Columbia County Sheriff's Office Administration Building
Bid# 2021026-BID2720
07/19/21

Addendum #3

This addendum forms a part of the Contract Documents and modifies the original drawings and specifications. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject Bidder to disqualification.

*This addendum is being issued to correct drawings omitted in Addendum #2.

Clarifications

Is there a pre bid conference scheduled? Is the conference mandatory? See addendum #1

What is the anticipated start date for this project? The anticipated start date is September 2021

Is there an anticipated cost of construction or an Owner's Stated Cost Limitation for this project? Columbia County does not disclose budgetary information prior to award.

Will the General Contractor be responsible to include the costs of any permit fees or utility fees? The contractor pays for all permit fees

Will the General Contractor be responsible to include the costs of materials testing and/or special inspections? The owner pays for all special inspection and material testing fees. Contractor pays for building inspections.

Sheets CS 1.1, CS 1.2, CS 1.3, CS 1.4 and Civil 13 are not included in the set we downloaded. Please advise. Sheets CS 1.1, CS 1.2, CS 1.3, CS 1.4 are included in this addendum. CIVIL 13 has been removed from set of drawings.

Is there a certain HVAC Control Contractor for this project. HVAC CONTROLLER is Carrier I-VUE Pro Unlimited. The manufacturer shall provide backnet interface of all systems for integration into the county control system. See revised sheet M2.1 for information.

Per spec section 221100 you call for solder joints on the domestic water. Is there any way we can use pro press fittings on the domestic water. Please advise if pro press fittings is acceptable. ProPress Fittings are acceptable for the Domestic Water Supply system.

Notes on Finish Schedule show drywall to be a level 5 finish, specs call for only a level 4. Please Clarify? Drywall finish level to be level 4.

Reflective Ceiling Plans show no ceilings in electrical, mechanical, and IT rooms but they are shown to have ceilings in Finish Schedules, Please Clarify
These rooms are not to have ceilings.

Revisions to the DRAWINGS

1. SHEET CS 1.0: INDEX TO DRAWINGS: **REMOVE** CIVIL 13 from index. This was removed from set.
2. SHEET L-101: **MODIFY** note 2"-5" RIVER ROCK TO BE INSTALLED AS MULCH TO TOP OF BIORETENTION BANK to read *2"-4" #1 ROCK TO BE INSTALLED AS MULCH TO TOP OF BIORETENTION BANK*
3. SHEET L-201: IRRIGATION SPECIFICATIONS: NOTE 10: **MODIFY** to add clarification: CONTROLLER SHALL BE HUNTER, MODEL 'NODE'
4. **REMOVE and REPLACE** sheets P1.1, P1.2, P1.3, P2.1, P2.1, P2.3, P3.1, P3.2 with sheets included in this addendum.
5. **REMOVE and REPLACE** sheet M2.1 with sheet included in this addendum.
6. SHEET A5.1 Elevations 1/A5.1 & 2/A5.1 **MODIFY** the note to read -*MIN U.L. LEVEL **7** GLAZING RATING*
7. SHEET A5.2 Elevations 5/A5.2 & 9/A5.2 **MODIFY** the note ~~LAMINATED POLYCARBONATE/ACRYLIC~~ and ~~-MIN U.L.LEVEL 3 GLAZING RATING~~ to remove bullet resistant rating from window W15.
8. SHEET A6.1 MODIFY window type W15 ~~POLYCARBONATE/ACRYLIC~~ to remove bullet resistant rating from window W15.
9. SHEET A 6.3 **MODIFY** DOOR SCHEDULE / NOTES: for doors 101B and 102A to **ADD**: DOOR AND DOOR FRAME TO BE BULLET RESISTANT. **MODIFY** TYPE to be BULLET RESISTANT
10. SHEETS ID.01, ID.02, ID.O3 FINISH NOTES **MODIFY** #12 ~~SEE IMAGE FOR VINYL GRAPHICS PRICING AND CONCEPT~~
11. SHEET ID.04
    a. REMOVE NOTE #12-GRAPHIC CONCEPT FOR PRICING AND IMAGE
    b. NOTE #15 MODIFYFLOORING PATTERN CONCEPT ~~FOR PRICING~~

Revisions to the PROJECT MANUAL

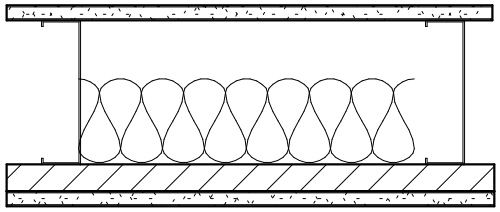
1. **REPLACE** Section 001116 INVITATION TO BID with attached Section.
2. **REPLACE** Section 001116.1 PROPOSAL with attached Section.
3. **REPLACE** AIA Document A101 STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR with attached Section.
4. **ADD** EXHIBIT C – DRAWING INDEX.
5. **ADD** EXHIBIT D – SPECIFICATIONS TABLE OF CONTENTS. This will also replace the Table of Contents in the Project Manual.
6. **REPLACE** AIA Document A201 GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION.
7. **REPLACE** Section 012100 ALLOWANCES with attached Section.
8. **REMOVE** Section 012300 ALTERNATES.
9. SECTION 012500 SUBSTITUTION PROCEDURES:
    a. Paragraph 1.2 B.3. **REMOVE** Section 012300 "Alternates" for products selected under an allowance.
10. **ADD** Section 012650 CHANGE PROCEDURES.
11. **REPLACE** Section 015000 TEMPORARY FACILITIES AND CONTROLS with attached Section.
12. SECTION 016000 PRODUCT REQUIREMENTS:
    a. Paragraph 1.2 B.3. **REMOVE** Section 012300 "Alternates" for products selected under an allowance.
13. SECTION 072419 WATER DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM (EIFS):
    a. Paragraph 2.1. A **ADD** 4. Senergy /Finestone Pebbletex CI-DCA
    b. Paragraph 2.1. A **ADD** 5. StoTherm CI-Essence
14. SECTION 072500 WEATHER BARRIERS
    a. Paragraph 2.3.A.1. **ADD** d. CavClear Rainscreen Mat WS
15. **REPLACE** SECTION 075423 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING with attached Section.
16. **REPLACE** SECTION 081113 HOLLOW METAL DOORS AND FRAMES with attached Section.
17. **REPLACE** Section 081213 HOLLOW METAL FRAMES with attached Section.
18. SECTION 081416 FLUSH WOOD DOORS:
    a. Paragraph 2.5 C.2 **REMOVE** … Section 085653 "Bullet Resistant Aluminum Transaction Window Frames" and Section 088000 "Glazing." and **REPLACE** with Section 130713 "Bullet Resistant Aluminum Transaction Window Frames."

19. **REMOVE** Section 085653 BULLET-RESISTANT ALUMINUM TRANSACTION WINDOW FRAMES and **REPLACE** with Section 130713 BULLET RESISTANT ALUMINUM TRANSACTION WINDOW FRAMES.
20. **REPLACE** Section 087100 DOOR HARDWARE with attached Section.
21. **ADD** Section 098400 ACOUSTICAL COMPONENTS.
22. **ADD** Section 102641 BULLET RESISTANT PANELS.
23. SECTION 107310 OVERHEAD SUPPORTED CANOPY :
    a. Paragraph 2.1 **ADD** C. Elite Awnings, Inc. / 720 North Price Road / Sugar Hill, GA 30518
24. **ADD** Section 130700 BULLET RESISTANT WOOD DOORS AND CLAMP STYLE STEEL DOOR FRAMES.
25. **ADD** Section 130713 BULLET RESISTANT ALUMINUM TRANSACTION WINDOW FRAMES.
26. **ADD** Section 130713.16 BULLET RESISTANT SECURITY GLAZING.

ATTACHMENTS:

DRAWINGS: CS1.1, CS1.2, CS1.3, CS 1.4; M2.1; P1.1, P1.2, P1.3, P2.1, P2.2, P2.3, P3.1, P3.2; E1.0, E1.1
SUPPLEMENTAL SKETCHES AD2.1, AD2.2.

END OF ADDENDUM



5/8" GWB

6" - 18 GA. METAL STUDS SPACED
16" O.C. W/ SOUND BATT

LEVEL 7 PROTECTION BULLET RESISTANT PANEL
(1 1/8" THICK / 12# s.f.)

5/8" GWB

WALL TYPE 14

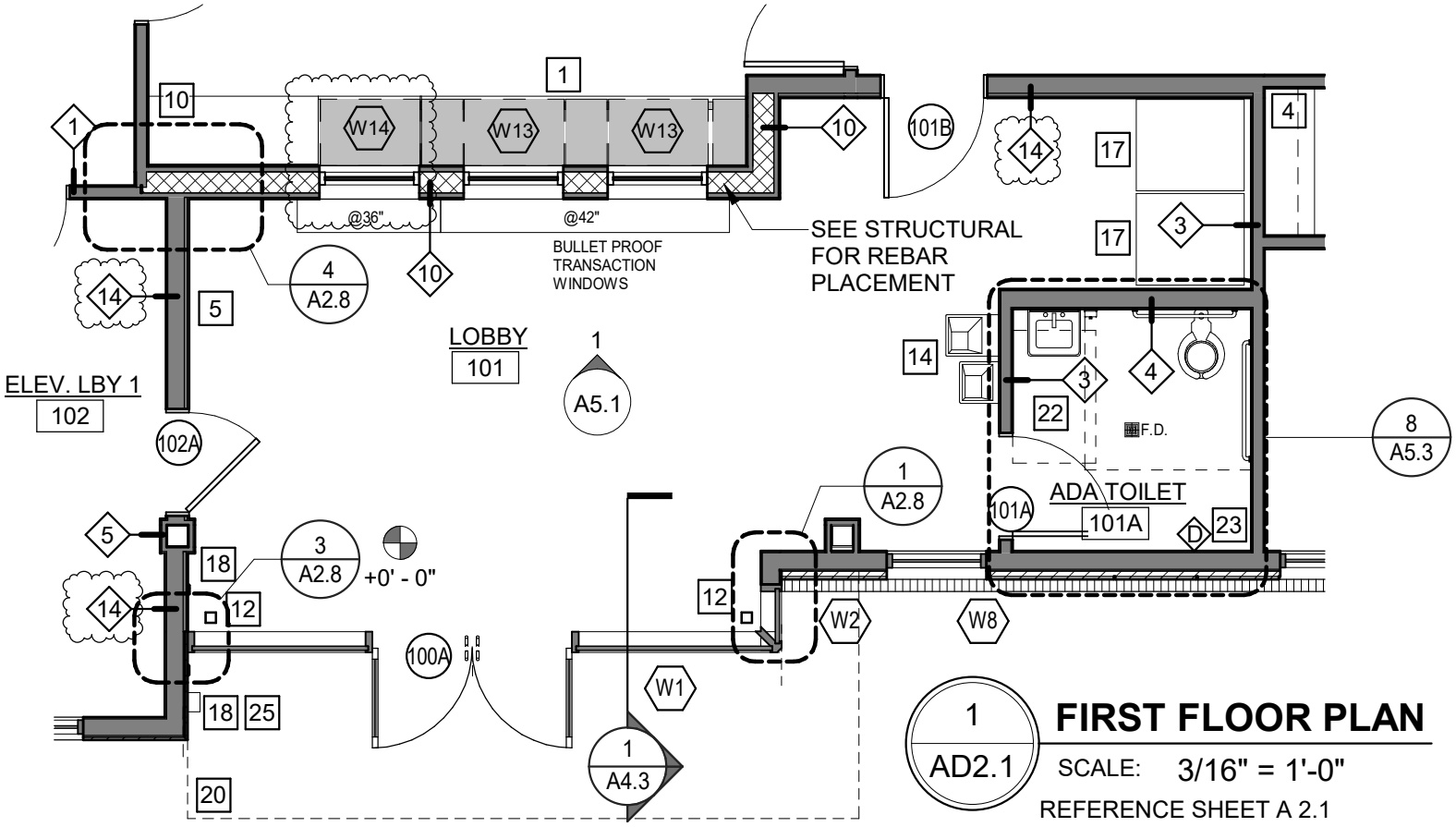
**EXTEND WALL TO BOTTOM OF METAL DECK

2 / AD2.1

WALL TYPE 14

SCALE: 1 1/2" = 1'-0"

REFERENCE SHEET A 2.0



1 / AD2.1

FIRST FLOOR PLAN

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

REFERENCE SHEET A 2.1

SHEET NO. AD2.1

REVISIONS

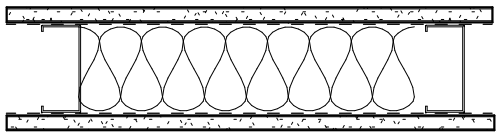
LOBBY

SHERIFF'S ADMINISTRATION BLDG.

COLUMBIA COUNTY

2269 COUNTY CAMP ROAD
APPLING, GEORGIA 30802

ARCHITECTS
Christopher Booker & Associates, PC



5/8" GWB
WALL BLOKKER - SOUND BARRIER
3 5/8" - 18 GA. METAL STUDS SPACED 24" O.C. WITH SOUND BATT
WALL BLOKKER - SOUND BARRIER
5/8" GWB

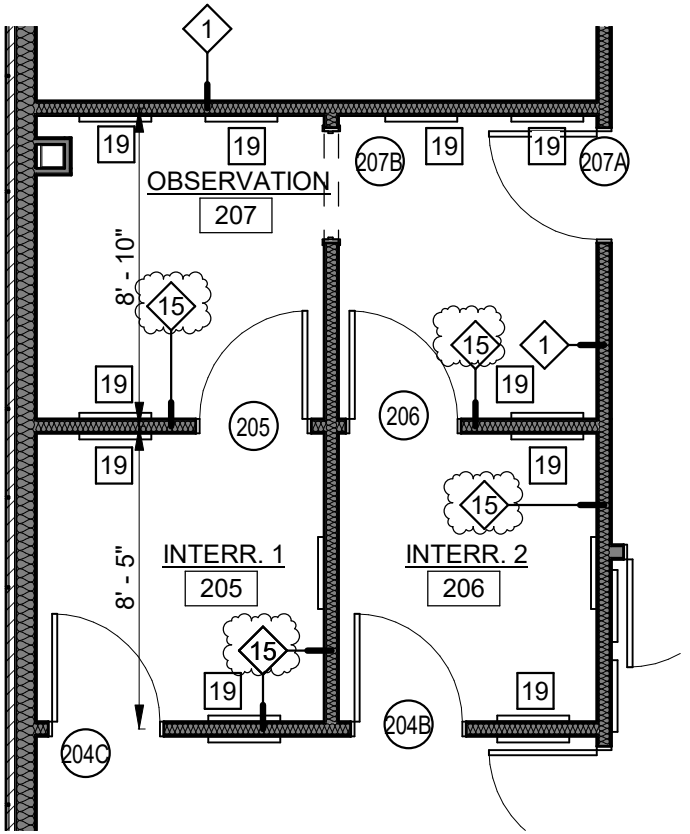
WALL TYPE 15

**EXTEND WALL TO BOTTOM OF METAL DECK

2 / AD2.2 **WALL TYPE 15**

SCALE: 1 1/2" = 1'-0"

REFERENCE SHEET A 2.0



1 / AD2.2 **SECOND FLOOR PLAN**

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

REFERENCE SHEET A 2.2

SHEET NO. AD2.2

REVISIONS

INTERROGATION

SHERIFF'S ADMINISTRATION BLDG.

COLUMBIA COUNTY

2269 COUNTY CAMP ROAD
APPLING, GEORGIA 30802

ARCHITECTS
Christopher Booker & Associates, PC

HVAC NOTES:

1. ALL WORK SHALL BE PERFORMED PER THE LATEST EDITIONS OF NFPA 90A & 91, THE NATIONAL ELECTRICAL CODE, THE INTERNATIONAL MECHANICAL CODE, INTERNATIONAL ENERGY EFFICIENCY CODE AND ALL APPLICABLE STATE & LOCAL CODES & LATEST STATE AMENDMENTS. ALL PERMITS & FEES SHALL BE PAID BY THE HVAC CONTRACTOR. WHERE TWO OR MORE CODES ARE IN CONFLICT THE MORE STRINGENT CODE SHALL APPLY.

2. PLANS ARE DIAGRAMMATIC & SHOW THE GENERAL LOCATION OF THE EQUIPMENT & DUCTWORK. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS & DETAILS REGARDING BUILDING CONSTRUCTION. DRAWINGS ARE NOT TO BE SCALED & ALL DIMENSIONS & LOCATIONS SHALL BE VERIFIED AT THE BUILDING SITE BEFORE FABRICATION & EQUIPMENT/DUCT PURCHASES. REPORT ANY ERRORS FOUND WITH THESE PLANS TO NOTIFY ARCHITECT IMMEDIATELY PRIOR TO BID FOR RESOLUTION & CLARIFICATION. COORDINATE EXACT LOCATION OF HVAC EQUIPMENT WITH GENERAL CONTRACTOR & ARCHITECT. CLOSELY COORDINATE ALL WORK WITH OTHER TRADES. REVIEW THE ARCHITECTURAL PLANS FOR MOUNTING HEIGHTS & ELEVATIONS REGARDING LOUVERS, GRILLES, LIGHTS OR OTHER CEILING MOUNTED ITEMS. IF THE HVAC CONTRACTOR INSTALLS HIS WORK PRIOR TO COORDINATING WITH ALL OTHER TRADES OR AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE NECESSARY CHANGES TO THE WORK OR CORRECT THE CONDITION WITHOUT EXTRA CHARGE. WHERE APPLICABLE, COORDINATE FINAL LOCATIONS NEEDED FOR ALL CONDENSATE DRAIN RELATED PIPING & FIXTURES WITH PLUMBING CONTRACTOR. PROVIDE DUCT OFFSETS, DUCT ELEVATION CHANGES & DUCT REROUTING AS NEEDED TO AVOID CONFLICTS & INTERFERENCES. GENERAL CONTRACTOR TO PROVIDE FRAMED OPENINGS REQUIRED FOR DUCT/GRILLE/DIFFUSER/EQUIPMENT INSTALLATION THRU FLOOR & CEILING JOISTS. NOTIFY ARCHITECT/ENGINEER OF MAJOR CONFLICTS. THE HVAC CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE DRAWINGS TO DETERMINE THE QUANTITY OF ALL MECHANICAL ITEMS REQUIRED. THE SYMBOLS SHOWN ON SCHEDULES DEFINE THE TYPE OF EQUIPMENT & NOT THE QUANTITY. HVAC CONTRACTOR TO PROVIDE/INSTALL/COORDINATE ANY/ALL ADDITIONAL STRUCTURAL SUPPORTS/STEEL NEEDED FOR EQUIPMENT/DUCT, ETC., INSTALL UNDER THE HVAC SCOPE. HVAC CONTRACTOR TO INVESTIGATE AVAILABLE BUILDING STRUCTURE WITH GENERAL CONTRACTOR AND/OR STRUCTURAL ENGINEER AND/OR METAL BUILDING VENDOR (IF METAL BUILDING) FOR ADEQUACY TO SUPPORT ANY/ALL OF THE PROPOSED HVAC EQUIPMENT/DUCTWORK, ETC., OR OTHER ADDITIONAL EQUIPMENT SUPPLIED BY OTHERS BUT WILL BE INSTALLED BY THE HVAC CONTRACTOR PRIOR TO BID.

3. ALL DUCTWORK & ACCESSORIES SHALL BE FABRICATED, SUPPORTED & INSTALLED PER ALL APPLICABLE ITEMS & REQUIREMENTS IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS, 2005 EDITION, FOR 1" W.G., & SEAL CLASS A. SUPPORT ANY EXTERIOR DUCT PER THE LATEST SMACNA INDUSTRIAL ROUND & RECTANGULAR DUCT STANDARDS. SEAL ALL LONGITUDINAL, CIRCUMFERENTIAL & FITTING GORES WITH DUCT SEALANT. INSULATED FLEX FOR RUN-OUTS ONLY TO BE HART & COOLEY F216, R6.0 OR EQUAL. RUN-OUT LENGTH NOT TO EXCEED 6 FT. IN LENGTH. FLEX DUCT SIZE SHALL BE SAME AS TAKE-OFF DUCT SIZE. INSTALL VOLUME DAMPERS AT ALL SUPPLY AIR DEVICES, OUTSIDE AIR DUCTS & RETURN AIR DEVICES. INSTALL FOR RETURN AIR DEVICES WHERE INDICATED.

4. INSULATE ALL DUCTWORK (EXCLUDING INSULATED FLEX & DUCT WITHIN CONDITIONED SPACE) WITH 2 INCH THICK (R5 MIN.) FIBERGLASS BLANKET WITH FRK VAPOR BARRIER FACING. MIN. K @ 75 DEG. F SHALL BE 0.3 PER ASTM C158 & MIN. DENSITY SHALL BE 0.75 LB/CU. FT. SEAL ALL JOINTS WITH 3 INCH WIDE FSK TAPE TO MATCH VAPOR BARRIER. OR WITH 1 INCH THICK (R6 MIN.) 1" THICK, REFLECTIX BIG BUBBLE DUCT INSULATION OR EQUAL. SECURELY TAPE THE LINEAR AND CIRCUMFERENCE SEAMS WITH A UL 181 APPROVED TAPE (GOAL IS AN AIR-TIGHT, SNUG SEAM SEAL). DO NOT LEAVE ANY EXPOSED DUCT OR SPACE WHERE AIR CAN ENTER BETWEEN THE DUCT AND THE REFLECTIX OR EQ. WHERE INSULATION IS REQUIRED ON EXTERIOR DUCT, PROVIDE/INSTALL WATERPROOF INSULATION SYSTEM W/ VAPOR BARRIER, R8 MIN. IF APPLICABLE, INSULATE ALL DUCT RELATED TO THE KITCHEN HOOD SYSTEM PER CODE REQUIREMENTS.

5. DUCT SIZES MAY BE ALTERED AS LONG AS THE SAME CROSS SECTIONAL AREA IS MAINTAINED IN ORDER TO AVOID INTERFERENCES & CONFLICTS. COORDINATE FINAL DUCT LAYOUT WITH ALL OTHER TRADES & STRUCTURAL DRAWINGS & STRUCTURAL SHOP DRAWINGS PRIOR TO HVAC PROCUREMENT TO AVOID REWORK, INTERFERENCES & CONFLICTS.

6. INSTALL ALL MECHANICAL EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PROVIDE/INSTALL ALL COMPONENTS WHETHER SPECIFICALLY INDICATED ON DRAWINGS OR NOT THAT ARE NEEDED TO RESULT IN FULLY FUNCTIONAL HVAC SYSTEMS. INSTALL TRAPPED CONDENSATE DRAINS ON UNITS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. ROUTE DRAIN & SPILL ON GRADE OR TO PLUMBING DRAIN OR ROOF DRAIN (NOT EMERGENCY ROOF DRAIN) WITH ELBOW TURNED DOWN. CONTRACTOR HAS THE OPTION TO REROUTE CONDENSATE DRAIN LINES IF NEEDED IF INDICATED ON PLANS TO AVOID INTERFERENCES & IF EQUIPMENT CONDENSATE DRAIN CONNECTION VARIES FROM WHAT IS SHOWN ON PLAN. DRAIN LINE SHALL BE 3/4" MINIMUM AS REQUIRED BY CODE, SCH 40 PVC WITH SOLVENT WELD JOINTS & WITH A 3 INCH MIN. TRAP. IF AIR HANDLING EQUIPMENT IS INSTALLED IN CEILING PLENUMS USED AS RETURN AIR PLENUMS PVC PIPING IS NOT ALLOWED. PIPING MUST BE PIPE MATERIAL THAT MEETS CODE FLAME SPREAD & SMOKE GENERATION REQUIREMENTS FOR PLENUMS. INSULATE DRAIN WITH 0.5 INCH THICK ARMAFLEX OR EQ. ADJUST ELEVATIONS OF EQUIPMENT REQUIRING CONDENSATE DRAINS TO ENSURE GRAVITY DRAINAGE. OTHERWISE PROVIDE/INSTALL CONDENSATE PUMPS. IF CONDENSATE PUMPS ARE INSTALLED COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR & MINIMUM PUMP DISCHARGE LINE TO MEET SAME REQUIREMENTS & TO BE INSULATED PREVIOUSLY LISTED. PROVIDE CONTACTORS FOR FANS/EQUIPMENT IF NEEDED. DO NOT SPILL DRAINS DIRECTLY TO ROOF.

7. REGARDING HVAC EQUIPMENT, DIFFERENT MANUFACTURERS WITH EQUAL OR BETTER PERFORMANCE OR CONSTRUCTION CHARACTERISTICS WILL BE CONSIDERED BY THE HVAC ENGINEER FOR ALL HVAC EQUIPMENT EXCEPT HEATING AND COOLING EQUIPMENT. HEATING & COOLING EQUIPMENT SHALL BE BY CARRIER, TRANE, JCI (YORK), MITSUBISHI OR SCHEDULED EQUIPMENT ON HVAC DRAWINGS. EXHAUST FANS BY GREENHECK, COOK, S&P, FANTECH OR BROAN. IF THE PROJECT OWNER/TENANT APPROVES OTHER HVAC BRANDS NOT LISTED PREVIOUSLY, THEIR APPROVAL MUST BE TRANSMITTED IN WRITING TO THE ARCHITECT 10 DAYS PRIOR TO BID DATE. ALL HVAC EQUIPMENT ALTERNATES DESIRED BY THE HVAC CONTRACTOR SHALL BE DOCUMENTED AND SENT TO THE ARCHITECT 10 BUSINESS DAYS PRIOR TO BID DATE.

8. ALL 90 DEGREE RECTANGULAR ELBOWS SHALL HAVE TURNING VANES.

9. PROVIDE PROGRAMMABLE COMMERCIAL AUTO CHANGEOVER TYPE THERMOSTAT. CONTROL WIRING SHALL BE 18 GAUGE THERMOSTAT CABLE. MOUNT THERMOSTAT 4'-0" ABOVE FINISHED FLOOR. THERMOSTAT TO ENABLE OCCUPIED & UNOCCUPIED CONTROL MODES. FANS TO OPERATE TO ENSURE PROPER SPACE VENTILATION DURING OCCUPIED MODE & FANS TO BE OFF DURING UNOCCUPIED MODE.

10. ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.

11. ALL SYSTEMS & AIRFLOWS SHALL BE ADJUSTED & BALANCED AFTER COMPLETE INSTALLATION & WITH ALL EXHAUST FANS ENERGIZED. AN INDEPENDENT TESTING AND BALANCING AGENCY CERTIFIED BY THE AABC OR NEBB SHALL BE ENGAGED TO TEST AND BALANCE THE HVAC SYSTEMS. SYSTEMS SHALL BE BALANCED TO PLUS/MINUS 10% OF DESIGN REQUIREMENTS. THE CONTRACTOR SHALL PLACE ALL SYSTEMS AND EQUIPMENT INTO FULL OPERATION FOR TESTING AND BALANCING. ONE COPY OF THE FINAL TEST AND BALANCE REPORT WITH THE AABC NATIONAL PERFORMANCE GUARANTY OR NEBB CONFORMANCE CERTIFICATE SHALL BE SENT DIRECTLY TO THE ARCHITECT. PROVIDE FIVE (5) ADDITIONAL COPIES TO THE CONTRACTOR. PROVIDE VOLUME DAMPERS FOR ALL BRANCH LINES TO AIR DEVICES WHETHER INDICATED ON PLANS OR NOT WHERE NEEDED TO PERFORM FINAL AIR BALANCING.

12. FILTERS SHALL BE LOCATED INSIDE AIR HANDLERS & SHALL BE DISPOSABLE TYPE. INSTALL CLEAN FILTERS AT COMPLETION OF ALL CONSTRUCTION.

13. PROVIDE FLEXIBLE CONNECTIONS TO ALL AIR HANDLING EQUIPMENT.

14. PROVIDE SPACING BETWEEN/AROUND ALL HVAC EQUIPMENT TO ALLOW MAINTENANCE CLEARANCES AND FREE AIR FLOW. ADJUST FINAL LOCATIONS OF HVAC EQUIPMENT SUCH AS SHIFTING OVER IN ANY DIRECTIONS AND ADJUSTING ELEVATIONS AS NEEDED TO COMPLY. EQUIPMENT IS SHOWN IN GENERAL VICINITY. LOCATION SHOWN ON DRAWINGS IS NOT DIMENSIONED SO EQUIPMENT CAN BE SHIFTED AS NEEDED TO WORK WITH FINAL BUILDING LAYOUT & UNANTICIPATED INTERFERENCES.

15. REFER TO ARCHITECTURAL DRAWINGS, ELECTRICAL LIGHTING PLANS & REFLECTED CEILING PLANS FOR FINAL LOCATIONS OF CEILING MOUNTED AIR DEVICES & EQUIPMENT.

16. ALL ALTERNATES DESIRED BY THE HVAC CONTRACTOR SHALL BE DOCUMENTED AND SENT TO THE ARCHITECT 10 BUSINESS DAYS PRIOR TO BID DATE. OTHERWISE THE HVAC CONTRACTOR SHALL PAY FOR ANY DRAWING REVISIONS OR CORRESPONDENCE REQUIRED OF THE ENGINEER TO OBTAIN THE BUILDING INSPECTORS APPROVAL OF INSTALLED EQUIPMENT, MATERIALS, ETC., THAT ARE NOT DESIGN BASIS PER THESE HVAC NOTES, HVAC SPECIFICATIONS, HVAC PLANS, AND/OR HVAC SCHEDULES.

17. REFRIGERANT PIPING (IF NEEDED) SHALL BE "ACR" WITH 15% SILVER SOLDER JOINTS. INSULATE SUCTION LINE WITH 0.75 INCH THICK ARMAFLEX INSULATION. IF HVAC EQUIPMENT VENDOR REQUIRES DIFFERENT INSULATION THICKNESS/AND OR REQUIREMENTS COMPLY WITH THE VENDOR REQUIREMENTS. PURGE TUBING WITH DRY NITROGEN WHILE BRAZING. INSULATION JOINTS SHALL BE BUTTED & GLUED IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS. THE ZOOM LOCK BRAZE-FREE FITTINGS BY PARKER HANNIFIN CORPORATION ARE AN ACCEPTABLE ALTERNATIVE IF APPROVED BY THE HVAC EQUIPMENT MANUFACTURER. INSULATE & INSTALL TUBING & INSULATION PER MANUFACTURE'S INSTALLATION INSTRUCTIONS. IF THESE SPECIFICATIONS CONFLICT WITH VENDOR REQUIREMENTS INSTALL IN ACCORDANCE WITH VENDOR REQUIREMENTS.

18. IF HVAC CONTRACTOR DESIRES TO VALUE ENGINEER THE DUCT SYSTEM(S) DESIGN, THE HVAC CONTRACTOR SHALL BEAR ALL COSTS REQUIRED TO REVISE ALL AFFECTED CONSTRUCTION DOCUMENTS FOR RESUBMITTAL TO ALL APPROVING PARTIES. ANY DESIRE TO VALUE ENGINEER SHALL BE DOCUMENTED VIA A FORMAL RFI DOCUMENT. HVAC CONTRACTOR TO COORDINATE PROPOSED CHANGES WITH ALL OTHER AFFECTED TRADES.

19. THE MECHANICAL/HVAC CONTRACTOR SHALL COORDINATE & CONFIRM ALL ELECTRICAL REQUIREMENTS & SPECIFICATIONS WITH THE ELECTRICAL CONTRACTOR IN WRITING ONCE THE PROJECT HAS BEEN AWARDED FOR ALL HVAC EQUIPMENT TO BE INSTALLED. ANY DIFFERENCES IN ELECTRICAL LOADS FOR EQUIPMENT OTHER THAN THE DESIGN BASIS SHALL NOT CONSTITUTE CHANGE ORDERS FOR ELECTRICAL CHANGES REQUIRED EVEN IF ENGINEER APPROVES SUBMITTALS.

20. IF HVAC CONTRACTOR SELECTS EQUIPMENT OTHER THAN THE BRANDS/MODELS SPECIFIED, THEY WILL BE RESPONSIBLE FOR PAYING FOR ANY HVAC DRAWING REVISIONS REQUIRED FOR ANY REASON DUE TO DIFFERENCES IN THE HVAC CONTRACTORS DESIRED EQUIPMENT, AS APPROVED BY THE ENGINEER, VS THE HVAC EQUIPMENT USED AS THE DESIGN BASIS ON THE HVAC BID DRAWINGS. IF THE HVAC EQUIPMENT INDICATED ON DRAWINGS HAS BEEN SUPERCEDED THE HVAC CONTRACTOR SHALL NOTIFY THE ENGINEER OF THIS PRIOR TO BID.

21. PAINT VISIBLE PORTION OF DUCTWORK BEHIND AIR OUTLETS AND INLETS MATTE BLACK.

22. VOLUME DAMPERS TO BE CROWN 175-XS1 OR EQUAL.

23. IF NEEDED, ADJUST ITEMS SUCH AS DIP SWITCHES ON AIR HANDLERS, ETC., TO ACHIEVE PROPER AIR FLOW CHARACTERISTICS PER MANUFACTURERS INSTALLATION INSTRUCTIONS. ALSO PROGRAM/ADJUST VFDS WHERE NEEDED TO PROHIBIT COIL FROM FREEZING AS DIRECTED BY MANUFACTURER.

24. NOT USED.

25. HVAC CONTRACTOR MUST VERIFY ALL EQUIPMENT ELECTRICAL REQUIREMENTS/SPECIFICATIONS W/ EQUIPMENT SUPPLIER, ELECTRICAL CONTRACTOR & GENERAL CONTRACTOR PRIOR TO HVAC EQUIPMENT PROCUREMENT.

26. IF ROOF TOP UNITS ARE INSTALLED, FILL ENTIRE ROOF CURB CAVITY BETWEEN RTU AND ROOF SURFACE WITHIN ROOF CURB WITH NON COMPACTED UNFACED FIBERGLASS INSULATION FOR SOUND DEADENING.

27. ROOF CAPS TO BE CROWN PRODUCTS 350 SERIES OR EQ, EXCEPT DRYER ROOF CAP. DRYER ROOF CAP TO BE CROWN MODEL 350-D W/ ROUND COLLAR IN BOTTOM & GRAVITY DAMPER. WALL CAPS TO BE HOODED CROWN MODEL 349 OR EQUAL.

28. MECHANICAL CONTRACTOR SHALL TRAIN OWNER ON OPERATION OF ALL HVAC SYSTEMS & HVAC CONTROLS. AND STRESS TO OWNER VENTILATION AIR DEVICES/SYSTEMS ARE LEGAL MECHANICAL CODE REQUIREMENTS & THEY ARE TO FUNCTION PROPERLY. DOCUMENT TRAINING VIA FORMAL LETTER OR EMAIL LISTING THE SPECIFIC HVAC INFORMATION COVERED IN THE TRAINING.

29. SEAL AND OR FLASH ALL OPENINGS IN INTERNAL/EXTERNAL BUILDING COMPONENTS RESULTING FROM THIS WORK IN COMPLIANCE WITH ALL APPLICABLE CODES. RODENTPROOF OPENINGS PER THE INTERNATIONAL BUILDING CODE AS WELL.

30. PROVIDE DUCT SLEEVES WHERE NEEDED SUCH AS FOR TRANSFER GRILLES, LOUVERS, ETC.

31. NOT ALL TOILET EXHAUST DUCT & OUTSIDE AIR DUCT OFFSETS ARE INDICATED. PROVIDE OFFSETS & AVOID INTERFERENCES AS NEEDED TO AVOID INTERFERENCES. OFFSET DUCTS AS NEEDED TO ALLOW FOR IDU/DOAS UNIT MAINTENANCE CLEARANCES.

EXHAUST FAN SCHEDULE

MARK	MFG./MODEL NO.	CFM NOM.	IN. S.P.	AMPS	ELEC.	WATTS	OPTIONS/ACCESSORIES
EF1	GREENHECK SP-A90	70	.125	.14	115/60/1	15	BACKDRAFT DAMPER
EF	GREENHECK SP-A70	50	.25	.14	115/60/1	13.1	BACKDRAFT DAMPER

INTERLOCK WITH LIGHT SWITCHES.

LOUVER SCHEDULE

MARK	MFG./MODEL NO.	WIDTH, INCHES	HEIGHT, INCHES	MINIMUM FREE AREA REQ'D, SQ FT	NOTES
LV1	GREENHECK ESD-603	24	18	1.0	COLOR TO BE APPROVED BY ARCHITECT. INSTALL ABOVE ADJACENT WINDOW.
LV2	GREENHECK ESD-603	30	24	2.0	COLOR TO BE APPROVED BY ARCHITECT. INSTALL ABOVE ADJACENT WINDOW.
LV3	GREENHECK ESD-603	12	16	0.4	COLOR TO BE APPROVED BY ARCHITECT.
LV4	NOT USED	-	-	-	-
LV5	GREENHECK ESD-603	24	24	1.5	COLOR TO BE APPROVED BY ARCHITECT.

BAROMETRIC PRESSURE RELIEF DAMPER SCHEDULE

MARK	MFG./MODEL NO.	SIZE, INCHES	FREE AREA REQ'D, SQ IN
PRD1	FAMCO PRD14	14	120.27
PRD2	FAMCO PRD18	18	210.59

ELECTRIC UNIT HEATER SCHEDULE

MARK	MFG./MODEL NO.	ELEC	KW	AMPS	OPTIONS/ACCESSORIES
EUH	MARKEL	208/60/1	2.5	11.9	THERMOSTAT & MOUNTING BRACKET

DIFFUSER, GRILLE, AND REGISTER SCHEDULE

CALLOUT	AIRFLOW RANGE (CFM)	FACE SIZE (IN)	MODEL
A	0 - 100	24x24	TITUS TMS
ASQ	0 - 130	8x8	TITUS 300RL 6X6
ASQ-OBD	0 - 130	8x8	TITUS 300RL 6X6 W/ OPPOSED BLADE DAMPER
B	101 - 200	24x24	TITUS TMS 24X24
BSQ	131 - 250	10x10	TITUS 300RL 8X8
BSQ-OBD	131 - 250	10x10	TITUS 300RL 8X8 W/ OPP BL DAMPER
C	201 - 300	24x24	TITUS TMS 24X24
CSQ-OBD	251 - 425	12x12	TITUS 300RL 10X10 W/ OPP BL DAMPER
D	301 - 400	24x24	TITUS TMS 24X24
R	0 - 2200	24x24	TITUS 50F 24X24
RD	0 - 2200	24x24	TITUS 50F 24X24
RSQ	0 - 200	12x10	TITUS 350RL 10X8
RSQ1-OBD	0 - 500	16x12	TITUS 350RL 14X10 W/ OPP BL DAMPER
RSQ-OBD	0 - 200	12x10	TITUS 350RL 10X8 W/ OPP BL DAMPER
SWD	0 - 220	10x10	TITUS 300RL 8X8
SWD1	221 - 400	20x14	TITUS 300RL 18X12 W/ DAMPER
TG1	0 - 400	12x12	TITUS 350 RL 10X10

NECK SIZE SAME AS RUNOUT SIZE.
PROVIDE PLASTER RINGS FOR DRYWALL CEILINGS.
OR EQUAL VENDORS.

HVAC LEGEND

- SUPPLY
- RETURN
- TRANSITION
- VOLUME DAMPER
- T THERMOSTAT
- A / 300 DIFFUSER CFM
- ABD GREENHECK AUTOMATIC BALANCING DAMPER
- FIRE DAMPER W/ ACCESS DOOR
- API GPS--iRIB-18: UP TO 3,200 CFM. BI-POLAR IONIZATION GENERATOR
- AP GPS-FC24-AC: SELF-CLEANING, UP TO 2,400 CFM. BI-POLAR IONIZATION GENERATOR
- RC PIPE PORTAL ROOF CURB ASSEMBLY. SEE SPECS THIS SHEET.

CONSTRUCTION NOTES FOR ALL SHEETS

1. ACTUAL CONNECTIONS LOCATIONS FOR VENTILATION AIR, SUPPLY AIR & CONDENSATE DRAINS MAY VARY FROM LOCATIONS SHOWN ON THIS PLAN. PROVIDE FITTINGS, EQUIPMENT, OFFSETS, ETC., AS NEEDED TO MAKE FINAL CONNECTIONS FOR THESE SERVICES.

2. FINAL EQUIPMENT LOCATIONS MAY BE ADJUSTED TO AVOID INTERFERENCES & TO PROVIDE MAINTENANCE ACCESSIBILITY.

3. VERIFY FINAL MODEL NUMBERS ON SCHEMATIC DRAWINGS FOR VRF EQUIPMENT.

4. PROVIDE/INSTALL REFRIGERANT SHUT OFF VALVES AT EACH INDOOR UNIT. ALL LINES.

5. PROVIDE ALL PARTS, EQUIPMENT, CONTROL ITEMS, ETC., NEEDED TO MAKE ALL NEW SYSTEMS FULLY FUNCTIONAL.

ROOF CURB RC1 SPECIFICATIONS

PROVIDE PREMANUFACTURED PIPE PORTAL® FLASHING SYSTEMS AS MANUFACTURED BY ROOF PRODUCTS & SYSTEMS AS SHOWN ON DRAWINGS. EACH PIPE PORTAL® FLASHING SYSTEM SHALL INCLUDE AN RPS PREMANUFACTURED ROOF CURB OF STYLE AS NEEDED FOR ROOF TYPE , SINGLE PIPE PORTAL® FLASHING SYSTEM COVER(S), AND MOLDED EPDM RUBBER CAP(S) WITH STAINLESS STEEL CLAMP(S). EPDM RUBBER SHALL HAVE A SERVICEABLE TEMPERATURE RANGE OF -60°F TO +270°F AND BE RESISTANT TO OZONE AND ULTRAVIOLET RAYS. USE N18 CAP FOR UP TO FOUR- 3/8" TO 1" PIPES, N21 CAP FOR UP TO FOUR- 1" TO 2" PIPES, N28 CAP FOR UP TWO- 3/8" TO 1" PIPES AND UP TO TWO- 1" TO 2" PIPES, N62 CAP FOR SINGLE PIPE FROM 2" TO 6", AND N182 CAP FOR SINGLE PIPE 8" TO 12" PIPE. FOR ALL PIPES LARGER THAN 13" DIAMETER, USE RPS SPECIAL PIPE PORTAL® FLASHING SYSTEM. ROOF CURB SHALL BE STANDARD RPS ROOF CURB, 18 GAUGE GALVANIZED STEEL, 1-1/2", 3LB DENSITY FIBERGLASS INSULATION. WOOD NAILER. MOLDED ABS PLASTIC COVER. MOLDED EPDM RUBBER CAPS. STAINLESS STEEL CLAMPS. CURB STYLE PER ROOF REQUIREMENTS. 1 OPENING PIPE FLASHING SYSTEM.

EQUIPMENT RAIL SPECIFICATIONS

BY PIPE PORTAL SYSTEMS OR EQ. 18 GAUGE GALVANIZED STEEL. GALVANIZED CAP FLASHING. WOOD NAILER. UNITIZED CONSTRUCTION. INTERNAL REINFORCEMENT. CONTINUOUS WELDED CORNER SEAMS.

EQUIPMENT RAIL VIBRATION ISOLATION

BY KINETICS NOISE CONTROL. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION. TO BE ASHRAE TYPE 1. FIBERGLASS OR NEOPRENE PAD. BASE TYPE A.

ENERGY MANAGEMENT CONTROL SYSTEM
PART 1 - GENERAL
DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SPECIAL CONDITIONS AND DIVISION 1 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.
DESCRIPTION:
GENERAL: THE CONTROL SYSTEM SHALL CONSIST OF A HIGH-SPEED, PEER-TO-PEER NETWORK OF DDC CONTROLLERS, A CONTROL SYSTEM SERVER, AND A WEB-BASED OPERATOR INTERFACE.
SYSTEM SOFTWARE SHALL BE BASED ON A SERVER/THIN CLIENT ARCHITECTURE, DESIGNED AROUND THE OPEN STANDARDS OF WEB TECHNOLOGY. THE CONTROL SYSTEM SERVER SHALL BE ACCESSED USING A WEB BROWSER OVER THE CONTROL SYSTEM NETWORK, THE OWNER'S LOCAL AREA NETWORK, AND (AT THE OWNER'S DISCRETION) OVER THE INTERNET.
THE INTENT OF THE THIN-CLIENT ARCHITECTURE IS TO PROVIDE OPERATORS COMPLETE ACCESS TO THE CONTROL SYSTEM VIA A WEB BROWSER. ALL SYSTEMS IN THIS SECTION MUST TIE BACK TO A WEB ACCESS SERVER OWNED AND OPERATED COLUMBIA COUNTY AFTER INSTALLATION AND COMMISSIONING. NO FEES OR LICENSING COST SHOULD BE REQUIRED. WEB BROWSER SHALL BE USED TO ACCESS GRAPHICS, POINT DISPLAYS, AND TRENDS, CONFIGURE TRENDS, CONFIGURE POINTS AND CONTROLLERS, OR TO DOWNLOAD PROGRAMMING INTO THE CONTROLLERS. CONTROL SYSTEM SHOULD SUPPORT SEVERAL WEB BASED BROWSERS, INCLUDING GOOGLE, CHROME, MOZILLA FIREFOX, MS EDGE AND AS APPLE SAFARI.
SYSTEM SHALL USE THE BACNET PROTOCOL FOR COMMUNICATION TO THE OPERATOR WORKSTATION OR WEB SERVER AND FOR COMMUNICATION BETWEEN CONTROL MODULES. I/O POINTS, SCHEDULES, SETPOINTS, TRENDS AND ALARMS SPECIFIED IN 23 83 10 - SEQUENCE OF OPERATIONS FOR HVAC CONTROLS - SHALL BE BACNET OBJECTS.
APPROVED CONTROL SYSTEM MANUFACTURERS:
THE FOLLOWING ARE APPROVED CONTROL SYSTEM MANUFACTURERS AND PRODUCT LINES:
CARRIER iVU
THE CONTRACTOR SHALL USE ONLY OPERATOR WORKSTATION SOFTWARE, CONTROLLER SOFTWARE, CUSTOM APPLICATION PROGRAMMING LANGUAGE, AND CONTROLLERS FROM THE CORRESPONDING MANUFACTURER AND PRODUCT LINE UNLESS OWNER APPROVES USE OF MULTIPLE MANUFACTURERS.
OTHER PRODUCTS SPECIFIED HEREIN (SUCH AS SENSORS, VALVES, DAMPERS, AND ACTUATORS) NEED NOT BE MANUFACTURED BY THE ABOVE MANUFACTURERS.

ALSO SEE SPECIFICATION SECTION 23 83 10 ENERGY MANAGEMENT CONTROL SYSTEM FOR ADDITIONAL SPECIFICATIONS AND REQUIREMENTS.

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SHERIFF'S ADMINISTRATION BLDG.
COLUMBIA COUNTY
2273 COUNTY CAMP ROAD
APPLING, GEORGIA 30802

GEORGIA REGISTERED No. 016735 PROFESSIONAL ENGINEER
JOHN C. GREEN, IV
7/12/21

HVAC NOTES & SCHEDULES

DRWN BY: JG
CHK'D BY: EB
DATE: MAY 18, 2021

REVISIONS

#	COMMENTS: ISSUED FOR PERMIT
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GENERAL CONSTRUCTION NOTES APPLIES TO ALL PLUMBING SHEETS

1. NOT ALL CONDENSATE DRAIN RUNOUTS SHOWN TO HVAC EQUIPMENT. ROUTING FOR ALL CONDENSATE DRAINS TO EQUIPMENT BY FIELD AND TO BE SIZED PER CONNECTION SIZE ON HVAC EQUIPMENT. ALL CONDENSATE PIPING ROUTING BY FIELD. PROVIDE ALTERNATE ROUTING FROM THAT SHOWN AS NEEDED TO AVOID INTERFERENCES. CONDENSATE DRAIN RUNOUTS TO BE ¾" MIN. OR SIZED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

2. CONTRACTOR COORDINATE FINAL ROUTING & LOCATIONS OF ALL HVAC CONDENSATE LINES & DRAIN TERMINATIONS. CONDENSATE SYSTEM SCOPE.

3. ALL SANITARY SEWER VERTICAL DRAIN RISERS TO BE CAST IRON PIPE PER SPECS FOR NOISE REDUCTION.

4. FOR ALL FLOORS, CONDENSATE DRAIN LINES TO BE ABOVE CEILING. MAIN DRAIN HEADER SIZE TO BE 1.5" MIN. INSULATE PER SPECS & NOTES.

5. WATER HEATER DRAIN LINES CAN BE TIED INTO CONDENSATE DRAIN MAINS ABOVE CEILINGS OR ROUTED TO NEAREST PLUMBING DRAIN FIXTURE SUCH AS FLOOR DRAIN OR MOP SINKS.

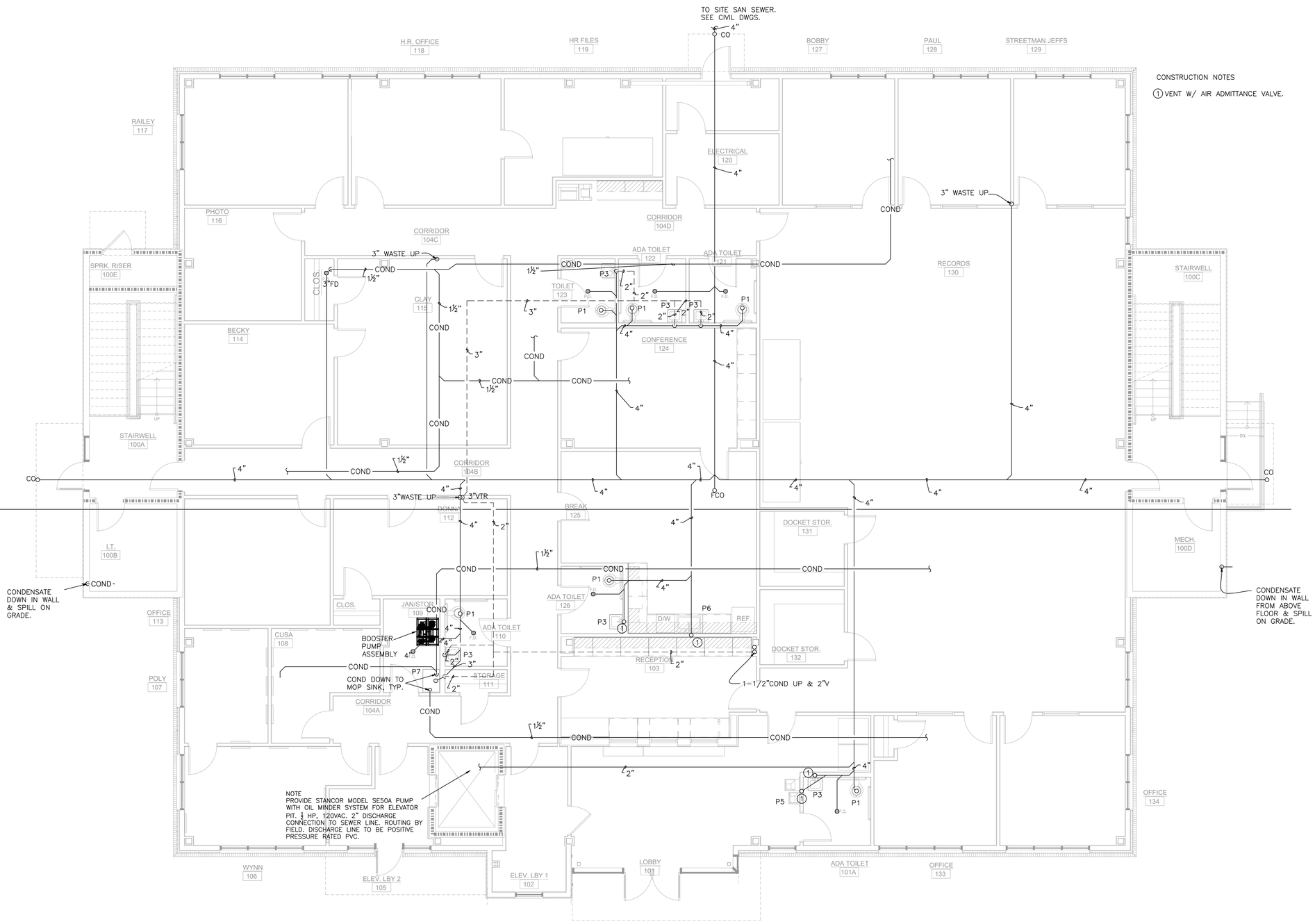
6. INSTALL WATER HEATERS ABOVE CEILINGS ON SUSPENDED PLATFORM PER WH SCHEDULE. PROVIDE ADDITIONAL SUPPORT MATERIALS SUCH AS BUT NOT LIMITED TO STRUCTURAL STEEL, BRACKETS, CLAMPS, ETC. FOR COMPLETE SUPPORT SYSTEM FOR WATER HEATERS.

7. PROVIDE CONDENSATE DRAINS FOR ALL HVAC EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS INCLUDING BUT NOT LIMITED TO IDU'S & MDC'S.

8. ALL FD'S TO BE 3" UNLESS NOTED OTHERWISE.

9. LOCATE ALL WATER HEATERS ABOVE ROOMS OR CORRIDORS HAVING LAY-IN CEILINGS. DO NOT LOCATE HEATERS ABOVE ROOMS HAVING SHEETROCK CEILINGS.

10. SEE NOTES ON HVAC PLANS STATING THAT CONDENSATE DRAIN SYSTEM SCOPE TO BE INSTALLED BY HVAC CONTRACTOR AND COVERED IN THEIR BID PRICE FOR ALL WORK AND MATERIALS. NOT BY PLUMBING CONTRACTOR.



CONSTRUCTION NOTES

1 VENT W/ AIR ADMITTANCE VALVE.

1 P1.1 FIRST FLOOR WASTE PLAN

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

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FIRST FLOOR WASTE PLAN

DRWN BY: JG
CHK'D BY: EB
DATE: MAY 18, 2021

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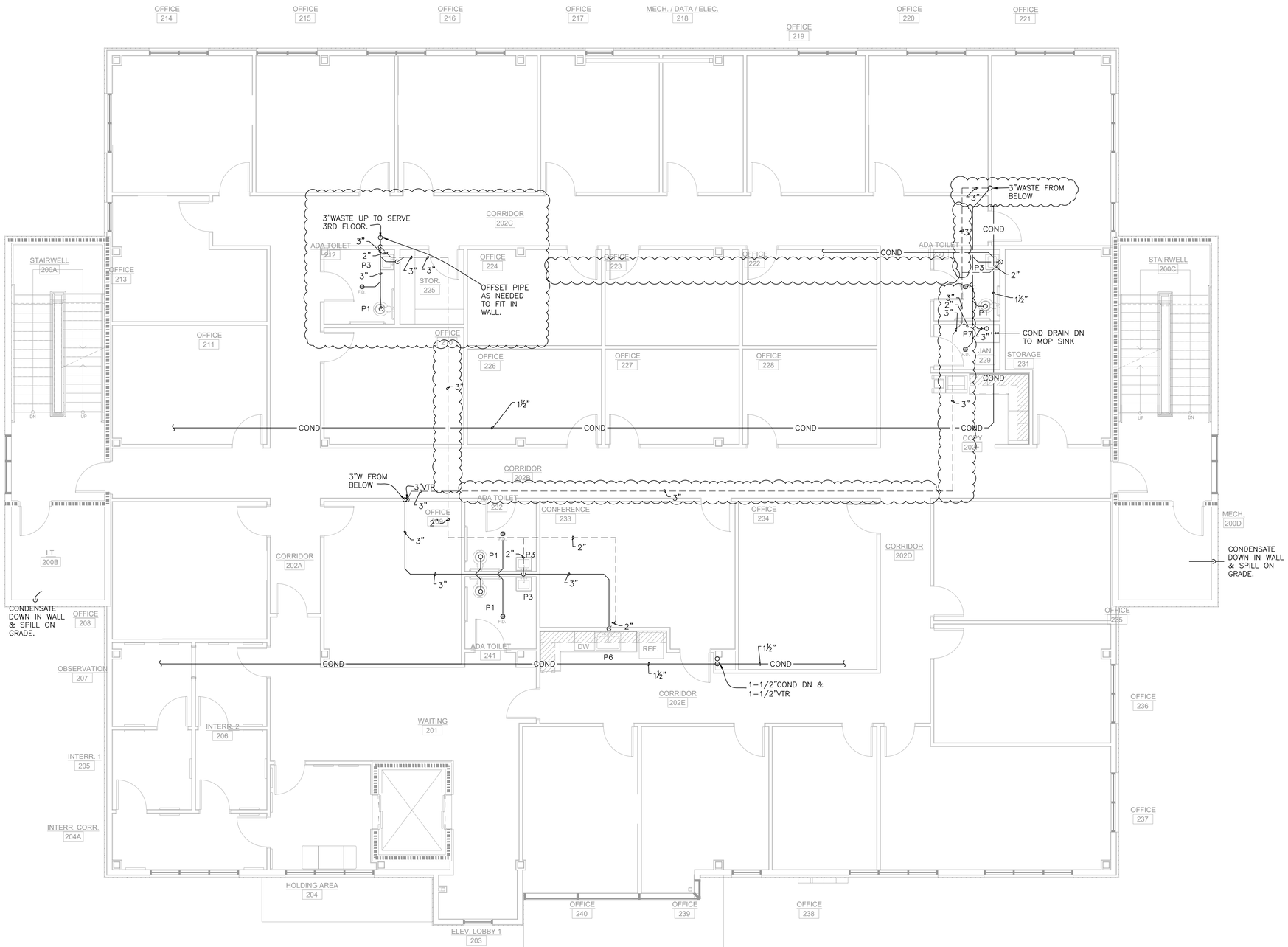

1 / P1.2 SECOND FLOOR WASTE PLAN

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

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SECOND FLOOR WASTE PLAN

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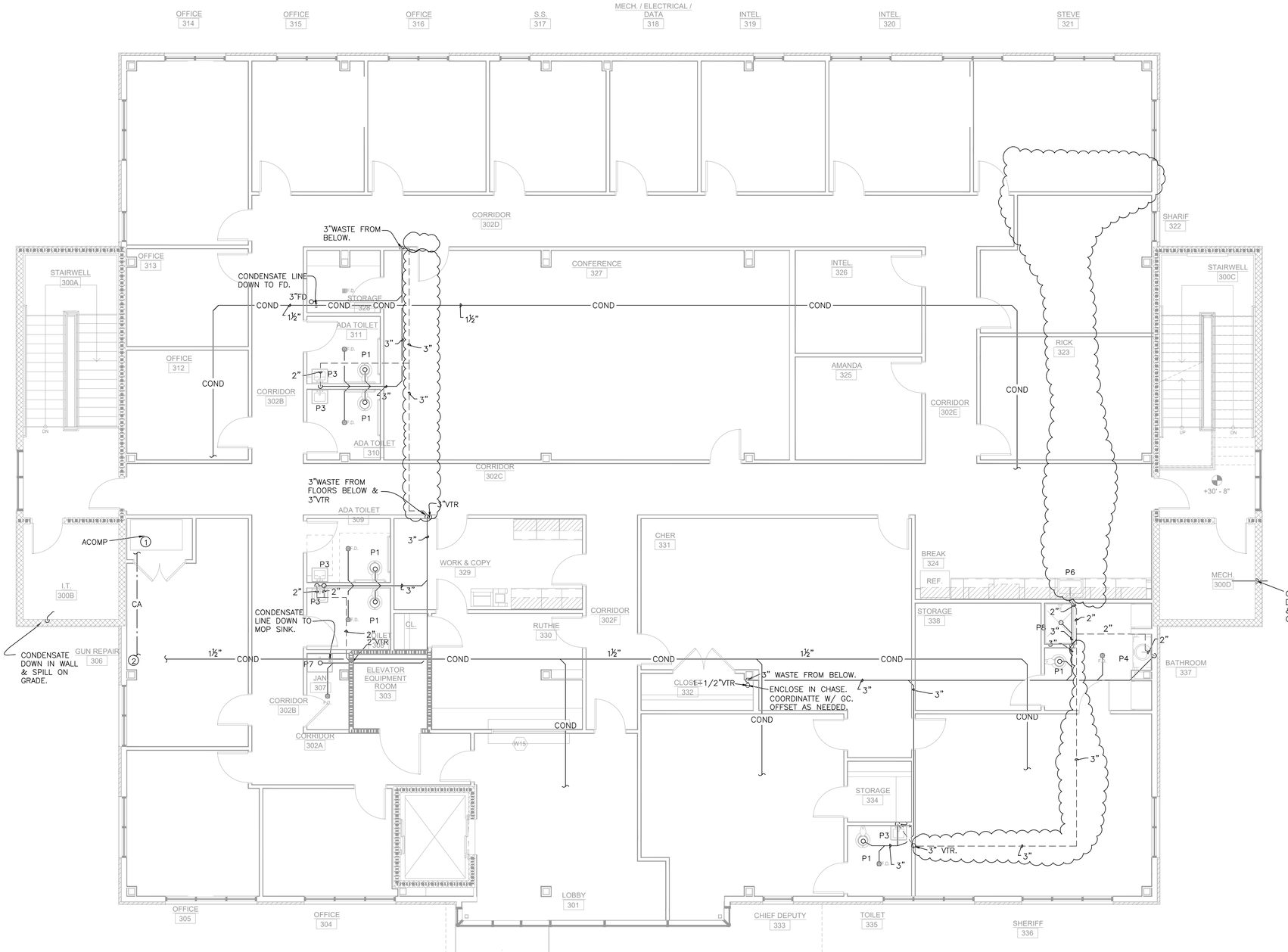

CONSTRUCTION NOTES

1. ACOMP TO BE PIPED WITH COPPER TUBING TO SERVE A ¾" BRASS AIR VALVE W/ COMPRESSION FITTING. ALSO PROVIDE/INSTALL AN AIR PRESSURE GAUGE IN THE REPAIR ROOM.
2. OBTAIN OWNER APPROVAL FOR FINAL LOCATION OF COMPRESSOR, GAUGE & VALVE.

1 / P1.3 THIRD FLOOR WASTE PLAN

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

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THIRD FLOOR WASTE PLAN

DRWN BY: JG
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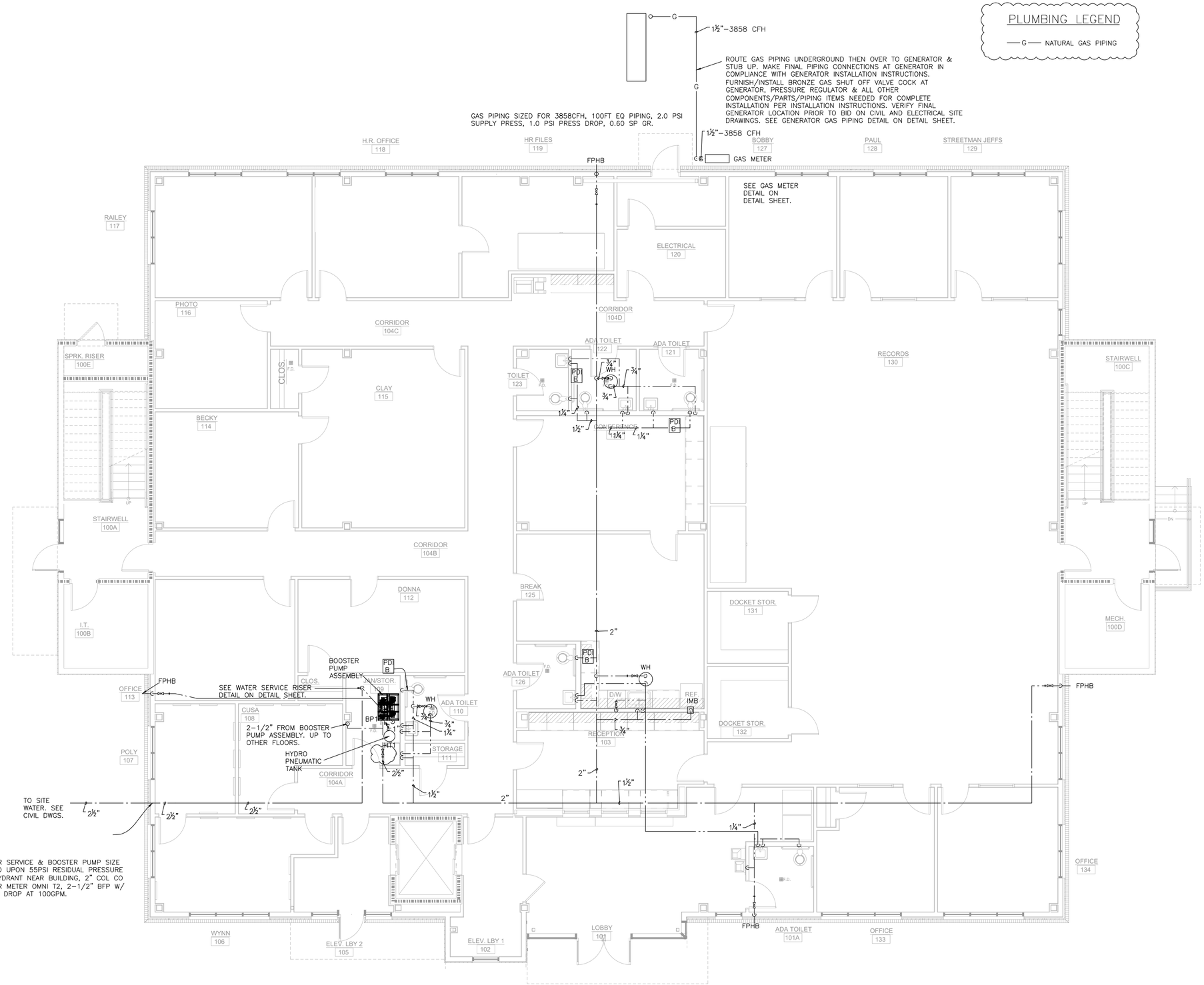
PLUMBING LEGEND

—G— NATURAL GAS PIPING



FIRST FLOOR WATER/GAS PLAN

1 / P2.1

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

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FIRST FLOOR WATER PLAN

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SECOND FLOOR WATER PLAN

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

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SECOND FLOOR WATER PLAN

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1 / P2.3 THIRD FLOOR WATER PLAN

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PLUMBING NOTES:

1. ALL WORK SHALL CONFORM TO THE LATEST INTERNATIONAL PLUMBING & GAS CODES ADOPTED W/ LATEST STATE AMENDMENTS AND ALL APPLICABLE LOCAL CODES & COLUMBIA COUNTY REQUIREMENTS. WHERE TWO OR MORE CODES ARE IN CONFLICT THE MORE STRINGENT CODE SHALL APPLY.

2. EXACT LOCATIONS AND ROUGHING REQUIREMENTS FOR ALL FIXTURES AND EQUIPMENT SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS, LARGE SCALE ARCHITECTURAL DETAILS AND APPROVED MANUFACTURER'S SHOP DRAWINGS. PARTICULAR ATTENTION SHALL BE DIRECTED TO FIXTURES OR EQUIPMENT FURNISHED UNDER OTHER DIVISIONS. COORDINATE ALL NEW WORK WITH ANY EXISTING CONDITIONS.

3. PIPING IS SHOWN IN ITS GENERAL LOCATION (UNLESS DIMENSIONED). EXACT LOCATION SHALL BE DETERMINED BY JOB CONDITIONS. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF HIS WORK WITH THAT OF OTHER TRADES & ARRANGE PIPING TO CLEAR STRUCTURAL MEMBERS & DUCTWORK. IF THE PLUMBING CONTRACTOR INSTALLS HIS WORK PRIOR TO COORDINATING WITH ALL OTHER TRADES OR AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE NECESSARY CHANGES TO THE WORK OR CORRECT THE CONDITION WITHOUT EXTRA CHARGE. CONTRACTOR SHALL VERIFY LOCATIONS OF SEWER, WATER, GAS & ANY OTHER UTILITY CONNECTIONS FROM APPROVED SITE PLANS PRIOR TO BID. REROUTING OF UTILITIES FROM THAT SHOWN ON PLANS AT CONTRACTORS RISK. THE PLUMBING CONTRACTOR TO FURNISH ALL REQUIRED MATERIAL TO PROVIDE FOR THE PROPER INSTALLATION OF ALL PLUMBING EQUIPMENT. ANY CONFLICTS OR DISCREPANCIES REGARDING WHAT IS REQUIRED AS TO WHAT IS INDICATED ON PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BID & PRIOR TO CONSTRUCTION SO THIS CAN BE CLARIFIED. IF DISCREPANCIES ARE NOT BROUGHT TO THE ARCHITECTS ATTENTION PRIOR TO FINAL BIDS THEN THE PLUMBING CONTRACTOR ACCEPTS THE DRAWINGS AS SUFFICIENT & CHANGE ORDERS DURING CONSTRUCTION WILL NOT BE CONSIDERED. IF INSTALLED PLUMBING WORK & SPECIFICATIONS VARY FROM WHAT IS INDICATED ON DRAWINGS & THE AUTHORITY HAVING JURISDICTION REQUIRES DRAWINGS TO BE REVISED OR FORMAL ENGINEER'S APPROVAL THE PLUMBING CONTRACTOR SHALL PAY ALL COSTS INVOLVED IN DRAWING REVISIONS AND/OR ENGINEER'S DOCUMENTED CORRESPONDENCE GENERATION.

4. RISERS FOR FIXTURES, UNLESS OTHERWISE NOTED, SHALL BE CONCEALED IN WALLS OR PIPE CHASES. MINIMUM SIZE WATER LINE FOR ANY TWO FIXTURES SHALL BE 3/4".

5. PROVIDE SLEEVES FOR PIPES PASSING THRU FLOORS, MASONRY WALLS AND FIRE OR SMOKE PARTITIONS. PACK MINERAL WOOL IN ANNULAR SPACE BETWEEN PIPE SLEEVE AND SEAL WITH FIRE CAULK.

6. PLUMBING FIXTURES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ALL FIXTURES SHALL BE APPROVED BY OWNER, U.O.S.

7. ARRANGEMENT OF WORK SHALL BE AS SHOWN. DRAWINGS ARE NOT INTENDED TO INDICATE ALL OFFSETS AND FITTINGS. EXAMINE ALL DRAWINGS, INVESTIGATE CONDITIONS TO BE ENCOUNTERED AND ARRANGE WORK ACCORDINGLY FOR ALL PROJECT PHASES. FURNISH ALL FITTINGS AND OFFSETS.

8. INSTALL SYSTEMS, EQUIPMENT AND COMPONENTS LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED IN FINISHED SPACES.

9. COPPER PIPE SHALL NOT BE INSTALLED IN DIRECT CONTACT WITH MASONRY, CEMENT MORTAR, CONCRETE, OR DISSIMILAR METALS.

10. INSTALL EXTERIOR HOSE BIBBS 18" ABOVE GRADE.

11. ROUTE WATER PIPING UNDER CEILING INSULATION WHERE POSSIBLE.

12. PLUMBING PIPING TO BE INSTALLED UNDER BUILDING FOUNDATION SLAB TURNDOWN. PLUMBING CONTRACTOR TO WORK OUT PIPING INVERTS TO ROUTE ALL PLUMBING SERVICE PIPING TO AVOID INTERFERENCE WITH CONCRETE SLAB TURNDOWN.

13. WHERE APPLICABLE, COORDINATE INSTALLATION OF ALL PLUMBING LINES AT CMU WALLS SO THAT PLUMBING LINES ARE PLACED IN WALL DURING CMU WALL CONSTRUCTION. CUTTING & PATCHING OF CMU WALLS IN PLACE NOT PERMITTED.

14. VERIFY BACKFLOW PREVENTER REQUIREMENTS OF LOCAL AUTHORITY & PROVIDE BACKFLOW PREVENTER AS REQUIRED. COORDINATE LOCATION WITH OTHER TRADES, ARCHITECT & OWNER PRIOR TO INSTALLATION.

15. FIRE STOP ALL PENETRATIONS BY PIPING OR CONDUITS OF FIRE RATED WALLS OR FLOORS AND PARTITIONS. PROVIDE A DEVICE(S) OR SYSTEM(S) WHICH HAS BEEN TESTED & LISTED AS COMPLYING WITH ASTM E-184 & INSTALL IN ACCORDANCE WITH CONDITIONS OF THEIR TESTING. PROVIDE A DEVICE(S) OR SYSTEM(S) WITH AN "F" RATING EQUAL TO THE RATING OF THE ASSEMBLY BEING PROTECTED.

16. GENERAL CONTRACTOR/PLUMBING CONTRACTOR SHALL VERIFY PLUMBING SCHEDULE WITH ARCHITECT & OWNER PRIOR TO BID & PRIOR TO PERFORMING ANY WORK.

17. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES, ie., ARCHITECTURAL, HVAC, ELECTRICAL, STRUCTURAL, CIVIL & FIRE PROTECTION. IF THE PLUMBING CONTRACTOR INSTALLS HIS WORK PRIOR TO COORDINATING WITH ALL OTHER TRADES OR AS TO CAUSE ANY INTERFERENCE WITH WORK OF OTHER TRADES, HE SHALL MAKE NECESSARY CHANGES TO THE WORK OR CORRECT THE CONDITION WITHOUT EXTRA CHARGE.

18. THE PLUMBING CONTRACTOR SHALL COORDINATE/VERIFY UTILITY LOCATIONS (ELECTRICAL, SIGNAL, SANITARY SEWER, VENT, CONDENSATE DRAINS, POTABLE WATER, FIRE WATER & NATURAL GAS), & SIZES PRIOR TO CONSTRUCTION. ADEQUATE EXISTING INVERT ELEVATIONS TO BE VERIFIED PRIOR TO BID. NOTIFY OWNER IF INADEQUATE INVERT ELEVATIONS EXIST PRIOR TO BID.

19. PROVIDE CLEANOUTS IN ALL SEWER LINES, WHETHER INDICATED OR NOT, AT SPACING NOT TO EXCEED 100 FEET, AT EACH CHANGE OF DIRECTION GREATER THAN 45 DEGREES & AT THE BASE OF ALL VERTICAL RISER STACKS (APPROXIMATELY 24" ABOVE FINISHED FLOOR).

20. WHERE WATER PIPING IS ROUTED IN EXTERIOR WALLS, POSITION WATER PIPING ON THE HEATED SIDE (INTERIOR SIDE) OF THE WALL INSULATION.

21. ALL CONDENSATE DRAIN, SEWER & VENT PIPING SHALL BE RODDED & CLEANED AT END OF CONSTRUCTION. ALL TRAPS SHALL BE CLEANED & PRIMED AT THE END OF CONSTRUCTION.

22. PROVIDE WATER HAMMER ARRESTORS IN FIXTURE BRANCHES WHERE QUICK CLOSING VALVES ARE INSTALLED SUCH AS FLUSH VALVES, ICE MAKERS, DISHWASHERS, ETC.

23. ALL WATER PIPING SHALL BE INSULATED WITH 1" THICK INSULATION HAVING A CONDUCTIVITY NOT EXCEEDING 0.27 BTU PER INCH/h X FT2 X °F PER THE INTERNATIONAL ENERGY CONSERVATION CODE. INSULATION JACKET SHALL BE PER ASTM C921, TYPE 1, FOR BELOW AMBIENT SERVICE AND PER ASTM C921, TYPE 2, FOR ABOVE AMBIENT SERVICE.

24. PROVIDE TEMPERED WATER FOR ALL HAND WASHING FACILITIES & EYEWASHES THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO IPC SECTION 416.5. SYMMONS MAXLINE SERIES OR EQUAL. PROVIDE THERMOSTATIC MIXING VALVES FOR SAFETY SHOWERS, ETC., PER CODES WITH MODEL NUMBERS AS RECOMMENDED BY THE FIXTURE MANUFACTURER.

25. IF PLUMBING CONTRACTOR DESIRES TO INSTALL HIGHER PRESSURE GAS PIPING AS AN OPTION THE PLUMBING CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY & ALL ASSOCIATED COSTS FOR RESIZING & FURNISHING ALL ADDITIONAL COMPONENTS REQUIRED FOR A HIGHER PRESSURE GAS PIPING SYSTEM.

26. ALL ALTERNATES DESIRED BY THE PLUMBING CONTRACTOR SHALL BE DOCUMENTED AND SENT TO THE ARCHITECT 10 BUSINESS DAYS PRIOR TO BID DATE. OTHERWISE THE PLUMBING CONTRACTOR SHALL PAY FOR ANY DRAWING REVISIONS OR CORRESPONDENCE REQUIRED OF THE ENGINEER TO OBTAIN THE BUILDING INSPECTORS APPROVAL OF INSTALLED EQUIPMENT, MATERIALS, ETC., THAT ARE NOT DESIGN BASIS PER THESE PLUMBING NOTES, PLUMBING SPECIFICATIONS, PLUMBING PLANS, AND/OR PLUMBING SCHEDULES.

27. PROVIDE HEAT TRAP PIPING FOR WATER HEATERS NOT HAVING INTERNAL HEAT TRAPS PER MANUFACTURERS INSTRUCTIONS.

28. PROVIDE & IDENTIFY VALVES & PIPING IN COMPLIANCE WITH THE INTERNATIONAL PLUMBING CODE & ANY SPECIAL LOCAL/STATE & COLUMBIA COUNTY REQUIREMENTS.

29. PROVIDE ACCESS DEVICES/DOORS AS NEEDED FOR VALVES, EQUIPMENT, ETC. COORDINATE SIZE & SELECTION W/ GENERAL CONTRACTOR & ARCHITECTURAL FINISHES.

30. INSTALL ALL PLUMBING EQUIPMENT SUCH THAT THE RECOMMENDED MANUFACTURER CLEARANCES ARE MAINTAINED FOR SERVICEABILITY & MAINTENANCE.

31. WHERE HIGH PRESSURE GAS SYSTEMS ARE SHOWN PROVIDE ALL ADDITIONAL EQUIPMENT SUCH AS PRESSURE REGULATORS AS REQUIRED FOR A COMPLETE OPERABLE SYSTEM, WHETHER CALLED OUT IN PLAN VIEW OR SCHEDULES OR NOT.

32. ROUTE ALL DRAINS FROM WATER HEATERS TO NEAREST PLUMBING DRAINS OR TO EXTERIOR OF BUILDING. PROVIDE 2" FLOOR OR HUB DRAIN IF NEEDED.

33. WHERE EXISTING PVC PLUMBING LINES ARE LOCATED OR TO BE LOCATED IN HVAC CEILING RETURN PLENUMS EITHER WRAP THE PIPING WITH CODE APPROVED FIRE WRAP BLANKET OR REPLACE THE PIPING WITH CAST IRON PIPING OR OTHER MEANS APPROVED BY THE AUTHORITY HAVING JURISDICTION. INSPECT ANY PROPOSED HVAC CEILING RETURN PLENUMS PRIOR TO BID FOR THIS CONDITION. WHERE THIS CONDITION EXISTS OBTAIN APPROVAL FROM AUTHORITY HAVING JURISDICTION FOR THE PROPOSED TREATMENT OF THE PVC PIPING PRIOR TO BID.

34. SEAL AND OR FLASH ALL OPENINGS IN INTERNAL/EXTERNAL BUILDING COMPONENTS RESULTING FROM THIS WORK IN COMPLIANCE WITH ALL APPLICABLE CODES. RODENTPROOF OPENINGS PER THE INTERNATIONAL BUILDING CODE AS WELL.

35. INSTALL UNIONS AT VALVES & OTHER PLUMBING DEVICES THAT WILL REQUIRE MAINTENANCE & EVENTUAL REPLACEMENT.

36. OFFSET PIPING HORIZONTALLY AND/OR VERTICALLY AS NEEDED TO KEEP PIPING IN WALLS FOR WASTE/WATER RISERS BETWEEN FLOORS .

WATER HAMMER ARRESTOR SCHEDULE

P.D.I. UNITS	A	B	C	D
FIXTURE UNITS	1-11	12-32	33-60	61-113
JR SMITH HYDROTROL MODEL	5005	5010	5020	5030

PLUMBING LEGEND

- SANITARY SEWER PIPING
- VENT PIPING
- COLD WATER PIPING
- HOT WATER PIPING
- VTR VENT THROUGH ROOF
- PDI # WATER HAMMER ARRESTOR PER WATER HAMMER ARRESTOR SCHEDULE
- CA COMPRESSED AIR PIPING
- COND CONDENSATE PIPING

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	NOM. PIPE, INCHES CW	HW	W	V	DESCRIPTION OR EQUAL
P1	WATER CLOSET (H.C.)	1"	–	4"	2"	KOHLER K-96057, SLOAN 111-1.28 FLUSH VALVE, ELONGATED OPEN FRONT SEAT & TRIM
P2	NOT USED	–	–	–	–	–
P3	LAVATORY (H.C.)	½"	½"	1½"	2"	KOHLER K-2032, WALL HUNG CHINA LAV, DELTA 500-WCS-DST FCT W/ 0.5GPM RESTRICTOR & TRIM & TRAP COVERS
P4	LAVATORY (H.C.)	½"	½"	1½"	2"	KOHLER K-2196, LAYIN CHINA LAV, DELTA 500-WCS-DST FCT W/ 0.5GPM RESTRICTOR & TRIM & TRAP COVERS
P5	ELEC WATER COOLER	½"	–	1½"	2"	ELECTRIC HI LO, ADA, ELKAY LZSTLDDSVRSK w/ FILLER, SS Finish
P6	SINK	½"	½"	1½"	2"	DAYTON, 233224, DELTA 400LF-HDF, 1.5GPM & TRIM W/IN-SINK-ERATOR PRO-750 DISPOSER & DISPOSER WASTE, TRAP, BRASSCRAFT CR-1920-A SUPPLY KIT
P7	MOP SINK	½"	½"	2"	2"	FIAT, MSB-2424, SPEAKMAN SC-5811 FCT & MOP HANGER
P8	SHOWER	½"	½"	2"	2"	48X35 STERLING MODEL 72220100 W/ DRAIN, SPEAKMAN MODEL SM-5010 HEAD/VALVE & TRIM
DW	DISHWASHER	½"	½"	2"	2"	PROVIDE ALL PIPE, FITTINGS, EQUIPMENT NEEDED TO MAKE DW FUNCTIONAL
IMB	ICE MAKER BOX	½"	–	–	–	WATER-TITE AB9700
WH	ELEC WATER HEATER	–	–	–	–	AO SMITH DEL-10S-3, 10GAL. 208V/1PH/3KW, 0.92 EF. W/ HOLD-RITE 30-SWHP-M SUSPENDED PLATFORM.
WH2	ELEC WATER HEATER	–	–	–	–	AO SMITH DEL-6S-1.5, 6GAL. 208V/1PH/1.5KW, 0.92 EF. W/ HOLD-RITE 30-SWHP-M SUSPENDED PLATFORM.
FPHB	HOSE BIBB	¾"	–	–	–	WOODFORD 27 W/VAC BKR
HB	HOSE BIBB	¾"	–	–	–	CHROME WOODFORD 24 W/VAC BKR-METAL HANDLE
RWH	ROOF MOUNTED WATER HYDRANT	¾"	–	–	–	WOODFORD SRH-MS W/VAC BKR & MOUNTING SYSTEM
CO	CLEAN OUT	–	–	–	–	JR SMITH 4031
FCO	FLOOR CLEANOUT	–	–	–	–	JR SMITH 4031, BRASS, W/ CARPET MARKER WHERE NEEDED
FD	FLOOR DRAIN	–	–	–	–	JR SMITH 2005B, SQUARE TOP, NICKEL BRONZE HEAD
ACOMP	AIR COMPRESSOR					GAST TANK MOUNTED STATIONARY AIR COMPRESSOR- GRAINGER. ITEM # 5Z675. MFR MODEL 5HCD-100TA-M550NGX. 20 GAL TANK, HORIZONTAL TYPE. 0.75BHP. 120VAC/14A/60HZ. REFRIGERATED DRYER ZEKS, HTB HI-TEMP, MODEL HTB100, WITH THE PREFILTER AND GAUGE PACKAGE. INSTALL ON KINETICS NOISE CONTROL NEOPRENE TYPE RO MOUNT.

NOTE: REFERENCE ARCHITECTURAL DRAWINGS FOR FIXTURE RIM HEIGHTS. ALL FIXTURES SHALL MEET CURRENT ADA REQUIREMENTS. ALL FIXTURES TO BE SUPPLIED WITH ALL TRIM, FAUCETS, ETC., REQUIRED. OWNER SHALL APPROVE ALL FIXTURE SELECTIONS & SIZES. INSTALL 5 GAL EXPANSION TANK W/ WATER HEATER. FLUSH HANDLES/LEVERS TO WIDE SIDE OF STALL.
PROVIDE PROSET TRAP GUARD FOR ALL FLOOR DRAINS.

PIPING INDEX

SERVICE	MATERIAL
WATER, INTERIOR, ABOVE GRADE	COPPER, ASTM B88, TYPE L, DRAWN
WATER, BELOW GRADE	COPPER, ASTM B88, TYPE K, DRAWN
WASTE & VENT	SCH 40 PVC-DWV PER ASTM D2665 W/ SOCKET FITTINGS. SOCKETS PER ASTM D2564. NO FOAM CORE. OR SERVICE WT. CAST IRON OR HUBLESS, CAST IRON FITTINGS, NEOPRENE GASKET SYSTEM OR HUBLESS CLAMP & SHIELD
GAS, ABOVEGROUND	STEEL, ASTM A53, SCH 40, FITTINGS: ASTM B16.3, MALLEABLE IRON, THREADED JOINTS. APPROVED ALTERNATE VIEGA MEGAPRESS-G
GAS, UNDERGROUND	STEEL, ASTM A53, SCH 40, MILL WRAP FITTINGS: ASTM A234, WROUGHT CS, WELDED JOINTS. APPROVED ALTERNATE VIEGA MEGAPRESS-G
COMPRESSED AIR	COPPER, ASTM B88, TYPE K, DRAWN. FITTINGS ASME B16.8 OR B16.22. SOLDER JOINTS. COPPER, ASTM B88, TYPE K, ANNEALED. FITTINGS ASME 16.26 CAST BRONZE. FLARED JOINTS.

NOTE- ALL MATERIAL & JOINING SYSTEMS LISTED ABOVE MUST BE APPROVED BY LOCAL AUTHORITY HAVING JURISDICTION.
NOTE- NO PVC IN CEILING RETURN PLENUMS WHERE APPLICABLE.
NOTE- ALL PIPING LISTED IN THE INDEX ABOVE MUST MEET THE SPECIFICATION REQUIREMENTS PER ALL APPLICABLE CODES FOR THIS PROJECT.

VALVES SCHEDULE

CALLOUT	SYMBOL	NOTE 1
Ball		FULL PORT BRASS BALL VALVES. CHROME PLATED BRASS BALL FOR 1/4"-1".STAINLESS STEEL BALL FOR 1-1/4"-4"
Gate		
Pressure Reducing		

MISCELLANEOUS SCHEDULE

CALLOUT	SYMBOL
Break	
Flange or CAP	
Pressure Gauge	
Union	
Wye Strainer	

HYFAB

MVP-630-460
Duplex Variable Speed Pressure Booster

HYFAB MODEL MVP-630-460 DUPLEX VARIABLE SPEED PRESSURE BOOSTER, SELECTED FOR 100 GPM (50 PER PUMP) @ 15 PSI BOOST, VOLTAGE 460, UNIT FULLY PIPED, WIRED, MOUNTED ON FRAME, AND FACTORY TESTED. SEE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

System Design Data

Design System Flow	100 GPM	Maximum Discharge	165 PSI
System Discharge Pressure	PSI / FT HD	Header Size	4" Ø
Suction Pressure Available	PSI / FT HD	Booster Horsepower	3 HP
Total Pressure Developed	PSI / FT HD	Voltage	460/3/60

System FLA: 9A	MCA: 10A	MOCP: 15A	Booster Weight: 515 lbs.

Standard Booster Features

- End Suction Pumps
- Thermal Protection Valves
- 304 SS Header; Grooved
- Pump Isolation Valves
- Epoxy Coated Check Valves
- Service In Place Check Valves
- Suction & Discharge Pressure Gauges
- 3.5" Touch Screen
- NEMA 1 Enclosure
- Single Point Power Connection
- No Flow Shutdown
- Automatic Alternation
- Variable Speed Pump Logic Controller
- VFDs With Manual Overload Protection

Pump Information

Features and Benefits
- Back pull-out to reduce maintenance downtime
- Replaceable wear rings and stainless steel shaft sleeve
- Standard NEMA JM motor
- Max discharge pressure of 175 psi
- Max suction pressure of 100 psi
- Maximum temperature 212°F
- Type 21 mechanical seal

Materials of Construction
- Volute - Cast Iron, ASTM A48 CL20
- Volute O-ring -Viton
- Impeller - Silicon bronze ASTM B584, C87500
- Mechanical seal, Carbon/Sil-Carbide/Viton

	Pump One	Pump Two
Pump Series	1.526F	1.526F
Motor Horsepower	3 HP	3 HP
Motor RPM	3500	3500
Voltage / Hertz / Phase	460/3/60	460/3/60
Pump Capacity (GPM)		
Pump Capacity (TDH)		
Check Valve Size	2"	2"
Motor Eff. / Enclosure	ODP - PE	ODP - PE

Accessories

MVP-FK-3 / MVP-FK-4 / MVP-FK-6 - Flange Adapter Kit
- Fastens to standard booster headers
- Allows for a flanged connection on suction and discharge headers
- Kit includes two flanges and two couplings.

MVP-TC-3 / MVP-TC-4 / MVP-TC-6 - Hydro-Pneumatic Tank Easy Connect Cap
- Fastens to standard booster headers
- Union connection allows for easy connection to a hydro-pneumatic tank
- Drain port with hose connection
- Replaces standard end cap on discharge header

HYDROPNEUMATIC TANK SPECIFICATION

MARK: HT1

DESCRIPTION
WESSELS TYPE FX-SERIES TANKS ARE NON-ASME REPLACEABLE BLADDER TYPE PRE-CHARGED HYDRO- PNEUMATIC TANKS FOR RESIDENTIAL AND COMMERCIAL WELL AND WATER SYSTEMS, BOOSTER SYSTEMS, IRRIGATION SYSTEMS, ETC. THEY ARE DESIGNED TO DELIVER WATER UNDER PRESSURE BETWEEN PUMP CYCLES TO PROVIDE SUFFICIENT FLOW TO MEET DEMANDS. THE WATER IS CONTAINED IN A BUTYL BLADDER. THE EXTERIOR HAS A BAKED EPOXY FINISH. PRODUCTS COMPLY WITH NSF/ANSI STANDARD 61.

CONSTRUCTION
SHELL: CARBON STEEL BLADDER: HEAVY DUTY BUTYL
FDA APPROVED NSF 61 LISTED
SYSTEM CONNECTION: STAINLESS STEEL

PERFORMANCE LIMITATIONS MAXIMUM DESIGN TEMPERATURE: 240°F MAXIMUM DESIGN PRESSURE: 150 PSIG

FURNISH AND INSTALL, AS SHOWN ON PLANS, A 16 GALLON 15" DIAMETER X 34" (HIGH) PRE-CHARGED HYDRO-PNEUMATIC TANK WITH HEAVY-DUTY BUTYL BLADDER. THE TANK SHALL HAVE STAINLESS STEEL NPT SYSTEM CONNECTIONS AND A 0.302"-32 CHARGING VALVE CONNECTION (STANDARD TIRE VALVE) TO FACILITATE THE ON-SITE CHARGING OF THE TANK TO MEET SYSTEM REQUIREMENTS. PRODUCTS COMPLY WITH NSF/ANSI STANDARD 61.

EACH TANK SHALL BE WESSELS MODEL NUMBER FX-60V OR APPROVED EQUAL.

INERTIA BASE FOR BOOSTER PUMP SYSTEM:

KINETICS NOISE CONTROL, INC.
MODEL CIB-L WITH FHS TYPE FLOOR SPRING ISOLATORS, VENDOR SELECTED BY THEIR ENGINEERING DEPARTMENT.

A. CONCRETE INERTIA BASE: INERTIA BASES SHALL BE OF WELDED STEEL CONSTRUCTION WITH CONCRETE IN-FILL SUPPLIED BY THE INSTALLING CONTRACTOR ON SITE AND SHALL INCORPORATE REINFORCING BARS, SPACED 300 MM (12") MAXIMUM ON CENTERS EACH WAY.

1. INERTIA BASES FOR PUMPS SHALL BE OF SUFFICIENT SIZE TO ACCOMMODATE SUPPORTS FOR PIPE ELBOWS AT PUMP SUCTION AND DISCHARGE CONNECTIONS (IF THIS INFORMATION HAS BEEN PROVIDED FOR CONFIGURATION).

2. THE WEIGHT OF EACH INERTIA BASE SHALL BE SUFFICIENT TO LOWER THE CENTER OF GRAVITY TO OR BELOW THE ISOLATOR SUPPORT PLANE.

3. INERTIA BASES SHALL BE A MINIMUM OF 150 MM (6") THICK.

RESTRAINED FLOOR SPRINGS [FHS]

1. VIBRATION/SEISMIC SPRING FLOOR MOUNTS: TYPE FHS - SPRING ISOLATORS SHALL BE SEISMICALLY RESTRAINED SPRING ISOLATORS, INCORPORATING A SINGLE VIBRATION ISOLATOR. SPRINGS SHALL BE RESTRAINED USING A HOUSING ENGINEERED TO LIMIT BOTH LATERAL AND VERTICAL MOVEMENT OF THE SUPPORTED EQUIPMENT DURING AN EARTHQUAKE WITHOUT DEGRADING THE VIBRATION ISOLATION OF THE SPRING DURING NORMAL EQUIPMENT OPERATING CONDITIONS. VIBRATION ISOLATORS SHALL INCORPORATE A STEEL HOUSING AND SNUBBING GROMMET SYSTEM DESIGNED TO LIMIT MOTION TO APPROXIMATELY 0.2" (5 MM) IN ANY DIRECTION AND TO PREVENT ANY DIRECT METAL-TO-METAL CONTACT BETWEEN THE SUPPORTED MEMBER AND THE FIXED HOUSING. WHERE THE CAPACITY OF THE ANCHORAGE HARDWARE IN CONCRETE IS INADEQUATE FOR THE REQUIRED SEISMIC LOADINGS, AN ADAPTER PLATE TO ALLOW THE ADDITION OF MORE OR LARGER ANCHORS WILL BE FITTED TO FULFILL THESE REQUIREMENTS. IN ADDITION TO THE PRIMARY ISOLATION SPRING, THE LOAD PATH WILL INCLUDE A MINIMUM 0.25" (6 MM) THICK NEOPRENE PAD. SPRING ELEMENTS SHALL BE COLOR CODED OR OTHERWISE EASILY IDENTIFIED. SPRINGS SHALL HAVE A LATERAL STIFFNESS GREATER THAN 1.2 TIMES THE RATED VERTICAL STIFFNESS AND SHALL BE DESIGNED TO PROVIDE A MINIMUM OF 50% OVERLOAD CAPACITY. NON-WELDED SPRING ELEMENTS SHALL BE EPOXY POWDER COATED AND SHALL HAVE A MINIMUM OF A 1000-HOUR RATING WHEN TESTED IN ACCORDANCE WITH ASTM B-117 TO FACILITATE SERVICING. OVERSIZED BASE PLATES MAY BE REQUIRED AND WILL BE DETERMINED WHEN SEISMIC CERTIFICATIONS ARE PERFORMED. SPRING ISOLATORS SHALL BE MODEL FHS AS MANUFACTURED BY KINETICS NOISE CONTROL, INC.

GREENCO of Augusta, Inc.
Consulting Engineering
P. O. Box 56
Harlem, GA 30814
706-556-0405
706-449-0732 fax

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SHERIFF'S ADMINISTRATION BLDG.
COLUMBIA COUNTY
2273 COUNTY CAMP ROAD
APPLING, GEORGIA 30802

PLUMBING NOTES & SCHEDULES

DRWN BY: JG
CHK'D BY: EB
DATE: MAY 18, 2021

REVISIONS

#	COMMENTS:
AD-2	ISSUED FOR PERMIT
	ADDENDUM 2 7/10/21

JOB NO.
2019

SHEET NO.
P3.1

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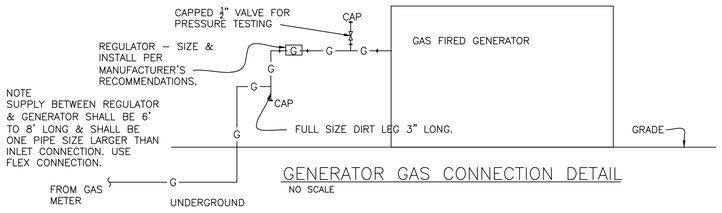

GENERATOR GAS CONNECTION DETAIL
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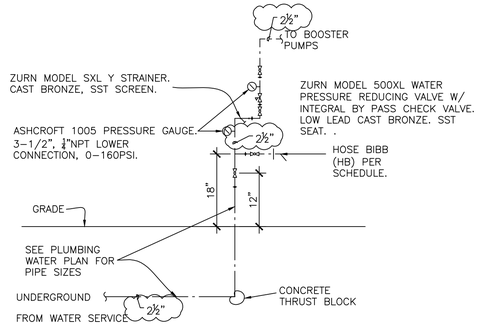

WATER SERVICE RISER DETAIL
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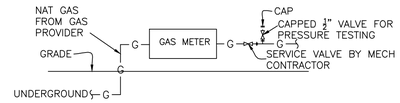

GAS METER DETAIL
NO SCALE

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SHERIFF'S ADMINISTRATION BLDG.
COLUMBIA COUNTY
2273 COUNTY CAMP ROAD
APPLING, GEORGIA 30802

PLUMBING DETAILS

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AD-2	ADDENDUM 2 7/10/21

JOB NO.
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P3.2

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LEGEND

LIGHTING AND POWER

CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALL CONTAINING 3 NUMBER 12 CONDUCTORS UNLESS SHOWN OTHERWISE. HASH MARKS, IF SHOWN, INDICATE QUANTITY OF NUMBER 12 CONDUCTORS. WHERE DRAWING SPACE PROHIBITS HASH MARKS BEING SHOWN REFER TO CIRCUIT NUMBERS AND PROVIDE REQUIRED NUMBER OF CONDUCTORS PER CIRCUIT TYPE.

CONDUIT RUN CONCEALED IN OR BELOW FLOOR SLAB, OR UNDERGROUND.

A-2,4,6 — HOMERUN TO PANELBOARD, LETTER OR LETTERS INDICATE PANELBOARDS, NUMBERS INDICATE CIRCUIT NUMBERS.

EXPOSED CONDUIT RUN.

2-E — LIGHTING FIXTURE, "2" INDICATES THE CIRCUIT NUMBER AND "E" THE FIXTURE TYPE. SEE FIXTURE SCHEDULE FOR DIMENSIONS AND MOUNTING TYPE.

EMERGENCY LIGHTING FIXTURE. SEE FIXTURE SCHEDULE FOR DIMENSIONS, MOUNTING TYPE.

FIXTURE, SURFACE OR STEM MOUNTED.

TROFFER FIXTURE. SEE FIXTURE SCHEDULE FOR DIMENSIONS AND MOUNTING TYPE.

EMERGENCY TROFFER. SEE FIXTURE SCHEDULE FOR DIMENSIONS, MOUNTING TYPE.

LIGHTING FIXTURE, SURFACE WALL BRACKET MOUNTED. MOUNTING HEIGHT AS NOTED.

LIGHTING FIXTURE, SURFACE WALL BRACKET MOUNTED. MOUNTING HEIGHT AS NOTED.

CHANDELIER OR PENDANT FIXTURE. CEILING PENDANT MOUNTED.

TRACK LIGHT FIXTURE(S). CEILING OR PENDANT MOUNTED.

X — EXIT LIGHT

EMERGENCY PACK FIXTURE.

JUNCTION BOX, FLUSH WALL MOUNTED.

J — JUNCTION BOX LOCATED ABOVE CEILING OR BELOW GRADE.

5 — DUPLEX CONVENIENCE OUTLET, +18" TO CENTER LINE OF OUTLET UNLESS OTHERWISE NOTED. 5" INDICATES THE CIRCUIT NUMBER.

DUPLEX CONVENIENCE OUTLET MOUNTED ABOVE COUNTER, AT +46" TO CENTERLINE OF OUTLET.

DUPLEX CONVENIENCE OUTLET, GFI TYPE. +18" TO CENTER LINE UNLESS OTHERWISE NOTED. "WP" WHERE SHOWN INDICATES WEATHER-RESISTENT DEVICE WITH METAL IN-USE WEATHERPROOF COVER. HOSPITAL GRADE.

DUPLEX CONVENIENCE OUTLET, GFI TYPE. MOUNTED ABOVE COUNTER AT +46" TO CENTERLINE OF RECEPTACLE UNLESS NOTED OTHERWISE.

SPECIAL RECEPTACLE TO SUIT EQUIPMENT FURNISHED.

QUADRUPLEX RECEPTACLE, +18" TO CENTER LINE OF OUTLET UNLESS OTHERWISE NOTED.

$ — SINGLE POLE TOGGLE SWITCH, 3'-10" MOUNTING HEIGHT.

$3 — THREE OR FOUR WAY SWITCH AS INDICATED. +3-10" MOUNTING HEIGHT.

$T — SINGLE POLE DIGITAL TIME SWITCH WITH OPTIONAL AUDIBLE ALERT. +3'-10" WATTSTOPPER TS-400 OR EQUAL.

$K — KEY OPERATED SINGLE POLE TOGGLE SWITCH, +3-10" MOUNTING HEIGHT.

$D — DIMMER +3'-10" MOUNTING HEIGHT. LUTRON "NOVA T" OR EQUAL BY LEVITON, WATTSTOPPER, HUBBELL, OR COOPER.

FLUSH FLOOR BOX WITH QUADRUPLEX RECEPTACLE AND DATA/VOICE OUTLET. SEE SPECIFICATIONS FOR TYPE OF BOX.

PANELBOARD, SEE SCHEDULE.

DISCONNECT SWITCH, SIZE AS NOTED ON DRAWINGS. FUSED PER MANUFACTURER'S NAME PLATE DATA OF EQUIPMENT SERVED.

M — SINGLE OR DOUBLE POLE, MINIMUM 20 AMP MOTOR RATED ENCLOSED SWITCH WITH "LOCK-OUT" OPTION. MOUNTED NEAR EQUIPMENT BEING SERVED.

(M) — MOTOR

HD — WALL MOUNTED 120V HAND DRYER. COORDINATE EXACT HEIGHT WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN.

EN — SEE SHEET 3/E1.0 FOR DETAILS.

FIRE ALARM SYSTEM - (CONTRACTOR PROVIDED)

VE — VOICE EVACUATION SIGNAL, SPEAKER, AND STROBE LIGHT, +6'-10" MOUNTING HEIGHT TO CENTER OF DEVICE.

SL — STROBE LIGHT, 6'-10" MOUNTING HEIGHT TO CENTER OF DEVICE.

SL — STROBE LIGHT, CEILING MOUNTED.

F — PULL STATION. WALL MOUNTED +46" TO CENTER LINE MOUNTING HEIGHT.

HEAT DETECTOR, CEILING MOUNTED.

S — SMOKE DETECTOR, CEILING MOUNTED.

DD — DUCT SMOKE DETECTOR, LOCATED AT HVAC UNIT OR UP STREAM OF SMOKE DAMPER. COORDINATE EXACT LOCATION WITH MECHANICAL DRAWINGS PRIOR TO ROUGHING IN.

DH — FIRE ALARM CONNECTION TO DOOR HOLDER, FLOOR OR WALL MOUNTED. CONSULT ARCHITECTURAL DRAWINGS TO DETERMINE TYPE REQUIRED.

CM — CONTROL/MONITOR MODULE.

OCCUPANCY SENSORS

O — SWITCH, WALL MOUNTED OCCUPANCY SENSOR (WATTSTOPPER PW-100 OR EQUAL).

DT — DUAL TECHNOLOGY 360° OCCUPANCY SENSOR. CEILING MOUNTED. INFRARED/ULTRASONIC (WATTSTOPPER "DT" SERIES OR EQUAL). PROVIDE ALL NECESSARY COMPONENTS TO INSURE PROPER OPERATION (POWER PACKS, SLAVE PACKS, ETC.)

DC — DUAL TECHNOLOGY OCCUPANCY SENSOR. CEILING MOUNTED AT CORNER UNLESS SHOWN OTHERWISE. INFRARED/ULTRASONIC (WATTSTOPPER "DT" SERIES OR EQUAL). PROVIDE ALL NECESSARY COMPONENTS TO INSURE PROPER OPERATION (POWER PACKS, SLAVE PACKS, ETC.)

DU — ULTRASONIC OCCUPANCY SENSOR. CEILING MOUNTED (WATTSTOPPER "UT" SERIES OR EQUAL). PROVIDE ALL NECESSARY COMPONENTS TO INSURE PROPER OPERATION (POWER PACKS, SLAVE PACKS, ETC.)

DH — ULTRASONIC HALLWAY OCCUPANCY SENSOR. CEILING MOUNTED. (WATTSTOPPER "WT-2255" OR EQUAL). PROVIDE ALL NECESSARY COMPONENTS TO INSURE PROPER OPERATION (POWER PACKS, SLAVE PACKS, ETC.)

COMMUNICATION SYSTEMS

NOTES:
1. CONTRACTOR SHALL PROVIDE ALL INFRASTRUCTURE (BACKBOXS, CONDUIT, ETC.)
2. OWNER SHALL PROVIDE ALL EQUIPMENT, CABLING, AND INSTALLATION OF SYSTEM.
3. PROVIDE 4" SQUARE BOX WITH A SINGLE GANG PLASTER RING AND ONE(1) - 1" CONDUIT STUBBED TO ABOVE ACCESSIBLE CEILING FOR ALL WALL MOUNTED DEVICES. SEE DESCRIPTION FOR MOUNTING HEIGHT. PROVIDE WITH PULL STRINGS.

TB — FIRE RETARDANT PLYWOOD BACKBOARD "T.B." INDICATES TELECOMMUNICATIONS BOARD.

BACKBOX FOR DATA, +18" TO CENTER LINE OF OUTLET UNLESS NOTED OTHERWISE.

BACKBOX FOR DATA, +46" TO CENTER LINE OF OUTLET UNLESS NOTED OTHERWISE.

ACCESS CONTROL SYSTEM

1. CONTRACTOR IS RESPONSIBLE FOR ALL INFRASTRUCTURE (BACKBOXS, CONDUIT, ECT.)
2. OWNER SHALL PROVIDE ALL EQUIPMENT, CABLING, AND INSTALLATION OF SYSTEMS.
3. PROVIDE 4" SQUARE BOX WITH A SINGLE GANG PLASTER RING AND ONE(1) - 3/4" CONDUIT STUBBED TO ABOVE ACCESSIBLE CEILING FOR ALL WALL MOUNTED DEVICES. SEE DESCRIPTION FOR MOUNTING HEIGHT. PROVIDE WITH PULLSTRINGS.

CR — CARD READER BACKBOX.

PB — PUSH PAD BACKBOX.

TELEVISION DISTRIBUTION

NOTES:
1. CONTRACTOR SHALL PROVIDE ALL INFRASTRUCTURE (BACKBOXS, CONDUIT, ETC.)
2. OWNER SHALL PROVIDE ALL EQUIPMENT, CABLING, AND INSTALLATION OF SYSTEM.

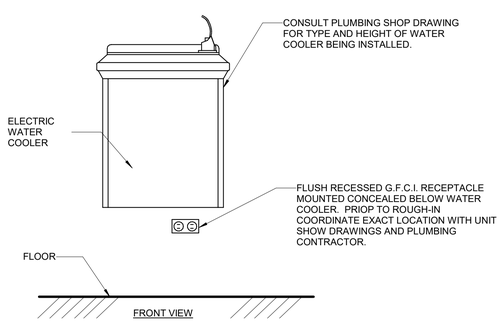
TV — TELEVISION OUTLET, PROVIDE A 4" SQUARE JUNCTION BOX WITH A TWO GANG PLASTER RING AND TWO 3/4" CONDUITS STUBBED TO ABOVE ACCESSIBLE CEILING. COORDINATE MOUNTING HEIGHT WITH ARCHITECT. LOCATE DUPLEX OUTLET SHOWN DIRECTLY ADJACENT TO TV OUTLET AT COORDINATED HEIGHT.

HE — T.V. HEAD END EQUIPMENT.

C — CCTV SYSTEM CAMERA, BACKBOXES ONLY.

NOTES:
1. EACH CONDUCTOR IN BOX SHALL BE OF SUFFICIENT LENGTH (MIN. 6") FOR MAKING UP SPLICES.
2. DO NOT BACK WIRE DEVICES. LOOP AROUND TERMINAL SCREWS.
3. FACE OF PLASTER RING SHALL BE FLUSH WITH WALL.

1 / E1.0 DETAIL - RECEPTACLE CONNECTION
NO SCALE



2 / E1.0 RECEPTACLE LOCATION @ ELECTRIC WATER COOLER
NO SCALE

LIGHTING FIXTURE SCHEDULE

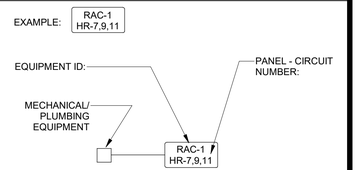
TYPE	DESCRIPTION	MANUFACTURERS
A	L.E.D. FIXTURE, 2' x 4' LOW PROFILE RECESSED GRID TYPE ARCHITECTURAL TROFFER WITH ACRYLIC CENTER BASKET LENS AND VOLUMETRIC DISTRIBUTION. PROVIDE WITH 1% DIMMABLE DRIVER. (39 INPUT WATTS) LUMEN OUTPUT: 4000 LUMENS AT 3500°K DRIVER: MULTI-VOLT (0-10V DIMMING)	LITHONIA "BLT" SERIES COLUMBIA METALUX CREE
A2	L.E.D. FIXTURE, 2' x 4' LOW PROFILE RECESSED GRID TYPE ARCHITECTURAL TROFFER WITH ACRYLIC CENTER BASKET LENS AND VOLUMETRIC DISTRIBUTION. PROVIDE WITH 1% DIMMABLE DRIVER. (39 INPUT WATTS) LUMEN OUTPUT: 3000 LUMENS AT 3500°K DRIVER: MULTI-VOLT (0-10V DIMMING)	LITHONIA "BLT" SERIES COLUMBIA METALUX CREE
A3	SAME AS TYPE "A2" EXCEPT PROVIDE WITH RECESSED FLANGE MOUNT KIT.	
B	2'X4' L.E.D. FLUSH RECESS MOUNTED, LOW PROFILE, EDGE-LIT FLAT PANEL FIXTURE GRID MOUNTED, SINGLE PIECE INJECTION FRAME AND SMOOTH WHITE LENS. (39 INPUT WATTS) LUMEN OUTPUT: MINIMUM 4000 LUMENS AT 3500°K DRIVER: MULTI VOLT, 0-10V DIMMING	LITHONIA "CPX" SERIES METALUX, COLUMBIA, ORACLE, CREE
B2	2'X4' L.E.D. FLUSH RECESS MOUNTED, LOW PROFILE, EDGE-LIT FLAT PANEL FIXTURE GRID MOUNTED, SINGLE PIECE INJECTION FRAME AND SMOOTH WHITE LENS. (39 INPUT WATTS) LUMEN OUTPUT: MINIMUM 3000 LUMENS AT 3500°K DRIVER: MULTI VOLT, 0-10V DIMMING	LITHONIA "CPX" SERIES METALUX, COLUMBIA, ORACLE, CREE
B3	SAME AS TYPE "B2" EXCEPT PROVIDE WITH RECESSED FLANGE MOUNT KIT.	
C	L.E.D. FIXTURE, 4' SURFACE MOUNTED STRIP LIGHT WITH LIGHTWEIGHT COMPACT-DESIGNED STEEL CHANNEL, HIGH-GLOSS BAKED WHITE FINISH, AND MEDIUM DIFFUSE ROUND LENS. PROVIDE 0-10V DIMMABLE DRIVER AND MOUNTING HARDWARE FOR SURFACE MOUNTING ON CEILING OR WALL. (38 INPUT WATTS) LUMEN OUTPUT: 3,000 LUMENS AT 3500°K DRIVER: 0-10V DIMMING, MULTI-VOLT ELECTRONIC	LITHONIA "CLX" SERIES METALUX COLUMBIA DAY-BRITE CREE
D	L.E.D. CEILING RECESSED DOWNLIGHT WITH 6" APERTURE, SEMI-SPECULAR REFLECTOR, STEEL HOUSING CONSTRUCTION WITH FULLY SERVICEABLE AND LENSED LIGHT ENGINE. PROVIDE FULLY ADJUSTABLE MOUNTING BRACKET. (20.8 INPUT WATTS) LUMEN OUTPUT: MINIMUM 2000 LUMENS,3500°K DRIVER: MULTI-VOLT,0-10V DIMMING, 1% MINIMUM	LITHONIA "LDN6" SERIES PEACHTREE, PRESCOLITE, HALO COMMERCIAL, ELITE LIGHTING, LSI, SPECTRUM, CREE
D2	L.E.D. PENDANT MOUNTED 6" CYLINDER DOWNLIGHT WITH HEAVY-GUAGE ALUMINUM HOUSING, SEMI-SPECULAR REFLECTOR, AND 1% DIMMABLE DRIVER. FINISH SHALL BE SELECTED BY THE ARCHITECT. MOUNT FIXTURES EVEN WITH BOTTOM OF STRUCTURAL BEAMS AND COORDINATE EXACT STEM LENGTHS WITH ARCHITECTURAL ELEVATIONS. (28 INPUT WATTS) LUMEN OUTPUT: 1500 MINIMUM DELIVERED LUMENS AT 3500°K DRIVER: MULTIVOLT	LITHONIA "LDN6CYL" SERIES OR APPROVED EQUAL ELITE CREE VOIGT
D3	L.E.D. CEILING RECESSED DOWNLIGHT WITH 6" APERTURE, SEMI-SPECULAR REFLECTOR, STEEL HOUSING CONSTRUCTION WITH FULLY SERVICEABLE AND LENSED LIGHT ENGINE. PROVIDE FULLY ADJUSTABLE MOUNTING BRACKET. (20.8 INPUT WATTS) LUMEN OUTPUT: MINIMUM 1500 LUMENS,3500°K DRIVER: MULTI-VOLT,0-10V DIMMING, 1% MINIMUM	LITHONIA "LDN6" SERIES PEACHTREE, PRESCOLITE, HALO COMMERCIAL, ELITE LIGHTING, LSI, SPECTRUM, CREE
F	L.E.D. LINEAR 16' PENDANT WITH LOW PROFILE STEEL HOUSING AND DUST COVER. FIXTURE SHALL HAVE LED DOWNLIGHT KIT AND BE SUSPENDED BY AIR CRAFT CABLE. FROSTED LENS AND FINISH TO BE DETERMINED BY THE ARCHITECT. (69.5 INPUT WATTS) LUMEN OUTPUT: 775 LUMENS PER FOOT AT 3500°K DRIVER: 120 VOLT, 0-10V DIMMING, 1% MINIMUM	STARTEK "BEAM" SERIES OR PRIOR APPROVED EQUAL NULITE LUXILLUMINAIRE
F2	L.E.D. LINEAR 6' PENDANT WITH LOW PROFILE STEEL HOUSING AND DUST COVER. FIXTURE SHALL HAVE LED DOWNLIGHT KIT AND BE SUSPENDED BY AIR CRAFT CABLE. FROSTED LENS AND FINISH TO BE DETERMINED BY THE ARCHITECT. (69.5 INPUT WATTS) LUMEN OUTPUT: 775 LUMENS PER FOOT AT 3500°K DRIVER: 120 VOLT, 0-10V DIMMING, 1% MINIMUM	STARTEK "BEAM" SERIES OR PRIOR APPROVED EQUAL NULITE LUXILLUMINAIRE
F3	L.E.D. LINEAR 20' PENDANT WITH LOW PROFILE STEEL HOUSING AND DUST COVER. FIXTURE SHALL HAVE LED DOWNLIGHT KIT AND BE SUSPENDED BY AIR CRAFT CABLE. FROSTED LENS AND FINISH TO BE DETERMINED BY THE ARCHITECT. (69.5 INPUT WATTS) LUMEN OUTPUT: 775 LUMENS PER FOOT AT 3500°K DRIVER: 120 VOLT, 0-10V DIMMING, 1% MINIMUM	STARTEK "BEAM" SERIES OR PRIOR APPROVED EQUAL NULITE LUXILLUMINAIRE
G	L.E.D. FIXTURE, 4' SURFACE MOUNTED LUMINAIRE WITH LIGHTWEIGHT COMPACT-DESIGNED STEEL CHANNEL, HIGH-GLOSS BAKED WHITE FINISH, MEDIUM DIFFUSE LENS. PROVIDE MOUNTING HARDWARE. PROVIDE WITH INTEGRAL OCCUPANCY SENSOR. (28.2 INPUT WATTS) LUMEN OUTPUT: 3000 LUMENS AT 3500°K DRIVER: MULTI-VOLT	LITHONIA "WL4" SERIES METALUX COLUMBIA PHILIPS CREE
H	LED FIXTURE, BUILDING MOUNTED FIXTURE, TRAPEZOID SHAPE WITH DIE CAST, SINGLE PIECE HOUSING. DOOR FRAME TO BE FULLY GASKETED AND DIE CAST WITH DIFFUSING GLASS LENS. FIXTURE HAVE WIDE THROW DISTRIBUTION OPTICS. FINISH TO BE DARK BRONZE. U.L. LISTED FOR WET LOCATIONS. COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS. PROVIDE INTEGRAL OCCUPANCY SENSOR WHERE NOTED. (12 INPUT WATTS) LUMEN OUTPUT: 1500 MINIMUM DELIVERED LUMENS AT 4000°K DRIVER: MULTIVOLT	LITHONIA "WDGE" SERIES OR APROVED EQUAL HUBBELL
J	L.E.D. CEILING RECESSED DOWNLIGHT WITH 6" APERTURE, SEMI-SPECULAR REFLECTOR, STEEL HOUSING CONSTRUCTION WITH FULLY SERVICEABLE AND LENSED LIGHT ENGINE. WITH SELECTABLE LUMEN OUTPUT OF 1000/1500/2000 LUMENS PROVIDE 6" NEW CONSTRUCTION FRAME WITH JBOX, 18" CONDUIT, QUICK DISCONNECTS. (20.8 INPUT WATTS) LUMEN OUTPUT: MINIMUM 1000 LUMENS,3500°K DRIVER: MULTI-VOLT,0-10V DIMMING, 10% MINIMUM	LITHNOIA "LBR" SERIES OR PRIOR APPROVED EQUAL ELITE CREE ILLUMUS
K	FIXTURE SHALL BE STATION MOUNTED. COORDINATED OPTICS FOR APPLICATION. FINISH TO BE DARK BRONZE. FIXTURE SHALL BE U.L. LISTED FOR WET LOCATIONS. COORDINATE EXACT SET BACK IN THE FIELD. LIGHT SOURCE: 78 WATT, 4000°K, 10,678 LUMENS MINIMUM OUTPUT DRIVER: MULTI VOLT ELECTRONIC, 0-10V DIMMABLE	LITHONIA "DSXF2-LED" SERIES COOPER HUBBLE METALUX CREE
M	L.E.D. FIXTURE, 2' VANITY LIGHT WITH LINEAR WHITE ACRYLIC DIFFUSER. FIXTURE SHALL BE MOUNTED HORIZONTALLY ABOVE MIRROR AND FINISHED IN BRUSHED NICKLE. (18 INPUT WATTS) LUMEN OUTPUT: 1304 LUMENS @ 3500°K DRIVER: MULTI-VOLT, NON-DIMMING	LITHONIA "FMVCSL" SERIES OR PRIOR APPROVED EQUAL OXYGEN ASL
X	EXIT SIGN, WITH LED LAMP SOURCE, WHITE HOUSING, RED PANEL COVER, UNIFORM LAMP DIFFUSER AND 120/277 VOLT INPUT. PROVIDE BACK-UP BATTERY PACK W/ MAINTENANCE FREE NI-CAD BATTERIES	LITHONIA "PRECISE" SERIES SURE-LITE, DUAL-LITE EMERGILITE, CHLORIDE LIGHTGUARD LIGHTALARM, EVENLITE
NOTES	1. CONTRACTOR SHALL PROVIDE CLASS 2, 600 VOLT RATED, 0-10 VOLT CONTROL WIRING FOR ALL L.E.D. FIXTURES WHERE CONTROLLED BY LOW-VOLTAGE CONTROLLERS OR WALL BOX DIMMERS. 2. ALL PRIOR APPROVALS SHALL BE APPROVED BY THE ENGINEER, INTERIOR DESIGNER, AND ARCHITECT PRIOR TO BID. NO FIXTURES WILL BE ACCEPTED FOR REVIEW AFTER BID DATE. 3. CONTRACTOR SHALL VERIFY COLOR TEMPERATURE OF ALL FIXTURES WITH EXISTING CONDITIONS PRIOR TO BID.	

2

GENERAL NOTES:

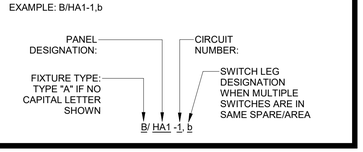
1. DO NOT SCALE DRAWINGS TO LOCATE EQUIPMENT OR OUTLETS.
2. MOUNTING HEIGHTS AS INDICATED ON THE DRAWINGS SHALL BE FROM THE FINISHED FLOOR TO THE CENTER LINE OF THE OUTLET BOX.
3. THE ELECTRICAL DRAWINGS ARE ONLY A PART OF THE CONTRACT DOCUMENTS. ALL OF THE DRAWINGS AND SPECIFICATIONS MUST BE REVIEWED FOR THEIR INTERRELATIONSHIP AND REQUIRED COORDINATION BETWEEN DISCIPLINES.
4. 112 SYMBOL INDICATING ROOM OR SPACE NUMBER.
5. IN AREAS WHERE COMPUTER OUTLETS AND TELEPHONE OUTLETS ARE LOCATED BENEATH A WINDOW, AND WINDOW PREVENTS THE ROUTING OF CONDUIT UP TO CEILING SPACE, CONDUIT SHALL BE ROUTED TO A WALL WHICH ALLOWS CONDUIT TO RISE UP TO CEILING SPACE.
6. ALL CONDUIT ROUTED FROM DISCONNECT TO EXTERIOR HVAC UNITS SHALL BE ROUTED UNDERGROUND. TURN UP ADJACENT TO UNIT AND MAKE TRANSITION TO SEALTITE TO SERVE UNIT. CONDUIT SHALL BE. ROUTED CONCEALED IN WALL.
7. ALL FLUSH RECESSED OUTLET BOXES SHALL BE INSTALLED SUCH THAT FRONT EDGE OF BOX WILL NOT BE SET BACK OF THE FINISHED SURFACE MORE THAN 1/4" IN ORDER TO COMPLY WITH N.E.C. 314-20. SUPPORT OF OUTLET BOX BY RECEPTACLE AND COVERPLATE IS NOT ACCEPTABLE.
8. ALL CONDUIT, OUTLET BOXES, AND LOW VOLTAGE CABLING SHALL BE APPROPRIATELY SUPPORTED THROUGHOUT THE PROJECT. SUPPORT OF THESE ITEMS BY CEILING GRID OR GRID SUPPORT WIRES IS NOT ACCEPTABLE.
9. ALL RECEPTACLES LOCATED WITHIN 6'-0"TO THE EDGE SINK OR OTHER WATER SOURCE SHALL BE GFCI TYPE DEVICE IN ACCORDANCE WITH N.E.C 210-8.A.7. COORDINATE LOCATIONS WITH ARCHITECTURAL AND PLUMBING DRAWINGS PRIOR TO ROUGH-IN.
10. COORDINATE EXACT LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT WITH DIVISION 23 PRIOR TO ROUGH IN. ADJUST LOCATION OF DISCONNECTING MEANS AND BRANCH CIRCUITRY AS REQUIRED.

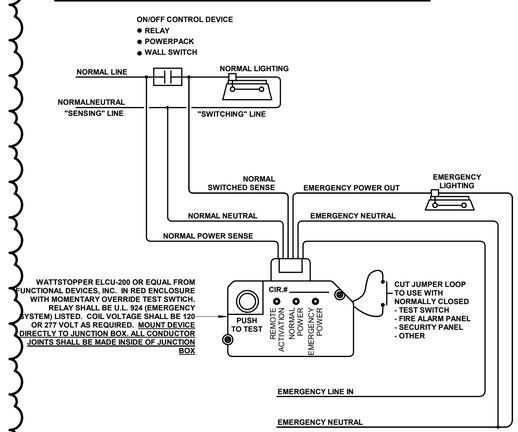
MECHANCIAL EQUIPMENT TAG DESCRIPTION



NOTE: REFER TO MECHANICAL CONNECTION SCHEDULES FOR CIRCUITING INFORMATION

LIGHT FIXTURE DESIGNATION DESCRIPTION





3 / E1.0 "NORMAL" LIGHTING SWITCHED EMERGENCY LIGHTING CONTROL UNIT - DETAIL
NO SCALE

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ELECTRICAL ENGINEERS
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SHERIFF'S ADMINISTRATION BLDG.
COLUMBIA COUNTY
COLUMBIA COUNTY, GA

LEGEND, NOTES, DETAILS AND FIXTURE SCHEDULE

GEORGIA Registered NO. 36597 Evelyn Tom Brinson TOM BRINSON 10-18-21

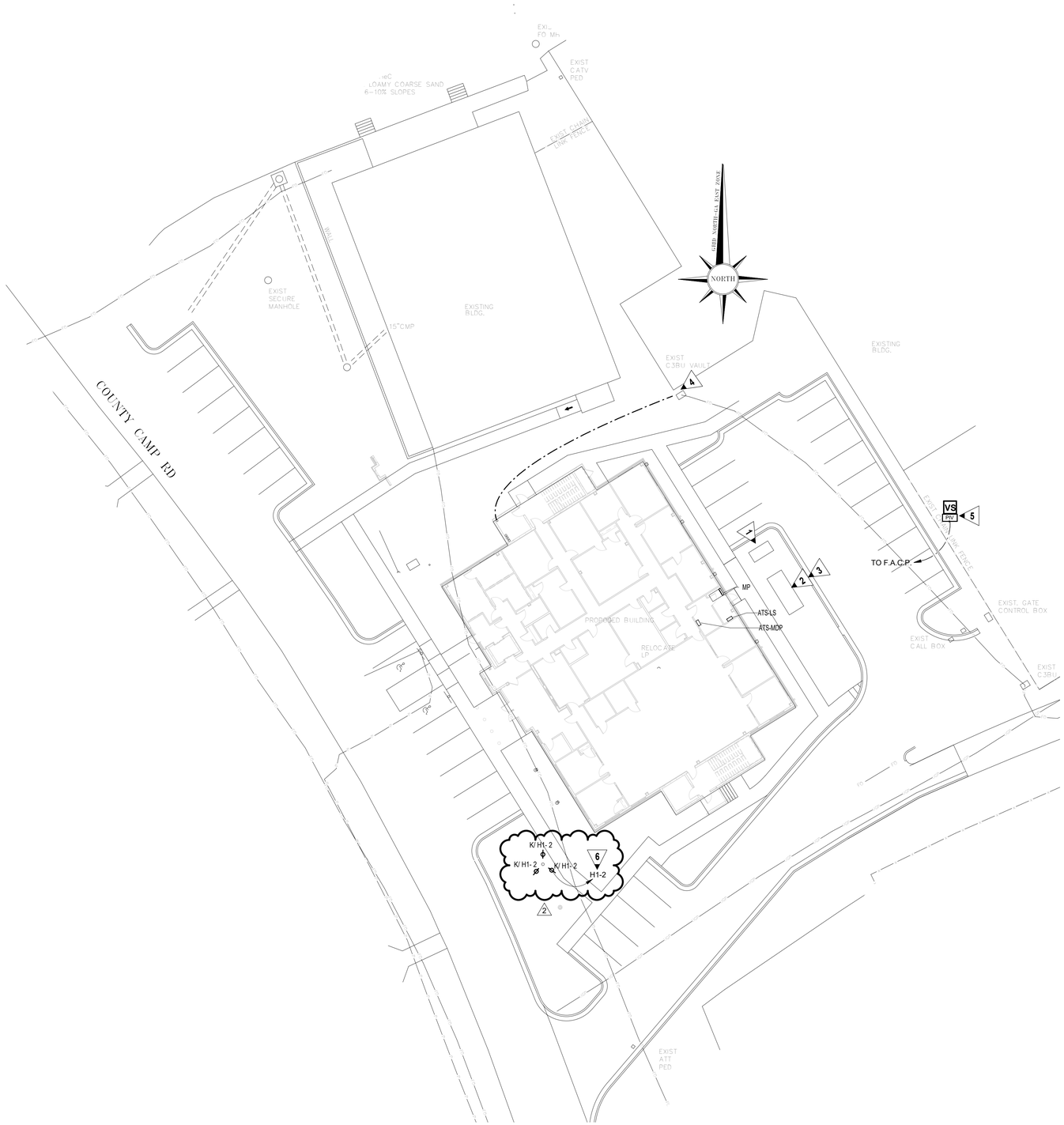
DRWN BY: DA
CHK'D BY: TB
DATE: MAY 18, 2021

REVISIONS

#	COMMENTS: ISSUED FOR PERMIT
AD-2	ADDENDUM 2 7/10/21

JOB NO. 2019

SHEET NO. E1.0



1 E1.1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'-0"

KEYED NOTES:

1. PROPOSED UTILITY TRANSFORMER LOCATION. COORDINATE EXACT LOCATION WITH UTILITY COMPANY PRIOR TO ROUGH IN.
2. PROPOSED LOCATION FOR 400KVA,480/277V, NATURAL GAS GENERATOR. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH IN.
3. PROVIDE GENERATOR WITH TWO(2) BREAKERS. ONE(1) 600AMP TO FEED "ATS-MDP". ONE(1) 60AMP TO FEED "ATS-LS". REFER TO RISER DIAGRAM 1/E6.0 FOR DETAILS.
4. PROVIDE TWO(2) 4"C., STUBBED-OUT TO EACH EXISTING QUAZITE BOX AND TURN UP IN IT ROOM 100B. COORDINATE EXACT STUB OUT LOCATION WITH OWNER PROVIDER PRIOR TO ROUGH IN. PROVIDE WITH PULLSTRINGS.
5. COORDINATE EXACT LOCATION OF POST INDICATOR VALVE(PIV) WITH CIVIL DRAWINGS PRIOR TO ROUGH IN. PROVIDE TAMPER SWITCH AT PIV AND CONNECT TO NEW FIRE ALARM CONTROL PANEL(F.A.C.P.). REFER TO E5.1 FOR EXACT LOCATION.
6. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER AND ARCHITECT ON FIXTURE SET-BACK FROM FLAG POLE TO PROPERLY ILLUMINATE FLAG.

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SHERIFF'S ADMINISTRATION BLDG.
COLUMBIA COUNTY
COLUMBIA COUNTY, GA

GEORGIA
Registered
NO. 36597
Professional Engineer
TIM BRINSON
05-18-21

ELECTRICAL SITE PLAN

DRWN BY: DA
CHK'D BY: TB
DATE: MAY 18, 2021

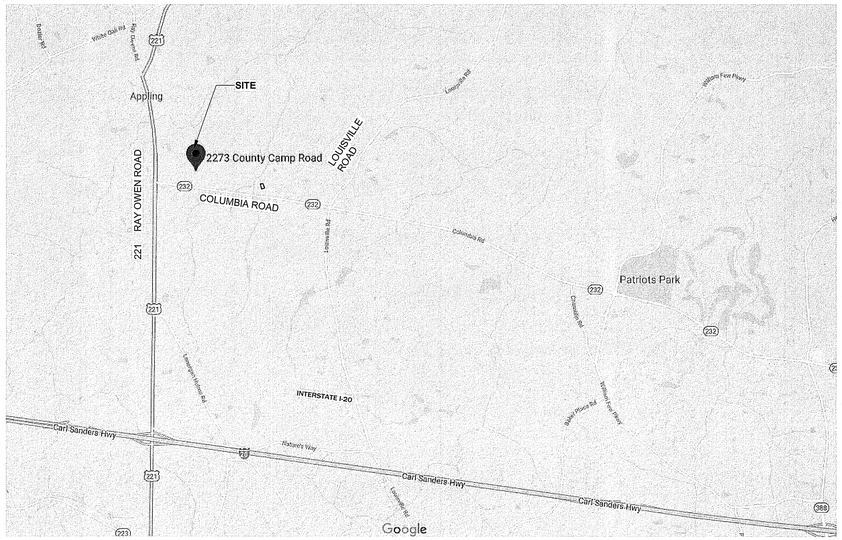
REVISIONS

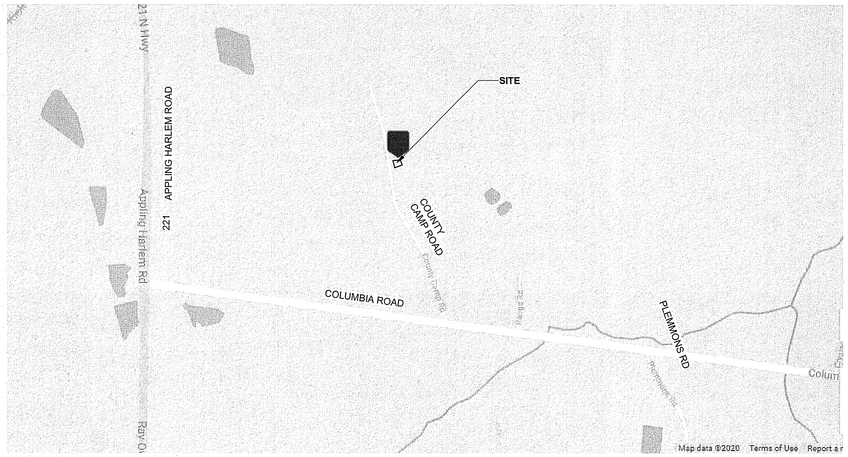
#	COMMENTS:
AD-2	ISSUED FOR PERMIT ADDENDUM 2 7/10/21

JOB NO.
2019

SHEET NO.
E1.1

VICINITY MAP:





CODE ANALYSIS:

APPLICABLE CODES:

BUILDING CODES:	2018 IBC, WITH GEORGIA AMENDMENTS NFPA 101 LIFE SAFETY 2018 EDITION
ACCESSIBILITY CODE:	2010 ADA STANDARDS FOR ACCESSIBLE DESIGN
MECHANICAL CODE:	2018 IMC, WITH GEORGIA AMENDMENTS
ELECTRICAL CODE:	2020 NEC
PLUMBING CODE:	2018 IPC, WITH GEORGIA AMENDMENTS
ENERGY CODE:	2015 IECC, WITH GEORGIA SUPPLEMENTS AND AMENDMENTS

OCCUPANCY CLASSIFICATION: NEW BUSINESS OCCUPANCY (2018 NFPA 101 CHAPTER 38)
GROUP B (BUSINESS - 2018 IBC)

TYPE OF CONSTRUCTION: IIB, FULLY SPRINKLERED

FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS: (IBC TABLE 601)

ELEMENT:	HOUR RATING
STRUCTURAL FRAME	0
BEARING WALLS- EXT.	0
BEARING WALLS- INT.	0
NON-BEARING WALLS	0
FLOOR CONSTRUCTION	0
ROOF CONSTRUCTION	0

BUILDING AREA & HEIGHT: (TABLE 504.3, TABLE 504.4, & TABLE 506.2)

ALLOWABLE BUILDING AREA TOTAL=	257,853 SQ. FT.
ALLOWABLE AREA PER FLOOR=	85,951 SQ. FT. PER FLOOR (W/ FRONTAGE INCREASE)
ALLOWABLE HEIGHT=	75'-0"
ALLOWALBE STORIES=	FOUR (4)

FRONTAGE INCREASE CALC:
$I_f = [F/P - 0.25] W/30$
$I_f = [422'/422' - 0.25] 29.5/30$
$I_f = .737$

$W = (L_1 \times w_1 + L_2 \times w_2 + L_3 \times w_3 ...)/F$
$W = (391 \times 30 + 31 \times 24) / 422$
$W = 29.5$

TOTAL ALLOWABLE AREA CALC:
$A_a = [A_t + (NS \times I_f)] \times S_a$
$A_a = [69,000 + (23,000 \times .737)] \times 3$
$A_a = 257,853$ SQ. FT.

ACTUAL BUILDING AREA TOTAL=	27,645 SQ. FT.
ACTUAL AREA PER FLOOR=	9,215 SQ. FT.
ACTUAL HEIGHT=	+/- 58'-0"
ACTUAL STORIES=	THREE (3)

FIRE PROTECTION & SEPARATION REQUIREMENTS:

SHAFT	1 HR. (IBC 713.4)
STAIRWAYS	1 HR. (LSC 7.1.3.2.1 (1))
MECHANICAL ROOM	0
ELECTRICAL ROOM	0
STORAGE	0
ELEVATOR EQUIPMENT	2 HR. (IBC 3005.4)
CORRIDORS	0 HR. (LSC 38.3.6.1 (2)(3))

OCCUPANT LOAD: (LSC TABLE A7.3.1.2)

FIRST FLOOR:		
BUSINESS USE	9,215 SQ. FT. @ 150 GROSS	62
SECOND FLOOR:		
BUSINESS USE	8,180 SQ. FT. @ 150 GROSS	55
CONF. RM.	280 SQ. FT. @ 30 GROSS	10
THIRD FLOOR:		
BUSINESS USE	7,620 SQ. FT. @ 150 GROSS	51
CONF. RM.	840 SQ. FT. @ 15 GROSS	56
CALCULATED OCCUPANT LOAD		**234**

EGRESS: (LSC TABLE A.7.6)

TRAVEL DISTANCE LIMIT:	300'
COMMON PATH LIMIT:	100'
DEAD-END LIMIT:	50'

STAIRS:

WIDTH:	44"	(LSC TABLE 7.2.2.2.1.2(B)
MAXIMUM RISER:	7"	(LSC TABLE 7.2.2.2.1.1(a))
MINIMUM TREAD:	11"	(LSC TABLE 7.2.2.2.1.1(a))
MINIMUM HEAD CLEARANCE:	80"	(LSC TABLE 7.2.2.2.1.1(a))
MAXIMUM HEIGHT B/W LANDINGS:	12'-0"	(LSC TABLE 7.2.2.2.1.1(a))
LANDING DEPTH:		EQUAL TO WIDTH OF STAIRS (LSC 7.2.2.3.2.3) DOOR SWING CAN NOT REDUCE MORE THAN 1/2 REQUIRED EGRESS WIDTH (LSC 7.2.1.4.3.1)
OPENING B/W TREADS:		NOT PERMITTED (ADA 2010)

HANDRAILS:

HEIGHT:	34"- 38" ABOVE NOSING, BOTH SIDES (LSC 7.2.2.4.4.1)
EXTENSIONS:	TOP: 12" HORIZONTALLY ABOVE LANDING, PAST TOP NOSING (ADA 2010) BOTTOM: 12" HORIZONTALLY, MATCH SLOPE OF STAIR FLIGHT (ADA 2010)
CLEARANCE:	2-1/4" (LSC 7.2.2.4.4.5)
GRIP SIZE:	1-1/4" - 2" CIRCULAR CROSS SECTION (LSC 7.2.2.4.4.5)

**NOTE: HANDRAILS ARE TO RETURN TO FLOOR, WALL, OR NEWEL POST.

GUARDRAILS:

HEIGHT:	42" MIN. (LSC 7.2.2.4.5.2)
SPACING:	4" MAX. SPHERE SPACING (LSC 7.2.2.4.5.3)

INTERIOR FINISHES: (LSC 14.3.3)

WALLS & CEILING	
EXITS -	CLASS A
OTHER THAN EXITS -	CLASS A OR CLASS B
LOW HEIGHT PARTITION WALLS NOT IN EXISTS-	CLASS A, CLASS B, OR CLASS C

CLASS A: FLAME SPREAD 0-25; SMOKE-DEVELOPED 0-450
CLASS B: FLAME SPREAD 26-75; SMOKE-DEVELOPED 0-450
CLASS C: FLAME SPREAD 76-200; SMOKE-DEVELOPED 0-450

FLOOR	
EXIT ENCLOSURES AND EXIT PASSAGEWAYS -	CLASS II
LOBBIES AND CORRIDORS -	CLASS II
OTHER SPACES -	CLASS I OR CLASS II

CLASS I: INTERIOR FLOOR FINISH SHALL BE CHARACTERIZED BY A CRITICAL RADIANT FLUX NOT LESS THAN 0.45 W/cm2/, AS DETERMINED BY THE TESTING DESCRIBED IN 10.2.7.3 (LSC).
CLASS II: INTERIOR FLOOR FINISH SHALL BE CHARACTERIZED BY A CRITICAL RADIANT FLUX NOT LESS THAN 0.22 W/cm2/BUT LESS THAN 0.45 W/cm2/, AS DETERMINED BY THE TESTING DESCRIBED IN 10.2.7.3 (LSC).

SPRINKLER SYSTEM & FIRE ALARM NOTES:
SEE SPECIFICATIONS AND ELECTRICAL DRAWINGS

MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES:

		REQUIRED	PROVIDED
BUSINESS USE	WATER CLOSETS:		
	1 per 25 FOR FIRST 50	2	
	1 per 50 FOR REMAINDER	4	
	TOTAL:	6	16
	LAVATORIES:		
	1 per 40 FOR FIRST 80	2	
	1 per 80 FOR REMAINDER	2	
	TOTAL:	4	16
	DRINKING FOUNTAINS: 1 per 100	2	2
	SERVICE SINK:	1	3

5/19/2021 8:09:31 AM

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SHERIFF'S ADMINISTRATION BLDG.
COLUMBIA COUNTY
2269 COUNTY CAMP ROAD
APPLING, GEORGIA 30802

STATE OF GEORGIA
CHRISTOPHER D. BOOKER
REGISTERED
5/19/2021

CODE ANALYSIS
SITE VICINITY MAPS
PROJECT INFORMATION

DRWN BY: S. HAMBY
CHK'D BY: C. BOOKER
DATE: MAY 18, 2021

REVISIONS

#	COMMENTS:
	ISSUED FOR PERMIT

JOB NO.
2019

SHEET NO.
CS1.1

GENERAL PROJECT NOTES:

1. ATTENTION ALL USERS OF THESE DRAWINGS, GENERAL CONTRACTORS, SUB CONTRACTORS, MANUFACTURERS, SUPPLIERS: CAREFULLY AND THOROUGHLY REVIEW THESE GENERAL NOTES. IT IS YOUR RESPONSIBILITY TO KNOW AND ADHERE TO THESE REQUIREMENTS.
2. DO NOT PRESUME THAT YOUR SCOPE OF WORK IS SINGULARLY DEFINED. YOUR SCOPE OF WORK IS DEFINED THROUGHOUT THE ENTIRE SET OF DRAWINGS AND SPECIFICATIONS AND IS NOT CONTAINED IN JUST ONE SERIES OF DRAWINGS OR DIVISION OF SPECIFICATIONS. YOU MUST REVIEW THE ENTIRE SET OF CONTRACT DOCUMENTS TO DETERMINE YOUR SCOPE OF WORK.
3. EVERY EFFORT HAS BEEN MADE TO MAKE THESE DOCUMENTS CONCISE AND COORDINATED, TO DEFINE WORK IN THE MOST LOGICAL PLACE AND TO ELIMINATE REDUNDANCY. KEEP IN MIND HOWEVER THAT YOUR SCOPE OF WORK CAN BE CONTAINED IN VARIOUS PLACES, WITH VARYING DESCRIPTIONS. DO NOT CONSIDER THAT THERE IS ONE CUSTOMARY PLACE TO LOCATE YOUR WORK. THERE IS A DANGER OF OMITTING WORK FROM YOUR SCOPE BECAUSE THE ENTIRE SET OF DOCUMENTS WAS NOT REVIEWED.
4. MECHANICAL AND ELECTRICAL DRAWINGS SHOW INFORMATION IN A DIAGRAMMATIC FASHION WITHOUT DIMENSIONING. THE GENERAL CONTRACTOR IS TO COORDINATE THE LOCATIONS OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT WITH RESPECT TO THE ARCHITECTURAL AND STRUCTURAL DETAILING OF SHAFTS, CHASES, AND SUCH.
5. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH SITE CONDITIONS AS THEY MAY AFFECT CARRYING OUT THE WORK AS DESCRIBED IN THESE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL INVESTIGATE, VERIFY, AND BE RESPONSIBLE FOR ALL CONDITIONS OF THE PROJECT, AND NOTIFY THE ARCHITECT OF ANY CONDITIONS THAT REQUIRE MODIFICATION BEFORE PROCEEDING WITH THE WORK.
6. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT, LABOR, AND SERVICES NECESSARY TO COMPLETE THE WORK.
7. ALL PERSONS DIRECTLY OR INDIRECTLY ASSOCIATED WITH THE PROJECT SHALL BE FAMILIAR WITH THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT, AND IMPLEMENT THOSE RULES AS THEY APPLY TO THIS PROJECT.
8. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH THE BUILDING CODES AS NOTED ON CODE SHEETS.
9. CONTRACTOR SHALL SUBMIT CONFIRMATION OF ORDERED MATERIALS OR ITEMS NECESSARY TO COMPLETE THE PROJECT WITH PROJECTED DELIVERY DATE GREATER THAN FOUR WEEKS.
10. ALL SUBCONTRACTORS SHALL SUBMIT SHOP DRAWINGS AS REQUIRED FOR APPROVAL PRIOR TO COMMENCING ANY WORK.
11. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL TRADES AND THE PREVENTION OF CONFLICT AMONG ALL TRADES.
12. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITY LINES. LOCATIONS SHOWN ARE APPROXIMATE. REPAIR ALL DAMAGE TO UTILITY LINES CAUSED BY CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
13. PROVIDE SEALANT AT ALL JOINTS OR CRACKS THAT OCCUR WHERE DISSIMILAR MATERIALS INTERSECT PERPENDICULAR TO EACH OTHER, AND THE INTERSECTION IS EXPOSED TO VIEW, UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
14. ALL PENETRATIONS AT SMOKE AND FIRE RATED WALLS, FLOORS, OR CEILINGS, SHALL BE PROTECTED, SEALED OR DAMPERED USING ONLY U.L. AND/OR I.C.B.O. APPROVED METHODS, MATERIALS AND INSTALLATION.
15. CONTRACTOR SHALL TAKE CARE TO MAINTAIN FIRE PROTECTION SYSTEMS. REPLACE FIRE-PROOFING AND SEALANTS TO ORIGINAL STATE WHERE DISTURBED BY CONSTRUCTION.
16. PROVIDE FINISHED COAT OF PAINT ALL EXPOSED STEEL - COORDINATE WITH FINISH SCHEDULE.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING AND SHORING REQUIRED DURING CONSTRUCTION.
18. TYPICAL DETAILS MAY NOT NECESSARILY BE REFERENCED ON THE DRAWINGS, BUT APPLY UNLESS NOTED OTHERWISE.
19. SECURITY AND SAFETY ARE THE CONTRACTOR'S RESPONSIBILITY. COORDINATE WITH CONTRACTING OFFICER'S REPRESENTATIVE.

DRAWINGS & DIMENSIONS:

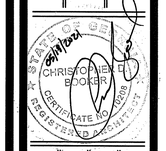
1. THE CONTRACT DOCUMENT DRAWINGS HAVE BEEN PREPARED USING REVIT® SOFTWARE IN A MICROSOFT WINDOWS ENVIRONMENT. A BUILDING INFORMATION MODEL (BIM) WAS DEVELOPED SOLELY TO COMMUNICATE THE DESIGN TO THE OWNER AND IS NOT SUITABLE FOR ANY OTHER PURPOSE. FOR EXAMPLE THE REVIT MODEL IS NOT SUITABLE FOR COST ESTIMATING, SYSTEMS PERFORMANCE, COORDINATION, SCHEDULING, OR FACILITIES MANAGEMENT.
2. THESE DOCUMENTS WERE PRODUCED USING THE CONSTRUCTION SPECIFICATIONS INSTITUTE'S UNIFORM DRAWING SYSTEM AND THE NATIONAL CAD STANDARD AS GUIDES.
3. ANY INDICATION OF PROJECT LIMITS OR LINES OF DEMARCATION ARE SHOWN FOR THE CONVENIENCE OF THE CONTRACTOR, AND ARE NOT TO BE TAKEN LITERALLY. ACTUAL CONTRACT LIMITS ARE TO BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE OWNER BEFORE ACTUAL CONSTRUCTION WORK BEGINS.
4. DRAWINGS ARE PREPARED USING DIMENSIONS AND PRODUCT CONFIGURATIONS OR DETAILS OF SPECIFIC MANUFACTURERS. DIMENSIONS AND DETAILS FOR SPECIFIC PRODUCTS MAY CHANGE BEFORE THEY ARE ACTUALLY INCORPORATED INTO THE WORK, AND PRODUCTS BY OTHER MANUFACTURERS ARE ALSO ACCEPTABLE. THEREFORE, ACTUAL INSTALLATION DETAILS AND DIMENSIONS MAY DIFFER FROM THOSE SHOWN. CONTRACTOR SHALL VERIFY INSTALLATION REQUIREMENTS FOR ALL PRODUCTS TO BE INCORPORATED IN THE WORK (INCLUDING THICKNESSES FOR RECESSED OR SEMI-RECESSED PRODUCTS), AND IS RESPONSIBLE FOR ACCOMMODATING AND COORDINATING CHANGES TO OTHER MATERIALS OR PRODUCTS THAT ARE NECESSARY BECAUSE OF THESE DIFFERENCES.
5. THE DRAWINGS AND SPECIFICATIONS ARE SEPARATED INTO DISCIPLINES FOR CONVENIENCE. THE SEPARATIONS USED ARE USED ONLY FOR THE PURPOSES OF CONVENIENCE AND REFERENCE AND IN NO WAY DO THEY DEFINE OR LIMIT THE SCOPE OR INTENT OF ANY PART OF THE DRAWINGS, OR OF THE DRAWINGS AND SPECIFICATIONS AS A WHOLE. THE FACT THAT THE DRAWINGS ARE SEPARATED IN NO WAY SUGGESTS THAT THE WORK IS NOT TO BE CONSTRUCTED AS A COMPLETE, INTEGRATED AND UNIFIED WHOLE.
6. THE DRAWINGS AND SPECIFICATIONS, INCLUDING DRAWINGS PREPARED BY SPECIFIC ENGINEERING DISCIPLINES (SUCH AS CIVIL, STRUCTURAL, MECHANICAL, ELECTRICAL, ETC.) ARE COMPLEMENTARY; ITEMS SHOWN IN ANY ONE LOCATION IN THE DRAWINGS SHALL BE CONSIDERED TO BE REQUIREMENTS OF THE CONTRACT FOR CONSTRUCTION. IN THE EVENT OF AN INCONSISTENCY BETWEEN THE DRAWINGS AND SPECIFICATIONS, OR WITHIN EITHER DOCUMENT, THE CONTRACTOR SHALL SEEK CLARIFICATION OR INTERPRETATION FROM THE ARCHITECT PRIOR TO BIDDING. WHERE INCONSISTENCIES ARE NOT CLARIFIED PRIOR TO BIDDING, AND WHERE THE ACTUAL SOLUTION OR INTENT CANNOT BE REASONABLY INFERRED, THE CONTRACTOR SHALL PROVIDE THE BETTER QUALITY OR GREATER QUANTITY OF WORK.
7. USE OF THE WORD "VERIFY" POINTS OUT A SITUATION WHICH MUST BE CONFIRMED PRIOR TO PROCEEDING WITH THE WORK, FABRICATION OF EQUIPMENT, OR ORDERING MATERIAL. NOTIFY THE ARCHITECT OF ANY DISCREPANCY DISCOVERED.
8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE ARCHITECT IMMEDIATELY SHOULD ANY DISCREPANCIES BE FOUND IN THE DRAWINGS AND SPECIFICATIONS.
9. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL FIELD CONDITIONS AND DIMENSIONS AS THEY RELATE TO THIS PROJECT. SHOULD DISCREPANCIES EXIST BETWEEN THE WORK INDICATED AND ACTUAL FIELD CONDITIONS NOTIFY THE ARCHITECT PRIOR TO PROCEEDING WITH THE WORK.
10. DO NOT SCALE THE DRAWINGS. DRAWING SCALES AS INDICATED ARE FOR REFERENCE ONLY AND ARE NOT INTENDED TO ACCURATELY DEPICT ACTUAL OR DESIGNATED CONDITIONS. WRITTEN DIMENSIONS SHALL GOVERN.
11. ALL EXTERIOR WALLS ARE DIMENSIONED TO THE EXTERIOR FACE OF STUD OR CMU. ALL INTERIOR WALLS ARE DIMENSIONED TO THE CENTERLINE OF METAL STUDS OR FACE OF CMU. INTERIOR DIMENSIONS FROM EXTERIOR WALLS START AT THE INTERIOR FACE OF METAL STUD OR CMU. (UNLESS NOTED OTHERWISE)
12. THE TERM "ALIGN" REFERS TO LOCATING DIFFERENT COMPONENTS OF CONSTRUCTION TO PROVIDE A FLUSH FINISH SURFACE.
13. SHOULD DIMENSIONS BE MISSING OR CONFLICTING, NOTIFY ARCHITECT PRIOR TO PROCEEDING WITH RELATED WORK.
14. SEE ENLARGED FLOOR PLANS FOR ANY & ALL DIMENSIONS AND WALL TYPES THAT MAY NOT BE REFERENCED ON THE OVERALL FLOOR PLAN (UNLESS NOTED OTHERWISE)

ABBREVIATIONS:

A/C	AIR CONDITIONING	FA	FIRE ALARM	N	NORTH	SYM	SYMMETRICAL
ACOUS	ACOUSTICAL	FAAP	FIRE ALARM ANNUNCIATOR PANEL	NA	NOT APPLICABLE	SYS	SYSTEM
ACT	ACOUSTICAL CEILING TILE	FACP	FIRE ALARM CONTROL PANEL	NECY	NECESSARY		
AD	AREA DRAIN	FCU	FAN COIL UNIT	NIC	NOT IN CONTRACT	T	TREAD
ADA	AMERICANS WITH DISABILITIES ACT	FD	FLOOR DRAIN	NO	NUMBER	TB	TACKBOARD
A&E	ARCHITECT AND ENGINEERS	FDN	FOUNDATION	NOM	NOMINAL	T&B	TOP AND BOTTOM
AFF	ABOVE FINISH FLOOR	FE	FIRE EXTINGUISHER	NTS	NOT TO SCALE	T&G	TONGUE AND GROOVE
AFG	ABOVE FINISHED GRADE	FEC	FIRE EXTINGUISHER CABINET			TBD	TO BE DETERMINED
AHJ	AUTHORITIES HAVING JURISDICTION	FF	FINISH FLOOR	OC	ON CENTER	TD	TUBULAR DAYLIGHTING DEVICE
AHU	AIR HANDLING UNIT	FF & E	FURNITURE FIXTURES & EQUIPMENT	OD	OUTSIDE DIAMETER,	TEL	TELEPHONE
ALT	ALTERNATIVE	FIN	FINISH		OVERFLOW DRAIN	TEMP	TEMPERATURE
ALUM	ALUMINUM	FIXT	FIXTURE	OFCI	OWNER FURNISHED	TG	TEMPERED GLASS,
ANOD	ANODIZED	FL	FLOW LINE		CONTRACTOR INSTALLED		TONGUE & GROOVE,
APPROX	APPROXIMATE	FLR	FLOOR	OFOI	OWNER FURNISHED		TRANSFER GRILLE
ARCH	ARCHITECTURAL	FLUOR	FLUORESCENT		OWNER INSTALLED	THRU	THROUGH
AVG	AVERAGE	FO	FINISH OPENING	OH	OPPOSITE HAND	TO	TOP OF
		FOS	FACE OF STUD	OPN	OPENING	TOC	TOP OF CONCRETE
BB	BULLETIN BOARD	FR	FIRE RATED	OPP	OPPOSITE	TOM	TOP OF MASONRY
BD	BOARD	FSP	FIRE STANDPIPE	ORD	OVERFLOW ROOF DRAIN	TOS	TOP OF STEEL
BG	BUMPER GUARD	FT	FOOT / FEET			TOW	TOP OF WALL
BLDG	BUILDING	FTG	FOOTING	P	PLASTIC	TTD	TOILET TISSUE DISPENSER
BLKG	BLOCKING	FURR	FURRING	PARTN	PARTITION	TV	TELEVISION
BM	BEAM	FV	FIELD VERIFY	PBD	PARTICLE BOARD	TYP	TYPICAL
BO	BOTTOM OF	FVC	FIRE VALVE CABINET	PCC	PRECAST CONCRETE		
BRG	BEARING	FWC	FABRIC WALLCOVERING	PL	PLATE	UGND	UNDERGROUND
				PLAM	PLASTIC LAMINATE	UL	UNDERWRITERS LABORATORY
CB	CATCH BASIN	GA	GAUGE	PLAS	PLASTER	UNFIN	UNFINISHED
CBB	CEMENTITIOUS BACKER BOARD	GALV	GALVANIZED	PLYWD	PLYWOOD	UNO	UNLESS NOTED OTHERWISE
CER	CERAMIC	GB	GRAB BAR	PR	PAIR	URN	URINAL
CF	CUBIC FEET	GC	GENERAL CONTRACTOR	PRCST	PRECAST		
CFCI	CONTRACTOR FURNISH CONTRACTOR INSTALL	GD	GARBAGE DISPOSAL	PREFAB	PREFABRICATED	VB	VINYL BASE
CFM	CUBIC FEET PER MINUTE	GF CMU	GROUND FACE CMU	PROP	PROPERTY	VCT	VINYL COMPOSITION TILE
CG	CORNER GUARD, CEILING GRILLE	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	PSF	POUNDS PER SQUARE FOOT	VERT	VERTICAL
C & G	CURB & GUTTER	GI	GALVANIZED IRON	PSI	POUNDS PER SQUARE INCH	VIF	VERIFY IN FIELD
CI	CAST IRON	GL	GLASS	PT	PAINT	VTR	VENT THROUGH ROOF
CIP	CAST IN PLACE	GL BLK	GLASS BLACK	PT CONC	POST-TENSIONED CONCRETE	VWC	VINYL WALL COVERING
CJ	CONTROL JOINT	GLU LAM	GLUE LAMINATED WOOD	PTD	PAPER TOWEL DISPENSER		
CL	CENTERLINE	GND	GROUND	PTL	PORCELAIN TILE	W	WEST
CLG	CEILING	GT	GROUT	PVC	POLYVINYL CHLORIDE	W/	WITH
CMP	CORRUGATED METAL PIPE	GYP BD	GYPSUM BOARD			W/O	WITHOUT
CMU	CONCRETE MASONRY UNITS			QA	QUALITY ASSURANCE	WC	WATER CLOSET
CO	CLEANOUT(S)	HAZ MAT	HAZARDOUS MATERIALS	QT	QUARRY TILE	WD	WOOD
COL	COLUMN	HB	HOSE BIB			WDP	WOOD PANELING
CONC	CONCRETE	HC	HOLLOW CORE	R	R-VALUE (INSULATION),	WDW	WINDOW
CONT	CONTINUOUS	HCP	HANDICAPPED		RADIUS, RISER	WF	WIDE FLANGE
COORD	COORDINATE	HDR	HEADER	RB	RESILIENT BASE	WGL	WIRED GLASS
CP	CONCRETE PIPE	HDW	HARDWARE	RCP	REFLECTED CEILING PLAN	WH	WATER HEATER
CPT	CARPET	HDWD	HARDWOOD	RD	ROOF DRAIN	WR	WASTE RECEPTACLE
CRS	COLD ROLLED STEEL	HGT	HEIGHT	RE:	REFERENCE	WRB	WATER RESISTANT BARRIER
CS	CAST STONE	HM	HOLLOW METAL	REBAR	REINFORCING BAR	WS	WATER STOP
CSB	CONCRETE SPLASH BLOCK	HORIZ	HORIZONTAL	REC	RECESSED	WSCT	WAINSCOTT
CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE	HR	HOUR, HANDRAIL	RECPT	RECEPTACLE	WT	WEIGHT
CT	CERAMIC TILE	HT	HEIGHT	REF	REFRIGERATOR	WWF	WELDED WIRE FABRIC
CTR	CENTER	HVAC	HEATING, VENTILATING & AIR CONDITIONING	REG	REGISTER		
CU FT	CUBIC FEET			REINF	REINFORCE		
CUH	CABINET UNIT HEATER	IBC	INTERNATIONAL BUILDING CODE	REQD	REQUIRED		
CY	CUBIC YARD	ID	INSIDE DIAMETER	RESIL	RESILIENT		
		IG	INSULATING GLASS	REV	REVISION		
D	DRYER	IN	INCH	RH	ROOF HATCH		
DEG	DEGREE	INCAN	INCANDESCENT	RM	ROOM		
DEMO	DEMOLITION	INFO	INFORMATION	RO	ROUGH OPENING		
DEPT	DEPARTMENT	INSUL	INSULATION	RT	RUBBER STAIR TREAD		
DET	DETAIL	INT	INTERIOR				
DF	DRINKING FOUNTAIN	INV	INVERT	S	SOUTH		
DIA	DIAMETER	ITG	INSULATED TEMPERED GLASS	SAF	SEAMLESS ACRYLIC FLOORING		
DIAG	DIAGONAL			SAP	SUSPENDED ACOUSTICAL PANELS		
DISP	DISPENSER	JAN	JANITOR	SAT	SUSPENDED ACOUSTICAL TILE		
DIV	DIVISION	J-BOX	JUNCTION BOX	SB	SPLASHBLOCK		
DN	DOWN	JT	JOINT	SC	SEALED CONCRETE, SOLID CORE		
DR	DOOR			SCHED	SCHEDULE		
DS	DOWNSPOUT	L	LONG	SCP	SCUPPER		
DW	DISHWASHER	LAV	LAVATORY	SD	SOAP DISPENSER		
DWG	DRAWING	LB(S)	# POUND(S)	SEAL	SEALER		
		LF	LINEAL FEET	SECT	SECTION		
E	EAST	LLV	LONG LEG VERTICAL	SF	SQUARE FOOT		
(E)	EXISTING	LT	LIGHT	SF CMU	SPLIT-FACE CMU		
EA	EACH	LVR	LOUVER	SHR	SHOWER		
EF	EXHAUST FAN			SHT	SHEET		
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	M & BH	MOP AND BROOM HOLDER	SHTG	SHEATHING		
EJ	EXPANSION JOINT	MAINT	MAINTENANCE	SIM	SIMILAR		
EL	ELEVATION	MATL	MATERIAL	SL	SLOPE		
ELEC	ELECTRICAL	MAX	MAXIMUM	SLV	SHORT LEG VERTICAL		
ELEV	ELEVATOR	MB	MARKER BOARD	SND	SANITARY NAPKIN DISPOSER		
EQ	EQUAL	MECH	MECHANICAL	SNV	SANITARY NAPKIN VENDOR		
EQUIP	EQUIPMENT	MEPF	MECHANICAL, ELECTRICAL, PLUMBING, FIRE PROTECTION (CONDUIT)	SPECS	SPECIFICATIONS		
EST	ESTIMATED			SQ	SQUARE		
ETS	EXPOSED TO STRUCTURE	MANUF.	MANUFACTURER	SS	STAINLESS STEEL		
EWC	ELECTRIC WATER COOLER	MH	MANHOLE	STC	SOUND TRANSMISSION CLASS		
EXH	EXHAUST	MIN	MINIMUM	STD	STANDARD		
EXIST	EXISTING	MICR	MICROWAVE	STL	STEEL		
EXP	EXPANSION	MIRR	MIRROR	STOR	STORAGE		
EXT	EXTERIOR	MISC	MISCELLANEOUS	STRUC	STRUCTURAL		
		MO	MASONRY OPENING	SUSP	SUSPENDED		
		MSB	MOP SERVICE BASIN	SV	SHEET VINYL		
		MTD	MOUNTED				
		MTL	METAL				

ARCHITECTS
Christopher Booker & Associates, PC
670 BROAD STREET, AUGUSTA, GA 30901 | P: (706) 798-6792 | WWW.CBARCHITECTSPC.COM

SHERIFF'S ADMINISTRATION BLDG.
COLUMBIA COUNTY
2269 COUNTY CAMP ROAD
APPLING, GEORGIA 30802



GENERAL PROJECT NOTES
DRAWING & DIMENSIONS
ABBREVIATIONS

DRWN BY:S. HAMBY
CHK'D BY:C. BOOKER
DATE: MAY 18, 2021

REVISIONS

#	COMMENTS:
	ISSUED FOR PERMIT

JOB NO.
2019

SHEET NO.
CS1.2

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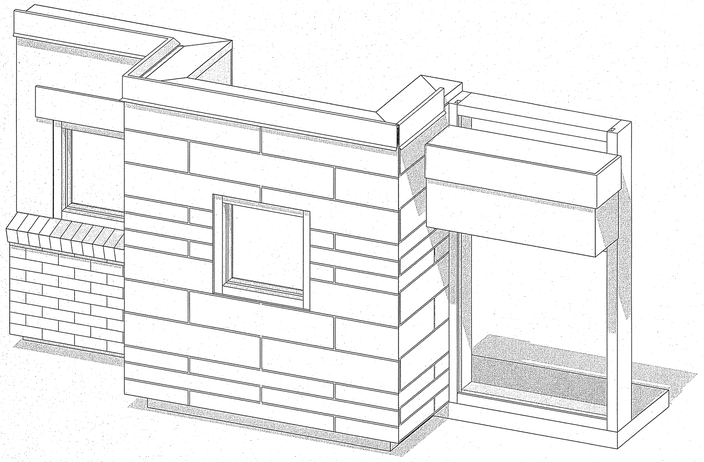
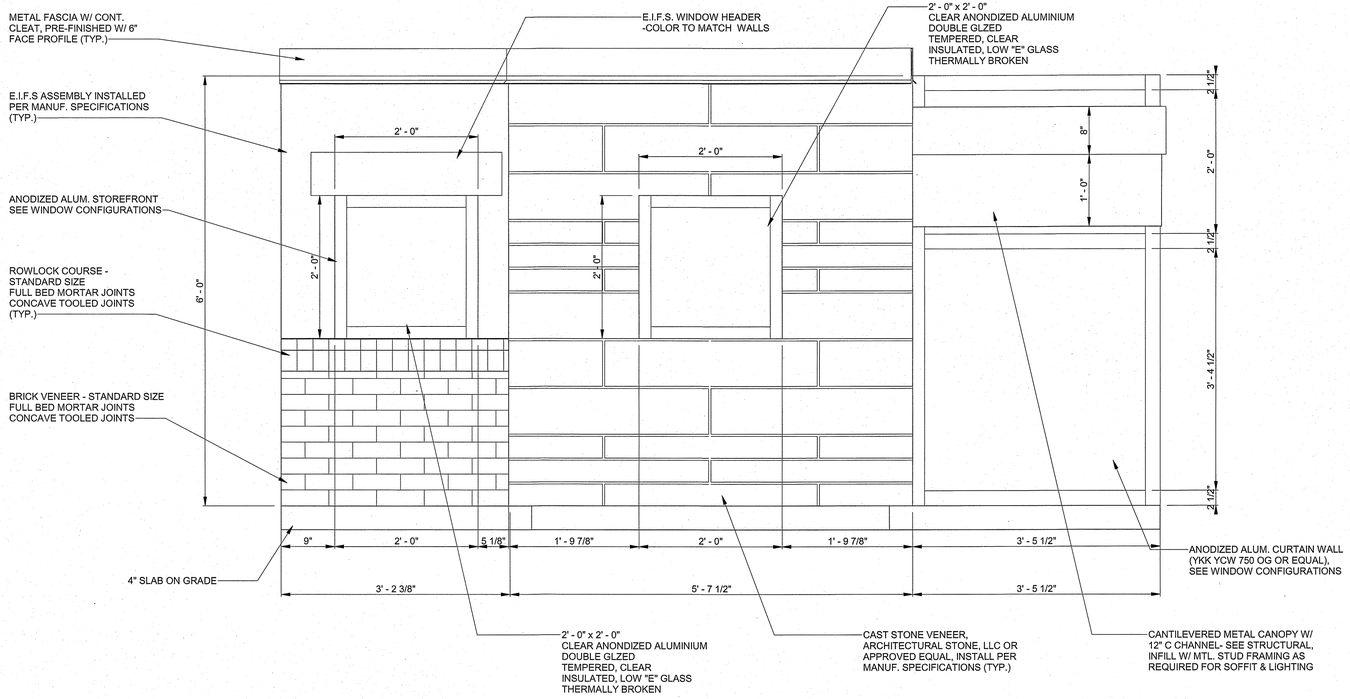
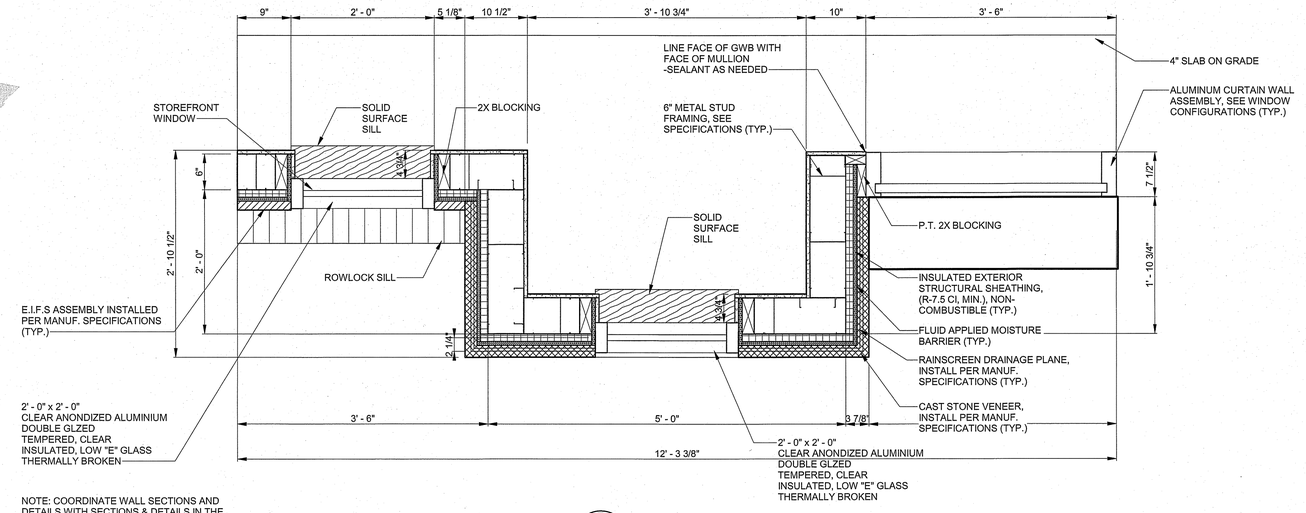


3 CS1.3 **ISOMETRIC MOCK-UP**
SCALE:



1 CS1.3 **MOCK-UP ELEVATION**
SCALE: 1" = 1'-0"



NOTE: COORDINATE WALL SECTIONS AND DETAILS WITH SECTIONS & DETAILS IN THE CONSTRUCTION DOCUMENT SET

2 CS1.3 **MOCK-UP - PLAN VIEW**
SCALE: 1" = 1'-0"

1 CS1.3

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ARCHITECTS
Christopher Booker & Associates, PC
670 BROAD STREET, AUGUSTA, GA 30901 | P: (706) 798-6792 | WWW.CBARCHITECTSPC.COM

SHERIFF'S ADMINISTRATION BLDG.
COLUMBIA COUNTY
2269 COUNTY CAMP ROAD
APPLING, GEORGIA 30802

STATE OF GEORGIA
CHRISTOPHER D. BOOKER
CERTIFICATE NO. 029209
REGISTERED ARCHITECT
05/19/2021

PROJECT MOCK-UP

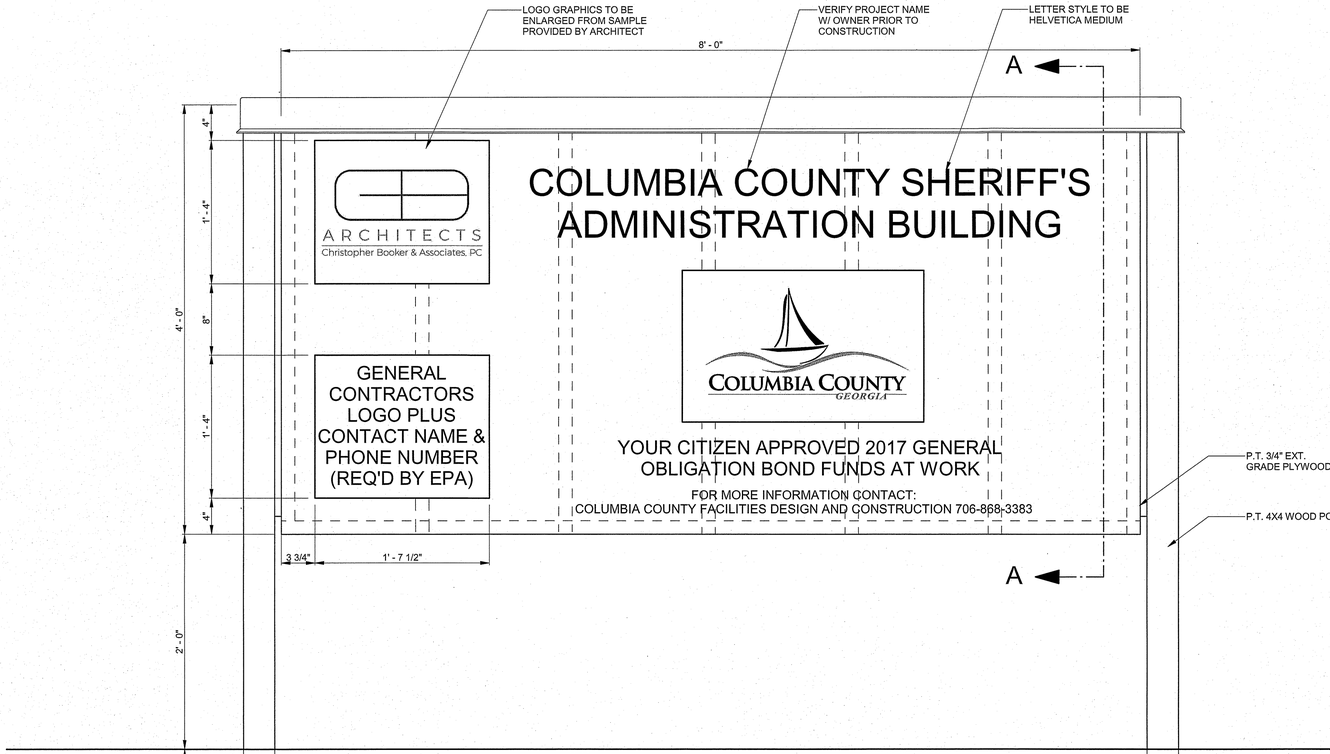
DRWN BY:S. HAMBY
CHK'D BY:C. BOOKER
DATE: MAY 18, 2021

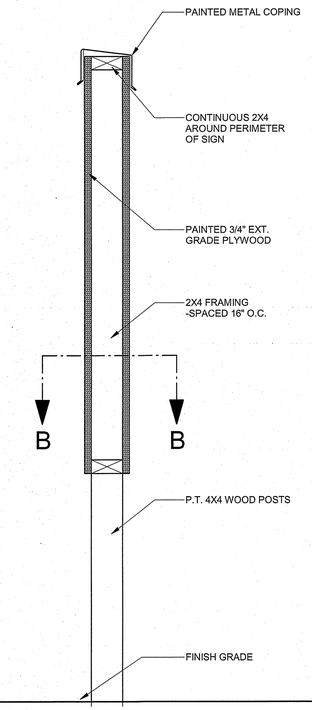
REVISIONS

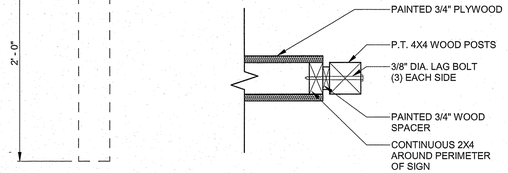
#	COMMENTS:
	ISSUED FOR PERMIT

JOB NO.
2019

SHEET NO.
CS1.3







SECTION B-B

SECTION A-A

NOTE: UNLESS NOTED OTHERWISE

1.PAINT COLORS
LETTERS, POSTS & GRAPHICS: BLACK
BACKGROUND: WHITE
METAL COPING: WHITE

2. SIGN SHALL BE TWO SIDED

1 / CS1.4 **PROJECT SITE SIGN - PROVIDED AND INSTALLED BY G.C.**

SCALE: 1 1/2" = 1'-0"

5/19/2021 8:09:41 AM

ARCHITECTS
Christopher Booker & Associates, PC
670 BROAD STREET, AUGUSTA, GA 30901 | P: (706) 798-6792 | WWW.CBARCHITECTSPC.COM

SHERIFF'S ADMINISTRATION BLDG.

COLUMBIA COUNTY

2269 COUNTY CAMP ROAD
APPLING, GEORGIA 30802

STATE OF GEORGIA
CHRISTOPHER D. BOOKER
CERTIFICATE NO. 10078
REGISTERED ARCHITECT

PROJECT SITE SIGN

DRWN BY: S. HAMBY

CHK'D BY: C. BOOKER

DATE: MAY 18, 2021

REVISIONS

#	COMMENTS:
	ISSUED FOR PERMIT

JOB NO.
2019

SHEET NO.
CS1.4

INVITATION TO BID

BID #: 2021026-BID2720
BID ITEM: COLUMBIA COUNTY SHERIFF'S OFFICE ADMINISTRATION BUILDING

Electronic bids will be **received by the BOARD OF COMMISSIONERS OF COLUMBIA COUNTY, PROCUREMENT DEPARTMENT, 500 FAIRCLOTH DRIVE, EVANS, GEORGIA 30809,** until **July 29th at 12:00 PM EST. Public opening will be held virtually on the same day via WebEx at**

https://ccgagov.webex.com/meet/gosteen at **2:00 PM EST.** No submitted bid may be withdrawn after the scheduled closing time for receipt of bids for a period of sixty (60) days.

Bids are to be submitted electronically at
https://columbiacountyga.bonfirehub.com

All Bidders must have a State of Georgia General Contractor's License.

Bid Description: The work to be done consists of furnishing all materials, equipment, and labor for the construction of the new Sheriff's Administration Building.

The project consists of a new three story, 28,000 square foot administration building. Type IIB construction, sprinklered. The exterior consists of EIFS, Brick, and Stone veneer.

Bids for the complete work in one general contract shall be made on the electronic forms provided. All proposals shall be accompanied by a Bid Bond drawn in favor of Columbia County, Georgia, in the amount of at least five percent (5%) of the lump sum bid for the complete work; such Bid Bond representing that the Bidder, if awarded the contract, will promptly enter into a contract and furnish Performance Bond and Payment Bond as provided by law and approved by the Attorney for Columbia County, Georgia.

Each bond shall be equal to one hundred percent (100%) of the contract amount. The Bid Bond shall be forfeited to Columbia County, Georgia as liquidated damages if the Bidder fails to execute the contract and provide Performance and Payment Bonds within ten (10) days after being notified that he has been awarded the contract. **Letters of credit will not be accepted.**

Bid bonds for electronic bids should be uploaded as directed via https://columbiacountyga.bonfirehub.com. Questions regarding Bonfire Interactive may be directed to Bonfire Customer Care at 800-354-8010 Ext. 2.

Drawings and Specifications may be downloaded free of charge at https://columbiacountyga.bonfirehub.com. All questions should be submitted online via Bonfire Interactive before **5:00 PM EST** on **July 21st, 2021**, and receipt of any/all addenda must be acknowledged prior to contract award.

Architect: **Christopher Booker & Associates**
670 Broad Street
Augusta, GA 30901

The Owner reserves the right to reject any or all bids and to waive informalities. Any objections to the specifications or contract documents as set forth should be submitted online five days prior to bid openings. Contractor is responsible for verifying issuance of any/all Addenda, and addenda must be acknowledged prior to award.

COLUMBIA COUNTY BOARD OF COMMISSIONERS
GLENN O'STEEN, PROCUREMENT MANAGER

FAXED BIDS WILL NOT BE ACCEPTED

Advertising in Columbia County News Times: June 30, 2021

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PROPOSAL

PROPOSAL OF_____(hereinafter)

called "BIDDER", organized and existing under the laws of the State of _____, doing business as _____. *

TO: Columbia County, GA
c/o Purchasing Dept.
500 Faircloth Drive
Evans, Georgia 30809 (hereinafter called "OWNER")

In compliance with your Advertisement For Bids, BIDDER hereby proposes to perform all WORK of the Contract for: **Columbia County Sheriff's Office Administration Building**, COLUMBIA COUNTY, GEORGIA, in strict accordance with the CONTRACT DOCUMENTS, within the time set forth therein, and at the price stated below.

By submission of this BID, each BIDDER certifies, and in the case of joint BID, each party thereto certifies as to his own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence work under this Contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the Project within 486 consecutive calendar days thereafter. BIDDER further agrees to pay as liquidated damages, the sum of One Thousand Dollars ($1,000.00) for each consecutive calendar day thereafter as provided in Section 4.5 of AIA101 Standard Form of Agreement between Owner and Contractor.

BIDDER acknowledges receipt of the following ADDENDUM(A):

No. _____ Dated _____, _____
No. _____ Dated _____, _____
No. _____ Dated _____, _____
No. _____ Dated _____, _____

BIDDER agrees to perform all the work described in the BASE BID of the CONTRACT DOCUMENTS for the total sum of

_____
AMOUNT WRITTEN IN WORDS

Dollars ($_____).

AMOUNTS ARE TO BE SHOWN IN BOTH WORDS AND FIGURES. IN CASE OF DISCREPANCY, THE AMOUNT SHOWN IN WORDS SHALL GOVERN.

---

* Insert "a corporation", "a partnership", or "an individual", as applicable.
BIDDER understands that the OWNER reserves the right to reject any or all Bids and to waive any informalities in the Bidding.

The BIDDER agrees that this Bid shall be good and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving Bids.

Upon receipt of written Notice of Acceptance of this Bid, BIDDER will execute the formal Contract within ten (10) days and deliver a Surety Bond or Bonds as required by AIA 101 and AIA 201. The Bid Security attached in the sum of:

_____

Dollars ($_____)

is to become the property of the OWNER in the event the Contract and Bond are not executed within the time set forth as liquidated damages for the delay and additional expense to the OWNER caused thereby.

Respectfully Submitted:

By:_____
Signature

Title:_____

Firm Name:_____

Address:_____

_____

(SEAL - if Bid is
by a Corporation)

DATA TO BE SUBMITTED WITH BID

A. SUPPLEMENTAL INSTRUCTIONS:

The following instructions supplement the requirements of the Information For Bidders and provides instructions for completing the schedules which follow.

1. The Bidder shall submit a list of names and addresses of at least five (5) clients for which the Bidder has constructed similar work of comparable size and complexity. .

2. The Bidder shall list in the space provided in Schedule C ALL major subcontractors to be used for construction of the project. Subcontractors so listed shall be used for the contract construction unless their replacement is approved by the Engineer and the Owner.

B. LIST OF PREVIOUS PROJECTS:

1. Project Name:_____

   Client/Owner:_____

   Engineer: _____

   Completion Date: _____; Approx. Contract Amount $_____

2. Project Name:_____

   Client/Owner:_____

   Engineer:_____

   Completion Date: _____; Approx. Contract Amount $ _____

3. Project Name:_____

   Client/Owner:_____

   Engineer:_____

   Completion Date: _____; Approx. Contract Amount $ _____

4. Project Name:_____

   Client/Owner:_____

   Engineer:_____

   Completion Date: _____; Approx. Contract Amount $ _____

5. Project Name:_____

Client/Owner:_____

Engineer:_____

Completion Date: _____ Approx. Contract Amount $_____

C. LIST OF PROPOSED MAJOR SUBCONTRACTORS:

1. Steel: _____

Address: _____

2. Concrete:_____

Address: _____

3. Electrical: _____

Address: _____

4. HVAC Mech.: _____

Address: _____

5. Plumbing Mech.:_____

Address:_____

6. Fire Alarm:_____

Address:_____

6. Civil Site Work:_____

Address:_____

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AIA® Document A101® – 2017

Standard Form of Agreement Between Owner and Contractor

where the basis of payment is a Stipulated Sum

AGREEMENT made as of the «X» day of «XXX» in the year «2021»
(In words, indicate day, month and year.)

BETWEEN the Owner:
(Name, legal status, address and other information)

«Columbia County Georgia »
«630 Ronald Reagan Drive »
«Building B»
«Evans, Georgia 30809 »

and the Contractor:
(Name, legal status, address and other information)

« XXX »« »

for the following Project:
(Name, location and detailed description)

«Columbia County Sheriff's Administration Building»
«2273 County Camp Road, P.O. Box 310, Appling Georgia 30802»

The Architect:
(Name, legal status, address and other information)

«Christopher Booker & Associates, P.C.»
«670 Broad Street, Augusta, Georgia 30901»

The Owner and Contractor agree as follows.

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

The parties should complete A101®–2017, Exhibit A, Insurance and Bonds, contemporaneously with this Agreement. AIA Document A201®–2017, General Conditions of the Contract for Construction, is adopted in this document by reference. Do not use with other general conditions unless this document is modified.

ELECTRONIC COPYING of any portion of this AIA® Document to another electronic file is prohibited and constitutes a violation of copyright laws as set forth in the footer of this document.

TABLE OF ARTICLES

ARTICLE 1 THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, Conditions of the Contract (General, Supplementary, and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement, and Modifications issued after execution of this Agreement, all of which form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. An enumeration of the Contract Documents, other than a Modification, appears in Article 9.

ARTICLE 2 THE WORK OF THIS CONTRACT

The Contractor shall fully execute the Work described in the Contract Documents, except as specifically indicated in the Contract Documents to be the responsibility of others.

ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The date of commencement of the Work shall be:
(Check one of the following boxes.)

[« »] The date of this Agreement.

[« X »] A date set forth in a notice to proceed issued by the Owner.

[« »] Established as follows:
(Insert a date or a means to determine the date of commencement of the Work.)

« »

If a date of commencement of the Work is not selected, then the date of commencement shall be the date of this Agreement.

§ 3.2 The Contract Time shall be measured from the date of commencement of the Work.

§ 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work:
(Check one of the following boxes and complete the necessary information.)

[«X »] Not later than «Four Hundred and Eighty Six Days » (« 486 ») calendar days from the date of commencement of the Work.

[« »] By the following date: « »

§ 3.3.2 Subject to adjustments of the Contract Time as provided in the Contract Documents, if portions of the Work are to be completed prior to Substantial Completion of the entire Work, the Contractor shall achieve Substantial Completion of such portions by the following dates:

Portion of Work	Substantial Completion Date

§ 3.3.3 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

ARTICLE 4 CONTRACT SUM

§ 4.1 The Owner shall pay the Contractor the Contract Sum in current funds for the Contractor's performance of the Contract. The Contract Sum shall be «XXX » ($ «XXX »), subject to additions and deductions as provided in the Contract Documents.

§ 4.2 Alternates

§ 4.2.1 Alternates, if any, included in the Contract Sum:

Item	Price

§ 4.2.2 Subject to the conditions noted below, the following alternates may be accepted by the Owner following execution of this Agreement. Upon acceptance, the Owner shall issue a Modification to this Agreement.
(Insert below each alternate and the conditions that must be met for the Owner to accept the alternate.)

Item	Price	Conditions for Acceptance

§ 4.3 Allowances, if any, included in the Contract Sum:
(Identify each allowance.)

Item	Price
General Allowance #1	Three Hundred Thousand Dollars ($300,000.00)

§ 4.4 Unit prices, if any:
(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)

Item	Units and Limitations	Price per Unit ($0.00)
x	x	$x

§ 4.5 Liquidated damages, if any:
(Insert terms and conditions for liquidated damages, if any.)

«One Thousand Dollars per Calendar Day ($1,000.00) if the work is not completed by the specified completion day unless the owner authorizes an extension of time for completion of the work. Should the Contractor fail for any reason to achieve total Substantial Completion in the number of calendar days set forth in Section 3.3, the Contractor shall pay liquidated damages (and any attorney's fees, as discussed below) to the Owner in the amount set forth above. The Parties agree that such liquidated damages are a reasonable estimate of the damages which Owner will suffer from such delay. Should litigation arise regarding the Contract Documents or the Work, attorney's fees shall be awarded to the party who prevail in such litigation. An award of liquidated damages under this

provision shall not preclude Owner's right to recover attorney's fees. It is understood that the Contractor shall make all reasonable efforts to maintain the current project schedule as included in the contract and subsequent revisions»

§ 4.6 Other:
(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)

« n/a »

ARTICLE 5 PAYMENTS

§ 5.1 Progress Payments

§ 5.1.1 Based upon Applications for Payment submitted to the Architect by the Contractor and Certificates for Payment issued by the Architect, the Owner shall make progress payments on account of the Contract Sum to the Contractor as provided below and elsewhere in the Contract Documents.

§ 5.1.2 The period covered by each Application for Payment shall be one calendar month ending on the last day of the month, or as follows:

«n/a »

§ 5.1.3 Provided that an Application for Payment is received by the Architect not later than the «25th » day of a month, the Owner shall make payment of the amount certified to the Contractor not later than the «20th » day of the «following » month. If an Application for Payment is received by the Architect after the application date fixed above, payment of the amount certified shall be made by the Owner not later than «thirty » («30 ») days after the Architect receives the Application for Payment ; subject to the approval of Owner, provided that if a lien is filed, payment may be withheld until the lien has been released or properly bonded off.

Each Application for Payment shall include a lien release for the current draw request (conditional); current monthly cost report; cover letter showing invoice number and net amount due; letter to Owner certifying that the estimated costs, as indicated on each Monthly Application for Payment, are current and sufficient for the completion of construction of the Project; provided, however, neither this estimate nor the payment of any sum shall be deemed acceptance of Work not completed in accordance with the plans and specifications and Contractor shall remain obligated to complete the Work in accordance with the plans and specifications regardless of whether payment has been made.

(Federal, state or local laws may require payment within a certain period of time.)

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 5.1.5 Applications for Payment shall show the percentage of completion of each portion of the Work as of the end of the period covered by the Application for Payment.

§ 5.1.6 In accordance with AIA Document A201™–2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- **.1** That portion of the Contract Sum properly allocable to completed Work;
- **.2** That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- **.3** That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

.1 The aggregate of any amounts previously paid by the Owner;

.2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201–2017;

.3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;

.4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201–2017; and

.5 Retainage withheld pursuant to Section 5.1.7.

§ 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold the following amount, as retainage, from the payment otherwise due:

(Insert a percentage or amount to be withheld as retainage from each Application for Payment. The amount of retainage may be limited by governing law.)

« 10% Ten percent »

§ 5.1.7.1.1 The following items are not subject to retainage:

(Insert any items not subject to the withholding of retainage, such as general conditions, insurance, etc.)

«n/a »

§ 5.1.7.2 Reduction or limitation of retainage, if any, shall be as follows:

(If the retainage established in Section 5.1.7.1 is to be modified prior to Substantial Completion of the entire Work, including modifications for Substantial Completion of portions of the Work as provided in Section 3.3.2, insert provisions for such modifications.)

«n/a »

§ 5.1.7.3 Except as set forth in this Section 5.1.7.3, upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7.

«Retainage shall be reduced to not less than 5% of Contract Amount of the entire project plus the value of any incomplete work. The reduction of the remaining 5% of retainage established at Substantial Completion of the entire project will not be further reduced until such standard of completion of work has been achieved so as to reduce the amount of incomplete work to a dollar value estimated by the Architect to be equal to or less than ½ of 1% of the Contract Amount. At this time, the Architect will assign a value equal to 200% of the value of any remaining incomplete or unacceptable Punch List items. The Architect shall determine the value of any such items including appropriate value of any remaining final Close-Out Documents, Warranties, etc. Note: A value of 5% of the Line Item amount on the Continuation Sheet (G703) shall be assessed for each major warranty not furnished for the Project. »

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

§ 5.1.9 Except with the Owner's prior approval, the Contractor shall not make advance payments to suppliers for materials or equipment which have not been delivered and stored at the site.

§ 5.2 Final Payment

§ 5.2.1 Final payment, constituting the entire unpaid balance of the Contract Sum, shall be made by the Owner to the Contractor when

.1 the Contractor has fully performed the Contract except for the Contractor's responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and

.2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner's final payment to the Contractor shall be made no later than 30 days after the issuance of the Architect's final Certificate for Payment, or as follows:

« No later than thirty (30) days after:

(a) The Contractor submits to Owner an unconditional lien for the material and labor in connection with this Project for prior month's pay request. Such lien shall be from the Contractor, each subcontractor and each potential lien claimant and shall be executed and acknowledged before a notary; and
(b) Completion of the scope of Work under this Agreement, with any amount paid, less the amount determined by the Architect for any incomplete items such as the Architect's punch work, the units' respective purchasers' punch work, and any warranty items; and
(c) The amount is withheld from final payment to the Contractor at Substantial Completion shall be equal to one half (½) times the cost to complete the Architect's punch work, the units' respective purchasers' punch work, and any warranty items, with such cost to be determined by the Architect; and
(d) Owner is in receipt of the Contractors TWO (2) year warranty and all warranties and manuals for each subcontractor as related to the close-out documents, which a list of such close-out documents is noted by the specifications such as test reports, redline/as-built drawings/specifications (2 copies) and termite inspection reports; and
(e) The Contractor submits to Owner the copies of all permits, inspection reports, test reports, signed and approved by the local or regulating authority involving the Project; and
(f) The Contractor submits the original of all certificates of occupancy, Architect's inspection reports and Civil Engineers' certifications; and
(g) Owner's receipt of certificates of final completion of the Project from the Project's architects/engineers certifying that the Project has been substantially completed in accordance with the Contract Documents, subject to a minor punch list; and
(h) Conditional full and final lien waivers from the Contractor and each subcontractor and potential lien claimant receiving money from the final payment and unconditional full and final waiver of liens from such parties within fifteen (15) working days after receipt of final payment from the Owner; and
(i) Contractor's final accounting; and
(j) Contractor has submitted a survey of the as-built condition of all public utilities on the project site to Columbia County Plan Review for approval.»

§ 5.3 Interest

Payments due and unpaid under the Contract shall bear interest from the date payment is due at the rate stated below, or in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.
(Insert rate of interest agreed upon, if any.)

« 0» % « Zero »

ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Initial Decision Maker

The Architect will serve as the Initial Decision Maker pursuant to Article 15 of AIA Document A201–2017, unless the parties appoint below another individual, not a party to this Agreement, to serve as the Initial Decision Maker.
(If the parties mutually agree, insert the name, address and other contact information of the Initial Decision Maker, if other than the Architect.)

« »

§ 6.2 Binding Dispute Resolution

For any Claim subject to, but not resolved by, mediation pursuant to Article 15 of AIA Document A201–2017, the method of binding dispute resolution shall be as follows:
(Check the appropriate box.)

[« »] Arbitration pursuant to Section 15.4 of AIA Document A201–2017

[« »] Litigation in a court of competent jurisdiction

[«X »] Other *(Specify)*

« The Contract shall be governed by state and federal courts within the jurisdiction of Columbia County, Georgia, and shall have the exclusive jurisdiction and venue for any dispute arising out of this contract. »

If the Owner and Contractor do not select a method of binding dispute resolution, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, Claims will be resolved by litigation in a court of competent jurisdiction.

ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.1.1 If the Contract is terminated for the Owner's convenience in accordance with Article 14 of AIA Document A201–2017, then the Owner shall pay the Contractor a termination fee as follows:
(Insert the amount of, or method for determining, the fee, if any, payable to the Contractor following a termination for the Owner's convenience.)

«Contractor shall be entitled to receive payment for Work executed, and purchased materials that cannot be returned for credit, and any other direct costs incurred in performance of the work and by reason of such termination, but there shall be no allowance for overhead and profit on work not yet executed, and there shall be no compensation for any consequential, indirect or special damages. »

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.1.1 In satisfaction of the requirement of O.C.G.A. 13-10-91, and the Rules of the Georgia Department of Labor relating to the Georgia Security and Immigration Compliance Act of 2006, it is agreed that compliance with the requirement of O.C.G.A. 13-10-91 and rule 300-10-1-.02 are conditions of this Agreement. Attached to this Agreement and made a part hereof by specific reference, is a form entitled "Immigration and Security Form" which is to be completed by the Contractor and all subcontractors. The Contractor shall be responsible for securing from each of the subcontractors, such subcontractor's completion of the Immigration and Security Form. The Contractor's compliance with the requirements of O.C.G.A. 13-10-91 and rule 300-10-1-.02, shall be attested by the execution by the contractor of the Contractor Affidavit and Agreement, which is attached to and made a part of this Agreement. In the event the Contractor employs or contracts with any subcontractor(s) in connection with this Agreement, which is required to register to verify information on all new employees, the Contractor shall secure from such subcontractor(s), attestation of the subcontractors compliance with O.C.G.A S. 10-10-91 and Rule 300-10-1-.02 by the subcontractor's execution of the Subcontractor Affidavit shown in Rule 300-10-01.08 or a substantially similar Subcontractor Affidavit and maintain records of such attestation for inspection by the Owner at any time. Such Subcontractor Affidavit shall become a part of the contractor/subcontractor agreement.

§ 8.2 The Owner's representative:

« Steven D. Prather
PO Box 498
Evans, Ga. 30809
sprather@columbiacountyga.gov »
« »

§ 8.3 The Contractor's representative:
(Name, address, email address, and other information)

«XXX»
« »

§ 8.4 Neither the Owner's nor the Contractor's representative shall be changed without ten days' prior notice to the other party.

§ 8.5 Insurance and Bonds
§ 8.5.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.5.2 The Contractor shall provide bonds as set forth in AIA Document A101™–2017 Exhibit A, and elsewhere in the Contract Documents.

« »

§ 8.7 Other provisions:

« »

ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS

§ 9.1 This Agreement is comprised of the following documents:

.1 AIA Document A101™–2017, Standard Form of Agreement between Owner and Contractor

.2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds

.3 AIA Document A201™–2017, General Conditions of the Contract for Construction

« »

.4 Drawings

Number	Title	Date
Title of Drawings Exhibit: Exhibit C – and all the pages corresponding thereto:		

.5 Specifications

Section	Title	Date	Pages
Title of Drawings Exhibit: Exhibit D – and all the pages corresponding thereto			

.6 Addenda, if any:

Number	Date	Pages
Addendum#x	xx	see attached

Portions of Addenda relating to bidding or proposal requirements are not part of the Contract Documents unless the bidding or proposal requirements are also enumerated in this Article 9.

.8 Other documents, if any, listed below:
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201™–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor's bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

This Agreement entered into as of the day and year first written above.

OWNER *(Signature)*	**CONTRACTOR** *(Signature)*
« Douglas R. Duncan, Jr. Chairman »« »	«xx, xxx »« »
(Printed name and title)	*(Printed name and title)*

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EXHIBIT C

DRAWING INDEX

CS1.0	COVER SHEET, INDEX OF DRAWINGS
CS1.1	CODE ANALYSIS, SITE VICINITY MAPS, PROJECT INFORMATION
CS1.2	GENERAL PROJECT NOTES, DRAWINGS & DIMENSIONS, ABBREVIATIONS
CS1.3	PROJECT MOCK-UP
CS1.4	PROJECT SITE SIGN
CIVIL 1	COVER SHEET
CIVIL 2	EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN
CIVIL 3	EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN
CIVIL 4	PRE DRAINAGE PLAN
CIVIL 5	POST DRAINAGE PLAN
CIVIL 6	EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN, BEST MANAGEMENT PRACTICES, INITIAL PERIMETER CONTROLS
CIVIL 7	EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN, BEST MANAGEMENT PRACTICES, INTERMEDIATE PHASE
CIVIL 8	EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN, BEST MANAGEMENT PRACTICES, FINAL PHASE
CIVIL 9	DEMOLITION PLAN
CIVIL 10	GRADING AND UTILITY PLAN
CIVIL 11	OFFSITE UTILITY PLAN
CIVIL 12	DETAILS
L-101	LANDSCAPE PLAN
L-201	LANDSCAPE NOTES AND DETAILS
I-101	IRRIGATION NOTES AND DETAILS
S0.0	STRUCTUAL GENERAL NOTES
S1.0	FOUNDATION AND SLAB PLAN
S2.0	2ND FLOOR FRAMING PLAN
S2.1	3RD FLOOR FRAMING PLAN
S2.2	ROOF AND PATIO ACCESS, FRAMING PLANS
S3.0	STRUCTURAL DETAILS - SHEET 1
S4.0	STRUCTURAL DETAILS - SHEET 2
S5.0	STRUCTURAL DETAILS - SHEET 3
S6.0	STRUCTURAL DETAILS - SHEET 4
S7.0	STRUCTURAL DETAILS - SHEET 5
A0.1	ARCHITECTURAL SITE
A1.1	LIFE SAFETY PLANS, LIFE SAFETY NOTES & LEGENDS
A1.2	1 HOUR & 2 HOUR U.L. DESIGN U419
A1.3	2 HOUR U.L. DESIGN U905
A2.0	WALL TYPES, SYMBOLS LEGEND, PLAN NOTES, GENERAL PLAN NOTES
A2.1	PROPOSED 1ST FLOOR PLAN, OVERALL PLAN NOTES
A2.2	PROPOSED 2ND FLOOR PLAN, OVERALL PLAN NOTES
A2.3	PROPOSED 3RD FLOOR PLAN, OVERALL PLAN NOTES
A2.4	PROPOSED ROOF PLAN, ROOF PLAN NOTES & LEGENDS
A2.5	FIRST FLOOR REFLECTED CEILING PLAN
A2.6	SECOND FLOOR REFLECTED CEILING PLAN
A2.7	THIRD FLOOR REFLECTED CEILING PLAN
A2.8	FLOOR PLAN DETAILS
A3.1	FRONT ELEVATION, REAR ELEVATION

A3.2	LEFT ELEVATION, RIGHT ELEVATION, EXTERIOR ELEV. @ PATIO
A4.1	BUILDING SECTION
A4.2	FULL BUILDING SECTION
A4.3	WALL SECTIONS
A4.4	WALL SECTIONS
A4.5	WALL SECTIONS
A4.6	WALL SECTION DETAILS
A4.7	WALL SECTION DETAILS
A5.1	FIRST FLOOR INTERIOR ELEVATIONS
A5.2	SECOND FLOOR, THIRD FLOOR INTERIOR ELEVATIONS
A5.3	INTERIOR DETAILS
A6.1	WINDOW CONFIGURATION, CURTAIN WALL CONFIGURATION
A6.2	STOREFRONT DETAILS, CURTAIN WALL DETAILS
A6.3	DOOR SCHEDULE, DOOR SCHEDULE NOTES, DOOR CONFIGURATION
A6.4	DOOR OPENING DETAILS
A7.1	ENLARGED STAIRWELL "1", SECTION @ STAIRS, DETAILS
A7.2	ENLARGED STAIRWELL "2", SECTION @ STAIRS, DETAILS
A7.3	ELEVATOR SHAFT, ENLARGED PLAN, ELEVATOR SECTION
ID.01	1ST FLOOR FINISH PLAN
ID.02	2ND FLOOR FINISH PLAN
ID.03	3RD FLOOR FINISH PLAN
ID.04	1ST & 2ND FL FLOORING PLAN
M1.1	FIRST FLOOR HVAC PLAN
M1.2	SECOND FLOOR HVAC PLAN
M1.3	THIRD FLOOR HVAC PLAN
M1.4	ROOF HVAC PLAN
M2.1	HVAC NOTES & SHEDULES
M2.2	HVAC VRF ODU SHEDULE
M2.3	HVAC VRF IDU SHEDULE 1
M2.4	HVAC VRF IDU SHEDULE 2
P1.1	FIRST FLOOR WASTE PLAN
P1.2	SECOND FLOOR WASTE PLAN
P1.3	THIRD FLOOR WASTE PLAN
P2.1	FIRST FLOOR WATER PLAN
P2.2	SECOND FLOOR WATER PLAN
P2.3	THIRD FLOOR WATER PLAN
P2.4	ROOF WATER PLAN
P3.1	PLUMBING NOTES & SCHEDULES
P3.2	PLUMBING DETAILS
E1.0	LEGEND, NOTES, DETAILS AND FIXTURE SCHEDULE
E1.1	ELECTRICAL SITE PLAN
E2.1	LIGHTING PLAN FIRST FLOOR
E2.2	LIGHTING PLAN SECOND FLOOR
E2.3	LIGHTING PLAN THIRD FLOOR
E3.1	POWER PLAN FIRST FLOOR
E3.2	POWER PLAN SECOND FLOOR
E3.3	POWER PLAN THIRD FLOOR
E3.4	POWER PLAN ROOF
E3.5	MECHANICAL CONNECTION SCHEDULES
E4.1	LIGHTNING PROTECTION - ROOF PLAN
E5.1	FIRE ALARM SYSTEM PLAN FIRST FLOOR

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EXHIBIT D

SPECIFICATIONS
TABLE OF CONTENTS

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AIA® Document A201® – 2017

General Conditions of the Contract for Construction

for the following PROJECT:
(Name and location or address)

«Columbia County Sheriff's Administration Building»
«2273 County Camp Road, P.O. Box 310, Appling Georgia 30802»

THE OWNER:
(Name, legal status and address)

«Columbia,County, Georgia »
«630 Ronald Reagan Drive, Building B Evans, Georgia 30809»

THE ARCHITECT:
(Name, legal status and address)

«Christopher Booker & Associates, P.C.»
«670 Broad Street, Augusta, Georgia 30901»

TABLE OF ARTICLES

ADDITIONS AND DELETIONS:
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14 TERMINATION OR SUSPENSION OF THE CONTRACT

15 CLAIMS AND DISPUTES

INDEX

(Topics and numbers in bold are Section headings.)

ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

In addition, while no contractual relationship is created between the Architect/Consultant/Engineer and Owner by this Contract, the Contract does specify binding and enforceable obligations owed by one to the other.

Throughout the Contract, wherefore the term "Architect" is used; it shall be noted that the term "Architect" refers to "Architect/Consultant/Engineer."

§ 1.1.2.1 The Owner makes no representation or warranty of any nature whatsoever to the Contractor concerning the Contract Documents. By the execution hereof, the Contractor acknowledges and represents that it has received, reviewed and carefully examined such documents, has found them to be complete, accurate, adequate, consistent, coordinated, and sufficient for construction and that the Contractor has not, does not, and will not rely upon any representations or warranties by the Owner concerning such documents as no such representations or warranties have been or are hereby made.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker
The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents
§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization
Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation
In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service
§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

Owner shall have the right to retain, duplicate and use in its business or in the business of any affiliated entity, the plans, drawings and specifications.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice
§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER

§ 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential," the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is

required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.3.7 Notwithstanding anything else in this paragraph or elsewhere in the Contract, no obligation of Owner shall relieve the Contractor of Contractor's obligation to perform the Work in accordance with the Contract and in a skillful and workman like manner. Contractor shall be obligated to give prompt notice in writing to Owner of any act or omission which Contractor deems to be a failure by Owner to meet any of its obligations or responsibilities under the Contract so that Owner may make prompt rectification when necessary.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or which in the exercise of reasonable care should have been discovered, or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Owner and to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities unless the Contractor recognized such error, inconsistency, omission or difference and knowingly failed to report it to the Owner and Architect.

§ 3.2.5 The Contractor is responsible for having a thorough knowledge of all drawings, specifications, general supplementary and special conditions and other contract documents. Failure to acquaint itself with this knowledge does not relieve it of the responsibility for performing its Work in a manner acceptable to the Owner. No additional compensation will be allowed because of conditions that occurred due to the failure of the Contractor to familiarize itself and its workers with this knowledge.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques,

sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.
Contractor agrees, upon the request in writing of the Owner, to change any sequence of Work, provided such change does not cause delay in the Contractor's overall completion of Work or increase in its cost. If such change does cause a delay or alters the Contractor's cost, a change order will be issued extending the time of completion and providing for any increase or decrease in Contractor's direct costs. An extension of time shall be the only remedy for the Contractor due to delay, interruption or change in sequence and any impact therefrom, including delays resulting from Owner's failure to coordinate work.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§ 3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage occurring after the Work has been completed and accepted by the Owner. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work. The Contractor shall be responsible for filing Addenda and modifications to the Contract Documents with public authorities having jurisdiction over the Work. Such documents, including periodic drawing revisions, shall be as required by such authorities.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend an equitable adjustment in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no changes in the terms of the Contract are justified, the Architect shall promptly notify the Owner and Contractor in writing, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may proceed as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- **.1** allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- **.2** Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but **not in the allowances**; and
- **.3** whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendents must be satisfactory to the Owner and shall not be changed except with the consent of the Owner unless the superintendent(s) ceases to be in the Contractor's employ. The superintendents shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.
On request of the Owner, communications from the superintendents to the Owner shall be confirmed in writing.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's review of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

If the Owner or Architect has reasonable objection to a person or entity proposed by Contractor to provide professional services, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection.

§ 3.12.11 Where Contract Documents require that Work be inspected, tested or approved and when Contractor determines that work is Substantially Complete, it shall give timely notice, including written notice where required. However, should work requiring testing, inspection or approval not be in readiness, Contractor shall pay salaries, professional fees, travel and living expenses, as applicable, for persons inconvenienced by false notice.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

(a) *Access to Contractor's Work and Records*. During the term of this Project, Owner shall have reasonable access to Contractor's Work and any of the Contractor's files, correspondence, instructions, drawings, calculations, contracts, receipts, memoranda, daily journals, computer records, payroll information, bid documents, books, records, correspondence, payment records, vouchers and other materials (collectively, the "**Records**") relating to the Work. Contractor shall be responsible for insuring that Subcontractors maintain such Records and allow such access. The Contractor hereby grants to Owner the authority to enter its premises for the purpose of such inspection and audit.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a

copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts, or other employee benefit acts.

§ 3.19 AS-BUILT DRAWINGS AND SURVEYS

§ 3.19.1 The Contractor shall furnish to the Owner through the Architect at Date of Substantial Completion, one complete set of blue-line drawings indicating "as-built" conditions that vary from the Contract Documents. It shall be the responsibility of the Contractor to maintain records of "as-built" conditions as the Work progresses. All underground and otherwise concealed utilities shall be accurately located on the drawings.

§ 3.19.2 The Contractor shall pay for and furnish to the Owner at Date of Final Completion an as-built survey of the project. Survey shall locate all structures, paving, utilities and natural features as is customary on an "as-built" survey.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the

Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations

and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

§ 4.2.14.1 Written request for interpretations (R.F.I.'s) required of the Architect received after noon on the last working day of the Architect's work week shall be acknowledged as received on the Architect's following normal working day.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract

agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

.1 assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and

.2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

§ 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Owner shall be reimbursed by the Contractor for costs incurred by the Owner which were payable to a Separate Contractor because of the Contractor's delays, improperly timed activities, or defective construction from the Contractor. The Owner shall be responsible to the Contractor for direct costs incurred by the Contractor because of damage to the work, if caused by a separate Contractor not under the direction, supervision or control of Contractor. Any damages to the Contractor because of delays, improperly timed activities, or lack of coordination of the Work shall be remedied solely by an extension of time for performance of the work set forth in 8.3.1.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.1.1 An allowance for overhead and profit shall be applied to the Net Additional Allowable Expenditures of a Change in Work and shall be included in the total cost to the Owner. These percentages shall be based on the following schedule:

For the Contractor, for Work performed by the Contractor's own forces, 15% for overhead and profit of the cost of Net Additional Allowable Expenditures.

For the Contractor, for Work performed by his Subcontractor, 7-1/2% for overhead and profit of the amount due the Subcontractor for Net Additional Allowable Expenditures.

For each Subcontractor involved, for Work performed by that Subcontractor's own forces, 15% for overhead and profit for the Net Additional Allowable Expenditures. A Subcontractor shall receive no allowance for overhead and profit on work not performed by his own forces. Under this Contract, the forces of a Subcontractor of a Subcontractor are deemed to be and are the forces of the Subcontractor.

DEFINITION

The above percentage for overhead and profit shall be applied to the "net additional allowable expenditures," if any, as limited and defined herein. If the net difference between "allowable expenditures" and savings results in a decrease in expenditures, the amount of credit allowed the Owner shall be the net decrease without any credit for profit and overhead. "Net additional allowable expenditures" as used herein shall mean the difference between all "allowable expenditures" and savings. The term "allowable expenditures" is limited to and defined as items of labor or materials, the use of heavy construction equipment [such as scrappers, backhoes, excavators, bulldozers, draglines, motor graders, and like equipment], and all such items of cost as public liability and worker's compensation insurance, social security and old age and unemployment insurance, and (in cases where there is an extension of time) pro rata expenditures for time of foremen employed in the direct superintendence of productive labor in execution of changes. All expenditures not included in the term "allowable expenditures" as limited and defined in this article shall be considered as overhead, including, but, not limited to, insurance other than that which is mentioned in this article, bond premiums, supervision, travel (meals, transportation, and lodging) superintendence [except pro rata time of foremen as referred to herein], timekeepers clerks, watchmen, hand tools, small tools, incidental job burdens, engineering, drafting, and office expense including cost of preparing Change Proposal Estimates. Any other provisions in the contract documents to the contrary notwithstanding, only demonstrable, direct, out-of-pocket expenditures for the changes plus percentages as set forth hereinabove shall be allowable for Changes in the Work. No wages of a foreman shall be allowable for change carried on concurrently with contract work unless the claim includes a demand for extension of time caused by the authorizing or ordering of the change.

In order to facilitate the Architect's review of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner indicated in the attached example at the end of this section. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over $10.00 be approved without such itemization. No Proposal Request will be accepted unless it is in such detail as set forth in the attached example.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- **.1** Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- **.2** Unit prices stated in the Contract Documents or subsequently agreed upon;
- **.3** Cost to be determined in a manner agreed upon by the parties and an allowance for overhead and profit in accordance with 7.2.2 above; or
- **.4** As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may

prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following with the exception of markup on insurance premiums and bonds; the cost of the premiums shall not be marked up. In no event shall a cost in excess of two (2) percent of the cost of the change be allowable. If the Contractor requests payment for the premium in a change order , the Contractor MUST provide proof of its notification to the Surety of the change in the Work and of the Surety's agreement to include such change in its coverage. Any such change must be in accordance with AIA A201, Article 11, Section 11.1.2.1:

.1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;

.2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

§ 8.1 Definitions

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on site or elsewhere prior to the effective date of insurance required in Article 11 to be furnished by the Contractor. The date of commencement of the Work shall not be changed by the effective date of such insurance. Contractor hereby agrees to subordinate all lien rights to any mortgage or security interest field on the Project and further agrees to execute any documents necessary to effectuate such subordination.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or by any contractor employed by Owner, or by changes ordered in the scope of the Work; or by fire, adverse weather conditions not reasonably anticipated, or any other beyond the control of the Contractor; then the required completion date or duration set forth in the progress schedule shall be extended by the amount of time that the Contractor shall have been delayed thereby. However, to the fullest extent permitted by law, Owner and its agents and employees shall not be held responsible for any loss or damage sustained by Contractor, or subcontractor under the direction, supervision or control of Contractor, or by abnormal weather conditions, or by any other cause, and Contractor agrees that the sole right and remedy therefore shall be an extension of time.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.4 In the event the Contractor shall be delinquent in respect to compliance with the time limits established in the Contractor's Construction Schedule (not due to any of the causes indicated in Subparagraph 8.3.1), he shall, within seven days after receipt of written demand of the Owner, provide whatever means necessary, including but not limited to, overtime, extra shifts, additional crews, more resources, etc., until such time as he shall have brought the amount of work in place into compliance with the Contractor's Construction Schedule. Fulfillment of these requirements above (hereinafter referred to as "recovery of lost time required of the Contractor for his breach of the covenant as to time") shall not relieve the Contractor from liability for breach of the covenant as to time (see Article 3.2 of the Form of Agreement Between Owner and Contractor). For account of recovery of lost time required of the Contractor for his breach of the covenant as to time, the Contractor shall be entitled to no claim against the Owner.

§ 8.3.5 The Contractor agrees that Work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the Contract Time called for in the Contract Documents. It is expressly understood and agreed that the Contractor has considered all contingencies and factors affecting his ability to perform all the work within this time, including among others, delays caused by normal adverse weather conditions (as detailed in 8.3.6 below) and other possible delays caused by the industrial conditions prevailing in this locality, and after consideration of these factors, he has made an allowance for such factors before agreeing to

completion date specified in the Contract Documents, and does further agree that all things considered, such completion date is a reasonable time for completion of all Work to be performed hereunder, without the need for any extension of time for any reasons than those specified in Subparagraph 8.3.1.

§ 8.3.6 Contract Time will not be extended for normal adverse weather. The time for Substantial Completion as stated in the Contract Documents includes due allowance for calendar days which are considered normal adverse weather condition days.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 The form of Application for Payment shall be a notarized AIA Document G702, Application and Certificate for Payment, supported by AIA Document G703, Continuation Sheet.

§ 9.3.1.4 Contractor's request for payment received by the twenty-fifth day of the month will be paid by the twentieth day of the following month. Final payment will be made within thirty (30) days after Date of Final Completion and receipt of ALL proper documentation as outlined in the Contract Documents.

§ 9.3.1.5 No payment will be issued without a fully executed lien waiver. This must be accompanied by fully executed lien waivers from all appropriate subcontractors and suppliers involved in the preceding application for payment.

§ 9.3.1.6 If the Contractor's Application for Payment contains requests for payments for work-in-place or for stored materials and the Architect determines that work-in-place is not complete or material is not properly stored on site, the Architect shall reject the application in total, and Contractor shall resubmit a new application revised as per Architect's determinations.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.3.3.1 In the event a lien or bond claim has been filed or if there exists a potential lien or bond claim situation, the Contractor will be notified by Owner, and the Contractor will resolve the situation to the satisfaction of the Owner. The Contractor agrees to defend and indemnify the Owner against any and all claims for nonpayment of labor or materials against the Project or the property on which it is located.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- **.1** defective Work not remedied;
- **.2** third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- **.3** failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials or equipment;

.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
.5 damage to the Owner or a Separate Contractor;
.6 reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
.7 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment.

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.6.7 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the

Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's list, the Architect will make an inspection to determine whether the Work or designated portion thereof is substantially complete. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any is required, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.8.5.1 The Owner will make payment within 30 days of the date of Substantial Completion of the amount requested by the Application for Payment that coincides with, or follows, the date the Contractor has achieved Substantial Completion, less the following amount of retainage:

Retainage shall be reduced to **not less than 5% of Contract Amount of the entire Project** plus the Value of any Incomplete Work.

The Reduction of Retainage established at Substantial Completion of the entire Project **will not** be further reduced until such standard of completion of work has been achieved so as to reduce the amount of incomplete work to a dollar value estimated by the Architect to be equal to or less than ½ of 1% of the Contract Amount.

At this time, the Architect will assign a value equal to 200% of the value of any remaining incomplete or unacceptable Punch List items. The Architect shall determine the value of any such items including appropriate value of any remaining final Close-Out Documents, Warranties, etc.

Note: A value of 5% of the Line Item amount on the CONTINUATION SHEET (G703) shall be assessed for each major warranty not furnished for the Project.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have

accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.1.1 If the Owner elects to occupy or use any completed or partially completed portion of the work as permitted by paragraph 9.9, the Contractor agrees to cooperate in the segregation and coordination of its construction activities. Such occupancy shall not relieve the Contractor of liabilities to perform work required by the Contract that has not been completed at the time of occupancy.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

.1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;

.2 failure of the Work to comply with the requirements of the Contract Documents;

.3 terms of special warranties required by the Contract Documents; or

.4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.1.1 If reasonable precautions will be inadequate to prevent foreseeable bodily injury, property damage or death to persons resulting from a material or substance encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect verbally and in writing. Contractor shall then proceed as the Architect directs.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

.1 employees on the Work and other persons who may be affected thereby;

.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.7.1 In performing the Work, the Contractor shall comply with any storm-water management ordinance, statue, regulation applicable to the project, as may be amended from time to time and will take all other measures as are necessary to protect third parties and their property from damage as a result of storm water runoff, silt and erosion emanating from and leaving the land which is the site of the Work. The Contractor shall indemnify and hold the Owner harmless from and against any claim, liability, loss, judgment or expense for damage to person or property arising directly or indirectly from storm water runoff, silt or erosion emanating from and leaving the land which is the site of the Work during the period of time that the Contractor is performing the Work or thereafter if it results from a condition or situation that the Contractor created and failed to remedy at or prior to the time completing the Work. Such indemnification shall include not only the amount of the claim, liability, loss, judgment or expense, but also all costs of investigation and defense including, but not limited to engineering fees to determine the source and extent of the storm water runoff, silt and erosion, expert witness fees, discovery costs, legal fees and court costs.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, and only to the extent that the Owner has insurance coverage therefore, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The

Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Contract Documents or required by law, whichever coverage is greater. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final completion or when the project has been turned over to use by the Owner, and termination of any coverage required to be maintained after final completion, and, with respect to the Contractor's completed operations coverage, until the expiration of the period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.2.1 Insurance Requirements:

A. Liability Insurance shall include all major divisions of coverage and be on a comprehensive basis including:
   1. Premises-Operations
   2. Independent Contractor's Protective Products and Completed Operations
   3. Personal Injury Liability with Employment Exclusion deleted
   4. Contractual - including specified provisions for the Contractor's obligations under Paragraph 3.18
   5. Owned, non-owned, and hired motor vehicles Broad Form Property Damage including Completed Operation Umbrella Excess Liability

B. If the General Liability coverages are provided by a Commercial General Liability Policy on a claims-made basis, the policy date or Retroactive Date shall predate the Contract; the termination date of the policy or applicable extended reporting period shall be no earlier than the termination date of coverages required to be maintained after final payment and certified in accordance with the AIA contract.

C. The Insurance required by the project shall be written for not less than the following, or greater if required by law:

1. Worker's Compensation:
   a. State: Statutory Limit
   b. Applicable Federal: Statutory Limit
   c. Employer's Liability: $1,000,000 without restriction as to whether covered by worker's compensation law.
2. Comprehensive General Liability (including Premises-Operations; Independent Contractor's Protective;

Products and Completed Operations: Broad Form Property Damage):

a. Bodily Injury: $1,000,000 Each Occurrence
$2,000,000 Annual Aggregate

b. Property Damage: $1,000,000 Each Occurrence
$2,000,000 Annual Aggregate

c. Maintain Products and Completed Operations.
Insurance for a period of two years after final payment.

d. Property Damage Liability Insurance

3. Contractual Liability (Hold Harmless Coverage):

a. Bodily Injury:
$1,000,000 Each Occurrence
$2,000,000 Annual Aggregate

4. Personal Injury, with Employment Exclusion detailed:

a. $2,000,000 Annual Aggregate

5. Comprehensive Automobile Liability (owned, non-owned, hired):

a. Bodily Injury:
$1,000,000 Each Person
$2,000,000 Each Occurrence

b. Property Damage:
$1,000,000 Each Occurrence

6. Excess Limits Liability Policy (Umbrella):
«$6,000,000.00»

7. The Contractor shall purchase and maintain Builder's Risk Insurance until the project reaches substantial completion.

D. Contractor shall provide certified policy endorsements that name the County as an additional insured (except Workman's Compensation and Professional Liability, if applicable) and shall provide that in the event of cancellation or material change in a policy affecting the certificate holder, thirty (30) days prior written notice shall be given to the County except ten (10) days if due to nonpayment.

E. The insurance certificate shall be furnished on the Comprehensive General Liability policy form, AIA Document G705, Certificate of Insurance, or other forms that are approved by the Owner.

§ 11.1.3 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.1.4.1 PERFORMANCE BOND AND PAYMENT BOND

§ 11.1.4.2 The Contractor shall furnish bonds in the form of AIA Document 312 covering faithful performance of the Contract and payment of obligations arising thereunder. Bonds may be obtained through the Contractor's usual source and the cost thereof shall be included in the Contract Sum. The amount of each bond shall be 100% of the Contract Sum.

§ 11.1.4.3 The Contractor shall deliver the required bonds to the Owner at the same time the Agreement is entered into or if the Work is to be commenced prior thereto in response to a letter of intent, the Contractor shall, prior to the commencement of the Work, submit evidence satisfactory to the Owner that such bonds will be furnished. Bonds shall bear the same date as the Owner-Contract Agreement.

§ 11.1.4.4 The Contractor shall require the attorney-in-fact who executes the required bonds on behalf o the surety to affix thereto a certified and current copy of the power of attorney.

§ 11.2 Owner's Insurance

§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss; however, caused, so long as not caused by an error or omission of the Contractor by someone for whom the Contractor is legally responsible. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If Contractor so objects, it shall reimburse Owner all costs incurred as a result of such objection, including but not limited to additional attorney fees incurred. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the

settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 Upon written notice from the Architect or Owner, the Contractor shall correct any Work failing to conform to the requirements of the Contract Documents, including any Rejected Work Notices. The Contractor shall begin corrective work within seven days of the receipt of said notice and continue working, with diligence and promptness, until the deficiencies have been brought into compliance with the Contract Documents.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within two years after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the two year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

§ 12.2.2.2 The two year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.2.3 The two year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the state and federal courts with jurisdiction of Columbia County, Georgia and shall have the exclusive jurisdiction and venue for any dispute arising out of this contract.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- **.1** Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- **.2** An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- **.3** Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents; or
- **.4** The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, excluding any consequential, indirect or special damages or loss of profit on work not yet performed.

§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- **.1** repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
- **.2** fails to make payment to Subcontractors or suppliers in accordance with the respective agreements between the Contractor and the Subcontractors or suppliers;
- **.3** repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or

.4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension as described . in subparagraph 14.3.1. Adjustment of the Contract Sum shall consist of any direct increases in the cost of performance by the Contractor and no adjustment shall be made for increased profit or consequential, indirect, special or delay damages or costs. No adjustment shall be made to the extent

.1 that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause for which the Contractor is responsible; or

.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall

.1 cease operations as directed by the Owner in the notice;

.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and

.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 In case of such termination for the Owner's convenience, the Contractor shall be entitled to receive payment for Work executed, and purchased materials that cannot be returned for credit, and any other direct costs incurred in performance of the work and by reason of such termination, but there shall be no allowance for overhead and profit on work not yet executed, and there shall be no compensation for any other consequential, indirect or special damages.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other

disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims
The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims
§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

A Claim must specify the cause and length of any delay and the length of the requested extension, if any. It is further expressly agreed that the requirement that claims to be initiated in writing may not be waived by any act, omission or verbal statement, and can only be waived by the Owner in writing.

§ 15.1.4 Continuing Contract Performance
§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost
If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4 except for emergencies as described in the preceding sentence, the requirements of written notice may not be waived by any act, omission or verbal statement of the Owner.

§ 15.1.6 Claims for Additional Time
§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.
No increase in Contract Time shall be considered or granted for change Orders issued for Work that does not adversely impact the critical path of construction for the Project and can be done concurrently with other work in the Project.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction. No increase in Contract Sum

will be made for a Claim accepted by the Owner for an increase in the Contract Time due to abnormal adverse weather conditions.

§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive all Claims for consequential, indirect of special damages arising out of or relating to this Contract, including damages for delay. This waiver includes, but is not limited to, lost profits, home office overhead, any form of overhead not directly incurred at the project site, including the compensation of personnel; wage or salary increases; ripple or delay damages; loss of productivity; increased cost of funds for the project; extended capital costs; lost opportunity or work on other projects; inflation costs of labor, material or equipment; non-availability of labor, material or equipment due to delays, loss of financing, business or reputation, increase cost of all consequential, indirect or special damages claimed due to the Owner's termination in accordance with Article 14.

15.1.7 COMPLIANCE WITH STATUTES AND REGULATIONS.

(a) The Contractor shall comply strictly with all applicable local, state or federal statutes, ordinances, rules, and regulations pertaining to the construction of the Project.

(b) *Whistleblower protection*. Section 1553 of Division A, Title XV of the American Recovery and Reinvestment Act of 2009, provides protections for certain individuals who make specific disclosures about uses of Recovery Act funds. Accordingly, Contractor shall post signage that meets this requirement at all job sites regarding this whistleblower provision substantially in the form of the following poster:

http://www.recovery.gov/Contact/ReportFraud/Documents/Whistleblower%20Poster.pdf

(c) *Compliance with Copeland Act requirements*. Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this Agreement.

(d) *Buy American Requirement*. Contractor shall comply with applicable portions of Section 1605 (the "Buy American Requirement") of the American Recovery and Reinvestment Act of 2009.

(e) Contractor shall not under any circumstance apply to or enter into negotiations with any governmental authority or agency for acceptance of variations from or revisions to safety or health, or air, water or noise pollution laws or regulations relating to this Agreement or the performance thereof, without Owner's prior written approval, which approval may be withheld in Owner's sole discretion.

SECTION 012100

ALLOWANCES

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 and procedural requirements governing allowances.
   1. Certain items are specified in the Contract Documents by allowances. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when direction will be provided to the Contractor. If necessary, additional requirements will be issued by Change Order.

B. Types of allowances include the following:
   1. Unforeseen Conditions allowances.
   2. General allowances.

C. Related Sections:
   1. Division 01 Section "Quality Requirements" for procedures governing the use of allowances for testing and inspecting.
   2. Divisions 02 through 49 Sections for items of Work covered by allowances.

1.3 SELECTION AND PURCHASE

A. Within 30 days of date established for the Notice to Proceed, advise Architect of the date when final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.

B. At Architect's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.

C. Purchase products and systems selected by Architect from the designated supplier.

1.4 SUBMITTALS

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

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

C. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.

D. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.5 COORDINATION

A. Coordinate allowance items with other portions of the Work. Furnish templates as required to coordinate installation.

1.6 UNFORESEEN CONDITIONS & GENERAL ALLOWANCES

A. Use the general allowance and unforeseen conditions allowance only as directed by Architect for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.

B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the general allowance and unforeseen conditions allowance are included in the Contract Base Bid amount.

C. At Project closeout, Contractor shall credit unused amounts remaining in the allowances to the Owner by Change Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

A. Allowance No. 1: General Allowance: Include a contingency allowance of $300,000.00 for use according to Owner's written instructions.

END OF SECTION 012100

SECTION 012650

CHANGE PROCEDURES

PART ONE – GENERAL

1.1 SCOPE OF WORK

1.1.1 **No extra work shall be performed without first receiving written approval from the Owner thru the Architect via a Field Adjustment Form.**

1.2 WORK INCLUDED

1.2.1 Making such changes in the work, in the Contract Sum, in the Contract Time of Completion, to any combination thereof, as are described in written Change Orders signed by the Owner and the Architect and issued after execution of the Contract, in accordance with provisions of this Section.

1.3 RELATED WORK DESCRIBED ELSEWHERE

1.3.1 Documents affecting work of this Section include, but are not necessarily limited to, General Conditions and Sections in Division 1 of these specifications.

1.4 QUALITY ASSURANCE

1.4.1 Include within the Contractor's quality assurance program such measures as are needed to assure familiarity of the Contractor's staff and employees with these procedures for processing Change Order data.

1.5 PROCESSING CHANGE ORDERS INITIATED BY THE OWNER

1.5.1 Should the Owner contemplate making a change in the work or a change n the Contract Time of Completion, the Architect will issue a "Request for Proposal" to the Contractor.
(a) The Requests will describe the contemplated change, and will carry one of the following instructions to the Contractor:
(1) Make the described change in the work at no change in the Contract Sum and no change in the Contract Time of Completion.
(2) Make the described change in the Work, credit of cost for which will be determined in accordance with Paragraph 7.1 of the General Conditions.
(3) Promptly advise the Architect as to the credit or cost proposed for the described change. This is not an authorization to proceed with the change.

1.5.2 If the Contractor has been directed by the Architect to make the described change in the work at no change in the Contract Sum and no change in the Contract Time of Completion, but the Contractor wishes to make a claim for one or both of such changes, the Contractor shall proceed with the change and shall notify the Architect as provided for under Paragraph 7.3 of the General Conditions.

1.5.3 If the Contractor has been directed by the Architect to make described changes subject to later determination of cost of credit in accordance with Paragraph 7.1. of the General Conditions, the Contractor shall:
(a) Take such measures as needed to make the change.
(b) Consult with the Architect and reach agreement on the most appropriate method for determining credit or cost for the change.
(c) Make NO changes until written authorization from the Owner is received.

1.5.4 If the Contractor has been directed by the Architect to promptly advise him as to credit for cost proposed for the described change, the Contractor shall:
(a) Analyze the described change and its impact on costs and time.
(b) Secure the required information and forward it to the Architect for review.
(c) Meet with the Architect as required explaining costs and, when appropriate, determining other acceptable ways to achieve the desired objectives.
(d) Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Architect in writing when avoidance no longer is practicable.
(e) Make NO changes until written authorization from the Owner is received

1.6 MARK UP PERCENTAGES ON CHANGE ORDERS

1.6.1 The allowance for the combined overhead and profit, included in the total cost to the Owner, shall be based on the following schedule:
(a) For each Contractor, the Work performed by the Contractor's own forces, 15 percent of the cost.
(b) For the Contractor, for Work performed by the Contractor's Subcontractor, 7.5 percent of the amount due the Subcontractor.
(c) For each Subcontractor or Sub-Subcontractor involved, for Work performed by the Subcontractor's or Sub-Subcontractor's own forces, 15 percent of the cost.
(d) Cost to which overhead and profit is to be applied shall be determined in accordance with AIA A201, Subparagraph 7.2.1.1.
(e) Cost to which overhead and profit is to be applied shall be determined in accordance with AIA A201, Subparagraph 7.2.1.1, with the exception of markup on insurance premiums and bonds; the cost of the premium shall not be marked up. In no event shall a cost in excess of two percent of the cost of the change be allowable. If the Contractor requests payment for the premium in a change order work, the Contractor MUST provide proof of its notification to the Surety of the change in the Work and of the Surety's agreement to include such change in its coverage. Any such change must be in accordance with AIA A201, Article 11, Section 11.1.2.1.
(f) In order to facilitate checking of quotations for extras or credits, all proposals, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change be approved without such itemization.

1.7 PROCESSING CHANGES INITIATED BY THE CONTRACTOR

1.7.1 Should the Contractor discover a discrepancy amount in the Contract Documents, a concealed condition as described in Paragraph 12.2 of the General Conditions, or other cause for suggesting a change in the Contract Time of Completion, he shall notify the Architect as required by pertinent provisions of the Contract Documents.

1.7.2 Upon agreement by the Architect that there is reasonable cause to consider the Contractor's proposed change, the Architect will issue a Request in accordance with the provisions described in Article 1.5 above.

1.8 REQUEST FOR PROPOSALS

1.8.1 Make written reply to the Architect in response to each request.
(a) State proposed change in the Contract Sum, if any.
(b) State proposed change in the Contract Time of Completion, if any.

(c) Clearly describe other changes in the Work required by the proposed change, of desirable therewith, if any.
(d) Include full backup data such as subcontractor's letter of proposal or similar information.
(e) Submit this response in a single copy.
(f) Change order mark-ups shall be limited – see Paragraph 1.6 of this Section.
(g) When cost of credit for the change has been agreed upon by the Owner and the Contractor, or the Owner has directed that cost or credit be determined in accordance with provisions of paragraph 7.1 of the General Conditions, the Architect will issue a "Change Order" to the Contractor.

1.9 PROCESSING CHANGE ORDERS

1.9.1 Change orders will be dated and will be numbered in sequence and must be accompanied by the supporting signed Field Adjustments by the Owner.

1.9.2 The change order will describe the change or changes will refer to the Request or Requests involved, accompanied by the signed Field Adjustments, and will be signed by the Owner and the Architect.

1.9.3 The Architect will issue four (4) copies of each Change Order to the Contractor.
(a) The Contractor promptly shall sign all four copies and return three copies to the Architect.
(b) The Architect will sign all three copies and then forward three copies to the Owner for his signature.
(c) The Owner will sign all three copies, retain one copy for his file and return the remaining two copies to the Architect who will then forward a fully executed copy to the Contractor.

1.9.4 Should the Contractor disagree with the stipulated change in Contract Sum or change in Contract Time of Completion, or both:

(a) The Contractor promptly shall return three copies of the Change Order, unsigned by him, to the Architect with a letter signed by him explaining his disagreement.
(b) The Contractor's disagreement with the Change Order shall not in any way relieve the Contractor of his responsibility to proceed with the change as ordered and to seek settlement of the dispute under pertinent provisions of the Contract Documents.

PART 2- PRODUCTS (Not used)

PART 3- EXECUTION (Not used)

END OF SECTION 016750

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SECTION 015000

TEMPORARY FACILITIES AND CONTROLS

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 requirements for temporary utilities, support facilities, and security and protection facilities.

B. Related Requirements:

1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.
2. Section 012100 "Allowances" for allowance for metered use of temporary utilities.

1.3 USE CHARGES

A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to Architect, testing agencies, and authorities having jurisdiction.

B. Sewer Service Pay sewer-service use charges for sewer usage by all entities for construction operations. Water Service: Pay water-service use charges for water used by all entities for construction operations.

C. Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.

B. Implementation and Termination Schedule: Within fifteen (15**)**days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.

C. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.

D. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.

E. Moisture and Mold Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold. Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.

1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and requirements for replacing water-damaged Work.
2. Indicate methods to be used to avoid trapping water in finished work.

F. Noise and Vibration Control Plan: Identify and use of existing spaces within the building or adjacent existing buildings, whether occupied by others, or occupied by the Owner. Include the following:

1. Methods used to meet the goals and requirements of the Owner.
2. Location of construction devices on the site.
3. Show compliance with the use and maintenance of quieted construction devices for the duration of the Project.
4. Indicate activities that may disturb building occupants and that are planned to be performed during non-standard working hours as coordinated with the Owner.

1.5 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch-thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch-OD line posts and 2-7/8-inch-OD corner and pull posts, with 1-5/8-inch-OD top and bottom rails. Provide galvanized-steel bases for supporting posts.

2.2 TEMPORARY FACILITIES

A. Field Offices: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Field Offices: General Contractor will provide conditioned interior space for field offices for duration of Project.

C. Owner-Use Field Office: Of sufficient size to accommodate needs of Owner. Owner personnel (Sheriff’s Office) will occupy for duration of project. Furnish and equip office as follows:

1. Furniture required for Project-site documents, including file cabinets, plan tables, plan racks, and bookcases.
2. Conference room of sufficient size to accommodate meetings of eight (8) individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot-square tack and marker boards.
3. Drinking water and private toilet.
4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.
5. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.

D. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents, including file cabinets, plan tables, plan racks, and bookcases.
2. Conference room of sufficient size to accommodate meetings of fifteen (15) individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot-square tack and marker boards.
3. Drinking water and private toilet.

4. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F.
5. Lighting fixtures capable of maintaining average illumination of 20 fc at desk height.

E. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

1. Store combustible materials apart from building.

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

3.2 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.3 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.

1. Connect temporary sewers to municipal system as directed by authorities having jurisdiction.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

D. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

E. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.

1. Use of Permanent Toilets: Use of Owner's existing or new toilet facilities is not permitted.

F. Temporary Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installations or for protecting installed

construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

1. Provide temporary dehumidification systems when required to reduce ambient and substrate moisture levels to level required to allow installation or application of finishes and their proper curing or drying.

G. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

H. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.4 SUPPORT FACILITIES INSTALLATION

A. Comply with the following:

1. Provide construction for temporary field offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible in accordance with ASTM E136. Comply with NFPA 241.
2. Utilize designated area within existing building for temporary field offices.
3. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

4. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate for construction operations. Locate temporary roads and paved areas as indicated on Drawings. Provide dust-control treatment that is nonpolluting and nontracking. Reapply treatment as required to minimize dust.

B. Temporary Use of Planned Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain, including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

E. Storage and Staging: Use designated areas of Project site for storage and staging needs.

F. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs as indicated on Drawings.
2. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
   a. Provide temporary, directional signs for construction personnel and visitors.
3. Maintain and touch up signs, so they are legible at all times.

G. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

H. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

I. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

J. Temporary Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate.

K. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

1. Comply with work restrictions specified in Section 011000 "Summary."

C. Temporary Erosion and Sedimentation Control: Provide measures to prevent soil erosion and discharge of soil-bearing water runoff and airborne dust to undisturbed areas and to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings

1. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross tree- or plant-protection zones.
2. Inspect, repair, and maintain erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
3. Clean, repair, and restore adjoining properties and roads affected by erosion and sedimentation from Project site during the course of Project.
4. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.
5. Site Enclosure Fence: Before construction operations begin furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
6. Maintain security by limiting number of keys and restricting distribution to authorized personnel Furnish one set of keys to Owner.

D. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

E. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.

2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition in accordance with requirements of authorities having jurisdiction.
3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.
4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign, stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.6 MOISTURE AND MOLD CONTROL

A. Moisture and Mold Protection: Protect stored materials and installed Work in accordance with Moisture and Mold Protection Plan.

B. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Period: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard and replace stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.

D. Controlled Construction Period: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
    a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48hours are considered defective and require replacing.
    b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
    c. Remove and replace materials that cannot be completely restored to their manufactured moisture level within 48hours.

3.7 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.

B. Maintenance: Maintain facilities in good operating condition until removal.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.

1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

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SECTION 075423

THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING

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. Heat welded adhered thermoplastic polyolefin (TPO) roofing system.
2. Vapor retarder.
3. Roof insulation.
4. Cover board.
5. Walkways.

B. Section includes installation of sound-absorbing insulation strips in ribs of roof deck. Sound-absorbing insulation strips are furnished under Section 053100 "Steel Decking."

C. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking; and for wood-based, structural-use roof deck panels.
2. Section 072100 "Thermal Insulation" for insulation beneath the roof deck.
3. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
4. Section 077100 "Roof Specialties" for manufactured copings and roof edge flashings.
5. Section 077616 “Roof Decking Pavers” for roof paver assembly.
6. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.3 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D1079 and glossary in NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to Work of this Section.

1.4 PREINSTALLATION MEETINGS

A. Preliminary Roofing Conference: Before starting roof deck construction, conduct conference at Project site**.**

1. Meet with Owner, Architect, Construction Manager, roofing Installer, , and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review deck substrate requirements for conditions and finishes, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

B. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner, Architect, Construction Manager,, roofing Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:

1. Layout and thickness of insulation.
2. Base flashings and membrane termination details.
3. Flashing details at penetrations.
4. Tapered insulation layout, thickness, and slopes.
5. Roof plan showing orientation of steel roof deck and orientation of roof membrane, fastening spacings, and patterns for mechanically fastened roofing system.
6. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
7. Tie-in with adjoining air barrier.

C. Samples for Verification: For the following products:

1. Roof membrane and flashings, of color required.

D. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.6 INFORMATIONAL SUBMITTALS

A. Manufacturer Certificates:

1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
   a. Submit evidence of compliance with performance requirements.
2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.

B. Product Test Reports: For roof membrane and insulation, for tests performed by a qualified testing agency, indicating compliance with specified requirements.

C. Evaluation Reports: For components of roofing system, from ICC-ES.

D. Sample Warranties: For manufacturer's special warranties.

1.7 CLOSEOUT SUBMITTALS

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

B. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.11 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1. Special warranty includes roof membrane, base flashings, roof insulation, fasteners, cover boards,vapor retarder ,and other components of roofing system.
2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Installed roofing system and flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roof system and flashings shall remain watertight.

1. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746, ASTM D4272, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.

B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.

C. Wind Uplift Resistance: Design roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897: As designated per structural engineer on Drawings.

D. ENERGY STAR Listing: Roofing system shall be listed on the DOE's ENERGY STAR "Roof Products Qualified Product List" for low slope roof products.

2.2 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

A. TPO Sheet: ASTM D6878/D6878M, internally fabric- or scrim-reinforced, fabric-backed TPO sheet.

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

   a. Carlisle SynTec Incorporated.

   b. Firestone Building Products.

   c. John Mansville.

   d. Sika Sarnafil.

2. Source Limitations: Obtain components for roofing system from roof membrane manufacturer or manufacturers approved by roof membrane manufacturer.
3. Thickness: 60 mils nominal.
4. Exposed Face Color: White.

2.3 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.

1. Adhesive and Sealants: Comply with VOC limits of authorities having jurisdiction.
2. Verify adhesives and sealants comply with the following limits for VOC content:
   a. Plastic Foam Adhesives: 50 g/L.
   b. Gypsum Board and Panel Adhesives: 50 g/L.
   c. Multipurpose Construction Adhesives: 70 g/L.
   d. Fiberglass Adhesives: 80 g/L.
   e. Contact Adhesives: 80 g/L.
   f. PVC Welding Compounds: 510 g/L.
   g. Other Adhesives: 250 g/L.
   h. Single-Ply Roof Membrane Sealants: 450 g/L.
   i. Nonmembrane Roof Sealants: 300 g/L.
   j. Sealant Primers for Nonporous Substrates: 250 g/L.
   k. Sealant Primers for Porous Substrates: 775 g/L.

B. Sheet Flashing: Manufacturer's standard unreinforced TPO sheet flashing, 55 mils thick, minimum, of same color as TPO sheet.

C. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.

D. Roof Vents: As recommended by roof membrane manufacturer.

1. Size: Not less than 4-inch diameter.

E. Bonding Adhesive: Manufacturer's standard.

F. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.

G. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch wide by 0.05 inch thick, prepunched.

H. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing components to substrate, and acceptable to roofing system manufacturer.

I. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.4 ROOF INSULATION

A. General: Preformed roof insulation boards manufactured or approved by TPO roof membrane manufacturer.

B.

1. Extruded Polystyrene Board Insulation: ASTM C578, Type IV, 1.45-lb/cu. ft. minimum density, 40-psi minimum compressive strength square edged.Manufacturers: Subject to compliance with requirements, provide products by one of the following:

    a. Owens Corning.

    b. Dow Chemical Company.

    c. CertainTeed Insulation.

    d. Carlisle Syntec Systems.

2. Thermal Resistance: R-value of 5.0 per inch.
3. Size: 48 by 48 inches.
4. Thickness:
    a. Base Layer: 1-1/2 inches

C. Tapered Insulation: Provide factory-tapered insulation boards.

1. Material: Match roof insulation.
2. Minimum Thickness: 1/4 inch.
3. Slope:
    a. Roof Field: 2 inch per foot unless otherwise indicated on Drawings.
    b. Saddles and Crickets: 1/2 inch per foot unless otherwise indicated on Drawings.

2.5 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with other roofing system components.

B. Fasteners: Factory-coated steel fasteners with metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulationand cover boardsto substrate, and acceptable to roofing system manufacturer.

C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:

1. Modified asphaltic, asbestos-free, cold-applied adhesive.
2. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.
3. Full-spread, spray-applied, low-rise, two-component urethane adhesive.
4. Verify adhesives and sealants comply with the following limits for VOC content:
    a. Plastic Foam Adhesives: 50 g/L.
    b. Gypsum Board and Panel Adhesives: 50 g/L.
    c. Multipurpose Construction Adhesives: 70 g/L.
    d. Fiberglass Adhesives: 80 g/L.
    e. Contact Adhesives: 80 g/L.
    f. PVC Welding Compounds: 510 g/L.
    g. Other Adhesives: 250 g/L.
    h. Single-Ply Roof Membrane Sealants: 450 g/L.
    i. Nonmembrane Roof Sealants: 300 g/L.
    j. Sealant Primers for Nonporous Substrates: 250 g/L.
    k. Sealant Primers for Porous Substrates: 775 g/L.

D. Cover Board: ASTM C1177/C1177M, glass-mat, water-resistant gypsum board or ASTM C1278/C1278M fiber-reinforced gypsum board.

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

a. Georgia Pacific – DensDeck Prime

2. Thickness: 1/4 inch
3. Surface Finish: Factory primed.

2.6 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch thick and acceptable to roofing system manufacturer.

1. Size: Approximately Refer to drawings for location to determine size needed.
2. Color: Contrasting with roof membrane.

PART 3 - EXECUTION

3.1 EXAMINATION

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

1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."
4. Verify that minimum concrete drying period recommended by roofing system manufacturer has passed.
5. Verify that concrete substrate is visibly dry and free of moisture, and that minimum concrete internal relative humidity is not more than 75percent, or as recommended by roofing system manufacturer, when tested according to ASTM F2170.
6. Verify that concrete-curing compounds that will impair adhesion of roofing components to roof deck have been removed.
7. Verify that joints in precast concrete roof decks have been grouted flush with top of concrete.
8. Verify that minimum curing period recommended by roofing system manufacturer for lightweight insulating concrete roof decks has passed.
9. Verify any damaged sections of cementitious wood-fiber decks have been repaired or replaced.
10. Verify adjacent cementitious wood-fiber panels are vertically aligned to within 1/8 inch at top surface.

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

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing system installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

C. Install sound-absorbing insulation strips according to acoustical roof deck manufacturer's written instructions.

3.3 INSTALLATION OF ROOFING, GENERAL

A. Install roofing system according to roofing system manufacturer's written instructions, SPRI's Directory of Roof Assemblies listed roof assembly requirements, and FM Global Property Loss Prevention Data Sheet 1-29.

B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning Work on adjoining roofing.

C. Install roof membrane and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition.

D. Coordinate installation and transition of roofing system component serving as an air barrier with air barrier specified under Section 072726 "Fluid-Applied Membrane Air Barriers."

3.4 INSTALLATION OF INSULATION

A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at end of workday.

B. Comply with roofing system and roof insulation manufacturer's written instructions for installing roof insulation.

C. Installation Over Metal Decking:

1. Install base layer of insulation with joints staggered not less than 24 inches in adjacent rows.
    a. Locate end joints over crests of decking.
    b. Where installing composite and noncomposite insulation in two or more layers, install noncomposite board insulation for bottom layer and intermediate layers, if applicable, and install composite board insulation for top layer.
    c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
    d. Make joints between adjacent insulation boards not more than 1/4 inch in width.
    e. Fill gaps exceeding 1/4 inch with insulation.
    f. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
    g. Mechanically attach base layer of insulation using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to metal decks.
        1) Fasten insulation to resist specified uplift pressure at corners, perimeter, and field of roof.
2. Install upper layers of insulation and tapered insulation with joints of each layer offset not less than 12 inches from previous layer of insulation.
    a. Staggered end joints within each layer not less than 24 inches in adjacent rows.
    b. Install with long joints continuous and with end joints staggered not less than 12 inches in adjacent rows.
    c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
    d. Make joints between adjacent insulation boards not more than 1/4 inch in width.
    e. Fill gaps exceeding 1/4 inch with insulation.
    f. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
        1) Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
        2) Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

D. Installation Over Wood Decking:

1. Install base layer of insulation with joints staggered not less than 24 inches in adjacent rows.

a. Where installing composite and noncomposite insulation in two or more layers, install noncomposite board insulation for bottom layer and intermediate layers, if applicable, and install composite board insulation for top layer.
b. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
c. Make joints between adjacent insulation boards not more than 1/4 inch in width.
d. Fill gaps exceeding 1/4 inch with insulation.
e. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

2. Mechanically attach base layer of insulation using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to wood decks.
   a. Fasten insulation to resist specified uplift pressure at corners, perimeter, and field of roof.
3. Install upper layers of insulation] with joints of each layer offset not less than 12 inches from previous layer of insulation.
   a. Staggered end joints within each layer not less than 24 inches in adjacent rows.
   b. Install with long joints continuous and with end joints staggered not less than 12 inches in adjacent rows.
   c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
   d. Make joints between adjacent insulation boards not more than 1/4 inch in width.
   e. Fill gaps exceeding 1/4 inch with insulation.
   f. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
      1) Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
      2) Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.5 INSTALLATION OF COVER BOARDS

A. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction.

1. Trim cover board neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
2. At internal roof drains, conform to slope of drain sump.
   a. Trim cover board so that water flow is unrestricted.
3. Cut and fit cover board tight to nailers, projections, and penetrations.
4. Loosely lay cover board over substrate.

3.6 INSTALLATION OF ADHERED ROOF MEMBRANE

A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.

B. Unroll roof membrane and allow to relax before installing.

C. Start installation of roofing in presence of roofing system manufacturer's technical personnel.

D. Accurately align roof membrane, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

E. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer, and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.

F. Fabric-Backed Roof Membrane Adhesive: Apply to substrate at rate required by manufacturer, and install fabric-backed roof membrane.

G. In addition to adhering, mechanically fasten roof membrane securely at terminations, penetrations, and perimeter of roofing.

H. Apply roof membrane with side laps shingled with slope of roof deck where possible.

I. Seams: Clean seam areas, overlap roof membrane, and hot-air weld side and end laps of roof membrane and sheet flashings, to ensure a watertight seam installation.

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.

J. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

3.7 INSTALLATION OF BASE FLASHING

A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 FIELD QUALITY CONTROL

A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion, in presence of Architect, and to prepare inspection report.

B. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.

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

3.9 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing system, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

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SECTION 081113

HOLLOW METAL DOORS AND FRAMES

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. Standard metal doors and frames.

2. Light frames and glazing installed in hollow metal doors.

B. Related Sections:

1. Section 042200 "Concrete Unit Masonry" for embedding anchors for hollow metal work into masonry construction.
2. Section 087100 "Door Hardware".
3. Section 099113 "Exterior Painting" and Section 099123 "Interior Painting" for field painting hollow metal doors and frames.

C. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI/SDI A250.8 - Recommended Specifications for Standard Steel Doors and Frames.
2. ANSI/SDI A250.4 - Test Procedure and Acceptance Criteria for Physical Endurance for Steel Doors, Frames, Frames Anchors and Hardware Reinforcing.
3. ANSI/SDI A250.6 - Recommended Practice for Hardware Reinforcing on Standard Steel Doors and Frames.
4. ANSI/SDI A250.10 - Test Procedure and Acceptance Criteria for Prime Painted Steel Surfaces for Steel Doors and Frames.
5. ANSI/SDI A250.11 - Recommended Erection Instructions for Steel Frames.
6. ASTM A1008 - Standard Specification for Steel Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
7. ASTM A653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
8. ASTM A924 - Standard Specification for General Requirements for Steel Sheet, Metallic-Coated by the Hot-Dip Process.
9. ASTM C 1363 - Standard Test Method for Thermal Performance of Building Assemblies by Means of a Hot Box Apparatus.
10. ANSI/BHMA A156.115 - Hardware Preparation in Steel Doors and Frames.

11. ANSI/SDI 122 - Installation and Troubleshooting Guide for Standard Steel Doors and Frames.
12. ANSI/NFPA 80 - Standard for Fire Doors and Fire Windows; National Fire Protection Association.
13. ANSI/NFPA 105: Standard for the Installation of Smoke Door Assemblies.
14. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies; National Fire Protection Association.
15. UL 10C - Positive Pressure Fire Tests of Door Assemblies.
16. UL 1784 - Standard for Air Leakage Tests of Door Assemblies.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, hardware reinforcements, profiles, anchors, fire-resistance rating, and finishes.

B. Door hardware supplier is to furnish templates, template reference number and/or physical hardware to the steel door and frame supplier in order to prepare the doors and frames to receive the finish hardware items.

C. Shop Drawings: Include the following:

1. Elevations of each door design.
2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
4. Locations of reinforcement and preparations for hardware.
5. Details of anchorages, joints, field splices, and connections.
6. Details of accessories.
7. Details of moldings, removable stops, and glazing.
8. Details of conduit and preparations for power, signal, and control systems.

D. Samples for Verification:

1. Samples are only required by request of the architect and for manufacturers that are not current members of the Steel Door Institute.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain hollow metal doors and frames through one source from a single manufacturer wherever possible.

B. Quality Standard: In addition to requirements specified, furnish SDI-Certified manufacturer products that comply with ANSI/SDI A250.8, latest edition, "Recommended Specifications for Standard Steel Doors and Frames".

C. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to UL10C (neutral pressure at 40” above sill) or UL 10C.

1. Temperature-Rise Limit: Where indicated and at vertical exit enclosures (stairwell openings) and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.

2. Smoke Control Door Assemblies: Comply with NFPA 105.

    a. Smoke "S" Label: Doors to bear “S” label, and include smoke and draft control gasketing applied to frame and on meeting stiles of pair doors.

1.5 PREINSTALLATION MEETINGS

A. Pre-Installation Conference: Conduct conference at Project site. Attendance by representatives of Supplier, Installer, and Contractor to review proper methods and procedures for installing hollow metal doors and frames and to verify installation of electrical knockout boxes and conduit at frames with electrified or access control hardware.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project site storage. Do not use non-vented plastic.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch high wood blocking. Do not store in a manner that traps excess humidity.

1. Provide minimum 1/4-inch space between each stacked door to permit air circulation. Door and frames to be stacked in a vertical upright position.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.8 COORDINATION

A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.9 WARRANTY

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

B. Warranty includes installation and finishing that may be required due to repair or replacement of defective doors.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide steel doors and frames from a SDI Certified manufacturer:

1. CECO Door Products (C).
2. Curries Company (CU).
3. Pioneer Industries (PI).
4. Republic Doors and Frames (R).
5. Steelcraft (S).

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

C. Frame Anchors: ASTM A 653/A 653M, Commercial Steel (CS), Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

2.3 HOLLOW METAL DOORS

A. General: Provide 1-3/4 inch doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8 and ANSI/NAAMM HMMA 867.

B. Exterior Doors (Energy Efficient): Face sheets fabricated of commercial quality hot-dipped zinc coated steel that complies with ASTM A924 A60. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model, ANSI/SDI A250.4 for physical performance level, and HMMA 867 for door construction.

1. Design: Flush panel.
2. Core Construction: Foamed in place polyurethane and steel stiffened laminated core with no stiffener face welds, in compliance with HMMA 867 “Laminated Core”.
    a. Provide 22 gauge steel stiffeners at 6 inches on-center internally welded at 5" on-center to integral core assembly, foamed in place polyurethane core chemically bonded to all interior surfaces. No stiffener face welding is permitted.
    b. Thermal properties to rate at a fully operable minimum U-Factor 0.37 and R-Value 2.7, including insulated door, thermal-break frame and threshold.
    c. Kerf Type Frames: Thermal properties to rate at a fully operable minimum U-Factor 0.38 and R-Value 2.6, including insulated door, kerf type frame, and threshold.
3. Level/Model: Level 3 and Physical Performance Level A (Extra Heavy Duty), Minimum 16 gauge (0.053 inch - 1.3-mm) thick steel, Model 2.
4. Vertical Edges: Vertical edges to be mechanically interlocked with hairline seam. Beveled Lock Edge, 1/8 inch in 2 inches (3 mm in 50 mm).

5. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
6. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9".
7. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

C. Exterior Doors: Face sheets fabricated of commercial quality hot-dipped zinc coated steel that complies with ASTM A 653/A 653M, Coating Designation A60. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:

1. Design: Flush panel.
2. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 2.
3. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
4. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
5. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

D. Interior Doors (Energy Efficient): Face sheets fabricated of commercial quality cold rolled steel that complies with ASTM A366 or 620. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:

1. Design: Flush panel.
2. Core Construction: Steel stiffened laminated core with fiberglass filler with no stiffener face welds, in compliance with HMMA 867 “Laminated Core”.

    a. Provide 22 gauge steel-stiffeners at 6 inches on-center internally welded at 5" on-center to integral core assembly, No stiffener face welding is permitted.
    b. Acoustical sound transmission rating shall be no less than STC 38 complying with ASTM E 90 and must be visible on factory applied labels.

3. Level/Model: Level 2 and Physical Performance Level A (Heavy Duty), Minimum 18 gauge (0.042 inch - 1.1-mm) thick steel, Model 2.
4. Vertical Edges: Vertical edges to be mechanically interlocked with hairline seam. Beveled Lock Edge, 1/8 inch in 2 inches (3 mm in 50 mm).
5. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
6. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9".
7. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

E. Interior Doors: Face sheets fabricated of commercial quality cold rolled steel that complies with ASTM A 1008/A 1008M. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:

1. Design: Flush panel.

    a. Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.

2. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 2.
3. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet.
4. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
5. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

F. Manufacturers Basis of Design:

1. Curries Company (CU) - Polystyrene Core - 707 Series.
2. Curries Company (CU) - Energy Efficient - 777 Trio-E Series.
3. Republic Doors and Frames (R).
4. Steelcraft (S).

2.4 HOLLOW METAL FRAMES

A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.

B. Exterior Frames: Fabricated of hot-dipped zinc coated steel that complies with ASTM A 653/A 653M, Coating Designation A60.

1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
2. Manufacturers Basis of Design:

    a. CECO Door Products (C) – SU SR Series.
    b. Curries Company (CU) – M Series.
    c. Republic Doors and Frames (R).
    d. Steelcraft (S).

C. Interior Frames: Fabricated from cold-rolled steel sheet that complies with ASTM A 1008/A 1008M.

1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
2. Manufacturers Basis of Design:

    a. CECO Door Products (C) - DU Series.
    b. CECO Door Products (C) - SU Series.
    c. Curries Company (CU) - M Series.
    d. Republic Doors and Frames (R).

e. Steelcraft (S).

D. Fire rated frames: Fabricate frames in accordance with NFPA 80, listed and labeled by a qualified testing agency, for fire-protection ratings indicated.

E. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, formed from A60 metallic coated material, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
2. Stud Wall Type: Designed to engage stud and not less than 0.042 inch thick.
3. Compression Type for Drywall Slip-on (Knock-Down) Frames: Adjustable compression anchors.

B. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.

C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.

2.6 LIGHT OPENINGS AND GLAZING

A. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints at fabricator’s shop. Fixed and removable stops to allow multiple glazed lites each to be removed independently. Coordinate frame rabbet widths between fixed and removable stops with the type of glazing and installation indicated.

B. Moldings for Glazed Lites in Doors and Loose Stops for Glazed Lites in Frames: Minimum 20 gauge thick, fabricated from same material as door face sheet in which they are installed.

C. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch (16 mm) high unless otherwise indicated. Provide fixed frame moldings and stops on outside of exterior and on secure side of interior doors and frames.

D. Preformed Metal Frames for Light Openings: Manufacturer's standard frame formed of 0.048-inch-thick, cold rolled steel sheet; with baked enamel or powder coated finish; and approved for use in doors of fire protection rating indicated. Match pre-finished door paint color where applicable.

2.7 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

B. Grout Guards: Formed from same material as frames, not less than 0.016 inches thick.

2.8 FABRICATION

A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. When shipping limitations so dictate, frames for large openings are to be fabricated in sections for splicing or splining in the field by others.

B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/SDI A250.8.

C. Hollow Metal Doors:

1. Exterior Doors: Provide optional weep-hole openings in bottom of exterior doors to permit moisture to escape where specified.
2. Glazed Lites: Factory cut openings in doors with applied trim or kits to fit. Factory install glazing where indicated.
3. Astragals: Provide overlapping astragals as noted in door hardware sets in Division 08 Section "Door Hardware" on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted.
4. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge strap for continuous hinges specified in hardware sets in Division 08 Section "Door Hardware".

D. Hollow Metal Frames:

1. Shipping Limitations: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
2. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.

    a. Welded frames are to be provided with two steel spreaders temporarily attached to the bottom of both jambs to serve as a brace during shipping and handling. Spreader bars are for bracing only and are not to be used to size the frame opening.

3. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
4. High Frequency Hinge Reinforcement: Provide high frequency hinge reinforcements at door openings 48-inches and wider with mortise butt type hinges at top hinge locations.
5. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge straps for continuous hinges specified in hardware sets in Division 08 Section "Door Hardware".
6. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated for removable stops, provide security screws at exterior locations.
7. Mortar Guards: Provide guard boxes at back of hardware mortises in frames at all hinges and strike preps regardless of grouting requirements.
8. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
9. Jamb Anchors: Provide number and spacing of anchors as follows:

    a. Masonry Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:

1) Two anchors per jamb up to 60 inches high.
2) Three anchors per jamb from 60 to 90 inches high.
3) Four anchors per jamb from 90 to 120 inches high.
4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.

b. Stud Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:

1) Three anchors per jamb up to 60 inches high.
2) Four anchors per jamb from 60 to 90 inches high.
3) Five anchors per jamb from 90 to 96 inches high.
4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.
5) Two anchors per head for frames above 42 inches wide and mounted in metal stud partitions.

10. Door Silencers: Except on weatherstripped or gasketed doors, drill stops to receive door silencers. Silencers to be supplied by frame manufacturer regardless if specified in Division 08 Section "Door Hardware".
11. Bituminous Coating: Where frames are fully grouted with an approved Portland Cement based grout or mortar, coat inside of frame throat with a water based bituminous or asphaltic emulsion coating to a minimum thickness of 3 mils DFT, tested in accordance with UL 10C and applied to the frame under a 3rd party independent follow-up service procedure.

E. Hardware Preparation: Factory prepare hollow metal work to receive template mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."

1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
2. Reinforce doors and frames to receive non-template, mortised and surface mounted door hardware.
3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.

2.9 STEEL FINISHES

A. Prime Finishes: Doors and frames to be cleaned, and chemically treated to insure maximum finish paint adhesion. Surfaces of the door and frame exposed to view to receive a factory applied coat of rust inhibiting shop primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead and chromate free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; and compatible with substrate and field-applied coatings.

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. General Contractor to verify the accuracy of dimensions given to the steel door and frame manufacturer for existing openings or existing frames (strike height, hinge spacing, hinge back set, etc.).

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

3.2 PREPARATION

A. Remove welded in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for square, level, twist, and plumb condition.

C. Tolerances shall comply with SDI-117 "Manufacturing Tolerances Standard Steel Doors and Frames."

D. Drill and tap doors and frames to receive non-template, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.

B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11 and NFPA 80 at fire rated openings.

1. Set frames accurately in position, plumbed, leveled, aligned, and braced securely until permanent anchors are set. After wall construction is complete and frames properly set and secured, remove temporary braces, leaving surfaces smooth and undamaged. Shim as necessary to comply with installation tolerances.
2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
3. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with mortar.
4. Grout Requirements: Do not grout head of frames unless reinforcing has been installed in head of frame. Do not grout vertical or horizontal closed mullion members.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Standard Steel Doors:

a. Jambs and Head: 1/8 inch plus or minus 1/16 inch.

b. Between Edges of Pairs of Doors: 1/8 inch plus or minus 1/16 inch.
c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch.
d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch.

2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.

D. Field Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instructions.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow metal work immediately after installation.

C. Prime-Coat and Painted Finish Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat, or painted finishes, and apply touchup of compatible air drying, rust-inhibitive primer, zinc rich primer (exterior and galvanized openings) or finish paint.

END OF SECTION 081113

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SECTION 081213

HOLLOW METAL FRAMES

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. Interior standard steel frames.
2. Exterior standard steel frames.
3. Borrowed lites.

B. Related Requirements:

1. Section 042200 "Concrete Unit Masonry" for embedding anchors for hollow metal work into masonry construction.
2. Section 081113 "Hollow Metal Doors and Frames" for hollow-metal doors and frames.
3. Section 087100 "Door Hardware" for door hardware for hollow-metal doors.
4. Section 099113 " Exterior Painting" and Section 099123 "Interior Painting" for field painting hollow metal frames.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

B. Coordinate requirements for installation of door hardware, electrified door hardware, and access control and security systems.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, and finishes.

B. Shop Drawings: Include the following:

1. Elevations of each frame type.
2. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
3. Locations of reinforcement and preparations for hardware.
4. Details of each different wall opening condition.

5. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
6. Details of anchorages, joints, field splices, and connections.
7. Details of accessories.
8. Details of moldings, removable stops, and glazing.

C. Product Schedule: For hollow-metal frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.7 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each type of fire-rated hollow-metal frame assembly for tests performed by a qualified testing agency indicating compliance with performance requirements

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal frames palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal frames vertically under cover at Project site with head up. Place on minimum 4-inch-high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. CECO Door Products (C).
2. Curries Company (CU).
3. Pioneer Industries (PI).
4. Republic Doors and Frames (R).
5. Steelcraft (S).

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency acceptable to authorities having jurisdiction for fire-protection ratings indicated on Drawings, based on testing at positive pressure according to NFPA 252 or UL 10C.

2.3 STANDARD STEEL FRAMES

A. Construct hollow-metal frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Interior Frames: SDI A250.8. At locations indicated in the Door Schedule.

1. Materials: Uncoated steel sheet, minimum thickness of 0.053 inch.
2. Construction: Knocked down.
3. Exposed Finish: Prime..

C. Exterior Frames: SDI A250.8. At locations indicated in the Door Schedule:

1. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch with minimum A40 coating.
2. Construction: Knocked down**.**
3. Exposed Finish: Factory.

2.4 BORROWED LITES

A. Fabricate of uncoated steel sheet, minimum thickness of 0.053 inch.

B. Construction: Knocked down.

C. Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as metal as frames.

D. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches of frame height above 7 feet.
3. Postinstalled Expansion Anchor: Minimum 3/8-inch-diameter bolts with expansion shields or inserts, with manufacturer's standard pipe spacer.

B. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor.

C. Floor Anchors for Concrete Slabs with Underlayment: Adjustable-type anchors with extension clips, allowing not less than 2-inch height adjustment. Terminate bottom of frames at top of underlayment.

D. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M; hot-dip galvanized according to ASTM A153/A153M, Class B.

2.6 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

2.7 FABRICATION

A. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
2. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.
   a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
   b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
3. Terminated Stops: Terminate stops 6 inches above finish floor with a 90-degree angle cut, and close open end of stop with steel sheet closure. Cover opening in extension of frame with welded-steel filler plate, with welds ground smooth and flush with frame.

B. Hardware Preparation: Factory prepare hollow-metal frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal frames for hardware.

2.8 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate compatible with substrate and field-applied coatings despite prolonged exposure.

B. Factory Finish: Clean, pretreat, and apply manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, complying with SDI A250.3.

1. Color and Gloss: As selected by Architect from manufacturer's full range..

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

B. Drill and tap frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

A. General: Install hollow-metal frames plumb, rigid, properly aligned, and securely fastened in place. Comply with approved Shop Drawings and with manufacturer's written instructions. Comply with SDI A250.11.

B. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.

1. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
2. Install frames with removable stops located on secure side of opening.

C. Fire-Rated Openings: Install frames according to NFPA 80.

D. Floor Anchors: Secure with postinstalled expansion anchors.

1. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

E. Solidly pack mineral fiber insulation inside frames.

F. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.

G. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors.[Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.

H. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:

1. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
2. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
3. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
4. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

3.3 CLEANING AND TOUCHUP

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

C. Factory-Finish Touchup: Clean abraded areas and repair with same material used for factory finish according to manufacturer's written instructions.

D. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081213

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SECTION 087100
DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes commercial door hardware for the following:

1. Swinging doors.

B. Door hardware includes, but is not necessarily limited to, the following:

1. Mechanical door hardware.
2. Electromechanical door hardware.
3. Automatic operators.
4. Cylinders specified for doors in other sections.

C. Related Sections:

1. Section 081113 “Hollow Metal Doors and Frames”.
2. Section 084113 “Aluminum-Framed Entrances and Storefronts”.
3. Section 084413 “Glazed Aluminum Curtain Walls”.
4. Section 087113 “Automatic Door Operators”.

D. Codes and References: Comply with the version year adopted by the Authority Having Jurisdiction.

1. ANSI A117.1 - Accessible and Usable Buildings and Facilities.
2. ICC/IBC - International Building Code.
3. NFPA 70 - National Electrical Code.
4. NFPA 80 - Fire Doors and Windows.
5. NFPA 101 - Life Safety Code.
6. NFPA 105 - Installation of Smoke Door Assemblies.
7. UL/ULC and CSA C22.2 - Standards for Automatic Door Operators Used on Fire and Smoke Barrier Doors and Systems of Doors.
8. State Building Codes, Local Amendments.

E. Standards: All hardware specified herein shall comply with the following industry standards as applicable. Any undated reference to a standard shall be interpreted as referring to the latest edition of that standard:

1. ANSI/BHMA Certified Product Standards - A156 Series.

2. UL10C - Positive Pressure Fire Tests of Door Assemblies.
3. ANSI/UL 294 - Access Control System Units.
4. UL 305 - Panic Hardware.
5. ANSI/UL 437- Key Locks.

1.3 SUBMITTALS

A. Product Data: Manufacturer's product data sheets including installation details, material descriptions, dimensions of individual components and profiles, operational descriptions and finishes.

B. Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of door hardware, as well as procedures and diagrams. Coordinate the final Door Hardware Schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of door hardware.

1. Format: Comply with scheduling sequence and vertical format in DHI's "Sequence and Format for the Hardware Schedule."

2. Organization: Organize the Door Hardware Schedule into door hardware sets indicating complete designations of every item required for each door or opening. Organize door hardware sets in same order as in the Door Hardware Sets at the end of Part 3. Submittals that do not follow the same format and order as the Door Hardware Sets will be rejected and subject to resubmission.

3. Content: Include the following information:

    a. Type, style, function, size, label, hand, and finish of each door hardware item.
    b. Manufacturer of each item.
    c. Fastenings and other pertinent information.
    d. Location of door hardware set, cross-referenced to Drawings, both on floor plans and in door and frame schedule.
    e. Explanation of abbreviations, symbols, and codes contained in schedule.
    f. Mounting locations for door hardware.
    g. Door and frame sizes and materials.
    h. Warranty information for each product.

4. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule.

C. Shop Drawings: Details of electrified access control hardware indicating the following:

1. Wiring Diagrams: Upon receipt of approved schedules, submit detailed system wiring diagrams for power, signaling, monitoring, communication, and control of the access control system electrified hardware. Differentiate between manufacturer-installed and field-installed wiring. Include the following:

a. Elevation diagram of each unique access controlled opening showing location and interconnection of major system components with respect to their placement in the respective door openings.
b. Complete (risers, point-to-point) access control system block wiring diagrams.
c. Wiring instructions for each electronic component scheduled herein.

2. Electrical Coordination: Coordinate with related sections the voltages and wiring details required at electrically controlled and operated hardware openings.

D. Keying Schedule: After a keying meeting with the owner has taken place prepare a separate keying schedule detailing final instructions. Submit the keying schedule in electronic format. Include keying system explanation, door numbers, key set symbols, hardware set numbers and special instructions. Owner must approve submitted keying schedule prior to the ordering of permanent cylinders/cores.

E. Informational Submittals:

1. Product Test Reports: Indicating compliance with cycle testing requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified independent testing agency.

F. Operating and Maintenance Manuals: Provide manufacturers operating and maintenance manuals for each item comprising the complete door hardware installation in quantity as required in Division 01, Closeout Procedures.

1.4 QUALITY ASSURANCE

A. Manufacturers Qualifications: Engage qualified manufacturers with a minimum 5 years of documented experience in producing hardware and equipment similar to that indicated for this Project and that have a proven record of successful in-service performance.

B. Certified Products: Where specified, products must maintain a current listing in the Builders Hardware Manufacturers Association (BHMA) Certified Products Directory (CPD).

C. Installer Qualifications: A minimum 3 years documented experience installing both standard and electrified door hardware similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

D. Door Hardware Supplier Qualifications: Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity. Supplier to have on staff a certified Architectural Hardware Consultant (AHC) available during the course of the Work to consult with Contractor, Architect, and Owner concerning both standard and electromechanical door hardware and keying.

E. Source Limitations: Obtain each type and variety of door hardware specified in this section from a single source unless otherwise indicated.

1. Electrified modifications or enhancements made to a source manufacturer's product line by a secondary or third party source will not be accepted.

2. Provide electromechanical door hardware from the same manufacturer as mechanical door hardware, unless otherwise indicated.

F. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

G. Keying Conference: Conduct conference to comply with requirements in Division 01 Section "Project Meetings." Keying conference to incorporate the following criteria into the final keying schedule document:

1. Function of building, purpose of each area and degree of security required.
2. Plans for existing and future key system expansion.
3. Requirements for key control storage and software.
4. Installation of permanent keys, cylinder cores and software.
5. Address and requirements for delivery of keys.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct coordination conference at the Project site. Attendance by representatives of Supplier(s), Installer(s), and Contractor(s) to review proper methods and the procedures for receiving, handling, and installing door hardware.

1. Prior to installation of door hardware, conduct a project specific training meeting to instruct the installing contractors' personnel on the proper installation and adjustment of their respective products. Product training to be attended by installers of door hardware (including electromechanical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedules, templates and physical product samples as required.
2. Inspect and discuss electrical roughing-in, power supply connections, and other preparatory work performed by other trades.
3. Review sequence of operation narratives for each unique access controlled opening.
4. Review and finalize construction schedule and verify availability of materials.
5. Review the required inspecting, testing, commissioning, and demonstration procedures

B. At completion of installation, provide written documentation that components were applied to manufacturer's instructions and recommendations and according to approved schedule.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

B. Tag each item or package separately with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.

C. Deliver, as applicable, permanent keys, cylinders, cores, access control credentials, software and related accessories directly to Owner via registered mail or overnight package service. Instructions for delivery to the Owner shall be established at the "Keying Conference".

1.7 COORDINATION

A. Templates: Obtain and distribute to the parties involved templates for doors, frames, and other work specified to be factory prepared for installing standard and electrified hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing hardware to comply with indicated requirements.

B. Door and Frame Preparation: Doors and corresponding frames are to be prepared, reinforced and pre-wired (if applicable) to receive the installation of the specified electrified, monitoring, signaling and access control system hardware without additional in-field modifications.

1.8 OWNER FURNISHED HARDWARE

A. Electronic Locksets – Keypads (Alarm Lock 8200ICR) will be furnished and installed by Owner at the following door locations:

1. First Floor: 100A,100B,100C,100E,100F,100H,100J,101B,102,102A,105, 120A,120B,120C,
   Second Floor: 200A, 200B, 200C, 200D, 202A, 202E, 204,218.
   Third Floor: 300A, 300B, 300C, 300D, 301, 302A, 318.
   Roof: RA

B. The Contractor is to prep all doors from template to be supplied by the Owner.

1.9 WARRANTY

A. General Warranty: Reference Division 01, General Requirements. Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:

1. Structural failures including excessive deflection, cracking, or breakage.
2. Faulty operation of the hardware.
3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
4. Electrical component defects and failures within the systems operation.

C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.

D. Special Warranty Periods:

1. Ten years for mortise locks and latches.
2. Five years for exit hardware.
3. Twenty five years for manual overhead door closer bodies.
4. Two years for electromechanical door hardware, owner to provide warranty to the architect and GC for coordination..

1.10 MAINTENANCE SERVICE

A. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of door hardware.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. General: Provide door hardware for each door to comply with requirements in Door Hardware Sets and each referenced section that products are to be supplied under.

B. Designations: Requirements for quantity, item, size, finish or color, grade, function, and other distinctive qualities of each type of door hardware are indicated in the Door Hardware Sets at the end of Part 3. Products are identified by using door hardware designations, as follows:

1. Named Manufacturer's Products: Product designation and manufacturer are listed for each door hardware type required for the purpose of establishing requirements. Manufacturers' names are abbreviated in the Door Hardware Schedule.

C. Substitutions: Requests for substitution and product approval for inclusive mechanical and electromechanical door hardware in compliance with the specifications must be submitted in writing and in accordance with the procedures and time frames outlined in Division 01, Substitution Procedures. Approval of requests is at the discretion of the architect, owner, and their designated consultants.

2.2 HANGING DEVICES

A. Hinges: ANSI/BHMA A156.1 certified butt hinges with number of hinge knuckles and other options as specified in the Door Hardware Sets.

1. Quantity: Provide the following hinge quantity:

    a. Two Hinges: For doors with heights up to 60 inches.
    b. Three Hinges: For doors with heights 61 to 90 inches.
    c. Four Hinges: For doors with heights 91 to 120 inches.
    d. For doors with heights more than 120 inches, provide 4 hinges, plus 1 hinge for every 30 inches of door height greater than 120 inches.

2. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:

a. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
b. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.

3. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:

a. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.
b. Interior Doors: Standard weight, steel, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate heavy weight.

4. Hinge Options: Comply with the following:

a. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

5. Manufacturers:

a. Hager Companies (HA).
b. IVES - Allegion (I).
c. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK).
d. Stanley Hardware (ST).

B. Continuous Geared Hinges: ANSI/BHMA A156.26 Grade 1-600 certified continuous geared hinge. with minimum 0.120-inch thick extruded 6060 T6 aluminum alloy hinge leaves and a minimum overall width of 4 inches. Hinges are non-handed, reversible and fabricated to template screw locations. Factory trim hinges to suit door height and prepare for electrical cut-outs.

1. Manufacturers:

a. IVES - Allegion (I).
b. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).

2.3 POWER TRANSFER DEVICES

A. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:

a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Electrical Connecting Kit: QC-R001.
b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Connector Hand Tool: QC-R003.

2. Manufacturers:

    a. Allegion (A) - Allegion Connect.
    b. Hager Companies (HA) - Quick Connect.
    c. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - QC-C Series.
    d. Stanley Hardware (ST) - WH Series.
    e. Von Duprin (VD) - EPT-10.

2.4 DOOR OPERATING TRIM

A. Flush Bolts and Surface Bolts: ANSI/BHMA A156.3 and A156.16, Grade 1, certified.

1. Flush bolts to be furnished with top rod of sufficient length to allow bolt retraction device location approximately six feet from the floor.
2. Furnish dust proof strikes for bottom bolts.
3. Surface bolts to be minimum 8” in length and U.L. listed for labeled fire doors and U.L. listed for windstorm components where applicable.
4. Provide related accessories (mounting brackets, strikes, coordinators, etc.) as required for appropriate installation and operation.

5. Manufacturers:

    a. Door Controls International (DC).
    b. IVES - Allegion (I).
    c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    d. Trimco (TC).

B. Door Push Plates and Pulls: ANSI/BHMA A156.6 certified door pushes and pulls of type and design specified in the Hardware Sets. Coordinate and provide proper width and height as required where conflicting hardware dictates.

1. Push/Pull Plates: Minimum .050 inch thick, size as indicated in hardware sets, with beveled edges, secured with exposed screws unless otherwise indicated.
2. Door Pull and Push Bar Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door unless otherwise indicated.
3. Offset Pull Design: Size, shape, and material as indicated in the hardware sets. Minimum clearance of 2 1/2-inches from face of door and offset of 90 degrees unless otherwise indicated.
4. Fasteners: Provide manufacturer's designated fastener type as indicated in Hardware Sets.

5. Manufacturers:

    a. Hiawatha, Inc. (HI).
    b. IVES - Allegion (I).
    c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    d. Trimco (TC).

2.5 CYLINDERS AND KEYING

A. General: Cylinder manufacturer to have minimum (10) years experience designing secured master key systems and have on record a published security keying system policy.

B. Source Limitations: Obtain each type of keyed cylinder and keys from the same source manufacturer as locksets and exit devices, unless otherwise indicated.

C. Cylinder Types: Original manufacturer cylinders able to supply the following cylinder formats and types:

1. Threaded mortise cylinders with rings and cams to suit hardware application.
2. Rim cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
3. Bored or cylindrical lock cylinders with tailpieces as required to suit locks.
4. Tubular deadlocks and other auxiliary locks.
5. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
6. Keyway: Manufacturer’s Standard.

D. Security Cylinders: ANSI/BHMA A156.5, Grade 1 Certified Products Directory (CPD) listed security cylinders and keys able to be used together under the same facility master or grandmaster key system. Cylinders to be factory keyed.

1. New security key systems shall not be established with products that have an expired patent. Expired systems shall only be specified and supplied to support existing systems.

2. Manufacturers:

    a. Sargent 10-Signature removable cores, construction cores to be supplied with all locks.
    b. No Substitutions.

E. Keying System: Each type of lock and cylinders to be factory keyed.

1. Supplier shall conduct a "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. New System: Key locks to a new key system as directed by the Owner.

F. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).

G. Construction Keying: Provide construction master keyed cylinders.

H. Key Registration List (Bitting List):

1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.6 KEY CONTROL

A. Key Control Cabinet: Provide a key control system including envelopes, labels, and tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet. Key control cabinet shall have expansion capacity of 150% of the number of locks required for the project.

1. Manufacturers:

a. Lund Equipment (LU).
b. MMF Industries (MM).
c. Telkee (TK).

P. Electronic Key Management System: Provide an electronic key control system with Stand-alone Plug and Play features including advanced RFID technology. Touchscreen interface with PIN access for keys individually locked in place. Minimum 1,000 system users and 21 iFobs for locking receptors. System shall have a minimum 250,000 audit events screen displayed or ability to be exported via USB port.

1. Manufacturers:

a. Medeco (MC).
b. Traka (TA).

2.7 MECHANICAL LOCKS AND LATCHING DEVICES

A. Mortise Locksets, Grade 1 (Heavy Duty): ANSI/BHMA A156.13, Series 1000, Operational Grade 1 Certified Products Directory (CPD) listed. Locksets are to be manufactured with a corrosion resistant steel case and be field-reversible for handing without disassembly of the lock body.

1. Manufacturers:

a. Corbin Russwin Hardware (RU) - ML2000 Series.
b. Sargent Manufacturing (SA) - 8200 Series.
c. Yale Commercial(YA) - 8800FL Series.

2.8 LOCK AND LATCH STRIKES

A. Strikes: Provide manufacturer's standard strike with strike box for each latch or lock bolt, with curved lip extended to protect frame, finished to match door hardware set, unless otherwise indicated, and as follows:

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Provide manufacturer's special strike box fabricated for aluminum framing.
4. Double-lipped strikes: For locks at double acting doors. Furnish with retractable stop for rescue hardware applications.

B. Standards: Comply with the following:

1. Strikes for Mortise Locks and Latches: BHMA A156.13.
2. Strikes for Bored Locks and Latches: BHMA A156.2.
3. Strikes for Auxiliary Deadlocks: BHMA A156.36.
4. Dustproof Strikes: BHMA A156.16.

2.9 ELECTRIC STRIKES

A. Standard Electric Strikes: Electric strikes tested to ANSI/BHMA A156.31, Grade 1, for use on non-rated or fire rated openings. Strikes shall be of stainless steel construction tested to a minimum of 1500 pounds of static strength and 70 foot-pounds of dynamic strength with a minimum endurance of 1 million operating cycles. Provide strikes with 12 or 24 VDC capability, fail-secure unless otherwise specified. Where specified provide latchbolt and latchbolt strike monitoring indicating both the position of the latchbolt and locked condition of the strike.

1. Manufacturers:

a. HES (HS) - 1500/1600 Series.
b. Von Duprin (VD).

B. Provide electric strikes with in-line power controller and surge suppressor by the same manufacturer as the strike with the combined products having a five year warranty.

2.10 CONVENTIONAL EXIT DEVICES

A. General Requirements: All exit devices specified herein shall meet or exceed the following criteria:

1. At doors not requiring a fire rating, provide devices complying with NFPA 101 and listed and labeled for "Panic Hardware" according to UL305. Provide proper fasteners as required by manufacturer including sex nuts and bolts at openings specified in the Hardware Sets.

2. Where exit devices are required on fire rated doors, provide devices complying with NFPA 80 and with UL labeling indicating "Fire Exit Hardware". Provide devices with the proper fasteners for installation as tested and listed by UL. Consult manufacturer’s catalog and template book for specific requirements.

3. Except on fire rated doors, provide exit devices with hex key dogging device to hold the pushbar and latch in a retracted position. Provide optional keyed cylinder dogging on devices where specified in Hardware Sets.

4. Devices must fit flat against the door face with no gap that permits unauthorized dogging of the push bar. The addition of filler strips is required in any case where the door light extends behind the device as in a full glass configuration.

5. Flush End Caps: Provide flush end caps made of architectural metal in the same finish as the devices as in the Hardware Sets. Plastic end caps will not be acceptable.

6. Lever Operating Trim: Where exit devices require lever trim, furnish manufacturer's heavy duty escutcheon trim with threaded studs for thru-bolts.

    a. Lock Trim Design: As indicated in Hardware Sets, provide finishes and designs to match that of the specified locksets.
    b. Where function of exit device requires a cylinder, provide a cylinder (Rim or Mortise) as specified in Hardware Sets.

7. Vertical Rod Exit Devices: Where surface or concealed vertical rod exit devices are used at interior openings, provide as less bottom rod (LBR) unless otherwise indicated. Provide dust proof strikes where thermal pins are required to project into the floor.

8. Narrow Stile Applications: At doors constructed with narrow stiles, or as specified in Hardware Sets, provide devices designed for maximum 2” wide stiles.

9. Dummy Push Bar: Nonfunctioning push bar matching functional push bar.

10. Rail Sizing: Provide exit device rails factory sized for proper door width application.

11. Through Bolt Installation: For exit devices and trim as indicated in Door Hardware Sets.

B. Conventional Push Rail Exit Devices (Heavy Duty): ANSI/BHMA A156.3, Grade 1 Certified Products Directory (CPD) listed panic and fire exit hardware devices furnished in the functions specified in the Hardware Sets. Exit device latch to be stainless steel, pullman type, with deadlock feature.

1. Manufacturers:

    a. Corbin Russwin Hardware (RU) - ED4000 / ED5000 Series.
    b. Sargent Manufacturing (SA) - 80 Series.
    c. Von Duprin - 98/99 Series.

C. Extruded Aluminum Removable Mullions: ANSI/BHMA A156.3 anodized, removable mullions with malleable-iron top and bottom retainers. Mullions to be provided standard with stabilizers and imbedded weatherstrip.

1. Manufacturers:

    a. Same as exit device manufacturer.

D. Tube Steel Removable Mullions: ANSI/BHMA A156.3 removable steel mullions with malleable-iron top and bottom retainers and a primed paint finish.

1. Provide keyed removable feature where specified in the Hardware Sets.

2. Provide stabilizers and mounting brackets as required.

3. Provide electrical quick connection wiring options as specified in the hardware sets.

4. Manufacturers:

    a. Same as exit device manufacturer.

2.11 DOOR CLOSERS

A. All door closers specified herein shall meet or exceed the following criteria:

1. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers.

2. Standards: Closers to comply with UL-10C for Positive Pressure Fire Test and be U.L. listed for use of fire rated doors.

3. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the Americans with Disabilities Act, provide units complying with ANSI ICC/A117.1.

4. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.

5. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.

6. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

B. Door Closers, Surface Mounted (Heavy Duty): ANSI/BHMA A156.4, Grade 1 Certified Products Directory (CPD) listed surface mounted, heavy duty door closers with complete spring power adjustment, sizes 1 thru 6; and fully operational adjustable according to door size, frequency of use, and opening force. Closers to be rack and pinion type, one piece cast iron or aluminum alloy body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control. Provide non-handed units standard.

1. Manufacturers:

   a. Corbin Russwin Hardware (RU) - DC6000 Series.
   b. LCN (L) - 4040 Series.
   c. Norton Door Controls (NO) - 7500 Series.
   d. Sargent Manufacturing (SA) - 351 Series.
   e. Yale Commercial(YA) - 4400 Series.

2.12 ARCHITECTURAL TRIM

A. Door Protective Trim

1. General: Door protective trim units to be of type and design as specified below or in the Hardware Sets.

2. Size: Fabricate protection plates (kick, armor, or mop) not more than 2" less than door width (LDW) on stop side of single doors and 1” LDW on stop side of pairs of doors, and not more than 1" less than door width on pull side. Coordinate and provide proper width

and height as required where conflicting hardware dictates. Height to be as specified in the Hardware Sets.

3. Where plates are applied to fire rated doors with the top of the plate more than 16” above the bottom of the door, provide plates complying with NFPA 80. Consult manufacturer’s catalog and template book for specific requirements for size and applications.

4. Protection Plates: ANSI/BHMA A156.6 certified protection plates (kick, armor, or mop), fabricated from the following:

    a. Stainless Steel: 300 grade, 050-inch thick.

5. Options and fasteners: Provide manufacturer's designated fastener type as specified in the Hardware Sets. Provide countersunk screw holes.

6. Manufacturers:

    a. Hiawatha, Inc. (HI).
    b. IVES - Allegion (I).
    c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    d. Trimco (TC).

2.13 DOOR STOPS AND HOLDERS

A. General: Door stops and holders to be of type and design as specified below or in the Hardware Sets.

B. Door Stops and Bumpers: ANSI/BHMA A156.16, Grade 1 certified door stops and wall bumpers. Provide wall bumpers, either convex or concave types with anchorage as indicated, unless floor or other types of door stops are specified in Hardware Sets. Do not mount floor stops where they will impede traffic. Where floor or wall bumpers are not appropriate, provide overhead type stops and holders.

1. Manufacturers:

    a. Hiawatha, Inc. (HI).
    b. IVES - Allegion (I).
    c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).
    d. Trimco (TC).

C. Overhead Door Stops and Holders: ANSI/BHMA A156.8, Grade 1 Certified Products Directory (CPD) listed overhead stops and holders to be surface or concealed types as indicated in Hardware Sets. Track, slide, arm and jamb bracket to be constructed of extruded bronze and shock absorber spring of heavy tempered steel. Provide non-handed design with mounting brackets as required for proper operation and function.

1. Manufacturers:

    a. Glynn-Johnson (GJ).
    b. Rixson Door Controls (RF).
    c. Rockwood Products; ASSA ABLOY Architectural Door Accessories (RO).

d. Sargent Manufacturing (SA).

2.14 ARCHITECTURAL SEALS

A. General: Thresholds, weatherstripping, and gasket seals to be of type and design as specified below or in the Hardware Sets. Provide continuous weatherstrip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated. At exterior applications provide non-corrosive fasteners and elsewhere where indicated.

B. Smoke Labeled Gasketing: Assemblies complying with NFPA 105 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for smoke control ratings indicated, based on testing according to UL 1784.

1. Provide smoke labeled perimeter gasketing at all smoke labeled openings.

C. Fire Labeled Gasketing: Assemblies complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire ratings indicated, based on testing according to UL-10C.

1. Provide intumescent seals as indicated to meet UL10C Standard for Positive Pressure Fire Tests of Door Assemblies, and NPFA 252, Standard Methods of Fire Tests of Door Assemblies.

D. Sound-Rated Gasketing: Assemblies that are listed and labeled by a testing and inspecting agency, for sound ratings indicated.

E. Replaceable Seal Strips: Provide only those units where resilient or flexible seal strips are easily replaceable and readily available from stocks maintained by manufacturer.

F. Manufacturers:

1. National Guard Products (NG).
2. Pemko Products; ASSA ABLOY Architectural Door Accessories (PE).
3. Reese Enterprises, Inc. (RE).
4. ZERO International (Z).

2.15 ELECTRONIC ACCESSORIES

A. Push-Button Switches: Industrial grade momentary or alternate contact, back-lighted push buttons with stainless-steel switch enclosures. 12/24 VDC bi-color illumination suitable for either flush or surface mounting.

1. Manufacturers:

a. Alarm Controls (AK) - TS Series.
b. Securitron (SU) - PB Series.

B. Door Position Switches: Door position magnetic reed contact switches specifically designed for use in commercial door applications. On recessed models the contact and magnetic housing snap-lock into a 1" diameter hole. Surface mounted models include wide gap distance design

complete with armored flex cabling. Provide SPDT, N/O switches with optional Rare Earth Magnet installation on steel doors with flush top channels.

1. Manufacturers:

    a. Securitron (SU) - DPS Series.

C. Linear Power Supplies: Provide Nationally Recognized Testing Laboratory Listed 12VDC or 24VDC (field selectable) filtered and regulated power supplies. Include battery backup option with integral battery charging capability in addition to operating the DC load in event of line voltage failure. Provide the least number of units, at the appropriate amperage level, sufficient to exceed the required total draw plus 50% for the specified electrified hardware and access control equipment.

1. Provide the least number of units, at the appropriate amperage level, sufficient to exceed the required total draw for the specified electrified hardware and access control equipment.

2. Manufacturers:

    a. Alarm Controls (AK) - APS Series.
    b. Securitron (SU) - BPS Series.

2.16 FABRICATION

A. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to manufacturers recognized installation standards for application intended.

2.17 FINISHES

A. Standard: Designations used in the Hardware Sets and elsewhere indicate hardware finishes complying with ANSI/BHMA A156.18, including coordination with traditional U.S. finishes indicated by certain manufacturers for their products.

B. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine scheduled openings, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Notify architect of any discrepancies or conflicts between the door schedule, door types, drawings and scheduled hardware. Proceed only after such discrepancies or conflicts have been resolved in writing.

3.2 PREPARATION

A. Hollow Metal Doors and Frames: Comply with ANSI/DHI A115 series.

B. Wood Doors: Comply with ANSI/DHI A115-W series.

3.3 INSTALLATION

A. Install each item of mechanical and electromechanical hardware and access control equipment to comply with manufacturer's written instructions and according to specifications.

1. Installers are to be trained and certified by the manufacturer on the proper installation and adjustment of fire, life safety, and security products including: hanging devices; locking devices; closing devices; and seals.

B. Mounting Heights: Mount door hardware units at heights indicated in following applicable publications, unless specifically indicated or required to comply with governing regulations:

1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."
2. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
3. Where indicated to comply with accessibility requirements, comply with ANSI A117.1 "Accessibility Guidelines for Buildings and Facilities."
4. Provide blocking in drywall partitions where wall stops or other wall mounted hardware is located.

C. Retrofitting: Install door hardware to comply with manufacturer's published templates and written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.

D. Thresholds: Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants."

E. Storage: Provide a secure lock up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items so that the completion of the work will not be delayed by hardware losses before and after installation.

3.4 FIELD QUALITY CONTROL

A. Field Inspection (Punch Report): Reference Division 01 Sections “Closeout Procedures” and “Cash Allowances”. Produce project punch report for each installed door opening indicating compliance with approved submittals and verification hardware is properly installed, operating

and adjusted. Include list of items to be completed and corrected, indicating the reasons or deficiencies causing the Work to be incomplete or rejected.

1. Organization of List: Include separate Door Opening and Deficiencies and Corrective Action Lists organized by Mark, Opening Remarks and Comments, and related Opening Images and Video Recordings.
2. Submit documentation of incomplete items in the following formats:

    a. PDF electronic file.
    b. Electronic formatted file integrated with the Openings Studio™ door opening management software platform.

3.5 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

3.6 CLEANING AND PROTECTION

A. Protect all hardware stored on construction site in a covered and dry place. Protect exposed hardware installed on doors during the construction phase. Install any and all hardware at the latest possible time frame.

B. Clean adjacent surfaces soiled by door hardware installation.

C. Clean operating items as necessary to restore proper finish. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of owner occupancy.

3.7 DEMONSTRATION

A. Instruct Owner's maintenance personnel to adjust, operate, and maintain mechanical and electromechanical door hardware.

3.8 DOOR HARDWARE SETS

A. The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

1. Quantities listed are for each pair of doors, or for each single door.

2. The supplier is responsible for handing and sizing all products.

3. Where multiple options for a piece of hardware are given in a single line item, the supplier shall provide the appropriate application for the opening.

B. Manufacturer's Abbreviations:

1. MK - McKinney
2. PE - Pemko
3. SA - SARGENT
4. RO - Rockwood
5. HS - HES
6. AL - Alarm Lock Systems
7. RF - Rixson
8. NO - Norton
9. OT - Other
10. SU – Securitron
11. A – Allegion
12. GJ – Glynn-Johnson
13. I – IVES – Allegion
14. L – LCN
15. R – Republic Doors and Frames
16. S – Steelcraft
17. VD – Von Duprin
18. Z – ZERO International

Christopher Booker & Associates

SHERIFF'S ADMINISTRATION BUILDING

COLUMBIA COUNTY, GA

HDW SET 1

100B, 100C, 100J

Each door to have:

1 Continuous Hinge	(PK)	CFM x Size SLF x HD1
1 Rim Exit Device	(SG)	10-63-43-AD8504 x 863-US32D
1 Door Closer w/Stop	(SG)	EN351-CPS x TB
1 Threshold	(PK)	271A x Size x MSES25SS
1 Sweep	(PK)	315CN x Size
1 Rain Guard	(PK)	346C x Size
1 Door Position Switch	(SEC)	DPS2-M

NOTE: Gasketing by door & frame supplier.

HDW SET 2

100A

Each pair to have:

2 Electric Thru Wire Continuous Hinges	(PK)	CFM83SLFHD1 SER12
1 Mullion	(SG)	650A x LAR
1 Rim Exit Device	(SG)	10-64/63-56-AD8504-US32D less Pull
1 Rim Exit Device	(SG)	56-AD8510-US32D Exit Only
2 Pulls	(RW)	RM3411-24 Mtg Type 1HD x US32D
2 Automatic Openers	(NO)	6311/6331-689
2 Wall Switches	(NO)	700
1 Power Supply	(SG)	3540
2 ElectroLynx Harnesses	(McK)	QC-C3003P
2 ElectroLynx Harnesses	(McK)	QC-C1500P
*1 Prox Pin Keypad	(AL)	NET PDK

NOTE: Gasketing by door & frame supplier.

HDW SET 3

120B

Each door to have:

3 Hvy Wt Ball Bearing Hinges	(McK)	T4A3386-US32D 4½ x 4½ NRP
*1 Cylindrical Prox Pin Lock	(AL)	PDL8200ICR-US26D
1 Core	(SG)	10-6300-US26D
1 Door Closer w/Stop	(SG)	EN351-CPS x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Threshold	(PK)	171A x Size
1 Set Gasketing	(PK)	303AS x Size
1 Sweep	(PK)	315CN x Size

HDW SET 4

100E, RA

Each door to have:

3 Hvy Wt Ball Bearing Hinges	(McK)	T4A3386-US32D 4½ x 4½ NRP
*1 Cylindrical Prox Pin Lock	(AL)	PDL8200ICR-US26D
1 Core	(SG)	10-6300-US26D
1 Door Closer w/Stop	(SG)	EN351-CPS x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Threshold	(PK)	171A x Size
1 Set Gasketing	(PK)	303AS x Size
1 Sweep	(PK)	315CN x Size

HDW SET 5

120A, 120C, 218, 318

Each door to have:

3 Ball Bearing Hinges	(RW)	TA2714-US26D 4½ x 4½
*1 Cylindrical Prox Pin Lock	(AL)	PDL8200ICR-US26D
1 Core	(SG)	10-6300-US26D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Floor Stop	(RW)	481-US26D
3 Silencers	(RW)	608

HDW SET 6

100D, 100G

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Rim Exit Device	(SG)	12-43-8815 ETL-US32D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Floor Stop	(RW)	481-US26D
1 Roll Self-Adhesive Gasketing	(PK)	S88BL x Size

HDW SET 6A

200A, 200C, 300A, 300C

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
*1 Cylindrical Prox Pin Lock	(AL)	PDL8200ICR-US26D
1 Core	(SG)	10-6300-US26D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW
1 Floor Stop	(RW)	481-US26D
1 Roll Self-Adhesive Gasketing	(PK)	S88BL x Size

HDW SET 7

101B, 102A, 301, 302A

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
*1 Cylindrical Prox Pin Lock	(AL)	PDL8200ICR-US26D
1 Core	(SG)	10-6300-US26D
1 Electric Strike	(HES)	1006CLB-630
1 Plug-In Buzzer	(HES)	2006M
1 Surface Mount Push Button	(HES)	PB3EAR
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Floor Stop	(RW)	481-US26D
1 Roll Self-Adhesive Gasketing	(PK)	S88BL x Size

HDW SET 8

102, 105, 202A, 202E, 204

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
*1 Cylindrical Prox Pin Lock	(AL)	PDL8200ICR-US26D
1 Core	(SG)	10-6300-US26D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Concave Wall Stop	(RW)	403-US26D
3 Silencers	(RW)	608

HDW SET 9

303

Each door to have:

3 Hvy Wt Ball Bearing Hinges	(McK)	T4A3786-US26D 4½ x 4½
1 Mortise Storeroom Lever Lock	(SG)	10-64/63-8204 LNL-US26D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10"x 2" LDW .050ga
1 Concave Wall Stop	(RW)	403-US26D
3 Silencers	(RW)	608

HDW SET 10

131, 132

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Mortise Storeroom Lever Lock	(SG)	10-64/63-8204 LNL-US26D
1 Door Closer w/Stop	(SG)	EN351-CPS x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
3 Silencers	(RW)	608

HDW SET 11

109, 119, 225, 229, 231, 307, 328, 334, 338

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Mortise Storeroom Lever Lock	(SG)	10-64/63-8204 LNL-US26D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Concave Wall or Floor Stop	(RW)	403 or 441-US26D
1 Roll Self-Adhesive Gasketing	(PK)	S88BL x Size

HDW SET 11A

100F, 100H, 200B, 200D, 300B, 300D

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
*1 Cylindrical Prox Pin Lock	(AL)	PDL8200ICR-US26D
1 Core	(SG)	10-6300-US26D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Concave Wall or Floor Stop	(RW)	403 or 441-US26D
1 Rolll Self-Adhesive Gasketing	(PK)	S88BL x Size

HDW SET 12

103A, 103B, 106, 107, 108, 112A, 113, 114, 115A, 116, 117, 118, 127, 128, 129, 130
133A, 134, 208, 209, 210, 211, 213, 214, 215, 216, 217, 219, 220, 221, 222, 223,
224, 226, 227, 228, 234, 235, 236, 237, 238, 239, 240, 304, 305, 312, 313, 314, 315, 316,
317, 319, 320, 321, 322, 323, 325, 326, 330A, 331B, 333, 336

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Mortise Office Lever Lock	(SG)	10-64/63-8205 LNL-US26D
1 Concave Wall or Floor Stop	(RW)	403 or 441-US26D
3 Silencers	(RW)	608

HDW SET 13

331A

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Mortise Office Lever Lock	(SG)	10-64/63-8205 LNL-US26D
1 Concealed Overhead Stop	(RX)	6 – x36-630
1 Coat hook	(RW)	RM801-US26D
3 Silencers	(RW)	608

HDW SET 14

115C, 306, 329B

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Mortise Office Lever Lock	(SG)	10-64/63-8205 LNL-US26D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Concave Wall or Floor Stop	(RW)	403 or 441-US26D
1 Coat Hook	(RW)	RM801-US26D
3 Silencers	(RW)	608

HDW SET 15

111, 112B, 115B, 124, 133B, 134A, 330B

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Mortise Passage Lever Set	(SG)	8215 LNL-US26D
1 Concave Wall or Floor Stop	(RW)	403 or 441-US26D
3 Silencers	(RW)	608

HDW SET 16

204A, 204B, 204C, 205, 206, 207A

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Mortise Classroom Lever Lock	(SG)	10-64/63-8237 LNL-US26D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Concave Wall or Floor Stop	(RW)	403 or 441-US26D
3 Silencers	(RW)	608

HDW SET 17

101A, 110, 121, 122, 123, 126, 212, 230, 232, 241, 308, 309, 310, 311, 335, 337

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Mortise Privacy Lever Latch w/Occupancy Indicator	(SG)	49-8268 LNL-US26D
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Concave Wall or Floor Stop	(RW)	403 or 441-US26D
1 Coat Hook	(RW)	RM801-US26D
1 Roll Self-Adhesive Gasketing	(PK)	S88BL x Size

HDW SET 18

332

Each pair to have:

6 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
2 Roller Latches	(RW)	590-US26D
2 Single Dummy Levers	(SG)	10U93 LL-US26D
2 Concealed Overhead Stops	(RX)	6 - x36-630
2 Silencers	(RW)	608

HDW SET 19

125A, 125B, 233A, 233B, 327A, 327B, 329A, 329C

Each door to have:

3 Ball Bearing Hinges	(McK)	TA2714-US26D 4½ x 4½
1 Push Plate	(RW)	70C-RKW-US32D
1 NeoTek Straight Pull	(RW)	RM3401-12 x US32D x Type 1HD
1 Door Closer	(SG)	EN351-UO x TB
1 Kick Plate	(RW)	K1050-US32D 10" x 2" LDW .050ga
1 Concave Wall or Floor Stop	(RW)	403 or 441-US26D
3 Silencers	(RW)	608

§§§

LIST OF MANUFACTURERS

*Alarm Lock	(AL)
McKinney	(McK)
Pemko	(PK)
Rixson	(RX)
Rockwood	(RW)
Sargent	(SG)
Securitron	(SEC)

*NOTE: See Specification 1.6 COORDINATION, C.

END OF SECTION 087100

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SECTION 098400

ACOUSTICAL COMPONENTS

PART 1 – GENERAL

1.1 SUMMARY
A. Section includes:
   1. Wall Blokker by Commercial Acoustics soundproofing membrane.

1.2 RELATED DOCUMENTS
A. Drawings and general provisions of the Contract including supplements and addendums.
B. Applicable Specification Sections: Division 01 – General and Division 09 – Finishes.

1.3 REFERENCES
A. ASTM Tests:
   1. E90 – *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.*
   2. E413 – *Classification for Rating Sound Insulation.*
B. ASTM Specifications:
   1. C840 – *Standard Specification for Application and Finishing of Gypsum Board.*

1.4 SUBMITTALS
A. For each product indicated:
   1. Product Data Sheet: manufacturer's specifications including laboratory test summary.
   2. Installation Instructions: detailed installation procedure including jobsite condition requirements, surface preparation requirements, and approved products.

1.5 DELIVERY, STORAGE, AND HANDLING
A. All materials shall be delivered in original unopened packaging.
B. Wall Blokker may be stored in a wet or dry environment and may be stored outdoors for up to three months on construction sites without special tarps or covering.
   1. If stored below freezing temperatures, material may require up to 48 hours of acclimation to regain pliability.
   2. Acclimate Wall Blokker for a minimum of 24 hours at temperatures 60 degrees (F) or greater to reduce material stiffness when handling.
   3. If material stiffens, it may be softened more rapidly using a heat gun.

1.6 PROJECT CONDITIONS
A. Wall Blokker is typically installed after framing, insulation, and electrical are complete. Insulation should be installed in the wall cavity in addition for optimal performance.
B. Ensure that all applicable inspections are completed prior to installation of Wall Blokker.
C. Wall Blokker may be installed prior to "drying in" the building (prior to installation of windows and doors).
   1. Drywall should be installed within 2-4 weeks of Wall Blokker to prevent excessive wear.
      a. For longer delays, washers should be installed for securely fasten the material.
   2. Drywall installation permanently attaches Wall Blokker to the stud.

PART 2 – PRODUCTS

2.1 WALL BLOKKER BY COMMERCIAL ACOUSTICS
A. Manufacturer:

1. Commercial Acoustics, (888) 815-9691, 6122 Benjamin Rd, Tampa, FL 33634

B. Materials:
   1. Engineered sound reduction membrane.
   2. Flexible Ethylene Vinyl Acetate (EVA) product made from post-industrial recycled material.
C. Dimensions:
   1. Thickness: 1/8”
   2. Weight: 1 lb/sq.ft.
   3. Standard Sizes: 4’x25’ rolls; 4’x10’ and 4’x8’ sheets; custom length rolls available.
   4. Tolerances:
      a. Width: +/- 0.5”
      b. Length: +/- 1%
      c. Nominal Thickness: +/- 0.10”
D. Performance:
   1. Minimum STC = 25 (ASTM E90).
   2. UL Classified Assemblies:
      a. 300, 400, 500 Series
   3. Flammability Rating:
      a. Class 1 (ASTM E84 Rev. A)
      b. 1-Hour fire resistance wall rating (ASTM E119)
      c. 0.3 Thermal Resistance coefficient (ASTM C518)
   4. Environmental:
      a. Mold/Mildew resistant. No fungal/algae growth and no visible disfigurement (ASTM D3273 & ASTM G21).
      b. Impermeable air and moisture barrier.
      c. Non-PVC: no off-gassing.
      d. HIPPA Compliant.
      e. 100% recyclable at end of life.

PART 3 – EXECUTION

3.1 PREPARATION

A. Wall and/or stud assembly to receive Wall Blokker must be structurally sound prior to installation.
B. Wall must be clean and free of debris.
   1. Protrusions greater than 1/16” shall be scraped from the surface to avoid puncturing.
C. See Section 1.6 for additional project condition requirements.

3.2 INSTALLATION

A. Starting in one corner of the room, install Wall Blokker flush with the top of the top plate, and hang it vertically.
B. Metal Studs:
   1. Attach Wall Blokker directly to the light gauge metal studs using drywall screws.
   2. Fasten every 12” horizontally along the top.
      a. Wall Blokker installed on walls greater than 15’ in height shall be secured with washers along the top to prevent the fasteners from tearing the material.
      b. Fasteners shall be used on intermediate studs (in addition to exterior studs) every 12’ vertically.
   3. Straighten Wall Blokker from the top down so that it is flush against the studs.
   4. Attach Wall Blokker to the center of each vertical stud using drywall screws.
   5. Fasten every 36” vertically along the center of each stud.

3.3 PROCEDURE

A. Install Wall Blokker as required on all walls.

B. Keep fasteners as flush as possible to prevent protrusion into the finished wallboard.
   1. Fasteners shall not protrude more than 1/16” from Wall Blokker surface.
C. Do NOT overlap the seams of separate sheets.
   1. Tightly butt the side of the next sheet of Wall Blokker to the edge of the existing attached sheet.
D. For seams that do not fall on a stud, tape with “Seam-Seal” or equivalent.
   1. If seams fall on the stud with gaps greater than 1/8”, then taping is also required.
   2. Ensure that there are no bubbles or wrinkles in the tape. Commercial tape alternatives include commercial duct tape.
   3. The tape is semi-permanent and will be permanently sealed in position when drywall is installed. Drywall installation will seal Wall Blokker against the existing studs.
E. Cut Wall Blokker to fit around irregular objects and penetrations including outlets, switches, and junction boxes.
   1. Gaps shall be less than 1/8”.
   2. Gaps greater than 1/8” shall be sealed with acoustical or non-hardening caulk.
   3. Gaps greater than 1/4” may be filled with backer rod or fiber batting.
   4. Putty pads should be installed on the back of all electrical boxes.
F. Caulk the bottom of the floor plate at the floor line with acoustical sealant.
G. Install drywall per normal technique (ASTM C840).
   1. Wall Blokker will be fastened permanently when the gypsum board is installed.
H. See Detailed Installation Instructions Figure 1 for diagrams.

END OF SECTION 098400

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SECTION 102641

BULLET RESISTANT PANELS

PART 1 – GENERAL

1.1 SUMMARY

A. Section includes bullet resistant fiberglass panels.

1.2 REFERENCES

A. American Society for Testing and Materials:
   1. ASTM E119-98 Standard Test for One-Hour Fire-Rating of Building Construction and Materials
   2. ASTM F1233-98 Standard Test Method for Forced Entry Testing of Materials/Assemblies, Class IV
B. International Organization for Standardization:
   1. ISO 9001:2015 Quality Management System.
C. National Institute of Justice Ballistic Standards:
   1. NIJ Standard 0108.01 – Type III-A.
D. Small Business Administration:
   1. SBA Small Business Size Standard.
E. Underwriters Laboratories:
   1. UL 752 Specifications and Ammunition, 11th Edition, Standard for Bullet Resisting Equipment published September 9, 2005, revised December 21, 2006, Level 7.
F. The United States Department of State:
   1. The International Traffic in Arms Regulations (ITAR).

1.3 SUBMITTALS

A. Submittals for Review: Submit for approval prior to fabrication.
   1. Product Data: Include specifications, brochures, and samples.
   2. Recommendations for installation of Bullet Resistant Fiberglass Panels available in print document and video link.
B. Certificates: Submit printed data to indicate compliance with following requirements.
   1. UL LISTING Verification and UL752 Current Test Results as provided by Underwriters Laboratories.
   2. ASTM E119-98 One-Hour Fire Rating of Building Construction and Materials.
   3. ASTM F1233-98 Standard Test Method for Forced Entry Testing of Materials/Assemblies.
   4. Manufacturer’s third party certificate of registration with ISO 9001:2015.
   5. Manufacturer’s U.S. Dept. of State ITAR Statement of Registration.
   6. Manufacturer’s SBA Profile verifying small business status by the SBA.

1.4 DELIVERY, HANDLING, AND STORAGE

A. Deliver materials to project with manufacturer's UL LISTED Labels intact and legible.
B. Handle material with care to prevent damage. Store materials inside under cover, stack flat and off the floor.

1.5 WARRANTY

A. Warrant all materials and workmanship against defects for a period of ten (10) years from the date of Substantial Completion.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A. North American Bullet Proof, 106 Guadalupe Drive, P.O. Box 628, Cibolo, TX 78108. Phone 888.746.8427, Fax 210.225.0984.

2.2 PERFORMANCE CRITERIA

A. Bullet Resistant Fiberglass Panels shall be "non ricochet type" to permit the encapture and retention of an attacking projectile lessening the potential of a random injury or lateral penetration.
B. Panel Rating: UL752 Level 7. Refer to Drawings for locations.
C. Bullet resistance of joints: equal to that of the panel.

2.3 MATERIALS

A. Panels fabricated of multiple layers of woven roving ballistic grade fiberglass cloth impregnated with a thermoset polyester resin and compressed into flat rigid sheets.
B. Thickness: 1-1/8" nominal thickness
C. Nominal Weight: 11.7 lbs. per sq. ft.
D. Available Panel Sizes: 3' x 10', 4' x 10', or 5' x 10'.
E. Panels manufactured in the United States of America with raw materials sourced from the U.S.A. for quality assurance purposes and to comply with any applicable "Buy American" provisions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to starting installation, verify work of related trades required in contract documents and architectural drawings is complete to the point where work of this Section may properly commence.

3.2 JOINTS

A. Reinforce joints with a back-up layer of bullet resistive material. Minimum width of reinforcing layer at joint shall be 4-inches, centered on panel joints.

3.3 APPLICATION

A. Install armor in accordance with manufacturer's printed recommendations and as required by contract documents.

B. Secure armor panels using screws, bolts, or an industrial adhesive.

1. Method of application shall install panels minimizing vulnerabilities by fitting tightly to adjacent surfaces including concrete floor slab, concrete roof slab, bullet resistive door frames, bullet resistive window frames, and the like.

END OF SECTION 102641

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SECTION 130700

BULLET RESISTANT WOOD DOORS AND CLAMP STYLE STEEL DOOR FRAMES

PART 1 - GENERAL

1.1 DESCRIPTION

A. WORK INCLUDED:
1. All labor, material, equipment, and services necessary to furnish and install bullet-resistant wood doors and steel doorframes to be located as shown on the construction drawings or as noted in the door and window schedules.
2. Related sections:
   a. Section 087100 " Door Hardware."

   b. Section 099123 "Interior Painting" for field painting hollow metal door frame.

B. RELATED DOCUMENTS:
1. Underwriters Laboratory, UL 752, Current Edition, Standard for Bullet-Resisting Equipment

1.2 QUALITY ASSURANCE

A. Ballistic Performance: Certification shall be furnished indicating that all materials have been tested in accordance with the appropriate test procedures.

B. Obtain bullet-resistant components through one source from a single manufacturer.

1.3 PREINSTALLATION MEETINGS

A. Pre-Installation Conference: Conduct conference at Project site. Attendance by representatives of Supplier, Installer, and Contractor to review proper methods and procedures for installing wood doors and steel frames.

1.4 SUBMITTALS

A. Shop Drawings shall be submitted for approval prior to the fabrication of materials. The drawings shall include plan views, elevations, sections, and details of the proposed installation including attachment methods.

B. Drawings shall indicate dimensions, component profiles, and material finishes.

C. Manufacturer's warranty and product data, glazing product information, and installation instructions shall be included with the submittal package.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Pack bullet-resistant components in wood crates for shipment. Glazing should be crated separately, unless doors are factory glazed.

B. All items shall be delivered, stored, and handled in a manner that will not damage or deform.

C. Abraded, scarred, or rusty areas shall be cleaned, repaired, or replaced immediately upon detection. Damaged items that cannot be restored to like-new condition shall be replaced.

D. Store crated components in a dry location on platforms or pallets that are adequately ventilated, free of dust, water, and other contaminants, and stored in a manner that permits easy access for inspection and handling.

1.6 JOB CONDITIONS

A. Field Measurements: Contractor shall verify frame openings by field measurement prior to fabrication and indicate measurements on Shop Drawings.
   1. Established Dimensions: If field measurements cannot be made without causing a delay, establish opening dimensions and proceed with fabrication of bullet-resistant frames without field measurements. Coordinate construction to insure that the actual opening dimensions correspond to the established dimensions.

1.7 WARRANTY

A. Warranty Period: Bullet-resistant components shall be warranted for a period of 12 months from the date of substantial completion.

B. Warranty is limited to material defects or workmanship and offered to North American Bullet Proof direct customers. Warranty is limited to replacement of product or refund of invoice price at North American Bullet Proof's discretion. Installation, shipping or other cost is not included in this warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. North American Bullet Proof, 106 Guadalupe Drive, P.O. Box 628, Cibolo, TX 78108. Phone 888.746.8427, Fax 210.225.0984.

1. Door locations are: Doors 101B and 102A.

2.2 MATERIALS

A. Bullet-Resistant Primed-Finish Steel Doors and Doorframes:
   1. Model – Shotgard® Series Bullet-Resistant WDR Primed-Finish Steel Door and Primed-Finish Steel Doorframe
   2. Frames, doors, and glazing shall be supplied to provide a complete assembly.
   3. Ballistic Resistance Performance Level: U.L. 752 Level 7.
   4. WDR integral door/frame system to provide ballistic overlap protection.
   5. WDR wood door to be constructed of 1/8" rotary cut white birch) veneered plywood door skins, with matching door edges, over Shotgard® fiberglass core with honeycomb filler panels and medium-

density fiberboard panels for hardware reinforcement. Appearance to match non-bullet resistant commercial door.

6. WDR Primed-Finish Steel Doorframe to be constructed of 12-gauge steel with mitered, continuously welded corners.
7. Frame Profile: 2" clamp-style frame (depth of frame, to be determined by wall thickness, from 4½ to 12¾ inches), lined with steel as required for ballistic protection level.
8. Viewlite to be a 4" x 22" visual opening; performance level of the glazing to match the performance level of the door.
9. Door to be pre-hung with 1100-lb. rated continuous-gear hinge with security pins.
10. Door and frame to be prepped for cylindrical lock and electric strike.
11. Testing: Independently tested to U.L. 752 to level specified.

2.3 WDR COMPONENTS

A. Hinge: The WDR steel door shall be supplied pre-hung, with an 1100-lb. rated continuous-geared hinge with tamper-resistant dogging pins.

B. Silencers: Silencers shall be provided at the strike-jamb stop.

C. Viewlite Glazing: Glazing material shall be factory-fabricated units designed to be bullet-resistant to the specified test standard. Glazing material shall be glass-clad polycarbonate with a low-spall protected interior face. Low-spall interior face shall meet or exceed requirements for spall resistance defined in U.L. 752.

D. Setting Blocks: provide ¼" x 1" x 4" rubber setting blocks for installation at the sill.

E. Anchor-hole Plugs: Provide decorative plugs to cover anchor-access holes.

F. Anchors and Sealants to be provided by installer.

2.4 FABRICATION

A. General: Fabricate bullet-resistant components to comply with indicated standards. Include a complete system for assembly and installation of bullet-resistant components.
   1. Provide doors that are capable of being reglazed from the secure side without dismantling the threat side of the frame.
   2. Prepare doors for glazing in the field, unless preglazing at the factory is indicated.
   3. Steel shall be free of scale, pitting, coil breaks, and finish work shall be neat and free of defects.

B. Framing: Miter corners the full depth of the frame. Continuously weld and dress smooth. No body fillers to be used.
   1. Install armor inside the frame in the thickness necessary for the ballistic resistance level indicated.
   2. Prep frame for standard 4⅞" ANSI strike at 40 inches above finished floor.
   3. Provide spreader at bottom of doorframe for protection during shipping, and for easier, cleaner installation.

C. Viewlite Stops: Provide a one-piece removable glazing stop, two-inch depth, made from 12-gauge steel, on the secure side of the frame attached with machine screws.
   1. Corners are to be mitered, welded, and dressed smooth.

2. Stops shall be installed in a location appropriate for the glazing thickness.
3. Wood moulding to match door skin shall be provided to cover steel stops with decorative screw covers at secure side stop.
4. The threat-side glazing stop shall be level7) welded-in-place 3/8” ballistic steel.

D. WDR: Fabricate wood doors with 1/8” rotary cut white birch-veneered plywood door skins.
1. Proprietary adhesive to be used to bond door skins to door structure.
2. Prep door for cylinder lockset to line-up with strike.

E. Hardware: Templates are to be provided to the door manufacturer by the hardware contractor. The installing contractor shall perform drilling and tapping for surface mounted hardware at the jobsite.

F. Metal Protection: Separate dissimilar metals to protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

H. No field alterations to the construction of the units fabricated under the specified standards shall be allowed unless approved by the manufacturer.

2.5 FINISHES

A. Provide shop-applied primer after fabrication to frames:

1. Primer: Rust inhibitive paint suitable as a base for finish paints.
2. Prior to shop painting, surfaces shall be cleaned with solvents to remove any grease or oil, and with power wire-brushing or sandblasting to remove loose rust, loose mill scale and other foreign substances.
3. Field paint and finish in accordance with, and as directed in, the Finish Section 9 of these Specifications.

B. Doors to be finished to match other wood doors. Refer to Drawings for finishes.

1. Prep and sand.
2. Stain to match.
3. Varnish to transparent finish, clear satin sheen.
4. Field finish in accordance with, and as directed in, the Finish Section 9 of these Specifications.

2.6 LABELING

A. Bullet-resistant components shall be plainly and permanently labeled. The label shall be compatible with finishes. The label shall be visible only on the secure side, after installation, and shall include:
1. Manufacturer’s name or identifying symbol
2. Model Number
3. Date of manufacture by month and year. This may be done through use of lot number or other traceable code.
4. Correct mounting position including threat side and secure side (by removable label on glazing material).
5. Code indicating bullet-resistant rating and test standard used (by removable label on glazing material).

PART 3 - EXECUTION

3.1 INSPECTION

A. Upon delivery, open the crate and inspect the contents for freight damage. If damaged, notify the freight company of the claim. Check the packing list to make sure all items are present. If any items are missing, notify North American Bullet Proof.

B. Prior to commencing installation, examine all areas to receive the bullet-resistant doors and frames to ensure that they are ready for installation. Components shall be checked and corrected for racking, twisting, and other malformation prior to installation. All surfaces and connections shall be examined for damage prior to installation.

C. Verify that the doors and frames comply with indicated requirements for type, size, and location.

D. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. The Contractor shall field verify dimensions of the finished openings. WDR clamp-style frames must be installed in a plumb, level, and square rough opening. The rough opening must be 3¼" larger in width and 1⅝" in height than the doorframe.

3.3 INSTALLATION

A. Install: Place the frame in the opening, centered on wall. Mark the anchor holes. Remove the frame and drill the anchor holes. Install the frame and shim for plumb/level. Secure with anchors. Note: all anchors provided by installer.

B. Test: Test the door for proper fit and operation. If required, remove the unit, adjust the shims, and reinstall. Install the anchor-hole plugs.

C. Finish: Seal all joints in and around the frame. Sand and finish the frame and door. Wait until all sealants and finishes are cured before operating.

D. Glazing: (Best done by professional glass installer) identify the secure and threat sides of the glass. Remove any protective cover from the glazing. Apply butyl tape to the viewlite stops. Place the rubber setting blocks in the opening (sill only). Install glazing, making sure it fits properly. Install the removable stop using the screws provided with the window. Apply sealant over butyl tape (sealant by installer).

3.4 ADJUST AND CLEAN

A. Use care and follow instructions for cleaning the glazing.

END OF SECTION 130700

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SECTION 130713

BULLET RESISTANT ALUMINUM TRANSACTION WINDOW FRAMES

PART 1 - GENERAL

1.1 DESCRIPTION

A. WORK INCLUDED:
1. All labor, material, equipment, and services necessary to furnish and install bullet-resistant aluminum glazing and frames to be located as shown on the construction drawings or as noted in the window schedule.
2. Related sections:
    a. Section 130700 “Bullet Resistant Wood Doors and Clamp Style Steel Door Frames.”
    b. Section 130713.16 “Bullet Resistant Security Glazing.”

B. RELATED DOCUMENTS:
1. Underwriters Laboratory, UL 752, Current Edition, Standard for Bullet-Resisting Equipment

1.2 QUALITY ASSURANCE

A. Ballistic Performance: Certification shall be furnished indicating that all materials have been tested in accordance with the appropriate test procedures.

B. Obtain bullet-resistant components through one source from a single manufacturer.

1.3 PREINSTALLATION MEETINGS

A. Pre-Installation Conference: Conduct conference at Project site. Attendance by representatives of Supplier, Installer, and Contractor to review proper methods and procedures for installing wood doors and steel frames.

1.4 SUBMITTALS

A. Shop Drawings shall be submitted for approval prior to the fabrication of materials. The drawings shall include plan views, elevations, sections, and details of the proposed installation including attachment methods.

B. Drawings shall indicate dimensions, component profiles, and material finishes.

C. Manufacturer’s warranty and product data, glazing product information, and installation instructions shall be included with the submittal package.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Pack bullet-resistant glazing frames in wood crates for shipment. Glazing should be crated separately,

unless frames are factory glazed.

B. All items shall be delivered, stored, and handled in a manner that will not damage or deform.

C. Abraded or scarred areas shall be cleaned, repaired, or replaced immediately upon detection. Damaged items that cannot be restored to like-new condition shall be replaced.

D. Store crated glazing frames in a dry location on platforms or pallets that are adequately ventilated, free of dust, water, and other contaminants, and stored in a manner that permits easy access for inspection and handling.

1.6 JOB CONDITIONS

A. Field Measurements: Contractor shall verify finished openings by field measurement prior to fabrication and indicate measurements on Shop Drawings.
   1. Established Dimensions: If field measurements cannot be made without causing a delay, establish opening dimensions and proceed with fabrication of bullet-resistant frames without field measurements. Coordinate construction to insure that the actual finished-opening dimensions correspond to the established dimensions.

1.7 WARRANTY

A. Warranty Period: Glazing frames shall be warranted for a period of 12 months from the date of substantial completion.

B. Warranty is limited to material defects or workmanship and offered to North American Bullet Proof direct customers. Warranty is limited to replacement of product or refund of invoice price at North American Bullet Proof's discretion. Installation, shipping or other cost is not included in this warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. North American Bullet Proof, 106 Guadalupe Drive, P.O. Box 628, Cibolo, TX 78108. Phone 888.746.8427, Fax 210.225.0984

2.2 MATERIALS

A. Bullet-Resistant Aluminum Glazing Frames:
   1. Model – Shotgard® Series Bullet-Resistant EXTW-A Aluminum Transaction Window
   2. Frames and glazing shall be supplied to provide a complete assembly.
   3. Ballistic Resistance Performance Level: U.L. 752 Level 7.
   4. EXTW-A Aluminum Transaction Window to be constructed of anodized aluminum frame, snap cover, and stop extrusions.
   5. Frame Profile: 2" x 4½" non-thermal frame, lined with steel as required for ballistic protection level, with removable stop.
   6. Mullion and Rail Profiles: 3" x 4½", lined with steel as required for ballistic protection level, with removable stop.
   7. Testing: Independently tested to U.L. 752 to level specified.

2.3 COMPONENTS

A. Glazing: Glazing shall be field installed. Glazing material shall be factory-fabricated units designed to be

bullet-resistant to the specified level. Glazing material shall be glass-clad polycarbonate, laminated glass] with a no-spall protected interior face. No-spall interior face shall meet or exceed requirements for spall resistance defined in U.L. 752

B. Glazing Cap: Provide an aluminum channel at the bottom edge of glazing to provide cover for exposed glazing edge.

C. Setting Blocks: provide ⅛" x 1" x 4" rubber setting blocks for installation at the sill.

D. EXTW Natural-Voice Transmission Blocks: Provide 2¾" rubber blocks to fit securely on glazing. Blocks are to be located at third-points along the vertical edge of the glazing (and horizontal edge for frames larger than 4'-0" wide) to allow for natural voice transmission around glazing.

E. Anchors and Sealants to be provided by installer.

2.4 ACCESSORIES

A. Counter: Provide plastic laminate Corian® counter.
1. Dimensions: (frame width) x 12" deep x 2" high.
2. Counter to have cutout for recessed deal tray installation.
3. All exposed surfaces to be Finish to No. 3 brushed finish.
5. Bolt the glazing frame to the counter using a stainless steel base plate.

B. Deal Tray: MDT-812 Series Stainless Steel Deal Tray
1. Formed from 16-gauge stainless steel with a curved shape and exposed flanges for recessed installation into a horizontal surface.
2. Nominal size: 12" wide by 8" deep by 1¾" high
3. Provide liner for Level 3 ballistic resistance.

C. Speaker: NASD-6 Series Stainless Steel Speak-Thru Device
1. Made from cast and polished stainless steel
2. Provide Mylar® draft shield for exterior applications.
3. Speaker to provide U.L. 752 Level 6protection.
4. Provide stainless steel backing plate with spacers for Level 6 protection.

2.5 FABRICATION

A. General: Fabricate bullet-resistant glazing frames to comply with indicated standards. Include a complete system for assembly and installation of bullet-resistant glazing frames.
1. Provide frames that are capable of being reglazed from the secure side without dismantling the threat side of the frame.
2. Prepare frames for glazing in the field.
3. Aluminum shall be free of scratches……, and finish work shall be neat and free of defects.

B. Framing: Straight-cut aluminum extrusions, fastened with no. 14 stainless steel screws into frames at corners (extruded screw boss)
1. Install armor inside the frame in the thickness necessary for the ballistic resistance level indicated.
2. Install snap covers over armor pocket

C. [Mullions/Rails: Straight-cut aluminum extrusions, fastened with no. 14 stainless steel screws into frames (extruded screw boss)]

D. Glazing Stops: Provide a screw-in-place, removable ⅞" glazing stop on the secure side of the frame.
1. Glazing stop finish to match frame finish.
2. The threat-side glazing stop shall be integral to the glazing frame.

E. Metal Protection: Separate dissimilar metals to protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape recommended by manufacturer for this purpose.

F. Any openings in glazing for speak-thru devices are to be factory-cut.

G. No field alterations to the construction of the units fabricated under the specified standards shall be allowed unless approved by the manufacturer.

2.6 FINISHES

1. Provide aluminum components with a clear anodized finish.

2.7 LABELING

A. Bullet-resistant glazing frames shall be plainly and permanently labeled. The label shall be compatible with finishes. The label shall be visible only on the secure side, after installation, and shall include:
1. Manufacturer's name or identifying symbol
2. Model Number
3. Date of manufacture by month and year. This may be done through use of lot number or other traceable code.
4. Correct mounting position including threat side and secure side (by removable label on glazing material).
5. Code indicating bullet-resistant rating and test standard used (by removable label on glazing material).

PART 3 - EXECUTION

3.1 INSPECTION

A. Upon delivery, the contractor shall open the crate and inspect the contents for freight damage. If damaged, notify the freight company of the claim. Check the packing list to make sure all items are present. If any items are missing, notify North American Bullet Proof.

B. Prior to commencing installation, the contractor shall examine all areas to receive the bullet-resistant glazing frames to ensure that they are ready for installation. Components shall be checked and corrected for racking, twisting, and other malformation prior to installation. All surfaces and connections shall be examined for damage prior to installation.

C. The contractor shall verify that the glazing frames comply with indicated requirements for type, size, and location.

D. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. The Contractor shall field verify dimensions of the finished openings. EXTW-A aluminum frames must

be installed in a plumb, level, and square finished opening. The finished opening must be ¼" larger in width and height than the window frame.

3.3 INSTALLATION

A. Install: Place the glazing frame unit in the opening, centered on wall. Mark the anchor holes. Remove the frame and drill the anchor holes. Install the frame and shim for plumb/level. Secure with anchors. Note: all anchors provided by installer.

B. Finish: Seal all joints around the frame (sealant by installer). Wait until all sealants are cured before the next step.

C. Glazing: (Best done by professional glass installer). Identify the secure and threat sides of the glazing. Remove any protective cover from the glazing. Install the aluminum glazing-cap, with setting blocks, along the bottom edge of the exposed glazing. Install the rubber blocks at equal points along the sides of the glazing. Install the glazing, making sure rubber blocks fit properly. Install the removable stop using the screws provided with the window unit.

3.4 CLEAN

A. Provide glass cleaning kit and instructions.

B. Use care and strictly follow instructions included with shipment for cleaning the glazing.

END OF SECTION 130713

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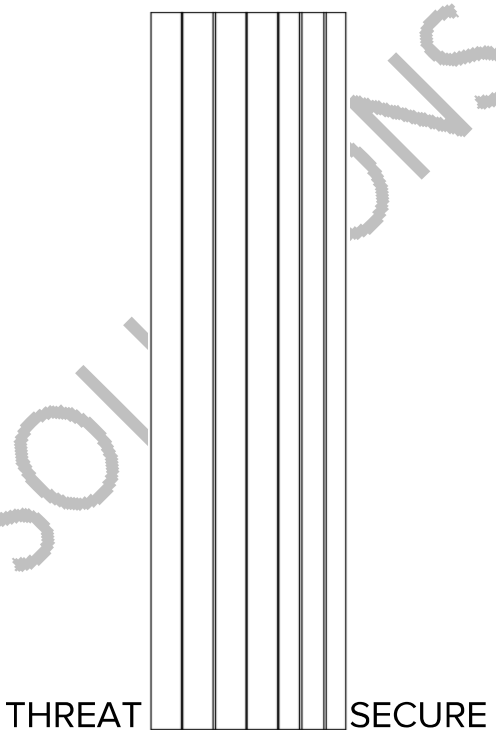
TOTAL SECURITY SOLUTIONS | PRODUCT SPECIFICATION SHEET

COMPONENTS

Threat Layer 1: 3/8" Glass
Layer 2: .025 Urethane
Layer 3: 3/8" Glass
Layer 4: .025 Urethane
Layer 5: 3/8" Glass
Layer 6: .025 Urethane
Layer 7: 3/8" Glass
Layer 8: .025 Urethane
Layer 9: 3/16" Glass
Layer 10: .05 Urethane
Layer 11: 1/4" Polycarbonate
Layer 12: .05 Urethane
Secure Layer 13: 3/16" Glass

GLASS CLAD POLYCARBONATE

PRODUCT: TSS 008 LS 2 5/16"



OPTIONS

- Reflective Glass
- One-Way Mirror
- Translucent White Interlayer (Frosted Layer)
- Tint (Gray, Bronze, Green, & Blue)
- Wire Glass
- Insulating Units
- Low E

More to choose from – Please inquire, as the size and thickness may not be available for every option.

PROPERTIES & SPECIFICATIONS

Protection	7.62 mm RMB
Ballistic Data	Velocity 1: 2750 ft/s Velocity 2: 3025 ft/s
Shots	5
Light Transmission	61%
Nominal Thickness	2 5/16"
Weight	26.71 lbs/sqft
Dimensional Tolerance	ASTM C 1349

BALLISTIC AND FORCED ENTRY RATING

- U.L. 752 Level 8 – 7.62 mm Rifle Military Ball
- NIJ Level 4

STANDARDS

- NSI Z971-1984 Safety Glazing Materials for Building
- ASTM C 1036 Standard Specifications for Flat Glass
- ASTM C 1172 Standard Specification for Laminated Architectural Flat Glass

HANDLING INFORMATION

It is imperative to clean the glazing unit during and after the construction period to maintain optimum performance and aesthetic properties. To clean, use a soft, clean cloth and a mild soap, detergent, or slightly acidic cleaning solution (such as vinegar). Wipe with a clean, lint-free cloth.

STANDARD WARRANTY

- Five years from date of manufacture

TOTAL **SECURITY** SOLUTIONS
P: 517.223.7807 | **info@tssbulletproof.com** | F. 517.223.0805 | 935 Garden Lane, Fowlerville, MI

PRODUCT DATA SHEET

SMARTGARD SECURITY GLAZING

BR7

PRODUCT #: BR7

DESCRIPTION:

A bullet resistant, no-spall asymmetrical laminate constructed with glass, and polycarbonate bonded together with adhesive interlayers and an abrasion resistant spall shield.

FEATURES:

- Bullet resistant – Level 7
- No spall

CONSTRUCTION:	PERFORMANCE DATA:
Proprietary BR7 Layers	Max Dimension: 60" x 96" (larger sizes may be available -contact us) Thickness: 1.522" Thickness Tolerance: 1.471" to 1.573" Weight: 15.69 Lbs. / Square Foot Ballistic Rating: UL752 Level 7 5.56 (M193) – 5 shots No penetration / No spall

U-VALUE	SHGC	VISUAL LIGHT TRANS..	SHADING COEFFICIENT	RELATIVE HEAT GAIN
.67	.60	.72	.69	146.53

**Calculated using LBL Window Software v7.7.1*

COMPLIANCES

- ASTM C1036 – Standard Specification – Flat Glass
- ASTM C1172 – Standard Specification for Laminated Architectural Flat Glass\
- ANSI Z97.1 - Safety Materials Used in Buildings
- CPSC 16 CFR 1201

INSTALLATION SPECIFICATIONS

AIT strongly suggests the use of a suitable structural security framing with an appropriate protection rating. Allow for a minimum of a (1) inch edge engagement in the frame with sufficient rabbet depth to allow for expansion (approximately 1/16"/FT).

** ALWAYS INSTALL WITH SPALL SHIELD TO THE "PROTECTION" SIDE **

For applications that do not require no-spall, or where glass if preferred on both sides, use AIT GCP1 ballistic products.

Larger lites may require deeper edge engagements. It is imperative to the life and durability of certain composite types that compatible sealant or gasket material is used on both sides of the laminate. An appropriate sealant solution can be specified by AIT if required. The AIT Group produces the finest glass and composite laminates in the world, proper care during installation will ensure years of superior performance.

ADD-ON OPTIONS & ADDITIONAL INFO

Additional options include: Instantly switchable SmartGlass electronic privacy adds-on, Pilkington Mirropane®, Hard Coated Low E, Insulated Units, Tints, Fire resistant glass, Graphics or decorative Smart Designs, and more. Contact AIT for all available options or for a custom make-up design.

FOR MORE INFORMATION, PLEASE CONTACT:
Advanced Impact Technologies (AIT)
Tel: (727) 287-4620 • Fax: (727) 431-9834 • www.Advanced-Impact.com