



Amendment 1 Amphitheater Public School AHS – 500 Wing Renovations

AMENDMENT ONE – Date: April 29, 2022

The following Amendment shall be incorporated in the Contract Documents of the above project, and all requirements herein are fully a part of the Contract Documents.

DOCUMENTS ISSUED:

- Attachment 1 – Responses to Bid-walk questions
- Attachment 2 – Spec Section 087100 Door Hardware
- Attachment 3 – Spec Section 102800 Toilet, Bath, and Toilet Accessories
- Attachment 4 – Sheet C1 Site Plan
- Attachment 5 – Sheet AS1.1 Site Plan, Site Details
- Attachment 6 – Sheet AS1.3 Enlarged Site Plans
- Attachment 7 – Sheet AD1.1 Demolition Plans
- Attachment 8 – Sheet A2.1 Floor Plan, Reflected Ceiling Plan
- Attachment 9 – Sheet A8.1 Opening Schedule, Door and Frame Types
- Attachment 10 – Sheet A9.1 Finish Schedule
- Attachment 11 – Sheet A10.2 Details
- Attachment 12 – Sheet M1.1 Mechanical Plan
- Attachment 13 – Sheet MP1.1 Mechanical Specifications
- Attachment 14 – Sheet E5.0 Electrical Power Plan

SPECIFICATIONS:

1. Replace: Section 087100 Door Hardware with Attachment 2.
2. Add: Section 102800 Toilet, Bath, and Toilet Accessories.

DRAWINGS:

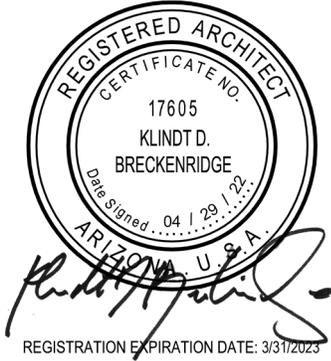
1. Clarification: Sheet C1 – revised keynote 14
 2. Clarification: Sheet AS1.1 – revised reference callouts
 3. Clarification: Sheet AS1.3 – revised gate callout
 4. Clarification: Sheet AD1.1 – keynote 7 has been added to RCP
 5. Clarification: Sheet A2.1 – revised millwork callout, removed keynote 1 from RCP
 6. Clarification: Sheet A8.1 – hardware information has been added to schedule
 7. Clarification: Sheet A9.1 – revised finish schedule for room 501
 8. Clarification: Sheet A10.2 – revised callouts for details 1 and 5
 9. Clarification: Sheet M1.1 – General Note 10 added, note 3 has been removed
 10. Clarification: Sheet MP1.1 – added detail 1 with controls information
 11. Clarification: Sheet E5.0 – added note for fire alarm system
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**Amendment 1
Amphitheater Public School
AHS – 500 Wing Renovations**

BID-WALK QUESTIONS:

1. Refer to attached RFI log for answers



END OF AMENDMENT ONE

AMPHI - AHS - 500 WING RENOVATION BG# 14.14.65		
ORGANIZATION	QUESTION	RESPONSE
ARCH	In the specifications it list the Toilet, Bath & Laundry Accessories, but I do not see anything for the specifications for the toilet paper dispenser. Can you provide us with the specifications?	Spec Section 102800 Toilet, Bath, and Toilet Accessories has been added.
MECH	Would the District like to see a deductive alternative for standard efficiency rooftop HVAC units in lieu of high efficiency?	The units specified are the lowest efficiency allowed by the current code
MECH	Will there be an addendum published to show a building controls detail and scope of work?	Control details are now part of construction documents and are included within the addendum
CIVIL	Drawing C1 Keynote 14 is not shown on the drawing. Is there a bench to be placed on the exterior of 500 wing?	Keynote 14 had been added to the plans and changed to "Entry Monument" (keynote 6 was labeled incorrectly)
CIVIL	Drawing C1 Keynote 6 in the hardscape points to the monolith, but calls for ADA parking space. Please confirm no parking or designated parking on the new hardscape.	This keynote 6 was labeled incorrectly and have been changed to keynote 14.
ARCH	Drawing AS1.1 multiple reference to AS1.0 in the detail sections. AS1.0 not provided. Please provide or clarify AS1.0 reference.	References from AS1.0 have been changed to AS1.1
ARCH	AS1.3 shows wo monolith structures, one at building 500 per detail 1 on AS1.2, and one smaller monolith at Stone Ave per detail 1 on AS1.2 per the Scope of services there is one additional monolith sign for a total of three. The drawings do not show/reference three signs on AS1.3, on AS1.1, site plan, there is a reference detail on east gate for two of the smaller monoliths (detail 2 on AS1.2) on each side of the gate. How many Monoliths, and what locations?	There are a total of 4 monoliths. 1 large monolith at plaza/entry. 2 smaller ones at east parking lot gate. 1 smaller one by Stone Ave., with lettering.
ARCH	AS1.3 there is a refence to a gate east of the gate entrance shown on AS1.1 and C1. Please confirm the quantity of the gates for this solicitations.	See sheets AS1.1 and AS1.3

ARCH	AD1.1 There is no reference to Keynote 7 on the demo plan.	Reference for Keynote 7 has been added. See sheet AD1.1
DISTRICT	There are bid alternates shown on the reflective ceiling plan. There are not line items on the bid pricing sheet for bid alternates. How do we show the bid alternates on A2.1?	Bid documents will now be included as line items on Bid Docs
ARCH	A2.1 case work in room 504 reference details on A4.1 There are no details for this case work. Please confirm details for the case work are shown on A10.2.	Reference for caseworks has been changed to A10.2
ARCH	A2.1 keynote 2 states to power was length of exterior wall. Spec section 040120.52 is cleaning masonry walls. Are these the walls that will require cleaning with specified products? Do the interior walls require the specified cleaning?	See sheet AS1.3. Only exterior wall will be cleaned.
ARCH	A2.1 Keynote 1 is shown on the RCP with typ. What is keynote 1 on the RCP reference for?	Keynote on RCP has been removed
ARCH	A2.2 roof plan, is the current roof under warranty? What is the current roofing systems?	Roof is not under warranty. (E) roof system is unknown.
ARCH	A2.2 keynote 1 states to paint the perimeter facia, please provide paint color and type, not shown on finish schedule.	Color will be provided by District to awarded bid.
ARCH	A4.1, detail 4 kitchenette shows symbols above the lower cabinets that refer to paper towel dispenser and liquid soap dispenser. Do we need to factor install of these accessories in the kitchenette? Also do these accessories need backing for install?	All wall mounted items will need backing and will be part of project.
ARCH	A4.1 keynote 1, toilet tissue dispenser, is this accessory a OPIC?	Item is to be part of the contract.
ARCH	A8.1 opening schedule does not provide hardware schedule. Section 087100, paragraph 2.2.A.1 "Door hardware is scheduled on the drawings" please provide door hardware schedule.	Hardware is now in door schedule

ARCH	A9.1 Roof Finish Schedule is missing data, i.e., there are three different ceramic tiles (CT-1, CT-2 & CT-3) the finish schedule only shows CT-1 (mosaic tile) throughout the toilet room. Elevations on A4.1 show subway tiling with a mosaic band. Please provide further information on the finish schedule.	Information has been added to finish schedule.
ARCH	A10.2 Detail 5 reference drawings A5.1, Please provide drawings A5.1.	References have been updated
ARCH	Spec Section 102800 missing please provide	Spec Section 102800 Toilet, Bath, and Toilet Accessories has been added.
DISTRICT	Please provide hazardous material report.	District will provide and will conduct abatement if needed.
DISTRICT/ ARCH	The drawings/specifications do not call out Fire Alarm system. Please advise if the fire alarm system is part of the scope and outline the scope.	Fire alarm system will be part of the scope. Note in drawing has been added to address scope of work.

PART 1 - GENERAL

1.1 SUMMARY

Section Includes:

Mechanical door hardware for the following:

Swinging doors.

1.2 ACTION SUBMITTALS

Product Data: For each type of product.

Door hardware schedule.

Keying schedule.

1.3 INFORMATIONAL SUBMITTALS

Sample warranty.

1.4 CLOSEOUT SUBMITTALS

Maintenance data.

1.5 QUALITY ASSURANCE

Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and of an Architectural Hardware Consultant who is available during the course of the Work to consult Contractor, Architect, and Owner about door hardware and keying.

Scheduling Responsibility: Preparation of door hardware and keying schedule.

1.6 WARRANTY

Special Warranty: Manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

Warranty Period: Three years from date of Substantial Completion unless otherwise indicated below:

Lockset: 10 & 5 years from date of Substantial Completion.

Manual Closers: 30 years from date of Substantial Completion.

Exit Devices: 3 years from date of Substantial Completion.

**SECTION 087100
DOOR HARDWARE**

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

Fire-Rated Door Assemblies: Where fire-rated doors are indicated, provide door hardware complying with NFPA 80 that is listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

Means of Egress Doors: Latches do not require more than 15 lbf to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.

Accessibility Requirements: For door hardware on doors in an accessible route, comply with the DOJ's "2010 ADA Standards for Accessible Design" and ICC A117.1.

2.2 SCHEDULED DOOR HARDWARE

Provide products for each door that comply with requirements indicated in Part 2 and door hardware schedule.

Door hardware is scheduled in Part 3.

2.3 HINGES

Hinges: BHMA A156.1. Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.

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

Ives Allegion plc.

2.4 MECHANICAL LOCKS AND LATCHES

Lock Functions: As indicated in door hardware schedule.

Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:

Bored Locks: Minimum 1/2-inch latchbolt throw.

Deadbolts: Minimum 1-inch bolt throw.

Lock Backset: 2-3/4 inches unless otherwise indicated.

Lock Trim:

Levers: Cast.

Escutcheons (Roses): Wrought.

Dummy Trim: Match lever lock trim and escutcheons.

**SECTION 087100
DOOR HARDWARE**

Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.

Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.

Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.

Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.

Rabbit Front and Strike: Provide on locksets for rabbeted meeting stiles.

Locks: BHMA A156.2; Grade 1; Series 4000 & Series 1000

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

Schlage ND RHO & L9000 06A Allegion plc.

2.5 LOCK CYLINDERS

Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver. Provide cylinder from same manufacturer of locking devices.

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

Schlage Allegion plc Primus.

Standard Lock Cylinders: BHMA A156.5; Grade 1 permanent cores; face finished to match lockset.

Core Type: Interchangeable as listed in hardware sets.

Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.

Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.

2.6 KEYING

Keying System: Factory registered, complying with guidelines in BHMA A156.28, appendix. Provide one extra key blank for each lock.

Grand Master Key System: Change keys, a master key, and a grand master key operate cylinders.

Provide three cylinder change keys and five each of master and grand master keys.

Existing System:

Master key or grand master key locks to Owner's existing system.

Re-key Owner's existing master key system into new keying system.

Keyed Alike: Key all cylinders to same change key.

**SECTION 087100
DOOR HARDWARE**

Keys: Nickel silver.

Stamping: Permanently inscribe each key with a visual key control number and include the following notation:

Notation: "DO NOT DUPLICATE."

2.7 OPERATING TRIM

Operating Trim: BHMA A156.6; stainless steel unless otherwise indicated.

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

Allegion plc.

2.8 SURFACE CLOSERS

Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written instructions for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

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

LCN 4040XP Allegion plc.

2.9 MECHANICAL STOPS AND HOLDERS

Wall- and Floor-Mounted Stops: BHMA A156.16.

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

Ives / Glen-Johnson Allegion plc.

2.10 EXIT DEVICES

Exit Devices: BHMA A156 all to be U.L. approved for casualty. Provide cylinders as required by exit device for proper operation, as indicated in the hardware schedule.

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

A. Von Duprin 99 Allegion plc.

**SECTION 087100
DOOR HARDWARE**

2.11 GASKETING

Door Gasketing: BHMA A156.22; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

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

National Guard Products, Inc.
Pemko Manufacturing Co.
Zero International, Inc.

Maximum Air Leakage: When tested according to ASTM E283 with tested pressure differential of 0.3-inch wg, as follows:

Gasketing on Single Doors: 0.3 cfm/sq. ft. of door opening.

2.12 THRESHOLDS

Thresholds: BHMA A156.21; fabricated to full width of opening indicated.

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

National Guard Products, Inc.
Pemko Manufacturing Co.
Zero International, Inc.

2.13 METAL PROTECTIVE TRIM UNITS

Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch-thick stainless steel; with manufacturer's standard machine or self-tapping screw fasteners.

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

Allegion plc.

2.14 AUXILIARY DOOR HARDWARE

Auxiliary Hardware: BHMA A156.16.

2.15 FINISHES

Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.

**SECTION 087100
DOOR HARDWARE**

PART 3 - EXECUTION

3.1 INSTALLATION

Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.

Custom Steel Doors and Frames: HMMA 831.

Wood Doors: DHI's "Recommended Locations for Architectural Hardware for Wood Flush Doors."

Install each door hardware item to comply with manufacturer's 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. Do not install surface-mounted items until finishes have been completed on substrates involved.

Hinges: Install types and in quantities indicated in door hardware schedule, but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

Lock Cylinders: Install construction cores to secure building and areas during construction period.

Replace construction cores with permanent cores as directed by Owner.

Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Section 079200 "Joint Sealants."

Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

Do not notch perimeter gasketing to install other surface-applied hardware.

Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.2 ADJUSTING

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.

3.3 HARDWARE SCHEDULE

While the following hardware sets are intended to cover all doors, and establish a type and standard of quality, it is the responsibility of the hardware supplier to examine the plans and specifications and furnish proper hardware for all openings. The hardware supplier shall review the entire specification versus the door schedule and notify the architect of any errors, inconsistencies, or omissions during the bid period.

**SECTION 087100
DOOR HARDWARE**

3.4 PROJECT INFO

A. OPT0250141, V1, 02.22.2022

3.5 HARDWARE SETS

HARDWARE GROUP NO. 01

For use on Door #(s):

500A

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	[Icon]	630	IVE
1	EA	VANDL STORAGE LOCK	ND96TD RHO	[Icon]	626	SCH
1	EA	PRIMUS CORE	20-740	[Icon]	626	SCH
1	EA	SURFACE CLOSER	4040XP SCUSH TBWMS	[Icon]	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	[Icon]	630	IVE
1	EA	RAIN DRIP	142AA	[Icon]	AA	ZER
1	EA	WEATHERSTRIP	8303A	[Icon]	AA	ZER
1	EA	SWEEP	39A	[Icon]	A	ZER
1	EA	THRESHOLD	8655A-223	[Icon]	A	ZER

HARDWARE GROUP NO. 02

For use on Door #(s):

501A

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	[Icon]	652	IVE
1	EA	PRIV W/INDICATOR	L9440 06A L583-363 L283-722	[Icon]	626	SCH
1	EA	CLOSER	4040XP REG TBWMS	[Icon]	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	[Icon]	630	IVE
1	EA	WALL STOP	WS401/402CCV	[Icon]	626	IVE
1	EA	GASKETING	188S	[Icon]	BK	ZER

HARDWARE GROUP NO. 03

For use on Door #(s):

502A

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	[Icon]	652	IVE
1	EA	CLASSROOM DEAD LOCK	L463T	[Icon]	626	SCH
1	EA	PRIMUS CORE	20-740	[Icon]	626	SCH
1	EA	PUSH PLATE	8200 6" X 16"	[Icon]	630	IVE
1	EA	PULL PLATE	8305 10" 4" X 16"	[Icon]	630	IVE
1	EA	CLOSER	4040XP REG TBWMS	[Icon]	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	[Icon]	630	IVE
1	EA	WALL STOP	WS401/402CCV	[Icon]	626	IVE
3	EA	SILENCER	SR64	[Icon]	GRY	IVE

**SECTION 087100
DOOR HARDWARE**

HARDWARE GROUP NO. 04

For use on Door #(s):

503A

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	📄	652	IVE
1	EA	STOREROOM LOCK	ND80TD RHO	📄	626	SCH
1	EA	PRIMUS CORE	20-740	📄	626	SCH
1	EA	OH STOP	90S	📄	630	GLY
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	📄	630	IVE
3	EA	SILENCER	SR64	📄	GRY	IVE

HARDWARE GROUP NO. 05

For use on Door #(s):

504A 504B

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	📄	630	IVE
1	EA	EXIT DEVICE	99-NL-OP	📄	626	VON
1	EA	RIM HOUSING	20-079	📄	626	SCH
1	EA	PRIMUS CORE	20-740	📄	626	SCH
1	EA	DOOR PULL	VR910 NL	📄	630	IVE
1	EA	OH STOP	90S	📄	630	GLY
1	EA	SURFACE CLOSER	4040XP EDA ST-2731 TBWMS	📄	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	📄	630	IVE
1	EA	RAIN DRIP	142AA	📄	AA	ZER
1	EA	WEATHERSTRIP	8303A	📄	AA	ZER
1	EA	SWEEP	39A	📄	A	ZER
1	EA	THRESHOLD	8655A-223	📄	A	ZER

HARDWARE GROUP NO. 06

For use on Door #(s):

505A 505B 505D

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
1	EA	TOP PATCH FITTING	CRL AS REQUIRED		626	CRL
1	EA	BOTTOM PIVOT	CRL AS REQUIRED		626	CRL
1	EA	TOP PIVOT	CRL AS REQUIRED		626	CRL
1	EA	BOTTOM RAIL	CRL AS REQUIRED		626	CRL
1	EA	BTB DOOR PULL	PR 9266F 18"	📄	630	IVE
1	EA	FLOOR STOP	FS436	📄	626	IVE

HARDWARE GROUP NO. 07

For use on Door #(s):

505C

Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER		FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4 NRP	📄	652	IVE
1	EA	STOREROOM LOCK	ND80TD RHO	📄	626	SCH
1	EA	PRIMUS CORE	20-740	📄	626	SCH
1	EA	OH STOP	90S	📄	630	GLY
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	📄	630	IVE
3	EA	SILENCER	SR64	📄	GRY	IVE

END OF SECTION

**SECTION 102800
TOILET, BATH, AND LAUNDRY ACCESSORIES**

**ADDENDUM 1
ATTACHMENT 3**

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.
 - 2. Public-use shower room accessories.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

- A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

- A. Maintenance data.

PART 2 - PRODUCTS

2.1 PUBLIC-USE WASHROOM ACCESSORIES

- A. Toilet Tissue (Roll) Dispenser:
 - 1. Products: Subject to compliance with requirements, provide the following:
 - a. Palmer Fixture Company; RD0348-17 Single 14" Jumbo Tissue Dispenser.
 - 2. Mounting: Surface mounted.
 - 3. Toilet Tissue Dimensions: 14" dia. X 4-1/4" deep.
 - 4. Material and Finish: White.

- B. Paper Towel (Roll) Dispenser:
 - 1. Products: Subject to compliance with requirements, provide the following:
 - a. Georgia-Pacific Consumer Products; 543338 Translucent Smoke Push Paddle Roll Paper Towel Dispenser.
 - 2. Description: Lever-actuated mechanism permitting controlled delivery of paper rolls in preset lengths per stroke.
 - 3. Mounting: Surface mounted.
 - 4. Material and Finish: Break resistant plastic, translucent smoke.

**SECTION 102800
TOILET, BATH, AND LAUNDRY ACCESSORIES**

C. Grab Bar:

1. Mounting: Flanges with concealed fasteners.
2. Material: Stainless steel, 0.05 inch thick.
 - a. Finish: Smooth, No. 4 finish (satin).
3. Outside Diameter: 1-1/2 inches.
4. Configuration and Length: As indicated on Drawings.

2.2 PUBLIC-USE SHOWER ROOM ACCESSORIES

A. Shower Curtain Rod:

1. Description: 1-1/4-inch OD; fabricated from nominal 0.05-inch-thick stainless steel.
2. Mounting Flanges: Stainless-steel flanges designed for exposed fasteners.
3. Finish: Stainless steel, No. 4 finish (satin).

B. Shower Curtain:

1. Products: Subject to compliance with requirements, provide the following:
 - a. Gary Manufacturing; 10g Pebble PVC Film.
2. Size: Minimum 6 inches wider than opening by 80 inches high.
3. Material: Nylon-reinforced vinyl, minimum 10 oz. or 0.008-inch-thick vinyl, with integral antibacterial agent and weighted bottom.
4. Color: White.
5. Grommets: Corrosion resistant at minimum 6 inches o.c. through top hem.
6. Shower Curtain Hooks: Chrome-plated or stainless-steel, spring wire curtain hooks with snap fasteners, sized to accommodate specified curtain rod. Provide one hook per curtain grommet.

C. Folding Shower Seat:

1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Barrier Free Architecturals, Inc.; 60/61 Series (with legs).
 - b. Tubular Specialties Manufacturing, Inc.; 734-A.
2. Configuration: L-shaped seat, designed for wheelchair access.
3. Seat: White vinyl padded seat.
4. Mounting Mechanism: Stainless steel, No. 4 finish (satin).
5. Dimensions: 34 inches by 21 inches.

D. Robe Hook:

1. Products: Subject to compliance with requirements, provide the following:
 - a. Bobrick.; B-671.
2. Description: Single-prong unit.
3. Material and Finish: Stainless steel, No. 4 finish (satin).

**SECTION 102800
TOILET, BATH, AND LAUNDRY ACCESSORIES**

2.3 FABRICATION

- A. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

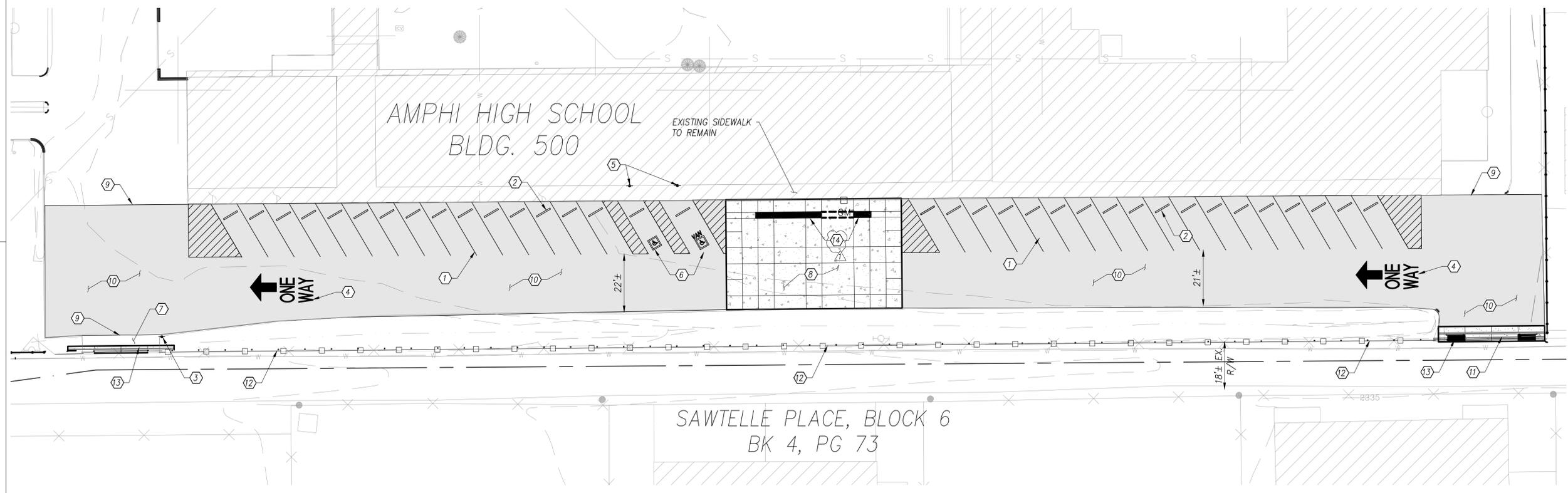
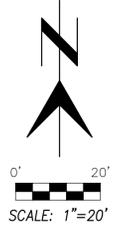
3.1 INSTALLATION

- A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
- B. Grab Bars: Install to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

END OF SECTION

CONSTRUCTION KEYNOTES

- ① NEW STRIPING (TYP.) PER PARKING DETAIL B, SHT C2
- ② NEW WHEEL STOP (TYP.) PER DETAIL A SHT C2
- ③ NEW SIGNAGE "DO NOT ENTER, EXIT ONLY"
- ④ NEW PAVEMENT STRIPING, "ONE WAY"
- ⑤ ACCESSIBLE SIGN MOUNTED TO WALL PER DTL D SHT C2
- ⑥ ADA AND VAN ADA PARKING SPACE PER DTL C SHT C2
- ⑦ EXISTING CONCRETE APRON TO REMAIN
- ⑧ REMOVE EXISTING PAVEMENT AND REPLACE WITH NEW CONCRETE HARDSCAPE PER ARCHITECTURAL DETAILS. 6" PCCP 4" AB. ELEVATIONS PER DETAIL C SHT C2. EXISTING UTILITY BOXES TO BE ADJUSTED TO FINISHED GRADE.
- ⑨ SAWCUT, TRIM, TACK, AND JOIN NEW PAVEMENT TO EXISTING PAVEMENT
- ⑩ REMOVE EXISTING PAVEMENT AND REPLACE WITH NEW PAVEMENT, 2.5" AC/4" AB. MATCH EXISTING PAVEMENT ELEVATIONS EXCEPT WHERE NOTED ON PLANS. EXISTING UTILITY BOXES TO BE ADJUSTED TO FINISHED GRADE.
- ⑪ NEW 12" WIDE CONCRETE HEADER IN LINE WITH ROLL GATE PER PAG STD 213
- ⑫ REPLACE EXISTING CHAINLINK FENCE WITH NEW WROUGHT IRON FENCE, SEE ARCHITECTURAL DETAILS
- ⑬ NEW ROLL GATE, SEE ARCHITECTURAL DETAILS
- ⑭ NEW ENTRY MONUMENT, PER ARCHITECTURAL DETAILS.



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ADDENDUM 1
 ATTACHMENT 4

Amphitheater Public Schools
Amphitheater High School
 500 Wing Renovation



PROJECT NO:
 17.14.65

DATE:
 MARCH 2022

REVISION SCHEDULE:	DATE	DESCRIPTION	ISSUED TO
1	4/28/2022	CORRECTIONS	

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 Engineering and Environmental Consultants, Inc.
 555 E River Road | Tucson, Arizona 85704
 Tel 520.321.4625 | Fax 520.321.0333

civil engineering • land development
 surveying • environmental services
 staking • flood control and drainage
 transportation

Site Plan
C1

CHECKED BY:
 DRAWN BY:

Construction General Notes

1. DASHED LINES THAT INDICATE LIMITS OF WORK ARE APPROXIMATE FOR GENERAL REFERENCE ONLY. ACTUAL LIMITS OF WORK MAY EXTEND BEYOND & OUTSIDE THE GRAPHIC LIMITS SHOWN WITH PERMISSION FROM THE OWNER.
2. ALL EXISTING SITE SURVEY INFORMATION INDICATED ON THIS SHEET WAS OBTAINED FROM A SITE SURVEY BY ENGINEERING AND ENVIRONMENTAL CONSULTANTS, INC. DATED OCTOBER 2, 2017.
3. CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFYING LOCATION AND INVERT OF ALL EXISTING UTILITY LINES AND PROTECTING SAME DURING ALL PHASES OF CONSTRUCTION. ALL DAMAGED EXISTING UTILITY LINES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITION AT NO COST TO THE OWNER.
4. REFER TO SHEET ASD1.0 FOR REQUIRED DEMOLITION.

Construction Keynotes

- 1 ASPHALT PAVEMENT, SEE CIVIL.
- 2 CONCRETE PAVEMENT, SEE CIVIL.
- 3 SITE FENCE.

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ADDENDUM 1
ATTACHMENT 5

Amphitheater Public Schools
Amphitheater High School
500 Wing Renovation



PROJECT NO:
17.14.65

DATE:
APRIL 2022

#	DATE	DESCRIPTION	ISSUED TO
1	04/29/22	AMENDMENT ONE	

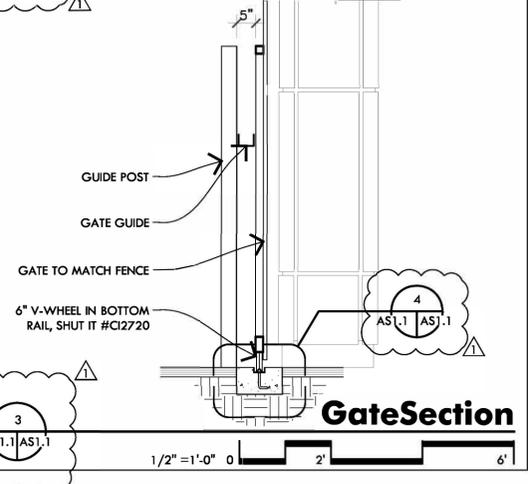
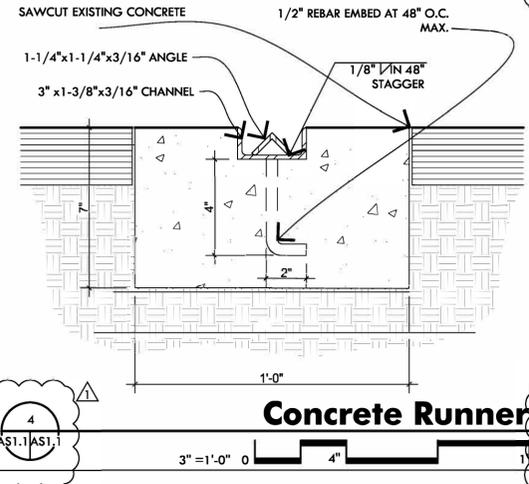
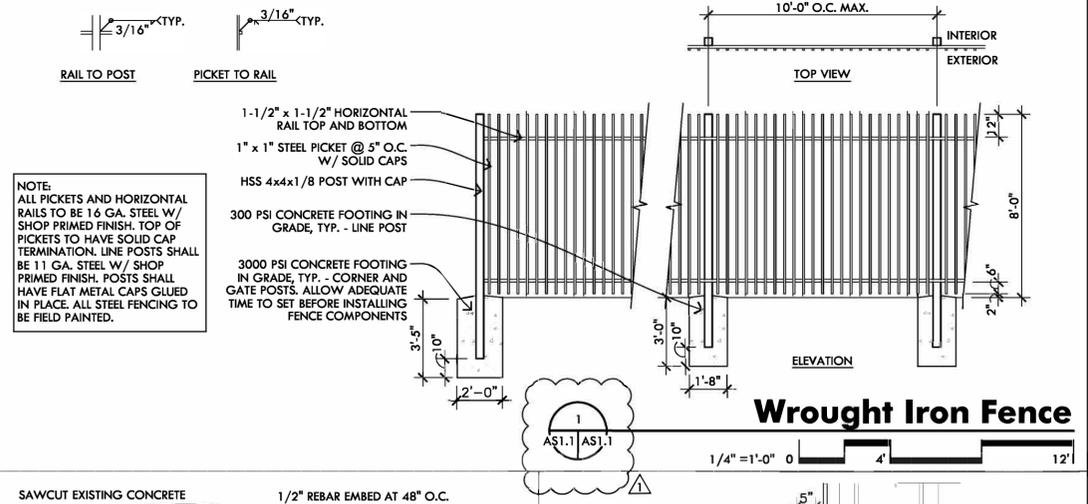
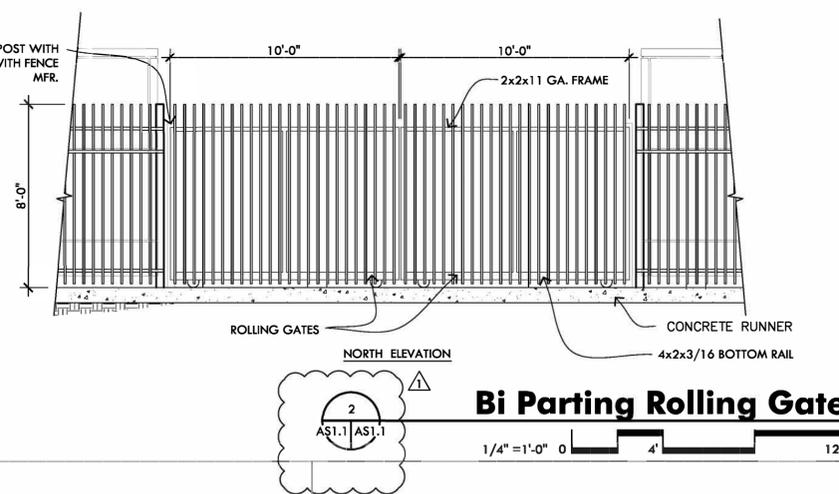
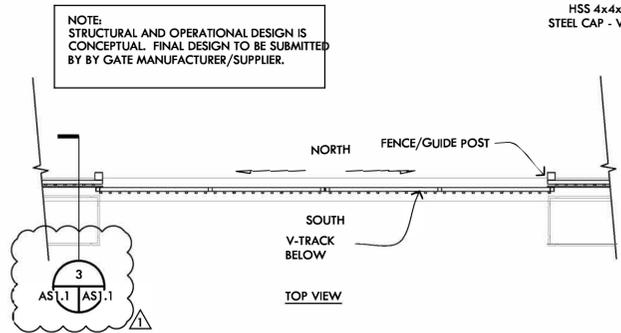
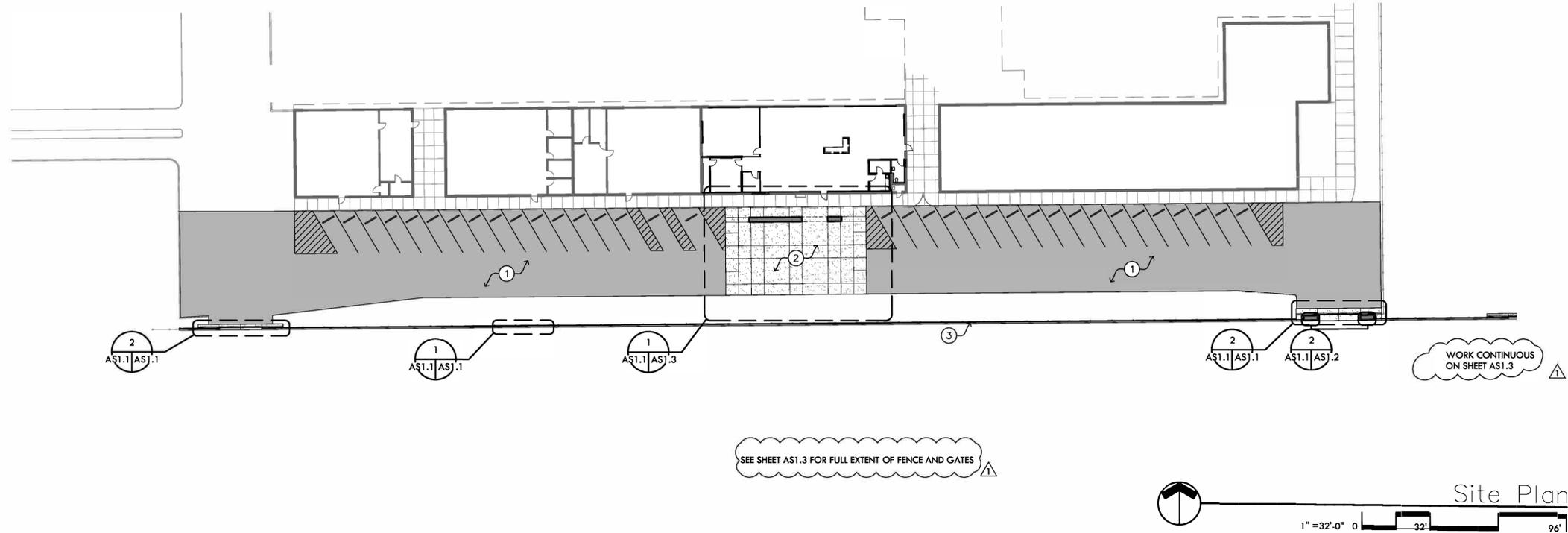
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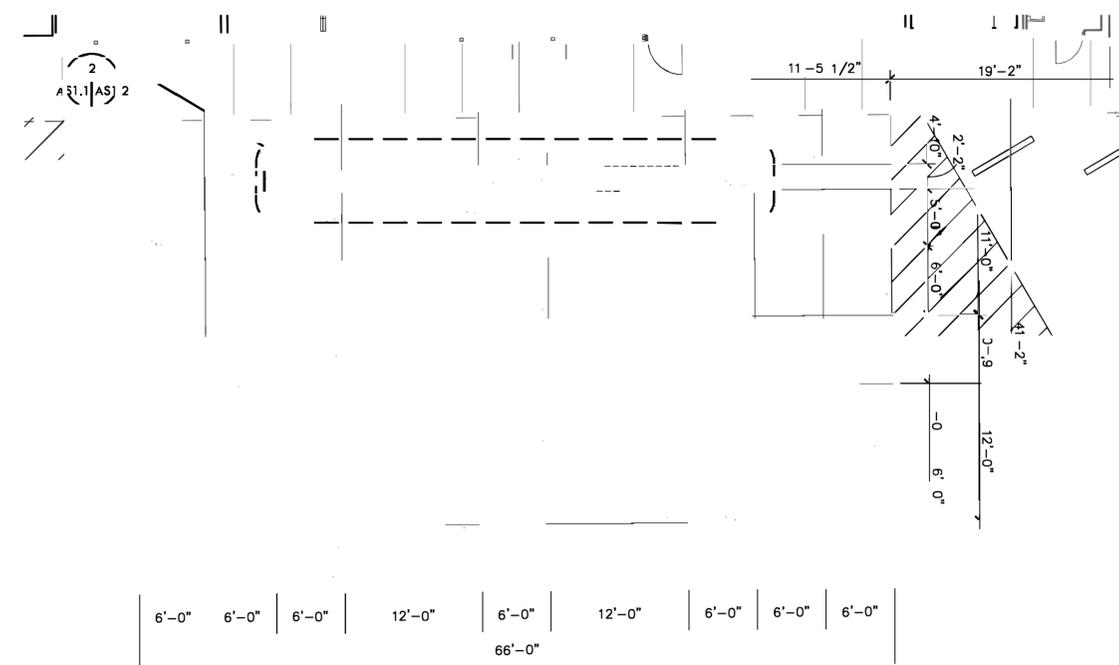
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Site Plan
Site Details

AS1.1



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Enlarged Plaza Plan
 1/8" = 1'-0" 0 32' 96'

Construction General Notes

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2. ALL EXISTING SITE SURVEY INFORMATION INDICATED ON THIS SHEET WAS OBTAINED FROM A SITE SURVEY BY ENGINEERING AND ENVIRONMENTAL CONSULTANTS, INC. DATED OCTOBER 2, 2017.
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4. REFER TO SHEET ASD1.0 FOR REQUIRED DEMOLITION.

Construction Keynotes

- ① ASPHALT PAVEMENT, SEE CIVIL.
- ② CONCRETE PAVEMENT, SEE CIVIL.
- ③ POWER WASH EXTERIOR WALL (BRICK AND STUCCO).

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ADDENDUM 1
 ATTACHMENT 6

Amphitheater High Schools
Amphitheater High School
 500 Wing renovation



PROJECT NO:
 17.14.65

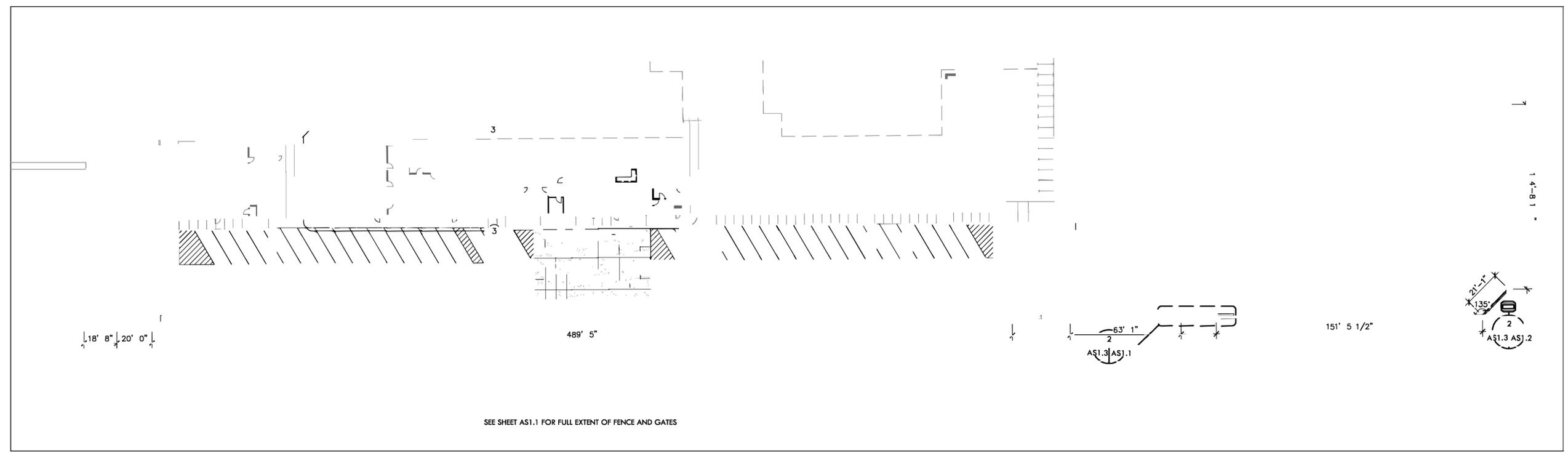
DATE:
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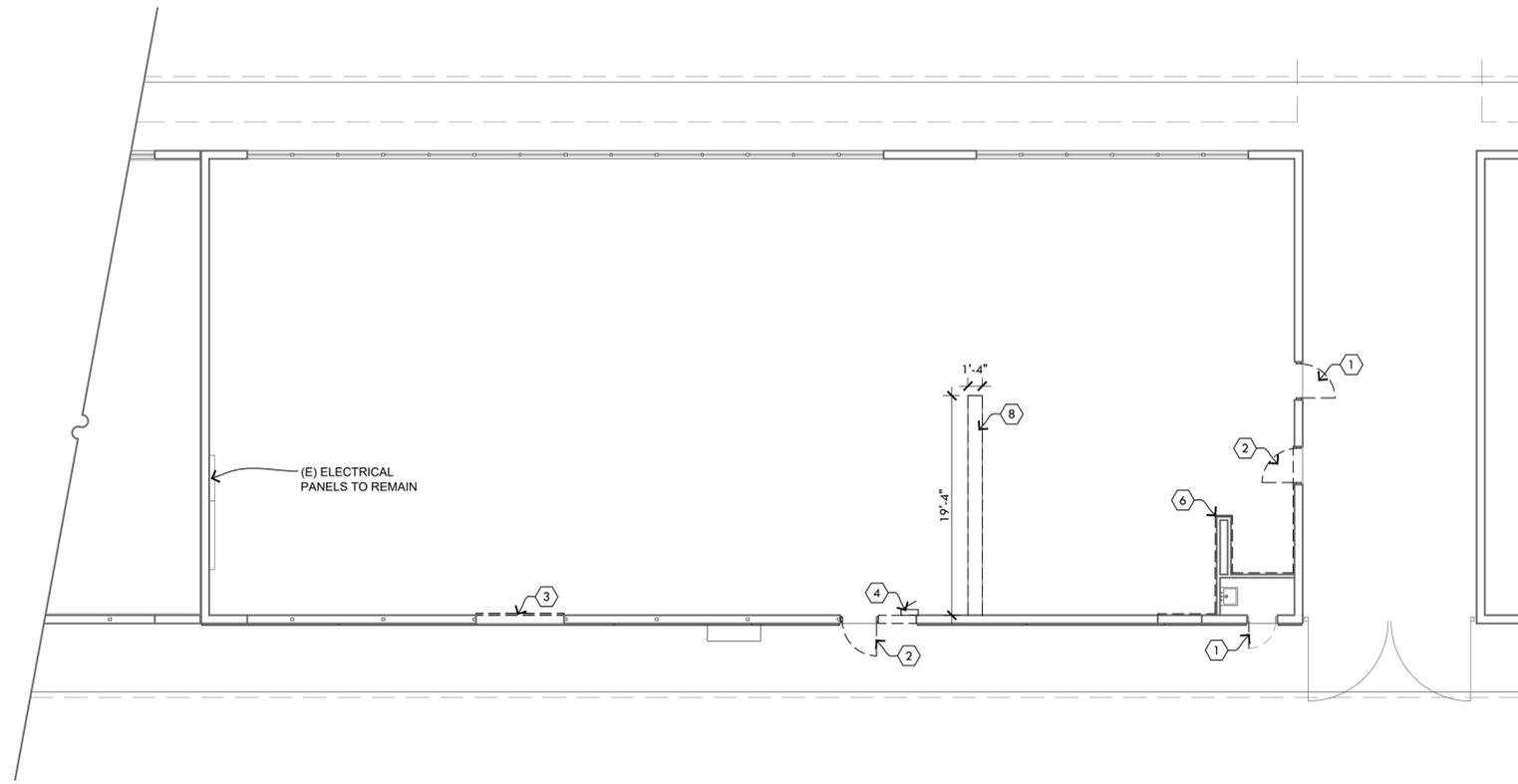
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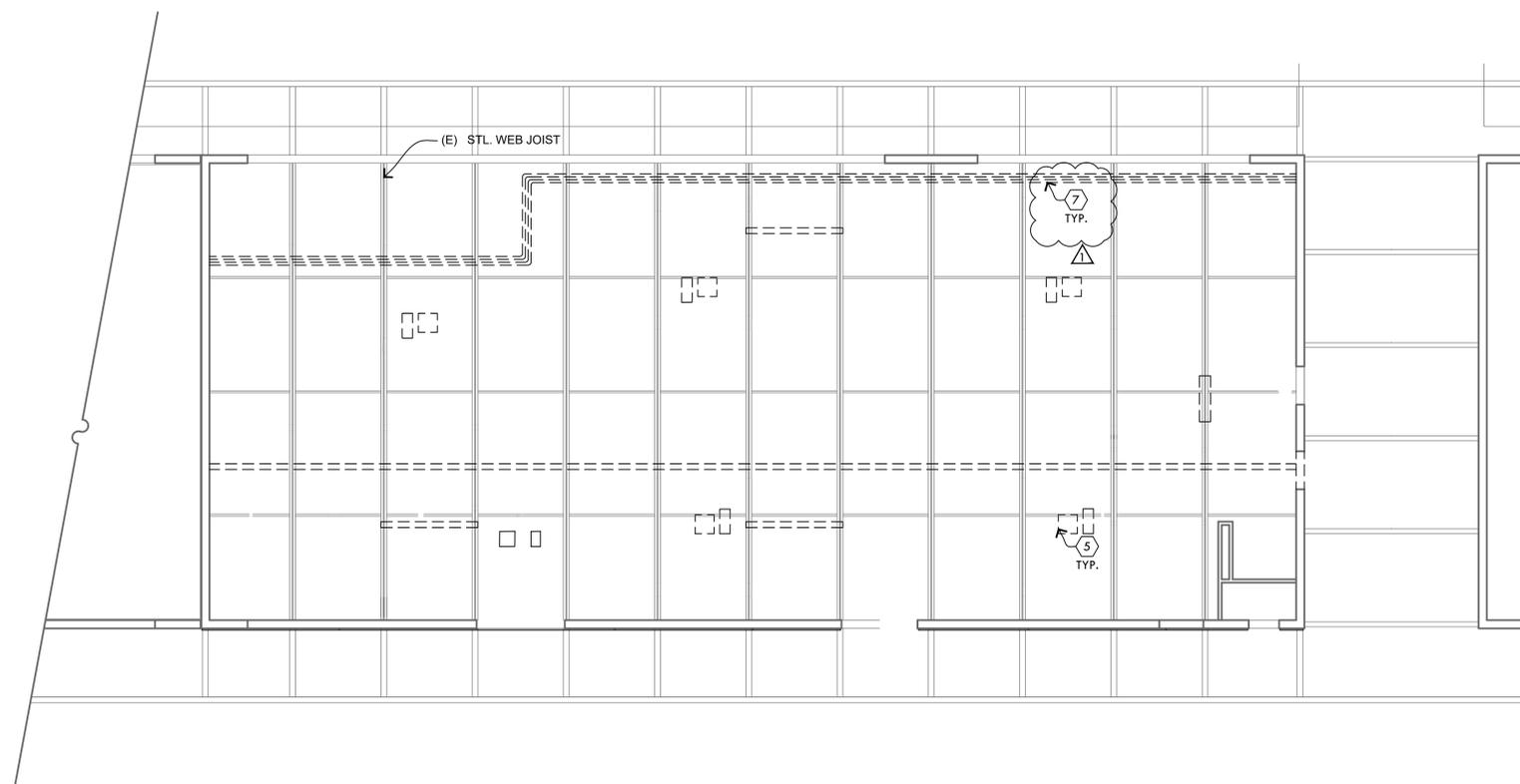


Fence Site Plan
 1" = 32'-0" 0 32' 96'

Enlarged Site Plans
AS1.3



Demolition Plan
1/8" = 1'-0" 0 8' 24'



Demolition Reflected Ceiling Plan
1/8" = 1'-0" 0 8' 24'

Demolition Keynotes

- ① REMOVE H.M. DOOR, FRAME TO REMAIN.
- ② REMOVE H.M. DOOR AND FRAME.
- ③ REMOVE OVERHEAD COILING DOOR.
- ④ REMOVE ELECTRICAL PANEL, REFER TO ELECTRICAL.
- ⑤ SAWCUT ROOF OPENING, REFER TO RCP & STRUC. & MECH. DRAWINGS.
- ⑥ REMOVE MORTAR CEMENT FROM WALL.
- ⑦ REMOVE PIPES AND FILL OPENINGS WITH GROUT, SEE MECH AND ELEC.
- ⑧ SAWCUT SLAB, REFER TO ELEC. DRAWINGS.

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ADDENDUM 1
 ATTACHMENT 7

Amphitheater Public Schools
Amphitheater High School
 500 Wing Renovation



PROJECT NO:
 17.14.65

DATE:
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1	04/29/22	AMENDMENT ONE	

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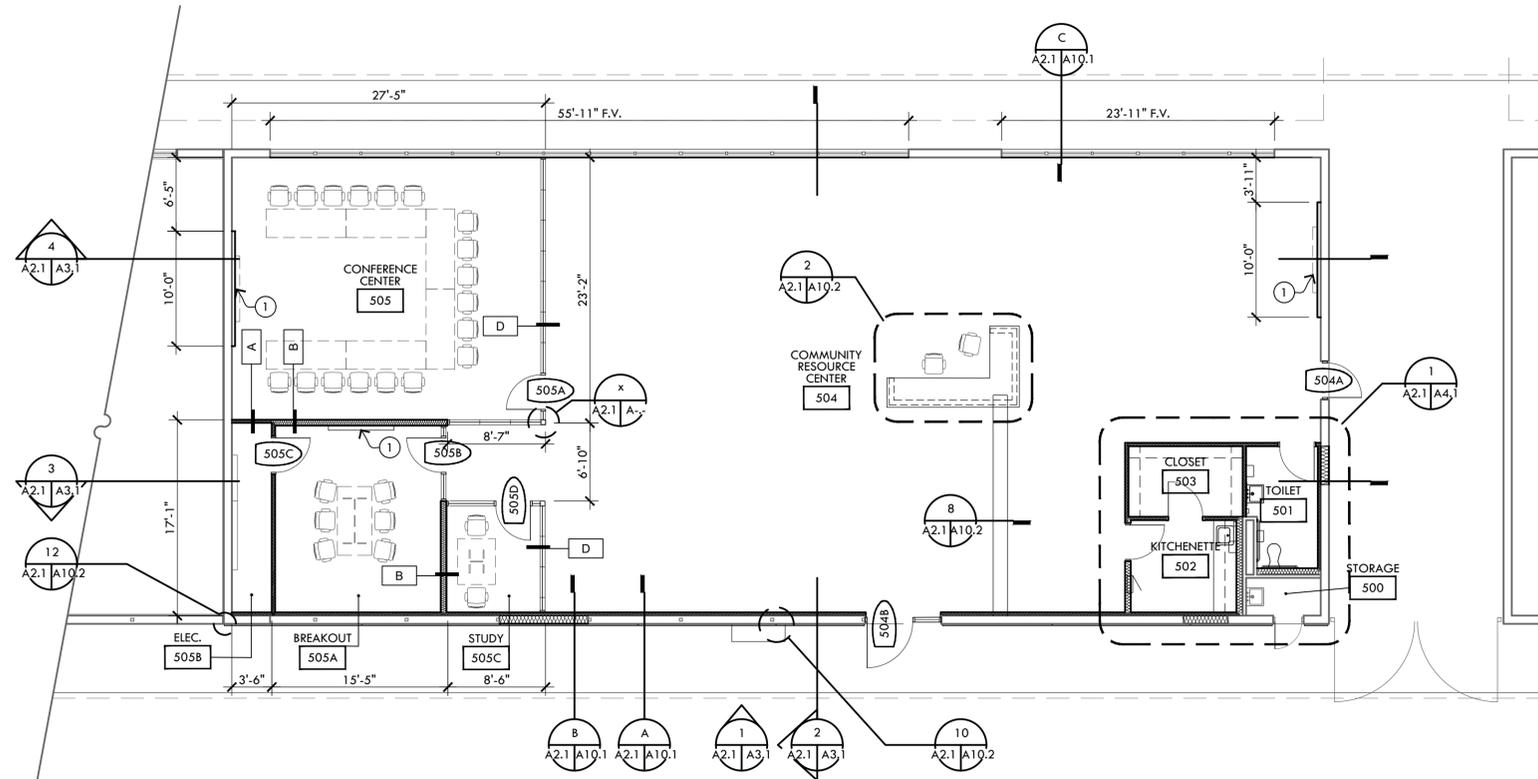
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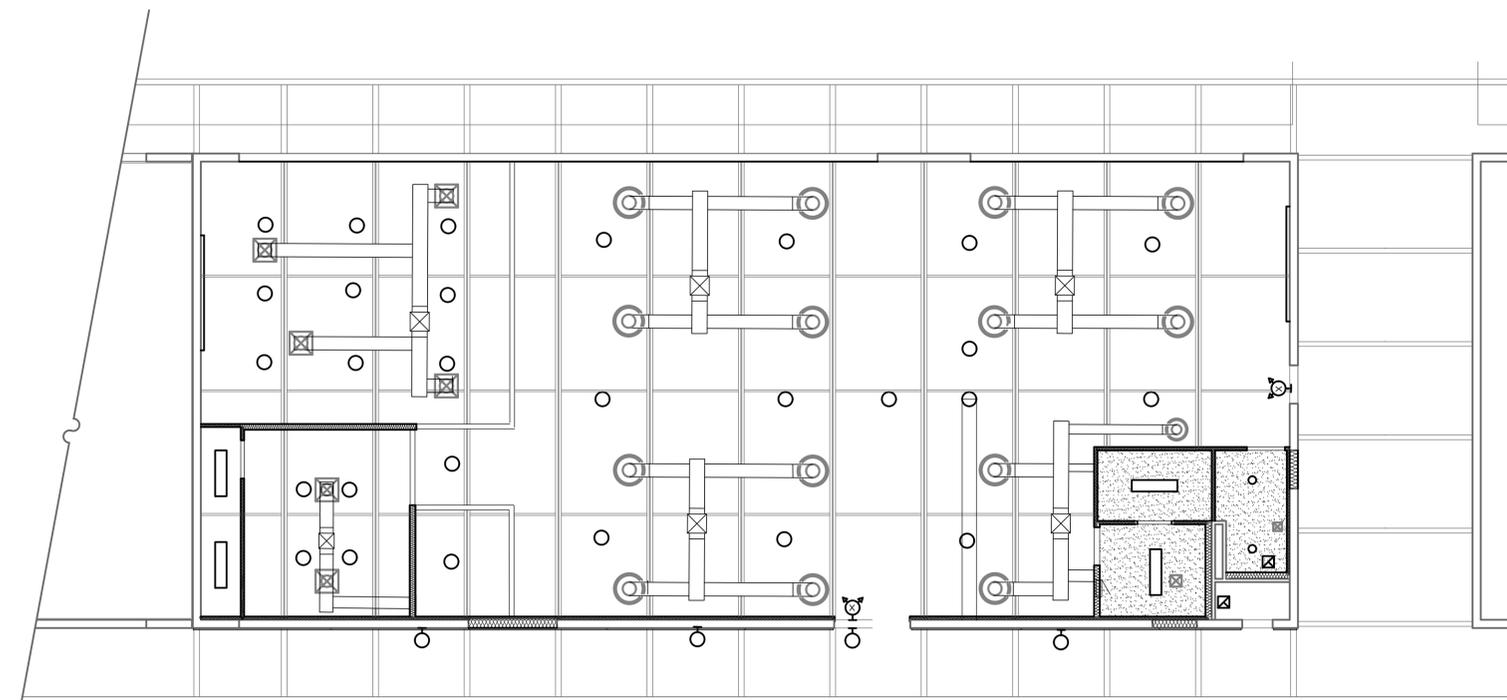
Demolition Plans

AD1.1

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Floor Plan
1/8" = 1'-0" 0 8' 24'



BID ALTERNATES
 BASE BID- PAINT STL. TRUSSES
 BID ALT. No. 1- PAINT STL. TRUSSES, PAINT DUCTWORK AND CONDUIT
 BID ALT. No. 2- PAINT STL. TRUSSES, PAINT DUCTWORK AND CONDUIT, PAINT EXPOSED WOOD CEILING.

Reflected Ceiling Plan
1/8" = 1'-0" 0 8' 24'

Construction General Notes

- COORDINATE ALL WORK BETWEEN ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO BEGINNING WORK.
- ALL DIMENSIONS ARE TO FACE OF METAL STUDS AND FACE OF MASONRY (UNLESS NOTED OTHERWISE). FINISH DIMENSIONS ARE NOTED WITH AN ASTERISK (*).

Construction Keynotes

- ① INTERACTIVE WHITE BOARD, N.I.C.

RCP Legend

- GWB CEILING
- ACOUSTICAL CEILING TREATMENT
- RECESSED DOWNLIGHT
- LIGHT FIXTURE (1'x4')
- EXIT LIGHT
- EXHAUST GRILL
- RETURN AIR GRILL
- SUPPLY AIR DIFFUSER
- SUPPLY AIR DIFFUSER
- EXPOSED STRUCTURE

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ADDENDUM 1
 ATTACHMENT 8

Amphitheater Public Schools
Amphitheater High School
 500 Wing Renovation



PROJECT NO:
17.14.65

DATE:
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Floor Plan
Reflected Ceiling Plan

A2.1

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OPENING SCHEDULE

No.	Door Type	Door Matl.	Frame Type	Frame Matl.	Head	Jamb	Sill	Mullion	Hardwr.	Rating	Remarks
500A	C	H.M.	(E)	--	--	--	--	--	01	--	--
501A	A	SCWD.	1	H.M.	--	--	--	--	02	--	--
502A	A	SCWD.	1	H.M.	--	--	--	--	03	--	--
503A	A	SCWD.	1	H.M.	--	--	--	--	04	--	--
504A	A	H.M.	(E)	--	--	--	--	--	05	--	--
504B	D	H.M.	2	H.M.	--	--	--	--	05	--	--
505A	B	GLASS	3	ALUM	--	--	--	--	06	--	--
505B	B	GLASS	5	ALUM	--	--	--	--	06	--	--
505C	A	SCWD.	1	H.M.	--	--	--	--	07	--	--
505D	B	GLASS	6	ALUM	--	--	--	--	06	--	--

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ADDENDUM 1
ATTACHMENT 9

Amphitheater Public Schools
Amphitheater High School
500 Wing Renovation



PROJECT NO:
17.14.65

DATE:
APRIL 2022

#	DATE	DESCRIPTION	ISSUED TO
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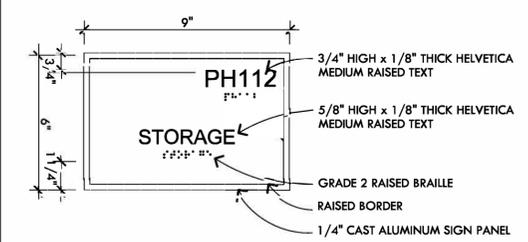
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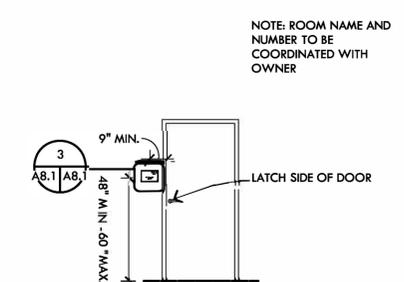
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Opening Schedule
Door & Frame
Types

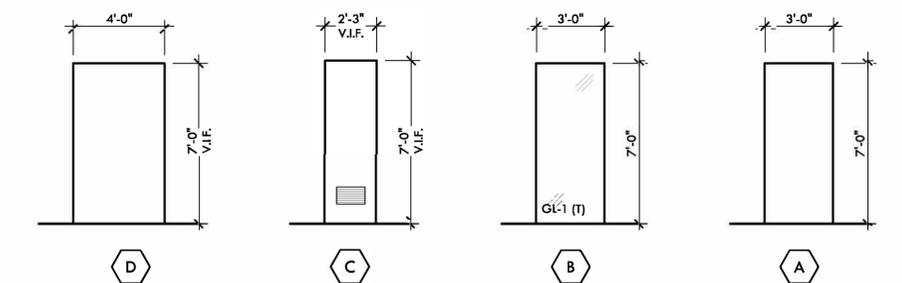
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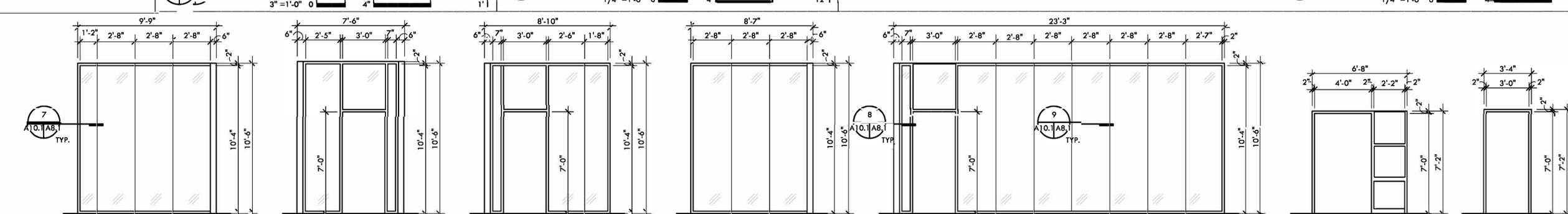
Sign Detail



Room Identification Sign



Door Types



Frame Types

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ROOM FINISH SCHEDULE

No.	Room Names	Floor	Base	Walls								Ceiling			Notes
				North		East		South		West		Ht.	Matl.	Fin.	
				Matl.	Fin.	Matl.	Fin.	Matl.	Fin.	Matl.	Fin.				
501	TOILET	(E) CONC.	CT-1-3	CT-1-3	--	CT-1-3	--	CT-1-3	--	CT-1-3	--	9'-0"	GWB	P-1	1
502	KITCHENETTE	(E) CONC.	RB	GWB	P-1	GWB	P-1	GWB	P-1	GWB	P-1	9'-0"	GWB	P-1	1
503	CLOSET	(E) CONC.	RB	GWB	P-1	GWB	P-1	GWB	P-1	GWB	P-1	9'-0"	GWB	P-1	1
504	COMM. RESOURCE CENTER	(E) CONC.	RB	BRICK/GWB	--/P-1	BRICK/GWB	--/P-1	BRICK/GWB	--/P-1	GLASS	--	--	EXP. STR.	--	1
505	CONFERENCE CENTER	(E) CONC.	RB	BRICK/GWB	--/P-1	GLASS	--	GLASS	--	(E)	--	10'-0"	--	--	1
505A	BREAKOUT	(E) CONC.	RB	GWB	P-1	GLASS/GWB	P-1	GWB	P-1	GWB	P-1	--	EXP. STR.	--	1
505B	ELECTRICAL	(E) CONC.	RB	GWB	P-1	GWB	P-1	GWB	P-1	(E)	--	--	EXP. STR.	--	1
505C	STUDY	(E) CONC.	RB	GLASS	--	GLASS	--	GWB	P-1	GWB	P-1	--	EXP. STR.	--	1

ADDENDUM 1
ATTACHMENT 3

Construction General Notes

- VERIFY ALL FINISHES WITH ARCHITECT. FINISHES ARE SUBJECT TO REVIEW BY OWNER.

Colors and Finishes Key

FLOORING

(E) CONC. EXISTING CONCRETE

CERAMIC TILE

CT-1 2" X 2" PORCELAIN MOSAIC TILE
 CT-2 4" X 16" GLAZED WALL TILE
 CT-3 2" X 8" GLAZED WALL TILE

CEILING

ACT-1 2' X 2' ACOUSTICAL CEILING TILE - ARMSTRONG; ULTIMA

RESILIENT BASE

RB 4" RUBBER BASE - BLACK BROWN

PAINT

P-1 TBD
 P-2 TBD
 P-1 TBD

PLASTIC LAMINATE

PL-1 FUSION MAPLE

SOLID SURFACE

SS-1 CHILLED EARTH

Finish Schedule Notes

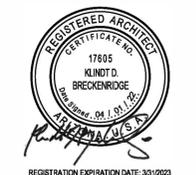
- GRIND (E) CONCRETE SLAB, APPLY HARDENER / DENSIFIER AND HONE FINISH. PROVIDE A SAND FINISH, USE MINIMAL GRINDER PASSES ENOUGH TO ACHIEVE CONSISTENCE AND REMOVE IMPERFECTIONS ONLY, NO TINTS OR STAINS
-

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ADDENDUM 1
 ATTACHMENT 10

**Amphitheater Public Schools
 Amphitheater High School
 500 Wing Renovation**



PROJECT NO:
17.14.65

DATE:
APRIL 2022

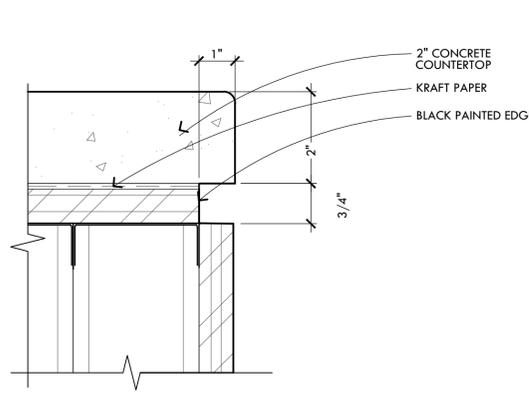
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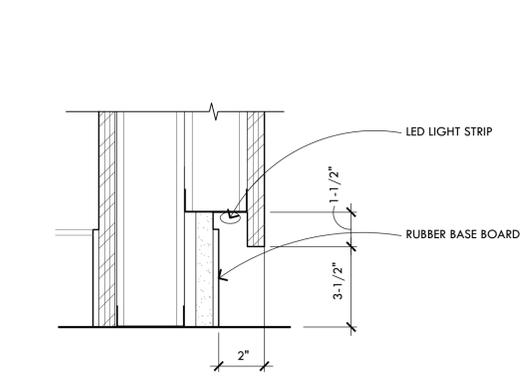
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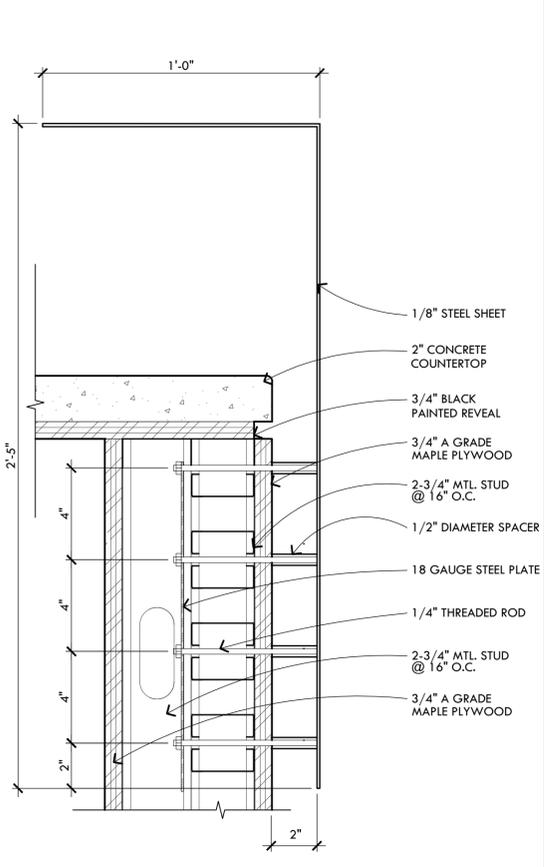
**Finish
 Schedule
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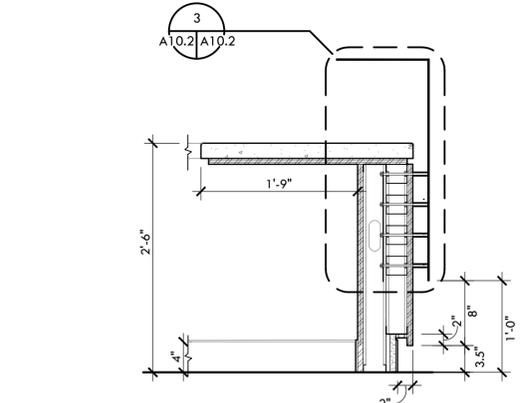
Desk Edge Detail



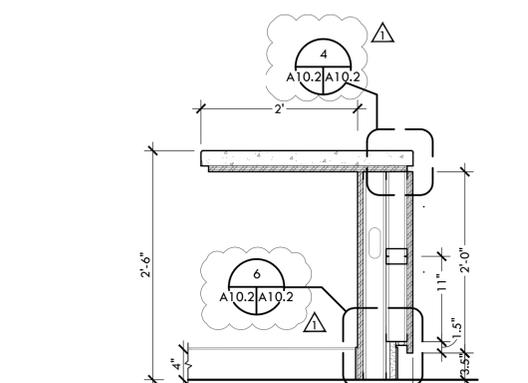
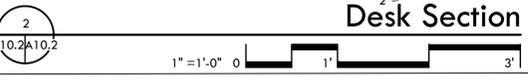
Desk Base



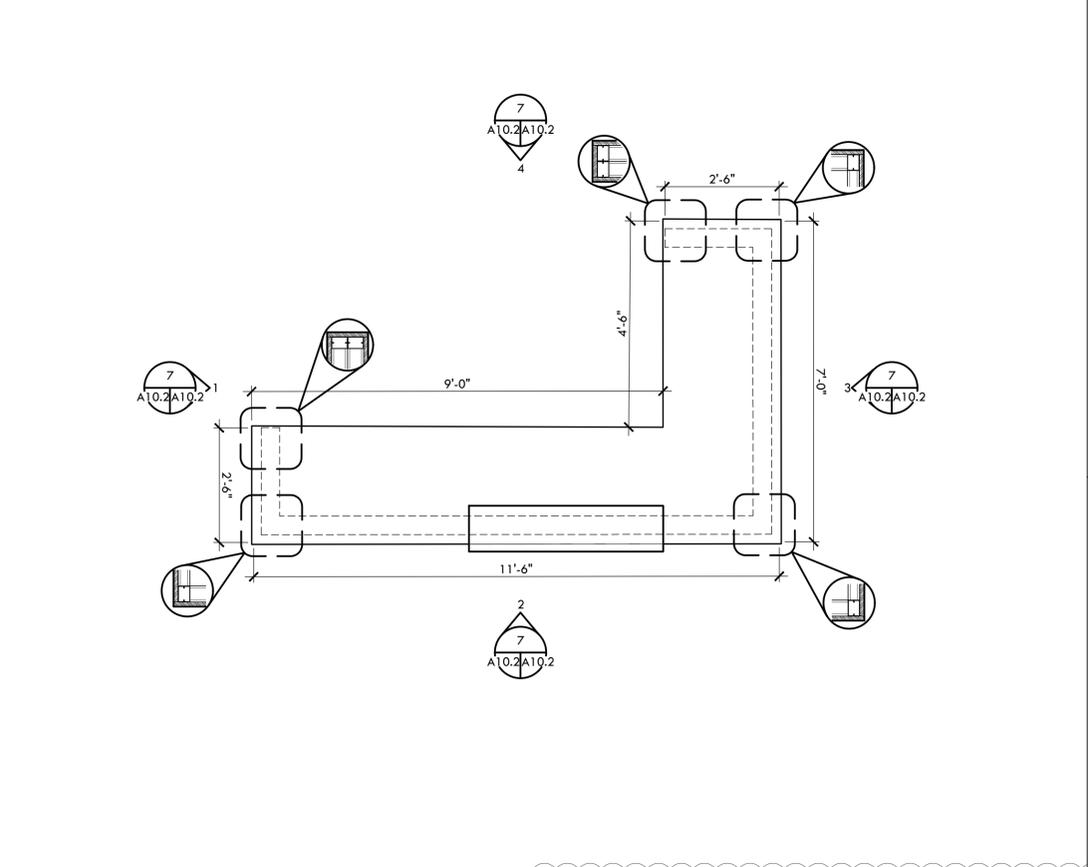
Desk Shelf



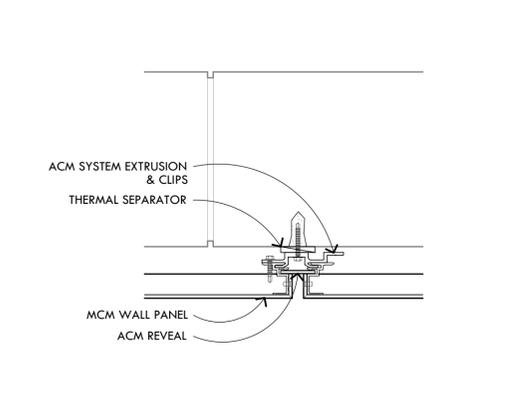
Desk Section



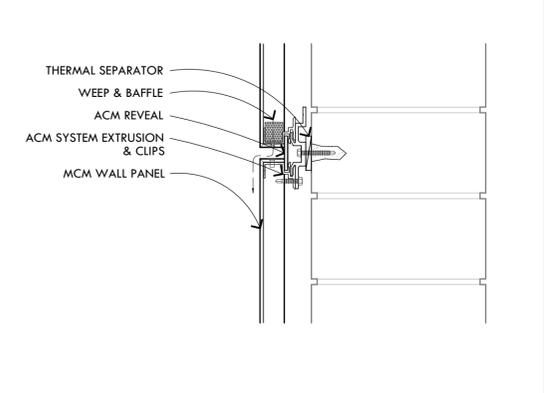
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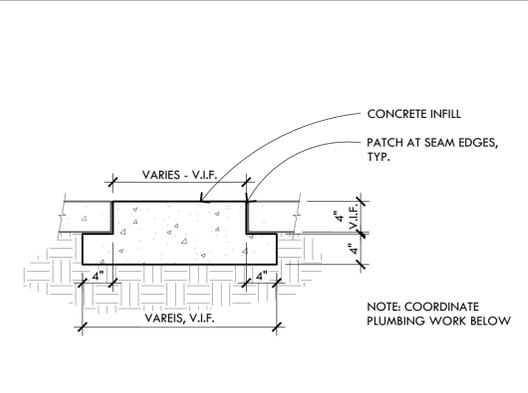
Enlarged Desk Plan



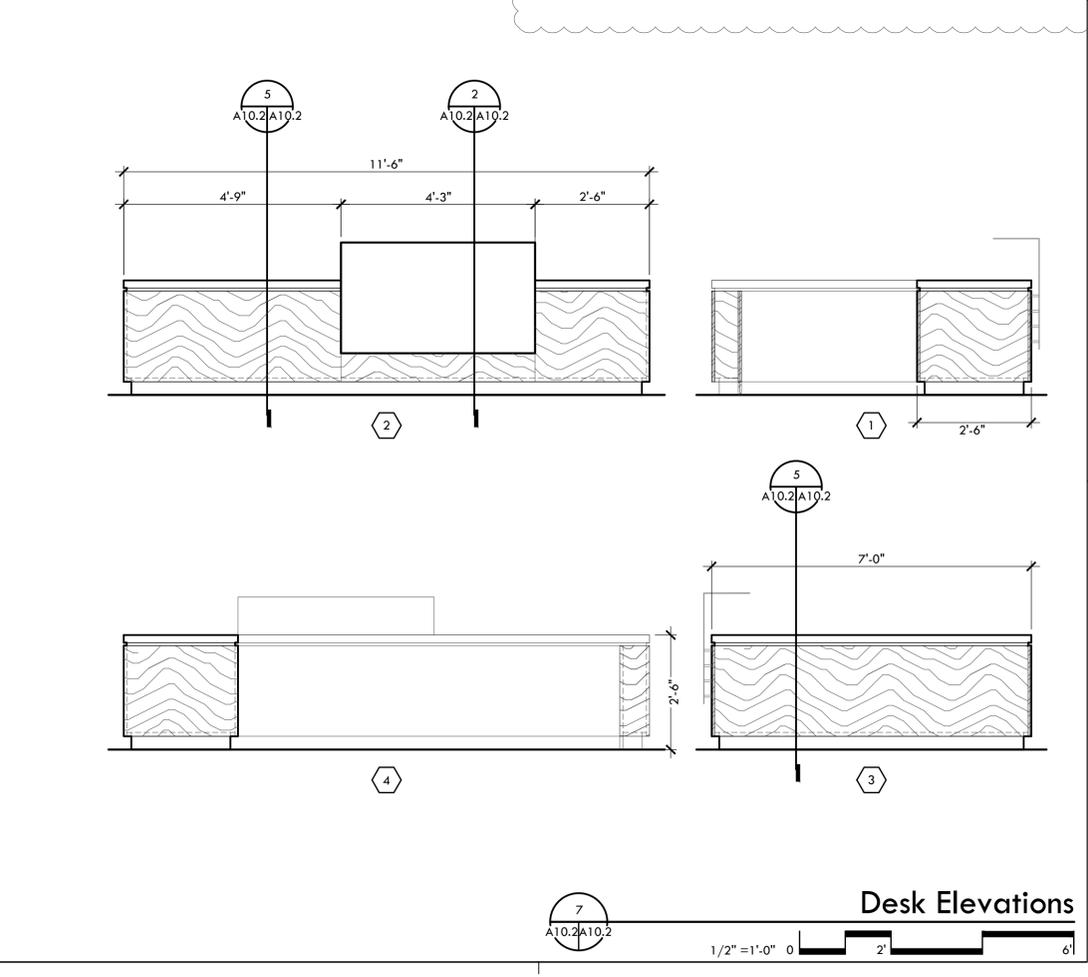
Vertical Joint



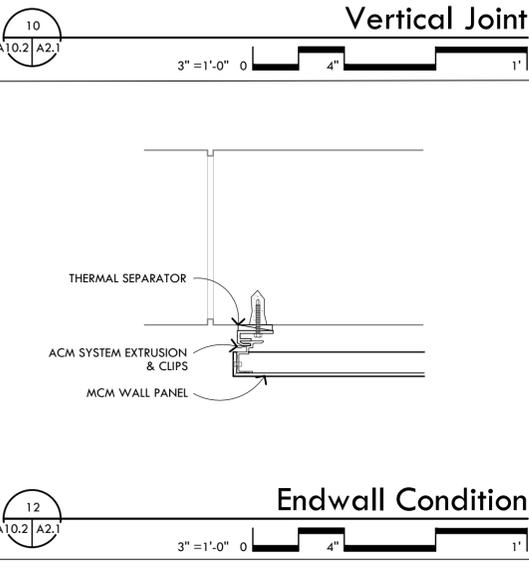
Horizontal Joint



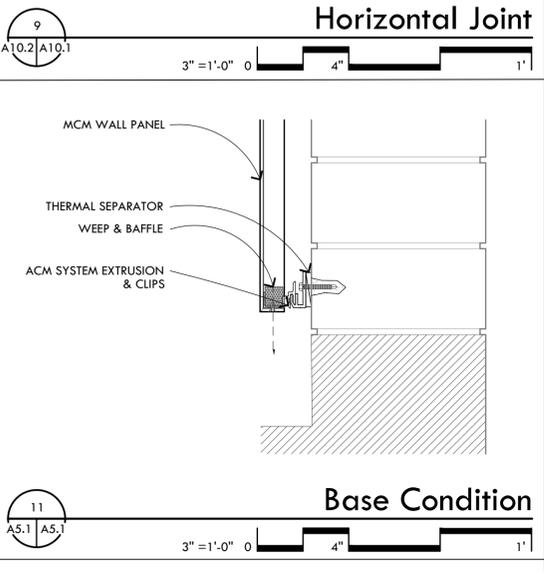
Concrete Infill at Slab Cut



Desk Elevations



Endwall Condition



Base Condition



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ADDENDUM 1
ATTACHMENT 11

Amphitheater Public Schools
Amphitheater High School
500 Wing Renovation



PROJECT NO:
17.14.65
DATE:
APRIL 2022

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Details
A10.2

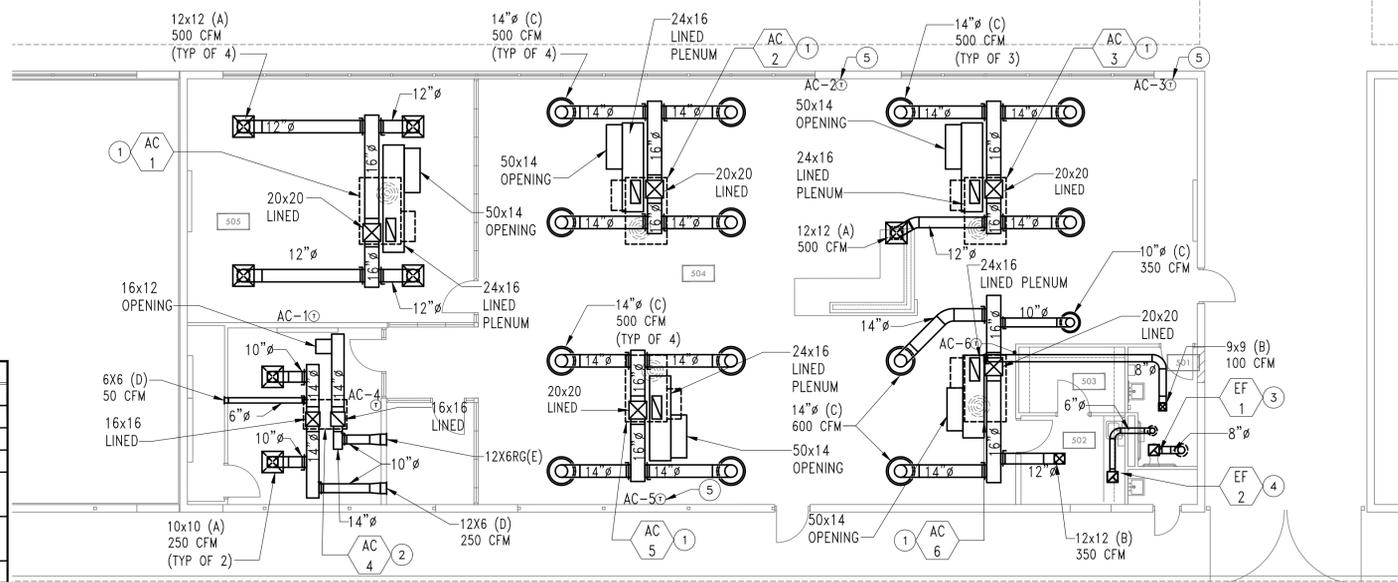
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MECHANICAL KEYNOTES:

- TRANSITION FROM UNIT SA OPENING TO 2x20 SA DTR. ROUTE LINED SA DUCT DOWN AND CAP BOTTOM AND TAP SIDES AS SHOWN ON PLAN. EXTEND UNIT RA OPENING FULL SIZE DOWN AND TAP TOP OF LINED 24x16 RA PLENUM.
- TRANSITION FROM UNIT SA AND RA OPENINGS TO 16x16 SA AND RA DTRS. ROUTE LINED SA AND RA DUCTS DOWN AND CAP BOTTOM AND TAP SIDES AS SHOWN ON PLAN.
- TRANSITION FROM FAN OUTLET OPENING TO 8"Ø EA DUCT AND ROUTE UP TO ROOF- TERMINATE WITH ROOF CAP.
- TRANSITION FROM FAN OUTLET OPENING TO 6"Ø EA DUCT AND ROUTE UP TO ROOF- TERMINATE WITH ROOF CAP.
- PROVIDE INSULATED PLATE BEHIND THERMOSTAT

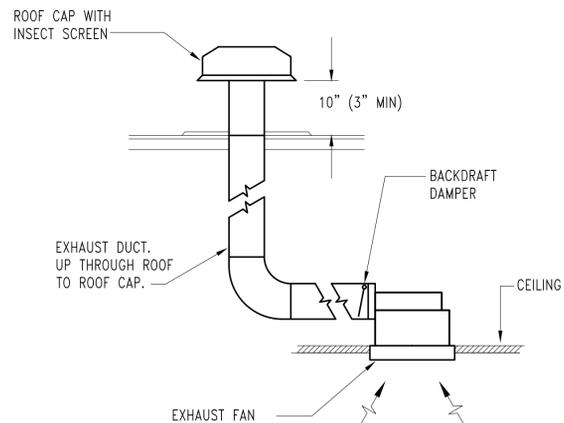
AIR DEVICE SCHEDULE					
MARK	A	B	C	D	E
SERVICE	SUPPLY	SUPPLY	SUPPLY	SUPPLY	RETURN
MATERIAL	STEEL	STEEL	STEEL	STEEL	STEEL
FINISH	WHITE	WHITE	WHITE	WHITE	WHITE
PATTERN	4-WAY	4-WAY	ROUND	DOUBLE	SINGLE
REFERENCE	PRICE	PRICE	PRICE	PRICE	PRICE
	PDC	SMD	RCD	520	530

- NOTES
- PROVIDE OPPOSED BLADE DAMPER.
 - PROVIDE FRAME STYLE SUITABLE FOR CEILING SPECIFIED ON ARCH. DRAWINGS.
 - CEILING DIFFUSER SHALL BE PERFORATED TYPE.
 - PROVIDE SQUARE TO ROUND ADAPTORS WHEN REQUIRED.



MECHANICAL GENERAL NOTES

- COORDINATE ALL MECHANICAL WORK WITH ALL OTHER TRADES. VERIFY ALL EXISTING CONDITIONS BEFORE THE START OF WORK.
- TRANSITION ALL SUPPLY AND RETURN DUCTWORK FROM PACKAGED ROOFTOP EQUIPMENT TO DUCT THROUGH ROOF (DTR). PENETRATIONS TO BE BY GENERAL CONTRACTOR. COORDINATE EXACT LOCATIONS WITH ROOF AND WALL STRUCTURAL SYSTEM. VERIFY ADEQUACY OF STRUCTURE TO SUPPORT MECHANICAL EQUIPMENT WITH ARCHITECT PRIOR TO INSTALLATION.
- LINE ALL RECTANGULAR AIR CONDITIONING DUCTWORK WITH 1" THICK DUCT LINER PER SPECIFICATIONS. ALL UNLESS INSTRUCTED OTHERWISE ON THE DRAWINGS, ALL ELBOWS SHALL BE MITERED WITH SINGLE THICKNESS TURNING VANES. PROVIDE 45 DEGREE ENTRY FITTINGS AT BRANCH DUCT CONNECTIONS TO DUCT MAINS. FLEXIBLE DUCTS SHALL BE INSTALLED TO MAINTAIN FULL CROSS_SECTIONAL FREE AREA. PROVIDE RIGID SHEET METAL ELBOWS OR LINED PLENUM BOXES AT AIR DEVICES WHEN REQUIRED.
- COORDINATE EXACT LOCATION OF ALL AIR DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
- SUPPORT CONDENSING UNITS ON PLATFORM. EXACT LOCATION SHALL INSURE ADEQUATE CLEARANCE FOR SERVICING AND FOR AIR CIRCULATION.
- ROUTE REFRIGERANT PIPING BETWEEN FAN COIL UNIT CONDENSING UNIT CONCEALED IN FINISHED SPACES. SEAL ALL ROOF OR WALL PENETRATIONS WEATHERTIGHT. PROVIDE PVC PIPE SLEEVE FOR UNDERGROUND REFRIGERANT PIPING. REFRIGERANT PIPING SIZES SHALL BE FOR MANUFACTURER'S INSTALLATION INSTRUCTIONS (BASED ON THE ACTUAL LOCATIONS AND ELEVATIONS OF EQUIPMENT).
- ROUTE DUCTS FROM TOILET EXHAUST FANS TO ROOF CAPS. CONCEAL DUCTWORK. FLASH ROOF CAPS WEATHERTIGHT. OFFSET EXHAUST DISCHARGE AS REQUIRED TO INSURE MINIMUM 10'-0" CLEARANCE FOR ALL OUTSIDE AIR INTAKES.
- ALL LOW VOLTAGE CONTROL WIRING AND ITS INSTALLATION TO BE BY MECHANICAL CONTRACTOR. INSTALL AS PER DIVISION 16. MOUNTING HEIGHT OF THERMOSTATS TO BE AS PER ADA REQUIREMENTS.
- MECHANICAL CONTRACTOR SHALL REVIEW ALL ELECTRICAL DRAWINGS BEFORE PURCHASING EQUIPMENT TO INSURE THAT PROPER ELECTRICAL SERVICE IS TO BE PROVIDED FOR ALL NEW EQUIPMENT.
- SEE SHEET MP1.1 FOR CONTROL OF UNITS



EXHAUST FAN SCHEDULE		
MARK	EF-1	EF-2
TYPE	CEILING	CEILING
AIR FLOW (CFM)	140	90
E.S.P. ("w.g.)	0.25	0.25
DRIVE TYPE	DIRECT	DIRECT
MAXIMUM SONES	2.2	1.3
MOTOR WATTS	87	87
VOLTS/PHASE/HZ	115/1/60	115/1/60
MAXIMUM OPERATING WEIGHT (LBS.)	25	25
REFERENCE	BROAN	BROAN
	L150	L100
NOTES	1 THRU 4	1 THRU 4

NOTES

- SCHEDULE CAPACITY SHALL BE FOR 2500 FT. ELEVATION.
- FAN PERFORMANCE SHALL BE AMCA CERTIFIED.
- PROVIDE INTEGRAL BACKDRAFT DAMPER & MODEL 611 ROOFCAP.
- PROVIDE 7-DAY PROGRAMMABLE TIME WALL SWITCH. INTERMATIC MODEL ST01C OR EQUIVALENT TIME CLOCK SCHEDULED TO OPERATE DURING OCCUPIED HOURS.

AIR CONDITIONING UNIT SCHEDULE (PACKAGED ROOFTOP)		
MARK	AC-1,2,3,5,6	AC-4
NOMINAL TONNAGE	5	2
MINIMUM TOTAL COOLING CAPACITY (MBH)	46.9	17.7
MINIMUM SENSIBLE COOLING CAPACITY (MBH)	42.4	16.1
COOLING AMBIENT TEMPERATURE (DEG. F)	110	110
ENTERING AIR TEMPERATURE (DEG/DB/WB)	79/63	79/63
MINIMUM SEASONAL ENERGY EFFICIENCY RATIO (SEER)	16	15
MINIMUM NUMBER OF COMPRESSORS	1	1
TYPE OF HEATING CAPACITY	GAS	GAS
MINIMUM HEATING CAPACITY (MBH)	43.6	12.9
HEATING AMBIENT TEMPERATURE (DEG.F)	28	28
ENTERING AIR TEMPERATURE (DEG DB)	63	63
SUPPLY AIR (CFM)	2000	800
MINIMUM OUTSIDE AIR (CFM)	210	85
EXT. STATIC PRESSURE ("w.g.)	0.6	0.6
DRIVE TYPE	DIRECT	DIRECT
MAXIMUM OPERATING WEIGHT (LBS)	700	500
VOLTS/PHASE/HZ	208/3/60	208/1/60
UNIT MCA	29	19.4
UNIT MOCF	40	30
REFERENCE	CARRIER	CARRIER
	48CC006	48VGE24
NOTES	1 THRU 14	1 THRU 14

NOTES

- SCHEDULE CAPACITY IS FOR 2500 FT. ELEVATION.
- SCHEDULED CAPACITY IS ACTUAL CAPACITY.
- NOT USED
- PROVIDE LOW VOLTAGE CONTROL POWER TRANSFORMER.
- PROVIDE SINGLE POINT POWER CONNECTION.
- PROVIDE NECESSARY CONTROLS TO PREVENT COMPRESSOR RAPID RECYCLING.
- PROVIDE OUTSIDE AIR INTAKE HOOD W/MOTORIZED 2-POSITION DAMPER AND BIRDSCREEN. INTERLOCK W/FAN MOTOR.
- PROVIDE LOW AMBIENT CONTROL 25 DEG. F.
- PROVIDE FACTORY ROOF CURB LEVEL UNIT REQUIRED.
- PROVIDE 2", MERV-13 PLEATED DISPOSABLE FILTERS.
- PROVIDE 5 YEAR COMPRESSOR WARRANTY.
- PROVIDE CONDENSER COIL HAIL GUARD.
- PROVIDE UTILITY CONNECTIONS THRU ROOF CURB.
- PROVIDE 5 YEAR COMPRESSOR WARRANTY.
- PROVIDE CONDENSER COIL HAIL GUARD.
- PROVIDE UTILITY CONNECTIONS THRU ROOF CURB.
- PROVIDE UNIT MOUNTED DISCONNECT SWITCH AND NON-POWER UTILITY OUTLET.

CEILING MOUNTED EXHAUST FAN
NO SCALE

1
M1.1

OUTDOOR AIR CALCULATION													
BUILDING UNIT	ROOM NUM.	ROOM NAME	ZONE FLOOR AREA, Az (SQ.FT.)	CODE	OCCUPANCY CATEGORY, Ra, Rp	ZONE POPULATION Pz	ZONE AIR DISTRIBUTION EFFECTIVENESS, Ez	ZONE SUPPLY AIR FLOW Vpz (CFM)	SYSTEM POPULATION Ps	OUTDOOR AIR INTAKE Vol (CFM)	UNIT (WC OR URINAL) UNIT	REQUIRED EXHAUST VENTILATION (CFM)	NOTES
AC-2,3	501	TOILET	68	87	TOILETS - CONTINUOUS	0.0		100				1	50
5,6	502	KITCHENETTE	80	82	KITCHENETTES	0.0		350					24
	504	COMMUNITY	2,513	25	CONFERENCE/MEETING	125.7		7,550					0
			2,661			125.7	CSCR	8,000	126	804			74
AC-1	505	CONFERENCE	619	25	CONFERENCE/MEETING	31.0		2,000					0
			619			31.0	CSCR	2,000	31	197			0
AC-4	505A	BREAKOUT	240	25	CONFERENCE/MEETING	12.0		550					0
	505C	STUDY	80	36	STORAGE ROOMS	0.2		250					0
			320			12.2	CSCR	800	12	85			0

KC MECHANICAL ENGINEERING, L.L.C.

5447 East Fifth Street # 112
Tucson, Arizona 85711
Designers Mech: KGW Plumb: KGW Project #: 21-176

Mechanical Plan

M1.1

Breckonridge Architects Planners
1735 e. lowell rd. #12
tucson arizona 85719
520.882.9944

ADDENDUM 1
ATTACHMENT 12

**Amphitheater Public Schools
Amphitheater High School
500 Wing Renovation**



PROJECT NO:
17.14.65

DATE:
FEBRUARY 2022

REVISION SCHEDULE		
#	DATE	ISSUED TO

DRAWN BY: SC
CHECKED BY: KGB

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MECHANICAL GENERAL REQUIREMENTS

CODES: CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF THE FOLLOWING CODES: INTERNATIONAL BUILDING CODE (2018 EDITION), INTERNATIONAL MECHANICAL CODE (2018 EDITION), INTERNATIONAL PLUMBING CODE (2018 EDITION), INTERNATIONAL FUEL GAS CODE (2018 EDITION), INTERNATIONAL ENERGY CONSERVATION CODE (2018 EDITION) AND THE INTERNATIONAL FIRE CODE (2018 EDITION) AS AMENDED BY THE LOCAL GOVERNING AGENCY.

GENERAL: THE WORK COVERED BY THIS SPECIFICATION SHALL INCLUDE THE FURNISHING OF ALL MATERIALS, LABOR, TRANSPORTATION, TOOLS, PERMITS, FEES, INSPECTIONS, UTILITIES AND INCIDENTALS NECESSARY FOR THE COMPLETE INSTALLATION OF ALL WORK REQUIRED BY THE CONTRACT DRAWINGS.

DRAWINGS: THE DRAWINGS ARE DIAGRAMMATIC IN CHARACTER AND CANNOT SHOW EVERY CONNECTION IN DETAIL OR EVERY PIPE OR DUCT IN ITS EXACT LOCATION. THESE DETAILS ARE SUBJECT TO THE REQUIREMENTS OF ORDINANCES AND ALSO STRUCTURAL AND ARCHITECTURAL CONDITIONS. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE STRUCTURAL AND FINISH CONDITIONS AND SHALL COORDINATE WITH THE SEPARATE TRADES IN ORDER TO AVOID INTERFERENCE BETWEEN THE VARIOUS PHASES OF WORK. WORK SHALL BE LAID OUT SO THAT IT WILL BE CONCEALED IN FURRED CHASES OR ABOVE CEILINGS, ETC., IN FINISHED PORTIONS OF THE BUILDING, UNLESS SPECIFICALLY NOTED OR INDICATED TO BE EXPOSED. WORK SHALL BE INSTALLED TO AVOID CRIPPLING OF STRUCTURAL MEMBERS. ALL WORK SHALL BE RUN PARALLEL OR PERPENDICULAR TO THE LINES OF THE BUILDING UNLESS OTHERWISE NOTED. THE APPROXIMATE LOCATION OF EACH ITEM IS INDICATED ON THE DRAWINGS. THESE DRAWINGS ARE NOT INTENDED TO GIVE COMPLETE AND EXACT DETAILS IN REGARD TO LOCATION. EXACT LOCATIONS ARE TO BE DETERMINED BY ACTUAL MEASUREMENTS OF THE BUILDING.

EQUIPMENT INSTALLATION: PROVIDE AND INSTALL UNIONS AT PROPER POINTS TO PERMIT REMOVAL OF PIPE AND EQUIPMENT WITHOUT DAMAGE TO OTHER PARTS OF THE SYSTEM. ALL EQUIPMENT SHALL BE INSTALLED IN A MANNER TO PERMIT ACCESS TO PARTS REQUIRING SERVICE WITHOUT DISASSEMBLY OF OTHER EQUIPMENT.

EXCAVATION AND BACKFILL: THE CONTRACTOR SHALL PROVIDE ALL EXCAVATION REQUIRED FOR THE INSTALLATION OF THE WORK. CONTRACTOR SHALL BACKFILL, COMPACT AND REPAIR CONCRETE OR PAVING TO MATCH EXISTING FINISH AS CLOSELY AS POSSIBLE.

EXISTING FACILITIES: LOSS OR DAMAGE TO EXISTING FACILITY CAUSED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE OWNER'S SATISFACTION AT NO COST TO THE OWNER. THE CONTRACTOR SHALL COORDINATE ALL WORK REQUIRED IN EXISTING AREAS WITH THE OWNER AND SHALL ARRANGE FOR ALL TEMPORARY UTILITY SERVICES, PROTECTION OF THE FACILITY AND ITS CONTENTS, BARRICADES, SAFETY DEVICES, ETC., REQUIRED TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING CONSTRUCTION IF REQUIRED TO ACCOMPLISH THE WORK. NOTIFY THE OWNER AT LEAST TWO DAYS IN ADVANCE OF ALL REQUIRED SERVICE OUTAGES.

SUBSTITUTIONS: EQUIPMENT OF EQUAL QUALITY TO THAT SPECIFIED MAY BE SUBSTITUTED PROVIDED IT MEETS OR EXCEEDS THE CAPACITY SCHEDULED, IS OF SIMILAR CONSTRUCTION, AND WILL FIT IN THE SPACE ALLOTTED WITH AMPLE SERVICE CLEARANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION WITH ALL OTHER TRADES (SUCH AS ELECTRICAL AND STRUCTURAL) OF ANY PRODUCT REQUIRING A CHANGE IN THE WORK OF THAT TRADE. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ANY ADDITIONAL COSTS ASSOCIATED WITH SUCH A CHANGE. MATERIALS OF CONSTRUCTION SHALL BE AS SPECIFIED.

SUPPORTS, ANCHORS AND SLEEVES: SUPPORT HORIZONTAL PIPING WITH STEEL CLEVIS HANGERS AND VERTICAL PIPING WITH RISER CLAMPS. PROVIDE COPPER PLATED HANGERS AND CLAMPS FOR COPPER PIPING OR WRAP THE COPPER PIPE AT HANGERS WITH TWO LAYERS OF PVC TAPE OR EQUIVALENT. HANGER SPACING AND ROD SIZE SHALL BE IN ACCORDANCE WITH THE LOCAL CODE AND/OR ASHRAE STANDARDS. SUPPORT DUCTWORK IN ACCORDANCE WITH SMACNA STANDARDS. DUCTWORK SHALL BE SUPPORTED INDEPENDENT FROM OTHER DUCTWORK AND EQUIPMENT. PROVIDE MINIMUM 18 GAUGE GALVANIZED STEEL SLEEVES FOR DUCTWORK, FLASHINGS, AND ESCUTCHEONS. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS.

SHOP DRAWINGS: PROVIDE SHOP DRAWINGS AND MANUFACTURER'S DATA ON ALL PLUMBING FIXTURES AND TRIM, EQUIPMENT, MECHANICAL DEVICES AND FIRE PROTECTION SYSTEM FOR APPROVAL.

WARRANTY: PROVIDE TWO YEAR WARRANTY FROM DATE OF FINAL ACCEPTANCE ON ALL LABOR AND MATERIALS PROVIDED UNDER THIS CONTRACT. PROVIDE AN ADDITIONAL FIVE YEAR WARRANTY ON THE MOTOR_COMPRESSOR UNITS FOR ALL AIR CONDITIONING OR HEAT PUMP EQUIPMENT AND WATER HEATERS.

OPERATION AND MAINTENANCE MANUAL: PROVIDE A COMPLETE INDEXED, BOUND MANUAL OF ALL EQUIPMENT REQUIRING MAINTENANCE.

TRAINING: CONTRACTOR SHALL PROVIDE A MINIMUM OF TWO HOURS TRAINING TO THE OWNER ON THE OPERATION OF ALL EQUIPMENT.

CLEAN_UP: CONTRACTOR SHALL MAINTAIN PREMISES IN CLEAN CONDITION AT END OF EACH DAY AND THOROUGHLY CLEAN_UP AT END OF CONSTRUCTION.

PLUMBING:

TESTS: SANITARY SOIL AND VENT PIPING SHALL BE SCHEDULE 40 PVC PIPING WITH DWV FITTINGS AND LOW VOC SOLVENT JOINTS AS APPROVED BY CODE AGENCIES.

DOMESTIC WATER PIPING ABOVE GRADE SHALL BE TYPE "L" HARD TEMPER COPPER PIPE WITH WROUGHT FITTINGS AND 95_5 LEAD FREE SOLDER JOINTS.

DOMESTIC WATER PIPING BELOW SLAB SHALL BE TYPE "K" SOFT TEMPER COPPER PIPE WITH NO JOINTS WHERE POSSIBLE OR WROUGHT COPPER FITTINGS AND SILVER BRAZED JOINTS.

GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL WITH MALLEABLE IRON FITTINGS. SUPPORT PIPING ON ROOF WITH PIPE SUPPORTS EQUAL OF MIPRO SPACED AS DIRECTED BY CODE. PROVIDE LISTED BALL VALVES, UNIONS AND DIRT LEGS AT ALL APPLIANCES. PIPING EXPOSED TO WEATHER SHALL HAVE MINIMUM TWO COATS OF YELLOW PAINT.

CONDENSATE DRAIN PIPING SHALL BE TYPE M, HARD DRAWN COPPER WITH WROUGHT COPPER FITTINGS. AT CONNECTION TO EACH UNIT PROVIDE DIELECTRIC UNION, TRAP AND OPEN BREATHER TEE ON DISCHARGE SIDE OF TRAP. INSULATE ALL CONDENSATE DRAIN LINES ABOVE CEILINGS AND IN STUD SPACES WITH 1/2" THICK ARMSTRONG "ARMAFLEX" INSULATION OR EQUAL.

INSULATION: INSULATE ALL DOMESTIC HOT WATER SUPPLY AND HOT WATER RETURN PIPING UP TO 140F OPERATING TEMPERATURE, 1-1/4" DIAMETER & SMALLER, WITH 1" THICK GLASS FIBER SECTIONAL PIPE INSULATION WITH ALL SERVICE JACKET OR EQUIVALENT ARMAFLEX FOAM.

PIPING SPECIALTIES: CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS OR FLANGES AT ALL LOCATIONS WHERE COPPER OR BRASS PIPING CONNECTS TO FERROUS PIPING OR EQUIPMENT.

VALVES: VALVES FOR DOMESTIC HOT AND COLD WATER SHALL BE LEAD-FREE AND AS MANUFACTURED BY KITZ, STOCKHAM, NIBCO, APOLLO, MILWAUKEE OR JENKINS.

BALL VALVES SHALL BE BRONZE, TWO PIECE BODY, FULL PORT FORGED BRASS BALL, SILICON BRONZE STEM, PTFE OR HDPE SEAT, PACKING AND GASKET; THREADED OR SOLDERED ENDS. VALVES SHALL CONFORM TO MSS SP-110

CHECK VALVES SHALL BE CLASS 125, BRONZE BODY, BRONZE DISC, Y-PATTERN, SWING CHECK DESIGN, THREADED OR SOLDERED ENDS. VALVES SHALL CONFORM TO MSS SP-80.

WHERE VALVE INSTALLATION IS CONCEALED; PROVIDE J.R. SMITH SERIES 4760 OR APPROVED EQUAL ACCESS DOORS WITH CONCEALED HINGE AND KEY OPERATED LOCKS. DOORS SHALL BE LARGE ENOUGH TO SERVICE VALVES AND SHALL BE INSTALLED FLUSH WITH FINISHED WALLS OR CEILINGS.

PLUMBING FIXTURES: FURNISH ALL STANDARD PRODUCTS OF AMERICAN STANDARD, KOHLER, CRANE, TOTO, DELTA, MOEN, CHICAGO, T&S BRASS, MIFAB, SLOAN, DELANY, ELKAY, HAWS OR APPROVED EQUAL. ALL FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED. REFER TO SCHEDULE FOR SPECIFIC REQUIREMENTS. PROVIDE STOPS AT HOT AND COLD WATER CONNECTIONS TO EACH FIXTURE.

WATER HEATERS: CAPACITIES AND ACCESSORIES TO BE AS SCHEDULED ON THE DRAWINGS AND BE MANUFACTURED BY CHRONOMITE, EEMAX OR APPROVED EQUAL.

EXECUTION: SLOPE DRAINAGE PIPING INSIDE AND OUTSIDE OF BUILDING IN ACCORDANCE WITH REQUIREMENTS OF THE GOVERNING PLUMBING CODES.

ESTABLISH GRADE LINES WITH SURVEYOR'S LEVEL. VERIFY LOCATION OF SEWER TAPS BEFORE START OF WORK AND MAKE NECESSARY GRADE ADJUSTMENTS. DRAIN VENT LINES BACK TO SOIL LINES.

LOCATE CLEANOUTS AT EACH CHANGE OF LINE DIRECTION OF MORE THAN 45 DEG. WHERE MORE THAN ONE CHANGE OCCURS IN A RUN OF PIPING, ONLY ONE CLEANOUT SHALL BE REQUIRED FOR EACH 40 FT. INTERVAL.

INSTALL WATER PIPING TO AVOID CONTACT WITH STRUCTURE WHEN POSSIBLE TO PREVENT EXCESSIVE WATER HAMMER NOISE TRANSMISSION.

ALL PIPING SHALL BE INSTALLED AT RIGHT ANGLES TO THE BUILDING LINES AND PLUMB.

WRAP METALLIC PIPE IN CONTACT WITH CONCRETE BLOCK, SLABS OR STUCCO WITH 10 MIL THICK PVC TAPE TO PREVENT CORROSION.

FLUSH PIPING CLEAN WITH WATER AFTER INSTALLATION. DISINFECT POTABLE WATER SYSTEM PER CODE, AWWA C651, OR AWWA C652 AND SUBMIT TEST RESULTS.

TEST ALL PIPING PRIOR TO COVERING OR BACKFILLING.

TEST WATER PIPING AT 100 PSIG FOR A CONTINUOUS PERIOD OF NOT LESS THAN FOUR (4) HOURS. DURING THIS TIME, CAREFULLY INSPECT THE SYSTEM FOR LEAKS. CONTRACTOR SHALL REPAIR ALL LEAKS IF NECESSARY AND TEST AGAIN UNTIL NO LEAKAGE IS DETECTED.

TEST SOIL, WASTE AND VENT SYSTEMS BY PLUGGING LINES AND FILLING SYSTEMS WITH WATER TO A STATIC HEAD OF 10 FEET OF WATER. OBSERVE WATER LEVEL FOR A TWO (2) HOUR PERIOD. IF LEVEL IS LOWERED, INDICATING LEAKAGE, REPAIR LEAKS AND TEST AGAIN UNTIL NO FURTHER LEAKAGE IS DETECTED.

TEST NATURAL GAS PIPING AT 30 PSIG FOR A CONTINUOUS PERIOD OF NOT LESS THAN FOUR (4) HOURS. DURING THIS TIME, CAREFULLY INSPECT THE SYSTEM FOR LEAKS. CONTRACTOR SHALL REPAIR ALL LEAKS IF NECESSARY AND TEST AGAIN UNTIL NO LEAKAGE IS DETECTED.

HEATING, VENTILATING AND AIR CONDITIONING:

EQUIPMENT: EQUIPMENT CAPACITIES AND CHARACTERISTICS SHALL BE AS SCHEDULED ON THE DRAWINGS. INSTALL AS INDICATED ON DRAWINGS AND AS PER MANUFACTURER'S PRINTED INSTRUCTIONS. AIR CONDITIONING EQUIPMENT MANUFACTURED BY CARRIER, TRANE, LENNOX, DAIKIN, JCI (YORK), RHEEM, RUUD, AMERICAN STANDARD, BRYANT OR DAY & NIGHT IS ACCEPTABLE. DUCTLESS SPLIT AND VRF SYSTEM EQUIPMENT MANUFACTURED BY CARRIER (TOSHIBA), TRANE, LENNOX, DAIKIN, LG, MITSUBISHI, SANYO, FUJITSU, OR TOSHIBA IS ACCEPTABLE. EXHAUST FANS MANUFACTURED BY GREENHECK, LOREN COOK, TWIN CITY, PENN BARRY, BROAN, OR DELTA ARE ACCEPTABLE.

EQUIPMENT IDENTIFICATION: CONTRACTOR SHALL PROVIDE EQUIPMENT TAGS ON ALL MAJOR EQUIPMENT, I.E., AIR CONDITIONERS, EXHAUST FANS, ETC. TAGS SHALL BE BLACK WITH A MINIMUM OF 1" HIGH WHITE LETTERS PERMANENTLY AFFIXED TO THE UNITS. HAND WRITTEN TAGS ARE NOT ACCEPTABLE.

DUCT SIZES: DIMENSIONS ON DRAWINGS ARE SHEET METAL DUCT SIZES. DO NOT INCREASE DUCT SIZE FOR ACOUSTICALLY LINED OR INTERNALLY INSULATED DUCTS.

ALL LOW PRESSURE DUCTWORK SHALL BE CONSTRUCTED WITH A MIN. 2" W.G. PRESSURE CLASSIFICATION AND SEAL CLASS C. SEAL ALL TRANSVERSE JOINTS WITH HARDCAST.

DUCT GAUGES: FABRICATION AND SUPPORT SHALL BE IN ACCORDANCE WITH SMACNA STANDARDS.

ROUND DUCTWORK: GALVANIZED STEEL LOCK FORMING QUALITY, MINIMUM 0.028 INCH THICK CONTINUOUS SPIRAL SEAM. FABRICATE ROUND DUCT ELBOWS OF MINIMUM FIVE (5) PIECE CONSTRUCTION.

GALVANIZED DUCTWORK: GALVANIZED STEEL LOCK FORMING QUALITY HAVING ZINC COATING OF 1.25 OUNCES PER SQUARE FOOT FOR EACH SIDE PER ASTM A653. ALL DUCTWORK SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. ALL DUCTWORK EXPOSED TO WEATHER SHALL BE SEALED (JOINTS AND SEAMS) WITH SILICONE SEALANT. ALL DUCTWORK JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS AND CONNECTIONS IN DUCTWORK MUST BE SECURELY SEALED USING WELDMENTS; MECHANICAL FASTENERS WITH SEALS, GASKETS, OR MASTICS; MESH AND MASTIC SEALING SYSTEMS; OR TAPES. TAPES AND MASTICS MUST BE LISTED AND LABELED IN ACCORDANCE WITH UL 181A OR UL 181B.

FLEXIBLE DUCTS: FLEXIBLE DUCTS SHALL BE INSULATED (MINIMUM 1" THICK, WITH MINIMUM THERMAL RESISTANCE OF R4.2) AND HAVE A FOIL SCRIM VAPOR BARRIER. FLEXIBLE DUCTWORK SHALL BE LISTED AS UL 181 CLASS 1 FLEXIBLE AIR DUCT AND SHALL COMPLY WITH NFPA STANDARDS. PROVIDE FLEXIBLE DUCTWORK AS MANUFACTURED BY MANVILLE, OWEN CORNING, THERMOFLEX, OR EQUIVALENT.

DUCT LINER: ALL RECTANGULAR SUPPLY AND RETURN DUCTWORK TO BE INTERNALLY LINED FOR THERMAL AND/OR ACOUSTICAL PURPOSES SHALL BE 1" THICK WITH A MINIMUM THERMAL RESISTANCE OF R4.2, SUITABLE FOR TEMPERATURE RANGE OF 40 F TO 250 F AND MAXIMUM AIR VELOCITY OF 4000 FPM. INSTALL LINER IN ACCORDANCE WITH SMACNA DUCT LINER APPLICATION STANDARD. LINE ALL AIR CONDITIONING DUCTWORK EXTERIOR TO THE BUILDING ENVELOPE WITH 2" THICK DUCT LINER WITH A MINIMUM THERMAL RESISTANCE OF 8.0. DUCT LINER SHALL BE RESISTANT TO MOLD GROWTH IN ACCORDANCE WITH UL 181, ASTM C1338, OR ASTM D3273.

INSULATION: WRAP ALL ROUND SUPPLY AND RETURN DUCTWORK NOT INTERNALLY LINED WITH A MAXIMUM 1-1/2" THICK, FLEXIBLE FIBERGLASS INSULATION HAVING A FACTORY APPLIED FOIL SCRIM KRAFT VAPOR BARRIER. INSULATION SHALL HAVE A MINIMUM THERMAL RESISTANCE OF R4.2 AT 75 F MEAN TEMPERATURE. INSULATION SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS. DUCT WRAP SHALL BE INSTALLED SO AS TO PROVIDE A UNIFORM THICKNESS. INSULATION SHALL NOT BE COMPRESSED.

ACCESS DOORS: FABRICATE RIGID AND CLOSE FITTING DOORS OF GALVANIZED STEEL WITH SEALING GASKETS AND QUICK FASTENING LOCKING DEVICES. FOR INTERNALLY LINED OR INSULATED DUCTWORK, INSTALL MINIMUM ONE INCH THICK INSULATION WITH SHEET METAL COVER. INSTALL AT EACH FIRE DAMPER. ACCESS DOORS SHALL BE MINIMUM 12" SQUARE.

DAMPERS: FABRICATE BALANCING DAMPERS OF GALVANIZED STEEL, MINIMUM 16 GAUGE AND PROVIDE WITH LOCKING QUADRANTS. UNLESS INDICATED OTHERWISE, DAMPERS SHALL BE OPPOSED BLADE TYPE.

FLEXIBLE CONNECTION: PROVIDE FLEXIBLE CONNECTIONS AT THE INLET AND OUTLET OF ALL AIR MOVING DEVICES. FABRICATE OF NEOPRENE COATED FLAMEPROOF FABRIC APPROXIMATELY 4_INCH WIDE TIGHTLY CRIMPED INTO METAL EDGING STRIP AND ATTACH TO DUCTING AND EQUIPMENT BY SCREWS OR BOLTS AT 6_INCH INTERVALS. FLEXIBLE CONNECTIONS SHALL BE ASSEMBLED PER MANUFACTURER'S INSTRUCTIONS FOR OPTIMUM SHAPE. FLEXIBLE CONNECTIONS EXPOSED TO THE WEATHER SHALL BE PROVIDED WITH A SHEET METAL WEATHER SHIELD.

TURNING VANES: FABRICATE TURNING VANES AND RAILS OF 24 GAUGE GALVANIZED STEEL AND ASSEMBLE RATTLE FREE. TURNING VANES SHALL BE SINGLE THICKNESS PREFABRICATED OR ASSEMBLED PER MANUFACTURER'S INSTRUCTIONS FOR OPTIMUM SHAPE.

FILTERS: FILTERS SHALL BE 2" THICK PLEATED TYPE, DISPOSABLE, MEDIUM EFFICIENCY, MERV 13, CAMFIL FARR 30/30 OR EQUIVALENT. FILTERS SHALL BE IN PLACE WHENEVER SYSTEMS ARE IN OPERATION. CONTRACTOR SHALL PROVIDE AND INSTALL AN ADDITIONAL SET OF FILTERS FOR EACH UNIT AT THE COMPLETION OF PROJECT.

AIR DEVICES: AIR DISTRIBUTION DEVICES SHALL BE AS SCHEDULED ON THE DRAWINGS AND EQUAL TO KRUEGER, TITUS, PRICE OR AIR CONCEPTS.

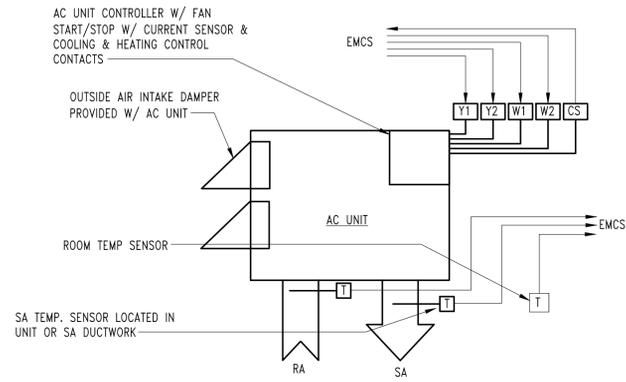
TESTING AND BALANCING: AIR SYSTEMS SHALL BE BALANCED BY CERTIFIED TESTING & BALANCING CONTRACTOR IN ACCORDANCE WITH AABC STANDARDS AND METHODS. SUBMIT AIR BALANCE REPORT ON AABC STANDARD FORMS FOR APPROVAL.

CONTROL NOTES:

1. THE CONTROL SYSTEM FOR THIS PROJECT SHALL BE NIAGARA/TRIDIUM USING ALLERTON OR KMC CONTROLLERS AND SHALL BE COMPATIBLE WITH THE EXISTING DISTRICT WIDE CONTROL SYSTEM.
2. THIS SYSTEM SHALL BE CONNECTED TO THE DISTRICT'S EXISTING NETWORK. THE CABLING FOR THE NETWORK CONNECTION SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR, FINAL CONNECTION TO THE NETWORK HUB SHALL BE BY THE OWNER. THE OWNER WILL PROVIDE THE CONTRACTOR WITH AN IP ADDRESS.
3. THE EXISTING OWNER'S OPERATOR'S WORKSTATION SHALL ALSO BE UTILIZED FOR THIS PROJECT. FULL GRAPHICS SHALL BE PROVIDED ON THE EXISTING OPERATOR'S WORKSTATION. THE GRAPHICS SHALL INCLUDE THE BUILDING FLOOR PLANS WITH AC ZONES INDICATED ON THE PLANS AND ZONE TEMPERATURES DISPLAYED. IF THE OPERATOR CLICKS A ZONE, THE CONTROL DIAGRAM FOR THE AC UNIT IS DISPLAYED. IF THE OPERATOR CLICKS AN EXHAUST FAN, THE CONTROL DIAGRAM FOR THAT UNIT IS DISPLAYED. PROVIDE GRAPHICS FOR ALL CONTROLS. ALL CONTROL GRAPHICS SHALL BE SUBMITTED AND APPROVED BY THE DISTRICT.
4. ALL WIRING TO BE IN CONDUIT OR EMT.
5. PROVIDE ALL CONTROL DEVICES REQUIRED TO PERFORM THE FUNCTIONS DESCRIBED IN THE SEQUENCE OF OPERATION.
6. ALL SET POINTS SHALL BE DISPLAYED AND ADJUSTABLE.
7. ALL TIMED SEQUENCES SHALL BE DISPLAYED AND ADJUSTABLE.
8. ALL OPERATING SCHEDULES SHALL BE DISPLAYED AND ADJUSTABLE.
9. ALL OVERRIDE TIME PERIODS SHALL BE DISPLAYED AND ADJUSTABLE.
10. ALL ALARM LIMITS SHALL BE DISPLAYED AND ADJUSTABLE.
11. ALL ALARMS SHALL BE LOGGED WITH A DATE AND TIME OF THE ALARM ALONG WITH A DESCRIPTION.
12. DISPLAY RUN TIMES OF ALL EQUIPMENT.

SEQUENCE OF OPERATION

1. AIR CONDITIONING UNITS
 - A. EACH AC UNIT SHALL OPERATE ON A SCHEDULED START/STOP BASIS.
 - B. THE AC UNIT FAN SHALL OPERATE CONTINUOUSLY DURING OCCUPIED TIMES. IF THE FAN FAILS, AN ALARM MESSAGE SHALL BE PROVIDED
 - C. THE ROOM TEMPERATURE SET POINT SHALL BE 75 F DURING COOLING CYCLE AND 70 DEG DURING HEATING CYCLE. IF THE ROOM TEMPERATURE IS GREATER THAN 5F FROM SET POINT, AN ALARM MESSAGE SHALL BE PROVIDED.
 - D. THE AC UNIT SHALL CYCLE THE COOLING AND HEATING STAGES TO MAINTAIN THE ROOM TEMPERATURE SET POINT. A MINIMUM 3 F DEADBAND SHALL BE PROVIDED BETWEEN HEATING AND COOLING OPERATION.
 - E. THE AC UNIT ECONOMIZER AND DEMAND CONTROL VENTILATION CONTROLS SHALL BE OPERATED BY THE INTERNAL AC UNIT CONTROLS.
 - F. THE SUPPLY AIR/RETURN AIR TEMPERATURES SHALL BE DISPLAYED FOR MAINTENANCE.
 - G. NIGHT SET-BACK/SET-UP SHALL BE PROVIDED IF REQUESTED BY THE OWNER. THE SET-BACK ROOM TEMPERATURE SET POINT SHALL BE 55 F AND THE SET-UP ROOM TEMPERATURE SET POINT SHALL BE 85 F. IF THE ROOM TEMPERATURE IS 55 F OR LESS, THE RESPECTIVE AC UNIT SHALL BE ENABLED UNTIL THE ROOM TEMPERATURE IS 60 F OR GREATER. IF THE ROOM TEMPERATURE IS 85 F OR GREATER, THE RESPECTIVE AC UNIT SHALL BE ENABLED UNTIL THE ROOM TEMPERATURE IS 80 F OR LESS. THE FAN SHALL CYCLE ON WHEN THE AC UNIT IS ENABLED AND CYCLE OFF WHEN THE AC UNIT IS DISABLED. THE DATE, TIME, DURATION OF OPERATION, OUTSIDE AIR TEMPERATURE, AND RESPECTIVE UNIT THAT OPERATES DURING THE NIGHT SET-BACK/SET-UP SEQUENCE SHALL BE LOGGED.



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Designers Mech: KGW Plumb: KGW Project #: 21-176

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ADDENDUM 1
ATTACHMENT 13

**Amphitheater Public Schools
Amphitheater High School
500 Wing Renovation**



PROJECT NO:
17.14.65

DATE:
FEBRUARY 2022

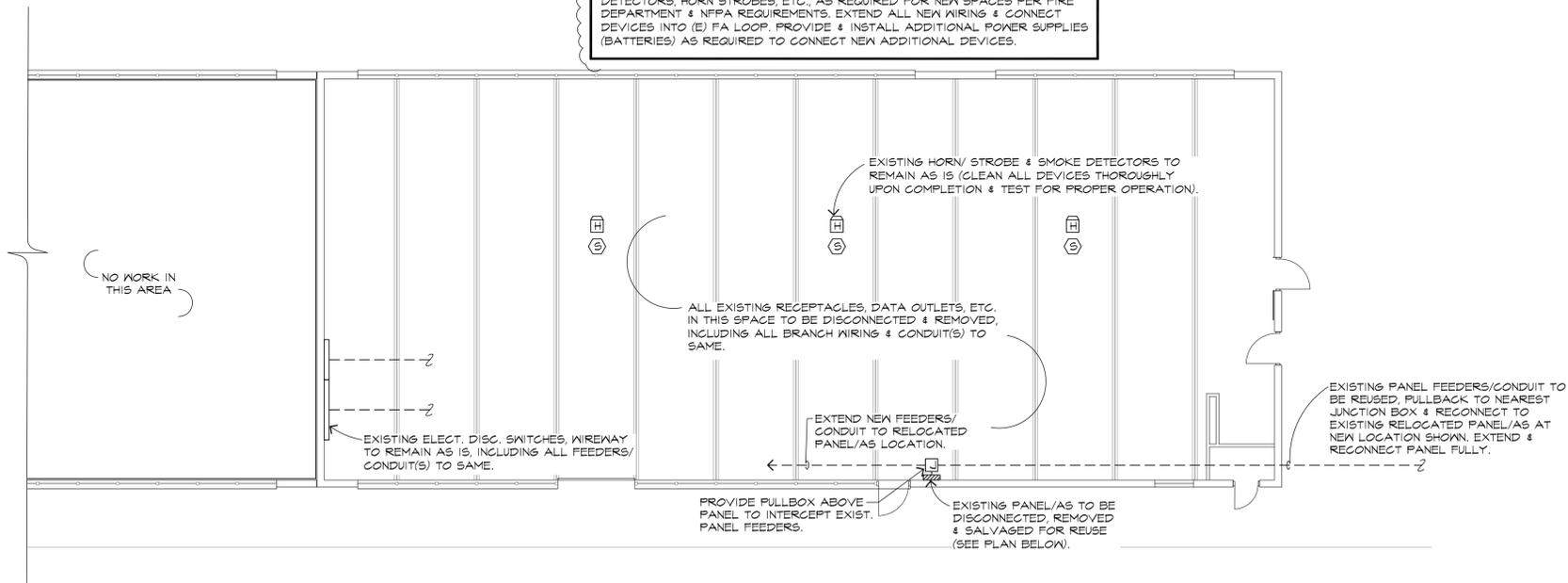
REVISION SCHEDULE		
#	DATE	DESCRIPTION

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CHECKED BY: KGB
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Mechanical Specifications
MP1.1

NOTE

CONTRACTOR TO PROVIDE & INSTALL NEW FIRE ALARM DEVICES, I.E. SMOKE DETECTORS, HORN STROBES, ETC. AS REQUIRED FOR NEW SPACES PER FIRE DEPARTMENT & NFPA REQUIREMENTS. EXTEND ALL NEW WIRING & CONNECT DEVICES INTO (E) FA LOOP. PROVIDE & INSTALL ADDITIONAL POWER SUPPLIES (BATTERIES) AS REQUIRED TO CONNECT NEW ADDITIONAL DEVICES.

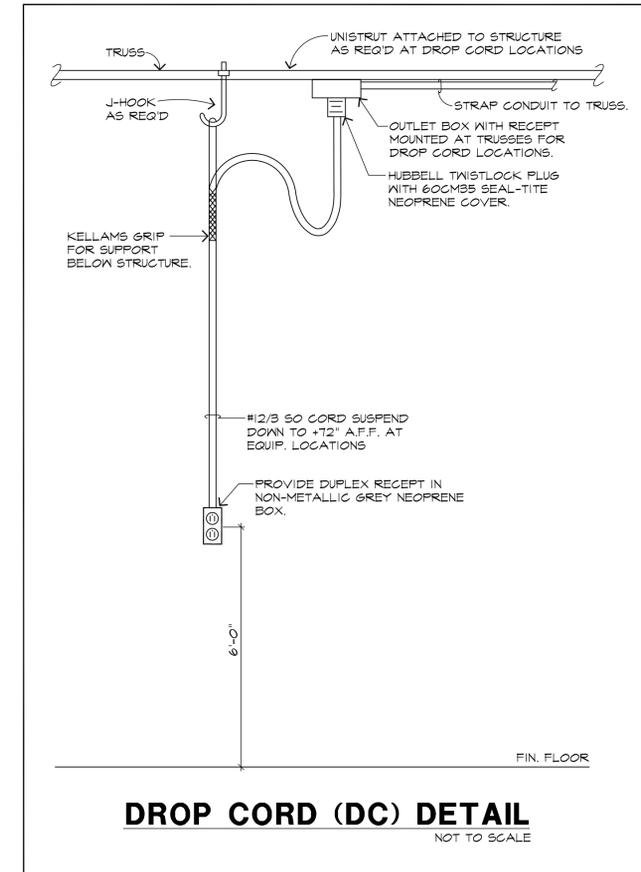


Electrical Power Plan - Demo

1/8" = 1'-0"

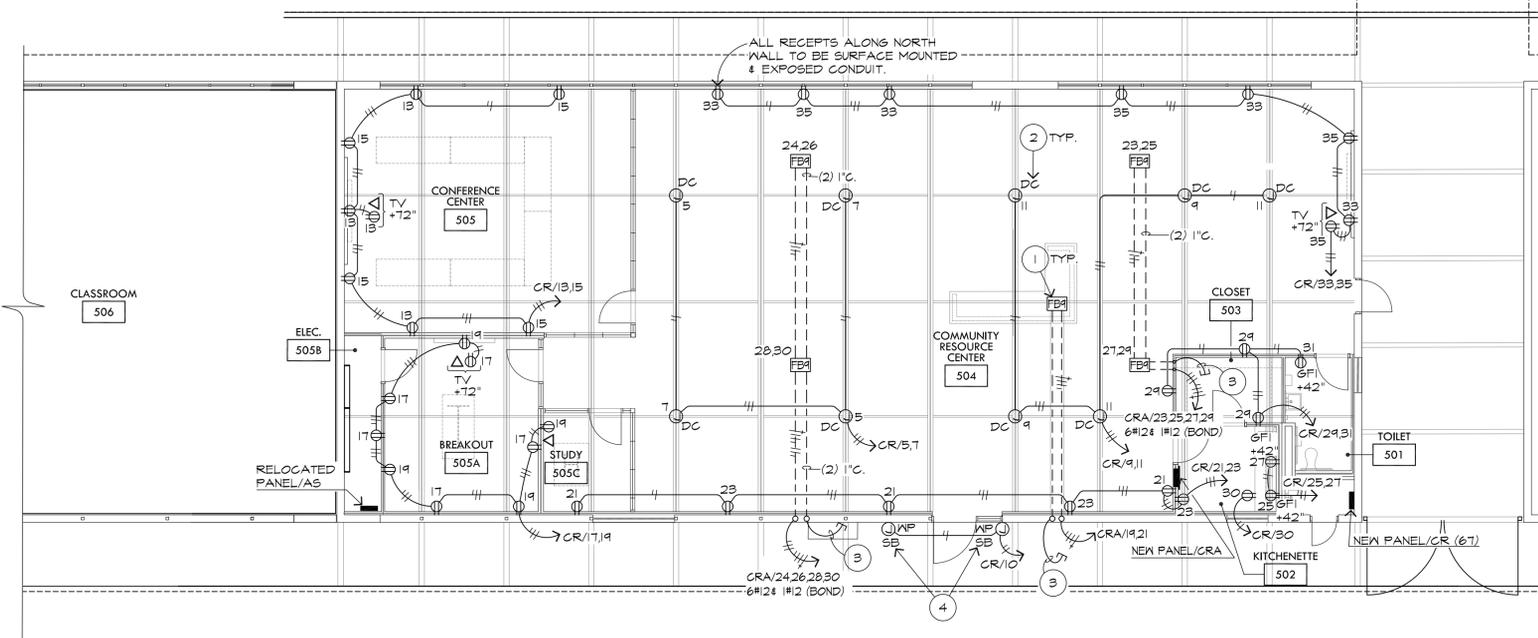
POWER KEYNOTE

1. PROVIDE & INSTALL FLUSH FLOOR BOX AS SHOWN. VERIFY & COORDINATE EXACT LOCATION W/ SCHOOL DISTRICT PRIOR TO INSTALLATION & COMPLY AS DIRECTED.
2. DROP CORD (DC) LOCATION, SEE DETAIL THIS SHEET. VERIFY & COORDINATE EXACT LOCATIONS WITH OWNER PRIOR TO ROUGH-IN OR INSTALLATION.
3. STUB (2) 1" C. INTO CEILING SPACE FOR EXTENSION OF DATA/ TELEPHONE CABLING BY ADDENDUM 1 ATTACHMENT 10.
4. INSTALL WEATHERPROOF JUNCTION BOXES FOR SIGNAGE (SB). SIGNAGE TO BE PROVIDED BY OWNER. VERIFY & COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION.



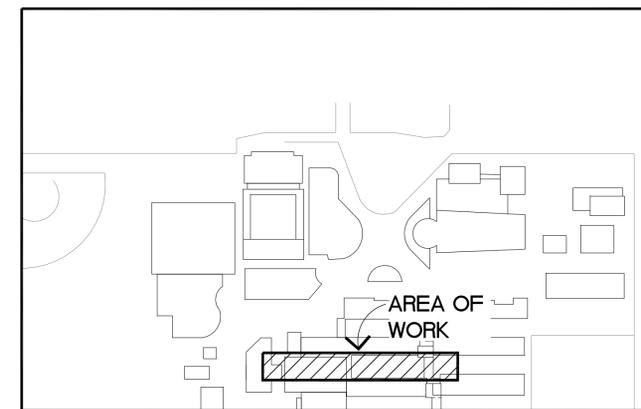
DROP CORD (DC) DETAIL

NOT TO SCALE



Electrical Power Plan - New

1/8" = 1'-0"



VICINITY MAP

NOT TO SCALE

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ADDENDUM 1
ATTACHMENT 14

Amphitheater Public Schools
Amphitheater High School
500 Wing Renovation



PROJECT NO:
17.14.65

DATE:
MARCH 2022

REVISION SCHEDULE:

#	DATE	DESCRIPTION	ISSUED TO

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CHECKED BY: Y:STB

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Electrical
Power Plan
E5.0