The Town of Edisto Beach **Procurement Services** **Addendum # 1**	Solicitation Number Date Printed Date Issued Procurement Officer Phone E-Mail Address Physical Address	2025-01 **February 6, 2025** **February 6, 2025** Mark Aakhus 843-869-2505 x211/ maakhus@townofedistobeach.com 2424 Murray St., Edisto Beach, SC, 29438

DESCRIPTION: **Town of Edisto Beach – New Town Hall and EOC**

Offeror is to submit a signed copy of this Addendum # **1** form with BID Submission

NAME OF OFFEROR (Full legal name of business submitting the offer)		
AUTHORIZED SIGNATURE (Person signing must be authorized to submit binding offer to enter contract on behalf of Offeror named above.)		
TITLE (Business title of person signing above)		
PRINTED NAME (Printed name of person signing above)	DATE SIGNED	

ACKNOWLEDGMENT OF AMENDMENTS Offerors acknowledges receipt of amendments by indicating amendment number and its date of issue. See "Amendments to Solicitation" Provision	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date

DISCOUNT FOR PROMPT PAYMENT See "Discount for Prompt Payment" clause	10 Calendar Days (%)	20 Calendar Days (%)	30 Calendar Days (%)	_____Calendar Days (%)

SEE NEXT PAGE

AMENDMENTS TO SOLICITATION (a) The Solicitation may be amended at any time prior to opening. (b) Offerors shall acknowledge receipt of any amendment to this solicitation (1) by signing and returning the amendment, (2) by identifying the amendment number and date in the space provided for this purpose on Page Two, (3) by letter, or (4) by submitting a bid that indicates in some way that the bidder received the amendment. (c) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.

Solicitation has been amended as follows:

FOR

TOWN OF EDISTO BEACH – NEW TOWN HALL AND EOC

PREPARED BY:

CUMMING MANAGEMENT GROUP, INC.
4399 CORPORATE DRIVE, BLDG. 300
N. CHARLESTON, SOUTH CAROLINA 29405

AND

CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412

TABLE OF CONTENTS

This addendum consists of the following attachments:

23. REVISED Drawing Sheet A601 – Door, Door Frame & Storefront Schedule 1
24. REVISED Drawing Sheet A602 – Head, Jamb & Sill Details 1
25. REVISED Drawing Sheet A621 – Roof, Wall & Floor Construction Types 1
26. REVISED Drawing Sheet A701 – Finish Schedule and Details 1
27. REVISED Drawing Sheet S101A – Foundation Plan 1
28. REVISED Drawing Sheet S102A – First Floor Slab Plan 1
29. REVISED Drawing Sheet S103 – First Floor Wall Plan 1
30. REVISED Drawing Sheet S104A – Roof Framing Plan 1
31. REVISED Drawing Sheet S704 – Sections & Details 1
32. REVISED Drawing Sheet S716 – Sections & Details 1
33. REVISED Drawing Sheet P201 – 1st Floor Domestic Water Plan 1
34. REVISED Drawing Sheet E601 – Electrical Light Fixture Schedule 1
35. REVISED Drawing Sheet T401 – Technology Enlarged Plans 1
36. REVISED Drawing Sheet T421 – AV Enlarged Plans – Chambers 104 1
37. Substitution Request - Metal Roofing Systems, Inc. (Approved) 16
38. Edisto Beach Town Hall Questions Tracker 4
39. REVISED Specification Section 00100 Table of Contents (Attachment HH) 6

BID DATE CHANGE

ITEM 1.1 **BID DATE CHANGE:** the Bid Date is **rescheduled for February 19, 2025, at 2:00 p.m**. Location remains unchanged at Cumming Management Group, Inc., 4399 Corporate Road, Bldg. 300, N. Charleston, SC 29405.

PRE-BID MEETING MINUTES

ITEM 1.2 **PRE-BID MEETING MINUTES:** See attached Pre-Bid Meeting Minutes with Sign in Sheet.

PROJECT MANUAL

ITEM 1.3 **REFERENCE SPECIFICATION SECTION 00100 – TABLE OF CONTENTS:** see items below.

a. Add Specification Section 313116 – Termite Control
b. Remove Specification Section 096813 – Tile Carpeting
c. See attachment HH, 6 pages.

ITEM 1.4 **REFERENCE SPECIFICATION SECTION 000116 INVITATION FOR BID/BID FORM:** delete in its entirety and replace with the revised attached. Note: revision to allowances (page 20).

ITEM 1.5 **REFERENCE SPECIFICATION SECTION 012100 ALLOWANCES:** delete in its entirety and replace with the revised attached. Note: ADDITION of $200,000 General Contingency Allowance.

ITEM 1.6 **REFERENCE SPECIFICATION SECTION 014126 PERMITS AND RIGHT OF WAY:** see items below.

a. Item 3.2 Building Permits: subitem A. change item to read as follows: "A. Contractor shall secure all permits required whether of temporary or permanent nature. Contractor will pay permit fees. See attached fee schedule on next page."
b. See Attachment B, 1 page.

ITEM 1.7 **REFERENCE SPECIFICATION SECTION 074293 – SOFFIT PANELS**: Add spec section in its entirety. See Attachment C, 9 pages.

ITEM 1.8 **REFERENCE SPECIFICATION SECTION 270010 TECHNOLOGY GENERAL PROVISIONS:** see items below.

a. All references to Florida building codes now reference South Carolina. See Attachment D, 17 pages.
b. 100 mile site proximity requirements have been removed.

ITEM 1.9 **REFERENCE SPECIFICATION SECTION 271000 – STRUCTURED CABLING SYSTEM:** All references to Florida building codes now reference South Carolina. See Attachment E, 33 pages.

ITEM 1.10 **REFERENCE SPECIFICATION SECTION 274100 AUDIO VISUAL SYSTEMS:** All references to Florida building codes now reference South Carolina. See Attachment F, 18 pages.

ITEM 1.11 **REFERENCE SPECIFICATION SECTION 281000 – ELECTRONIC SECURITY SYSTEMS:** All references to Florida building codes now reference South Carolina. See Attachment G, 29 pages.

ITEM 1.12 **REFERENCE SPECIFICATION SECTION 282000 – CLOSED CIRCUIT TELEVISION-VIDEO SURVEILLANCE SYSTEM:** All references to Florida building codes now reference South Carolina. See Attachment H, 10 pages.

ITEM 1.13 **REFERENCE SPECIFICATION SECTION 313116 – TERMITE CONTROL**: Add spec section in its entirety. See Attachment A, 4 pages.

DRAWINGS

ITEM 1.14 **REFERENCE DRAWING SHEETS:** see below.

a. Sheet A100 – First Floor Plan: replace existing sheet in its entirety with attached A101, labeled Addendum 1 in the revision box. See Attachment I.
b. Sheet A102 – Dimension Plan: replace existing sheet in its entirety with attached A102, labeled Addendum 1 in the revision box. See Attachment J.
c. Sheet A121 – Existing Fire Station – First Floor Reflected Ceiling Plan: Add new sheet in its entirety with attached A121, labeled Addendum 1 in the revision box. See Attachment K.
d. Sheet A302 – Building Sections: replace existing sheet in its entirety with attached A302, labeled Addendum 1 in the revision box. See Attachment L.
e. Sheet A312 – Wall Sections: replace existing sheet in its entirety with attached C200, labeled Addendum 1 in the revision box. See Attachment M.
f. Sheet A320 – Section Details: replace existing sheet in its entirety with attached A320, labeled Addendum 1 in the revision box. See attachment N.
g. Sheet A403 – Restroom Plans & Interior Elevations: replace existing sheet in its entirety with attached revised A403, labeled Addendum 1. See attachment O.
h. Sheet A500- Enlarged Plans, Interior Elevations, & Details - replace existing sheet in its entirety with attached revised A500, labeled Addendum 1. See attachment P.
i. Sheet A502- Casework Sections - replace existing sheet in its entirety with attached revised A502, labeled Addendum 1. See attachment Q.
j. Sheet A503- Casework Sections - replace existing sheet in its entirety with attached revised A503, labeled Addendum 1. See attachment R.
k. Sheet A520- Hardscape Details - replace existing sheet in its entirety with attached revised A520, labeled Addendum 1. See attachment S.
l. Sheet A601- Door, Door Frame, & Storefront Schedule - replace existing sheet in its entirety with attached revised A601, labeled Addendum 1. See attachment T.
m. Sheet A602- Head, Jamb, & Sill Details - replace existing sheet in its entirety with attached revised A602, labeled Addendum 1. See attachment U.
n. Sheet A621- Roof, Wall, & Floor Construction Types - replace existing sheet in its entirety with attached revised A621, labeled Addendum 1. See attachment V.
o. Sheet A701- Finish Schedule & Details - replace existing sheet in its entirety with attached revised A701, labeled Addendum 1. See attachment W.

p. Sheet S101A- Foundation Plan - replace existing sheet in its entirety with attached revised A502, labeled Addendum 1. See attachment X.
q. Sheet S102A- First Floor Slab Plan - replace existing sheet in its entirety with attached revised S102A, labeled Addendum 1. See attachment Y.
r. Sheet S103- First Floor Wall Plan - replace existing sheet in its entirety with attached revised S103, labeled Addendum 1. See attachment Z.
s. Sheet S104A- Roof Framing Plan - replace existing sheet in its entirety with attached revised S104A, labeled Addendum 1. See attachment AA.
t. Sheet S704- Sections and Details - replace existing sheet in its entirety with attached revised S704, labeled Addendum 1. See attachment BB.
u. Sheet S716- Sections and Details - replace existing sheet in its entirety with attached revised S716, labeled Addendum 1. See attachment CC.
v. Sheet P201- 1st Floor Domestic Water Plan - replace existing sheet in its entirety with attached revised P201, labeled Addendum 1. See attachment DD.
w. Sheet E601- Electrical Light Fixture Schedule - replace existing sheet in its entirety with attached revised E601, labeled Addendum 1. See attachment EE.
x. Sheet T401 – Technology Enlarged Plans: Replace existing sheet in its entirety with attached revised T401, labeled Addendum 1. See attachment FF.
y. Sheet T421- AV Enlarged Plans – Chambers 104 - replace existing sheet in its entirety with attached revised T421, labeled Addendum 1. See attachment GG.

SUBSTITUTIONS

ITEM 1.15 **SUBSTITUTION REQUESTS:** See attached approved substitution request.

a. Metal Roofing Systems, Inc.: the attached (16 pages) Standing Seam Metal Roof Panels (Specification Section 074113) Substitution Request is **approved**.

QUESTION/ANSWER

ITEM 1.16 **QUESTION/ANSWER:** See attached Edisto Beach Town Hall Question/Answer Tracker.

END OF ADDENDUM No. 1

CUMMING GROUP

4399 Corporate Road
Building 300
North Charleston, SC 29405

T 843 203 2900

cumming-group.com

PRE-BID MEETING MINUTES

MEETING DATE	Wednesday, January 29, 2025
MEETING TITLE/TOPIC	Edisto Beach Town Hall Pre-Bid
MEETING LOCATION	2414 Murray St., Edisto Beach, SC 29438
PROJECT	Edisto Beach Town Hall
PROJECT #	2025-01

I. Introductions

- Attendee introductions were conducted.

II. Scope of Work

The project site is located on 2414 Murray Street, Edisto Beach, SC 29438. The scope of work for the project includes building a new Town Hall to include a 9,800 sf space, parking lot adjacent to existing Town Hall, Removal of existing buildings, concrete and asphalt, Lobby with vestibule, Chambers with custom Dais desk and seating, Broadcast Room, Mayor's office, Town Admin Office, Municipal Clerk Office, EOC with training room, Building Code Admin office, additional office spaces, work rooms, conference rooms and storage closets. Work includes, but is not limited to sitework, demolition, concrete, CMU, structural steel, cold formed metal framing, drywall, carpentry, cabinets and countertops, roofing, doors and hardware, glazing, aluminum-framed entrances and storefronts, acoustical ceilings, wood ceilings, gypsum ceilings, tiling, flooring, painting, specialties, vehicle charging equipment, appliances, HVAC, electrical, and plumbing work.

III. Bid Date: ***February 12, 2025 @ 2:00 p.m.***
Location: **Cumming Management Group, Inc.3**
4399 Corporate Road, Building 300
N. Charleston, SC 29405

IV. Proposal Requirements

The following forms are needed for the bid to be accepted, and no late bids will be accepted:

1. Bid Form – Enclosed in a sealed, opaque envelope, bearing the name and address of the Bidder, South Carolina Contractor's identification of the contract being bid and the name of the project.
2. Bid Bond or Cashier's check for 5% of Base Bid.
3. Acknowledge receipt of Addenda.
4. All bids must comply with the laws of South Carolina and Charleston County School District Procurement Code.

5. Authorized Signature.

V. General Requirements

1. All prospective bidders are to monitor www.dpibidroom.com for Addenda or Amendments.
2. The successful bidder will be required to furnish Performance Bond and Labor and Materials Bond in the amount of one hundred percent (100%) of the Contract Amount.

VI. Schedule:

Notice to Proceed is scheduled for February 24, 2025, with substantial completion on February 24, 2026.

Issue of Bid Documents	**January 15, 2025**
Pre-Bid Conference	**January 29, 2025**
Deadline for Receipt of Questions	**February 4, 2025**
Public Opening of Bid	**February 12, 2025**
Posting of Intent to Award	**February 13, 2025**
Notice To Proceed	**February 24, 2025**
Contract Start	**February 24, 2025**
Substantial Completion (**365** Calendar Days from Notice to Proceed)	**February 24, 2026**
Final Completion (**30** Calendar Days After Substantial Complete)	**March 26, 2026**

Phased Construction will be required. Refer to Sheet G100 of the Contract Documents for Phasing Plan.

VII. Allowances.

Allowances will be included in addenda.

- General Contingency Allowance of $200,000.00 will be added to the Project.

Allowances may not be expended. Any balance remaining will be credited back to the Owner if unused. All allowances are to be included in the Base Bid.

VIII. Unit Prices:

A unit price for Unsuitable Soils, Remove, Replace Compact-in-place will be added to the project.

IX. Alternates

No Alternates

X. Temporary Facilities

Laydown areas
Temporary Fencing
Existing Town Hall Activities

XI. Special Inspections

Will be provide by the Owner

XII. Questions/Comments

All questions should be submitted to Mark Aakhus prior to the deadline for receipt of questions via Email maakhus@townofedistobeach.com with copy to Sandra Marlowe @ smarlowe@cumming-group.com. as well as Holly Brooke Stricker @ holly.stricker@cumming-group.com. Answers to any questions submitted will be sent to all companies via solicitation amendment

1. Question: Is the Test Pile Program part of the 365-day schedule?
   Answer: Non-Compensatory days will be granted to the Contractor for the Test Pile Program Duration.
2. Question: Are permits approved?
   Answer: The Building Permit will be approved prior to Notice to Proceed. All other permits are approved. Permit and Business License fees will apply.
3. Question: Will Town operations be active during construction?
   Answer: Town Hall and Fire Station will remain active during construction. Contractor shall coordinate operations with both departments. Roads must be always kept clear and accessible to ensure unimpeded access for emergency personnel.
4. Question: Are there work hour restrictions?
   Answer: The Contractors are to follow Town of Edisto ordinances regarding work restrictions.
5. Question: If Contractors have difficulty securing a Site Contractor will additional days be granted to the schedule?
   Answer: General Contractors are to notify Cumming Management Group promptly if encountering challenges finding site contractors.
6. A site visit was conducted with all attendees. Any additional site visits are to be coordinated with the Town of Edisto Beach. Please check-in at the Town Hall.

The Town of Edisto Beach

CUMMING GROUP

4399 Corporate Road
Building 300
North Charleston, SC 29405

T 843 203 2900

cumming-group.com

MEETING SIGN-IN SHEET

MEETING DATE	Wednesday, January 29, 2025
MEETING TITLE/TOPIC	Edisto Beach Town Hall Pre-Bid
MEETING LOCATION	2414 Murray St., Edisto Beach, SC 29438
PROJECT	Edisto Beach Town Hall
PROJECT #	2025-01

NAME	TITLE/FIRM	EMAIL/PHONE
Jeff Holstein	Executive Vice President/Cumming Group	jholstein@cumming-group.com (803) 917-6255
Holly Brooke Stricker	Project Manager/Cumming Group	Holly.stricker@cumming-group.com (214) 226-7834
Mark Aakhus	Town Administrator/Town of Edisto Beach	maakhus@townofedistobeach.com (843) 869-2505 x211
Nate Boykin	Architect/Caplea Coe Architects	nboykin@capleacoe.com (843) 952-7082
Richard Coppola	Sr. Project Manager	rcoppola@cumming-group.com
Steve Tumbleston	Branks	charlieb@branksgc.com 843-708-2003
Jacob Hiers	EBS	Jhiers@extbuildingservices.com
Ridge Dupree	Estimator Ferrara-Buist	rdupree@ferrara-buist.com

James Cirifalco	Ferrara - Buist	jcirifalco@ferrara-buist.com
Brian Gross	J Davis Construction	Brian.Gross@JDavisGC.com
Grayson Hopkins	J. Davis	grayson.hopkins@JDavisGC.com
Dylan Goulding	Spratlin & Son	d.goulding@spratlinandson.com
LELAND FRANKS	MONTEITH	LFRANKS@MONTEITHCO.COM
Robert Byers	J. Davis GC	robert.byers@jdavisgc.com
JAY NEAL	LEITNER CONSTRUCTION	JAYNE leitnerconstruction co.com
Carl Brown	Mitchell Construction	carl@mitchellcon.com
Clayton Stoddard	"	"
Adam Snoznik	Republic Services	ASNOZNIK@RepublicServices.com
Mark Aalchuls	Town of Edisto Beach	
BRIAN NEAL	SAMET CORP.	bneal@sametcorp.com
MATT FARMER	MPS	mfarmer@mpsgc.com

Patrick Brown	Town of Edisto Beach	
Dee DeFrasure	Bowman	dfrasure@Bowman.com
NATE BOYKIN	CAPLEA COE	NBOYKIN@CAPLEACOE.com
TED CHESTNUT	HILL CONSTRUCTION	TED@HILLCON.COM

INVITATION FOR BIDS/BID FORM **SECTION 000116**	Solicitation Number Date Issued Date Reissued Procurement Official Phone E-Mail Address	2025-01 January 15, 2025 February 6, 2025 Mark Aakhus 843-869-2505 x211/ maakhus@townofedistobeach.com 2424 Murray St., Edisto Beach, SC, 29438

DESCRIPTION: **Town of Edisto Beach – New Town Hall and EOC**

The Term "Offer" Means Your "Bid" or "Proposal".

SUBMIT OFFER BY: **February 19, 2025 @ 2:00 p.m.**
QUESTIONS MUST BE RECEIVED BY: February 4, 2025 @ 1:00 P.M EDT via above e-mail
NUMBER OF COPIES TO BE SUBMITTED: **One (1) original and One (1) copy (marked 'copy')**

Offers must be submitted in a sealed package. The Solicitation Number & Opening Date must appear on the package exterior.

SUBMIT YOUR SEALED OFFER TO:
Construction Procurement Services **c/o**
Cumming Management Group, Inc.
4399 Corporate Road, Bldg. 300
North Charleston SC 29405
See "Submitting Your Offer" provision

CONFERENCE TYPE: Pre-Bid Conference DATE & TIME: **January 29, 2025 @ 11:00 A.M.** **As appropriate, see "Conferences - Pre-Bid/Proposal" & "Site Visit" provisions**	**LOCATION:** Town of Edisto Beach Town Hall 2414 Murray St. Edisto Beach, SC, 29438 – Site Visit immediately after

AWARD & AMENDMENTS	Award will be opened and read aloud at the Office of Cumming Management Group, Inc. on February 18, 2025 at 2:00 PM. The award, this solicitation will be posted at the following web address: https://www.townofedistobeach.com/bids. Amendments will be issued to all planholders via Duncan Parnell.

You must submit a signed copy of this form with Your Offer. By submitting a bid or proposal, you agree to be bound by the terms of the Solicitation. You agree to hold Your Offer open for a minimum of sixty (60) calendar days after the Opening Date.

NAME OF OFFEROR (Full legal name of business submitting the offer)		OFFEROR'S TYPE OF ENTITY: (Check one) ☐ Small (15 employees of less) ☐ Women ☐ Minority ☐ Other _____ (See "Signing Your Offer" provision.)
AUTHORIZED SIGNATURE (Person signing must be authorized to submit binding offer to enter contract on behalf of Offeror named above.)		
TITLE (Business title of person signing above)		
PRINTED NAME (Printed name of person signing above)	DATE SIGNED	

Instructions regarding Offeror's name: Any award issued will be issued to, and the contract will be formed with, the entity identified as the offeror above. An offer may be submitted by only one legal entity. The entity named as the offeror must be a single and distinct legal entity. Do not use the name of a branch office or a division of a larger entity if the branch or division is not a separate legal entity, *i.e.*, a separate corporation, partnership, sole proprietorship, etc.

STATE OF INCORPORATION (If offeror is a corporation, identify the state of Incorporation.)

TAXPAYER IDENTIFICATION NO. (See "Taxpayer Identification Number" provision)	SOUTH CAROLINA GENERAL CONTRACTOR LICENSE NO.

PAGE TWO

(Return Page Two with Your Offer)

HOME OFFICE ADDRESS (Address for offeror's home office / principal place of business)	NOTICE ADDRESS (Address to which all procurement and contract related notices should be sent.)			
		Area Code	Number	Extension	Facsimile
	E-mail Address			

PAYMENT ADDRESS (Address to which payments will be sent.)	ORDER ADDRESS (Address to which purchase orders will be sent)
☐ Payment Address same as Home Office Address ☐ Payment Address same as Notice Address (check only one)	☐ Order Address same as Home Office Address ☐ Order Address same as Notice Address (check only one)

ACKNOWLEDGMENT OF AMENDMENTS Offerors acknowledge receipt of amendments by indicating amendment number and its date of issue. See "Amendments to Solicitation" Provision	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date	Amendment No.	Amendment Issue Date

DISCOUNT FOR PROMPT PAYMENT	10 Calendar Days (%)	20 Calendar Days (%)	30 Calendar Days (%)	_____Calendar Days (%)

Solicitation Outline

I. Scope of Solicitation
II. Instructions to Offerors
- **A. General Instructions**
- **B. Special Instructions**

III. Scope of Work / Specifications
IV. Information for Offerors to Submit
V. Qualifications
VI. Award Criteria
VII. Terms and Conditions
- **A. General**
- **B. Special**

VIII. Bid Form/Cost Proposal
IX. Attachments to Solicitation

I. Scope of Solicitation

Sealed bids for New Town Hall - Edisto Beach (Solicitation No. 2025-01) will be received from Pre-Qualified General Contractors, as listed below, and opened and read aloud by the Owner and Project Manager, at the office of Cumming Management Group, Inc., 4399 Corporate Road, Bldg. 300, N. Charleston, SC 29405 on **February 12, 2025, at 2:00 p.m**. Bids received after 2:00 p.m. will be rejected and returned to the Bidder unopened.

The name of the project is:	New Town Hall - Edisto Beach
Address:	2414 Murray Street Edisto Beach, South Carolina 29438
The Owner is:	Town of Edisto Beach 2414 Murray Street Edisto Beach, South Carolina 29438
The Architect is:	Caplea Coe Architects, Inc. 1643 Means Street Charleston, South Carolina 29412 P (843) 577-6073 Architect: Steve Coe and Nate Boykin
The Project Manager is:	Cumming Management Group, Inc. 4399 Corporate Road, Bldg. 300 N. Charleston, SC 29405 P (214) 226-7834 Project Manager: Holly Brooke Stricker

II. Instructions to Offerors

A. General Instructions

DEFINITIONS Except as otherwise provided herein, the following definitions are applicable to all parts of the solicitation. For additional definitions, see the terms and conditions below.

1. **Amendment -** means a document issued to supplement the original solicitation document.
2. **Board -** means the Town of Edisto Beach Board of Trustees.
3. **Buyer -** means the Procurement Official.
4. **Change Order** - means any written alteration in the specification, delivery point, rate of delivery, period of performance, price, quantity, or other provisions of any contract accomplished by mutual agreement of the parties of the contract.
5. **Contract Modification** - means a written order signed by the Procurement Official, directing the contractor to make changes which the changes clause of the contract authorizes the Procurement Official to order with the consent of the contractor.
6. **Contractor** – means the Offeror receiving an award as a result of this solicitation.
7. **Cover Page** - means the top page of the original solicitation on which the solicitation is identified by number. Offerors are cautioned that. Amendments may modify information provided on the Cover Page.
8. **Town** - means Town of Edisto Beach.
9. **Offer** - means the bid, or proposal submitted in response to this solicitation. The terms "Bid" and "Proposal" are used interchangeably with the term "Offer."
10. **Offeror** - means the single legal entity submitting the offer. The term "Bidder" is used interchangeably with the term "Offeror." See bidding provisions entitled "Signing Your Offer" and "Bid/Proposal as Offer to Contract."
11. **Page two** – means the second page of the original solicitation, which is labeled Page Two.

12. **Procurement Official** - means the person, or designee, identified as such on the Cover Page.
13. **Solicitation** - means this document, including all its parts, attachments, and any Amendments.
14. **Subcontractor** - means any person having a contract to perform work or render service to Contractor as a part of the Contractor's agreement arising from this solicitation.
15. **You and Your** - means Offeror.

AMENDMENTS TO SOLICITATION (a) The Solicitation may be amended at any time prior to opening. The Solicitation may be amended at any time prior to opening. **It is solely the responsibility of the Offeror to ensure that it has received all pre-bid addenda. Failure to acknowledge each pre-bid addendum may render the Offer nonresponsive.** All actual and prospective. Offerors should monitor the following https://bidroom.duncanparnell.com/ **(business services/contracts and procurement).** (b) Bidders shall acknowledge receipt of any Amendment to this solicitation (1) by signing and returning the Amendment, (2) by letter, or (3) by submitting a bid that indicates in some way that the bidder received the Amendment.

AWARD NOTIFICATION Notice regarding any award or cancellation of award will be posted at the location specified on the Cover Page. If the contract resulting from this Solicitation has a total or potential value in excess of fifty thousand dollars or more, such notice will be sent to all Offerors responding to the Solicitation. Should the contract resulting from this Solicitation have a total or potential value of one hundred thousand dollars or more, such notice will be sent to all Offerors responding to the Solicitation and any award will not be effective until the eleventh day after such notice is given.

BID / PROPOSAL AS OFFER TO CONTRACT By submitting the Town a signed Bid and/or Proposal, you are offering to enter into a contract with Town of Edisto Beach and agreeing to all terms and conditions provided herein. Your bid and/or proposal as well as the terms and conditions of this solicitation will become part of any contract created as a result of this solicitation. THEREFORE, ANY OBJECTION TO THE TERMS AND CONDITIONS CONTAINED HEREIN MUST BE ADDRESSED WITH THE TOWN PRIOR TO SUBMITTAL OF YOUR BID AND/OR PROPOSAL. SUCH OBJECTIONS MUST BE SUBMITTED IN WRITING AS DESCRIBED HEREIN FOR ANY INQUIRIES. Without further action by either party, a binding contract shall result upon final award. Any award issued will be issued to, and the contract will be formed with, the entity identified as the Offeror on the Cover Page. An Offer may be submitted by only one legal entity; "joint bids" are not allowed.

BID ACCEPTANCE PERIOD In order to withdraw your Offer after the minimum period specified on the Cover Page, you must notify the Procurement Official in writing.

BID IN ENGLISH & DOLLARS Offers submitted in response to this solicitation shall be in the English language and in US dollars, unless otherwise permitted by the solicitation.

BOARD AS PROCUREMENT AGENT (a) **Authorized Agent**. All authority regarding the conduct of this procurement is vested solely with the responsible Procurement Official. Unless specifically delegated in writing, the Procurement Official is the only Town official authorized to bind the Town with regard to this procurement. (b) **Purchasing Liability**. The Procurement Official acts on behalf of Town of Edisto Beach pursuant to the Town of Edisto Beach Procurement Code. Any purchase orders awarded as a result of this procurement are between the Vendor and the Town. The Board is not a party to such purchase orders, unless and to the extent that the Board is a using Town unit, and bears no liability for any party's losses arising out of or relating in any way to the purchase order.

CERTIFICATION REGARDING DEBARMENT AND OTHER RESPONSIBILITY MATTERS

(a)

(1) By submitting an Offer, Offeror certifies, to the best of its knowledge and belief, that

(i) Offeror and/or any of its Principals

(A) Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by a state or federal agency;

(B) Have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public (federal, state, or local) contract or subcontract; violation of Federal or State antitrust statutes relating to the submission of offers; or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in paragraph (A) (1) (i) (B) of this provision.

(ii) Offeror has not, within a three-year period preceding this offer, had one or more contracts terminated for default by any public (federal, state, or local) entity.

(2) 'Principals." For the purpose of this certification, means Officials; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

(b) Offeror shall provide immediate written notice to the Procurement Official if, at any time prior to contract award, Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) If Offeror is unable to certify the representations stated in paragraphs (a) (1), Offeror must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Offeror's responsibility. Failure of the Offeror to furnish additional information as requested by the Procurement Official may render the Offeror non-responsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the Town, the Procurement Official may terminate the contract resulting from this solicitation for default.

CODE OF LAWS AVAILABLE The Town of Edisto Beach Procurement Code is available at https://www.townofedistobeach.com/codes-ordinances.

COMPLETION OF FORMS/CORRECTION OF BIDS AND/OR ERRORS All prices, entries and notations should be printed in ink or typewritten on the forms provided herein. Any change to the bid information including, but not limited to, changes to bid pricing or correction of errors or information must be made by crossing out the original entry, entering the change or correction on the bid form or appropriate attachment, and initialing same. Any alteration of the Offer must be made on the bid form or attachments provided herein and must be initialed by the person signing the bid. Any other alterations may result in the Offer being deemed nonresponsive. (Alterations are not allowed elsewhere in the solicitation, on the face of the envelope submitting the Offer, or otherwise.)

DEADLINE FOR SUBMISSION OF OFFER Any offer received after the Procurement Official or designee has declared that the time set for opening has arrived, shall be rejected unless the offer has been delivered to the designated purchasing office prior to the bid opening.

DRUG FREE WORK PLACE CERTIFICATION By submitting an Offer, Contractor certifies that, if awarded a contract, Contractor will comply with all applicable provisions of the Drug-Free Workplace Act, Title 44, Chapter 107 of the South Carolina Code of Laws, as amended.

DUTY TO INQUIRE Offeror, by submitting an Offer, represents that it has read and understands the Solicitation and that its Offer is made in compliance with the Solicitation. Offerors are expected to examine the Solicitation thoroughly and should request an explanation of any ambiguities, discrepancies, errors, omissions, or conflicting statements in the Solicitation. Failure to do so will be at the Offeror's risk. Offeror assumes responsibility for any patent ambiguity in the Solicitation that Offeror does not bring to the Town's attention.

ETHICS ACT By submitting an Offer, you certify that you are in compliance with South Carolina's Ethics, Government Accountability, and Campaign Reform Act of 1991, as amended. The following statutes require special attention: (a) Offering, giving, soliciting, or receiving anything of value to influence action of public employee-Section 8-13-790, (b) Recovery of Kickbacks-Section 8-13-790m (c) Offering, soliciting, or receiving money for advice or assistance of public official - Section 8-13-720, (d) Use or disclosure of confidential Information-Section 8-1 3-725, and (e) Persons hired to assist in the preparation of specifications or evaluation of bids Section 8-1 3-1 150

NO PROPOSAL REPLY: Any contractor electing to submit no proposal in response to this IFB may do so by sending a letter of "no reply" to the procurement Officer. Entities not replying in any way to three (3) consecutive IFB's from a government body may be placed in an inactive status and must then reapply to the active bidders list.

PROTESTS Any prospective bidder, Offeror, vendor, or sub vendor who is aggrieved in connection with the solicitation of a contract shall protest within fifteen (15) days of issuance of the Invitation for Bids or Requests for Proposals or other solicitation documents, whichever is applicable, or any amendment to it, if the amendment is at issue. An Invitation for Bids or Request for Proposals or other solicitation document, not including an amendment to it, is considered to have been issued on the date required notice of the issuance is given in accordance with this Code.
Any actual bidder, offeror, contractor, or subcontractor who is aggrieved in connection with the intended award or award of a contract shall protest to the Chief Procurement Officer within ten (10) days of the date award or notification of intent to award, whichever is earlier, is posted in accordance with the Town of Edisto Beach Procurement Code; except that a matter that could have been raised pursuant to § 4210.1.1 (Protest of Solicitation) as a protest of the solicitation may not be raised as a protest of the award or intended award of a contract.

PUBLIC OPENING Offers will be publicly opened at the date / time and at the location identified on the Cover Page, or last Amendment, whichever is applicable.

QUESTIONS FROM OFFERORS (a) Any prospective Offeror desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must request it in writing. The Procurement Official must receive questions no later than five (5) days prior to opening unless otherwise stated on the Cover Page. Oral explanations or instructions will not be binding. Any information given a prospective Offeror concerning a solicitation will be furnished promptly to all other prospective Offerors as an Amendment to the solicitation, if that information is necessary for submitting offers or if the lack of it would be prejudicial to other prospective Offerors. (b) The Town seeks to permit maximum practicable competition. Offerors are urged to advise the Procurement Official, as soon as possible, regarding any aspect of this procurement, including any aspect of the Solicitation that unnecessarily or inappropriately limits full and open competition.

REJECTION/CANCELLATION The Town may cancel this solicitation in whole or in part. The Town may reject any or all proposals in whole or in part.

RESPONSIVENESS/IMPROPER OFFERS (a) Bid as Specified. Offers for supplies or services other than those specified will not be considered unless authorized by the Solicitation.

(b) Responsiveness. Any Offer that fails to conform to the material requirements of the Solicitation may be rejected as nonresponsive. Offers that impose conditions that modify material requirements of the Solicitation may be rejected. If a fixed price is required, an Offer will be rejected if the total possible cost to the Town cannot be determined. Offerors will not be given an opportunity to correct any material nonconformity. Any deficiency resulting from a minor informality may be cured or waived at the sole discretion of the Procurement Official.

(c) Unbalanced Bidding. The Town may reject an Offer as non-responsive if the prices bid are materially unbalanced between line items or sub-line items. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the Town even though it may be the low evaluated bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

RESTRICTIONS APPLICABLE TO OFFERORS Violation of these restrictions may result in disqualification of your offer, suspension or debarment, and may constitute a violation of the State Ethics Act. (a) After issuance of the solicitation, you agree not to discuss this procurement activity in any way with any Town employees, its agents or officials. All communications must be solely with the Procurement Official. This restriction expires once a purchase order has been formed and may be lifted by express written permission from the Procurement Official. (b) Unless otherwise approved in writing by the Procurement Officer, You agree not to give anything to any Town employee, agent or official prior to award.

SIGNING YOUR OFFER Every Offer must be signed by an individual with actual authority to bind the Offeror. (a) If the Offeror is an individual, the Offer must be signed by that individual. If the Offeror is an individual doing business as a firm, the Offer must be submitted in the firm name, signed by the individual, and state that the individual is doing business as a firm. (b) If the Offeror is a partnership, the Offer must be submitted in the partnership name, followed by the words "by its Partner," and signed by a general partner. (c) If the Offeror is a corporation, the Offer must be submitted in the corporate name, followed by the signature and title of the person authorized to sign. (d) An Offer may be submitted by a joint venture involving any combination of individuals, partnerships, or corporations. If the Offeror is a joint venture, the Offer must be

submitted in the name of the joint venture and signed by every participant in the joint venture in the manner prescribed in paragraphs (a) through (c) above for each type of participant. (e) If an Offer is signed by an agent, other than as stated in subparagraphs (a) through (d) above, the Offer must state that it is and has been signed by an Agent. Upon request, Offeror must provide proof of the agent's authorization to bind the principal.

OFFICE CLOSING If an emergency or unanticipated event interrupts normal Town processes so that offers cannot be received at the Town office designated for receipt of bids by the exact time specified in the solicitation, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Town's processes resume. In lieu of an automatic extension, an amendment may be issued to reschedule bid opening. If Town offices are closed at the time a pre-bid or pre-proposal conference is scheduled, an amendment will be issued to reschedule the conference.

SUBMITTING CONFIDENTIAL INFORMATION For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the word "CONFIDENTIAL" every page, or portion thereof, that Offeror contend contains information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-40(a)(1), or (b) privileged and confidential, as that phrase is used in Section 11-35-410.For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the words "TRADE SECRET" every page, or portion thereof, that Offeror contends contains a trade secret as that term is defined by Section 39-8-20 of the Trade Secrets Act.

For every document Offeror submits in response to or with regard to this solicitation or request, Offeror must separately mark with the word "PROTECTED" every page, or portion thereof, that Offeror contends is protected by Section 11-351810. All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire response (bid, proposal, quote, etc.) as confidential, trade secret, or protected! If your response or any part thereof, is improperly marked as confidential or trade secret or protected, the Town may, in its sole discretion, determine it non-responsive. If only portions of a page are subject to some protection, do not mark the entire page. By submitting a response to this solicitation or request, Offeror (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, and documents submitted during negotiations), unless the page is conspicuously marked "TRADE SECRET" or "CONFIDENTIAL" or "PROTECTED", (2) agrees that any information not marked, as required by these bidding instructions, as a "Trade Secret" is not a trade secret as defined by the Trade Secrets Act, and (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure. In determining whether to release documents, the Town will detrimentally rely on Offeror's marking of documents, as required by these bidding instructions, as being either "Confidential" or "Trade Secret" or "PROTECTED". By submitting a response, Offeror agrees to defend, indemnify and hold harmless the Town, its Officials and employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney's fees, arising out of or resulting from the Town withholding information that Offeror marked as "confidential" or "trade secret" or "PROTECTED". (All references to S.C. Code of Laws.)

SUBMITTING YOUR OFFER OR MODIFICATION (a) Offers and offer modifications shall be submitted in sealed envelopes or packages (unless submitted by approved electronic means) - (1) Addressed to the office specified in the Solicitation; and (2) Showing the time and date specified for opening, the solicitation number, and the name and address of the bidder. (b) Each Offeror must submit the number of copies indicated on the Cover Page. (c) Offerors using commercial carrier services shall ensure that the Offer is addressed and marked on the outermost envelope or wrapper as prescribed in paragraphs (a)(1) and (2) of this provision when delivered to the office specified in the Solicitation. (d) Facsimile Offers, modifications, or withdrawals, will not be considered unless authorized by the Solicitation. (e) Offers submitted by electronic commerce shall be considered only if the electronic commerce method was specifically stipulated or permitted by the solicitation.

TAXPAYER IDENTIFICATION NUMBER

(a) If Offeror is owned or controlled by a Common Parent as defined in paragraph (b) of this provision, Offeror shall submit with its Offer the name and TIN of common parent. (b) Definitions:

1) "Common Parent," as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the Offeror is a member.

2) "Taxpayer Identification Number (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the Offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(c) If Offeror does not have a TIN, Offeror shall indicate if either a TIN has been applied for or a TIN is not required. If a TIN is not required, indicate whether

1) Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;
2) Offeror is an agency or instrumentality of a state or local government;

3) Offeror is an agency or instrumentality of a foreign government; or

4) Offeror is an agency or instrumentality of the Federal Government.

WITHDRAWAL OR CORRECTION OF OFFER AFTER BID OPENING Offers may be withdrawn by written notice received at any time before the exact time set for opening. If the solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before the exact time set for opening. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for opening, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid. Correction or withdrawal of bids are only allowed pursuant to the express terms of the Town Procurement Code as determined by the Town.

NOTICES All contact should be directed to Mark Aakhus, Town Administrator. No company should contact Town staff directly. All questions should be submitted to Mark Aakhus prior to the deadline for receipt of questions via Email maakhus@townofedistobeach.com with copy to Sandra Marlowe @ smarlowe@cumming-group.com. as well as Holly Brooke Stricker @ holly.stricker@cumming-group.com. Answers to any questions submitted will be sent to all companies via solicitation amendment.

B. Special Instructions

Conference – Pre-Bid

Pre-Bid/Proposal Conference Date and Time:

Due to the importance of all offerors having a clear understanding of the specifications and requirements of this solicitation, a conference of potential offerors will be held on the date specified on the cover page. Your failure to attend will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Town. The Town assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available at the conference. Nor does the Town assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

A Pre-Bid Conference will be hosted on-site January 29, 2025 @ 11:00 A.M. at the Town of Edisto Beach Town Hall located at 2414 Murray St., Edisto Beach, SC 29438. A site visit is scheduled for immediately after.

1. Schedule and Activities

Listed below are the planned activities/milestones/dates/times pertaining to this solicitation. A milestone schedule is included in the documents. All information is subject to change. Changes will be communicated to prospective Offerors via an Amendment to the solicitation as necessary.

Issue of Bid Documents	**January 15, 2025**
Pre-Bid Conference	**January 29, 2025**
Deadline for Receipt of Questions	**February 4, 2025**
Public Opening of Bid	**February 19, 2025**
Posting of Intent to Award	**February 20, 2025**
Notice To Proceed	**March 2, 2025**
Contract Start	**March 2, 2025**
Substantial Completion (**365** Calendar Days from Notice to Proceed)	**March 2, 2026**

Final Completion (**30** Calendar Days After Substantial Complete) **April 1, 2026**

2. Town Board of Trustees approval required: any award is subject to prior approval by the Town Board of Trustees.

3. The successful bidder will be required to furnish Performance Bond and Labor and Materials Bond in the amount of one hundred percent (100%) of the Contract Amount.

4. Discussion with bidders: After opening, discussions may be conducted with apparent responsive bidders for the purpose of clarification to assure full understanding of the requirements of the invitation for bids. All bids, in the Procurement Official's sole judgment, needing clarification must be accorded that opportunity.

5. PROTEST
   Any protest must be addressed to the Edisto Beach, Town Manager and submitted in writing (a) by email to maakhus@townofedistobeach.com., or (B) by post or delivery to 2414 Murray St., Edisto Beach, SC 29438.

III. Scope of Work / Specifications

The Owner has retained the services of a Project Manager to represent the Owner's interest during the construction of the work.

The project site is located on 2414 Murray Street, Edisto Beach, SC 29438. The scope of work for the project includes building a new Town Hall to include a 9,800 sf space, parking lot adjacent to existing Town Hall, Removal of existing buildings, concrete and asphalt, Lobby with vestibule, Chambers with custom Dais desk and seating, Broadcast Room, Mayor's office, Town Admin Office, Municipal Clerk Office, EOC with training room, Building Code Admin office, additional office spaces, work rooms, conference rooms and storage closets. Work includes, but is not limited to sitework, demolition, concrete, CMU, structural steel, cold formed metal framing, drywall, carpentry, cabinets and countertops, roofing, doors and hardware, glazing, aluminum-framed entrances and storefronts, acoustical ceilings, wood ceilings, gypsum ceilings, tiling, flooring, painting, specialties, vehicle charging equipment, appliances, HVAC, electrical, and plumbing work.

INSTALLATION:

The first day the contractor will have access to the site will be March 2, 2025 and Substantial Completion by March 2, 2026.

PERMITS AND LICENSES:

The Contractor shall obtain and pay for applicable licenses and fees.

Contractor must have valid South Carolina Contractors License.

The contractor or sub-contractor performing this work must have all required licenses, both State of South Carolina and Federal, prior to start of work.

BID BOND: BID BOND in the amount of 5% of the bid is required.

LIENS AND INCUMBRANCES:

The Contractor shall satisfy immediately any lien or encumbrance, which because of any act or default of the Contractor, is filed against the Town.

NON-ARBITRATION:

Disputes pertaining to this contract are not eligible for solution through arbitration procedures.

QUALITY ASSURANCE:

Protection of Town Property:

The Contractor shall protect from damage due to his work, methods, procedures and workmen, the Town's property including building surfaces, finishes, systems, equipment, furniture, supplies, and other components.
The Contractor shall repair or cause to be repaired damage to Town property.

Products and Materials:

The Contractor shall use materials and products in the work which are new and of top quality. The Contractor shall assume full responsibility for protection, storage, safety and damage to stored and installed materials until Substantial Completion.

Qualifications of Work Persons:

The Contractor shall use skilled work persons who are thoroughly trained and experienced in the necessary crafts and trades.

Workmanship:

The Contractor shall cause the parts to be securely anchored, bonded, joined and secured together, the installation to be done in a workman-like manner in accordance with the best recognized practices, and the working parts to be adjusted and left in perfect working order.

Corrections in the Work:

The Contractor shall replace work rejected by the Town as defective or as non-conforming within ten (10) days from written notice of rejection at no cost to the Town.

PROJECT COORDINATION:

The Contractor shall verify field measurements before ordering materials and prefabricated items. The Contractor shall coordinate the work of all trades and schedule the timing so as not to cause delays to any phase of construction. The Contractor shall plan the work to minimize the disruption of Town operations. The Contractor shall cooperate with reasonable scheduling requirements of the Town.

Town Activities may be in session during the construction, and the contractor shall coordinate with the Town to avoid disruption of the Town activities.

SAFETY:

The Contractor shall provide safety barricades, fences, temporary walks, and signals in compliance with legal requirements, police regulations, and/or as requested by Town of Edisto Beach at no additional cost.

CLEANING:

The Contractor shall clean up job site as frequently as necessary, but no less than, on a daily basis. Upon Substantial Completion, the Contractor shall clean the job site of all debris, miscellaneous construction materials, trash and unused materials. The Contractor shall remove and legally dispose of all debris.

CONSTRUCTION FACILITIES AND TEMPORARY CONTROL:

Utilities: Contractor's use of Owner's utilities shall be paid for by the contractor.

Sanitary Facilities: Provide and maintain, in sanitary condition, enclosed weather tight chemical toilets for use of construction personnel. Installation shall be in accord with applicable codes and of authorities having jurisdiction. Upon completion of the work, toilets and appurtenance shall be removed, leaving premises in satisfactory condition as approved by the owner.

NOTE: Under no circumstances will workmen be allowed to use any Town toilet facilities within the facility.

Barricades and Fencing: Provide and maintain safety barricades, fences with windscreens, temporary walks, bracing and shoring and signals in compliance with local requirements, police regulations and as necessary to separate non-project persons from construction areas.

Entrances: Contractor shall maintain the construction entrances. This shall include (but not necessarily be limited to) grading, filling of ruts and potholes, and maintaining proper drainage. Maintenance of entry gates shall also be the contractor's

responsibility. Adjacent public streets, sidewalks, curbs, and parking lots shall be swept, scraped, washed and kept clean daily (more often as necessary) throughout all operations.

WARRANTY:

All products and services shall carry, after proper completion, and under normal use, a one (1) year warranty against all defects in materials and workmanship unless noted otherwise in the individual Specifications.

TERMINATION OF AGREEMENT

The Town may terminate this agreement in whole or in part at any time, upon written notification to the successful bidder, for any reason at the Town's convenience. The Town may terminate this agreement in whole or in part at any time upon written notification to successful bidder for any default involving:

(A) Failure to develop or deliver products and/or render the services within the schedule requirements of the Town or the Town's Designee.
(B) Successful bidder's failure to make progress reasonably satisfactory to the Town, in the performance of its obligations under this Agreement. With respect to any such default, the Town's right to terminate shall be conditioned upon successful bidder's failure within ten (10) days after the Town's notification to provide a remedy satisfactory to the Town to cure failure of non-compliance.
(C) In the event successful bidder becomes the subject of any proceedings under State or Federal Law for the relief of debtors or otherwise becomes insolvent, bankrupt or makes assignments for the benefit of creditors.

IV. Information for Offerors to Submit

Bids are to be submitted on the Bid Form provided ***accompanied by the Attachments contained herein and described below pursuant to the terms of this solicitation***; enclosed in a sealed, opaque envelope bearing the name and address of the bidder, Town Identification Number/Solicitation Number of contract being bid, the name of project and the offerors South Carolina General Contractor License Number. All Bids must comply with the laws of the State of South Carolina. Indicate your company name on each page of the Bid Form.

Complete and Submit Attachments B, C, D, E, F and G with the bid. Complete and submit attachments E and G as applicable. ***Offeror must list subcontractors identified in the table appearing on Attachment B. Instructions for subcontractor listings appear on that page. Failure to properly comply with subcontractor listing requirements may render the Offeror nonresponsive and/or non-responsible.***

Submit resumes of the Superintendent and Project Manager assigned to this project with the bid.

V. Qualifications

PROPOSER'S QUALIFICATIONS Bids shall be considered only from bidders who are regularly established in the business called for and who in the judgment of the Town are financially responsible and able to show evidence of their reliability, ability, experience, to render prompt and satisfactory service in the volume called for under this contract.

To be eligible for award of a contract, a prospective contractor must be responsible. In evaluating an Offeror's responsibility, Town Standards of Responsibility and information from any other source may be considered. An Offeror must, upon request of the Town, furnish satisfactory evidence of its ability to meet all contractual requirements. Unreasonable failure to supply information promptly in connection with a responsibility inquiry may be grounds for determining that you are ineligible to receive an award.

Before a submittal is considered for award, the bidder may be requested by the Procurement Official to submit completed form SE-350 as to his/her previous experience in performing similar or comparable work and of his/her business and technical organization and financial resources.

VI. Award Criteria

The Town intends to award a contract to the contractor whose offer, conforming to the solicitation, is the most advantageous on the basis for all products, services and requirements contained herein.

In all cases, the Town will be the sole judge as to whether a vendor's bid has or has not satisfactorily met the requirement of this bid.

Award will be made to the lowest responsive, responsible bidder who submits a responsive bid which is most advantageous to the Town of Edisto Beach.

VII. Terms and Conditions A. General

Town of Edisto Beach reserves the right to make the final determination as to the bidder's ability to provide the products or services requested herein.

ASSIGNMENT No contract or its provisions may be assigned, sublet, or transferred without the written consent of the Procurement Officer.

BANKRUPTCY (a) Notice. In the event the Contractor enters into proceedings relating to bankruptcy, whether voluntary or involuntary, the Contractor agrees to furnish written notification of the bankruptcy to the Town. This notification shall be furnished within five (5) days of the initiation of the proceedings relating to the bankruptcy filing. This notification shall include the date on which the bankruptcy petition was filed, the identity of the court in which the bankruptcy petition was filed, and a listing of all Town contracts against which final payment has not been made. This obligation remains in effect until final payment under this Contract (b) Termination. This contract is voidable and subject to immediate termination by the Town upon the contractor's insolvency, including the filing of proceedings in bankruptcy.

CHOICE-OF-LAW The agreement, any dispute, claim, or controversy relating to the Agreement, and all the rights and obligations of the parties shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the State of South Carolina, except its choice of law rules. As used in this paragraph, the term "Agreement" means any transaction or agreement arising out of, relating to, or contemplated by the solicitation.

ORDER OF PRECEDENCE In the event of inconsistency between provisions of this solicitation, the inconsistency shall be resolved by giving precedence in the following order: (a) bid pricing schedule, (b) bid specifications, (c) standard solicitation provisions/general contract clauses, whether incorporated by reference or otherwise, (d) special solicitation provisions/special contract clauses and (e) instructions to bidders.

DISCOUNT FOR PROMPT PAYMENT:

a) Discounts for prompt payment will not be considered in the evaluation of Offers. However, any offered discount will form a part of the award and will be taken if payment is made within the discount period indicated in the offer by the Offeror. As an alternative to offering a discount for prompt payment in conjunction with the Offer, Offerors awarded contracts may include discounts for prompt payment on individual invoices.

b) In connection with any discount offered for prompt payment, time shall be computed from the date of the invoice. If the Contractor has not placed a date on the invoice, the due date shall be calculated from the date the designated billing office receives a proper invoice, provided the Town annotates such invoice with the date of receipt at the time of receipt. For the purpose of computing the discount earned, payment shall be considered to have been made on the date that appears on the payment check or, for an electronic funds transfer, the specified payment date. When the discount date falls on a Saturday, Sunday, or legal Holiday when Federal Government offices are closed and Government business is not expected to be conducted, payment may be made on the following business day.

DISPUTES (a) Choice-of-Forum: All disputes, claims, or controversies relating to the Agreement shall be resolved exclusively by the Director Contracts and Procurement Services in accordance with the Town of Edisto Beach Procurement Code, or in the absence of jurisdiction, only in the Court of Common Pleas for, or a federal court located in, Charleston County, State of South Carolina. Contractor agrees that any act by the Government regarding the Agreement is not a waiver of either the Government's sovereign immunity or the Government's immunity under the Eleventh Amendment of the United States Constitution. As used in this paragraph, the term "Agreement" means any transaction or agreement arising out of, relating to, or contemplated by the solicitation. (b) Service of Process: Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any disputes, claims, or controversies relating to the Agreement; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided as the Notice Address on Page Two or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail.

EQUAL OPPORTUNITY Contractor is referred to and shall comply with all applicable provisions, if any, of Title 41, part 60 of the Code of Federal Regulations, including but not limited to Sections 60-1.4, 60-4.2, 60-4.3, 60-250.5(a), and 60741.5(a), which are hereby incorporated by reference.

ILLEGAL IMMIGRATION By submitting an offer, Contractor certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws (originally enacted as Section 3 of The South Carolina Illegal Immigration Reform Act, 2008 S.C. Act No. 280) and agrees to provide upon request any documentation required to establish either: (a) the applicability of Title 8, Chapter 14 to Contractor and any subcontractors or subcontractors; or (b) the compliance with Title 8, Chapter 14 by Contractor and any subcontractor or sub-subcontractor. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractor's language requiring the subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in any contracts with the sub-subcontractors language requiring the sub-subcontractor to comply with the applicable requirements of Title 8, Chapter 14.
FALSE CLAIMS According to the S.C. Code of Laws Section 16-13-240, "a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty "of a crime.

FIXED PRICING REQUIRED Any pricing provided by contractor shall include all costs for performing the work associated with that price. Except as otherwise provided in this solicitation, contractor's price shall be fixed for the duration of this contract, including option terms. This clause does not prohibit contractor from offering lower pricing after award.

NON-INDEMNIFICATION Any term or condition is void to the extent it requires Town of Edisto Beach to indemnify anyone.

NOTICE (A) After award, any notices shall be in writing and shall be deemed duly given (1) upon actual delivery, if delivery is by hand, (2) upon receipt by the transmitting party of automated confirmation or answer back from the recipient's device if delivery is by telex, telegram, facsimile, or electronic mail, or (3) upon deposit into the United States mail, if postage is prepaid, a return receipt is requested, and either registered or certified mail is used. (B) Notice to contractor shall be to the address identified as the Notice Address on Page Two. Notice to the Town shall be to the Procurement Officer's address on the cover Page. Either party may designate a different address for notice by giving notice in accordance with this paragraph.

PAYMENT Town of Edisto Beach shall pay the Contractor, after the submission of proper invoices or vouchers, the prices stipulated in this Contract for supplies delivered and accepted or services rendered and accepted, less any deductions provided in this contract. Unless otherwise specified in this Contract, including the purchase order, payment shall not be made on partial deliveries accepted by Town of Edisto Beach.
Unless the purchase order specified another method of payment, payment will be made by check.
Payment and interest shall be made in accordance with S.C. code Section 11-35-45. Contractor waives imposition of an interest penalty unless the invoice submitted specifies that the late penalty is applicable.

PUBLICITY RELEASES Contractor agrees not to refer to award of this contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by the user.

PURCHASE ORDER A purchase order may be enclosed with or issued pursuant to this contract and will be an integral part of the resulting contract. The purchase order indicates that sufficient funds have been obligated in accordance with the budget of the Town and assures distribution of the necessary receiving reports. The purchase order does not supersede any provisions of the resulting contract. Performance time and dates are determined solely by the contract and any modification thereto.

SETOFF The Town shall have all of its common law, equitable, and statutory rights of set-off. These rights shall include, but not be limited to The Town's option to withhold for the purposes of set-off any moneys due to the Contractor under this Contract up to any amounts due and owing to the Town with regard to this Contract, any other contract with any Town department or agency, including any contract for a term commencing prior to the term of this Contract, plus any amounts due and owing to the Town for any other reason including, without limitation, tax delinquencies, fee delinquencies or monetary penalties relative thereto.

SURVIVAL OF OBLIGATIONS The Parties' rights and obligations which, by their nature, would continue beyond the termination, cancellation, rejection, or expiration of this Contract shall survive such termination, cancellation, rejection, or

expiration, including, but not limited to, the rights and obligations created by the following clauses: Indemnification - Third Party Claims, Intellectual Property Indemnification, and any provisions regarding warranty or audit.

TAXES: This is not a tax-exempt project.

TERMINATION DUE TO UNAVAILABILITY OF FUNDS Payment and performance obligations for succeeding fiscal periods shall be subject to the availability and appropriation of funds therefore. When funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period, the Contract shall be canceled. In the event of a cancellation pursuant to this paragraph, Contractor will be reimbursed the resulting unamortized, reasonably incurred, nonrecurring costs. Contractor will not be reimbursed any costs amortized beyond the initial contract term.

THIRD PARTY BENEFICIARY This Contract is made solely and specifically among and for the benefit of the parties hereto, and their respective successors and assigns, and no other person will have any rights, interest, or claims hereunder or be entitled to any benefits under or on account of this Contract as a third-party beneficiary or otherwise.

WAIVER The Town of Edisto Beach does not waive any prior or subsequent breach of the terms of the Contract by making payments on the Contract, by failing to terminate the Contract for lack of performance, or by failing to strictly or promptly insist upon any term of the Contract. Only the Procurement Officer has actual authority to waive any of the Town of Edisto Beach's rights under this Contract. Any waiver must be in writing.

PURCHASE ORDER AMENDMENTS, MODIFICATIONS AND CHANGE ORDERS Any change orders, alterations, amendments or other modifications hereunder shall not be effective unless reduced to writing and approved by the Procurement Official responsible for this solicitation and the vendor. All questions, problems or changes arising after award of this purchase order shall be directed to the Procurement Official responsible for this solicitation, at 2414 Murray Street, Edisto Beach, South Carolina 29438.

COMPLIANCE WITH STATUTES: During the term of the contract, it shall be the Contractor's responsibility to ensure compliance with all applicable provisions of laws, codes, ordinances, rules, regulations, and tariffs.

INSURANCE: The Contractor (or Subcontractor, or anyone directly or indirectly employed by any of them) will provide and maintain, as a minimum or greater, if required by law, the following types and amounts of insurance:

1. Commercial General Liability: Contractor must provide Commercial General Liability insurance using the 1993 ISO Occurrence For (CG 00 01 10/93) or an equivalent form. The Commercial General Liability insurance must include coverage for premises-operations, independent contractors, products-completed operations, personal injury and contractual liability. The contractual liability must include the tort liability of another assumed in a business contract. The Contractor or his agent shall verify that there is no endorsement or modification of the CGL limiting the scope of coverage for liability arising from explosion, collapse or underground property damage. This insurance shall be maintained throughout the duration of the project and for a minimum of one year after final payment as provided for in Article 9.10. Limits shall be as follows:

Each Occurrence Limit	
Bodily Injury/Property Damage Liability	$1,000,000
Personal Injury Liability	$1,000,000
General Aggregate Limit	$2,000,000
Products/Completed Operations Aggregate Limit	$2,000,000

2. The General Aggregate Limit is to be written on a "per project" basis using contractor's per project endorsement Amendment-Aggregate Limits of Insurance (CG2503) The Project/Completed Operations Aggregate Limit must be at least $2,000,000 or written confirmation provided that the Commercial Umbrella coverage includes liability coverage for damage to the insured's completed work equivalent to that provided under the CG 00 01 10/93 coverage form.

3. The Owner is to be named as an additional insured in the Contractor's policy with respect to this project using the ISO Additional Insured-Owners, Contractors endorsement (CG 20 10) or a substitute providing equivalent coverage. Verification of additional insured status shall be furnished to the Owner by mailing a copy of the endorsement or Certificate of Insurance.

4. Insurance for all owned, non-owned and hired vehicles on ISO form CA 00 01 12/4. This insurance will apply as primary insurance with respect to any other insurance or self-insurance the Owner may have or elect to carry with respect to this Project.

5. Comprehensive Automobile Liability Insurance: Contractor must provide and maintain business auto liability 90 or equivalent coverage form with the following limits;

Combined Single Limit	$1,000,000 per accident (or equivalent "split limits" satisfying Umbrella Excess Liability requirements.

If necessary, the policy shall be indorsed to provide contractual liability coverage equivalent to that provided in the 1990 and later editions of the ISO CA 00 01 form.

6. Workers Compensation: Contractor shall provide and maintain workers compensation and employers liability insurance providing coverage in South Carolina. Limits and coverage shall be as follows;

Workers Compensation Insurance	SC statutory benefits
Employers Liability Insurance	$500,000 each accident
	$1,000,000 policy limit
	$500,000 each employee

If the project involves work which may be subject to the US Longshore and Harborworkers Act (USL&HW), or which may involve watercraft, Contractor will attach the respective endorsements to provide this coverage. USL&HW (WC 00 01 06 A) and maritime Coverage (WC 00 02 01 A).

7. Umbrella Excess Liability: Contractor shall provide umbrella excess liability insurance on an "occurrence" basis providing "following form" coverage for the underlying coverages outlined above with the following limits:

Excess Liability (Umbrella Form)	
General Aggregate	$5,000,000
Each Occurrence	$5,000,000

8. Certificates of insurance which shall be signed by a duly authorized representative of each insurance company, showing compliance with the insurance requirements attached hereto and which shall be acceptable to the Owner shall be submitted to the Owner upon execution of this Agreement. When requested by the Owner, the Contractor shall furnish copies of Certificates of Insurance for each subcontractor as well. All Certificates of Insurance shall include a statement that the Owner will receive written notice 30 days prior to cancellation of any policy. Further, the Town of Edisto Beach will be named as an additional insured on all policies.

9. The Contractor is required to provide a Builder's Risk Policy (All Perils). Contractor shall submit proof of such insurance prior to the start of the work on site.

CONTRACTOR PERSONNEL: The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Contract. The Contractor shall not permit employment of unfit persons or persons not skilled in tasks assigned to them.

CONTRACTOR SOLELY RESPONSIBLE FOR PERFORMANCE: The Town will rely upon the Contractor for full, complete, and satisfactory performance under the terms and conditions of this agreement.

If the Contractor's services provided for hereunder include services, equipment, or materials supplied by a subcontractor, the Contractor must act as the prime Contractor for these items and assume full responsibility for performance hereunder. The Contractor will be considered the sole point of contact with regard to all situations, including payment of all charges and the meeting of all other requirements.

TERMINATION Subject to the conditions below, the Town providing a 30-day advance notice in writing is given to the vendor may terminate the purchase order for any reason.

NON-APPROPRIATIONS Any purchase order entered into by the Town resulting from this bid invitation shall be subject to cancellation without damages or further obligation when funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period or appropriated year.

FOR CONVENIENCE In the event that this purchase order is terminated or canceled upon request and for the convenience of the Town without the required thirty (30) days advance written notice, then the Town may negotiate reasonable termination costs, if applicable.

FOR CAUSE Termination by the Town for cause, default or negligence on the part of the vendor shall be excluded from the foregoing conditions; termination costs, if any, shall not apply. The thirty (30) days advance notice requirement is waived and the default clause in this bid shall apply.

DEFAULT In case of default by the vendor, the Town reserves the right to purchase any or all items in default in the open market, charging the vendor with any additional costs. The defaulting vendor shall not be considered a responsible bidder until the assessed charge has been satisfied.

INDEMNIFICATION

1. To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Town of Edisto Beach, its agents, Board, officers and/or officials, employees and volunteers (hereinafter, the "Indemnitees") from and against claims, damages, losses and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including loss of use resulting therefrom, but only to the extent caused in whole or in part by negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge or reduce other rights or obligations of indemnify which would otherwise exist as to a party or person described herein.

2. In claims against any person or entity indemnified herein by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation herein shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts. Further, any performance bond or insurance protection required by the contract, or otherwise provided by the Contractor, shall in no way limit the responsibility to indemnify, keep and save harmless and defend the Indemnitees as herein provided.

3. The Contractor's indemnity obligations shall also specifically include, without limitation, all fines, penalties, damages, liability, costs, expenses (including, without limitation, reasonable attorneys' fees and court costs), and punitive damages (if any) arising out of, or in connection with, and (1) violation of or failure to comply with any law, statute, ordinance, rule, regulation, code or requirement of a public authority that bears upon the performance of this contract by the Contractor, a Subcontractor, or any person or entity for whom either is responsible, (2) means, methods, procedures, techniques or sequences or execution or performance of the services required, and (3) failure to secure and pay for permits, fees, approvals, and/or licenses related to performance of the contract by the Contractor, a Subcontractor or any person or entity for whom either is responsible.

4. The Contractor shall indemnify and hold harmless all of the Indemnitees from and against any costs and expenses (including reasonable attorneys' fees and court costs) incurred by any of the Indemnitees in enforcing any of the Contractor's defense, indemnity and hold-harmless obligations under this contract.

5. The Contractor shall further indemnify and hold harmless the Indemnitees from all suits or claims of any character brought by reason of infringing on any patent, trademark or copyright. Contractor shall have no liability to the Indemnities if such patent, trademark or copyright infringement or claim is based upon the Contractor's use of materials furnished to the Contractor by an Indemnitee.

LICENSES AND PERMITS: During the term of the contract, the Contractor shall be responsible for obtaining, and maintaining in good standing, all licenses (including professional licenses, if any), permits, inspections and related fees for each or any such licenses, permits and /or inspections required by the Town, county, city or other government entity or unit to accomplish the work specified in this solicitation and the contract.

QUALITY OF PRODUCT (This clause does not apply to solicitations for service requirements). Unless otherwise indicated in this bid it is understood and agreed that any item offered or shipped on this bid shall be new and in first class condition, that all containers shall be new and suitable for storage or shipment, and that prices include standard commercial packaging. For information technology procurements as defined in Provision I., of the Town of Edisto Beach Procurement Code, if items

that are other than new (i.e. remanufactured or refurbished) are desired to be bid, the bidder must obtain written permission to bid such items at least 5 days in advance of bid opening from the person to whom inquiries are to be directed as listed on the front page of the invitation for bid.

PRICE ADJUSTMENTS: (1) Method of Adjustment. Any adjustment in the contract price made pursuant to a clause in this contract shall be consistent with this Contract and shall be arrived at through whichever one of the following ways is the most valid approximation of the actual cost to the Contractor (including profit, if otherwise allowed):
(a) by agreement on a fixed price adjustment before commencement of the pertinent performance or as soon thereafter as practicable;
(b) by unit prices specified in the Contract or subsequently agreed upon;
(c) by the costs attributable to the event or situation covered by the relevant clause, including profit if otherwise allowed, all as specified in the Contract; or subsequently agreed upon; (d) in such other manner as the parties may mutually agree; or,
(e) in the absence of agreement by the parties, through a unilateral initial written determination by the Procurement Officer of the costs attributable to the event or situation covered by the clause, including profit if otherwise allowed, all as computed by the Procurement Officer in accordance with generally accepted accounting principles, subject to the provisions of Section 4210 of Town Procurement Codes. (2) Submission of Price or Cost Data. Upon request of the Procurement Officer, the contractor shall provide reasonably available factual information to substantiate that the price or cost offered, for any price adjustments is reasonable, consistent with the provisions of Section 1830.

RISK OF LOSS The contractor shall assume all risk of loss, and shall maintain insurance coverage on all items installed, up to the time of final acceptance.

RECORDS RETENTION AND RIGHT TO AUDIT Town of Edisto Beach has the right to audit the books and records of the contractor as they pertain to this contract, both independent of, and pursuant to, the Town Procurement Code. Such books and records shall be maintained for a period of three (3) years from the date of final payment under the contract.

The Town may conduct, or have conducted, performance audits of the contractor. The Town may conduct, or have conducted, audits of specific requirements of this bid as determined necessary by the Town.

Pertaining to all audits, contractor shall make available to the Town access to its computer files containing the history of contract performance and all other documents related to the audit. Additionally, any software used by the contractor shall be made available for auditing purposes at no cost to the Town.

FORCE MAJEURE The contractor shall not be liable for any excess costs if the failure to perform the contract arises out of causes beyond the control and without the fault or negligence of the contractor. Such causes may include but are not restricted to acts of God or of the public enemy, acts of the government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather but in every case the failure to perform must be beyond the control and without the fault or negligence of the contractor. If the failure to perform is caused by default of a subcontractor, and if such default arises out of causes beyond the control of both the contractor and subcontractor, and without the fault or negligence of either of them, the contractor shall not be liable for any excess costs for failure to perform, unless the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the contractor to meet required delivery schedule.

SOUTH CAROLINA GOVERNING LAW CLAUSE The agreement and any dispute, claim, or controversy relating to the agreement shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the State of South Carolina. All disputes, claims, or controversies relating to the agreement shall be resolved exclusively by the Purchase orders and Procurement Services Director in accordance with the Procurement Code, or in the absence of jurisdiction, only in the court of common pleas for, or a federal court located in, Colleton County, State of South Carolina. Vendor agrees that any act by the government regarding the agreement is not a waiver of either the government's sovereign immunity or the government's immunity under the eleventh amendment of the United States Constitution. As used in this paragraph, the term "agreement means any transaction or agreement arising out of, relating to, or contemplated by the solicitation.

ITEM SUBSTITUTION (This clause does not apply to solicitations for service requirements). No substitutes will be allowed on purchase orders received from the Town without permission from the Procurement Official.

RESTRICTIONS/LIMITATIONS No purchases are to be made from this contract for any item that is not listed or for any item that is currently authorized under any other contract awarded prior to this contract.

NON INTERFERENCE: In the event Contractor is unable for any reason to provide any material, services, supplies, products or other items of any type or variety to the Town under this agreement, including but not limited to any such materials, services, supplies, etc. available from any other party (such as subcontractors) supplying said materials, services, etc. to Contractor, the Town will have the right to deal directly with the other supplier without penalty or interference from Contractor.

SUBCONTRACTORS: Subcontractors are subject to same terms and conditions of this agreement as the Contractor.

LIENS AND ENCUMBRANCES The Contractor shall satisfy immediately any lien or encumbrance which, because of any act or default of the Contractor, is filed against the Town.

PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT The Town requires all vendor activities to be in compliance with local, state, and federal mandates concerning "protection of human health and the environment". Any vendor doing business with the Town will be required to document compliance and to specify prudent practices used by the vendor to address applicable mandates including, but not restricted to "the hazard communication standard" OSHA CFR 191 0.1200 (SCRR article 1,71-1910.1200). By submission of this bid, the vendor agrees to take all necessary steps to ensure compliance with these requirements.

COMPLIANCE WITH LAWS During the term of the Contract, Contractor shall comply with all applicable provisions of laws, codes, ordinances, rules, regulations, and tariffs.

LIQUIDATED DAMAGES If the Contractor fails to achieve Substantial Completion of the Work within the Contract Time and as otherwise required by the Contract Documents, the Owner shall be entitled to retain or recover from the Contractor, as liquidated damages and not as a penalty, daily amounts of **$1,000.00** commencing upon the first day following expiration of the Contract Time and continuing until the actual date of Substantial Completion. Such liquidated damages are hereby agreed to be a reasonable pre-estimate of damages the Owner will incur as a result of delayed completion of the Work. If the Contractor fails to obtain Final Completion with 100% of the punchlist completed within thirty days from the date of Substantial Completion, the Owner shall be entitled to retain or recover from the Contractor as liquidated damages the amount of **$1,500.00** per calendar day from the thirty-first day following the date of Substantial Completion until completion of the punchlist and until a Final Completion Certificate is obtained, regardless of how the punchlist is completed.

STORAGE OF MATERIALS Absent approval of Town of Edisto Beach, Contractor shall not store items on the premises of Town of Edisto Beach prior to the time set for installation.

All employees involved in the execution of this contract must be of legal status and be in adherence to all Federal and South Carolina State Laws.

VIII. Bid Form /Cost Proposal

Town of Edisto Beach Town Hall

A. ALLOWANCES

1. General Contingency Allowance $ 200,000.00

B. BASE BID

1. Total Base Bid without Allowances $_____
2. Total of Allowances $ TBD
3. Total of Base Bid with Allowances $_____

C. ALTERNATES

NONE

D. UNIT PRICES

ITEM	UNIT	COST
Unsuitable Soils, Remove, Replace, Compact in Place	CY	_____

GC License # _____

COMPANY NAME _____

ADDRESS _____

COMPANY REPRESENTATIVE Authorized to Sign

BY _____

TITLE _____

TELEPHONE _____

ADDENDA RECEIPT (if applicable)

( ) Addendum #1 Date _____

( ) Addendum #2 Date _____

( ) Addendum #3 Date _____

The undersigned, as bidder, proposes and agrees, if this bid is accepted, to contract with Town of Edisto Beach, in the form of contract specified, to pay all required fees and permits, and to furnish any necessary materials, tools, equipment, apparatus, transportation, and labor to complete the projects, and has bid in full and complete accordance with the shown, noted, described and reasonably intended requirements of the contract documents.

1. The bidder further declares that he/she has examined the site of work and has become thoroughly familiar with all conditions pertaining to the work to be performed. The bidder also has examined the plans and specifications for the work and contractual documents relative thereto, and has read all special provisions furnished prior to the opening of bids; that he/she has been satisfied relative to the work to be performed.

2. The bidder agrees that this Bid Proposal is valid from bid date and for a minimum of 60 days hence.

3. The bidder finally agrees that this IFB supersedes any and all previous agreements, both written and oral, and that the terms and conditions of this Agreement shall exclusively govern the agreement between the parties.

4. TOWN OF EDISTO BEACH RESERVES THE RIGHT TO REJECT A CONTRACTOR'S BID IF THE CONTRACTOR IS CURRENTLY PERFORMING WORK FOR THE TOWN AND HIS CURRENT PROJECT IS BEHIND SCHEDULE.

5. Time is of the essence. By submitting a bid and signing this bid form, Contractor acknowledges that the time for completion of this project is reasonable and that it can complete this project in the time allotted. Further, Contractor acknowledges that it has notice of the liquidated damages provisions contained within Article 3.6 of the AIA A132-2019 Standard Form of Agreement Between Owner and Contractor, Project Manager as Adviser Edition, as amended.

6.

_____	_____
Company Name	Name of Authorized Rep. – Typed or Printed
_____	_____
Signature of Authorized Representative	Street Address
_____	_____
City / State / Zip Code	Date

ATTACHMENT LISTING

A. **Offeror's Checklist**
B. **List of Sub-Contractors**
C. **Statement of Intent to Perform Work without Subcontracting**
D. **Town of Edisto Beach No Bid Form**

Attachment A

OFFEROR'S CHECKLIST

AVOID COMMON MISTAKES

Web site:

Review this checklist prior to submitting your proposal
If you fail to follow this checklist, you risk having your proposal rejected.

☐ COMPLETED AND SIGNED ALL REQUIRED DOCUMENTS.

☐ DO NOT INCLUDE ANY OF YOUR STANDARD CONTRACT FORMS!

☐ UNLESS EXPRESSLY REQUIRED, DO NOT INCLUDE ANY ADDITIONAL BOILERPLATE CONTRACT CLAUSES.

☐ REREAD YOUR ENTIRE PROPOSAL TO MAKE SURE YOUR PROPOSAL DOES NOT TAKE EXCEPTION TO ANY OF THE TOWN'S MANDATORY REQUIREMENTS.

☐ MAKE SURE YOU HAVE PROPERLY MARKED ALL PROTECTED, CONFIDENTIAL, OR TRADE SECRET INFORMATION IN ACCORDANCE WITH THE HEADING ENTITLED: FOIA BIDDING INSTRUCTIONS, SUBMITTING CONFIDENTIAL INFORMATION. ***DO NOT MARK YOUR ENTIRE BID AS CONFIDENTIAL, TRADE SECRET, OR PROTECTED! Do NOT INCLUDE A LEGEND ON THE COVER STATING THAT YOUR ENTIRE RESPONSE IS NOT TO BE RELEASED!***

☐ HAVE YOU PROPERLY ACKNOWLEDGED ALL AMENDMENTS? INSTRUCTIONS REGARDING HOW TO ACKNOWLEDGE AN AMENDMENT SHOULD APPEAR IN ALL AMENDMENTS ISSUED.

☐ MAKE SURE YOUR PROPOSAL INCLUDES A COPY OF THE SOLICITATION COVER PAGE.

☐ MAKE SURE A PERSON THAT IS AUTHORIZED TO CONTRACTUALLY BIND YOUR BUSINESS SIGNS THE COVER PAGE.

☐ MAKE SURE YOUR PROPOSAL INCLUDES THE NUMBER OF COPIES REQUESTED.

☐ CHECK TO ENSURE YOUR PROPOSAL INCLUDES EVERYTHING REQUESTED INCLUDING A BID SUBMITTAL AS REQUIRED BY PARAGRAPH VIII OF THE INVITATION FOR BIDS!

☐ IF YOU HAVE CONCERNS ABOUT THE SOLICITATION, DO NOT RAISE THOSE CONCERNS IN YOUR RESPONSE! **AFTER OPENING, IT IS TOO LATE! IF THIS SOLICITATION INCLUDES A PRE-PROPOSAL CONFERENCE OR A QUESTION & ANSWER PERIOD, RAISE YOUR QUESTIONS AS A PART OF THAT PROCESS! PLEASE SEE BIDDING** INSTRUCTIONS AND ANY PROVISIONS REGARDING PRE-BID CONFERENCES.

NOTE: This checklist is included only as a reminder to help Offerors avoid common mistakes Responsiveness will be evaluated against the solicitation **not** against this checklist. You do not need to return this checklist with your response.

Attachment B

LIST OF SUBCONTRACTORS

SPECIALTY	NAME
MECHANICAL	
ELECTRICAL	
PLUMBING	
MASONRY	
ROOFING	

Any Bidder in response to this Invitation for Bids shall list in his bid, at Attachment B List of Subcontractors, the name of only those SUBCONTRACTOR(S) that will perform the category of work so identified.

If the Bidder will use his own employees to perform any category of the work for which he would otherwise be required to list a SUBCONTRACTOR, The Bidder must be qualified to perform such work under the terms of the "Invitation for Bids", the Contract, and South Carolina law and the Bidder shall list his company name in the appropriate place herein.

A SUBCONTRACTOR is an entity who is properly licensed pursuant to SC law that will perform work or render service to the prime contractor. Material suppliers, manufacturers and fabricators are not SUBCONTRACTORS and are not to be listed. Bidders should insure that listed subcontractors hold the proper license (both subcategory and financial level required) for the entire scope of work in their category. If the prime contractor intends to submit more than one subcontractor for a particular category listing, it must designate which portion of work each subcontractor will perform on the subcontractor listing submitted with its bid. (Ex: one listed subcontractor for BUR and another listed subcontractor for metal roofing.)

FAILURE BY THE RESPONDENT TO LIST THE NAME(S) OF SUBCONTRACTORS IN ACCORDANCE WITH THIS REQUEST MAY RENDER THE PROPOSAL NONRESPONSIVE AND/OR NONRESPONSIBLE.

Attachment C

STATEMENT OF INTENT TO PERFORM WORK WITHOUT SUBCONTRACTING

Firm Name: _____

Project: _____

Bid/Proposal #: _____

Signature: _____

It is the intent of the above named firm to self-perform 100% of the work as outlined in this bid/proposal.

The bidder/proposer states the following:

1. That it is a normal business practice of the bidder to perform **all elements** of this type contract with its own employees.

2. **(Confirm deletion of this statement)** **(Confirm deletion of this statement)**

Attachment D

NO BID REPLY FORM
Town of Edisto Beach

BID TITLE:
Town of Edisto Beach Town Hall

IF YOU INTEND TO ENTER A "NO BID" RESPONSE TO OUR REQUEST FOR BIDS, PLEASE INDICATE YOUR REASONS BELOW. WE WILL USE THIS INFORMATION TO BETTER IDENTIFY BIDDERS FOR PARTICULAR COMMODITIES, UPDATE OUR RECORDS AND IMPROVE THE QUALITY AND CONTENT OF OUR REQUESTS FOR BIDS. THIS INFORMATION WILL NOT PRECLUDE YOUR RECEIPT OF FUTURE INVITATIONS UNLESS YOU REQUEST REMOVAL FROM THE BIDDERS LIST OR FROM A PARTICULAR PRODUCT CATEGORY. WE TREAT THIS "NO BID" RESPONSE AS A PROPER REPLY TO AN INVITATION. FAILURE TO RETURN THIS FORM FOR A "NO BID" COULD RESULT IN YOUR BEING REMOVED FROM THE BIDDERS LIST AS "NOT INTERESTED".

( ) 1. We do not wish to participate in the bid process.

( ) 2. We do not wish to bid under the terms and conditions of the request for bid document. Our objections are.....

_____

_____

( ) 3. We do not feel we can be competitive.

( ) 4. We cannot submit a bid because of the marketing or franchising policies of the manufacturing company.

( ) 5. We do not wish to sell to Town of Edisto Beach. Our objections are.....

_____

_____

( ) 6. We do not sell the items/service on which bids are requested.

( ) 7. Other _____

_____

( ) 8. We wish to remain on the bidders' list.

( ) 9. We wish to be deleted from the bidders' list.

( ) 10. Remove us from this item(s)/service only.

COMPANY NAME _____

SIGNED _____ **Date:** _____

TOWN OF EDISTO BEACH TOWN HALL

SECTION 012100

ALLOWANCES

PART I - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including AIA Documents A132 (2019) and A232 (2019), as amended, General and Supplementary conditions and other Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative procedural requirements governing handling and processing allowances.

1. Selected materials and equipment, and in some cases, their allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. Additional requirements, if necessary, will be issued by Change Order.

B. Types of allowances required include the following:

1. General Contingency Allowance $200,000.00

C. Procedures for submitting and handling Change Orders are included in Section 0012600 “Contract Modification Procedures” and Article 7 of the AIA A232 General Conditions of the Contract for Construction.

D. Inclusion of unit prices is explained in Section 012200 “Unit Prices”.

1.3 SELECTION AND PURCHASE

A. At earliest feasible date after Contract award, advise Project Manager of date when final selection and purchase of each product or system described by allowance must be completed in order to avoid delay in performance of Work.

1. When requested by Project Manager, obtain proposals for each allowance for use in making final selections; include recommendations that are relevant to performance of Work.
2. Purchase products and systems as selected from designated supplier.

B. Costs Included in Allowances: Cost of product to Contractor or Subcontractor, delivery to site and applicable taxes (less applicable trade discounts), product handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage, and labor for installation and finishing, unless specifically stated otherwise in allowance for particular product. Cost shall also include overhead (including, but not limited to, field and home office overhead, insurance, bonds, labor burden, etc.) and profit associated with each item.

C. Project Manager (in consultation with the Architect) Responsibilities:

1. Consult with Contractor in consideration and selection of products, suppliers and installers.

2. Select products in consultation with Owner and transmit to Contractor.
3. Prepare Change Order, if an increase or decrease in price exists from the listed allowance amount.

D. Contractor Responsibilities:

1. Assist Project Manager in selection of products, suppliers and installers.
2. Obtain proposals from suppliers and installers and offer recommendations.
3. On notification of selection by Project Manager, execute purchase agreement with designated supplier and installer.
4. Arrange for and process shop drawings, product data, and samples. Arrange for delivery.
5. Promptly inspect products upon delivery for completeness, damage, and defects. Submit claims for transportation damage.

1.4 SUBMITTALS

A. Submit proposals for purchase of products or systems included in allowances, in form specified for Submittals.

B. Submit invoices or delivery slips to indicate actual quantities of materials delivered to site for use in fulfillment of each allowance.

1.5 UNUSED MATERIALS

A. Return unused materials to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.

B. When not economically feasible to return unused material for credit and when requested by Project Manager, prepare unused material for Owner's storage, and deliver to Owner's storage space as directed. Otherwise, disposal of excess material is Contractor's responsibility.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 INSPECTION

A. Inspect product covered by allowance promptly upon delivery for damage or defects.

3.2 PREPARATION

A. Coordinate materials and installation for each allowance with related construction to ensure each allowance item is completely integrated and interfaced with related construction activities.

TOWN OF EDISTO BEACH TOWN HALL

SECTION 012100

ALLOWANCES

3.3 SCHEDULE OF ALLOWANCES

1. General Contingency Allowance $200,000.00

END OF SECTION

ATTACHMENT A
ADDENDUM #1

SECTION 313116 - TERMITE CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Soil treatment.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components, and profiles for termite control products.
2. Include the EPA-Registered Label for termiticide products.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Product Certificates: For each type of termite control product.

C. Soil Treatment Application Report: After application of termiticide is completed, submit report for Owner's records and include the following:

1. Date and time of application.
2. Moisture content of soil before application.
3. Termiticide brand name and manufacturer.
4. Quantity of undiluted termiticide used.
5. Dilutions, methods, volumes used, and rates of application.
6. Areas of application.
7. Water source for application.

D. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located and who employs workers trained and approved by manufacturer to install manufacturer's products.

1.6 FIELD CONDITIONS

A. Soil Treatment:

1. Environmental Limitations: To ensure penetration, do not treat soil that is water saturated or frozen. Do not treat soil while precipitation is occurring. Comply with requirements of the EPA-Registered Label and requirements of authorities having jurisdiction.
2. Related Work: Coordinate soil treatment application with excavating, filling, grading, and concreting operations. Treat soil under footings, grade beams, and ground-supported slabs before construction.

1.7 WARRANTY

A. Soil Treatment Special Warranty: Manufacturer's standard form, signed by Applicator and Contractor, certifying that termite control work consisting of applied soil termiticide treatment will prevent infestation of subterranean termites**,** including Formosan termites (Coptotermes formosanus). If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.

1. Warranty Period: Three years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain termite control products from single source from single manufacturer.

2.2 SOIL TREATMENT

A. Termiticide: EPA-Registered termiticide acceptable to authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. BASF Corporation.
b. Bayer Environmental Science.

c. Ensystex, Inc.
d. Syngenta.

2. Service Life of Treatment: Soil treatment termiticide that is effective for not less than three years against infestation of subterranean termites.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of soil per termiticide label, interfaces with earthwork, slab and foundation work, landscaping, utility installation, and other conditions affecting performance of termite control.

B. Proceed with application only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. General: Prepare work areas according to the requirements of authorities having jurisdiction and according to manufacturer's written instructions before beginning application and installation of termite control treatment(s). Remove extraneous sources of wood cellulose and other edible materials, such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil within and around foundations.

B. Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated, except previously compacted areas under slabs and footings. Termiticides may be applied before placing compacted fill under slabs if recommended in writing by termiticide manufacturer.

1. Fit filling hose connected to water source at the site with a backflow preventer, according to requirements of authorities having jurisdiction.

3.3 APPLYING SOIL TREATMENT

A. Application: Mix soil treatment termiticide solution to a uniform consistency. Distribute treatment uniformly. Apply treatment at the product's EPA-Registered Label volume and rate for maximum specified concentration of termiticide to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction.

1. Slabs-on-Grade: Under ground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
2. Foundations: Soil adjacent to and along the entire inside perimeter of foundation walls; along both sides of interior partition walls; around plumbing pipes and

electric conduit penetrating the slab; around interior column footers, piers; and along the entire outside perimeter, from grade to bottom of footing.

3. Masonry: Treat voids.
4. Penetrations: At control joints, and areas where slabs and below-grade walls will be penetrated.

B. Post warning signs in areas of application.

C. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

3.4 PROTECTION

A. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.

B. Protect termiticide solution dispersed in treated soils and fills from being diluted by exposure to water spillage or weather until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.

END OF SECTION 313116

ATTACHMENT B
ADDENDUM #1

Town of Edisto Beach
2414 Murray Street Edisto Beach, SC 29438
(p) 843-869-2505 | (f) 843-869-3855
www.townofedistobeach.com

Schedule of Building Permit Fees

Total Valuation		Fee
$1,000 and less	No fee, unless inspection is required, in which case a fee for each inspection shall be charged, in the amount of	$50
$1,001 to $50,000	For the first $1,000	$50
	Plus, for each additional $1,000 or fraction thereof, to and including $50,000	$5
$50,001 to $100,000	For the first $50,000	$295
	Plus, for each additional $1,000 or fraction thereof, to and including $100,000	$4
$100,001 to $500,000	For the first $100,000	$495
	Plus for each additional $1,000 or fraction thereof, to and including $500,000	$3
$500,001 and up	For the first $500,000	$1,695
	Plus for each additional $1,000 or fraction thereof	$2

Electrical	$100
0 - 200 Amps	
Plus for each additional Amp	$0.20

Gas	$50
Plus for each additional outlet	$4

Plumbing	$50
For the first $5,000	
Plus for each additional $1,000 or fraction thereof	$4

Mechanical	$50
For the first $5,000	
Plus for each additional $1,000 or fraction thereof	$4

(m) Moving Fee	$100
For the moving of any building or structure	

(o) Penalties. Where work for which a permit is required by this Code is started or proceeded prior to obtaining such permit, the fees specified in this section shall be doubled, but the payment of such double fee shall not relieve any persons from fully complying with the requirements of this Code in the execution of the work nor from any other penalties prescribed in this Code.

(n) Demolition Fee	
For the demolition of any building or structures, the fee shall be:	
(1) Zero to 100,000 cubic feet	$100
(2) One hundred thousand cubic feet and over	$0.50 per 1,000 cubic feet

(p) Plan checking fee. When the valuation of the proposed construction exceeds $1,000 and a plan is required to be submitted by section 106 of the building code adopted in section 14-31, a plan checking fee shall be paid to the Building Official at the time of submitting plans and specifications for checking. Such plan checking fee shall be equal to one-half the of the building permit fee as set forth in section 14-34 (1). Such plan checking fee is in addition to the building permit fee.

(q) Extra inspection fees. When extra inspections are made necessary for reasons of defective work or otherwise through fault or error on the part of the permit holder or his employees, a notice will be given in writing by the Building Official setting forth the violation. For each and every visit or inspection for which the permit holder or his employee is entirely responsible, fees shall be charged as follows:

(1) For the first such inspection	No charge
(2) For the second such inspection	$50
(3) For the third such inspection	$100

(Ord. or 5-8-86, § 5.4; Ord. of 11-14-96(5), § 5.4; Ord. of 5-13-99(1), § 4--8; Ord. of 12-14-00(1), § 1; Ord. of 2-13-03(1), § 4); Ord. No. 2010-10, Exh. A, 4-8-10)

ATTACHMENT C
ADDENDUM #1

SECTION 074293 - SOFFIT PANELS

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Metal soffit panels.

B. Related Sections:

1. Section 074113 Standing Seam Metal Roof Panels.
2. Section 074243 Metal Composite Material Wall Panels.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at project site.
1. Conduct at same time as 074113 Standing Seam Metal Roof and section 174243 Metal Composite Material Wall Panel Preinstallation Conference.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.

B. Shop Drawings:

1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
2. Accessories: Include details of flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches (1:10).

C. Samples for Initial Selection: For each type of metal panel indicated with factory-applied color finishes.

1. Include similar Samples of trim and accessories involving color selection.

D. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below:

1. Metal Panels: 12 inches (305 mm) long by actual panel width. Include fasteners, closures, and other metal panel accessories.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Test Reports: For each product, tests performed by a qualified testing agency.

C. Sample Warranties: For special warranties.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For metal panels to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

C. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Build mockup of typical roof eave, including fascia, and soffit as shown on Drawings.
2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.

B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.

C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.

D. Retain strippable protective covering on metal panels during installation.

E. Copper Panels: Wear gloves when handling to prevent fingerprints and soiling of surface.

1.9 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed according to manufacturers' written instructions and warranty requirements.

1.10 COORDINATION

A. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of walls, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.11 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including rupturing, cracking, or puncturing.
b. Deterioration of metals and other materials beyond normal weathering.

2. Warranty Period: 30 years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Delta E units when tested according to ASTM D2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 30 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:

1. Wind Loads: As indicated on Drawings.
2. Other Design Loads: As indicated on Drawings.
3. Deflection Limits: For wind loads, no greater than 1/240 of the span.

B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) when tested according to ASTM E283 at the following test-pressure difference:

1. Test-Pressure Difference:.24 lbf/sq. ft. (300 Pa)

C. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E331 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).

D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces

2.2 METAL SOFFIT PANELS

A. Provide metal soffit panels designed to be installed by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners in side laps. Include accessories required for weathertight installation.

B. Flush-Profile Metal Soffit Panels: Solid panels formed with vertical panel edges and a flat pan between panel edges; with flush joint between panels.

C. Manufacturers: Manufacturers indicated below may be considered subject to compliance with specified project requirements:
1. Petersen Aluminum Corporation- Basis of design.
2. Firestone Metal Products/UNA-CLAD UC-500/501 Soffit Systems
3. Fabral Metal Wall and Roof Systems.
4. MBCI Artisan Soffit

D. Petersen Aluminum Corporation PAC-CLAD Soffit Panels:

1. Type: PAC-Flush Soffit Panel
2. Material: .040 inch ga (.10 mm) alloy 3105-H14 Aluminum
3. Panel Dimension: 11 inch o.c. (1 inch seam height)
4. Texture: Smooth

E. Panel Finish:

1. Panel exposed side: PAC-CLAD finish color selected from Petersen Aluminum Corp. full range of Premium colors including metallics.
2. Panel Underside: Polyester washcoat with dry film thickness of 0.3 mils.
3. PAC-CLAD Factory Applied Finish:

    a. Exposed side: Full-strength fluoropolymer (70% Kynar 500 or Hylar resin) system of 1.0 mil (.025 mm) total dry film thickness. Color as selected by architect, from manufacturers full range including metallics.
    b. Underside: Wash coat of 0.3 - 0.4 mil dry film thickness.
    c. Texture: Smooth texture, dull matte specular gloss 25 - 35%.
    d. Protective film: Strippable vinyl film applied during fabrication.

F. Flashing and Trim: Manufacturer’s standard flashing and trim profiles, factory formed, gauge as recommended by manufacturer, color and finish to match metal roofing panels.

2.3 MISCELLANEOUS MATERIALS

A. Miscellaneous Metal Subframing and Furring: ASTM C645, cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

1. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Finish flashing and trim with same finish system as adjacent metal panels.

D. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of plastic caps or factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.

E. Panel Sealants: Provide sealant types recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
2. Joint Sealant: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

2.4 FABRICATION

A. Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams.
3. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
4. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.

a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal soffit panel manufacturer for application but not less than thickness of metal being secured.

2.5 FINISHES

A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.

1. Examine framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal panel manufacturer.
2. Examine sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal panel manufacturer.

    a. Verify that air- or water-resistive barriers been installed over sheathing or backing substrate to prevent air infiltration or water penetration.

B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C754 and metal panel manufacturer's written recommendations.

3.3 INSTALLATION

A. Install metal panels according to manufacturer's written instructions in orientation, sizes, and locations indicated. Install panels perpendicular to supports unless otherwise indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.

1. Shim or otherwise plumb substrates receiving metal panels.
2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
3. Install screw fasteners in predrilled holes.
4. Locate and space fastenings in uniform vertical and horizontal alignment.
5. Install flashing and trim as metal panel work proceeds.
6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
7. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.

B. Fasteners:
   1. Aluminum Panels: Use aluminum or stainless steel fasteners for surfaces exposed to the exterior; use aluminum or galvanized-steel fasteners for surfaces exposed to the interior.

C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.

D. Lap-Seam Metal Panels: Fasten metal panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.

   1. Apply panels and associated items true to line for neat and weathertight enclosure.
   2. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal panels.
   3. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
   4. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.

E. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

   1. Install components required for a complete metal panel system including trim, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal panel manufacturer; or, if not indicated, provide types recommended by metal panel manufacturer.

F. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.

   1. Install exposed flashing and trim that is without buckling, and tool marks, and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to achieve waterproof performance.
   2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

3.4 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

B. After metal panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.

C. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074293

ATTACHMENT D
ADDENDUM #1

SECTION 270010 - TECHNOLOGY GENERAL PROVISIONS

PART 1 - GENERAL

1.1 GENERAL CONDITIONS AND DEFINITIONS

A. Scope: This specification section applies to all Division 27 specification sections and all Division 28 specification sections with the exception of Fire Alarm. All systems under the specifications indicated above are also referenced in this contract documents as “technology systems.”

B. Drawings and specifications: The words “drawings” and “specifications” used on this section refer to all contract drawings and specifications describing the scope of work of the technology system.

C. Installer and Contractor: The word “installer” where used on the drawings or specifications without any further description shall reference the installer of the system under reference. The word contractor, where used on the drawings or specifications without any further description, shall reference to the General Contractor (or Construction Manager) holding the prime agreement with the owner for the construction of this project.

D. Provide and Install: The word, "provide" where used on the drawings or specifications shall mean, "furnish, install, mount, connect, test, complete, document and make ready for operation". The word "install" where used on the drawings or specifications shall mean, "mount, connect, test, complete, and make ready for operation".

E. The word Engineer (also referenced as A&E) where used on the drawings or specification refers to the design engineer of the project working for the project architect or the owner. It does not refer to an engineer working for the General contractor, Construction Manager or any of the installers in the project.

F. Complete systems: All technology systems are intended to be complete systems, including all materials, labor, and programming to make them an operating system. A Responsibility matrix has been included with the contract documents to clarify the scope of all systems. Refer to design drawings for matrix details.

G. Active equipment: Active equipment is defined as equipment composed of electronic components and electric materials designed to work with power applied to it. Cables are not considered active equipment.

1.2 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS

A. Objective: The intent of the design drawings and specifications is to provide the installer of a technology system with a scope of work for bidding purposes and to make sure different bids received by the entity holding the bidding for the technology system are at the same level of scope for comparison purposes. The drawings and

specifications are not intended to show every single element of the project to produce a buyout list for the installer. In general, for all technology systems, all active components are specifically called out but small wires and small installation materials (such as nut, bolts, washers, termination blocks, clamps, ties, etc) are not indicated in the documents. Guidelines for installation of those systems are provided in the specification to allow the installer to produce the complete buyout list of materials.

B. Accuracy: The Drawings are diagrammatic and are not intended to show exact locations of conduit runs, outlet boxes, junction boxes, pull boxes, etc. The locations of equipment, appliances, fixtures, conduits, outlets, boxes and similar devices shown on the Drawings are approximate only. Exact locations shall be as accepted by the Architect or Engineer during construction. Obtain in the field all information relevant to the placing of technology systems work and in case of interference with other work, proceed as directed by the Architect or Engineer.

C. Distances: Although most drawings have a scale referenced on each sheet, the drawings are a two-dimensional representation of the system, so design drawings do not indicate changes in elevation that cause additional lengths and quantities of materials. It is the responsibility of the installer of each technology system to field verify all distances before bidding to properly estimate all cable distances and materials.

D. Discrepancies: Notify the A&E of any discrepancies found during construction of the project and do not proceed with that portion of the project, until a written definitive statement is received providing clear direction. If a conflict exists between the contract documents and any applicable code or standard, the most stringent requirement shall be included for this project. The Engineer shall make the decision regarding questionable areas of conflict.

E. Existing Conditions: The design drawings might not indicate all existing conditions. The installer of each system shall check the site and existing conditions thoroughly before bidding and advise the Engineer of discrepancies prior to bid.

F. Coordination: Although design technology drawings were intended to be coordinated with other trades, the fact that installers for another non-technology system might have changes to their design drawings requires the Contractor to produce coordination drawings for a specific space, including all elements of all trades for space planning and coordination purposes.

1.3 ABBREVIATIONS

A. Abbreviations: The following abbreviations or initials may be used:
1. ABV CLG - Above Ceiling
2. AC - Alternating Current
3. ADA - American Disabilities Act
4. AFF - Above Finished Floor
5. AFG - Above Finished Grade
6. AMP - Ampere
7. ANSI - American National Standards Institute
8. AWG - American Wire Gauge
9. BC - Bare Copper

10. CCTV - Closed Circuit Television
11. CATV - Community antenna television
12. CLG - Ceiling
13. COAX - Coaxial Cable
14. CPU - Central Processing Unit
15. DC - Direct Current
16. DEG - Degree
17. EMT – Electrical Metallic Tubing
18. GND - Ground
19. IDF - Intermediate Distribution Frame (Telecom Room)
20. IMC - Intermediate Metallic Conduit
21. IN - Inches
22. IP - Internet Protocol
23. JB - Junction Box
24. KVA - Kilo-Volt-Amps
25. KW - Kilowatts
26. LBS - Pounds
27. LED - Light Emitting Diode
28. MAX - Maximum
29. MDF - Main Distribution Frame (Main Telecom Room)
30. MIC - Microphone
31. MIN - Minimum
32. MTD - Mounted
33. MTG - Mounting
34. NEC - National Electrical Code
35. NECA - National Electrical Contractors Association
36. NEMA - National Electrical Manufacturers Association
37. NFPA - National Fire Protection Association
38. NIC - Not in Contract
39. OFE - Owner furnished equipment
40. OSHA - Occupational Safety and Health Administration
41. PB - Pullbox
42. PWR - Power
43. PVC - Polyvinylchloride
44. EF - Telecommunications Entrance Facility
45. TR - Telecommunications Room
46. TTB - Telephone Terminal Board
47. V - Volt
48. WP - Weatherproof

1.4 CODES AND STANDARDS

A. Application: The codes, standards and practices listed herein generally apply to the entire project and all technology systems. Other codes, standards or practices that are more specific will be referenced within a particular specification.

B. Requirements: All articles, products, materials, fixtures, forms or types of construction covered in the specifications will be required to meet or exceed all applicable standards of manufacturer, testing, performance, capabilities, procedures and installation according to the requirements of ANSI, NEMA, IEEE, NEC, BICSI and TIA referenced

documents where indicated and the manufacturer's recommended practices. Requirements indicated on the contract documents which exceed but are not contrary to governing codes shall be followed.

C. Compliance and Certification: The installation shall comply with the governing state and local codes or ordinances. The completed technology system installation shall be inspected and certified by all applicable agencies that it is in compliance with all codes.

D. Applicability: The codes and standards and practices listed herein, and their respective dates are furnished as the minimum latest requirements. List of applicable codes:
   1. Building Code: South Carolina Building Code, current version
   2. South Carolina Accessibility Code 2017.

E. UL Labels: All materials shall be new and free of defects, and shall be U.L. listed, bear the U.L. label or be labeled or listed with an approved, nationally recognized Electrical Testing Agency. No equipment shall be installed if there is no labeling or listing service is available for such equipment.

1.5 MATERIALS ALTERNATES AND SUBSTITUTIONS

A. Definitions:
   1. Basis of design: A product or group of products from an identified manufacturer that was used as the basis of systems layouts and installation details, part of the contract documents.
   2. Prototype: A product or a group of products that are not yet ready for commercial use because they are in the testing phase (Beta testing) of the product development.
   3. Alternates: Products or manufacturers listed in the contract documents as acceptable compare to the basis of design. Use of alternates shall follow the same system architecture as the basis of design.
   4. Obsolete: A product that has been discontinued by the manufacturer or declared in end of life, and it is no longer being manufactured.
   5. Substitution: A product not listed in the contract documents but capable of similar characteristics as the basis of design operating as a direct replacement in the system in reference. The installers can propose a substitution if all requirements are met as indicated in this specification.
   6. Substitutions that create a change in system architecture are products that create a very different system configuration impacting other trades (i.e. change in power/cooling requirements, changes in raceways layout or sizes, changes in equipment space requirements, changes in low voltage wiring layouts, types and quantities, etc) but providing a similar end result as the system/products basis of design.

B. Use of Prototype. Prototypes are not allowed in any technology system.

C. Use of alternates. Alternates are allowed and installer shall follow these requirements:
   1. Where several brand names make or manufacturers are listed as acceptable alternates each shall be regarded as equally acceptable, based on the design selection. Where a manufacturer's model number is listed, this model shall set the standard of quality and performance required. Where no brand name is

specified, the source and quality shall be subject to Engineer's review and acceptance. Where three or more manufacturers are listed, one of the listed manufacturers shall be submitted for acceptance.

2. The use of alternate products does not allow the change of system architecture with such products.

D. Use of substitutions. Substitutions are only allowed when they meet all the requirements below:

1. Substitutions are only allowed when a particular specification section for a technology system, allows the use of substitutions for that particular system.
2. The performance of all substitution components must meet or exceed those of the basis of design. Should an installer wish to submit a substitution product or a product set stated in the construction documents as 'acceptable,' it shall be the responsibility of the installer to submit to the Engineer an item-for-item CROSS-REFERENCE for all specifications of the product, all related specifications and product data sheets, for the proposed substitution. Use the substitution request form indicated in Attachment 1 of this specification.
3. The Engineer has the authority to reject a substitution without cause and the installer shall provide the basis of design and no additional compensation.
4. Substitutions of unnamed manufacturers will not be acceptable.
5. Certification of substitutions: When a basis of design is specified to be in accordance with a trade association or government standard requested by the Engineer, installer shall provide a certificate that the substitution complies with the referenced standard. Upon request of Engineer, Contractor shall submit supporting test data to substantiate compliance.
6. Substitutions that create a change in system architecture are allowed under the following conditions:
    a. Substitution request for this type of system requires submitting the overall cost of substitution including the cost of changing other systems affected as well as the re-design cost for such systems. Without this information, this type of substitution will not be evaluated at all.

1.6 SHOP DRAWINGS AND SUBMITTALS

A. General: Shop drawings shall be submitted for equipment and material as indicated in the individual specification sections for each system. .

B. Quantity of shop drawings submittals: Follow Division 1 requirements for the quantity of shop drawings and submitting requirements. If the project does not have a Division 1 specification, shop drawings shall be submitted in electronic format.

C. Electronic submittals. Submittals in electronic format (PDF) are accepted.

D. When cut sheets of products are submitted and the manufacturer cut sheets indicate several model numbers or variations of the same product, the cut sheet shall be highlighted by the installer to indicate the specific product that will be provided for this project. Submittals received with cut sheets indicating multiple parts numbers and not highlighted will be rejected and not reviewed.

E. Equipment and material quantities are not reviewed by the A&E as part of this submittal process. Equipment quantities are to be provided by the installer as indicated in contract documents. Approved shop drawings indicating any changes in equipment quantities or the overall scope of work different from contract documents do not constitute approval by the A&E of those changes. The contract documents and any changes issued by the A&E in the form of Supplemental Information during the construction process are always to be followed for equipment quantities and scope of work.

F. All electronic equipment prone to obsolescence and with lead times less than 3 months shall be submitted for approval no sooner than 12 month before the date set for substantial completion of the project. Electronic equipment prone to obsolescence includes devices like flat panel displays, transceivers, servers, players, workstations, cameras, and routers

G. Equipment and materials installed not in accordance with the approved shop drawings shall be replaced at the installer's expense.

H. Multiple stages of shop drawings shall be required as indicated in each specification section. For final completion and testing the installer shall provide a submittal with the following information:
   1. Detailed course syllabus for each type of training required in the specifications.
   2. A proposed schedule of training sessions in compliance with the specification sections and indicating the place where the training will take place.
   3. A copy of all training material to be used during each session.
   4. Test result sheets for all testing done by the installer prior to the system acceptance test.

PART 2 - PRODUCTS

2.1 IDENTIFICATION AND LABELING TAGS

A. All conduit, cabinets, cables, wires, wiring forms, terminal blocks, and terminals shall be clearly identified with pre-printed labels or tags.

B. The only approved types of labels for inside premise environments for any technology systems are:
   1. Laminated thermal transfer labels printed with a high quality thermal transfer printer.
   2. Thermal transfer polyolefin tape printed with a high quality thermal transfer printer.
   3. Self laminated dot-matrix labels, printed with a high quality dot matrix printer.

C. For labeling of cables or equipment in outdoor environments use only marker plates attached to cable or equipment with cable ties. Do not use any labels with adhesive materials. Use different color plates for different cable types. Use only waterproof ink for writing on marker plates.

D. Any type of write-on labels (except for outdoor marker plates), hand writing on cable jackets or directly on equipment, labels made with masking tape or any other type of tape not listed in previous paragraph are not acceptable and shall be corrected with approved labeling methods at no additional cost to the owner.

E. Approved manufacturer:
   1. Rhino,
   2. Brady,
   3. Panduit or
   4. approved equal

2.2 TECHNOLOGY EQUIPMENT AND MATERIALS

A. General: Each item of equipment or material shall be manufactured by a company regularly engaged in the manufacturer of the type and size of equipment, shall be suitable for the environment in which it is to be installed, shall be approved for its purpose, environment, and application, and shall bear a label as indicated in paragraph 1.4.E. of this section.

B. Installation Requirements: Each item of equipment or material shall be installed in accordance with instructions and recommendations of the manufacturer and the contract documents.

C. Required Accessories: All equipment specified in the technology systems shall be provided with all required accessories for proper operation and mounting. Typically these accessories are not specifically indicated in the design drawings but shall be provided per this specification section. Such accessories include items such as power supplies, power cords, rack ears, rack rails, bolts, lugs, faceplates, etc.

PART 3 - EXECUTION

3.1 INSTALLATION PRACTICES

A. WORKMANSHIP: The installation of materials and equipment shall be performed in a neat, workmanlike and timely manner by an adequate number of craftsmen knowledgeable of the requirements of the Contract Documents. They shall be skilled in the methods and craftsmanship needed to produce a quality level of workmanship. Personnel who install materials and equipment shall be qualified by training and experience to perform their assigned tasks.

B. STANDARD OF QUALITY: To define good workmanship, all installation practices described in BICSI standards shall be followed.

C. PROTECTION OF EQUIPMENT: Equipment for Technology systems shall at all times during construction be adequately protected against mechanical/chemical damage by the elements or work perform by other trades. Equipment shall be stored in dry permanent shelters. If equipment or materials has been damaged, such equipment

shall be replaced at no additional cost or time extension to the Contract. Damaged equipment and materials include the following conditions:

1. Equipment that has visible scratches, cracks or equipment that has paint or finished surface peeled off.
2. Equipment with visible indication of rust or water intrusion.
3. Equipment that has dents on the metal enclosures and are clearly visible to the end user.
4. Equipment that has been sprayed with paint, fire proofing materials, or other type of chemicals, when the equipment was not intended to have this type of materials applied to it, per contract documents.
5. Equipment that has been burnt by controlled fires, power surges, power sags or by lightning.
6. Equipment that has a known damage to any parts, electronic board or component, even if such component or board has no specific use in the project.
7. Cables that have visible damages to the jackets even if cables are not broken and still provide electrical continuity.
8. Cables sprayed with paints that affect the warranty of the cable as defined by the cable manufacturer.
9. Equipment with screws with stripped heads.

D. CLEAN EQUIPMENT: All equipment installed in spaces accessible to the building occupants like in racks, cabinets, wall mounted panels, credenzas, etc. shall be free of dust at the time the space part of the project gets the final Certificate of Occupancy and at the time of the acceptance test by the A&E. Clean equipment is defined as an equipment that if wiped with a finger, on any surface, does not leave visible debris and dust on the finger, also equipment with no visible signs of dust inside the equipment, like in ventilation fans.

E. IDENTIFICATION AND TAGGING: All technology systems items shall be labeled and identified as specified in the Contract Documents. Such identification shall be in addition to the manufacturer's nameplates and shall serve to identify the item's function and the equipment or system which it serves or controls. Refer to Identification Section of the specifications for additional information. All labels of equipment and wiring shall match the labeling used in the shop drawings for the system.

3.2 COORDINATION

A. General: The installer shall compare shop drawings with those of other trades and report any conflicts between them to the A&E. Obtain from the A&E written instructions to make the necessary changes in any of the affected work. All work shall be installed in cooperation with other Trades installing interrelated work.

B. Adjustments: Locations of conduit and equipment shall be adjusted to accommodate the work with interferences anticipated and encountered. Determine the exact routing and location of all systems prior to fabrication or installation.

C. Replacement: All work shall be installed in a way to permit removal (without damage to other parts) of all other system components provided under this Contract requiring periodic replacement or maintenance. All conduits shall be arranged in a manner to clear the openings of swinging overhead access doors as well as ceiling tiles.

3.3 REQUEST OF IP ADDRESSES

A. General: The installer of any of the technology systems shall be required to submit request for IP addresses for the configuration of network connected system. The requests shall be separated by each trade that requires IP addresses. Contractor shall indicate all the different device types for a system (i.e. cameras, workstation, servers, controllers, VoIP phones, etc) and provide a list of all devices required classified by their type and properly indicating location where the device will be used.

B. Reprogramming cost of any technology systems due to un-approved addresses used by the installer shall be at the installer's expense

3.4 TELECOM ROOM/EQUIPMENT ROOM READINESS

A. In any projects where the technology systems require the use of network equipment (switches, routers, firewalls, etc) provided by the owner, the Contractor shall complete all telecom rooms to a point where they are suitable for the owner to deploy such equipment in those rooms. At a minimum the following conditions shall be meet at all rooms in order for the owner to install the equipment:
   1. All power outlets in the telecom rooms shall be fed from the permanent source of power. Temporary power shall not be provided.
   2. Backup power (generator and/or UPS) shall be already operation, tested and connected to the final power distribution system.
   3. The mechanical equipment providing the cooling for the telecom rooms shall be fully operational. Temporary cooling shall not be accepted.
   4. Fire suppression system (sprinkler or gas based system) protecting the telecom rooms shall be fully operational and tested.
   5. All light fixtures in the telecom rooms shall be fully operational.
   6. All walls to the telecom rooms shall be completed and including the last coat of paint.
   7. The ceiling and flooring of the telecom rooms shall be finished.
   8. All horizontal and backbone cabling system part of the structured cabling system (SCS) shall be installed, terminated and tested.
   9. The final and permanent doors to the telecom rooms shall be installed with a key core different from all other construction cores in the site.
   10. Telecom rooms shall be cleared of any materials being stored inside the room.
   11. Telecom rooms shall be clean. Clean will be measured as not having any debris left in the room and not having dust in rack, cabinets, or wall mounted panels. If wiping a finger in any of the surfaces of such equipment leaves visible dust residue in the finger, the room will not be considered clean.
   12. Hallways and rooms leading into the telecom rooms shall have no more sanding to be done in the walls and the floor shall be completed to avoid dust from these spaces moving into the telecom rooms.
   13. Prior to the owner deploying the equipment in these rooms, the Contractor shall provide disposable sticky mats at the entrance of each telecom room to capture dust and/or dirt from people's shoes or boots coming into the room. The sticky mats shall be selected as to cover the width of the door opening. Sticky mats shall contain no less than 60 sheets in each unit. Used sheets of the mats shall be replaced no less than on a daily basis or if worn out before the end of the day.

Sticky mats shall be provided until the project receives the final Certificate of Occupancy.

B. In projects where the network equipment is part of the contract documents, the contractor is required to provide all equipment functioning and clean at the end of the project. The contractor is responsible to determine at what point this delicate equipment can be installed in the telecom room. The contractor shall make sure the recommended manufacturer guidelines are applied to the installation of the equipment when it comes to cleanness. It is highly recommended that all steps indicated above are followed even for this type of project.

3.5 SYSTEMS WARRANTY AND SERVICE

A. General: At a minimum all technology system shall include a warranty from the manufacturer and installer of the system for no less than one (1) year with the following exceptions:
   1. Structured Cabling system shall have a warranty longer than one year as indicated in that specification section.
   2. When specific equipment or software manufacturers include a warranty longer than one year, the manufacturer's warranty shall be transferred to the owner in the same terms as indicated by the manufacturer.

B. Warranty coverage. The warranty for the technology system shall cover the following elements:
   1. All equipment parts, cabling and materials.
   2. Any software updates/patches issued during the warranty period by the manufacturer.
   3. The labor to replace those parts and programming time to re-configure equipment.
   4. Shipping and freight charges to send equipment back and forth from the manufacturer and/or site.
   5. Tool rentals such as scaffold or lifts to access equipment.
   6. The troubleshooting time to detect the faults in the system.
   7. All travel time and expenses associated with the service.

C. Start of warranty. The warranty period for the technology systems starts the day the project gets the Certificate of Occupancy (CO), for new construction projects. For retrofit jobs of a particular system, the warranty starts when the project is accepted by A&E. For most equipment/software manufacturer's the warranty period starts when the equipment is shipped from the factory, so it is the responsibility of the installer of each system to provide additional warranty coverage from the manufacturer to cover the additional time of warranty up to the CO date plus one year.

D. Service calls. During the warranty period the installer shall support the system when called by owner/contractor for service. All equipment/software service shall be done by personnel with the same qualifications as the personnel who installed the system and as indicated in each technology system specification section. Service calls shall be taken during business hours (same time zone as the project) for normal service and twenty (24) hours three hundred and sixty five (365) days in the year for emergency service. Emergency Service shall be defined as the loss or failure of any critical

component necessary to maintain the overall integrity and operation of the system. Normal service shall be defined as the loss or failure of a system component that does not compromise the complete operation of the system and allows the owner to operate the system at a minimum of 90% of its capacity. See individual specification sections for delineation on critical components and normal service.

E. Response time for service. The maximum allowed response time after a service call for emergency service shall be four (4) hours and for normal service twenty four (24) hours.

F. Equipment registration. All equipment/software part of the technology system shall be registered to the owner with the manufacturer of the equipment/software for warranty and support. Equipment/software registered with the manufacturer to the name of the Contractor or installer shall be removed from the project and replaced with equal equipment registered to the owner at no additional cost to the owner.

G. Periodic preventive maintenance visits. During the warranty period the installer of the system shall provide no less than two (2) preventive maintenance services. These services shall be provided at 6 months from start of the warranty period and a few weeks before the end of the warranty period. The installer of the system shall coordinate with the owner the precise dates for this type of service. During these visits the following task shall be perform:
   1. Clean up of any active equipment that shows visible accumulation of dirt, dust of debris of any kind.
   2. Replacement of any consumable parts in the system that require replacement per manufacturer's instructions during the warranty period, such as filters.
   3. Oiling/greasing of any mechanical parts that require period maintenance as per manufacturer's instructions during the warranty period.
   4. Run manufacturer's recommended test for each piece of equipment installed. The installer shall provide at the end of the service a report of such test.
   5. Visual observation of all devices in the system to spot any anomalies.
   6. Review of error logs from any system components and analysis of such logs with explanation to owner on the cause of those errors.

H. Extended service agreement. Prior to final acceptance testing, and within thirty 30-days of project completion, the installer of each technology system shall submit to the Owner an option to purchase extended service coverage. This proposal shall provide for the purchase option of 1, 3, or 5, year coverage. Coverage shall include, at a minimum, the same provisions as during the warranty period.

3.6 ENGINEER'S FINAL ACCEPTANCE TEST

A. The technology systems shall be tested during installation by the installer as frequently as required to solve any installation issues and noncompliance of system specifications. Technology systems will not be considered delivered to the owner until final acceptance test is passed. The final acceptance test shall be done in presence of the A&E and/or the owner. The installer shall request in writing with 2 weeks in advance the presence of the A&E and/or owner for the final acceptance test.

B. In order for the installer of the system to request final acceptance the following task shall be completed:
   1. All components shall be inspected to ensure they have been properly installed by the installer, securely attached, and remain clean and unmarred
   2. All equipment shall be properly adjusted, clearly labeled, and fully operational.
   3. The installer shall have tested the system previously to ensure the final acceptance test will be successful. Detailed proof of test shall be sent to the A&E with the request for final acceptance
   4. All permanent and final labels as requested in the identification and tagging section of this specification are completed.
   5. No temporary conditions shall be present in the system.
   6. All batteries on all system components shall be connected.
   7. All system programming shall be completed as indicated in the specification for each technology system.

C. All test equipment required for the Final acceptance shall be provided by the installer of the system unless specifically indicated by the A&E.

D. The A&E shall define the scope of the testing but the installer shall be prepared for testing every single component of the system. During the day of the test the A&E will indicate the testing process and procedures for each system. Test could include operation of the system during power outages. The installer of the system shall be available during the complete testing process to answer questions from the Engineer and to demonstrate specific parts of the system. If personnel form the installer or test equipment is not available, the test will be considered and marked as a failure.

E. A punch list of the items to be corrected will be prepared by the A&E during the final acceptance test. The installer shall correct all items and request a second day for verification of all punch-list items by the A&E and Owner. During the second test, no additional punch list items shall be expected, and only the items in the punch list will be tested.

F. If during the testing process the A&E and/or Owner consider that the rate of failure of the test is too high (more than 5 failures or non-compliance with specifications in one hour of test), the test will be cancelled unilaterally by the A&E and/or owner. The installer shall correct all items and re-schedule the final acceptance test again. The new test will start over from the beginning and nothing previously tested will be accepted. The installer shall not be entitled to additional compensation for the additional effort to test the system during this condition. To the contrary, the Contractor/Installer shall reimburse the owner of the project with the cost of the additional hours of testing required to be spent by the A&E and owner’s team. The rate to be used for this reimbursement will be $150 per hour per person required by the A&E and Owner to complete the test.

G. Upon successful completion of the final acceptance test the installer of the system will receive a written notice by the A&E and/or Owner acknowledging the acceptance of the test

H. See individual specification sections for system specific requirements for testing.

3.7 TRAINING AND INSTRUCTION

A. Training for each technology system shall be provided as indicated in this specification and in the individual specification section for each system.

B. The following training guidelines shall be followed for all technology system
   1. Training shall not be scheduled in a way that no attendee or presenter shall be required to attend more than 6 hours of training per day.
   2. Prior to starting all training, the training submittal shall be approved. See section one of this specification for details on the training submittal
   3. No training shall be scheduled prior to the system being completed and accepted by the A&E.
   4. Training shall be conducted during normal business hours of the client, at a date and time of mutual convenience to the Owner and installer. All training sessions need to be scheduled by the installer at least 2 weeks in advance. The Owner shall be notified in writing by the installer on when are the possible dates for each session.
   5. All different types of training shall be videotaped and delivered to the owner as part of the close out information in digital copy. All tapes shall be recorded in hi-quality MPEG2 or HD recorders, and the media turned to the owner shall be in electronic format viewable through QuickTime or Windows Media Player.
   6. The installer is responsible for completing list of attendants for each session of training. All these sheets shall be submitted as part of the close out information

3.8 AS BUILT DOCUMENTS

A. Production: During the course of this project the contractor shall maintain record "as-built drawings". One set shall be maintained at the site and at all times and it shall be accurate, clear, and complete, showing the actual location of all equipment as installed. The "As-Built" drawings shall show all technology systems work installed complete to the present stage of progress. These drawings shall be available for review by the A&E's field representatives at all times.

B. Completion: At the completion of the Work, transfer onto the second set of drawings all changes marked in colored and submit to the A&E.

C. Final: Upon installer’s completion of the Engineer's final punch list, transfer all "As-Built" conditions and all requirements by the Engineer to a reproducible set of drawings. Submit full size drawings and one (1) set of CAD/Autodesk Revit© model on a thumbdrive for review and acceptance.

D. Additional documents. At project completion, the installer of the technology system shall provide, as part of the as-built documents, updated tables, equipment schedules, configuration worksheets and labeling system used. See individual system specification section for more details on these documents.

E. See individual specification sections for each system for additional requirements for As-Built documents.

3.9 CLOSE OUT DOCUMENTS

A. Closeout information shall be provided to the owner in electronic format at the end of the project. The file shall be organized by each system and shall follow this organization:
   1. PART 1 – OPERATION AND MAINTENANCE MANUALS. Operation and Maintenance manuals as issued by the manufacturer of each system's component. Such manuals shall include all maintenance procedures required to be done by the owner. Also, when required by each individual specification section, a short form operation guide, prepared by installer) for the system.
   2. PART 2 – INVENTORY OF EQUIPMENT INSTALLED. A detailed list of all relevant active equipment (equipment with electronic components with a market value over $200) installed in the project including the following information and presented in electronic format (Microsoft Excel):
      a. Make
      b. Model
      c. Serial number
      d. Room location
      e. Warranty period, including manufacturer's extended warranties.
   3. PART 3 – PROOF OWNERSHIP, DELIVERY AND ACCEPTANCE. The following letters/documents shall be attached in this part:
      a. Acceptance letter signed by A&E for each of the technology systems installed.
      b. Proof of training by submitting sign in sheets for each training session done
      c. Signed transmittal for all training videos and training material.
      d. Signed transmittal for all spare parts and consumables delivered to the owner.
      e. A list of all the user names and passwords for all the different software programs used by the technology systems and any equipment with password codes. All levels of passwords shall be provided, from the lowest hierarchy to the highest.
      f. At least four (4) copies of all physical keys to different devices part of the technology systems. Each key shall be individually tagged in a key ring. All keys shall be included and organized inside a key ring management enclosure.
      g. A list of all software modules and licenses delivered to the owner. The list shall include part numbers, serial numbers, license certificate of authenticity, hardware key (dongles) numbers and software version. This list shall have a clear signature, name and date on person that received this software by the Owner.
      h. A copy of all official equipment and software registrations with manufacturer.
   4. PART 4 – AS BUILT DOCUMENTS. All as-built documents as indicated in this specification section

END OF SECTION 270010

ATTACHMENT 1 – SUBSTITUTION REQUEST FORM

Substitution Request Number: _____

PROJECT:_____ DATE: _____

SPECIFICATION SECTION: _____ITEM(S):_____

SPECIFIED MANUFACTURER:_____

SPECIFIED MODEL NO: _____

PROPOSED MANUFACTURER:_____

PROPOSED MODEL NO:_____

REASON(S) FOR NOT PROVIDING SPECIFIED ITEM:_____

_____

Attach product description, drawings, photographs, performance and test data, samples and other information necessary for side-by-side evaluation. Fill in all blanks.

A. Provide substantiated reason for requested substitution.

B. Does the requested substitution affect dimensions, locations or configurations?
No:_____Yes:_____
Explain (attach drawings if necessary):_____
_____
_____

C. What are the differences between the specified item and the requested item:
_____
_____

D. Will the Contractor pay for any changes to the building design, including engineering and detailing costs caused by the approval?
No:_____Yes:_____
Explain (if no, and describe modifications required to install or accommodate the requested change):_____
_____
_____

E. Will approval affect the work of other trades, including the Construction schedule?
No:_____Yes:_____
Explain (if yes):_____
_____
_____

F. Manufacturer's guarantees of the proposed and specified items are:

Same:_____Different:_____
Explain (if different):_____
_____
_____

G. Does the proposed item meet all applicable codes, ordinances and regulations for this specific application?
No:_____Yes:_____
Explain (if no):_____
_____
_____

H. Has proposed item been used locally in similar applications?
No:_____Yes:_____
Explain (give nearest location):_____
_____
_____

I. Will maintenance and service parts be locally available for the requested item?
No:_____Yes:_____
Explain (if no, give nearest location):_____
_____
_____

J. Will the requested item require waiving of any qualifications or other requirements?
No:_____Yes:_____
Explain (if yes):_____
_____
_____

K. Are there any license fees or royalties associated with the requested substitution?
No:_____Yes:_____
Explain (if yes):_____
_____
_____

L. If approved, will the Owner receive a credit for the proposed alternate material?
No:_____Yes:_____
Explain (if no):_____
_____
_____

M. Does the proposed alternate material meet the same applicable standards (ASTM, ANSI, UL, FS) as the specified item?
No:_____Yes:_____
Explain (if no, attach drawings if necessary):_____
_____
_____

N. Identify the recycled materials or components or features that lead to the claims to being "Green": _____
_____
_____

O. Has the required line-by-line comparison been included?
No:_____Yes:_____
Explain (if no):_____
_____
_____

The undersigned agrees to pay for the Designer's review time and for changes to the building design, including review, re-design, engineering, drawings and other costs caused by the requested substitution.

_____
Signature

_____
Print

The following Purchase Order or billing number is to be used for billing the Contractor for costs incurred in evaluating and if applicable accommodating the requested substitution.

_____

The Engineer will not be required to approve any product that is not equal or suitable for the specific application and functionality of this project.

ATTACHMENT E
ADDENDUM #1

271000 - STRUCTURED CABLING SYSTEM

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. General: Telecommunications Drawings apply to the work of this section. The overall and detailed Structured Cabling System (SCS) design shown on the drawings, selected materials, device locations, installation details, mounting details, cabling routing and supporting, and all technical specifications, if provided on the drawings, apply to the work of this section.

B. General: Furnish, install, test, and certify complete with all accessories structured cabling system with a minimum 25 year performance warranty from the manufacturers and a minimum of 3 years warranty for materials and labor from the SCS installer for all components not covered under the manufacturer's 25 year warranty. The goal of the project is to provide an enhanced SCS that shall serve as a vehicle for the transport of voice telephony, data, audio, video, security and low-voltage devices for building controls and management, throughout the building and from building to building from designated demarcation points to outlets located at various desk, workstation and other locations as indicated in the contract drawings.

C. Coordination with other trades: It is the responsibility of the installer of the SCS to verify and advise the installer of the raceway infrastructure (conduit, boxes, cable tray, in-ground boxes, etc.) for this system on raceway routing to minimize the wiring distances to the telecommunication room. When J-hooks are acceptable for the use in structured cabling system, all J-hooks and supports for these devices shall be in the scope of work of the SCS installer.

D. All patching and cross connect to owner provided equipment shall be included under the scope of work of this project.

E. WAP installation. The scope of work includes the installation of the Wireless Access Points (WAPs) provided by the owner. The scope includes the labor and installation materials (supports, anchors, etc.) to properly fasten the WAPs to the structure.

1.2 RELATED DOCUMENTS

A. General: Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section

B. Supplemental: Refer to the specification sections identified below for additional requirements, which are supplemented by this section:
   1. 270010 TECHNOLOGY GENERAL PROVISIONS
   2. 270528 RACEWAYS FOR TECHNOLOGY

3. 270526 GROUNDING & BONDING FOR TELECOMMUNICATIONS SYSTEMS

C. Standards: All work related to the SCS shall be in compliance with the following industry codes and standards latest edition:
   1. ANSI/TIA-568.0-D “Generic Telecommunications Cabling for Customer Premises” with addendums and errata.
   2. ANSI/TIA-568.1-D, “Commercial Building Telecommunications Cabling Standard” with addendums and errata.
   3. ANSI/TIA-568.2 - D, “Balanced Twisted- Pair Cabling Components Standard” with addendums and errata.
   4. ANSI/TIA-568.3-D, “Optical Fiber Cabling Component Standard” with addendums and errata.
   5. ANSI/TIA-569-D, “Telecommunications Pathways and Spaces” with addendums and errata.
   6. ANSI/TIA-606-C, “Administration Standard for Telecommunications Infrastructure” with addendum and errata.
   7. ANSI/TIA-607-D, “Generic Telecommunications Bonding and Grounding (earthing) for Customer Premises” with addendum and errata.
   8. ANSI/NECA/BICSI 607-2011, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings.
   9. ANSI/TIA 758-B, “ Customer-Owned Outside Plant Telecommunications Infrastructure Standard” with addendum and errata
   10. ANSI/TIA 862-B, “Structured Cabling Infrastructure Standard for Intelligent Building Systems” with addendum and errata.
   11. ANSI/TIA-1152-A, “Requirements for Field Test Instruments and Measurement for Balanced Twisted Pair Cabling” with addendum and errata.
   12. ANSI/TIA-526-7-A, “Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant”.
   13. ANSI/TIA-526-14-C, “Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant”.
   14. TIA-598-D, Optical Fiber Cable color coding.
   15. IEC/TR3 61000-5-2 - Ed. 1.0 and amendments. “Electromagnetic compatibility (EMC) - Part 5: Installation and mitigation guidelines - Section 2: Earthing and cabling”
   16. ANSI/BICSI 002-2014, Data Center Design and Implementation Best Practices
   17. ANSI/NFPA 70 “National Electrical Code”, CSA C22.1.
   18. BICSI Telecommunications Distribution Methods Manual (TDMM)
   19. BICSI Telecommunications Cabling Installation Manual (TCIM)
   20. BICSI Customer Owned Outside Plant Manual (COOPM)
   21. Local County/City Codes, Ordinances and Regulations.
   22. Underwriters Laboratories (UL)
   23. FCC -Federal Communications Commission
   24. ADA Requirements
   25. Occupational Safety and Health Regulations (OSHA)
   26. National Fire Protection Association (NFPA)
   27. ANSI/TIA-1179, Healthcare Facility Telecommunications Infrastructure Standards
   28. Manufacturers Product Cabling Catalogs
   29. Manufacturers Training Manuals (Design and Installation).

D. General: Installation practices for SCS as describe herein take precedence over any other section in the construction documents set.

1.3 STRUCTURED CABLING SYSTEM INSTALLER QUALIFICATIONS

A. General: The installer selected for the project must be certified by the manufacturers of the products, adhere to the engineering, installation and testing procedures and utilize the authorized manufacturers components and distribution channels in provisioning the Project.

B. General: The installer directly responsible for this work shall be a Structured Cabling System (SCS) Installer who is, and who has been, regularly engaged in the providing and installation of commercial and industrial telecommunications wiring systems of this type and size for at least the immediate past five years. Any other company working for the SCS installer of this system shall have the same training and certification as the SCS installer.

C. Certification: The SCS installer's Project Manager shall possess a current and in Good Standings BICSI Registered Communications Distribution Designer (RCDD®) certificate. All shop drawings submitted by the SCS Installer shall bear the RCDD's stamp.

D. The SCS Installer shall have a (BICSI) RCDD on Staff. Third party RCDD's shall not be acceptable.

E. The Installer team leader assigned for the project shall be BICSI registered Level II installer or proven and qualified equal.

F. Experience: The SCS Installer shall be experienced in all aspects of this work and shall be required to demonstrate direct experience on recent systems of similar type and size. The SCS Installer shall own and maintain tools and equipment necessary for successful installation and testing of SCS and have personnel who are adequately trained in the use of such tools and equipment. The Owner or engineer may elect to request submittal of additional financial, operational and administrative information of the SCS installer to demonstrate the required experience.

G. The SCS Installer shall possess a State of South Carolina Low Voltage License.

1.4 MATERIALS ALTERNATES AND SUBSTITUTIONS

A. SCS Installer shall follow all requirements for materials alternates and substitutions indicated in specification section 270010.

B. Substitutions are only allowed for the SCS when the substitutions do not change the warranty of the SCS system as indicated in this specification section

1.5 SHOP DRAWINGS AND SUBMITTALS.

A. See additional requirements for shop drawings and submittals in specification section 270010.

B. Proposal Submittals: The SCS Installer shall submit the following information with the proposal to execute the work:
   1. A list of five (5) recently completed projects of similar type and size with contact names and telephone numbers for each.
   2. A list of test equipment proposed for use in verifying the integrity of the installed SCS. Test equipment list shall include manufacturer part number, serial numbers and a copy of the last calibration report done by the manufacturer of the equipment of the unit, indicating the date when the calibration was done. Calibrations shall not be older than one year. Test equipment includes, cable certifiers, OTDRs, fiber splicers, etc.
   3. A technical resume of experience for the installer's engineer/RCDD and on-site foreman who will be assigned to the project, including RCDD license number.
   4. Similar documentation for any company working for the SCS Installers who will assist in the performance of this work.
   5. A copy of a current and valid Low voltage License for the State of South Carolina.
   6. Location of office from which installation and warranty work will be performed.

C. Construction submittals: Once all proposal submittals have been received and approved by the Architect and Engineer (A&E) of the project, the SCS Installer shall provide all construction submittals. Construction submittals are composed of the following items.
   1. Manufacturer's cut sheets for all proposed equipment as described in Part 2 of this specification section. Cut sheets shall bear the printed logo or trademark of the manufacturer for each type of product being provided. Mark each copy of the cut sheets for the specific product being provided with an identifying mark, arrow, or highlighting.
   2. Faceplate color selection.
   3. Detail explanation of the labeling scheme to be used for all components of the system. This explanation shall include examples of all types of labels to be used, like labels for cables, patch panels, outlet jacks, etc.
   4. Autocad® or Revit drawings in sheets matching the size of the design documents with the following information:
      a. Floor plans with all outlets in the project. All outlets shall have the label to be used during the identification and tagging process described in this specification section.
      b. Enlarged telecommunication rooms with all equipment components and rack layouts for each room. All racks shall have the label to be used during the identification and tagging process described in this specification section.
      c. Drawings indicating rack elevations for all cabinets or racks in the project, identifying the precise quantity of patch panels, fiber distribution centers and wire managers and accurate RU heights based on equipment selection. All equipment shall have the label to be used during the identification and tagging process described in this specification section.

d. A spreadsheet indicating all patch cords (fiber and copper) to be provided in the project. The spreadsheet shall indicate the quantity, color of the jacket, cable type, length and connector termination on each side.

D. Construction submittals received before proposal submittals are received or approved will be rejected.

1.6 ABBREVIATIONS

A. General: The following abbreviations are used in this specification section:

1. A&E - Architect and Engineer. The Architect is the legal entity that holds a contract for the design the project. The Engineer is the consulting engineer firm or engineer of record for the project who prepared this specification.
2. APC - Angle physical contact connector. Reference to the polish style of the ferrule in fiber optic connectors.
3. Array connector - a multi-strand fiber connector user for high density applications, such as the MPO connector
4. BICSI - Building Industry Consultant Services International
5. CCTV - Close circuit television system (surveillance video system)
6. FCC - Federal Communications Commission.
7. FTP - Foiled Twisted pair. One foiled screen around each cable pair.
8. IDC - Insulation Displacement Connector
9. NEC - National Electrical Code.®
10. NEMA - National Electrical Manufacturers Association.
11. OM1 - ISO 11801 designation for multimode 62.5/125µm glass fiber optics.
12. OM2 - ISO 11801 designation for multimode 50/125µm glass fiber optics.
13. OM3 - ISO 11801 designation for multimode laser optimized 50/125µm glass fiber optics.
14. OM4 - TIA designation for multimode laser optimized 50/125µm glass fiber optics in compliance with TIA-492-AAAD.
15. OS1 - ISO 11801 designation for single mode 9/125µm glass fiber optics.
16. OS2 - ISO 11801 designation for single mode 9/125µm glass fiber optic with performance criteria identical to ITU-T G652.
17. OTDR - Optical Time Domain Reflectometer.
18. RU - Rack units. Height dimension for rack mounted equipment. 1 RU equivalent to 1.75”.
19. SCS - Structured Cabling System
20. ScTP - Screened twisted pair. One foiled screen around all cable pairs
21. TIA - Telecommunications Industry Association.
22. TR - Telecommunications Room.
23. UPC - Ultra physical contact connector. Reference to the polish style of the ferrule in fiber optic connectors.
24. UTP - Unshielded twisted Pair
25. UV - Ultra violet
26. VAC - Volts alternating current.

PART 2 - PRODUCTS

2.1 MODULAR SCS JACKS

A. Structured cabling system outlets indicated in design drawings are composed of modular SCS jacks, mounted in a faceplate on an electrical box. Modular SCS jacks shall be 8-pin modules (RJ-45) that meet or exceed the following electrical and mechanical specifications:
   1. Electrical Specifications:
      a. Insulation resistance: 500 MΩ minimum.
      b. Dielectric withstand voltage 1,000 VAC RMS, 60 Hz minimum, contact-to-contact and 1,500 VAC RMS, 60 Hz minimum from any contact to exposed conductive surface.
      c. Contact resistance: 20 M Ω maximum.
      d. Current rating: 1.5 A at 68 º F (20 º C) per IEC publication 512-3, Test 5b
      e. ISO 9001 Certified Manufacturer
      f. UL verified for EIA/TIA electrical performance
      g. Comply with FCC Part 68
      h. Cable termination: IDC type universal T568A or T568B.
   2. Mechanical Performance:
      a. Plug Insertion Life: 750 insertions
      b. Contact Force: 3.5 oz (99.2 g) minimum using FCC-Approved modular plug.
      c. Plug Retention Force: 30 lb (133 N) minimum between modular plug and jack.
      d. Temperature Range: -40º to 150ºF (-40 º to 66 º C)

B. Design selection: modular SCS jacks shall be selected according to the following criteria:
   1. Performance requirement: CAT6
   2. Style: Rear loading
   3. Mounting orientation: straight mounting
   4. Color: To match faceplate
   5. Dust cover required: No
   6. Shielding: use shielded modular jacks only with ScTP cable.

C. Approved manufacturer: Ortronics, Panduit, Siemon, CommScope, Belden, Leviton or Hubbell.

2.2 FIELD TERMINATABLE 8 POSITION MODULAR PLUG

A. When indicated in the design drawings to use Direct Attach connection for any field devices, field terminatable 8 positions modular plugs shall be used. This devices shall be 8-pin modules (RJ-45) plugs that meet or exceed the following electrical and mechanical specifications:
   1. General Specifications:
      a. Shall include an IDC type of termination for the cable. Crimp type terminations not acceptable.
      b. Shall support cable gauges from 22 to 26 AWG

c. Shall include a rubber boot
2. Electrical Specifications:
a. ISO 9001 Certified Manufacturer
b. UL verified for EIA/TIA electrical performance
c. Comply with FCC Part 68
d. Cable termination: IDC type universal T568A or T568B.

B. Design selection: modular SCS jacks shall be selected according to the following criteria:
1. Performance requirement: Match performance of Modular SCS jacks

C. Approved manufacturer: Match selection for modular SCS jacks.

2.3 OTHER MODULAR JACKS

A. Whenever indicated in the design drawings SCS outlets could have terminations for other media types like fiber optic cables, coaxial cables or audio cables. Whenever those type of media are indentified in the drawings, the following specifications shall be meet for modular jacks mounted in SCS outlets:
1. Style, mounting orientation and color: match design selection for modular SCS jacks.
2. Broadband distribution system connector: Use modular jack with F connector bulkhead rated at 75Ω.

B. Approved manufacturer: Match selection for modular SCS jacks.

2.4 FACEPLATES

A. Faceplates shall be used for all flush mounted telecommunication outlets to house modular jacks. Faceplates shall have the following specifications:
1. Construction material: High impact thermo Plastic
2. Size: use single gang faceplates only unless specifically noted in the design drawings.
3. Capacity of modular jacks per faceplate: faceplate shall be selected as to accommodate the amount of cables in each telecommunication outlet. No more than one unused opening shall be present on each faceplate.
4. Color: submit color to A&E for approval.
5. Labels: faceplate shall have two (2) recesses for labels, top and bottom, and shall have transparent label snap-on covers.
6. Faceplate style: Direct modular plug rear loading style

B. All faceplates shall have a tamper resistant cover to access the modular jacks

C. Approved manufacturer: Match selection for modular SCS jacks.

2.5 FACEPLATES WITH SUPPORT STUDS

A. Telecommunication outlets indicated in the design drawings as to be wall mounted telephone outlets shall be composed of one modular SCS jack and one faceplate with support studs mounted on an electric box. Faceplates with support studs shall have the following specifications:
   1. Construction material: Stainless Steel.
   2. Size: use single gang faceplate with two support studs.
   3. Capacity of modular jacks per faceplate: One.
   4. Faceplate style: Direct modular plug rear loading style.

B. Approved manufacturer: Match selection for modular SCS jacks.

2.6 SURFACE MOUNTED BOXES

A. Telecommunication outlets indicated in the design drawings as to be surface mounted outlets shall be composed of modular jacks mounted in a surface mounted box inside an electrical enclosure. Surface mounted boxes shall have the following specifications:
   1. Construction material: High impact thermo Plastic.
   2. Capacity of modular jacks per surface mounted box: size of surface mounted box shall be selected as to accommodate the amount of cables in the surface mounted telecommunication outlet. No more than one unused opening shall be present on each box.
   3. Color: White.
   4. Labels: surface mounted boxes shall have at least one (1) recess for labels, and shall have transparent label snap-on covers

B. Approved manufacturer: Match selection for modular SCS jacks.

2.7 MOUNTING FRAMES

A. All telecommunication outlets shall be properly mounted in the electrical raceway system provided for the outlet. The SCS installer shall select the proper mounting frame and/or bezel to mount the modular plugs in the raceway system. Raceway systems include furniture systems, floor boxes, poke-thrus, power poles, surface raceways system, etc.

B. Whenever design drawings indicate a telecommunication outlet to be mounted in a furniture system the SCS Installer shall select the proper mounting frame to hold the modular jacks in the furniture system selected by the owner. Color of the mounting frames shall match the color of the furniture system.

C. If owner provided furniture system does not have a raceway system for telecommunication, and design drawings indicate outlet to be mounted in the furniture system, SCS installer shall provide a plastic surface mounted box that allows the mounting of the modular plugs in a standard telecommunication faceplate.

D. SCS installer shall provide all mounting frames and bezels to mount modular jacks inside floor boxes or poke-thrus.

E. All un-used ports in mounting frames shall be covered with blank inserts.

F. Approved manufacturer: Match selection for modular SCS jacks.

2.8 HORIZONTAL 4-PAIR CABLE

A. General: Horizontal 4-pair cables shall be extended between the telecommunications outlet location and its associated equipment inside the TR. The cable shall consist of 4 pair cable solid copper conductors, certified to the specified performance standard. All horizontal 4-pair cables shall be terminated in modular jacks and patch panels with IDC type connectors and shall have the following specifications:
   1. Cable Gauge: minimum 23 AWG
   2. Performance standard: TIA/EIA CAT6
   3. Cable type: UTP
   4. Performance characterized to: 550 MHz
   5. Time delay skew: Maximum 45 ns/100m
   6. Input impedance (1-100MHz): 100Ω
   7. Cable diameter: ≤ 0.295 inch

B. Cable jacket colors for 4-pair horizontal cables shall be selected according to the following criteria:
   1. Voice or data cables: Blue
   2. Wireless access points: Yellow
   3. Surveillance cameras: Green

C. Performance verification: All performance of horizontal 4-pair cable shall be verified by a Nationally Recognized Testing Laboratory (NRTL) for EIA/TIA electrical performance and comply with FCC Part 68.

D. Jacket: Cable jacket for inside premise cables shall comply with Article 800 NEC for correct use in the environment in which they will be used. If at the moment of the bid the SCS installer does not know the environment, in which cables will be used, the SCS installer shall assume plenum rated is required for the project. At a minimum all cables shall have a flame retardant PVC jacket riser rated.

E. OSP Jackets: All horizontal 4-pair cables run in conduits below the floor slab shall have a water resistant flooding compound and a jacket made of UV resistant polyethylene. Cables with PVC jackets are not acceptable for this application.

F. Jacket marking: All horizontal 4-pair cables shall have at least two types of markings imprinted in the jacket, transmission performance marking and NEC rating for environment to be used.

G. Approved manufacturer: Corning, Superior Essex, Belden, Panduit, Siemon, CommScope General Cable, or Berk-Tek.

2.9 PATCH PANELS FOR HORIZONTAL CABLING

A. All 4-pair horizontal cables shall be terminated in rack mounted path panel located in the telecommunication rooms rack. These patch panels shall have the following specifications.
   1. Connector type: 8-position modular plug (RJ-45)
   2. Cable termination: IDC type universal T568A or T568B.
   3. Performance requirement: CAT6
   4. Maximum connectors per path panel allowed: 48
   5. Patch panel type: factory preloaded panels rear loaded panels (use modular SCS jacks for all inserts)
   6. Patch panel shape: straight (flat)
   7. Permanent marking: All connectors shall be labeled in sequential numbers
   8. Field labels: patch panels shall have a space for field labels covered with transparent protectors.
   9. Shielding: use shielded patch panels only with ScTP cable.

B. Approved manufacturers. Match selection for modular SCS jacks

2.10 HORIZONTAL WIRE MANAGERS

A. Horizontal wire managers shall be mounted in racks to route cables from patch panels to vertical wire managers and to equipment. Horizontal wire managers shall have the following specification:
   1. Style: D-Ring style
   2. Sides: front and back of rack
   3. Minimum height: two RU

B. Approved manufacturers. Match selection for modular SCS jacks

2.11 FOUR (4) PAIR PATCH CORDS

A. Four (4) pair patch cords are required at the work area side and at the patch panel side to complete the connectivity path to the equipment. All 4-pair patch cords shall be factory tested and shall have molded boots to the cable jacket. Field made patch cords are not acceptable. Four pair patch cords shall have the following specifications:
   1. Connectors: 8-pin modular plugs at both ends
   2. Conductors: 4-pair stranded conductors.
   3. Wiring map: See section 3 of this specification
   4. Performance requirement: To match horizontal 4-pair cable performance
   5. Cable type: UTP

B. Approved manufacturers. Match selection for modular SCS jacks

2.12 SINGLE STRAND FIBER OPTICS CONNECTORS

A. All fiber optic cables (horizontal or backbone cables) shall be terminated on fiber optic connectors at both ends of the cable with either single strand fiber optic connectors or

array connectors. Single strand fiber optic connector shall be compliant with industry standard ANSI/TIA-568-C.3 and the applicable TIA/EIA Fiber Optic Connector Intermateability Standard (FOCIS) document, TIA/EIA 604 series. Single strand fiber optic connectors shall have the following specification:

1. Physical contact type: use UPC type connector for all application with the exception of applications of Broadband TV distribution systems or DAS systems. For those applications use APC type connectors.
2. Connector type: LC
3. Security level: non-keyed connector
4. Pairing style: duplex
5. Acceptable connector attachment types:
    a. Splice on connectors. Fusion spliced connectors with factory polished finish.
    b. Fusion spliced pig tail with factory polished connector. Mechanical splices for pig tails are not acceptable.
6. Fiber type: SCS installer shall select the connector according to the fiber type where connector will be installed. As an example use OM1 connectors only in OM1 fiber optic cables.
7. Fusion spliced pig tails. When using fusion spliced pig tails the SCS installer shall make sure the fiber type of the pig tail and the actual cable have the same optical characteristics, such as back scatter, core diameter, etc.
8. Ferrule construction: use ceramic ferrule connectors only, plastic ferrules are not acceptable.

B. All single strand fiber optic connectors shall include boots to protect the fiber optic cable. The SCS installer shall select the boot according to the fiber optic type selected. As an example use 900µm boots in 900µm coated fiber, use 250µm boots on 250µm coated fiber and use 2mm boots on 2mm jacketed fiber. All boots shall be color coded to identify the type of fiber connector used. Boots shall be beige for OM1 fiber, black for OM2, aqua for OM3 and OM4 or green.

C. Single strand multimode fiber optic connectors shall have the following performance requirements:

1. The maximum insertion loss shall be 0.75 dB (maximum) when installed in accordance with the manufacturer’s recommended procedure and tested in accordance with FOTP-171.
2. Connector reflectance shall be less than or equal to -26 dB when installed in accordance with the manufacturer’s recommended procedure.
3. Connectors shall sustain a minimum of 500 mating cycles without violating specifications.
4. Connectors shall have an optical axial pull strength of 2.2 N (0.5lbf) at 90º angle, with a maximum 0.5dB increase in attenuation for both tests when tested in accordance with ANSI/EIA/TIA-455-6B.

D. Single strand single mode fiber optic connectors shall have the following performance requirements:

1. Maximum insertion loss shall be 0.75 dB per each mated connector pair when installed in accordance with the manufacturer’s recommended procedure and tested in accordance with FOTP-171.
2. Connector reflectance shall be less than or equal to -40 dB (UPC) when installed in accordance with the manufacturer’s recommended procedure.

3. Connectors shall sustain a minimum of 500 mating cycles without violating specifications.
4. Connectors shall have an optical axial pull strength of 2.2 N (0.5lbf) at 90º angle, with a maximum 0.5 dB increase in attenuation for both tests when tested in accordance with ANSI/EIA/TIA-455-6B.
5. Connectors shall meet the following performance criteria:

Test	Procedure	Maximum Attenuation Change (dB)
Cable Retention	FOTP-6	0.2 dB
Durability	FOTP-21	0.2 dB
Impact	FOTP-2	0.2 dB
Thermal Shock	FOTP-3	0.2 dB
Humidity	FOTP-5	0.2 dB

E. Approved manufacturers. Ortronics, Corning, Belden, Panduit, Siemon, Leviton, CommScope or 3M

2.13 FIBER OPTICS SPLICES

A. When fiber splicing is required in the project because of the use of pigtails or field splicing, only fusion splicing will be acceptable. Mechanical splices shall not be used unless specifically indicated in the contract documents.

B. All fiber splices shall be terminated with heat shrink sleeves and organized in splice trays. Splice trays sizes shall be selected to match the quantity of fiber strands in the cable bundles. Splice trays shall be organized in Fiber Optics Distribution Centers when inside a telecom room or in outdoor rated splice closures when done outdoors.

C. Fusion splice equipment to be used in this project shall have the following specifications:
1. Alignment system: Automatic Core Detection system (ACD). V-groove splicers are not allowed.
2. Typical splice loss for single mode fibers: 0.02 dB
3. Splice loss result: Measurement (LID)
4. Unit shall have a fast heat shrink oven, maintenance free electrodes, built in cleaver and graphical user interface to display alignment condition.
5. Cleaver blade type: diamond.

2.14 INSIDE PREMISE FIBER OPTICS HORIZONTAL CABLES

A. Telecommunications outlets could have fiber optic terminations. Whenever design drawings indicate fiber optic terminations, inside premise fiber optic horizontal cables shall be used. The following are the specifications for fiber optic horizontal cables:
1. Strand Count: as indicated in design drawings
2. Fiber type: as indicated in design drawings
3. Fiber coating: 900µm coating color coded
4. Fiber protection: aramid yarn
5. Jacket type: 2.9mm flame-retardant PVC jacket zip-cord type.
6. Color jacket: jacket shall be orange for OM1 or OM2 fiber, aqua for OM3 or OM4 fiber and yellow for OS1 or OS2 fiber.

B. Jacket: Cable jackets for fiber optic cables shall comply with Article 770 NEC for correct use in the environment in which they will be used. If at the moment of the bid the SCS installer does not know the environment, in which cables will be used, the SCS installer shall assume plenum rated is required for the project. At a minimum all cables shall have a flame retardant PVC jacket riser rated. Rating shall be printed in the cable jacket.

C. OSP Jackets: All fiber optic horizontal cables run in conduits below the floor slab shall have a water resistant flooding compound and a jacket made of UV resistant polyethylene. Cables with PVC jackets are not acceptable with this application.

D. Approved manufacturers. Match selection for horizontal 4-pair cable

2.15 INSIDE PREMISE FIBER OPTICS BACKBONE CABLES

A. Whenever design drawings indicate fiber optics backbone cables to be run inside premises, the following specification shall be followed for those cables:
   1. Strand Count: As indicated in design drawings
   2. Fiber type: As indicated in design drawings
   3. Fiber coating: 900µm coating color coded. 250µm coating is acceptable for loose buffer cables but they shall be protected with break-out kits with color coded 900µm buffers at both ends of the cable.
   4. Fiber protection: aramid yarn around all strands for cables under 24 strands, and aramid yarn and jacket around each subunit (6 or 12 strands) for cables above 24 strands.
   5. Interlock requirement: Interlock is not required
   6. Jacket type: Flame-retardant PVC jacket or materials with superior performance.
   7. Color jacket: jacket shall be orange for OM1 or OM2 fiber, aqua for OM3 or OM4 fiber and yellow for OS1 or OS2 fiber.
   8. Fiber termination: fibers shall be field terminated
   9. Buffer type: tight buffer or loose buffer acceptable.
   10. Center strength member material: dielectric material

B. Jacket: Cable jackets for fiber optic cables shall comply with Article 770 NEC for correct use in the environment in which they will be used. If at the moment of the bid the SCS installer does not know the environment, in which cables will be used, the SCS installer shall assume plenum rated is required for the project. At a minimum all cables shall have a flame retardant riser rated jacket. Rating shall be printed in the cable jacket.

C. Approved manufacturers: Match selection for horizontal 4-pair cable

2.16 OUTSIDE PLANT FIBER OPTICS BACKBONE CABLES

A. Whenever design drawings indicate fiber optics backbone cables to be run between building or outside premises, the following specification shall be followed for those cables:
   1. Strand Count: As indicated in design drawings
   2. Fiber type: As indicated in design drawings

3. Fiber coating: 250µm coating protected with break-out kits with color coded 900µm buffers at both ends of the cable when cables are terminated in conditioned spaces. When fibers are terminated in outdoor non-conditioned spaces break out kits shall be used with 3 mm tubes with aramid yarn for each fiber. Unprotected 900µm fibers in non-conditioned spaces are not allowed.
4. Rodent protection requirement: not required
5. Buffer type: Loose tube.
6. Center strength member material: dielectric material

B. Jacket: All outside plant fiber optics backbone cables shall have UV resistant cable sheathing and a water blocking material to prevent water intrusion. All outside plant fiber optics backbone cables shall be tested and in compliance with following standards:
1. ANSI/TIA-568-C
2. Telcordia GR-20
3. ANSI/ICEA S-87-640

C. Approved manufacturers. Match selection for horizontal 4-pair cable.

2.17 INDOOR/OUTDOOR FIBER OPTICS BACKBONE CABLES

A. Whenever design drawings indicate indoor/outdoor fiber optics backbone cables to be run between buildings or outside premises, the following specification shall be followed for those cables:
1. Strand Count: As indicated in design drawings
2. Fiber type: As indicated in design drawings
3. Fiber coating: 900µm coating color coded. 250µm coating is acceptable for loose buffer cables but they shall be protected with break-out kits with color coded 900µm buffers at both ends of the cable. When fibers are terminated in outdoor non-conditioned spaces break out kits shall be used with 3 mm tubes with aramid yarn for each fiber. Unprotected 900µm fibers in non-conditioned spaces are not allowed.
4. Rodent protection requirement: not required
5. Buffer type: tight buffer required loose buffer acceptable.
6. Center strength member material: dielectric material

B. Jacket: All indoor/outdoor fiber optics backbone cables shall have UV resistant cable sheathing and a water blocking material to prevent water intrusion. All outside plant fiber optics backbone cables shall be tested and in compliance with following standards:
1. ANSI/TIA-568-C
2. Telcordia GR-409
3. ANSI/ICEA S-104-696

C. Jacket: Cable jackets for indoor/outdoor fiber optic cables shall also comply with Article 770 NEC for correct use in the environment in which they will be used. If at the moment of the bid the SCS installer does not know the environment, in which cables will be used, the SCS installer shall assume plenum rated is required for the project. At a minimum all cables shall have a flame retardant riser rated jacket. Rating shall be printed in the cable jacket.

D. Approved manufacturers. Match selection for horizontal 4-pair cable

2.18 FIBER OPTIC DISTRIBUTION CENTERS

A. All fiber optic cables shall be terminated in fiber optic distribution centers. Inside premises horizontal fiber optic cables shall be terminated in one side (telecommunication room side) in a fiber optics distribution center (FODC). Backbone fiber optic distribution centers shall be terminated at both ends in a FODC. FODC are composed of an enclosure and snap on adapters. These are the specifications of the enclosures for the FODC:
   1. Mounting: Use rack mounted FODC enclosures in all rooms where racks are available or any type of rack rails. Use wall mounted FODC enclosures only when racks are not available like in outdoor enclosures, or other spaces different than telecom rooms.
   2. Size: SCS Installer shall size the FODC based on the amount of fiber strands to be terminated in the FODC.
   3. Front locking doors are required.
   4. Locking door shall be transparent doors and shall have labeling cards.
   5. Whenever fiber splices are indicated in the design drawings next to an FODC, enclosures shall be selected by the SCS installer as to have spaces to hold splice trays. FODCs under these conditions shall be able to hold the amount of splice trays required for the fiber count indicated in the drawings.

B. These are the specifications of the snap on adapters for the FODC:
   1. Style: plate style cassette style for array connector
   2. Connector type: LC
   3. Maximum fiber strands allowed per adapter: 24
   4. Security level: non-keyed connector keyed connector
   5. Pairing style: duplex

C. Approved manufacturers. Match selection for fiber optic connectors

2.19 FIBER OPTICS PATCH CORDS

A. Fiber optic patch cords shall be required for connections from active equipment to FODCs and/or to telecommunication outlets. Fiber optic patch cords shall be required at both ends of fiber optics backbone cables or horizontal fiber optic cables. Direct connection of backbone cables or horizontal fiber optic cables to active equipment shall not be allowed.

B. Fiber optic patch cords shall be all factory tested. Field made fiber optic patch cords are not acceptable. The specifications of the fiber optic patch cords shall be:
   1. Strand Count: 2 strands
   2. Fiber type: Match fiber type of backbone cable or horizontal cable.
   3. Fiber connector in FODC or outlet side: match connector for each adapter
   4. Fiber connector in active equipment side: the SCS installer shall coordinate with supplier of equipment the type of connector required in this side.
   5. Fiber protection: aramid yarn
   6. Jacket type: 2.9mm flame-retardant PVC jacket zip-cord type.

7. Color jacket: jacket shall be orange for OM1 or OM2 fiber, aqua for OM3 or OM4 fiber and yellow for OS1 or OS2 fiber.

C. Approved manufacturers. Match selection for fiber optic connectors

2.20 INSIDE PREMISE MULTIPAIR BACKBONE CABLES

A. Whenever indicated in the drawings multipair backbone cables to be run inside premises and above grade shall have the following specification:
   1. Pair count: as indicated in the design drawings
   2. Conductor: AWG 24 solid bare copper conductor
   3. Input impedance: 100 Ω
   4. Conductor insulation: color coded thermo plastic
   5. Performance requirement: UL verified to ANSI/TIA-568-C Category 3 backbone cable.

B. Jacket: Cable jacket for inside premise multipair backbone cables shall comply with Article 800 NEC for correct use in the environment in which they will be used. If at the moment of the bid the SCS installer does not know the environment, in which cables will be used, the SCS installer shall assume plenum rated is required for the project. At a minimum all cables shall have a flame retardant PVC jacket riser rated.

C. Jacket marking: All inside premise multipair backbone cables shall have at least two types of markings imprinted in the jacket, transmission performance marking and NEC rating for environment to be used.

D. Approved manufacturer: Belden, Superior Essex, General Cable, Berk-Tek or CommScope.

2.21 OUTSIDE PLANT MULTIPAIR BACKBONE CABLES

A. Whenever indicated in the drawings outside plant multipair backbone cables to be run between buildings or inside premises but below grade shall have the following specification:
   1. Pair count: as indicated in the design drawings
   2. Conductor: AWG 24 solid bare copper conductor
   3. Input impedance: 100 Ω
   4. Conductor insulation: Solid polyolefin; color coded in accordance with industry standards.
   5. Performance requirement: UL verified to ANSI/TIA-568-C Category 3 backbone cable.
   6. Shield: Corrugated, copolymer coated, 8 mil aluminum tape applied longitudinally with an overlap; flooded shield interfaces.
   7. Jacket: Black, polyethylene

B. Jacket: All outside plant multipair backbone cables shall have UV resistant cable sheathing and a water blocking material to prevent water intrusion. All outside plant multipair backbone cables shall be tested and in compliance with following standards:
   1. ANSI/ICEA S-84-608-2007

2. RDUP 7 CFR 1755.390 (PE-39)
3. RoHS-compliant

C. Approved manufacturer: Match selection for inside plant multipair backbone cables.

2.22 TERMINATION OF MUTIPAIR BACKBONE CABLES

A. Backbone multipair backbone cables for inside premises or outside plant shall be terminated in termination blocks or patch panels. See design drawings for specific types on each case.

B. Multipair backbone cables shall be terminated in wall mounted termination blocks. Termination blocks for this purpose shall have the following specifications:
1. Connector type: 110 style connector
2. Cable termination type: IDC type connector
3. Performance requirement: CAT3
4. Pair counts: Use only 300 pair blocks in quantities as required for backbone cables.
5. Wire managers: All termination blocks shall have a wire manager installed at both sides of the blocks and between blocks.
6. Clip types: Use 110C4 clips or 110C5 clips for 110 style block.
7. Field labels: termination blocks shall have a space for field labels covered with transparent protectors.
8. Mounting: termination block shall be mounted with legs on the wall.

C. Approved manufacturers. Match selection for modular SCS jacks

2.23 PATCH CORDS FOR MULTIPAIR BACKBONE CABLES

A. Patch cords shall be used to connect horizontal wiring to termination blocks for multipair backbone cables. Depending on the type of termination for backbone cables, the patch cord shall be selected.

B. When multipair backbone cables are terminated in patch panels, patch cords for these patch panels shall have the same specification as the 4-pair patch cord cables described above.

C. When multipair backbone cables are terminated in wall mounted or rack mounted termination blocks, patch cords shall have a patch plug connector in one end and an 8-pin modular plug (RJ-45) in the other end. The SCS installer shall coordinate with the phone system installer and determine if one pair or two pairs are required for each phone. Patch cords shall have one or two pairs according to the equipment selection. Patch plugs shall only be one or 2 pairs accordingly. Patch plug selection shall match the manufacturer and family of products of the termination blocks.

2.24 EQUIPMENT CABINETS

A. Whenever indicated in the design drawings equipment cabinets shall be provided as shown. Equipment cabinets shall be made of all welded steel frames and shall have a powder coat finish. Equipment cabinets shall have the following specifications:
   1. Cabinet construction material: Welded and bolted steel frame.
   2. Footprint: As indicated in design drawings 31”x42” ±1”
   3. Height: Equipment cabinet shall provide a usable height between 44 and 45 RU.
   4. Rack rails type: standards EIA 19” square holes with cage nut rail located in the front and back of cabinet. Rack rails shall be adjustable for depth and shall have RU marked and labeled.
   5. Rack screw type: cage nuts clipped to rack rails. Nuts and screws shall be provided for all slots in rack rails and shall be made of steel threaded as #10-32.
   6. Side panels (end of row cabinet sides): solid steel, removable and lockable side panels.
   7. Side panels (between adjacent cabinets): solid steel, removable panels with openings for passing cables, covered with plastic removable caps, rubber caps or brush openings. No less than Eight (8) openings in total area of the side of the cabinet. Each opening shall be no less than 34 sq inches.
   8. Top panel: solid steel with no less than four (4) brush protected openings for cables. Each opening shall be no less than 34 sq inches.
   9. Bottom panel: solid steel with no less than two (2) brush protected openings for cables. Each opening shall be no less than 34 sq inches. For cabinets with top exhaust duct, a bottom air director shall be provided in the back side of the cabinets to force air up towards the exhaust duct.
   10. Door hinge supports shall be provided at both sides of the racks and front and back to be able to reverse doors.
   11. Grounding: Prepared location for ground lug at the top and bottom of the cabinet frame. Door shall include bonding jumper to cabinet.
   12. Weight capacity: UL listed for 2500 lb
   13. Finish: Epoxy-polyester hybrid powder coat paint on frame, rails, panels and metal accessories:
   14. Finish color: Black for all parts of the cabinet

B. Equipment cabinets shall be provided with the following accessories:
   1. Front 78% perforated panel hinged door with key lock.
   2. Rear solid split hinged doors with lock.
   3. Locking system: locks for front and rear doors shall be two point latching locks and shall be keyed identically for front and rear lock. All locks for cabinets for each user ground shall be keyed alike but different between user groups.
   4. Leveling feet and any accessories required to be able to bolt the cabinet to the floor with ½” screws or rods.
   5. Vertical wire managers covering the full height of the rack rails. Two in the front. Vertical wire managers shall be selected as recommended by equipment cabinet manufacturer to avoid obstructions to rack rails or doors. Vertical wire managers shall have brush openings to run cables between front and back of cabinet and shall have all openings sealed to avoid air leakage between front and back.
   6. Steel top exhaust duct, made of two separate sections to allow adjusting the height. Installer shall confirm final ceiling height in the room and order these ducts in a length as to provide adjustment for no less than 2” above and below of

the final ceiling height. Top exhaust section shall have a rubber gasket to allow for good seal in ceiling imperfections.

7. Filler panels: For all racks with SCS installer provided equipment, all un-used rack spaces shall be covered with filler panels to avoid any air flow between front and back of cabinet. For all racks with owner provided equipment, the installer shall provide no less than 50% of all rack spaces in all racks with filler panels to prevent air flow between front and back of cabinet. All cabinets with no equipment installed at the end of the project shall have the front door wrapped with plastic wrap to prevent any air flow through the cabinet.
8. Air dam: The cabinet shall be provided with an air dam blocks airflow around the sides and top of the equipment mounting space, so cold air passes through equipment and hot air does not re-circulate around equipment. Any other additional type of seal required to prevent air flow from the front of the cabinet to the back shall be provided.
9. PDU bracket: PDU brackets shall be provided in each cabinet according to the number of vertical PDUs programmed to be installed in each cabinet. See drawings for quantities. These brackets shall be selected by the SCS installer as to match the support holes of the PDU selection for each cabinet.
10. All cabinets with equipment installed with substantial amount of cables terminating in the rear of the equipment, such as audio/visual systems and security systems shall be provided with enough cable lashing metal brackets to strap all cables to the frame for proper organization and support.
11. Ground bar: all cabinets shall be provided with a copper vertical ground bar covering the complete length of the rack rails. The ground bar shall be 1/8” thick and 1” wide with threated holes 1032 mounted to the cabinet using nylon insulation washers

C. Required equipment cabinet certifications: Complaint with EIA 310-E and UL 2416 listed

D. Airflow re-director: The manufacturer of the equipment cabinet shall offer an air flow re-director kit for the type of cabinet selected for this project to allow for changing air flow direction of equipment designed for side to side ventilation. The SCS installer shall provide air flow re director kits for all cabinets in the plans with Core switches or network equipment.

E. Field cuts or openings. Any cabinets with field cuts or perforations will be rejected and the SCS installer shall provide a new cabinet to remedy the condition.

F. Approved manufacturer: Panduit, Ortronics, Eaton, Belden, Middle Atlantic Products, Great Lakes, Chatsworth Products Inc. or approved equal.

2.25 TWO POST RACKS

A. Whenever indicated in the design drawings two post racks shall be provided as shown. Two post racks shall be made of aluminum or welded steel frames and shall have a powder coat finish. Two post racks shall have the following specifications:
1. Height: Equipment cabinet shall provide a usable height between 44 and 45 RU.
2. Channel depth: [6”] ± 1”

3. Rack rails type: standards EIA 19” located in the front and back of rack. Rack rails shall have RU marked and labeled.
4. Rack screw type: #12-24 threaded rack rails. Screws shall be provided for all openings in rack rails and shall be made of steel.
5. Weight capacity: UL listed for 1000 lb or more.

B. Two post racks shall be provided with the following accessories:
1. Cable runway mounting brackets to support cable runway installed above racks
2. Isolation pads
3. Grounding kit.
4. Ground bar: all cabinets shall be provided with a copper vertical ground bar covering the complete length of the rack rails. The ground bar shall be 1/8" thick and 1" wide with threated holes 1032 mounted to the cabinet using nylon insulation washers
5. End panels to support vertical wire managers at both ends of each rack row.

C. Front vertical wire managers shall be provided in between all racks and at both ends of rack rows covering from top to bottom of each rack. The specifications of those wire managers shall be:
1. Style: Metal cage with dual hinged door cover [D-rings]
2. Sides: single sided wire manager or dual side wire manager.
3. Accessories: whenever cable manager supports the use of spools inside the unit, spools shall be provided at all locations in the unit.

D. Rear vertical wire managers shall be provided in between all racks and at both ends of rack rows covering from top to bottom of each rack. The specifications of those wire managers shall be:
1. Style: Metal cage with dual hinged door cover [D-rings]
2. Sides: single sided wire manager (rear only) or if dual side wire front managers are included, no need for rear vertical wire managers.
3. Accessories: whenever cable manager supports the use of spools inside the unit, spools shall be provided at all locations in the unit.

E. Approved manufacturer: Match selection for Equipment Cabinets [Panduit, Ortronics, Belden, Middle Atlantic Products, Great Lakes, Chatsworth Products Inc. or approved equal].

2.26 WALL MOUNTED RACKS

A. Whenever indicated in the drawings, wall mounted racks shall be provided as indicated. Wall mounted racks shall be made of aluminum or welded steel frames and shall have a powder coat finish. Wall mounted racks shall have the following specifications:
1. Style: Swing out reversible cabinet [Frame with reversible swing out front panel]
2. Height: As indicated in design drawings.
3. Depth: it is the responsibility of the SCS installer to select a cabinet that will fit all equipment to be installed in the racks, either provided under this contract or by the owner. Approval of submittals by the A&E does not relief the SCS installer of the responsibility of verifying this requirement. Racks that will not fit the equipment shall be replaced at no additional cost to the owner.

4. Rack rails type: standards EIA 19” located in the front. Rack rails shall be adjustable and shall have RU marked and labeled.
5. Rack screw type: #12-24 threaded rack rails. Screws shall be provided for all openings in rack rails and shall be made of steel.
6. Weight capacity: UL listed for 200 lb or more.

B. Wall mounted racks shall be provided with the following accessories:
1. [Plexiglass] door with lock. Door shall be hinged and shall be reversible.
2. Fan kit composed of two 4” fans and fan guards.
3. Additional rack rails shall be provided when equipment with a different of 2” in front depths are to be mounted in the rack. Front depth is defined as the distance between the front of the rack ears and the front of the equipment, including space for connectors or bend radius of cables.
4. Grounding kit.
5. Ground bar: all cabinets shall be provided with a copper vertical ground bar covering the complete length of the rack rails. The ground bar shall be 1/8" thick and 1" wide with threated holes 1032 mounted to the cabinet using nylon insulation washers.

C. Approved manufacturer: Match selection for Equipment Cabinets [Panduit, Ortronics, Belden, Middle Atlantic Products, Great Lakes, Chatsworth Products Inc. or approved equal].

2.27 MEDIA CONVERTERS

A. General. When telecommunications outlets exceed distance limitations to pass testing requirements, the SCS installer shall provide media converters and fiber optics connectivity to overcome this problem. The media converters shall have the following specifications:
1. Power: All power for media converters in the field end (i.e. camera or WAP side) shall be powered from the Telecom room side using a hybrid cable. Local power adapters for media converters are not acceptable in the field end.
2. Cabling: A composite cable shall be used for these devices. This composite cable shall have a minimum of 2 strands of fiber optics and 1 pair of copper cable AWG-12 for the remote end power. The quantity of fiber strands for this cable shall be as required by the type of media converter used. The fiber types shall be as required by the media converter. The cable jack for this composite cable shall be selected as required for the application. Any cables being pulled underground shall have a water blocking jacket.
3. Port count: Media converters with 1 port or 4 ports are acceptable.
4. PoE support: Media converters shall support PoE without the need of an external power adapter and the field end.
5. Fiber connection speed. Media converters shall support 1GB connections in the fiber port.
6. PoE capacity: Media converters shall support PoE+ (30W) for all outdoor cameras and all WAPs. Media converter shall support 15.4 W for all other PoE devices.
7. Power supplies: Media converters shall be provided with the corresponding power supplies at the telecom room.

B. Basis of design; Berk-Tek One Reach solutions or similar.

2.28 CABLE TIES

A. Cable ties shall be used at different locations of the project but with the same goal of producing a neat and organized installation. Cable ties shall be used to support cables to j-hooks (when j-hooks are allowed in the project) to organize cables in ladder trays, D-rings and cable trays, to support cables to wire managers including managers behind patch panels, to bundle cables, organize patch cords, etc.

B. To support and organize all horizontal cabling and inside premise backbone cables, only the following types of cable ties shall be used:
   1. Hook and loop style, re-usable with Velcro no smaller than 0.5” width.
   2. Pre-perforated rolls of re-usable ties with Velcro no smaller than 0.5” width
   3. Straps of other soft materials with cinch rings that allow for re-use of the cable ties in widths no smaller than 0.85”.

C. Nylon based cable ties (re-usable or not) can only be used to support and organize the following types of cables:
   1. Outside plant fiber and copper backbone cables.
   2. Inside premise fiber optic backbone cables with interlock armors.
   3. Grounding conductors

D. Nylon based cable ties shall never be used to support or organize any type of horizontal cables or inside premise fiber optic backbone cable without armor.

E. All cable ties to be used in outdoor environments shall be made of weather resistant Acetal. Outdoor cable ties used for aerial cable lacing shall be in compliance with Telcordia TR-TSY-000789 standard.

F. All cable ties shall be selected in lengths as to properly secure the bundle of cable being supported.

G. All cable ties to be used in air handling spaces, such as above ceiling and under raised floor areas, shall be UL listed for the use in those environments.

H. Approved manufactures: Ortronics, Panduit or approved equal

2.29 IDENTIFICATION AND LABELING TAGS

A. SCS installer shall follow labeling materials indicated in specification section 270010.

PART 3 - EXECUTION

3.1 INSTALLATION PRACTICES.

A. GENERAL. All installation requirements indicated in specification section 270010 shall be followed.

B. WORKMANSHIP. All work shall be completed by the SCS installer in a neat and workmanlike manner. The use of all BICSI standards and recommendations for installation shall be followed as the benchmark for workmanship.

C. CABLE LENGTHS. It is the SCS installer's responsibility to plan the cable routing in the cable tray and other raceways as to minimize all cable runs to be able to stay under the 90 meter (295 ft) length limitation for Horizontal Cabling. All cable runs exceeding the wiring distance, due to raceways run in not the most efficient way to minimize distance, shall be re-run with horizontal fiber optic cables and with media converters, at no extra cost to the owner.

D. WIRE MAPPING. All terminations of 4-pair horizontal cabling in this project and terminations of all 4-pair patch cords shall be per T568B standard.

E. FIBER OPTICS TERMINATION POLARITY. All fiber optic cables (horizontal or backbone) terminated in duplex style adapter panels shall be connected in a cross-over polarity configuration. As an example, if fibers 1 and 2 are terminated in one end in positions A and B respectively in one side of the cable, the same strands shall be terminated in B and A positions in the other side of the cable.

F. POLARITY FOR FIBER OPTICS ARRAY CONNECTORS. Array connectors and cassettes for this project shall use Method C polarity system as outline in TIA-568.B.1

G. CABLE BUNDLES. In suspended ceiling and raised floor areas if duct, cable trays or conduits are shown on the contract drawings, the SCS installer shall bundle, in bundles of 40 or less, horizontal wiring with cable ties snug, but not deforming the cable geometry. The cable bundling shall be supported via "CLIC" fasteners in TR's and non-plenum areas and J-hooks in ceiling spaces. The SCS installer shall adhere to the manufacturers' requirements for bending radius and pulling tension of all cables.

H. CLIC FASTENERS: Horizontal cables shall be suspended by "CLIC" fasteners with cable inserts in TR's on the plywood area where ladder tray or rack management is not available per the design documents. Listings: "CLIC" fasteners shall be in accordance with NEC and BICSI standards. Above the plywood area J-hooks or D-rings should be used.

I. FIRE STOP PROTECTION: Sealing of openings between floors, through rated fire and smoke walls, existing or created by the SCS installer for cable pass through shall be the responsibility of the SCS installer. Sealing material and application of this material shall be accomplished in such a manner, which is acceptable to the local fire and building authorities having jurisdiction over this work. Creation of such openings as are necessary for cable passage between locations as shown on the drawings shall be the responsibility of the SCS Installer's work. Any openings created by or for the SCS installer and left unused shall also be sealed as part of this work. Penetration rating shall equal structure rating.

J. NEW MATERIALS: All components, wiring and materials to be used for the installation of the SCS shall be new and free of defects. Used components, wiring and materials shall only be used when specifically indicated in the design drawings.

K. DAMAGE: The SCS Installer shall be responsible for any damage to any surfaces or work disrupted as a result of his work. Repair of surfaces including painting and ceiling tile replacement shall be included as part of this contract.

L. AVODING EMI: To avoid EMI, all pathways shall provide clearances of at least 4 feet (1.2 meters) from motors or transformers; 1 foot (0.3 meter) from conduit and cables used for electrical-power distribution; and 5 inches (12 centimeters) from fluorescent lighting. Pathways shall cross perpendicular to fluorescent lighting and electrical-power cables and conduits. The SCS installer shall not place any distribution cabling alongside power lines, or share the same conduit, channel or sleeve with electrical apparatus.

M. WORK EXTERNAL TO THE BUILDING: Any work external to the confines of this building as shown on the drawings shall be governed by the provisions of this specification.

N. ICONS. Faceplates, jacks or patch panels with inserts for icons shall be filled with icons when unit capable of accepting icons. Icons in the work area side (outlet) shall match the color of the faceplate.

O. BLANK INSERTS AND PANELS. All telecommunications outlets with faceplates or mounting frames with unused terminations shall be plugged with blank inserts or panels. Blank inserts shall match the color of the faceplate or mounting frame. No more than one blank module shall be required for each faceplate. All unused ports in the FODC enclosures for adapter panels shall be filled with blank adapter panels.

P. PATCH PANEL AND FODC SEPARATION: Horizontal cables shall be terminated in separate patch panels according to the use of the cable. Each series of patch panels or FODC for a specific use shall have at least 20% spare capacity of ports. Patch panels of the same use shall be mounted consecutive in the equipment cabinets or racks. The following separation for patch panels and FODCs shall be provided:
   1. Cables for Wireless Access Points (WAPS) shall be separated from cables for any other purpose.
   2. Cables for surveillance cameras shall be separated from cables for any other purpose.

Q. SUPPORTS FOR REAR OF PATCH PANELS. All patch panels for horizontal cables shall be provided with a rear support bar to hold the cable and to provide strain relief. At a minimum one rear support bars shall be provided for each two rows of 24 connectors.

R. HORIZONTAL WIRE MANAGERS. Horizontal wire managers shall be provided following this criteria:
   1. See plans/rack elevations for requirements.

S. CROSS OVER WIRE MANAGERS. Cross over wire managers shall always be used with angled or curved patch panels. One cross over wire manager shall always be installed in the middle of each rack at the same height on every rack.

T. PATCH CORD QUANTITY, COLOR AND LENGTHS. Copper and fiber optics patch cords shall be provided per following chart. All percentage calculations shall be rounded off to the nearest integer number.

TYPE	QTY	COLOR JACKET	LEGTH
4-pair at work area outlet	One for 90% of all 4-pair horizontal cables in the project	Match horizontal cable color jacket	30% 8', 50% 10' and 20% 14'
4-pair at WAP location	One for 100% of all 4-pair horizontal cables for WAPS in the project + 10% spare	Match horizontal cable color jacket	The SCS installer shall field verify all lengths to match location of WAPS selected by owner or wireless survey. For pricing purposes use 12'
4-pair at Surveillance camera	One for 100% of all 4-pair horizontal cables for cameras in the project +10%	Match horizontal cable color jacket	The SCS installer shall field verify all lengths to match location of cameras. For pricing purposes use 12'
4-pair at patch panel side (excluding surveillance cameras and WAPS)	One for 90% of all 4-pair horizontal cables in the project	Match horizontal cable color jacket .	For pricing purposes use: 40% 6', 40% 8', 20% 12'. SCS installer shall field verify these percentages to provide more accuracy.
4-pair at patch panel side (surveillance cameras and WAPS)	One for 100% of all 4-pair horizontal cables in the project +10%	Match horizontal cable color jacket .	For pricing purposes use: 40% 6', 40% 8', 20% 12'. SCS installer shall field verify these percentages to provide more accuracy.
2-strand fiber optics at work area outlet	One for 100% of all 2-strand horizontal fiber cables in the project + 10% spare	Per fiber type	50% 8' and 50% 10'
2-strand fiber optics at FODC.	One for 100% of all horizontal 2-strand fiber cables and one for 83% of all fiber strands of backbone cables in the project. For example a 24 strand cable shall require 20-2-strand patch cords or 10 for each side of the cable	Per fiber type	For pricing purposes use: 20% 6', 60% 10'. 20% 14' SCS installer shall field verify these percentages to provide more accuracy.
One or two pair for copper backbone cross connects	One for 90% of all backbone copper pairs installed in the project.	Gray	For pricing purposes use: 80% 8', 20% 10'. SCS installer shall field verify these percentages to provide

			more accuracy.

U. CABLE SLACK. Cable slack shall be provided for all cables in the project following this guideline:
   1. At each work area outlets, all horizontal cables shall have 12” of slack.
   2. At the telecom room side all horizontal cables shall have at least 6’ neatly organized on the wall using a figure 8 configuration or a non-loop shaped arrangement with Velcro straps.
   3. Backbone cables at termination points shall have at least 15’ of slack neatly organized on the wall using a standard loop and Velcro straps.
   4. Outside plant backbone cables run through in-ground pull boxes greater than 24”X24” shall include one service loop inside the box.

V. BEND RADIUS. Installation of Fiber Optic Cables shall be in accordance with ANSI/TIA-568C guidelines and cable manufacturer specifications. Bend radius parameters shall be followed for load and no load conditions. Cable installation and terminations that do not comply shall be replaced by the SCS installer. If no recommendation is specified by cable manufacturer, at least the following criteria shall be meet:
   1. The bend radius for intrabuilding 2 and 4-fiber horizontal optical fiber cable shall not be less than 25 mm (1 in) under no-load conditions. When under a maximum tensile load of 222 N (50lbf), the bend radius shall not be less than 50 mm (2 in).
   2. The bend radius for intrabuilding optical fiber backbone with fiber counts above 4 shall not be less than 10 times the cable outside diameter under no-load conditions and no less than 15 times the cable outside diameter when the cable is under tensile load.
   3. The bend radius for interbuilding optical fiber backbone shall not be less than 10 times the cable outside diameter under no-load conditions and no less than 20 times the cable outside diameter when the cable is under tensile load up to the rating of the cable, usually 2670 N (600lbf).

W. INNERDUCT. Innerduct shall be provided from end to end of a raceway system under the following conditions:
   1. Inside underground conduits as indicated in design drawings.
   2. For horizontal fiber optic cable or inside premise fiber optics backbone cables without interlocking armor when routed through cable trays, ladder trays or vertical conduit sleeves. This requirement is usually not indicated in the drawings but indicated only in this specification.
   3. For backbone fiber optic cable in vertical risers

X. SCS PROTECTION DURING CONSTRUCTION. The SCS installer shall protect all SCS materials from damage during construction. Racks shall be covered with fabric or plastic after mounting to prevent dust, debris and other foreign materials having contact with SCS devices. The SCS installer shall protect at all times all fiber optic and copper cables from damage during installation. All cables shall maintain the physical integrity as manufactured for testing and delivery to the owner. All damaged cables shall be replaced at no additional cost to the owner.

Y. CABLE BONDING. Shielded cables or cables with metal strength or protection members (like interlocking armor) shall be bonded to the telecommunications grounding system as indicated in specification section 270526.

Z. RACK INSTALATION. All racks shall be installed leveled and plumbed. Four post racks and two post racks shall be anchored to the floor and shall be installed with isolation pads. Equipment cabinets shall be leveled using the leveling feet unless design drawings specifically indicate to leave them on the casters.

AA. RACK BONDING. All equipment cabinets and racks shall be bonded to the telecommunication grounding system as indicated in specification section 270526

3.2 IDENTIFICATION AND TAGGING

A. General: Identification and tagging of SCS components shall be executed by the SCS installer. At a minimum identification and tagging shall be provided for the following components of the system:
   1. All horizontal and backbone cables at both ends of the cable in the cable jacket. Labels on each side shall be different indicating the location of the other side of the cable
   2. All faceplates indicating all jacks terminated in the faceplate.
   3. All patch panels.
   4. All racks
   5. All termination blocks
   6. All telecommunication rooms and outdoor enclosures.
   7. All interbuilding backbone cables inside in ground pull boxes outside of the building shall have a visible label in each box they pass through.

B. The SCS installer shall follow the owner provided identification system. If owner does not have any preference or standard the SCS installer shall provide a system for approval of the A&E and the owner as indicated in the submittal paragraph of this specification. The identification system shall follow the TIA/EIA 606-C standard.

3.3 TESTING OF COPPER CABLING

A. General: Horizontal and backbone cabling shall be verified in accordance with ANSI/TIA/EIA-568-C, Cabling Transmission Performance and Test Requirements.

B. For all 4-pair copper terminated for the use in work areas such as computers and phones, the test method selected for all 4-pair copper cabling is a permanent link style test. Permanent link test is defined as a test that does not include the patch cords to be used in the project.

C. General: In the event the A&E elects to be present during the tests, provide notification to the engineer two weeks prior to testing.

D. General: The installer’s RCDD shall sign off on all copper and fiber optic cable test results, indicating that he/she was in responsible charge of all cable testing procedures and that all cables were tested in compliance with the contract documents and met or exceeded the requirements stated herein.

E. Testing Equipment: Tester shall be as manufactured by Agilent, Fluke, IDEAL or Wavetek. Tester shall be 100% Level III compliant with ANSI/EIA/TIA 568C

specifications for testing of the CAT6 cabling. No tester will be approved without meeting these requirements.

F. Each jack in each outlet shall be tested at a minimum to the manufacturer's performance of the cable to verify the integrity of all conductors and the correctness of the termination sequence. Testing shall be performed between work-areas and the equipment rack patch panel. Prior to testing UTP runs, the tester shall be calibrated per manufacturer guidelines. The correct cable NVP shall be entered into tester to assure proper length and attenuation readings.

G. Documentation of cable testing shall be required. The SCS installer shall provide the results of all cable tests in electronic format (final results in PDF format and raw data). Each test page shall be separated by standard page break (one test per page). The test results shall include: sweep tests, continuity, polarity checks, wire map, Attenuation, NEXT, PSNEXT, FEXT, PSFEXT, ELFEXT, PSELFEXT, ACR, Return Loss, Delay Skew, and the installed length. Cables not complying with the EIA/TIA 568C tests results shall be identified to the A&E for corrective action which may include replacement at no additional expense to the Owner. All identification names of the cables used in the test shall match the labeling system approved for the project and the corresponding shop drawings.

H. Any Fail, Fail*, Pass* or WARNING test result yields a Fail for the channel or permanent link under test. In order to achieve an overall Pass condition, the result for each individual test parameter must be passed. All test results shall come from a tester with the permanently enabled marginal reporting feature.

I. Test results shall show and comply with the margin claimed by the manufacturers over CAT6 permanent link specifications on all transmission parameters across the entire frequency range as shown on the manufacturer's cut sheets.

J. General: Copper multipair backbone cabling shall be tested for length, continuity, polarity checks and wire map. The SCS Installer shall provide the results of all Copper Riser cable tests in electronic format. The use of pigtails or special harness could be required to properly test these cables.

K. Trained technicians who have successfully attended an appropriate training program and have obtained a certificate as proof thereof shall execute the tests.

L. All 4-pair patch cords shall be factory tested only.

3.4 TESTING OF FIBER OPTICS CABLING

A. General: Horizontal and backbone cabling shall be verified in accordance with ANSI/TIA/EIA-568-C and the addendum for fiber optic testing.

B. General: In the event the Engineer elects to be present during the tests, provide notification to the engineer two (2) weeks prior to testing.

C. Cleanness: All fiber optics connector shall be cleaned properly before any testing and after testing. Proof of cleanness shall be required during the acceptance test for the

SCS by the A&E. SCS installer shall have available during this test a 200X microscope or a video probe to demonstrate the cleanness of the randomly selected connectors by the A&E.

D. End to End Attenuation Test: The SCS installer shall perform end-to-end attenuation testing for each multimode fiber at 850 nm and 1300 nm from both directions for each terminated fiber span in accordance with EIA/TIA-526-14A (OFSTP 14) and single-mode fibers at 1310 nm and 1550 nm from both directions for each terminated fiber span in accordance with TIA/EIA-526-7 (OFSTP 7). A one jumper reference shall be used for all testing. For spans greater than 90 meters, each tested span must test to a value less than or equal to the value determined by calculating a link loss budget. For horizontal spans less than or equal to 90 meters, each tested span must be < 2.0 dB. When calculating the link loss budget for spans greater than 90 meters use the values listed below. End to end attenuation shall be done with a Level II meter using a meter and light source equipment (also known as main and remote unit)

ATTENUATION DUE TO	FIBER TYPE	MAX. ATTENUATION
Terminating connectors. Field terminated options	All fiber types	0.75 dB per connector
Terminating connectors, pre-term fibers	All fiber types	No more than 0.2 dB additional to total dB loss measured at the factory in report sent by cable manufacturer.
Splices	All fiber types	0.3 dB per splice
Distance	OM1 (850nm/1300)	3.4 dB /1.0 dB per Km.
Distance	OM2, OM3 and OM4 (850nm/1300)	3.0 dB /1.0 dB per Km.
Distance	OS1 and OS2 (1310 nm/1383 nm/1550 nm)	0.65 dB /0.65 dB/ 0.5 dB per Km.

E. OTDR Test. Additional to end to end attenuation test, all fiber optic cables shall be tested with a Level III OTDR equipment for the following conditions:
1. Each known event (connector/splice) insertion loss at both windows for each fiber type (850/1300 nm for multimode and 1310/1550 nm for single mode). All events shall pass maximum allowed insertion loss for the event type as indicated in table above.
2. Reflective events (connections) shall not exceed:
   a. 0.75 dB in optical loss when bi-directionally averaged
   b. -35 dB Reflectance for multimode connections
   c. -40 dB reflectance for UPC singlemode connections
   d. -55 dB reflectance for APC singlemode connections
3. Non-reflective events (splices) shall not exceed 0.3 dB.
4. Estimated distance for multiple strands of the same cable shall not vary more than 1% between strands.
5. Cable signature in the form of traces along the complete distance of the cable. Unexplained cable reflections shown in the OTDR shall require the installer to submit letter explaining such events and pictures of cable conditions in the locations where the unexplained events are located to demonstrate cable has not been kinked or damaged during installation.

F. OTDR Test conditions. All OTDR testing shall be performed with the following conditions:
   1. Use a launch cable and a tail cable in accordance with fiber type being tested and requirements indicated by OTDR equipment manufacturer.
   2. Launch and tail cables shall be products sold by testing equipment manufacturer and not field made cables.
   3. Launch and tail cables shall be selected according to the type of connector being tested such as APC or UPC type connectors.
   4. Use launch compensation mode during the test to subtract the effects of the launch and tail cables.
   5. Test from one direction only, unless the presence of “gainers” are spotted during the test. In such case the installer shall test in both directions and adjust the test equipment to average measurements from both directions.
   6. The SCS installer shall verify the backscatter coefficient use in the test to make sure it matches the coefficient of the cable being tested.

G. OTDR Testing Equipment used on this project shall have the specifications indicated in this following table:

SPECIFICATION	MULTIMODE	SINGLE MODE
Wavelengths	850 nm ±10 nm 1300 nm +35 / -15 nm.	1310 nm ±25 nm. 1550 nm ±30 nm.
Event Dead Zone. Measured at 1.5 dB below non-saturating reflection peak with the shortest pulse width. Reflection peak < -40 dB for mm and < -50 dB for sm.	850 nm: 0.5 [3.7] m typical 1300 nm: 0.7 [3.5] m typical	1310 nm: 0.6 [3.5] m typical 1550 nm: 0.6 [3.5] m typical
Attenuation Dead Zone. Measured at ± 0.5 dB deviation from backscatter with the shortest pulse width. Reflection peak < -40 dB for mm. and < -50 dB for sm.	850 nm: 2.2 [10] m typical 1300 nm: 4.5 [13] m typical	1310 nm: 3.6 [10] m typical 1550 nm: 3.7 [12] m typical
Pulse Widths (nominal)	850 nm: 3, 5, 20, 40, 200 ns. 1300 nm: 3, 5, 20, 40, 200, 1000 ns.	3, 10, 30, 100, 300, 1000, 3000, 10000, 20000 ns
Loss Threshold Setting	0.01 dB to 1.5 dB Adjustable in 0.01 dB increments	0.01 dB to 1.5 dB Adjustable in 0.01 dB increments

H. The Test Report for each fiber strand shall include the following information:
   1. Calculated Loss Budget for each optical fiber link (see attenuation table above)
   2. Cable/strand ID matching shop drawings labeling system.
   3. Name of technicians who performed the test.
   4. Date and time the test was performed.
   5. Measurement direction (from/to)
   6. Jumper reference set up date/time and attenuation value
   7. Equipment model and serial number used and calibration date.
   8. End to End Attenuation Loss Data for each optical fiber link

9. OTDR Traces, one page per strand. Expand chart to cover most of the page
10. Each event loss data and test limits used, including test limit file date used.

I. For fiber optic cables with factory terminated connectors or pre-terminated pig-tails, The SCS installer shall provide also the test results performed at the factory for fiber optic cables with factory terminated connectors to compare with the field test done by the SCS installer. No significant variation between the factory test results and the field test results shall be encountered.

3.5 SYSTEMS WARRANTY AND SERVICE

A. SCS Installer shall follow all warranty and service requirements indicated in specification section 270010.

B. Warranty: The SCS shall be required to be under the manufacturer's warranty program for a complete channel configuration including cable, jacks, patch cords and patch panels and include cabling specifically approved for the channel configuration with the manufacturer's components. Manufactures shall provide the warranty worst-case performance data for the installed cabling system, and the performance data indicated in the warranty documents/certificate.

C. A twenty five (25) year warranty available for the Structured Cabling System (Fiber optics and copper infrastructure) shall be provided for an end-to-end channel model installation which covers applications assurance, cable, connecting hardware and the labor cost for the repair or replacement thereof.

3.6 SPARE PARTS

A. As part of this contract the SCS installer shall provide the following spare parts.
1. Ten (10) modular SCS jacks.
2. Five (5) faceplates
3. Two (2) faceplates with support post.
4. Ten (10) fiber optic connector of each type used in the project.

B. As part of this contract the SCS installer shall provide the following tools:
1. Two (2) modular SCS jacks termination tools when modular SCS jacks required a manufacturer specific tool.
2. One (1) punch down tool with a 110 blade and one 66 blade.
3. One electric (1) cable finder.

3.7 ENGINEER'S FINAL ACCEPTANCE TEST

A. SCS Installer shall follow all requirements for final acceptance indicated in specification section 270010.

B. The Engineer's final acceptance test will not include testing of structured cabling components, but could include verification of cleanness of fiber optic connectors.

3.8 TRAINING AND INSTRUCTION

A. Training shall only be done after all testing, identification process have been completed and passed as indicated in this specification. Any training done prior to final acceptance will not be accounted for the formal training requested and the SCS installer shall re-do all training after the final acceptance test is passed, at no additional cost to the Owner.

B. SCS Installer shall follow all training requirements indicated in specification section 270010

C. The training for the SCS shall include the following topics:
   1. Detail explanation of the identification system.
   2. A walkthrough of all spaces and locations where terminations have been done in the project.

3.9 AS BUILT DOCUMENTS AND PROJECT CLOSE OUT

A. The SCS shall follow all requirements for as-build and close out documents indicated in specification section 270010

B. The following are additional requirements supplementing the information provided in specification section 270010:
   1. Provide the Warranty certificate issued by the manufacturer of the SCS infrastructure.
   2. The installer's RCDD shall affix his/her stamp to the as-built drawings, indicating that he/she has reviewed and approved the drawings as being complete, accurate, and representative of the system as actually installed.
   3. As built drawings inside each telecom room. The SCS installer shall plot all as-built drawings and locate them inside each of the telecom rooms in the project. Each telecom room shall have the as-built drawings of the areas being served from that room. Each drawing shall be placed inside a clear vinyl document protector the size of the actual design drawing and affixed to a wall/plywood in the telecom room. The document protector shall be re-usable and shall allow the owner to replace the drawings as changes are done to the SCS infrastructure in the future. Without this information, substantial use of the system will not be provided to the installer.
   4. The SCS installer shall provide Excel software spreadsheet that defines the telecommunications outlet number, location, number of voice, data and special jacks. This database shall also provide the outlet patch panel connection to the riser/inter-floor cable, equipment, and telephone company demarcation circuit pairs as part of the as-built documentation.
   5. Electronic copies of all test results (copper and fiber). Electronic copies shall include raw data files and PDF files with results. PDF files shall be organized the following way:
      a. All copper cables for cables terminating in one telecom room in a single PDF files with the name equal to the label used in the shop drawings for the telecom room where the cables are terminated.

b. All attenuation and OTDR test for all strands of a single cable shall be in one PDF file with the name corresponding to the Cable ID used in the shop drawings.

END OF SECTION 271000

ATTACHMENT F
ADDENDUM #1

SECTION 274100 – AUDIO/VISUAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. General: The General Requirements, Conditions of the Contract, these Specifications, Drawings, Addenda and Contract Modifications (the Contract Documents), and definitions of legal entity (such as Contract, Installer, Engineer, Owner, etc…) shall apply to the work of this specification section.

B. Supplemental: Refer to the specification sections identified below for additional requirements, which are supplemented by this section.
   1. 270010 Technology General Provisions
   2. 270528 Raceways for Technology
   3. 271000 Structured Cabling System
   4. 270526 Grounding and Bonding for Communication Systems

1.2 SCOPE OF WORK (SOW)

A. General: Refer to the requirements of the related documents identified in Part 1.1 of this specification, for scope of work requirements, which are supplemented by this section. This shall constitute the basis for the “Scope of Work” for this specification.

B. System: The goal of the project is to provide a finished, complete audiovisual system with the functionality, capacity, and operability as described in the Contract Drawings and specifications herein. The finished, complete system shall serve as a vehicle for the transport of associated system signals from designated origination points to equipment interfaces and/or identified distribution points per the Contract Documents. The scope of work for the AVS installer shall include, but not limited to the following tasks:
   1. Preparation of shop drawings, submittals, training and as-built information for the system.
   2. Procurement, installation and warranty of all AVS hardware including projectors, flat panel displays, mounts for displays, signal transceivers, players, switchers, servers, etc.
   3. Procurement, installation and warranty of all AVS cabling and wiring, including support system, and fire stopping for all low voltage cabling part of the AVS.
   4. Programming labor of the AVS, including initial software set up, software registration, and initial data input, unless otherwise noted in this specification section.
   5. Attend project plan meetings with the Owner and the Consulting Engineer (A&E) to fine tune data interchange details, network configuration and other user requirements:
   6. Provide training and close out information as indicated in this specification.

C. It shall be understood by the AVS installers that this is an integrated system where multiple pieces of equipment from different manufacturers are required to be connected/interfaced together to make the AVS operational. To allow for competitive bidding multiple manufacturers are listed in the specifications for many devices and software, but it is the sole responsibility of the AVS installers to verify that their particular equipment and software selection integrate and work seamlessly with other equipment and software from the pool of approved manufacturers. These specifications represent a design guideline and design intent but they are not intended to verify that all possible equipment and software listed in this specification work and integrate seamlessly with any equipment and software form the pool of acceptable manufacturers. Approval of submittals for the AVS by the A&E of the project does not relieve the responsibility for the AVS installers to deliver a working system. Any equipment changes required because of incompatibility between different devices of a particular system, even after the equipment has been approved by the A&E, shall be provided at no additional cost to the owner.

D. Consumables: The Audio Visual System (AVS) Installer shall provide as part of the scope the following consumable devices:
   1. One (1) replacement lamp per each projector in the project.
   2. One (1) wind screen for each microphone in the project.

1.3 INSTALLER QUALIFICATIONS

A. General: The qualifications and requirements herein apply to the specific technology identified by this specification section. Refer to the specification sections identified in Part 1.1 “Related Documents”, of this specification, for additional requirements, which are supplemented by this section.

B. Installer Qualifications: The Installer directly responsible for the work described in this specification section is also referenced as the AVS Installer. The Installer shall be a licensed and registered contractor who is, and who has been, regularly engaged in providing the installation of audiovisual systems of similar size and complexity for at least the immediate past five (5)-years.

C. Project manager requirements: The project manager for each company participating in the installation of the AVS shall be a Certified Technology Specialist (CTS) by Avixa. Proof of current certification shall be provided with the submittal

D. Programmer-Installer: The AVS Installer must have a factory-trained programmer/installer, for the provided Project products, in full-time employment, as part of their staff. The AVS installer needs to provide certificates of completion of training for the staff that will be taking part in the execution of this project

E. Qualification Documentation: The Installer shall provide the following documentation with their bid package, as evidence that the requirements for the Installer qualifications have been satisfied:
   1. A list of not less than five (5) references for jobs of similar size and complexity including:
      a. Project Names
      b. Locations

c. Contact Names
d. Contact Telephone Numbers

2. Copies of Manufacturer certification certificates. It is required that the Installer possess the following certifications, at a minimum:
   a. Crestron systems certified dealer, installer and programmer.
   b. AMX certified dealer, installer and programmer.
   c. Extron certified dealer, installer and programmer
   d. List all that apply
3. Copies of Licensure certificates.
4. Copies of Insurance and Bonding certificates.

1.4 MATERIALS ALTERNATES AND SUBSTITUTIONS

A. General: See details for alternates and substitution in specification section 270010.

B. Specific equipment: When the design drawings indicate a brand and a model number for a piece of equipment as part of the audio visual system, the AVS Installer needs to provide the same device as indicated. Substitutions for this type of equipment are not acceptable.

C. Non-specific equipment: When the design drawings do not indicate a brand and a model number for a piece of equipment as part of the audio visual system, the AVS installer is free to pick equipment that meets the minimum specifications indicated in this section. The AVS installer needs to submit the selected choice as part of the submittal process

1.5 SHOP DRAWINGS AND SUBMITTALS

A. The AVS installer shall follow all requirements for shop drawings indicated in specification section 270010.

B. Project Start Submittals: A maximum of 60 days after the AVS installer receives a notice to proceed with the project, but no sooner than a year before substantial completion, the following information shall be submitted.
   1. Cut sheets with all specifications of every device, cables and connectors to be used in the project.
   2. One-line diagrams with all devices included in the systems. Each system in a different sheet.
   3. User interface and faceplate color submittal. The AVS installer shall prepare a separate submittal with the shape and color of all user interface plates to be approved by the Architect of the project or the Owner.
   4. Rack elevations of all AV equipment for all rooms in the project.
   5. Conduit rough-in requirements of all wall and ceiling mounted devices for all equipment part of the AVS system.
   6. Any installation and rigging details for loudspeaker systems or other heavy equipment part of the AV system.

C. Construction Submittals: During the construction process the AVS installer shall submit various documents for approval prior to continuing with the installation process. Here is some of the information the AVS installer needs to submit:
   1. Before starting the programming process the AVS Installer shall provide the following information:
      a. A schematic presentation of the layout of all the user interfaces in the project. The AVS Installer needs to get approval of this submittal before starting any programming. These layouts shall include all graphics with all button sizes, shapes, colors and wording to be used in all user interfaces. All keypads shall include working for engraving in the buttons.
      A layout/presentation of any digital audio programming and user interfaces that are part of the project.
      b. Detailed layout of the DSP filters to be used in each DSP processor.
   2. Any design changes whether originated by the Owner, Designer or by the AVS Installer as a VE suggestion need to follow the same submittal process described in the previous paragraph for all equipment involved on the change.

1.6 PROJECT SPECIFIC SOURCE CODE OWNERSHIP

A. Definition of project specific source code: Project specific source code includes all source code created to generate an executable file to be intended to run in any equipment used in the installation of the AVS. Examples of project specific source code include source code used to generate executable files for control processors, DSP processors and touch panels. Project specific source code does not include source code used to create programming tools and compilers or source code used to generate operating systems or application programs running in PC based workstations.

B. Ownership: Any project specific source code used in this project shall remain the exclusive property of the Owner. By accepting the contract to perform the work included in this project, the AVS installer or designer and any other companies working creating project specific code during this project relinquish the right of ownership of this source code, and waive any licensing fees or royalties for the use of source code by the Owner or any company authorized by the owner to perform changes in the source code after the project is substantially completed for an undefined period of time.

PART 2 - PRODUCTS

2.1 SYSTEM FUNCTIONS

A. Computer Based User Interface
   1. General: The computer based user interface (CBUI) is another way for the Owner to control the AVS. This interface is in the form of a computer software program with the following requirements:
      a. Needs to be an executable file capable of running in any Windows based PC.
      b. One file per controllable room is required.
      c. Needs to have the same user functions available inside the room in touch screens and keypads.

d. The “look” and layout of the interface shall be the same as the one in the room.
e. Programs shall be password protected and have SSL.

2. Delivery: The AVS Installer shall provide a USB thumbdrive with all the programs in executable and source code format inside. Each file shall be properly labeled with the room description and the room number.

B. Owner Provided Input Sources and Destination Devices

1. General: Design drawings could indicate AV equipment, part of the AVS, to be provided by owner (as OFE or owner furnished) or third parties. Such equipment is explicitly indicated as such in design drawings to distinguish it from all other equipment to be provided by the AVS installer. When such equipment is indicated in the drawings the AVS Installer shall interface with it. Refer to the design drawings for audio, video and control lines required for owner provided equipment.
2. Scope of work: It is in the scope of work of the AVS Installer to run, terminate and connect the audio, video and control lines to owner provided devices as shown in the design drawings. When control lines are indicated in the design drawings, the AVS installer shall program all control features described in each system functions per controllable room, including all features related to owner provided equipment or third party equipment.

2.2 WIRE, CABLE, CONNECTORS, AND ACCESSORIES

A. General: The AVS Installer shall provide the system components and materials necessary to properly install, support, and terminate all audiovisual cabling, in accordance with the related documents identified in Part 1.1 of this specification. Where the Project Electrical Installer has provided a raceway designated for use by this system, the AVS Installer shall coordinate and install all required cables into the provided raceway. The AVS Installer shall also provide and attach all required cable connectors.

B. Cable: The AVS Installer shall provide all cabling associated with, and required to, provide a complete, operable system in accordance with the Contract Documents. All cable provided by the AVS Installer shall be of a manufacture and quality consistent with the design intent, and shall be reviewed by the Engineer prior to installation.

C. Cabling in air handling spaces. The AVS Installer is responsible for determining the rating of the cables to be used for the AVS, as per current version of the National Electrical Code. If, at the bidding point the AVS Installer is not certain about the type of cables to be used in the project, the AVS Installer shall assume that all cables need to be plenum rated cables.

D. Cabling below grade: When cable part of the AVS have to be run in conduits below slab and grade level, the AVS Installer shall use only cables with water-blocking jackets.

E. Cable signals: The following is a list of signal types and the cables to be used for those signals:

1. Line level audio signal cable: Provide one (1) twisted pair cable for mono signals and two (2) twisted pair cables for stereo signals. Twisted pair cables to be 22 AWG stranded (7X30) tinned copper conductors with overall foil shield (100% coverage), with 22 AWG stranded tinned copper drain wire.
2. Microphone level audio signal cable: Provide one (1) twisted pair cable, 20 AWG stranded (7X28) tinned copper conductors, overall foil shield (100% coverage) with a 20 AWG stranded tinned copper drain wire.
3. Analog video, audio and control over twisted pair cable: Provide one (1) 4-pair 24 AWG twisted pairs solid bare copper conductors with polyolefin insulation. If equipment manufacturer supports the use of standard UTP Category (5e, 6 or 6A) for this application, the AVS installers shall provide cables in compliance with specification section 271000 and all cables part of the AVS shall be included in the same warranty as all cables provided under specification section 271000. If equipment manufacturer recommends the use of low skew cables, only low skew cables shall be used.
4. Proprietary Control cable (i.e. Cresnet® Signal): Provide one (1) cable with 1 twisted pair 22 AWG stranded bare copper conductors with overall aluminum/polyester foil (100% coverage) and a 24 AWG tinned copper drain wire, and one (1) unshielded twisted pair, 18 AWG stranded bare copper conductors.
5. Control cable (i.e. RS-232, RS-485 Signal): Provide one (1) cable with 1 or 2 twisted pair 22 AWG stranded bare copper conductors with overall aluminum/polyester foil (100% coverage) and a 24 AWG tinned copper drain wire. Pair count depends on manufacturer's specifications.
6. Digital video, audio and control over twisted pair. Provide one, two or more cables UTP or STP as required by transceiver equipment manufacturer to ensure the digital signal is transported properly up to 328 ft, at maximum resolution indicated in part 2.01 of this specification. If equipment manufacturer supports the use of standard UTP Category (5e, 6 or 6A) for this application, the AVS installers shall provide cables in compliance with specification section 271000 and all cables part of the AVS shall be included in the same warranty as all cables provided under specification section 271000. If equipment manufacturer requires the use of proprietary cables, only these cables shall be used in the project. The color jacket for these cables shall be different from voice/data cables. AVS installer to coordinate color jackets with structured cabling installer.
7. UTP Category cables. Provide UTP category cables for all Ethernet connection part of the AVS as indicated in design drawings, including horizontal cables, patch cords and station cables. All cables part of the AVS shall have all specifications and shall be included in the same warranty as all cables provided under specification section 27100. The color jacket for these cables shall be different from voice/data cables. AVS installer to coordinate color jackets with structured cabling installer.
8. Speaker Cable: Provide two (2) unshielded bare high conductivity ETP copper 16 AWG stranded conductors, with overall jacket.
9. RGBHV Video cable: Provide five (5) coaxial 25 AWG solid .018" tinned copper conductors, FPFA insulation, Duobond® foil plus a tinned copper interlocked serve shield (100% coverage). Cable shall have inner jacket on each coaxial conductor, outer jacket for all conductors and characteristic impedance of 75Ω on each conductor.
10. IR control signal cable. Provide one (1) pair, unshielded twisted pair cable with 22 AWG solid copper conductors.

11. Contact closure signal cable. Provide one (1) or more unshielded twisted pair cable with 22 AWG solid conductors. Quantity of pairs as required by the application.
12. HDMI Cables. All HDMI cables longer than 10 meters (32.8 ft.) must include an adaptive cable equalizer capable of providing not less than +40 dB of cable compensation @ 825 MHz. Such device must be capable of operating automatically without the need for human intervention and must include an external AC to DC power converter that can accept 100-240VAC @ 50/60 Hz. Furthermore, such device must also include I2C correction circuitry to mitigate the effects of long cable runs on the DDC clock and DDC data signals. HDMI cables shall have the following requirements:
    a. Support HDMI 2.1b specification with resolutions up to 10K120, 8K60 and 4K120 with up to 48Gbps bandwidth
    b. Ultra High Speed HDMI cables must be certified under the Ultra High Speed HDMI Certification Program to ensure they support the full 48Gbps bandwidth and all HDMI 2.1b features across all cable lengths
    c. Cables shall be backwards compatible with earlier HDMI versions
    d. Support Dynamic HDR for enhanced video quality on a scene-by-scene or frame-by-frame basis
    e. Support enhanced Audio Return Channel (eARC) for simplified connectivity and high-quality audio formats
    f. Cables may support optional HDMI Cable Power to allow active cables to be powered directly from the HDMI connector without a separate power cable
    g. Cables shall have very low EMI (electro-magnetic interference) to reduce interference with nearby wireless devices
    h. Cable jacket shall be rated for the installation environment - use a CL2 or CL2P rating for non-plenum spaces, and a CMP or CL3P rating for plenum spaces
    i. Cables shall be RoHS compliant
    j. Connectors shall be corrosion-resistant, such as gold-plated
13. DVI Cables. All cables carrying DVI signals through conduit, floor slabs or longer than 10 ft. shall be HDMI cables as described in previous section with HDMI to DVI adapters in both ends.

F. Connectors and plates: The AVS installer shall provide connector and plates to terminate all wiring part of the AVS, regardless if shown or not in the design drawings. As a general guideline the AVS Installer shall follow these recommendations:
1. Only use crimp type BNC connectors on coaxial baseband video cables. Use crimp type F connectors on RF based coaxial cables. Use only connectors with the same impedance as the cable where they will be terminated.
2. When custom panels or plates are required in the project, the AVS Installer shall submit detail drawings of all plates for approval by the Design Engineer.
3. Whether shown in the design drawings or not all cables coming out of an outlet box into an equipment shall have a disconnect means at the outlet box with a face plate. Faceplates with grommets are not acceptable as pass-through connections to equipment.
4. All termination of UTP Category (5e, 6 or 6A) cables shall be done in accordance to specification section 271000.

2.3 PROJECTORS

A. General: The projector referenced in this specification section and in the design drawings shall have the following specifications:
   1. Projector native image format: 16:10.
   2. Light source technology: Laser
   3. Projector technology: DLP
   4. Brightness: minimum 7000 ANSI Lumens
   5. Native resolution: 1920 X 1200
   6. Contrast ratio: minimum 20,000:1
   7. Estimated lamp life: minimum 20,000 Hours.
   8. Lens: Manual zoom and focus
   9. Lens throw distance: as indicated in the drawings
   10. Usable resolutions: The unit shall be capable of displaying all resolutions, from 480i to 1080P in all HDMI inputs
   11. Video input ports: (2) HDMI HDCP compliant
   12. Audio input ports: (2) unbalanced stereo inputs
   13. Control ports: RS-232 in a DB9 connector.
   14. Warranty: 3 years, commercial grade unit. Consumer grade units with extended warranties not acceptable.

B. Accessories: This projector shall be supplied with a corresponding lens to achieve the throw distance indicated in the design drawings. Projector mounts shall be provided with all projector. Design selection for the projector mount is Chief Manufacturing Company recommended mount for the projector specified.

C. Accepted manufacturers:
   1. Vivitek (Basis of Design),
   2. Christie Digital,
   3. Panasonic,
   4. Sharp,
   5. Hitachi,
   6. NEC,
   7. Mitsubishi,
   8. Barco,
   9. Projection Design,
   10. Digital Projection,
   11. Epson,
   12. Optoma.

2.4 FLAT PANEL DISPLAYS

A. General: The flat panel display referenced in this specification section and in the design drawings shall have the following specifications:
   1. Flat panel display format: 16:9.
   2. Flat panel technology: LED
   3. LCD backlight technology: Direct lit LED
   4. Screen size diagonal: As indicated in design drawings ± 1 inch.
   5. Bezel: Bezel around screen shall be no bigger than 0.75”
   6. Brightness 250 nit

7. Native resolution: 3840 X 2160
8. Contrast ratio: 4,700:1
9. Refresh rate: 60 Hz.
10. ATSC tuner included: Yes
11. Speakers provided: Yes
12. Video input ports: (2) HDMI (1) RF.
13. Audio output ports: (1) digital audio port
14. Control ports: RJ45.
15. Warranty: 3 years

B. Accessories: Flat panel mounts shall be provided with all displays as indicated in the design drawings. Design selection for the flat panel mount is Chief Manufacturing Company recommended mount for the display specified.

C. Accepted manufacturers:
1. Mitsubishi,
2. LG Electronics,
3. JVC,
4. Panasonic,
5. NEC,
6. Samsung,
7. Sharp,
8. Sony.

D. HDCP Keys: Since the number of HDCP keys varies from model number to model number and it is usually not disclosed in equipment cut sheets issued by manufacturers, it is the AVS Installer's responsibility to check that the number of keys supported by the unit submitted complies with this specification section. Approval by the A&E of a specific non-compliant unit during the shop drawing review process does not relief the AVS installer of the responsibility of providing a compliant unit at no additional cost to the project.

E. Accepted manufacturers:
1. Sony,
2. Panasonic,
3. Samsung,
4. LG or Philips.

2.5 ELECTRIC SCREENS

A. General: The Electric screen referenced in this specification section and in the design drawings shall have the following specifications:
1. Screen format: 16:10
2. Screen dimensions: As shown in the design drawings ± 3 inchs
3. Screen projection type: Front projection
4. Screen case mounting: in-ceiling,
5. Tensioned screen: Yes
6. Screen gain: 1
7. Viewing angle: 45°
8. Screen fabric: seamless, flame retardant, mildew resistant vinyl.

9. Motor: oil free, quick reversal, with adjustable limit switches.

B. Accepted manufacturers:
   1. Da-Lite,
   2. Draper,
   3. Stewart.

2.6 NETWORKING EQUIPMENT

A. General: All networking equipment required for the AVS shall be provided by the owner unless otherwise note in the design documents.

2.7 CABLE BOX (CABLE RECEIVER)

A. General: Cable boxes also referenced as cable receivers will be owner provided

B. ATSC tuners to be provided shall have HDMI output and simultaneous composite video output, as well as line level audio, RS-232 control and IR control. ATSC tuner shall be Contemporary research 232-ATSC with rack mounted kit or approved equal.

2.8 IDENTIFICATION AND LABELING TAGS

A. The AVS installer shall follow labeling materials indicated in specification section 270010.

PART 3 - EXECUTION

3.1 INSTALLATION PRACTICES

A. General: The AVS installer shall follow all installation practices indicated in specification section 270010.

B. Workmanship: The AVS Installer shall adhere to, at a minimum, the following installation practices:
   1. Securely mount equipment plumb and square in place. Where equipment is installed in cabinets, provide mounting bolts in all equipment rack fastening holes. All rack mount equipment shall be secured with Rackmount Solutions HTX™ security screws (STAR-TYPE or similar) provided with nylon washers between bolt heads and equipment.
   2. Where equipment (such as VHS players, monitors, DA's etc… and other system devices) is packaged by the manufacturer without rack mount ears or braces, as part of a regular manufacture process, the Installer shall provide all required, accessory ears, brackets, and shelves, which are necessary to properly mount the equipment within the designated cabinets and rack locations.
   3. Provide appropriate ventilation panels, vents, and/or fans to assure sufficient ventilation for adequate cooling of all equipment.

4. Confirm the polarity and phasing of system components before installation. Connect to maintain uniform polarity and phasing.
5. Insulate all non-insulated, stranded conductors before making termination when connecting to equipment terminals.
6. “Wire”, “wing” and “twist” NUT type connections are not permissible for any type of signal connection.
7. All wiring is to be free from grounds loops, shorts, opens, and reversals.
8. Neatly tie all cabling within equipment cabinets, housings, and terminal cabinets with nylon cable ties at not more than 12" intervals for cables different from 4-pair CAT cables. Use Velcro straps to tying all 4-pair CAT cables. Install in accordance with the latest EIA installation standards. Engineer approved wiring trough may be used in lieu of tie-wraps. Cable routing shall not braid or cross with other wires in parallel more than once.
9. Secure all cables in equipment cabinets and terminal cabinets to provide strain relief at all raceway exits in accordance with NFPA 70 including all supplements. All plugs and receptacles are to be the grounding type.
10. Connect all equipment power to surge/noise suppression outlet strips or associated power conditioning devices.
11. Where system cables are extended through an exposed umbilical connection, the Installer shall harness all associated cable within a common, manufactured, flexible, sheath (ex. Snakeskin™).
12. All racks and cabinets shall be bonded to a grounding system as required by NEC.

C. Raceways. All raceways for audio/visual devices shall have the following specifications:
1. Refer to specification section 270528 for all raceways specification.
2. All cables for speaker level signals, regardless of their level shall be run in separate raceways from other low voltage cables.
3. All cables for microphone level signals, regardless of their level shall be run in separate raceways from other low voltage cables.
4. Raceways for AV outlets: Outlets for AV cables shall be composed of electrical boxes (sized for the amount of connectors) and a conduit(s) to the nearest accessible ceiling space. All AV outlet boxes shall be at least 2.5” deep.
5. All indoor rated cables can be supported with j-hooks or cable hangers above accessible ceiling spaces. J-hooks shall be spaced no longer than 4. Ft.

D. Labeling System. The labeling system for all cables shall be a system that allows for unique identifiers for each cable. Each cable has to have an indicator from where it is coming from and an indicator to where it is going to.

E. Engraving: All push buttons interfaces and connection plates part of the AVS shall be engraved with descriptive wording of the use of the button/plate. The AVS Installer shall submit and receive approval for the proposed wording in each button/plate before doing the engraving. Failure to follow this step might cause the AVS installer to replace the buttons in interfaces and/or plates where the Owner is not satisfied with the wording of the label at no additional cost to the Owner. The color of the wording in the engraving shall have high contrast with the background color of the button.

F. Installation of Screens: Whether shown in the drawings or not the AVS installer shall install all projection screens following the following installation practices:

1. All electric screens shall be provided with a low voltage controller to be mounted inside the screen housing.
2. All electric screens shall be provided with a control wall plate mounted at 48” A.F.F.
3. All in-ceiling screens shall be leveled with the ceiling grid.
4. All in-ceiling screens housing shall be plenum rated when installed in plenum spaces.
5. All in-ceiling screens installed in hard ceilings shall include an access panel no smaller than 16”X16” to access the electrical junction box of the screen. Access panel shall be a metal panel, with a hinged door and painted the same color as the finished ceiling.

G. Projector Installation: The Installer shall adhere to, at a minimum, the following installation practices for projectors:
1. Projector shall be provided with corresponding mounting brackets depending on the projector selected.
2. All anchors and supports whether pre-fabricated or customs, required to mount the projector where indicated in the design drawings are in the scope of work of the AVS Installer
3. When electronics are provided next to the projector (receivers, controllers, etc.), provide an enclosure to mount all electronics suitable for the space above the ceiling (plenum, nor plenum)

H. Flat Panel Display Installation: The AVS Installer shall adhere to, at a minimum, the following installation practices for flat panel display devices
1. All anchors and supports whether pre-fabricated or customs, required to mount the displays where indicated in the design drawings are in the scope of work of the AVS installers.
2. All walls where flat panel displays will be installed shall be re-enforced with sheet metal behind the drywall. The extent of the re-enforcing shall be the contour of the flat panel display to be installed.
3. When flat panel displays are installed inside a wall niche, the AVS shall provide a wall mount with adjustable depth that allows the flat panel display to be installed flush with the exterior wall.
4. Power and AV outlets to be installed behind flat panel displays shall use an Wiremold Evolution Wall backbox or approved equal
5. For flat panel displays mounted on structures, the installer shall provide anchoring as approved by structure manufacturer.
6. For flat panel displays suspended from the structure above, the installer of this system shall provide all custom brackets and pipes properly secured to the structure to mount the displays

I. Speaker Installation: The Installer shall adhere to, at a minimum, the following installation practices for speakers:
1. All ceiling mounted speaker shall have a support wire tie to the building structure. Ceiling speakers shall not be supported from the ceiling grid.
2. All ceiling mounted speakers shall be installed with a backbox to prevent sound from dispersing into the plenum space and causing noise issues in adjacent rooms.

3. When ceiling speakers are mounted in fire rated partitions, the speakers shall have UL listed speaker back boxes with a fire rating no less than the rating of the partition.
4. All in-wall speakers shall be installed with pre-construction brackets.

J. Equipment Rigging: When speaker assemblies or arrays weight more than 100 lbs, the AVS installers shall follow all rigging instructions from the manufacturer and shall be done by an experienced rigger. The AVS installers shall also adhere to the following practices:
1. Only the rigging equipment and method listed by the manufacturer of the equipment are approved for the installation No substitutions are accepted.
2. Only the rigging points available in the speaker assembly are accepted as means of support.
3. All anchors and supports whether pre-fabricated or customs, required to mount the displays where indicated in the design drawings are in the scope of work of the AVS installers.
4. Shop drawings for rigging methods shall be signed and sealed by a licensed structural engineer.

K. Millwork Openings: When AV equipment like flip tops and plates will be mounted in millwork provided by the owner or third parties, the AVS installers shall provide cut out dimensions for all the AVS equipment listing location in the millwork where the cuttings need to be done. It is the AVS installer's responsibility to install those devices in the millwork, once the openings have been done. All millwork opening shall be done by the AVS installer.

L. Floor Boxes. Floor boxes used for connection to teaching lecterns, podiums, conference tables, or mixing borads shall have at least the following minimum requirements:
1. Floor boxes shall be large enough to have at least 3 different compartments, one for power one for voice/data cables and one for AV.
2. Each low voltage compartment shall have a separate raceway back to the accessible ceiling space. If speaker wires are run from the lectern, the AV compartment shall have one 1" and one ¾" conduit to the nearest accessible ceiling space. If no speaker wires are run from the lectern, at least one 1" conduit from the AV compartment to the accessible ceiling shall be provided. Additional conduits might be required depending on the application.
3. There shall be no daisy-chaining of AV conduits between adjacent floor boxes. Floor boxes shall also allow to recess the connectors from the umbilical cord tied to the lectern.
4. Floor boxes shall have a recessed compartment to hold connectors. Floor boxes that leave AV connectors flushed with the floor are not desirable since they become tripping hazards and could be easy broken with the lectern when moved.
5. AV compartments shall have termination plates and connectors for all cables coming from the accessible ceiling space. Pass-through cables shall not be allowed in floor boxes. All connectors shall be properly secured to the plates in the floor box. All unused compartments shall have blank plates.

M. Structured Cabling Infrastructure: The AVS Installer shall adhere to specification section 271000 for all requirements of structured cabling components to be used as

part of the AV system. The structured cabling components include but are not limited to:

1. All unshielded twisted pair Category cables and fiber optic cables
2. Termination devices like termination jacks, patch panels and faceplates.
3. All UTP and fiber optics patch cords.
4. All testing procedures for Category and fiber optic cables.

3.2 REQUEST OF IP ADDRESS

A. General: The AVS installer shall follow all requirements indicated in specification section 270010 for the request of IP addresses for devices part of the AVS.

3.3 SOFTWARE PROGRAMMING AND INSTALLER TESTING

A. The software programming and testing of the AVS system will be a multi-step process. The AVS Installer shall provision in the proposal for the time indicated in each of the steps:

B. Briefing Step: A maximum of 45 days after the AVS installer receives the NTP for this project, the AVS installer shall request one or more briefing sessions with the Owner and/or design engineer to go over the expectation of each room and clarify any points that might not be clear to the AVS Installer. Some important notes about this step are:
   1. The AVS installer shall allocate at least 8 hours of meeting time
   2. Travel time will not be counted as part of the meeting time.
   3. The quantity of staff required to attend these meetings by the AVS Installer is sole decision of the AVS Installer.
   4. Before the start of this step the AVS installer shall have software programming submittals approved as described in part 1 of this specification section.
   5. The AVS Installer shall prepare meeting minutes of the key decisions made during these meetings. The approval of these meeting minutes by the Owner and Design Engineer will be accepted as approval notice of this step.

C. Shop Programming Step: Once the briefing step has been completed and approved, the AVS installer shall allocate off-site programming time to accomplish all the requirements listed in this specification and the clarifications done in the previous step. It is the sole responsibility of the AVS Installer to estimate how many man hours are required for this step. This step does not require approval by the Owner and/or design Engineer.

D. Field Verification Step: After all AVS equipment has been installed on site and the system has been programmed, the AVS Installer shall request one or more working sessions with the Owner and/or design engineer to verify in the field the functionality of the AVS system. Some important notes about this step are:
   1. The AVS Installer shall allocate at least 10 hours of working sessions.
   2. Travel time will not be counted as part of the working sessions.
   3. The AVS installer shall have different AV media and sources to test all features in the AVS system.
   4. The quantity of staff required to attend these meetings by the AVS Installer is sole decision of the AVS Installer.

5. Physical installation of all devices will be checked by the Owner and/or the Design Engineer. Any deviations in the installation of the equipment part of the AVS from this specifications and previous meetings will be noted by the Design Engineer in a “punch list”. This punch list will be send to the AVS installer within the next 5 days of the meeting for immediate corrective action. One punch list will be prepared for each room with AVS.
6. The AVS Installer shall prepare meeting minutes of the key decisions made during these meetings that affect the programming sequence. The approval of these meeting minutes by the Owner and Design Engineer will be accepted as approval notice of this step.

E. Final Adjustment Step: Once the previous step has been approved, the AVS Installer shall allocate time to make any corrections to the AVS system on site based on the conclusions of the previous step. It is the sole responsibility of the AVS Installer to estimate how many man hours are required for this step. This step does not require approval by the Owner and/or design Engineer.

F. Data Wiring and Fiber Optic Testing: Testing of UTP data wiring, copper patch cords, fiber optic cables and fiber optic patch cords shall be done as indicated in specification section 271000. Testing results shall be submitted as indicated in the same specification section.

G. Signal Adjustment: The AVS Installer shall ensure that the following adjustments, tests and measurements, at a minimum, have been completed:
1. The system shall be measured and adjusted for optimum signal quality and minimum signal loss, to all audio and video signals, through the system channel, using appropriate test equipment and standardized testing procedures.
2. The system shall be measured and adjusted for optimum signal-to-noise ratio and maximum headroom in the system electronics.
3. The system shall be measured and adjusted to eliminate distortions or degradation of signal resulting from, but not limited to, clipping, hum, noise, and RFI interference.
4. The Installer shall check the quality of each signal, at its source, and compare it against the quality of the signal at various points of its transmission through the system. The Installer shall correct the system for any significant (the lesser of 2dB or the manufacturers throughput requirements) signal distortion or loss.

3.4 SYSTEM WARRANTY AND SERVICE

A. General: The AVS installer shall follow all warranty and service requirements indicated in specification section 270010.

3.5 ENGINEER’S FINAL ACCEPTANCE TEST

A. General: The AVS installer shall follow all test requirements indicated in specification section 270010

B. As part of the Engineer’s final acceptance all sources, inputs, outputs and interfaces will be tested. Additional notes about the final acceptance test:

1. It is the sole responsibility of the AVS system installer to estimate the time allocated for this step. It is assume that at this point in time all the features of the AVS system are clear to the Owner and the AVS Installer so this step is just to make sure that all the features are working properly as agreed.
2. The AVS installer shall have different AV media and input signal generators to test all input plates and sources in the AVS system.
3. The quantity of staff required to attend these meetings by the AVS Installer is sole decision of the AVS Installer.
4. Failure to complete one or more of the previously issued punch list items or failure to correct any programming changes previously noted will revoke acceptance of the room or system being tested.
5. Final acceptance will be granted on a room-by-room basis.

3.6 TEST EQUIPMENT REQUIRED.

A. Test Equipment: The AVS Installer shall supply all testing instruments required for the equipment programming and system tests. The AVS Installer shall use test equipment meeting the minimum specifications, identified herein, to perform system calibrations and adjustments. The AVS Installer shall make available the same test equipment available, for inspection by the Engineer, during Final Acceptance step.

1. Direct reading Audio Impedance Meter.
   a. Minimum of three frequencies ranging from 250Hz to 4kHz.
   b. Range 1 ohm to 1M ohm.
   c. 10% accuracy.
   d. Direct reading of dBm across 600-ohm load.
2. Digital Multimeter.
   a. DC to 20kHz bandwidth.
   b. 300V range.
   c. 100mV resolution.
   d. 10M ohms input impedance.
   e. DC resistance to 0.1 ohms.
3. Dual trace oscilloscope.
   a. 450MHz minimum bandwidth.
   b. 1mV/cm sensitivity.
   c. Dual timebase capability.
4. Sine/Square Wave Generator.
   a. 5Hz to 5kHz bandwidth.
   b. Output level of 0dBm with less than 0.5%THD.
5. Sound Pressure Level Meter:
   a. Applicable Standards: IEC 61672-1, 60651 and 60804 Type 2, ANSI S1.4 Type 2
   b. Accuracy: ±1.5dB (ref 94dB@1KHz)
   c. Resolution: 0.1dB
   d. Digital Display: 4 digital LCD
   e. Measurement Parameters: SPL, SPL MIN/MAX, SEL, and Leq
   f. Measurement Range: 30dB to 130dB
   g. Linearity Range: 100dB
   h. Measurement Frequency Range: 31.5Hz to 8KHz

i. Frequency Weighting: A and C
j. Response Impulse: Fast and Slow
k. Microphone: 1/2 " Electret condenser microphone
l. Sampling time: updated every 0.5s
m. Bargraph: 4dB steps, 100dB range, 125ms update

6. Digital Video Signal Test pattern generator with output for the following signal types:
   a. Composite Video
   b. Component Video
   c. RGBHV video
   d. HDMI video (1080p 24 fps)
   e. SDI

3.7 TRAINING AND INSTRUCTION

A. General: The AVS installer shall follow all training requirements indicated in specification section 270010. The AVS Installer shall provide the owner with different types of training as described herein.

B. System Administration Training. The AVS installer shall provide system administration training at the job site as described below:
   1. At least 8 hours of training shall be provided.
   2. Travel time will not be counted as part of the training sessions.
   3. Training will be broken down to a maximum of 2 sessions in different days.
   4. The objective of the system administration training will be to properly operate, trouble shoot, calibration and perform specific field repairs to AVS equipment.
   5. Field repair and calibration training will be limited to those repairs notes by the manufacturer of the equipment as field repairs done by non factory trained personnel.
   6. Training shall be done at the job site with all the equipment operational after final acceptance.
   7. Training will be limited to a maximum of 5 attendees per session.
   8. Operation and Maintenance manuals shall be delivered at the beginning of this sessions.

C. User Training. The AVS installer shall provide system administration training at the Job site as described below:
   1. At least 10 hours of training shall be provided.
   2. Travel time will not be counted as part of the training sessions.
   3. Training will be broken down to a maximum of 3 sessions in different days.
   4. The objective of the user training will be to properly operate the AVS.
   5. Training will be limited to a maximum of 20 attendees per session.
   6. User short form guides shall be provided to all attendees of the sessions.
   7. Short form guides shall provide the users with quick finding ways to operate the system. If AVS operation is different from one room to the other, one separate short form guide shall be provided for each room.

D. Factory Training: The AVS installer shall provide factory training as described below:
   1. List all factory training.

3.8 AS BUILT DOCUMENTS AND CLOSE OUT INFORMATION

A. General: The AVS installer shall follow all as built and close out information requirements indicated in specification section 270010.

B. The following information shall be included in the as built drawings:
   1. Drawings indicating final floor plan locations of all AV devices
   2. One line diagrams with all devices connected in the system.
   3. Mounting details
   4. Any signed and sealed structural calculations required for the AVS

C. Additional close out information to be delivered by the AVS installer:
   1. All programming source code done by the AVS for this project for all pieces of equipment in digital format (no printed copies required).
   2. List of all IP addresses assigned to each equipment part of the AVS.
   3. Compiled executable files as requested for Computer based user interface.
   4. All printed test results.

END OF SECTION 274100

ATTACHMENT G
ADDENDUM #1

SECTION 281000 ELECTRONIC SECURITY SYSTEMS

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The scope of work shall include furnishing all labor, materials, enclosures, wiring, equipment, programming, training, testing, documentation and warranty support, required to provide a completely operational and working Security System.

B. The Security System Installer (SSI) shall coordinate with the door frame installer, the door installer, the door hardware installer and gate installers on the placement of all electronic locking hardware and door controls for this project. The SSI shall provide the low voltage power supplies for all electric locks, wire and cable, terminate all connections, and shall interface this equipment with the integrated security system.

C. All materials for the structured cabling system (4-pair UTP cables, fiber optic cables and 24-AWG multi-pair (25 pairs or higher) components required for the security system shall be in compliance with specification Section 271000.

D. The scope of work for this specifications also include the following items:

1. The supply, installation and programming of the Video Intercom system.
2. The programming of the access control software including the integration described in this specification section.

E. The following parts of the system are not part of this contract:
1. All networking equipment (switches, routers, etc) for the operation of the system
2. Software licenses for the security system beyond the 12 months included in this contract.

1.2 RELATED DOCUMENTS

A. General Terms and Conditions of the Contract Documents
1. Division 8 – Door Hardware
2. Division 26 – Electrical

B. Supplemental: Refer to the specification sections identified below for additional requirements, which are supplemented by this section.
1. 270010 Technology General Provisions
2. 270528 Raceways for Technology
3. 271000 Structured Cabling System
4. 270526 Grounding and Bonding for Communication Systems
5. 282000 Video Surveillance System

1.3 SECURITY SYSTEM INSTALLER QUALIFICATIONS

A. The SSI selected for this project must be a direct manufacturer-authorized representative of the product they propose to provide. All technicians assigned to install and configure this system shall be factory-trained and certified for the proper installation of this equipment. The SSI must have a minimum of 5 qualified and factory-trained technicians to support this system. This company must have an established reputation and experience and regularly engaged in the supply and support of such systems for a period of at least five consecutive years.

B. Other required SSI qualifications are:
   1. The SSI shall agree, in writing, as part of their proposal, to provide both warranty and non-warranty service within 4 hours of notification of a problem. The SSI shall be able to perform any and all repairs to the system within 24 hours.
   2. The SSI, as a minimum, must carry a current state-issued limited energy license.

1.4 MATERIALS ALTERNATES AND SUBSTITUTIONS

A. General: See details for alternates and substitution in specification section 270010.

B. Sensors or door security devices shall allow for substitutions.

1.5 SHOP DRAWINGS AND SUBMITTALS

A. The SSI shall follow all requirements for shop drawings indicated in specification section 270010.

B. The submittal process for this scope of work will be a two stage process. The first stage is the product/installer approval. Within 30 business days of receiving contract approval and notice to proceed, the following items shall be submitted to the A&E for review and approval, as part of the product/installer approval process.
   1. Proof of Installer qualifications, addressing all requirements of paragraph 1.3 of this specification.
   2. Product numbers, specifications, and data sheets for all equipment.
   3. Data sheets and samples of all labeling materials and equipment to be used in the project.
   4. A complete explanation of the identification method to be used for all equipment and cabling part of the security system.
   5. Data sheets of all termination blocks and mounting accessories to be used in the project. A paragraph shall be added before each data sheet indicating the intended use of each type of termination block.
   6. Detailed drawings of all custom products to be used in the project.
   7. Data sheets for all wire and cable to be used as part of this system. A paragraph shall be added before each data sheet indicating the intended use (to connect what type of devices) of each cable.

C. The second stage of the submittal process is the shop drawing process. Shop drawings shall only be submitted after all portions of the product/installer approval have

been accepted by the A&E. The following information is required as part of the shop drawings:

1. Floor plans indication all devices to be provided and all cable runs to all devices or junction boxes. Access controlled doors shall have the door name. All other devices shall have a unique identifier, as they will be programmed in the system.
2. Point to point wiring diagrams indicating all termination points for each conductor and for each device, cable types and color coding of each termination. These diagrams shall be submitted for each door type and for each type of device in the system.
3. Panel schedules in a table format, indicating all ports being used and what device is connected to each port. Panel schedules shall be submitted for all access control panels, alarm panels, fiber optics distribution frames, Ethernet switches, patch panels, termination blocks, etc.
4. Overall system diagrams indicating all head end components, their room location, and all configuration characteristics like IP addresses, serial ports used, etc.
5. Termination details for multi-conductor connectors and other details not included in item 2 of the shop drawings.
6. Outline of the testing process.
7. Training syllabus for all systems included in this scope.

1.6 ABBREVIATIONS

A. Additional abbreviations used in this document:

1. ADA - Americans with Disabilities Act
2. API - Application Programming Interface
3. ASCII - American Standard Code for Information Interchange
4. BPS - Bits Per Second
5. DIN - German Institute of Standardization
6. DPS - Door Position Switch
7. FCC - Federal Communications Commission
8. GUI - Graphical User Interface
9. ID - Identification
10. I/O - Input /Output
11. ISC: Intelligent System Controller
12. ODBC - Open Database Connectivity
13. O&M - Operations and Maintenance
14. PIN - Personal Identification Number
15. PTZ - Pan/Tilt/Zoom
16. RAID - Redundant Array of Independent Disks
17. REX - Request to Exit
18. RoHS - Restriction of Hazardous Substances Directive
19. SCS - Security Control System
20. SDRAM - Synchronized Dynamic Random Access Memory
21. STP - Shielded Twisted Pair
22. UL - Underwriters Laboratories, Inc.
23. UPS - Uninterrupted Power Supply
24. USB - Universal Serial Bus
25. UTP - Unshielded Twisted Pair
26. VOC - Volatile Organic Compounds

1.7 GLOSSARY OF TERMS

A. The following terms are defined for the purposes of this specification:

1. Access Group: A logical group of card readers (terminals) which may be connected to one or more sub-controllers and which represent a collection of readers for which a particular cardholder may have access privileges.
2. Access Mode: The mode of operation in which the security control system shall only annunciate tamper and trouble conditions at a monitored point. Alarm conditions shall not be annunciated in this mode. Also referred to as alarm shunting.
3. Acknowledge: The action taken by a security control system operator to indicate that he/she is aware of a specific alarm or tamper state.
4. Action Messages: A set of instructions automatically provided to the operator when an alarm condition is generated.
5. Advisory: A message provided by the security control system to the operator to inform him/her of a condition as reported by the security control system.
6. Alarm Condition: A change of state, as sensed by the security control system, indicating that the security control system has detected a condition which its sensors were designed to detect.
7. API Integration: a method to transfer information between two systems by means of APIs, though an Ethernet communication network.
8. Cardholder: A person who has been issued a valid access card.
9. Card Reader: A device usually located at access points, designed to decode the information contained on or within a card key credential for the purposes of making an access decision or for identity verification.
10. Clear: The action taken by a security control system operator to respond to an alarm condition or advisory so that other alarms may be serviced or so that other actions may be taken.
11. Download: To send computer data from the File Server to a controller for the purposes of making access decision without the intervention of the File Server.
12. Facility Code: A coded number, in addition to the individual card number, stored within each card key that uniquely identifies the facility at which the card is valid. This feature prevents cards from one facility from being used at another facility that has a similar access control system.
13. File Server: Primary host computer in the networked security system which maintains the access control system database.
14. Line Supervision: The monitoring of an electrical circuit via electrical and software systems to verify the electrical integrity of the supervised circuit.
15. Off-line: A condition in which a controller(s) is not in communication with the File Server. In the off-line mode, the controller continues to make access decisions and process alarms according to the information stored at its local database.
16. Password: A combination of numbers or letters unique to security control system operator which defines commands and data fields he/she may view, edit, or command.
17. Relay integration: A method to transfer signals between two systems by means of using potential free contact closures to input points.
18. Reset: A command or feedback signal that indicates that a monitored point has returned to its normal state after having transferred to the alarm or trouble state.
19. Secure Mode: The normal state of an alarm input point from which it will be monitored for change of state to either an alarm or trouble condition.

20. Secured Area: A physical location within the facility to which access is controlled by one or more card readers.
21. Secured side: Side of a security door where a higher security level needs to be granted for a user to be authorized to be in that side of the door.
22. Serial line integration: A method to transfer information between two systems by means of an RS-232/RS-422 or RS-485 line, using ASCII strings.
23. Tamper: A condition within the circuitry of a monitored point which indicates the electrical integrity of that sensing circuit has been compromised.
24. Tamper proof screws: A screw with a security hexalobular internal driving feature as described in ISO 10664. As an example, a security TORX head, as developed by Camcar LLC.
25. Time Interval: A time stamp of one start time and one stop time within a time period.
26. Time Period: A user programmable period of time made up of days of the week and hours in the day.
27. Trouble: A condition within the circuitry of a monitored point which indicates that an equipment malfunction, single break, single fault or a wire-to-wire short exists.
28. Unsecured side: Side of a security door where a lower security level needs to be granted for a user to be authorized to be in that side of the door.
29. User Definable: An attribute of a security control system function that may be easily tailored by the System Administrator.
30. Workstation: A personal computer connected to the main security control system File Server via a local area network connection for the purpose of programming the system and responding to alarms.

1.8 SYSTEM DESCRIPTION

A. The security systems primary purposes shall be to provide access control and alarm monitoring capabilities for this project. The system shall provide functionality such as the ability to regulate and control access through specific areas of the facility and fully integrate with other security components such as closed circuit television, alarm system, intercom and digital video recording.

B. The Owner requires a separate access group for a 3rd party tenant to be created upon programming. This access group shall allow the 3rd party to add/remove users from their specific access group, but provide no access to the Owner's access groups or to the management of the system.

C. The system must utilize a single seamlessly integrated relational database for all functionality. This integration shall be provided using a single operating environment. The operating environment shall be the fully multi-tasking multi-threading operating System.

D. Alarm monitoring and administrative workstations must be able to connect to, and monitor, field hardware devices such as card readers and intelligent system controllers. Administrative tasks including defining asset information, access groups, time zones, configuring digital video devices, generating reports, creating maps, etc. shall be provided from any client workstation on the network that is licensed to do so. All systems must utilize a single database on the network and must be accessible in real time to any security workstation connected to the network. This shall allow for

automatic change propagation to all client workstations as well as common database consolidation.

E. A real-time graphical map representing the layout of this building shall indicate if an electronically controlled door is in a secure or unsecured mode. Control modules will be required to lock, or unlock, any electronically controlled door or vehicle gate at this facility. An automatic cardholder call-up feature shall allow for the quick search and display of images in the database. A System's Operator journal shall be available to log important daily events. A trace function shall be available for System Operator's to locate and track activity on a specific cardholder or at a specific card reader. All system hardware must be controllable using a mouse to click on the associated system icon.

F. The security system shall be designed to support an advanced distributed network architecture, whereas Intelligent System Controllers do not need to be home-run wired back to the database server. All Intelligent System Controllers shall be connected to an Ethernet network via industry standard TCP/IP communication protocol. Network based Intelligent System Controllers shall be able to communicate back with the database server through industry standard network switches and routers.

G. The security system shall support a data encryption utility. In utilizing encryption technologies, data communication shall be protected between workgroups, local area network computers, domain clients and servers, branch sites which may be physically remote, extranets, roving clients, and remote administration of computers.

PART 2 - SYSTEM CHARACTERISTICS

2.1 SECURITY SYSTEM SOFTWARE

A. The SSI shall provide all software required for the complete operation of the access control system.

B. Acceptable products for the security system software are:
   1. Lenel - OnGuard
   2. Software House – CCure 9000
   3. Honeywell – Pro-Watch
   4. AMAG - Symmetry

C. Other access control system software can be accepted prior approval of the A&E.

D. At a minimum the security system software shall provide the following key features:
   1. Ability to integrate with other system with features as indicated in this specification.
   2. Be able to operate with cards with multiple system codes.
   3. Have an integrated platform with the video system.
   4. Support browser based clients and standard client workstation.

2.2 COMPUTER SYSTEM HARDWARE

A. Computer based system are required for the operation of the security system. The following types of computer systems are required for the system:
   1. Server: System that communicates with ISC and other hardware. It is also the system with the database of all the components and transactions of the system. Server shall be installed in a secured room.
   2. Workstation: System accessible to users for operating, configuring and accessing reports from the security system. Workstations communicate with the server through TCP/IP.
   3. Badging workstation: A system used to create the picture IDs for the system

B. INTEGRATED SERVER. When the manufacturer of the Security System Software offers the server as an integrated appliance and as a single part number, the server shall be as indicated by the manufacturer.

C. SOFTWARE ONLY. When the manufacturer of the Security System Software offers the possibility of providing the software only and the SSI is required to provide the hardware platform for the server the SSI shall provide a server in compliance with the Minimum Specifications by Software Manufacturer (MSSM) plus an extra capacity as indicated below:
   1. Processor speed: MSSM + 30%
   2. Cache memory: MSSM + 30%
   3. Front side bus speed: MSSM +30%
   4. Memory: MSSM + 100% (or maximum memory supported by Operating system)
   5. Hard drive capacity: MSSM + 100% in RAID 1 configuration
   6. CD/DVD Drive: DVD ROM Drive SATA, internal
   7. Network Card: Dual 1 GB connections
   8. Power supply: High Output Power Supply, Redundant.
   9. USB ports: Minimum six (6) USB 2.0
   10. Mounting: Rack chassis with sliding rapid/versa rails and cable management arm.
   11. Operating system: As required by security system software.
   12. Additional software: Database packages as required by Security System manufacturer. Antivirus and Internet Security package with a 1 year license
   13. Warranty: 3 –year warranty.

D. BROWSER BASED WORKSTATIONS. When the manufacturer of the security system offers browser based access to the security system, workstations will be provided by owner. Browser based workstations are only allowed in the system if they provide a complete functionality of the system. If the browser based workstation offers only a partial set of functions compared to a Client based workstations, browser based workstations will only be allowed additional to client based workstations.

E. REPORT PRINTER. The SSI shall provide report printers as indicated in the design drawings. The report printer shall be a color laser printer. The laser printer shall be capable of printing 17 ppm in color mode in paper formats up to 8.5”X14”. The laser printer shall be provided with a network interface 10/100Base-T.

F. SYSTEM UPS. All workstation and servers shall receive a UPS system with an integrated surge protector. The UPS system shall be rated at 1500 VA. Minimum runtimes in the event of total power loss shall not be less than 15 minutes at full load.

G. BADGE PRINTER: All photo identification workstations in the project shall include one badge printer. The badge printer shall have the following specifications:
1. Printer type: Color dye sublimation or monochrome thermal transfer printing
2. Printer speed: 225 card per hour, full color single sides.
3. Resolution: 300 dpi
4. Card type: PVC, PVC composite, adhesive backed
5. Card width/length: CR-80, CR-79, ID-1 Format, ISO7810
6. Card thickness: 10 mil. To 40 mil.
7. Card feeder capacity: 100 cards (30 mil)
8. Communications interface: Built-in 10/100Base-T.
9. Accessories to be provided: Smart-card encoder-ISO 7816, ribbons and cleaning supplies to make 3,000 cards.
10. Design selection: Zebra ZC350 or similar, with proven drivers to interface with access control software system.

2.3 INTELLIGENT SYSTEM CONTROLLER (ISC)

A. An Intelligent System Controller (ISC) shall link the security software to all other field hardware components like card readers, inputs and outputs. Controllers shall operate as autonomous, microprocessor based processing units:
1. ISCs shall make decisions about access control, alarm monitoring, linking functions, and door-locking schedules for their operation, independent of other system components.
2. ISCs shall be part of a fully distributed processing-control network.
3. The portion of the database associated with a ISC, and consisting of parameters, constraints, and the latest value or status of points connected to that ISC, shall be maintained in the ISC.

B. ISC can be one single hardware board or multiple hardware boards linked together. The following functions shall be fully implemented and operational within each ISC:
1. Monitoring inputs (open, closed or fault).
2. Controlling outputs.
3. Automatically reporting alarms to the system server.
4. Reporting of sensor and output status to the system server on request.
5. Maintaining real time, automatically updated by the system server at least once a day.
6. Communicating with the system server through a secured encrypted Ethernet TCP/IP communication.
7. Communicating with other ISC or hardware devices through serial RS-422/RS-232/RS-45 encrypted lines.
8. Executing ISC resident programs.
9. Diagnosing.
10. Downloading and uploading data to and from the system server.

C. ISC Operations at a Location:

1. Globally operating I/O linking and anti-passback functions between ISCs within the same Location without system server or workstation intervention. Linking and anti-passback shall remain fully functional within the same Location even when the system server or workstations are off-line.
2. In the event of communication failure between the system server and a Location, there shall be no degradation in operations at the ISCs at that Location. ISCs at each Location shall be connected to a memory buffer with a capacity to store up to 10,000 events; there shall be no loss of transactions in system history files until the buffer overflows.
3. Buffered events shall be handled in a first-in-first-out mode of operation.

D. Individual ISC Operation:
1. ISCs shall transmit alarms, status changes, and other data to the system server when communications circuits are operable. If communications are not available, ISCs shall function in a stand-alone mode; operational data, including the status and alarm data normally transmitted to the system server, shall be stored for later transmission to the system server. Storage capacity for the latest 1024 events shall be provided at each ISC.
2. Card-reader ports of an ISC shall be custom configurable for at least 120 different card-reader or keypad formats (Weigand). Multiple reader or keypad formats may be used simultaneously at different ISCs or within the same ISC.
3. ISCs shall provide a response to card readers or keypad entries in less than 0.25 seconds, regardless of system size.
4. ISCs that are reset, or powered up from a non-powered state, shall automatically request a parameter download and reboot to their proper working state. This shall happen without any operator intervention.
5. Initial Startup: When ISCs are brought on-line, database parameters shall be automatically downloaded to them. After initial download is completed, only database changes shall be downloaded to each ISC.
6. On failure for any reason, ISCs shall perform an orderly shutdown and force ISC outputs to a predetermined failure-mode state, consistent with the failure modes shown and the associated control device.
7. After power is restored, following a power failure, startup software shall initiate self-test diagnostic routines, after which ISCs shall resume normal operation.
8. After ISC failure, if the database and application software are no longer resident, ISCs shall not restart but shall remain in the failure mode until repaired. If database and application programs are resident, ISCs shall immediately resume operation. If not, software shall be restored automatically from the system server.

E. Communications Monitoring:
1. System shall monitor and report status of serial communications loop of each Location.
2. Communication status window shall display which ISCs are currently communicating, a total count of missed polls since midnight, and which ISC last missed a poll.
3. Communication status window shall show the type of CPU, the type of I/O board, and the amount of RAM for each ISC.

F. Operating systems shall include a real-time clock function that maintains seconds, minutes, hours, day, date, and month. The real-time clock shall be automatically

synchronized with the system server at least once a day to plus or minus 10 seconds. The time synchronization shall be automatic, without operator action and without requiring system shutdown.

G. All ISCs shall be UL listed. Input points in ISCs shall be UL 294 listed.

H. Basis of Design: Lenel

2.4 POWER SUPPLY/ENCLOSURES – ACCESS CONTROL SYSTEM

A. All ISCs and other boards part of the access control system shall be installed inside a metal enclosure with a power supply as recommended and designed by the manufacturer of the equipment.

B. The low voltage power supply shall convert a 115 VAC or 24 VAC 60 Hz input to a continuously supplied current of 12 or 24 VDC. The power supply shall be UL listed, fused protected and class 2 rated.

C. The power supply shall include a battery charger to provide backup power when main power goes down. If ISC has a battery charger and input built in, then the power supply does not need this feature.

D. Plug in transformers feeding a low voltage power supply feeding an access control panel are not allowed unless they are mounted inside another lockable enclosure. External multi-output individually fused protected outputs power supplies feeding all access control board are acceptable as long as they are located next to the access control panels.

E. Maintenance free batteries shall be provided with all power supplies or ISC and shall be mounted inside the same enclosure. Batteries shall be sized to allow at least 4 hours of power backup. All power supplies shall be monitored for low battery through the access control system.

F. All enclosures for ISCs, other electronic boards, power supplies or battery cabinets shall be UL listed NEMA 1 hinged cover enclosures where mounted indoors and in fully weatherproof NEMA 4X enclosures when located outdoors or in an exposed or covered area. All enclosure doors shall be key lockable, keyed alike, and shall include a tamper switch for monitoring by the security system. Any cabinet opening shall initiate an alarm condition to the security monitoring system.

G. Basis of design: Altronix

2.5 TAMPER SWITCH

A. All security enclosures, including power supplies and terminal cabinets shall include a tamper switch for direct supervision of the cabinet door. Any opening of these doors shall initiate an alarm condition to the security monitoring system. All tamper contacts shall be a reed actuated self adjusting plunger style switch. If a tamper contact is provided by the manufacturer with the enclosure this device may be used.

B. Tamper switches shall be wired as to report separate alarms to the system for each panel.

C. Basis of design: Amseco PSW-1 or an approved equal.

2.6 CONTACTLESS SMART CARD READER

A. The standard smart card reader for use throughout this facility shall be a switchplate style reader in low profile weatherized polycarbonate housing suitable for mounting in either an indoor or outdoor environment. The reader shall be constructed of a polycarbonate material sealed to a NEMA rating of 4X IP65. The reader shall contain an integral magnet for use with an external magnetic reed switch to provide tamper protection when connected to an external alarm. The reader shall be UL/C 294 listed and shall conform to FCC and ISO standards. The reader shall operate at a frequency of 13.56MHz. All RF data transmitted between this device and the smart card shall be encrypted for additional protection using a secure algorithm. The reader shall provide an audiovisual indication to signify access granted or access denied. This operation shall be displayed by a high intensity LED light bar which shall change from red, amber, or green based on the status of the operation. The housing shall mount on an industry standard single gang electrical junction box. It shall have a read range of 4.0 to 4.5 inches when used with a standard smart access card and 1.0 to 2.0 inches when used with a key tag.

B. The mullion style readers shall only be used where wall mounting is not possible (for example glass/aluminum store-front systems).

C. The smart card reader with keypad shall have a standard contactless smart card and shall have a twelve (12) key keypad. Readers with keypad shall be used where indicated in design drawings.

D. With every badging station provided for this project, a verification reader with keypad shall be provided. This reader shall also have writing capabilities to the access cards. This reader shall be provided with USB interface and a stand for desktop mount.

E. Communications between the readers and the ISC shall be through a Wiegand interface

F. Basis of design selection: HID i-Class SE series.

2.7 CONTACTLESS SMART CARD

A. The contactless smart cards for the access control system shall be receptive to a standard smart card reader. Body shielding or variable environmental conditions shall have no adverse effect on their operation. The card shall be a read only type device.

B. The following card quantities shall be provided for this project.

CARD TYPE	**QTY**
Keyfob	

Tag with adhesive back	
Single technology card for direct printing and thermal transfer	
Single technology clamshell high durability card	

C. All card ordered for this project shall have the same system code.

D. All read/write cards ordered for this project shall have a 16K bit dual application area.

E. All access cards or tags shall be purchased through the HID Corporate 1000 program with the facility code assigned to the owner.

F. Basis of Design: HID i-Class SE

2.8 LONG RANGE UHF READER

A. The long range UHF reader to be used at the vehicle gates as indicated in the construction drawings. The reader shall be constructed of a polycarbonate material sealed to a NEMA rating of 4X IP65. The reader shall be UL/C 294 listed and shall conform to FCC and ISO standards. The reader shall operate in the 902-928 MHz UHF band to communicate with radio frequency tags and credentials. All RF data transmitted between this device and the credential shall be encrypted for additional protection using a secure algorithm. The reader shall have a read range of 15 feet when used with an approved credential.

B. 12 VDC power for the long range reader shall be from a general use power supply with battery backup.

C. The long range reader shall connect to a reader port on the ACS. The reader shall communicate to the ISC through Wiegand interface

D. Basis of design: AWID LR-2000 or an approved equal.

2.9 LONG RANGE READER CREDENTIALS

A. Provide 500 rearview mirror UHF radio frequency tags. The tags shall be enrolled into the ACS using a site specific facility code and individual tag number. The tag shall permanently attach to the inside of the rearview mirror with the black side of the tag facing the windshield to minimize visibility. The tags shall be read by the long range UHF reader to grant access as programmed into the ACS. The tags shall communicate to the reader in Wiegand format for proper authentication with the ACS.

B. Basis of Design: AWID RV-UHF-0-0 or approved equal

2.10 LOCKING DEVICES – SPEICIFED UNDER DIV 8

A. The SSI shall coordinate with the door hardware installer on the placement of electronic locking hardware required for this project. The SSI shall provide all

necessary wire and cable, and the low voltage power supplies for door locks. The SSI shall also be responsible for terminating all connections and interface this equipment with the integrated security system.

2.11 DOOR RELASE BUTTONS (REQUEST TO EXIT SWITCH/BUTTON)

A. Where indicated on the drawings, a door release button shall be provided to function as a secondary method of door release on locked doors. The door release button shall have the following specifications:
   1. Button type: Illuminated.
   2. Button size: two inches square
   3. Lettering: “Push to Exit”
   4. Box size: Single gang
   5. Contacts: Momentary DPDT or (1 SPST N/O and 1 SPST N/C) 5A @ 30 VDC
   6. Built-in timer: Pneumatic timer, only required when used with electromagnetic locks.
   7. Finish: Bright Chrome
   8. Basis of design: RCI 991-PTD or equal.

B. For applications where the door release buttons will be located under a desk a rocker switch shall be used instead of the regular exit device. The design selection for the rocker switch is the RCI 909 surface mounted.

2.12 REQUEST TO EXIT EGRESS MOTION SENSOR

A. The egress sensors shall utilize passive infrared technology to detect the motion of individuals approaching a door. Upon activation this device shall release the lock, and shunt the magnetic door position switch to allow unobstructed egress through the door. This device shall be field adjustable to fit the monitoring requirements of the location where installed.

B. All request to exit motion sensors shall be provided with a trim plate for mounting the detector over a standard single gang junction box.

C. Basis of design: Detection Systems/Bosch model DS150i or an approved equal

2.13 MAGNETIC DOOR POSITION SWITCH – DPS

A. The standard recessed door position switch shall be Interlogix 1078 series or approved equal. The contact and the magnet shall be hermetically sealed in a one piece, molded, flame retardant ABS plastic housing for maximum strength and durability. The contact and magnet shall snap-lock into a predrilled 3/4” or 1” diameter hole. Color of the housing shall be off white, gray, or mahogany, and shall be provided in the appropriate color to match the door and doorframe. The magnet shall be made of Alnico V.

B. The standard position switch for a roll up door shall be an Interlogix 2207AH high security contact or approved equal.

C. On banks of doors where multiple doors are being monitored, door contacts shall be wired in series. All double doors shall receive (1) magnetic door position switch on each door leaf and shall report as one alarm point.

D. On exterior doors with impact resistant listings, use only surface mounted door position switches in lieu of the standard recessed door position switches. The design selection is the Interlogix 1085T or approved equal.

2.14 SURGE PROTECTION

A. All security components mounted outside the building and wired through low voltage copper conductor back to the building shall be provided with surge and lighting protection. Provide UL listed multi-stage protection on all low voltage and signal transmission lines. All 120 VAC surge suppression devices shall be EDCO HSP121BT-1RU or an approved equal. For low voltage connections provide FAS-1 surge suppressors manufactured by EDCO or an approved equal. For RS-485 or RS-422 connections provide PC642C-008LC with base PCB1B manufactured by EDCO or an approved equal.

B. For exposed Ethernet connections with PoE, use EDCO CAT6-E PoE or approved equal.

2.15 POWER SUPPLY – DOOR LOCKING HARDWARE AND SENSORS

A. Power supplies for door locks or powered sensors (i.e. request to exit motion sensors) shall be completely separate from power supplies for ISC or electronic hardware part of the card access system.

B. The power supply for door locks and powered sensors shall convert a 115 VAC 60 Hz input to a continuously supplied current of 24 VDC. The power supply shall be UL listed, NFPA compliant, and have multiple class 2 rated outputs. The power supply shall be housed in NEMA 1 hinged cover enclosures where mounted indoors and in fully weatherproof NEMA 4 enclosures when located outdoors or in an exposed or covered area. All enclosure doors shall be key lockable, keyed alike, and shall include a tamper switch for monitoring by the security system. Any cabinet opening shall initiate an alarm condition to the security monitoring system.

C. The power supply for door locks and powered sensors shall include a battery charger and a battery input to provide power to the locks after a main power system failure. The switchover to stand-by battery shall be automatic when main AC power fails.

D. Power supplies for regular locking hardware shall be installed next to access control panels.

E. Maintenance free batteries shall be provided with all power supplies. Batteries shall be sized to allow at least 4 hours of power backup. All power supplies shall be monitored for low battery through the access control system.

F. The power supply for door locks and powered sensors shall have the following features:
   1. Number of outputs: 16 programmable as fail-safe or fail secure individually
   2. Fire alarm disconnect: Yes, latching or unlatching and individually selectable for any of the inputs.
   3. Output protection: PTC
   4. Monitoring: AC fail and low battery with dry contact closure.

G. Basis of design: Altronix Maximal series.

2.16 VEHICLE CARD READER, CAMERA, AND INTERCOM PEDESTAL

A. The custom pedestal shall be manufactured from 2-inch aluminum square tubing with a welded backplate and a square mounting baseplate with tapped holes. The stand shall include a fitted flange cover to conceal the mounting baseplate and associated fasteners required to secure this unit to the concrete platform. The enclosure shall be an aluminum design with a secure cover to prevent unauthorized access. This enclosure shall be weatherproof to protect electronics from environmental conditions. Dimensions and configuration of the pedestals shall be as indicated the design drawings.

2.17 KEY SWITCH

A. The key switch shall be a capable of fitting in a dual gang box with a single device adapter. The specifications of the key switch are:
   1. Plate construction: ¼" extruded aluminum plate
   2. Switch mode operation: maintained action.
   3. Switch configuration: one SPDT and one DPDT
   4. Cylinder: Match owner's keying standard.
   5. Screws: tamper resistant.
   6. LED: bi-color (red-green) mounted in plate.
   7. Design selection: Rutherford controls International model 960 or similar.

2.18 SLIDE GATE OPERATOR

A. All slide gate operators for this project shall be provided under this scope of work. The placement of all gate controllers shall be coordinated with the locations shown civil and electrical documents. All gates shall be interfaced with the security system to restrict vehicle access into controlled areas.

B. The slide gate controller shall be designed for high traffic use, commercial grade and continuous cycle operation with gates up to 1,500 pounds in weight and 45 feet in length. It shall use a solid steel machined pulley and notched v-grove belt for high efficient torque transfer from the motor to the gear reducer. The unit shall be suitable for Class I, II, III and IV applications.

C. All control operations shall be provided through an advanced electronic control board that incorporates input and output control points on a solid state circuit board. Plug-in loop detectors shall be included for reverse detection.

D. The slide gate operator shall utilize a 1HP instant reversing 115VAC 7 amp motor with a precision limit switch system. The slide gate operator shall be ETL listed or UL 325 and UL 991 listed.

E. At a minimum each slide gate operator shall be provided with two (2) safety loops and sensors to prevent accidents.

2.19 IMPACT SENSOR

A. All slide gate operators shall be provided with a safety sensor to reverse the direction of the gate upon contact with an obstruction. The safety sensor for the sliding gates shall be a Miller-Edge model MU22 yellow color with XR5 chemical resistant cover.

B. All safety sensors shall be interfaced with a safety edge transmitter which shall be the device which sends the signal to the gate operator when an obstruction is encountered. The safety edge transmitter shall be model MGT manufactured by Linear Access.

2.20 EXTERIOR EQUIPMENT HOUSING

A. NEMA 4X rated stainless steel enclosures shall be provided to house electronic security equipment to all vehicle gates. The enclosure shall be constructed of 14 gauge stainless and shall have dimensions as required to hold electronics.

B. All enclosures shall be provided with a pad lock and a tamper switch for direct supervision. Any door opening shall initiate an alarm condition to the security monitoring system. All cores shall be keyed alike. A grounding package shall be provided for connection to a ground rod. A #8 solid copper ground wire shall be provided and installed from the ground lug to a grounding rod installed next to the enclosure.

C. All exterior enclosures shall include a compact air condition unit. The air condition unit shall be as indicated in the design drawings. All air condition units shall be monitored for proper operation through relay contacts through the access control system.

D. Basis of design: nVent Watershed, Type 4X

2.21 LOOP DETECTORS

A. Loop detectors shall be used to detect the presence of a vehicle in the spot where the loop detector is installed. Loop detectors shall be used as indicated in the design drawings to control gates, or to notify the presence of a vehicle in a specific area.

B. The loop detector system shall have the following specification:
   1. The unit shall have loop diagnostics, a loop isolation transformer and loop conditioner.

2. The unit shall have aluminum RF shield housing, surge protection and a loop frequency counter.
3. The unit shall have sensitivity controls (10 levels), function controls and operation controls, through dip switch settings.
4. Unit shall operate at 12 V AC/DC or 24 V AC/DC.
5. Unit shall have at least two outputs on SPDT contacts.

C. The size of the loop shall be as recommended by gate ISC manufacturer. The SSI shall estimate the number on turns to ensure a maximum detection height of 3.2 ft from the ground.

D. After the wire loop is installed the SSI shall seal the opening only with a commercial type loop sealant designed for traffic loops. The SSI shall install wire loops with backer rod to prevent the wire from moving. For sealants and baker rods use RAI products or similar manufacturer.

E. Loop detectors shall be installed inside a metal enclosure in the secure side of the gate. Loop detector can be installed inside the enclosure for the gate operator or in a separate Stainless Steel NEMA 4X enclosure sized for the dimensions of the devices.

F. Power for the loop detectors shall be provided from the gate operator or from a power supply located in the telecommunications closet, when the loop is not part of the gate safety or request to exit features.

G. Basis of design: D-Tek loop detector by EMX industries or recommended device by manufacturer of gate operator.

2.22 WIRE & CABLE

A. Cables for un-powered security sensors shall have the following specification:
1. Minimum cable gauge: AWG 20
2. Number of conductors: 2, stranded conductors
3. Conductor type: Bare copper
4. Cable insulation: Color coded PVC
5. Conductor insulation colors: Black and red.
6. Voltage rating: 300V
7. Cable shield: No cable shields

B. Cables for powered security sensors shall have the following specifications:
1. Minimum cable gauge: AWG 20
2. Number of conductors: 4, stranded conductors
3. Conductor type: Bare copper
4. Cable insulation: Color coded PVC
5. Conductor insulation colors: Black, red, white and green.
6. Voltage rating: 300V
7. Cable shield: No cable shields

C. Cables for access control readers shall have the following specifications:
1. Minimum cable gauge: AWG 22
2. Number of conductors: 6, stranded conductors

3. Conductor type: Tinned copper
4. Cable insulation: Color coded PVC
5. Conductor insulation colors: Black, red, white, green, orange (or brown) and blue.
6. Voltage rating: 300V
7. Cable shield: Aluminum/polyester foil (overall) with a AWG 24 tinned copper drain wire

D. Cables for RS-232, RS-422 or RS-485 control lines shall have the following specifications:
1. Minimum cable gauge: AWG 24
2. Number of conductors: 2-paired, stranded conductors
3. Conductor type: Tinned copper
4. Cable insulation: Polyethylene
5. Conductor insulation colors: White-blue, blue-white white-orange and orange-white
6. Voltage rating: 300V
7. Cable shield: Aluminum/polyester foil (overall), a tinned copper braid (90% coverage) and a AWG 24 tinned copper drain wire
8. Nominal characteristic impedance: 120 Ohms
9. Nominal capacitance: 12.8 pF/ft.
10. Nominal delay: 1.6 ns/ft.
11. Nominal attenuation: 0.6 dB/100 ft @ 1 MHz.

E. Cables for door locks and low voltage power supplies shall have the following specifications:
1. Minimum cable gauge: AWG 18
2. Number of conductors: 2, stranded conductors
3. Conductor type: Bare copper
4. Cable insulation: PVC
5. Conductor insulation colors: Black and red.
6. Voltage rating: 300V
7. Cable shield: No cable shields

F. Cables for loop detectors shall have the following specifications:
1. Minimum cable gauge: AWG 16
2. Number of conductors: 1, stranded conductors
3. Conductor type: Bare copper
4. Cable insulation: Cross-linked polyethylene (XLPE)
5. Conductor insulation colors: Black
6. Voltage rating: 600V
7. Cable shield: No cable shields

G. All UTP Category horizontal cables and fiber optic cables for the security system shall be in compliance of all requirements in specification section 271000 and shall be under the same warranty as all UTP category cables and fiber optic cables described in specification section 271000.

H. Cable gauge: All cable gauges shall be estimated as to allow a maximum of 5% voltage drop from the source to the load. Sizes given previously are only minimum gauges accepted. The SSI shall always estimate proper values.

I. Cable jackets: All cable jackets shall be suitable for the environment on which the cables will be installed. Use plenum rated cables when cables are installed in plenum spaces. Use riser rated cables when cables are installed through floor sleeves. Use cable jackets with water-blocking material when installed in underground conduits. All spaces above ceilings in this project shall be treated as plenum spaces. All cables with a NEC type TC shall be run fully in conduit from the panel to the device and shall be separated from other communication or Class 2 rated cables.

J. Cable jackets for this project: Except when cables are run continuously in conduit all cable jackets for access control cables shall be plenum rated.

K. All cables shall be RoHS compliant and free of VOC. The SSI shall provide proof of compliance for all cables during the submittal process.

L. Acceptable manufacturers: Belden, Alpha Wire Company, General Cable and West Penn Wire.

2.23 IDENTIFICATION AND LABELING TAGS

A. The SSI shall follow labeling materials indicated in specification section 270010

PART 3 - EXECUTION

3.1 SECURITY DOORS FUNCTIONALITY

A. The following paragraphs described the expected functionality of the typical security doors. The SSI shall use this description to draw the one line diagrams part of the shop drawings and described in part 1 of this specification. The SSI shall make sure the proposed wiring for each door type produces the desired functionality for each door type.

B. All control logic for this functionality shall be accomplished through local input/output events. Global events to accomplish these requirements are not allowed. Failure of the access control server shall not limit the functionality of the doors. When the word reader is used in the following descriptions, it means it is a generic device, it could be any type of reader (biometric, iClass, prox) with or without keypad, see the design drawings for particular selection for every door.

C. Devices indicated in the following paragraph as provided by Door Hardware Installer are only the devices that are associated with the security system. For further instructions of additional passive door hardware devices to be provided, see Division 8 specifications.

3.2 SECURITY SYSTEM INTEGRATION

A. General: A. The access control system software shall integrate with the other security system components as indicated in this section. The SSI shall be responsible for programming all security systems in such a way that interaction between the different

systems is achieved to provide a higher degree of security in the building. The minimum required integration features between the access control and the other security systems are described below:

B. ACCESS CONTROL AND DIGITAL VIDEO RECORDING SYSTEM
   1. The Access control software proposed shall integrate with the new Digital Video Recording System (DVRS) proposed for this project (refer to specification section 282000 for details on the Digital Video Recording System). The integration shall make the following features possible from the Access Control GUI:
      a. Event video tagging. Selectable security events in the access control system shall tag the recorded video, so when the operator reviews the event, video from that moment in time when the event took place shall be retrieved automatically and brought into a window of the access control GUI.
      b. DVRS playback control: Through the access control GUI, the operator shall be capable of controlling the video playback. The operator shall be capable of retrieving any recorded video from any camera by using a time search or an event search. The operator shall be capable of controlling the speed of the playback by selecting frame by frame playback or playback at higher speeds.
      c. Live video: The operator shall be capable of displaying live video in window in the access control GUI. The operator shall be capable of selecting the camera in the system that he/she wants to see. Up to 4 live video windows (live or recorded) shall be possible in every workstation running the access control GUI.
      d. PTZ Control: The operator shall be capable of controlling all PTZ features of a camera by simply using buttons in the Access Control screen with the orientation of movement.
      e. Alarm event: Any alarm event (like video analytic alarms, or video motion detection) in the DVRS shall be transferred to the access control system for processing as any other alarm in the access control system. Alarms shall be uniquely identified in the access control system.
      f. Status events: Any status events (system errors, or administration events) in the DVRS shall be transferred to the access control system for processing as any other status event in the access control system. Events shall be uniquely identified in the access control system.
      g. Export/load video file: the operator shall be able to export or load video files compatible with the recording format of the DVRS from the access control GUI.
      h. Recorder authentication: Since login is required for most DVRS, the login action on the Access Control System shall also grant access to the DVRS. Separate or further login to the DVRS shall not be required.
      i. Dry contact control: The operator shall be capable of triggering relay contacts part of the DVRS equipment from the access control GUI.
      j. Video locking: The operator shall be capable of locking video on the DVRS to prevent it from being purged accidentally. Locked video can be set to automatically purge or archive based on user defined thresholds.

C. CCTV SYSTEM
   1. Activation of access control system alarms (like door held open, door forced open, stolen/lost card used, duress alarm, alarms coming from other systems,

etc) shall call presets in the nearest CCTV cameras (one or more) to point towards the device that is in alarm. This action shall take place without any operator's intervention.

2. Activation of access control system alarms shall call any associated camera to the triggered alarm to the operator's workstation alarm monitor. This action shall take place without any operator's intervention. When the alarm is cleared by the operator the image of the alarm monitor shall be removed. Alarms from doors in detention areas shall be received in the monitors in Master Control Room, alarms from doors in other areas shall be received in Building control room.
3. Video loss alarm: loos of video signal on any of the surveillance cameras in the system shall trigger an alarm in the access control system.
4. Graphic substation calling: Intercom substations shall be represented with graphic icons in the graphic maps part of the Access control system GUI. Double clicking on those icons shall automatically create a call to that substation from the master station associated with the user workstation initiating the command.
5. Graphic camera calling: Surveillance cameras shall be represented with graphic icons in the graphic maps part of the Access control system GUI. Double clicking on those icons shall automatically open a video window with a live stream from that camera.

D. INTERCOM SYSTEM

1. Alarm event: Activation of an intercom substation (or code blue assistance station) shall be treated as an access control alarm event, calling camera presets and calling any associated cameras to the operator's alarm monitors. This action shall take place without any operator's intervention. Substations in detention areas shall generate those alarms in Master Control room while substations in building exterior or elevators (except the prisoner elevator) shall generate those alarms in Building control room.
2. Automatic call: Alarms from doors with intercom substations installed by the door shall generate an automatic call to the master station in the monitoring rooms from the substation. The call shall be placed to the same master station that the substation is programmed to call when user pushes the call button.
3. Remote door release: During a call from a substation by an access controlled door to a master station, the user in the master station side shall be capable of opening the door by pressing a key in the mater station keypad. This action shall not create any alarm conditions in the access control system.
4. Graphic substation calling: Intercom substations shall be represented with graphic icons in the graphic maps part of the access control system GUI. Double clicking on those icons shall automatically create a call to that substation from the master station associated with the user workstation initiating the command.
5. Graphic status: intercom substations in use in the system shall be represented with a different color (red) from stations not used (green) in the graphic maps part of the access control system GUI.

E. DOOR ENTRY SYSTEM

1. Remote door release: During a call from a substation by an access controlled door to a master station, the user in the master station side shall be capable of opening the door by pressing a key in the mater station keypad. This action shall not create any alarm conditions in the access control system.

F. ALARM SYSTEM.

1. Alarm events: Activation of a device in the alarm system shall be treated as an access control alarm event, calling camera presets, calling any associated cameras to the operator's alarm monitors and creating automatic intercom calls (if available). This action shall take place without any operator's intervention.
2. Status events: Status alarm conditions (faults or errors) shall be reported to the access control system with unique identifiers.
3. Graphic status: All alarm devices shall be represented with graphic icons in the graphic maps part of the access control system GUI. Alarm devices shall represent their status with a different color, red for "on alarm" condition, and green for "no alarm" condition in the graphic maps.

G. Different methods of integration are allowed between the access control system and the other systems. Integration methods are given different hierarchy as follows, relay integration is lowest hierarchy, serial line integration is considered medium hierarchy integration and API integration is considered high hierarchy integration. At a minimum integration between the different security system shall be provided with the integration method explained below. It is acceptable for the SSI to propose integration methods with higher hierarchy integration methods, but not with lower hierarchy methods. The requested integration methods with each system are as follows:
1. Access control system and DVRS API integration.
2. Access control system and CCTV system API integration.
3. Access control system and Intercom system API integration.
4. Access control and door entry system Relay integration
5. Access control and Alarm system API integration
6. Access control and Detention system Relay integration
7. Access control and Paging system Serial line integration or API.
8. Access control and AV system Serial line integration or API.

3.3 INSTALLATION PRACTICES

A. General: The SSI shall follow all installation practices indicated in specification section 270010.

B. Access control panels and multi-output power supplies shall be installed as to have in any cluster of panels no less than 2 spare ports (reader ports for access control) available per cluster of panels.

C. All power supplies shall be monitored for AC failure. When power supply provides a form c relay with low battery signaling, this contact shall also be monitored. All AC fail and battery low alarms shall be monitored through individual alarm inputs. Series connections of multiple alarm points shall not be allowed.

D. All buzzers inside card readers shall be wired as to function to alert users of different door status like (door held open alarm and door forced open alarm).

3.4 WIRING METHODS

A. All proposed wire and cable shall meet or exceed the recommendations established by the equipment manufacturers, and shall comply with all state and local codes.

B. Visually inspect all wire and cable for faulty insulation prior to installation. Protect cable ends at all times with acceptable end caps.

C. Provide grommets and strain relief materials where necessary to avoid abrasion and excess tension on wire and cable.

D. All termination of UTP Category type multi pair cables shall be done in Insulation Displacement Connectors (IDC), modular plugs or connectors. The use of wire nuts or manually twisting cables and protecting them with electrical tape are not acceptable means of termination.

E. All cable with gauges larger or equal to AWG-18 and all types of stranded conductors shall be terminated on termination blocks part of an active equipment or in termination blocks supplied by the SSI. The use of wire nuts or manually twisting cables and protecting them with electrical tape are not acceptable means of termination.

F. All termination blocks shall always be mount inside a security enclosure, with a hinged cover and lock. Up to 2 conductors can be terminated in the same point in a termination block as long as the combined diameter of the conductors does not exceed the maximum cable diameter allowed by the termination block. No more than 2 conductors shall be terminated in the same point at a termination block regardless of the cable gauges.

G. Termination blocks shall be used for wire terminations next to access control panels or for termination above the security doors. Termination blocks are not required for connection to security devices at the door side.

H. When equipment supplied has wire leads instead of termination en points for connections, the only acceptable methods of connection to field wiring are insulated butt splices, quick release connectors (both ends provided) or quick lock self stripping pig tail connectors. All connectors or splices shall be selected according to the gauge of the cable to be terminated.

I. All penetrations through fire rated barriers shall be provided, by the SSI, with appropriate fire stopping materials in accordance with NFPA requirements and local fire authority having jurisdiction.

J. All cable runs shall be continuous from the device to the equipment. Cable splices shall not be allowed inside conduits, or cable trays.

K. Cables of similar signal level shall be bundled together and kept physically separate from power cords, plug strips or other circuits with different potential. Exposed wire bundles or individual cables shall be neatly secured with self-clinching nylon "TY-Raps" (Thomas & Betts or equal).

L. All cables run part of the security system in areas where ceiling is not accessible or in building exterior shall be in conduit at all times.

M. All cables for security equipment shall be installed in conduit to the nearest accessible ceiling space, J-hook to the cable tray and from the cable tray and from the tray to the

equipment cabinets. The SSI shall provide all j-hooks to support the cables part of these components.

N. Components of the distribution system shall be installed in a neat, workmanlike manner consistent with all best practices.

O. Wiring color codes shall be strictly observed and terminations shall be uniform throughout the building.

P. Finger duct wire managers shall be used inside all equipment panels to properly dress cables.

3.5 IDENTIFICATION AND TAGGING

A. All cables, wires, wiring forms, terminal blocks, and terminals shall be clearly identified by pre-printed labels or tags. The permanent markings shall clearly indicate the function, source, and destination of all cabling, wire, and terminals. All cables shall be labeled at both ends of the cable with the same and unique identifier label.

B. Cable and equipment identifiers shall follow a standard labeling system like TIA/EIA-606. The identification system chosen by the SSI shall be submitted for approval to the A&E.

C. All access control panels, alarm panels, PLCs, or Intercom exchanges shall include a work sheet attached to the interior of the panel/ equipment in plastic envelops. This work sheet shall include the location, type of device and part number of all devices connected to the boards inside those equipments. All names used to identify devices in these worksheets shall match all names and identifiers used in the software or the user interface of the system. A second copy of this worksheet shall be delivered to as part of the as-built information.

3.6 SECURITY SYSTEM PROGRAMMING

A. Programming: It is the responsibility of the SSI to program all requested features in the access control system and the integration to other security systems. The programming responsibilities of the SSI include but not limited to:
   1. Program all security doors to achieve the desired operation as described in this specification section. The SSI shall coordinate with the owner the door names and numbers, building names, room names and numbers to be used for the programming.
   2. Program all components of the system to achieve the functionality described in this specification.
   3. Program at least 5 access profiles for card holders and all access profiles for doors.
   4. Create at least 5 administrator profiles. The owner will program any additional card holder profiles required in the system.
   5. Program at least twenty five (25) users in the system. The SSI shall get this information from the owner. The owner will program all other users in the system.

6. Program all required security features like macros and integration with other security modules like intercom and CCTV system.
7. Program all interfaces with the elevator control systems.
8. Program all GUIs in the system. The SSI shall use Autocad drawings to create all maps of the facility with the corresponding icons for control, operation and visualization of the security system. The SSI shall chose a scale for the drawings that allows all icons to be places without overlap and close enough to the actual physical location of the equipment in the map as to avoid ambiguity of the actual location of the devices. Nested maps shall be programmed to go from a complete building view to a detail zoned identifying all devices in the area.
9. The SSI shall coordinate with the owner what alarms from the access control system are to be considered major alarms. All major alarms shall be programmed by the SSI to provide the operator detail information on the type of operating procedure expected during those alarms. All mayor alarms shall be programmed as to provide the operator and input field to type the response taken by the operator.
10. All programming of remote monitoring features for the security system like telephone numbers to dial, reporting codes and alarm formats.
11. All alarm messages and descriptive text of those messages shall be programmed.

B. DOOR INTERLOCKS: When indicated in the drawings (or in the sally port) two doors that have a controlled door interlocks, the SSI shall program the security system as to provide the following functionality: While one door is opened the other door shall not be possible to be opened not by using a valid transaction at the reader neither by issuing a remote release command from the access control system.

C. The SSI shall work with the owner during the programming of the system to fine tune all programming requirements of the system, as per owner's request. Fine tune is defined for this purpose as changing all field parameters available in the system, as specified, to complete software options available in the system. Fine tuning does not indicate adding additional software modules or additional hardware.

3.7 ADDITIONAL INSTALLER RESPONSIBILITIES

A. Upon project commencement, the SSI shall provide qualified technical personnel on-site. Personnel shall be present on each consecutive working day until the system is fully functional and ready to begin the testing phase of this project.

B. During the installation process the SSI shall maintain an up-to-date set of as-built shop drawings, which shall always be available for review by the client and/or consulting engineers. This set of documents should be clearly annotated with as-built data as the work is performed. These documents will be reviewed as part of the approval process when evaluating payment request applications. At a minimum, the drawings should contain the following information:
1. Quantity and location of all equipment installed.
2. Cable and wire runs along with the designations tags assigned to each.
3. Wiring diagrams that indicate terminal strip layout, identification, and terminations.

C. The SSI Project Manager shall maintain continuous coordination with the A&E. The A&E shall be kept informed of the progress and all conflicts that arise during the course of this project. Prior to the start of construction the SSI shall submit a complete plan and schedule for proposed operations. This schedule should include information relevant to number of employees assigned to the project, work hours, etc.

3.8 SYSTEM WARRANTY AND SERVICE

A. General: The SSI shall follow all warranty and service requirements indicated in specification section 270010.

3.9 ENGINEER'S FINAL ACCEPTANCE TEST

A. General: The SSI shall follow all test requirements indicated in specification section 270010.

B. Additional requirements for the system acceptance test:
   1. The day of the final acceptance test the SSI shall have at least two (2) 2-way radios to communicate between the testing groups. Cell phones are not acceptable for communication since it takes too long to establish communication, and will delay the test substantially. Radios shall be fully charged, and spare batteries shall be available for 8 hours of use.
   2. The final acceptance test will be done with two groups of people. Each group will have at least one member of each stakeholder of the project (A&E, Owner, SSI, General Installer/ Construction Manager). One group will be station in the monitoring room the other group will be going to all locations in the project where security equipment is installed.
   3. During the final acceptance test every single device in the security system will be tested for normal operation and for simulated alarm conditions at both ends (the field devices and in the monitoring room). When possible, security equipment will be tested for operation during main power failure. All features requested in this specification will be tested.

C. Testing of all structured cabling system part of the Security System shall be done in accordance of specification section 271000

3.10 SPARE PARTS

A. As part of this project the SSI shall provide the following spare parts:
   1. One (1) Intelligent System ISC (ISC)
   2. One (1) Standard card readers
   3. One (1) Card reader with a keypad
   4. Two (2%) percent of all installed field devices, like local alarms, duress buttons, door position switches, tamper switches, request to exit motion sensors, etc.
   5. One (1) Power supply for locks
   6. One (1) power supplies for access control panels.
   7. Four (4) surge protection devices of each type used in the project.

B. A list of delivered spare parts shall be included with the close out information. This list shall indicate all components delivered and shall be signed received by the Owner. The name of person receiving the equipment shall be clearly written in the list and the date it was received.

3.11 TRAINING AND INSTRUCTION

A. General: The SSI shall follow all training requirements indicated in specification section 270010.

B. The SSI shall provide three (3) levels of training for this project as explained in this section.

C. USER TRAINING.
1. User training shall be provided for security personnel interacting with the security system in areas different from the security monitoring rooms. The purpose of this training is to explain clearly how the field devices operate and what the different status indicators mean.
2. This training shall cover operation of devices and doors like:
   a. Operation and indication of all types of readers in the project
   b. Operation of all roll-up doors.
   c. Operation of all vehicular gates.
   d. Resetting door alarms (local) for all door types.
   e. Resetting of duress alarm buttons.
   f. Operation of door interlocks
   g. Operation of the duress alarm notification system
3. This training shall be provided by personnel working directly for the SSI.
4. At least 4 separate sessions (on 4 different days) of this type of training shall be provided (one session video-taped only).
5. Each session could have up to 20 trainees.
6. No training material is expected to be provided

D. OPERATOR/ADMINISTRATION TRAINING.
1. Operator/Administration training shall be provided for security and IT personnel interacting with the security system in all security monitoring rooms. The purpose of this training is to explain clearly how the complete system operates and what the different status indicators mean.
2. This training shall cover at least the following topics:
   a. All content provided during the user training.
   b. Operation of the Access control software (all aspects).
   c. Operation of all devices inside the security monitoring room.
   d. Alarm response and alarm reset in the security monitoring room
   e. Data backup/restore and achieving.
   f. File import/export.
   g. Badging system operation (complete description)
   h. Creating reports and print outs.
   i. Basic system troubleshooting.
   j. Creating users and password reset.
3. This training shall be provided by personnel working directly for the SSI or a direct employee of the manufacturer of the system.

4. One session of this type of training shall be provided and video-taped. This session shall last no less than 24 hours, broken down into day sessions no longer than 6 hours each.
5. Each session could have up to 20 trainees.
6. The approved O&M manuals shall be available at the time of the training.

E. MAINTENANCE TRAINING.
1. Maintenance training shall be provided for maintenance and IT personnel. The purpose of this training is to explain how to troubleshoot and replace all field devices and hardware.
2. This training shall cover at least the following topics:
   a. Trouble shooting and replacement of all field devices.
   b. Installation of all field panels and settings (jumpers, dip switches, etc).
   c. Wire labeling system.
   d. Software system installation and recover from system crashes.
   e. Detail explanation on all physical keys used in security devices.
   f. Routine preventive maintenance procedures recommended by equipment manufacturers for all components of the system.
   g. Detail explanation of source code programming for all devices that have software code specifically compiled for this project.
3. This training shall be provided by personnel working directly for the SSI or a direct employee of the manufacturer of the system.
4. One session of this type of training shall be provided and video-taped. This session shall last no less than 18 hours, broken down into day sessions no longer than 6 hours each.
5. Each session could have up to 5 trainees.
6. The approved O&M manuals shall be available at the time of the training.

3.12 AS-BUILT DOCUMENTS AND CLOSE OUT INFORMATION.

A. General: The SSI shall follow all as built and close out information requirements indicated in specification section 270010

B. Additional requirements for as-built documentation shall include:
1. Approved as-built drawings shall be a complete set of floor plans drawings, riser diagrams, and wiring details indicating the layout and interconnection of the system. All cable routings and elevation of each outlet, tie, and riser cable terminations shall be required.
2. The content of the as-built information shall be no less than the content provided during the shop drawings, and shall be modified as per changes done during construction.

C. Close out information shall also include:
1. Two (2) digital backups of all configuration files and databases part of the security system not earlier than the day after the final acceptance test is approved. These backups shall include a list of all the file names used and a complete description of the system that each file name belong to. The media for these backups shall be a compatible media that can be read by the computer system running the specific software program.
2. Testing reports for structured cabling system used for the Security system.

END OF SECTION 281000

ATTACHMENT H
ADDENDUM #1

SECTION 282000 CLOSED CIRCUIT TELEVISION/VIDEO SURVEILLANCE SYSTEM

PART 1 - GENERAL

1.1 SCOPE OF WORK

A. The scope of work shall include furnishing all labor, all security video cameras, mounts, housings, power supply systems, connectors, monitors and consoles, workstations, network storage managers, video encoders, video decoders, video console displays, and keyboards, all other hardware and software and documentation required to provide a completely operational and working Closed Circuit Television (CCTV) System.

B. All materials for the structured cabling system (4-pair UTP cables, fiber optic cables and 24-AWG multi-pair (25 pairs or higher)) components required for the video surveillance system shall be in compliance with specification Section 271000.

C. The following parts of the system are not part of this contract:
   1. All networking equipment (switches, routers, etc) for the operation of the system
   2. All computers and software to run the security system with the exception of the items indicated in this specification.
   3. Software licenses for the video surveillance system beyond the 12 months included in this contract.

1.2 RELATED DOCUMENTS

A. General Terms and Conditions of the Contract Documents

B. Supplemental: Refer to the specification sections identified below for additional requirements, which are supplemented by this section.
   1. 270010 Technology General Provisions
   2. 270528 Raceways for Technology
   3. 271000 Structured Cabling System
   4. 270526 Ground and Bonding for Communications Systems
   5. 281000 Electronic Security System

1.3 CCTV INSTALLER QUALIFICATIONS

A. The Video Surveillance or CCTV installer (CI) selected for this project must be a direct representative of the products they intent to provide. All technicians assigned to install and configure this system shall be factory-trained. This company must be of established reputation and experience, regularly engaged in the supply and support of such systems for a period of at least five consecutive years under the current company name.

B. Other required CI qualifications are:

1. The CI shall agree, in writing, as part of their proposal, to provide both warranty and non-warranty service within 4 hours of notification of a problem. The CI shall be able to perform any and all repairs to the system within 24 hours.
2. The CI, as a minimum, must carry a current state-issued limited energy license.
3. The CI shall have staff trained in programming the CCTV system as described in this specification. The CI shall submit as part of the qualifications required, the resume of the programmers for the CCTV system as well as the training certificates for this staff from the manufacturer of the system.

1.4 MATERIALS ALTERNATES AND SUBSTITUTION

A. General: See details for alternates and substitution in specification section 270010

B. Cameras may be substituted as long as they have the same performance specification as the cameras used as the basis of design and as long as they are supported by the DVMS. It is the responsibility of the CI to verify and ensure that the cameras proposed as substitutions are supported by the DVMS. Any cost associated with certifying a proposed camera to the DVMS to be used in this project shall be covered by the CI.

1.5 SHOP DRAWINGS AND SUBMITTALS

A. The CI shall follow all requirements for shop drawings indicated in specification section 270010

B. The submittal process for this scope of work will be a two-stage process. The first stage is the product/installer approval. Within 60 business days of receiving contract approval and notice to proceed, the following items shall be submitted to the Architect and Engineer (A&E) of the project for review, as part of the product/installer approval process.
   1. Proof of Installer qualifications, addressing all requirements of paragraph 1.3 of this specification.
   2. Product numbers, specifications, and datasheets for all equipment.
   3. Datasheets and samples of all labeling materials and equipment to be used in the project.
   4. A complete explanation of the identification method to be used for all equipment and cabling parts of the CCTV system.
   5. Data sheets of all termination blocks and mounting accessories to be used in the project. A paragraph shall be added before each data sheet indicating the intended use of each type of termination block.
   6. Detailed drawings of all custom products to be used in the project.
   7. Data sheets for all wires and cables to be used as part of this system. A paragraph shall be added before each data sheet indicating the intended use (to connect what type of devices) of each cable.

C. The second stage of the submittal process is the shop drawing process. Shop drawings shall only be submitted after all portions of the product/installer approval have been accepted by the A&E. The following information is required as part of the shop drawings:

1. Floor plans indicate all devices to be provided, and all cable runs to all devices or junction boxes. All cameras shall indicate the camera number in the system and the type of camera and mounting.
2. Point-to-point wiring diagrams indicating all termination points for each conductor and for each device, cable types, and color coding of each termination. These diagrams shall be submitted for each camera type.
3. Storage calculation. The CI shall provide a spreadsheet with all the cameras in the project and the proposed recording frame rates, resolutions, activity percentages and times of recording with the total number of storage bytes per camera and a total for the system. The total storage capacity shall be indicated in Terabytes.
4. Bandwidth calculation. If the CI is not responsible for the networking equipment, the CI shall provide a bandwidth calculation. This calculation shall be presented in the form of a spreadsheet using MBPS as the units listing all cameras in the project. The spreadsheet shall have subtotals per network region associated with a storage area.
5. Video recording server assignment. A list of all the video servers to be provided in the project with a list of all cameras assigned to each server. Each server shall have a total bit rate estimated for all the cameras recorded showing that the capacity requirements of the server comply with the requirements in this specification.
6. Panel schedules in a table format, indicating all ports being used and what device is connected to each port. Panel schedules shall be submitted for all camera power supplies, multiport encoders/decoders, computer monitor outputs, fiber optics distribution frames, Ethernet switches, patch panels, termination blocks, etc.
7. Overall system diagrams indicating all head-end components, their room location, and all configuration characteristics like IP addresses, serial ports used, etc.
8. A field of view study. This field of view is a collection of still pictures with the precise field of view for each camera to be installed in the project. The field of view shall be the same coverage as the camera specified and will be used to verify the installation of the cameras and during the acceptance test.
9. Outline of the testing process.

1.6 ABBREVIATIONS

A. The following abbreviations are used in this document:
   1. API - Application Programming Interface
   2. ASCII - American Standard Code for Information Interchange
   3. BPS - Bits Per Second
   4. CIF - Common Intermediate Format (352 X 240)
   5. 2CIF - Common Intermediate Format (704 X 240)
   6. 4CIF - Common Intermediate Format (704 X 480)
   7. DVI - Digital Visual Interface
   8. DVMS – Digital Video Management System
   9. FCC - Federal Communications Commission
   10. GUI - Graphical User Interface
   11. HDMI - High Definition Multimedia Interface
   12. ID - Identification

13. I/O - Input /Output
14. IPS - Images Per Second
15. MBPS - Mega Bits per Second
16. NTP - Network Time Protocol
17. NTSC - National Television Standard Committee
18. ODBC - Open Database Connectivity
19. ONVIF - Open Network Video Interface Forum
20. O&M - Operations and Maintenance
21. PAL - Phase Alternating Line
22. PIN - Personal Identification Number
23. PTZ - Pan/Tilt/Zoom
24. RAID - Redundant Array of Independent Disks
25. RoHS - Restriction of Hazardous Substances Directive
26. SDRAM - Synchronized Dynamic Random Access Memory
27. STP - Shielded Twisted Pair
28. TCP/IP - Transmission Control Protocol/Internet Protocol
29. UL - Underwriters Laboratories, Inc.
30. UPS - Uninterrupted Power Supply
31. USB - Universal Serial Bus
32. UTP - Unshielded Twisted Pair
33. VOC - Volatile Organic Compounds

1.7 SYSTEM DESCRIPTION

A. The CCTV system shall be a TCP/IP network-based, fully distributed digital video system. The CCTV system will utilize local area networks (LAN) as a transmission medium for video, configuration, as well as storage of all data. The CCTV system shall provide full video control at the management point indicated in the design drawings, with additional full selection capability at any point within the network from a workstation or a video console display. The CCTV system shall provide unlimited expansion capability for the addition or modification of any video device or computer workstation.

B. The CCTV system shall permit normal and event monitoring of all secured areas. In all cases, the equipment shall be state-of-the-art, standardized commercial off-the-shelf, and modular. In all cases, the method of communication from remote locations within the network to the central components shall be transparent to the user. Equipment shall be selected and installed so repairs may be accomplished on-site by module replacement, utilizing spare components whenever possible.

C. The intent of this specification is to provide the owner with a distributed networked digital security system. Supplied by the CI, the CCTV system shall be complete and operational per the performance requirements and objectives of these specifications. The CI shall be responsible for the coordination of related work with other trades affecting his/her work or the work of others.

D. The CCTV System shall be fully integrated with other security components such as access control, alarm monitoring, and intercom communications. The system shall be fully integrated with the access control application to allow events to be directly linked

to the CCTV surveillance recording system. See specification section 281000 for details of the integration scope of work and the performance required.

E. All cameras shall be connected and controlled through a CCTV workstation utilizing a standard mouse and keyboard.

PART 2 - PRODUCTS

2.1 DIGITAL VIDEO MANAGEMENT SYSTEM

A. The digital video management system shall be composed of off-the-shelf management servers, a storage system, and the DVMS Software.

B. The DVMS recording servers shall process all video streams for recording, live viewing, and playback for the cameras assigned to that recorder. Servers shall be provided in quantities so that any single server is not being used at more than 75% of the maximum bit rate capacity of the server. Quantities of servers indicated in the drawings are preliminary and the CI shall provide calculations to the A&E of the final quantity of servers to be provided.

2.2 DIGITAL VIDEO MANAGEMENT SYSTEM SOFTWARE

A. The CI shall provide all software required for the complete operation of the video surveillance system.

B. The approved products for this system are:
1. Lenel – OnGuard Video
2. American Dynamics – VideoEdge
3. Qognify – Ocularis or VideoHub
4. Genetec – Omnicast (Basis of Design)
5. Pelco - VideoExpert
6. Bosch - BVMS
7. Kantech Systems – Intevo
8. Honeywell – Pro-Watch, MaxPro-VMS
9. Panasonic – Video Insight

C. Other surveillance system software can be accepted prior approval of the A&E.

D. At a minimum the video surveillance system software shall provide the following key features:
1. Ability to see live video and recorded video in the same application software.
2. Ability to export video to an open standard file like AVI files
3. Ability to integrate with other system with features as indicated in this specification.
4. Support browser based clients and standard client workstation.
5. Have video analytics incorporated into the DVMS.

2.3 DVMS VIDEO SERVER

A. The DVMS management server shall have the following specifications:
   1. Processor: One (1) Six Core Processors, at 2.9GHz CPU, Energy Smart
   2. Cache: 12 MB
   3. Memory: 16 GB DDR4, Energy Smart
   4. Graphics card: SVGA Graphic Card (with VGA connector)
   5. Hard drive configuration: Integrated SAS/SATA Raid 5
   6. Back plane: (8) 2.5” or (4) 3.5” hard drives
   7. Hard drives: Four (4) 16TB 7200 RPM 6Gbps 3.5” HotPlug hard drives
   8. Network Card: Dual 10/100/1000 Base-T
   9. Power supply: Energy Smart redundant power supply with dual cords. NEMA 5-15p 15A 10 ft. cords.
   10. USB ports: Minimum six (6) USB 2.0
   11. Serial ports: Minimum one (1) RS-232 in DB-9 connector.
   12. Options: USB to PS2 adapter for KVM connectivity
   13. Mounting: Rack chassis with sliding rapid/versa rails and cable management arm.
   14. Operating system: As recommended with software licenses to connect (2) workstations and all cameras in the project.
   15. Warranty: 3 –year warranty.
   16. Design Selection: Genetec Streamvault Directory Server.
   17. Accessories: Standard USB keyboard and USB optical mouse For rack mounted devices, USB to PS2 adapters are required.
   18. Operating system: Windows version as recommended by Genetec.

2.4 DVMS DIRECTORY SERVER

A. The DVMS Directory server shall be provided, see plans for requirements.

2.5 KVM SLIDE TRAY

A. Rack mount pull out monitor, keyboard, mouse, KVM switch shall allow all equipment requiring a computer type machine interface to utilize a single point for control and viewing. All equipment shall connect to the KVM for control.

2.6 FIXED IP CAMERA

A. See Plans for basis-of-design camera manufacturer and model.

B. The fixed IP camera shall include a built-in 100Base-TX network interface for live streaming to a standard Web browser.

C. The fixed IP camera shall operate in an IP video system environment specified for this project and shall be controllable from that platform, as well as open architecture connectivity for third-party software recording solutions.

2.7 CAMERA MOUNTS AND DOME MOUNTS

A. Camera, enclosures and dome mounts shall be provided as shown in the design drawings. The CI shall choose the mounts based on the equipment being supported. All mounts shall be made by the same manufacturer of the cameras. Custom-made mounts are not acceptable unless approved by the A&E.

B. All camera mounts and dome mounts shall me made of steel, aluminum or stainless steel. Plastic mounts are not acceptable. Outdoor-rated mounts shall be used for outdoor cameras, and indoor-rated mounts shall be used for indoor cameras.

2.8 LENSE FOR FIXED CAMERAS

A. All lenses for fixed cameras shall be selected to provide the optimum viewing angle. All lenses shall be autoiris with CS mount and compatible with the camera format being provided. All lenses shall be varifocal.

B. Lenses for megapixel cameras shall be designed specifically for that type of cameras.

PART 3 - EXECUTION

3.1 WIRING METHODS

A. All cables, wires, wiring forms, terminal blocks, and terminals shall be clearly identified by pre-printed labels or tags. The permanent markings shall clearly indicate the function, source, and destination of all cabling, wire, and terminals. All cables shall be labeled at both ends of the cable with the same and unique identifier label.

B. Cable and equipment identifiers shall follow a standard labeling system like TIA/EIA-606. The identification system chosen by the CI shall be submitted for approval to the A&E.

C. All camera power supplies, patch panels shall include a work sheet attached to the interior of the equipment cabinet in plastic envelops. This work sheet shall include the location, type of device and part number of all devices connected to the boards inside those equipments. All names used to identify devices in these worksheets shall match all names and identifiers used in the software or the user interface of the system. A second copy of this worksheet shall be delivered to as part of the as-built information.

3.2 CCTV SYSTEM PROGRAMMING

A. The CI shall program the CCTV system and the integration to the Security System as indicated in specification section 281000.

B. IP Video Management System (IPVMS) programming: The CI is responsible for all programming and installation labor associated with the IPVMS and the CCTV workstations, as well as all components to make the system operational. The CI shall

program the IPVMS system as to create the minimum amount of traffic in the network, and still comply with all resolutions and frame rates as indicated in this specification.

C. IP video frame rate setting: The CI shall program all settings for the IPVMS following these criteria:
   1. The system shall be programmed for 2 different modes of operation: high activity mode and low activity mode. The CI Installer shall work with the owner to establish in a regular week for each area of the building what hours in each day are considered high activity and what hours of each day are considered low activity.
   2. All cameras in low traffic interior non-public hallways or rooms shall be recorded normally at 15fps @ highest resolution during high activity mode. During high activity mode frame rate shall be increased to 30 fps upon motion detection or alarm from access control system in the field of view for at least 5 minutes after motion ceased or alarm cleared. Upon motion detection in the field of view of those cameras, the frame rate shall be increased to 30 fps @ highest resolution for at least 5 minutes after motion ceased.
   3. All cameras in public areas inside the building shall be recorded at least at 30 fps @ highest resolution during high activity mode. During low activity mode cameras in these areas shall be recorded at 15 fps. Upon motion detection in the field of view of those cameras, the frame rate shall be increased to 30 fps @ highest resolution for at least 5 minutes after the motion ceased.
   4. All site and exterior cameras shall be recorded at 15 fps @ highest resolution at all times.

3.3 ADDITIONAL INSTALLER RESPONSIBILITIES

A. Upon project commencement, the CI shall provide qualified technical personnel on-site. Personnel shall be present on each consecutive working day until the system is fully functional and ready to begin the testing phase of this project.

B. During the installation process the CI shall maintain an up-to-date set of as-built shop drawings, which shall always be available for review by the client and/or consulting engineers. This set of documents should be clearly annotated with as-built data as the work is performed. These documents will be reviewed as part of the approval process when evaluating payment request applications. At a minimum, the drawings should contain the following information:
   1. Quantity and location of all equipment installed.
   2. Cable and wire runs along with the designations tags assigned to each.
   3. Wiring diagrams that indicate terminal strip layout, identification, and terminations.

C. The CI Project Manager shall maintain continuous coordination with the consulting engineers. The engineers shall be kept informed of the progress and all conflicts that arise during the course of this project. Prior to the start of construction the CI shall submit a complete plan and schedule for proposed operations. This schedule should include information relevant to number of employees assigned to the project, work hours, etc.

3.4 REQUEST OF IP ADRESSES

A. The CI shall work with the owner's IT staff to obtain IP addresses for cameras.

3.5 SYSTEM WARRANTY AND SERVICE

A. General: The CI shall follow all warranty and service requirements indicated in specification section 270010.

3.6 ENGINEER'S FINAL ACCEPTANCE TEST

A. General: The CI shall follow all test requirements indicated in specification section 270010.

B. Additional requirements for the system acceptance test:
   1. The day of the final acceptance test the CI shall have at least two (2) 2-way radios to communicate between the testing groups. Cell phones are not acceptable for communication since it takes too long to establish communication, and will delay the test substantially. Radios shall be fully charged, and spare batteries shall be available for 8 hours of use.
   2. The final acceptance test will be done with two groups of people. Each group will have at least one member of each stakeholder of the project (A&E, Owner, CI, General Installer/ Construction Manager). One group will be station in the monitoring room the other group will be going to all locations in the project where security equipment is installed.
   3. During the final acceptance test every single camera will be tested in the system. When possible, CCTV equipment will be tested for operation during main power failure. All features requested in this specification will be tested

C. Testing of all structured cabling system part of the Video Surveillance system shall be done in accordance of specification section 271000

3.7 SPARE PARTS

A. As part of this project the SSI shall provide the following spare parts:
   1. One (1) additional surge suppression of each type used in the project.

B. A list of delivered spare parts shall be included with the close out information. This list shall indicate all components delivered and shall be signed received by the Owner. The name of person receiving the equipment shall be clearly written in the list and the date it was received.

3.8 TRAINING AND INSTRUCTION

A. General: The CI shall follow all training requirements indicated in specification section 270010.

B. The CI shall provide two (2) levels of training for this project as explained in this section.

C. MAINTENANCE/OPERATOR/ADMINISTRATION TRAINING.
1. Operator/Administration training shall be provided for security and IT personnel interacting with the CCTV system in all security monitoring rooms. The purpose of this training is to explain clearly how the complete system operates and what the different status indicators mean.
2. This training shall cover at least the following topics:
   a. Operation of the CCTV system software (all aspects).
   b. Operation of all devices inside the security monitoring room.
   c. Alarm response and alarm reset in the security monitoring room
   d. Data backup/restore and achieving.
   e. File import/export.
   f. Creating reports and print outs.
   g. Basic system troubleshooting.
   h. Creating users and password reset.
   i. Maintenance.
3. This training shall be provided by personnel working directly for the CI or a direct employee of the manufacturer of the system.
4. One session of this type of training shall be provided and digitally recorded. This session shall last no less than 4 hours.
5. The approved O&M manuals shall be available at the time of the training.

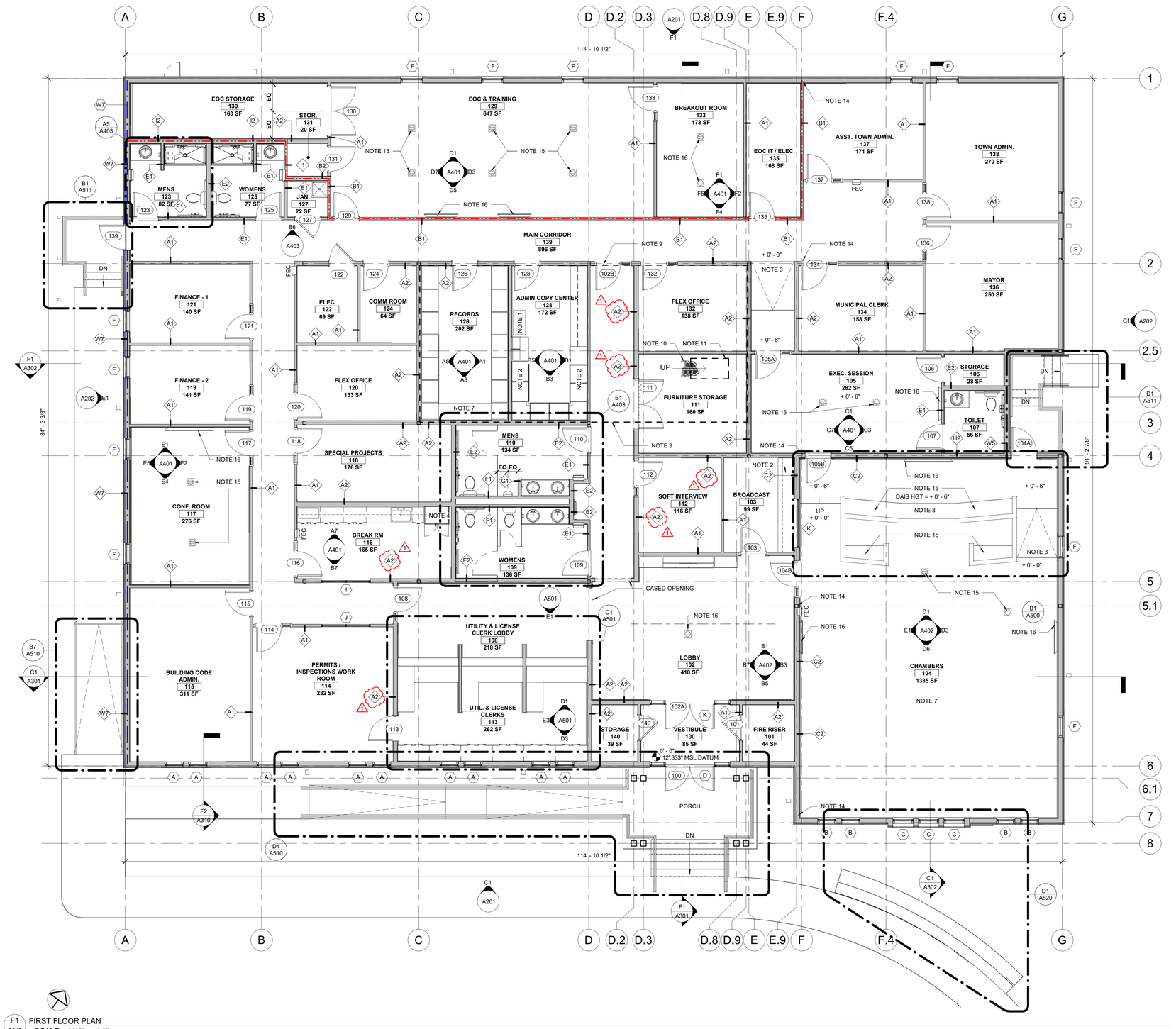
3.9 AS-BUILT DOCUMENTS AND CLOSE OUT INFORMATION

A. General: The CI shall follow all as built and close out information requirements indicated in specification section 270010

B. Additional requirements for as-built documentation shall include:
1. Approved as-built drawings shall be a complete set of floor plans drawings, riser diagrams, and wiring details indicating the layout and interconnection of the system. All cable routings and elevation of each outlet, tie, and riser cable terminations shall be required.
2. The content of the as-built information shall be no less than the content provided during the shop drawings, and shall be modified as per changes done during construction.

C. Close out information shall also include:
1. Two (2) digital backups of all configuration files and databases part of the CCTV system not earlier than the day after the final acceptance test is approved. These backups shall include a list of all the file names used and a complete description of the system that each file name belong to. The media for these backups shall be a compatible media that can be read by the computer system running the specific software program.
2. Testing reports for structured cabling system used for the CCTV system.

END OF SECTION 282000



F1 A101 FIRST FLOOR PLAN
SCALE: 3/16" = 1'-0"

ATTACHMENT I
ADDENDUM #1

SEALS

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5073
REGISTERED ARCHITECT

NOTES:

1. COPY / FAX MACHINE
2. CABINETRY - PLASTIC LAMINATE BASE & WALL CABINETS, SOLID SURFACE COUNTERTOPS
3. ADA RAMP TO DAIS (+0' - 6")
4. REFRIGERATOR WITH ICE MAKER
5. STOREFRONT BORROWED LIGHT
6. FILE STORAGE CABINETS
7. FLOOR OUTLETS THROUGHOUT ROOM
8. CUSTOM DAIS BENCH
9. LINE OF MECHANICAL AREA ON ROOF.
10. LAPEYRE STAIR (SHIP'S LADDER) TO ROOF ACCESS
11. ROOF ACCESS HATCH ABOVE
12. ALUM. FLAGPOLES
13. CONCRETE PLANTER/SIGN WALL WITH WOOD SEATING CAP
14. STRUCTURAL COLUMN. SEE "S" SHEETS
15. FLOOR OUTLETS. SEE ELECTRICAL SHEETS & TECHNOLOGY SHEETS.
16. WALL MOUNTED LCD TV, SEE INTERIOR ELEVATION FOR MOUNTING HEIGHT (SEE ELEC & TECH. SHEETS)

GENERAL NOTES:

1. ALL EXTERIOR STOREFRONT/WINDOWS TO BE HURRICANE/IMPACT RESISTANT

LEGEND:

FLOOR MOUNTED OUTLET

TOTAL SQ. FT. = 9,403

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO
BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

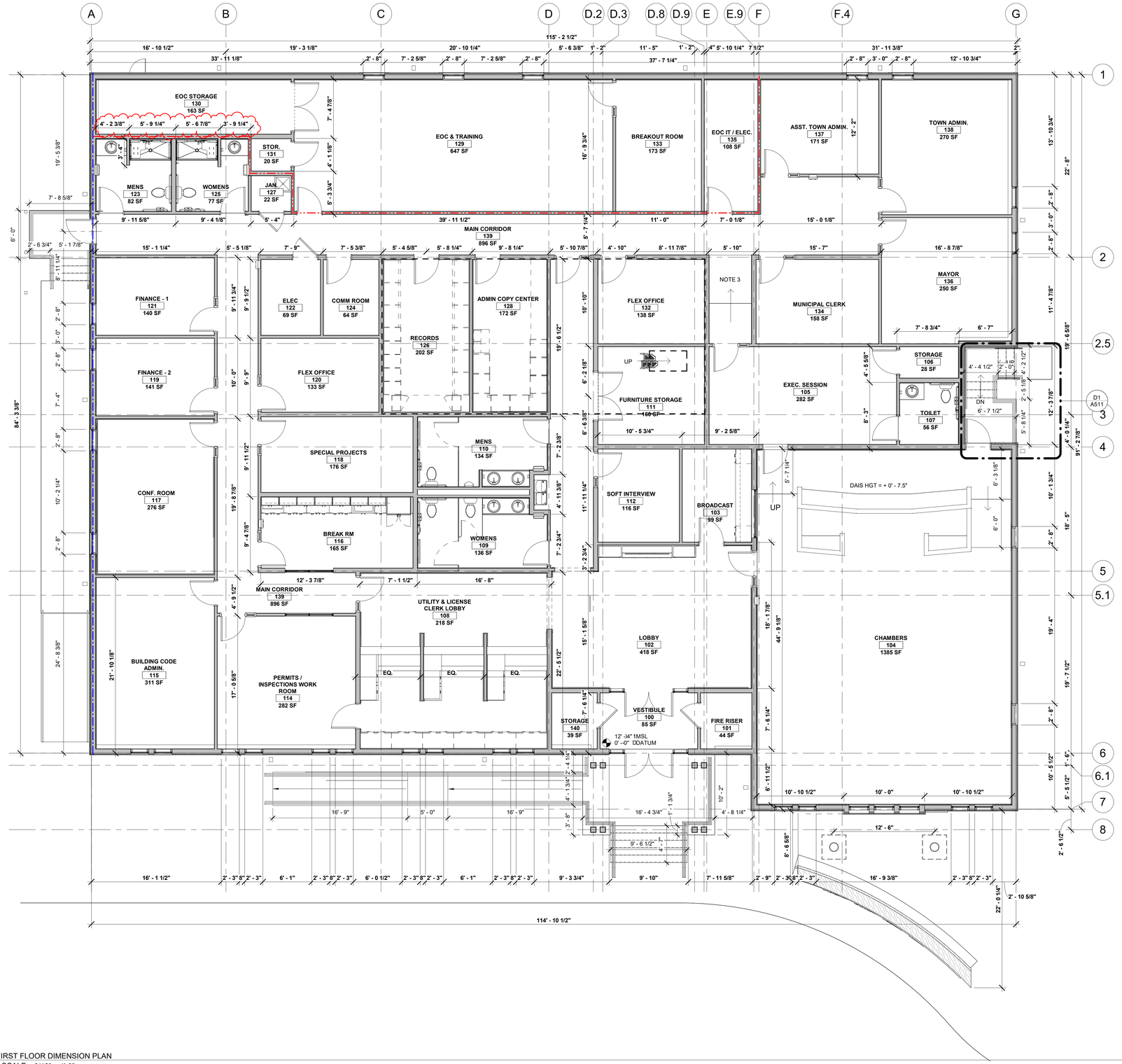
FIRST FLOOR PLAN

SHEET NAME

PROJECT NUMBER 23001
DRAWN BY GLP
CHECKED BY Approver
DATE 01/10/2025
SCALE As indicated

A101

2/5/2025 1:51:26 PM



F1 / A102 FIRST FLOOR DIMENSION PLAN
SCALE: 3/16" = 1'-0"

ATTACHMENT J
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5073
REGISTERED ARCHITECT

SEALS

NOTES:

02/05/25	1	ADDENDUM 1

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1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

DIMENSION PLAN

SHEET NAME

PROJECT NUMBER	23001
DRAWN BY	Author
CHECKED BY	Approver
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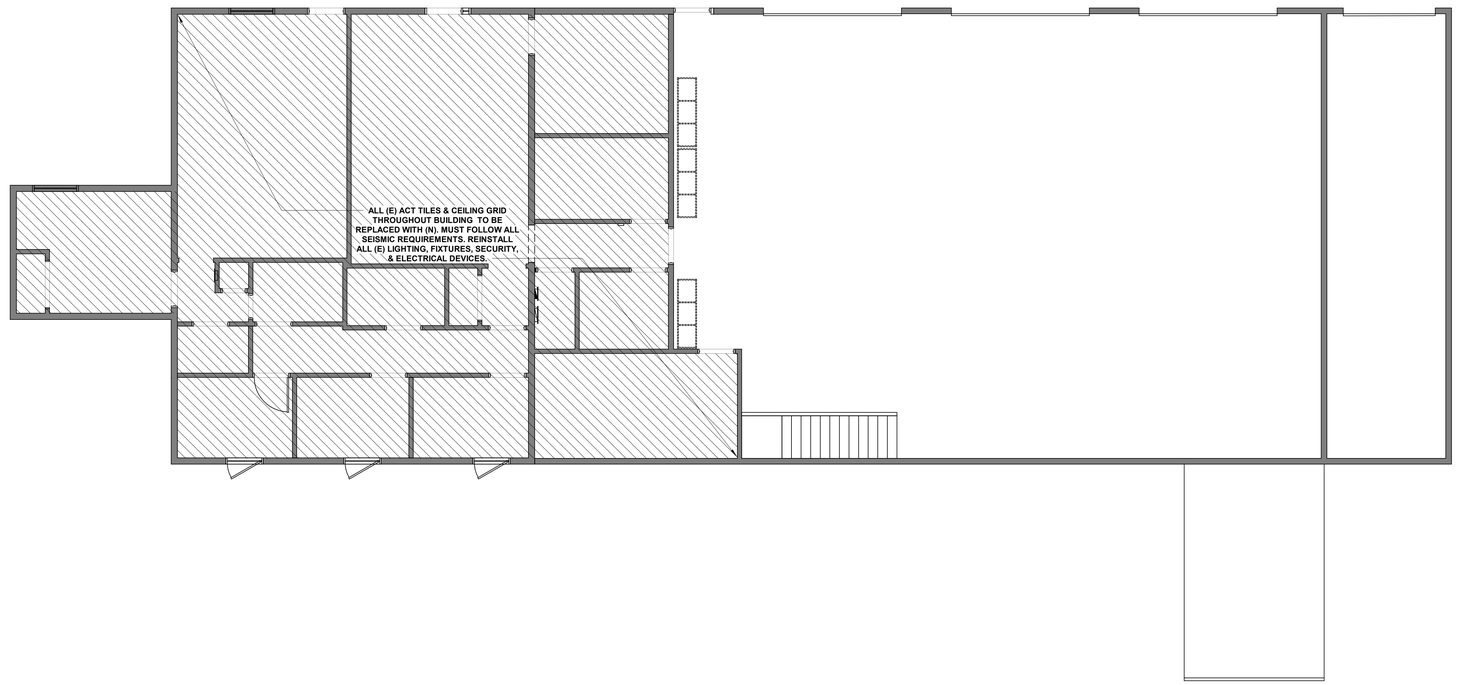

E2 / A121 EXISTING FIRE STATION - FIRST FLOOR REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"

ATTACHMENT K
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

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STEVEN HARLEY COE
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NOTES:

02/05/25	1	ADDENDUM 1

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1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

EXISTING FIRE STATION - FIRST FLOOR REFLECTED CIELING PLAN

SHEET NAME

PROJECT NUMBER: 23001
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CHECKED BY: Approver
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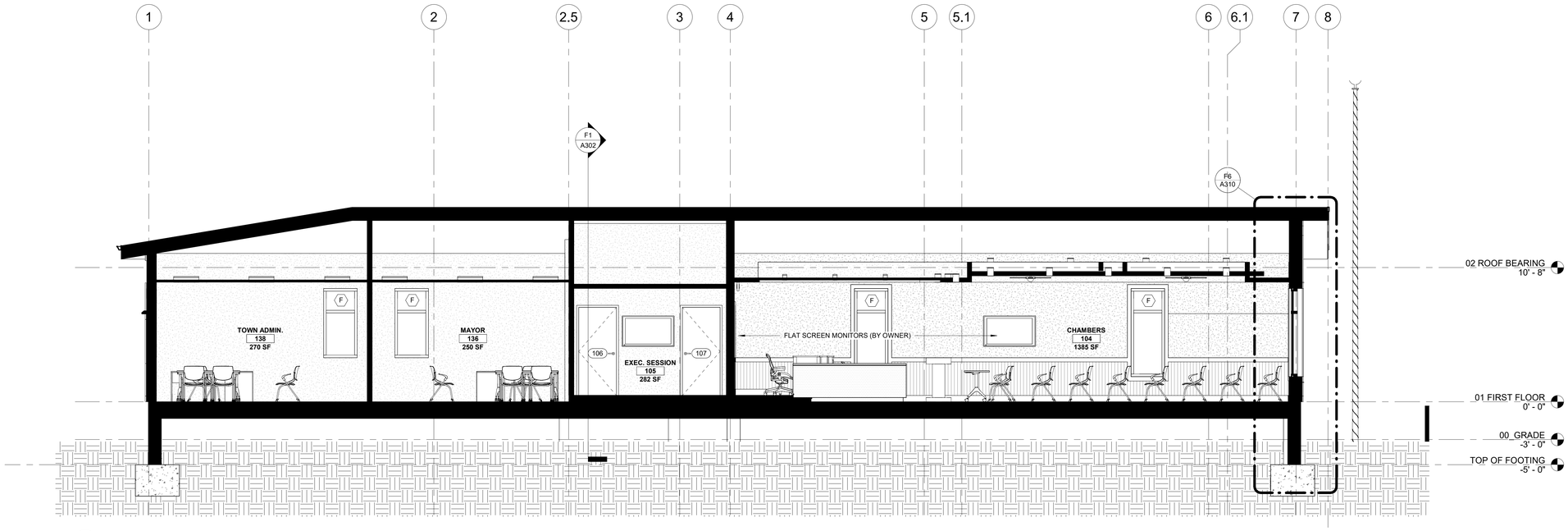
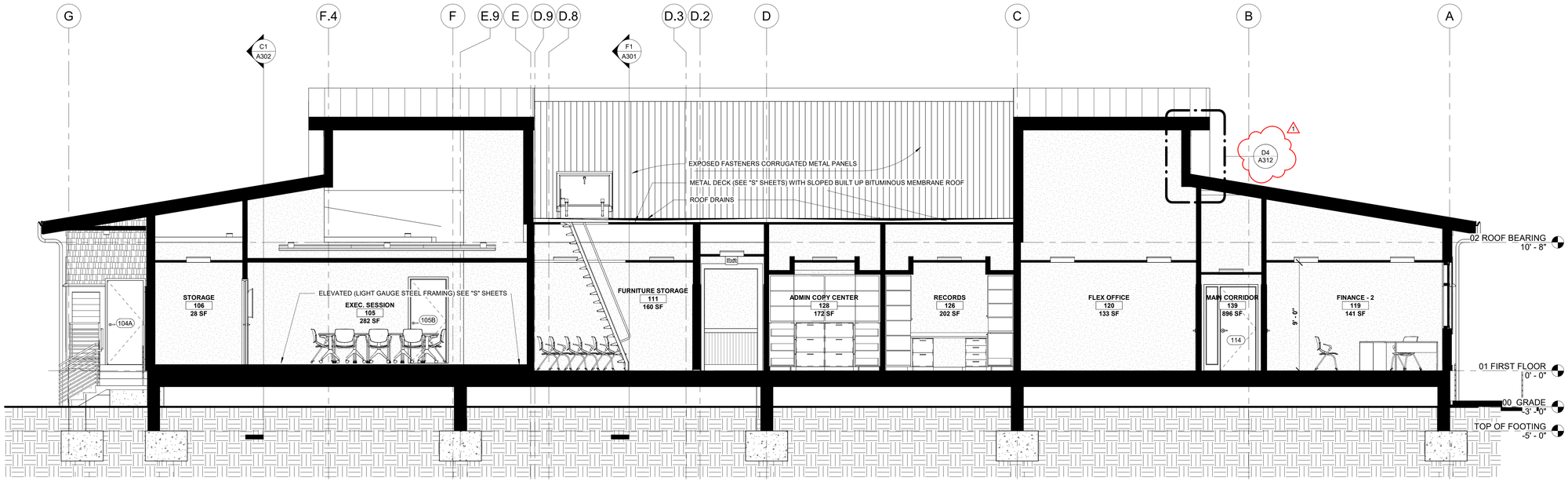


C1 A302 BUILDING SECTION THROUGH CHAMBERS & EXECUTIVE OFFICES
SCALE: 1/4" = 1'-0"



F1 A302 BUILDING SECTION THROUGH MECHANICAL AND ROOF ACCESS
SCALE: 1/4" = 1'-0"

ATTACHMENT L
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5573
REGISTERED ARCHITECT

SEALS

NOTES:

02/05/25	1	ADDENDUM 1

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2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

BUILDING SECTIONS

SHEET NAME

PROJECT NUMBER	23001
DRAWN BY	Author
CHECKED BY	Approver
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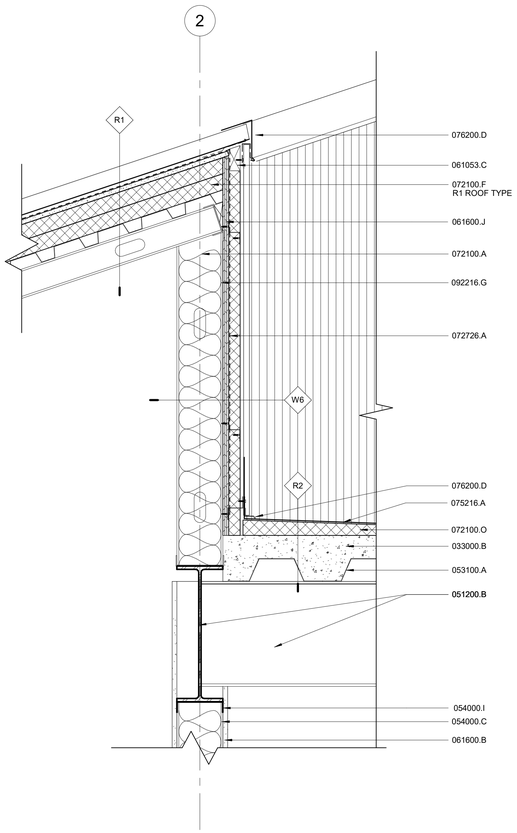
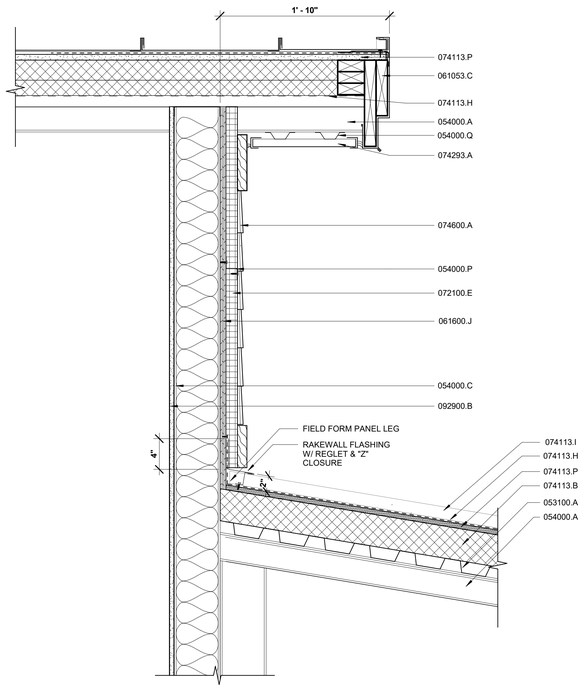


D1 A312 WALL SECTION THROUGH MECHANICAL ROOF DECK
SCALE: 1 1/2" = 1'-0"



D4 A312 WALL SECTION THROUGH RAKE WALL
SCALE: 1 1/2" = 1'-0"

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
033000.B	CONCRETE SLAB- SEE 'S' SHEETS
051200.B	STEEL BEAM SEE 'S' SHEETS
053100.A	STEEL DECKING - SEE 'S' SHEETS
054000.A	COLD FORM METAL FRAMING SEE 'S' SHEETS
054000.C	6 IN. COLD FORMED METAL FRAMING
054000.I	6 IN. RADIUSED TRACK
054000.P	Z FURRING
054000.Q	GALVANIZED HAT CHANNEL
061053.C	WOOD BLOCKING - PRESSURE TREATED
061600.B	GYPSUM SHEATHING
061600.J	3/4 IN. PRESSURE TREATED PLYWOOD SHEATHING
072100.A	THERMAL INSULATION
072100.E	1-1/2 IN. RIGID INSULATION
072100.F	2 IN. RIGID INSULATION
072100.O	TAPERED RIGID INSULATION
072726.A	FLUID-APPLIED MEMBRANE AIR BARRIERS
074113.B	POLYISOCYANURATE BOARD INSULATION
074113.H	SELF-ADHERING SHEET UNDERLAYMENT
074113.I	STANDING SEAM METAL ROOF
074113.P	COVER BOARD
074293.A	PREFINISHED METAL SOFFIT
074600.A	SIDING
075216.A	STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING
076200.D	PREFINISHED METAL FLASHING
092216.G	6 IN. METAL STUD
092900.B	5/8 IN. GWB

CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
STATE OF SOUTH CAROLINA REGISTERED ARCHITECTS

STEVEN HARLEY COE
REG. NO. 5073
STATE OF SOUTH CAROLINA REGISTERED ARCHITECT

SEALS

NOTES:

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

WALL SECTIONS

SHEET NAME

PROJECT NUMBER	23001
DRAWN BY	Author
CHECKED BY	Approver
DATE	01/10/2025
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A312

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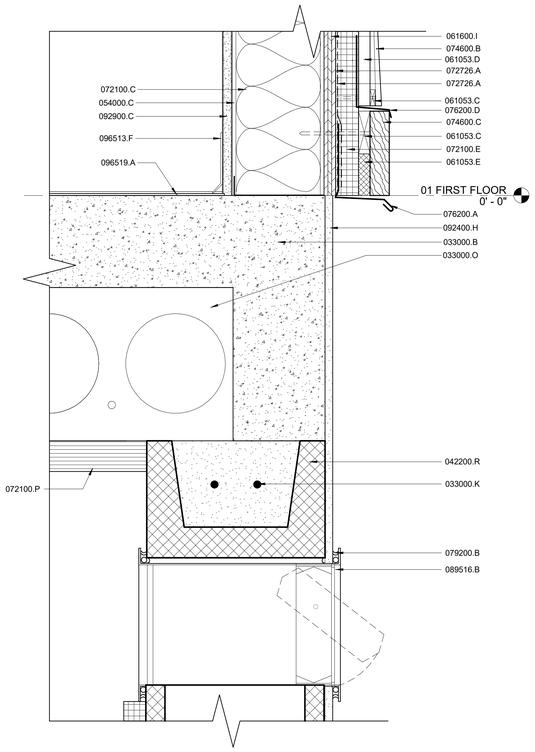
ATTACHMENT M
ADDENDUM #1



C1 A320 SECTION DETAIL @ BASE OF WALL TYPE - W1 @ SMART VENT
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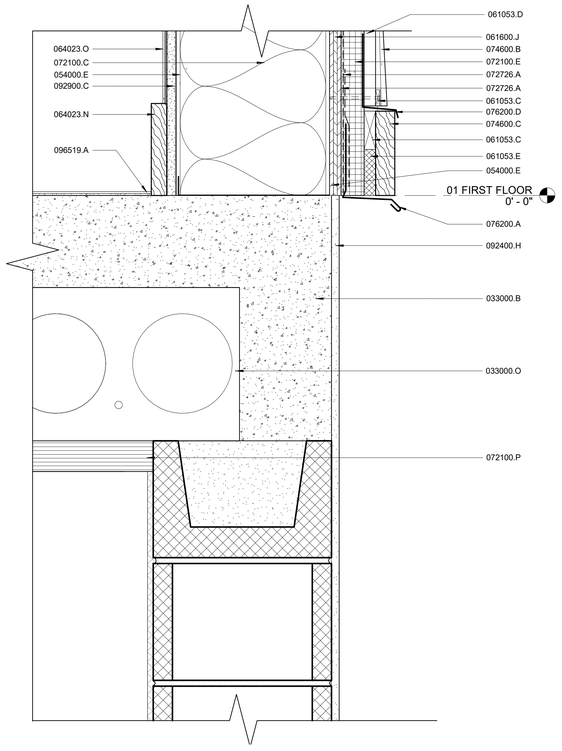

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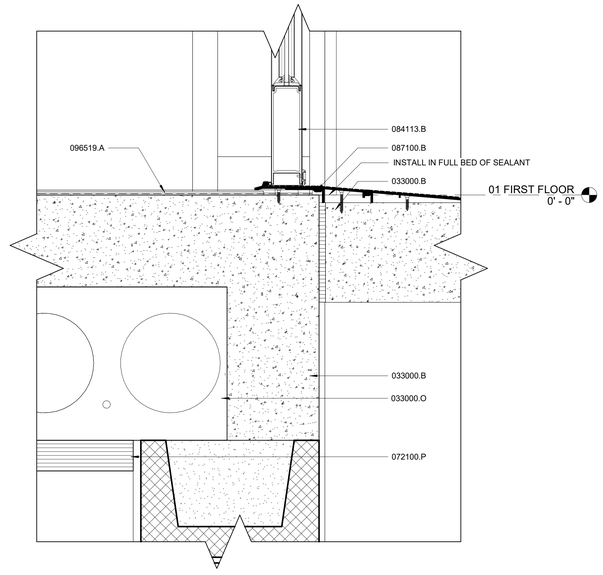

C5 A320 SECTION DETAIL @ BASE OF STOREFRONT ENTRY
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KEYNOTE LEGEND

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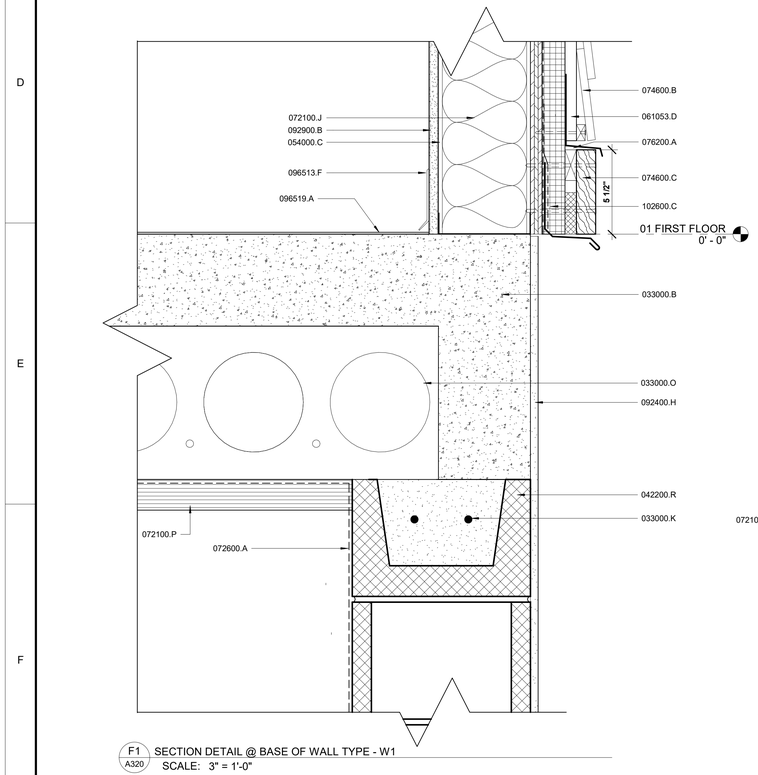
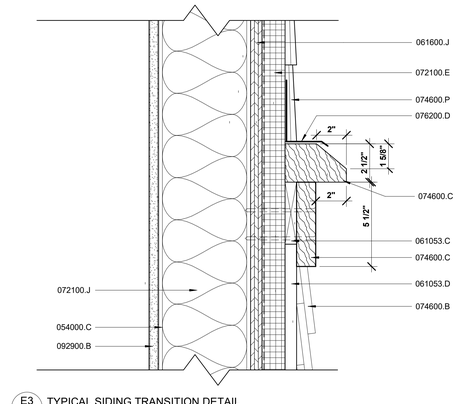
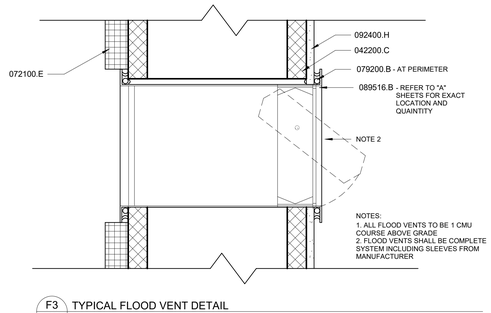
033000.K	REINFORCING- SEE 'S' SHEETS
033000.O	HOLLOW FLOOR SLAB - SEE 'S' SHEETS
042200.C	12IN. CMU
042200.R	12 IN. CMU-BOND BEAM
054000.C	6 IN. COLD FORMED METAL FRAMING
054000.E	10 IN. COLD FORMED METAL FRAMING
061053.C	WOOD BLOCKING - PRESSURE TREATED
061053.D	3/4" FURRING @ 24" O.C. - PRESSURE TREATED
061053.E	INSECT SCREEN
061600.B	GYPSUM SHEATHING
061600.I	1/2 IN. PRESSURE TREATED PLYWOOD SHEATHING
061600.J	3/4 IN. PRESSURE TREATED PLYWOOD SHEATHING
064023.N	6" WOOD BASEBOARD - PAINTED
064023.O	BEADBOARD PANEL - PAINTED
072100.C	UNFACED R-19 BATT INSULATION
072100.E	1-1/2 IN. RIGID INSULATION
072100.J	R-21 BATT INSULATION EXT WALLS UNFACED
072100.P	2 IN. FOIL-FACED MINERAL WOOL INSULATION
072600.A	VAPOR BARRIER
072726.A	FLUID-APPLIED MEMBRANE AIR BARRIERS
074213.A	METAL WALL PANELS
074600.B	CEMENTITIOUS PLANK SIDING
074600.C	CEMENTITIOUS TRIM
074600.P	CEMENTITOUS SHAKE SIDING
076200.A	SHEET METAL FLASHING AND TRIM
076200.D	PREFINISHED METAL FLASHING
076200.Q	PREFINISHED METAL SILL PAN
079200.B	ELASTOMERIC JOINT SEALANT W PRIMER & BACKER ROD
079200.D	JOINT SEALANT BACKER ROD
084113.B	ALUMINUM FRAMED ENTRANCE DOOR
087100.B	RAMPED THRESHOLD
089516.B	SMART VENT
092400.H	CEMENT STUCCO
092900.B	5/8 IN. GWB
092900.C	5/8 IN. TYPE 'X' GWB
096513.F	6 IN. RESILIENT BASE
096519.A	RESILIENT TILE FLOORING
102600.C	INSECT SCREEN



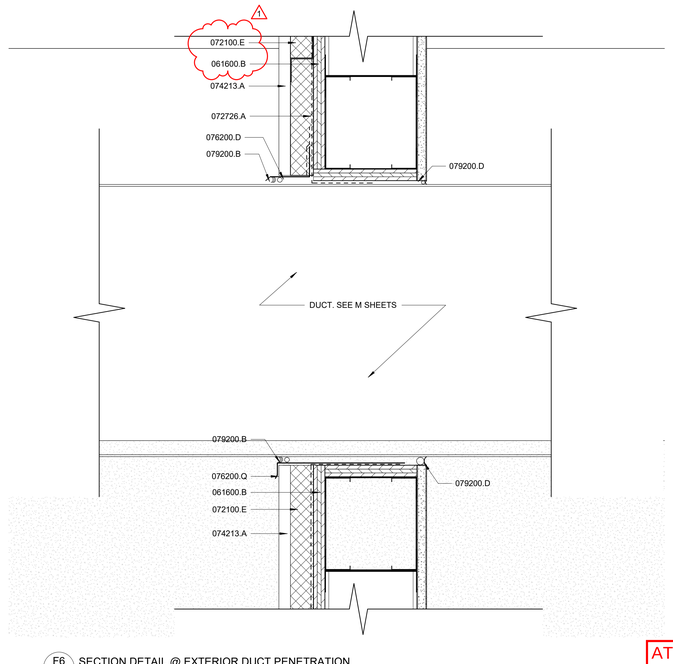
F1 A320 SECTION DETAIL @ BASE OF WALL TYPE - W1
SCALE: 3" = 1'-0"



E3 A320 TYPICAL SIDING TRANSITION DETAIL
SCALE: 3" = 1'-0"



F3 A320 TYPICAL FLOOD VENT DETAIL
SCALE: 3" = 1'-0"



F6 A320 SECTION DETAIL @ EXTERIOR DUCT PENETRATION
SCALE: 3" = 1'-0"

ATTACHMENT N
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5573
REGISTERED ARCHITECT

SEALS

NOTES:

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

SECTION DETAILS

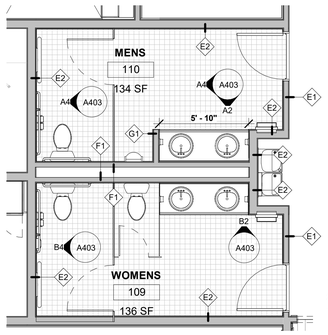
SHEET NAME

PROJECT NUMBER	23001
DRAWN BY	Author
CHECKED BY	Approver
DATE	01/10/2025
SCALE	3" = 1'-0"

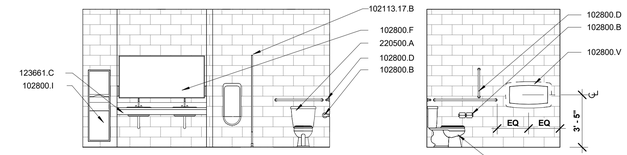
A320

2/5/2025 1:52:23 PM

ROOMS 109 & 110 - MENS & WOMENS RESTROOMS - PLANS & INTERIOR ELEVATIONS

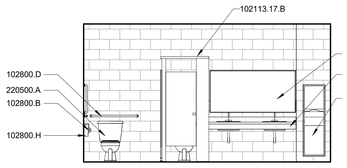


B1 / A403 ENLARGED PLAN - PUBLIC REST ROOMS
SCALE: 1/4" = 1'-0"

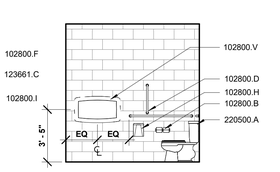


A2 / A403 MENS RESTROOM 01
SCALE: 1/4" = 1'-0"

A4 / A403 MENS RESTROOM 02
SCALE: 1/4" = 1'-0"

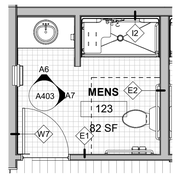


B2 / A403 WOMENS RESTROOM 01
SCALE: 1/4" = 1'-0"

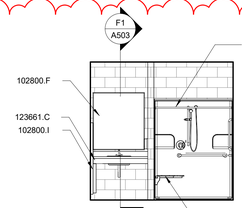


B4 / A403 WOMENS RESTROOM 02
SCALE: 1/4" = 1'-0"

ROOMS 123, 125 & 127 - MENS & WOMENS BATHROOMS, JAN. CLO. - PLANS & INTERIOR ELEV.

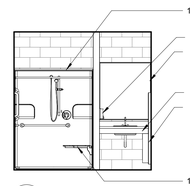


A5 / A403 TYP. PLAN - EOC BATHROOMS
SCALE: 1/4" = 1'-0"

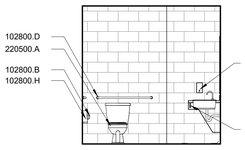


A6 / A403 MENS BATHROOM 01
SCALE: 1/4" = 1'-0"

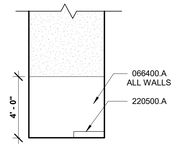
A7 / A403 MENS BATHROOM 02
SCALE: 1/4" = 1'-0"



A8 / A403 WOMENS BATHROOM 01
SCALE: 1/4" = 1'-0"



B5 / A403 WOMENS BATHROOM 02
SCALE: 1/4" = 1'-0"



B6 / A403 JANITOR'S CLOSET
SCALE: 1/4" = 1'-0"

ROOMS 107 - EXEC. TOILET - INTERIOR ELEV.

C1 / A403 ENLARGED PLAN - EXEC. TOILET
SCALE: 1/4" = 1'-0"

C2 / A403 EXEC. TOILET
SCALE: 1/4" = 1'-0"

ATTACHMENT O
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5573
REGISTERED ARCHITECT

SEALS

NOTES:

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
066400.A	FIBERGLASS REINFORCED PANELING
102113.17.B	TOILET PARTITIONS & URINAL SCREENS
102800.B	TOILET PAPER DISPENSER
102800.D	GRAB BAR
102800.F	MIRROR UNIT
102800.G	SOAP DISPENSER
102800.H	SANITARY NAPKIN DISPOSAL
102800.I	COMBO SEMI RECESSED PAPER TOWEL DISPENSER/TRASHCAN
102800.V	DIAPER CHANGING STATION
102800.X	SHOWER CURTAIN & ROD
102800.Y	FOLDING SHOWER SEAT
123661.C	SOLID SURFACE INTREGAL SINK COUNTER TOP
220500.A	PLUMBING FIXTURES - SEE 'P' SHEETS

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO
BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

RESTROOM PLANS & INTERIOR ELEVATIONS

SHEET NAME

PROJECT NUMBER 23001
DRAWN BY Author
CHECKED BY Approver
DATE 01/10/2025
SCALE 1/4" = 1'-0"

A403

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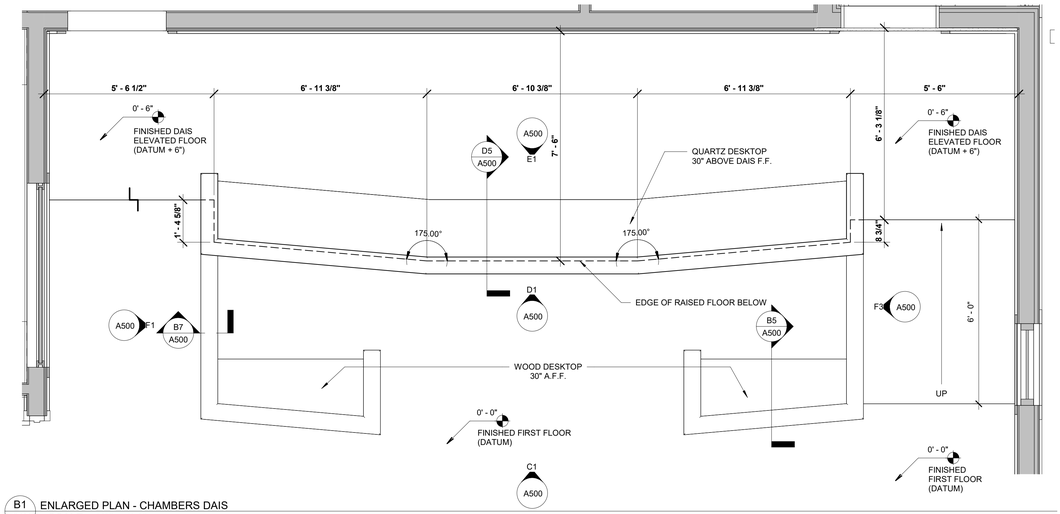
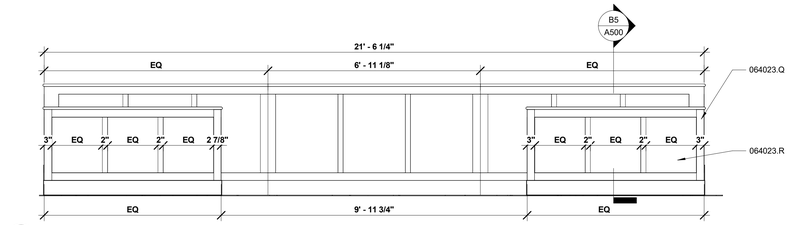
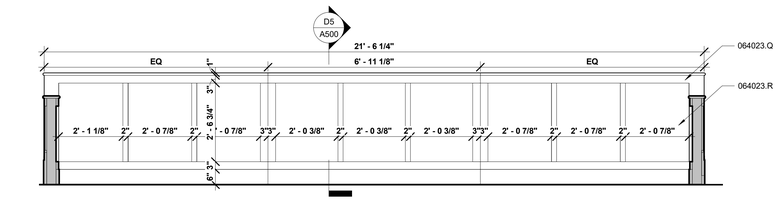


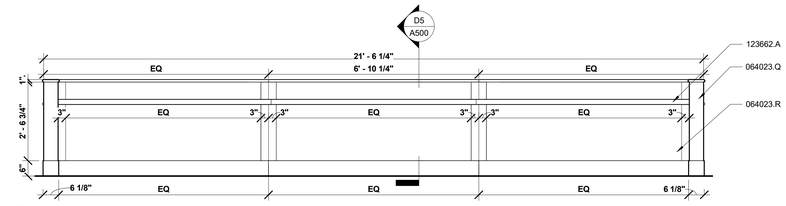
B1 / A500 ENLARGED PLAN - CHAMBERS DAIS
SCALE: 1/2" = 1'-0"



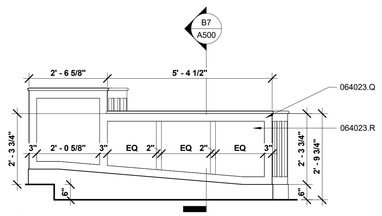
C1 / A500 DAIS - FRONT ELEVATION
SCALE: 1/2" = 1'-0"



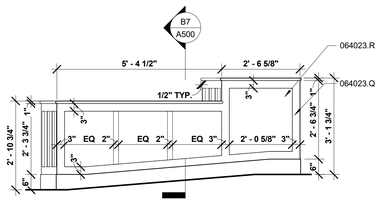
D1 / A500 DAIS - FRONT ELEVATION 2
SCALE: 1/2" = 1'-0"



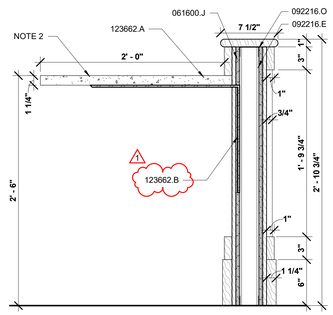
E1 / A500 DAIS - BACK ELEVATION
SCALE: 1/2" = 1'-0"



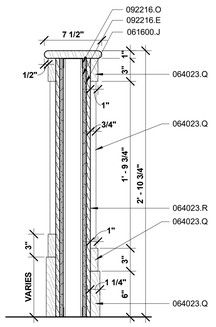
F1 / A500 DAIS - STAIR ELEVATION
SCALE: 1/2" = 1'-0"



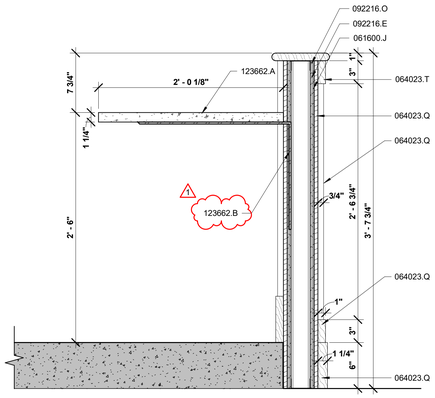
F3 / A500 DAIS - RAMP ELEVATION
SCALE: 1/2" = 1'-0"



B5 / A500 DAIS - SECTION 1
SCALE: 1 1/2" = 1'-0"



B7 / A500 DAIS - SECTION 2
SCALE: 1 1/2" = 1'-0"



D5 / A500 DAIS - SECTION 3
SCALE: 1 1/2" = 1'-0"

SEALS

NOTES:

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
061600.J	3/4 IN. PRESSURE TREATED PLYWOOD SHEATHING
064023.Q	WOOD TRIM - STAINED
064023.R	WOOD PANEL - STAINED
064023.T	WOOD FACED TRIM - STAINED
092216.E	2 IN. METAL STUD
092216.O	METAL CHANNEL
123662.A	QUARTZ AGGLOMERATE COUNTERTOP
123662.B	HIDDEN STEEL SUPPORT BRACKET

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

ENLARGED PLANS, INTERIOR ELEVATIONS, & DETAILS

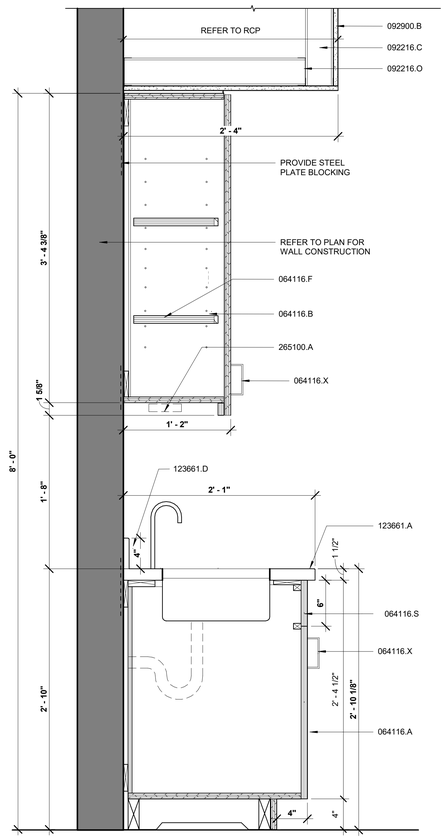
SHEET NAME

PROJECT NUMBER 23001
DRAWN BY Author
CHECKED BY Approver
DATE 01/10/2025
SCALE As indicated

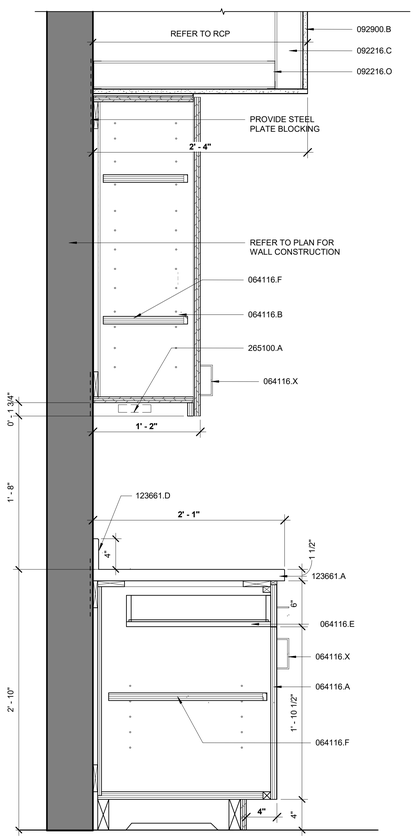
A500

2/5/2025 1:52:36 PM

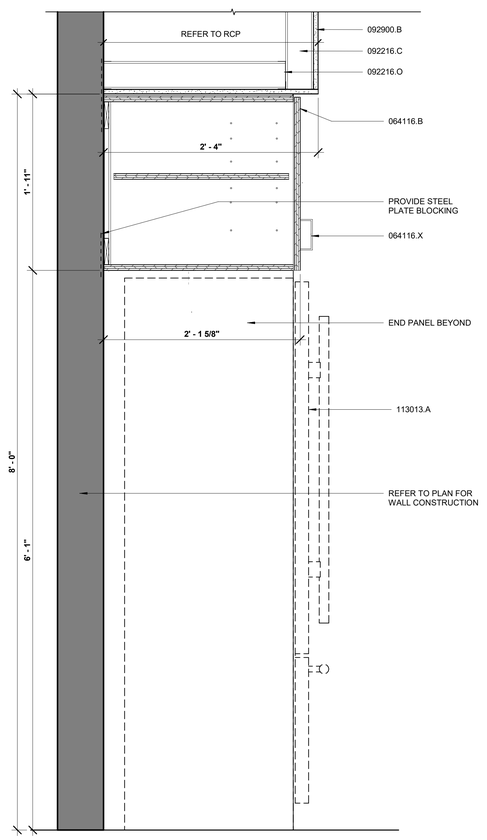
ATTACHMENT P
ADDENDUM #1



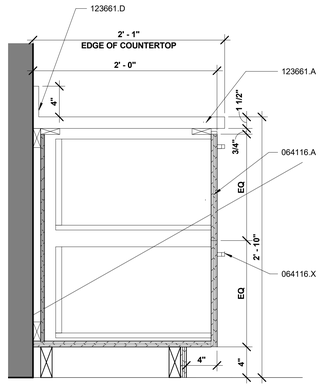
D1 A502 CASEWORK SECTION - BASE CABINET @ SINK
SCALE: 1 1/2" = 1'-0"



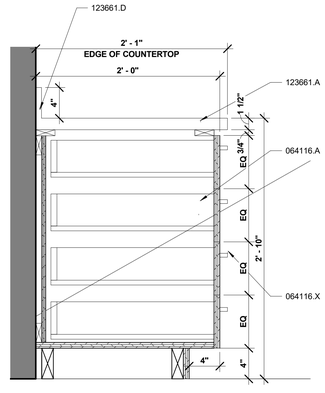
D3 A502 CASEWORK SECTION - BASE CABINET @ DRAWER
SCALE: 1 1/2" = 1'-0"



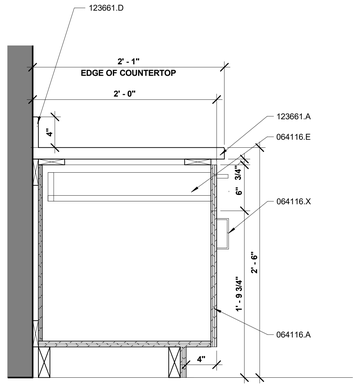
D5 A502 CASEWORK SECTION - WALL CABINET @ REFRIGERATOR
SCALE: 1 1/2" = 1'-0"



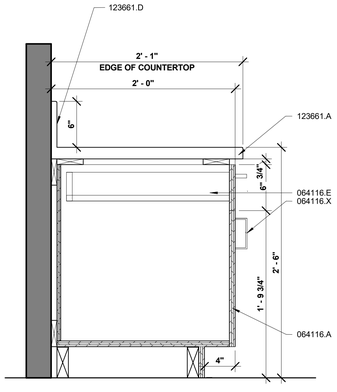
F1 A502 CASEWORK SECTION - BASE CABINET W/ TWO DRAWERS
SCALE: 1 1/2" = 1'-0"



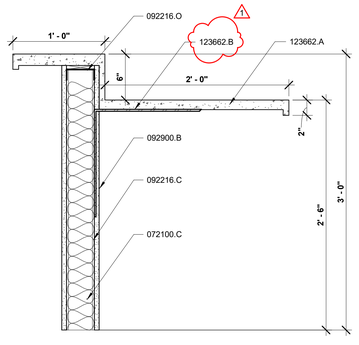
F2 A502 CASEWORK SECTION - BASE CABINET W/ FOUR DRAWERS
SCALE: 1 1/2" = 1'-0"



F4 A502 CASEWORK SECTION - BASE CABINET W/ TOP DRAWER
SCALE: 1 1/2" = 1'-0"



F5 A502 CASEWORK SECTION - TRANSACTION COUNTER & DESK
SCALE: 1 1/2" = 1'-0"



F7 A502 CASEWORK SECTION - TRANSACTION COUNTER
SCALE: 1 1/2" = 1'-0"

ATTACHMENT Q
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5073
REGISTERED ARCHITECT

SEALS

NOTES:

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
064116.A	BASE CABINET PLASTIC LAMINATE
064116.B	WALL CABINET PLASTIC LAMINATE
064116.E	PLASTIC LAMINATE DRAWER
064116.F	ADJUSTIBLE SHELVING
064116.S	PLASTIC LAMINATE FILLER PANEL
064116.X	CABINETRY HARDWARE
072100.C	UNFACED R-19 BATT INSULATION
092216.C	3-5/8 IN. METAL STUD
092216.O	METAL CHANNEL
092900.B	5/8 IN. GWB
113013.A	RESIDENTIAL APPLIANCES
123661.A	SOLID SURFACE COUNTERTOPS
123661.D	SOLID SURFACE BACKSPLASH
123662.A	QUARTZ AGGLOMERATE COUNTERTOP
123662.B	HIDDEN STEEL SUPPORT BRACKET
265100.A	INTERIOR LIGHTING - SEE 'E' SHEETS

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

CASEWORK SECTIONS

SHEET NAME

PROJECT NUMBER 23001
DRAWN BY Author
CHECKED BY Approver
DATE 01/10/2025
SCALE 1 1/2" = 1'-0"

A502

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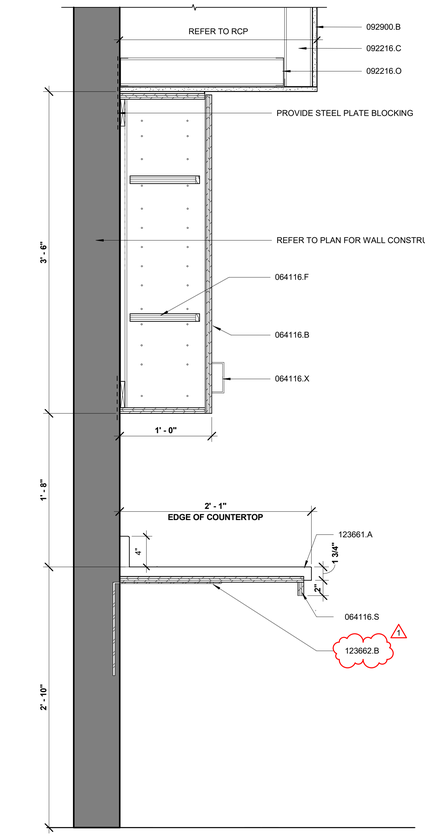
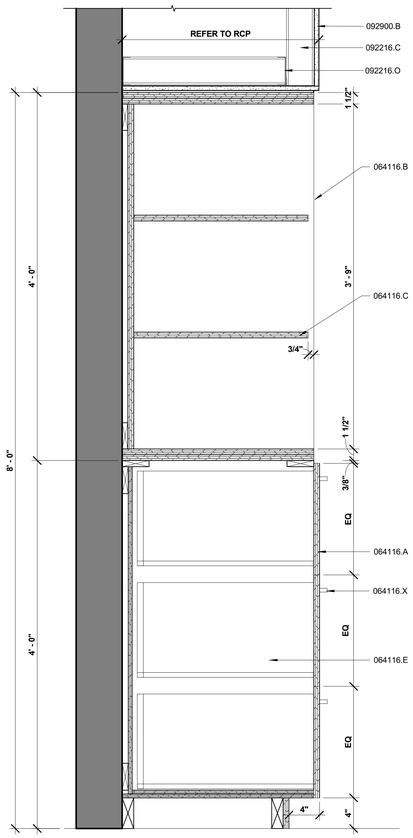
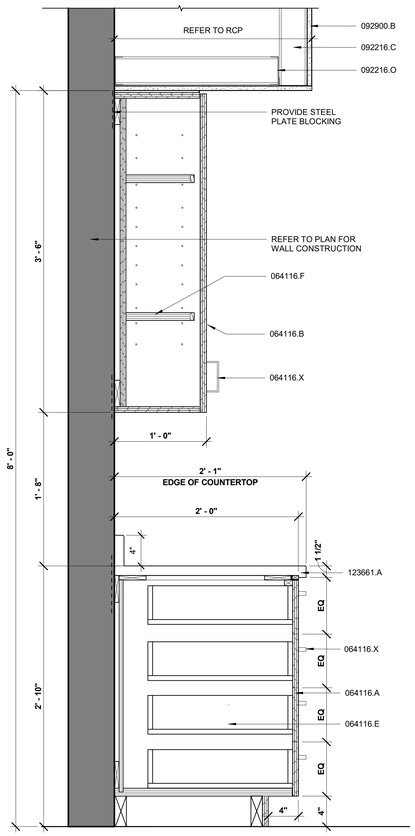


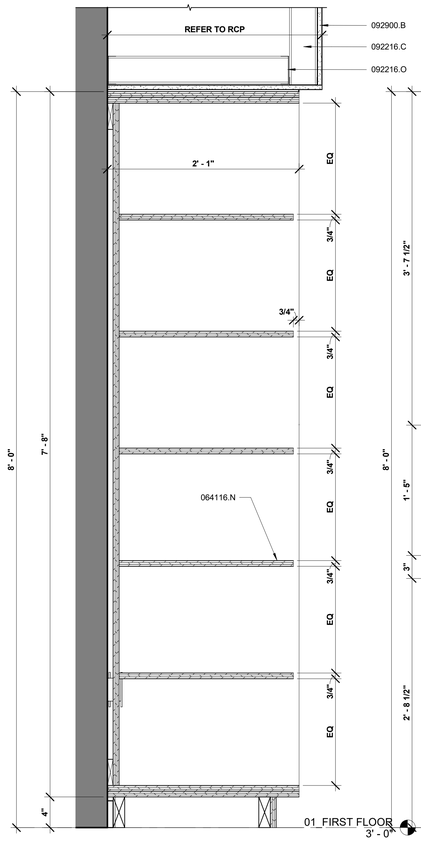
D1 A503 CASEWORK SECTION - WALL-MOUNTED COUNTER TOP
SCALE: 1 1/2" = 1'-0"



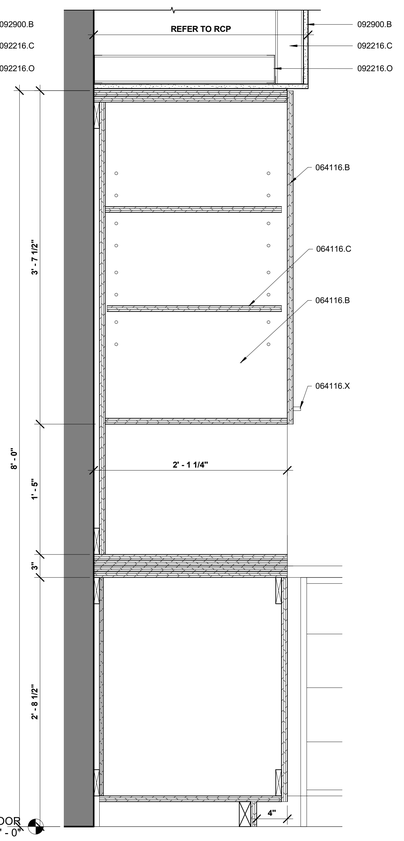
D2 A503 CASEWORK SECTION - STORAGE DRAWERS W/ OPEN SHELVING
SCALE: 1 1/2" = 1'-0"



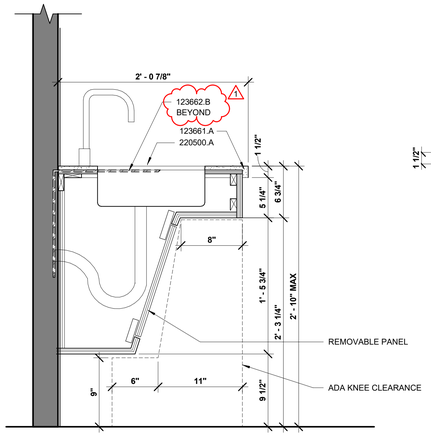
D4 A503 CASEWORK SECTION - BASE CABINET W/ UPPER CABINETS
SCALE: 1 1/2" = 1'-0"



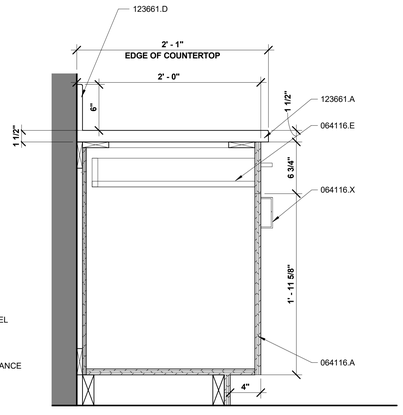
D6 A503 CASEWORK SECTION - OPEN SHELVING
SCALE: 1 1/2" = 1'-0"



D7 A503 CASEWORK SECTION - CORNER CABINET
SCALE: 1 1/2" = 1'-0"



F1 A503 CASEWORK SECTION - ADA SINK
SCALE: 1 1/2" = 1'-0"



F2 A503 CASEWORK SECTION - BASE CABINET W/ TOP DRAWER - 36"
SCALE: 1 1/2" = 1'-0"

ATTACHMENT R
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5073
REGISTERED ARCHITECT

SEALS

NOTES:

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
064116.A	BASE CABINET PLASTIC LAMINATE
064116.B	WALL CABINET PLASTIC LAMINATE
064116.C	PLASTIC LAMINATE FIXED SHELVING
064116.E	PLASTIC LAMINATE DRAWER
064116.F	ADJUSTIBLE SHELVING
064116.N	OPEN SHELVING
064116.S	PLASTIC LAMINATE FILLER PANEL
064116.X	CABINETRY HARDWARE
092216.C	3-5/8 IN. METAL STUD
092216.O	METAL CHANNEL
092900.B	5/8 IN. GWB
123661.A	SOLID SURFACE COUNTERTOPS
123661.D	SOLID SURFACE BACKSPLASH
123662.B	HIDDEN STEEL SUPPORT BRACKET
220500.A	PLUMBING FIXTURES - SEE 'P' SHEETS

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

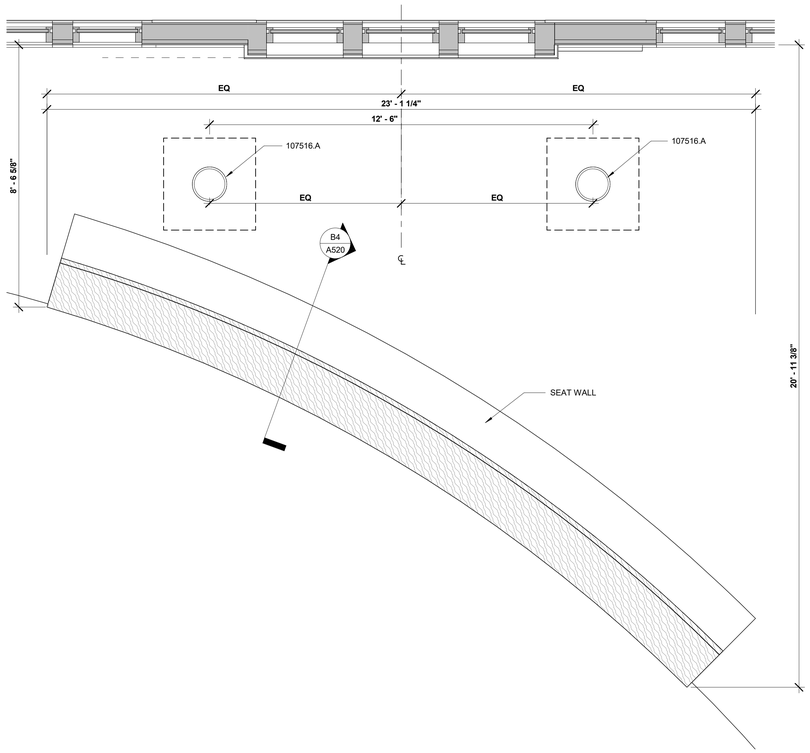
CASEWORK SECTIONS

SHEET NAME

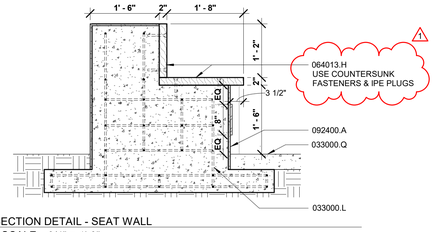
PROJECT NUMBER 23001
DRAWN BY Author
CHECKED BY Approver
DATE 01/10/2025
SCALE 1 1/2" = 1'-0"

A503

2/5/2025 1:52:44 PM



D1 A520 ENLARGED PLANTER PLAN
SCALE: 1/2" = 1'-0"



B4 A520 SECTION DETAIL - SEAT WALL
SCALE: 3/4" = 1'-0"

ATTACHMENT S
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5073
REGISTERED ARCHITECT

SEALS

NOTES:

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
033000.L	CAST IN PLACE CONCRETE- SEE 'S' SHEETS
033000.Q	CONCRETE SIDEWALK - SEE 'C' SHEETS
064013.H	IPE WOOD BENCH & SEATBACK
092400.A	PORTLAND CEMENT PLASTERING
107516.A	FLAGPOLES

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

HARDSCAPE DETAILS

SHEET NAME

PROJECT NUMBER: 23001
DRAWN BY: Author
CHECKED BY: Approver
DATE: 01/10/2025
SCALE: As indicated

A520

2/5/2025 1:52:53 PM

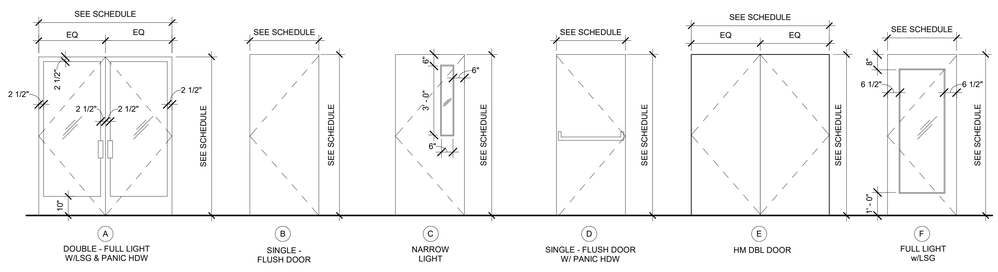
DOOR SCHEDULE

DOOR NUMBER	DOOR TYPE	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR MATERIAL	DOOR FINISH	FIRE RATING	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	FRAME JAMB	FRAME HEAD	COMMENTS
100	G	6' - 0"	7' - 0"	0' - 2"	ALUMINUM & GLASS	ANODIZED BLACK		SF-D	ALUMINUM	ANODIZED BLACK		H11	
101	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
102A	G	6' - 0"	7' - 0"	0' - 2"	ALUMINUM & GLASS	ANODIZED BLACK		SF-K	ALUMINUM	ANODIZED BLACK		H12	
102B	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J5	H5	
103	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J6	H6	
104A	D	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	PAINT		SF-G	ALUMINUM	ANODIZED BLACK	J9	H9	
104B	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J7	H7	
105A	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
105B	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J8	H8	
106	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
107	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
108	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
109	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
110	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
111	E	6' - 0"	7' - 0"	0' - 1 3/4"	HM	PAINT		1	HM	PAINT	J4	H4	
112	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
113	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	PAINT		1	HM	PAINT	J4	H4	
114	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
115	F	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD & GLASS	STAIN		1	HM	PAINT	J4	H4	
116	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
117	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
118	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
119	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
120	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
121	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
122	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
123	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
124	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J5	H5	
125	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
126	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J5	H5	
127	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
128	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J5	H5	
129	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN	1.5 HR	1	HM	PAINT	J4	H4	
130	E	6' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
131	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	
132	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J5	H5	
133	F	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD & GLASS	STAIN		2	HM	PAINT	J4	H4	
134	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J5	H5	
135	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN	1.5 HR	1	HM	PAINT	J4	H4	
136	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
137	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J7	H7	
138	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		2	HM	PAINT	J4	H4	
139	C	3' - 0"	7' - 0"	0' - 1 3/4"	FRP	PAINT		SF-G	HM			H12	
140	B	3' - 0"	7' - 0"	0' - 1 3/4"	WOOD	STAIN		1	HM	PAINT	J4	H4	

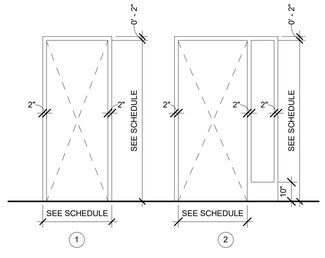
DOOR SCHEDULE LEGEND:

HM: HOLLOW METAL
WD: WOOD
TEMP: TEMPERED GLASS
LSG: LAMINATED SAFETY GLASS
FG: FIRE GLASS
DBL: DOUBLE DOORS

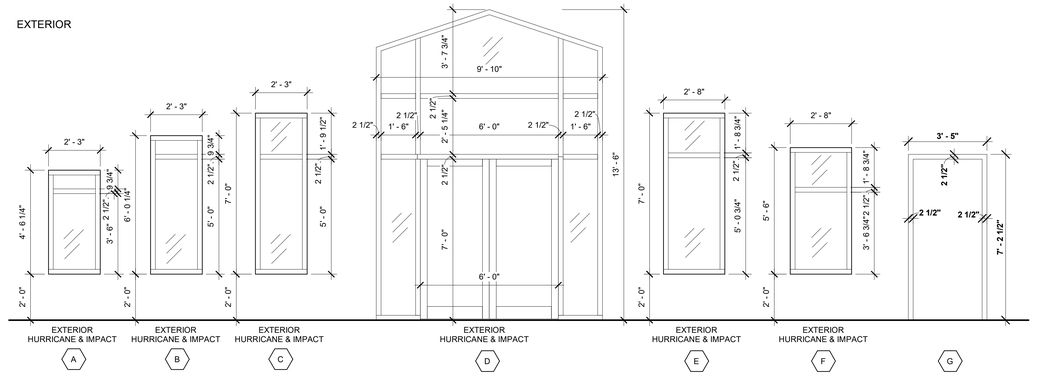
DOOR TYPES

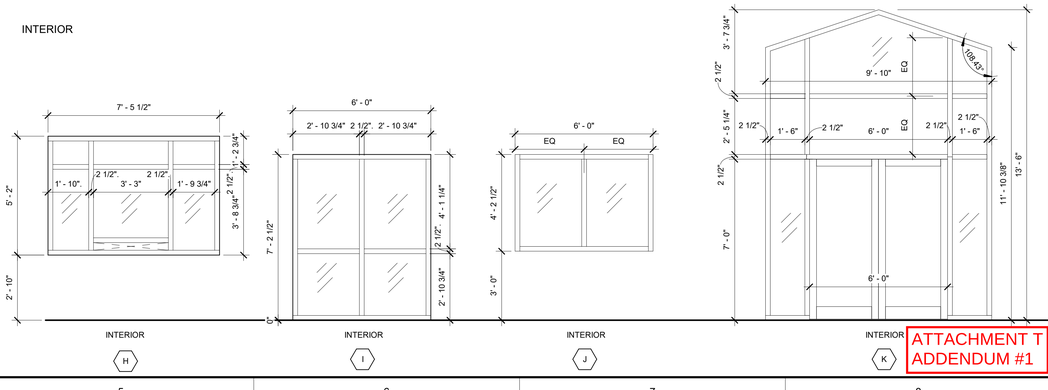


FRAME TYPES



STOREFRONT TYPES





ATTACHMENT T
ADDENDUM #1

CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
STATE OF SOUTH CAROLINA
REGISTERED ARCHITECTS
STEVEN HARLEY COE
REG. NO. 5073
REGISTERED ARCHITECT

SEALS

NOTES:

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

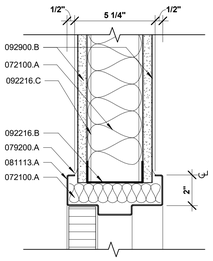
DOOR, DOOR FRAME, & STOREFERONT SCHEDULE

SHEET NAME

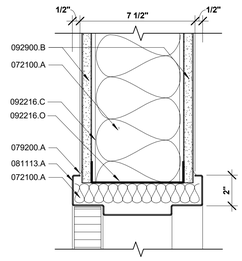
PROJECT NUMBER: 23001
DRAWN BY: Author
CHECKED BY: Approver
DATE: 01/10/2025
SCALE: 3/8" = 1'-0"

A601

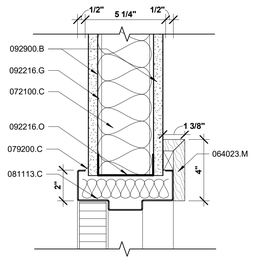
2/5/2025 1:52:53 PM



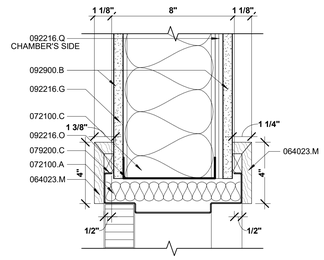
B1 / A602 H4 HEAD DETAIL
SCALE: 3" = 1'-0"



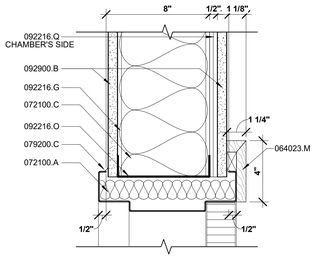
B2 / A602 H5 HEAD DETAIL
SCALE: 3" = 1'-0"



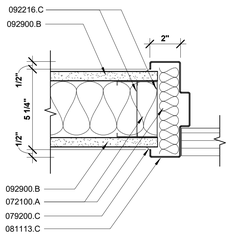
B3 / A602 H6 HEAD DETAIL
SCALE: 3" = 1'-0"



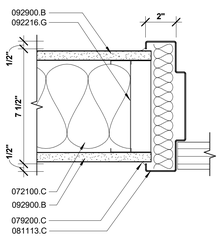
B4 / A602 H7 HEAD DETAIL
SCALE: 3" = 1'-0"



B6 / A602 H8 HEAD DETAIL
SCALE: 3" = 1'-0"



C1 / A602 J4 JAMB DETAIL
SCALE: 3" = 1'-0"



C2 / A602 J5 JAMB DETAIL
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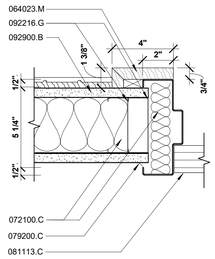

C3 / A602 J6 JAMB DETAIL
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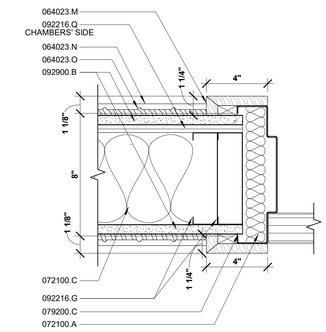

C4 / A602 J7 JAMB DETAIL
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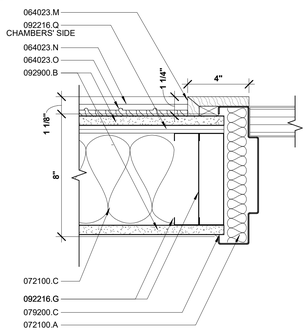
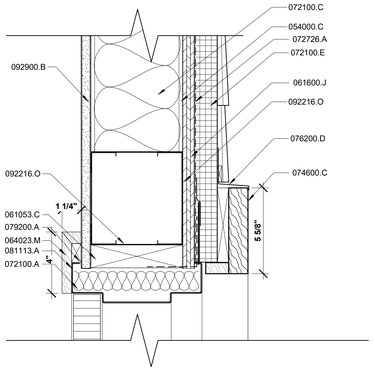
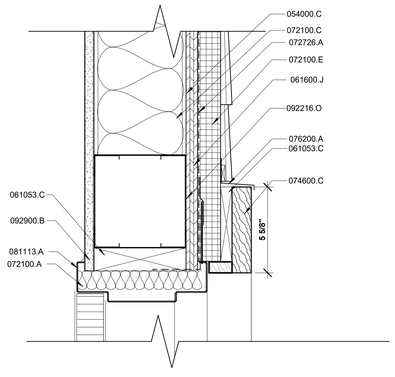


C6 / A602 J8 JAMB DETAIL
SCALE: 3" = 1'-0"

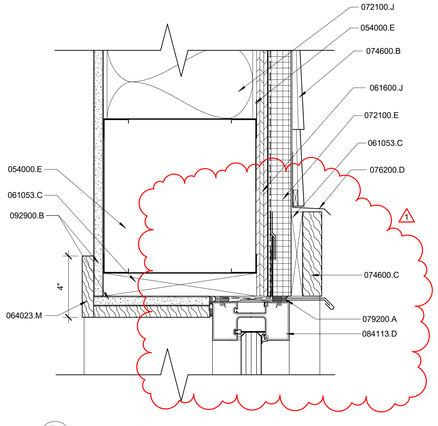
KEYNOTE LEGEND	
KEY VALUE	KEYNOTE TEXT
054000.C	6 IN. COLD FORMED METAL FRAMING
054000.E	10 IN. COLD FORMED METAL FRAMING
061053.C	WOOD BLOCKING - PRESSURE TREATED
061053.D	3/4" FURRING @ 24" O.C. - PRESSURE TREATED
061053.F	WOOD STARTER STRIP - PRESSURE TREATED
061600.J	3/4 IN. PRESSURE TREATED PLYWOOD SHEATHING
064023.M	WOOD TRIM - PAINTED
064023.N	6" WOOD BASEBOARD - PAINTED
064023.O	BEADBOARD PANEL - PAINTED
064023.P	WOOD SILL - PAINTED
072100.A	THERMAL INSULATION
072100.C	UNFACED R-19 BATT INSULATION
072100.E	1-1/2 IN. RIGID INSULATION
072100.J	R-21 BATT INSULATION EXT WALLS UNFACED
072726.A	FLUID-APPLIED MEMBRANE AIR BARRIERS
074600.B	CEMENTITIOUS PLANK SIDING
074600.C	CEMENTITIOUS TRIM
076200.A	SHEET METAL FLASHING AND TRIM
076200.D	PREFINISHED METAL FLASHING
079200.A	JOINT SEALANTS
079200.C	LATEX JOINT SEALANT
081113.A	HOLLOW METAL DOORS AND FRAMES
081113.C	STEEL FRAME
084113.D	ALUMINUM FRAMED STOREFRONT WINDOW
084113.G	ALUMINUM BERMUDA SHUTTERS - PREFINISHED
092216.B	STEEL FRAMING
092216.C	3-5/8 IN. METAL STUD
092216.G	6 IN. METAL STUD
092216.O	METAL CHANNEL
092216.Q	1/2 IN. RESILIENT CHANNEL FURRING
092900.B	5/8 IN. GWB



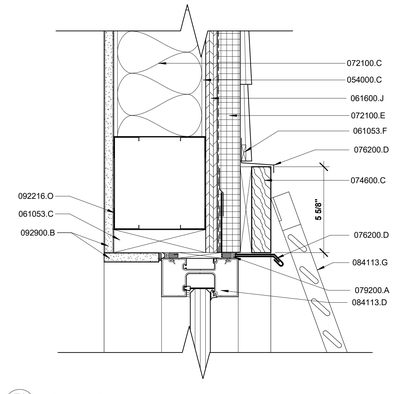
E1 / A602 H9 HEAD DETAIL
SCALE: 3" = 1'-0"



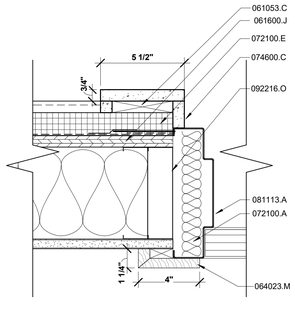
E2 / A602 H10 HEAD DETAIL
SCALE: 3" = 1'-0"



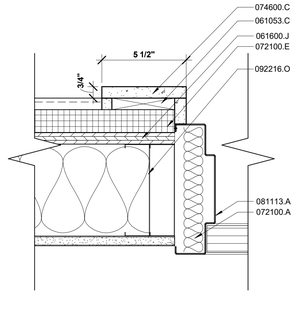
E4 / A602 H11 HEAD DETAIL
SCALE: 3" = 1'-0"



E6 / A602 H12 HEAD DETAIL
SCALE: 3" = 1'-0"



F1 / A602 J9 JAMB DETAIL
SCALE: 3" = 1'-0"



F2 / A602 J10 JAMB DETAIL
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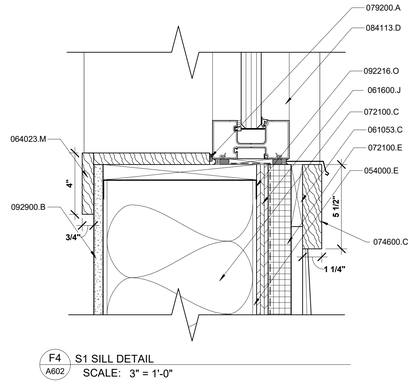
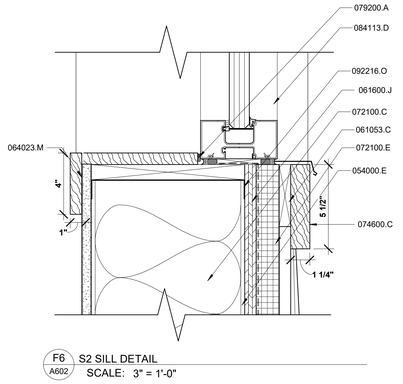
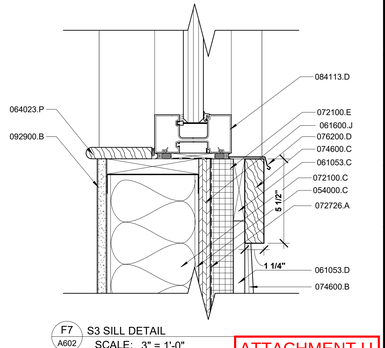


F4 / A602 S1 SILL DETAIL
SCALE: 3" = 1'-0"



F6 / A602 S2 SILL DETAIL
SCALE: 3" = 1'-0"



F7 / A602 S3 SILL DETAIL
SCALE: 3" = 1'-0"

ATTACHMENT U
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5073
REGISTERED ARCHITECT

SEALS

NOTES:

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

HEAD, JAMB, & SILL DETAILS

SHEET NAME

PROJECT NUMBER	23001
DRAWN BY	RCA, RMP
CHECKED BY	KH
DATE	01/10/2025
SCALE	3" = 1'-0"

A602

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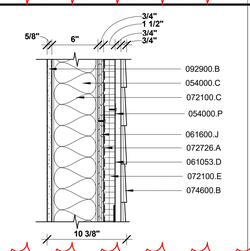
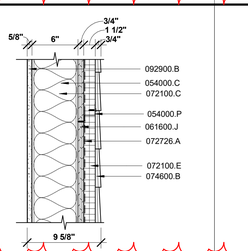


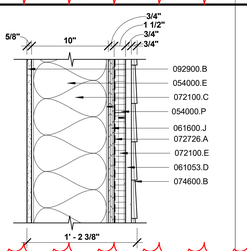
WALL CONSTRUCTION TYPE W1

6" STUD W/ FURRING & LAP-SIDING



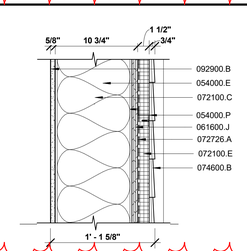
WALL CONSTRUCTION TYPE W2

6" STUD W/ SHAKE SIDING



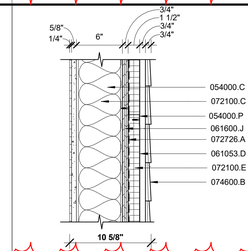
WALL CONSTRUCTION TYPE W3

10" STUD W/ FURRING & LAP-SIDING



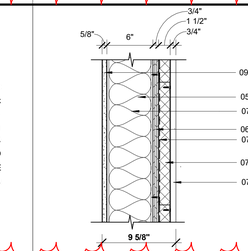
WALL CONSTRUCTION TYPE W4

10" STUD W/ SHAKE SIDING



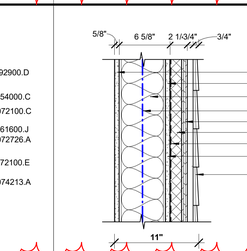
WALL CONSTRUCTION TYPE W5

6" STUD W/ CERAMIC TILE & CEMENTITIOUS BOARD



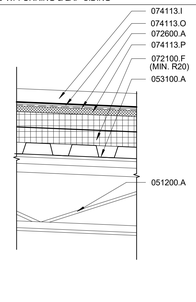
WALL CONSTRUCTION TYPE W6

6" STUD W/ CORRUGATED METAL SIDING



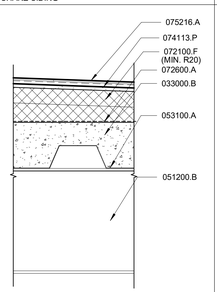
WALL CONSTRUCTION TYPE W7

1-HR RATED 6" STUD W/ FURRING & LAP-SIDING



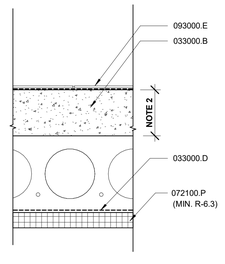
ROOF CONSTRUCTION TYPE R1

STANDING SEAM ON RIGID INSULATION



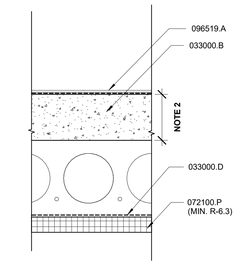
ROOF CONSTRUCTION TYPE R2

MODIFIED BUTIMINOUS MEMBRANE ON RIGID INSULATION



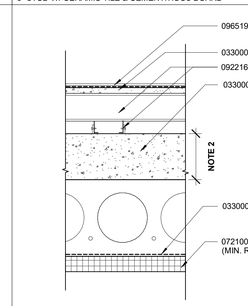
FLOOR CONSTRUCTION TYPE F1

SLAB W/ THIN SET TILE



FLOOR CONSTRUCTION TYPE F2

SLAB W/ LVT



FLOOR CONSTRUCTION TYPE F3

SLAB W/ STRUCTURAL CONCRETE PANEL

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
033000.B	CONCRETE SLAB- SEE 'S' SHEETS
033000.D	VAPOR BARRIER
033000.P	3/4" STRUCTO-CRETE PANEL
051200.A	STRUCTURAL STEEL FRAMING
051200.B	STEEL BEAM SEE 'S' SHEETS
053100.A	STEEL DECKING - SEE 'S' SHEETS
054000.C	6 IN. COLD FORMED METAL FRAMING
054000.E	10 IN. COLD FORMED METAL FRAMING
054000.P	Z FURRING
061053.D	3/4" FURRING @ 24" O.C. - PRESSURE TREATED
061600.J	3/4 IN. PRESSURE TREATED PLYWOOD SHEATHING
061600.K	3/4" FIRE-RATED TREATED PLYWOOD
072100.C	UNFACED R-19 BATT INSULATION
072100.E	1-1/2 IN. RIGID INSULATION
072100.F	2 IN. RIGID INSULATION
072100.P	2 IN. FOIL-FACED MINERAL WOOL INSULATION
072600.A	VAPOR BARRIER
072726.A	FLUID-APPLIED MEMBRANE AIR BARRIERS
074113.I	STANDING SEAM METAL ROOF
074113.O	STANDING SEAM CLIP W/ FASTENERS
074113.P	COVER BOARD
074213.A	METAL WALL PANELS
074600.B	CEMENTITIOUS PLANK SIDING
075216.A	STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING
092216.C	3-5/8 IN. METAL STUD
092900.B	5/8 IN. GWB
092900.C	5/8 IN. TYPE 'X' GWB
092900.D	5/8 IN. CEMENTITIOUS BACKER UNIT
093000.E	
096519.A	RESILIENT TILE FLOORING

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5073
REGISTERED ARCHITECT

SEALS

NOTES:

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO
BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

ROOF, WALL, & FLOOR CONSTRUCTION TYPES

SHEET NAME

PROJECT NUMBER: 23001
DRAWN BY: Author
CHECKED BY: Approver
DATE: 01/10/2025
SCALE: 1 1/2" = 1'-0"

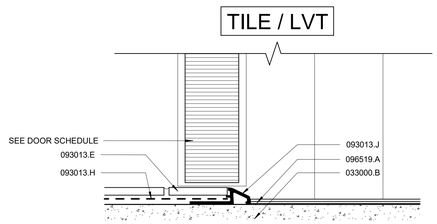
A621

2/5/2025 1:52:57 PM

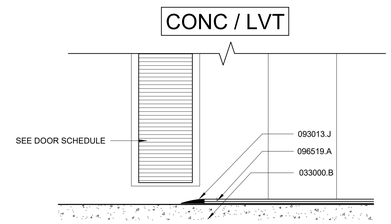
ATTACHMENT V
ADDENDUM #1

ROOM FINISH SCHEDULE

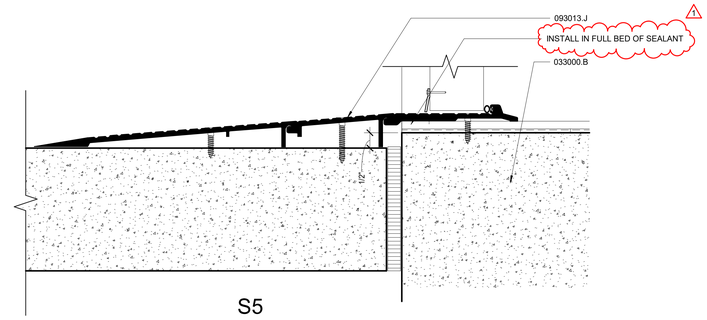
ROOM #	ROOM NAME	FLOOR	BASE	WALL	CEILING	CEILING HEIGHT	COMMENTS
100	VESTIBULE	LVT-1	4.5" VINYL BASE	PAINT	GWB	11' - 11 1/2"	
101	FIRE RISER	SEALED CONCRETE	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
102	LOBBY	LVT-1	6" WOOD BASE	BEADBOARD WAINSCOT / PAINT	GWB	10' - 0"	
103	BROADCAST	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
104	CHAMBERS	LVT-1	6" WOOD BASE	BEADBOARD WAINSCOT / PAINT	ACT/ GWB/ SHIPLAP	10' - 9"	
105	EXEC. SESSION	LVT-2	6" WOOD BASE	PAINT	ACT/ GWB	9' - 6"	
106	STORAGE	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
107	TOILET	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	GWB	9' - 0"	
108	UTILITY & LICENSE CLERK LOBBY	LVT-2	4.5" VINYL BASE	PAINT	ACT/ GWB	10' - 0"	
109	WOMENS	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	GWB	9' - 0"	
110	MENS	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	GWB	9' - 0"	
111	FURNITURE STORAGE	SEALED CONCRETE	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
112	SOFT INTERVIEW	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
113	UTIL. & LICENSE CLERKS	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
114	PERMITS / INSPECTIONS WORK ROOM	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
115	BUILDING CODE ADMIN.	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
116	BREAK RM	LVT-2	4.5" VINYL BASE	PAINT	ACT/ GWB	9' - 0"	
117	CONF. ROOM	LVT-2	6" WOOD BASE	BEADBOARD WAINSCOT / PAINT	ACT/ GWB	10' - 6"	
118	SPECIAL PROJECTS	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
118	SPECIAL PROJECTS	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
119	FINANCE - 2	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
120	FLEX OFFICE	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
121	FINANCE - 1	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
122	ELEC	SEALED CONCRETE	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
123	MENS	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	GWB	9' - 0"	
124	COMM ROOM	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
125	WOMENS	CERAMIC TILE	CERAMIC TILE	CERAMIC TILE	GWB	9' - 0"	
126	RECORDS	LVT-2	4.5" VINYL BASE	PAINT	ACT/ GWB	9' - 0"	
127	JAN.	CERAMIC TILE	CERAMIC TILE	PAINT / FRP	ACT	9' - 0"	
128	ADMIN COPY CENTER	LVT-2	4.5" VINYL BASE	BEADBOARD WAINSCOT / PAINT	ACT	9' - 0"	
129	EOC & TRAINING	LVT-2	4.5" VINYL BASE	BEADBOARD WAINSCOT / PAINT	ACT	9' - 0"	
130	EOC STORAGE	SEALED CONCRETE	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
131	STOR.	SEALED CONCRETE	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
132	FLEX OFFICE	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
133	BREAKOUT ROOM	LVT-2	4.5" VINYL BASE	PAINT	ACT/ GWB	9' - 0"	
134	MUNICIPAL CLERK	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
135	EOC IT / ELEC.	SEALED CONCRETE	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
136	MAYOR	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
137	ASST. TOWN ADMIN.	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
138	TOWN ADMIN.	LVT-2	4.5" VINYL BASE	PAINT	ACT	9' - 0"	
139	MAIN CORRIDOR	LVT-2	4.5" VINYL BASE	PAINT	ACT/ GWB	9' - 0"	
140	STORAGE	SEALED CONCRETE	4.5" VINYL BASE	PAINT	ACT	9' - 0"	



B5 / A701 S3 - TILE / LVT
SCALE: 6" = 1'-0"



B7 / A701 S7 - CONC / LVT
SCALE: 6" = 1'-0"



C5 / A701 SF - CONC / LVT @ ENTRY
SCALE: 6" = 1'-0"

ATTACHMENT W
ADDENDUM #1

STATE OF SOUTH CAROLINA
CAPLEA COE ARCHITECTS, INC.
CHARLESTON
B-78022
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
STEVEN HARLEY COE
REG. NO. 5073
REGISTERED ARCHITECT

SEALS

NOTES:

KEYNOTE LEGEND

KEY VALUE	KEYNOTE TEXT
033000.B	CONCRETE SLAB- SEE 'S' SHEETS
093013.E	CERAMIC TILE
093013.H	UNCOUPLING MEMBRANE
093013.J	ALUMINUM THRESHOLD
096519.A	RESILIENT TILE FLOORING

02/05/25	1	ADDENDUM 1

REVISIONS

CONTRACT DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

FINISH SCHEDULE & DETAILS

SHEET NAME

PROJECT NUMBER 23001
DRAWN BY Author
CHECKED BY Approver
DATE 01/10/2025
SCALE 6" = 1'-0"

A701

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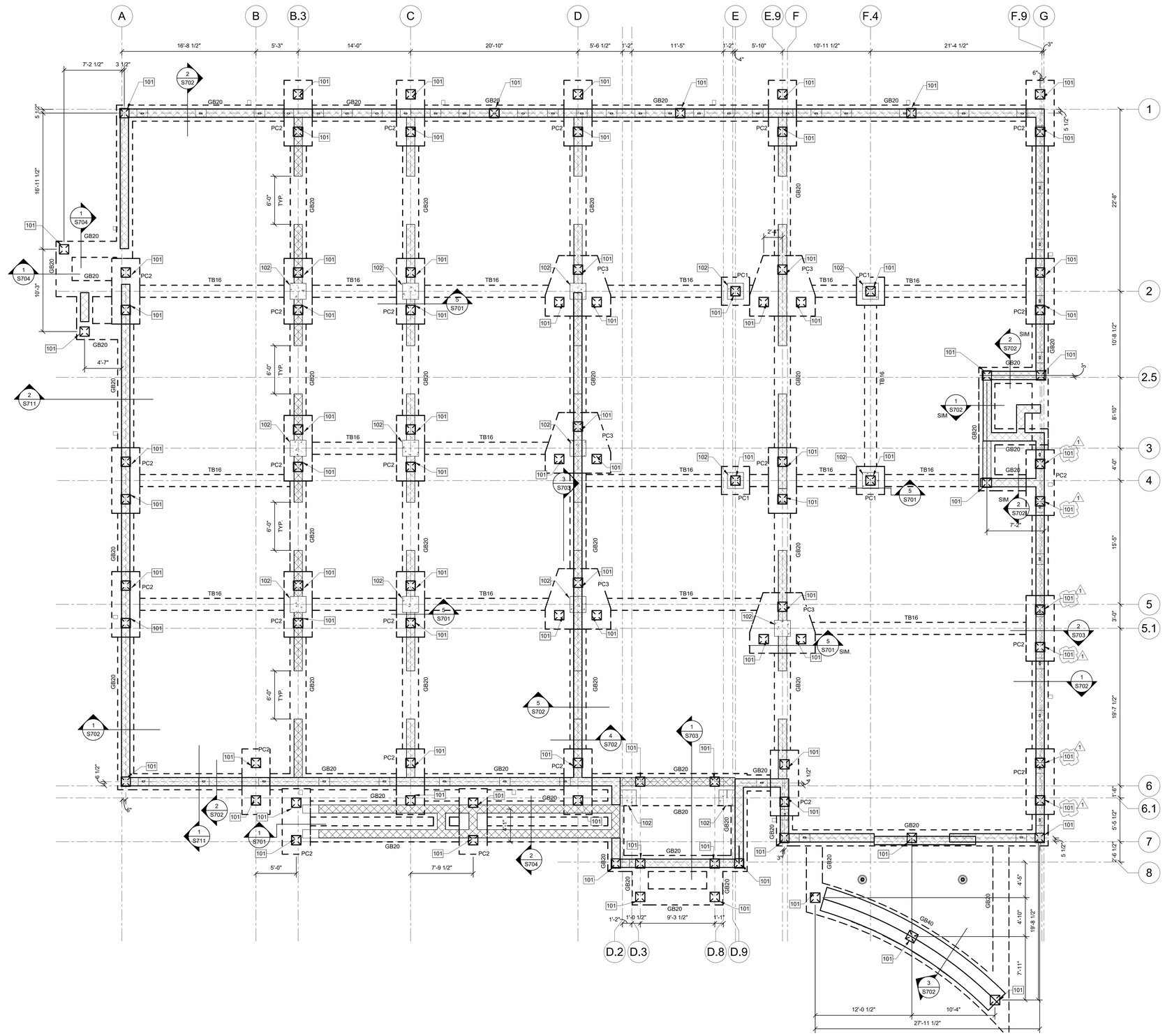


1 FOUNDATION PLAN
3/16" = 1'-0"

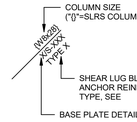
KEYED NOTES (THIS SHEET ONLY)

#	DESCRIPTION
101	PC1, W/14" SQ. PRESTRESSED CONCRETE PILES.
102	24" SQ. CONCRETE PIER. (5)-#6'S EACH FACE & #4 TIES @ 9" O/C VERTICALLY.

GENERAL NOTES (THIS SHEET ONLY)

- TOP OF FOOTING = -5'-0" UNO
- SEE S501 FOR FOUNDATION SCHEDULES
- SF = STEP FOOTING, SEE TYPICAL DETAILS
- CENTER ALL SPREAD FOOTINGS BENEATH COLUMNS/PIERS/PILASTERS
- STRIP FOOTING REINFORCING SHALL BE CONTINUOUS THROUGH SPREAD FOOTINGS
- PROVIDE CORNER BARS AT ALL STRIP FOOTING CHANGES IN DIRECTION
- EXTEND STRIP FOOTINGS A MINIMUM OF 8" PAST END OF WALL AT FOOTING TERMINATIONS
- SEE TYPICAL DETAILS FOR CONTINUOUS FOOTING CONSTRUCTION JOINT DETAIL
- SEE TYPICAL DETAILS FOR PIPING/CONDUIT BELOW FOOTINGS
- SEE TYPICAL DETAILS FOR EXCAVATION LIMITS ADJACENT TO FOOTINGS
- SEE ARCHITECTURAL DRAWINGS FOR LAYOUT DIMENSIONS OF NON-LOAD BEARING INTERIOR PARTITIONS

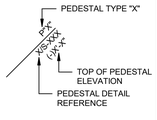
STEEL COLUMN LEGEND



SHEAR LUG BLOCKOUT & ANCHOR REINFORCING TYPE, SEE

BASE PLATE DETAIL

PEDESTAL LEGEND



TOP OF PEDESTAL ELEVATION

PEDESTAL DETAIL REFERENCE

= 14" PRESTRESSED CONCRETE PILE.
EMBED = 50'-0"
ALLOWABLE AXIAL = 100 K
FREE HEAD
ALLOWABLE SHEAR = 12 K

ATTACHMENT X
ADDENDUM #1

SEALS

ADC ENGINEERING, INC. NO. 00253 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA — No. 28109 — REGISTERED PROFESSIONAL ENGINEER — CHRISTOPHER J. GILGER

NOTES:

ADC ENGINEERING
1226 YEAMANS HALL ROAD
HANAHAN, SC 29410
843-566-0161
ADCENGINEERING.COM

REVISIONS		
02/05/25	1	Addendum #1

CONSTRUCTION DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

FOUNDATION PLAN

SHEET NAME

PROJECT NUMBER	22532
DRAWN BY	DCC
CHECKED BY	CJG
DATE	01/09/2024
SCALE	As indicated

S101A

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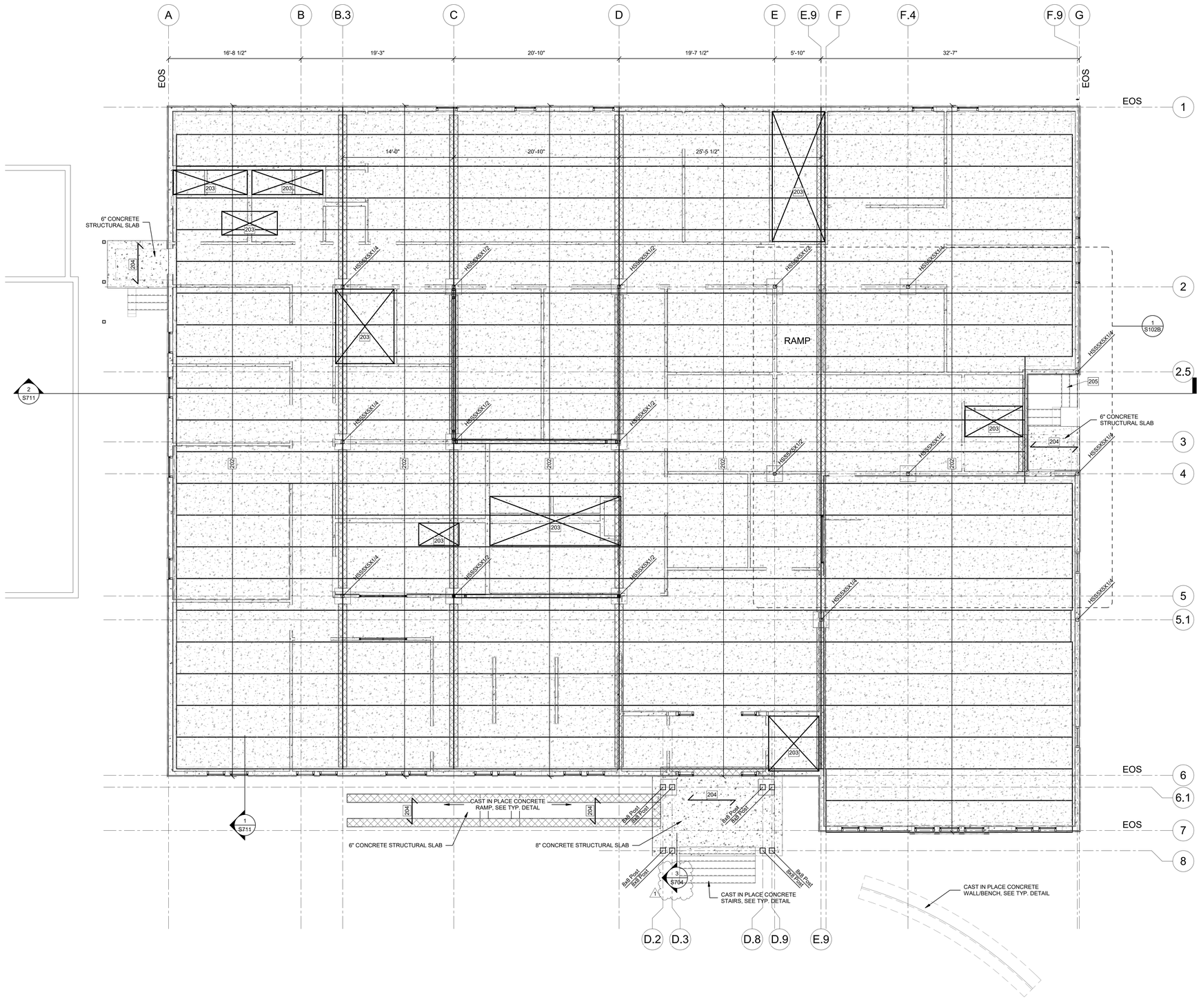


1 SLAB PLAN
3/16" = 1'-0"

KEYED NOTES (THIS SHEET ONLY)

#	DESCRIPTION
202	10" HOLLOWCORE PLANKS W/ 6" NORMAL WEIGHT TOPPING SLAB. DESIGN HOLLOWCORE PLANKS FOR 195 PSF LOADING. 95 PSF DL. 100 PSF LL. LOADS ARE UNFACTORED.
203	FLOOR PENETRATIONS THIS AREA. COORDINATE W/ ALL CONSTRUCTION DOCUMENTS & COORDINATION DRAWINGS.
204	STRUCTURAL SLAB ON FILL/GRADE.
205	CONCRETE STAIRS. COORDINATE W/ ARCH'LS & TYPICAL DETAILS.

GENERAL NOTES (THIS SHEET ONLY)

- STRUCTURAL SLAB ON GRADE CONSTRUCTION IS 6" NORMAL WEIGHT CONCRETE SLAB W/ ONE LAYER OF #4'S @ 12" O/C EACH DIRECTION ON 15 MIL CLASS A VAPOR RETARDER.

- INDICATES SLAB ON GRADE CONTROL/CONSTRUCTION JOINT, SEE TYPICAL DETAILS
- R=X" — DENOTES SLAB RECESS OF "X" INCHES, COORDINATE EXTENT OF RECESSES WITH ARCHITECTURAL DRAWINGS.
- DENOTES STEP IN TOP OF SLAB ELEVATION
- DENOTES SLAB SPAN DIRECTION

1

NOTE:

- THE TOPPING SLAB SHALL BE DESIGNED BY THE HOLLOWCORE PLANK DESIGNER. PROVIDE A MINIMUM OF #4'S @ 12" O/C EACH WAY FOR REINFORCING. PROVIDE ADDITIONAL REINFORCING AS NEEDED.
- THE 6" TOPPING SLAB IS INTENDED TO ACT COMPOSITELY W/ THE HOLLOWCORE PLANKS. THE TOP SURFACE OF THE PLANKS SHALL BE ROUGHENED TO 1/4" AMPLITUDE & A CHEMICAL BONDING AGENT APPLIED. THIS SHALL APPLY FOR FULLY BONDING TOPPING SLAB WHEN TOPPING SLAB IS PRESENT.
- THE DESIGN OF THE COMPOSITE SLAB ACTION SHALL BE PER THE PLANT DESIGNER.

SEALS

NOTES:

ADC ENGINEERING
1226 YEAMANS HALL ROAD
HANAHAN, SC 29410
843-566-0161
ADCENGINEERING.COM

REVISIONS		
02/05/25	1	Addendum #1

CONSTRUCTION DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

FIRST FLOOR SLAB PLAN

SHEET NAME

PROJECT NUMBER	22532
DRAWN BY	DCC
CHECKED BY	CJG
DATE	01/09/2024
SCALE	As indicated

S102A

2/5/2025 11:32:53 AM

ATTACHMENT Y
ADDENDUM #1

KEYED NOTES (THIS SHEET ONLY)	
#	DESCRIPTION
303	HSS5X5X3/8 CROSS BRACING.
304	(2)-600S162-54 MIL STUDS BOXED W/ 600T150-54 MIL TRACKS BENEATH GLULAM BEAM BEARING.
305	HSS6X4X3/8 KING STUD.

NOTES:

- PROVIDE A MINIMUM OF ONE STUD BELOW EACH TRUSS BEARING W/ SIMPSON MTS STRAP EACH SIDE

1 WALL PLAN
3/16" = 1'-0"

ATTACHMENT Z
ADDENDUM #1

SEALS

NOTES:

GROUT ALL CELLS SOLID.

ADC ENGINEERING
1226 YEAMANS HALL ROAD
HANAHAN, SC 29410
843-566-0161
ADCENGINEERING.COM

REVISIONS		
02/05/25	1	Addendum #1

CONSTRUCTION DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

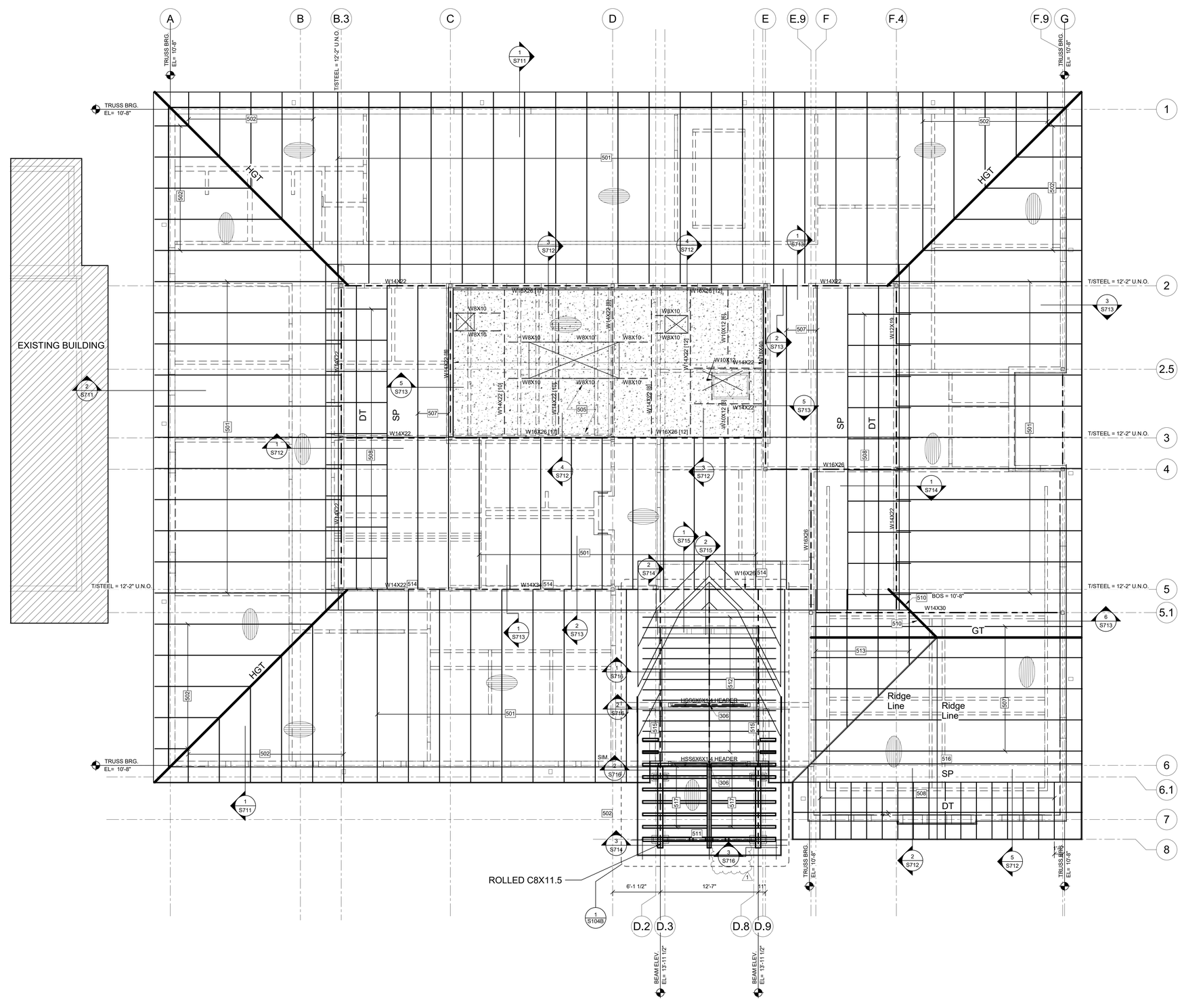
FIRST FLOOR WALL PLAN

SHEET NAME

PROJECT NUMBER	22532
DRAWN BY	DCC
CHECKED BY	CJG
DATE	01/09/2024
SCALE	3/16" = 1'-0"

S103

2/5/2025 11:32:55 AM



1 ROOF FRAMING PLAN
3/16" = 1'-0"

KEYED NOTES (THIS SHEET ONLY)

#	DESCRIPTION
306	LIGHT GAUGE POSTS. (2)-600S162-54 MIL STUDS BOXED W/ 600T150-54 MIL TRACKS BENEATH GLULAM RIDGE BEAM BEARING ONTO HSS HEADER BELOW.
501	MONO SLOPE ROOF TRUSSES @ 48" O/C.
502	JACK TRUSSES @ 48" O/C.
505	6" CONCRETE SLAB ON 3" 20GA VLI COMPOSITE DECK.
507	DUAL PITCHED TRUSSES @ 48" O/C.
508	600S162-54 MIL OUTRIGGERS @ 24" O/C.
510	LIGHT GAUGE BLOCKING PER TRUSS DESIGNER.
511	HEAVY TIMBER TRUSS PER TRUSS DESIGNER.
512	600S162-54 MIL RAFTERS @ 16" O/C.
513	600S162-54 MIL OVERFRAMING @ 48" O/C.
514	TOS = 12'-2".
515	SP 24F-V1 5.5"x16" GLULAM BEAM.
516	DUAL PITCHED TRUSS. DESIGN TRUSS FOR AN ULTIMATE AXIAL LOAD = 14 KIPS IN ADDITION TO NORMAL LOADING.
517	SP NO. 2 4X8 RAFTERS @ 18" O/C.

ROOF FRAMING PLANS GENERAL NOTES:

- TOP OF STEEL = SEE PLAN
- TOS = TOP OF STEEL
- JBE = JOIST BEARING ELEVATION
- TBE = TRUSS BEARING ELEVATION
- DBE = DECK BEARING ELEVATION
- GT = GIRDER TRUSS
- HGT = HIP GIRDER TRUSS
- DT = DROP TOP TRUSS
- SEE STEEL BEAM LEGEND (S501) FOR BEAM ANNOTATIONS AND MINIMUM CONNECTION DESIGN LOADINGS WHERE NOT INDICATED OTHERWISE
- EM"X"=EMBED PLATE "X", SEE EMBED PLATE SCHEDULE
- THE G.C. SHALL COORD WITH TYPICAL DETAILS FOR ANY AND ALL ADDITIONAL FRAMING REQUIREMENTS NOT SHOWN HEREIN

ROOF DECK GENERAL NOTES

- TYPICAL ROOF DECK CONSTRUCTION IS 1.5" ROOF DECK (1.5RD20 UNO) (SEE SPECS). SEE PLAN AND SPECIFIC DETAILS FOR ADDITIONAL SUPPORT AND REINFORCING REQUIREMENTS
- DE=DECK EDGE
- PROVIDE FLAT SUMP PLATES AT ALL ROOF DRAINS, SEE ARCH FOR LOCATIONS

NOTES:

- PROVIDE A MINIMUM OF ONE STUD BELOW EACH TRUSS BEARING W/ SIMPSON MTS STRAP EACH SIDE

ATTACHMENT AA
ADDENDUM #1

ADC ENGINEERING INC. NO. 00253
SOUTH CAROLINA CERTIFICATE OF AUTHORIZATION
SOUTH CAROLINA No. 28109 REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER J. GILGER
SEALS

NOTES:

ADC ENGINEERING
1226 YEAMANS HALL ROAD
HANAHAN, SC 29410
843-566-0161
ADCENGINEERING.COM

REVISIONS		
02/05/25	1	Addendum #1

CONSTRUCTION DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEAICOE ARCHITECTS
CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

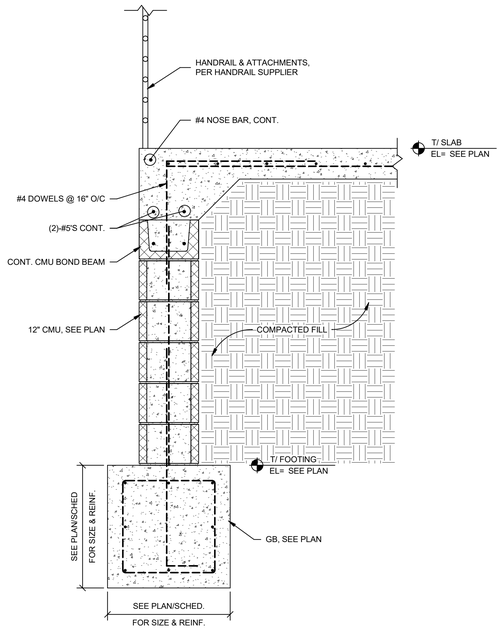
ROOF FRAMING PLAN

SHEET NAME

PROJECT NUMBER	22532
DRAWN BY	DCC
CHECKED BY	CJG
DATE	01/09/2024
SCALE	As indicated

S104A

2/5/2025 11:32:56 AM



1 SECTION
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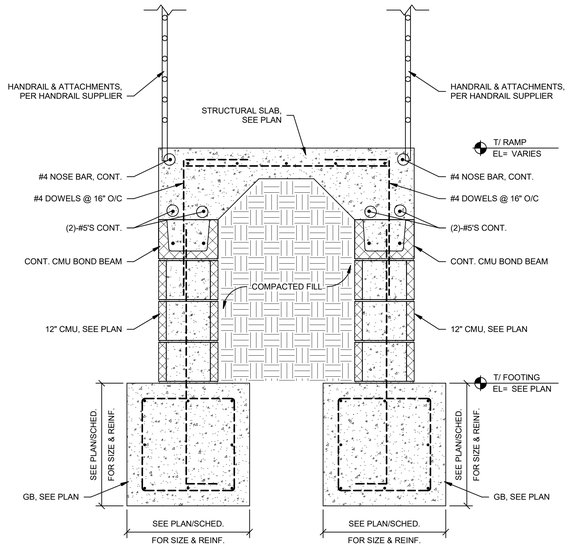

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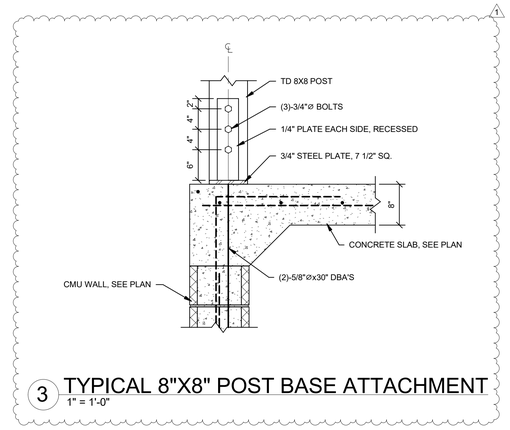


3 TYPICAL 8"X8" POST BASE ATTACHMENT
1" = 1'-0"

ATTACHMENT BB
ADDENDUM #1

ADC ENGINEERING INC. NO. 00253
CERTIFICATE OF AUTHORIZATION
SOUTH CAROLINA

SOUTH CAROLINA No. 28109 REGISTERED PROFESSIONAL ENGINEER CHRISTOPHER J. GILGER

SEALS

NOTES:

ADC ENGINEERING
1226 YEAMANS HALL ROAD
HANAHAN, SC 29410
843-566-0161
ADCENGINEERING.COM

02/05/25	1	Addendum #1
REVISIONS		

CONSTRUCTION DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEAICOE ARCHITECTS
CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

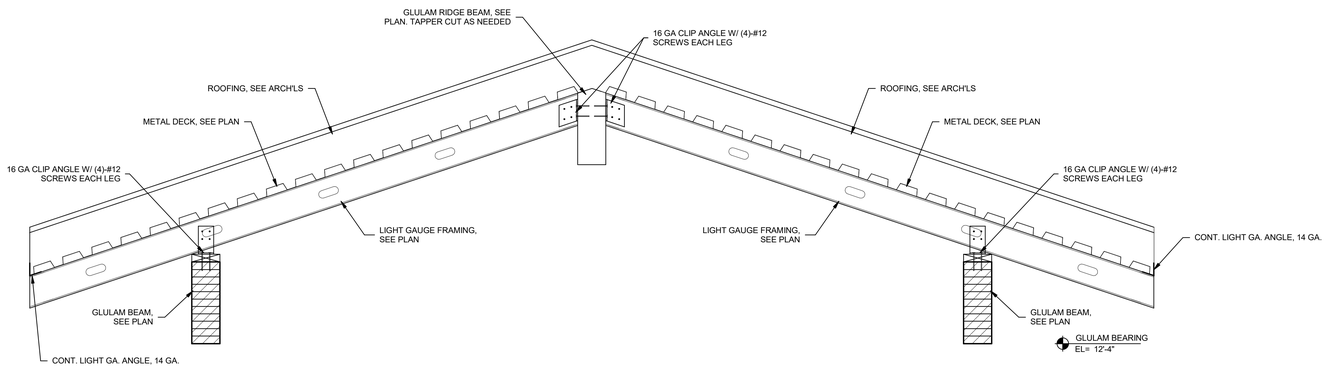
SECTIONS AND DETAILS

SHEET NAME

PROJECT NUMBER	22532
DRAWN BY	JMJ
CHECKED BY	CJG
DATE	01/09/2024
SCALE	1" = 1'-0"

S704

2/5/2025 11:32:56 AM



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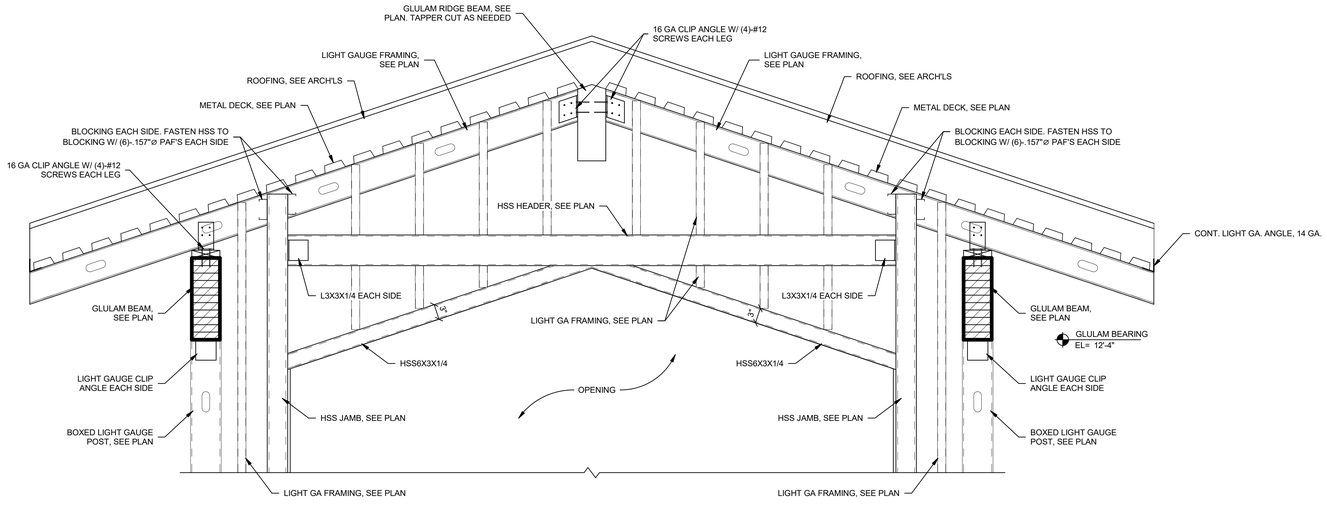

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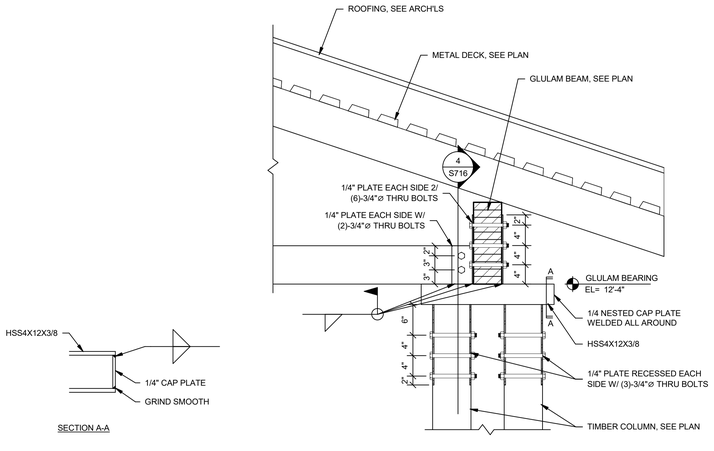

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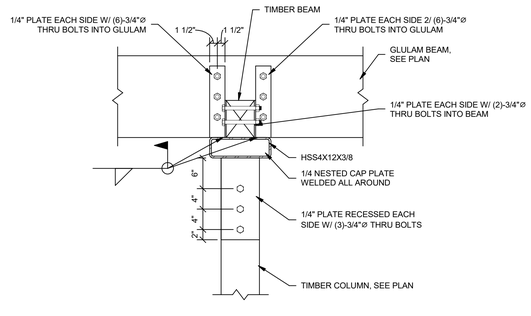


4 SECTION
1" = 1'-0"

ATTACHMENT CC
ADDENDUM #1

SEALS

NOTES:

ADC ENGINEERING
1226 YEAMANS HALL ROAD
HANAHAN, SC 29410
843-566-0161
ADCENGINEERING.COM

02/05/25	1	Addendum #1
REVISIONS		

CONSTRUCTION DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

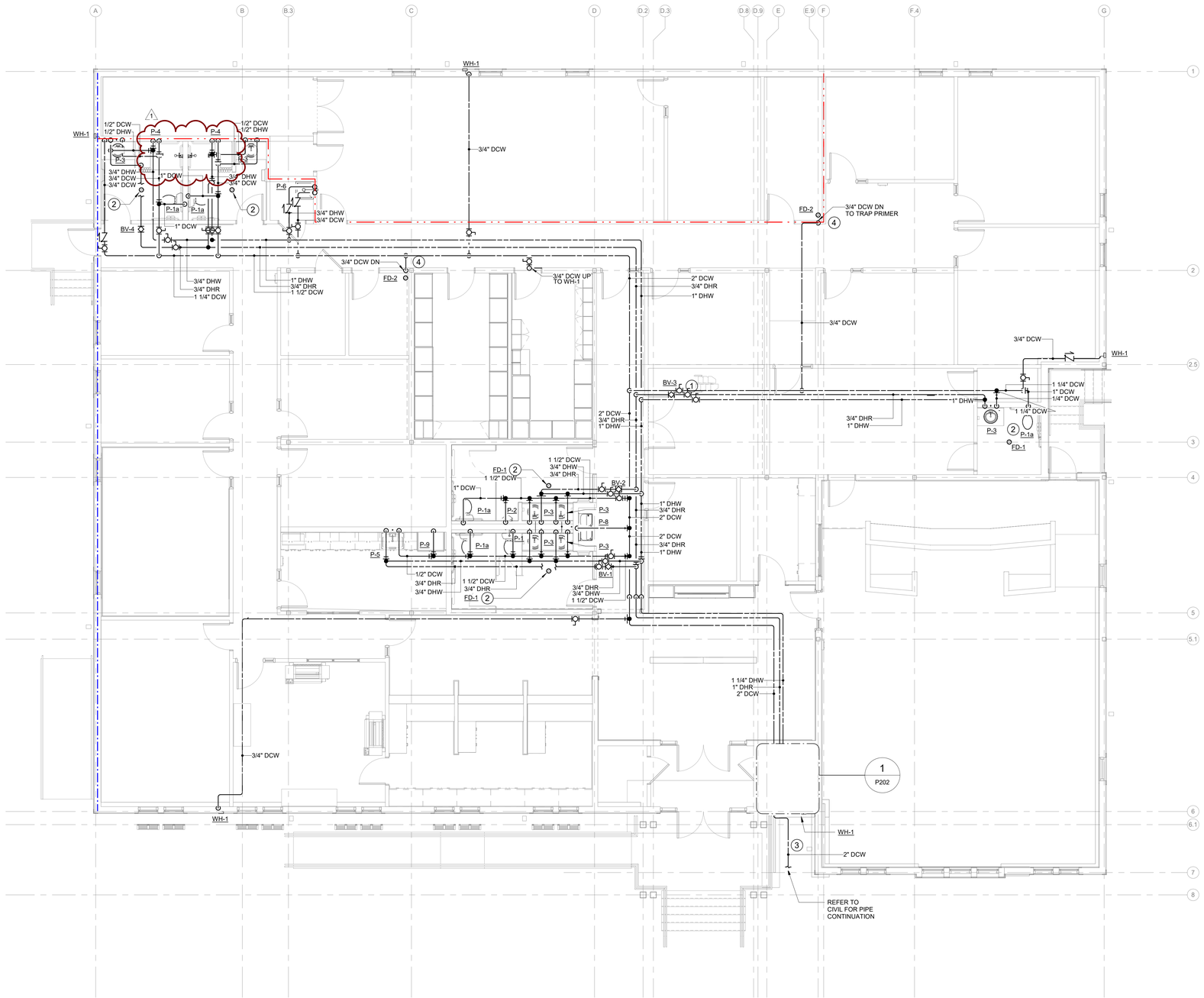
SECTIONS AND DETAILS

SHEET NAME

PROJECT NUMBER	22532
DRAWN BY	JMJ
CHECKED BY	CJG
DATE	01/09/2024
SCALE	1" = 1'-0"

S716

2/5/2025 11:32:56 AM



1 P201 **1ST FLOOR DOMESTIC WATER PLAN**
SCALE: 3/16" = 1'-0"

ATTACHMENT DD
ADDENDUM #1

GRAPHIC SCALE
6 3 0 6 12
SCALE: 3/16" = 1'-0"
UNIT OF MEASURE: FEET

SEALS

DRAWING NOTES

1. REFER TO ARCHITECTURAL FOR TILE CIELING LOCATION. VALVES MUST BE ACCESIBLE THROUGH REMOVABLE CEILING.
2. PROVIDE TRAP PRIMING LINE TO FLOOR DRAIN FROM NEAREST ACCESIBLE FLUSH VALVE.
3. PIPE SHOWN OUTSIDE OF BUILDING ENVELOPE IS BELOW GRADE.
4. PROVIDE PRESSURE DROP ACTIVATED TYPE TRAP PRIMER. ROUTE PRIMING LINES DOWN IN WALLS TO FLOOR DRAIN.

RMF ENGINEERING, INC.
194 SEVEN FARMS DRIVE
SUITE G
CHARLESTON, SC 29492
P: 843-971-9639 F: 843-871-9641
RMF PROJECT NO: 321261.B0

REVISIONS		
02/05/25	1	ADDENDUM 1

Construction Documents

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

1ST FLOOR DOMESTIC WATER PLAN

SHEET NAME

PROJECT NUMBER	321261.B0
DRAWN BY	PJH
CHECKED BY	ZJB
DATE	12/16/2024
SCALE	3/16" = 1'-0"

P201

2/4/2025 11:13:52 AM

LIGHTING FIXTURE SCHEDULE

	DESCRIPTION	LAMPS TYPE	LAMPS QTY.	LAMPS COLOR TEMP.	VOLTS	WATTS	MOUNTING	MOUNTING SURFACE	REMARKS	BASIS OF DESIGN MANUFACTURER	ALTERNATE MANUFACTURER #1	ALTERNATE MANUFACTURER #2	ALTERNATE MANUFACTURER #3
C1	6" LED SURFACE MOUNTED CYLINDER, 2000 LUMENS	LED	1	3500 K	120	<varies>			PROVIDE REFLECTOR MOUNTED TEST SWITCH EMERGENCY BATTERY	LUMINII # 688-A90-645S-35-20-DL-BODY COLOR-STD-EMG-120	LITON LIGHTING # DL360W-L20-B45-UED10-EMAC-T35-FR		DMF # DC4SMWMD20-FL-0-00-00-35-STD FINISH-O-EM-R
D1	6" LED DOWNLIGHT, 3000 LUMENS	LED	1	3500 K	120	29	CEILING			HALO # HC630D010-HM63040835-61MDH	LITON LIGHTING # CH610UE-D10/CR6L22SW-T35	LITHONIA LIGHTING # LDN6 35/30 LO6 AR LSS MVOLT GZ1 E10WCP	ELITE LIGHTING # HH6-LED-3000L-HP-DIM10-MVOLT-35K-MD-90-HH6-6501-CL-XX
D1E	SAME AS TYPE D1 WITH EMERGENCY BATTERY	LED	1	3500 K	120	29	CEILING		PROVIDE REFLECTOR MOUNTED TEST SWITCH EMERGENCY BATTERY	HALO # HC630D010IEM14-HM63040835-61MDH	LITON LIGHTING # CH630UE-D10-EM/CR6L36SW-EMA-T35	LITHONIA LIGHTING # LDN6 35/30 LO6 AR LSS MVOLT GZ1 E10WCP	ELITE LIGHTING # HH6-LED-3000L-HP-DIM10-MVOLT-35K-MD-90-INTG-EMG-LED-20W-HH6-6501-CL-XX
D2	6" LED DOWNLIGHT, 1500 LUMENS	LED	1	3500 K	120	15	CEILING			HALO # HC615D010-HM63040835-61MDH	LITON LIGHTING # CH610UE-D10/CR6L22SW-T35	LITHONIA LIGHTING # LDN6 35/15 LO6 AR LSS MVOLT GZ1	ELITE LIGHTING # HH6-LED-1500L-DIM10-MVOLT-35K-MD-90-HH6-6501-CL-XX
D3	6" LED DOWNLIGHT, 4000 LUMENS	LED	1	3500 K	120	40	CEILING			HALO # HC640D010-HM63040835-61MDH	LITON LIGHTING # CH648UE-D10/CR6L36SW-T35	LITHONIA LIGHTING # LDN6 35/40 LO6 AR LSS MVOLT GZ1	ELITE LIGHTING # HH6-LED-4000L-DIM10-MVOLT-35K-MD-90-HH6-6501-CL-XX
D3E	SAME AS TYPE D3 WITH EMERGENCY BATTERY	LED	1	3500 K	120	40	CEILING		PROVIDE REFLECTOR MOUNTED TEST SWITCH EMERGENCY BATTERY	HALO # HC640D010IEM14-HM63040835-61MDH	LITON LIGHTING # CH648UE-D10-EM/CR6L36SW-EMA-T35	LITHONIA LIGHTING # LDN6 35/40 LO6 AR LSS MVOLT GZ1	ELITE LIGHTING # HH6-LED-4000L-HP-DIM10-MVOLT-35K-MD-90-INTG-EMG-LED-20W-HH6-6501-CL-XX
D4	6" LED DOWNLIGHT, 3500 LUMENS	LED	1	3500 K	120	35	CEILING			HALO # HC635D010-HM63040835-61MDH	LITON LIGHTING # CH639UE-D10/CR6L36SW-T35	LITHONIA LIGHTING # LDN6 35/35 LO6 AR LSS MVOLT GZ1	ELITE LIGHTING # HH6-LED-3500L-HP-DIM10-MVOLT-35K-MD-90-HH6-6501-CL-XX
D4E	SAME AS TYPE D4 WITH EMERGENCY BATTERY	LED	1	3500 K	120	35	CEILING		PROVIDE REFLECTOR MOUNTED TEST SWITCH EMERGENCY BATTERY	HALO # HC635D010IEM14-HM63040835-61MDH	LITON LIGHTING # CH639UE-D10-EM/CR6L36SW-EMA-T35	LITHONIA LIGHTING # LDN6 35/35 LO6 AR LSS MVOLT GZ1 E10WCP	ELITE LIGHTING # HH6-LED-3500L-HP-DIM10-MVOLT-35K-MD-90-INTG-EMG-LED-20W-HH6-6501-CL-XX
F1	52" DIAMETER CEILING FAN WITH LED LIGHT	LED	1		120	18	SUSPENDED	STRUCTURE		OXYGEN MYRIAD 56" CEILING FAN - 3-124-XX			
FL1	LED FLAG POLE FIXTURE	LED		3500 K	120	26				LUMARK # NFFLD-S-C70-D-UNV-33-KNC-CB-FINISH			ELITE LIGHTING # OFL-R-102-LED-1500L/3000L/4500L-DIM10-MVOLT-30K/40K/50K-NFL/FL-BZ
L1	LED LINEAR FIXTURE, 6FT IN LENGTH	LED	1	3500 K	120	41	CEILING			COOPER LIGHTING # S123DR-S775D835-FTG6F-1-UDD-F-COLOR	PRUDENTIAL LIGHTING # BPR03-REC-FLSH-LED35-SO-6'-TMW-SAL-LP-SC-UNV-X1M-DM01	MARK LIGHTING # SL2L LOP 6FT FLP TG 80CRI 35K 800LMF MIN1 120	PINNACLE # EV3D-A-835HO-6'-MTG-U-FSD-1-0-STD FINISH
L1E	SAME AS TYPE L1 WITH EMERGENCY BATTERY	LED	1	3500 K	120	41	CEILING		PROVIDE INTEGRAL TEST SWITCH EMERGENCY BATTERY	COOPER LIGHTING # S123DR-S775D835-FTG6F-1B2-UDD-F-COLOR	PRUDENTIAL LIGHTING # BPR03-REC-FLSH-LED35-SO-6'-TMW-SAL-LP-SC-UNV-X1M-DM01-EMHE	MARK LIGHTING # SL2L LOP 6FT FLP TG 80CRI 35K 800LMF MIN1 120	PINNACLE # EV3D-A-835HO-6'-MTG-U-FSD-1-1FSB-STD FINISH
P1	LED CIRCULAR PENDANT, 2FT DIAMETER	LED	1	3500 K	120	23	PENDANT			BLACKJACK LIGHTING # DOT 27C FINISH 27U 30K			
R1	2X2 LED FLAT PANEL, 4000 LUMENS	LED	1	3500 K	120	42	CEILING			COOPER LIGHTING # 22FP4235C	INDUSTRIAL LIGHTING PRODUCTS # VPAN22-22L/33L/44L-U-35	LITHONIA LIGHTING # CPX 2X2 4000LM 80CRI 35K SWL MIN10 ZT MVOLT	DAYBRITE # FPZ45L835-2-ADS-UNV-DIM
R1E	SAME AS TYPE R1 WITH EMERGENCY BATTERY	LED	1	3500 K	120	42	CEILING		PROVIDE INTEGRAL TEST SWITCH EMERGENCY BATTERY	COOPER LIGHTING # 22FP4235C-EL10W	INDUSTRIAL LIGHTING PRODUCTS # VPAN22-22L/33L/44L-U-35-EM10/HE/SD	LITHONIA LIGHTING # CPX 2X2 4000LM 80CRI 35K SWL MIN10 ZT MVOLT	DAYBRITE # FPZ45L835-2-ADS-UNV-DIM-BSL10LST
R2	2X2 LED FLAT PANEL, 2500 LUMENS	LED	1	3500 K	120	21	CEILING			COOPER LIGHTING # 22FP2535HE	INDUSTRIAL LIGHTING PRODUCTS # VPAN22-22L/33L/44L-U-35	LITHONIA LIGHTING # CPX 2X2 3200LM 80CRI 35K SWL MIN10 ZT MVOLT	DAYBRITE # FPZ26L835-2-ADS-UNV-DIM
R2E	SAME AS TYPE R2 WITH EMERGENCY BATTERY	LED	1	3500 K	120	21	CEILING		PROVIDE INTEGRAL TEST SWITCH EMERGENCY BATTERY	COOPER LIGHTING # 22FP2535HE-EL10W	INDUSTRIAL LIGHTING PRODUCTS # VPAN22-22L/33L/44L-U-35-EM10/HE/SD	LITHONIA LIGHTING # CPX 2X2 3200LM 80CRI 35K SWL MIN10 ZT MVOLT	DAYBRITE # FPZ26L835-2-ADS-UNV-DIM-BSL10LST
S1	2FT WALL MOUNTED LED STRIP LIGHT	LED	1	3500 K	120	25	WALL			COOPER LIGHTING # 2BCLED-LD4-24HL-F-UNV-GL-L835-CD-1	INDUSTRIAL LIGHTING PRODUCTS # DSC4-4LSE-U-35-FFLGR		DAYBRITE # FSW436L835-UNV-DIM
UC1	3FT LED UNDERCABINET FIXTURE	LED	1	3500 K	120	15				LUMINII # KS-36"-72VHO-35K-F-FC-FINISH-E-1			ELITE LIGHTING # EU-34-1300L-DIMTR-120-30K/35K/40K-XX
V1	2FT LED VANITY FIXTURE	LED	1	3500 K	120	16	WALL			SONNEMAN # 2421.13	OXYGEN # 3-537-24	LITHONIA LIGHTING # FMVCSLS 24IN MVOLT 30K35K40K 90CRI	WAC LIGHTING # WS-77624-3000K-AL
W1E	LED WALL PACK	LED	1	4000 K	120	20	WALL			COOPER LIGHTING # CCW-VA3-840-U-T4W-FINISH-EBP			GARDCO # PWS-C-A03-840-4-UNV-010V-EMC-STD FINISH
X1	LED EXIT SIGN, CEILING MOUNTED	Red LED	1		120	5	CEILING		REFER TO LIGHTING PLAN FOR FACE AND DIRECTIONAL ARROWS	COOPER LIGHTING # CX SERIES	ABB INSTALLATION PRODUCTS # 2XDCWRW	LITHONIA LIGHTING # LE SERIES	EMERGI-LITE # PRESTIGE THIN DIE-CAST SERIES

MAIN BUILDING LIGHTING CONTROL RELAY PANEL SCHEDULE - LCP-1

RELAY	DESCRIPTION	VOLTAGE	PHASE	CIRCUIT NUMBER	CONTROL ZONE	CONTROL TC	CONTROL PC	CONTROL DIMMING	LOCAL OVERRIDE SWITCH
1	LOBBY 102 LIGHTING	120	1	M1-26	1	YES	NO		YES
2	CORRIDOR LIGHTING	120	1	M1-27	1	YES	NO		YES
3	EXTERIOR LIGHTING	120	1	M1-29	1	YES	YES		
4	EXTERIOR FLAG LIGHTING	120	1	M1-31	1	YES	YES		
5	SPARE	120	1						
6	SPARE	120	1						
7	SPARE	120	1						
8	SPARE	120	1						

NOTES:
LIGHTING CONTROL PANEL SHALL HAVE 8 FULLY PROGRAMMABLE RELAY GROUPS, DAYLIGHT SAVINGS TIME ADJUSTMENT AND ASTRONOMIC TIMECLOCK, DRY CONTACT INTERFACE WITH QUANTITY AND TYPE OF RELAYS SUITABLE FOR LOADS SERVED.

TIME CLOCK SHALL TURN LIGHTS OFF AT THE TIME DETERMINED BY THE OWNER. SYSTEM SHALL FLASH LIGHTS FIVE MINUTES BEFORE ANY SCHEDULED OFF SEQUENCE. LOCAL OVERRIDE SWITCHES SHALL KEEP LIGHTS ON FOR AN ADDITIONAL MAXIMUM OF 4 HOURS. COORDINATE SETTINGS WITH OWNER/ARCHITECT.

ALL BRANCH CIRCUIT WIRING INDICATED SHALL BE ROUTED THROUGH THE LIGHTING CONTROL PANEL.

1 / E601 **LIGHTING CONTROL RELAY SCHEDULES**
SCALE: N.T.S.

ATTACHMENT EE
ADDENDUM #1

STATE OF SOUTH CAROLINA
RMF ENGINEERING, INC.
CHARLESTON, SC
C-00831
REGISTERED ENGINEERS

SEALS

RMF ENGINEERING, INC.
194 SEVEN FARMS DRIVE
SUITE G
CHARLESTON, SC 29492
P: 843-971-9639 F: 843-871-9641
RMF PROJECT NO: 321261.B0

02/05/25	1	ADDENDUM 1
REVISIONS		

Construction Documents

TOWN OF EDISTO
BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEAICOE ARCHITECTS
CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

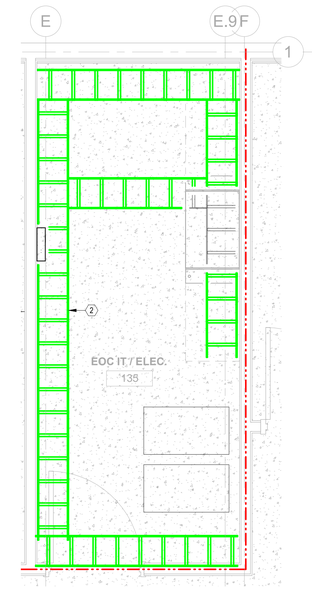
ELECTRICAL LIGHT FIXTURE SCHEDULE

SHEET NAME

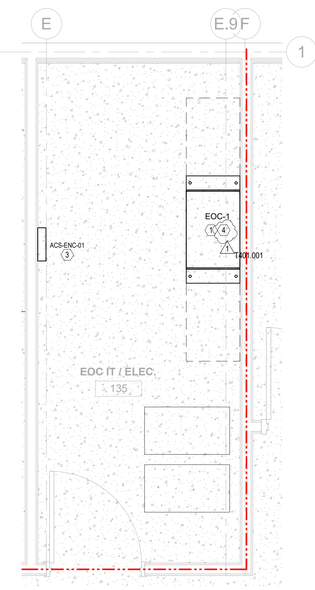
PROJECT NUMBER 321261.B0
DRAWN BY BWT
CHECKED BY DMS
DATE 12/16/2024
SCALE 12" = 1'-0"

E601

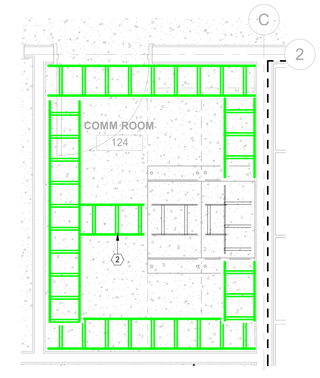
2/4/2025 10:50:13 AM



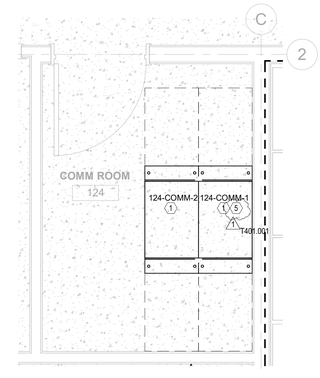
3 ENLARGED EOC/IT ROOM CABLE TRAY PLAN
1/2" = 1'-0"



1 ENLARGED EOC/IT ROOM EQUIPMENT PLAN
1/2" = 1'-0"



4 ENLARGED COMM ROOM CABLE TRAY PLAN
1/2" = 1'-0"



2 ENLARGED COMM ROOM EQUIPMENT PLAN
1/2" = 1'-0"

T401.001	ADDED KEYNOTE FOR CLARIFICATION OF FIBER OPTIC BACKBONE, PER BID RFI RESPONSES.
T401.002	KEYNOTES ADDED TO CLARIFY FIBER OPTIC CABLING REQUIREMENT.

ATTACHMENT FF
ADDENDUM #1

wired engineering
Technology Consulting

SEALS

DANIEL T. HUNTER, #40300

NOTES:

1. PROVIDE 4-POST EQUIPMENT RACK. PROVIDE (1) 120V 20A CIRCUIT (L5-20R) AND (1) 208V 30A CIRCUIT (L6-30R) MOUNTED ON CABLE TRAY. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. PROVIDE 12"W LADDER TRAY WITH ALL REQUIRED FITTINGS.
3. ACCESS CONTROL ENCLOSURE. PROVIDE 120V, 20A DEDICATED CIRCUIT, AND (2) CAT 6 CABLES.
4. PROVIDE 12 STRAND SINGLEMODE FIBER OPTIC CABLE TERMINATED TO COMM 124. BOTH ENDS SHALL BE TERMINATED AT RACK MOUNTED FIBER CONNECTOR HOUSING ON LC/UPC CONNECTORS.
5. PROVIDE RACK MOUNTED FIBER CONNECTOR HOUSING TO TERMINATE HORIZONTAL FIBER OPTIC CABLING TO EOC/IT 135 AND BROADCAST 103 FIBER OPTIC CABLING.

1 T401.002

02/05/25	1	ADDENDUM 01
REVISIONS		

CONSTRUCTION DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA|COE ARCHITECTS

CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

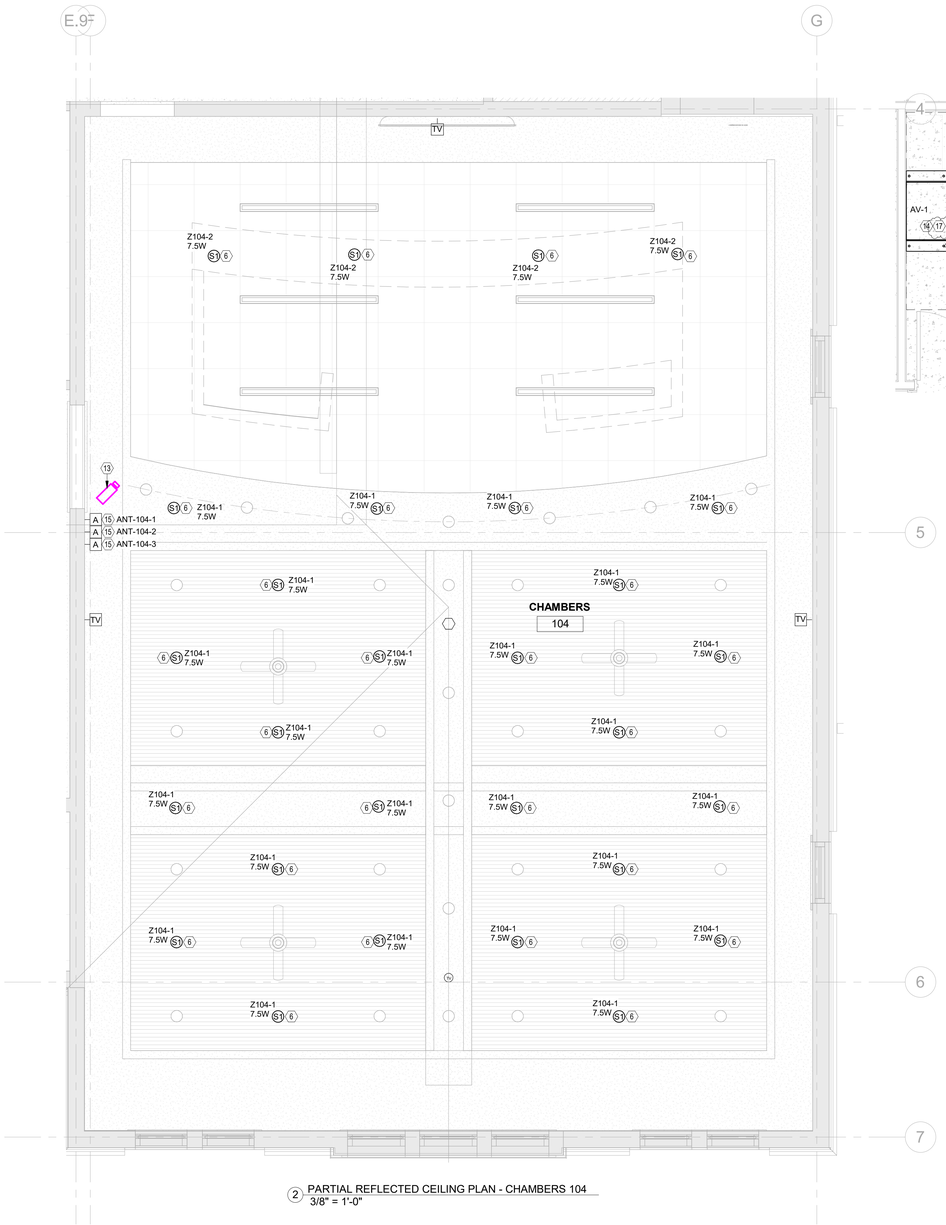
TECHNOLOGY ENLARGED PLANS

SHEET NAME

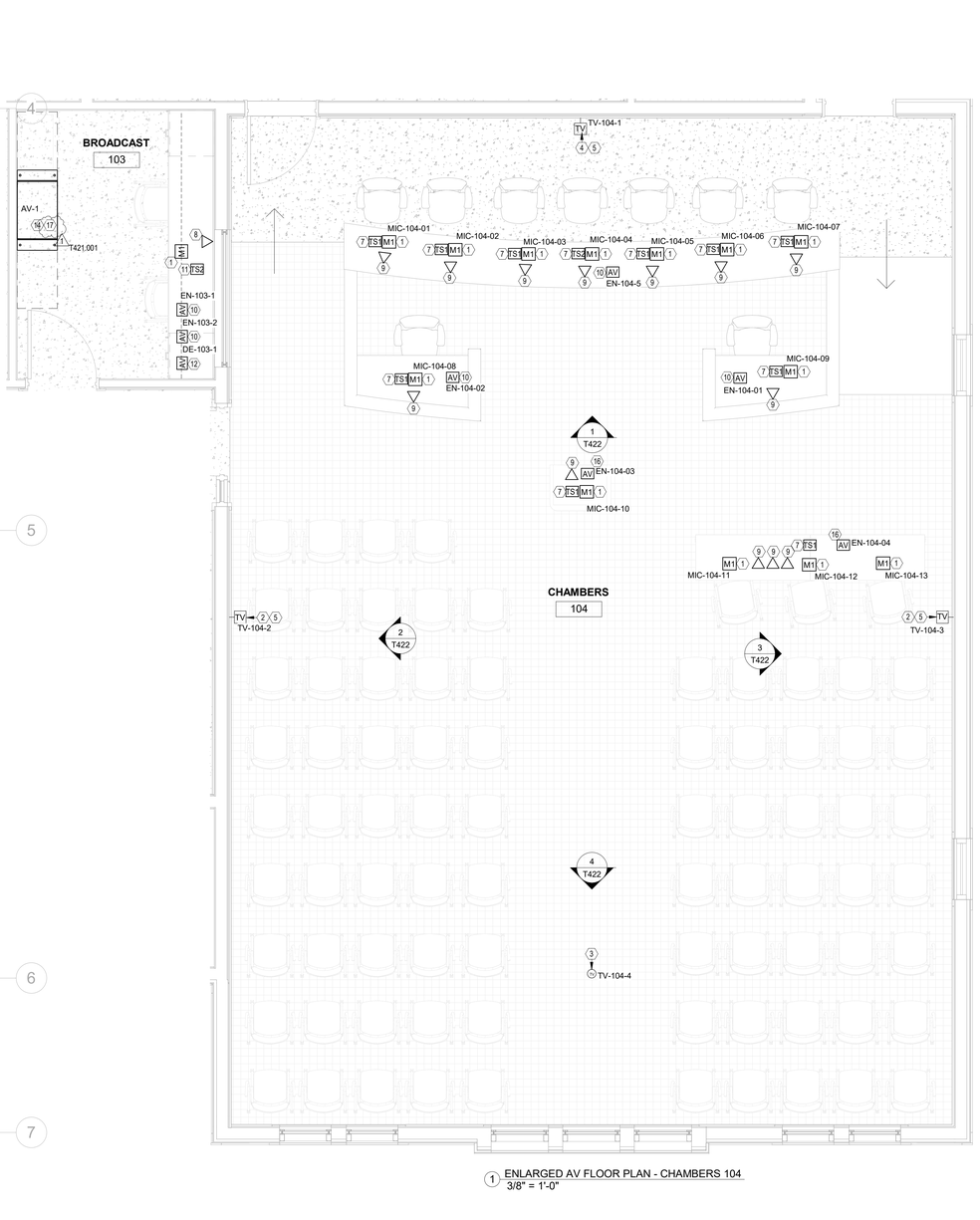
PROJECT NUMBER	23001
DRAWN BY	WIRED
CHECKED BY	WIRED
DATE	12/16/2024
SCALE	1/2" = 1'-0"

T401

2/5/2025 8:59:54 AM



2 PARTIAL REFLECTED CEILING PLAN - CHAMBERS 104
3/8" = 1'-0"



1 ENLARGED AV FLOOR PLAN - CHAMBERS 104
3/8" = 1'-0"

T421.001	ADDED KEYNOTE FOR CLARIFICATION OF FIBER OPTIC BACKBONE, PER BID RFI RESPONSES.
T421.002	KEYNOTES ADDED TO CLARIFY FIBER OPTIC CABLING REQUIREMENT.

ATTACHMENT GG
ADDENDUM #1

wired engineering
Technology Consulting

SEALS
DANIEL T. HUNTER, #75393

NOTES:

1. PROVIDE DESKTOP GOOSENECK MICROPHONE WITH PUSH TO TALK BUTTON (SHURE MX412D/C OR APPROVED EQUAL). CONNECT TO AUDIO CABLE IN FLOOR BOX/WALL PLATE TERMINATION.
2. PROVIDE 55" WALL MOUNTED DISPLAY (SAMSUNG QM55C OR EQUIVALENT) WITH APPROPRIATELY SIZED PULL OUT MOUNT (PEERLESS ST5650 OR APPROVED EQUAL). SEE AV RISER DIAGRAM FOR ADDITIONAL EQUIPMENT INFORMATION.
3. PROVIDE 75" CEILING MOUNTED DISPLAY (SAMSUNG QM75C OR EQUIVALENT) WITH MOUNTING COLUMN AND MOUNT (PEERLESS MOD-FPS2KIT150-B OR APPROVED EQUAL). SEE AV RISER DIAGRAM FOR ADDITIONAL EQUIPMENT INFORMATION. COORDINATE WITH ELECTRICAL TO PROVIDE CEILING MOUNTED OUTLET AT DISPLAY LOCATION. PROVIDE (2) DATA CABLES TO LOCATION SHOWN.
4. PROVIDE 98" WALL MOUNTED DISPLAY (SAMSUNG QM98N OR EQUIVALENT) WITH APPROPRIATELY SIZED PULL OUT MOUNT (PEERLESS ST5650 OR APPROVED EQUAL). SEE AV RISER DIAGRAM FOR ADDITIONAL EQUIPMENT INFORMATION.
5. PROVIDE WALL BOX (CHIEF PAC526F OR EQUAL). WITHIN WALL BOX TERMINATE (2) CAT 6 CABLES. COORDINATE WITH ELECTRICAL TO PROVIDE (1) DUPLEX OUTLET MOUNTED WITHIN WALL BOX.
6. PROVIDE RECESSED SPEAKER, JBL CONTROL 26CT OR APPROVED EQUAL. TAP AT 7.5W. PROVIDE 16AWG SPEAKER CABLE ROUTED BACK TO RACK AV-1
7. PROVIDE 7" TOUCH SCREEN CONTROLLER (CRESTRON TS-770-B-S OR APPROVED EQUAL). PROGRAM PER THE NARRATIVE FOUND ON RISER DIAGRAM.
8. PROVIDE FACEPLATE WITH BALANCED AUDIO TERMINATION AND 2 PIN PHOENIX CONNECTOR IN FACE PLATE MOUNTED AT 30" AFF UNDER DESK. PROVIDE SHIELDED TWISTED PAIR WITH DRAIN WIRE AND UNSHIELDED TWISTED PAIR ROUTED TO BROADCAST 103. TERMINATE IN RACK AV-1.
9. PROVIDE FACEPLATE IN FLOOR BOX WITH BALANCED AUDIO TERMINATION AND 2 PIN PHOENIX CONNECTOR IN FACE PLATE MOUNTED AT 30" AFF UNDER DESK. PROVIDE SHIELDED TWISTED PAIR WITH DRAIN WIRE ROUTED TO BROADCAST 103. TERMINATE IN RACK AV-1.
10. PROVIDE AV OVER IP ENCODER (CRESTRON DM-NVX-360 CONFIGURED AS ENCODER) MOUNTED UNDER DESK/PODIUM. PROVIDE HDMI CABLE SNAKED THROUGH 2" GROMMET TO TOP OF DESK. CONNECT TO CATEGORY 6 CABLE ROUTED BACK TO BROADCAST 103. TERMINATE IN RACK AV-1.
11. PROVIDE 10" TOUCH SCREEN CONTROLLER (CRESTRON TS-1070-B-S OR APPROVED EQUAL). PROGRAM PER THE NARRATIVE FOUND ON RISER DIAGRAM.
12. PROVIDE AV OVER IP DECODER (CRESTRON DM-NVX-360 CONFIGURED AS DECODER) MOUNTED UNDER DESK. PROVIDE HDMI CABLE SNAKED THROUGH 2" GROMMET TO TOP OF DESK. CONNECT TO CATEGORY 6 CABLE ROUTED BACK TO BROADCAST 103. TERMINATE IN RACK AV-1.
13. PROVIDE PTZ AV CAMERA WITH HDMI & USB OUTPUT (PTZOPTICS PT12X-4K-WH-G3 OR APPROVED EQUAL). PROVIDE UTP CABLE AND HDMI CABLE FROM RACK AV-1, AND USB CABLE TO DESK IN BROADCAST 103. CONNECT UTP CABLE TO POE SWITCH. CONNECT USB TO OFE PC.
14. PROVIDE 4-POST EQUIPMENT RACK. PROVIDE (1) 120V 20A CIRCUIT (L5-20R) AND (1) 208V 30A CIRCUIT (L6-30R) MOUNTED ON CABLE TRAY. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
15. PROVIDE LOW VOLTAGE RING AND TERMINATION FOR COAXIAL CABLE FOR ANTENNA. PROVIDE CABLE FOR ANTENNA BASED ON DEVICE CONNECTED.
16. PROVIDE AV OVER IP ENCODER (CRESTRON DM-NVX-E30) MOUNTED UNDER DESK/PODIUM. PROVIDE HDMI CABLE SNAKED THROUGH 2" GROMMET TO TOP OF DESK. CONNECT TO CATEGORY 6 CABLE ROUTED BACK TO BROADCAST 103. TERMINATE IN RACK AV-1.
17. PROVIDE 12 STRAND SINGLEMODE FIBER OPTIC CABLE TERMINATED TO COMM 124. BOTH ENDS SHALL BE TERMINATED AT RACK MOUNTED FIBER CONNECTOR HOUSING ON LC/UPC CONNECTORS.

4 T421.002

02/05/25	1	ADDENDUM 01
REVISIONS		

CONSTRUCTION DOCUMENTS

TOWN OF EDISTO BEACH TOWN HALL

2414 MURRAY STREET
EDISTO BEACH, SC 29438

CAPLEA COE ARCHITECTS, INC.
1643 MEANS STREET
CHARLESTON, SC 29412
843.577.6073

AV ENLARGED PLANS - CHAMBERS 104

SHEET NAME

PROJECT NUMBER	23001
DRAWN BY	Author
CHECKED BY	Approver
DATE	12/16/2024
SCALE	3/8" = 1'-0"

T421

2/5/2025 9:00:03 AM

ATTACHMENT HH
ADDENDUM #1

TOWN OF EDISTO BEACH TOWN HALL

SECTION 000100

TABLE OF CONTENTS

VOLUME 01

DIVISION 00 - GENERAL REQUIREMENTS

DIVISION 01 - GENERAL REQUIREMENTS

END OF TABLE OF CONTENTS

ATTACHMENT JJ
ADDENDUM #1

METAL ROOFING
Systems, Inc

January 29, 2025

Caplea Coe Architects

Project: Town of Edisto Beach Town Hall

We know that the **Town of Edisto Beach Town Hall** needs a permanent roof solution with a competitive price to keep the project within the owner's budget. Metal Roofing Systems (MRS) has been requested by some of the better roofers to provide them with a quote for our quality roofing products for this project. As a local manufacturer of top quality metal panels and edge metal products, our competitive pricing will help keep the project within your owner's budget.

Your design for this project reflects your interest in looking after the owner's best interest. MRS likewise tries to look after the owner's best interest by offering the best quality products on the market today at competitive pricing and these products are installed by our network of trained, certified roofing contractors.

Having performed a detailed review of the contract documents, we want to assure you that we have the same products as you have specified and that they meet or exceed your relevant performance requirements.

Since a number of roofing contractors have asked for our pricing on this project, we ask for you to please review and approve the attached CSI Substitution Request Form and let us know if you have any questions. Also, please let us know if you need for us to make the substitution request with some other form.

Please feel free to call me on my cell phone (804) 385-5798 if you should have any additional questions on the MRS product's compliance to the specified requirements.

Sincerely,

Peter Ryan
Metal Roofing Systems, Inc.

SUBSTITUTION REQUEST

Project: Town of Edisto Beach Town Hall

Substitution Request Number:

From: Peter Ryan, Metal Roofing System

To: Caplea Coe Architects

Date: January 29, 2025

A/E project Number:

Re:

Contract For:

Specification Title: Division 7
Section: 074113 Page:5

Description: Standing Seam Metal Roof Panels
Article/Paragraph: Part 2 Products, 2.2.

Proposed Substitution: MRS System 2000
Manufacturer: Metal Roofing Systems
Address:7670 Mikron Road Stanley, NC 28164 Phone: 704-820-3110 Fax: 704-820-0113
Trade Name: Metal Roofing Systems Inc.

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product
- Same maintenance service and source of replacement parts, as applicable, is available
- Proposed substitution will have no adverse effect on other trades and wilt not affect or delay progress schedule
- Proposed substitution docs not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.

Submitted by: Peter Ryan

Firm: Metal Roofing Systems Inc.

Address: 7670 Mikron Drive Stanley, NC 28164

Telephone: 704-820-3110

A/E's REVIEW AND ACTION

☑ Substitution approved - Make submittals in accordance with Specification Section.

☐ Substitution approved as noted - Make submittals in accordance with Specification Section

☐ Substitution rejected - Use specified materials.

☐ Substitution Request received too late - Use specified materials.

Signed by

Supporting Data Attached: ■ Drawings ■ Product Data ☐ Samples ■ Tests ☐ Reports ☐ _____

SUBSTITUTION REQUEST FORM

To: Caplea Coe Architects

Project: Town of Edisto Beach Town Hall

We hereby submit for your consideration the following product instead of the specified item for the above project:

DRAWING: SPEC. SECT. NO: **074113 – STANDING SEAM METAL ROOF PANELS**
PARAGRAPH: **PART 2 – PRODUCTS, 2.2.**
Proposed Substitution: **MRS SYSTEM 2000**

Attach complete information on changes to Drawings and/or Specifications which proposed substitution will require for its proper installation.

Submit with request all necessary samples and substantiating data to prove equal quality and performance to that which is specified. Clearly mark manufacturer's literature to indicate equality in performance.

Fill in blanks below:

A. Does the substitution affect dimensions shown on the Drawings? **No**
If yes, clearly indicate the changes:

B. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? **Yes**
If no, fully explain: **Note: Proposed product is exact same as the specified product and thus will not affect the building design.**

C. What effect does substitution have on other Contracts or other Trades? **None**

D. What effect does substitution have on construction schedule?
None. Possible shorter lead times.

E. Manufacturer's warranties of the proposed and specified items are.
The proposed product provides superior warranties with our 20-year material warranty vs the 2-year material warranty specified, and 25-year coastal finish warranty vs 20-years specified thus providing additional value to the owner. Weathertightness warranty of the proposed product are equal to that specified.

F. Reason for request: **Proposed product is the exact same as the specified but with**

better warranties. See above (E)

G. Itemized comparison of specified item(s) with the proposed substitution; list significant variations: **See attached document**

H. Accurate cost data comparing proposed substitution with product specified:

I. Designation of maintenance services and sources:

(Attach additional sheets if required.)

Certification of Equal Performance And Assumption Of Liability For Equal Performance

The undersigned states that the function, appearance and quality are equivalent or superior to the specified item. Submitted By:

Peter Ryan

Signature: Peter Ryan Title: Architectural Manager

Firm: Metal Roofing Systems, Inc.

Address: 7687 Mikron Drive, Stanley, NC 28164

Telephone: 704-820-3110

For Use By Architect:

Accepted Not Accepted as Noted Received

Accepted Too Late

By: Nate Boykin, AIA

Date: 02/03/2025

Remarks:

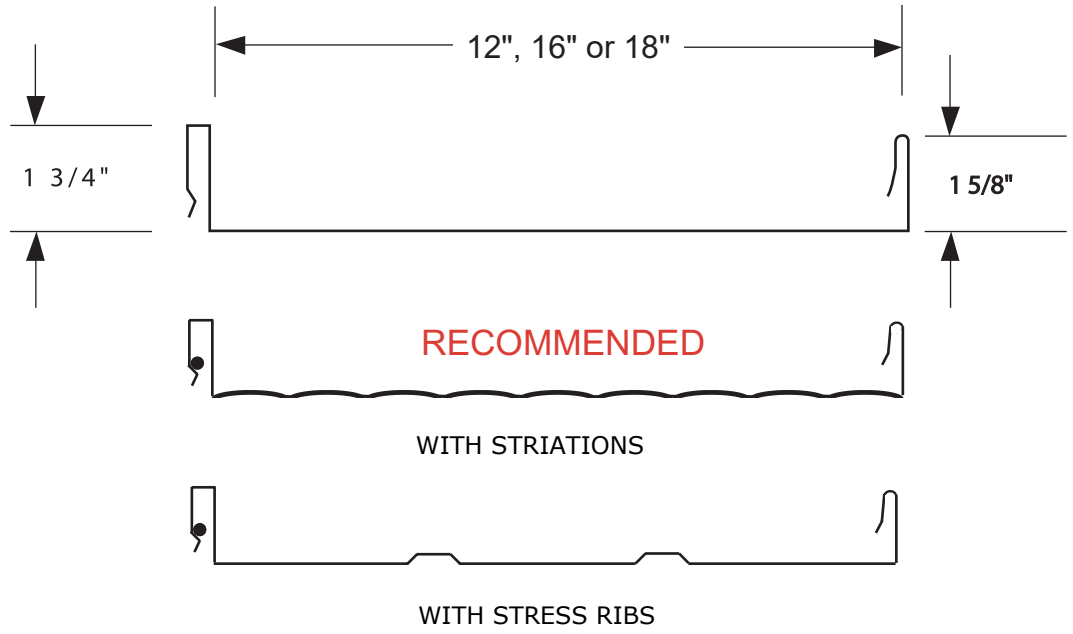
Signature shall be by person having authority to legally bind his firm to the above terms. Failure to provide legally biding signature will result in rejection of proposed substitution

Roofing Panel

MRS System 2000

12", 16" or 18"
1 3/4" high
Snap-lock

.032 or .040 Aluminum
22, 24 ga Galvalume
16 oz Copper



U.L. 580 Class 90 Certified
ASTM E1680-95, E1646-95, E1592-95

Ideal for large commercial installations

Material: .032 or .040 Aluminum 22 or 24 ga Galvalume, 16 oz Copper
12" - 18" o.c.

Features:
Flat
* Striations (MRS Recommended)
Stress Ribs
Optional Sealant in Female leg of panel

Requirements:
Solid substrate, Open Framing
30# Felt or Ice & Water Shield
Clips spaced at 30" o.c. max (2 Fasteners per Clip)
Clips spaced at 48" o.c. max for 18" panel on Open Framing (2 Fasteners per Clip)
Clips spaced at 60" o.c. max for 16" panel on Open Framing (2 Fasteners per Clip)

Finish: Hylar 5000® or Kynar 500®

Locations:

7687 Mikron Drive
Stanley, NC 28164
Tel: 704-820-3110
Fax: 704-820-0113

370-C Allied Drive
Conway, SC 29526
Tel: 843-365-6673
Fax: 843-365-6683

3214 Hanover Road
Johnson City, TN 37604
Tel: 423-239-0013
Fax: 423-447-7150

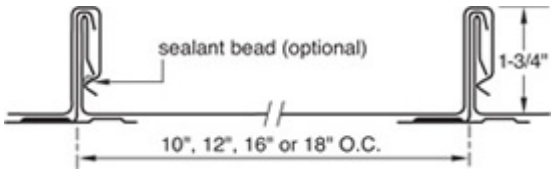
METAL ROOFING Systems, Inc

Website: www.metalroofingsystems.com

METAL ROOFING
Systems, Inc

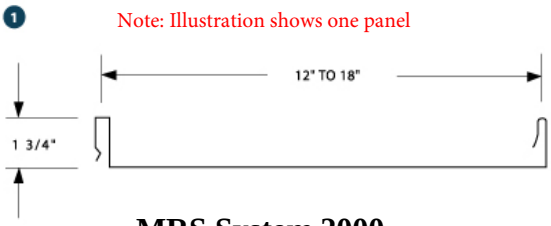
Comparison sheet for exact equal to basis of design

Note: Illustration shows multiple panels snapped together



Pac-Clad Snap-Clad

Note: Illustration shows one panel



MRS System 2000

Feature	Specified	Metal Roofing Systems
Manufacturer	Peterson	MRS
Model	Snap-Clad	MRS System 2000
Panel Width	16"	16"
Seam Height	1.75”	1.75”
Panel Finish	Smooth/Ribs/Striated	Smooth/Ribs/Striated
Fastener Type	Concealed	Concealed
Created Location	Factory	Factory
UL Testing	UL 90	UL 90
Material	Aluminum	Aluminum
Material Color	As Requested	As Requested
Material Thickness	.040 Alum.	.040 Alum.
Finish Warranty	20 yrs	25 yrs
Watertight Warranty	20 yrs	20 yrs
Material Warranty	2 yrs	20 yrs

Will meet LEED Requirements for SS7.2 and MR4.1

Finish

METAL ROOFING SYSTEMS

40 YEAR WARRANTY

SEE REVERSE SIDE FOR MATERIAL AVAILABILITY

ENVIRONMENTALLY SMART COLORS - DESIGNED ENERGY EFFICIENT


SIERRA TAN


MEDIUM BRONZE


MANSARD BROWN


DARK BRONZE


MATTE BLACK


TERRA COTTA


SURREY BEIGE


SANDSTONE

BONE WHITE

STONE WHITE

REGAL WHITE


COLONIAL RED


ASH GRAY


DOVE GRAY


SLATE GRAY


CHARCOAL GRAY


SLATE BLUE

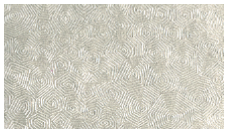

BURGUNDY


PATINA GREEN


HEMLOCK GREEN


EVERGREEN

NON-PAINTED


ACRYLIC-COATED GALVALUME*

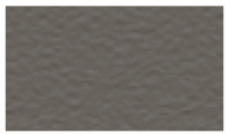
TEXTURED COLORS - PREMIUM UPCHARGE


TLG BLACK


TLG CHARCOAL GRAY


TLG DARK BRONZE


TLG MEDIUM BRONZE


TLG MOONSTONE™

METALLIC / PREMIUM COLORS - PREMIUM UPCHARGE


SILVER


COPPER


CHAMPAGNE


PRE-WEATHERED GALVALUME*


HARTFORD GREEN


REGAL RED


REGAL BLUE

* CONTACT YOUR REPRESENTATIVE FOR EXACT COLOR CHIP SAMPLE

LOCATIONS

Stanley, NC
Fayetteville, NC
Conway, SC
Gallatin, TN
Pinellas Park, FL
Jackson, MS

www.metalroofingsystems.com

Faster. Smarter. Better. Period.

ENERGY STAR PARTNER

U.S. GREEN BUILDING COUNCIL

Colors shown are matched as accurately as possible, but may vary slightly from finished product. These rich and vibrant colors are produced with either Kynar® 500 or Hylar® 5000 resins, which provide superior color retention, and allow us to offer non-prorated coating warranties for most applications. Coating warranty varies for Regal Red, Matte Black, Copper, Silver, Champagne, and Pre-Weathered Galvalume. Metallics are warranted for chip, crack, and peel only. Please contact your representative for more information.

STOCK AVAILABILITY MATRIX	LEED V4.1	ISR	EMI	3 YR. SRI	SRI	GALVALUME 24 GA.	GALVALUME 22 GA.	ALUMINUM .032	ALUMINUM .040	ALUMINUM .050	ALUMINUM .063
Acrylic Coated Galvalume®	L	0.67	0.14	N/A	56	●	●				
Ash Gray		0.32	0.83	31	31	●		●	●		
Bone White	L	0.65	0.83	77	77	●		●	●	●	●
Burgundy		0.31	0.86	29	32	●					
Champagne		0.32	0.83	31	31	●					
Charcoal Gray		0.25	0.83	22	22	●	●	●	●		
Colonial Red		0.25	0.83	22	22	●		●			
Copper	L	0.35	0.75	32	32	●		●			
Dark Bronze		0.25	0.83	22	22	●	●	●	●	●	●
Dove Gray	L	0.35	0.83	35	35	●	●	●	●		
Evergreen		0.25	0.83	22	22	●		●	●		
Hartford Green		0.25	0.83	22	22	●		●	●	●	
Hemlock Green		0.25	0.83	22	22	●					
Mansard Brown		0.25	0.83	22	22	●	●	●	●	●	
Matte Black		0.25	0.83	22	22	●	●	●	●	●	●
Medium Bronze		0.25	0.83	22	22	●	●	●	●	●	●
Patina Green		0.32	0.83	31	31	●					
Pre-weathered Galvalume®		0.24	0.83	19	21	●		●			
Regal Blue		0.25	0.83	22	22	●					
Regal Red	L	0.35	0.83	35	35	●					
Regal White	L	0.65	0.83	77	77	●	●	●	●	●	●
Sandstone	L	0.35	0.83	35	35	●		●	●		
Sierra Tan		0.31	0.87	28	31	●		●	●		
Silver	L	0.54	0.77	55	60	●		●	●	●	
Slate Blue		0.25	0.83	22	22	●		●			
Slate Gray	L	0.35	0.83	35	35	●	●	●	●	●	
Stone White	L	0.55	0.83	59	63	●		●	●		
Surrey Beige	L	0.35	0.75	32	32	●		●			
Terra Cotta	L	0.35	0.83	35	35	●		●	●		
TLG Black		0.25	0.83	22	22	●					
TLG Charcoal Gray		0.25	0.83	22	22	●					
TLG Dark Bronze		0.25	0.83	22	22	●					
TLG Medium Bronze		0.25	0.83	22	22	●					
TLG Moonstone™		0.32	0.83	31	31	●					

*** IF DESIRED COLOR IS NOT LISTED ON MATRIX PLEASE CONTACT METAL ROOFING SYSTEMS FOR AVAILABILITY**

NOTES

- All metal is painted with a .20 mil primer and .70–.90 mil Top Coat and 70% Kynar® 500 or Hylar® 5000. The reverse side has a .20 primer and .30–.40 backer coating.
- 22-gauge steel available upon request.
- For low slope roofing to meet LEED V4.1 requirements, the initial SRI must be ≥ 82 OR the 3-year SRI must be ≥ 64.
- For steep slope roofing to meet LEED V4.1 requirements, the initial SRI for 75% of the roof must be ≥ 39 OR the 3-year SRI must be ≥ 32.
- Low slope roofing is defined as ≤ 2:12.
- Steep slope roofing is defined as > 2:12.

KEY

●	Stocked Item
L	LEED V4.1 Compliant
ISR	Initial Solar Reflectance
EMI	Emissivity
SRI	Solar Reflectance Index

Oil canning is an aesthetic issue and is an inherent part of light gauge cold formed metal products. By using coil that has been processed properly, designing for thermal movement, following stringent specifications for installation, and proper handling, most oil canning can be eliminated. Oil canning is not grounds for coil/panel rejection.

Galvalume® is a registered trademark of BIEC. Hylar® 5000 is a registered trademark of Solvay Solexis, Inc. Kynar® 500 is a registered trademark of Atofina, Inc.

Warranty

METAL ROOFING
Systems, Inc

20-Year, 6-Month Limited "Metal" Warranty
Painted Aluminum

EXCLUSIVE WARRANTY

This Warranty, (collectively, the "Warranty" is issued by Metal Roofing Systems, Inc. (hereinafter referred to as "MRS"), to the customer identified in this certificate, (hereinafter referred to as "Customer") to warrant that the Aluminum painted with MRS's stock COOLR®, Kynar 500®, or Hylar 5000® resin painted sheet aluminum sold for use as aluminum building roofing and/or siding panels, if erected within the continental United States and Caribbean, WILL NOT as a result of corrosion: rupture, fail structurally or perforate within a period of 20 years, and 6 months.

1. EXCLUDED ATMOSPHERIC CONDITIONS
This Warranty does not apply to sheet exposed at any time to corrosive, aggressive, harmful or other abnormal atmospheric conditions, including but not limited to:

A. Areas subject to fallout exposure to corrosive chemicals, ash, fumes, cement dust, animal waste, or it's decomposition by-products, fallout from copper, lead, nickel or silver mining or refining operations and carbon black;

B. Conditions/circumstances where corrosive fumes or condensation are generated or released inside the building;

C. Areas subject to water run-off from lead or copper flashing or piping or areas in contact with lead or copper or lumber containing same;

2. OTHER EXCLUDED SITUATIONS
A. Mechanical, chemical or other damage sustained during shipment, storage, forming, fabrication, during or after erection;

B. Failure to provide free drainage of water, including internal condensation, from overlaps on all other surfaces of the sheets or panels;

C. Failure to remove debris from overlaps and all other surfaces of the sheets or panels;

D. Failure to perform an annual fresh tap water rinse on prepainted aluminum located within one mile of a seacoast, salt water or brackish water in accordance with AAMA 610.1-1979.

E. Damage caused to the metallic coating by improper roll forming, scouring or cleaning procedures;

F. Deterioration of the panels caused by contact with green or wet lumber or wet storage stain caused by water damage or condensation;

G. The presence of damp insulation or other corrosive materials in contact with or close proximity to the panel.

H. Deterioration to the panels caused directly or indirectly by panel contact with fasteners. Selection of suitable long-lasting fasteners to be used with Aluminum roofing and siding panels rests solely with the Customer;

I. Bends less than 2T for sheet thickness .030" and thinner and less than 4T for sheet thickness .031" and thicker;

J. Slopes of roof or sections of the roof flatter than 1/4:12;

K. Forming, which incorporates severe reverse bending or which subjects coating to alternate compression and tension;

L. This Warranty applies only to the aluminum and not to any paint coating that may be applied to the metal. A separate warranty is available for MRS's COOLR paints;

M. This warranty applies only to painted aluminum. **No Warranty** is offered for bare or mill finish aluminum.

3. EXCLUSIVE REMEDIES
Customer's exclusive remedy and Seller's sole liability for breach of this limited Warranty shall be limited to the cost of either repairing non-conforming panels, or at Seller's sole option:

A. Furnishing to Customer, FOB Customer's plant, sufficient sheet metal to enable Customer to fabricate replacement panels for the defective panels, or;

B. Reimbursing Customer for the cost of the defective panels.

4. LIMITATION OF DAMAGES
THE LIABILITY OF THE SELLER SHALL NOT EXTEND TO PERSONAL INJURY, PROPERTY DAMAGE, LOSS OF PROFIT, DELAY OR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE FAILURE OF ANY SHEET TO CONFORM TO THE PROVISIONS OF THIS LIMITED WARRANTY.

MRS SHALL NOT IN ANY EVENT BE LIABLE FOR THE COST OF LABOR EXPENDED BY OTHERS ON ANY DEFECTIVE PANEL OR FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHATSOEVER WHETHER ARISING FROM BREACH OF CONTRACT, BREACH OF WARRANTY, TORT, INCLUDING NEGLIGENCE, STRICT LIABILITY OR OTHERWISE TO ANYONE BY REASON OF THE FACT THAT SUCH PANELS SHALL HAVE BEEN DEFECTIVE.

THIS WARRANTY IS GIVEN AS THE EXCLUSIVE WARRANTY AND EXCLUSIVE REMEDY, AND NO OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR PURPOSES, ARE MADE, AND ANY SUCH OTHER WARRANTIES ARE EXPRESSLY DISCLAIMED. THERE ARE NO WARRANTIES, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED IN THIS INSTRUMENT. CUSTOMER WAIVES THE BENEFIT OF ANY RULE THAT THE DISCLAIMERS OF WARRANTY SHALL BE CONSTRUED AGAINST THE SELLER, AND AGREES THAT THE DISCLAIMERS IN THIS INSTRUMENT SHALL BE CONSTRUED LIBERALLY IN FAVOR OF MRS. MRS SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. MRS HEREBY DISCLAIMS ALL LIABILITIES FOR DAMAGES BASED ON THEORIES OF NEGLIGENCE AND STRICT PRODUCT LIABILITY.

5. INSPECTION AND NOTICE OF CLAIM
Customer shall exercise diligence in inspection of panels as received from MRS so as to mitigate repair or replacement. No Warranty shall apply to panels that are used, and contain coating defects discernable by reasonable inspection. Claims for any breach of Warranty must be made within the period of this limited Warranty. Customer must give Seller a reasonable opportunity to inspect the material. Claims must be promptly reported in writing to MRS, and MRS shall be given a reasonable opportunity to inspect the panels claimed to be defective. Customer must prove that the defective materials were sold by MRS by means of proper identification of the material involved in the claim, including date of shipment by MRS, date of installation, MRS order number, coil number, and invoice number.

6. TRANSFERS, REPRESENTATIONS AND ASSIGNMENTS
This limited Warranty is extended to Customer as the original purchaser from MRS and is non-transferable and non-assignable, and may not be enlarged in its scope by any representative, sales person, agent or other employee of MRS. No rights against MRS shall be created by any purported transfer or assignment. This provision is a material term of this Warranty and its violation or breach by Customer or any of Customer's agents or representatives shall void and cancel this Warranty for all purposes.

7. WAIVER OR MODIFICATIONS OF MRS'S RIGHTS
No terms or conditions, other than those stated herein, and no agreement or understanding, oral or written, and no course of conduct or performance, in any way purporting to modify this limited Warranty or to waive MRS's rights hereunder, shall be binding on MRS unless the same be clearly set forth in a writing that expressly refers to this limited warranty and expressly refers to having such effect upon this limited Warranty, and is signed by the authorized representative of Sheffield.

8. OTHER PROVISIONS
Customer acknowledges that MRS is not the manufacturer or applicator of the coating warranted herein and agrees that all issues arising from or related to the exceptions set forth herein shall be determined finally and conclusively as to the Customer, by the original manufacturer.

9. GOVERNING LAW
The substantive law of the State of Ohio shall exclusively govern the rights and duties of the parties under this agreement. Any controversy or claim arising out of or related to this warranty, or the breach thereof shall be brought before a court of competent jurisdiction in Cleveland, Ohio.

SIGNATURES:
This Warranty is not valid unless signed by an authorized employee or agent of MRS.

METAL ROOFING SYSTEMS, INC.

By: _____

Name Printed:

Title: President

Date:

"MRS"

Issued To:

For:

Job:

Color:

Completion Date:

Galvalume® is a registered trademark of BIEC

METAL ROOFING Systems, Inc

25 - Year Limited COOLR Coastal "Paint" Warranty For Aluminum Substrates

EXCLUSIVE WARRANTY

This Warranty (collectively, the "Warranty") is issued by Metal Roofing Systems Inc. (hereinafter referred to as "MRS"), to the customer identified in this Certificate (hereinafter referred to as "Customer") and applies to the finish on Aluminum flat sheet and coil products (hereinafter referred to as the "Product") with PVDF based coating consisting of KYNAR 500® or Hylar 5000® resin (hereinafter referred to as the "Coating") if erected anywhere within the Continental United States including Alaska, Hawaii and Canada.

1. Subject to the provisions contained herein, MRS warrants that during the Twenty-Five (25) Year Warranty Period, MRS' COOLR stock Coatings will not chip, crack, peel, flake or check (except for such slight crazing or cracking as may occur on tightly roll-formed edges or break bends at the time of roll forming or other fabrication of pre-painted sheet or coil and which is accepted in the industry as standard). Subject to the provisions contained herein, MRS' warrants that for Twenty-Five (25) years from the date of installation of panels, the Coating will not chalk in excess of ASTM D-4214-89 method D659 number eight (8) rating, or change color more than Five (5.0) Hunter E units as determined by ASTM method D-2244-2. Color change will be measured on an exposed painted surface that has been cleaned of surface soils and chalk, and the corresponding values measured on the original or unexposed surface. It is understood that fading or color change may not be uniform, if the surfaces are not equally exposed to the sun and elements.

2. This Warranty does not apply to circumstances beyond MRS' control, including:

a. Coated product is installed beyond the water's edge.

b. Significant differences in insulation below the coated metal panel.

c. Fire or other casualty or physical damage;

d. Unusual harmful fumes, foreign substances in the atmosphere or standing water.

e. Improper treatment of or defects in the metal or in the fabrication or areas where items such as snow guards or solar panels are attached / adhered to the product.

f. Intermittent or continual submersion in water or any other liquid or solid material;

g. Damage from wind, deliberate damage, improper handling by erectors, from abrasive or chemical cleaners.

h. Mishandled Products, e.g., ANY PRODUCT WHICH HAS BEEN ABUSED, ALTERED, MODIFIED, USED IN A MANNER NOT ORIGINALLY INTENDED, OR STORED CONTRARY TO OUR INSTRUCTIONS.

i. Stored or installed in a way that allows for poor air circulation, standing water, contact with animals or animal waste.

j. Embossing that fractures or severely stretches the film (i.e. film is diminished at the point of emboss by greater than 0.2 mils.)

j. Any damage caused by failure of the building owner to perform a "sweet water" / fresh tap water rinse twice a year, or more frequent, to avoid salt residue accumulation.

3. This Warranty does not cover damage or deterioration resulting from moisture contamination or entrapment or any other contamination detrimental to the coating, which occurs prior to installation of the Products, including, without limitation, contamination occurring during shipment of the Product to the jobsite or during storage at the jobsite. This Warranty does not cover failure due to corrosion of substrate.

4. EXCLUDED ATMOSPHERIC CONDITIONS
This Warranty does not apply to sheet exposed at any time to corrosive, aggressive, harmful or other abnormal atmospheric conditions, including but not limited to:

A. Areas subject to fallout exposure to corrosive chemicals, ash, fumes, cement dust, animal waste, or it's decomposition by-products, fallout from copper, lead, nickel or silver mining or refining operations and carbon black;

B. Conditions/circumstances where corrosive fumes or condensation are generated or released inside the building;

C. Areas subject to water run-off from lead or copper flashing or piping or areas in contact with lead or copper or lumber containing same;

5. All Warranty work will be performed by MRS, or any company, dealer, contractor, applicator, or distributor selected by MRS. Since there may be a color variance between the replacement or repainted Product and the originally installed Product due to normal weathering (i.e. exposure to sunlight and extremes of temperature and weather) of the originally installed products, this condition shall not be indicative of a defect.

6. NOT WITHSTANDING ANYTHING TO THE CONTRARY CONTAINED HEREIN, MRS' LIABILITY SHALL NOT EXCEED THE LESSER OF THE FOLLOWING: (I) THE CUSTOMER'S LIABILITY DIRECTLY ATTRIBUTABLE TO A BREACH OF THIS WARRANTY, OR (II) THE REFINISHING OR REPLACEMENT OF THE FAILED COATED MATERIAL, OR AT MRS' OPTION, REFUND OF THE PURCHASE PRICE WHICH SHALL NOT EXCEED AN AMOUNT EQUAL TO ONE HUNDRED PERCENT (100%) OF THE AMOUNTS PAID TO MRS BY THE CUSTOMER FOR THE PURCHASE OF THE DEFECTIVE PRODUCT. MRS SHALL NOT BE LIABLE FOR INJURY TO PROPERTY OTHER THAN THE FLAT SHEET AND/OR COIL PRODUCTS COATED WITH FLUOROCARBON PAINT SYSTEMS, IN THE CONDITION AND AS PURCHASED BY CUSTOMER FROM MRS. MRS, IN ALL INSTANCES, SHALL HAVE THE SOLE AND EXCLUSIVE RIGHT TO DETERMINE WHETHER OR NOT REFINISHING OR REPLACEMENT OF THE FAILED AREAS IS REQUIRED, AND TO FULFILL ITS OBLIGATION UNDER THE WARRANTY, MRS RESERVES THE RIGHT TO NEGOTIATE AND APPROVE ANY FINAL CONTRACT LET FOR REFINISHING AND REPLACEMENT AS THE CASE MAY BE.

7. This Warranty applies only to products manufactured by the customer within six (6) months from shipment thereof by Metal Roofing Systems Inc.

8. Claims under this Warranty must be presented by the customer to MRS in writing during the warranty period and within thirty (30) days after Customer becomes aware that any warranted condition has occurred. Time is of the essence and failure to give notice within the specified time shall discharge MRS from any obligations under this Warranty. MRS must be given a reasonable opportunity to do an on-site inspection to determine if there is a coating failure.

9. The laws of the State of Ohio shall exclusively govern the rights and duties of the parties to this Warranty. Any controversy or claim arising out of or related to this Warranty, or the breach thereof shall be brought before a court of competent jurisdiction in Cleveland, Ohio under the substantive and procedural laws of the State of Ohio.

10. Customer acknowledges that MRS is not the manufacturer or applicator of the coating warranted herein and agrees that all issues arising from or related to the exceptions set forth herein shall be determined finally and conclusively as to Customer, by the original manufacturer.

11. Due to pigment limitations, Regal Red, Matte Black and L/S Antique Black are covered by a number eight (8) rating for chalk, and five (5) E units for fade for a period of ten (10) years from installation. Copper and other metallic colors have no rating available for color change.

12. This Warranty applies solely to MRS "inventoried stock" colors. Custom matched colors and non-inventoried items may have different Warranty terms, or not be warranted.

13. For this Warranty to apply, the Customer must retain certain records. In order for MRS to process a claim, we will need to be told the original coil or skid tag number. Also the building owner shall perform a "sweet water" / fresh tap water rinse twice a year, or more frequent, to avoid salt residue accumulation in accordance with AAMA 610.1.1979, records must be kept of the maintenance.

14. THIS WARRANTY IS GIVEN AS THE SOLE AND EXCLUSIVE WARRANTY AND EXCLUSIVE REMEDY BY OR AGAINST MRS, AND NO OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR PURPOSES, ARE MADE, AND ANY SUCH OTHER WARRANTIES ARE EXPRESSLY DISCLAIMED. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION CONTAINED IN THIS INSTRUMENT. CUSTOMER WAIVES THE BENEFIT OF ANY RULE THAT THE DISCLAIMERS OF WARRANTY SHALL BE CONSTRUED AGAINST THE SELLER, AND AGREES THAT THE DISCLAIMERS IN THIS INSTRUMENT SHALL BE CONSTRUED LIBERALLY IN FAVOR OF MRS. MRS SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES. MRS HEREBY DISCLAIMS ALL LIABILITIES FOR DAMAGES BASED ON THEORIES OF NEGLIGENCE AND STRICT PRODUCT LIABILITY. THIS WARRANTY IS EXTENDED TO CUSTOMER ALONE AND NO OTHERS, IS NON-TRANSFERABLE AND NON-ASSIGNABLE, AND MAY NOT BE ENLARGED IN ITS SCOPE BY ANY REPRESENTATIVE, SALES PERSON, AGENT OR OTHER EMPLOYEE OF MRS. THE CUSTOMER SHALL NOT PERMIT ANYONE TO CLAIM OR IMPLY THAT THIS WARRANTY EXTENDS OR CAN BE "PASSED THROUGH" TO ANYONE OTHER THAN THE CUSTOMER. THIS PROVISION IS A MATERIAL TERM OF THIS WARRANTY AND ITS VIOLATION OR BREACH BY CUSTOMER OR ANY OF CUSTOMER'S AGENTS OR REPRESENTATIVES, SHALL VOID AND CANCEL THIS WARRANTY FOR ALL PURPOSES.

THE LIABILITY OF SELLER MRS SHALL NOT EXTEND TO PERSONAL INJURY, PROPERTY DAMAGE, LOSS OF PROFIT, DELAY OR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE FAILURE OF ANY PRODUCT OR COATING TO CONFORM WITH THE PROVISIONS OF THIS LIMITED WARRANTY.

MRS SHALL NOT IN ANY EVENT BE LIABLE TO THE CUSTOMER OR ANY OTHER PERSON OR ENTITY FOR ANY ACTIONS, CLAIMS, CAUSES OF ACTION, DAMAGES, EXPENSES AND/OR LIABILITIES ARISING FROM OR RELATED TO THE DESIGN, USE OR FAILURE OF THE PRODUCT OR COATING, FOR THE INTERUPTION OF THE CUSTOMER'S OPERATIONS OR BUSINESS, FOR THE COST OF LABOR EXPENDED BY OTHERS ON ANY DEFECTIVE PRODUCT OR COATING OR FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHATSOEVER OR LOSS OF PROFIT OR OTHER FINANCIAL LOSS ARISING OUT OF THE USE OR FAILURE OF THE PRODUCT OR COATING, EVEN IF MRS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH ACTIONS, CLAIMS, CAUSES OF ACTION, DAMAGES, EXPENSE, LOSS AND/OR LIABILITIES, WHETHER ARISING FROM BREACH OF CONTRACT, BREACH OF WARRANTY, TORT, INCLUDING NEGLIGENCE, STRICT LIABILITY OR OTHERWISE TO ANYONE BY REASON OF THE FACT THAT SUCH PRODUCT OR COATING SHALL HAVE BEEN DEFECTIVE.

SIGNATURE:

This Warranty is not valid unless signed by an authorized employee or agent of Metal Roofing Systems Inc.

METAL ROOFING SYSTEMS INC.

Signature: _____

Name Printed:

Title:

Date:

Issued To:

Material:

Job:

Color:

Completion Date:

Purchase #:

Invoice #:

METAL ROOFING
Systems, Inc

20-Year Watertightness Limited Warranty

Building Owner :_____ MRS Work Order Number_____

Building/Job Name: _____ Date Roof Completed_____

Building Location:_____ Contract Amount (MRS Materials):_____

Metal Roofing Systems, Inc. (hereinafter referred to as "MRS") and the Roofing Contractor/Installer whose signature appears below (hereinafter referred to as "Roofer") severally warrant [Roofer only for any matter arising during the first two years after completion of installation of the subject roof on the above referenced Building and MRS only for any matter first arising after the second anniversary of successful completion of installation of the subject roof but arising not later than the twentieth anniversary of such completion] to the above named Building Owner (hereinafter referred to as "Owner") that subject to each and every term(s), condition(s), limitation(s), allocation(s) of warranty, and responsibility(ies) stated herein, Roofer's workmanship on the above named building will be adequate to prevent leaks for 20 years commencing with the date of completion of Installation of the Roofing System. This warranty will be fully satisfied by repair of the Roof, and any such repairs shall carry a warranty against leaks for any then remaining balance of the original 20-year warranty period.

MRS'S AND ROOFER'S AGGREGATE TOTAL COMULATIVELIABLITY UNDER THIS 20 YEAR WATERTIGHTNESS LIMITED WARRANTY IS LIMITED TO THE AMOUNT OF THE OWNER'S ORIGINAL PAYMENT MADE TO THEM FOR MATERIALS FURNISHED BY MRS ONLY AND FOR THE INSTALLATION OF THOSE MATERIALS ONLY, NEITHER MRS NOR ROOFER MAKES ANY OTHER WARRANTY WHATERVER, EXPRESS OR IMPLIED, ALL IMPLIED WARRANTIES OF MERCHANTIBILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE WHICH EXCEED OR DIFFER FROM THE WARRANTIES HEREIN EXPRESSED ARE DISCLAIMED BY EACH AND ALL OF SAID PARTIES AND EXCLUDED FROM THIS 20 YEAR WATERTIGHTNESS LIMITED WARRANTY. MRS DOES NOT IN ANY WAY WARRANTY THE MERCHANTIBILITY OF THE GOODS SOLD HEREBY. NO WARRRANTIES EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.
IN NO EVENT SHALL ANY ONE OR MORE OF MRS AND ROOFER HAVE ANY LIABILITY FOR ANY COMMERCIAL LOSS, CLAIMS FOR LABOR, OR CONSEQUENTIAL DAMAGES OF ANY OTHER TYPE WHETHER OWNER'S CLAIM BE BASED IN CONTRACT, TORT, WARRANTY, STRICT LIABILITY, OR OTHERWISE, IT IS EXPRESSLY AGREED THAT OWNER'S REMEDIES EXPRESSED IN THIS 20 YEAR WATERTIGHTNESS LIMITED WARRANTY ARE OWNER'S EXCLUSIVE REMEDIES.

TERMS, CONDITIONS, LIMIATIONS

1. Owner shall provide MRS and Roofer with written notice within thirty days of the discovery of any leak(s) in the Roof. Failure of the Owner to do so shall automatically relieve both MRS and Roofer of any and all responsibility and/or liability under the 20 year Watertightness Limited Warranty.
2. In the event a roof repair is necessary during the first two-year period or any extension thereof, the Roofer's responsibility [which shall be in lieu of any and all MRS liability during this period and any such extensions] shall be extended for a two-year period from the date of the last such repair. In any such case, MRS will be responsible only for the balance remaining after the end of such a period and any and all extension(s) of the original twenty-year period from the date of completion or installation of the Roofing System.
3. Following MRS's inspection, MRS determines that the leak(s) in the Roof are caused by defects in MRS materials or in the workmanship of the Roofer, Roof repair obligations shall then arise in accordance herewith, but Owner's remedies and MRS's liability shall in any event be limited to repair of the Roof, subject to the cost limitations set forth above. Otherwise, neither MRS nor Roofer shall have any liability. The Roofer's two year liability (which is in lieu of any and all MRS liability for such period) shall be extended an additional two years from date of last repair, should such repairs be necessary during the first two years of the Roofer's liability or during any extension thereof.

4. Neither MRS nor Roofer shall have any liability or responsibility under or in connection with either this 20-Year Watertightness Limited Warranty or the Roof if any one or more of the following shall occur:
    a) Deterioration caused by marine(salt water) atmosphere or by regular spray of either salt or fresh water.
    b) Corrosion caused by heavy fallout or exposure to corrosive chemicals, ash or fumes from any chemical plant, foundry, planting works, kiln, fertilizer manufacturing, paper plant, and the like.
    c) Deterioration caused by any corrosive substance or any condensate of any condensate or any harmful substance contained, generated or released inside the building.
    d) Damage caused by worker(s) on the roof.
    e) Any other cause beyond MRS's control.
    f) Damage to the Roof caused by natural disasters, including but not limited to, lightning, or any strong gale, hurricane, tornado, or earthquake.
    g) Failure by any contractor or subcontractor to follow MRS's recommended installation instructions for the layout design and installation of the Roof.
    h) If, after installation of the Roof by Roofer, there are any alterations, such as, but not limited to, structures, fixtures, or utilities being place upon or attached to the roof without prior written authorization from MRS, or
    i) If there is any failure by the Owner or lessee or other occupant or user to use reasonable care in maintaining the Roof, or
    j) If Owner fails to comply with every term and/or condition stated in this 20-Year Watertightness Limited Warranty, or
    k) If any panels or other parts are installed in a manner that does not permit drainage of water from all surfaces.
    l) MRS shall not have any liability or responsibility with leakage caused by ridge vents.
    m) MRS shall not have any liability or responsibility with failure of gutters and gutter accessories.
    n) Failure of roofing installation and the materials supplied by MRS for the flashing and metal roofing due to reaction of dissimilar metals will not be the responsibility of MRS, nor will MRS be held liable for any claims due to failures caused by dissimilar metals.
5. MRS shall not have any liability or responsibility under or in connection with either this 20-Year Watertightness Limited Warranty or the Roof in the event of a failure by any contractor or subcontractor to use approved installation details for roof curbs, roof jacks, sealants, sub framing, and flashing furnished by MRS, [or to substitute therefore only products approved in writing in advance by MRS as equal (if provided by the contractor)].
6. During the term of this Warranty, MRS, its Sales Representative and employees, shall have free access to the roof during regular business hours
7. MRS shall not have any obligation under this 20-Year Watertightness Limited Warranty until final drawings of the completed roof are submitted by MRS to the Roofer and accepted in writing by MRS. Such drawings must show the exact number, size and location of all roof penetrations and rooftop equipment. Photos of the roof showing these items must accompany the drawings.
8. MRS shall not have any obligation under this 20-Year Watertightness Limited Warranty until all invoices for installation, supplies and services have been paid in full to each of MRS and Roofer and each material supplier.
9. Neither MRS nor Roofer shall be responsible for any consequential damages or loss to the building its contents or other materials.
10. Neither MRS nor Roofer's failure at any time to enforce any of the terms or conditions stated herein shall be construed to be a waiver of such provision or of the right to exercise any right in the future.
11. This 20-Year Watertightness Limited Warranty supercedes and is in lieu of any and all other warranties (whether express or implied) that are either in addition to or in conflict with the term(s) and condition(s) stated herein. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND ALL IMPLIED WARRANTIES OF FITNESS FOR ANY PARTICULAR PURPOSE WHICH EXCEED OR DIFFER FROM THE WARRANTIES HEREIN EXPRESSED ARE DISCLAIMED BY EACH AND ALL OF SAID PRETIES AND EXCLUDED FROM THIS 20-YEAR WATERTIGHTNESS LIMITED WARRANTY.
12. If the subject roof is covered by products of more than one roofing products manufacturer, this 20-Year Watertightness Limited Warranty applies only to those portions of such roof which are covered solely by MRS manufactured products.
13. Notwithstanding any other provision of this 20-Year Watertightness Limited Warranty, MRS shall not have any liability or responsibility at any time for or as a consequence of any condensation or underside corrosion which is or was caused at any time in part or wholly by any condensation resulting from either or both of the following:
    a) The use of an inadequate vapor barrier where the insulation is installed immediately beneath the roof panels. An adequate vapor barrier is defined as on which has a perm rating of .05 or less with sealed joints and perimeter.

b) Inadequate ventilation of the attic space between a roof panel and insulation.

14. Roofing installation must be supervised ay an authorized MRS installer or an individual that has been factory trained in the installation of MRS roofing products.
15. MRS roof panels must be made of a material which carries a 20-year durability warranty from manufacturer, such as a 20-year warranty Kynar 500 painted panel.

WARRANTY RESPONSIBILITY:

ROOFER:

- First through second Year, plus any applicable extension period(s) as describe hereinabove.

MRS:

- The thereafter remaining balance of the first 20 years from date of completion of installation of the subject Roof.

This 20-Year Watertightness Limited Warranty is tendered for the sole benefit of the original purchaser as named below is not transferable or assignable. It becomes valid only when signed by each of Roofer, Owner, and MRS.

EXCEPT ONLY AS EXPRESSLY PROVIDED HEREIN, MRS MAKES NO REPRESENTATION(S) OR WARRANTY(IES) OR MERCHANTABILITY AND WARRANT(IES) OF FITNESS FOR ANY PARTICULAR PURPOSE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED WITH RESPECT TO THE GOODS AND OR SERVICES COVERED HEREBY, NOR DOES MRS MAKE ANY WARRANTY OR RESUME ANY RESPONSIBILITY WITH THE RESPECT TO THE VALIDITY OF ANY PATENT(S), DESIGN(S), COPYRIGHT(S), OR TRADEMARK(S) WHICH MAY COVER ANY OF SUCH GOODS. THE CONDITIONS OF LIABILITY, RIGHTS, OBLIGATIONS AND REMEDIES OF THE PARTIES RELATING TO CLAIMS ARISING FROM ANY DEFECTIVE GOODS AND/OR WORKMANSHIP SHALL BE GOVERNED EXCLUSIVELY BY THE TERMS HEREOF. THIS 20-YEAR WATERTIGHTNESS LIMITED WARRANTY MAY NOT BE CHANGED ORALLY.

This 20-Year Watertightness Limited Warranty shall be governed by and construed and enforced in accordance with the laws of the State of North Carolina.

Roofing Contractor/Installer: _____

Owner: _____

By: _____

Title: _____

Date: _____

Metal Roofing Systems, Inc.: _____

Date: _____

Edisto Beach Town Hall Questions Tracker		
Number	**Question/Substitution Request**	**Response**
1	Div 31 (316213) - Concrete Piles: What is the lateral load at the top of the pile? Are these concrete piles to follow ASD or LRFD standards?	Reference specification section 316213 – 1.4 – Performance Requirements for pile loading information.
2	Please provide permit/plan review fee for this project or the formula to calculate it?	Fee schedule will be included in addendum.
3	On drawing A320 Note 061063B there is nothing in the Legend. Detail C1/A320 and F1/C320 show the note, but do not give a sheathing size. C3/A320 detail 061053B shows ½" plywood, E3/C/A320 detail 061053D shows ¾" furring strips.	Drawings will be updated to show consistent 3/4" plywood sheathing, save for the western exterior fire-rated wall, which will have Type X sheathing and an additional layer of 3/4" plywood over the rigid insulation to allow for the Hardie installation.
4	On drawing A602 Detail E4 it shows the window stopping below the ledger strip or transition from the lap siding to the shake siding. It also does not show a plywood substrate in this area whereas below the window (F4/A602) does show a plywood substrate. The elevations on drawing A201 show the window going through the transition strip into the shake siding area. Do we fur out the exterior window trim to keep the window and trim all in the same plane.	Correct, the ledger strip will be removed from this detail. The exterior trim should be furred out to allow the window & trim to remain in the same plane.
5	Drawing C1100 shows the fire line going into the existing fire department (which we believe is correct). Drawing C600 shows a fire line going into the new town hall. It is our understanding that the new town hall is not sprinkled. Do we run a fire line to the new town hall.	The new Town Hall is definitely sprinklered- sheet F201 - TOWN HALL FIRE PROTECTION PLAN clearly indicates this.
6	The new underground retention system will generate a large amount of dirt. Can we disperse/grade this dirt out in the laydown area, or do we have to remove it from the site. It should be good fill dirt.	Yes, that will be fine to disperse/grade the dirt on Tract M.
7	Will the piles be pre-cast or steel H piles? If pre-cast please provide number, size & length of pile dowels.	See plans, see plan, dowels per pile designer, see spec. assume 4-#7's for estimating purposes.
8	Assume starting elevation for pile cap excavation will be top of pile? Coordinate with the information provided in the construction documents.	Top of GB/ PC is -5'-0", FFE=0'-0" coordinate with civil, architectural, schedules and typical details.
9	Refer to C1/A201 - Please provide details for Letters that are to be cast in wall.	Letters to be 8" tall, cast brass or cast bronze, 1" thick.
10	Note on S102A calls out 8" Structural Slab at Ramp. Details scale as 6". Please clarify.	8" at landing, 6" at ramp #4's @ 12"o/c each way each slab.
11	3/S611, CIP Steps – Please provide detail for cheek walls. Masonry or CIP?	8" CIP, w/ #4's @ 12" o/c each way.
12	5/S701 calls out Waterstop. Please indicate where.	At the top of the concrete pier to seal the plank to the pier.
13	Please verify number, size, and location of anchor bolts.	GC responsibility.
14	A405, multiple notes indicate painted interior trim. Is the Council desk painted or stained?	REFER TO SHEET A500 FOR COUNCIL DESK DETAILS. DESK IS STAINED.
15	The large piece of cementitious trim on A320, section E3, note 074600C is not available.There are some trims that are similar. See attachment. Please advise.	SHOULD BE ABLE TO RIP THE "HISTORIC SILL" TRIM MOULDING FROM HARDIE TO ACCOMODATE THE DESIGN INTENT.
16	Is there an access to above the hard ceilings in the fire department building offices for access for sprinkler work?	THERE SHOULD BE SOME ADJACENT ACCESS IN THE AREAS W/ ACT. FOR ANY DRYWALL ACCESS THAT IS REQUIRED, GC TO REPAIR TO AS-IS CONDITION, AS NECESSARY.
17	Please confirm that the existing small building at the future generator pad is to be demolished and the concrete pad is to be reused.	CONFIRMED- EXISTING SMALL BUILDING TO BE DEMOLISHED, PAD TO REMAIN FOR REUSE.
18	Per the specifications under common work results for fire protection section 1.1C Submittals shall be completed by a fire sprinkler contractor licensed in the State with a qualifying party holding a NICET level IV Technician Certification in "Fire Protection Engineering Technology Automatic Sprinkler System Layout." Will a qualifying party holding a NICET level III Technician Certification in "Fire Protection Engineering Technology Automatic Sprinkler System Layout." be sufficient?	YES, A NICET LEVEL III TECHNICIAN CERTIFICATION IS ACCEPTIBLE PER THE STATE FIRE MARSHAL.

19	Storefront - Storefront D is calling for YKK YHS50TU. Does this need to be a curtain wall since it is impact and over 12'?	YKK HAS CONFIRMED THIS SYSTEM WILL WORK. FROM YKK "YHS 50 TU can meet the design loads for this project, however we always recommend either the shop drawing engineer and/or a P.E. review the anchoring and if the steel should be added in the case of a glazing impact based on the FPA# 14218.13 for mullion stabilization. YHC 300 OG could be used as well.
20	Storefront schedule is showing a SF type G (Door 139) – Also calls out for it to be FRP/HM. Which is correct?	DOOR TO BE FRM DOOR IN STOREFRONT FRAME. DOOR SCHEDULE TO BE CORRECTED.
21	Please confirm that the cost of commissioning is by owner.	THE COMMISSIONING AGENT WILL BE PAID BY OWNER, BUT ALL COORDINATION AND COST TO EXECUTE COMMISSIONING PER THEIR INSTRUCTIONS IS TO BE CARRIED BY THE GC. ONLY THE AGENT'S FEE IS COVERED BY THE OWNER.
22	In regards to a previous question about G.C., providing a builders risk policy in Contract 16.1.8, Page 38 of the contract, 11.2.1.3 The Contractor is required to provide a supplemental policy to cover the Owner's deductible of $100,000.00 for the Owner provided Builder's Risk policy. Contractor shall submit proof of such insurance prior to the start of work on site. Please verify who provides the B.R. policy.	PER SPEC: "The Contractor is required to provide a Builder's Risk Policy (All Perils). Contractor shall submit proof of such insurance prior to the start of the work on site." SEE VOL. 1, PG. 33.
23	Please verify that BIM Coordination drawings are required by a third party consultant (or in-house BIM Coordinator) as stated in section 013150, we are concerned that this is a hold over specification from a large project.	YES, BIM COORDINATION DRAWINGS ARE REQUIRED.
24	What limits for what coverages is required of the builder's risk policy provided by the GC?	The bid/contract amount is what the Builder's Risk policy should be based on. All perils.
25	1/S704 indicates masonry wall but on S101A this is not clear. Please verify.	USE MASONRY WHERE SHOWN ON 1/S704.
26	Please provide type of reinforcing, if any, for the SOMD	See general notes on S104B for SOMD reinforcing.
27	Please see the attached Substitution Request for 034113 Precast Hollow Core Plank System.	No. The planks are to remain 10" with the 6" topping slab. The topping slab and the plank shall be designed to act compositely. The 195-psf loading includes the weight of the 6" topping Slab.
28	On sheet S103, there are interior walls (both 6" and 3-5/8") called out as W1 but on sheet A621 only has an exterior W1 detail. Will the interior W1 walls be framed as interior load bearing walls with 6" and 3-5/8" studs respectively?	ALL W1 WALLS NOTED IN THE STRUCTURAL DRAWINGS, ARE INTERIOR LOAD BEARING WALLS TO BE FRAMED W/ 6" STUDS. REFER TO S501 FOR LIGHT GUAGE WALL SCHEDULE. ARCH. DRAWINGS WILL BE UPDATED TO COORDINATE.
29	Please see the attached documents for a metal roofing substitution.	Please see attached for the approved roofing substitution request.
30	Can allowances for the following sections: 101300, 101416, and 101423.16 be provided.	ASSUME THE FOLLOWING FOR SIGNAGE: - 6" X 6" ROOM ID SIGNS (40), RESTROOM - 8" X 6" (5), 24" X 18" 5/16" TOOLED BRONZE PLAQUE (1), 24" X 18" DIRECTORY (1).
31	Section 101419: Cast Brass Letters are unavailable. Cast Bronze Letters or Cut Brass Letters (1/2" thick) can be provided.	Letters to be 8" tall, cast brass or cast bronze, 1" thick.
32	Tile - The finish schedule shows wall tile on the walls of the restrooms. It doesn't differentiate between wet walls and non wet walls. Should we assume that all walls get wall tile?	YES, FULL HEIGHT TILE ON ALL WALLS.
33	The restroom plan p A403 shows what could be wall tile or CMU blocks. Please clarify the details on page A403 showing?	All walls to receive wall tile.
34	Are the showers in Restrooms 123 and 125 pan inserts or do they get floor tile?	SHOWERS WILL GET ADA ROLL-IN PAN INSERTS, DRAWINGS WILL UPDATE ELEVATIONS.
35	Div 271000-3/ G, states installer shall possess a state of Florida LV License, is this a requirement for this project in SC?	No- SC license required. Marwan will update all references to Florida in his addendum.
36	Does the 100 mile requirement to the job site apply to this project as this will severely limit installation companies?	No- Remove the 100-mile requirement please.
37	Specifications require the SCS to hold a Florida LV License. Shouldn't this be a SC license?	Confirmed, SC license required.
38	I don't see any mention of cabling between rooms 124 & 136. Is there a backbone between them? If so is it fiber? Type and size.	Provide 12 strand singlemode fiber between 124 and 135, terminate each end on rack mounted fiber connector housing.
39	Rooms 124 & 136 show 2 post racks and ladder rack, do they want Vertical wire managers for the racks? Size? Single or Double sided?	Provide (1) one 6" double sided vertical wire manager in 135 and (1) 6" double sided vwm in 124 (between the racks). These are 4 post racks in the technology plans.

40	Please verify that the concrete block will require integral water repellent. Section 4220-8, 2.2D. A block mfg. is indicating that it is not a large enough quantity to justify producing it.	Yes, this has never been an issue that has been raised before.
41	Is there a specification for termite treatment?	TERMITE SPEC WILL BE INCLUDED.
42	Please verify that the smart vents require a custom color.	NO, STANDARD COLORS WILL SUFFICE.
43	Spec section 123662 Quartz, given the range of different prices for quartz types and colors, can this be an allowance? (Also, from a previous question, I found the metal bracket specs in this section.)	ACCOUNT FOR ALL WILSON ART PRODUCTS UP TO THE "$$$" CATEGORY.
44	Are the front entrance columns trimmed out or just exposed select 8 X 8 treated? Also, can you provide an attachment detail for the LVL to the top of the columns? Page S714 sec. 3	EXPOSED, ADDENDUM WILL INCLUDE ATTACHMENT DETAIL.
45	Please verify that rain days are included in the 365 day completion period as noted on Spec section 013201 page 3. That would be a total of 73 days that would be taken out of the 365 days construction time. Specification section pg. 3, 013201.	Rain days are included as noted.
46	Supplemental Instructions page 3 note all submittals are required within 14 days. Is this correct?	A Submittal schedule can be provided in 14 days and all technical submittals completed in first 90 days.
47	Will any extra time allotted to the contractor for the As built survey and approval wait time of installed piling? Note 5, A001, Concrete piles	No extra time will be alloted.
48	Who is responsible for any repair of damage or cracking to surrounding structures caused by piling installation, if any. S001 Concrete piles note 2.	Vibration Monitoring will be provided. Any instance will be looked at as a case by case basis.
49	Are there any limits on work hours?	The Contractors are to follow Town of Edisto ordinances regarding work restrictions. 7:00 am – 8:00 pm, 7 days a week.
50	Is temporary fencing required?	Yes.
51	S001, concrete pile, note 6 Test Pile program. Is it required? Will any extra time be allotted for the test piling program if the piling cannot be produced until after the results are approved?	Yes, per engineer pile testing is required. Non-Compensatory days will be granted to the Contractor for the Test Pile Program duration.
52	Will any extra time be allotted for the construction staging and sequencing plan that will need to be developed before work begins? C300	No extra time will be alloted.
53	Will any extra time be allotted for time needed for contracting with and scheduling for site contractor? See the milestone dates on page 9, I Sope of solicitation.	General Contractors are to notify Cumming Management Group promptly if encountering challenges finding site contractors.
54	Is there a specification on the exterior window shutters.	BOD is included in the specifications- see page 084113 - 7.
55	Please verify which interior windows receive blinds.	Shade locations are indicated on the interior elevations- only located in the Chambers.
56	Please provide information on the steel support brackets under the solid surface countertops.A200- D5	BOD for brackets is indicated on spec page 123662 – 2. Keynote will be updated in addendum.
57	Please verify if the exterior wall sheathing is gyp or plywood? A320, sections C1 and C3 note both. Plywood would be better for the installation of the cementitious siding. Specification sections 061600 and 061620 note plywood wall sheathing	All walls will receive plywood sheathing- and the rated wall will use 1 layer of plywood over the Type X sheatHing & rigid insulation for Hardie installation.
58	Is the front entrance truss to be designed by a truss Mfg.? See S714 note 511. it seems to be already designed to be job built	Per engineer- construct per structural drawings.
59	C400 Generator note "see architectural plans". None noted in the A drawings. Also, there is a spec section for Generator 263213.	See electrical.
60	Please verify that the raised ceiling in Chambers is shiplap. Finish schedule A701, ceiling, notes beadboard.	To be shiplap, will update for addendum.
61	Please provide specifications for the prefinished meat soffit that is shown on A610, note 76200.F on sections C1, C4 and E1.	Will include updated spec section.

62	Concrete bench - is the wood on the bench Ipe as noted in the specifications or treated wood as noted on A520	Bench should be Ipe. Will add a note on the detail of the bench. Countersink and Plug all fasteners w Ipe.
63	Please confirm that the exterior metal handrail requires Dedicated Design.	Confirmed.
64	S104A notes a rolled C8 X 11.5 on entrance roof framing.. Please provide more information.	Note should be omitted, will issue in addendum.
65	The finish schedule calls for 6” Vinyl cove base, The specs call for MW Equinox. Johnsonite website says it only comes in 4.5”. Advise	WE WILL USE THE MW EQUINOX. DRAWINGS WILL BE UPDATED TO REFLECT THIS.
66	The Specs contain Section 096813 carpet , I do not see this used on this project	THERE IS NO CARPET USED ON THIS PROJECT.
67	Storage Room 131 shows Concrete on the finish plan and the finish schedule calls for LVT-2? Advise	STORAGE ROOM 131 TO BE CONCRETE. SCHEDULE WILL BE UPDATED.
68	Bathroom elevations show ceramic wall tile in showers, Specs section 224200 calls for prefab shower 60” x 35” x74” high, how do we figure?	WILL USE PRE-FAB SHOWER. WALL TILE TO CONTINUE TO CEILING. DRAWINGS WILL BE UPDATED.
69	Do we figure all Ceramic Tile walls floor to ceiling?	YES.
70	We need to know if the run of fiber backbone is from main closet in room 124 to EOC IT room 135 and the Broadcast AV rack in room 103?	Refer to attached addendum 01 updates, provide 12 strands singlemode fiber optic cable from Room 124 to Room 135 and from Room 124 to Room 103, terminated in rack mounted fiber connector housing on LC/UPC connectors.
71	We need to know what type of fiber the client wants (single mode or multimode) and what grade (OS2, OM2, OM3, or OM4) and what strand count.	See response to item 1 above, OS2.
72	Is the ISP provider bringing in a Demarc to the MDF and what type of circuit will it be, copper or fiber?	Based on information reviewed at the existing facility, we anticipate the ISP will be bringing in a fiber service into the new facility.
73	Due to the loading requirements of 195PSF along with the span, can a 12” hollowcore plank be substituted for the noted 10” planks?	No. The planks are to remain 10” with the 6” topping slab. The topping slab and the plank shall be designed to act compositely. The 195-psf loading includes the weight of the 6” topping Slab.
74	Please provide details on interior and exterior signs that are to be included in the bid.	ASSUME THE FOLLOWING FOR SIGNAGE: - INTERIOR: 6" X 6" ROOM ID SIGNS (40), RESTROOM - 8" X 6" (5), 24" X 18" 5/16" TOOLED BRONZE PLAQUE (1), 24" X 18" DIRECTORY (1), EXTERIOR: 8"H CAST BRASS OR CAST BRONZE LETTERS, 1" THICK
75	The front end specifications state that the superintendent can perform the quality control responsibilities. Section 3.9.1 of the A232 says that the quality control representative must be a separate person from the superintendent. Which is correct?	Superintendent is the QC. No individual QC required.