	0.22	2.54	0.85	1.00	0.59	68.13	8.93	0.00	7,985.4	0.0	4,971.52	307.32	5,278.84	2		
													50,287.0	0.0			49,562.62				

LoadCase Normal Ice

86.60 mph Wind Normal To Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Weight		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face			
			Flat Area (sqft)	Round Area (sqft)									Total (lb)	Ice (lb)							
9	170.0	30.67	9.29	43.00	18.45	0.44	2.00	1.00	1.00	0.67	37.96	2.98	3.75	2,257.6	623.6	2,606.65	277.40	2,884.05	1		
8	150.0	29.59	12.15	53.13	21.23	0.41	2.05	1.00	1.00	0.65	46.95	11.90	15.00	3,977.1	1,344.9	3,189.38	1,070.6	4,260.02	1		
7	130.0	28.41	27.33	71.36	30.07	0.49	1.91	1.00	1.00	0.69	76.86	11.90	15.00	5,838.0	1,992.4	4,670.79	1,027.7	5,698.54	2		
6	110.0	27.08	38.52	98.36	40.29	0.57	1.83	1.00	1.00	0.74	110.90	11.90	15.00	7,761.2	2,783.5	6,145.06	979.84	7,124.90	2		
5	90.00	25.57	35.84	99.11	39.37	0.48	1.92	1.00	1.00	0.69	104.07	11.90	15.00	8,499.4	2,754.2	5,740.93	925.25	6,666.18	2		
4	70.00	23.80	42.79	100.86	40.29	0.45	1.98	1.00	1.00	0.67	110.65	11.90	15.00	9,970.7	2,967.7	5,830.56	861.14	6,691.70	2		
3	50.00	21.62	61.81	101.80	41.23	0.45	1.97	1.00	1.00	0.68	130.55	11.90	15.00	11,766.8	3,538.3	6,220.44	782.21	7,002.64	2		
2	30.00	19.20	72.00	103.58	42.17	0.44	1.99	1.00	1.00	0.67	141.22	11.90	15.00	12,082.0	3,846.5	6,053.66	694.65	6,748.30	2		
1	10.00	19.20	45.50	82.79	33.19	0.29	2.32	1.00	1.00	0.61	96.29	8.93	13.75	11,419.5	3,434.1	4,804.20	585.54	5,389.74	2		
													73,572.3	23,285.3			52,466.07				

LoadCase 60 deg Ice

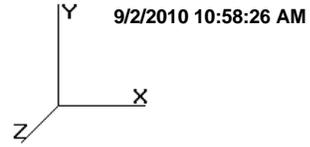
86.60 mph Wind at 60 deg From Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz	Total Area		Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Weight		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face			
			Flat Area (sqft)	Round Area (sqft)									Total (lb)	Ice (lb)							
9	170.0	30.67	9.29	43.00	18.45	0.44	2.00	0.80	1.00	0.67	36.10	2.98	3.75	2,257.6	623.6	2,479.10	277.40	2,756.51	1		
8	150.0	29.59	12.15	53.13	21.23	0.41	2.05	0.80	1.00	0.65	44.52	11.90	15.00	3,977.1	1,344.9	3,024.30	1,070.6	4,094.94	1		
7	130.0	28.41	27.33	71.36	30.07	0.49	1.91	0.80	1.00	0.69	71.39	11.90	15.00	5,838.0	1,992.4	4,338.68	1,027.7	5,366.43	2		
6	110.0	27.08	38.52	98.36	40.29	0.57	1.83	0.80	1.00	0.74	103.20	11.90	15.00	7,761.2	2,783.5	5,718.18	979.84	6,698.02	2		
5	90.00	25.57	35.84	99.11	39.37	0.48	1.92	0.80	1.00	0.69	96.90	11.90	15.00	8,499.4	2,754.2	5,345.56	925.25	6,270.81	2		
4	70.00	23.80	42.79	100.86	40.29	0.45	1.98	0.80	1.00	0.67	102.09	11.90	15.00	9,970.7	2,967.7	5,379.62	861.14	6,240.76	2		
3	50.00	21.62	61.81	101.80	41.23	0.45	1.97	0.80	1.00	0.68	118.19	11.90	15.00	11,766.8	3,538.3	5,631.47	782.21	6,413.68	2		
2	30.00	19.20	72.00	103.58	42.17	0.44	1.99	0.80	1.00	0.67	126.82	11.90	15.00	12,082.0	3,846.5	5,436.38	694.65	6,131.03	2		
1	10.00	19.20	45.50	82.79	33.19	0.29	2.32	0.80	1.00	0.61	87.18	8.93	13.75	11,419.5	3,434.1	4,350.12	585.54	4,935.66	2		
													73,572.3	23,285.3			48,907.82				

Site Number: 97960
 Location: Indigo Run, SC

Code: TIA/EIA-222 Rev F



Gh : 1.12

Section Forces

LoadCase 90 deg Ice

86.60 mph Wind at 90 deg From Face with Ice

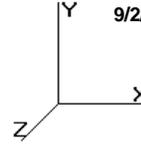
Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind		Total	Total	Ice								Ice		Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face		
	Height (ft)	qz	Flat Area (sqft)	Round Area (sqft)	Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)					Weight Ice (lb)	
9	170.0	30.67	9.29	43.00	18.45	0.44	2.00	0.85	1.00	0.67	36.57	2.98	3.75	2,257.6	623.6	2,510.99	277.40	2,788.39	1	
8	150.0	29.59	12.15	53.13	21.23	0.41	2.05	0.85	1.00	0.65	45.12	11.90	15.00	3,977.1	1,344.9	3,065.57	1,070.6	4,136.21	1	
7	130.0	28.41	27.33	71.36	30.07	0.49	1.91	0.85	1.00	0.69	72.76	11.90	15.00	5,838.0	1,992.4	4,421.71	1,027.7	5,449.45	2	
6	110.0	27.08	38.52	98.36	40.29	0.57	1.83	0.85	1.00	0.74	105.13	11.90	15.00	7,761.2	2,783.5	5,824.90	979.84	6,804.74	2	
5	90.00	25.57	35.84	99.11	39.37	0.48	1.92	0.85	1.00	0.69	98.69	11.90	15.00	8,499.4	2,754.2	5,444.40	925.25	6,369.65	2	
4	70.00	23.80	42.79	100.86	40.29	0.45	1.98	0.85	1.00	0.67	104.23	11.90	15.00	9,970.7	2,967.7	5,492.35	861.14	6,353.49	2	
3	50.00	21.62	61.81	101.80	41.23	0.45	1.97	0.85	1.00	0.68	121.28	11.90	15.00	11,766.8	3,538.3	5,778.71	782.21	6,560.92	2	
2	30.00	19.20	72.00	103.58	42.17	0.44	1.99	0.85	1.00	0.67	130.42	11.90	15.00	12,082.0	3,846.5	5,590.70	694.65	6,285.35	2	
1	10.00	19.20	45.50	82.79	33.19	0.29	2.32	0.85	1.00	0.61	89.46	8.93	13.75	11,419.5	3,434.1	4,463.64	585.54	5,049.18	2	
														73,572.3	23,285.3			49,797.38		

Site Number: 97960
 Location: Indigo Run, SC

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Tower Loading

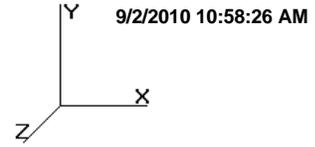
Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	X Angle (deg)	Vert Ecc (ft)
175.0	Andrew TMBXX-6517-R2M	3	44.10	9.590	0.80	99.00	10.520	0.80	0.000	0.00	0.000
175.0	Round Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
175.0	Andrew TMBX-6517-R2M	3	15.40	6.020	0.76	25.00	6.770	0.76	0.000	0.00	0.000
175.0	Andrew ETW200VS12UB	6	11.00	0.470	0.50	14.52	0.620	0.50	0.000	0.00	0.000
165.0	Side Arms	1	560.00	8.500	1.00	680.00	10.500	1.00	0.000	0.00	0.000
165.0	Argus LLPX310R	3	28.60	4.820	1.00	0.00	0.000	1.00	0.000	0.00	0.000
165.0	Huawei DBS3900 WiMax	3	44.00	2.357	1.00	0.00	0.000	1.00	0.000	0.00	0.000
158.0	Flat Sector Frame	3	400.00	17.900	0.75	510.00	22.200	0.75	0.000	0.00	0.000
158.0	Amphenol LPA-70080/8CF	6	24.00	12.950	0.74	90.27	14.020	0.74	0.000	0.00	0.000
150.0	TTA	6	10.00	1.400	0.50	20.34	1.640	0.50	0.000	0.00	0.000
150.0	Round Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
150.0	Decibel DB980F65E-M	6	9.50	3.750	0.81	30.00	4.320	0.81	0.000	0.00	0.000
134.0	Andrew ETM190G-12UB	6	16.00	1.060	0.50	23.00	1.290	0.50	0.000	0.00	0.000
134.0	14" x 9" TTA	6	10.00	1.230	0.50	18.00	1.460	0.50	0.000	0.00	0.000
134.0	77" x 14" Panels	12	35.00	10.480	0.67	94.00	11.380	0.67	0.000	0.00	0.000
134.0	Flat Sector Frame	3	400.00	17.900	0.75	510.00	22.200	0.75	0.000	0.00	0.000
125.0	Decibel DB848H90E-XY	4	28.00	8.356	0.93	78.41	9.250	0.93	0.000	0.00	0.000
125.0	Scala AP18-1900/063D	4	10.10	3.160	0.66	30.00	6.100	0.66	0.000	0.00	0.000
125.0	Scala AP22-1850/033D	2	24.30	7.750	0.66	60.00	8.600	0.66	0.000	0.00	0.000
125.0	Flat Sector Frame	3	400.00	17.900	0.75	510.00	22.200	0.75	0.000	0.00	0.000
125.0	14" x 9" TTA	6	10.00	1.230	0.50	30.00	20.000	0.50	0.000	0.00	0.000
125.0	Decibel DB876G105AXY	8	23.00	7.350	0.76	62.38	8.162	0.76	0.000	0.00	0.000
115.0	Flat Sector Frame	3	400.00	17.900	0.75	510.00	22.200	0.75	0.000	0.00	0.000
115.0	CSS DUO4-8686	12	20.30	6.530	0.96	138.72	15.040	0.96	0.000	0.00	0.000
Totals		115	9147.90			14864.12			Number of Appurtenances : 24		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Wind	Spread On Faces	Bundling Arrangement
5.00	180.0	Climbing Ladder	1	1.00	4.00	100.00	3	Separate
5.00	175.0	1 5/8" Coax	6	1.98	0.82	100.00	1	Separate
5.00	174.9	Wave Guide	1	1.75	5.00	100.00	1	Separate
0.00	165.0	5/16" Coax	6	0.00	0.05	100.00	Lin App	Separate
5.00	165.0	2" Conduit	3	2.38	3.65	100.00	Lin App	Separate
5.00	158.0	1 5/8" Coax	12	1.98	0.82	50.00	3	Separate
5.00	157.9	Wave Guide	1	1.75	5.00	100.00	3	Separate
5.00	150.0	1 5/8" Coax	6	1.98	0.82	100.00	2	Separate
5.00	150.0	1/2" Coax	1	0.63	0.15	100.00	2	Separate
5.00	149.9	Wave Guide	1	1.75	5.00	100.00	2	Separate
5.00	134.0	1 5/8" Coax	12	1.98	0.82	33.30	2	Flat
5.00	134.0	3/8" Coax	1	0.44	0.08	100.00	2	Separate
5.00	133.9	Wave Guide	1	1.75	6.00	100.00	2	Separate
5.00	125.0	1 5/8 Coax	12	1.98	0.82	50.00	2	Separate
5.00	125.0	7/8" Coax	6	1.09	0.33	100.00	3	Separate
5.00	124.9	Wave Guide	1	1.75	5.00	100.00	3	Separate
5.00	115.0	7/8" Coax	6	1.09	0.33	100.00	1	Separate

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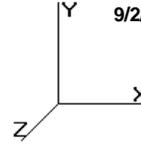
Tower Loading

5.00	114.9	Wave Guide	1	1.75	5.00	100.00	1	Separate
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 Location: Indigo Run, SC

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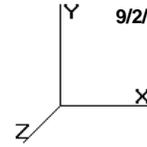


Force/Stress Summary

Section: 1		90B6611-m3		Bot Elev (ft): 0.00				Height (ft): 20.000								
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls	
LEG	SOL - 4 1/4" SOLID	-422.45	Normal Ice	10.02	50	50	50	56.6	31.1	440.58	0	0	0.00	0.00	95	Member X
HORIZ	DAE - 2.5X2.5X0.1875	-13.88	90 deg No Ice	11.00	100	100	50	133.3	11.2	20.16	4	2	34.13	43.50	68	Member Y
DIAG	DAE - 3X3X0.25	-20.64	90 deg Ice	14.86	50	50	25	99.0	17.5	50.32	4	2	34.13	57.99	60	Bolt Shear
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG	SOL - 4 1/4" SOLID	357.61	60 deg No Ice	50	567.38	0	0	0.00	0.00	63	Member					
HORIZ	DAE - 2.5X2.5X0.1875	14.02	90 deg No Ice	36	44.72	4	2	34.13	43.50	41	Bolt Shear					
DIAG	DAE - 3X3X0.25	19.49	90 deg Ice	36	73.54	4	2	34.13	57.99	57	Bolt Shear					
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type									
Top Tension		334.76	60 deg No Ice	0.00	0											
Top Compression		395.22	Normal Ice	0.00	0											
Bot Tension		379.27	60 deg No Ice	404.33	94	8	1 1/2 A572-50									
Bot Compression		447.00	Normal Ice	0.00	0											

Section: 2		90A6613-m3		Bot Elev (ft): 20.00				Height (ft): 20.000								
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls	
LEG	SOL - 4 1/4" SOLID	-386.67	Normal Ice	6.43	50	50	50	36.3	35.1	498.18	0	0	0.00	0.00	77	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.00	0	0	0.00	0.00	0		
DIAG	SAE - 4X4X0.25	-15.04	90 deg Ice	21.61	50	75	50	163.1	7.5	14.51	1	1	16.84	20.30	103	Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls					
LEG	SOL - 4 1/4" SOLID	337.78	60 deg No Ice	50	567.38	0	0	0.00	0.00	59	Member					
HORIZ		0.00		0	0.00	0	0	0.00	0.00	0						
DIAG	SAE - 4X4X0.25	15.39	90 deg Ice	36	49.46	1	1	16.84	20.30	91	Bolt Shear					
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type									
Top Tension		294.51	60 deg No Ice	0.00	0											
Top Compression		344.43	Normal Ice	0.00	0											
Bot Tension		334.76	60 deg No Ice	431.96	77	6	1 1/4 A325									
Bot Compression		395.22	Normal Ice	0.00	0											

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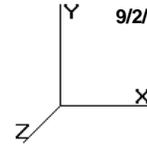
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Force/Stress Summary

Section: 3		90A6614-m3		Bot Elev (ft): 40.00				Height (ft): 20.000						
		Force	Len	Bracing %			Member		Shear Bear		Use			
Max Compression Member		(kip) Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	% Controls
LEG	SOL - 4" SOLID	-333.13 Normal Ice	6.43	50	50	50	38.6	34.7	436.11	0	0	0.00	0.00	76 Member X
HORIZ		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3.5X3.5X0.375	-14.61 90 deg Ice	19.71	50	75	50	172.2	6.7	16.65	1	1	17.66	26.10	87 Member Z
Max Tension Member		Force (kip) Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG	SOL - 4" SOLID	295.02 60 deg No Ice	50	502.59	0	0	0.00	0.00	58	Member				
HORIZ		0.00	0	0.00	0	0	0.00	0.00	0					
DIAG	SAE - 3.5X3.5X0.375	14.81 90 deg Ice	36	63.08	1	1	17.66	26.10	83	Bolt Shear				
Max Splice Forces		Force (kip) Load Case	Capacity (kip)	Use %	Num Bolts Bolt Type									
Top Tension		249.57 60 deg No Ice	0.00	0										
Top Compression		288.71 Normal Ice	0.00	0										
Bot Tension		294.51 60 deg No Ice	349.89	84	6 1 1/8 A325									
Bot Compression		344.43 Normal Ice	0.00	0										

Section: 4		90A6615-m3		Bot Elev (ft): 60.00				Height (ft): 20.000						
		Force	Len	Bracing %			Member		Shear Bear		Use			
Max Compression Member		(kip) Load Case	(ft)	X	Y	Z	KL/R	Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	% Controls
LEG	SOL - 4" SOLID	-277.03 Normal Ice	6.43	100	100	100	77.1	26.1	328.03	0	0	0.00	0.00	84 Member X
HORIZ		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3.5X3.5X0.375	-14.82 90 deg Ice	16.64	50	75	50	145.4	9.4	23.36	1	1	16.84	30.45	88 Bolt Shear
Max Tension Member		Force (kip) Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG	SOL - 4" SOLID	250.09 60 deg No Ice	50	502.59	0	0	0.00	0.00	49	Member				
HORIZ		0.00	0	0.00	0	0	0.00	0.00	0					
DIAG	SAE - 3.5X3.5X0.375	14.41 90 deg Ice	36	61.72	1	1	16.84	30.45	85	Bolt Shear				
Max Splice Forces		Force (kip) Load Case	Capacity (kip)	Use %	Num Bolts Bolt Type									
Top Tension		201.40 60 deg No Ice	0.00	0										
Top Compression		230.02 Normal Ice	0.00	0										
Bot Tension		249.57 60 deg No Ice	349.89	71	6 1 1/8 A325									
Bot Compression		288.71 Normal Ice	0.00	0										

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Force/Stress Summary

Section: 5		90A6616		Bot Elev (ft): 80.00				Height (ft): 20.000				Member		Shear Bear		Use	
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls		
LEG	SOL - 3 3/4" SOLID	-216.28	Normal No Ice	6.43	100	100	100	82.3	24.7	273.22	0	0	0.00	0.00	79	Member X	
HORIZ		0.00		0.000	0	0	0	0.0	0.00	0	0	0.00	0.00	0			
DIAG	SAE - 3X3X0.3125	-13.64	90 deg Ice	15.98	48	73	48	156.3	8.1	14.50	1	1	17.66	21.75	94	Member Z	

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SOL - 3 3/4" SOLID	201.83	60 deg No Ice	50	441.76	0	0	0.00	0.00	45	Member
HORIZ		0.00		0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.3125	14.20	90 deg Ice	36	44.25	1	1	17.66	21.75	80	Bolt Shear

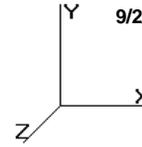
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		148.38	60 deg No Ice	0.00	0		
Top Compression		168.06	Normal No Ice	0.00	0		
Bot Tension		201.40	60 deg No Ice	276.45	73	6	1 A325
Bot Compression		230.02	Normal Ice	0.00	0		

Section: 6		90A6390-m3		Bot Elev (ft): 100.0				Height (ft): 20.000				Member		Shear Bear		Use	
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls		
LEG	SOL - 3 1/4" SOLID	-158.89	Normal No Ice	4.82	100	100	100	71.2	27.6	229.12	0	0	0.00	0.00	69	Member X	
HORIZ		0.00		0.000	0	0	0	0.0	0.00	0	0	0.00	0.00	0			
DIAG	SAE - 3X3X0.25	-12.96	90 deg Ice	13.60	50	75	50	137.9	10.5	15.08	1	1	16.84	20.30	85	Member Z	

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SOL - 3 1/4" SOLID	148.73	60 deg No Ice	50	331.81	0	0	0.00	0.00	44	Member
HORIZ		0.00		0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	13.18	90 deg Ice	36	34.96	1	1	16.84	20.30	78	Bolt Shear

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		91.34	60 deg No Ice	0.00	0		
Top Compression		104.56	Normal No Ice	0.00	0		
Bot Tension		148.38	60 deg No Ice	211.66	70	6	7/8 A325
Bot Compression		168.06	Normal No Ice	0.00	0		

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Force/Stress Summary

Section: 7		90A6617		Bot Elev (ft): 120.0				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SOL - 3" SOLID	-96.05	Normal No Ice	4.82	100	100	100	77.1	26.1	184.53	0	0	0.00	0.00	52 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	-10.11	90 deg No Ice	11.75	50	75	50	143.6	9.7	11.49	1	1	12.27	14.50	88 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SOL - 3" SOLID	91.59	60 deg No Ice	50	282.73	0	0	0.00	0.00	32	Member
HORIZ		0.00		0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.25	10.32	90 deg No Ice	36	29.52	1	1	12.27	14.50	84	Bolt Shear

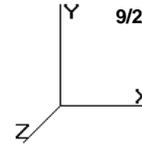
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		46.83	60 deg No Ice	0.00	0		
Top Compression		53.95	Normal No Ice	0.00	0		
Bot Tension		91.34	60 deg No Ice	211.66	43	6	7/8 A325
Bot Compression		104.56	Normal No Ice	0.00	0		

Section: 8		90A6402		Bot Elev (ft): 140.0				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SOL - 2 3/4" SOLID	-48.99	Normal No Ice	4.82	100	100	100	84.1	24.2	143.90	0	0	0.00	0.00	34 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2X2X0.1875	-5.45	90 deg No Ice	9.962	50	75	50	151.7	8.6	6.18	1	1	7.85	8.70	88 Member Z

Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	SOL - 2 3/4" SOLID	47.02	60 deg No Ice	50	237.56	0	0	0.00	0.00	19	Member
HORIZ		0.00		0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2X2X0.1875	5.53	90 deg No Ice	36	17.67	1	1	7.85	8.70	70	Bolt Shear

Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension		13.22	60 deg No Ice	0.00	0		
Top Compression		16.19	Normal No Ice	0.00	0		
Bot Tension		46.83	60 deg No Ice	155.50	30	6	3/4 A325
Bot Compression		53.95	Normal No Ice	0.00	0		

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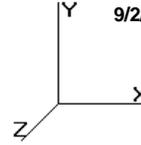
Code: TIA/EIA-222 Rev F

Force/Stress Summary

Section: 9 9		Bot Elev (ft): 160.0		Height (ft): 20.000								
Max Compression Member		Force (kip)	Len (ft)	Bracing %	Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG SOL - 2 1/4" SOLID	-13.46	3.86	100	100	82.3	24.7	98.36	0	0	0.00	0.00	13 Member X
HORIZ SAE - 1.5X1.5X0.25	-0.18	5.000	100	100	205.5	4.7	3.25	1	1	12.27	14.50	5 Member Z
DIAG SAE - 1.5X1.5X0.25	-2.48	7.789	50	75	50	160.0	7.8	5.36	1	7.85	11.60	46 Member Z
Max Tension Member		Force (kip)	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls		
LEG SOL - 2 1/4" SOLID	13.35	50	159.03	0	0	0.00	0.00	8	8	Member		
HORIZ SAE - 1.5X1.5X0.25	0.19	36	15.02	1	1	12.27	14.50	1	1	Bolt Shear		
DIAG SAE - 1.5X1.5X0.25	2.49	36	15.93	1	1	7.85	11.60	31	31	Bolt Shear		
Max Splice Forces		Force (kip)	Capacity (kip)	Use %	Num Bolts	Bolt Type						
Top Tension	0.00	0.00	0									
Top Compression	0.12	0.00	0									
Bot Tension	13.22	155.50	9	6	3/4 A325							
Bot Compression	16.19	0.00	0									

Site Number: 97960
 Location: Indigo Run, SC

Code: TIA/EIA-222 Rev F



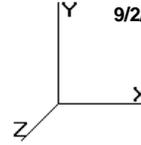
Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
90 deg Ice	1b	-33.50	-322.43	-15.00	
	1a	-37.06	381.38	17.34	
	1	-7.28	29.48	-2.34	
60 deg Ice	1b	-36.43	-373.56	-21.03	
	1a	-24.12	231.00	6.89	
	1	-6.09	231.00	-24.34	
Normal Ice	1b	-14.64	-178.66	-16.19	
	1a	14.64	-178.66	-16.19	
	1	0.00	445.75	-48.12	
90 deg No Ice	1b	-33.77	-328.13	-15.16	
	1a	-36.12	367.76	16.80	
	1	-7.27	19.81	-1.64	
60 deg No Ice	1b	-36.44	-376.95	-21.04	
	1a	-23.19	218.19	6.41	
	1	-6.04	218.19	-23.29	
Normal No Ice	1b	-15.31	-188.59	-16.73	
	1a	15.31	-188.59	-16.73	
	1	0.00	436.61	-47.71	

Max Uplift:	376.95 (kip)	Moment:	8,301.98 (ft-kip)	Normal No Ice
Max Down:	445.75 (kip)	Total Down:	59.43 (kip)	
Max Shear:	48.12 (kip)	Total Shear:	81.17 (kip)	

Site Number: 97960
 Location: Indigo Run, SC

Code: TIA/EIA-222 Rev F

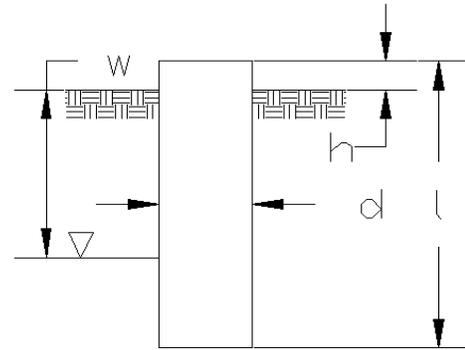


Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
100.00 mph Wind Normal To Face with No Ice	114.81	0.5571	0.0167	0.4433
	125.19	0.6581	0.0194	0.4729
	134.81	0.7485	0.0219	0.5147
	150.00	0.9045	0.0242	0.6336
	159.63	1.0056	0.0291	0.8201
	164.23	1.0550	0.0232	0.5570
	175.77	1.1750	0.0241	0.5921
100.00 mph Wind at 60 deg From Face with No Ice	114.81	0.5334	0.0094	0.4249
	125.19	0.6304	0.0102	0.4541
	134.81	0.7179	0.0120	0.4968
	150.00	0.8685	0.0149	0.6109
	159.63	0.9664	0.0212	0.7890
	164.23	1.0144	0.0142	0.5385
	175.77	1.1302	0.0155	0.5730
100.00 mph Wind at 90 deg From Face with No Ice	114.81	0.5394	0.0013	0.4474
	125.19	0.6381	0.0029	0.4774
	134.81	0.7259	0.0041	0.5168
	150.00	0.8778	0.0058	0.6063
	159.63	0.9769	0.0088	0.7725
	164.23	1.0247	0.0057	0.5524
	175.77	1.1417	0.0062	0.5770
86.60 mph Wind Normal To Face with Ice	114.81	0.5580	0.0169	0.4378
	125.19	0.6572	0.0196	0.4631
	134.81	0.7451	0.0219	0.5040
	150.00	0.8959	0.0239	0.6089
	159.63	0.9933	0.0282	0.7605
	164.23	1.0403	0.0230	0.5420
	175.77	1.1567	0.0239	0.5726
86.60 mph Wind at 60 deg From Face with Ice	114.81	0.5426	0.0089	0.4250
	125.19	0.6377	0.0093	0.4504
	134.81	0.7248	0.0110	0.4924
	150.00	0.8723	0.0134	0.5935
	159.63	0.9665	0.0189	0.7400
	164.23	1.0141	0.0130	0.5300
	175.77	1.1270	0.0142	0.5602
86.60 mph Wind at 90 deg From Face with Ice	114.81	0.5466	0.0010	0.4461
	125.19	0.6436	0.0026	0.4724
	134.81	0.7300	0.0038	0.5107
	150.00	0.8784	0.0051	0.5879
	159.63	0.9741	0.0079	0.7252
	164.23	1.0208	0.0051	0.5404
	175.77	1.1346	0.0055	0.5631
		0.0000	0.0000	0.0000

Site Name: Indigo Run, SC
 Site Number: 97960
 Engineer: C. Minor
 Engineering Number: 45561321
 Date: 09/01/10

Program Last Updated: 8/30/2010
 American Tower Corporation



Design Base Loads (Unfactored) - Analysis per TIA-222-F Standards

Foundation Mapped: N
 Moment (M): 0.0 k-ft
 Shear/Leg (V): 48.1 k
 Compression/Leg (P): 445.8 k
 Uplift/Leg (U): 377.0 k
 Tower Type (GT / SST / MP): SST

Diameter of Caisson (d): 4.0 ft
 Caisson Embedment (L-h): 74.0 ft
 Caisson Height Above Ground (h): 0.5 ft
 Depth Below Ground Surface to Water Table (w): 2.5 ft
 Unit Weight of Concrete: 150.0 pcf
 Unit Weight of Water: 62.4 pcf
 Tension Skin Friction/Compression Skin Friction: 1.00
 Pullout Angle: 30.0 degrees

Soil Mechanical Properties

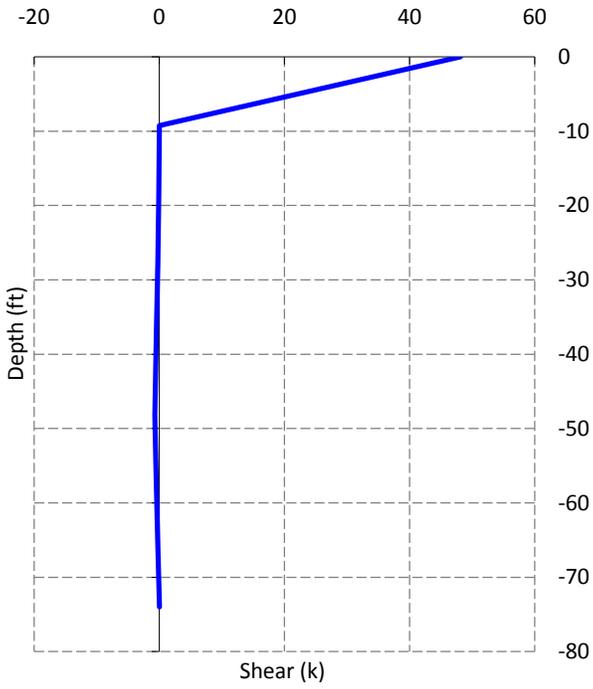
Depth (ft)		γ_{Soil}	Cohesion	ϕ	Allowable Skin	Allowable Bearing
Top	Bottom	(pcf)	(psf)	(degree)	Friction (psf)	Pressure (psf)
0.0	2.5	95	0	0	0	0
2.5	7.0	115	0	32	250	3000
7.0	14.5	100	0	28	200	1000
14.5	19.5	115	0	32	300	3000
19.5	28.5	100	2000	0	300	800
28.5	48.5	100	0	28	300	1000
48.5	58.5	100	2000	0	300	1000
58.5	75.0	100	0	28	800	12000

Required Embedment: 72.5 ft - OK, Caisson Embedment Satisfactory
 Volume of Concrete: 936.2 ft³ = 34.7 yd³
 Weight of Concrete (Buoyancy Effect Considered): 84.4 k
 Average Soil Unit Weight: 41.5 pcf
 Skin Friction Resistance: 354.7 k
 Compressive Bearing Resistance: 150.8 k
 Pullout Weight (Minus Concrete Weight): 6688.9 k
 Allowable Uplift Capacity (U_{Allow}): 422.2 k
 Allowable Compressive Capacity (P_{Allow}): 505.5 k
 Compressive Design Load (P): 490.6 k
 U / U_{Allow} : 0.89 Result: OK
 P / P_{Allow} : 0.97 Result: OK
 Total Lateral Resistance: 4088.9 k
 Inflection Point (Below Ground Surface): 48.2 ft
 Design Overturning Moment At Inflection Point (M_D): 2341.3 k-ft
 Nominal Moment Capacity (M_{Allow}): 62784.0 k-ft
 M_{Allow} / M_D Factor of Safety: 26.82 Result: OK

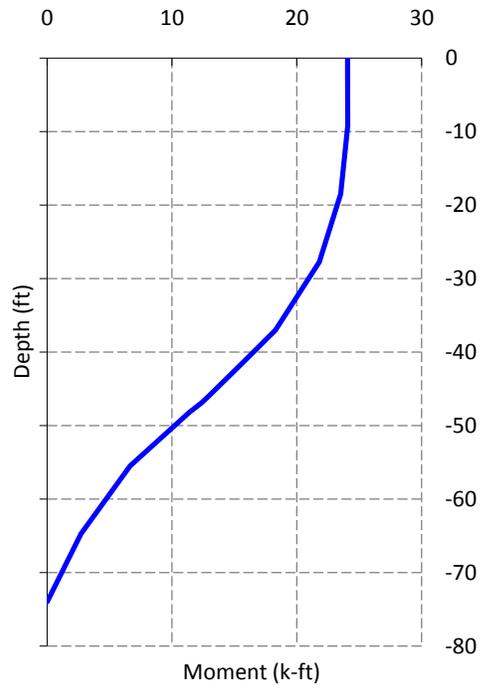
Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	3000 psi
Vertical Steel Rebar Size #:	10
Vertical Steel Rebar Area:	1.27 in ²
Required # of Vertical Rebar to Satisfy Reinforcement Ratio:	8
Design # of Vertical Steel Rebars:	12 Minimum # of vertical rebar met for RR
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in ²
Design Horizontal Tie / Stirrup Spacing:	12.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	60 ksi
Rebar Cage Diameter:	40.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor (ϕ_P):	0.65 ACI318-05 - 9.3.2.2
Wind Design Factor:	1.30 ACI318-05 - 9.2.1
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	462.9 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	1344.5 k-ft - ACI318-005 - 10.2
$M_u / \phi_B M_n$:	0.34 Result: OK
Design Shear (V_u):	62.6 k
Nominal Shear Capacity ($\phi_V V_n$):	133.2 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u / \phi_V V_n$:	0.47 Result: OK
Design Tension (T_u):	490.0 k
Nominal Tension Capacity ($\phi_T T_n$):	823.0 k - ACI318-05 - 10.2
$T_u / \phi_T T_n$:	0.60 Result: OK
Design Compression (P_u):	637.8 k
Nominal Compression Capacity ($\phi_P P_n$):	2799.1 k - ACI318-05 - 10.3.6.2
$P_u / \phi_P P_n$:	0.23 Result: OK
Bending Reinforcement Ratio:	0.008 Reinforcement Ratio is Satisfactory - ACI318-05 - 10.8.4 & 10.9.1
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.94 Result: OK

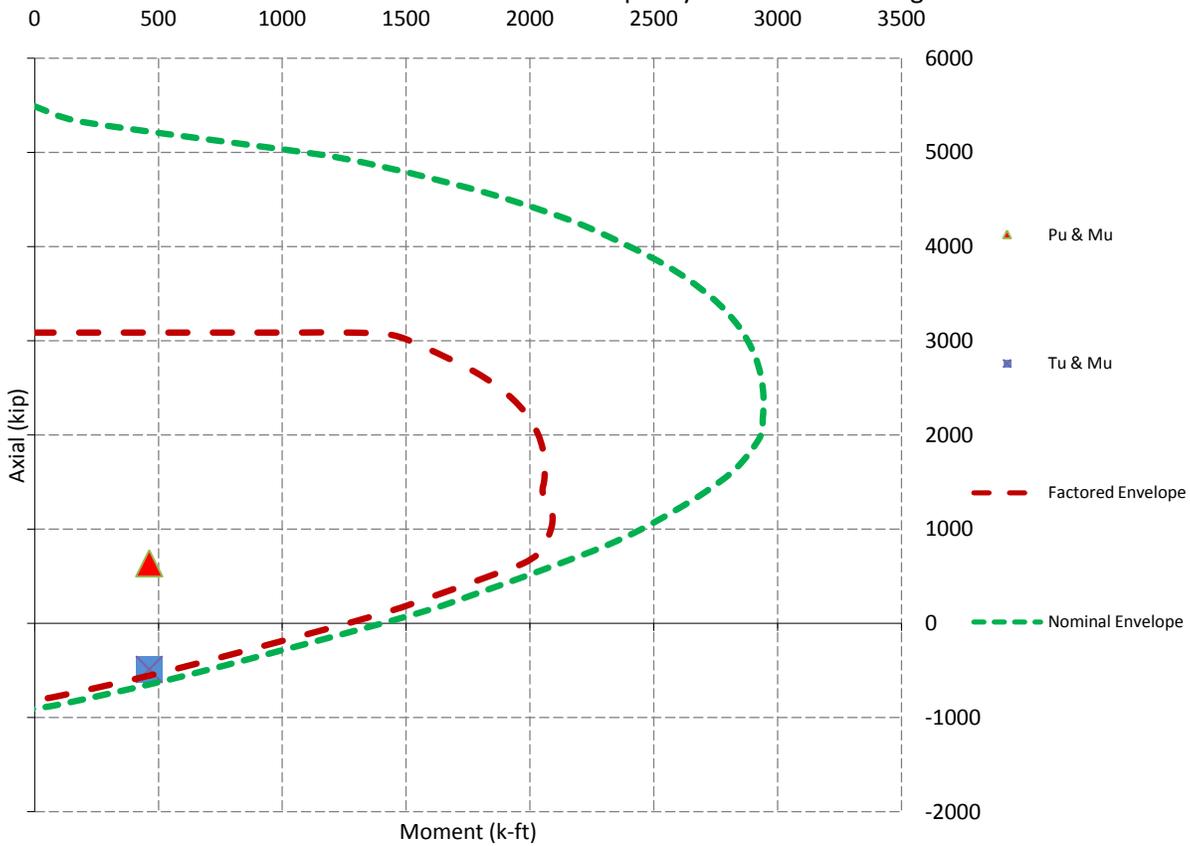
Design Unfactored Shear / Depth



Design Unfactored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads





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: 12.3-10
 Accepted by: DH
 App. #: DR 100051
 Meeting Date: _____

Applicant/Agent Name: Rick Bohrer Company: R. Bohrer General Contr, LLC
 Mailing Address: 10 Sentry Oak Lane City: Hilton Head State: SC Zip: 29928
 Telephone: 384-8215 Fax: 681-5909 E-mail: rbohrer318@aol.com
 Project Name: The Lodge Project Address: 7 Greenwood Drive
 Parcel Number [PIN]: R 552 015 000 00 03 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 _____ Alteration/Addition
 _____ New Development – Final, indicate Project Number 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

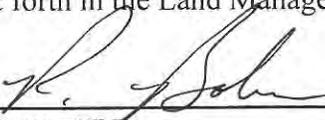
Note: All application items must be received by the deadline date in order to be reviewed by the DRB per LMO Section 16-3-106.

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

12/2/10

DATE



R. BOHRER GENERAL CONTRACTORS, LLC

The Lodge Brick wall extension

Narrative

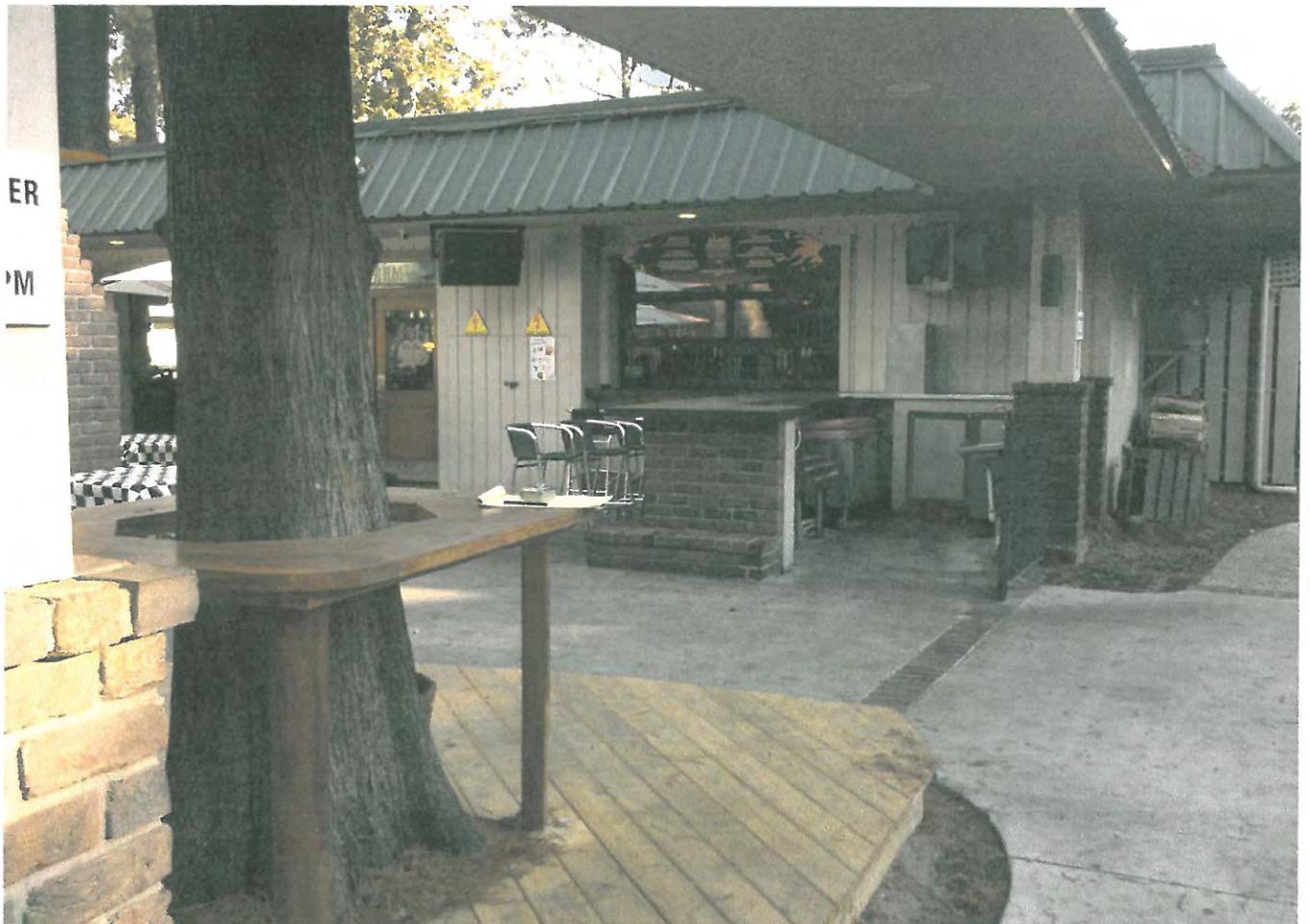
An approved deck was installed on the left side of the front entrance to The Lodge. The owner wishes to extend an existing brick wing wall across the side of the deck which would be terminated by a column that would match existing. The brick work would match the existing details of the wing wall.

This wall extension would help to segregate the Lodge deck area from the public sidewalk that runs along the side of it and add an enhanced appearance to the front of the Lodge.

**Rick Bohrer
R. Bohrer General Contractors, LLC
843-384-8215**







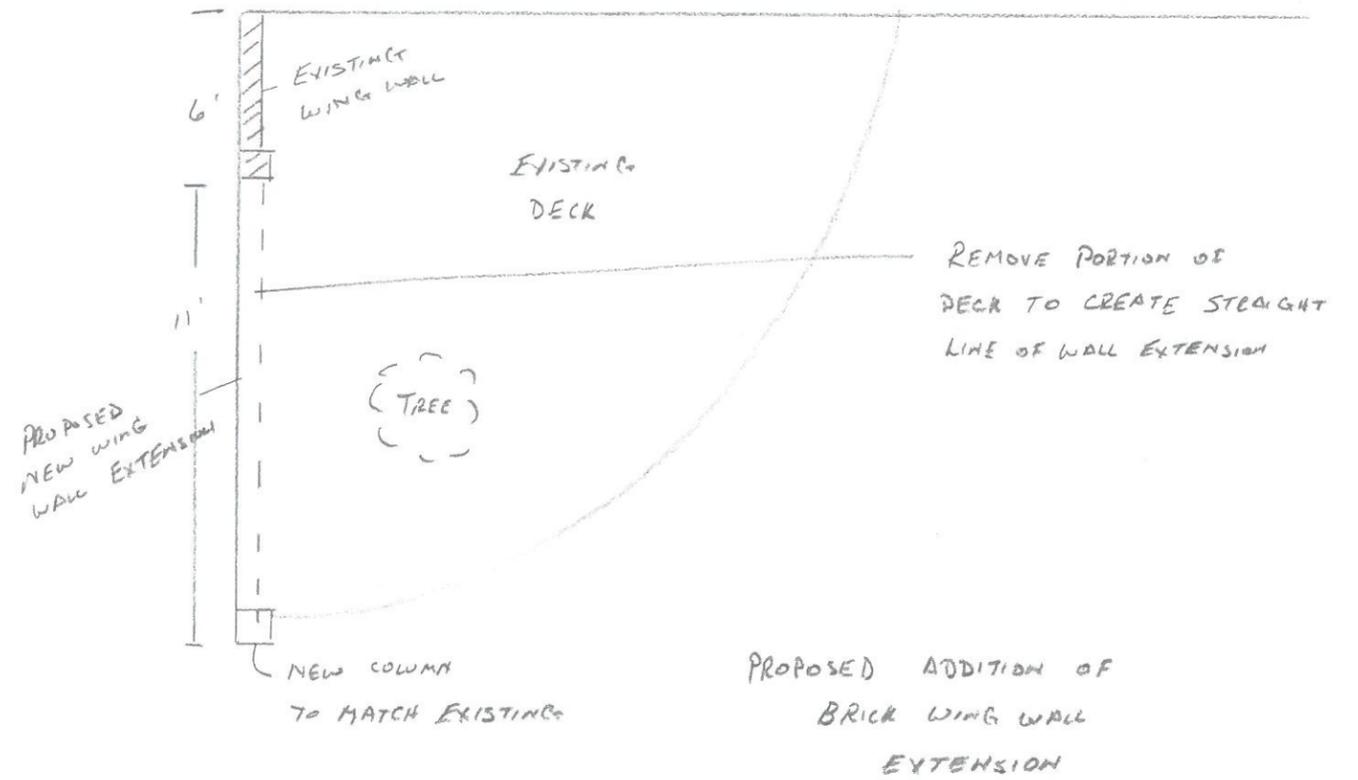
THE LODGE



EXISTING DECK & WING WALL

NOT TO SCALE

THE LODGE



THE LODGE

NOT TO SCALE

PROPOSED WING WALL EXTENSION



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 The Lodge Wall

DRB# DR100051

DATE 12/14/2010

RECOMMEND
APPROVE

RECOMMEND
APPROVE W/COND.

RECOMMEND
DENY

ARCHITECTURAL DESIGN

This is one of four walls on the corners of the courtyard. Applicant wishes to extend the wall to create some spatial definition on the back of the deck. Staff feels this would break up the symmetry and definition of the overall area. For all the cumulative add-ons in and on this courtyard, approved or otherwise, this is actually a structural component of the building(s). It appears in the photos that OHM's has extended the same feature with an aluminum rail. Staff would recommend that the applicant do the same with a matching detail along the same delineation, and cut back the deck accordingly to suit. They should subsequently fill the increased bed area with some sort of landscaping.

Conversely, if the application is denied or withdrawn, the deck should be properly finished to integrate into the edge of the existing sidewalk (w/o a continuous 8-12" gap of dirt)

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 and 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

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		Because of damage to the tree shown in the decking, this wall cannot be approved by NR as drawn.
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: 11-10-10
 Accepted by: J. Coates
 App. #: _____

Applicant/Agent Name: HOWARD WRIGHT Company: HILTON HEAD SIGNS
 Mailing Address: P.O. Box 21440 City: HILTON HEAD State: SC Zip: 29925
 Telephone: 681-3513 Fax: 681-5521 E-mail: INFO@HILTONHEADSIGNS.COM
 Business License #: 1441 Sign Contractor: HILTON HEAD SIGNS
 Project Name: PROVIDENCE PRESBYTERIAN CH Project Address: 171 CORDILLO PKWY, HHI, SC 29928
 Parcel Number [PIN]: R 550 018 000 002A 0000
 Zoning District: CFB Overlay District(s): COR PD-2

SIGN SUBMITTAL REQUIREMENTS

The proposed sign(s) is:
 New or Alteration to an Existing Sign(s)
 Type of sign(s) to be permitted (please enter the number of each sign type requested):
 Freestanding Façade Hanging Tenant Panel Temporary
 Real Estate Sign Real Estate Yard Sign Short Term Rental
 Total number of sign faces: 2 (A sign face is a side of the sign with commercial copy)

The following must be submitted for each **freestanding, façade, hanging, tenant panel** or **temporary sign**:

- A drawing or close-up photo of the proposed sign with the following measurements: sign height, width and depth; copy and logo height and width. Note the materials and provide the Pantone Matching System® numbers for each color. If there is existing lighting, the photo should show the fixtures.
- A drawing or photo of the location of the proposed sign and landscaping (if existing). If the sign is located on a building, that side of the building should be shown. If the sign is freestanding, include a site plan or aerial photo showing the location of the sign on the site.
- A lighting plan. If lights are already installed, the photo of the sign should show the light fixtures. If lights are proposed, fixture locations should be noted on the drawing or photo and manufacturer specifications should be provided.
- For freestanding permanent signs, a landscape plan and planting schedule. If the sign already has landscaping, the photo should show the landscaping.
- For freestanding signs larger than 15 square feet, wind load calculations.
- An approval letter from any applicable architectural review board.
- \$25 Filing fee + \$25 for each sign face (cash or check made payable to Town of Hilton Head Island)

The following must be submitted for each **real estate sign**:

- _____ A drawing or close-up photo of the proposed sign with the following measurements: sign height and width; copy height and width; logo height and width. Note the materials and provide the Pantone Matching System® numbers for each color.
- _____ A drawing or photo of the location of the proposed sign and a site plan or aerial photo showing the location of the sign on the site.
- _____ An approval letter from any applicable architectural review board.
- _____ \$25 Filing fee + \$25 for each sign face (cash or check made payable to Town of Hilton Head Island)

The following must be submitted for each **real estate yard sign**:

- _____ A drawing or close-up photo of the proposed sign with the following measurements: sign height and width; copy height and width; logo height and width. Note the materials and provide the Pantone Matching System® numbers for each color.
- _____ \$25 Filing fee + \$25 for each sign (cash or check made payable to Town of Hilton Head Island)

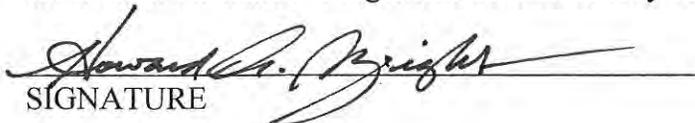
The following must be submitted for each **short-term rental sign**:

- _____ A drawing or close-up photo of the proposed sign with the following measurements: sign height and width; copy height and width. Note the materials and provide the Pantone Matching System® numbers for each color. (If a previously approved design will be used, this information is unnecessary.)
- _____ A photo of the location of the proposed sign. The entire side of the home should be shown.
- _____ \$25 Filing fee + \$25 for each sign location (cash or check made payable to Town of Hilton Head Island)

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

11-10-10
DATE

Wednesday, November 10, 2010

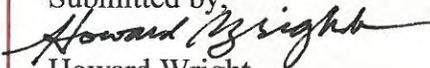
Town Of Hilton Head Island
Community Development Department
Att: **Mike Roan**

Reference: Sign Permit For Providence Presbyterian Church

Dear Mr. Roan,

New Sign Location is Next To Driveway of the Children's Center.
New Sign is to be the Same Size, Shape and Color as Existing Main ID sign,
(see attached), on Cordillo Parkway.

Submitted by


Howard Wright

SIGN LOCATION

102.27 in

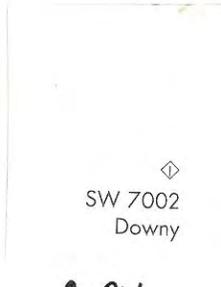
184.2 in



BACKGROUND



TRIM



COPY

TO MATCH EXISTING
MAIN ID (EXCEPT NO ROOF)

73 in

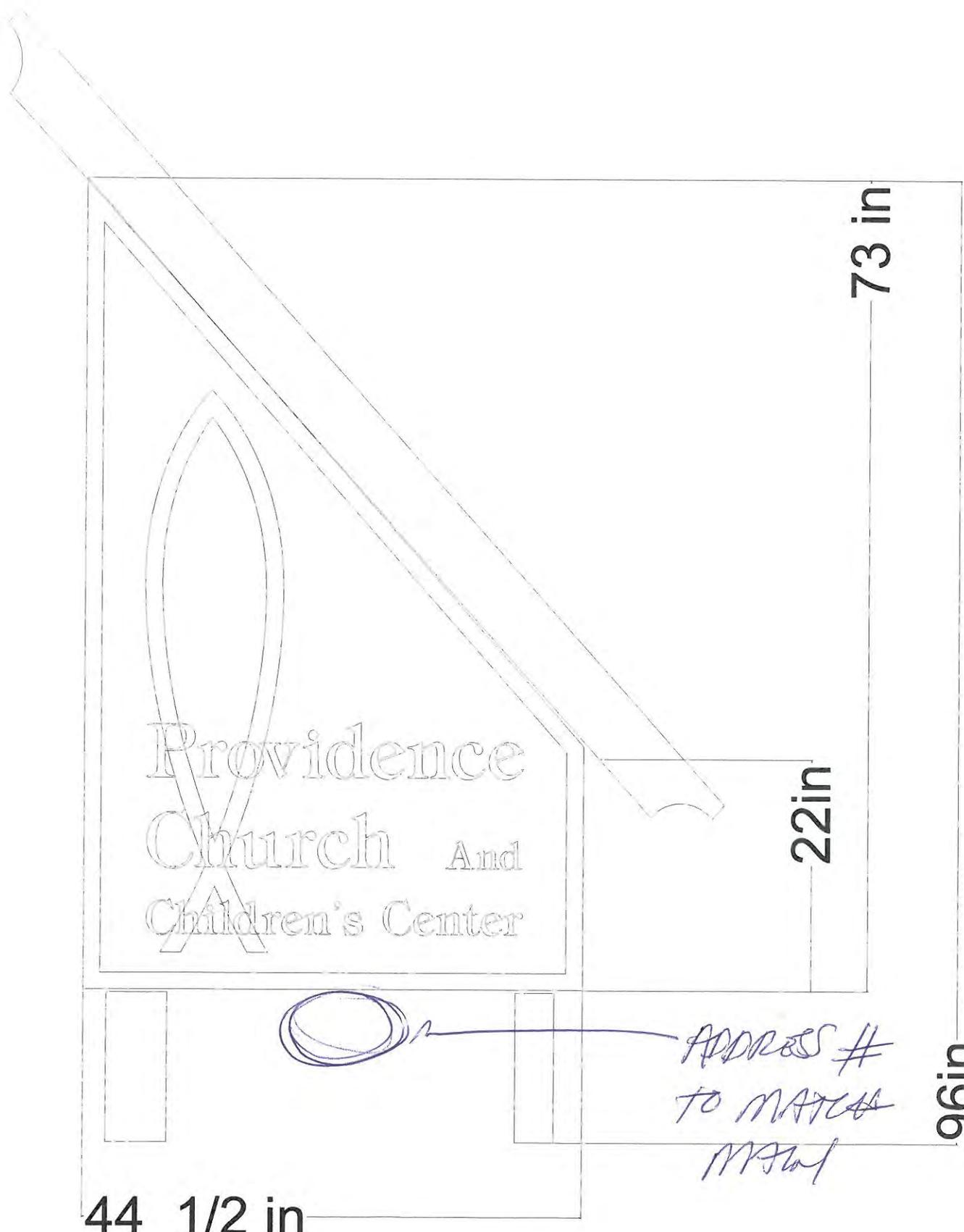
22 in

96 in

44 1/2 in

Providence
Church And
Children's Center

ADDRESS #
TO MATCH
117561





DESIGN TEAM/ SIGN COMMENT SHEET

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

PROJECT	Providence Presbyterian Church	DRB#	S100174
DATE	12/14/2010	RECOMMEND APPROVE	<input type="checkbox"/>
		RECOMMEND APPROVE W/COND.	<input checked="" type="checkbox"/>
		RECOMMEND DENY	<input type="checkbox"/>

FREE STANDING SIGNS
 Sign is to complement/ mirror the main ID sign for the sanctuary entrance further down Cordillo Avenue (+/- 200'). Materials and colors to match. Staff recommends that the exposed 4x4 supports be clad with "blanks" to anchor the sign and provide some weight, and mimic the changeable copy panels on the main ID sign. Staff also recommends that the standing seam roof element on the main sign be repeated on the new sign, as well. This is a highly visible entry on the street, and an attempt at value-engineering existing details would be a disservice to the quality of development on the site.

DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/N/A	COMMENTS OR CONDITIONS
SIGN FACE IS 3 DIMENSIONAL	Y	
TENANT PANELS LIMITED TO 3 OF SAME SIZE, FONT AND COLOR AND COMPRISE NO MORE THE 1/3 OF THE SIGN FACE	Y	
LOGOS DO NOT EXCEED 10% OF SIGN FACE AND VIVID COLORS ARE LESS THAN 10% OF LOGO	Y	
LIGHTING IS SHIELDED BY THE SIGN OR PLANT MATERIAL	NA	
LANDSCAPING IS ADEQUATE FOR SIZE OF SIGN		Landscaping will need to be submitted

FAÇADE SIGNS		
DESIGN GUIDE/LMO CRITERIA	COMPLIES YES/NO/NA	COMMENTS OR CONDITIONS
MEETS LMO 16-5-1309 SIZE CRITERIA		
ONLY 2 SIGNS PER FAÇADE (EXCEPT FOR SHOPPING CENTERS)		
COMPLIES WITH SIGN SYSTEM IF SHOPPING CENTER		
CONTAINED WITHIN AN ARCHITECTURAL ELEMENT OF THE BUILDING		
IS SIMILAR IN DESIGN AND CONTENT OF FREE STANDING SIGN(S)		
SIGN HAS 3 DIMENSIONAL FACE		
LOGOS DO NOT EXCEED 10% OF SIGN FACE AND VIVID COLORS ARE LESS THAN 10% OF LOGO		
LIGHTING IS SHIELDED FROM THE PUBLIC WAY		

MISCELLANEOUS LMO REQUIREMENTS (REQUIRED)	
CRITERIA	YES/NO/NA
DOES NOT CONTAIN MORE INFORMATION THAN NECESSARY TO PROVIDE REASONABLE IDENTIFICATION OF THE BUSINESS	

MATERIALS, COLORS, SHAPES AND DETAILS REFLECT THOSE OF THE BUILDING	
SIZE AND PROPORTION DOES NOT DOMINATE SITE	
SIZE AND PROPORTION IS COMPATIBLE WITH NEARBY AND ADJACENT PROPERTIES	