Jordan School District Riverton Elementary School Remodel

GSBS Project No. 2023.043.00

ADDENDUM NO. 1

February 13, 2024

The original specifications and drawings, dated January 22, 2024 for the project referenced above are amended in the Addendum No. 1, dated February 13, 2024.

Receipt of this addendum shall be acknowledged by inserting its number and date in the space provided on the bid form.

This addendum consists of the following:

Questions:

Q1. SB101 has a call out for a 2'-0" drill and epoxy embed. Typical embedment for a #4 Bar is 6" to 9". Is this a typo, maybe the lap length instead of the embed?

The 2'-0" embedment of the #4 rebar designated on SB101 is correct. The purpose of the specified embedment length is to lap the new reinforcement with the existing footing reinforcement. The concentrated load from the new steel columns overloaded the capacity of the existing footings and resulted in the need to increasing the size of the existing footing and to provide continuously developed reinforcement to the edge of the new footing.

Q2. Can we schedule a site walk with Subs? Also are there as-builts for this project that we can get access to?

Jordan School District has a set that they will share with the awarded low bidder. They typically don't provide as-builts to contractors for bidding purposes.

The following products have been reviewed and are accepted as substitutes for specified products:

- 1. 102239 FOLDING PANEL PARTITIONS: Moderco 933 EG
- 2. 122413 ROLLER WINDOW SHADES: Soleffect Solo Screen 3% fabric

Attachments:

Specification Sections: 022000, 0271500

Drawing Sheets: A101b, A101c, A131a, A131b, A131c, A401, A501, A508, A509, A601, MD101A, M101A, M401, E201B, E301A, E301B, E301C

Specification Updates:

064023 - INTERIOR ARCHITECTURAL WOODWORK

Article 2.3 - Interior Wayfinding Portal Frames and Jambs for Opaque Finish, add the following: "(Indicated on Drawings as P1, P2, P3, P4, P5)."

101423 - PANEL SIGNAGE

Article 2.3.A - Add the following sentence: "Overlaminate to have a matte finish."

022000 - PLUMBING (attached)

Updated S-1 Sink: (Health) Just USADA1414A55-J - 14-1/2" x 14-1/2" x 5-3/8", 18 ga. single compartment 304 stainless steel, drilled for 3-hole 8" center set faucet,

undermount, sound dampening, cup strainer, Chicago 786-245ABCP deck mounted gooseneck faucet with ADA levers and aerator, flexible supplies, brass P-trap. as indicated in red in attached specification section.

0275123 - INTERCOMMUNICATIONS SYSTEMS

Refer to page 10 Add "Provide 10 spare loud speakers and back boxes."

0271500 - TELEPHONE DATA SYSTEMS (attached)

Added data rack with accessories as indicated in red in attached specification section.

Drawing Updates:

A101b

1. Updated paint color callout at west interior door at Corridor 3.

A101c

1. Updated paint color callout at east interior door at Corridor 44.

A131a

 Updated ceiling note 9 to indicate updated paint color callout for Corridors 3 & 44.

A131b

 Updated ceiling note 9 to indicate updated paint color callout for Corridors 3 & 44.

A131c

 Updated ceiling note 9 to indicate updated paint color callout for Corridors 3 & 44

A401

1. Added additional grommet at reception desk.

A501

1. Update View 4: Referenced electrical outlet install location.

A508

1. Update portal designations/locations.

A509

1. Update portal designations/locations.

A601

1. Added note to material P4. Comments section.

MD101A

1. Noted location of existing thermostat.

M101A

1. Revised thermostat locations.

M401

1. Revised thermostat locations.

E002 (sheet not included)

1. Refer to the panel schedule. All circuit breakers shown at numbers 29 through 42 are new breakers as indicated in the existing panel. Verify all requirements for panel compatibility. Refer to clouded fixture D6 for new recessed downlight

- with screw-in LED fixture. Replace all WS1 fixtures with D6 fixtures centered in
- 2. Provide fixture D6 as shown below. Replace all WS1 fixtures with D6 fixtures centered in ceiling.

	J-2040,	CERTIFICATION OF THE WILL SELECT LANGER, TO COST HOUSE, SON, SAN WARRANTY, OLD DISMINER, SCHAL, WIDE DISTRIBUTION	~финsронда~ _~	~ Tib 460-42572F-3647-46673E47613F-35-46673E47-46673E47-35-467-4667-4667-4667-4667-4667-4667-4667	1924	~1614~~	~4B~~	~400~~	~480Q.S~~	~#~
	D6	BY LED RECESSED BOUND GENERAL TO DEGREE THE DOWNLOST WITH SCREWIN LED FOTURE, FRAME - TRIN KIT, SELF-FLANGED, 55,000 HOUR [LIGH], 5 YR WARRANTY D-10 DIMMING; SCBA, MEDIUM DISTRIBUTION	CODPER	ETICAT/NP/4CBA	120 V	20 VA	LED	1,500	4000 K	80
- 1	hum	B" LED RECESSED ROUND DOWNLIGHT, REMODEL KIT IN A RESENTING, DAY, DRINLING, MANNEY, THINKE, SALE PLANGED, A.A.A.A.	Abertather	N. C. A. A. S. S. S. A. S.	1300	my	my	myn	March	MAN

E201B

1. Update lighting in office area as indicated.

E301A

1. Provide power to 'R1' boxes as indicated. Refer to Sheet Keynote E21.

E301B

- 1. Provide power to 'R1' boxes as indicated. Refer to Sheet Keynote E21.
- Relocated devices as indicated in the main office area.
 Add a data rack as indicated and specified.

E301C

- 1. Provide power to 'R1' boxes as indicated. Refer to Sheet Keynote E21.
- 2. Add new fire alarm devices are shown in classrooms.

E401 (sheet not included)

1. Update Sheet Keynote V16 to read: "PROVIDE NEW INTERCOM LOADSPEAKER."

See attached for list of approved manufacturers for electrical equipment.

END OF ADDENDUM #1



Issue Date: 02/13/2024

RIVERTON ELEMENTARY SCHOOL REMODEL

Electrical Addendum #1

Failure to conform to the design quality and standards specified, established and required may result in later disapproval. If equipment must be disapproved after bidding, supplier shall supply specified equipment at no extra cost to the Owner. Items are listed generally and specific model number, etc. shall be as submitted. Items submitted but not approved, either did not satisfy the requirements, or showed insufficient data, or arrived after the 8 day deadline established for submittals.]

TVDE	CDECIFIED	QUANTUM	BUILD 26	SSCO	
<u>TYPE</u>	SPECIFIED	<u>APPROVED</u>	APPROVED	<u>APPROVED</u>	
A55	METALUX	-	COLUMBIA	HE WILLIAMS	
A75	METALUX	-	COLUMBIA	HE WILLIAMS	
A100	METALUX	-	COLUMBIA	HE WILLIAMS	
A180	METALUX	-	COLUMBIA	HE WILLIAMS	
B34	METALUX	-	COLUMBIA	HE WILLIAMS	
B39	METALUX	-	COLUMBIA	HE WILLIAMS	
C3FP	METALUX	-	COLUMBIA	HE WILLIAMS	
CV1	COOPER	-	ACOLYTE	MODA	
D4A	PRESCOLITE	PORTFOLIO	-	HE WILLIAMS	
D4B	PRESCOLITE	PORTFOLIO	-	HE WILLIAMS	
D8	PRESCOLITE	PORTFOLIO	-	HE WILLIAMS	
DC	Q-TRAN	-	ACOLYTE	OMNILIGHT	
LWA1	PINNACLE	NEO-RAY	LUMENWERX	-	
LWA2	PINNACLE	NEO-RAY	LUMENWERX	-	
OD8R	GOTHAM	PORTFOLIO	-	HE WILLIAMS	
PL1	PINNACLE	NEO-RAY	LUMENWERX	-	
PL2	PINNACLE	NEO-RAY	LUMENWERX	-	
SD7	LIGHTOLIER	HALO	PRESCOLITE	-	
SL1	PINNACLE	NEO-RAY	LUMENWERX	-	
SL4	METALUX	-	ILP	HE WILLIAMS	
SL4C	METALUX	-	ILP	HE WILLIAMS	
SM4L	KENALL	-	CERTOLUX	NEW STAR	
SM4M	KENALL	-	CERTOLUX	NEW STAR	
SM8M	KENALL	-	CERTOLUX	NEW STAR	
SML8	NEWSTAR	-	CERTOLUX	NEW STAR	
TL1	CONTECH	TIMES SQ. LIT.	-	LIGHTOLIER	
TL2	HALO	-	CONTECH	LIGHTOLIER	
TR1	CONTECH	HALO	-	LIGHTOLIER	
TR2	HALO	-	CONTECH	LIGHTOLIER	
UC1	Q-TRAN	-	ACOLYTE	OMNILIGHT	
WL1	LUMENWERX	PMC	LUMENWERX	AXIS	
WS1	KENALL	-	LC DOANE	NEW STAR	
XA	EMERGI-LITE	-	BEGHELLI	MULE	
XB	EMERGI-LITE	-	BEGHELLI	MULE	

PRIOR APPROVAL OF MANUFACTURERS OF ELECTRICAL EQUIPMENT

The above items, trade names, products and manufacturers are approved for bidding. Approval does not relieve the bidder from satisfying the intent of the requirements of drawings, specifications and addenda in every respect.

SECTION 22 0000 - PLUMBING

PART 1 – GENERAL

1.1 SCOPE OF WORK

- A. Piping diagrams are schematic and indicate preferred pipe routing. It is the intent that the installation be complete. Where fixtures are not shown connected to any required services, they shall be connected properly and completely. Connect all fixtures to various services, i.e., hot water, cold water, waste, and vent, etc., as required.
- B. The work shall include furnishing of all materials and labor required for the job as described, together with all accessories and trim implied or required to finish the work, and generally as follows:
 - 1. Demolition of existing systems.
 - 2. Plumbing fixtures and piping.
 - 3. Sanitary sewer systems.
 - 4. Rain removal system, including piping and roof drains.
 - 5. Backflow prevention systems.
 - 6. Removal and addition of sensor flush valves at existing urinals.
 - 7. Replacement of existing lavatories under alternate #4.

1.2 STANDARDS

- A. Plumbing installation shall be done in accordance with the 2021 International Plumbing Code, City Code, and all other governing codes.
- B. In the event drawings violate the codes as being locally enforced, the contractor shall base his estimate on the enforced code requirements.

1.3 DISINFECTING

- A. After flushing the mains, introduce a water and chlorine solution concentrated to 300 PPM to disinfect the system and oxidize piping contaminates. Retain treated water and chlorine for a period of not less than three hours or more than six hours before final flushing out of system.
- B. All valves should be opened periodically during the process and the residual chlorine checked to ensure that at least 50 percent of the initial concentration is present to complete the disinfection. If there is less than 50 percent, the valves should be allowed to drain water until the 50 percent or greater level is obtained. A make-up chlorine solution of a concentration equal to the initial concentration must be added as needed during the withdrawal of the spent solution.
- C. A warning sign shall be conspicuously posted at each water outlet and faucet during the disinfecting process to prevent occupants from drinking the water.

- D. Flushing: Following disinfection, all treated water shall be flushed from the system through its extremities. Flushing shall continue until samples show that the quality of the water delivered is comparable with the quality of the public water supply and satisfactory to the public health authority having jurisdiction. Flushing shall be repeated if samples taken daily over a period of three days show the water quality is not being maintained. Samples shall be taken only from taps located and installed in such a manner that they will not contribute any contamination. Samples shall not be drawn from hydrants or through unsterilized hose. Test samples shall be certified by a recognized and approved testing laboratory, and a certificate of acceptability shall be submitted.
- E. Written certification of the disinfecting process and purity of water samples shall be forwarded to the Owner's representative.

1.4 VERIFICATION OF GRADE

A. The contractor shall verify with the site utilities contractor the connection of water, and waste piping systems to the mains, and shall verify the actual job site elevation and location prior to the installation of the building footings.

PART 2 – PRODUCTS

2.1 CLEANOUTS

A. Approved cleanouts shall be installed in the base of each vertical drainage line, and in the horizontal line at each change in direction. In addition, there shall be cleanouts spaced at a maximum of 50' in all horizontal lines. All cleanouts shall be extended to accessible surfaces. All cleanouts to grade shall be capable of cleaning in both directions.

2.2 WATER HAMMER

- A. Provide and install stainless steel bellows type shock absorbers in the ends of all multiple fixture water lines and in piping ahead of snap-acting automatic valves.
- B. Absorbers shall be sized and located in compliance with manufacturer's recommendations for the specific application. Absorbers shall be Zurn, Watts, Wade, or Smith.
- C. Absorbers shall not be installed in inaccessible areas. Extend piping to accessible locations.

2.3 FLASHINGS

A. All pipes passing thru the roof shall be neatly flashed. Flashing shall be provided under Division 7.

2.4 FIXTURE STOPS

A. All stops for plumbing fixtures shall be McDonald 1/4 turn ball valves.

2.5 PLUMBING FIXTURES

- A. This contractor shall furnish and install all fixtures shown on the architectural or mechanical drawings or specified hereinafter, clean and adjust all fixtures and replace any damaged fixtures at the contractor's expense.
- B. The fixtures shall be all new and complete as shown and described in manufacturer's catalog, and as required for the work, including accessible loose key 1/4 turn ball valve stops above the floor in supplies to all fixtures, and cast brass P-traps, unless otherwise shown. Trim for all fixtures shall be chrome-plated, and all trim shall match in design. Supply faucets shall have renewable seats and barrels. Fixtures shall be Kohler, Sloan, American Standard, or approved equal.

C. Approved Fixtures:

Water closets & lavatories: Kohler, American Standard, Sloan, or approved

equal.

Flush valves: Zurn, Sloan, or approved equal.

Sinks: Just, Elkay, or approved equal.

Faucets: Moen, T&S Brass, Chicago, American

Standard, or approved equal.

Drinking fountains: Murdock, Acorn, Elkay, or approved equal.

Hose bibbs: Watts, Zurn, JR Smith, Woodford, Sioux Chief

or approved equal.

Tempering valves: Bradley, Symmons, Acorn, Powers, Watts, or

approved equal.

Floor drains: Zurn, JR Smith, Watts, Josam, or approved

equal.

Roof Drains & Downspouts Zurn, Wade, J.R. Smith or approved equal.

PLUMBING FIXTURES

WC-1 Water Closet: American Standard "Madera" siphon jet, 1.6 gpf, floor mounted, elongated lip bowl, 1-1/2" top spud, vitreous china, Sloan 'Regal' (ADA) 111-XL 1.6 gpf chrome plated, piston type exposed flush valves; K-4666-C Bemis 1955C extra heavy solid plastic white open front seat with stainless steel check hinge, 431310-100 bolt caps. FV-1 Flush Valve: Sloan Regal 186 1.5 gpf, exposed battery powered sensor operated (Existing Urinal) chrome plated flush valve with vacuum breaker Kohler K-22210-N "Caxton" 19-1/4" oval undercounter mount L-1 Lavatory: (ADA) with overflow, Moen 8210SM 4" center set faucet for counter Alternate #4 mounting with grid strainer, Watts USG-B ASSE 1070 thermostatic mixing valve. Tailpiece and flexible supplies w/stops and brass P-trap. L-2 American Standard "Lucerne" 035.028" 20" x 18" 4" center set Lavatory: vitreous china, front overflow, anti-splash rim, center basin, wall (ADA) hanger, punched for concealed arm carrier, Chicago 802-1000-PRJKCP, 2.2 gpm, 4" center set vandal resistant manual faucet with integral cast brass spout. Provide grid strainer. Tailpiece and flexible supplies w/stops and brass P-trap. Support lavatory with Zurn ZN1231 concealed arm carrier with foot support. Lavatory shall have both tempered water and cold-water connections. S-1 Sink: Just USADA1414A55-J – 14-1/2" x 14-1/2" x 5-3/8", 18 ga. single (Health) compartment 304 stainless steel, drilled for 3-hole 8" center set faucet, undermount, sound dampening, cup strainer, Chicago 786-245ABCP deck mounted gooseneck faucet with ADA levers and aerator, flexible supplies, brass P-trap. DF-1 Drinking Fountain: Elkay LZSTLG8W5 bi-level, wheelchair access, double bowl, (Replacement wall mounted, air cooled, refrigerated type with bottle filler located at low side to cool 8 gal/hr. from 80 deg. F. EAT. 1/5 HP existing) hermetic compressor, 120/160. 304 stainless steel top w/chrome plated bubbler and "Light Touch' wrap and self-closing press bar operable from front of fountain. Cabinet color shall be stainless steel #4 satin finish. Note: Cut electrical cord at time of installation to suit electrical outlet provided. HB-1 Hose Bibb: Chicago Faucet No. 952 (No. 998 where connected to exposed piping) 3/4" chrome plated hose bibb with No. 293-6 handle and 3/4" threaded outlet with integral vacuum breaker. TV-1 Tempering Valve: Watts Model USG-B ASSE 1070 single lavatory mixing valve

PLUMBING 22 0000 - 4

with integral strainer.

FD-1 Floor Drain: Zurn #Z-415-4 2" cast iron drain with nickel bronze top. Drain to

have deep seal P-trap with Provent "trap guard".

RD-1 Roof Drain: J.R. Smith #1010-ARC, roof drain cast iron type with flashing

collar, C.I. dome, gravel guard, extension, sump receiver, and

underdeck clamp. See plans for sizes.

DN-1 Downspout Nozzle J.R. #1770 brass downspout nozzle. Provide 1/4" mesh

aluminized, slip fit bird screen. See plans for sizes.

2.6 LEAD PANS AND WATERPROOF MEMBRANES

A. All floor drains shall be fitted with clamping collar and waterproof membrane.

- B. Drains shall have a clamping device which clamps drain to pans. There shall be a mastic seal between floor drain bottom and lead or membrane so when clamping device is tightened, there is a complete watertight seal.
- C. Furnish a 30" square 4# lead flashing with each roof drain.
- D. Care should be taken not to clog weep holes. All pans will be tested by placing test plug in drain and filling with water overnight.

2.7 CONDENSATE DRAIN

- A. All refrigerated air conditioning and/or cold storage cases which have cooling coil condensate drip pans with pipe connections shall be piped to the nearest drain by this contractor.
- B. Pipe location and routing shall be approved by the owner's representative.
- C. Piping shall be the same size as the drain pan connection and shall be trapped to prevent forced air flow thru the pipe.

2.8 VACUUM BREAKERS, DOUBLE CHECK VALVE ASSEMBLIES, & BACKFLOW PREVENTERS

- A. Vacuum breakers and backflow preventers shall comply with the requirements of the 2021 International Plumbing Code for the actual installed duty.
- B. Vacuum breakers and backflow preventers shall be of the type, style, and arrangement approved by the Code.
- C. All vacuum breakers and backflow preventers shall be installed with the necessary isolation valves and test cocks.
- D. Backflow preventers shall be located at a maximum of 4' 0" A.F.F. and shall be accessible for service. Backflow preventers shall have a water filter with a replaceable cartridge.

PART 3 – EXECUTION

3.1 PRODUCT HANDLING

- A. Protection:
- B. Use all means necessary to protect plumbing materials before, during, and after installation and to protect the installed work and materials of all other trades.
- C. Replacements:
- D. In the event of damage, immediately make all repairs and replacements necessary to the approval of the Owner and at no additional cost to the Owner.

3.2 TESTING

A. Furnish all required personnel and equipment and make all tests required to receive the approval of the Owner and all agencies having jurisdiction.

3.3 CLEANING UP

A. Prior to acceptance of the building, thoroughly clean all exposed portions of the plumbing installation, removing all labels and all traces of foreign substance, using only a cleaning solution approved by the manufacturer of the plumbing item and being careful to avoid all damage to finished surfaces.

3.4 ROOF DRAIN LOCATIONS

A. This contractor shall review the architectural and structural drawings, and shall field verify from actual job site conditions that the roof drains are located at the low points of the roof systems. Locations shown on the plumbing drawings are approximate. All low points on the roof shall have primary and secondary roof drains installed in them unless otherwise noted.

3.5 WATER CLOSET INSTALLATION

- A. General: Install water closets as shown on the drawing and as follows:
 - 1. Supply pipe extending from wall shall be covered by chrome plated sleeve and wall flange.
 - 2. Additional wall plates shall be provided where each pipe extends through finished wall.
 - 3. Two rubber or plastic seat bumpers with metal holders shall be provided and secured to the wainscot behind the fixture.
 - 4. The centerline of the flush valve shall be on the centerline of the fixture, 39 inches above the finished floor and a minimum of 2-1/4 inches from the wall.
 - 5. Chrome plated pipe support shall be provided on the long flush pipe outlet and shall be secured rigidly to the wall with suitable anchors.
 - 6. The backflow preventer for the flush valve shall be installed at the discharge of the valves.
 - 7. The flush valve water piping concealed in the partition shall be rigidly supported; piping between flush valve and wall shall be provided with a factory fabricated chromium plated spacer sleeve and wall flange.

3.6 LAVATORY INSTALLATION

- A. General: Install lavatories as shown on the drawings and as follows:
 - 1. Lavatories for use by wheelchair handicapped shall be installed with a minimum rim height of 34", a minimum vertical clearance of 29" from floor, and a minimum clear knee recess of 30" in width and 20" in depth.
 - 2. Trap on lavatory for use by wheelchair handicapped shall be installed so as to provide maximum clearance under bowl. Exposed waste, trap and hot water supply under lavatory shall be insulated in accordance with the requirements for domestic hot water piping.
 - 3. All lavatories shall be installed with a rim height of 34".

3.7 FIXTURE CONNECTIONS

- A. Floor Mounted Water Closets and Service Sinks: Provide connections between soil pipes and floor connected water closets and service sinks made with cast-iron floor flanges.
- B. Connection sizes shall be 4-inch for water closets and 3-inch for service sinks.
- C. Floor flanges shall be slipped over the ends of the pipes and caulked in position.
- D. Special short radius fittings shall be used where space does not permit the use of standard fittings below the flanges.
- E. Setting Compounds and Gaskets: Provide watertight and gas tight seals between flanges and fixtures with plumbing-fixture-setting compound or manufacturer's standard non-asbestos gaskets.
- F. Neither rubber gaskets nor putty shall be used in sealing connections.

3.8 FIXTURE SUPPORTS

A. Lavatory Support: Provide lavatory chair carriers consisting of a pair of cast-iron feet bolted to or imbedded into the floor together with 1.66- inch (minimum) steel tubular upright members, a horizontally adjustable alignment truss or tie rod at bottom and another at the top connected to cast-iron or steel adjustment sleeves and painted cast-iron or steel adjustment sleeves, and painted cast-iron concealed arms.

3.9 BACKFLOW PROTECTION VALVE INSTALLATION

- A. General: The entire water distribution system shall be protected against contamination due to backflow from non-potable sources. Each connection to a fixture or an item of equipment shall be protected in accordance with the requirements of the National Plumbing Code.
- B. Reduced Pressure Zone Backflow Preventer: Install a reduced pressure zone backflow preventer in the building water supply main to expansion tanks, condenser water systems, and boilers as shown on the drawings and/or as required by the local codes.

3.10 INSTALLATION OF PIPE SLEEVES

- A. Basic Requirements: Install pipe sleeves as follows:
 - 1. Pipe sleeves shall be provided for all pipes passing through walls, slabs on grade and floors. Sleeves may be omitted where pipes pass through exterior walls above ground to lawn faucets, wall hydrants and downspout nozzles.
 - 2. Sleeves for pipes passing through exterior walls and slabs on grade which do not have membrane waterproofing shall be of cast-iron or galvanized steel pipe or black steel pipe, Schedule 40.
 - 3. Sleeves for pipes passing through exterior walls, slabs on grade and floors which are provided with membrane waterproofing shall be of threaded galvanized steel pipe fitted with companion flanges and arranged to secure membrane. Companion flanges shall be drilled and tapped in such a manner that bolting is affected from the outer (or upper) face only.
 - 4. Sleeves for pipes passing through potentially wet floors that do not have membrane waterproofing such as in toilet rooms, cafeteria kitchens, serving areas, dishwashing rooms, utility cores, mechanical equipment rooms, and areas that are provided with fire protection sprinkler systems, shall be galvanized steel pipe, shall project 2 inches above the finished floors, and shall be caulked watertight.
 - 5. Sleeves for pipes passing through all other floors and walls shall be constructed of galvanized or black steel pipe, standard weight.

3.11 INSTALLATION OF CLEANOUTS AND FERRULES

- A. Riser Connection to Sewer or Drain: Where soil, waste, or roof drainage risers connect to a sewer or drain extending from the building above the lowest floor, the fitting at the base of each stack or downspout shall be a sanitary tee or a combination Y and 1/8 bend with cleanout plug in the end of the run of the main.
- B. Test Tees: Each vertical soil, waste, and vent pipe and each downspout and roof drainage pipe which connects to horizontal drain piping below ground shall be fitted with a test tee above the lowest floor or ground. Where accessible, test tee may be installed in the horizontal pipe at the base of the riser.
- C. Cover Plates: Where cleanouts or test tees occur on concealed pipes in finished rooms, they shall be provided with a 1/8-inch thick, machine finished, brass cover plate of sufficient diameter to cover the opening in the finished wall or partition. The cleanout plug shall have a solid head, tapped for a 1/4-inch brass screw to secure the cover plate. Where cleanout plugs extend beyond the wall finish, the cover plates shall be of machine finished brass and shall be only of sufficient depth to fit against the wall to cover plug. Cleanout cover plates shall be painted to match adjacent wall finish.
- D. Cleanouts Plugs for Threaded Fittings: Cleanout plugs for threaded fittings shall be in accordance with ANSI B16.12. Except for test openings, where size must be sufficient to admit test plug, bushings will be permitted on pipes 5-inches and larger to reduce plug size to 4 inches; cleanout plugs for piping 4 inches and smaller shall be the same size as the pipe.

- E. Cleanout Plugs for Hub-and-Spigot Fittings: Cleanout plugs for hub-and-spigot fittings shall be screwed into ferrules caulked into the fitting. Ferrules and plugs shall be in accordance with ANSI B16.12, except that plugs required to be flush with the floor shall have square countersunk heads in lieu of raised heads.
- F. Cleanout Plugs for Copper Drainage Lines: Cleanout plugs on copper drainage lines shall be installed in solder-joint fittings having threaded openings provided for the cleanout, or in solder-joint fittings with threaded adapters.

3.12 WATER PIPING INSTALLATION

- A. General: Water piping shall be complete from service connection to all fixtures and equipment outlets. Sizes of pipes shall be as shown or specified.
- B. Reaming: Ends of pipes and tubes shall be reamed before being made up.
- C. Threaded Joints: Threaded joints shall be made up metal-to-metal, with a noncorrosive lubricant applied to the male thread only. Lampwick or other packing material shall not be used in making up threaded joints.
- D. Chromium Plated Piping: Chromium plated piping shall be threaded and made up carefully, and not more than one full turn of thread shall be exposed beyond any fittings.
- E. Long Screws and Bushings: Long screws and bushings (other than bushings cast in the sand) shall not be used on water piping.
- F. Soldering: Ends of tubing and recesses of fittings to be soldered shall be thoroughly cleaned. Joints shall be assembled without binding. Solder shall penetrate fully and shall fill the joint completely. Joints shall be made using lead-free solder, as specified.
- G. Joint Materials: All joint materials shall be free from oil, tar, and greasy substances, and shall be dry when placed in the joint. The material shall be handled with care to prevent contamination.
- H. Copper Tubing: All copper tubing shall be free from cuts, dents or other surface damage at the time of final inspection. Damaged tubing shall be removed and replaced with new.
- I. Copper Tube Anchoring: Horizontal runs of copper tubing over 50 feet in length shall be anchored to wall or floor construction. Anchors shall be located near the midpoints of the runs so as to force the expansion equally to the ends or in a direction where expansion can take place without excessive strain.
- J. Dielectric Couplings: Where non-ferrous metal piping and zinc-coated metal piping are joined, brass couplings, fittings or unions shall be provided.
- K. Reducing Fittings: Where pipe sizes shown or specified differ from the connection sizes of meters, pumps, fixtures, outlets, and the like, reducing fittings shall be installed close to them.
- L. Pipe Branches: Branches from water supply mains shall be taken from the top, bottom or side, using crossover fittings where required by structural or operating conditions.

- M. Up feed Hot Water Return: On up feed hot water distribution systems for which return circulation piping is shown, a 1/2" circulation connection shall be made at a point on each riser just below the highest outlet connection. Provide branch circulation lines with gate valves near the valves on corresponding supply lines.
- N. Down feed Hot Water Supply: Each down feed main for a hot water supply system shall be graded upward to the first branch connection, which shall be taken from the top of the main. Beyond the first connection the main shall grade downward, and all branch connections shall be taken from the bottom of the main. Connect a 1/2-inch circulating line to the bottom of each down feed riser. Provide branch circuiting lines with gate valves in locations corresponding to the supply branch valve locations.
- O. Grading: Hot water supply and hot water circulating lines shall be accurately and uniformly graded to avoid traps which might impede or destroy circulation. All lines shall be graded so as to facilitate drainage.
- P. Unions: Unions shall be installed near points of connection to each piece of equipment, and elsewhere as required for installation of piping, removal and replacement of regulating and control equipment and the like. Right and left couplings or nipples are prohibited.
- Q. Water Hammer Arresters: Water hammer arresters shall be provided where indicated on the drawings. Water hammer arresters shall be approved and installed in accordance with the requirements of PDI-WH201 and shall bear the PDI seal of approval.

End of section 220000

SECTION 271500 - TELEPHONE/DATA SYSTEMS

PART 1 – GENERAL

1.1 SCOPE OF DOCUMENT:

- A. The following are project specifications to which all cabling systems must adhere. These specifications apply to all installers (hereinafter referred to as "the Contractor") for all sites, which require, standards-compliant structured cabling systems and shall be used for all the installation, testing, and acceptance of the information transport systems as described in the attached specifications. Prices quoted of the installation facilities shall be all-inclusive and represent a complete installation at such sites as prescribed in this specification and contract documents. The Contractor shall be solely responsible for all parts, labor, testing, acceptance and all other associated processes and physical apparatus necessary to turn-over a completed system fully warranted and operational for acceptance by the Customer. Final acceptance of the installation shall be in writing by the Architect and Engineer.
- B. In all instances where Standards are cited, it is assumed Installer will have familiarity with and implicitly follow the recommendations of the most current version of the Standard referenced at the time of installation. Compliance with most current Standards is the sole responsibility of the Contractor.

1.2 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.
- B. Division-26 Basic Materials and Methods sections apply to work specified in this section.
- C. Refer to and coordinate with specification 27 4100 for any audiovisual equipment requiring UTP based category and/or optical fiber cabling and connectivity. Division 27 1500 shall provide installation and execution requirements for all category and/or optical fiber cabling and connectivity required within the audiovisual system.

1.3 SCOPE OF WORK:

- A. The telephone/data system work is indicated by drawings and is hereby defined to include, but not be limited to racks, cabinets, patch panels, cables, raceway, outlet boxes, device plates, backboard, and grounding. Contractor is responsible for installation of all specified and unspecified necessary and miscellaneous items required for delivery of a complete and functional data cabling and device system.
- B. Contractor shall provide complete cable and outlet system as indicated on the drawings and described herein. Work shall include all associated infrastructure transmission components and support appliances including, but not be limited to cable, jacks, terminal blocks, racks, cabinets, wire management, labeling, transient voltage surge suppression, patch cords, telecommunications grounding system and all terminations as specified

TELEPHONE DATA SYSTEMS

herein.

- C. Contractor shall provide system testing as described herein using up-to-date and industry accepted Level IIIe test equipment appropriate to the types of links being tested and in accordance with the latest edition of IEC 61935-1. All testers used shall be factory calibrated within one year of use with references set daily prior to testing.
- D. All active equipment (electronics in telecommunications equipment rooms) will be owner furnished and owner installed.
- E. Contractor shall be solely responsible for all parts, labor, testing, documentation and all other associated processes and physical apparatus necessary to turn-over the completed system fully warranted and operational for acceptance by Owner and Engineer.
- F. Contractor shall provide all labor, materials, tools and equipment required for the complete installation of work called for in the Construction Documents.
- G. Copper solution must match optical fiber solution and be provided by the same manufacturer. No two separate warranties are acceptable for the copper connectivity and optical fiber connectivity.
- H. Contractor shall provide conduit from telecommunications outlet/connector to accessible ceiling space, then utilize non-continuous cable support devices to EF/ER/TR/TE.
- Contractor to provide cabling for the Audio Video (AV), the Intercom System, Video Surveillance System and the Telecommunications System separately to patch panels.
 Each group shall be punched down to its own patch panel to ensure future system work can be completed without disrupting all systems.

1.4 CONTRACTOR QUALIFICATIONS:

- A. The contractor shall be fully conversant and capable in the cabling of low voltage applications such as, but not limited to voice and data network systems. The Contractor shall at a minimum possess the following qualifications:
 - Must have at a minimum (1) RCDD certified individual employed full time at the time of bidding. PROVIDE PROOF OF RCDD CERTIFICATION IMMEDIATELY UPON JOB AWARD.
 - 2. BICSI Certified Installers or equivalent.
 - 3. Possess those licenses/permits required to perform telecommunications installations in the specified jurisdiction.
 - 4. Have a minimum of 5 years in the communications structured cabling business and be able to provide three owner references for the type of installation described in this specification for projects within the last 18 months.
 - 5. Personnel trained in the installation of pathways and support for housing horizontal and backbone cabling.
 - 6. Personnel knowledgeable in local, state, province and national codes, and regulations. All work shall comply with the latest revision of the codes or regulations. When conflict exists between local or national codes or regulations, the most stringent codes or regulations shall be followed.

TELEPHONE DATA SYSTEMS

7. Be factory certified by the manufacturer used in installation of all transmission components of all copper and fiber links and able to provide the manufacturer warranty.

1.5 QUALITY ASSURANCE:

A. Required Pre-Telecommunications Construction Meeting with Communications Engineer: Electrical contractor/representative AND Communications Contractor will be required to attend a pre-communications construction meeting (approximately 30-60 minutes) with Communications representative in the electrical engineers office prior to communications construction commencement. This meeting will address any questions on the part of the contractor and the expectations of the Engineer with regard to specifications, plans and site visits for both rough and finish electrical work.

1.6 APPLICABLE CODES AND STANDARDS:

- A. Contractor is responsible for compliance with all applicable portions of the NEC code as to type of products used and installation of components. All materials used shall be products and materials which have been UL-listed and labeled. All installed products shall comply with applicable NEMA standards for low loss extended frequency cable.
- B. In addition installation shall adhere to the following Standards:
 - 1. <u>ANSI/TIA-568-C.0</u> Generic Telecommunications Cabling for Customer Premises, or most recent edition at the time of installation
 - 2. <u>ANSI/TIA-568-C.1</u> Commercial Building Telecommunications Cabling Standards, or most recent edition at the time of installation
 - 3. <u>ANSI/TIA-568-C.2</u> Balance Twisted Pair Communications and Components Standards, or most recent edition at the time of installation
 - 4. <u>ANSI/TIA –942</u> -Telecommunications Infrastructure for Data Centers, or most recent edition at the time of installation
 - 5. <u>TIA-569-B</u> Commercial Building Standard for Telecom Pathways and Spaces, or most recent edition at the time of installation
 - 6. <u>ANSI/TIA-606-A</u> Administration Standard for the Telecommunications Infrastructure of Commercial Buildings, or most recent edition at the time of installation
 - 7. <u>ANSI-J-STD-607-A</u> Commercial Building Grounding/Bonding Requirements, or most recent edition at the time of installation
 - 8. ANSI/TIA 1152 Testing of Copper Links
 - 9. <u>BICSI</u> Telecommunications Distribution Methods Manual, 12th edition or most recent edition at the time of installation.
 - 10. <u>TIA 758-A</u> Customer owned Outside Plant Telecommunications Infrastructure Standard (2004), including all applicable addenda and the most recent revision at the time of installation.
 - 11. <u>BICSI</u> Information Transport Systems Installation Manual 5th edition or most recent edition at the time of installation.

TELEPHONE DATA SYSTEMS

- 12. <u>ANSI/NFPA-70</u>- 2008 National Electrical Code, revision, or most recent revision at the time of installation.
- 13. <u>ANSI/IEEE C-2</u> 2007 National Electrical Safety Code or most recent revision at the time of installation.
- 14. OSHA Standards and Regulations All applicable
- 15. Local Codes and Standards All applicable
- C. Note: Anywhere cabling standards conflict with electrical or safety codes, Contractor shall defer to NEC and any applicable local codes or ordinances, or default to the most stringent requirements listed by either. Knowledge and execution of applicable codes is the sole responsibility of the Installer. Any code violations shall be remedied at the Contractor's expense.

1.7 ACCEPTABLE MANUFACTURERS:

A. General:

1. Unapproved product substitutions are not allowed. Contractor wishing to substitute any products for those expressly specified shall submit three samples of the alternate product to Engineer no less than two weeks prior to the last addendum accompanied by all engineering documents, drawings and third party test data proving mechanical and transmission equivalency. Acceptance of substitutions shall be received from Engineer in writing. All unapproved substitutions installed shall be removed by Contractor who shall assume all costs for removal and replacement with approved products. Such costs shall include, but not be limited to labor, materials, as well as any penalties or fees for late completion.

B. APPROVED MANUFACTURERS:

- 1. The manufacturers listed in the section of Parts 2, 3, and 4 below are to establish a minimum standard. All cabling, copper and fiber, will match the solution existing in the building. No other manufacturer or combination of manufacturers may be used for the copper cabling or connectivity equipment.
- 2. Copper Cabling / Connectivity Approved Manufacturers:
 - a. Siemon
 - b. Siemon / Mohawk
 - c. CommScope
 - d. Belden
 - e. Panduit
 - f. Panduit/General Cable
 - g. Leviton / Berk-tek
 - h. Hubbell / Hitachi
- 3. Fiber Cabling Approved Manufacturers
 - a. Same manufacturer from Part 2.

TELEPHONE DATA SYSTEMS

- 4. Non-Cabling / Connectivity Approved Manufacturers:
 - a. Same manufacturer from Part 2.
 - b. APC
 - c. Great Lakes Cabinets
 - d. Chatsworth
 - e. Belden

1.8 SUBMITTALS:

- A. Provide electronic submittals in Adobe PDF format within one file.
- B. Provide submittals for all racks/cabinets; patch panels, devices, cabling, firestopping solutions, tray, non-continuous cable support devices, grounding equipment, and miscellaneous equipment to be used on project. Where multiple part numbers are listed on a datasheet/cutsheet, highlight or circle applicable part.
- C. Provide submittals showing complete racking layout in plan and elevation view to scale. Coordinate exact rack layout with Owner Information Technology Representative prior to submittal.
- D. For any unspecified components, Contractor shall submit manufacturer's data and installation details for all devices, plates, cables, termination blocks, patch cords, line suppression blocks, wire management, labels, and similar equipment.
- E. Provide color samples of all available standard color faceplates to architect.
- F. Provide proposed labeling scheme for approval by owner/engineer.
- G. Provide results of all copper and fiber optic cable tests.

PART 2 - PRODUCTS

2.1 GENERAL:

- A. All products shall be in new condition and UL listed.
- B. Provide complete raceway, outlet boxes and miscellaneous items. All conduit utilized shall be EMT grade.
- C. Provide 4-11/16" x 2-1/8" deep square outlet box at each outlet location with single gang plaster or tile ring. Provide wall board adapters as necessary.
- D. Communication grounding and bonding shall be constructed and installed to meet or exceed the requirements of the National Electrical Code (NEC), IEC 1000-5-2 and ANSI/J-STD--607-A throughout the entire grounding system.
- E. All termination hardware shall be rated to meet Category 6 specifications.
- 2.2 ENTRANCE FACILITY (EF) / EQUIPMENT ROOM (ER) / TELECOMMUNICATIONS ROOM (TR):
 - A. General:

TELEPHONE DATA SYSTEMS

- 1. Contractor shall be responsible for the adequate and appropriate design of all racking systems, paying particular attention to sizing of all cable management troughs and supports both horizontal and vertical installation of patch panels and wire management into rack.
- 2. Provide line surge suppressors at main telephone board in ER for all incoming phone lines if not provided by service provider. Provide ground connection to TMGB.
- B. Provide the following, see specifications for each item in this document:
 - 1. Wall Linings in each EF, ER, and TR:
 - a. In addition to the architectural walls, provide plywood wall lining that mounts at 8" A.F.F which shall:
 - i. Be fire-rated or treated on all sides with at least two coats of fire-resistant light-colored paint. Fire-retardant plywood is also acceptable. Leave fire rated stamp on plywood unpainted.
 - ii. Have walls lined with A/C grade or better, void-free plywood, 8 feet high with a minimum thickness of ³/₄". See plans for additional wall locations.
 - iii. Install the plywood with grade A surface exposed. Plywood shall be securely fastened to wall-framing members to ensure that it can support attached equipment.
 - iv. Use flush hardware and supports to mount plywood.
 - v. Plywood shall be void free and kiln-dried to a maximum moisture content of 15 percent to avoid warping.
 - 2. Main Cross Connect (MC) / Horizontal Cross Connects (HC):
 - a. Floor Mounted Racks (See Plans For Locations): Use existing plus one new one as follows:
 - i. Provide four post 19" wide minimum 7' tall EIA aluminum rack with ANSI/EIA 310-D rail size, 45RU capacity, painted black, top flanges, and mounting holes.
 - ii. Provide paint-piercing washers to electrically bond racks.
 - iii. Approved Equipment
 - 1. Chatsworth 50120-703 Standard Rack
 - 2. CommScope RK4P45-45A
 - 3. Cooper B-Line SB8361908429FB
 - 4. Panduit R4P
 - b. Copper Patch Panels:
 - i. Provide modular flush mount (flat) high density patch panels of required number and size to accommodate shown telecommunications outlets on plans. (No horizontal cable managers are required). Provide minimum 48 port 1U, CAT 6 UTP patch panels.

TELEPHONE DATA SYSTEMS

- ii. Size panels to provide minimum 25% spare capacity. Fill all available space in remaining patch panels so that panels are fully populated.
- iii. Support Category 6 or higher applications.
- iv. Shall accommodate 8-Pin 8-Contact (8P8C) ports.
- v. Mount to standard EIA 19" rack.
- vi. Each patch panel shall include mounted behind it one "towel rack" style cable support bar for each 24 connections to which the Contractor shall dress cables using hook and loop type cable ties.
- vii. Approved Equipment

48-Port Patch Panel Cat 6 (Flat/High Density)						
Manufacturer	Model Name	Flat Patch Panel				
CommScope	Uniprise	760105429 M4800 1U Modular Panel, 48 port empty				
Siemon	Z-MAX	Z6-P(X)-48 Z-MAX 48-Port, CAT 6 UTP patch panel kit with removable wire manager, 1U, black, with jacks/Z-P(X)-48 Z-MAX 48-Port UTP patch panel with removable wire manager, 1U, black, empty				

- c. Cable Tray (only within the EF/ER/TR): Use Existing.
- d. Vertical Cable Managers:
 - Manager shall consist of a metal backbone with cable management fingers that align with EIA rack spacing. Provide cover for all cable management.
 - ii. Manager shall consist of a metal backbone with cable management fingers that align with EIA rack spacing. Provide cover for all cable management.
 - iii. Vertical panel shall be able to manage all the cable on the rack without the aid of horizontal cable managers.
 - iv. Size all vertical cable managers according to factory recommendations for the cable being installed. In no case shall

TELEPHONE DATA SYSTEMS

- design require more than 35% fill ratio when rack is fully populated.
- v. Provide molded plastic slack spools in front to facilitate minimum bend radius compliance.
- vi. Minimum width to be 6".
- vii. Approved Equipment: Match the rack.

e. Horizontal Cable Management

- i. Provide horizontal cable management capable of managing copper and fiber cables.
- ii. Manager shall consist of bend radius control throughout the fingers, pass through holes, and transitions between horizontal and vertical pathways.
- iii. Provide front hinged cover that shall open 180 degrees.
- iv. Manager should mount to standard EIA 19" rack.
- v. Size according to factory recommendations for the cable being installed. In no case shall design require more than 40% fill ratio when rack is fully populated.
- vi. Approved Equipment: Match the rack.
- f. Power Distribution Units (PDU's)
 - Provide monitored vertical mount power outlet unit with amperage and voltage indicated on plans. Unit shall have (24) NEMA 5-20R receptacles per circuit and internal thermal breaker of power outlet unit's listed amperage. Provide data cable to each PDU for reporting.
 - ii. Approved Equipment: Tripp Lite PDU 2430.
- g. Uninterruptible Power Supply (UPS):
 - i. Provide a 3000VA, 120 V rack-mounted UPS in the MDF rack and 1500VA, 120V rack-mounted UPS for each of the other rack/cabinet on project with capability of providing backup to the full connected load for a minimum of 10 minutes, regardless of shown load on electrical panel schedules.
 - ii. Provide a minimum of (2) output receptacles.
 - iii. Provide submittal for each UPS showing run time graph that shows compliance with the specifications.
 - iv. Approved manufacturers: APC and Eaton

1.2 CABLING DISTRIBUTION SYSTEMS AND MISCELLANEOUS EQUIPMENT:

A. General:

TELEPHONE DATA SYSTEMS

- 1. Provide plenum rated cable if required, cabling must be appropriate for the environment in which it is installed. Provide wet rated cable for all wet locations, including any conduit in or below slab on grade.
- 2. Contractor shall be responsible for sizing all pathways such that newly installed cable represents not more than a 35% fill as per manufacturer's directions. Overfilled pathways are the sole responsibility of the Contractor who shall remove and reinstall at Contractors expense.
- 3. Provide cabling rated for the environment in which it is installed (i.e riser, plenum, outdoor). All cabling installed in wet locations (i.e. underground conduit, conduit in slab on grade) shall be listed for use in wet locations.

B. Horizontal Cabling Distribution System – Balanced Twisted Pair

1. General:

a. Provide appropriate number of Category 6 horizontal cables, patch cables, work area cables, for all terminated data drops, between switches, etc. so that building-wide networking will be operational once all installation is complete.

2. Horizontal Cabling

- a. Provide Cat 6 UTP, minimum compliant, 4-Pair 100Ω Balanced Twisted Pair Cable to all locations shown on plans.
- b. Provide cabling rated for the environment in which it is installed (i.e underground conduit, conduit in slab on grade). All cabling installed in wet locations shall be listed for use in wet locations.
- c. Provide a minimum of (2) cables, unless otherwise noted, to each location shown on plans.
 - i. Provide (2) Category 6 cables to each wireless access point (WAP).
- d. Horizontal cable shall be Data Blue, Sound/Intercom Green and Security Orange.
- e. Approved Equipment: See approved manufacturers list.

3. Patch and Work Area Cables::

- a. Provide (1) 7 foot long Cat 6 patch cable for each workstation and (1) 5 foot or 7 foot Cat 6 patch cable for each patch panel port in the TR/TC. Provide half of the TR/TC patch cables in 5 foot lengths and the remaining half in 7 foot lengths.
- b. No patch or work area cords shall in any case exceed in total 10 meters as per TIA Standard unless design includes Standards compliant MUTOA (multi-user termination outlet) and work area cord adjustments are made according to recommendations for zone cabling contained within TIA 568-C or most recent revision at the time of installation.

TELEPHONE DATA SYSTEMS

Coordinate with owner for preferred patch cord lengths at patch panel and work area.

- c. Copper patch cord and work area outlet cabling must be provided by the same manufacturer and meet the same performance standards as the horizontal cabling.
- d. Patch cord and work area cables shall be blue.
- e. Provide (1) 5 foot, 2-strand optical fiber patch cable for each patch panel. The cable shall be provided by the same manufacturer and meets the same performance standards as the backbone optical fiber.
- 4. Telecommunications Outlets/Connectors (See Plans for Locations):
 - a. Flat Faceplates:
 - i. Provide modular type information outlets with flat telephone jack or data outlet. Provide single gang faceplate kits to allow up to six data or voice jacks as shown on plans. Provide faceplate kits for wall outlets in colors and materials that match power wiring device plates. Provide faceplate kits that allow labeling schemes described herein. Faceplates shall accept STP, UTP, fiber optic or audio/video modules as an option.
 - ii. Blank off all unused ports.
 - iii. Color: Standard color as selected by owner/architect.
 - b. 8P8C Flat Connector:
 - i. Provide Category 6/Class E eight-position eight-contact (8P8C) jack, The termination cap shall be color coded for T568A and T568B wiring schemes.
 - ii. Be a Category 6/Class E eight-position jack module that terminates on unshielded twisted 4 pair, 22 26 AWG, 100 ohm cable utilizing a 110 punch down solution. Maintain cable pair geometry and minimize untwist while minimizing stress on critical circuit-board components.
 - iii. Color: Standard color as selected by owner/architect.
 - c. Weather resistant outlets/connectors:
 - i. Provide outlet and face plate with characteristics stated above with protection against moisture. In areas where water is present (i.e. serving line in cafeteria).

TELEPHONE DATA SYSTEMS

PART 3 – EXECUTION

1.3 GENERAL:

A. Prior to pathway rough-in, low voltage contractor shall meet with electrical contractor to review pathway installation requirements.

B. Pathway Requirements:

1. General:

- a. All pathways shall be designed, constructed, grounded and installed in accordance with all recommendations delineated within TIA 569-B and Standard TIA 942.
- b. Prior to placing any cable pathways or cable, the contractor shall survey the site to determine job conditions will not impose any obstructions that would interfere with the safe and satisfactory placement of the cables. Arrangements to remove any major obstructions not identified on plans need to be determined at that time with the Engineer.

2. Cable Tray Within EF/ER/TR:

- a. Wrapped around room (wall support is acceptable)
- b. Along equipment rows leading to cross-connects.
- c. Ground tray to TGB or TMGB (whichever is closer) utilizing #6CU bare wire.
- d. Coordinate tray locations with lighting, air-handling systems, and fire extinguishing systems so that fully loaded trays will not obstruct or impede their operation.

3. Racks / Cabinets:

- a. Racks shall be securely attached to the concrete floor using minimum 3/8" hardware or as required by local codes.
- b. Racks shall be placed with a 36-inch (minimum) clearance from the walls on all sides of the rack. When mounted in a row, maintain a minimum of 36 inches from the wall behind and in front of the row of racks and from the wall at each end of the row.

4. Conduits:

- a. Achieve the best direct route parallel with building lines with no single bend greater than 90 degrees or an aggregate of bends in excess of 180 degrees between pull points or pull boxes.
- b. Conduit runs shall not have continuous sections longer than 100 feet without a pull box and may only be filled to 35% capacity.
- c. Ream all conduit ends and fit with an insulated throat nylon bushing with non-indenter type malleable steel fittings to eliminate sharp edges.

TELEPHONE DATA SYSTEMS

271500 - 11

JSD RIVERTON ELEMENTARY SCHOOL REMODEL GSBS PROJECT NO. 2023.043.00

- d. Telecommunications conduits should not be routed over or adjacent to heat sources such as boilers, hot water lines, or steam lines. Neither should they be routed near large motors, generators, photocopy equipment, or electrical power cabling and transformers.
- e. Conduits that enter an EF/ER/TR must terminate near the corners to allow for proper cable racking. Terminate these conduits as close as possible to the wall where the backboard is mounted to minimize the cable route.
- f. Terminate conduits that protrude through the structural floor 1" to 3" above the surface within an EF/ER/TR.
- g. After installation, conduits shall be clean, dry, unobstructed, capped for protection, labeled for identification, reamed and fitted with bushings.
- h. A 200lb pull cord (nylon, 1/8" minimum) shall be installed in any empty conduit.
- i. When the number of conduits requires more than one row, restrict the number of rows to two wherever practicable.

5. Open Top Cable Support Requirements:

- a. Provide wide surface area open-top cable supports spaced 5 feet apart at the maximum to adequately support and distribute cable's weight. Follow manufacturer specifications for cable loading. Provide supports which have a galvanized finish with wide base specifically for telecommunications cabling.
- b. Non-continuous cable supports shall provide a bearing surface of sufficient width to comply with required bend radii of high-performance cables
- c. Non-continuous cable supports shall have flared edges to prevent damage while installing cables.
- d. Multi-tiered non-continuous cable support assemblies shall be used where separate cabling compartments are required. Assemblies shall consist of a steel angled hanger bracket holding up to six non-continuous cable supports.
- e. Approved Equipment
 - i. Panduit J-Pro
 - ii. Cooper

6. Pull Box Requirements:

- a. NEC sized pull boxes are not acceptable. Follow BICSI and EIA/TIA 569-B guidelines for pull box sizing.
- b. Provide pull boxes in sections of conduit that are 100 feet or longer, contain more than two 90 degree bends, or contain a reverse bend.

TELEPHONE DATA SYSTEMS

271500 - 12

JSD RIVERTON ELEMENTARY SCHOOL REMODEL GSBS PROJECT NO. 2023.043.00

- c. Conduits that enter the pull box from opposite ends should be aligned.
- d. Pull boxes shall have a length 12 times the diameter of the largest conduit.
- e. All pull boxes must be accessible.

C. Cabling System:

- 1. Follow T568B scheme for copper cabling terminations.
- 2. Backbone cables shall be installed separately from horizontal distribution cables. All backbone cables will be run in orange innerduct. Provide plenum rated innerduct if required, innerduct must be appropriate for the environment in which it is installed.
- 3. Provide a minimum of one balanced twisted pair cable to each voice outlet and one balanced twisted pair cable to each data outlet shown on the drawings unless noted otherwise on the drawings.
- 4. Provide a minimum 6" service loop in each communications system junction box for balanced twisted pair. Cables shall be coiled in the in-wall boxes if adequate space is present to house the cable coil without exceeding manufacturers bend radius.
- 5. Provide a minimum 10' service loop in each EF/ER/TR/TE.
- 6. Provide a minimum 2' service loop at each stub-up or at each transition from conduit to cable tray.
- 7. Provide a minimum 10' service loop in the ceiling before the conduit travels down the wall and terminates into the communications junction box.
- 8. Provide modular jacks for each installed cable at outlets shown on drawings. Blank off all unused ports on faceplate.
- 9. Provide Velcro type ties for all cables and install in a neat and workmanlike manner. Where applicable, use plenum rated Velcro. Where cable is installed in cable tray, bundle a maximum of 25 cables in each Velcro tie.
- 10. The bending radius and pulling strength requirements of all backbone and horizontal cables shall be observed during handling and after installation. Use pulling compound as recommended by manufacturer.
- 11. All horizontal cables, regardless of media type, shall not exceed 90 m (295 ft) from the telecommunications outlets in the work area to the horizontal cross connect.
- 12. The combined length of all patch cords in the EF/ER/TR and the work area shall not exceed 10m (33 ft)
- 13. No splices are allowed.
- 14. In a false ceiling environment, a minimum of 3 inches shall be observed between cable supports and false ceiling. At no point shall cable(s) rest on acoustic ceiling grids or panels.

TELEPHONE DATA SYSTEMS

- 15. Cable shall be installed above fire-sprinkler systems and shall not be attached to the system or any ancillary equipment or hardware. The cable system and support hardware shall be installed so that it does not obscure any valves, fire alarm conduit, boxes, or other control devices.
- 16. Cables shall not be attached to ceiling grid seismic support wires or lighting fixture seismic support wires. Where support for horizontal cable is required, the contractor shall install appropriate carriers to support the cabling.
- 17. Any cable damaged or exceeding recommended installation parameters during installation shall be replaced by the contractor prior to final acceptance at no cost to the Owner.
- 18. Pulling tension for balanced twisted pair shall not exceed 25lbf and for optical fiber shall not exceed 50lbf.
- 19. Pair untwist at the termination shall not exceed 0.125". The cable jacket shall be maintained as close as possible to the termination point.
- 20. Cables shall be neatly bundled and dressed to their respective panels or blocks. Each panel or block shall be fed by an individual bundle separated and dressed back to the point of cable entrance into the rack or frame.
- 21. Cable shall not be draped on, tied or otherwise secured to electrical conduit, plumbing, ventilation ductwork or any other equipment. Cable shall be secured to building supports or hangers or to additional blocks or anchors specifically installed for this purpose.

D. Grounding System:

- 1. All grounding and bonding shall be done according to ANSI J-STD-607-A, TIA 942, and NEC.
- 2. All cabinets/racks shall utilize paint piercing grounding washers, to be used where rack sections bolt together, on both sides, under the head of the bolt and between the nut and rack.
- 3. All racks shall further utilize a full-length rack ground strip attached to the rear of the side rail with the thread-forming screws provided to ensure metal-to-metal contact. Similar to Panduit RGS.
- 4. All active equipment from owner shall be bonded to ground. If the equipment manufacturer provides a location for mounting a grounding connection, that connection shall be utilized. All active equipment shall be bonded using the appropriate jumper for the equipment being installed using the thread-forming screws. Similar to Panduit RG.
- 5. Racks shall have individual, appropriately sized conductors bonded to the grounding backbone. Do not bond racks or cabinets serially daisy-chained rack grounds will not be accepted.
- 6. Patch panels shall be bonded to racks using the appropriate bonding screws. Mounting rails may utilize cage nuts, threaded holes or thru hole mounting fasteners to secure patch panels to the rails.

TELEPHONE DATA SYSTEMS

- 7. Bond cable tray, raceway system, structural steel and all other metal equipment located within EF/ER/TR to the grounding bus bar utilizing copper conductors per the following schedule:
 - a. ≤25' #4
 - b. ≤50' #1
 - c. ≤75' #2/0
 - d. >75' #3/0
- 8. Provide 4" X 12" X 1/4" CU Telecommunication Main Grounding Bus Bar (TMGB) with bonding conductor per schedule above to Intersystem Bonding Terminal (IBT) in each telecommunication room (EF/ER/TR) with a main cross-connect (MC).
- 9. Provide 2" X 12" X 1/4" CU Telecommunication Grounding Bus Bar (TGB) with bonding conductor per schedule above to TMGB in each room with a horizontal cross-connect (HC).
- 10. Refer to electrical diagrams for additional ground connection requirements.
- E. Electromagnetic Compatibility:
 - 1. General:
 - a. Do not install power feeders above or within the telecommunications room. Do not install telecommunications conduits above electrical panelboards, switchboards, transformers, motor control centers, etc.
 - b. Where telecommunication cable is installed in grounded, metallic conduit near power cables, the power cables shall be kept physically separated from telecommunications cables:
 - i. Circuits Under 5kVA: 2" minimum separation.
 - ii. Circuits Over 5kVA: 6" minimum separation.
 - iii. Electrical motors/transformers: 48" minimum separation.
 - iv. Lighting ballasts: 6" minimum separation.
 - c. Where telecommunication cable is installed in cable tray or underground in non-metallic conduit near power cables, the power cables shall be kept physically separated from telecommunications cables by a minimum of 12"

F. Firestopping:

- 1. Provide firestop solution equivalent to the wall/ceiling/floor rating.
- 2. Provide firestop labels next to each penetration with written date. Label both sides of the penetration.
- 3. Take picture of both sides of the firestopping seal and include in O&M documentation of all firestopped locations. Provide drawing correlating photographs to actual locations in building.

TELEPHONE DATA SYSTEMS

271500 - 15

JSD RIVERTON ELEMENTARY SCHOOL REMODEL GSBS PROJECT NO. 2023.043.00

- 4. All penetrations through fire rated building structures (walls and floors) shall be sealed with an appropriate Firestop system. This requirement applies to through penetrations (complete penetration) and membrane penetrations (through one side of a hollow fire rated structure). Any penetrating item i.e., riser slots and sleeves, cables, conduit, cable tray, and raceways, etc. shall be properly firestopped.
- 5. Firestop systems shall be UL Classified to ASTM E814 (UL 1479). A drawing showing the proposed firestop system shall be provided to the Engineer prior to installing the Firestop system(s).
- 6. Firestopping within conduits and sleeves shall be re-enterable. Firestopping outside and around annular space of sleeves and conduits at wall penetrations shall dry to a hard consistency. Mineral wool or other cavity stuffing shall be utilized as noted in the firestop system approved for this project.
- 7. Utilize firestop pass-through type devices for medium to large penetrations into fire walls/floors. Similar to STI Series SSB.

G. Miscellaneous Equipment:

- 1. Arrange all terminal blocks in a manner that allows natural wiring progression and minimizes crossing of wires.
- 2. Provide patch cords and cross connect cables as necessary for a complete operational telephone and data network system. Consult with owner to determine any special needs such as dedicated phone lines.

PART 4 - LABELING

1.4 GENERAL:

- A. The contractor shall develop and submit for approval a labeling system for the cable installation. The Owner will negotiate an appropriate labeling scheme with the successful contractor. At a minimum, the labeling system shall clearly identify all components of the system: racks, cables, panels and outlets. The labeling system shall designate the cables origin and destination and a unique identifier for the cable within the system. Racks and patch panels shall be labeled to identify the location within the cable system infrastructure. All labeling information shall be recorded on the as-built drawings and all test documents shall reflect the appropriate labeling scheme.
- B. All telecommunications spaces, pathways, cables, connecting hardware, equipment, racks, patch panels, outlet/connectors, and grounding system shall be labeled in accordance with TIA/EIA 606-A.
- C. All labels shall meet UL 969 requirements for legibility, defacement and adhesion requirements. Handwritten labels are not allowed.
- D. Provide laminated plans (minimum size 11x17) of all telecommunications as-built plans (including riser diagrams) in each and every EF, ER, and TR.

TELEPHONE DATA SYSTEMS

1.5 TELECOMMUNICATION PATHWAYS:

- E. Identify each dedicated pathway (including inner ducts) for the voice and data system.
- F. Label pathways at regular intervals and wherever they are accessible.

4.2 TELECOMMUNICATION CABLES:

- A. Identify cables at each end with a permanent label or physical/electronic tag.
 - 1. The same alphanumeric identifiers should be used at both ends of the cable.
 - 2. Identify cables at regular intervals throughout and wherever they are accessible.
 - 3. Cables shall be identified by a self-adhesive label in accordance with the System Documentation Section of this specification and ANSI/TIA/EIA-606-A. The cable label shall be applied to the cable behind the faceplate that can be accessed by removing the cover plate and to the cable behind the patch panel on a section of cable that can be viewed without removing the bundle support ties. Cables labeled within the bundle where the label is obscured from view shall not be acceptable.

4.3 CONNECTING HARDWARE:

- A. Identify connecting hardware items (termination blocks, cross-connects, racks, cabinets, patch panels, telecommunications outlet/connectors, ports) using alphanumeric identification such as the following three-level scheme:
 - 1. First level—Termination field or patch panel. Color-coding or other labeling should be used to uniquely identify each termination field (e.g., voice and data) on a common mechanical assembly.
 - 2. Second level—Terminal block within a given field or patch panel, which could be a row of insulation displacement connectors (IDCs), optical fiber connectors, or modular jacks.
 - 3. Third level—Defines the individual position within a given terminal block or patch panel.

4.4 TELECOMMUNICATIONS GROUNDING SYSTEM:

- A. Identify each telecommunications grounding bus bar (TGB) and telecommunications main grounding bus bar (TMGB).
- B. Identify each grounding conductor relating to the telecommunications system, including those connecting building steel, grounding electrodes, water pipes, and telecommunications structural components.

PART 5 - MISCELLANEOUS

5.1 TESTING:

A. General

TELEPHONE DATA SYSTEMS

- 1. Provide testing for all copper and fiber optic cable according to TIA/EIA standards and any other requirements of the manufacturer who will provide warranty.
- 2. Submit copy of current calibration of all testing equipment. Submit all test reports electronically to architect/engineer and include in O&M manuals to include test reports.
- 3. Correct any malfunctions. Contractor shall re-terminate/replace any cable, connection, or equipment found to be defective or non-compliant with these specifications and referenced standards.

B. Copper Cable

- Utilize Level IIIe Tester to test all equipment and each outlet, horizontal cable, termination block, patch cords, etc. to verify compliance with requirements. Testing shall consist of industry accepted verification tests for the Category of cable installed and shall meet latest requirements of EIA/TIA cabling Standards.
- 2. UTP Cable and Links: All UTP cabling channel must be tested at swept frequencies up to 250MHz for internal channel performance parameters as defined in IEEE 802.3an and ANSI/TIA/EIA-568C. Certifications shall include the following parameters for each pair of each cable installed:
 - a. Wire map (pin to pin connectivity)
 - b. Length
 - c. Insertion Loss
 - d. Near End Crosstalk (NEXT)
 - e. Far End Crosstalk (FEXT)
 - f. Attenuation to Crosstalk Ratio Far End (ACRF)
 - g. Attenuation/Crosstalk Ration (ACR)
 - h. Return Loss
 - i. Propagation Delay
 - j. Delay Skew
- 3. All channels that fail testing parameters will be replaced at the Contractor's expense until all channels pass the performance parameters.

5.2 WARRANTY:

- A. Register installation with cable/connectivity manufacturer.
- B. Provide and submit all test results to owner, engineer, and manufacturer and meet all other manufacturer requirements in order to provide minimum 20 year extended product link warranty for complete cabling/connectivity installation, including all copper and optical fiber utilized on the entire channel. The channel warranty shall be provided by the connectivity manufacturer. Include replacement material and installation for any defective product.

TELEPHONE DATA SYSTEMS

271500 - 18

JSD RIVERTON ELEMENTARY SCHOOL REMODEL GSBS PROJECT NO. 2023.043.00

5.3 OPERATING AND MAINTENANCE MANUALS:

A. Operating and maintenance manuals shall be submitted prior to testing of the system. A total of (4) hard copy O&M manuals and an Adobe PDF of the entire O&M manual shall be delivered to the Owner. Manuals shall include all service, installation, programming, and warranty, including test results for each cable.

5.4 TRAINING:

A. Provide four hours training on the operation and installation of the structured cabling system at job site, at no cost to owner.

5.5 RECORD DRAWINGS:

- A. The Owner shall provide electronic (DWG) format of telephone/data system drawings on which as-built construction information can be added. These documents will be modified accordingly by the telecommunications contractor to denote as-built information as defined above and returned to the Owner.
- B. Provide a complete set of "as built" drawings in paper and electronic (DWG and PDF) formats showing cabinets, racks, patch panels, wiring, specific interconnections between all equipment and internal wiring of equipment. Drawings are to include all labeling information used in denoting equipment used in the installation. Labeling, icons, and drawing conventions used shall be consistent throughout all documentation provided.

END OF SECTION 271500

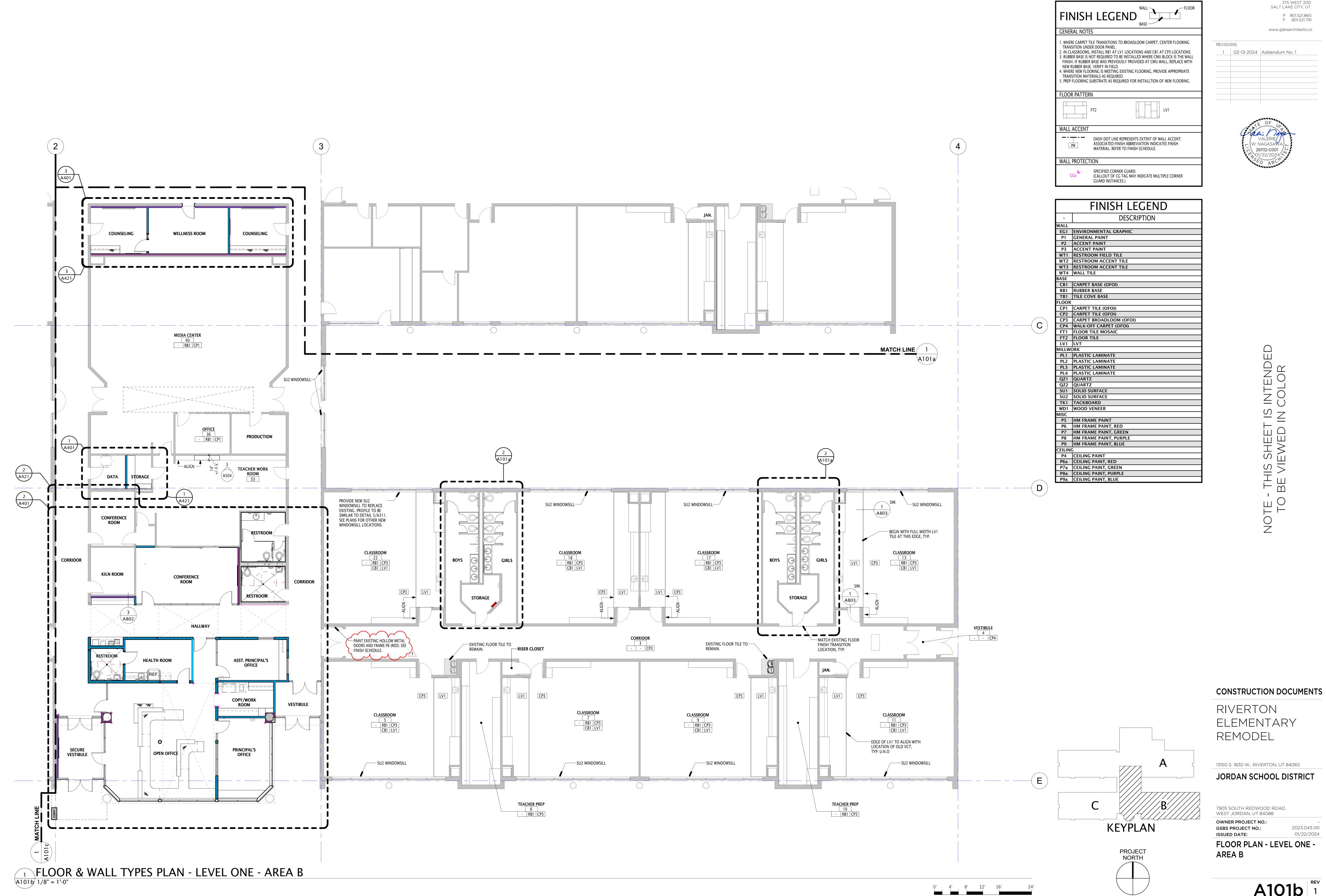
TELEPHONE DATA SYSTEMS

BLANK PAGE

TELEPHONE DATA SYSTEMS

271500 - 20

JSD RIVERTON ELEMENTARY SCHOOL REMODEL GSBS PROJECT NO. 2023.043.00

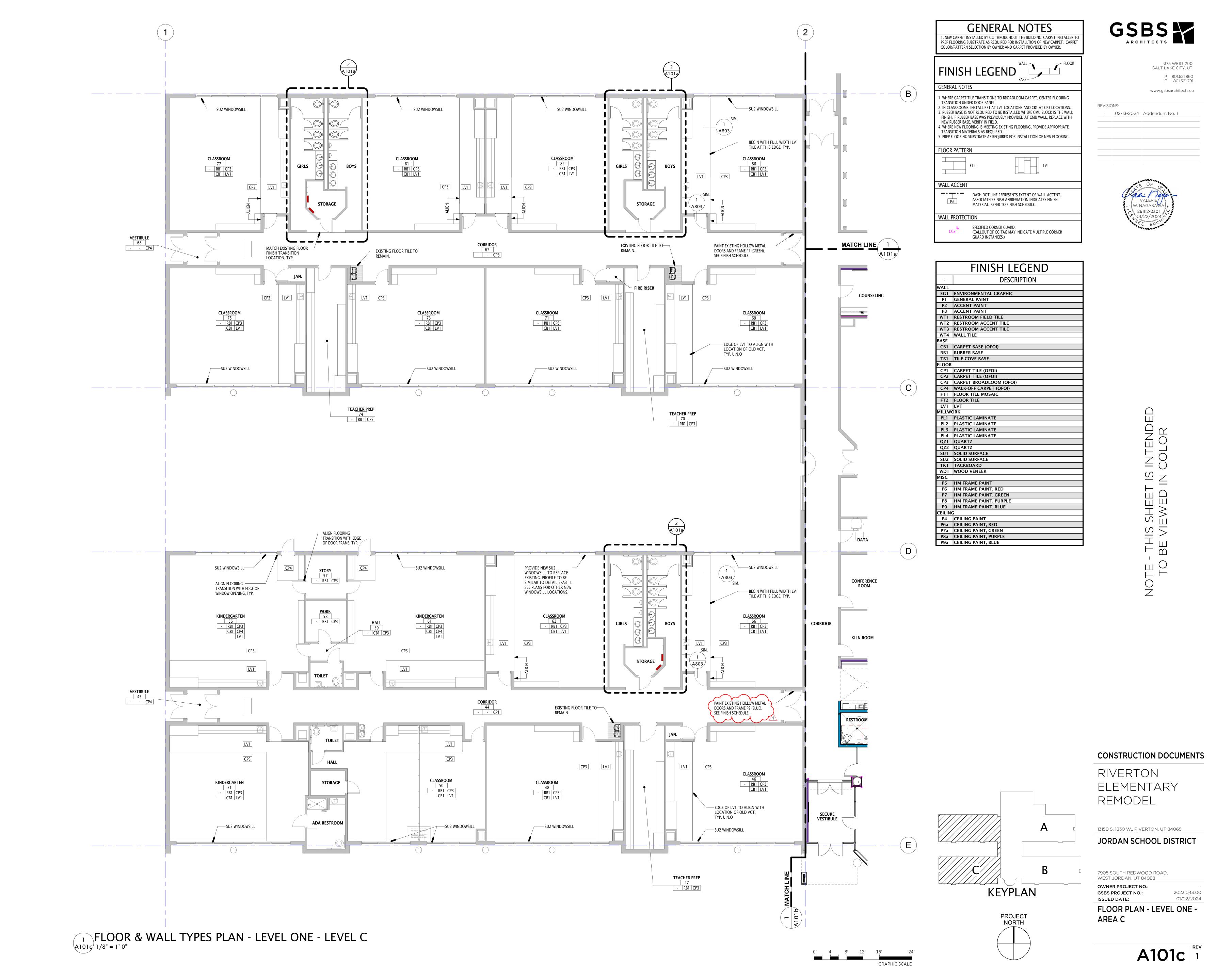


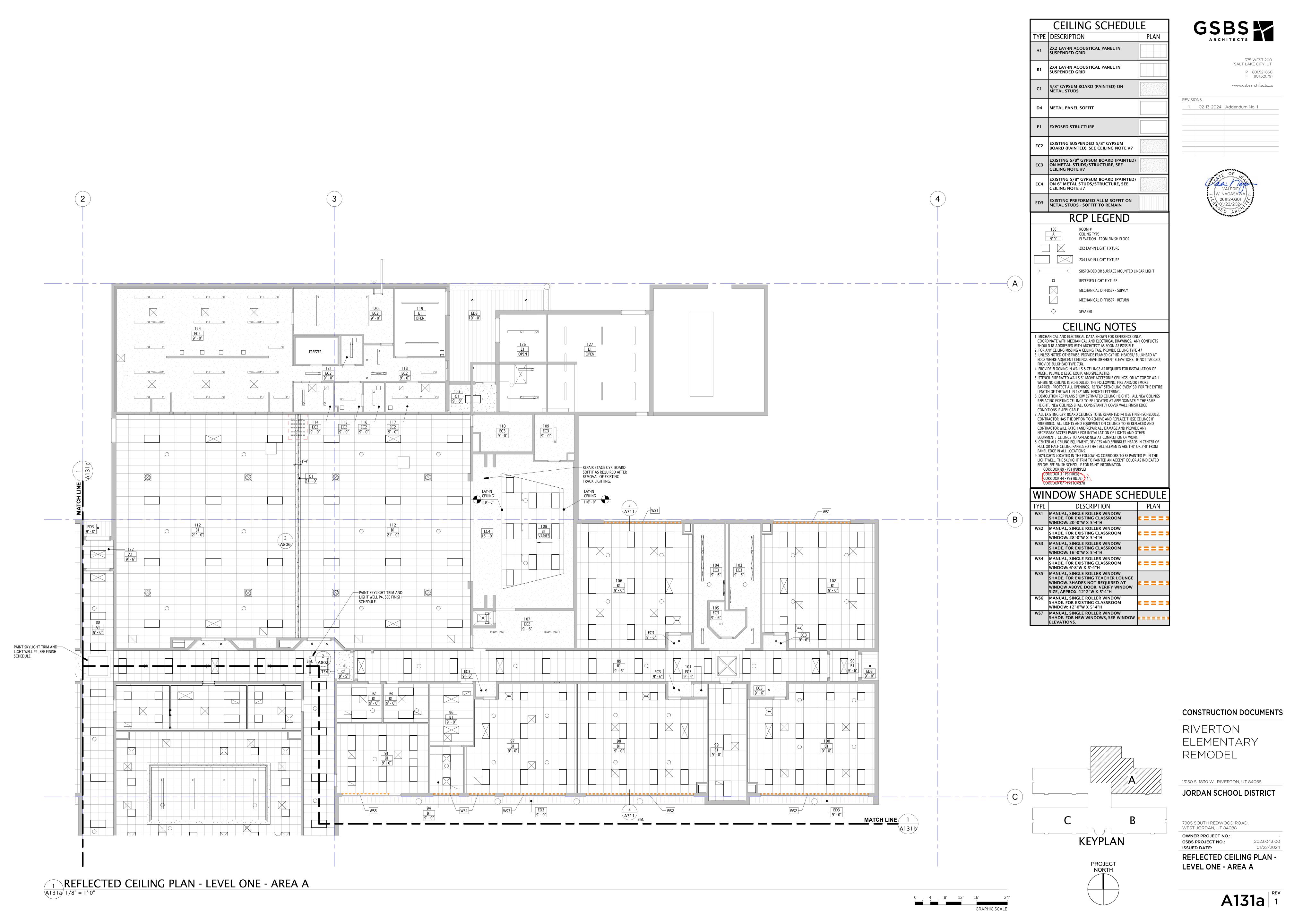
GENERAL NOTES

GSBS ARCHITECTS

1. NEW CARPET INSTALLED BY GC THROUGHOUT THE BUILDING. CARPET INSTALLER TO PREP FLOORING SUBSTRATE AS REQUIRED FOR INSTALLTION OF NEW CARPET. CARPET COLOR/PATTERN SELECTION BY OWNER AND CARPET PROVIDED BY OWNER.

A101b 1









CEILING SCHEDULE

TYPE DESCRIPTION



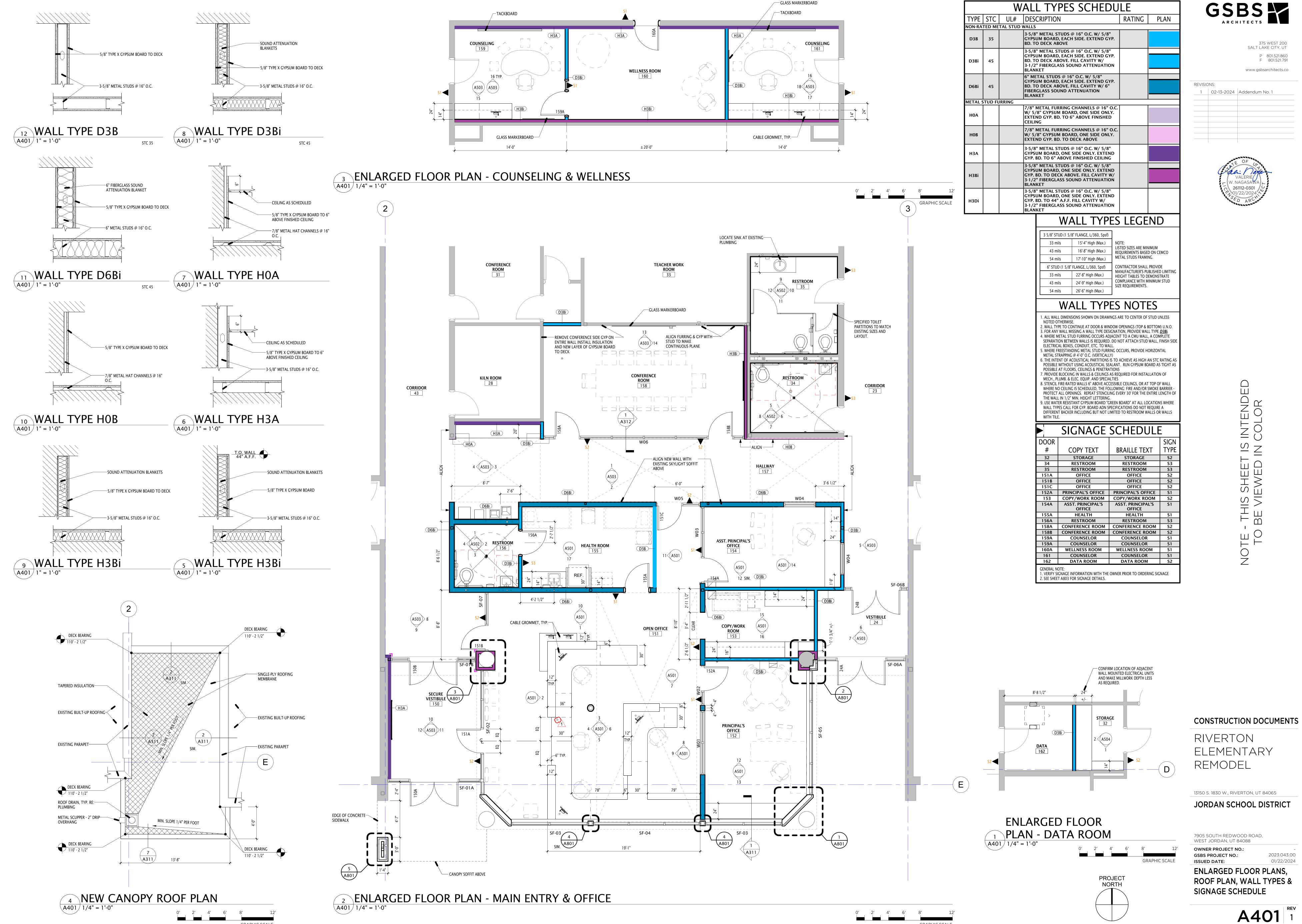
A131c 1

2023.043.00 01/22/2024

375 WEST 200 SALT LAKE CITY, UT

> P 801.521.860 F 801.521.791

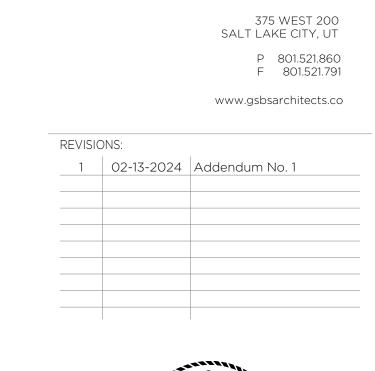
www.gsbsarchitects.co



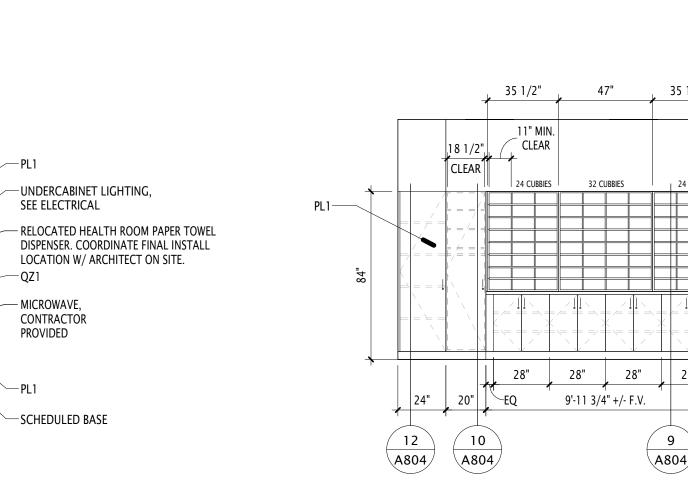
GRAPHIC SCALE

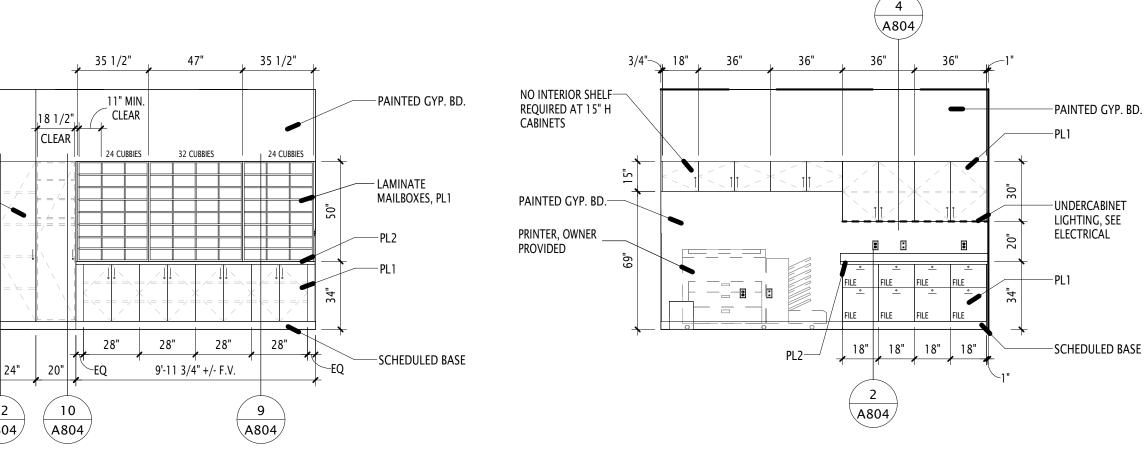
GRAPHIC SCALE

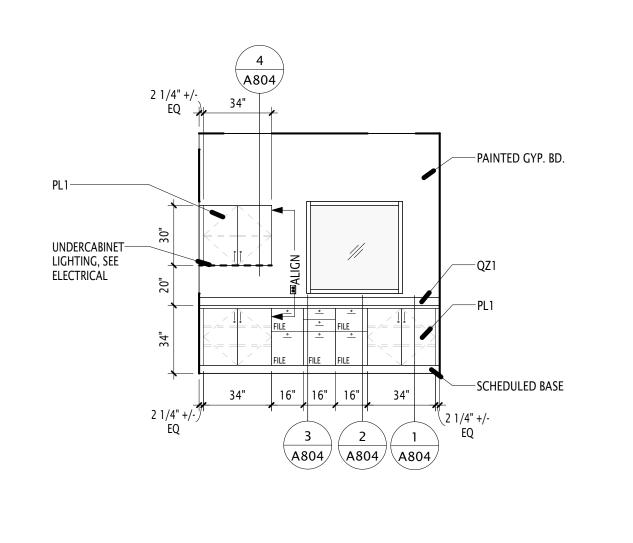














RELOCATED HEALTH ROOM SOAP — DISPENSER. COORDINATE FINAL INSTALL LOCATION W/ ARCHITECT

PAINTED GYP. BD.—

REFRIGERATOR SURROUND

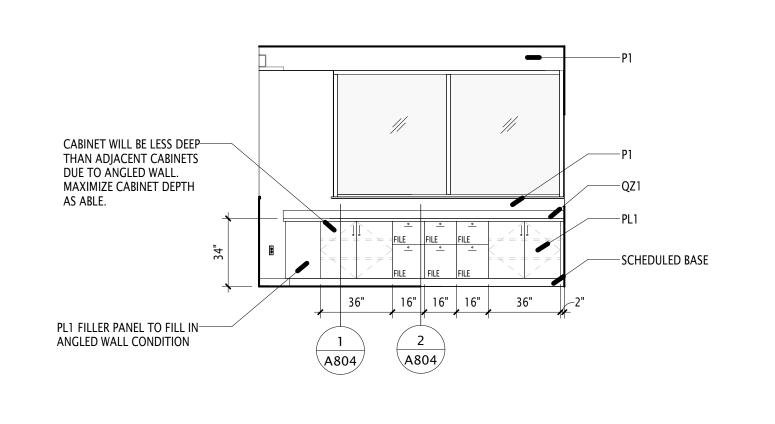
REFRIGERATOR, CONTRACTOR PROVIDED

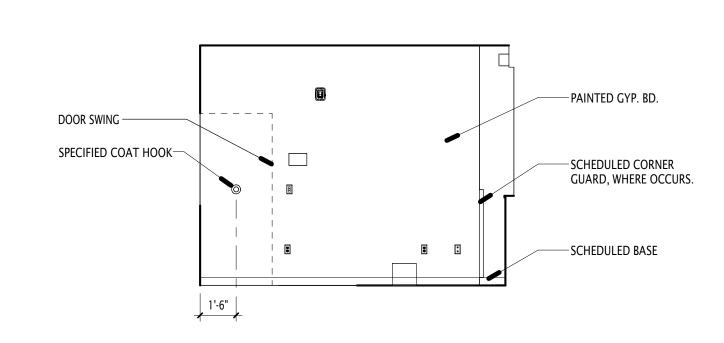
MEDS CART, OWNER -PROVIDED





154 ASST. PRINCIPAL - EAST
A501 1/4" = 1'-0"



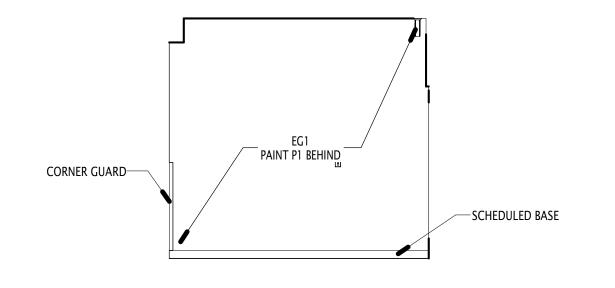


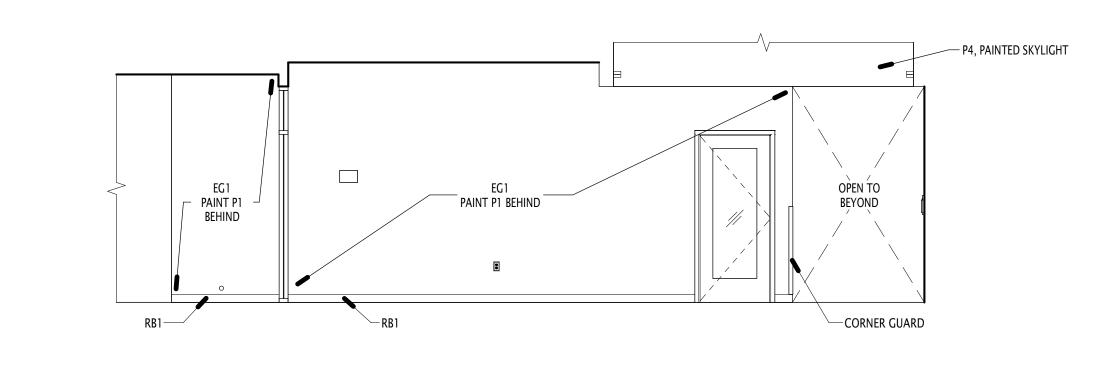
6 7 A804 A804

-UNDERCABINET LIGHTING, SEE ELECTRICAL

MICROWAVE,CONTRACTORPROVIDED

—SCHEDULED BASE



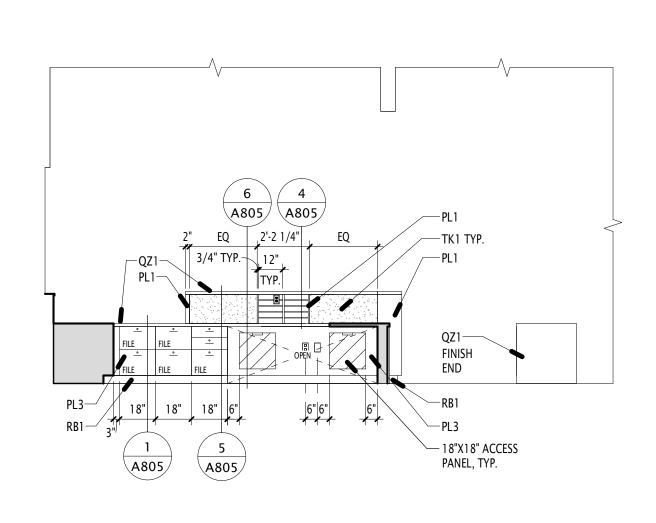


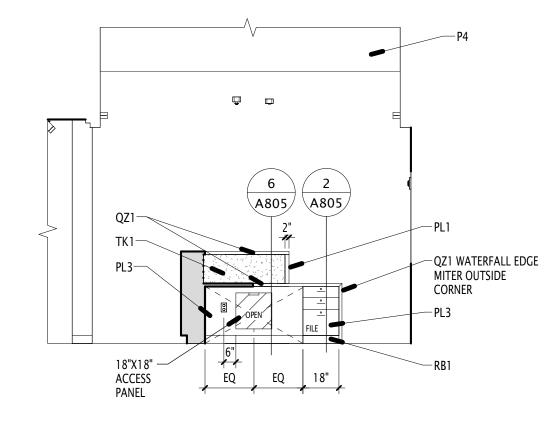


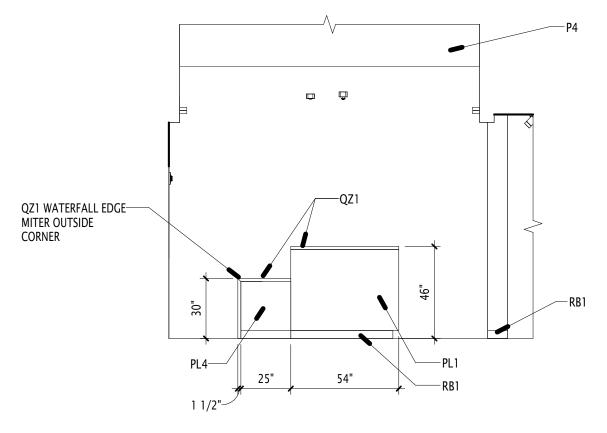


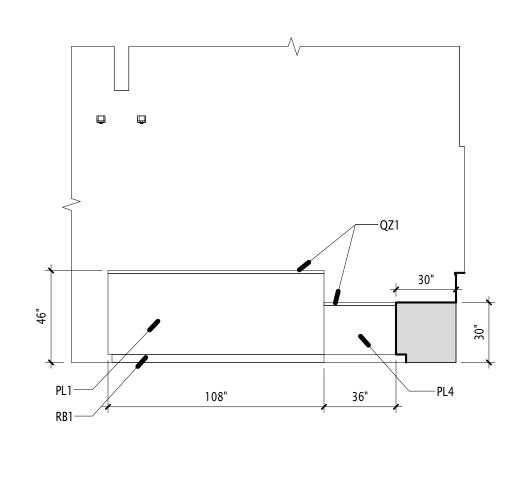


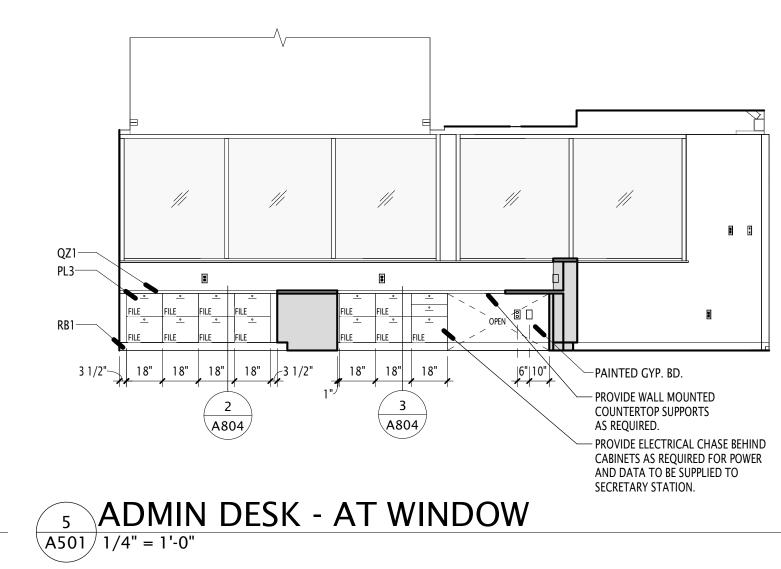
10 151 OPEN OFFICE - NORTH
A501 1/4" = 1'-0"









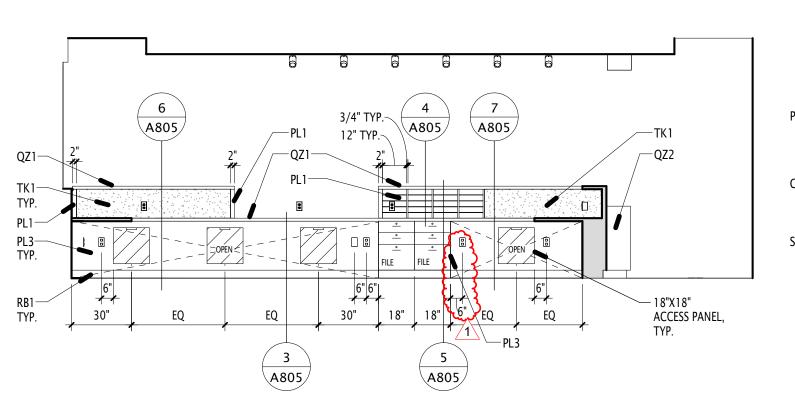


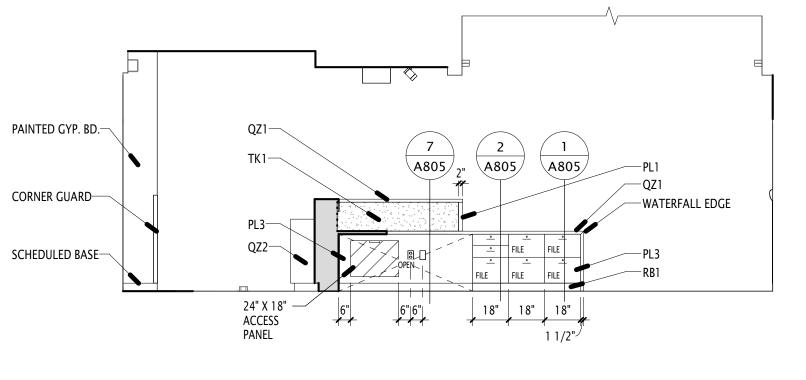
9 SECRETARY - BACK 2 A501 1/4" = 1'-0"

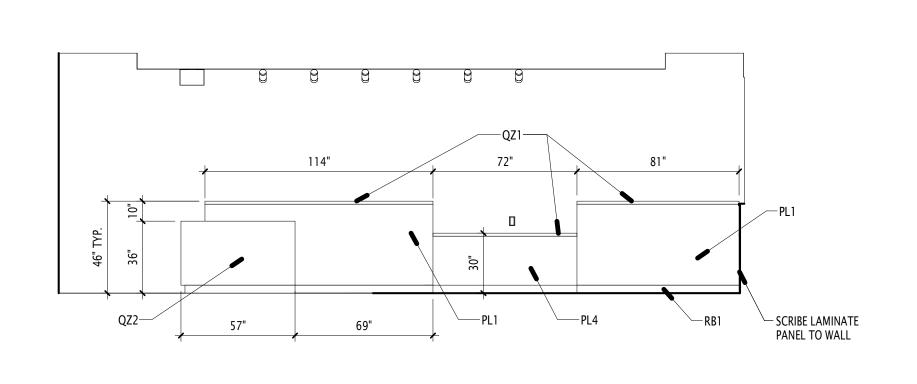
8 SECRETARY - BACK 1 1/4" = 1'-0"

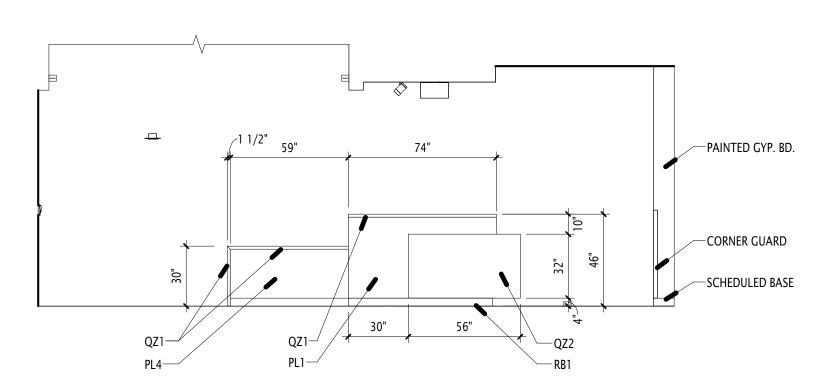
7 SECRETARY - SIDE A501 1/4" = 1'-0"

6 SECRETARY - FRONT
A501 1/4" = 1'-0"









4	ADMIN	DESK	- BACK 2	
A501/	1/4" = 1'-0"			





13150 S. 1830 W., RIVERTON, UT 84065 JORDAN SCHOOL DISTRICT

ELEMENTARY

RIVERTON

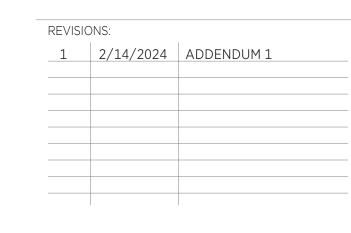
REMODEL

CONSTRUCTION DOCUMENTS

7905 SOUTH REDWOOD ROAD, WEST JORDAN, UT 84088 OWNER PROJECT NO.: 2023.043.00 GSBS PROJECT NO.: 01/22/2024



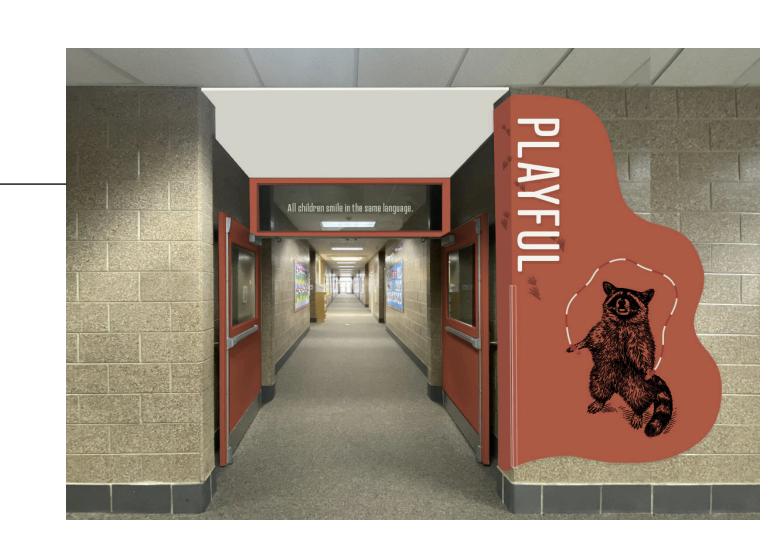
375 WEST 200 SALT LAKE CITY, UT P 801.521.860 F 801.521.791 www.gsbsarchitects.co



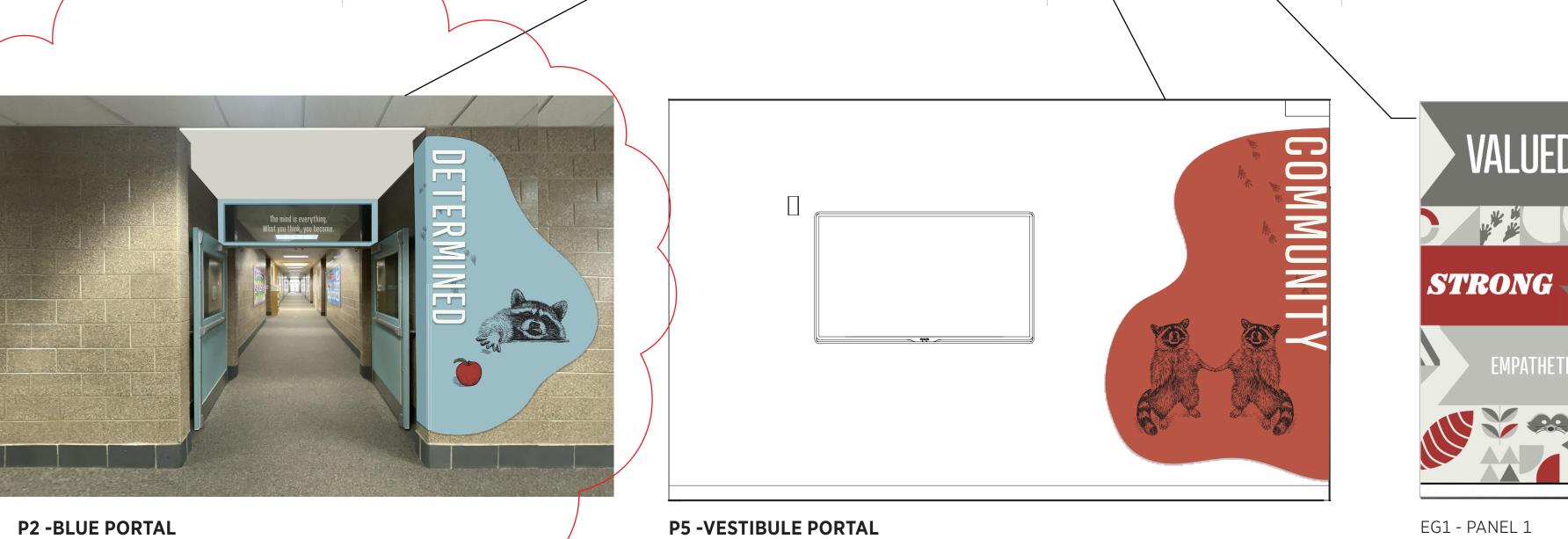




P4 - PURPLE PORTAL



P3 - RED PORTAL



CLASSROOM

MULTI-PURPOSE

MEDIA CENTER

OFFICE PRODUCTION

TEACHER PREP

CLASSROOM

TEACHER PREP

SECURE VESTIBULE PLATFORM/MUSIC

SPECIAL ED

CLASSROOM

CLASSROOM

EG1 - OFFICE WALL GRAPHICS

MECH. ROOM

TEACHER LOUNGE TUTOR

COUNSEL



CLASSROOM

TEACHER PREP



EG1 - PANEL 3

JORDAN SCHOOL DISTRICT

7905 SOUTH REDWOOD ROAD,
WEST JORDAN, UT 84088

OWNER PROJECT NO.:
GSBS PROJECT NO.:
2023.043.00

RIVERTON

REMODEL

ELEMENTARY

13150 S. 1830 W., RIVERTON, UT 84065

WALL GRAPHICS AND PORTAL LOCATIONS

CONSTRUCTION DOCUMENTS

P1 - GREEN PORTAL

VESTIBULE—

VESTIBULE—

CLASSROOM

KINDERGARTEN

KINDERGARTEN

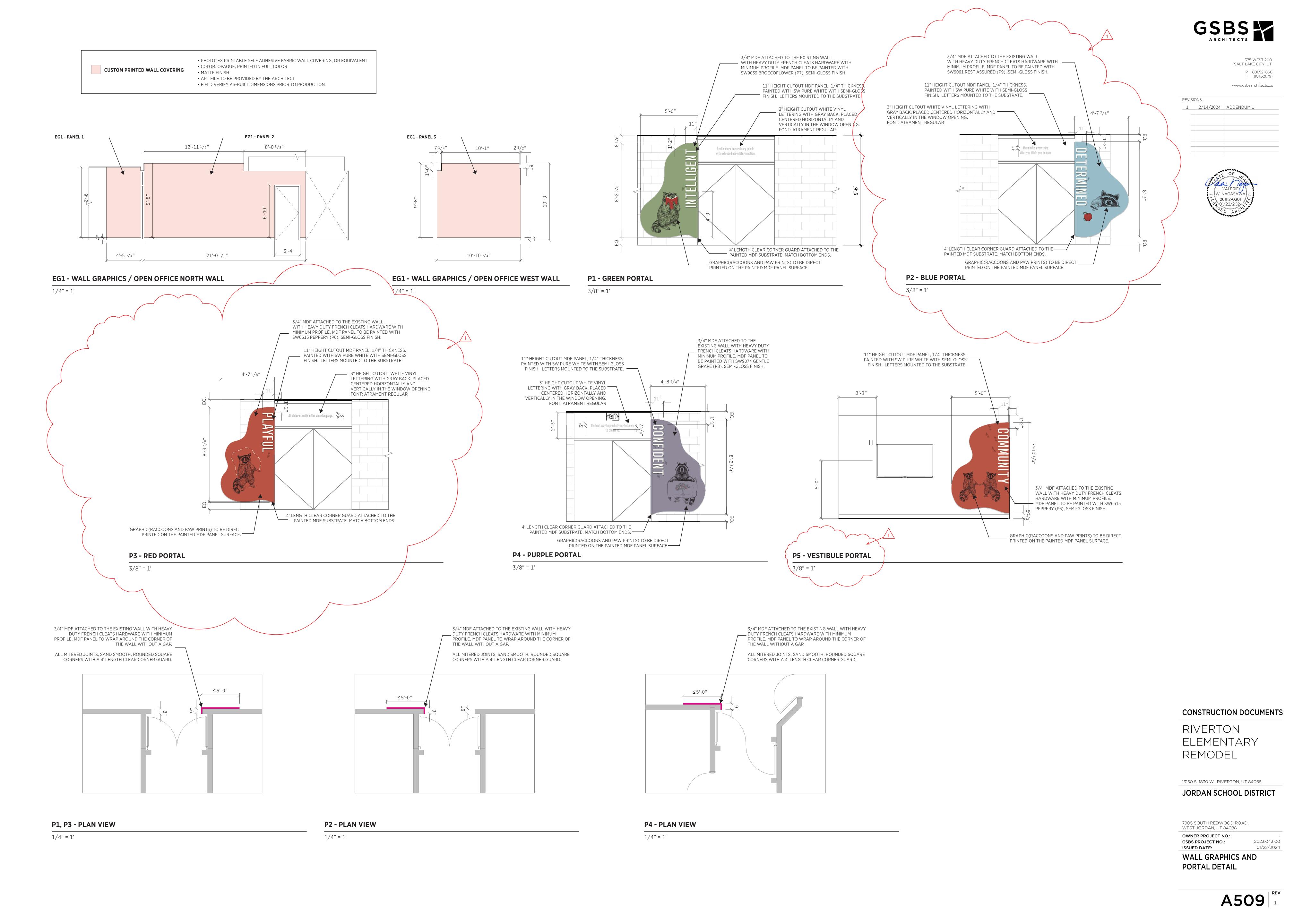
ADA RESTROOM

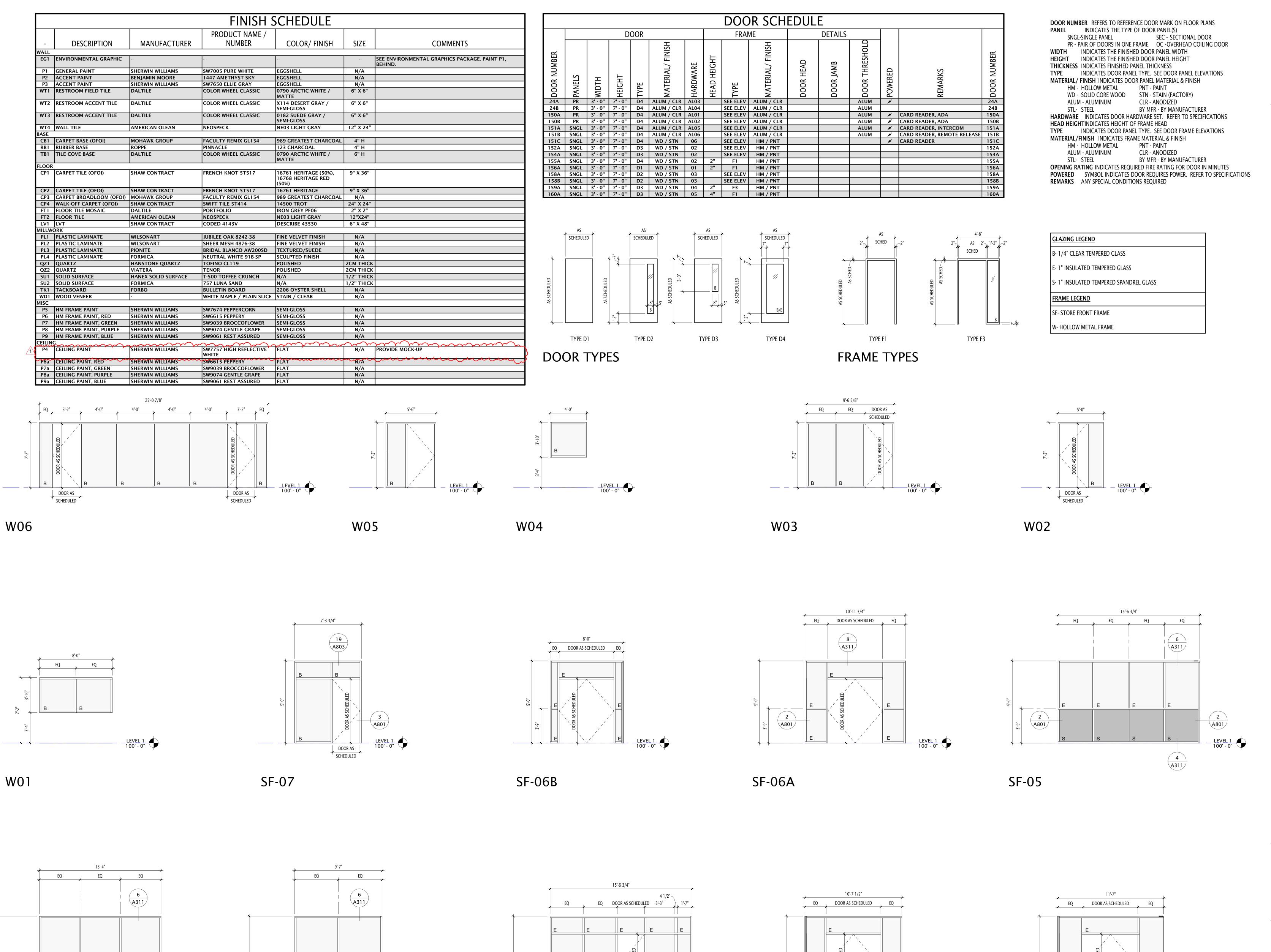
CLASSROOM

KINDERGARTEN

CLASSROOM

TEACHER PREP





4 A801

4 A311 LEVEL 1 100' - 0" SF-03

4 A801

4 A311 LEVEL 1 100' - 0" A801

SF-02

SF-01B

SF-01A

-6. A801

SF-04

RIVERTON
ELEMENTARY
REMODEL

375 WEST 200

P 801.521.860

F 801.521.791

SALT LAKE CITY, UT

www.gsbsarchitects.co

REVISIONS:

1 02-13-2024 Addendum No. 1

261112-0301

13150 S. 1830 W., RIVERTON, UT 84065

JORDAN SCHOOL DISTRICT

7905 SOUTH REDWOOD ROAD, WEST JORDAN, UT 84088

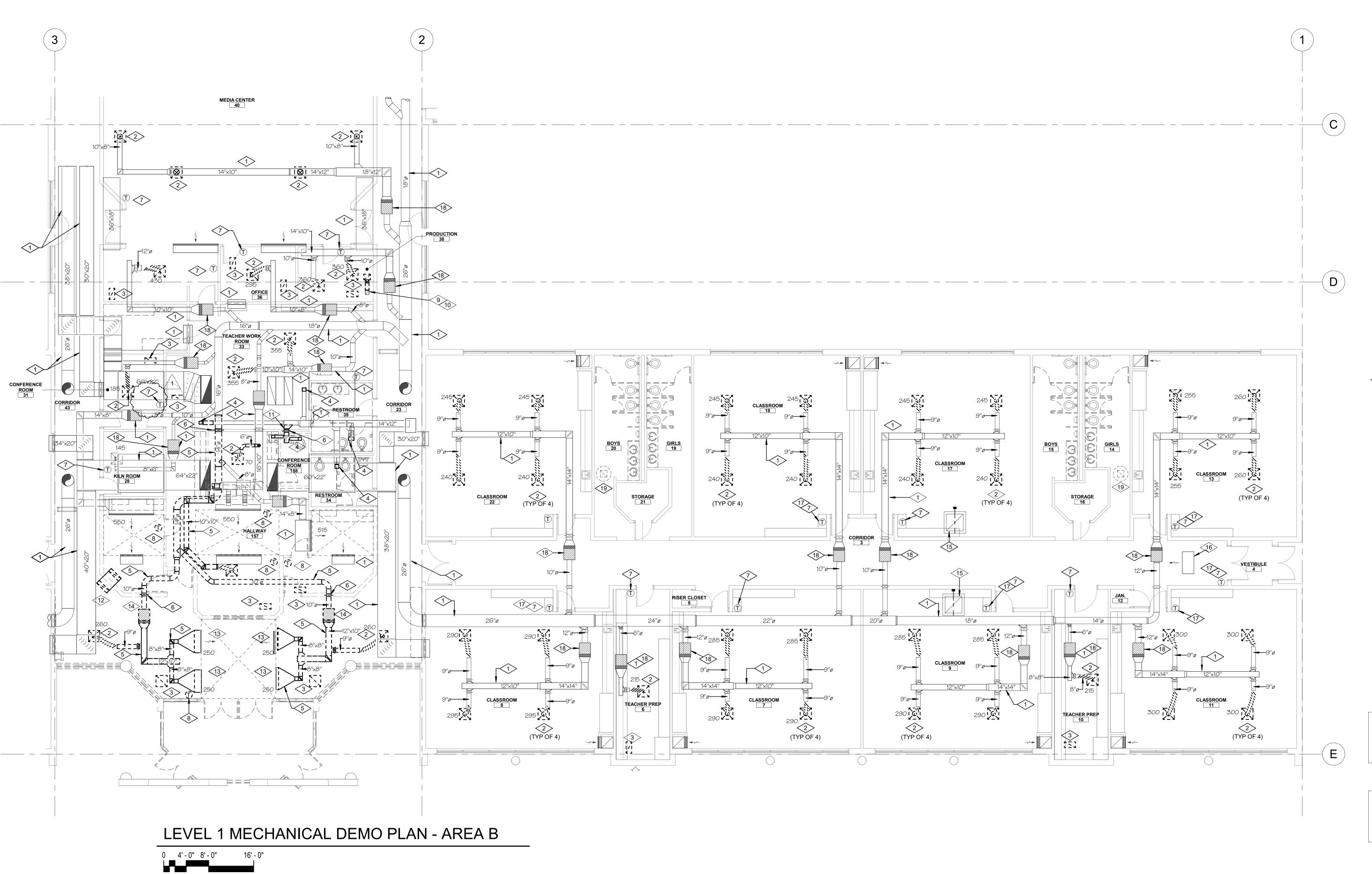
OWNER PROJECT NO.:

GSBS PROJECT NO.: 2023.043.00
ISSUED DATE: 01/22/2024

DOOR, WINDOW, FINISHES

SCHEDULES

A601 1



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



- 1 EXISTING DUCT SYSTEMS TO REMAIN. (TYPICAL)
- 3 REMOVE EXISTING RETURN AIR GRILLE.
- REMOVE EXISTING SUPPLY DUCTWORK AND HANGERS COMPLETE. COORDINATE WITH NEW WORK.

- 10 CAP DUCT THRU ROOF BELOW DECK WATERTIGHT.
- COMPLETE.
- 13 EXISTING SIDEWALL GRILLE TO REMAIN.
- ETC. COMPLETE. COORDINATE WITH NEW WORK. (BASE
- M101B. (ALT.#3)
- 16 EXISTING CABINET UNIT HEATER. SEE NEW WORK SHEET M101B. (ALT.#3)
- 17 REMOVE EXISTING ZONE THERMOSTAT. (ALT.#3) COORDINATE WITH NEW WORK SHEET M101B (TYPICAL)
- 18 REMOVE EXISTING VAV & H.W. VALVE CONTROLLER. (ALT.#3) COORDINATE WITH NEW WORK SHEET M101B.
- 19 EXISTING ROOF EXHAUST FAN. SEE NEW WORK SHEET M101A. (ALT.#3)

375 WEST 200 SOUTH SALT LAKE CITY, UT 84101

www.gsbsarchitects.com

REVISIONS:

1 02/13/24 Addendum 01

//#334524-2202

JAMES

AUSTIN

BERRETT

14 East 2700 South, Salt Lake City, UT 84115 Phone: (801) 486-4646 Fax: (801) 467-2531

P 801.521.8600

F 801.521.7913

- REMOVE EXISTING CEILING DIFFUSER AND FLEX DUCT. REMOVE SPIRAL DUCT IF REQUIRED FOR NEW INSTALLATION.
- REMOVE EXISTING CEILING EXHAUST GRILLE AND RELATED DUCTWORK. COORDINATE WITH NEW WORK.
- 6 REMOVE EXISTING FIRE DAMPER COMPLETE.
- 7 EXISTING ZONE THERMOSTAT TO REMAIN. (BASE BID) (TYPICAL)
- 8 REMOVE EXISTING ZONE THERMOSTAT AND ASSOCIATED WIRING. STORE THERMOSTAT FOR RE-INSTALLATION. COORDINATE WITH NEW WORK. (BASE BID)
- 9 REMOVE EXISTING CEILING EXHAUST FAN, CONTROLS, DUCT AND SUPPORTS COMPLETE. (BASE BID)
- 11 CAP EXISTING DUCT TO REMAIN. COORDINATE WITH NEW WORK
- 12 REMOVE EXISTING TRANSFER AIR DUCT AND SUPPORTS
- 14 REMOVE EXISTING VAV RE-HEAT BOX, PIPE, CONTROLS,
- 15 EXISTING RELIEF AIR HOOD. SEE NEW WORK SHEET

GENERAL DEMOLITION NOTES

- CONTRACTOR IS RESPONSIBLE TO DRAIN DOWN HEATING WATER SYSTEM AND STORE GLYCOL AS REQUIRED FOR ALL WORK.
- EXISTING GLYCOL TO BE RE-USED FOR NEW WORK. CONTRACTOR SHALL REPLACE GLYCOL IN SYSTEM WHEN WORK IS COMPLETE. COORDINATE ALL DEMOLITION WITH EXISTING CONDITIONS AND NEW
- ALL DEMOLITION SHALL BE COORDINATED WITH ALL TRADES. COORDINATE ALL ALTERNATES WITH DEMO & NEW WORK.

AREA A

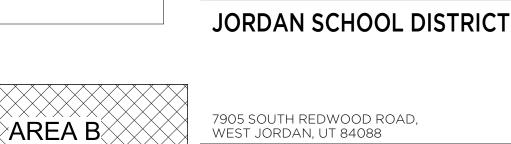
KEY PLAN

AREA C

PLAN - AREA B



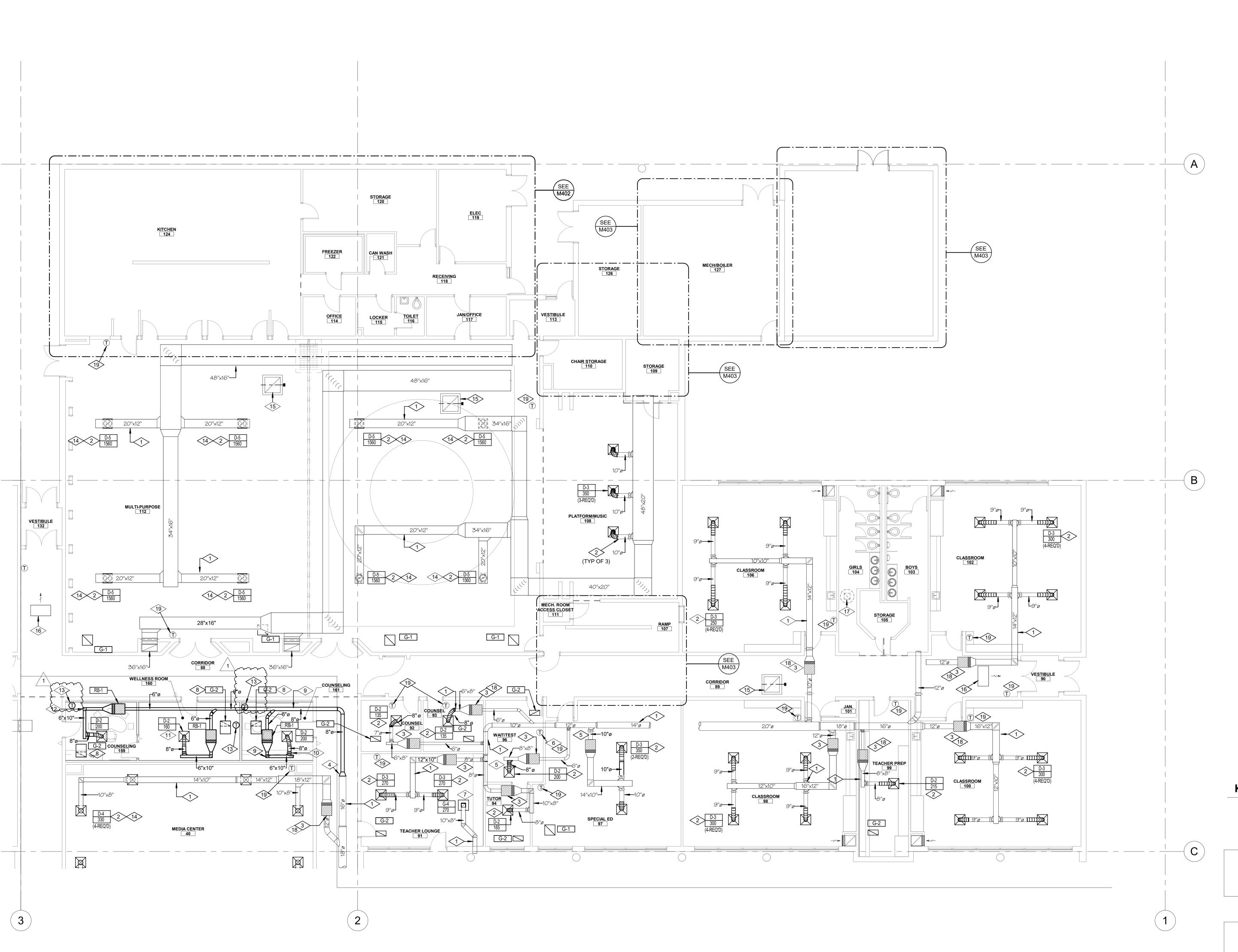
RIVERTON ELEMENTARY REMODEL 13150 S. 1830 W., RIVERTON, UT 84065



7905 SOUTH REDWOOD ROAD, WEST JORDAN, UT 84088 OWNER PROJECT NO.: GSBS PROJECT NO.: 2023.043.00 ISSUED DATE: 01/22/2024 MECHANICAL DEMOLITION

CONSTRUCTION DOCUMENTS





LEVEL 1 MECHANICAL PLAN - AREA A

0 4' - 0" 8' - 0" 16' - 0"

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



- 1 EXISTING DUCT SYSTEMS TO REMAIN. (TYPICAL)
- 2 NEW DIFFUSER AND FLEXIBLE DUCT. VERIFY EXISTING DUCT CONNECTION SIZE. FLEX DUCT MAXIMUM LENGTH
- 5'-0". RE-BALANCE TO CFM SHOWN.

 RE-BALANCE EXISTING VAV RE-HEAT BOX TO ZONE CFM.
- 4 CONNECT NEW MEDIUM PRESSURE TO EXISTING MEDIUM PRESSURE DUCT AT APPROXIMATELY THIS LOCATION. REPAIR DUCT WRAP AT CONNECTION.
- 5 CAP EXISTING MEDIUM PRESSURE DUCT.
- 6 NEW OR RELOCATED HEATING/COOLING THERMOSTAT.
- 7 CONNECT NEW GRILLE TO EXISTING DUCT.
- 8 PROVIDE SOUND BOOT. SEE DETAIL 11/M601
- 9 DUCT TO RUN ABOVE CEILING. COORDINATE WITH EXISTING CONDITION AND ALL TRADES.
- 10 HET FITTING WITH MANUAL BALANCING DAMPER. (TYPICAL)
- 11 FLEXIBLE DUCT. (TYPICAL) MAXIMUM LENGTH 5'-0".
- 12 TURNING VANES. (TYPICAL)
- 13 NEW WALL MOUNTED HEATING/COOLING THERMOSTAT.
- 14 CONNECT TO EXISTING SQUARE DUCT. PROVIDE MANUAL BALANCING DAMPER. (TYPICAL)
- 15 PROVIDE NEW RELIEF AIR CONTROLLER UNDER ALT. # 3.
- 16 PROVIDE NEW CABINET UNITHEATER CONTROLLER UNDER ALT. # 3.
- 17 PROVIDE NEW ROOF EXHAUST FAN CONTROLLER UNDER
- 18 PROVIDE NEW VAV RE-HEAT BOX & RE-HEAT VALVE CONTROLLER UNDER ALT. #3.
- 19 PROVIDE NEW ZONE THERMOSTAT. (ALT. #3.) (TYPICAL)



375 WEST 200 SOUTH SALT LAKE CITY, UT 84101 P 801.521.8600 F 801.521.7913

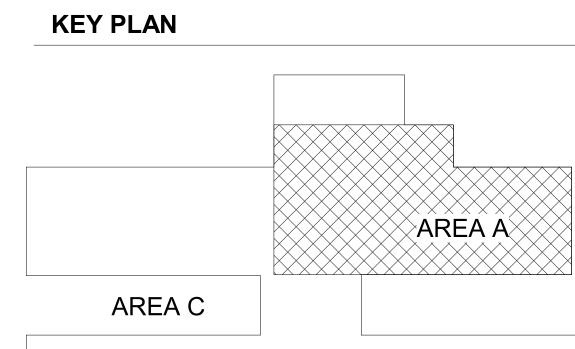
www.gsbsarchitects.com

REVISIONS:

1 02/13/24 Addendum 01







AREA B

7905 SOUTH REDWOOD ROAD,
WEST JORDAN, UT 84088

OWNER PROJECT NO.:
GSBS PROJECT NO.:
ISSUED DATE:

O1/22/2024

MECHANICAL PLAN - AREA

CONSTRUCTION DOCUMENTS

RIVERTON

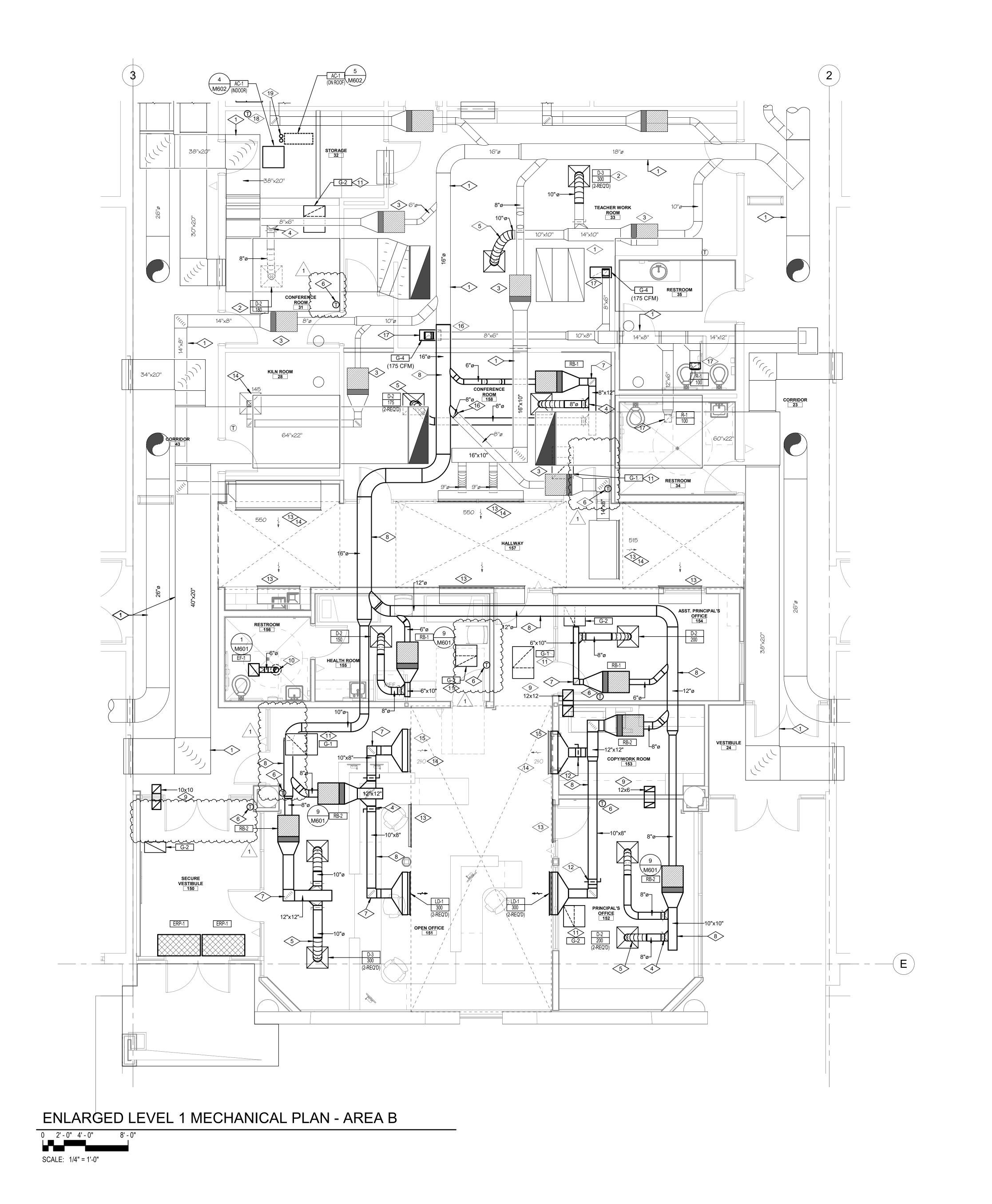
REMODEL

ELEMENTARY

13150 S. 1830 W., RIVERTON, UT 84065

JORDAN SCHOOL DISTRICT

M101A 1





- 1 EXISTING DUCT SYSTEMS TO REMAIN. (TYPICAL)
- 2 NEW DIFFUSER AND FLEXIBLE DUCT. VERIFY EXISTING DUCT CONNECTION SIZE. FLEX DUCT MAXIMUM LENGTH
- 5'-0". RE-BALANCE TO CFM SHOWN.

 RE-BALANCE EXISTING VAV RE-HEAT BOX TO ZONE CFM.
- 4 HET FITTING WITH MANUAL BALANCING DAMPER.
- 5 FLEXIBLE DUCT. (TYPICAL) MAXIMUM LENGTH 5'-0".
- 6 WALL MOUNTED HEATING / COOLING THERMOSTAT.
- (TYPICAL)
- 7 TURNING VANES. (TYPICAL)
- 8 DUCT TO RUN ABOVE CEILING. COORDINATE WITH EXISTING CONDITIONS AND ALL TRADES. (TYPICAL)
- 9 TRANSFER AIR DUCT WITH SOUND BOOT. (TYPICAL) SEE
- 10 DUCT THRU ROOF. SEE DETAIL 2/M601.
- 11 PROVIDE SOUND BOOT AT RETURN GRILLE. (TYPICAL) SEE DETAIL 11/M601.
- 12 MANUAL BALANCING DAMPER. (TYPICAL)
- 13 EXISTING REGISTER TO REMAIN.

OUTDOOR UNIT.

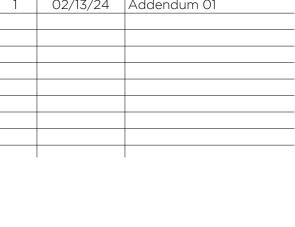
DETAIL 12/M601.

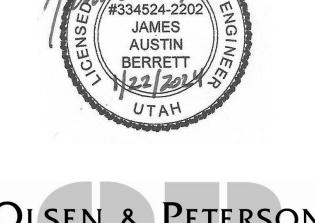
- 14 RE-BALANCE EXISTING REGISTER OR DIFFUSER TO CFM
- 15 CONNECT NEW DUCT TO EXISTING REGISTER.
- 16 CONNECT NEW DUCT TO EXISTING AT APPROXIMATELY THIS LOCATION. REPAIR DUCT WRAP AT CONNECTION.
- 17 CONNECT NEW R-1 TO EXISTING EXHAUST DUCT.
- 18 WALL MOUNTED HARD WIRED COOLING THERMOSTAT.19 REFRIGERANT PIPING UP THRU EXISTING UNIT TO

375 WEST 200 SOUTH SALT LAKE CITY, UT 84101 P 801.521.8600 F 801.521.7913 www.gsbsarchitects.com

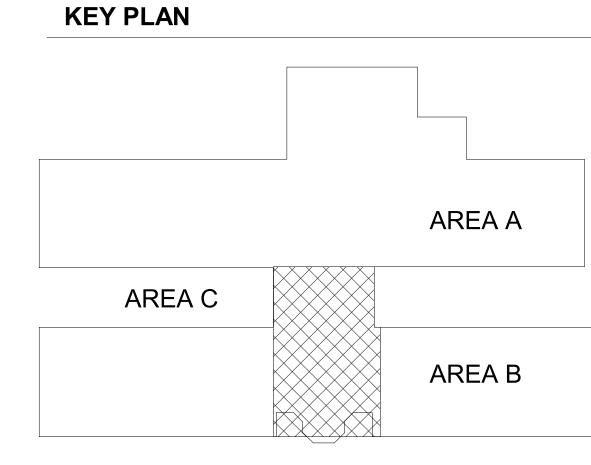
REVISIONS:

1 02/13/24 Addendum 01









7905 SOUTH REDWOOD ROAD, WEST JORDAN, UT 84088

OWNER PROJECT NO.: 2023 043 00

RIVERTON

REMODEL

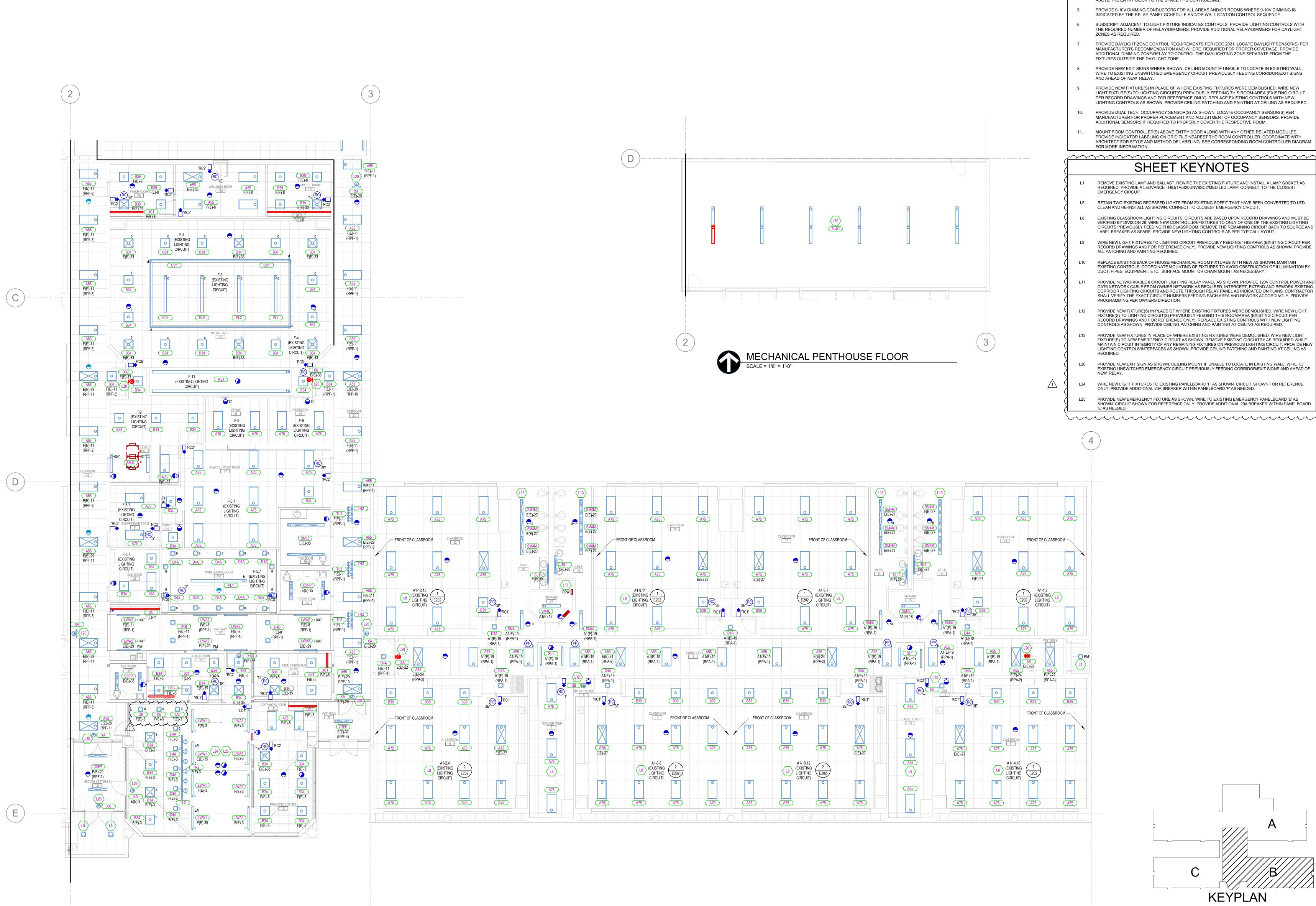
ELEMENTARY

CONSTRUCTION DOCUMENTS

GSBS PROJECT NO.: 2023.043.00
ISSUED DATE: 01/22/2024

ENLARGED MECHANICAL
PLANS







REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR ALL FIXTURE LOCATIONS WITHIN A CEILING OR CEILING GRID. FOR AREAS WITHOUT CEILINGS, FIXTURE LOCATIONS ARE DIAGRAMMATIC. THE INTENT IS TO ALIGN, CENTER, OR SPACE FIXTURES BETWEEN ARCHITECTURAL AND STRUCTURAL ELEMENTS. COORDINATE WITH PAINTING CONTRACTOR FOR PAINTING OF EXPOSED RACEWAY. FIELD VERIFY EXACT FIXTURE LENGTHS FOR CONTINUOUS ILLUMINATION FOR COVES AND LINEAR RUNS.

PROVIDE CONTINUOUS ILLUMINATION WITH NO MORE THAN A 1" GAP BETWEEN THE END OF THE EDGE OF THE WALL / CEILING AND THE FIXTURE. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR PLACEMENT OF

FIXTURES WITHIN MECHANICAL ROOMS. ALL ROOM CONTROLLERS AND/OR POWER PACKS SHALL BE INSTALLED IN THE CEILING SPACE DIRECTLY ABOVE THE ENTRY DOOR TO THE SPACE IT IS CONTROLLING. PROVIDE 0-10V DIMMING CONDUCTORS FOR ALL AREAS AND/OR ROOMS WHERE 0-10V DIMMING IS

SUBSCRIPT ADJACENT TO LIGHT FIXTURE INDICATES CONTROLS, PROVIDE LIGHTING CONTROLS WITH THE REQUIRED NUMBER OF RELAY/DIMMIERS. PROVIDE ADDITIONAL RELAY/DIMMERS FOR DAYLIGHT PROVIDE DAYLIGHT ZONE CONTROL REQUIREMENTS PER IECC 2021. LOCATE DAYLIGHT SENSOR(S) PER

ADDITIONAL DIMMING ZONE/RELAY TO CONTROL THE DAYLIGHTING ZONE SEPARATE FROM THE FIXTURES OUTSIDE THE DAYLIGHT ZONE. PROVIDE NEW EXIT SIGNS WHERE SHOWN. CEILING MOUNT IF UNABLE TO LOCATE IN EXISTING WALL. WIRE TO EXISTING UNSWITCHED EMERGENCY CIRCUIT PREVIOUSLY FEEDING CORRIDOR/EXIT SIGNS

PROVIDE NEW FIXTURE(S) IN PLACE OF WHERE EXISTING FIXTURES WERE DEMOLISHED. WIRE NEW LIGHT FIXTURE(S) TO LIGHTING CIRCUIT(S) PREVIOUSLY FEEDING THIS ROOM/AREA (EXISTING CIRCUIT PER RECORD DRAWINGS AND FOR REFERENCE ONLY). REPLACE EXISTING CONTROLS WITH NEW LIGHTING CONTROLS AS SHOWN. PROVIDE CEILING PÁTCHING AND PAINTING AT CEILING AS REQUIRED.

PROVIDE DUAL TECH. OCCUPANCY SENSOR(S) AS SHOWN. LOCATE OCCUPANCY SENSOR(S) PER MANUFACTURER FOR PROPER PLACEMENT AND ADJUSTMENT OF OCCUPANCY SENSORS. PROVIDE ADDITIONAL SENSORS IF REQUIRED TO PROPERLY COVER THE RESPECTIVE ROOM.

MOUNT ROOM CONTROLLER(S) ABOVE ENTRY DOOR ALONG WITH ANY OTHER RELATED MODULES. PROVIDE INDICATOR LABELING ON GRID TILE NEAREST THE ROOM CONTROLLER. COORDINATE WITH ARCHITECT FOR STYLE AND METHOD OF LABELING. SEE CORRESPONDING ROOM CONTROLLER DIAGRAM

- REMOVE EXISTING LAMP AND BALLAST. REWIRE THE EXISTING FIXTURE AND INSTALL A LAMP SOCKET AS REQUIRED. PROVIDE A LEDVANCE - HIDr1A/S20UNV8SC2/MED LED LAMP. CONNECT TO THE CLOSEST
- RETAIN TWO EXISTING RECESSED LIGHTS FROM EXISTING SOFFIT THAT HAVE BEEN CONVERTED TO LED. CLEAN AND RE-INSTALL AS SHOWN. CONNECT TO CLOSEST EMERGENCY CIRCUIT. EXISTING CLASSROOM LIGHTING CIRCUITS. CIRCUITS ARE BASED UPON RECORD DRAWINGS AND MUST BE VERIFIED BY DIVISION 26. WIRE NEW CONTROLLER/FIXTURES TO ONLY OF ONE OF THE EXISTING LIGHTING CIRCUITS PREVIOUSLY FEEDING THIS CLASSROOM. REMOVE THE REMAINING CIRCUIT BACK TO SOURCE AND
- LABEL BREAKER AS SPARE. PROVIDE NEW LIGHTING CONTROLS AS PER TYPICAL LAYOUT. WIRE NEW LIGHT FIXTURES TO LIGHTING CIRCUIT PREVIOUSLY FEEDING THIS AREA (EXISTING CIRCUIT PER RECORD DRAWINGS AND FOR REFERENCE ONLY). PROVIDE NEW LIGHTING CONTROLS AS SHOWN. PROVIDE ALL PATCHING AND PAINTING REQUIRED.
- REPLACE EXISTING BACK OF HOUSE/MECHANICAL ROOM FIXTURES WITH NEW AS SHOWN. MAINTAIN EXISTING CONTROLS. COORDINATE MOUNTING OF FIXTURES TO AVOID OBSTRUCTION OF ILLUMINATION BY
- PROVIDE NETWORKABLE 8 CIRCUIT LIGHTING RELAY PANEL AS SHOWN. PROVIDE 120V CONTROL POWER AND CAT6 NETWORK CABLE FROM OWNER NETWORK AS REQUIRED. INTERCEPT, EXTEND AND REWORK EXISTING CORRIDOR LIGHTING CIRCUITS AND ROUTE THROUGH RELAY PANEL AS INDICATED ON PLANS. CONTRACTOR SHALL VERIFY THE EXACT CIRCUIT NUMBERS FEEDING EACH AREA AND REWORK ACCORDINGLY. PROVIDE
- PROVIDE NEW FIXTURE(S) IN PLACE OF WHERE EXISTING FIXTURES WERE DEMOLISHED, WIRE NEW LIGHT FIXTURE(S) TO LIGHTING CIRCUIT(S) PREVIOUSLY FEEDING THIS ROOM/AREA (EXISTING CIRCUIT PER RECORD DRAWINGS AND FOR REFERENCE ONLY). REPLACE EXISTING CONTROLS WITH NEW LIGHTING
- CONTROLS AS SHOWN. PROVIDE CEILING PATCHING AND PAINTING AT CEILING AS REQUIRED. PROVIDE NEW FIXTURES IN PLACE OF WHERE EXISTING FIXTURES WERE DEMOLISHED. WIRE NEW LIGH FIXTURE(S) TO NEW EMERGENCY CIRCUIT AS SHOWN. REMOVE EXISTING CIRCUITRY AS REQUIRED WHILE MAINTAIN CIRCUIT INTEGRITY OF ANY REMAINING FIXTURES ON PREVIOUS LIGHTING CIRCUIT. PROVIDE NEW
- PROVIDE NEW EXIT SIGN AS SHOWN. CEILING MOUNT IF UNABLE TO LOCATE IN EXISTING WALL. WIRE TO EXISTING UNSWITCHED EMERGENCY CIRCUIT PREVIOUSLY FEEDING CORRIDOR/EXIT SIGNS AND AHEAD OF
- WIRE NEW LIGHT FIXTURES TO EXISTING PANELBOARD 'F' AS SHOWN. CIRCUIT SHOWN FOR REFERENCE ONLY, PROVIDE ADDITIONAL 20A BREAKER WITHIN PANELBOARD 'F' AS NEEDED.
- PROVIDE NEW EMERGENCY FIXTURE AS SHOWN. WIRE TO EXISTING EMERGENCY PANELBOARD 'E' AS

CONSTRUCTION DOCUMENTS RIVERTON ELEMENTARY REMODEL

375 WEST 200 SOUTH

www.gsbsarchitects.com

4225 Lake Park Blvd

F:801.532.2305 www.bnaconsulting.com

West Valley, UT 84120 P:801.532.2196

P 801.521.8600

F 801.521.791

SALT LAKE CITY, UT 84101

REVISIONS:

1 2/13/2024 ADDENDUM 1

SALT LAKE ST. GEORGE

13150 S. 1830 W., RIVERTON, UT 84065 JORDAN SCHOOL DISTRICT

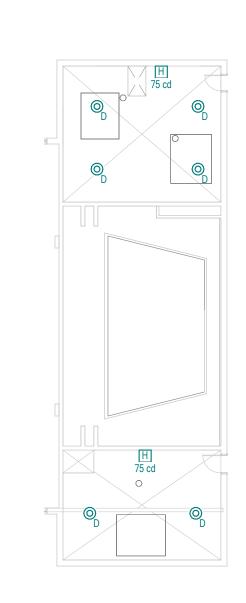
GSBS PROJECT NO.: 2023.043.00

ISSUED DATE: LEVEL 1 - LIGHTING PLAN -AREA B

KEYPLAN



01/22/2024



15 cd ⊚ু ∑ CLG H TEACHER LOUNGE \bigcirc LEVEL 1 ELECTRICAL PLAN - AREA A SCALE = 1/8" = 1'-0"

POWER GENERAL SHEET NOTES

ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

NOT ALLOWED.

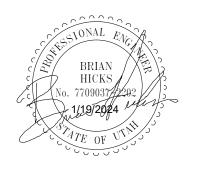
- CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE. FOR VAV POWER, PROVIDE A DEDICATED 120V/20A CIRCUIT FROM A PANEL LOCATED IN THE ELECTRICAL ROOM OF THE ASSOCIATED QUADRANT. COORDINATE EXACT LOCATION OF ALL VAV BOXES WITH
- COORDINATE PLACEMENT OF ELECTRICAL DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN. WHERE DEVICES ARE SHOWN IN SAME WALL SPACE, ALIGN VERTICALLY AND HORIZONTALLY. COORDINATE WITH ARCHITECTURAL DRAWINGS, ATHLETIC SAFETY WALL PADDING AND CABINETRY DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF DEVICES MOUNTED ABOVE OR BELOW ARCHITECTURAL COUNTERS, CABINETS, ETC. WITH SHOP DRAWINGS PRIOR TO
- ROUGH-IN. INSTALL DEVICES TO CLEAR BACKSPLASH, CENTERED IN KNEE SPACE, CENTERED BETWEEN ALL THE LOW VOLTAGE WIRE/CABLE FOR LIGHTING SENSORS, AUDIO/VISUAL EQUIPMENT, SOUND AMPLIFICATION, ETC. TO BE ROUTED THROUGH CONDUIT IN EXPOSED AND CLOUDED CEILING AREAS.
- ALL LOW VOLTAGE WIRE/CABLE FOR LIGHTING SENSORS, AUDIO/VISUAL EQUIPMENT, CLASSROOM SOUND AMPLIFICATION, ETC. TO BE PROPERLY SUPPORTED PER THE TELE/DATA SPEC. AND AT 5'-0 INTERVALS AND TO FOLLOW BUILDING STRUCTURAL LINES. PULLING WIRE DIAGONALLY ACROSS ROOMS IS NOT ALLOWED. USING CEILING SYSTEM OR LIGHT FIXTURE SUPPORT/SEISMIC WIRES FOR SUPPORT IS
- PROVIDE GFCI PROTECTION ON ALL DEVICES AND EQUIPMENT PER THE NEC REQUIREMENTS. DEVICES SHALL BE READILY ACCESSIBLE. IF ANY OUTLET IS INSTALLED WITHIN 6 FEET OF OUTSIDE EDGE OF SINK, CONTRACTOR SHALL PROVIDE GFCI RECEPTACLE PER NEC, WHETHER SHOWN OR NOT.
 - LECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE.

375 WEST 200 SOUTH SALT LAKE CITY, UT 84101 P 801.521.8600 F 801.521.791

www.gsbsarchitects.com

REVISIONS: 1 2/13/2024 ADDENDUM 1





FIRE ALARM GENERAL NOTES

- EXISTING FIRE ALARM TO BE UPGRADED AND CARBON MONOXIDE PROTECTION ADDED AS INDICATED AND REQUIRED BY STATE LAW. DIVISION 26 SHALL CONFIRM EXACT LOCATION OF EXISTING AND NEW FIRE ALARM DEVICES WITH OWNER. DEVICES LOCATIONS ARE DIAGRAMMATICALLY SHOWN ON THE DRAWINGS. EXISTING ELECTRICAL FIXTURES, DEVICES, EQUIPMENT, CIRCUITING AND/OR CONDITIONS ARE NOT SPECIFIED UNLESS NOTED ON DRAWINGS. FINAL ROUTING OF THE CONDUITS, CIRCUITING, AND CABLING SHALL BE DETERMINED BY THE CONTRACTOR AND CLOSELY COORDINATED WITH OWNER. ALL EXISTING CONDITIONS MUST BE VERIFIED WITHOUT EXCEPTION.
- REPLACE EXISTING, POWER SUPPLIES, BACK-UP BATTERIES, REMOTE OPERATING PANEL, ETC TO MATCH THE EXISTING E3 SERIES GAMEWELL-FCI SYSTEM. MAINTAIN INTEGRITY OF EXISTING SIGNALING LINE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS AS REQUIRED. DEVICES SHOWN ON DRAWING ARE EXISTING UNLESS OTHERWISE NOTED.
- EXISTING PREMISE FIRE ALARM WIRING TO BE RE-USED. REPLACE DEVICES AS SHOWN ON NEW PLANS. RE-WORK AS NECESSARY TO PROVIDE A COMPLETE AND WORKING SYSTEM. ANY NEW WIRING SHALL BE ROUTED ABOVE CEILING.
- ANY FIRE ALARM DEVICE(S) REMOVED DURING DEMOLITION ARE REQUIRED TO BE RELOCATED IN THE LOCATION NECESSARY TO PROVIDE COVERAGE PER NFPA 72, AND CIRCUITED SAME AS BEFORE. FIRE ALARM DEVICE(S) ARE NOT ALLOWED TO BE LOCATED CENTER OF ANY ROOM OR SPACE. IF MORE FIRE ALARM DEVICES ARE REQUIRED CONTRACTOR SHALL PROVIDE THEM COMPLETELY. REFER TO SHEET E300 SERIES SHEETS FOR MORE INFORMATION.
- MAINTAIN EXISTING CIRCUITING FOR FIRE/SMOKE DAMPER RELAYS, AND DUCT DETECTORS. PROVIDE FIRE ALARM MODULES AND RELAYS AS NECESSARY FOR ALL EXISTING FIRE/SMOKE DAMPERS. ALL FIRE/SMOKE DAMPERS SHALL HAVE A MANUAL OVERRIDE SWITCH. PROVIDE DUCT DETECTOR WITHIN 5 FEET OF EACH FIRE/SMOKE DAMPER.
- MAINTAIN EXISTING CIRCUITING EXISTING FIRE RISER.

DISCONNECT EXISTING DIVIDER WALL MOTOR. EXTEND EXISTING CONDUIT AND WIRE AS REQUIRED TO CONNECT TO EXISTING 3-PHASE CIRCUIT IN PANEL 'K'. INCLUDE ALL MATERIAL AND LABOR FOR THIS ITEM IN

 γ

- PROVIDE A NEW STARTER/DISCONNECT SWITCH ON THE NEW MAKE-UP AIR UNIT. PROVIDE CONDUIT AND WIRE AS REQUIRED TO EXTEND THE EXISTING FEEDER TO THE STARTER/DISCONNECT. VERIFY FUSE SIZE WITH UNIT NAMEPLATE INFORMATION. COORDINATE MOUNTING OPTIONS WITH THE EQUIPMENT INSTALLER. INCLUDE ALL MATERIAL AND LABOR FOR THIS ITEM IN ADD ALTERNATE #2.
- A DUPLEX RECEPTACLE IS SUPPLIED WITH THE UNIT. PROVIDE 2#12 THWN AND 1#12 GROUND IN 3/4" CONDUIT TO THE CLOSEST RECEPTACLE CIRCUIT IN THE BUILDING. INCLUDE ALL MATERIAL AND LABOR FOR THIS ITEM $\,ig|\,$ IN ADD ALTERNATE #2.
- MAINTAIN EXISTING DOOR HOLD OPEN DEVICES.
- MOUNT DETECTOR IN SKYLIGHT.
- E10 REINSTALL EXISTING SECURITY DEVICE PER EXISTING CONDITION. EXTEND CONDUIT AND CABLING AS
- E20 MAINTAIN ALL EXISTING CIRCUITING IN THE EXISTING PROJECTION SYSTEM CEILING BOX. EXTEND ALL CONDUIT AND WIRE AS REQUIRED FOR REINSTALLATION IN THE NEW CEILING.
- E21 AT EACH 'R1' BOX EXTEND THE EXISTING ELECTRICAL CIRCUIT FROM THE PROJECTOR LOCATION FOR

KEYPLAN

CONSTRUCTION DOCUMENTS RIVERTON ELEMENTARY REMODEL

13150 S. 1830 W., RIVERTON, UT 84065 JORDAN SCHOOL DISTRICT

GSBS PROJECT NO.: ISSUED DATE:

2023.043.00 01/22/2024 LEVEL 1 ELECTRICAL PLAN -AREA A







ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.

 \sim

SHEET KEYNOTES

LOCATION. REPOUTE ALL DATA CIRCUITS THROUGH THE JUNCTION BOX AND CONDUITS AS REQUIRED AND

PROVIDE (2) 20A 2POLE BREAKERS IN PANEL 'E', LOCATED IN ELECTRICAL ROOM 119. PROVIDE ONE CIRCUIT

RETERMINATE IN THE EXISTING RACK AT THE NEW LOCATION. SPLICE AND EXTEND CABLING AS REQUIRED

E5 PROVIDE A JUNCTION BOX, SIZED AS REQUIRED, ABOVE THE CEILING OF THE EXISTING DATA RACK

TO REACH THE NEW LOCATION. MAINTAIN EXISTING LABELING.

FROM EACH BREAKER TO EACH OF THE (2) NEW 4-PLEXES SHOWN.

E4 MAINTAIN EXISTING CIRCUITING IN PLACE.

CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE. FOR VAV POWER, PROVIDE A DEDICATED 120V/20A CIRCUIT FROM A PANEL LOCATED IN THE ELECTRICAL ROOM OF THE ASSOCIATED QUADRANT. COORDINATE EXACT LOCATION OF ALL VAV BOXES WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

COORDINATE PLACEMENT OF ELECTRICAL DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN. WHERE DEVICES ARE SHOWN IN SAME WALL SPACE, ALIGN VERTICALLY AND HORIZONTALLY. COORDINATE WITH ARCHITECTURAL DRAWINGS, ATHLETIC SAFETY WALL PADDING AND CABINETRY DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF DEVICES MOUNTED ABOVE OR BELOW ARCHITECTURAL COUNTERS, CABINETS, ETC. WITH SHOP DRAWINGS PRIOR TO

ROUGH-IN. INSTALL DEVICES TO CLEAR BACKSPLASH, CENTERED IN KNEE SPACE, CENTERED BETWEEN ALL THE LOW VOLTAGE WIRE/CABLE FOR LIGHTING SENSORS. AUDIO/VISUAL EQUIPMENT, SOUND AMPLIFICATION, ETC. TO BE ROUTED THROUGH CONDUIT IN EXPOSED AND CLOUDED CEILING AREAS.

ALL LOW VOLTAGE WIRE/CABLE FOR LIGHTING SENSORS, AUDIO/VISUAL EQUIPMENT, CLASSROOM SOUND AMPLIFICATION, ETC. TO BE PROPERLY SUPPORTED PER THE TELE/DATA SPEC. AND AT 5'-0 INTERVALS AND TO FOLLOW BUILDING STRUCTURAL LINES. PULLING WIRE DIAGONALLY ACROSS ROOMS IS NOT ALLOWED. USING CEILING SYSTEM OR LIGHT FIXTURE SUPPORT/SEISMIC WIRES FOR SUPPORT IS

PROVIDE GFCI PROTECTION ON ALL DEVICES AND EQUIPMENT PER THE NEC REQUIREMENTS. DEVICES SHALL BE READILY ACCESSIBLE. IF ANY OUTLET IS INSTALLED WITHIN 6 FEET OF OUTSIDE EDGE OF SINK, CONTRACTOR SHALL PROVIDE GFCI RECEPTACLE PER NEC, WHETHER SHOWN OR NOT. LECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS

FIRE ALARM GENERAL NOTES

EXISTING FIRE ALARM TO BE UPGRADED AND CARBON MONOXIDE PROTECTION ADDED AS INDICATED AND REQUIRED BY STATE LAW. DIVISION 26 SHALL CONFIRM EXACT LOCATION OF EXISTING AND NEW FIRE ALARM DEVICES WITH OWNER. DEVICES LOCATIONS ARE DIAGRAMMATICALLY SHOWN ON THE DRAWINGS. EXISTING ELECTRICAL FIXTURES, DEVICES, EQUIPMENT, CIRCUITING AND/OR CONDITIONS ARE NOT SPECIFIED UNLESS NOTED ON DRAWINGS. FINAL ROUTING OF THE CONDUITS, CIRCUITING, AND CABLING SHALL BE DETERMINED BY THE CONTRACTOR AND CLOSELY COORDINATED WITH OWNER. ALL EXISTING CONDITIONS MUST BE VERIFIED WITHOUT EXCEPTION.

- REPLACE EXISTING, POWER SUPPLIES, BACK-UP BATTERIES, REMOTE OPERATING PANEL, ETC TO MATCH THE EXISTING E3 SERIES GAMEWELL-FCI SYSTEM. MAINTAIN INTEGRITY OF EXISTING SIGNALING LINE CIRCUITS AND NOTIFICATION APPLIANCE CIRCUITS AS REQUIRED. DEVICES SHOWN ON DRAWING
- EXISTING PREMISE FIRE ALARM WIRING TO BE RE-USED. REPLACE DEVICES AS SHOWN ON NEW PLANS. RE-WORK AS NECESSARY TO PROVIDE A COMPLETE AND WORKING SYSTEM. ANY NEW WIRING SHALL
- LOCATION NECESSARY TO PROVIDE COVERAGE PER NFPA 72, AND CIRCUITED SAME AS BEFORE. FIRE ALARM DEVICE(S) ARE NOT ALLOWED TO BE LOCATED CENTER OF ANY ROOM OR SPACE. IF MORE FIRE ALARM DEVICES ARE REQUIRED CONTRACTOR SHALL PROVIDE THEM COMPLETELY. REFER TO SHEET E300 SERIES SHEETS FOR MORE INFORMATION.
- FIRE ALARM MODULES AND RELAYS AS NECESSARY FOR ALL EXISTING FIRE/SMOKE DAMPERS. ALL FIRE/SMOKE DAMPERS SHALL HAVE A MANUAL OVERRIDE SWITCH. PROVIDE DUCT DETECTOR WITHIN 5

MAINTAIN EXISTING CIRCUITING EXISTING FIRE RISER.



375 WEST 200 SOUTH SALT LAKE CITY, UT 84101 P 801.521.8600 F 801.521.791 www.gsbsarchitects.com

REVISIONS: 1 2/13/2024 ADDENDUM 1





CONSTRUCTION DOCUMENTS RIVERTON

ELEMENTARY REMODEL

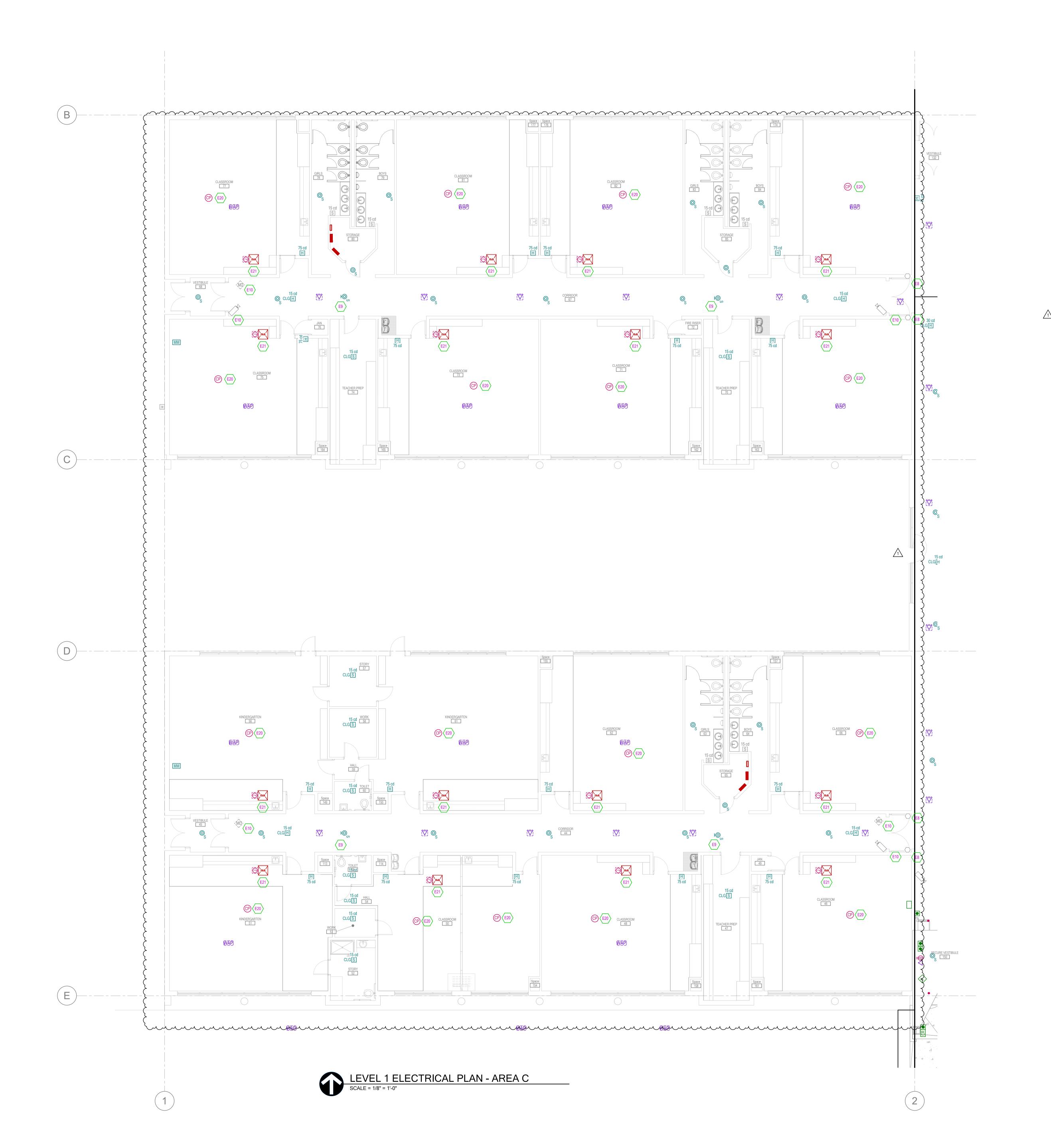
13150 S. 1830 W., RIVERTON, UT 84065 JORDAN SCHOOL DISTRICT

7905 SOUTH REDWOOD ROAD, WEST JORDAN, UT 84088

KEYPLAN

GSBS PROJECT NO.: 2023.043.00 01/22/2024





POWER GENERAL SHEET NOTES

- ELECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH MECHANICAL CONTRACTOR.
- CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS NOTED OTHERWISE. FOR VAV POWER, PROVIDE A DEDICATED 120V/20A CIRCUIT FROM A PANEL LOCATED IN THE ELECTRICAL ROOM OF THE ASSOCIATED QUADRANT. COORDINATE EXACT LOCATION OF ALL VAV BOXES WITH

MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

- COORDINATE PLACEMENT OF ELECTRICAL DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN. WHERE DEVICES ARE SHOWN IN SAME WALL SPACE, ALIGN VERTICALLY AND HORIZONTALLY. COORDINATE WITH ARCHITECTURAL DRAWINGS, ATHLETIC SAFETY WALL PADDING AND CABINETRY DRAWINGS. THE ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF DEVICES MOUNTED
 - ABOVE OR BELOW ARCHITECTURAL COUNTERS, CABINETS, ETC. WITH SHOP DRAWINGS PRIOR TO ROUGH-IN. INSTALL DEVICES TO CLEAR BACKSPLASH, CENTERED IN KNEE SPACE, CENTERED BETWEEN ALL THE LOW VOLTAGE WIRE/CABLE FOR LIGHTING SENSORS, AUDIO/VISUAL EQUIPMENT, SOUND
- AMPLIFICATION, ETC. TO BE ROUTED THROUGH CONDUIT IN EXPOSED AND CLOUDED CEILING AREAS. ALL LOW VOLTAGE WIRE/CABLE FOR LIGHTING SENSORS, AUDIO/VISUAL EQUIPMENT, CLASSROOM SOUND AMPLIFICATION, ETC. TO BE PROPERLY SUPPORTED PER THE TELE/DATA SPEC. AND AT 5'-0 INTERVALS AND TO FOLLOW BUILDING STRUCTURAL LINES. PULLING WIRE DIAGONALLY ACROSS ROOMS IS NOT ALLOWED. USING CEILING SYSTEM OR LIGHT FIXTURE SUPPORT/SEISMIC WIRES FOR SUPPORT IS
- PROVIDE GFCI PROTECTION ON ALL DEVICES AND EQUIPMENT PER THE NEC REQUIREMENTS. DEVICES SHALL BE READILY ACCESSIBLE. IF ANY OUTLET IS INSTALLED WITHIN 6 FEET OF OUTSIDE EDGE OF SINK, CONTRACTOR SHALL PROVIDE GFCI RECEPTACLE PER NEC, WHETHER SHOWN OR NOT. LECTRICAL CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL MECHANICAL UNITS WITH

MECHANICAL CONTRACTOR. CIRCUITS TO ALL MECHANICAL EQUIPMENT SHALL BE DEDICATED UNLESS



375 WEST 200 SOUTH SALT LAKE CITY, UT 84101 P 801.521.8600 F 801.521.791

www.gsbsarchitects.com

REVISIONS: 1 2/13/2024 ADDENDUM 1





E8 MAINTAIN EXISTING DOOR HOLD OPEN DEVICES.

MOUNT DETECTOR IN SKYLIGHT.

NOT ALLOWED.

NOTED OTHERWISE.

- E10 REINSTALL EXISTING SECURITY DEVICE PER EXISTING CONDITION. EXTEND CONDUIT AND CABLING AS
- E20 MAINTAIN ALL EXISTING CIRCUITING IN THE EXISTING PROJECTION SYSTEM CEILING BOX. EXTEND ALL CONDUIT AND WIRE AS REQUIRED FOR REINSTALLATION IN THE NEW CEILING.
- E21 AT EACH 'R1' BOX EXTEND THE EXISTING ELECTRICAL CIRCUIT FROM THE PROJECTOR LOCATION FOR



CONSTRUCTION DOCUMENTS RIVERTON ELEMENTARY REMODEL

13150 S. 1830 W., RIVERTON, UT 84065 JORDAN SCHOOL DISTRICT

7905 SOUTH REDWOOD ROAD, WEST JORDAN, UT 84088 GSBS PROJECT NO.: ISSUED DATE:

KEYPLAN

2023.043.00 01/22/2024 LEVEL 1 ELECTRICAL PLAN -AREA C

E301C 1