Invitation for Construction Bids- October 2017 rebidding

PROJECT NAME: Isle of Palms Front Beach Restroom and Boardwalk Renovation

The City of Isle of Palms, South Carolina The City of Isle of Palms invites interested licensed General Contractors to submit bids for the Isle of Palms Front Beach Restroom and Boardwalk Renovation located at 1118 Ocean Boulevard, Isle of Palms, SC 29451. This contract will be awarded pursuant to the City's procurement ordinance.

DESCRIPTION OF PROJECT: The project Front Beach Isle of Palms Restroom and Boardwalk Renovation will include interior finishes, new exterior work and a complete new boardwalk. Building work comprises of select new finishes and new window openings.

CHANGES TO THE PROJECT: The City sought bids for this project in August 2017 and because of a general lack of response and the pricing that was received, the City is requesting bids again.

Notable changes to the project since the first bidding process are as follows:

1. Modification of the bid form to include a bid deduct for all work to the restroom. Because of budget constraints, the City may proceed with only the boardwalk portion of the project. ALTERNATE NO. 5 on the bid form includes this deduction.
2. Elimination of the Ipe beach roll-out boardwalk. The plans reference a roll-out boardwalk on several pages and this component should be eliminated entirely.
3. Elimination of the timber retaining wall. The plans reference timber retaining walls and these components should be eliminated entirely.
4. Modification of the shower area screen. The plans include profiles and specifications for a solid 2"x4" Ipe screen wall in the area of the showers. The heights, locations and profiles of this screen will remain as planned; however, the screen will be built with materials and specifications to match handrails on the boardwalk. The screen should be built of 6"x6" SYP posts and 2"x6" SYP rails, with an Ipe cap and bench as shown on the plans.

BID SECURITY: Each bid must be accompanied by a certified check of the Bidder, or by a Bid Bond made payable to the Owner for an amount equal to no less than 5 percent of the total bid as a guarantee that, if the bid is accepted, the required Agreement will be executed and that a 100% Performance Bond will be furnished.

No bid may be withdrawn after the scheduled closing time for receipt of bid for a period of 45 days.

QUALIFICATIONS OF BIDDERS: Bidders must be General Contractors registered in the State of South Carolina with a minimum of five years in business and five successful projects of the construction type and magnitude. The City may make such investigations as it deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the City in a timely manner all such information and data for this purpose as the City may request. The City reserves the right to reject any bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the City of the Bidder's qualifications to complete the project.

The owner reserves the right to waive irregularities in the Bidding process and to reject any or all Bids, subject to the laws and regulations of the State of South Carolina.

A/E NAME: Liollio Architecture
A/E ADDRESS: 147 Wappoo Creek Drive, Suite 400, Charleston, SC 29412
A/E CONTACT: Rick Bousquet, AIA Phone: (843) 762-2222 E-mail: rick@liollio.com

PLANS AND BID DOCUMENTS MAY BE OBTAINED FROM: www.iop.net

QUESTIONS DUE: October 19th, 2017
BID OPENING: 2:00 pm, Thursday November 3rd, 2017
LOCATION: Council Chambers, City Hall, City of Isle of Palms; 1207 Palm Blvd.

BID DELIVERY ADDRESS: Proposals should be submitted to the following: Linda Lovvorn Tucker, City Administrator, City of Isle of Palms, 1207 Palm Boulevard, Post Office Box 508, Isle of Palms, South Carolina 29451.

END OF DOCUMENT

City of Isle of Palms

IOP FRONT BEACH RESTROOM & BOARDWALK RENOVATION

Project Number: 14101

1118 Ocean Blvd
Isle of Palms, SC 29451

liollio architecture

147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412

843.762.2222
843.762.2300

CONSTRUCTION DOCUMENTS

06/30/2017

City of Isle of Palms

Owner
1207 Palm Boulevard
Isle of Palms, SC 29451
Douglas Kerr
dkerr@iop.net
843.886.9912

Liollio Architecture, Inc.

ARCHITECT
147 Wappoo Creek Drive, Suite 400
Charleston, SC 29412
Seth Cantley
seth@liollio.com
Tel: 843.762.2222

JGT

CIVIL ENGINEER
PO Box 1082
Mount Pleasant, South Carolina 29465
Christopher Moore
cmoore@jgtinc.com
843.884.6415

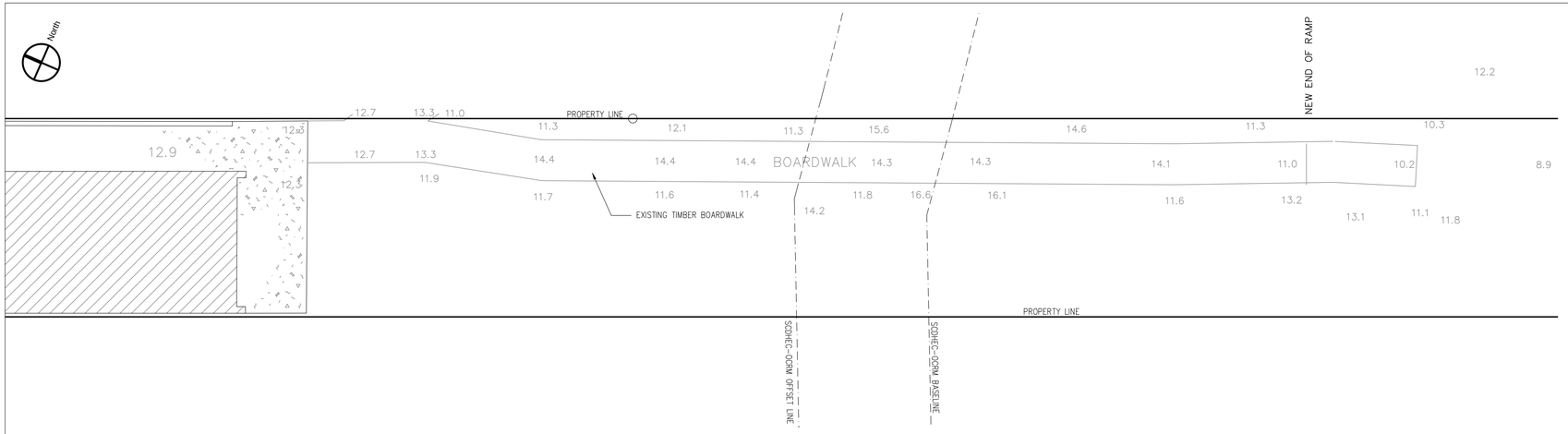
ADC

STRUCTURAL ENGINEER
1226 Yeamans Hall Rd
Hanahan, SC 29410
Mark Dillon
markd@adcengineering.com
843.566.0161

Live Oak Consultant

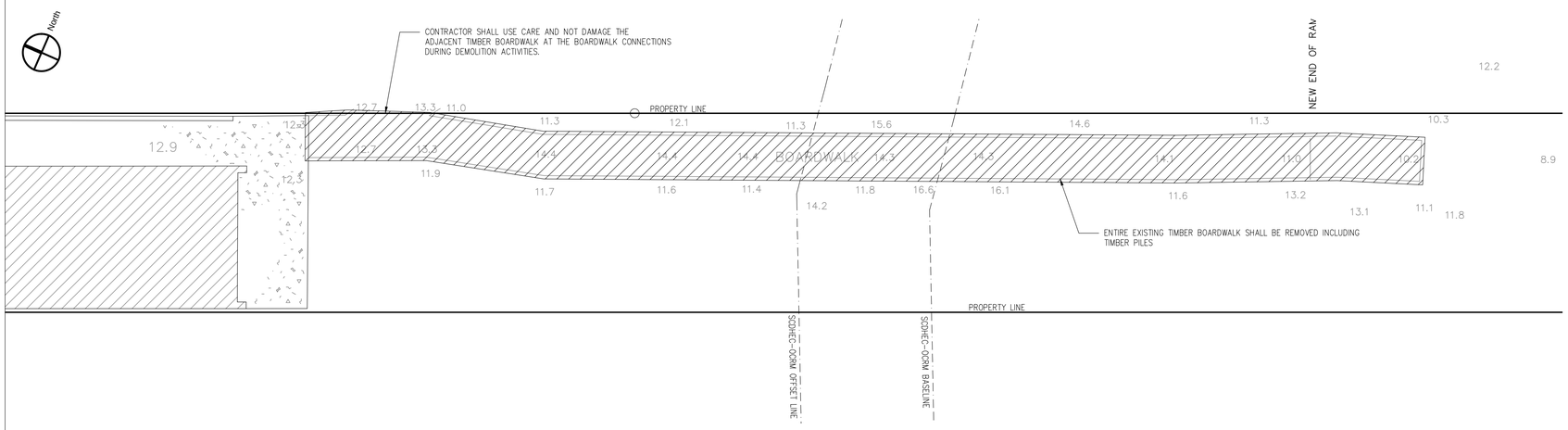
ME&FP ENGINEER
4214 Fellowship Road
North Charleston, SC 29418
David Granger
dgranger@liveoakconsultants.com
843.529.9428

DRAWING INDEX



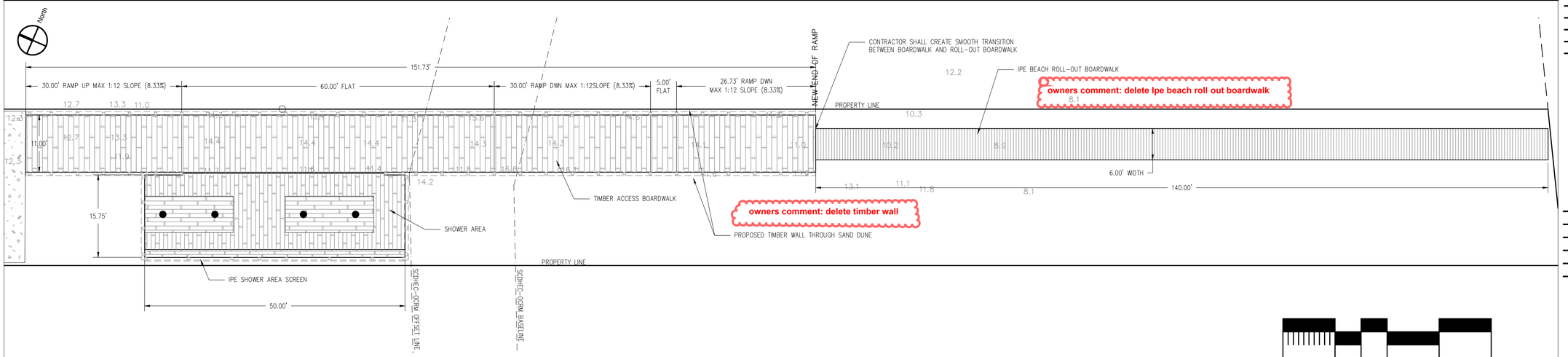
EXISTING CONDITION OF TIMBER BOARDWALK

SCALE - 1"=10'



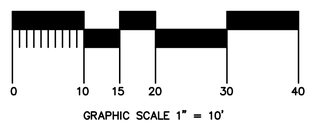
DEMOLITION PLAN OF EXISTING TIMBER BOARDWALK

SCALE - 1"=10'



OVERALL PROPOSED BEACH ACCESS LAYOUT

SCALE - 1"=10'



GRAPHIC SCALE 1" = 10'

GENERAL PROJECT SITE AND CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS FOR ALL ASPECTS OF THE PROJECT. CONTRACTOR SHALL MAKE HIS OWN DETERMINATION AS TO THE SITE CONDITIONS PRESENT WITH REGARD TO PROJECT ACCESS AND PILE DRIVING OPERATIONS. THE CONTRACTOR SHALL BE PREPARED TO ADEQUATELY CARE FOR AND SAFEGUARD HIMSELF AND THE OWNER FROM DAMAGE. IF THE CONTRACTOR DISCOVERS FIELD CONDITIONS DIFFERENT THAN WHAT IS SHOWN ON THESE PLANS HE SHALL NOTIFY THE ENGINEER IMMEDIATELY.

2. DAMAGE DONE TO EXISTING STRUCTURES NOT LABELED AS BEING REMOVED OR MODIFIED SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. DAMAGE TO ANY EXISTING STRUCTURE ADJACENT TO THE PROJECT SITE OR ANY OTHER STRUCTURE ON NEIGHBORING PROPERTIES, THAT MAY OCCUR AS A RESULT OF WORK PERFORMED FOR THIS PROJECT, SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY SUCH DAMAGE SHOULD OCCUR.

3. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN WHAT IS SHOWN ON THE DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO BEGINNING WORK OR DURING CONSTRUCTION, HE SHALL NOTIFY THE ENGINEER IMMEDIATELY. DO NOT BID OR BUILD ANY PART OF THE PROJECT BASED ON AN ASSUMPTION OR SPECULATION OF DESIGN INTENT. CONTRACTOR SHALL VERIFY ALL LOCATIONS, DIMENSIONS, SPACINGS, PROJECT LAYOUT, AND ELEVATIONS AT THE SITE PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ADDITIONAL DIMENSIONING AND/OR LAYOUT INFORMATION IS NEEDED FOR THE PROJECT. DO NOT COMMENCE WORK BASED ON A SPECULATION OF PROJECT LAYOUT LIMITS, DIMENSIONING, AND/OR DESIGN INTENT.

4. THERE SHALL BE NO CHANGE OR DEVIATION FROM THESE DESIGN PLANS UNLESS PRIOR APPROVAL IS GIVEN BY THE ENGINEER.

5. ALL FILL MATERIAL USED FOR THIS PROJECT (IF REQUIRED) SHALL BE CLEAN GRANULAR FILL THAT IS FREE OF ROCKS, ROOTS, STUMPS, STICKS, DEBRIS, TRASH, OR OTHER ORGANIC MATERIAL.

6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL NECESSARY PERMITS, CONSTRUCTION PLACARD, AND OTHER APPROVALS BY STATE, LOCAL, AND/OR FEDERAL AGENCIES REQUIRED FOR THE WORK INVOLVED WITH THIS PROJECT. CONTRACTOR SHALL NOT START WORK WITHOUT ALL REQUIRED PERMITS, DOCUMENTS, AND APPROVALS. ANY FINES DUE TO NOT HAVING PROPER PERMITS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

7. THERE HAS BEEN NO UTILITIES LOCATION SERVICE PERFORMED FOR THIS PROJECT. CONTRACTOR SHALL VERIFY THE LOCATIONS, SIZES, AND ELEVATIONS OF ALL UTILITIES AND UNDERGROUND STRUCTURES PRIOR TO BEGINNING WORK. CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS TO AVOID ANY CONTACT WITH HIGH-VOLTAGE TRANSMISSION LINES, UNDERGROUND GAS LINES, WATER LINES AND ALL OTHER UTILITIES DURING DEMOLITION AND CONSTRUCTION.

8. ANY UTILITIES OR UNDERGROUND STRUCTURES DAMAGED DURING CONSTRUCTION THAT ARE NOT DESIGNATED AS BEING REMOVED OR RELOCATED AS PART OF THIS PROJECT SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING COMPLIANCE WITH ALL REQUIREMENTS FOR EROSION CONTROL AS SPECIFIED BY SCDHEC-OCRM AND/OR ACOE PERMITS FOR THIS WORK AND AS REQUIRED BY LOCAL REGULATIONS. ANY FINES INCURRED DUE TO ANY SUCH VIOLATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

10. ALL DEMOLITION AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AS PART OF THE WORK FOR THIS PROJECT UNLESS OTHERWISE DIRECTED BY THE PLANS, ENGINEER OR OWNER. THERE SHALL BE NO BURNING ON SITE. DEBRIS AND TRASH SHALL NOT BE BURIED.

11. ANY BURIED DEBRIS ENCOUNTERED DURING CONSTRUCTION SHALL ALSO BE PROPERLY DISPOSED OF OFF SITE BY THE CONTRACTOR. NO BURYING OF DEBRIS OF ANY KIND WILL BE ALLOWED ON SITE.

12. ALL GRASSED, PLANTED, AND/OR LANDSCAPED AREAS DISTURBED DURING CONSTRUCTION SHALL BE FILLED AND GRADED SMOOTH TO MATCH THE EXISTING SURROUNDING GRADE AND/OR RETURNED TO ITS ORIGINAL (OR BETTER) CONDITION, AND SHALL BE SEEDED, SODDED, AND/OR RE-PLANTED (TO MATCH ORIGINAL) PER THE ENGINEER'S DIRECTION AT THE TIME OF PROJECT COMPLETION. ANY ADDITIONAL FILL MATERIAL THAT MAY BE REQUIRED FOR FINISH GRADING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

13. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NO DIRT OR MUD IS TRACKED ONTO THE ROADWAYS BY CONSTRUCTION EQUIPMENT. ANY DIRT OR MUD THAT IS TRACKED ONTO THE ROADWAYS SHALL BE CLEANED OFF BY THE CONTRACTOR EACH DAY.

14. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ACCESS TO ALL BOARDWALKS, SHOWER AREAS, ETC., ASSOCIATED WITH ANY WORK FOR THIS PROJECT MEETS THE FOLLOWING REQUIREMENTS WITH REGARD TO CLEAR WIDTH FOR PASSAGE TO MEET A.D.A. REQUIREMENTS: 60 INCHES OF CLEAR WIDTH IS REQUIRED FOR ALL ACCESS LOCATIONS WITH THE FOLLOWING EXCEPTION; THE WIDTH OF THE CLEAR SPACE (BOARDWALK, WALKWAY, OR OTHER MEANS OF ACCESS) SHALL BE PERMITTED TO BE 36" MINIMUM FOR A LENGTH OF 24" MAXIMUM, PROVIDED THAT MULTIPLE 36" WIDE SEGMENTS ARE SEPARATED BY SEGMENTS THAT ARE 60" MINIMUM CLEAR IN WIDTH AND 60 INCHES MINIMUM CLEAR IN LENGTH. CONTRACTOR SHALL CONTACT THE ENGINEER FOR FURTHER INFORMATION AND DIRECTION IF IT IS DETERMINED DURING CONSTRUCTION THAT ACCESS AT ANY PORTION OF THE FACILITY DOES MEET THIS MINIMUM CLEAR SPACE REQUIREMENT.

15. CONTRACTOR SHALL BE REQUIRED TO RECORD PILE DRIVING DATA AND PROVIDE TO THE ENGINEER UPON COMPLETION OF PILE DRIVING ACTIVITIES.

liollio architecture

147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412

P 843.762.2222

Jon Guerry Taylor & Associates, Inc.
CIVIL, WATERFRONT AND MARINE PLANNERS & ENGINEERS
P.O. BOX 1902, MOUNT PLEASANT, SOUTH CAROLINA 29465
PHONE: 843.884.6415; FAX: 843.884.4026
EMAIL: INFO@JGTINC.COM; WEB: WWW.JGTINC.COM

NOT FOR CONSTRUCTION

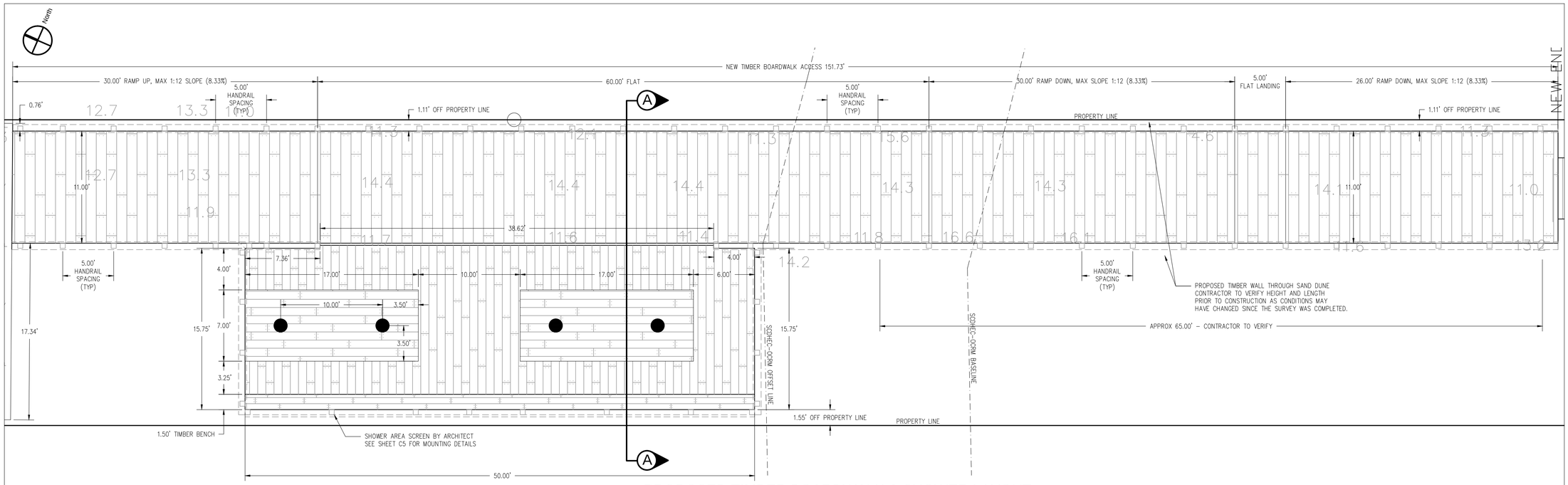
△	Revision Date	Description

Client
CITY OF ISLE OF PALMS
IOP FRONT BEACH RESTROOM & BOARDWALK RENOVATION
1118 OCEAN BLVD
ISLE OF PALMS, SC 29451

State Project Number:	
Project Number:	Project Number 14101
Checked By:	Checker
Drawn By: CWM	Author
Date: 6.28.2017	00/00/0000
Scale: AS SHOWN	

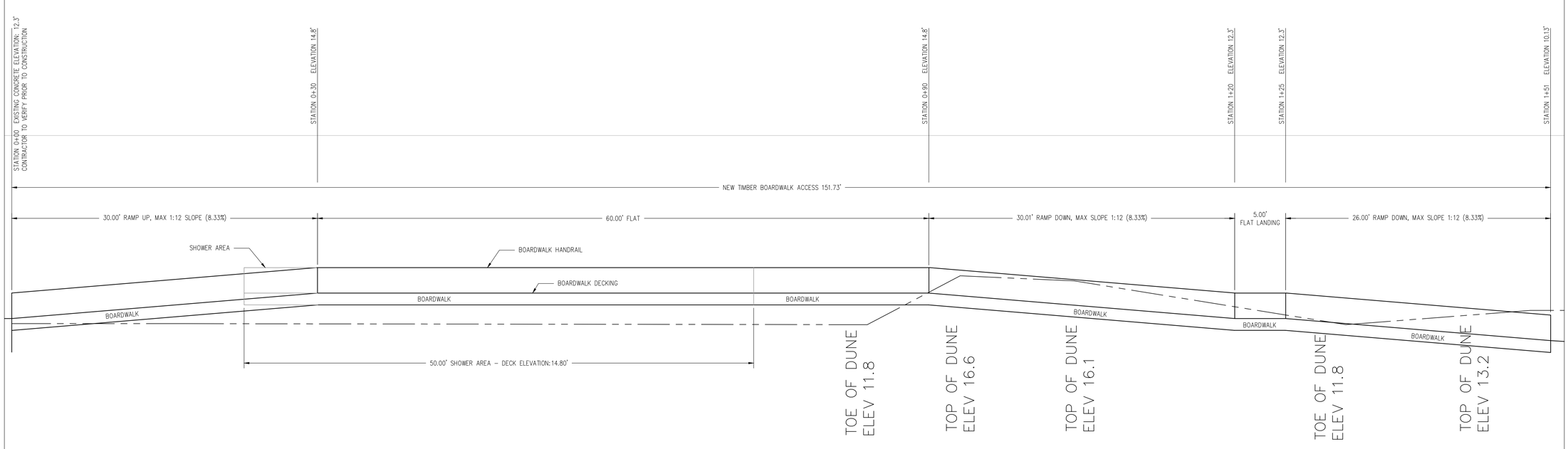
C1

EXISTING PLAN, DEMOLITION PLAN & PROPOSED PLAN



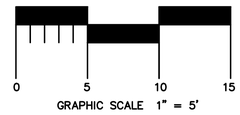
PROPOSED TIMBER BOARDWALK & SHOWER LAYOUT

SCALE - 1"=5'



PROPOSED BOARDWALK & SHOWER AREA PROFILE

SCALE - 1"=5'



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IOP FRONT BEACH RESTROOM & BOARDWAL RENOVATION

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Drawn By: CWM	Author
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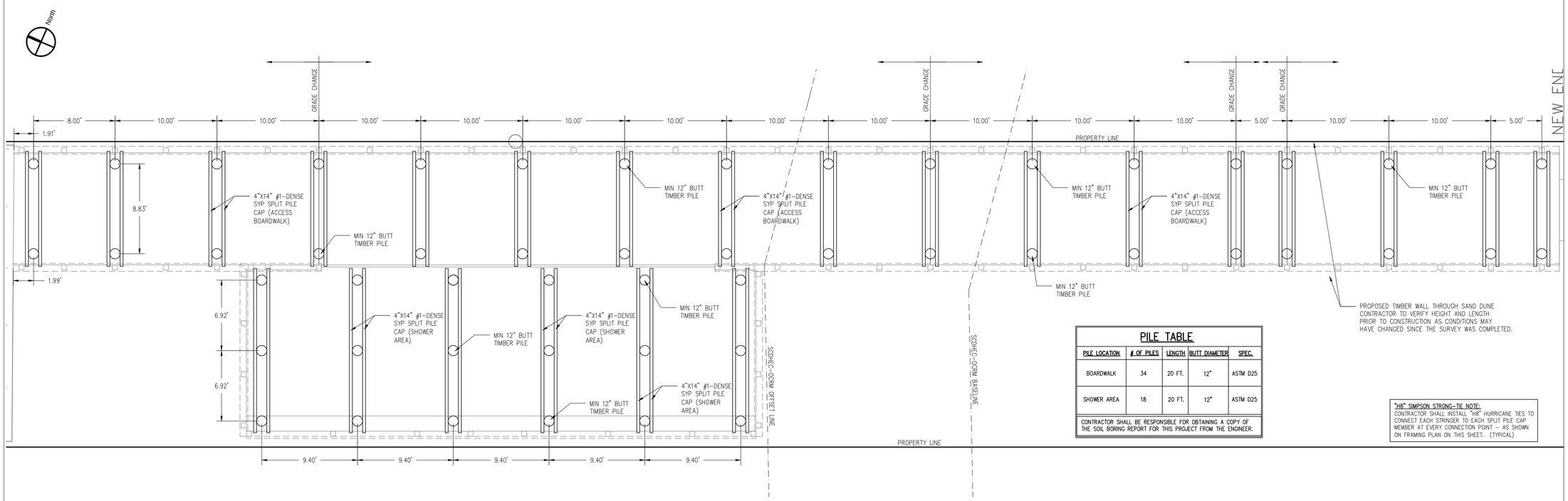
C2
PROPOSED LAYOUT PLAN & PROFILE



PILE TABLE

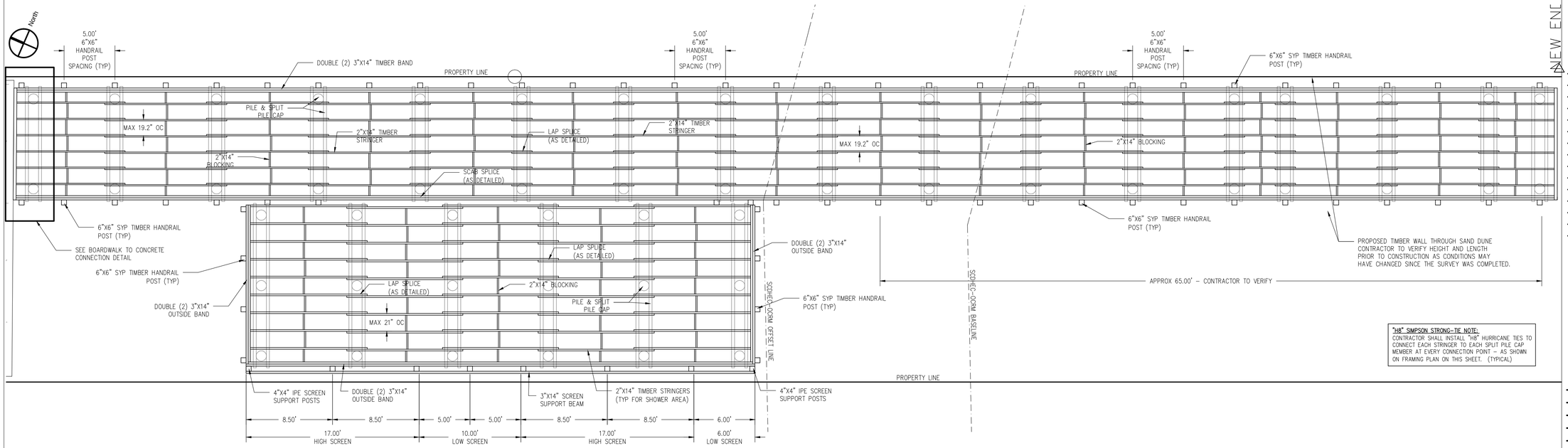
PILE LOCATION	# OF PILES	LENGTH	BUTT DIAMETER	SPEC.
BOARDWALK	34	20 FT.	12"	ASTM D25
SHOWER AREA	18	20 FT.	12"	ASTM D25

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A COPY OF THE SOIL BORING REPORT FOR THIS PROJECT FROM THE ENGINEER.

"H8" SIMPSON STRONG-TIE NOTE:
CONTRACTOR SHALL INSTALL "H8" HURRICANE TIES TO CONNECT EACH STRINGER TO EACH SPLIT PILE CAP MEMBER AT EVERY CONNECTION POINT – AS SHOWN ON FRAMING PLAN ON THIS SHEET. (TYPICAL)

PROPOSED TIMBER BOARDWALK & SHOWER PILE & PILE CAP LAYOUT

SCALE - 1"=5'



"H8" SIMPSON STRONG-TIE NOTE:
CONTRACTOR SHALL INSTALL "H8" HURRICANE TIES TO CONNECT EACH STRINGER TO EACH SPLIT PILE CAP MEMBER AT EVERY CONNECTION POINT – AS SHOWN ON FRAMING PLAN ON THIS SHEET. (TYPICAL)

PROPOSED BOARDWALK & SHOWER AREA FRAMING LAYOUT

SCALE - 1"=5'

GRAPHIC SCALE 1" = 5'
0 5 10 15

liollio architecture
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Client
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IOP FRONT BEACH RESTROOM & BOARDWAL RENOVATION
1118 OCEAN BLVD
ISLE OF PALMS, SC 29451

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Drawn By: CWM	Author
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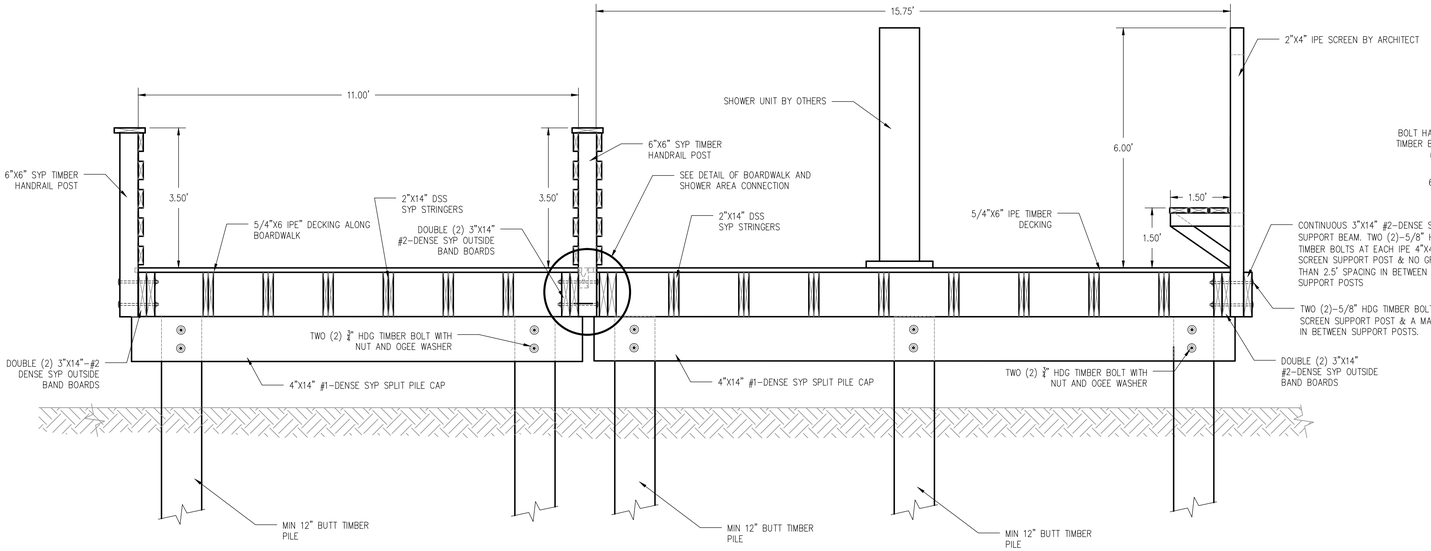
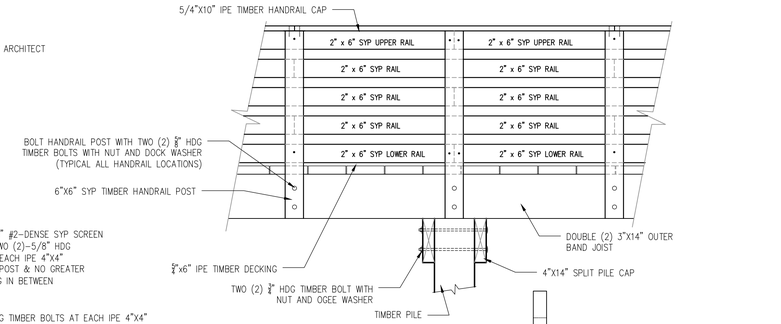
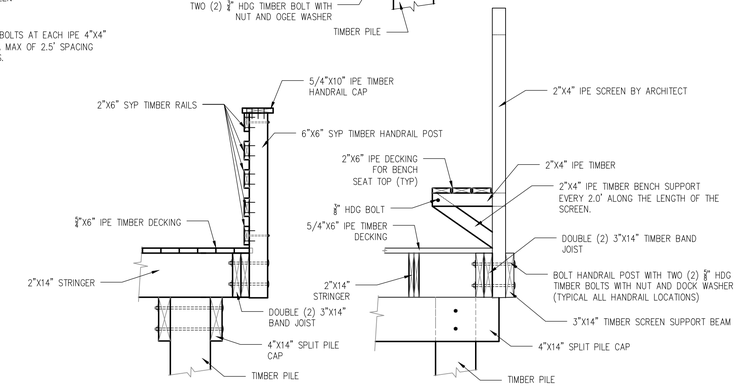
C3
PILE & FRAMING PLAN



SECTION A-A (TIMBER BOARDWALK AND SHOWER AREA)

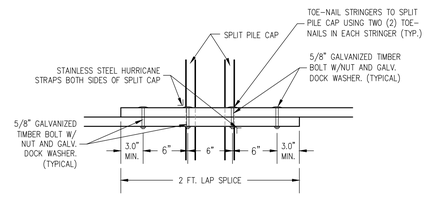
SCALE - NOT TO SCALE





SHOWER AREA HANDRAIL & BENCH DETAIL

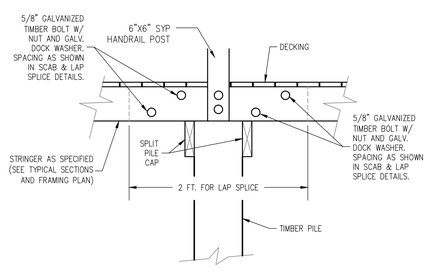
SCALE - NOT TO SCALE



(ALTERNATE LAP SPLICES WHERE POSSIBLE)

LAP SPLICE DETAIL

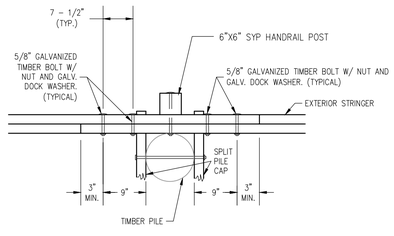
SCALE - NOT TO SCALE



(LAP SPLICES AND SCAB SPLICES)

SPLICE BOLTING PATTERN DETAIL

SCALE - NOT TO SCALE



SCAB SPLICE DETAIL

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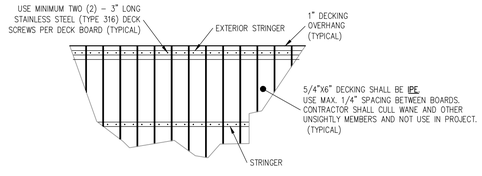
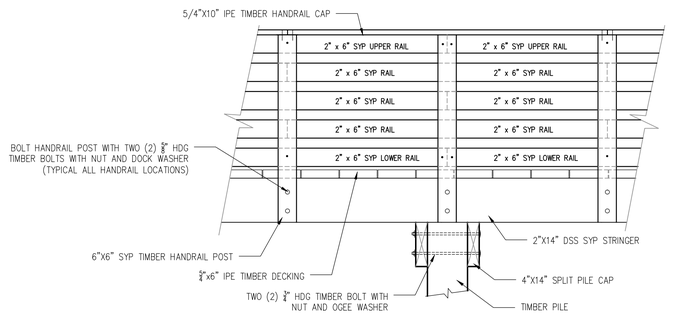
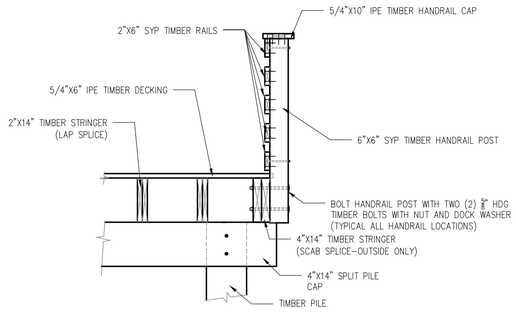


5/4"X IPE DECKING INSTALLATION DETAIL

SCALE - NOT TO SCALE





TIMBER BOARDWALK HANDRAIL DETAIL

SCALE - NOT TO SCALE

liollio architecture

147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412

P 843.762.2222

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Client

CITY OF ISLE OF PALMS
IOP FRONT BEACH RESTROOM & BOARDWALK RENOVATION

1118 OCEAN BLVD
ISLE OF PALMS, SC 29451

State Project Number:	
Project Number:	Project Number 1410
Checked By:	Checker
Drawn By: CWM	Author
Date: 6.28.2017	00/00/0000
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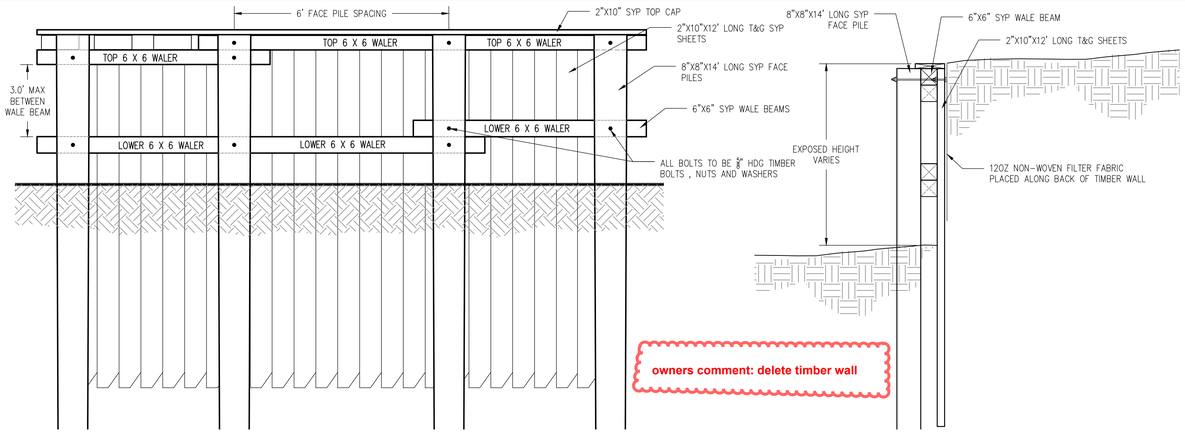
C4
SECTIONS & DETAILS

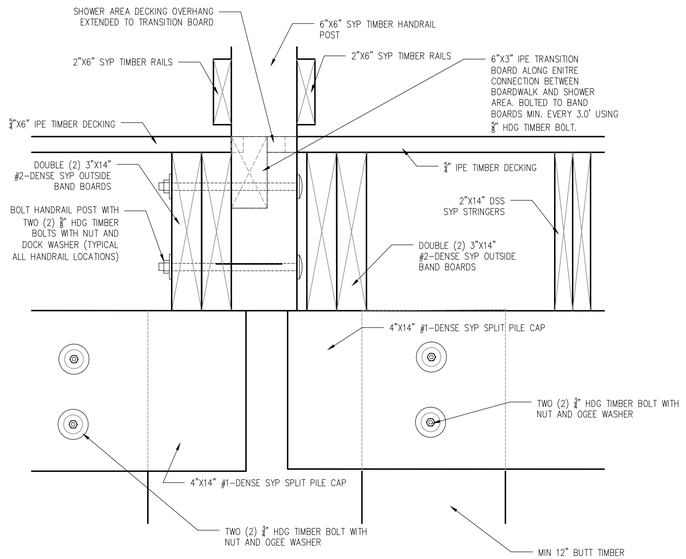


TIMBER WALL PROFILE DETAIL

SCALE - NOT TO SCALE

TIMBER WALL SECTION DETAIL

SCALE - NOT TO SCALE



BOARDWALK/SHOWER AREA TRANSITION DETAIL

SCALE - NOT TO SCALE

GENERAL CONSTRUCTION AND MATERIAL NOTES:

1. CONTRACTOR SHALL VISIT THE SITE AND MAKE HIMSELF FAMILIAR WITH ALL SITE CONDITIONS PRIOR TO BIDDING.
2. CONTRACTOR SHALL REVIEW THE PLANS AND NOTIFY THE ENGINEER IMMEDIATELY IF HE FINDS ANY DISCREPANCIES, ERRORS, OR OMISSIONS, – OR IF HE NEEDS ADDITIONAL INFORMATION FOR PROPER LAYOUT AND CONSTRUCTION OF THE PROJECT.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR CULLING DOWNGRADES AND UNSUITABLE LUMBER AND TIMBER ON DELIVERY – NO WANE ALLOWED IN THE PROJECT. IF DOWNGRADES OR WANE MATERIAL IS USED IN CONSTRUCTION WHICH RESULTS IN POOR APPEARANCE OR WEAKENED STRUCTURAL INTEGRITY, THE ENGINEER MAY REQUIRE THE OFF-QUALITY MEMBERS TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL AT THE CONTRACTOR'S EXPENSE.
4. ALL CUTS, HOLES, AND ABRASIONS ON THE SURFACE OF ANY LUMBER OR TIMBER MEMBERS SHALL BE FIELD-TREATED WITH KOPPERS 50 (COPPER NAPTHENATE), OR OTHER – ONLY AS APPROVED BY THE ENGINEER. FIELD TREATMENT SHALL COMPLY WITH REQUIREMENTS OF AWPA STANDARD P-8 , AND M4 (LATEST ISSUE).
5. ALL TREATED WOOD PRODUCTS SHALL BE HANDLED AND FIELD-FABRICATED IN ACCORDANCE WITH AWPA STANDARD M4 (LATEST ISSUE) FOR THE CARE OF PRESERVATIVE TREATED WOOD PRODUCTS.
6. ALL SYP LUMBER / TIMBER USED IN CONSTRUCTION SHALL BEAR THE INK–STAMPED GRADE MARK (TO DENOTE THE SPECIFIED LUMBER GRADE) – AND INK–STAMPED AND/OR PLASTIC END TAG QUALITY MARK (TO DENOTE PRESSURE–TREATMENT). GRADE AND QUALITY MARKS SHALL BE OF AN APPROVED AGENCY (SPIB, TP, AWPA, ETC) IN ACCORDANCE WITH THE SPECIFIED STANDARDS.
7. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH SYP LUMBER GRADE AND PRESERVATIVE TREATMENT CERTIFICATIONS ON EACH SIZE AND LOAD. TREATER SHALL BE CERTIFIED IN ACCORDANCE WITH STANDARDS OF AWPA LATEST ISSUE. LUMBER / TIMBER THAT IS SUSPECTED OF BEING OFF–GRADE AND/OR OFF–QUALITY MAY BE REQUIRED TO BE GRADED/TESTED BY AN INDEPENDENT INSPECTION OR TESTING LABORATORY. ANY LUMBER / TIMBER FOUND TO NOT MEET THE REQUIRED SPECIFICATIONS MAY BE REQUIRED TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
8. ALL TIMBER PILES FOR THIS NEW BOARDWALK SHALL HAVE MIN. 12" BUTT DIAMETER, AND SHALL HAVE LENGTHS AS SHOWN Of THE TIMBER PILE TABLE ON SHEET C5.
9. TIMBER PILES SHALL BE TREATED TO 2.5 PCF–CCA AND SHALL CONFORM TO ASTM D25 SPECIFICATIONS (STANDARD SPECIFICATION FOR ROUND TIMBER PILES).
10. CONTRACTOR TO INSPECT PILES UPON DELIVERY. DO NOT DROP PILES ON DELIVERY OR ON INSTALLATION. ALL SUBSTANDARD OR DAMAGED PILES SHALL BE RETURNED.
11. ALL TIMBER PILES TO BE DRIVEN TIP END DOWN.
12. ALL STRINGERS FOR SHOWER AREA AND WALKWAY DECK FRAMING TO BE EQUALLY SPACED
13. STRINGERS AND BLOCKING SHALL BE MINIMALLY DENSE STRUCTURAL SELECT (DSS) GRADE AND TREATED TO 0.60 PCF–CCA.
14. TOE–NAIL ALL STRINGERS TO SPLIT PILE CAP USING TWO (2) 16D STAINLESS STEEL (TYPE 316) RING–SHANK NAILS AT EACH STRINGER–TO–PILE CAP CONNECTION. ALSO, INSTALL 316 STAINLESS STEEL HURRICANE STRAPS (SIMPSON "H8", OR APPROVED EQUAL) AT ALL STRINGER–TO–PILE CAP CONNECTIONS IN ADDITION TO TOE–NAILING. COAT ALL HURRICANE STRAPS WITH COAL–TAR EPOXY AFTER INSTALLATION.
15. IF USED, LAP SPLICE BOLTED CONNECTIONS SHALL BE MADE WITH GALVANIZED TIMBER BOLTS WITH NUT AND DOCK WASHER AS SPECIFIED ON THIS DRAWING SHEET AND AS SHOWN ON DETAILS THROUGHOUT THESE PLANS.
16. NAIL ALL SPLICES WITH 16D STAINLESS STEEL (TYPE 316) RING–SHANK NAILS BEFORE BOLTING.

GENERAL CONSTRUCTION AND MATERIAL NOTES ....continued:

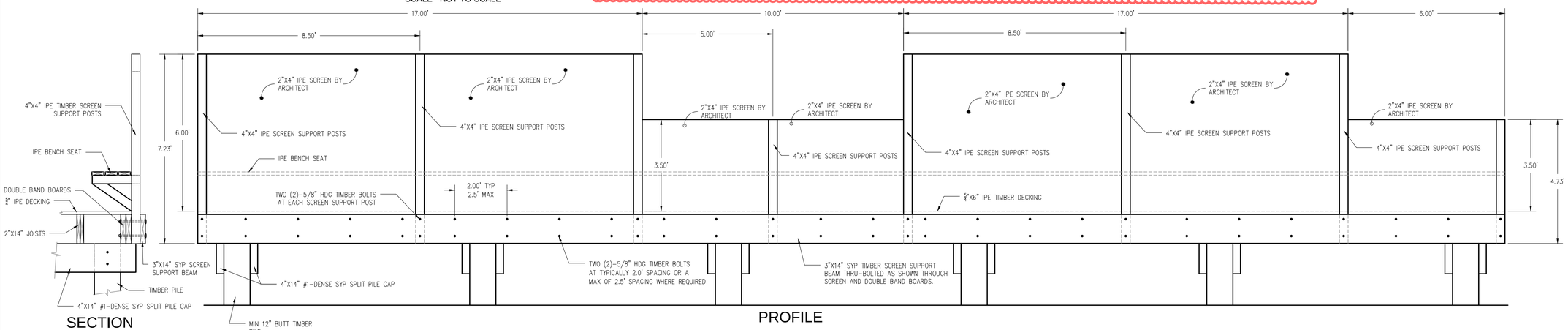
19. WHEN CULLING DOWNGRADES AND WANE FROM LUMBER USED FOR DECKING IT IS PREFERED TO LET THE BEST SIDE FACE UPWARD FOR BETTER APPEARANCE RATHER THAN TURNING THE "CUP" SIDE DOWN (BARK SIDE UP).
20. IF SPLITTING AT THE ENDS OF DECKING IS NOTICED DURING INSTALLATION, CONTRACTOR SHALL PRE–DRILL PILOT HOLES 1/16" DIAMETER LESS THAN DECK FASTENER DIAMETER AT DECKING ENDS TO PREVENT SPLITTING.
21. 6" X 6" SYP RAIL POSTS TO BE BOLTED TO FRAMING USING TWO (2) 5/8" DIAMETER GALVANIZED TIMBER BOLTS W/ NUT AND DOCK WASHER. TWO (2) BOLTS ON EACH POST.
22. 2" X 6" SYP RAILS AND SHALL BE BOLTED TO RAIL POSTS USING ONE (1) 1/2" DIAMETER GALVANIZED CARRIAGE BOLTS W/ NUT, LOCK–WASHER, AND FLAT WASHER. (TYPICAL). HANDRAIL CAP SHALL BE ¾"X10" IPE TIMBER.
23. ALL FRAMING MEMBERS SHALL BE S4S, (SURFACED FOUR SIDES), OR ROUGH–SAWN AS NOTED ON THE LUMBER / TIMBER TABLE ON THIS SHEET.
24. SPLIT PILE CAPS FOR BOARDWALK SHALL BE 4" X 14", NO. 1–DENSE GRADE, TREATED TO 0.60 PCF–CCA.
25. STRINGERS FOR THE BOARDWALK AND SHOWER AREA SHALL BE 2" X 14", DENSE STRUCTURAL SELECT (DSS) GRADE, TREATED TO 0.60 PCF–CCA. NOTE: ONLY THE DOUBLED PERIMETER RIM–JOISTS (OUTSIDE BAND) AROUND THE BOARDWALK AND SHOWER AREA SHALL BE 3" X 14" MEMBERS – AND SHALL ALSO BE TREATED TO 0.60 PCF–CCA.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL TREATED LUMBER/TIMBER USED IN THE PROJECT SHALL BE ALLOWED TO DRY ADEQUATELY, PRIOR TO INSTALLATION IN THE PROJECT, TO ENSURE FIXITY OF THE PRESERVATIVE TREATMENT CHEMICALS WITH THE WOOD FIBER AND TO ENSURE DIMENSIONAL STABILITY OF THE MATERIAL. IF NECESSARY, CONTRACTOR SHALL STACK–DRY LUMBER TO ENSURE THAT MOISTURE CONTENT OF THE MATERIAL HAS REACHED EQUILIBRIUM WITH TYPICAL ATMOSPHERIC CONDITIONS.
27. ALL MEMBERS FOR HANDRAIL COMPONENTS AND DECKING SHALL BE SYP OR IPE AS OUTLINED IN THE DETAILS AND TIMBER TABLE.
28. NAILS GUNS NOT ALLOWED IN CONSTRUCTION.
29. ALL FASTENERS SHALL BE OF THE SIZE AND TYPE SHOWN ON THESE PLANS. ALL GALVANIZED FASTENERS, BOLTS, NUTS, WASHERS, SCREWS, AND NAILS SHALL BE HOT–DIPPED GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A153. ALL STAINLESS STEEL BOLTS, NUTS, WASHERS, SCREWS, AND NAILS SHALL BE STAINLESS STEEL TYPE 316. ALL NAILS USED FOR THE PROJECT SHALL BE STAINLESS STEEL (TYPE 316). RING–SHANK.
34. THE PROPOSED TIMBER WALL SHALL BE CONSTRUCTED AS DETAILED AND TO THE MATERIAL AND HARDWARE SPECIFICATIONS OUTLINED IN THE PLANS.

LUMBER / TIMBER TABLE

MEMBER / LOCATION	SIZE OF MEMBER	GRADE	PRESERVATIVE TREATMENT SPECIFICATION	USE CATEGORY	GENERAL COMMODITY CLASSIFICATION AND SPECIFICATION	SPECIFIC END USE COMMODITY CLASSIFICATION	SPECIES	SURFACE TEXTURE
SPLIT PILE CAP	4" X 14"	NO. 1 DENSE	0.60 PCF–CCA	UC4B	A	MARINE OUT OF WATER; SALT WATER SPLASH, ABOVE GROUND	SOUTHERN PINE	S4S
STRINGERS & BLOCKING	2" X 14"	DSS	0.60 PCF–CCA	UC4B	A	MARINE OUT OF WATER; SALT WATER SPLASH, ABOVE GROUND	SOUTHERN PINE	S4S
DOUBLE PERIMETER BAND JOIST	3" X 14"							
DECKING	5/4" X 6"	–	–	–	–	–	IPE	–
HANDRAIL COMPONENTS:								
"RAILS"	2" X 6"	NO. 1 – NO. 1	SYP: 0.06 PCF–CA, OR 0.15 PCF–ACQ	SYP: UC4B	SYP: A	SYP: MARINE OUT OF WATER; SALT WATER SPLASH, ABOVE GROUND	SOUTHERN PINE IPE SOUTHERN PINE	SYP: S4S
"RAIL CAP"	5/4" X 10"							
"RAIL POSTS"	6" X 6"							
BULKHEAD COMPONENTS:								
"FACE PILES"	8" X 8"	NO. 1	0.06 PCF–CA, OR 0.15 PCF–ACQ	UC4B	A	MARINE OUT OF WATER; SALT WATER SPLASH, ABOVE GROUND	SOUTHERN PINE	S4S
"WALE BEAM"	6" X 6"							
"SHEETS"	2" X 10" T&G							
"TOP CAP"	2" X 10"							

LUMBER QUALITY NOTE:
CONTRACTOR SHALL TAKE SPECIAL CARE IN CULLING LUMBER THAT IS TO BE USED FOR BOARDWALK, SHOWER AREA, HANDRAILS, AND SCREEN CONSTRUCTION. NO WANE OR DOWNGRADES WILL BE ALLOWED IN CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT NO MEMBERS WITH ROUNDED, BARK–EDGES, KNOT–HOLES, OR OTHER OFF–QUALITY DEFECTS ARE ALLOWED IN THE RAIL POSTS, HORIZONTAL TOP AND BOTTOM RAILS, DECKING OR OTHER VISIBLE PORTIONS OR COMPONENTS OF THE PROJECT.

owners comment: shower screen should be built in the same areas and the same heights as shown on the profile, but posts and rails should be out of SYP to match the design o the hand rails, not Ipe. The cap on top of the screen and the decking for the bench seat should be Ipe.



SECTION

PROFILE

SHOWER SCREEN DETAIL

SCALE - 1"=2.0'

liollio architecture
147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412
P 843.762.2222

Jon Guerry Taylor & Associates, Inc.
CIVIL, WATERFRONT AND MARINE PLANNERS & ENGINEERS
P.O. BOX 1082; MOUNT PLEASANT, SOUTH CAROLINA 29465
PHONE: 843.884.6415; FAX: 843.884.4026
EMAIL: INFO@JGTINC.COM; WEB: WWW.JGTINC.COM

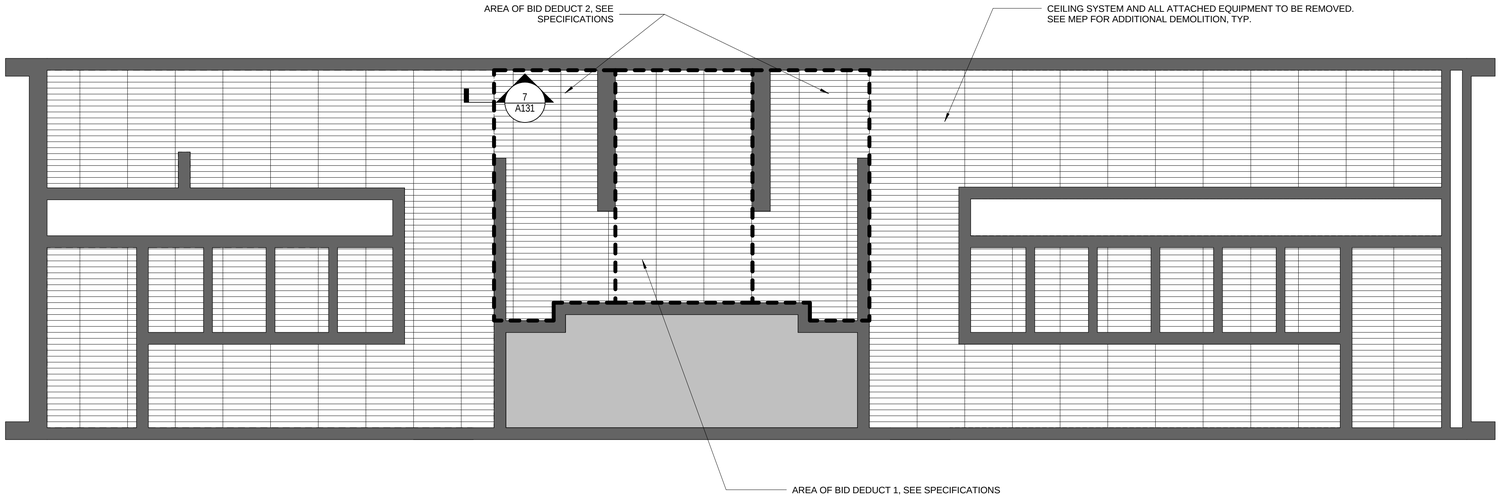
NOT FOR CONSTRUCTION

△	Revision Date	Description

Client
CITY OF ISLE OF PALMS
IOP FRONT BEACH RESTROOM& BOARDWALK RENOVATION
1118 OCEAN BLVD
ISLE OF PALMS, SC 29451

State Project Number:	
Project Number:	Project Number 1410
Checked By:	Checker
Drawn By: CWM	Author
Date: 6.28.2017	00/00/0000
Scale: AS SHOWN	

C5
SECTIONS & DETAILS

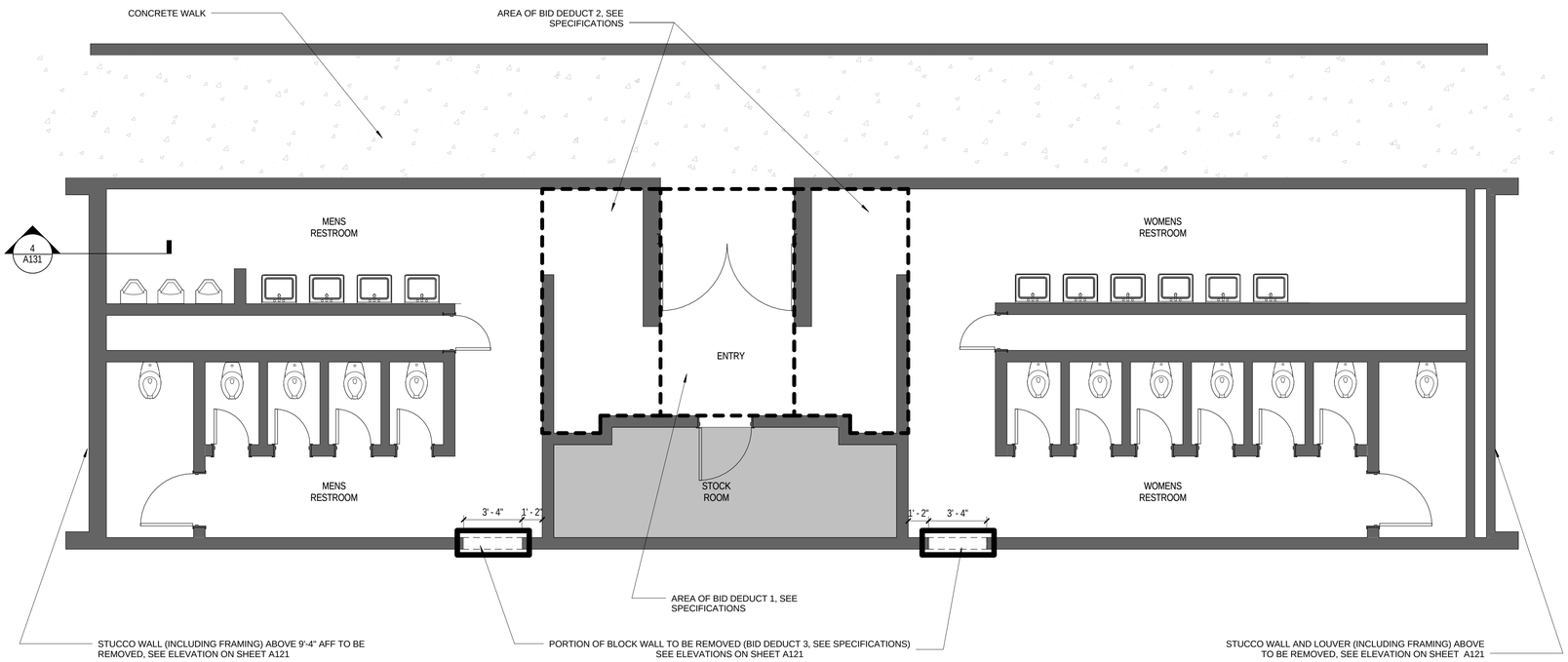


2 A100 REFLECTED CEILING PLAN - DEMOLITION

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

RCP LEGEND - DEMO

- CEILING SYSTEM AND ALL ATTACHED EQUIPMENT TO BE REMOVED - SEE MEP & ALT BID DEDUCTS
- EXPOSED TO STRUCTURE
- WALLS TO REMAIN
- AREA NOT IN CONTRACT (NIC)
- AREA OF BID DEDUCT (SEE SPECIFICATIONS)



1 A100 FLOOR PLAN - DEMOLITION

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

DEMO FLOOR PLAN LEGEND

- CONSTRUCTION TO REMAIN
- CONSTRUCTION TO BE DEMOLISHED
- AREA NOT IN CONTRACT (NIC)
- AREA OF BID DEDUCT (SEE SPECIFICATIONS)
- EXISTING CONCRETE WALK

North

0 2 4 8 16

SCALE: As indicated

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147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412

P 843.762.2222

STATE OF SOUTH CAROLINA
LIOLLIO ARCHITECTURE, INC.
Charleston, SC
No. 100836
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
SETH BRANDON CANTLEY
Charleston, SC
No. 8156
REGISTERED ARCHITECT
6/30/17

△	Revision Date	Description

City of Isle of Palms

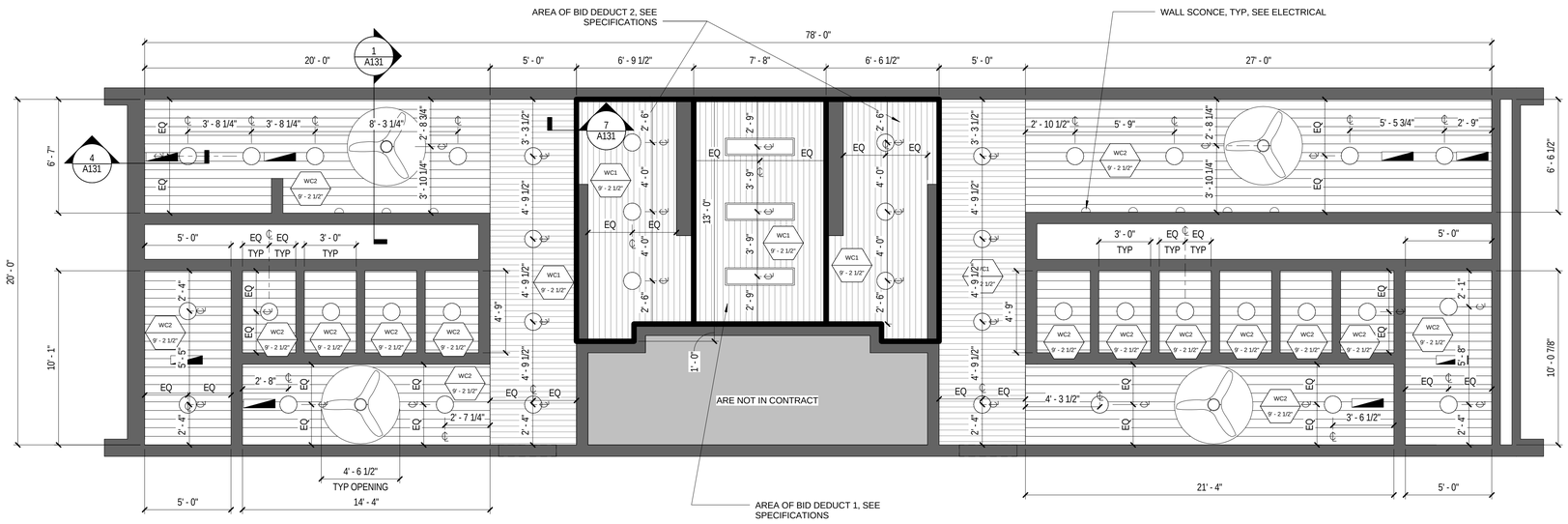
IOP FRONT BEACH RESTROOM & BOARDWALK RENOVATION

1118 Ocean Blvd
Isle of Palms, SC 29451

Project Number:	14101
Checked By:	SBC
Drawn By:	KMR
Date:	06/30/2017
Scale:	As indicated

A100

DEMOLITION PLANS



2 A101 REFLECTED CEILING PLAN

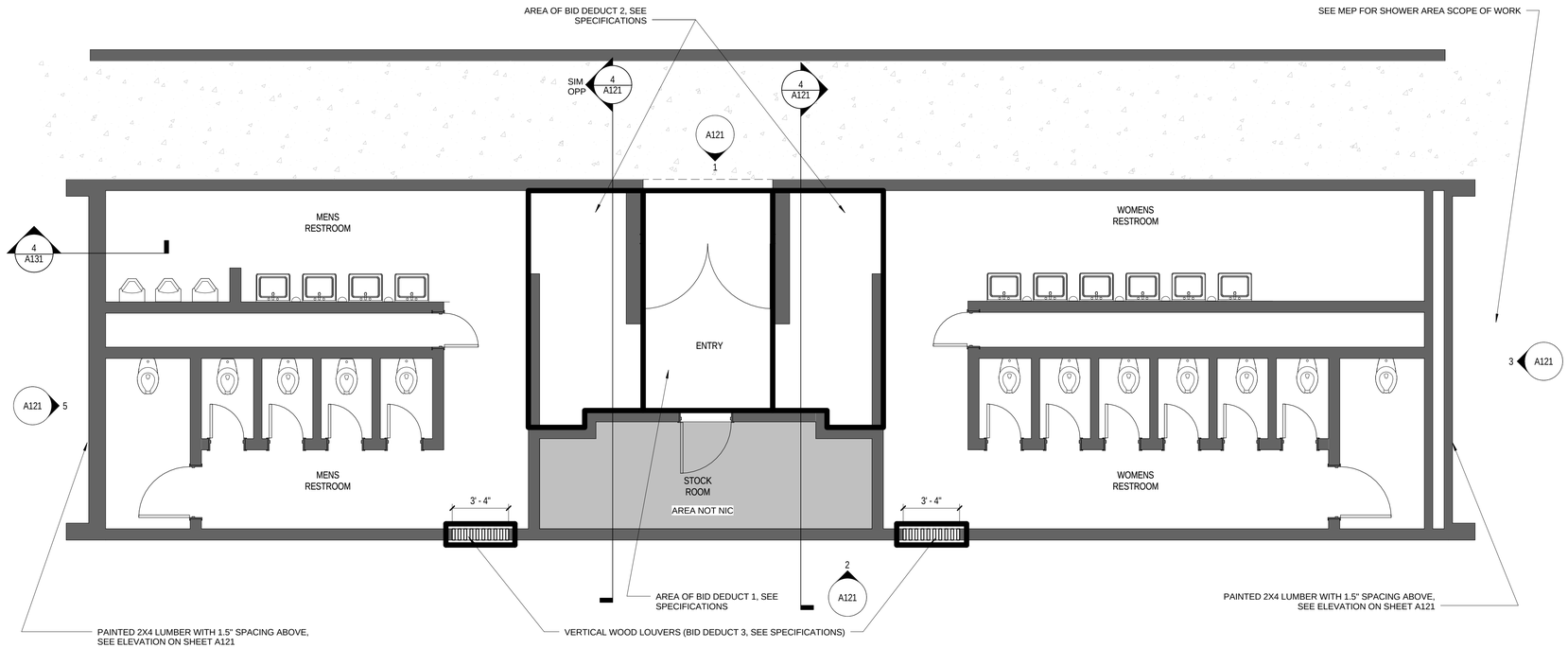
SCALE: 1/4" = 1'-0"

SHEET NOTES

A GC TO FIELD VERIFY ALL DIMENSIONS

RCP LEGEND

- WC1 - SOLID LINEAR WOOD CEILING SYSTEM
- WC2 - OPEN LINEAR WOOD CEILING SYSTEM
- EXPOSED TO STRUCTURE
- 1' x 4' LIGHT FIXTURE
- RECESSED DOWN LIGHT
- EXHAUST FAN - SEE MECHANICAL
- BIG ASS FAN - WET RATED 52" (WHITE)
- AREA OF BID DEDUCT (SEE SPECIFICATIONS)
- AREA NOT IN CONTRACT (NIC)



1 A101 FLOOR PLAN

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

FLOOR PLAN LEGEND

- EXISTING WALL TO REMAIN
- OVERHEAD WALL
- AREA OF BID DEDUCT (SEE SPECIFICATIONS)
- AREA NOT IN CONTRACT (NIC)

0 2 4 8 16

SCALE: As indicated

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147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412

P 843.762.2222

STATE OF SOUTH CAROLINA — LIOLLIO ARCHITECTURE, INC. — Charleston, SC No. 100836 — REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA — SETH BRANDON CANTLEY — Charleston, SC No. 31561 — REGISTERED ARCHITECT

△	Revision Date	Description

City of Isle of Palms

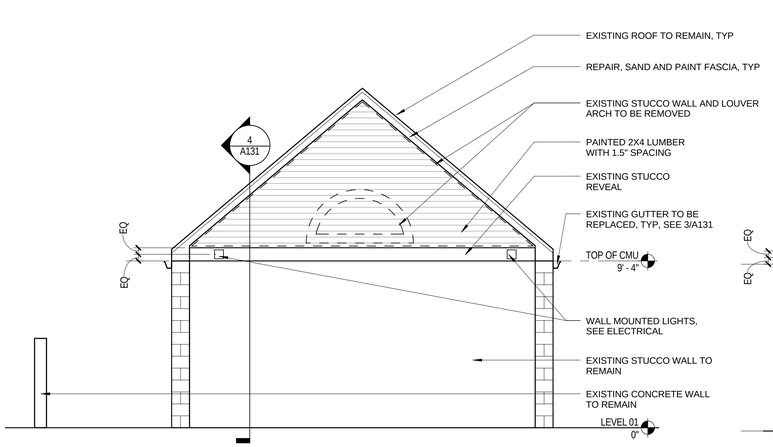
IOP FRONT BEACH RESTROOM & BOARDWALK RENOVATION

1118 Ocean Blvd
Isle of Palms, SC 29451

Project Number:	14101
Checked By:	SBC
Drawn By:	KMR
Date:	06/30/2017
Scale:	As indicated

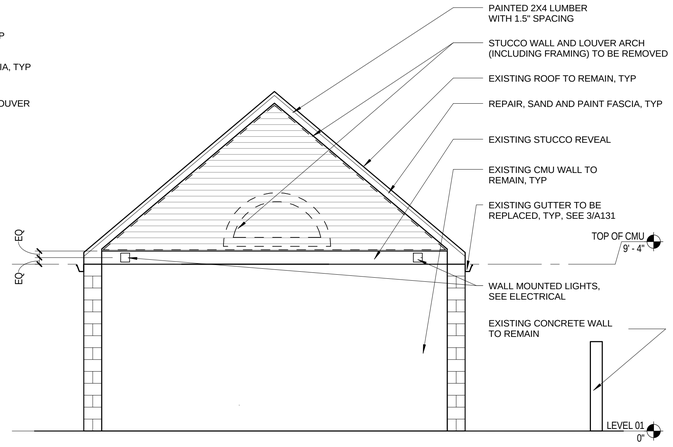
A101

NEW CONSTRUCTION PLANS



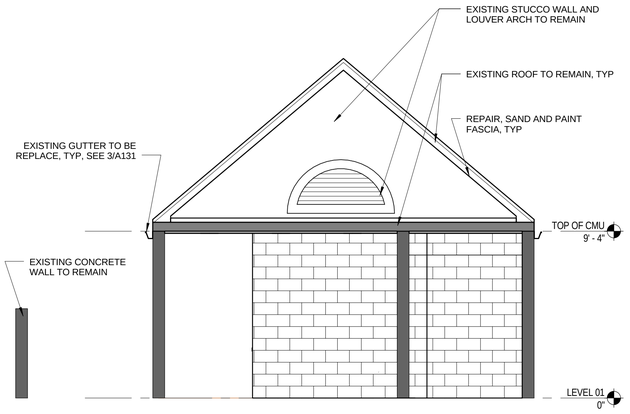
5 A121 FRONT ELEVATION

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



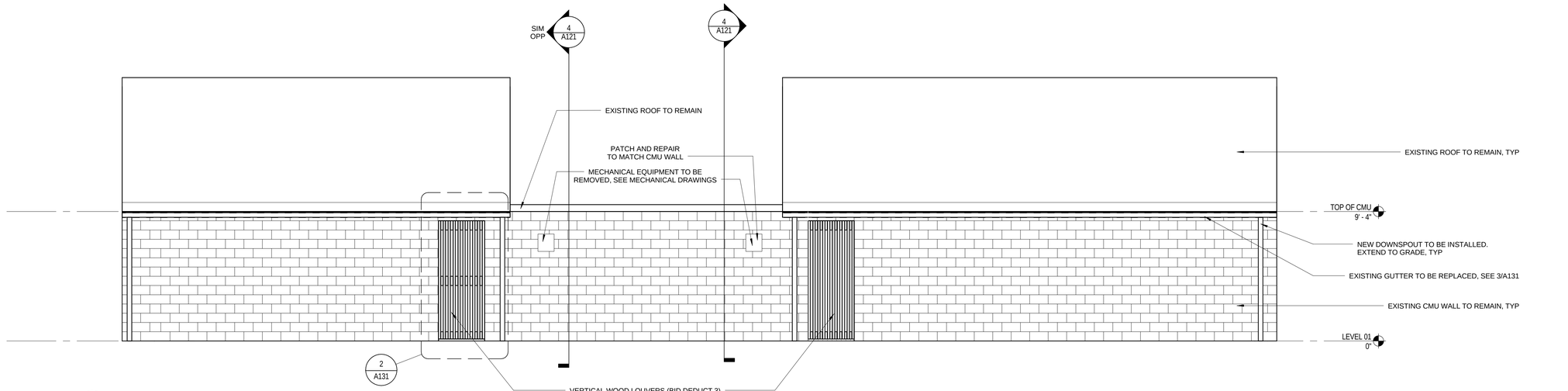
3 A121 REAR ELEVATION

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



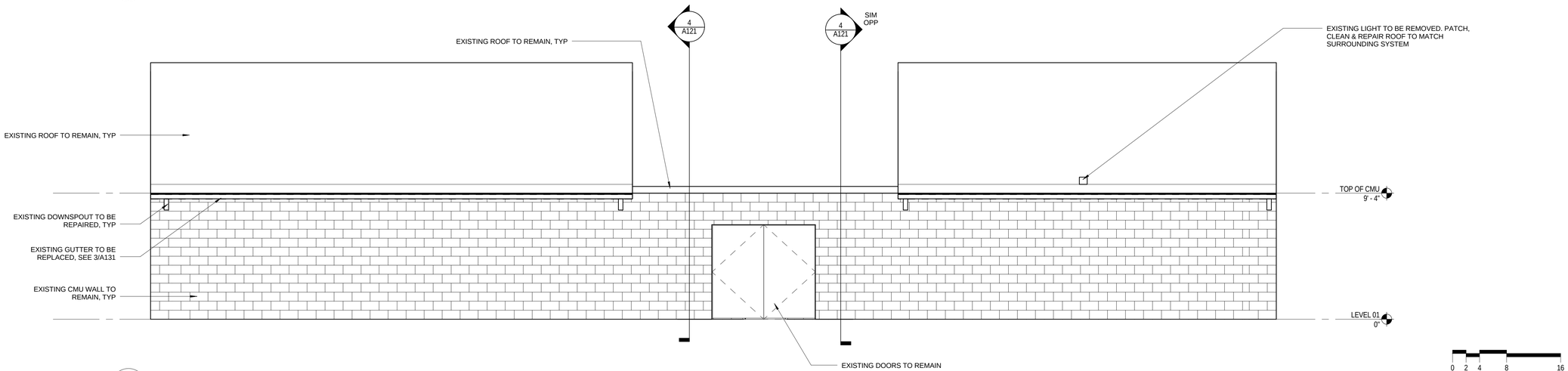
4 A121 ENTRY SECTION

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



2 A121 RIGHT ELEVATION

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



1 A121 LEFT ELEVATION

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

0 2 4 8 16

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

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Charleston, SC 29412

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STATE OF SOUTH CAROLINA
LIOLLIO ARCHITECTURE, INC.
Charleston, SC No. 100836
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
SETH BRANDON CANTLEY
Charleston, SC No. 31561
REGISTERED ARCHITECT

△	Revision Date	Description

City of Isle of Palms

IOP FRONT BEACH RESTROOM & BOARDWALK RENOVATION

1118 Ocean Blvd
Isle of Palms, SC 29451

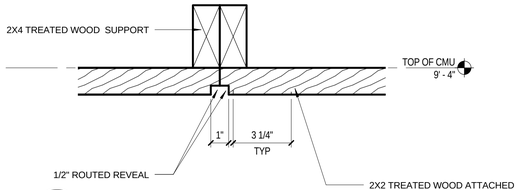
Project Number:	14101
Checked By:	SBC
Drawn By:	KMR
Date:	06/30/2017
Scale:	1/4" = 1'-0"

A121

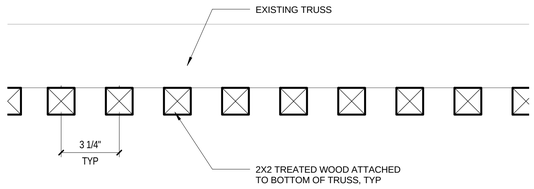
ELEVATIONS/SECTIONS

SHEET NOTES

A SEE STRUCTURAL DRAWINGS FOR LOUVER INSTALLATION

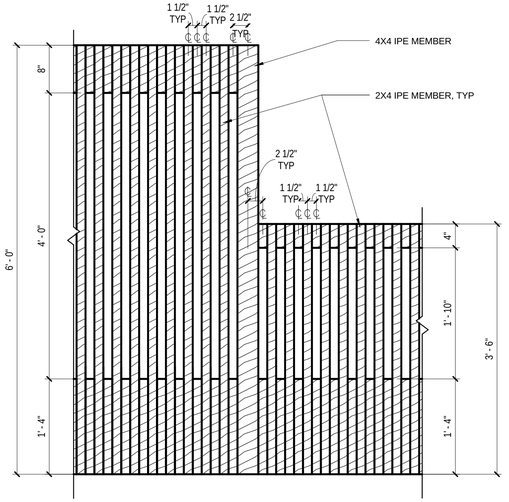


7 A131 CEILING TRANSITION DETAIL
SCALE: 3" = 1'-0"

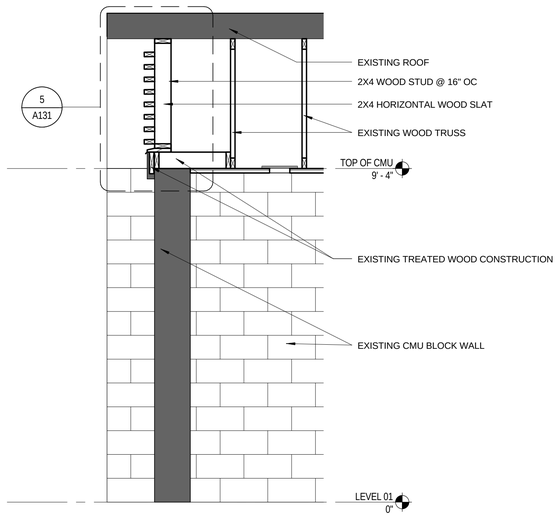


8 A131 CEILING DETAIL
SCALE: 3" = 1'-0"

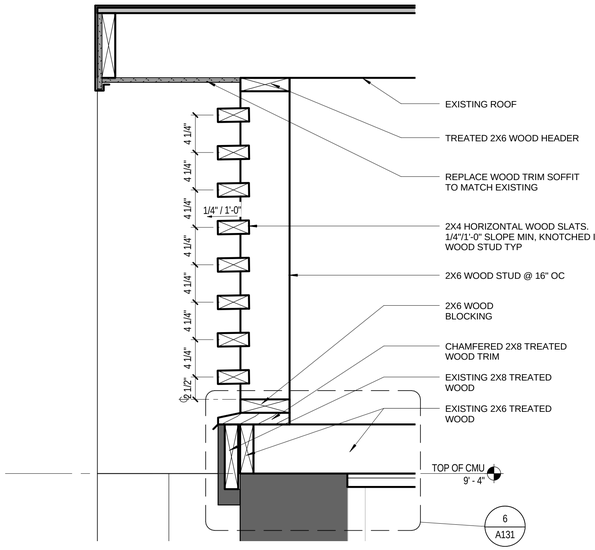
owners comment: shower screen wall will be built from SYP, not Ipe. The screen should be in the location and heights specified, but match the design of the handrail on the boardwalk.



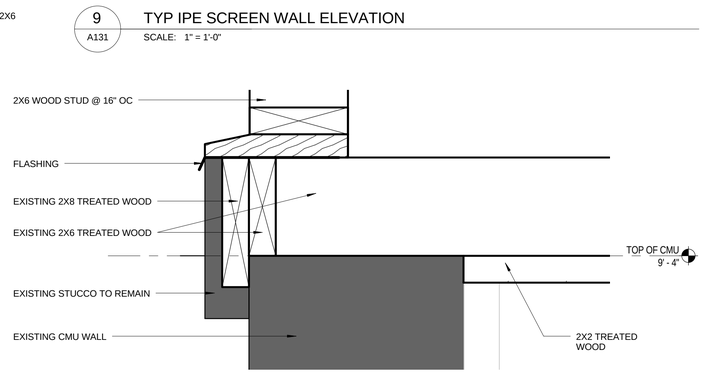
9 A131 TYP IPE SCREEN WALL ELEVATION
SCALE: 1" = 1'-0"



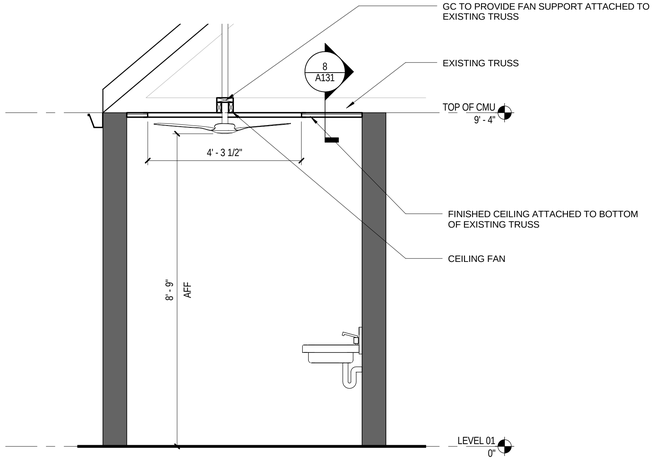
4 A131 WOOD SLAT WALL DETAIL
SCALE: 1/2" = 1'-0"



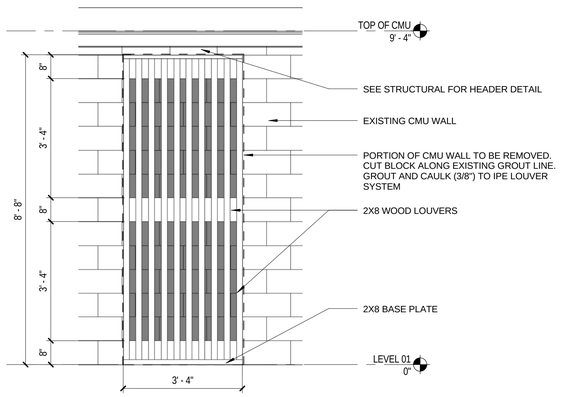
5 A131 ENLARGED SLAT WALL DETAIL
SCALE: 1 1/2" = 1'-0"



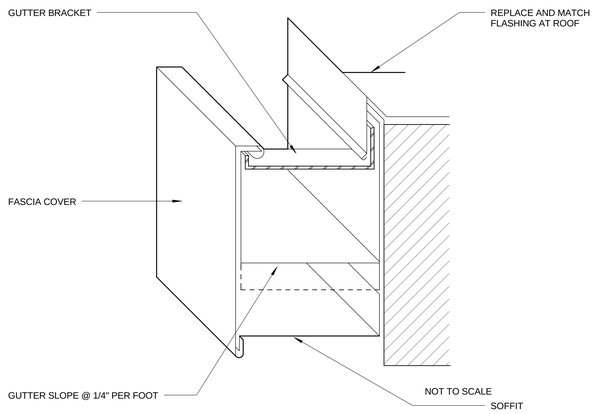
6 A131 TOP OF CMU / CEILING EDGE DETAIL
SCALE: 3" = 1'-0"



1 A131 SECTION @ CEILING FAN
SCALE: 1/2" = 1'-0"



2 A131 WOOD LOUVER WALL ELEVATION (BID DEDUCT 3)
SCALE: 1/2" = 1'-0"



3 A131 GUTTER DETAIL
SCALE: NOT TO SCALE

SCALE: As indicated

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147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412

P 843.762.2222

STATE OF SOUTH CAROLINA
LIOLLIO ARCHITECTURE, INC.
Charleston, SC
No. 100836
REGISTERED ARCHITECTS

STATE OF SOUTH CAROLINA
SETH BRANDON CANTLEY
Charleston, SC
No. 8156
REGISTERED ARCHITECT
6/30/17

△	Revision Date	Description

City of Isle of Palms

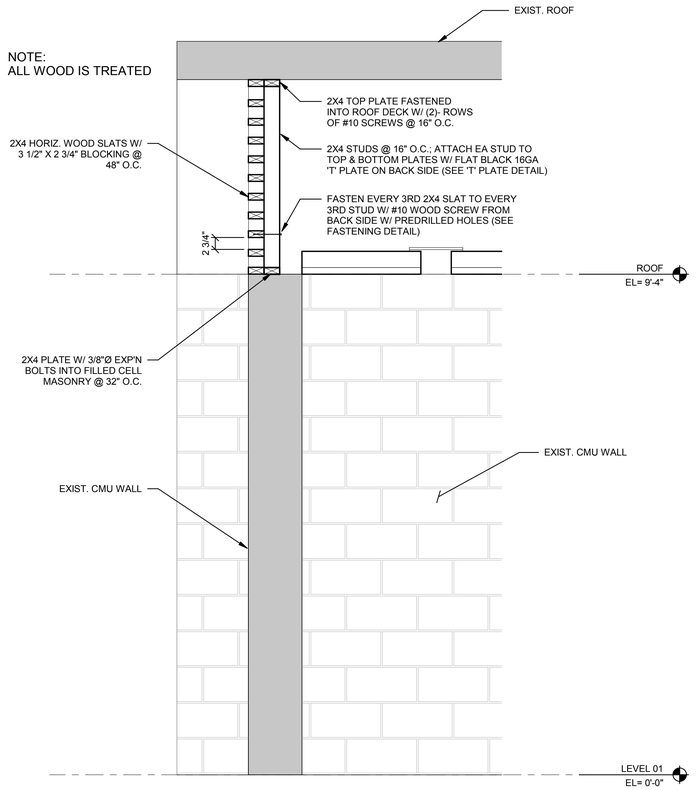
IOP FRONT BEACH RESTROOM & BOARDWALK RENOVATION

1118 Ocean Blvd
Isle of Palms, SC 29451

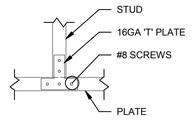
Project Number:	14101
Checked By:	SBC
Drawn By:	KMR
Date:	06/30/2017
Scale:	As indicated

A131

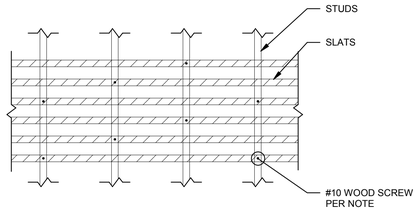
DETAILS



1 WOOD SLAT WALL DETAIL
3/4" = 1'-0"



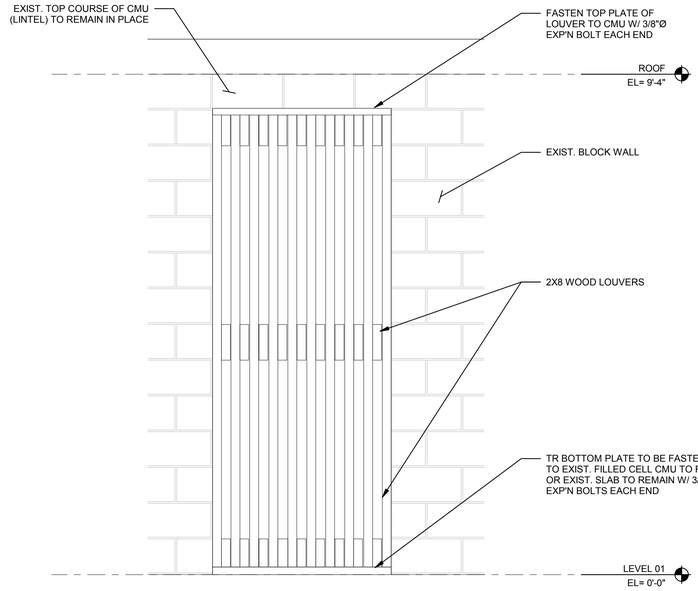
'T' PLATE DETAIL



FASTENING DETAIL

NOTES:
- BASE BID WOOD IS IPE; BID ALTERNATE IS WESTERN RED CEDAR
- ALL FRAMING ANCHORS & FASTENERS TO BE STAINLESS STEEL

NOTES:
- BASE BID WOOD IS IPE; BID ALTERNATE IS WESTERN RED CEDAR
- ALL FRAMING ANCHORS & FASTENERS TO BE STAINLESS STEEL



2 WOOD LOUVER WALL DETAIL
3/4" = 1'-0"

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147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412

P 843.762.2222

1226 YEAMANS HALL ROAD
HANAHAN, SC 29410
843-566-0161
fax 843-566-0162
ADCENGINEERING.COM

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SITE SERVICES \ BUILDING ENVELOPE \ STRUCTURAL

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NO. 00253
CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA
REGISTERED PROFESSIONAL ENGINEER
No. 31650
JEFFREY M. DILLARD

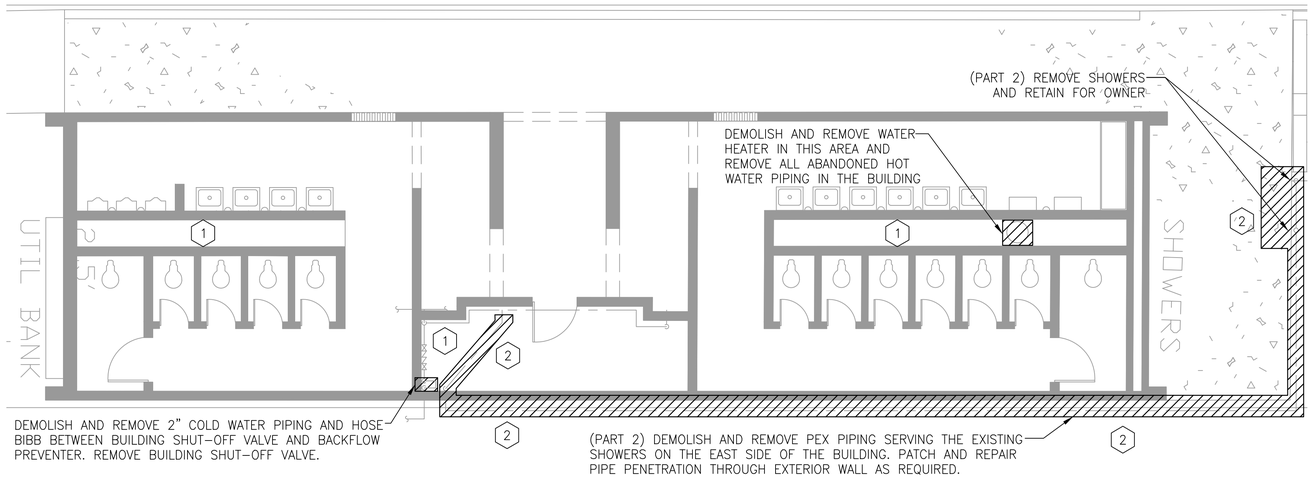
△	Revision Date	Description

Client

IOP Front Beach Restroom

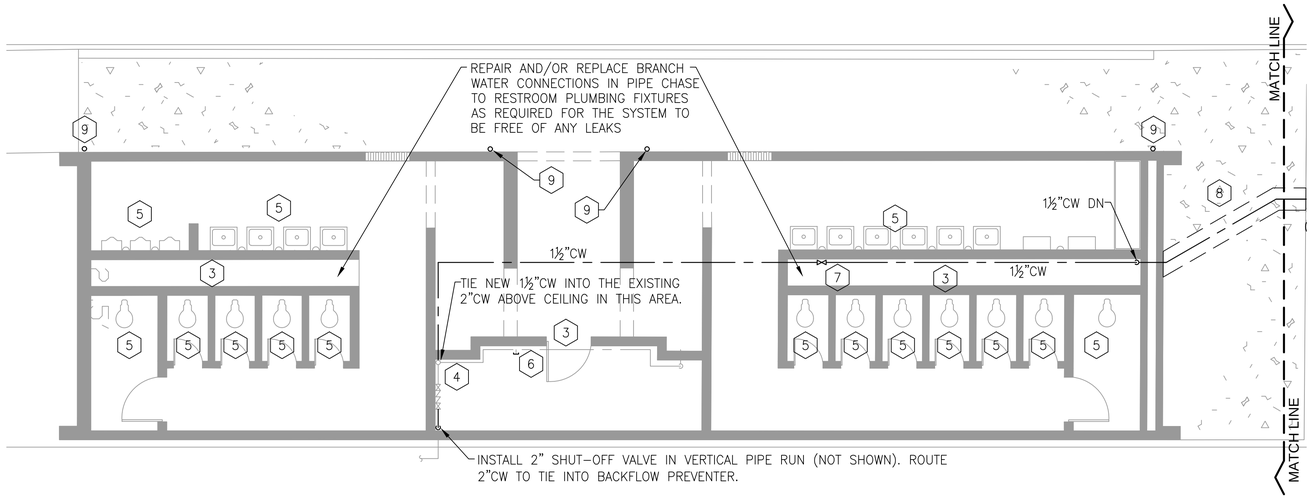
ADC Project Number:	16370
Project Number:	14101
Checked By:	JMD
Drawn By:	WLB
Date:	04/17/2017
Scale:	As Indicated

S100
DETAILS



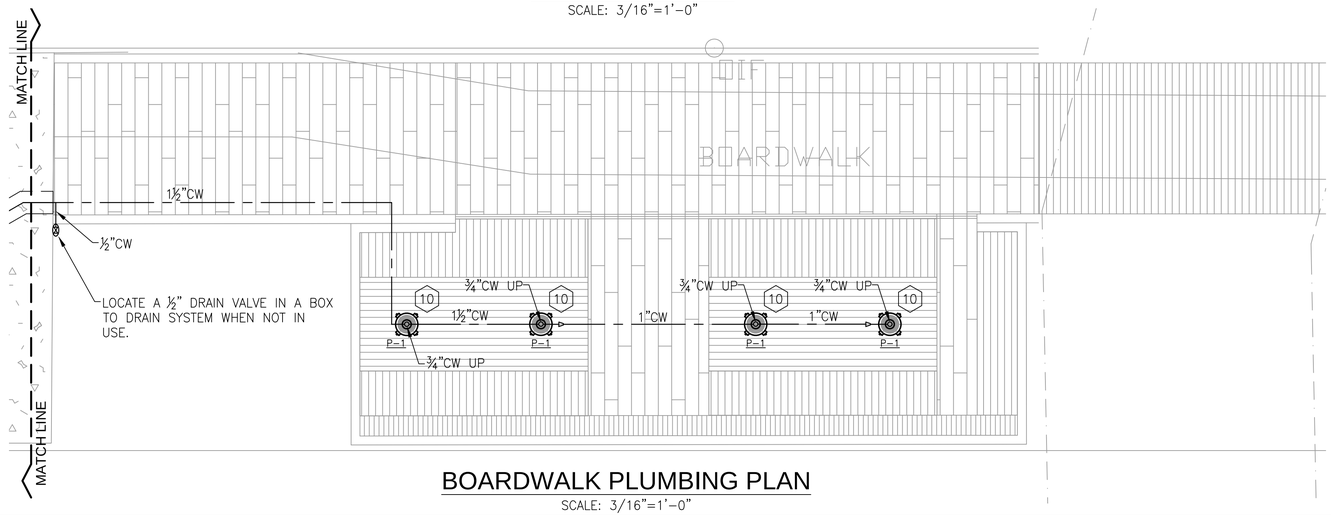
PLUMBING DEMOLITION PLAN

SCALE: 3/16"=1'-0"



PLUMBING PLAN

SCALE: 3/16"=1'-0"



BOARDWALK PLUMBING PLAN

SCALE: 3/16"=1'-0"

LEGEND

- WASTE (W)
- VENT (V)
- COLD WATER (CW)
- EXISTING, COLD WATER (CW)
- GATE VALVE
- UNION
- EXTERIOR HOSE BIBB (HB)
- "A" — WATER HAMMER ARRESTOR (LETTER INDICATES P.D.I. RATING)
- R.I. — ROUGH-IN
- P-TRAP
- AFF — ABOVE FINISH FLOOR
- AFG — ABOVE FINISH GRADE
- DN — DOWN

DEMOLITION NOTES:

1. REMOVE ALL COLD WATER PIPE INSULATION.
2. THE TWO EXISTING SHOWERS AND ASSOCIATED PEX PIPING ARE TO REMAIN UNTIL NEW BOARDWALK PEDESTAL SHOWERS ARE OPERATIONAL.

KEYED NOTES:

3. PROVIDE NEW INSULATION ON ALL COLD WATER PIPING IN THE BUILDING. REFER TO GENERAL NOTE #11 AND #12 FOR INSULATION TYPE.
4. FIELD VERIFY TIE-IN LOCATION FOR WATER PIPING SERVING OUTDOOR PEDESTAL SHOWERS. THE 1½"CW MUST TIE IN AT A 2" EXISTING COPPER PIPE. NOTIFY ENGINEER IMMEDIATELY IF DISCREPANCIES EXIST BETWEEN THIS DRAWING AND ACTUAL FIELD CONDITIONS.
5. RESTROOM FIXTURES INCLUDING SINKS, WATER CLOSETS AND URINALS ARE TO BE REPLACED UNDER A SEPARATE CONTRACT.
6. (PART 2) CAP OFF EXISTING PEX WATER PIPING (PREVIOUSLY SERVED THE TWO OUTDOOR SHOWERS) IN THIS AREA.
7. LOCATE SHUT OFF VALVE FOR OUTDOOR SHOWERS IN AN ACCESSIBLE LOCATION ABOVE THE PLUMBING CHASE.
8. CUT TRENCH IN CONCRETE TO RUN NEW 1½"CW PIPE UNDERGROUND TO BOARDWALK PEDESTAL SHOWERS. THE UNDERGROUND PIPING SHALL BE TYPE K COPPER. PATCH AND REPAIR CONCRETE TO MATCH EXISTING CONCRETE SURFACE.
9. CUT AND INSTALL NEW PIPE, INCLUDING 90° ELBOW FROM ROOF DRAINAGE GUTTER TO PIPE DROP IN CMU WALL.
10. ANCHOR PEDESTAL SHOWER TO WOOD DECK AND INSTALL AS RECOMMENDED BY MANUFACTURER. STUB UP ¾" WATER LINE TO WATER PIPE CHASE IN IN PEDESTAL SHOWER AND TRANSITION TO PIPE CONNECTION AS REQUIRED.

GENERAL NOTES:

1. PROVIDE ALL MATERIALS AND LABOR NECESSARY FOR COMPLETE AND PROPERLY FUNCTIONING PLUMBING SYSTEMS.
2. WORK SHALL CONFORM TO OR MEET THE REQUIREMENTS OF THE MOST CURRENT EDITION OF:
   a. INTERNATIONAL PLUMBING CODE
   b. ALL FEDERAL, STATE AND LOCAL CODES AND ORDINANCES WHICH APPLY TO THIS WORK.
3. DRAWING IS DIAGRAMMATIC IN NATURE AND IS NOT INTENDED TO BE SCALED FOR DIMENSIONS.
4. ALL ITEMS SHALL BE NEW AND ALL MATERIALS/EQUIPMENT/DEVICES SHALL BE CURRENT PRODUCTS BY MANUFACTURERS REGULARLY ENGAGED IN THE PRODUCTION OF SUCH PRODUCTS.
5. COORDINATE LOCATION OF PLUMBING WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.
6. INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS.
7. COORDINATE AND OBTAIN PERMITS AND INSPECTIONS FROM AUTHORITY HAVING JURISDICTION.
8. PROVIDE OWNER WITH CERTIFICATE OF FINAL INSPECTION AND ACCEPTANCE FROM AUTHORITY HAVING JURISDICTION.
9. VALVES SHALL BE LINE SIZE UNLESS NOTED OTHERWISE.
10. ABOVE GROUND WATER PIPING SHALL BE TYPE L COPPER. UNDERGROUND WATER PIPING SHALL BE TYPE K COPPER.
11. INDOOR COLD WATER PIPING SHALL BE INSULATED WITH 1" THICK GLASS FIBER ('K' OF 0.24 AT 75°F) WITH VAPOR BARRIER.
12. OUTDOOR COLD AND WATER PIPING SHALL BE INSULATED WITH 1-1/2" THICK CELLULAR GLASS.
13. VERIFY ALL EXISTING PIPE SIZES. NOTIFY ENGINEER IF EXISTING AS BUILT PIPE SIZES VARY.
14. PROVIDE ALL OPERATION AND MAINTENANCE MANUALS FOR PLUMBING EQUIPMENT TO BUILDING OWNER.

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	CONNECTIONS			
		CW	HW	WASTE	VENT
HB	HOSE BIBB – ARROWHEAD 351 SERIES, HEAVY DUTY RED BRASS ALLOY WITH WHEEL HANDEL	3/4"	–	–	–
P-1 (PART 2)	PEDESTAL SHOWER. MOST DEPENDABLE FOUNTAINS MODEL 590-SMSS. 304 STAINLESS STEEL CONSTRUCTION, FOUR SHOWER HEADS WITH QUICK CLOSE VALVES AND ONE FOOT SPRAY WITH QUICK CLOSE VALVE. WEIGHT 150 LBS. COLOR BY ARCHITECT. PROVIDE WITH OPTIONAL STAINLESS STEEL BALL VALVE LOCATED IN SHOWER ACCESS DOOR.	1/2"	–	–	–

NOTES:
1. PROVIDE MODEL SPECIFIED OR APPROVED EQUAL.

North

0 2 4 8 16

SCALE: As indicated

liollio architecture
147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412
P 843.762.2222

LOC
Live Oak Consultants, LLC
Engineers, Project Managers & Planners
PO Box 60490 North Charleston, SC 29419
MAIN: (843) 529-9428
FAX: (800) 915-0341
www.LiveOakConsultants.com
Email: Info@LiveOakConsultants.com

SOUTH CAROLINA LIVE OAK CONSULTANTS LLC NO. 3886 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA PROFESSIONAL ENGINEER No. 18377 6/30/17 GERALD R. ULMER III REGISTERED

Revision	Date	Description
0	06/30/2017	ISSUE FOR PERMIT

City of Isle of Palms

IOP Front Beach Restroom & Boardwalk Renovation

1118 Ocean Blvd
Isle of Palms, SC 29451

Project Number:	20170016
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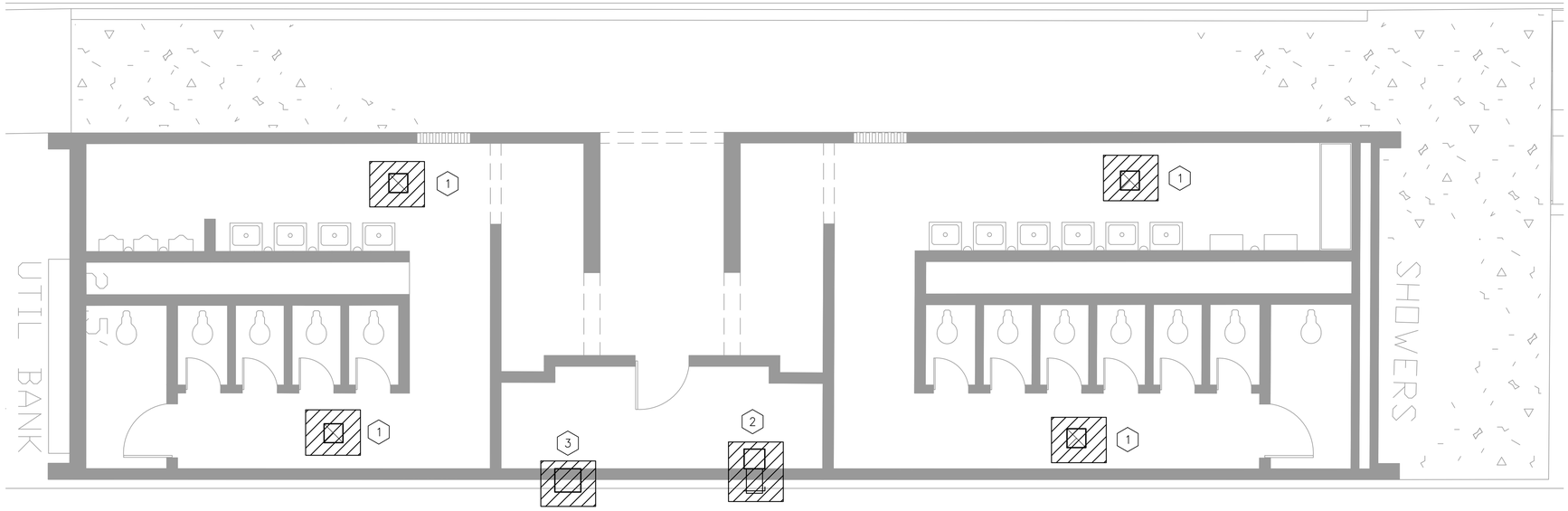
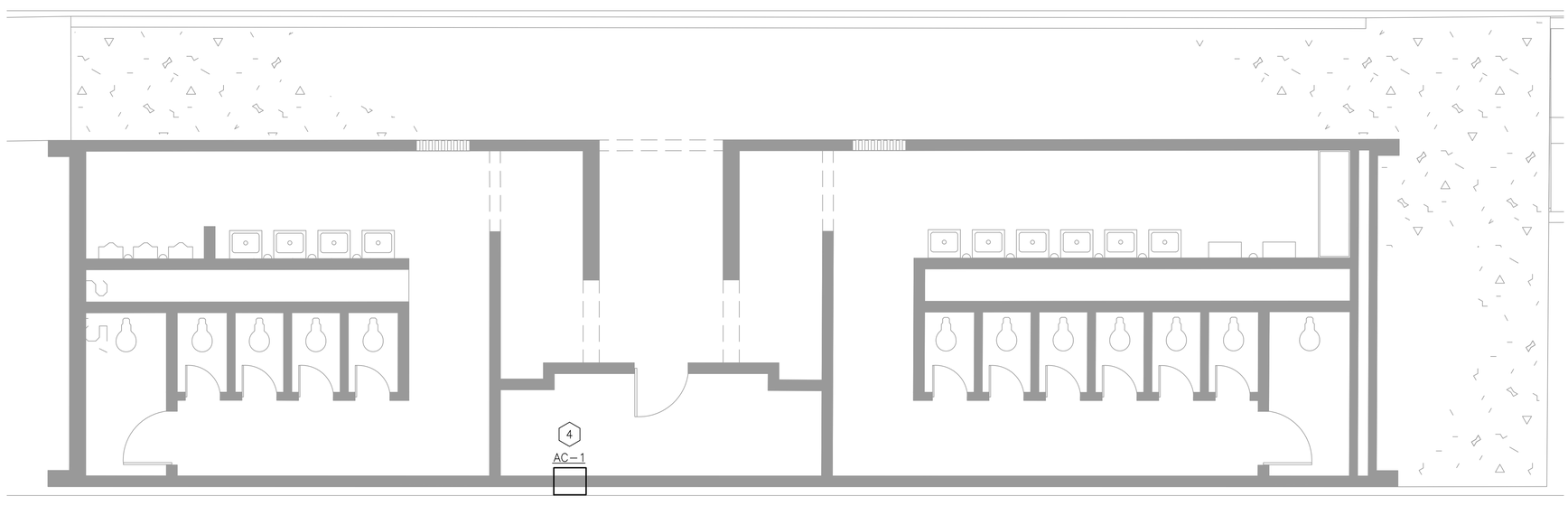
P1-01

PLUMBING DOMESTIC WATER PLANS



MECHANICAL DEMOLITION PLAN

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



MECHANICAL PLAN

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

GENERAL NOTES:

1. PROVIDE ALL MATERIALS AND LABOR FOR COMPLETE AND PROPERLY FUNCTIONING MECHANICAL SYSTEMS. WARRANTY ALL WORK AND ALL MATERIALS, EQUIPMENT AND DEVICES FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE.
2. WORK SHALL CONFORM TO OR MEET THE REQUIREMENTS OF THE MOST CURRENT EDITION OF:
   - A: INTERNATIONAL MECHANICAL CODE
   - B: SMACNA
   - C: ASHRAE
   - D: ALL FEDERAL, STATE AND LOCAL CODES AND ORDINANCES WHICH APPLY TO THIS WORK.
3. DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE NOT INTENDED TO BE SCALED FOR DIMENSIONS.
4. COORDINATE LOCATION OF MECHANICAL WORK WITH OTHER TRADES TO AVOID CONFLICTS AND INTERFERENCES.
5. INSTALL ALL EQUIPMENT AND MATERIAL IN ACCORDANCE WITH MANUFACTURE'S WRITTEN, PRINTED INSTRUCTIONS AND RECOMMENDATIONS.
6. PROVIDE OWNER WITH CERTIFICATES OF FINAL INSPECTION AND ACCEPTANCE FROM AUTHORITY HAVING JURISDICTION.
7. PROVIDE ALL OPERATION AND MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT TO BUILDING OWNER.

DEMOLITION NOTES:

1. DEMOLISH AND REMOVE EXHAUST FAN AND EXHAUST GRILLE IN THIS AREA.
2. DEMOLISH AND REMOVE EXHAUST FAN, FAN HOUSING AND DUCTWORK IN THIS AREA. PATCH AND REPAIR WALL PENETRATION AS NECESSARY FOR A WATER TIGHT SEAL.
3. DEMOLISH AND REMOVE WALL MOUNTED AIR CONDITIONER IN THIS AREA. THE PENETRATION WILL BE RE-USED FOR INSTILLATION OF A NEW THRU-THE-WALL AIR CONDITIONER.

KEYED NOTES:

4. INSTALL A NEW THRU-THE-WALL AIR CONDITIONER LG MODEL LT0816CER. RE-USE EXISTING WALL PENETRATION, PATCH AND REPAIR WALL PENETRATION AS NECESSARY FOR A WATER TIGHT SEAL. ELECTRICAL REQUIREMENTS FOR UNIT: 115V/1PH/60HZ, COOLING POWER 750 WATTS, RATED AMPS (COOLING) 7 AMPS.

North

0 2 4 8 16

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SOUTH CAROLINA PROFESSIONAL ENGINEER Gerald R. Ulmer III No. 18377 6/30/17 REGISTERED GERALD R. ULMER III

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Mechanical Plan

ELECTRICAL GENERAL NOTES

1. POWER DISTRIBUTION: IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO AS-BUILT EXISTING POWER PANELS AND MARK-UP (TYPE WRITTEN) PANEL SCHEDULES TO REFLECT MODIFICATIONS MADE AS PART OF THIS PROJECT. FOR NEW PANELS: PROVIDE TYPE WRITTEN PANEL SCHEDULES REFLECTING AS-BUILT CONDITIONS.
2. ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE LOCAL AND STATE CODES AND WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
3. PROVIDE ADDITIONAL SUPPORT FOR SWITCHES, STARTERS, FIXTURES, RACEWAYS AND OTHER ELECTRICAL EQUIPMENT WHEREVER THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING.
4. DO NOT INSTALL MATERIALS OTHER THAN SPECIFIED EXCEPT FOR ALTERNATES ACCEPTED BY OWNER.
5. FIRESTOP, DRAFT STOP AND/OR PROTECT THE ANNULAR SPACE AROUND ALL PIPE, TUBE, CONDUIT, WIRE, CABLE, VENT AND DUCT PENETRATION THROUGH WALLS, PARTITIONS, FLOORS, CEILINGS AND ROOFS IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND UL LISTING REQUIREMENTS. ALL OPENINGS SHALL BE SEALED TO MATCH FIRE OR SMOKE RATING OF WALL PENETRATIONS.
6. VERIFY CEILING SUSPENSION SYSTEMS IN THE VARIOUS AREAS AND PROVIDE THE PROPER MOUNTING ACCESSORIES, TRIMS, ETC., TO SUIT THE PARTICULAR AREA.
7. SYMBOLS IN THE LEGENDS ARE APPLICABLE GENERALLY. FOR EXACT REQUIREMENTS REFER TO THE SCHEDULES, LAYOUTS, DETAILS AND TO THE SPECIFICATIONS SINCE THE APPEARANCE OF A PARTICULAR SYMBOL IN THE LEGEND DOES NOT NECESSARILY IMPLY THAT THE ITEM IS INCLUDED IN THE CONTRACT.
8. EXCEPT WHERE NOTED OTHERWISE, LIMIT LIGHTING AND RECEPTACLE BRANCH CIRCUIT HOMERUNS TO 7 CONDUCTORS. 3 PHASE WIRES, 3 NEUTRAL AND 1 GROUND.
9. PROVIDE INDEPENDENT NEUTRALS FOR ALL NEW LIGHTING AND RECEPTACLE CIRCUITS.
10. ALL POWER CIRCUITS SHALL CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR (GREEN COLOR INSULATION) ROUTED IN CONDUIT AND SIZED AS INDICATED ON DRAWINGS (MINIMUM SIZE – #12AWG).
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA).
12. ROUTE CONDUITS CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE ON PLANS. INSTALL ALL DEVICES RECESSED FLUSH IN WALL, UNLESS NOTED OTHERWISE ON PLANS.
13. PROVIDE EXPANSION JOINT FITTINGS FOR ALL RACEWAYS CROSSING EXPANSION JOINTS.
14. FOR ALL RECEPTACLES: PROVIDE AN EQUIPMENT BONDING JUMPER FROM THE GROUNDING TERMINAL OF THE RECEPTACLE TO THE METAL BOX.
15. DO NOT INSTALL DEVICE OUTLET BOXES BACK-TO-BACK IN COMMON WALL. OFFSET 6". ALTERNATE CIRCUITS TO ADJACENT DEVICES IN MULTI-OUTLET RACEWAY.
16. LABEL ALL RECEPTACLE FACEPLATES WITH PANEL NAME AND CIRCUIT NUMBER FEEDING THAT RECEPTACLE.
17. COORDINATE ALL WORK AND POWER OUTAGES WITH OWNER.
18. PROVIDE STRIPING ON THE FLOOR AROUND ELECTRICAL PANELS TO IDENTIFY THE CODE REQUIRED WORKING CLEARANCE.
19. PHASE IDENTIFICATION FOR CIRCUITS SHALL BE ACCOMPLISHED BY COLOR CODE AS FOLLOWS:

CIRCUITS RATED (480/277V):	CIRCUITS RATED (208/120V):
PHASE "A" = BROWN	PHASE "A" = BLACK
PHASE "B" = ORANGE	PHASE "B" = RED
PHASE "C" = YELLOW	PHASE "C" = BLUE
NEUTRAL = GRAY	NEUTRAL = WHITE

LIGHTING FIXTURE SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTAGE	LAMPS	BALLASTS	FIXTURE WATTAGE	NOTES
A	DECK LIGHTS	PHILIPS HADCO	DAL1 SS LED2W	120	T3 bi-pin		10W	STEP DOWN TRANSFORMER REQUIRED. VISION 3 LIGHTING (XM3)
B	6" RECESSED CAN	LITHONIA	6BPMW LED 30K 80CRI	120	LED		15W	6" CAN
C	RECESSED 1X4	LITHONIA	WRTL F L48 5000LM AFL MVOLT 80CRI WH	120	LED		44W	1'X4'
D	WALL MOUNTED	SLV LIGHTING	G9 3232451U	120	LED		9W	CONNECT FIXTURE TO ASTRONOMICAL TIMER
F	LINEAR FLUSH MOUNT	SLV LIGHTING	MERIDIAN 3	120	LED		13.5W	COORDINATE WITH ARCHITECT FOR FIXTURE COLOR AND MOUNTING HEIGHT
G	8" RECESSED CAN	LITHONIA	RV8 35/30 RO8AR 120	120	LED		26W	8" CAN

ELECTRICAL LEGEND

237 CART INDICATES ROOM NUMBER

30A/2P/1 DISCONNECT SWITCH. REFER TO PLANS FOR ADDITIONAL INFORMATION.
"30A" INDICATES AMPACITY, "2P" INDICATES PHASES, "1" INDICATES NEMA CLASSIFICATION.

*a 1' x 4' FLUORESCENT FIXTURE.
'a' INDICATES SWITCHING SCHEME.
'*' INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE.

*a 2' x 4' FLUORESCENT FIXTURE. SAME AS ABOVE

*a 2' x 2' FLUORESCENT FIXTURE. SAME AS ABOVE

*a 2' x 4' FLUORESCENT FIXTURE. PROVIDE BATTERY POWERED EMERGENCY BALLAST WITH 1000 LUMENS MINIMUM CONNECTED TO ONE LAMP IN EACH OF THE 2'X4' OR 2'X2' FIXTURES INDICATED ON THE PLAN. CONFIRM TYPE OF LAMP AND VOLTAGE BEFORE PURCHASING BALLASTS. CONNECT THE BATTERY BALLAST TO THE NORMAL ROOM LIGHTING CIRCUIT BUT BEFORE ANY SWITCHES SO THE BATTERY BALLAST HAS UNSWITCHED POWER TO CHARGE THE BATTERY.

EXIT SIGN WITH BATTERY PACK EMERGENCY LIGHTING UNIT WITH NUMBER OF HEADS INDICATED. LITHONIA CAT. NO. LHQM-S-W-3-R-HO; OR APPROVED SUBSTITUTE. CONNECT TO EXISTING UNSWITCHED ROOM LIGHTING CIRCUIT.
'R' UNIT SHALL BE CAPABLE OF POWER TWO REMOTE 6V, 6W FIXTURES FOR 90 MINUTES

EXIT SIGN. WITH BATTERY PACK LITHONIA CAT. NO. LQM-S-W-3-R-120/277-ELN; OR APPROVED SUBSTITUTE. CONNECT TO EXISTING UNSWITCHED ROOM LIGHTING CIRCUIT.
'WP' EMERGENCY LIGHTING SAME AS ABOVE. LITHONIA CAT. NO. LV RATED FOR WET LOCATIONS

EMERGENCY LIGHTING UNIT WITH BATTERY PACK AND NUMBER OF HEADS INDICATED. LITHONIA CAT. NO. ELM2LED; OR APPROVED SUBSTITUTE. CONNECT TO EXISTING UNSWITCHED ROOM LIGHTING CIRCUIT. CONNECT TO EXISTING UNSWITCHED ROOM LIGHTING CIRCUIT.
'WP' LITHONIA CAT. NO. AFN-DB-EXT RATED FOR WET LOCATIONS

TWIN HEAD OUTDOOR MINI CYLINDER, BRONZE FINISH, (2) 6V, 5W MR11 LAMPS – POWERED FROM EMERGENCY LIGHT AS INDICATED ON PLANS. LITHONIA CAT. NO. ELADDBTOMCH0506 OR EQUAL.

a DOWNLIGHT FIXTURE. "" INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE FOR MORE INFORMATION.

*a 4' FLUORESCENT STRIP FIXTURE.
'a' INDICATES SWITCHING SCHEME.
'*' INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE.

*a VARIABLE LENGTH LIGHTING TRACK
'a' INDICATES SWITCHING SCHEME.
'*' INDICATES FIXTURE TYPE, REFER TO FIXTURE SCHEDULE.

$ TOGGLE TYPE LIGHT SWITCH, 120V/20A. MOUNTED 48" A.F.F. (UNLESS NOTED OTHERWISE).
NONE INDICATES SINGLE-POLE, SINGLE-THROW.
"3" INDICATES THREE WAY.
"4" INDICATES FOUR WAY.
"D" INDICATES DIMMER TYPE SWITCH. (1000 WATTS UNLESS NOTED OTHERWISE) COORDINATE SWITCH TYPE WITH FIXTURE TO BE DIMMED.
"OS" INDICATES PIR OCCUPANCY SENSOR. LUTRON MAESTRO MS-OPS6M OR APPROVED SUBSTITUTE TO CONTROL UP TO 6A OF LIGHTING LOAD. MATCH OCCUPANCY SENSOR WITH TYPE OF LIGHTING TO BE CONTROLLED.
"M" INDICATES TO PROVIDE MOTOR-RATED SWITCH WITH OVERLOADS IF REQUIRED

GF 120V/20A DUPLEX RECEPTACLE. MOUNTED 18" A.F.F. (UNLESS NOTED OTHERWISE).
"GF" INDICATES SELF-TEST GROUND FAULT CIRCUIT INTERRUPTER TYPE.
"WP" INDICATES WEATHER PROOF WHILE IN USE COVER WITH WEATHER RESISTANT RECEPTACLE
"ER" INDICATES EXISTING RECEPTACLE TO REMAIN

120V/20A SIMPLEX RECEPTACLE. MOUNTED 18" A.F.F. (UNLESS NOTED OTHERWISE).
SAME AS ABOVE

120V/20A DUPLEX RECEPTACLE. MOUNTED 42" UP OR 6" ABOVE COUNTER.
SAME AS ABOVE

120V/20A QUAD RECEPTACLE. MOUNTED 18" A.F.F. (UNLESS NOTED OTHERWISE).
SAME AS ABOVE

SPECIAL PURPOSE RECEPTACLE
COORDINATE WITH EQUIPMENT

COMBINATION TELEPHONE/DATA OUTLET MOUNTED 18" A.F.F
PROVIDE AND INSTALL 4"x4"x1½" BOX WITH SINGLE GANG EXTENSION RING AND ¾" EMPTY CONDUIT WITH PULL STRING TO ACCESSIBLE LOCATION ABOVE CEILING.

ELECTRIC MOTOR

BRANCH CIRCUIT RACEWAY – CONCEALED IN WALL OR CEILING

P1 POWER PANEL "P1"

TELEPHONE BACKBOARD

TYPICAL DEVICE MOUNTING HEIGHT

RECEPTACLES	18" AFF
LIGHT SWITCHES	48" AFF

NOTE: DIMENSIONS ARE TO DEVICE CENTERLINE UNLESS NOTED OTHERWISE.

ELECTRICAL ABBREVIATIONS

A	AMPERES
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIR	AMPS INTERRUPTING RATING
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BOF	BOTTOM OF FIXTURE
BOS	BOTTOM OF STEEL
C	CONDUIT
CAT	CATALOG
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CT	CURRENT TRANSFORMER
CWA	CONSTANT WATTAGE AUTOTRANSFORMER
DTT	DOUBLE TWIN TUBE
DWG(S)	DRAWING(S)
EB	ELECTRONIC BALLAST
EC	EMPTY CONDUIT
ECB	ENCLOSED CIRCUIT BREAKER
EF	EXHAUST FAN
EFF	ENERGY EFFICIENT
EJ	EXPANSION JOINT
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXIST	EXISTING
ER	EXISTING TO REMAIN
EXP	EXPLOSION PROOF
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OTHERS
FCU	FAN COIL UNIT
FMS	FACILITY MANAGEMENT SYSTEM
FVNR	FULL VOLTAGE NON-REVERSING
FWE	FURNISHED WITH EQUIPMENT
GFCI/GF	GROUND FAULT CIRCUIT INTERRUPTER
G/GND	GROUND
HP	HORSEPOWER
HPF	HIGH POWER FACTOR
HACR	HEATING/AIR CONDITIONING RATED
INCAN	INCANDESCENT
JB	JUNCTION BOX
KW	KILOWATTS
LTG	LIGHTING
MAG	MAGNETIC
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCCB	MOLDED CASE CIRCUIT BREAKER
MCS	MOLDED CASE SWITCH
MLO	MAIN LUGS ONLY
MTD	MOUNT MT MOUNTED
MTG	MOUNTING
N	NEUTRAL
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NWR	NO WORK REQUIRED
OF	OWNER FURNISHED
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PB	PUSH BUTTON
PMT	PAD MOUNTED TRANSFORMER
PNL(S)	PANEL(S)
RECEPT	RECEPTACLE
REQD	REQUIRED
RM	ROOM
RGS	RIGID GALVANIZED STEEL CONDUIT
SMR	SURFACE MOUNTED RACEWAY
ST	SHUNT TRIP
RTU	ROOF TOP UNIT
STP	SHIELDED TWISTED PAIR
SPST	SINGLE-POLE, SINGLE-THROW
TBB	TELEPHONE BACKBOARD
TEL	TELEPHONE
TOC	TOP OF CONCRETE
TOF	TOP OF FIXTURE
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UG	UNDERGROUND
UP	UNDERGROUND POWER
UT	UNDERGROUND TELEPHONE
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS
VA	VOLT-AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WP	WEATHERPROOF
XFMR	TRANSFORMER
2S1W	2 SPEED, 1 WINDING

North

0 2 4 8 16

SCALE: As indicated

liollio architecture
147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412
P 843.762.2222

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Engineers, Project Managers & Planners
PO Box 60490 North Charleston, SC 29419
MAIN: (843) 529-9428
FAX: (800) 915-0341
www.LiveOakConsultants.com
Email: Info@LiveOakConsultants.com

SOUTH CAROLINA LIVE OAK CONSULTANTS LLC NO. 3886 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA No. 18348 REGISTERED PROFESSIONAL ENGINEER LEE ALAN METZ 06/30/17

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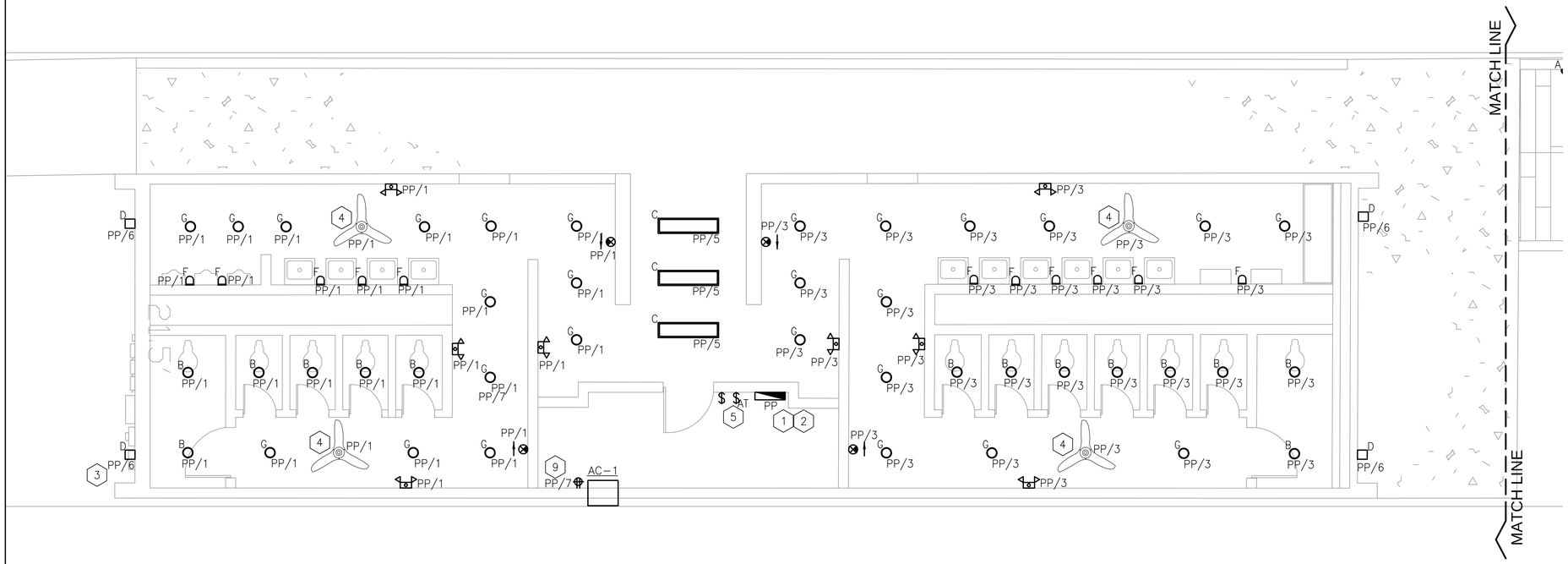
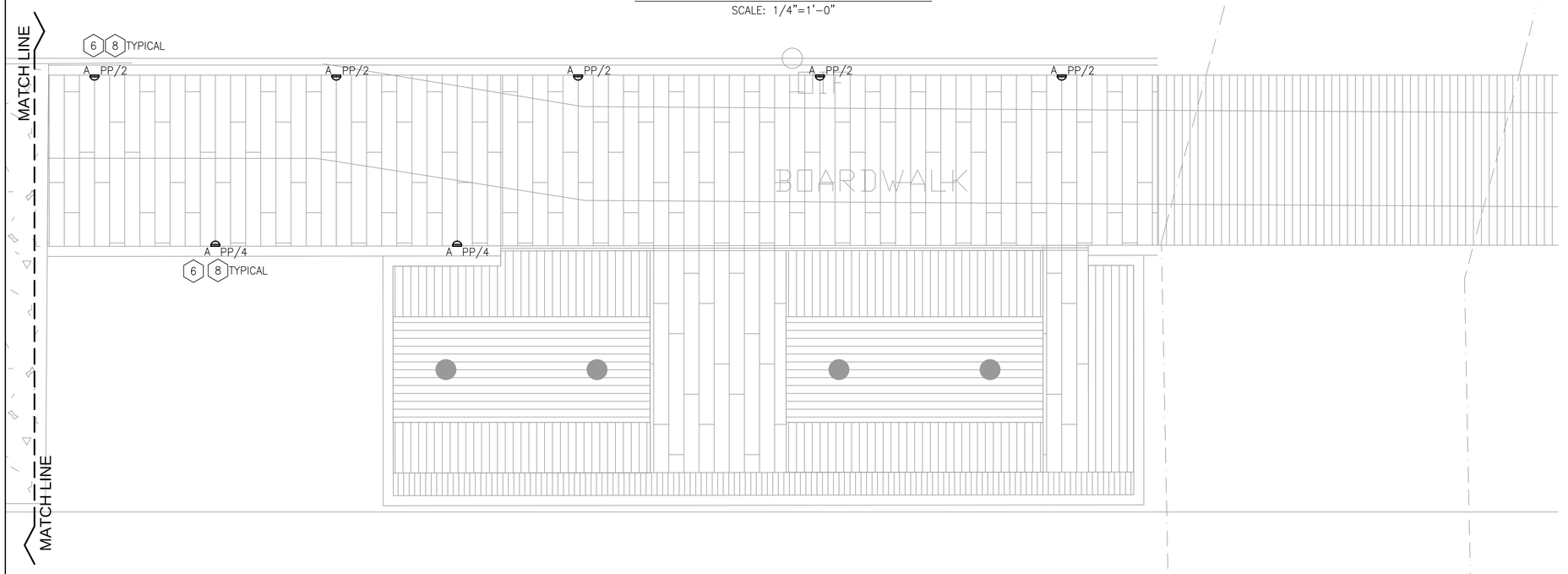


LIGHTING AND POWER PLAN

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



BOARDWALK LIGHTING PLAN

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

GENERAL NOTES:

1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDUIT RUNS FROM EXISTING POWER PANEL LOCATED IN THE OFFICE AREA BEFORE ANY DEMOLITION BEGINS.

2. INSTALL WHITE PHENOLIC NAMEPLATE WITH BLACK LETTERING, "PANEL PP".

3. CONTRACTOR SHALL DEMOLISH EXISTING 225A POWER PANEL, EXISTING FEEDERS AND RUSTED CONDUITS LOCATED IN RESTROOM OFFICE.

KEYED NOTES:

1. CONTRACTOR SHALL PROVIDE AND INSTALL ONE (1) NEW POWER PANEL (240/120V,1ø 3W WITH A 225A MAIN BREAKER, NEMA 3R ENCLOSURE) IN THE SAME LOCATION AS THE OLD ONE.
2. CONTRACTOR SHALL PROVIDE AND INSTALL NEW RIGID STEEL CONDUIT AND FEEDERS FROM EXISTING LIGHTS AND EQUIPMENT TO NEW POWER PANEL.
3. CONTRACTOR SHALL REPLACE EXISTING METER WITH NEW 120-240V/1ø/200A METER BASE. THAT HAS A 200A MAIN CIRCUIT BREAKER PER UTILITY'S REQUIREMENTS. SEE ELECTRICAL SINGLE DIAGRAM ON DRAWING E5-01.
4. MOUNT BOTTOM OF FAN AT 8'-9" AFF.
5. CONTRACTOR SHALL INSTALL ASTRONOMICAL TIME SWITCH FOR EXTERIOR SHOWER LIGHTS AND DECK LIGHTS. COORDINATE WITH ARCHITECT FOR LIGHTING TIMES. WATTSTOPPER TIME-BASED CONTROLS, ASTRONOMICAL TIME SWITCH (RT-200).
6. CONTRACTOR SHALL INSTALL 120V-12V ELECTRONIC TRANSFORMER IN JUNCTION BOX TO LEADING DECK LIGHT AND CONNECT IN SERIES TO OTHER FIXTURES. VISION 3 LIGHTING (XM3).
7. NOT USED.
8. DECK LIGHTS DOWN THE BOARDWALK SHALL BE MOUNTED AT 32" AFF.
9. COORDINATE WITH ARCHITECT FOR RECEPTACLE MOUNTING HEIGHT AS REQUIRED FOR NEW AC UNIT.

North

0 2 4 8 16

SCALE: As indicated

liollio architecture

147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412

P 843.762.2222

LOC
Live Oak Consultants, LLC
Engineers, Project Managers & Planners

PO Box 60490 North Charleston, SC 29419
MAIN: (843) 529-9428
FAX: (800) 915-0341
www.LiveOakConsultants.com
Email: Info@LiveOakConsultants.com

SOUTH CAROLINA LIVE OAK CONSULTANTS LLC NO. 3886 CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA No. 18348 REGISTERED LEE ALAN METZ PROFESSIONAL ENGINEER 06/30/17

△	Revision Date	Description
0	06/30/2017	ISSUE FOR PERMIT

City of Isle of Palms

IOP Front Beach Restroom & Boardwalk Renovation

1118 Ocean Blvd
Isle of Palms, SC 29451

Project Number:	20170016
Checked By:	LAM
Drawn By:	DAG
Date:	04/13/2017
Scale:	As indicated

E1-01

ELECTRICAL LIGHTING AND POWER PLANS

PANEL NAME:	PP				LOCATION:	BATHROOM OFFICE													
VOLTAGE:	240	240/120V - 1PH 3W			AIC:	22,000													
AMP RATING:	250A				FEEDER CONDUCTOR SIZE:	3#3/0, #6G, 2"C													
MLO / MAIN BREAKER:	200A MCB				FED FROM:	UTILITY													

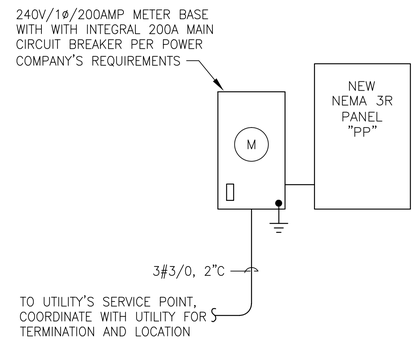
LOAD NAME	WIRE SIZE	CONDUIT SIZE	BREAKER SIZE	POLES	CIRCUIT NUMBER	DEMAND FACTOR	LOAD TYPE	PHASE A LOAD (VA)	PHASE A LOAD (VA)	PHASE B LOAD (VA)	PHASE B LOAD (VA)	LOAD TYPE	DEMAND FACTOR	CIRCUIT NUMBER	POLES	BREAKER SIZE	CONDUIT SIZE	WIRE SIZE	LOAD NAME
LIGHTS - MEN'S ROOM	2#12, #12G	1/2"	20	1	1	1.00	C	965	300			C	1.00	2	1	20	1/2"	2#10, #10G	LIGHTS - DOCK LIGHTS
LIGHTS - WOMEN'S ROOM	2#12, #12G	1/2"	20	1	3	1.00	C			1000	300	C	1.00	4	1	20	1/2"	2#10, #10G	LIGHTS - DOCK LIGHTS
LIGHTS - RESTROOM HALLWAY	2#12, #12G	1/2"	20	1	5	1.00	C	308	100			C	1.00	6	1	20	1/2"	2#10, #10G	LIGHTS - EXTERIOR BUILDING MOUNTED
RECEPTACLE - AC-1	2#12, #12G	1/2"	20	1	7	1.00	C			1200		C	1.00	8	1	20			SPARE
(1) SPARE			20	1	9	1.00	C					C	1.00	10	1	20			SPARE
SPARE			20	1	11	1.00	C					C	1.00	12	1	20			SPARE
SPARE			20	1	13	1.00	C					C	1.00	14	1	20			SPARE
SPARE			20	1	15	1.00	C					C	1.00	16	1	20			SPARE
SPARE			20	1	17	1.00	C					C	1.00	18	1	20			SPARE
SPARE			20	1	19	1.00	C					C	1.00	20	1	20			SPARE
SPARE			20	1	21	1.00	C					C	1.00	22	1	20			SPARE
SPARE			20	1	23	1.00	C					C	1.00	24	1	20			SPARE
SPARE			20	1	25	1.00	C					C	1.00	26	1	20			SPARE
SPARE			20	1	27	1.00	C					C	1.00	28	1	20			SPARE
SPARE			20	1	29	1.00	C					C	1.00	30	1	20			SPARE
SPARE			20	1	31	1.00	C					C	1.00	32	1	20			SPARE
SPARE			20	1	33	1.00	C					C	1.00	34	1	20			SPARE
SPARE			20	1	35	1.00	C					C	1.00	36	1	20			SPARE
SPARE			20	1	37	1.00	C					C	1.00	38	1	20			SPARE
SPARE			20	1	39	1.00	C					C	1.00	40	1	20			SPARE
SPARE			20	1	41	1.00	C					C	1.00	42	1	20			SPARE
							CONNECTED LOAD PER PHASE		1673		2500								
							TOTAL CONNECTED LOAD VA				4173						CONNECTED AMPS AT 240V		17.4
							DEMAND LOAD PER PHASE		1673		2500								
							TOTAL DEMAND LOAD VA				4173						DEMAND AMPS AT 240V		17.4
							DIVERSITY		1.0								DEMAND AMPS AT 240V		17.4
LOAD TYPE "C" CONTINUOUS LOAD							DEMAND VOLT AMP (VA) CONTINUOUS		4173										
							DEMAND AMPS CONTINUOUS		17.4										
LOAD TYPE "N" NONCONTINUOUS LOAD							DEMAND VOLT AMP (VA) NON-CONTINUOUS		0										
							DEMAND AMPS NON-CONTINUOUS		0.0				21.7				DEMAND FEEDER AMPS = [(1.25 X CONTINUOUS) + NON-CONTINUOUS]		

GENERAL NOTES:

1. SEE DRAWING E0.1 FOR ELECTRICAL NOTES AND LEGENDS.

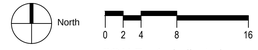
KEYED NOTES:

(1) CONTRACTOR SHALL RECONNECT ALL EXISTING LOADS THAT ARE NOT SHOWN ON DRAWING TO NEW PANEL.



SINGLE LINE DIAGRAM

1 DETAIL — N.T.S.
E5-01



SCALE: As indicated

liollio architecture

147 Wappoo Creek Drive
Suite 400
Charleston, SC 29412

P 843.762.2222

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SOUTH CAROLINA — LIVE OAK CONSULTANTS LLC — NO. 3886 — CERTIFICATE OF AUTHORIZATION

SOUTH CAROLINA — No. 18348 — LEE ALAN METZ — 06/30/17

△	Revision Date	Description
0	06/30/2017	ISSUE FOR PERMIT

City of Isle of Palms

IOP Front Beach Restroom & Boardwalk Renovation

1118 Ocean Blvd
Isle of Palms, SC 29451

Project Number:	20170016
Checked By:	LAM
Drawn By:	DAG
Date:	04/13/2017
Scale:	As indicated

E5-01
ELECTRICAL DETAILS, SINGLE LINE DIAGRAM, AND PANEL SCHEDULES

PROJECT MANUAL

The City of Isle of Palms
Restroom & Boardwalk Renovation

LAI Project No: 14101
June 30th, 2017

LIOLLIO ARCHITECTURE, INC.
Architecture
147 Wappoo Creek Drive, Suite 400
Charleston, South Carolina 29412
(843) 762-2222

ADC ENGINEERING, INC.
Building Structural Engineer
1226 Yeamans Hall Road
Hanahan, SC 29410
(843) 566-0161

LIVE OAK CONSULTANTS, LLC
MEP Engineering
4214 Fellowship Road
North Charleston, SC 29418
(843) 529-9428

JON GUERRY TAYLOR & ASSOCIATES, INC.
Boardwalk Engineer
PO Box 1082
Mount Pleasant, SC 29465
(843) 884-6415

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DIVISION 02 - EXISTING CONDITIONS

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NOT APPLICABLE

DIVISION 04 - MASONRY

NOT APPLICABLE

DIVISION 05 - METALS

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

DIVISION 08 - OPENINGS

NOT APPLICABLE

DIVISION 09 - FINISHES

DIVISION 10 - SPECIALTIES

NOT APPLICABLE

DIVISION 11 - EQUIPMENT

NOT APPLICABLE

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NOT APPLICABLE

DIVISION 13 - SPECIAL CONSTRUCTION

NOT APPLICABLE

DIVISION 14 - CONVEYING EQUIPMENT

NOT APPLICABLE

DIVISION 21 - FIRE SUPPRESSION

NOT APPLICABLE

DIVISION 22 - PLUMBING

NOT APPLICABLE

DIVISION 23 - HEATING, VENTILATING, AND AIR-CONDITIONING (HVAC)

NOT APPLICABLE

DIVISION 42 - PROCESS HEATING, COOLING, AND DRYING EQUIPMENT

NOT APPLICABLE

DIVISION 43 - PROCESS GAS AND LIQUID HANDLING, PURIFICATION AND STORAGE EQUIPMENT

NOT APPLICABLE

DIVISION 44 - POLLUTION CONTROL EQUIPMENT

NOT APPLICABLE

DIVISION 45 - INDUSTRY-SPECIFIC MANUFACTURING EQUIPMENT

NOT APPLICABLE

DIVISION 46 - WATER AND WASTEWATER EQUIPMENT

NOT APPLICABLE

DIVISION 48 - ELECTRICAL POWER GENERATION

NOT APPLICABLE

Invitation for Construction Bids- October 2017 rebidding

PROJECT NAME: Isle of Palms Front Beach Restroom and Boardwalk Renovation

The City of Isle of Palms, South Carolina The City of Isle of Palms invites interested licensed General Contractors to submit bids for the Isle of Palms Front Beach Restroom and Boardwalk Renovation located at 1118 Ocean Boulevard, Isle of Palms, SC 29451. This contract will be awarded pursuant to the City's procurement ordinance.

DESCRIPTION OF PROJECT: The project Front Beach Isle of Palms Restroom and Boardwalk Renovation will include interior finishes, new exterior work and a complete new boardwalk. Building work comprises of select new finishes and new window openings.

CHANGES TO THE PROJECT: The City sought bids for this project in August 2017 and because of a general lack of response and the pricing that was received, the City is requesting bids again.

Notable changes to the project since the first bidding process are as follows:

1. Modification of the bid form to include a bid deduct for all work to the restroom. Because of budget constraints, the City may proceed with only the boardwalk portion of the project. ALTERNATE NO. 5 on the bid form includes this deduction.
2. Elimination of the Ipe beach roll-out boardwalk. The plans reference a roll-out boardwalk on several pages and this component should be eliminated entirely.
3. Elimination of the timber retaining wall. The plans reference timber retaining walls and these components should be eliminated entirely.
4. Modification of the shower area screen. The plans include profiles and specifications for a solid 2"x4" Ipe screen wall in the area of the showers. The heights, locations and profiles of this screen will remain as planned; however, the screen will be built with materials and specifications to match handrails on the boardwalk. The screen should be built of 6"x6" SYP posts and 2"x6" SYP rails, with an Ipe cap and bench as shown on the plans.

BID SECURITY: Each bid must be accompanied by a certified check of the Bidder, or by a Bid Bond made payable to the Owner for an amount equal to no less than 5 percent of the total bid as a guarantee that, if the bid is accepted, the required Agreement will be executed and that a 100% Performance Bond will be furnished.

No bid may be withdrawn after the scheduled closing time for receipt of bid for a period of 45 days.

QUALIFICATIONS OF BIDDERS: Bidders must be General Contractors registered in the State of South Carolina with a minimum of five years in business and five successful projects of the construction type and magnitude. The City may make such investigations as it deems necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the City in a timely manner all such information and data for this purpose as the City may request. The City reserves the right to reject any bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the City of the Bidder's qualifications to complete the project.

The owner reserves the right to waive irregularities in the Bidding process and to reject any or all Bids, subject to the laws and regulations of the State of South Carolina.

A/E NAME: Liollio Architecture
A/E ADDRESS: 147 Wappoo Creek Drive, Suite 400, Charleston, SC 29412
A/E CONTACT: Rick Bousquet, AIA Phone: (843) 762-2222 E-mail: rick@liollio.com

PLANS AND BID DOCUMENTS MAY BE OBTAINED FROM: www.iop.net

QUESTIONS DUE: October 19th, 2017
BID OPENING: 2:00 pm, Thursday November 3rd, 2017
LOCATION: Council Chambers, City Hall, City of Isle of Palms; 1207 Palm Blvd.

BID DELIVERY ADDRESS: Proposals should be submitted to the following: Linda Lovvorn Tucker, City Administrator, City of Isle of Palms, 1207 Palm Boulevard, Post Office Box 508, Isle of Palms, South Carolina 29451.

END OF DOCUMENT

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BID FORM

BID OF:_____
(Contractor)

BID TO: _____
(Owner)

PROJECT NAME:_____

PROJECT NUMBER: _____BID DATE: _____

BASE BID AGREEMENT

The undersigned, having examined all the Bidding Documents, including CHANGES TO THE PROJECT identified on the Invitation for Construction Bids- October 2017 rebidding and acknowledging all Addendum(a) as follows:

shall execute the entire Work in the Bidding Documents described as the Base Bid for the lump sum of:
_____Dollars

($_____) which sum is hereafter called the BASE BID.

BASE BID SEPARATION FOR CITY

To meet the regulations set by federal regulation, this project's Base Bid shall be separated into two construction costs. The first will be all work completed on the restroom, including exterior louvers in the wall of the building. The second construction cost will be all work onto the boardwalk. The boardwalk cost shall include all boardwalk demolition, all boardwalk construction, exterior lighting, all work to the metal handrail, new showers and all the MEP that supplies the boardwalk (including going through the building). The two totals shall equal the Base Bid lump sum. Cost does not need to be separated in the Schedule of Values or Pay Applications. The two totals for the work described above is:

Restroom Renovation ($_____)

Boardwalk Renovation ($_____)

DATE FOR COMMENCEMENT AND SUBSTANTIAL COMPLETION

The Date for Commencement shall be established in the Notice to Proceed. The Contractor shall not incur any expense until the contract has been awarded. An award requires that either the Contract be signed by both the awarding authority and the contractor or a Notice to Proceed is executed.

All work for additions shall be substantially completed (as evidenced by the date on the CERTIFICATE OF SUBSTANTIAL COMPLETION) within: one hundred and twenty (120) calendar days from the date set forth in the NOTICE TO PROCEED, subject to adjustments as provided in the Contract Documents.

Final completion of all work shall be performed within: THIRTY (30) calendar days from the scheduled contract time for substantial completion, subject to adjustments as provided in the Contract Documents.

The undersigned further agrees that from the compensation to be paid, the owner may retain as liquidated damages the sum of one thousand dollars ($1,000) for each calendar day the actual contract time for Substantial Completion for the project exceeds the specified or adjusted contract time for Substantial Completion as provided in the Contract Documents.

BID SECURITY

The undersigned enclosed bid security in the amount of not less than five (5) percent of the BASE BID. The Contractor shall have __thirty___ (_30) days maximum from the date of the Notice of Intent to Award to deliver Performance and Payment Bond, Certificate of Insurance, and the Contract (signed by Contractor only). Failure to deliver these documents, as required, shall entitle the agency to consider the Contractor nonresponsible and declare the bid security forfeited.

ALTERNATE(S) TO THE BASE BID

The undersigned proposes the following alternate prices and if any of the following Alternate(s), in any order, should be accepted and incorporated in the AGREEMENT BETWEEN OWNER AND CONTRACTOR, then the BASE BID will be altered in each case as follows:

ALTERNATE NO. 1 BRIEF DESCRIPTION:
(Deduct from) base bid: Provide all work described in base bid, except to subtract all ceiling work and lighting in the entrance as outlined on the floor plan.

Dollars ($_____).

ALTERNATE NO. 2 BRIEF DESCRIPTION:
(Deduct from) base bid: Provide all work described in in Alternate #1, except to subtract all ceiling work and lighting in each restroom walkway as outlined on the floor plan.

Dollars ($_____).

ALTERNATE NO. 3 BRIEF DESCRIPTION:
(Deduct from) base bid: Provide all work described in in Alternate #2, except to replace all IPE wood louvers with Western Red Cedar.

Dollars ($_____).

ALTERNATE NO. 4 BRIEF DESCRIPTION:
(Deduct from) base bid: Provide all work described in in Alternate #3, except to subtract all work associated with wood louvers inside CMU walls, including selective CMU demolition.

Dollars ($_____).

ALTERNATE NO. 5 BRIEF DESCRIPTION:
(Deduct from) base bid: Subtract all work associated with the bathroom renovation (leaving only the work associated with boardwalk).

Dollars ($_____).

Failure to bid an alternate shall render the prime contractor's bid unresponsive. An alternate shall be bid by indicating either a dollar amount of the words "No Change".

ADDENDA

The undersigned acknowledges the receipt of the following addenda and confirms that the BID as submitted reflects appropriate price responses:

LISTING OF SUBCONTRACTORS

Section 11-35-3020(2)(b)(i) of the South Carolina Code of Laws. 1976, as amended, provides: Any bidder or offeror in response to an invitation for bids shall set forth in his bid or offer the name and the location of the place of business of each subcontractor who will perform work or render service to the prime contractor to or about the construction, and who will specifically fabricate and install a portion of the work in an amount that exceeds certain percentages. Please list the following sub-contractors as follows:

FOR BASE BID

Name of Trade	Subcontractor's Name	Location
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Failure to list subcontractors in accordance with the code shall render the prime contractor’s bid unresponsive.

No prime contractor whose bid is accepted shall substitute any person as subcontractor in place of the subcontractor listed in the original bid, except with the consent of the awarding authority.

Failure to list subcontractors in accordance with the code shall render the prime contractor’s bid unresponsive.

No prime contractor whose bid is accepted shall substitute any person as subcontractor in place of the subcontractor listed in the original bid, except with the consent of the awarding authority.

BID HOLDING TIME AND ACCEPTANCE

The undersigned agrees that this Base Bid may not be revoked or withdrawn after the time set for the opening of bids, but shall remain open for acceptance for a period of sixty (60) days following the bid date.

CERTIFICATION REGARDING DRUG-FREE WORKPLACE

The undersigned certifies that the contractor listed below will provide a "drug-free workplace" as that term is defined in Section 44-107-30 of the Code of Laws of South Carolina, 1976, as amended, by complying with the requirements set forth in Title 44, Chapter 107.

PROGRESS PAYMENTS

Contractor's Application for Payment shall be submitted to the Architect on AIA Document G702 and G703 -1983 Edition. The period covered by each application for Payment shall be not less than one calendar month. The Owner shall make progress payments to the Contractor on undisputed amounts certified by the Architect within twenty-one (21) days from receipt of the Application for Payment by the Owner in accordance with Title 29 Chapter 6 of the Code of Laws of South Carolina, 1976, as amended.

CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATIONS

_____

(Classification) (Subclassification) (Limitations)

_____

_____ _____

(SC Bidders License Number) (SC Contractor's License Number)

AUTHORIZATION

_____

(Type or Print Name of Contractor)

_____

(Type or Print Address)

_____

_____ _____

(Type or Print Phone Number) (Type or Print Fax Number)

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PART 1 - DOCUMENT 004513 - CONTRACTOR QUALIFICATIONS

1.1 PURPOSE, LAWS, AND REGULATIONS

A. The purpose of the request for contractor qualifications described in this Document is to provide Owner with a mechanism to evaluate and determine whether Bidders are qualified to participate in the construction of Project.

1. This project requires working in and adjacent to residential and commerical facility. Higher than normal levels of coordination and professionalism will be necessary to successfully complete this project, while minimizing disruption to nearby sites. The ability to perform under these conditions can best be demonstrated through previous experience. For this reason, selected construction team members will be required to have relevant successful experience on projects of similar scope. The construction team will be defined as the superintendent, project manager and foreman from the general contractor and MEP subcontractors. The construction team will be required to produce documented evidence that the members of their team possess such experience. Should the low bidder fail to comply, the next lowest bidder will be contacted.

B. Applicable provisions of Section 11-35-1810 of the South Carolina Consolidated Procurement Code and Regulations shall be observed in bidding, letting, and execution of the Work.

1.2 CONTRACTOR QUALIFICATION DOCUMENTS

A. Qualification Documents: Consist of this Contractor Qualifications document; "Contractor's Qualification Statement" and additional documents requested by Owner.

1.3 QUALIFICATION PROCEDURES

A. Form of Contractor Qualification Statement:

1. Submittals must be submitted on "Contractor's Qualification Statement," properly executed and with all items filled out in ink or typed, and all additional data, attachments, and forms provided. Qualification Statement or forms to show work in limited space, interior work and boardwalk construction. All signatures must be original.

B. Submission of Qualification Documents:

1. Submittal shall be delivered, along with Bid Form, to the location indicated in the Invitation to Bid on or before the day and hour set for receipt of Bids.
2. It is the sole responsibility of the Bidder to ensure that its submittal is received by the submittal date and time. No faxed or e-mail submittal or modification of a submittal will be considered. No submittal submitted after the time fixed for receiving submittals will be considered; late submittals will be returned to the Bidder unopened.
3. Owner reserves the right to waive any informality and to request additional information from Bidders, at Owner's discretion.

C. Status of Bidders:

1. Proprietors submitting bids shall indicate their status as proprietors.
2. Bidders submitting qualifications for partnerships shall indicate their status as partners and shall submit a certified copy of the power of attorney authorizing the executor of the submittal to bind the partnership.
3. Bidders submitting qualifications for corporations shall indicate their status as corporations and shall submit a certified copy of the board of directors' authorization for the Bidder to bind the corporation and shall affix the corporate seal on the submittal.
4. Bidders shall provide the following:

    a. Names and addresses of proprietors, of all members of a partnership, or of the corporation's officers.
    b. Name of jurisdiction where the partnership is registered or where the corporation is incorporated. Corporations must be licensed to do business in Project state at the time of executing the Contract.

1.4 QUALIFICATION CRITERIA

A. Bidders must demonstrate the following to the satisfaction of Owner:

1. Proper license under the laws and regulations governing their respective trade(s).
2. Capacity to provide Performance Bond, Labor and Material Payment Bond, and Insurance in a form acceptable to Owner in amounts adequate to bond the Work based on the scope indicated in the Invitation to Bid.
3. Applicable experience of firm as described in the Contractor's Qualification Statement, including the following:

    a. Experience of Firm: The firm in its current organization shall have successfully completed minimum of **3 (three)** projects of similar type, quality, and scope, each with a value in excess of $**200,000**, including a minimum of two within the last three years. The firm shall have a record of project completion, credit record, record of judgment claims, arbitration proceedings, and suits pending or outstanding acceptable to Owner.
    b. Experience of Firm Officers: The firm officers shall have personal record of project completion acceptable to Owner.
    c. Experience of Project and Field Management Staff to Be Committed by the Bidder to Carry Out the Work: The assigned project manager and field superintendent must have successfully completed minimum of three projects of similar type, quality, and scope.
    d. For purposes of this submittal, reference to "key individuals" as described in the Contractor's Qualification Statement shall be understood to mean the principal in charge, the project manager(s), and the project field superintendent(s) committed by the Bidder to carry out the Work of this Project. Bidder by submitting qualifications of key individuals agrees that Owner reserves the right to approve or reject subsequent reassignment of key individuals.

e. For purposes of this submittal, "successful completion" shall be understood to mean completion of project within project schedule and budget. Provide additional information indicating reasons why any referenced project did not meet project schedule or project budget.

4. Work-in-hand capacity, such that the Bidder demonstrates adequate work under contract to continue its business operations at least at their current level, at the same time indicating the capability to carry out Owner's proposed work.
5. Adequate organization to complete work of the scope anticipated, including firm management, project management, field superintendence, and field engineering and quality control.
6. Acceptable past performance as indicated by firm's references, including ability to meet contract time and to monitor, manage, and communicate interim scheduling requirements, to carry out required quality-control activities, to properly prepare interim and final payment requests, and to successfully complete project closeout requirements.
7. Acceptable documentation of firm's employee screening practices as indicating by affidavit describing background check procedures for firm's employees and requirements for same incorporated in firm's subcontracts.

B. Consideration of qualifications may be withheld if the Qualification Statement shows any unexplained erasures, omissions, alterations of form, additions not called for, added restrictions or qualifying conditions, or other irregularities of any kind.

C. Owner may make such investigations as it deems necessary to determine the ability of the Bidder to perform the Work, and the Bidder shall furnish to Owner all such information for this purpose as Owner may request. Owner reserves the right to withhold qualification if the evidence submitted by or investigation of such Bidder fails to satisfy Owner that such Bidder is properly qualified to carry out the obligations of the proposed Project. The determination of which bidders are prequalified is not protestable, except as allowed by law.

D. Qualification Submittal and data contained therein is considered privileged and confidential and will not be disclosed to any outside party except as required by law.

1.5 ACCEPTANCE OF QUALIFICATIONS

A. Evaluations will be confidential. Notifications will be publicly available information.

B. Owner may deny qualification if it finds one or more of the following:

1. The Bidder does not have sufficient financial capacity to perform the Work.
2. The Bidder does not have the appropriate experience to perform the Work, including, but not limited to, having met the experience criteria set forth herein.
3. The Bidder or any officer, director, or owner thereof has had judgments entered against him within the past five years for the breach of contracts for governmental or nongovernmental construction work including, but not limited to, design-build or construction management contracts.
4. The Bidder has been in substantial noncompliance with the terms and conditions of prior construction with Owner, or in documented substantial noncompliance with the terms and conditions of prior construction with another public body without good cause.

5. The Bidder or any officer, director, owner, or chief financial official thereof has been convicted within the past 10 years of a crime related to governmental or nongovernmental construction or contracting.
6. The Bidder provides false, nonresponsive, misleading, or incomplete information for items required herein.

1.6 CONTRACTOR QUALIFICATION CHECKLIST

A. In an effort to assist the Bidder in properly completing all documentation required, the following checklist is provided for the Bidder's convenience. The Bidder is solely responsible for verifying compliance with requirements.

☐ Prepared AIA Document "Contractor's Qualification Statement," as required by the document instructions, including all attachments and data required as part of the Qualification Statement, properly notarized.

☐ Attached: Copy of applicable Contractor's license(s).

☐ Attached: Resumes of key individuals.

END OF DOCUMENT 004513

SECTION 01 10 00 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Access to site.
4. Work restrictions.

1.3 PROJECT INFORMATION

A. Project Identification: Isle of Palms Front Beach Restroom & Boardwalk Renovation - 14101.

1. Project Location: 1118 Ocean Blvd, Isle of Palms, SC 29451.

B. Owner: The City of Isle of Palms.

1. Owner's Representative: Douglas Kerr.

C. Architect: Liollio Architecture - 843-762-2222, Seth Cantley, AIA, LEED AP.

D. Architect's Consultants: Architect has retained the following design professionals who have prepared designated portions of the Contract Documents:

1. Structural Engineers: ADC Engineering, INC.
2. MEP Engineers: Live Oak Consultants, LLC
3. Boardwalk Engineers: Jon Guerry Taylor & Associates, INC

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. This project is to Renovate the Front Beach Restrooms and Boardwalk. The Restroom is roughly 3000 square feet of new finishes and limited MEP. The project will also include a new Boardwalk that is designed to be wider and with a greater elevation. The Boardwalk will include a shower area and a privacy screen. and other Work indicated in the Contract Documents.
2. Bid Alternates:

a. Alt Deduct #1: Provide all work described in base bid, except to subtract all ceiling work and lighting in the entrance as outlined on the floor plan.

b. Alt Deduct # 2 BRIEF DESCRIPTION: Provide all work described in in Alternate #1, except to subtract all ceiling work and lighting in each restroom walkway as outlined on the floor plan.

c. Alt Deduct #3: Provide all work described in in Alternate #2, except to replace all IPE wood louvers with Western Red Cedar.

d. Alt Deduct #4: Provide all work described in in Alternate #3, except to subtract all work associated with wood louvers inside CMU walls, including selective CMU demolition.

e. Alt Deduct #5: subtract all work associated with the bathroom facility.

1.5 Type of Contract:

1. Project will be constructed under a single prime contract.

1.6 ACCESS TO SITE

A. General: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

1.7 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7 a.m. to 7 p.m., Monday through Friday, unless otherwise indicated.

1. Weekend Hours: Saturday Hours: 9a.m. - 6p.m. & Sunday hours: No work.
2. Hours for Concrete drilling, CUM cutting and pile driving: Between 9a.m. to 5p.m.weekday only.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Owner not less than two days in advance of proposed utility interruptions.
2. Obtain Owner's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Owner not less than two days in advance of proposed disruptive operations.
2. Obtain Owner's written permission before proceeding with disruptive operations.

E. Restricted Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 10 00

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SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.2 PROCEDURES

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1-5.

1. Base Bid: as indicated on Drawing and specification set.>
2. Alternates #1-#5: as indicated on Drawing A101 and as specified in Section 01 10 00."

END OF SECTION 01 23 00

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SECTION 01 25 00 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.2 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.3 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.4 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than [15] <Insert number> days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
b. Requested substitution will not adversely affect Contractor's construction schedule.
c. Requested substitution has received necessary approvals of authorities having jurisdiction.
d. Requested substitution is compatible with other portions of the Work.

B. Substitutions for Convenience: Not allowedunless submitted during the bidding process two weeks before bid opening.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00

SUBSTITUTION REQUEST FORM
(During the Bidding Phase)

Project: _____ Project Number: _____

From: _____ Date: _____

To: _____ Re: _____

Specification Title: _____ Description: _____

Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____

Manufacturer: _____ Address: _____ Phone #: _____

Trade Name: _____ Model #: _____

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 will not affect or delay progress schedule.*
- *Proposed substitution does 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: _____

Signed by: _____

Firm: _____

Address: _____

Telephone: _____

A / E REVIEW AND ACTION:

- ☐ Substitution approved and will be included in next addendum.
- ☐ Substitution rejected – use specified materials.
- ☐ Substitution request received too late – use specified materials.

Signed by: _____ Date: _____

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

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SECTION 01 26 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

A. Architect will issue through Owner's Representative supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710.

1.3 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Change Proposal Request, Owner's Representative will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1. Change order shall include cost of labor and material. Profit shall not exceed 15% total. This percentage can be divided between the sub and GC. Bond and Insurance can also be included.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 26 00

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SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.

1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
2. Submit the schedule of values to Owner at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Arrange schedule of values consistent with format of AIA Document G703.
2. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

    a. Differentiate between items stored on-site and items stored off-site.

3. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Owner and paid for by Owner.

B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.

C. Payment Application Times: Submit Application for Payment to Owner’s Representative by the 3 day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

1. Submit draft copy of Application for Payment seven days prior to due date for review by Owner.

D. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.

E. Transmittal: Submit digitally or three hard copies signed and notarized original copies of each Application for Payment to Owner by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.

F. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.

1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.

G. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

1. Evidence of completion of Project closeout requirements.
2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
3. AIA Document G706.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. RFIs.
4. Project meetings.

1.3 DEFINITIONS

A. BIM: Building Information Modeling.

B. RFI: Request for Information. Request from Owner, or Contractor seeking information required by or clarifications of the Contract Documents.

1.4 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.

1.5 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities[and scheduled activities of other contractors] to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Delivery and processing of submittals.
4. Progress meetings.
5. Preinstallation conferences.
6. Project closeout activities.

1.6 COORDINATION DRAWINGS

A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1. Content: Project-specific information, drawn accurately to a scale large enough to indicate and resolve conflicts. Do not base coordination drawings on standard printed data. Include the following information, as applicable:

   a. Indicate functional and spatial relationships of components of architectural, structural, civil, mechanical, and electrical systems.
   b. Indicate dimensions shown on Drawings. Specifically note dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternative sketches to Architect indicating proposed resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
   c. General Contractor will be held responsible for verifying all dimensions, openings, connections and elevations.

B. Coordination Drawing Organization: Organize coordination drawings as follows:

1. Floor Plans and Reflected Ceiling Plans: Show architectural and structural elements, and mechanical, plumbing, fire-protection, fire-alarm, and electrical Work. Show locations of visible ceiling-mounted devices relative to acoustical ceiling grid. Supplement plan drawings with section drawings where required to adequately represent the Work.
2. Structural Penetrations: Indicate penetrations and openings required for all disciplines.
3. Slab Edge and Embedded Items: Indicate slab edge locations and sizes and locations of embedded items for metal fabrications, sleeves, anchor bolts, bearing plates, angles, door floor closers, slab depressions for floor finishes, curbs and housekeeping pads, and similar items.

C. Coordination Digital Data Files: Prepare coordination digital data files according to the following requirements:

1. File Submittal Format: Submit or post coordination drawing files using PDF format.
2. Architect will furnish Contractor one BIM or CAD Drawing for use in preparing coordination digital data files at the cost of $35 per file.

a. Architect makes no representations as to the accuracy or completeness of digital data files as they relate to Drawings.
b. Digital Data Software Program: Drawings are available in BIM & CAD format..
c. Contractor shall execute a data licensing agreement in the form of Agreement form acceptable to Owner and Architect, and supplied by the Architect.

1.7 REQUEST FOR INFORMATION (RFI)

A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Owner's Representative will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. RFI number, numbered sequentially.
6. RFI subject.
7. Specification Section number and title and related paragraphs, as appropriate.
8. Drawing number and detail references, as appropriate.
9. Field dimensions and conditions, as appropriate.
10. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
11. Contractor's signature.
12. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

C. RFI Forms: AIA Document G716.

D. Owner's Representive will review each RFI, determine action required, and respond. Allow [seven] <Insert number> working days for Architect's response for each RFI. RFIs received by Architect[or Construction Manager] after 1:00 p.m. will be considered as received the following working day.

1. The following Contractor-generated RFIs will be returned without action:

a. Requests for approval of submittals.
b. Requests for approval of Contractor's means and methods.
c. Requests for coordination information already indicated in the Contract Documents.
d. Incomplete RFIs or inaccurately prepared RFIs.

2. Owner's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Owner of additional information.

3. Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log every other week. Include the following:

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect[and Construction Manager].
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Owner's response was received.

F. On receipt of Owner's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Owner within seven days if Contractor disagrees with response.

1.8 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.

B. Preconstruction Conference: Owner will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.

1. Attendees: Authorized representatives of Owner, Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:

a. Responsibilities and personnel assignments.
b. Tentative construction schedule.
c. Critical work sequencing and long lead items.
d. Designation of key personnel and their duties.
e. Lines of communications.
f. Procedures for processing field decisions and Change Orders.
g. Procedures for RFIs.
h. Procedures for processing Applications for Payment.
i. Distribution of the Contract Documents.
j. Submittal procedures.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other sections and when required for coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect[, Construction Manager] [, and Owner's Commissioning Authority] of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

    a. Contract Documents.
    b. Options.
    c. Related RFIs.
    d. Purchases.
    e. Deliveries.
    f. Submittals.

D. Progress Meetings: Conduct progress meetings at biweekly intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner , each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

    a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

        1) Review schedule for next period.

    b. Review present and future needs of each entity present, including the following:

        1) Interface requirements.
        2) Sequence of operations.
        3) Status of submittals.

4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

    a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

REQUEST FOR INTERPRETATION FORM

Project: _____ RFI Number: _____

Project Number: _____ Date: _____

From: _____ To: _____

Specification Section: _____ Paragraph: _____

Drawing Reference: _____ Detail: _____

REQUEST:

SIGNED BY: _____ DATE: _____

RESPONSE:

RESPONSE FROM: _____ TO: _____

DATE: _____ FAXED: _____ EMAILED: _____ ON SITE: _____

Cc:

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

BLANK PAGE

DATE:

TO: Liollio Architecture

FROM:

RE:

(Insert your name here) does hereby release and hold harmless Liollio Architecture from any and all claims asserted against **(Insert your name here),** arising from any use made from electronic documents as provided by Liollio Architecture.

It is our understanding that **(Insert your name here)** wishes to make use of Liollio's drawings and files in electronic media format (EMF) to assist in the preparation of certain shop drawings and submittals. In making use of said drawings, **(Insert your name here)** acknowledges that the ownership and all corresponding rights to the EMF remain with Liollio. All files contained in the EMF are considered Liollio's Instruments of Service as defined in the contract between Liollio and the Owner for this project. Furthermore, Liollio prohibits **(Insert your name here),** or any of its agents, from making any unauthorized use, modification, or alteration of these documents.

The EMF is being furnished only for convenience of **(Insert your name here),** and any conclusion or information obtained or derived from the EMF is derived at **(Insert your name here)**'s sole risk. The printed/hard sealed copies of the construction drawings are the only documents that may be relied upon, and the documents contained in the EMF are not to be construed as contract documents.

Because data in EMF can deteriorate, or be modified inadvertently or otherwise without authorization, **(Insert your name here)** agrees to perform acceptance tests within 60 days after receiving the EMF data from Liollio. **(Insert your name here)** further agrees to notify Liollio of any errors detected by those tests within 10 days; Liollio is not responsible for maintaining any of the EMF data after acceptance by **(Insert your name here).**

Liollio further makes no representations with regard to the long-term compatibility, usability, or readability resulting from the use of software, hardware, or operating systems of **(Insert your name here)** or other design entries. In the event there is ever a discrepancy between the electronic files and the hard copies, the hard copies of these drawings will control.

_____ _____

Authorized Signature Date

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SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.

E. Float: The measure of leeway in starting and completing an activity.

1. Float time belongs to Owner.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

1.2 COORDINATION

A. Coordinate Contractor's Construction Schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.
2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 32 00

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Owner's Representative responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Owner's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.2 SUBMITTAL SCHEDULE

A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect[and Construction Manager] and additional time for handling and reviewing submittals required by those corrections.

1.3 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Contractor.
4. Name of firm or entity that prepared submittal.
5. Names of subcontractor, manufacturer, and supplier.
6. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
7. Drawing number and detail references, as appropriate.
8. Indication of full or partial submittal.
9. Location(s) where product is to be installed, as appropriate.
10. Signature of transmitter.

B. Options: Identify options requiring selection by Architect.

C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect[and Construction Manager] on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

D. PDF Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.4 SUBMITTAL PROCEDURES

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Email: Prepare submittals as PDF package, and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Owner.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Owner receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Owner will advise Contractor when a submittal being processed must be delayed for coordination.

D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. If second submittal requires additional submittal due to missing information noted in original submittal, owner can change GC for additional time of reviewer.

E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's[and Construction Manager's] action stamp.

1.5 DELEGATED-DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

1.6 CONTRACTOR'S REVIEW

A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Owner.

B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

1. Owner will not review submittals received from Contractor that do not have Contractor's review and approval.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 33 00

SECTION 01 42 00 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms including "shown," "noted," "scheduled," and "specified" have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.abma.com.
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; http://www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.
36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.

44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CEA - Canadian Electricity Association; www.electricity.ca.
51. CEA - Consumer Electronics Association; www.ce.org.
52. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
53. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
54. CGA - Compressed Gas Association; www.cganet.com.
55. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
56. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
57. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
58. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
59. CPA - Composite Panel Association; www.pbmdf.com.
60. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
61. CRRC - Cool Roof Rating Council; www.coolroofs.org.
62. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
63. CSA - Canadian Standards Association; www.csa.ca.
64. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
65. CSI - Construction Specifications Institute (The); www.csinet.org.
66. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
67. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
68. CWC - Composite Wood Council; (See CPA).
69. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
70. DHI - Door and Hardware Institute; www.dhi.org.
71. ECA - Electronic Components Association; (See ECIA).
72. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
73. ECIA - Electronic Components Industry Association; www.eciaonline.org.
74. EIA - Electronic Industries Alliance; (See TIA).
75. EIMA - EIFS Industry Members Association; www.eima.com.
76. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
77. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
78. ESTA - Entertainment Services and Technology Association; (See PLASA).
79. EVO - Efficiency Valuation Organization; www.evo-world.org.
80. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
81. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
82. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
83. FM Approvals - FM Approvals LLC; www.fmglobal.com.
84. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
85. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridaroof.com.
86. FSA - Fluid Sealing Association; www.fluidsealing.com.
87. FSC - Forest Stewardship Council U.S.; www.fscus.org.
88. GA - Gypsum Association; www.gypsum.org.
89. GANA - Glass Association of North America; www.glasswebsite.com.
90. GS - Green Seal; www.greenseal.org.
91. HI - Hydraulic Institute; www.pumps.org.
92. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
93. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).

94. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
95. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
96. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
97. IAS - International Accreditation Service; www.iasonline.org.
98. IAS - International Approval Services; (See CSA).
99. ICBO - International Conference of Building Officials; (See ICC).
100. ICC - International Code Council; www.iccsafe.org.
101. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
102. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
103. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
104. IEC - International Electrotechnical Commission; www.iec.ch.
105. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
106. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
107. IESNA - Illuminating Engineering Society of North America; (See IES).
108. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
109. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
110. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
111. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
112. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
113. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
114. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
115. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
116. ISO - International Organization for Standardization; www.iso.org.
117. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
118. ITU - International Telecommunication Union; www.itu.int/home.
119. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
120. LMA - Laminating Materials Association; (See CPA).
121. LPI - Lightning Protection Institute; www.lightning.org.
122. MBMA - Metal Building Manufacturers Association; www.mbma.com.
123. MCA - Metal Construction Association; www.metalconstruction.org.
124. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
125. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
126. MHIA - Material Handling Industry of America; www.mhia.org.
127. MIA - Marble Institute of America; www.mhia.org.
128. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
129. MPI - Master Painters Institute; www.paintinfo.com.
130. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
131. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
132. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
133. NADCA - National Air Duct Cleaners Association; www.nadca.com.
134. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
135. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
136. NBI - New Buildings Institute; www.newbuildings.org.
137. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
138. NCMA - National Concrete Masonry Association; www.ncma.org.
139. NEBB - National Environmental Balancing Bureau; www.nebb.org.
140. NECA - National Electrical Contractors Association; www.necanet.org.
141. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
142. NEMA - National Electrical Manufacturers Association; www.nema.org.
143. NETA - InterNational Electrical Testing Association; www.netaworld.org.

144. NFHS - National Federation of State High School Associations; www.nfhs.org.
145. NFPA - National Fire Protection Association; www.nfpa.org.
146. NFPA - NFPA International; (See NFPA).
147. NFRC - National Fenestration Rating Council; www.nfrc.org.
148. NHLA - National Hardwood Lumber Association; www.nhla.com.
149. NLGA - National Lumber Grades Authority; www.nlga.org.
150. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
151. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
152. NRCA - National Roofing Contractors Association; www.nrca.net.
153. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
154. NSF - NSF International; www.nsf.org.
155. NSPE - National Society of Professional Engineers; www.nspe.org.
156. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
157. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
158. NWFA - National Wood Flooring Association; www.nwfa.org.
159. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
160. PDI - Plumbing & Drainage Institute; www.pdionline.org.
161. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); www.plasa.org.
162. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
163. RFCI - Resilient Floor Covering Institute; www.rfci.com.
164. RIS - Redwood Inspection Service; www.redwoodinspection.com.
165. SAE - SAE International; www.sae.org.
166. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
167. SDI - Steel Deck Institute; www.sdi.org.
168. SDI - Steel Door Institute; www.steeldoor.org.
169. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
170. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
171. SIA - Security Industry Association; www.siaonline.org.
172. SJI - Steel Joist Institute; www.steeljoist.org.
173. SMA - Screen Manufacturers Association; www.smainfo.org.
174. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
175. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
176. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
177. SPIB - Southern Pine Inspection Bureau; www.spib.org.
178. SPRI - Single Ply Roofing Industry; www.spri.org.
179. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
180. SSINA - Specialty Steel Industry of North America; www.ssina.com.
181. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
182. STI - Steel Tank Institute; www.steeltank.com.
183. SWI - Steel Window Institute; www.steelwindows.com.
184. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
185. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
186. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
187. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
188. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
189. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
190. TMS - The Masonry Society; www.masonrysociety.org.
191. TPI - Truss Plate Institute; www.tpinst.org.
192. TPI - Turfgrass Producers International; www.turfgrasssod.org.
193. TRI - Tile Roofing Institute; www.tileroofing.org.
194. UL - Underwriters Laboratories Inc.; www.ul.com.
195. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
196. USAV - USA Volleyball; www.usavolleyball.org.

197. USGBC - U.S. Green Building Council; www.usgbc.org.
198. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
199. WASTEC - Waste Equipment Technology Association; www.wastec.org.
200. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
201. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
202. WDMA - Window & Door Manufacturers Association; www.wdma.com.
203. WI - Woodwork Institute; www.wicnet.org.
204. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
205. WWPA - Western Wood Products Association; www.wwpa.org.

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

1. DIN - Deutsches Institut fur Normung e.V.; www.din.de.
2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
3. ICC - International Code Council; www.iccsafe.org.
4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

1. COE - Army Corps of Engineers; www.usace.army.mil.
2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
4. DOD - Department of Defense; www.quicksearch.dla.mil.
5. DOE - Department of Energy; www.energy.gov.
6. EPA - Environmental Protection Agency; www.epa.gov.
7. FAA - Federal Aviation Administration; www.faa.gov.
8. FG - Federal Government Publications; www.gpo.gov/fdsys.
9. GSA - General Services Administration; www.gsa.gov.
10. HUD - Department of Housing and Urban Development; www.hud.gov.
11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeial Convention; www.usp.org.
19. USPS - United States Postal Service; www.usps.com.

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).

5. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.

    a. Available from Defense Standardization Program; www.dsp.dla.mil.
    b. Available from General Services Administration; www.gsa.gov.
    c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org/ccb.

6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearhfti.ca.gov.
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
3. CDHS; California Department of Health Services; (See CDPH).
4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; www.txforestservice.tamu.edu.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 42 00

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SECTION 01 73 00 - EXECUTION

PART 1 - GENERAL

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services; and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to **Owner** that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Owner's Representative promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
6. Notify Owner's Representative when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Owner.

3.4 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.

D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

3.5 INSTALLATION

A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and make horizontal work level.
2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Where possible, select tools or equipment that minimize production of excessive noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

J. Remove and replace damaged, defective, or non-conforming Work.

3.6 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

    a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.7 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.8 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.

C. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 01 73 00

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SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final completion procedures.
3. Warranties.
4. Final cleaning.
5. Repair of the Work.

B. Related Requirements:

1. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of cleaning agent.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at final completion.

1.3 CLOSEOUT SUBMITTALS

A. Certificate of Insurance: For continuing coverage.

1.4 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of [10] <Insert number> days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including project record documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.

3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Owner. Label with manufacturer's name and model number.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Complete startup and testing of systems and equipment.
4. Perform preventive maintenance on equipment used prior to Substantial Completion.
5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training.
6. Advise Owner of changeover in utility services.
7. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
8. Complete final cleaning requirements.
9. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

1.5 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:

1. Submit a final Application for Payment according to Section 012900 "Payment Procedures."
2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Architect[and Construction Manager] will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1.6 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, of exterior work to interior.
2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
3. Submit list of incomplete items in the following format:

a. PDF electronic file. Owner will return annotated file.

1.7 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

1. Submit on digital media acceptable to Owner.

D. Warranties in Paper Form:

1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
b. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
c. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
d. Sweep concrete floors broom clean all spaces.
e. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
f. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
g. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency.
h. Leave Project clean and ready for occupancy.

3.2 REPAIR OF THE WORK

A. Complete repair and restoration operations, before requesting inspection for determination of Substantial Completion.

B. Repair, or remove and replace, defective construction. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment. Where damaged or worn items cannot be repaired or restored, provide replacements. Remove and replace operating components that cannot be repaired. Restore damaged construction and permanent facilities used during construction to specified condition.

END OF SECTION 01 77 00

SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for project record documents, including the following:

1. Record Drawings.

B. Related Requirements:

1.2 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set(s) of marked-up record prints.

2.

1.3 MAINTENANCE OF RECORD DOCUMENTS

A. Maintenance of Record Documents: Store record documents in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Owner's reference during normal working hours. During site visits, if Record Drawings are not updated, this can be reason for withholding a percentage of GC's overhead in the next Pay Application.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 01 78 39

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SECTION 02 41 19 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.

B. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.2 FIELD CONDITIONS

A. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

B. Storage or sale of removed items or materials on-site is not permitted.

C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1. Maintain fire-protection facilities in service during selective demolition operations.

1.3 Building to have select demolition will be vacated and their use discontinued before start of the Work.

A. Buildings immediately adjacent to demolition area will be occupied. Conduct building demolition so operations of occupied buildings will not be disrupted.

1. Provide not less than 72 hours' notice of activities that will affect operations of adjacent occupied buildings.
2. Maintain access to existing walkways, exits, and other facilities used by occupants of adjacent buildings.
3. Contractor to work with both adjacent property owner to gain access of small portion of neighboring area to perform work. Owner of adjacent property has the right to stop work if General Contractor impacts the property beyond the agreed work.

    a. Do not close or obstruct walkways, exits, or other facilities used by occupants of adjacent buildings without written permission from authorities having jurisdiction.

4. Owner assumes no responsibility for sections of structure to be demolished.

1.4 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 PEFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs

3.2 |UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

1. Comply with requirements for existing services/systems interruptions specified in Section 01 10 00 "Summary."

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Owner will arrange to shut off indicated services/systems when requested by Contractor.
2. Arrange to shut off indicated utilities with utility companies.
3. Disconnect, demolish, and remove fire-suppression systems, plumbing, and HVAC systems, equipment, and components indicated to be removed.

3.3 PREPARATION

A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

3.4 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
5. Dispose of demolished items and materials promptly.

3.5 PROTECTION

A. Existing Facilities: Protect adjacent walkways, building entries, and other building facilities during demolition operations. Maintain exits from existing buildings.

B. Existing Utilities: Maintain utility services to remain and protect from damage during demolition operations. Do not interrupt existing utilities serving adjacent occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction.

C. Temporary Protection: Erect temporary protection, such as walks, fences, railings, and covered passageways, where required by authorities having jurisdiction and as indicated.

1. Protect adjacent buildings and facilities from damage due to demolition activities.
2. Protect existing site improvements, appurtenances, and landscaping to remain.
3. Erect a plainly visible fence around drip line of individual trees or around perimeter drip line of groups of trees to remain.
4. Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
5. Provide protection to ensure safe passage of people around building demolition area and to and from occupied portions of adjacent buildings and structures.
6. Protect walls, windows, roofs, and other adjacent exterior construction that are to remain and that are exposed to building demolition operations.

D. Remove temporary barriers and protections where hazards no longer exist. Where open excavations or other hazardous conditions remain, leave temporary barriers and protections in place.

E. Repair walkways, boardwalks and handrails on adjacent properties as they are impacted by the changes in the new boardwalk.

3.6 DEMOLITION

A. Site Access and Temporary Controls: Conduct building demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations.

B. Explosives: Use of explosives is not permitted.

C. Proceed with demolition of structural framing members systematically, from higher to lower level. Complete building demolition operations above each floor or tier before disturbing supporting members on the next lower level.
?. Remove debris from elevated portions of the building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Except for items or materials indicated to be[recycled,] reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site[and legally dispose of them in an EPA-approved landfill].

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

D. Recycle: Transport any metals and plastic to local recycling location.

3.8 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 02 41 19

SECTION 061100 – STRUCTURAL WOOD FRAMING

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. Framing with dimension lumber.

1.3 DEFINITIONS

A. Exposed Framing: Framing not concealed by other construction.

B. Dimension Lumber:

1. Beams: Lumber of 2 inches nominal or greater but less than 5 inches in least dimension.
2. Columns: Lumber of 2 inches nominal or greater but less than 7 inches in least dimension.

C. Lumber grading agencies, and the abbreviations used to reference them, include the following:

1. WCLIB: West Coast Lumber Inspection Buerau
2. WWPA.: Western Wood Products Association
3. NLGA: National Lumber Grades Authority.

1.4 SUBMITTALS

A. Product Data

1. Dimensional Lumber

a. For each size and grade. Indicate species and grade.

2. Wood Screws
3. Lag Bolts
4. Bolts

1.5 DELIVERY, STORAGE, AND HANDLING

A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry lumber.
4. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 DIMENSION LUMBER FRAMING

A. Base Bid for All Framing: Iron Woods Ipe, Tabebuia spp. Lapacho Group species by Timber Holdings USA LLC, Tel 888-932-9663, www.ironwoods.com
1. Moisture Content: Air Dried, moisture content of 18 to 25 percent, all dimensions when net thickness is over 1 inch; otherwise, moisture content to be approximately 12 percent for use on exterior projects.
2. Surface: S4S (surfaced four sides)
3. Lumber shall be supplied over specified length for final fit in the field.
4. Dimensional Tolerance: Plus or minus 0.125 inch in width and 0.0625 in thickness, measured at 25 percent moisture content.
5. End Coating: Supply lumber with ends sealed with Anchorseal, Paraffin "Or Equal" wax end sealer. Lumber shall be resealed after cutting to reduce end splits.
6. Grade Option/Requirements: Premium Select Grade (First 4 Faces 4 Edges) Inspected and Hand Selected for Serviceable appearance on 4 faces and 4 edges (reversible).

B. Bid Alternate for all Framing: Western Red Cedar Grade: select structural.

2.3 FASTENERS

A. General: Provide fasteners of size and type indicated. All fasteners shall be Type 304 stainless steel.

2.4 METAL FRAMING ANCHORS

A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product.

B. Stainless-Steel Sheet: ASTM A 666, Type 316.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit.

B. Set all members with crown up.

C. All plies of multi-ply members shall be glued together with adhesive. Unless indicated otherwise each ply shall be fastened to the previous ply with (2)-rows of 16D “sinker” nails at 9” O.C.

D. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

E. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

F. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.

G. Do not splice structural members between supports unless otherwise indicated.

H. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.

I. All blocking to be installed between framing members shall be cut to fit snug and in direct contact with surrounding framing members.

J. Sort and select lumber so that natural characteristics will not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

K. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.

L. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

M. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.

1. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

3.2 FASTENERS

A. Lag screws: Shall be installed as follows:

1. A predrilled clearance hole with diameter equal to 100% of the lag screw shank diameter shall be drilled to a depth equal to the unthreaded portion of the shank.

2. A predrilled lead hole with diameter equal to 75% of the lag screw shank diameter shall be drilled to a depth of the lag screw embedment.
3. The lag screw shall be inserted into the hole with a turning action and not a driving action.
4. Where not specifically indicated otherwise the minimum embedment into the main member shall be four times the lag screw shank diameter.

B. Wood screws: Shall be installed as follows:

1. A predrilled lead hole with diameter equal to 70% of the screw root diameter shall be drilled to a depth of the wood screw embedment.
2. The wood screw shall be inserted into the hole with a turning action and not a driving action.
3. Where not specifically indicated otherwise the minimum embedment into the main member shall be six times the wood screw diameter.
4. Holes in steel elements of the connection shall have a hole diameter of 1/32” diameter greater than the fastener diameter.

C. Bolts: Shall be installed as follows:

1. Holes in wood members shall be drilled with a diameter to match the bolt diameter.
2. Holes in steel elements of the connection shall have a hole diameter of 1/16” diameter greater than the fastener diameter for fasteners 3/8” or greater in diameter, and 1/32” diameter greater than the fastener diameter for fasteners less than 3/8” in diameter.
3. A flat washer shall be provided under the head or the nut where the head or nut is bearing on the wood surface.
4. A flat washer shall be provided under the head or the nut when the head or the nut bears on a steel element and will be the turned element when tightening.

3.3 METAL FRAMING ANCHORS

A. Install metal framing anchors to comply with manufacturer's written instructions.

B. Install fasteners through each anchor hole unless noted otherwise.

C. Install fasteners of max number and size indicated in manufacturer’s data unless noted otherwise.

3.4 FIELD QUALITY CONTROL

A. Testing and Inspection: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports in accordance with the schedule of special inspections.

B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.5 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes sufficiently wet that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06 11 00

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SECTION 06 10 53 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood blocking and nailers.
2. Wood sleepers.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.

B. Application: Treat all miscellaneous carpentry unless otherwise indicated.

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, [furring,] [stripping,] and similar concealed members in contact with masonry or concrete.

2.3 FIRE-RETARDANT-TREATED MATERIALS

A. Application: Treat all miscellaneous carpentry unless otherwise indicated.

1. Concealed blocking.
2. Roof framing and blocking.
3. Wood cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing.
4. Plywood backing panels.

2.4 DIMENSION LUMBER FRAMING

A. Non-Load-Bearing Interior Partitions: Construction or No. 2 grade of any species.

B. Other Framing: Construction or No. 2 grade of species:

1. Hem-fir (north); NLGA.
2. Southern pine; SPIB.
3. Douglas fir-larch; WCLIB or WWPA.

2.5 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Cants.
4. Furring.
5. Utility shelving.

B. Concealed Boards: 15percent maximum moisture content of any of the following species and grades:

1. Mixed southern pine or southern pine, No. 2 grade; SPIB.

2.6 PLYWOOD BACKING PANELS

A. Equipment Backing Panels: Plywood, DOC PS1, Exterior, A-C, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

2.7 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM AASTM A 153/A 153M.

B. Screws for Fastening to Metal Framing: ASTM C1002, length as recommended by screw manufacturer for material being fastened.

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

2.8 MISCELLANEOUS MATERIALS

A. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D3498 that is approved for use indicated by adhesive manufacturer.

1. Adhesives shall have a VOC content of 70 g/L or less.

B. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch .

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate **furring,** nailers, blocking and similar supports to comply with requirements for attaching other construction.

C. Install plywood backing panels by fastening to CMU; coordinate locations with utilities requiring backing panels.

D. Do not splice structural members between supports unless otherwise indicated.

E. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

3.2 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06 10 53

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SECTION 06 40 13 - EXTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Shop finishing of exterior architectural woodwork.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at **Project site**.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Wood-Preservative Treatment: Include data and warranty information from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Shop Drawings: For exterior architectural woodwork.

1. Include plans, elevations, sections, and attachment details.

C. Samples: For each exposed product and for each color and finish specified.

1.4 INFORMATIONAL SUBMITTALS

A. Quality Standard Compliance Certificates: AWI Quality Certification Program.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

1. Shop Certification: AWI's Quality Certification Program accredited participant.

B. Installer Qualifications: AWI's Quality Certification Program accredited participant.

1.6 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation of exterior architectural woodwork only when existing and forecasted weather conditions permit work to be performed and at least one coat of specified finish to be applied without exposure to rain, snow, or dampness.

PART 2 - PRODUCTS

2.1 EXTERIOR ARCHITECTURAL WOODWORK, GENERAL

A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of exterior architectural woodwork indicated for construction, finishes, installation, and other requirements.

1. Provide inspections of fabrication and installation together with labels and certificates from AWI certification program indicating that woodwork complies with requirements of grades specified.

B. Certified Wood: Wood products shall be certified as "FSC Pure" according to FSC STD-01-001 and FSC STD-40-004.

2.2 WOOD MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of exterior architectural woodwork and quality grade specified unless otherwise indicated.

1. Do not use plain-sawn softwood lumber with exposed, flat surfaces more than 3 inches wide.
2. Wood Moisture Content: 7 to 12 percent.

B. Hardboard: ANSI A135.4.

2.3 PRESERVATIVE-TREATED-WOOD MATERIALS

A. Preservative-Treated-Wood Materials: Provide with water-repellent preservative treatment complying with AWPA N1 (dip, spray, flood, or vacuum-pressure treatment).

1. Use chemical formulations that do not bleed through or otherwise adversely affect finishes. Do not use colorants in solution to distinguish treated material from untreated material.

B. Extent of Preservative-Treated Wood Materials: Treat wood materials unless otherwise indicated on Drawings.

2.4 MISCELLANEOUS MATERIALS

A. Blocking, Shims, and Nailers: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.

B. Nails: hot-dip galvanized on pressure treated lumber and stainless steel on ipe lumber.

C. Screws: hot-dip galvanized on pressure treated lumber and stainless steel on ipe lumber.

2.5 FABRICATION

A. Complete fabrication, including assembly, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.

2.6 SHOP PRIMING

A. Exterior Architectural Woodwork for Opaque Finish: Shop prime with one coat of wood primer for ceiling at bathrooms

B. Preparations for Finishing: Comply with referenced quality standard for sanding, filling countersunk fasteners, sealing concealed surfaces, and similar preparations for finishing exterior architectural woodwork, as applicable to each unit of work.

2.7 SHOP FINISHING & SITE TOUCHUP

A. Apply two coats of wax emulsion sealer onto IPE and Pine lumber.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Before installation, condition exterior architectural woodwork to average prevailing humidity conditions at Project site.

B. Install exterior architectural woodwork level, plumb, true in line, and without distortion. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.

C. Scribe and cut exterior architectural woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

D. Preservative-Treated Wood Materials: Where field cut or drilled, treat cut ends and drilled holes according to AWPA M4.

E. Anchor exterior architectural woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with exterior architectural woodwork.

1. For shop-finished items, use filler matching finish of items being installed.

F. Touch up finishing work specified in this Section after installation of exterior architectural woodwork. Fill nail holes with matching filler where exposed.

1. Apply specified finish coats, including stains and paste fillers if any, to exposed surfaces where only sealer/prime coats are shop applied.

G. Field Finishing: See Paint Specification for final finishing of installed exterior architectural woodwork.

END OF SECTION 06 40 13

SECTION 07 71 00 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof-edge drainage systems.
2. Reglets and counterflashings.

B. Preinstallation Conference: Conduct conference at Project site

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For roof specialties.

1. Include plans, elevations, expansion-joint locations, keyed details, and attachments to other work. Distinguish between plant- and field-assembled work.

C. Samples: For each type of roof specialty and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For tests performed by a qualified testing agency.

B. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing specialties to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer offering products meeting requirements that are FM Approvals listed for specified class.

1.6 WARRANTY

A. Roofing-System Warranty: Roof specialties are included in warranty provisionsSpecial Warranty on Painted Finishes: Manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.

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

a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
b. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. FM Approvals' Listing: Manufacture and install roof-edge specialties that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-120. Identify materials with FM Approvals' markings.

B. SPRI Wind Design Standard: Manufacture and install roof-edge specialties tested according to SPRI ES-1 and capable of resisting the following design pressures:

1. Design Pressure: Max sustained winds of 140 MPH.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. 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, ambient; 180 deg F, material surfaces.

2.2 COPINGS

A. Metal Copings: Manufactured coping system consisting of metal coping cap in section lengths not exceeding [12 feet] <Insert dimension>, concealed anchorage; with corner units, end cap units, and concealed splice plates with finish matching coping caps.

1. Metallic-Coated Steel Sheet Coping Caps: Zinc-coated (galvanized) steel, nominal 0.034-inch thickness.

a. Surface: Smooth, flat finish.
b. Finish: Three-coat fluoropolymer.
c. Color: Match silver existing

2. Corners: Factory mitered and continuously welded.
3. Coping-Cap Attachment Method: face leg hooked to continuous cleat with back leg fastener exposed, fabricated from coping-cap material.

2.3 ROOF-EDGE DRAINAGE SYSTEMS

A. Gutters: Manufactured in uniform section lengths not exceeding 16 feet, with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.

1. Aluminum Sheet: 0.063 inch thick.

2. Gutter Profile: Follow details on 3/A131according to SMACNA's "Architectural Sheet Metal Manual."
3. Corners: Factory mitered and continuously welded.
4. Gutter Supports: Gutter brackets Straps Manufacturer's standard supports as selected by Architect with finish matching the gutters.
5. Gutter Accessories: Continuous screened leaf guard with sheet metal frame .

B. Downspouts: Repair steel pipe connection complete with machine-crimped elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.

2.4 COUNTERFLASHINGS

A. Counterflashings: Manufactured units of heights to overlap top edges of base flashings by 4 inches and in lengths not exceeding 12 feet designed to snap into roofingand compress against base flashings with joints lapped, from the following exposed metal:

1. Formed Aluminum: 0.032 inch thick.

B. Accessories:

1. Flexible-Flashing Retainer: Provide resilient plastic or rubber accessory to secure flexible flashing in reglet where clearance does not permit use of standard metal counterflashing or where reglet is provided separate from metal counterflashing.
2. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing lower edge.

C. Aluminum Finish: Three-coat fluoropolymer.

1. Color: As indicated by manufacturer's designations and Match existing Silver.

2.5 MISCELLANEOUS MATERIALS

A. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:

1. Fasteners for Aluminum: Aluminum or Series 300 stainless steel.

B. Elastomeric Sealant: ASTM C920, elastomeric silicone polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.

1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
2. Provide uniform, neat seams with minimum exposure of solder and sealant.
3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
4. Torch cutting of roof specialties is not permitted.
5. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of all material against opposing materials roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.

C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.

1. Space movement joints at a maximum of 12 feet with no joints within 18 inches of corners or intersections unless otherwise indicated on Drawings.
2. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.

D. Fastener Sizes: Use fasteners of sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance per local code.

E. Seal concealed joints with butyl sealant as required by roofing-specialty manufacturer.

F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F.

G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches ; however, reduce pre-tinning where pre-tinned surface would show in completed Work. Tin edges of uncoated copper sheets using solder for copper. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

3.2 COPING INSTALLATION

A. Install cleats, anchor plates, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor copings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

1. Interlock face and back leg drip edges of snap-on coping cap into cleated anchor plates anchored to substrate at manufacturer's required spacing that meets performance requirements.
2. Interlock face-leg drip edge into continuous cleat anchored to substrate at manufacturer's required spacing that meets performance requirements. Anchor back leg of coping with screw fasteners and elastomeric washers at manufacturer's required spacing that meets performance requirements.

3.3 ROOF-EDGE SPECIALITIES INSTALLATION

A. Install cleats, cants, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor roof edgings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

3.4 ROOF-EDGE DRAINAGE-SYSTEM INSTALLATION

A. General: Install components to produce a complete roof-edge drainage system according to manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.

B. Gutters: Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to firmly anchored gutter supports spaced not more than 24 inches apart. Attach ends with rivets and solder to make watertight. Slope to downspouts.

1. Install gutter with expansion joints at locations indicated but not exceeding 50 feet apart. Install expansion-joint caps.
2. Install continuous leaf guards on gutters with noncorrosive fasteners, removablefor cleaning gutters.

Downspouts: Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and match existing.

1. Connect downspouts to in-wall drainage system on boardwalk side.
2. On back side of building, install downspouts along wall and curve out 6”-12” unit away from builing.

1.2 COUNTERFLASHING INSTALLATION

C. Surface-Mounted Reglets: Install reglets to receive flashings where flashing without embedded reglets is indicated on Drawings. Install at height so that inserted counterflashings overlap 4 inches over top edge of base flashings.

D. Counterflashings: Insert counterflashings into indicated receivers; ensure that counterflashings overlap 4 inches over top edge of base flashings. Lap counterflashing joints a minimum of 4 inches and bed with butyl sealant. Fit counterflashings tightly to base flashings.

1.3 CLEANING AND PROTECTION

E. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

F. Clean and neutralize flux materials. Clean off excess solder and sealants.

G. Remove temporary protective coverings and strippable films as roof specialties are installed.

END OF SECTION 07 71 00

SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Mildew-resistant joint sealants.

1.2 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

B. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.

1.3 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM CASTM C 1021 to conduct the testing indicated.

1.4 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

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

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

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

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. VOC Content of Interior Sealants: Sealants and sealant primers used inside the weatherproofing system shall comply with the following:

1. Architectural sealants shall have a VOC content of 250 g/L or less.

2. Sealants and sealant primers for nonporous substrates shall have a VOC content of 250 g/L or less.

B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

A. Silicone, S, NS, 100/50, NT: Single-component, nonsag, plus 100 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 100/50, Use NT.

2.3 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C 920, Type S, Grade NS, Class 25, Use NT.

2.4 JOINT-SEALANT BACKING

A. Cylindrical Sealant Backings: ASTM CASTM C 1330, Type C (closed-cell material with a surface skin), and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.5 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

1. Remove laitance and form-release agents from concrete.

2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF JOINT SEALANTS

A. General: Comply with ASTM C 1193 and joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

3.3 FIELD QUALITY CONTROL

A. Field-Adhesion Testing: Field test joint-sealant adhesion to joint substrates as follows:

1. Extent of Testing: Test completed and cured sealant joints as follows:

a. Perform 10 tests for the first 1000 feet of joint length for each kind of sealant and joint substrate.
b. Perform one test for each 1000 feet of joint length thereafter or one test per each floor per elevation.

2. Test Method: Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.

B. Evaluation of Field-Adhesion-Test Results: Sealants not evidencing adhesive failure from testing or noncompliance with other indicated requirements will be considered satisfactory. Remove sealants that fail to adhere to joint substrates during testing or to comply with other requirements. Retest failed applications until test results prove sealants comply with indicated requirements.

3.4 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces[<JS-#>].

1. Joint Locations:

?. Joints between different materials

END OF SECTION 07 92 00

SECTION 09 91 13 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on exterior substrates.

1. Concrete.
2. Concrete masonry units (CMUs).
3. Portland cement plaster (stucco).
4. Select area of wood fascias, soffit and trim

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

2. Product Data: For paints and coatings, indicating VOC content.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Insert manufacturer's name; product name or designation or comparable product by one of the following:

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Insert manufacturer's name; product name or designation or comparable product by one of the following:

1. Duron, Inc.
2. PPG Architectural Finishes, Inc.
3. Sherwin-Williams Company (The).

B. Products: Subject to compliance with requirements, provide one of the products listed in the Exterior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Colors: match existing paint.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

C. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

A. Concrete Substrates, Nontraffic Surfaces:

1. Latex System :

   a. Prime Coat: Latex, exterior, matching topcoat.
   b. Topcoat: Latex, exterior, low sheen (MPI Gloss Level 3-4)[, MPI #15].

2. Latex Aggregate System:

   a. Prime Coat: As recommended in writing by topcoat manufacturer.
   b. Topcoat: Textured coating, latex, nonflat.

B. CMU Substrates:

1. Latex System:

   a. Prime Coat: Block filler, latex, interior/exterior,MPI MPIMPI MPI #4.
   b. Topcoat: Latex, exterior, low sheen (MPI Gloss Level 3-4)[,MPI#15].

C. Steel and Iron Substrates:

1. Quick-Dry Enamel System[MPI EXT5.1A]:

   a. Prime Coat: Primer, alkyd, quick dry, for metal[,MPI#76].
   b. Topcoat: Alkyd, quick dry, semi-gloss (MPI Gloss Level 5)[,MPI MPI#81].

D. Galvanized-Metal Substrates:

1. Alkyd System[MPI EXT5.3B]:

   a. Prime Coat: Primer, galvanized, cementitious[,MPI#26].
   b. Topcoat: Alkyd, exterior, semi-gloss (MPI Gloss Level 5)[,MPI#94].

END OF SECTION 09 91 13

SECTION 09 91 23 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on interior substrates.

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.

D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. VOC Content: For field applications that are inside the weatherproofing system, paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:

1. Nonflat Paints and Coatings: 50 g/L.

D. Colors: Match Existing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Masonry (Clay and CMUs): 12 percent.
2. Wood: 15 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 INTERIOR PAINTING SCHEDULE

A. Concrete Substrates, Nontraffic Surfaces:

1. Latex System [MPI INT3.1A] [MPI INT3.1E]:

a. Prime Coat: Latex, interior, matching topcoat.
b. Topcoat: Latex, interior (MPI Gloss Level 3)[,MPI#52].

B. CMU Substrates:

1. Latex System [MPI INT4.2A]:

a. Topcoat: Latex, interior (MPI Gloss Level 3)[,MPI#52].

C. Wood Substrates: Architectural woodwork.

1. Latex over Latex Primer System [MPI INT6.3T]:

a. Prime Coat: Primer, latex, for interior wood[,MPI#39].
b. Topcoat: Latex, interior (MPI Gloss Level 2)[,MPI#44].

D. Insulation-Covering Substrates: Including new pipes in public spaces

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SECTION 09 93 00 - STAINING AND TRANSPARENT FINISHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and application of wood stains and transparent finishes on the following substrates:

1. Exterior Substrates:

a. Exposed framing and louvers.

2. Interior Substrates:

a. Exposed framing.

3. Interior Finishes:

a. Exposed wood ceiling.
1) Painting Subcontractor to submit 12”x6” sample (4 units of 2”x2” attached) of the 2x2 whitewash ceiling. Finish using a single coat of prime, wiping and sealing with a clear coat. See Interior Paint specification for type of opaque finish.

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.

B. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.

C. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.

D. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.

E. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

B. Sustainable Design Submittals:

1. Product Data: For paints and coatings, indicating VOC content.

C. Samples: For each type of finish system and in each color and gloss of finish required.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:

2.2 MATERIALS, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products List."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

C. VOC Content: For field applications[that are inside the weatherproofing system], paints and coatings shall comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:

1. Clear Wood Finishes, Lacquers: 275 g/L.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Exterior Wood Substrates: 15 percent, when measured with an electronic moisture meter.

C. Maximum Moisture Content of Interior Wood Substrates: **13** percent, when measured with an electronic moisture meter.

D. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

E. Proceed with finish application only after unsatisfactory conditions have been corrected.

1. Beginning finish application constitutes Contractor's acceptance of substrates and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and finishing.

1. After completing finishing operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Clean and prepare surfaces to be finished according to manufacturer's written instructions for each substrate condition and as specified.

1. Remove dust, dirt, oil, and grease by washing with a detergent solution; rinse thoroughly with clean water and allow to dry. Remove grade stamps and pencil marks by sanding lightly. Remove loose wood fibers by brushing.
2. Remove mildew by scrubbing with a commercial wash formulated for mildew removal and as recommended by stain manufacturer.

3.3 APPLICATION

A. Apply finishes according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

B. Apply finishes to produce surface films without cloudiness, holidays, lap marks, brush marks, runs, ropiness, or other surface imperfections.

3.4 CLEANING AND PROTECTION

A. Protect work of other trades against damage from finish application. Correct damage by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced finished wood surfaces.

3.5 EXTERIOR WOOD-FINISH-SYSTEM SCHEDULE

A. Wood Substrates: Glued-laminated construction.

1. Clear, Two-Component Polyurethane Varnish System[MPI EXT6.1H]:

a. Prime Coat: Varnish, aliphatic polyurethane, two component, matching topcoat.
b. Topcoat: Varnish, aliphatic polyurethane, two component (MPI Gloss Level 4 or 5).

B. Wood Substrates: Exposed framing.

1. Clear, Two-Component Polyurethane Varnish System[MPI EXT6.2Q]:

a. Prime Coat: Varnish, aliphatic polyurethane, two component, matching topcoat.

b. Intermediate Coat: Varnish, aliphatic polyurethane, two component, matching topcoat.
c. Topcoat: Varnish, aliphatic polyurethane, two component (MPI Gloss Level 3 or 4).

C. Wood Substrates: Wood trim architectural woodwork .

1. Clear, Two-Component Polyurethane Varnish System[MPI EXT 6.3G]:

a. Prime Coat: Varnish, aliphatic polyurethane, two component, matching topcoat.
b. Topcoat: Varnish, aliphatic polyurethane, two component (MPI Gloss Level 3 or 4).

D. Wood Substrates: Traffic surfaces including lumber decking.

1. For IPE Wood Preservative System:

a. Preservative Coat: Preservative, for exterior wood.
b. Top coat: Stain, for exterior wood decks.

END OF SECTION 09 93 00