

Purchasing Department
2815 East Garland Avenue
Spokane, WA 99207-5889

phone (509) 354-7174
fax (509) 354-7183
www.spokaneschools.org



January 24, 2014

RE: Mullan Road Elementary School Modernization and Addition

ADDENDUM NO. 1

1. Please see the attached document as it applies to the following Bid Packages:

- #1 – Selective Demolition
- #4 – Concrete: Foundations, Slabs, and Architectural Concrete
- #6 – Site Demolition, Earthwork and Utilities
- #13 – Structural Steel, Joists, Deck

- #3 – Asbestos
- #18 – Roofing, Siding, Soffits and Flashings
- #37 – Plumbing
- #38 – HVAC
- #39 – Electrical, Fire Alarm, Audio Visual

End of Addendum No. 1

Barb Carson
Buyer
Purchasing Services

Enclosure

ADDENDUM NO. 1

The additions, omissions, clarifications and corrections contained herein shall be made to drawings and specifications for the project and shall be included in scope of work and proposals to be submitted. References made below to specifications and drawings shall be used as a general guide only. Bidder shall determine the work affected by Addendum items.

1.	WLK Joint Venture Pre-Bid Meeting	Meeting Notes dated 1/21/14.
2.	WLK Joint Venture Pre-Bid Meeting	Meeting Notes dated 1/23/14.

In the Bid Package:

1.	All Bid Packages	ADD to General Notes of the Construction Phasing Section, "The timely completion of each phase is extremely important. Any subcontractor which fails to provide adequate resources to complete their work in a timely manner or whose work does not meet the projects quality requirements will be held accountable for any and all costs associated with corrective actions taken by WLK Joint Venture to meet the phasing schedule and required quality."
2.	Bid Form	Paragraph F Subcontractor Work, ADD, "HVAC, Plumbing and Electrical subcontractors should fill their own name in the categories provided. If they have significant subcontractors in any of the other categories, they should include their name as well. If these areas of work are not included in any subcontractors bid package, they may make note "NA" for not applicable for any section that does not apply."
3.	Bid Package 1 Selective Demolition	Under Specific Inclusions, note that the selective demolition contractor shall remove all concrete shown on the demolition drawings no matter what trade needs to have the slabs removed. The only concrete they are not responsible for removing is concrete that needs to be removed by other trades that is not shown on the demolition drawings.
4.	Bid Package 1 Selective Demolition	On the sixth bullet point, ADD "Any remaining portions of the panels left will need to be removed at the beginning of the summer. The remainder of the concrete panels shall only be removed to approximately 6 inches below finish slab."
5.	Bid Package 06 Site Demolition, Earthwork & Utilities	Reinstall of salvaged playground equipment my others.

ADDENDUM NO. 1

6.	Bid Package 13 Structural Steel, Joists, Deck	Under Specific Inclusions, sixth bullet point, ADD "New brace frames and steel structure of the addition is completed."
7.	Bid Package 13 Structural Steel, Joists, Deck	Under Specific Inclusions, REPLACE the eighth bullet point to read, "Installation of specified metal panels to underside of gymnasium roof deck. Refer to Specification Section 07 42 13.13 2.6."
8.	Bid Package 18 Roofing, Siding, Soffits, and Flashings	Under Specific Inclusions, REPLACE the first bullet point to read, "Include demolition of existing metal roofing and siding, removal of existing gyp board soffits and associated framing."
9.	Bid Package 18 Roofing, Siding, Soffits, and Flashings	Under Specific Inclusions, DELETE the sixth bullet point that begins with, "Includes installation..."
10.	Bid Package 18 Roofing, Siding, Soffits, and Flashings	Under Specific Inclusions, DELETE the seventh bullet point that begins with, "We need..."
11.	Bid Package 18 Roofing, Siding, Soffits, and Flashings	Under Specific Inclusions, DELETE the eighth bullet point that begins with, "Perforated metal..."
12.	Bid Package 18 Roofing, Siding, Soffits, and Flashings	Under Specific Inclusions, DELETE the last bullet point that begins with, "Furnish and install metal..."
13.	Bid Package 18 Roofing, Siding, Soffits, and Flashings	Under Specific Inclusions, ADD, "• The Roofing, Siding, Soffit, and Flashings contractor is responsible for providing and installing metal shapes shown on Drawings A-511 and A-512. Specifically, this includes metal framing required to create the exterior shapes shown in the drawings that are beyond existing or new walls and roofs."
14.	Bid Package 37 Plumbing	The following specifications will be removed from Bid Package #38 HVAC and included in Bid Package #37 Plumbing: <ol style="list-style-type: none"> 1. 23 05 23 – Valves 2. 23 21 13 – Hydronic Piping 3. 23 21 23 – Hydronic Pumps 4. 23 25 00 – HVAC Water Treatment 5. 23 52 16 – High Efficiency Hot Water Boilers 6. 23 64 26 – Scroll Water Chillers 7. 23 82 39 – Propeller Unit Heaters

ADDENDUM NO. 1

15.	Bid Package 37 Plumbing	On the 13th bullet point, ADD, "that is not currently shown on the demolition drawings". To clarify, the demolition contractor will remove the concrete shown on the demolition drawings and the plumber removes any concrete required to be removed that is not shown on the demolition drawings.
16.	Bid Package 37 Plumbing	ADD <ul style="list-style-type: none"> • The existing panels on Grids B and 10 will only be removed to just below finish slab. Core drilling of these panels or any below grade concrete is the responsibility of the plumber."
17.	Bid Package 38 HVAC	The following specifications will be removed from Bid Package #38 HVAC and included in Bid Package #37 Plumbing: <ol style="list-style-type: none"> 1. 23 05 23 – Valves 2. 23 21 13 – Hydronic Piping 3. 23 21 23 – Hydronic Pumps 4. 23 25 00 – HVAC Water Treatment 5. 23 52 16 – High Efficiency Hot Water Boilers 6. 23 64 26 – Scroll Water Chillers 7. 23 82 39 – Propeller Unit Heaters
18.	Bid Package 38 HVAC	ADD the following note to Specification Section 23 09 26 Variable Frequency Drives, "All VFD's for plumbing and HVAC equipment will be furnished and installed under the bid package."
19.	Bid Package 38 HVAC	DELETE the following language right above the Specific Inclusions, "Includes furnishing and installing plumbing and wet-side HVAC work".
20.	Bid Package 39 Electrical	Under Specific Inclusions, ADD, <ul style="list-style-type: none"> • During the spring break transformer change out, provide a generator and hook it up to the following systems to ensure continuous operations: fire alarm and security."
21.	Bid Package 39 Electrical	Under Specific Inclusions, ADD, <ul style="list-style-type: none"> • Before the west portion of the annex is removed during Phase 5A, provide a card reader to the door that will be used to connect to the temporary access walk provided by others."

ADDENDUM NO. 1

22.	Bid Package 39 Electrical	Under Specific Inclusions, ADD, “• The existing panels on Grids B and 10 will only be removed to just below finish slab. Core drilling of these panels or any below grade concrete is the responsibility of the electrician.”
-----	------------------------------	--

Bidder Questions:

1.	In the Specifications Civil	No questions.
2.	In the Specifications Structural	No questions.
3.	In the Specifications Architectural	Question: Specification Section 07 41 13.16, 2.2.B.2 – Can the metal roof panels be changed to 24 gauge to match that of the previous prototypical schools?
4.	In the Specifications Architectural	Question: Can we use a two coat fluoropolymer finish as shown on 07 41 13.16 section 2.7.C.1 to match the previous schools or are we to use a three coat system as described under 07 41 13.16, 2.2.B.2?
5.	In the Specifications Architectural	Question: Please clarify the coat finish on the wall panels and soffit panels.
6.	In the Specifications Mechanical	No questions.
7.	In the Specifications Electrical	No questions.
8.	In the Drawings Civil	No questions.
9.	In the Drawings Structural	No questions.
10.	In the Drawings Architectural	No questions.

ADDENDUM NO. 1

11.	In the Drawings Mechanical	Question: Luke Orlando – Mackin & Little – I was reviewing Alt. #9 and am wondering if there are any sheets that more clearly define the actual work for Alt. #9? Plumbing Sheet P-114 shows some additional vent lines to be installed in that kitchen area (Gridlines K-3 to K-5.5), but that looks to be about it. Is Alt. #9 (in slab plumbing replacement) only to install the new vent lines? Can you seek additional clarification from Jess as to what all is needed for replacement under that Alt. #9 please? If there is more to the alternate than just the vent lines, I am not seeing it in my current set of plans (which are the bid set).
12.	In the Drawings Mechanical	Question: Luke Orlando – Mackin & Little – Per the temperature chiller relocation (prior to Ph. #2), do either of you know (ballpark) how far west the chillers need to be moved? I would like to know a ballpark so I can assume correctly the additional footage of temperature piping needed to temp. it in so as to stay live during Ph. #2 (per note plans on M-210 #9).
13.	In the Drawings Mechanical	Question: For temporary purposes, can the temperature piping to the chillers from the (E) buried piping connection point be run above grade rather? The new above grade temperature piping would of course get the appropriate insulation and sheet metal wrap as would be required. Temperature buried piping is not an efficient use of time or money, especially in a temperature situation and the direct bury piping is astronomically expensive to boot.
14.	In the Drawings Mechanical	Question: A detailed “spec” for insulation would be helpful if the Design Team will above grade temperature chilled water piping during all this.

In the Specification:

1.	Volume I, Division 01	ADD attached Specification Section 01 74 19 – Construction Waste Management and Disposal.
2.	Volume I, Division 01, Section 01 81 13	Sustainable Design Requirements, REPLACE section completely with attached Section 01 81 13.

ADDENDUM NO. 1

3.	Volume I, Division 01, Section 01 81 13	WSSP Scorecard, REPLACE Scorecard with attached.
4.	Volume I, Division 01, Section 01 81 19	Indoor Air Quality Requirements, DELETE section.
5.	Volume II, Division 2, Section 02 41 19	Selective Demolition, CHANGE 1.9.B.1 to include the following list: a. Smart Boards. b. Video Projectors. c. Surveillance Cameras. d. Electric Latches.
6.	Volume II, Division 2, Section 02 41 19	CHANGE 3.8.A to read: "A. Existing items to be removed and salvaged: 1. Fire extinguishers. 2. All cores from locks. 3. Overhead coiling grilles and hardware. 4. Gymnasium scoreboard. 5. Generator. 6. Transfer switch. 7. Security panel. 8. Fire alarm. 9. Simplex master clock. 10. UPS. 11. Electric panels – quantity to be determined by Owner."
7.	Volume II, Division 7, Section 07 08 00	ADD attached Specification Section 07 08 00, Air Barrier Testing.
8.	Volume II, Division 7, Section 07 25 00	Thermal Insulation: ADD 3.5.F to read: "F. Stuff glass-fiber loose-fill insulation into all voids and cavities at the building envelope to create a continuous thermal barrier. Areas include but are not limited to the following: deck flutes, intersections of wall to roof, framing members, etc."
9.	Volume II, Division 7, Section 07 41 13.16	Standing Seam Metal Roof Panels: CHANGE 2.7.C.1 "Two-Coat Fluoropolymer" to "Three-Coat Fluoropolymer".
10.	Volume II, Division 7, Section 07 54 23	Thermoplastic Polyolefin (TPO) Roofing, CHANGE 2.3.A.2 Exposed Face Colors to "Light Gray".
11.	Volume II, Division 7, Section 07 62 00	Sheet Metal Flashing and Trim, ADD sentence to 2.6.B.1 to read, "Field paint downspout to match color of SM gutter."

ADDENDUM NO. 1

12.	Volume II, Division 7, Section 07 72 53	Snow Guards, CHANGE 2.2.A.1 to read: "1. S-5 Color Gard show retention system by Metal Roof Innovations, Ltd. Or approved equal."
13.	Volume II, Division 7, Section 07 72 53	CHANGE 2.2.A.2 to read: "2. Provide complete system including all clamps, brackets, cross members, fasteners, etc."
14.	Volume II, Division 7, Section 07 72 53	ADD 2.2.A.3 to read: "3. Color Strips: Same material and finish as roof panels; obtain from roof panel manufacturer."
15.	Volume II, Division 7, Section 07 72 53	CHANGE 3.3.B.2 to read, "Seam Mounted, Rail-Type Snow Guards: Aluminum clamps attached to vertical ribs of standing seam metal roof panels."
16.	Volume II, Division 9, Section 09 00 01	Finishes Legend: CHANGE 07 42 13.13 keyword from "MWP-1" to "MTL Wall Panel".
17.	Volume II, Division 9, Section 09 00 01	Finishes Legend: CHANGE 07 42 13.13 keyword from "MSP-1" to "MTL Soffit Panel".
18.	Volume II, Division 9, Section 09 00 01	Finishes Legend: CHANGE 07 42 13.13 keyword from "MCP-1" to "MTL Ceiling Panel".
19.	Volume II, Division 9, Section 09 00 01	Finishes Legend: CHANGE 07 42 13.13 Exposed Fastener Metal Ceiling Panel, Manufacturer from "AEP Span, No Wave Corrugated" to "AEP Span, Nu-Wave Corrugated".
20.	Volume II, Division 9, Section 09 00 01	Finishes Legend: CHANGE 07 62 00 Sheet Metal Flashing and Trim color from "Match AEP Span" to "Match adjacent metal roof or metal siding".

In the Drawings:

1.	Sheet G-003	REPLACE Level 1 Code Plan and exiting requirements with attached Addendum No. 1, Drawing A-01.
2.	Sheet G-006	ADD Note to read, "Add card reader and electric strike at exterior annex door, south side of annex, just east of annex mechanical room - to be completed by end of Phase 2."
3.	Sheet C-100	ADD temporary ADA striping and parking per attached Addendum No. 1 Drawing C-01.

ADDENDUM NO. 1

4.	Sheet S-111	Add section cut referencing A2/S-512 at the column located on the north end of the partition support beam on grid 3 between grids A and B.
5.	Sheet S-111	Change braced frame elevation east of grid 8 between grids A and A1 to read "D4/S-201 SIM" instead of "D4/S-201 TYP."
6.	Sheet S-111	Change detail call out on grid A1, east of grid 7, to read D4/S-510 instead of B2/S-510.
7.	Sheet S-111	See revision S-02.
8.	Sheet S-111	Change framing between grid F and H near grid 6 per S-03 for support of mechanical AHU-2 unit.
9.	Sheet S-111	Change detail call out at grid A.5 just west of grid 8 to read, C3/S-510, instead of C3/S-501.
10.	Sheet S-112	See revision S-01.
11.	Sheet S-121	Change dimension from grid A1 to deck edge from 2'-6 5/8" to 2'-9", typical.
12.	Sheet S-502	Add detail B2/S-502 per S-07 attached.
13.	Sheet S-510	Detail B1: Correct spelling, valler should be valley in note reading, "BENT PL 3/8"...VALLEY BEAM."
14.	Sheet S-510	Detail B1: Change note at joist to read, "JOIST PER PLAN, CONNECTION TO COLUMN PER B2/S-510."
15.	Sheet S-510	Add detail C4/S-510 per S-04 attached.
16.	Sheet S-510	Add detail D4/S-510 per S-05 attached.
17.	Sheet S-510	Replace detail D3/S-510 (currently unused), with S-06 attached.
18.	Sheet S-511	Detail B3: Change horizontal leg of bent plate to be at bottom of deck. 3/16 fillet weld, 2-12 weld call out should point to bent plate at WF beam. Correct brace angle to extend and weld to top chord of joist.
19.	Sheet S-512	Add detail B2/S-512. See S-08 attached.
20.	Sheet S-512	Add detail B4/S-512. See S-09 attached.

ADDENDUM NO. 1

21.	Sheet A-110	ADD Keynote to 4' x 4' wood bench directly east of main entrance to read, "D-73-Remove existing 4" x 4' wood bench."
22.	Sheet A-112	ADD door operator bollard at east side of main entrance, 4' from face of building. ADD Keynote to read, "127 stainless steel door operator bollard, prepped for ADA switch and card reader. WIKK Part #BPR6SMSBFTR32D, from WIKK Industries, Phone Number 877-421-9490. See Detail B1/A-551 for card reader."
23.	Sheet A-201	ADD General Note #1 to read, "1. Contractor's option to provide precast or tilt-up concrete wall panels and freestanding concrete frames. Finish to be smooth. Color to be natural gray."
24.	Sheet A-202	ADD General Note #1 to read, "1. Contractor's option to provide precast or tilt-up concrete wall panels and freestanding concrete frames. Finish to be smooth. Color to be natural gray."
25.	Sheet A-511	Detail E4, CHANGE note that reads, "Blanket Insulation" to read "R-21 Blanket Insulation".
26.	Sheet A-551	ADD Detail B1/A-551. See attached Addendum No. 1 Drawing A-02.

Acceptance of Substitutions

Add the following to approved list of manufacturers at this time.

This approval is an approval of quality only. No attempt has been made to check each material as to special features, capacities or physical dimensions especially required by this project. It shall be the responsibility of supplier, manufacturer and Contractor to check all requirements before submitting for final approval. Final approval of exact features, sizes, capacities, etc., all of which must match materials indicated/specified, will be determined when submitted during construction period. Certain approvals are subject to conditions as noted.

	SECTION	ITEM	MANUFACTURER
1.			

gam



WALKER CONSTRUCTION, INC. 509.535.3354 FAX:509.534.1440
LEONE & KEEBLE, INC. 509.327.4451 FAX:509.325.9200

PO BOX 2785, SPOKANE, WA 99220-2785

Mullan Road Elementary School Modernization and Addition

Meeting Notes for 1/21/14

Construction Administration

Attendees:

Craig Leone
Tom Hansen
Paula McGuire
Brendan Monroe
Ryan Leone
Don Seely
Kris Jeske
Craig Caro
Subcontractors/Suppliers

Representing:

WLK Joint Venture
WLK Joint Venture
WLK Joint Venture
WLK Joint Venture
WLK Joint Venture
WLK Joint Venture
ALSC Architects
Spokane Public School
Attendance list attached

This report is not intended to provide a transcript of proceedings, but rather to record the general content of the discussion that took place.

Action Item Description

1.	Meeting Agenda: A. Bid Packages a. BP #03 - Asbestos b. BP #18 - Roofing, Siding, Soffits, & Flashings c. BP #37 - Plumbing d. BP #38 - Heating, Ventilation, & Air Conditioning e. BP #39 - Electrical, Fire Alarm, & Audio Visual B. Introductions/Sign-In a. Introduce project team including School District Representative, Architect, Engineers, and WLK (GC/CM) team members b. Reminders to sign in for Mandatory meeting for bidding eligibility. C. Project Overview a. ALSC presented description of the intent of modernization and additions for upcoming project. b. The project site, construction staging area, and parking area are all on school property so there is no smoking allowed anywhere on-site. D. Bidding Procedures a. This is a GC/CM project that means project will be bid through bid packages. b. All bid packages over \$300,000.00 are required to provide a bid bond at the time of bid. c. State Apprenticeship and Prevailing Wage Requirements apply to this project.
----	---

		<ul style="list-style-type: none"> d. Sealed bid will only be accepted at Walker Construction office at 1803 E. Springfield Avenue, Spokane, WA e. Bid Date is January 30th, 2014 at 2:00 P.M. E. Bidding Questions <ul style="list-style-type: none"> a. Questions regarding Contract Documents to Kris Jeske - ALSC Architects b. Questions regarding Bid Documents & Bid Procedures to Tom Hansen
	2.	<p>Phasing/Schedule Overview:</p> <ul style="list-style-type: none"> A. Preliminary Construction Schedules <ul style="list-style-type: none"> a. Preliminary construction schedules have been provided for the scope of work that will take place over Spring Break and the first Summer. b. Additional copies of the construction schedules may be obtained on WLK's FTP website <ul style="list-style-type: none"> 1. Address: ftp.leone-keeble.com/public 2. Username: WLK-Guest 3. Password: Winter13* B. Overall Phasing/Schedule <ul style="list-style-type: none"> a. General overview of how the phasing and schedule of the project will proceed including site access and building work progression to complete the project while maintaining staff & student safety and eliminate interaction with students. C. Mobilization & Spring Break Work Breakdown <ul style="list-style-type: none"> a. Detailed review of schedule narrative for the work that will be completed during mobilization and over Spring Break including: <ul style="list-style-type: none"> 1. Rerouting underground utilities to make way for south addition. 2. Relocate existing equipment to make room to construct new electrical room 140B in current mechanical yard. 3. Construct new 2-story addition south of gym for storage rooms and mechanical mezzanine. 4. Abatement of ductwork sealants and associated ductwork in mechanical room. Mechanical contractor to install temporary ductwork. D. Phase 2 - Summer Work <ul style="list-style-type: none"> a. General Notes <ul style="list-style-type: none"> 1. The volume of work to be completed is extensive. Subcontractors are advised that strict compliance with construction schedule is mandatory. 2. Phase 2 is based on a six day work week at 8 hours days <ul style="list-style-type: none"> a. 10 hours days will be an acceptable option as well 3. Submittal preparation, processing, and material procurement will have to be expedited for long-lead items to support target dates. b. Detailed review of the schedule narrative for the work that will be completed during Phase 2 (Summer 2014): <ul style="list-style-type: none"> 1. Plumbing, HVAC, and Electrical system and equipment upgrades throughout the existing building, includes temporary connections to maintain systems until phase 4. 2. Fully renovate all second floor spaces, including finishes, with the exception of stairways, Lobby 201, Corridor 202, & Restrooms.

		<ul style="list-style-type: none"> a. Stairways, Lobby 201, and Corridor 202 work is restricted to removal and replacement of ceiling finishes in coordination with mechanical & electrical systems upgrade. b. Restrooms will require temporary connections to maintain operation of existing HVAC & electrical systems until they are renovated in phase 6. <ul style="list-style-type: none"> 3. Removal and replacement of the existing metal siding, metal roofing, exterior sheet metal flashing and trim, gutters, & downspouts 4. Relocate existing irrigation controls 5. Provide conduit/raceways for future temp phone/data/security/master clock controls in temporary Administration office in the existing Art room. 6. Re-route electrical services from the existing custodial room serving the annex in order for these systems to be operational for the 2014/2015 school year.
	3.	<p>Questions: Will it be allowed to work 10 hour days?</p> <p>Answer: WLK will make 10 hour days available. This summer schedule is so extensive that overtime will be expected to meet deadlines so please figure that into your estimates.</p> <p>This concluded the question and answers.</p>
	4.	Site Inspection by Trade

Meeting adjourned at 4:30 P.M.

Mullan Road Elementary Modernization and Addition

Spokane, WA

Pre-Bid Meeting Attendance Sign-In

FOR BID PACKS #3, #18, #37, #38, #39

No.	Name	Company	Bid Package	Phone Number	Email
1	Travis Sanchez	Twin City Electricians	39	509-758-2924	travis@twincityelectricians.com
2	Jason Miller	ICOM Corp	18	509-220-7998	Jack@icorrefog.com
3	Dan Parent	MTWST INC	39	509-532-0110 #18	Dan@mtwst.com
4	Jeremy Knowles	Cutting Edge Plumbing & Mech	37	509-525-0557	jeremyk@cepm.biz
5	Scott Vandevor	Three V Plumbing	37	208-773-3600	ThreeVPlumbing@Frontier.com
6	TERRY L PLUMMER	AROLD MECHANICAL	38	509-467-6622	TPLUMMER@AROLDMECH.COM
7	KEITH YADEN	AGEE ELECTRIC	39	509-951-1016	KEITH@AGEELECTRIC.COM
8	MAT DUGGS	T&T ROOFING & SHEET METAL	18	208-773-3027	MATDUGGS@HUGHES.NET
9	JEFF ZENTMEN	CONSTRUCTION GROUP IN #1		425-330-1451	DAKOTA24H@CGMAIL.COM
10	Brian Chapman	Arctic Lighting & Electric	39	509-533-9350	brian.chapman2@comcast.net
11	Denny Horlacher	Allplay Systems		509-869-7813	denny@allplaysystems.com
12	Rick Vandeborcht	Phalon Abatement Services	3	509-928-8656	psabair-pipe.com
13	WHITNEY DEBENEDUAL	PROFESSIONAL DRIVING INC	37	509-290-6835	WHIT@PROFESSIONALDRIVING.NET
14	DON JOHNSON	CAMTEK INC	39	509-943-2609	DON@CAMTEKINC.COM
15	MARIC HENRY	MCLELLAN ROCK & TURK	37	509-535-9641	MARK@MCTURK.NET
16	HOWARD RUCKE	ETCO SERVICES	37	208-818-2101	hrucke@ETCOSERVICES.COM
17	Bred McDowell	Sturm Heating	38	509-252-5436	bredm@sturmheating.com
18	TOM HANSEN	WALK JOINT VENTURE		535-3354	THANSEN@WALKJOINTVENTUREINC.COM
19	CRAIG CARO	SCHOOL DISTRICT		354-5775	CRAIG@SPOKANE.SCHOOLS.ORG
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

Mullan Road Elementary Modernization and Addition

Spokane, WA

Pre-Bid Meeting Attendance Sign-In

No.	Name	Company	Bid Package	Phone Number	Email
32	Mark Suckow	Hobson Fabricating	38	208-743-8896	Stane @ hobsonfab.com
33	GARY MANN	PRO MECHANICAL SERVICES	38	509 483-1305	gmann@pro-msl.com
34	LUKE A. ORLANDO	HACKING & LITTLE INC.	37	509-838-2529	lorlando@hackinglittle.com
35	JIM LEFURICH	SPECIMITY ENVIRONMENTAL INC.	3	509-535-1313	Jim @ Specimity Environmental Inc, Corp
36	JAMIE RIGSBY	Electricity City Inc.	39	509-536-6292	jrigsby@electricitycitywa.com
37	Dave Peterson	Peterson Electric	39	509 489 1950	Dave @ Peterson Electric .com
38	JESS STAUFFENBERG	MSI ENGINEERS		509-624-1050	JES @ MSI-ENGINEERS.COM
39	CLAY LEDBETTER	LIBERTY ELECTRIC	39	406-239-3001	LIBERTY. BRETT P @ Gmail.com
40	J. Weirich	Carbma REC	18	509-455-4043	johwe@carbmaelects.com
41	DAVE SHAWLON	Horizon Roofing & Sheet Metal	13	509 489-5311	OSHA20172007116 AND SHEETMETAL @ GMAIL.COM
42	Maureen Fay	IRS Environmental	3	509-927-7867	maureen@irsenviro.com
43	WARREN WRIGHT	ACT NORTHWEST INC	38	208-772-9571	WWRIGHT@ACTNW.COM
44	Eric Martin	Energized Electric, Inc	39	509-483-6447	ericeenergizedelectric.com
45	Kevin Meehan	Cochran Inc.	39	509-901-5520	KMEFHAN@Cochraninc.com
46	KURT NIVEN	Coffman Engineers		509 328-2994	niven@coffman.com
47	ERIC RUDE	TYKO MECHANICAL	38	208 772 3911	ERIC.C.TYKOMECHANICAL.COM
48	KRIS STEKE	ARC ARCHITECTS			
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					



WALKER CONSTRUCTION, INC. 509.535.3354 FAX:509.534.1440
LEONE & KEEBLE, INC. 509.327.4451 FAX:509.325.9200

PO BOX 2785, SPOKANE, WA 99220-2785

Mullan Road Elementary School Modernization and Addition

Meeting Notes for 1/23/14

Construction Administration

Attendees:

Craig Leone
Tom Hansen
Paula McGuire
Brendan Monroe
Ryan Leone
Don Seely
Kris Jeske
Craig Caro
Subcontractors/Suppliers

Representing:

WLK Joint Venture
WLK Joint Venture
WLK Joint Venture
WLK Joint Venture
WLK Joint Venture
WLK Joint Venture
ALSC Architects
Spokane Public School
Attendance list attached

This report is not intended to provide a transcript of proceedings, but rather to record the general content of the discussion that took place.

Action Item Description

	1.	<p>Meeting Agenda:</p> <ul style="list-style-type: none">A. Bid Packages<ul style="list-style-type: none">a. BP #01 - Selective Demolitionb. BP #04 - Concretec. BP #06 - Site Demolition, Earthwork, & Utilitiesd. BP #13 - Structural Steel, Joist, & DeckB. Introductions/Sign-In<ul style="list-style-type: none">a. Introduce project team including School District Representative, Architect, Engineers, and WLK (GC/CM) team membersb. Reminders to sign in for Mandatory meeting for bidding eligibility.C. Project Overview<ul style="list-style-type: none">a. ALSC presented description of the intent of modernization and additions for upcoming project.b. The project site, construction staging area, and parking area are all on school property so there is no smoking allowed anywhere on-site.D. Bidding Procedures<ul style="list-style-type: none">a. This is a GC/CM project that means project will be bid through bid packages.b. All bid packages over \$300,000.00 are required to provide a bid bond at the time of bid.c. State Apprenticeship and Prevailing Wage Requirements apply to this project.d. Sealed bid will only be accepted at Purchasing Department for District 81 at 2815 E. Garland Avenue, Spokane, WA
--	----	--

		<ul style="list-style-type: none"> e. Bid Date is January 31th, 2014 at 2:00 P.M. f. WLK, Joint Venture will be bidding Bid Packages #1, #4, #6, and #13 <p>E. Bidding Questions</p> <ul style="list-style-type: none"> a. Questions regarding Contract Documents to Kris Jeske - ALSC Architects b. Questions regarding Bid Documents & Bid Procedures to Craig Caro
	2.	<p>Phasing/Schedule Overview:</p> <p>A. Preliminary Construction Schedules</p> <ul style="list-style-type: none"> a. Preliminary construction schedules have been provided for the scope of work that will take place over Spring Break and the first Summer. b. Additional copies of the construction schedules may be obtained on WLK's FTP website <ul style="list-style-type: none"> 1. Address: ftp.leone-keeble.com/public 2. Username: WLK-Guest 3. Password: Winter13* <p>B. Overall Phasing/Schedule</p> <ul style="list-style-type: none"> a. General overview of how the phasing and schedule of the project will proceed including site access and building work progression to complete the project while maintaining staff & student safety and eliminate interaction with students. <p>C. Mobilization & Spring Break Work Breakdown</p> <ul style="list-style-type: none"> a. Detailed review of schedule narrative for the work that will be completed during mobilization and over Spring Break including: <ul style="list-style-type: none"> 1. Rerouting underground utilities to make way for south addition. 2. Tree removal, site clearing, and site demolition in area of new addition. 3. Concrete footings and foundations for portion of classroom addition situated south of gridline D.5. 4. Cast concrete tilt-up panels 5. Construct new electrical room 140B and new 2-story addition at gym for storage rooms and mechanical mezzanine. <p>D. Phase 2 - Summer Work</p> <ul style="list-style-type: none"> a. General Notes <ul style="list-style-type: none"> 1. The volume of work to be completed is extensive. Subcontractors are advised that strict compliance with construction schedule is mandatory. 2. Phase 2 is based on a six day work week at 8 hours days <ul style="list-style-type: none"> a. 10 hours days will be an acceptable option as well 3. Submittal preparation, processing, and material procurement will have to be expedited for long-lead items to support target dates. b. Detailed review of the schedule narrative for the work that will be completed during Phase 2 (Summer 2014): <ul style="list-style-type: none"> 1. Plumbing, HVAC, and Electrical system and equipment upgrades throughout the existing building, includes temporary connections to maintain systems until phase 4. 2. Fully renovate all second floor spaces, including finishes, with the exception of stairways, Lobby 201, Corridor 202, & Restrooms. <ul style="list-style-type: none"> a. Stairways, Lobby 201, and Corridor 202 work is restricted to removal and replacement of ceiling finishes in coordination with

		<p>mechanical & electrical systems upgrade.</p> <p>b. Restrooms will require temporary connections to maintain operation of existing HVAC & electrical systems until they are renovated in phase 6.</p> <p>3. Removal and replacement of the existing metal siding, metal roofing, exterior sheet metal flashing and trim, gutters, & downspouts</p> <p>4. Relocate existing irrigation controls</p> <p>5. Provide conduit/raceways for future temp phone/data/security/master clock controls in temporary Administration office in the existing Art room.</p> <p>6. Re-route electrical services from the existing custodial room serving the annex in order for these systems to be operational for the 2014/2015 school year.</p>
	3.	<p>Questions: Will it be allowed to work 10 hour days?</p> <p>Answer: WLK will make 10 hour days available with WLK management on-site for overtime. This summer schedule is so extensive that overtime will be expected to meet deadlines so please figure that into your estimates.</p> <p>Questions: Are there any liquidated damages included at each phase?</p> <p>Answer: WLK will add clarifications to bid packages on liquidated damages to addendum #1.</p> <p>Questions: Are there any background checks required.</p> <p>Answer: There are no comments in the bid packages for background checks but bidders are responsible to adhere to State regulations on who is allowed on school projects. Also badges will be required by the School District</p> <p>This concluded the question and answers.</p>
	4.	<p>Site Inspection by Trade</p> <p>A. Contact Don Seely - (509)998-7805 for future site visits</p>

Meeting adjourned at 4:00 P.M.

Mullan Road Elementary Modernization and Addition

Spokane, WA

Pre-Bid Meeting Attendance Sign-In

FOR BID PACKS #1, #4, #6, #13

No.	Name	Company	Bid Package	Phone Number	Email
1	GILFE SKELIA	SR SKELIA LLC	6.13	701-9205	SRSKELIA@HOTMAIL.COM
2	Tom Hanson	WLC Joint Venture	1.6	535-3354	thanson@wlcconstruction.com
3	CRAIG LEONIE	WLC Joint Venture	1.6	327-4451	cleone@bone-veeble.com
4	Ty Schuetz	MJM Grand, Inc.	6	244-4733	ty@mjmgrand.net
5	REN GIBBEL	DAVID EVANS ASSOCIATES	6	327-8697	KMS@DEANINC.COM
6	Skyler Carlile	Alliance Exc.	6	753-4212	Allianceexcavation@gmail.com
7	Shane Carlile	Advanced Excavation Inc.	6	(509) 762-9441	shane@advancedexcavation.com
8	MIKE STAM	ENVIRONMENT WEST	6.13	(509) 921-5555	MIKE@ENVIRONMENTWEST.COM
9	ANDY SEMPRIMOZNIK	LYDIA CONSTRUCTION	6.13	509-534-0451	ASEMPRIMOZNIK@LYDIA.COM
10	CRAIG GARD	SCHOOL DISTRICT		354-5775	CRAIG@SPOKANE.SCHOOLS.DIG
11	Dave Grigas	American Truckstop	1.6	467-7733	grigas@americantruckstop.com
12	Bob Moole	Talisman Coast Serv.	1.6	487-1292	moole@talismancoast.com
13	Justin Arnold	Elder Demolition	1.6	504-745-4878	justin@elderdemolition.com
14	JEFF ZENTNER	CONSTRUCTION GROUP INTL	1.6	425-487-2618	JEFFZENTNER@GOTAIL.COM
15	Lance Lamb	WM Winkler Co	1.6	509-489-6100	Lamb@wmwinkler.com
16	Shelby McGowan	coffman engineers	N/A	328-2994	mcgowan@coffman.com
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

SECTION 01 74 19

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Recycling nonhazardous demolition and construction waste.
 - 2. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
 - 1. Division 02 Section "Structure Demolition" for disposition of waste resulting from demolition of buildings, structures, and site improvements.
 - 2. Division 02 Section "Selective Structure Demolition" for disposition of waste resulting from partial demolition of buildings, structures, and site improvements.
 - 3. Division 04 Section "Unit Masonry" for disposal requirements for masonry waste.
 - 4. Division 31 Section "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 50 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including the following:

1. Demolition Waste:

- a. Asphalt paving.
- b. Concrete.
- c. Concrete reinforcing steel.
- d. Brick.
- e. Concrete masonry units.
- f. Plywood and oriented strand board.
- g. Wood trim.
- h. Structural and miscellaneous steel.
- i. Rough hardware.
- j. Roofing.
- k. Insulation.
- l. Doors and frames.
- m. Door hardware.
- n. Windows.
- o. Glazing.
- p. Metal studs.
- q. Gypsum board.
- r. Acoustical tile and panels.
- s. Carpet.
- t. Carpet pad.
- u. Demountable partitions.
- v. Equipment.
- w. Cabinets.
- x. Plumbing fixtures.
- y. Piping.
- z. Supports and hangers.
- aa. Valves.
- bb. Sprinklers.
- cc. Mechanical equipment.
- dd. Refrigerants.
- ee. Electrical conduit.
- ff. Copper wiring.
- gg. Lighting fixtures.
- hh. Lamps.
- ii. Ballasts.
- jj. Electrical devices.
- kk. Switchgear and panelboards.
- ll. Transformers.

2. Construction Waste:

- a. Masonry and CMU.
- b. Lumber.
- c. Wood sheet materials.
- d. Wood trim.
- e. Metals.

- f. Roofing.
- g. Insulation.
- h. Carpet and pad.
- i. Gypsum board.
- j. Piping.
- k. Electrical conduit.
- l. Packaging: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:
 - 1) Paper.
 - 2) Cardboard.
 - 3) Boxes.
 - 4) Plastic sheet and film.
 - 5) Polystyrene packaging.
 - 6) Wood crates.
 - 7) Plastic pails.

1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 14 days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

- A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Include the following information:
 - 1. Material category.
 - 2. Total quantity of waste in **tons or cubic yards**.
 - 3. Total quantity of waste recovered (salvaged plus recycled) in **tons or cubic yards**.
 - 4. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- E. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- F. WSSP Submittal: WSSP letter template for Credit MR 2, signed by Contractor, tabulating total waste material, quantities diverted and means by which it is diverted, and statement that requirements for the credit have been met.

- G. Qualification Data: For refrigerant recovery technician.
- H. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.7 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination." Review methods and procedures related to waste management including, but not limited to, the following:
 - 1. Review and discuss waste management plan including responsibilities of waste management coordinator.
 - 2. Review requirements for documenting quantities of each type of waste and its disposition.
 - 3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 - 4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 - 5. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.
 - 1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
 - 2. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 - 3. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.

4. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 1. Comply with operation, termination, and removal requirements in Division 01 Section "Temporary Facilities and Controls."
- B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
 1. Distribute waste management plan to everyone concerned within three days of submittal return.
 2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.
- C. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 2. Comply with Division 01 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Recycling Incentives: Revenues, savings, rebates, tax credits, and other incentives received for recycling waste materials shall accrue to Owner.
- C. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- D. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.

1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.
2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor.

3.3 RECYCLING DEMOLITION WASTE

- A. Asphalt Paving: Break up and transport paving to asphalt-recycling facility.
- B. Concrete: Remove reinforcement and other metals from concrete and sort with other metals.
 1. Pulverize concrete to maximum 1-1/2-inch (38-mm) size.
 2. Crush concrete and screen to comply with requirements in Division 31 Section "Earth Moving" for use as satisfactory soil for fill or subbase.
- C. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
 1. Pulverize masonry to maximum 1-1/2-inch (38-mm) size.
 - a. Crush masonry and screen to comply with requirements in Division 31 Section "Earth Moving" for use as general fill or satisfactory soil for fill or subbase.

3.4 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
 2. Polystyrene Packaging: Separate and bag materials.
 3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
 4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.
- B. Wood Materials:
 1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
 2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.
 - a. Comply with requirements in Division 32 Section "Plants." for use of clean sawdust as organic mulch.

- C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.
 - 1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.5 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.
- C. Disposal: Remove waste materials and dispose of at designated spoil areas on Owner's property.
- D. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 01 74 19

MULLAN ROAD ELEMENTARY MODERNIZATION AND ADDITION
SECTION 01 81 13
SUSTAINABLE DESIGN REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes general requirements and procedures for compliance with Washington Sustainable Schools Protocol (WSSP).
 - 1. Other WSSP prerequisites and credits needed to obtain WSSP certification depend on product selections and may not be specifically identified as WSSP requirements. Compliance with requirements needed to obtain WSSP prerequisites and credits may be used as one criterion to evaluate substitution requests and comparable product requests.
 - 2. Additional WSSP prerequisites and credits needed to obtain the indicated WSSP certification depend on Architect's design and other aspects of Project that are not part of the Work of the Contract.
 - 3. WSSP Scorecard (2010 Edition) indicating credits targeted for the Project is included at the end of this section. Credits being targeted are indicated under the column noted "Achieved".
- B. Related Requirements:
 - 1. Divisions 01 through 33 Sections for WSSP requirements specific to the work of each of these Sections. Requirements may or may not include reference to WSSP.

1.3 DEFINITIONS

- A. WSSP: Washington Sustainable Schools Protocol.
- B. Regional Materials: Materials that have been manufactured within a 500 mile radius of the Project site. If only a fraction of a product or material is manufactured locally, then only that percentage (by weight) shall contribute to the regional value.
- C. Recycled Content: The recycled content value of a material assembly shall be determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value.

1. "Post-consumer" material is defined as waste material generated by households or by commercial, industrial, and institutional facilities in their role as end users of the product, which can no longer be used for its intended purpose.
2. "Post-industrial" material is defined as material diverted from the waste stream during the manufacturing process. Excluded is reutilization of materials such as rework, regrind, or scrap generated in a process and capable of being reclaimed within the same process that generated it.

1.4 SUBMITTALS

- A. General: Submit additional WSSP submittals required by other Specification Sections.
- B. WSSP submittals are in addition to other submittals. If submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated WSSP requirements.
- C. WSSP submittals in the Specification Sections are referred by their WSSP Credit number. Refer to 1.4.H in this section for specific submittal contents and requirements.
- D. WSSP Action Plans: Provide preliminary submittals within 14 days of date established for the Notice to Proceed indicating how the following requirements will be met:
 1. Credit M1.1: Waste management plan complying with Division 1 Section "Construction Waste Management."
 2. Credit M 2.1: List of proposed materials with recycled content. Indicate cost, post-consumer recycled content, and post-industrial recycled content for each product having recycled content.
 3. Credit M2.5: List of proposed regional materials, including its source, cost, and the fraction by weight that is considered regional.
 4. Credit IEQ3.6: IAQ Management (construction).
- E. WSSP Progress Reports: Concurrent with each Application for Payment, submit reports comparing actual construction and purchasing activities with WSSP action plans for the following:
 1. Credit M1.1: Waste reduction progress reports complying with Division 1 Section "Construction Waste Management."
 2. Credit M2.1: Recycled content.
 3. Credit M2.5: Regional materials.
- F. WSSP Documentation Submittals:
 1. Credit M1.1: Comply with Division 1 Section "Construction Waste Management."

2. Credit M2.1: Product data or other documentation from material manufacturer indicating percentages, by weight, of post-consumer and post-industrial recycled content. Include statement of material costs for each product having recycled content, excluding labor costs for installation. Exclude mechanical, electrical and plumbing materials. After submittal review, input the cost and product data into an electronic spreadsheet.
3. Credit M2.5: Product data for regional materials indicating name, physical address and distance in miles (as the crow flies) from Project to the material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement of cost for each regional material and the fraction by weight that is considered regional, excluding labor costs for installation. Exclude mechanical, electrical and plumbing materials. After submittal review, input the cost and product data into an electronic spreadsheet.
4. Credit IEQ 3.6: Submit a Construction Indoor Air Quality (IAQ) Management plan meeting SMACNA IAQ Guidelines for Occupied Buildings under Construction, 1995, Chapter 3, including:
 - a. Description of control measures for HVAC Protection, Source Control, Pathway Interruption, Housekeeping and Scheduling.
 - b. Confirmation if permanently installed air handling equipment will be used during construction. If HVAC equipment is operated during construction, provide product data for temporary filtration media with a minimum MERV rating of 8 at each air grille.
 - c. Product data for filtration media installed immediately prior to occupancy.
 - d. Six photographs at three different occasions during the construction period (18 total), highlighting the proper implementation of the indoor-air-quality management measures, such as protection of ducts and on-site stored or installed absorptive materials.
 - e. Temporary construction ventilation: Continuously ventilate affected spaces during installation of materials that emit volatile organic compounds (VOC) and for at least 72 hours after installation. Ventilate longer than 72 hours if necessary to completely remove odors. Exhaust the air directly to the outside; do not recirculate to other enclosed spaces. If continuous ventilation is not possible using the building's HVAC system or temporary ventilation, then ventilate via open windows and temporary fans.
 - f. Duct protection: Turn the ventilation system off and protect HVAC supply and return openings from debris generated during dust-producing activities such as drywall installation and finishing. Provide temporary ventilation as required.
 - g. Preconditioning: Allow products with odors and significant VOC content to off-gas off-site in dry, well-ventilated space for at least two weeks prior to delivery to the construction site. Remove products from their containers and packaging to maximize off-gassing of VOC's.
 - h. Sequencing: Install odorous and/or VOC-emitting products prior to installation of porous and fibrous materials.
 - i. HEPA vacuuming (carpets and upholstery): After installation, vacuum carpeted and soft surfaces with a high-efficiency particulate arrestor (HEPA) vacuum as needed and just prior to occupancy.

- j. HEPA duct cleaning: Prior to installation, inspect ducting for dust and to confirm that the oil film has been completely removed. Remove any dust, dirt and remaining oil. Prior to substantial completion and prior to using the system, inspect the ducts again for dust and other debris that may have collected during construction. Immediately remove any dust using a HEPA vacuum.

5. Credit IEQ 3.1:

- a. Product data for adhesives and sealants used inside the weatherproofing system indicating VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59.
- b. Product data for paints and coatings used inside the weatherproofing system indicating chemical composition and VOC content of each product used. Indicate VOC content in g/L calculated according to 40 CFR 59.
- c. Product data for carpet and cushion materials indicating compliance with the Carpet and Rug Institute Green Label Plus Indoor Air Quality Testing program.
- d. Product data for products containing composite wood or agrifiber products or wood glues indicating that they do not contain any added urea-formaldehyde resin.

1.5 QUALITY ASSURANCE

- A. Preconstruction and Project Meetings: Include a WSSP status agenda item in Preconstruction and project meetings in order to expedite WSSP coordination and documentation requirements.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 CONSTRUCTION WASTE MANAGEMENT

- A. Credit M1.1: Comply with Division 1 Section "Construction Waste Management."

END OF SECTION 01 81 13

2010 Edition WSSP Scorecard *Effective for projects receiving OSPI approval starting Nov. 15, 2010*

District: *Spokane Public Schools*

Contact Name & Phone: *Kris Jeske (509) 838-8568*

Date: *01-23-14*

Project Name and Type: *Mullan Road Elementary – Modernization & Addition*

Indicate if this is the Preliminary, Design-Phase, or Construction (Final) WSSP: *Schematic Design*

Category	Group	Credit Name	Points	Achieved	
Site 17 points	1) Selection & Use	S1.0	Code Compliance	R	R
		S1.1	Sensitive Areas	1	1
		S1.2	Greenfields	1	1
		S1.3	Central Location	1	1
		S1.4	Joint Use of On-Site Facilities	1-2	1
		S1.5	Joint Use of Off Site Facilities	1	
		S1.6	Minimal Footprint	1-2	1
	2) Transportation	S2.1	Public Transportation	1	1
		S2.2	Bicycle Lanes & Security	1	1
		S2.3	Minimize Parking	1	
	3) Stormwater Management	S3.0	Sedimentation and Erosion Control	R	R
		S3.1	On-site Infiltration and Flow Control	1	1
		S3.2	Stormwater Treatment	1	1
		S3.3	Enhanced Stormwater Treatment	R - 1	
	4) Outdoor Surfaces	S4.1	Reduce Heat Island - Site	1	
		S4.2	Reduce Heat Island - Roof Design	1	1
	5) Outdoor Lighting	S5.1	Light Pollution Reduction	1	1
	Total possible			17	
Water 9 points	1) Outdoor Systems	W1.0	Outdoor Water Use Budget	R	R
		W1.1	Irrigation Water Reduction (50%, 100%)	1-2	
		W1.2	Control Irrigation Water Use	1	1
		W1.3	Irrigation System Testing and Training	1	1
	2) Indoor Systems	W2.1	Potable Water Use Reduction for Sewage (25%, 45%)	1-2	1
		W2.2	Potable Water Use Reduction (20%, 30%, 40%)	1-3	1
	Total possible			9	
Materials 18 points	1) Waste Reduction & Efficient Materials Use	M1.0	Storage and Collection of Recyclables	R	R
		M1.1	Construction Site Waste Management (50%, 75%)	1-2	1
		M1.2	Building Reuse - Structure/Shell (50%, 75%, 95%)	1-3	1
		M1.3	Building Reuse - Non-Structural Elements (50%)	1	
		M1.4	Materials Reuse (5%, 10%)	1-2	
		M1.5	Resource Reuse - Furniture (30%)	1	
	2) Sustainable Materials	M2.1	Recycled Content (10%/4 mtl's, 20%/8 mtl's)	1-2	1
		M2.2	Rapidly Renewable Materials	1	
		M2.3	Certified Wood (50%, Chain of Custody)	1-2	
		M2.4	Environmentally Preferable Products	1-2	0
		M2.5	Regional/Local Materials	1-2	1
	Total possible			18	
Energy 34 points ('09) 27 points ('06)	1) Efficiency	E1.0	Minimum Energy Performance	R	R
		E1.1a	Superior Energy Performance (2009 NREC)*	4-20 ('09)	7
		E1.1b	Superior Energy Performance (2006 NREC)	4-12 ('06)	
	2) Controls	E2.1	HVAC Controls and Operable Windows	1	
		E2.2	Daylight-Responsive Controls	R ('09) 1 ('06)	R
	3) Alternative Energy	E3.1	On-Site Renewable Energy (5-10% bldg supply)	1-4	
		E3.2	Green Power Contract	1	
		E3.3	Distributed Generation (5-10% bldg supply)	1-3	
	4) Commissioning	E4.0	Fundamental Commissioning	R	R
		E4.1	Enhanced Commissioning (1-3 possible)		
		E4.1.1	Commissioning Review	1	1
		E4.1.2	Verification and Assurances	1	1
	E4.1.3	Systems Manual	1	1	
5) Management	E5.1	Energy Management Systems	1-2	1	

				34 ('09) 27 ('06)	
Indoor Environmental Quality 29 points	1) Daylighting	IEQ1.1	Daylighting (25%, 50%,75%, 100% critical visual spaces)	1-4	1
		IEQ1.2	Permanent Shading	1	1
		IEQ1.3	Views - Direct Line of Vision	1	1
	2) Electric Lighting Quality	IEQ2.1	Electric Lighting Quality	1	
	3) Indoor Air Quality	IEQ3.0	Minimum Requirements (Ventilation, Filtration, & Moisture Control	R	R
		IEQ3.0.1	Evaluate Envelope	1	
		IEQ3.0.2	Mitigation Measures	1	
		IEQ3.1	Low-Emitting Interior Finishes	1-4	4
		IEQ3.2	Low-Emitting Furniture	1	1
		IEQ3.3	Source Control	1	1
		IEQ3.4	Ducted HVAC Returns (Required when 246-366A in effect)	1 or R	1
		IEQ3.5	Particle Arrestance Filtration	1	1
		IEQ3.6	IAQ Management (construction, pre-occupancy)	1-2	1
		IEQ3.7	Natural Cooling	3	
	4) Acoustics	IEQ4.0	Minimum Acoustic Performance	R	R
		IEQ4.1	Improved Acoustical Performance	1-4	
		IEQ4.2	Audio Enhancement	1	1
	5) Thermal Comfort	IEQ5.0	Thermal Code Compliance	R	R
	6) User Controls	IEQ6.1	User Control - Windows	1	1
		IEQ6.2	User Control - Temperature & Lights	1	1
			Total possible	29	
Planning, Education, and Operations 12 points	1) Planning	PEO1.1	Integrated Design Workshop	1	1
		PEO 1.2	Durability, Efficiency & Maintainability of Features	1	1
		PEO1.3	Innovation	1-2	
	2) Education	PEO2.1	Green Building Learning Opportunities	1	
	3) Operational Activities	PEO 3.0	Operational Performance Monitoring	R	R
		PEO3.1	Post Occupancy Evaluation	1-2	1
		PEO3.2	ELCCA/LCCA	R-1	
4 out of 8		PEO3.3 No more than 4 towards minimum	Project and/or District Operational Activities - Maintenance Plan Enhancement - Resource Conservation Plan - IAQ Management – Tools for Schools - Integrated Pest Management Program - Transportation Options - Fuel Efficient Buses - Food Related Waste Prevention & Mgmt - Green Purchasing and Cleaning Plan	1-4	 1 1 1
			Total possible	12	
GRAND TOTAL Possible Points				119 ('09) 112 ('06)	51
Minimum required for Washington Sustainable School Two-tier system: For Class I Districts: Minimum 45 points For Class II Districts: Minimum 40 points Max "Project or District Operational Activity" points that can be claimed toward the minimum requirement is 4; however, a district could implement all of the points * At time of publication of this standard, the 2009 NREC (WA State Non-Residential Energy Code) was not adopted statewide. If adopted locally use E1.1a and E2.2a.				40 or 45	

SECTION 07 08 00

COMMISSIONING OF AIR BARRIERS AND BUILDING ENVELOPE

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:

1. References
2. Air Barrier Code Requirements
3. Air Barrier System Characteristics
4. Quality Assurance
5. Qualifications
6. Responsibilities of Parties for Testing
7. Execution of testing procedures
8. Reporting

B. Related Sections:

Section 01 91 00 – General Commissioning Requirements.
Division 7 Specifications
Section 08 41 13 – Aluminum Framed Entrances and Storefronts
Section 08 44 13 – Framed Aluminum Curtain Walls

1.2 REFERENCES

A. WAC 51-11C-040240- Air Leakage

1. IECC with Washington State Amendments, 2013, Sections C402.4, Air Leakage (Mandatory)

B. National Environmental Balancing Bureau (NEBB):

1. NEBB - Procedural Standards for Building Enclosure Testing.

C. ASTM International

1. ASTM E1186- Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems
2. ASTM E779- Standard Test Method for Determining Air Leakage Rate by Fan Pressurization
3. ASTM E 1827- Standard Test Method for Determining Airtightness of Buildings Using an Orifice Blower Door

D. International Organization for Standardization (ISO)

1. ISO 6781- Qualitative Detection of Thermal Irregularities in Building Envelopes- Infrared Method

1.3 AIR BARRIER CODE REQUIREMENTS APPLICABLE TO COMMISSIONING

- A. A continuous air barrier shall be provided throughout the building thermal envelope. The air barriers shall be permitted to be located on the inside or outside of the building envelope, located within the assemblies composing the envelope or any combination thereof. The air barrier shall comply with WAC 51-11C-402.1.1 and C402.1.2.**

B. The continuous air barrier shall be constructed to comply with the following:

1. The air barrier shall be continuous for all assemblies that are in the thermal envelope of the building and across joints and assemblies.

2. Air barrier joints and seams shall be sealed, including sealing transitions in places and changes in materials. Air barrier penetrations shall be sealed in accordance with code Section C402.4.2. The joints and seals shall be securely installed in or on the joint for its entire length so as not to dislodge, loosen or otherwise impair its ability to resist positive and negative pressure from wind, stack effect, and mechanical ventilation.
3. Recessed lighting fixtures shall comply with code section C402.2.8. Where similar objects are installed which penetrate the air barrier, provisions shall be made to maintain the integrity of the air barrier.

C. Air Barrier Penetrations.

1. Penetrations of the air barrier and paths of air leakage shall be caulked, gasketed, or otherwise sealed in a manner compatible with the construction materials or location. Joints and seals shall be sealed in the same manner or taped with a moisture vapor-permeable wrapping material. Sealing materials shall be appropriate to the construction materials being sealed.

D. Building Test IAW Section C402.1.2.3

1. The completed building shall be tested and the air leakage rate of the building envelope shall not exceed 0.40 CFM/ft² at a pressure differential of 0.3 inches water gauge in accordance with ASTM E779 or an equivalent method approved by the code official. A report that includes the tested surface area, floor area, air by volume, stories above grade and leakage rates shall be submitted to the building owner and code official. If the tested rate exceeds the defined limits, a visual inspection of the air barrier shall be conducted and any leaks noted shall be sealed to the extent practicable. An additional report identifying the corrective actions taken to seal air leaks shall be submitted to the building owner and code official and any further requirements to meet the leakage air rate will be waived.

1.4 AIR BARRIER CHARACTERISTICS

- A. The airtight components of the building enclosure and the joints, junctures and transitions between materials, products and assemblies forming the building enclosure are called the air barrier system. These are typically, but not limited to the following joints or assemblies where connections are made:
1. Foundation and walls
 2. Walls and windows
 3. Walls and doors
 4. Different wall systems
 5. Walls and roof
 6. Walls and roof over unconditioned spaces
 7. Walls, floors, and roofs across construction, control and expansion joints
 8. Walls, floors and roofs to utility, pipe and duct penetrations through the air barrier

1.5 QUALITY ASSURANCE

- A. Engage the services of a qualified air barrier inspector to oversee the sequencing and installation of the air barrier component materials and assemblies, to oversee the proper joining and sealing of the materials and assemblies, and to oversee the sealing of penetrations of the air barrier materials and assemblies.
- B. Building Envelope technician shall prepare report forms in accordance with the requirements of the NEBB Procedural Standards for Building Envelope Testing.

1.6 QUALIFICATIONS

- A. Air barrier inspector duties on this project shall be conducted as part of the commissioning process by TESTCOMM, LLC, 2211 East Sprague Avenue, Spokane, WA 99202. POC is Jerry Ensminger, Manager, 509-533-0498.

1.7 RESPONSIBILITIES

- A. Responsibilities indicated for Architect/Engineer, General Contractor and Air Barrier Inspector/testing technician are provided only to clarify the process.
- B. Architect/Engineer Responsibilities:
 - 1. Furnish design narratives and plan sheet details or other documentation, including Owner Project Requirements and Basis of Design documentation, to outline the air barrier system, components, and construction thereof.
 - 2. Provide a conformed set of contract documents pertaining to the air barrier, including but not limited to, drawings, specifications, approved submittals, current approved change orders and any contract modifications affecting the air barrier.
 - 3. In the construction documents, clearly define the building enclosure boundary and indicate the location of the air barrier throughout the building including floors, walls and ceiling or roof area, square footage of areas to be tested within the air barrier boundaries, type and construction of assemblies within the air barrier and method of testing to be performed (Blower door or Building Air Moving Equipment Test Method) and applicable standards (ASTM E779, ASTM E1827, etc.).
 - 4. Coordinate resolution of system deficiencies identified during testing, according to contract documents.
- C. Contractor Responsibilities:
 - 1. Coordination of Sub-Contractors: Provide coordination between the sub-contractors involved in the construction of the air barrier system, coordinate the sequence of construction to ensure the continuity of the air barrier system joints, junctures, penetrations, and transitions between materials and assemblies of materials and products from the substructure to walls to roof. Provide quality assurance procedures and verification as specified. Facilitate inspections, tests and other quality control services specified or requested by the BE Technician.
 - 2. Organize pre-construction conferences between the subcontractors involved in the construction or penetration of the air barrier system and the air barrier testing technician to discuss each sub-contractor's responsibilities to ensure air tight barrier in the different sections to be installed by the different sub-contractors.
 - 3. Construct a mock up demonstrating each joint, juncture and transition between materials, products and assemblies of products specified in different specification sections and plan sheets to be installed. Mock up shall be reviewed and approved by the Owner, Architect and building envelope inspector/ technician.
 - 4. Develop a project schedule with input from the building envelope inspection firm that coordinates the work of other disciplines and provides adequate time in the construction process to allow for successful completion of building envelope testing and any remedial work.
 - 5. Ensure the building enclosure is complete, including but not limited to, all structural components, the air and vapor barriers complete, windows and doors installed, door hardware complete, door sweeps and weather stripping complete, floors and ceilings complete.
 - 6. Provide all project preparation and setup for BE testing, including but not limited to temporary sealing of intentional openings, removing ceiling tiles, opening access doors, opening interior doors and securing them so they do not close during testing. This may include preparation of adjoining spaces and staging the building so no people will be opening doors or windows during the envelope testing. A guide checklist is provided at the end of this specification.

7. Insure cooperation of other sub-contractors for preparation and conducting testing as needed, i.e. HVAC and controls contractor to have units started and safeties tested prior to using HVAC equipment for testing or electrical contractor providing temporary power for equipment if sufficient permanent power is not available for test equipment, etc. Additional support will be coordinated at a pre-test conference to be scheduled by the General Contractor.
 8. Provide either temporary or permanent power for BE testing equipment.
 9. Remove sufficient ceiling tiles for lay in ceilings, or open sufficient access panels for hard ceilings to equalize the pressure between the ceiling cavity and space being tested. Replace tiles at the conclusion of testing.
 10. If the building equipment is to be utilized for testing, provide the following:
 - a. Ensure that all necessary building systems are complete and operating in a safe manner.
 - b. Complete the installation of permanent power systems serving the equipment to be used for the BE testing. Electrical systems shall be properly installed in accordance with all applicable codes to ensure the safety of personnel involved in the testing.
 - c. Perform start up of all building systems in accordance with manufacturer's recommendations.
 - d. Complete the installation, programming, calibration and start up of all building control systems.
 11. Upon completion of inspection, testing or similar services, repair damaged construction and restore substrates and finishes, protect construction exposed by or for quality control activities and protect repaired construction.
- D. Building Envelope Inspector/ Testing Technician (Hired by Owner)
1. Provide necessary equipment and technical expertise to inspect building envelope and air barrier components, render opinion as to the quality of construction and adherence to applicable codes, and provide observation/ testing reports to the building owner or code official as applicable upon completion of each inspection.
 2. Provide necessary equipment and conduct air barrier testing in accordance with applicable codes and guidelines. Upon completion of air barrier testing, provide the building owner and code official with a comprehensive report of findings.
 3. Assist the Architect/ Consultant and Contractors in identifying issues with the building envelope and air barrier before, during and after testing. Assist the construction team with resolution of issues discovered during inspections and testing.
 4. Examine construction documents to become familiar with project requirements and discover conditions in systems/ design that may preclude proper testing of the building envelope systems and equipment. Report deficiencies to the Architect for resolution.
- E. REPORTS
1. During construction the building envelope inspector/ technician shall inspect and document conditions at various stages and prepare a report citing the date, weather conditions, observations as to quality of work and pictures supporting the observations.
 2. Upon completion of testing, the building envelope test technician shall provide a report to the building owner and code official outlining the details of the test procedures, test results, any deficiencies discovered and recommended measures to correct the deficiencies.

PART 2 PRODUCTS

2.1 TEST EQUIPMENT

- A. The building envelope test technician or firm (hired by owner) is responsible for providing equipment to be used in the testing of the air barrier. This includes, but is not limited to, blower door test apparatus, infrared camera, digital camera, and air pressurization measurement equipment.

PART 3 EXECUTION

3.1 BUILDING AIR BARRIER TEST

- A. The building air barrier test shall follow the guidelines outlined in one of more references in paragraph 1.2 of this section. If the air barrier cannot be tested by pressurization and de-pressurization, then the building may be tested in the positive (pressurization) mode only.
- B. The fan pressurization test to determine final compliance with the air barrier requirements shall be conducted with all components of the air barrier system have been installed and inspected, and have passed any intermediate inspections or procedures as outlined in the construction documents. The test may be conducted before finishes that are not part of the air barrier system have been installed. For example, if suspended ceiling tile, interior gypsum board or cladding systems are not part of the air barrier system, they test may be conducted before they are installed. Likewise, any interior doors or pass through spaces and finishes that are not part of the air barrier may be completed after the air barrier test is conducted.
- C. Completed test results shall be reported to the building Owner and code official. If there are any remedial actions required to achieve a successful test, the Building Envelope Technician shall report them to the General Contractor for necessary action.

3.2 BLOWER DOOR TESTING GENERAL PROCEDURES

- A. The blower door shall be installed in an appropriate entry door, window or vent opening. The openings must them be sealed or taped to avoid any air leakage at these points. Orient the blower door appropriately for pressurization or depressurization as required. Installation should have minimum of obstructions to airflow in and out of the building.
- B. Install the pressure measuring instrument across the building envelope. It is recommended that more than one location be utilized for the pressure measurement, being careful to avoid extremes in outside pressure (wind, architectural features that may interfere with accuracy of readings, etc.).
- C. Measure and record wind velocity, indoor and outdoor temperatures at the beginning of the test so that average values can be calculated..
- D. Before beginning the test, zero the pressure sensor, then measure and record the baseline building differential pressure across the airflow measurement device with the blower off.
- E. Start the blower door fans and pressurize/ depressurize the building to the highest induced pressure differential. Measure and record the building envelope pressure differential. If there are fluctuations in pressure due to wind, take pressure measurements on the windward and leeward sides of the building and average the readings. If the buildings height or building configuration causes internal building pressure fluctuations, then take multiple readings and average.
- F. Perform a minimum of 10 building envelope pressure differentials and corresponding airflow measurements in both the pressurization and de-pressurization modes (a total of 20 readings). Measurements shall be taken over a minimum of 10 seconds.
- G. Measure and record wind velocity, indoor and outdoor temperatures at the end of the test so that their average values can be calculated.
- H. Phased projects, or areas under renovation with new exterior envelopes may be tested separately in lieu of a whole building test.

3.3 BUILDING AIR MOVING EQUIPMENT SYSTEM TEST GENERAL PROCEDURES

- A. If permitted by local code official, building air movement equipment may be utilized to pressurize the building. If building equipment cannot achieve the required pressures as determined by traversing ductwork or by using airflow monitoring stations associated with the equipment, the blower door method must be used for the testing.
- B. Measure and record exterior wind velocity, indoor and outdoor temperature, and other pertinent data for the building size, area to be measured, etc.
- D. Install the pressure monitoring equipment across the building envelope for measurements. Measure and record baseline data for testing.
- C. Two sets of data shall be taken, one identified as the higher differential pressure and the other as the lower differential value. A minimum of five measurements of the building envelope differential are to be taken for each value until a total of 10 airflow measurements are taken.
- D. At the end of testing, measure and record baseline data, indoor and outdoor temperatures and other pertinent data so measurement calculations can be performed.

3.4 THERMOGRAPHY TEST GENERAL PROCEDURES

- A. Test the building using infrared thermography technology in accordance with ASTM C1060 or ISA 6781. Take thermal images before the air barrier testing and again during the air barrier test so areas where there are envelope leaks are detected.
- B. If the building air barrier test fails, perform the thermography procedures before and during subsequent tests to document repairs or areas where deficiencies still exist.
- C. Provide a report including thermographic images in color and a color temperature scale for comparison. The report should identify the high temperature reading, outdoor air temperature and building indoor temperature in addition to the exterior wind speed and direction. Note any areas of deficiency in the building envelope, any recommended actions to remedy deficiencies, and note all actions taken to remedy deficiencies. The final report shall note that all deficiencies have been corrected or what areas could not be practicably repaired. Copies of the report shall be included in the O&M and Commissioning records.

3.5 AIR BARRIER PRE-TEST READINESS CHECKLIST

- A. Prior to starting the air barrier testing, the contractor shall make the building ready for testing, utilizing the following checklist for guidance. Notify the building envelope testing agency or technician of any issues with items noted on the checklist. Completed checklist shall be submitted to the testing agency/ technician prior to testing and verified prior beginning air barrier testing.
- B. Air Barrier Pre-test Checklist Form- See attached form on the following page

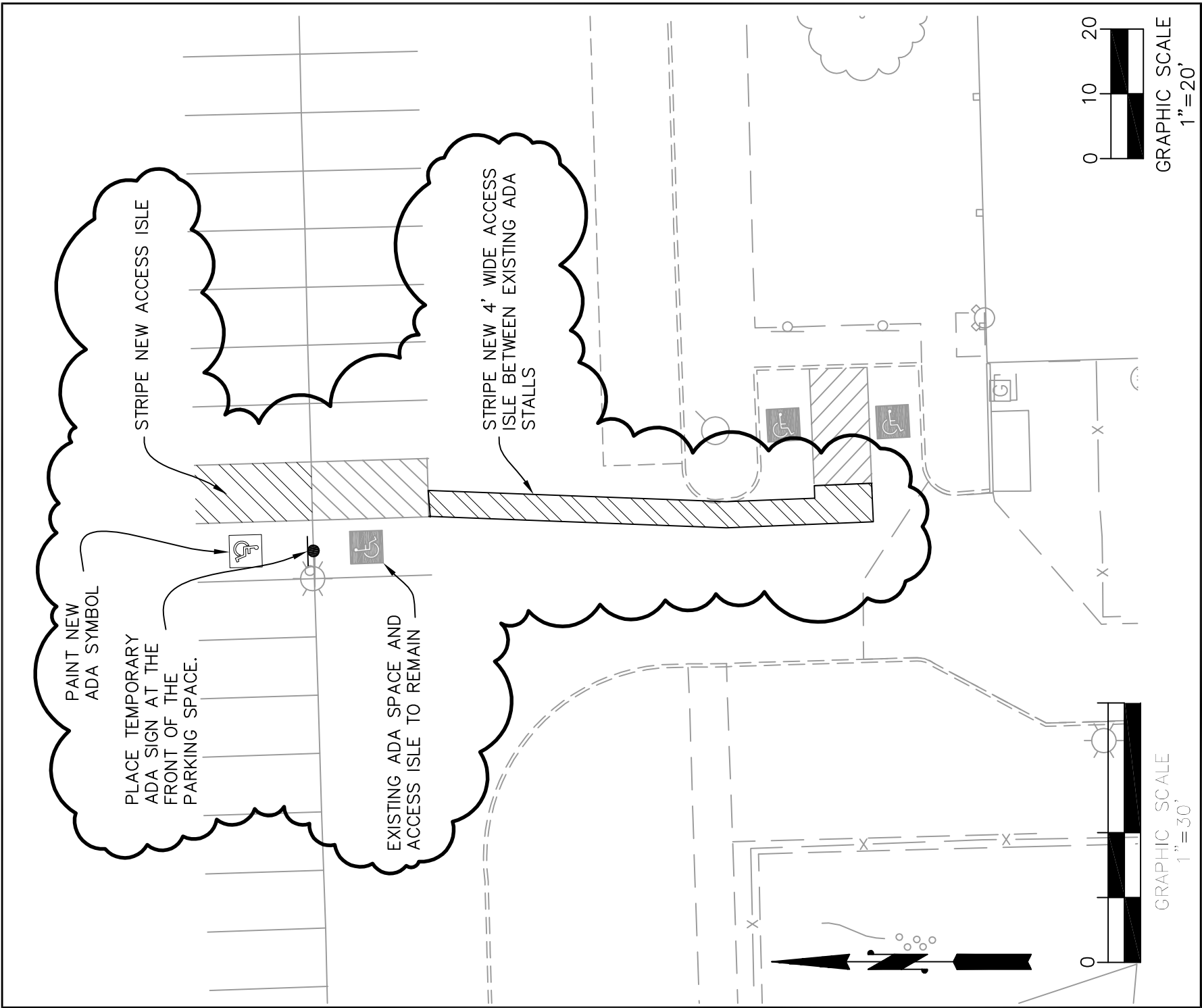
END OF SECTION

AIR BARRIER PRE-TEST CHECKLIST

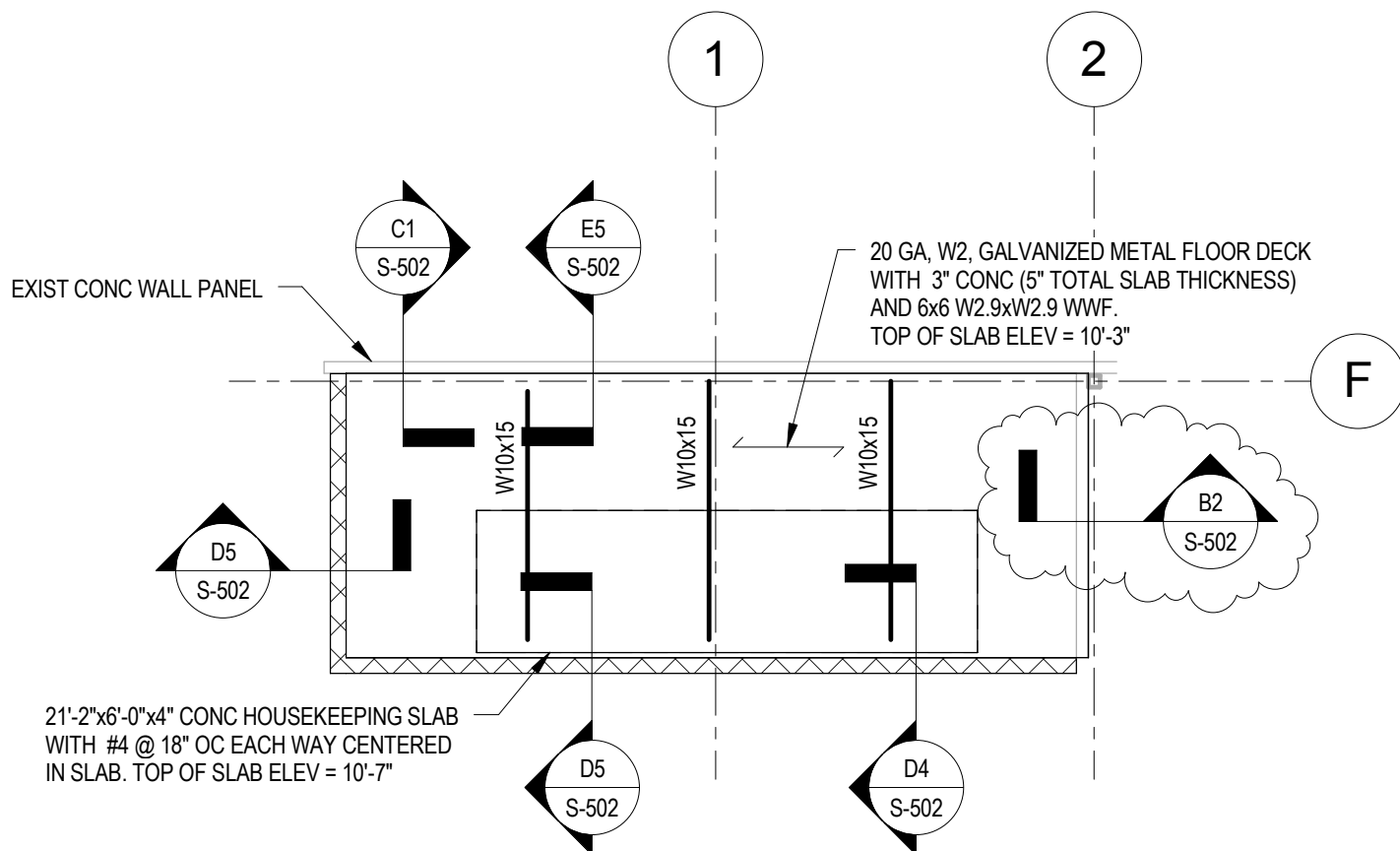
Building Component	Envelope Condition		GC Initial
	Closed	Open	
Exhaust fans with back draft dampers	Sealed	No Preparation	
Supply fans with backdraft dampers	Sealed	No Preparation	
Mechanical Room doors if outside test zone	Closed	Closed	
Combustion air intake dampers for boilers	Closed	Closed	
Outside air damper for air handler inside test area	Sealed	Closed	
Outside air intake for air handler inside test area without damper	Sealed	No Preparation	
Exhaust, Air Handling Units, Make Up Air Units, Energy Recovery Units, Supply Fans, Furnaces, Fan Coil Units, Boilers, Gas hot water heaters, All equipment requiring combustion air (including kitchen equipment, HVAC, etc.)	Off	Off	
Fan inlet grilles with motorized damper	Closed	Closed	
Fan inlet grilles without motorized damper	Sealed	No Preparation	
Ventilators designed for continuous use	Sealed	Sealed	
Supply and Exhaust ventilation dampers	Sealed	Held Closed	
Clothes Dryer	Off	Off	
Clothes Dryer if connected to dryer vent	No Preparation	No Preparation	
Vented combustion appliance	Off	Off	
Ventilation to other zones	Sealed	Sealed	
Windows	Closed and Latched	Closed and Latched	
Exterior Doors	Closed and Latched	Closed and Latched	
Window Air Conditioners	Sealed	No Preparation	
Through the wall AC outside air vent	Sealed	No Preparation	
All HVAC ducts going from inside test area to outside test area or outside into the test area	Sealed	Sealed	
All electrical conduits going from inside the test area to outside the test area or outside into the test area	Sealed	Sealed	
Openings within the test area (doors, windows, etc.)	Open	Open	
Floor drains and drain traps	Filled	Filled	
Elevator Pressure relief openings	Closed	Closed	
Elevator doors	Closed	Closed	
Elevator door frame spacing between the elevator door and frame if elevator connects an area outside the air barrier	Sealed	Open	
Elevator door frame spacing between the elevator door and frame if the elevator connects an area within the air barrier	Open	Open	
Rooms with exterior, non-ducted louvers (interior doors)	Closed	Closed	
Loading Dock Doors (interior doors)	Closed	Closed	
Other openings between test area and exterior	Closed or Sealed	Closed or Sealed	

The above items have been completed and checked prior to air barrier testing

Contractor:_____ Test Technician:_____ Date:_____



ALSC		ARCHITECTS		ADDENDUM # 1			
PROJECT	MULLAN ROAD ELEMENTARY SPOKANE PUBLIC SCHOOLS	DATE	DRAWN	DWG. NO.	JOB NO.	REF. SHT.	
		1/24/14	LRC	C-01	2012-055	C-100	
		DESCRIPTION ADA PARKING					



ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

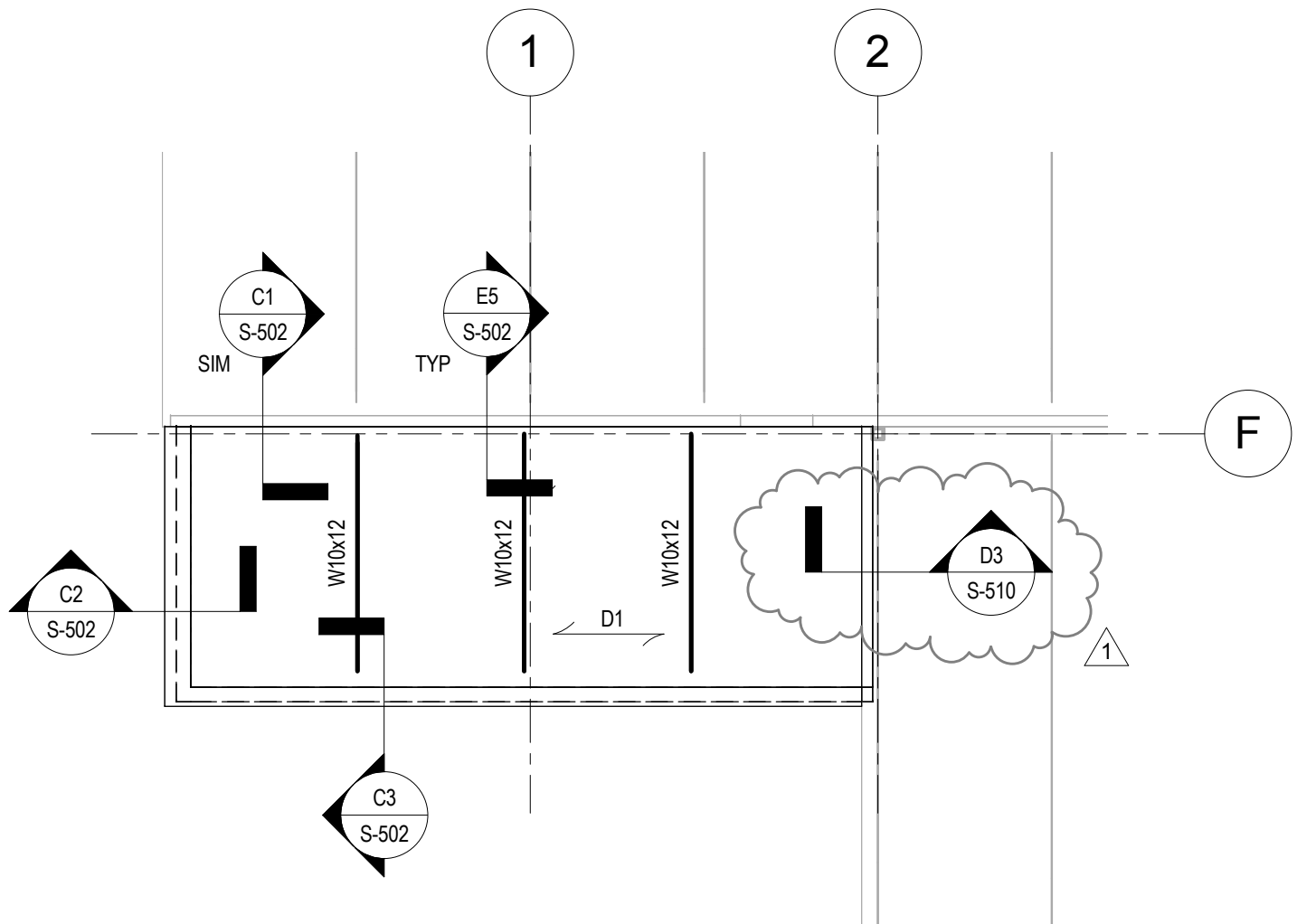
DRAWN
KVP

DWG. NO.
S-01

JOB NO.
2012-055

REF. SHT.
S-112

DESCRIPTION
MECHANICAL MEZZANINE FRAMING PLAN



ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

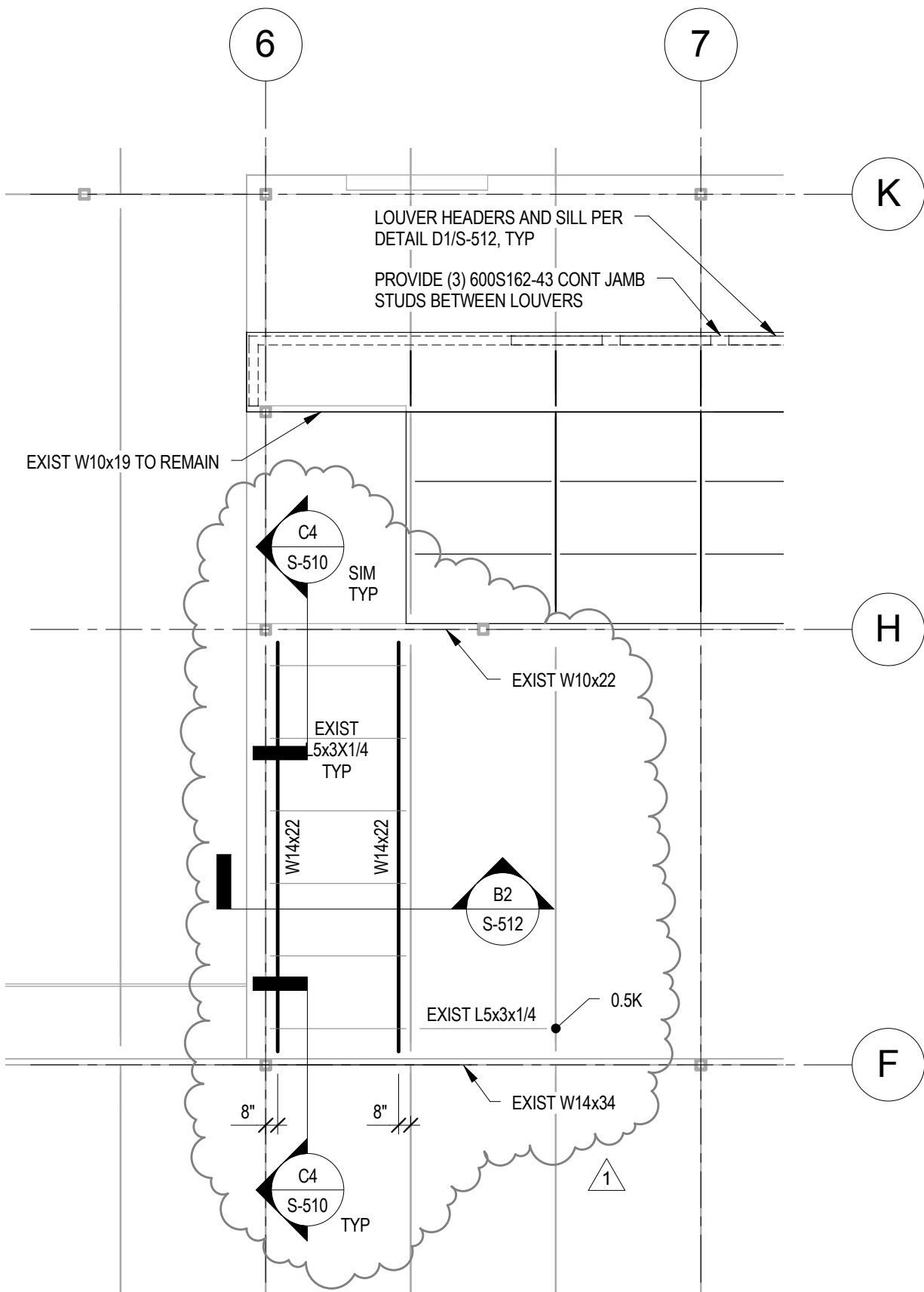
DRAWN
KVP

DWG. NO.
S-02

JOB NO.
2012-055

REF. SHT.
S-111

DESCRIPTION
PARTIAL SECTOR A ROOF FRAMING PLAN



ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

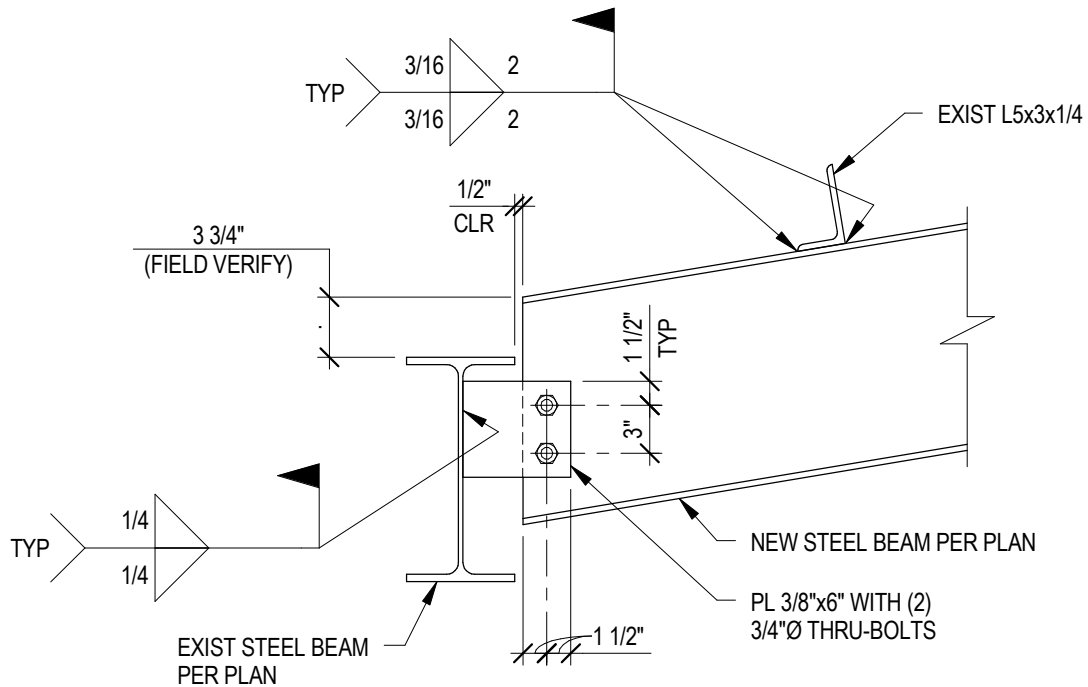
DRAWN
KVP

DWG. NO.
S-03

JOB NO.
2012-055

REF. SHT.
S-111

DESCRIPTION
PARTIAL SECTOR A ROOF FRAMING PLAN



NOTE: NEW BEAM SLOPES DOWN AT SIM CONDITION.

C4

NEW BEAM CONN AT EXIST

SCALE : 1" = 1'-0"

ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

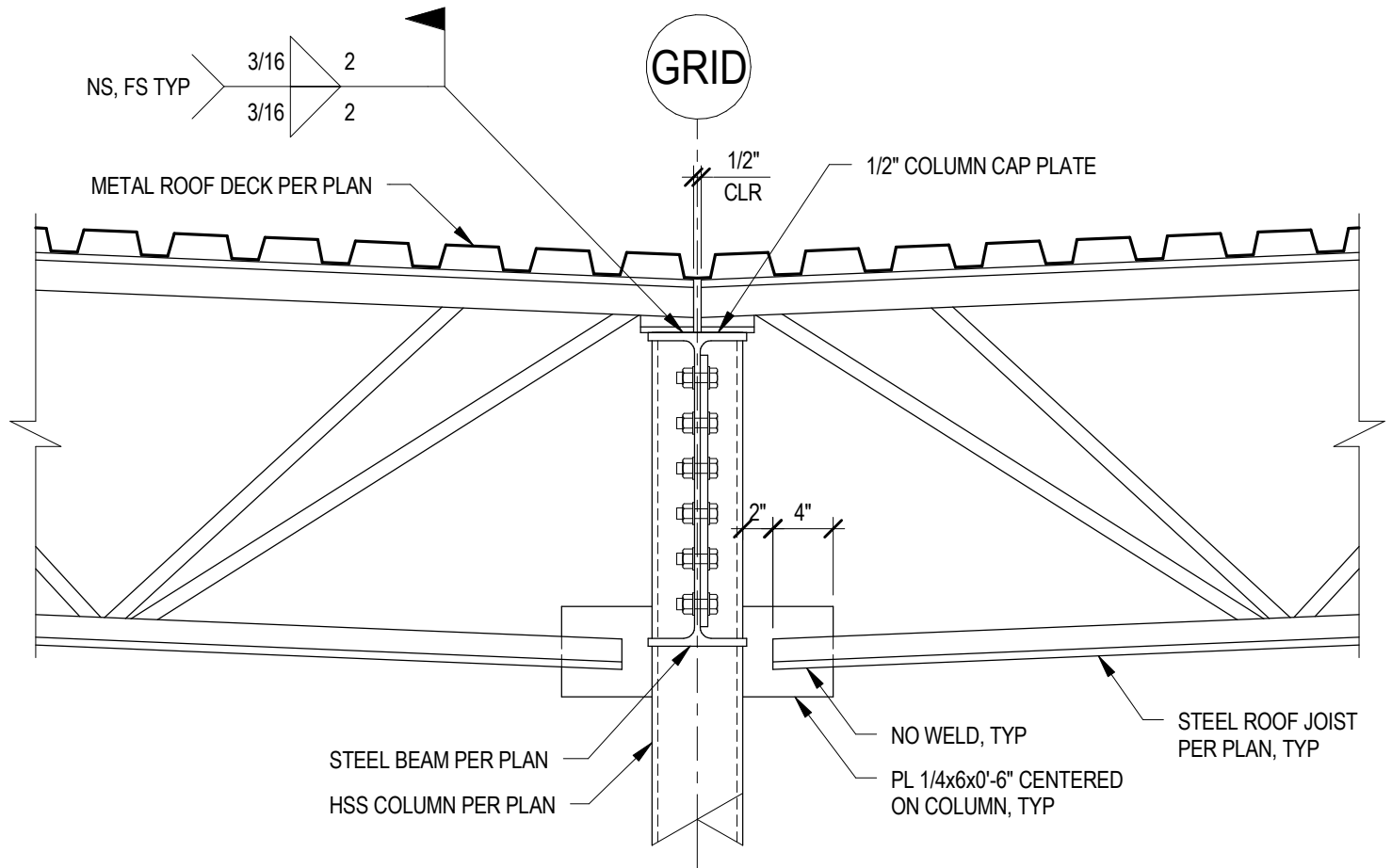
DRAWN
KVP

DWG. NO.
S-04

JOB NO.
2012-055

REF. SHT.
S-510

DESCRIPTION
DETAIL



D4

STEEL JOIST BEARING AT COLUMN

SCALE : 1" = 1'-0"

ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

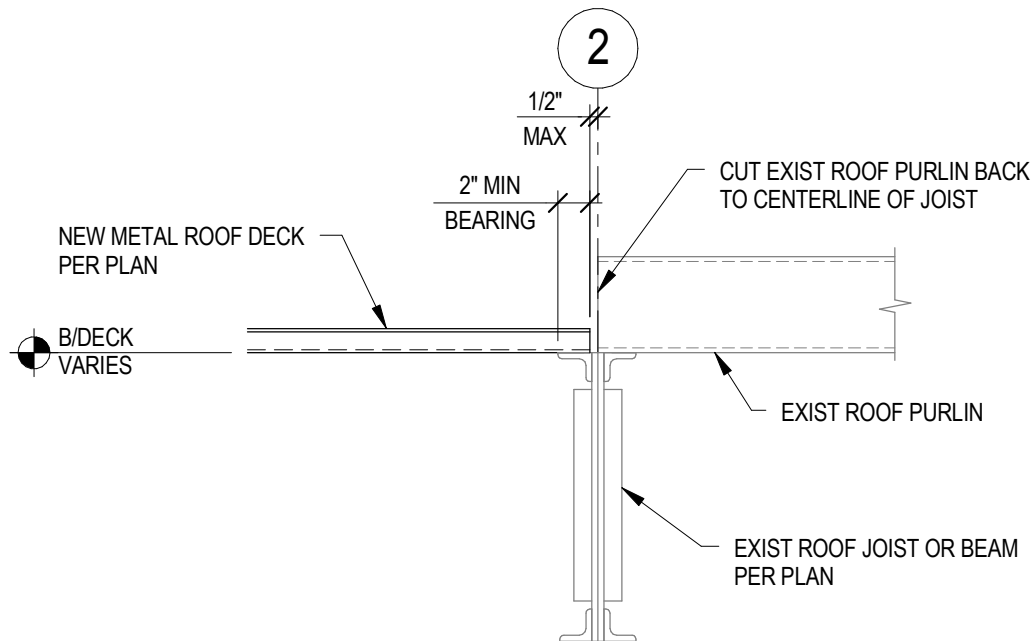
DRAWN
KVP

DWG. NO.
S-05

JOB NO.
2012-055

REF. SHT.
S-510

DESCRIPTION
DETAIL



D3

METAL DECK AT EXIST JOIST

SCALE : 1" = 1'-0"

ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

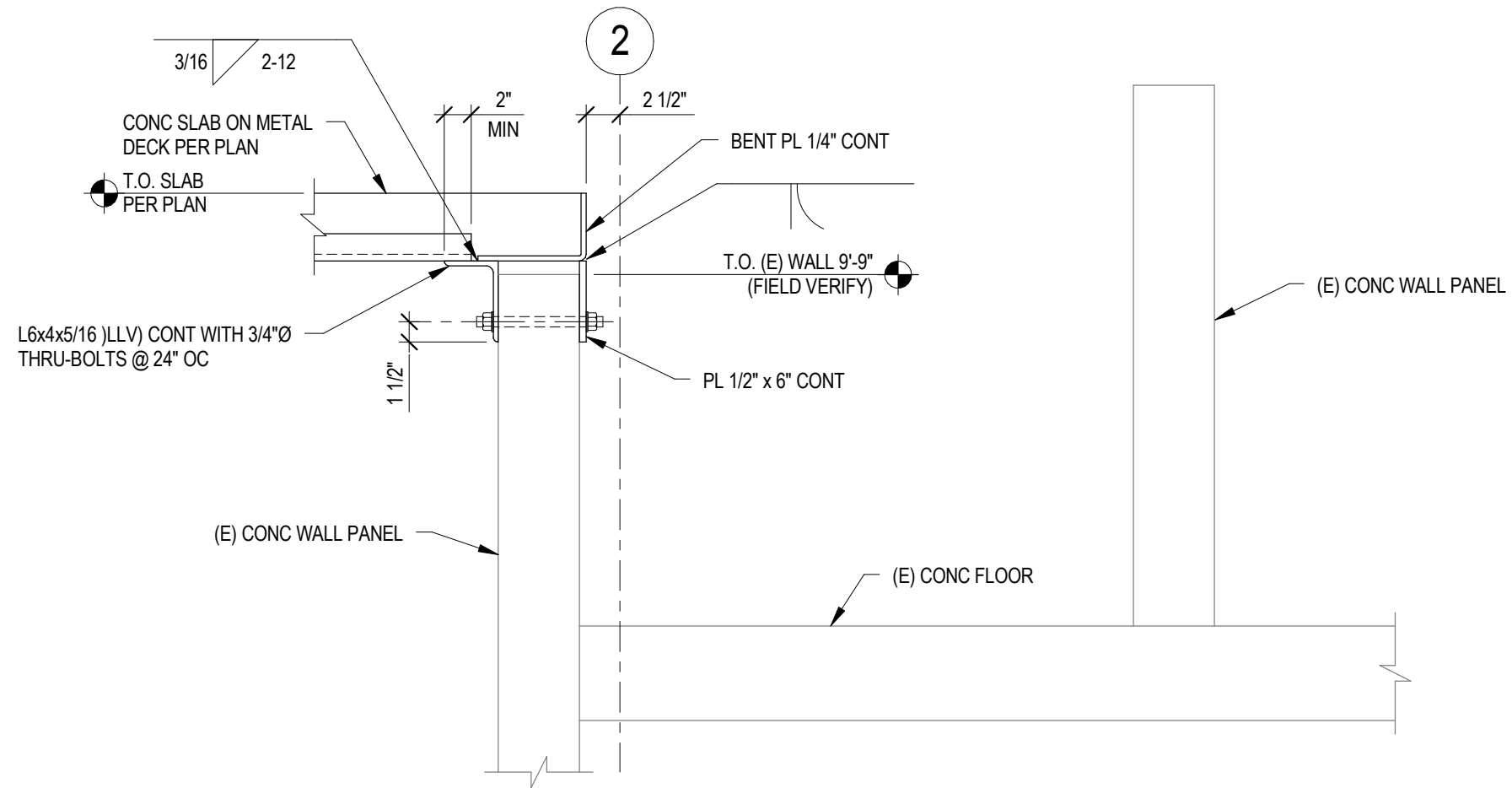
DRAWN
KVP

DWG. NO.
S-06

JOB NO.
2012-055

REF. SHT.
S-510

DESCRIPTION
DETAIL



B2

MEZZANINE SLAB AT EXIST CONCE WALL PANEL

SCALE : 1" = 1'-0"

ALSC

ARCHITECTS

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

ADDENDUM # 1

DATE
01/24/2014

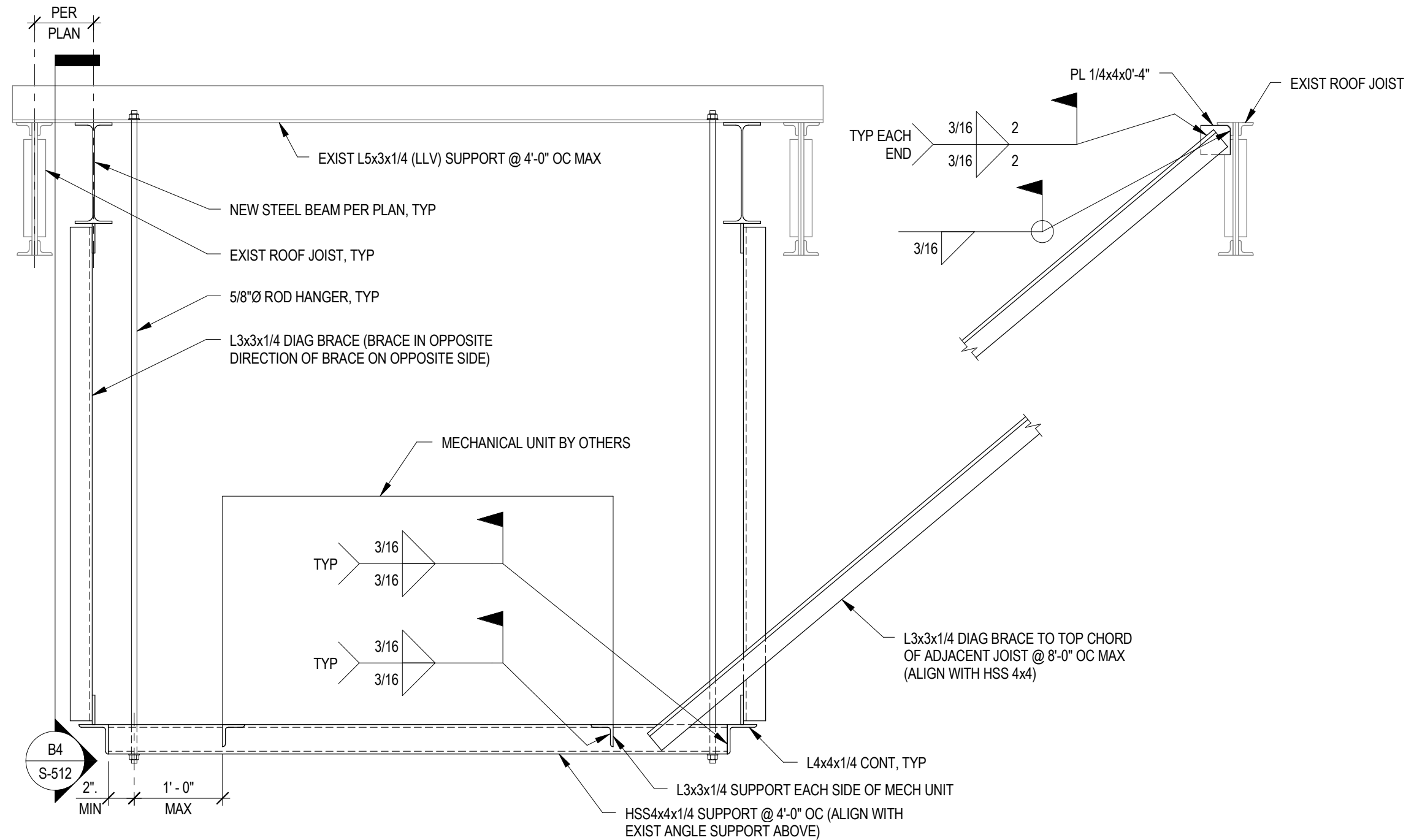
DRAWN
KVP

DWG. NO.
S-07

JOB NO.
2012-055

REF. SHT.
S-502

DESCRIPTION
DETAIL



B2

AHU SUPPORT FRAMING

SCALE : NTS

ALSC

ARCHITECTS

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

ADDENDUM # 1

DATE
01/24/2014

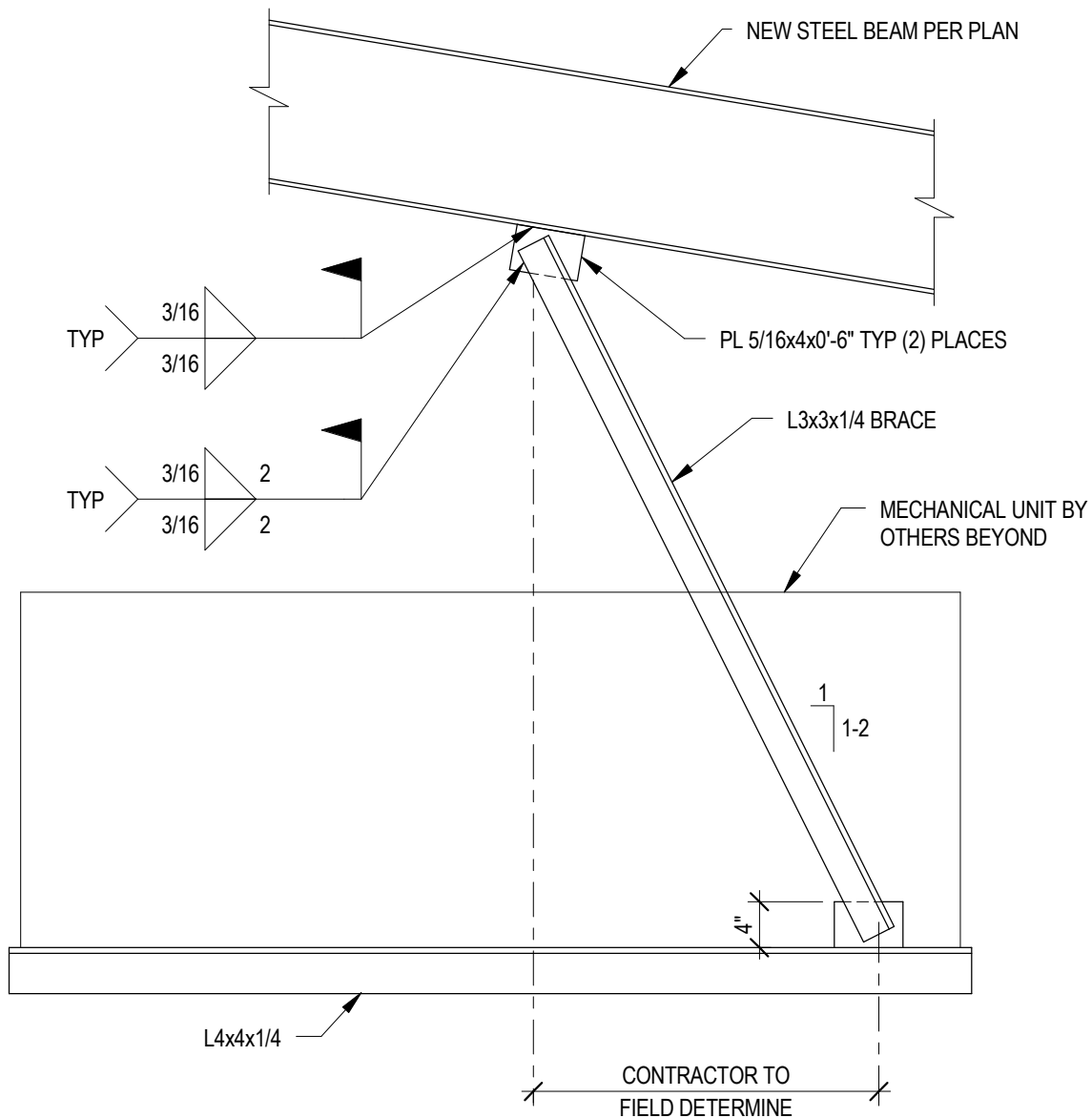
DRAWN
KVP

DWG. NO.
S-08

JOB NO.
2012-055

REF. SHT.
S-512

DESCRIPTION
DETAIL



B4

MECHANICAL UNIT BRACING

SCALE : NTS

ALSC

ARCHITECTS

ADDENDUM

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

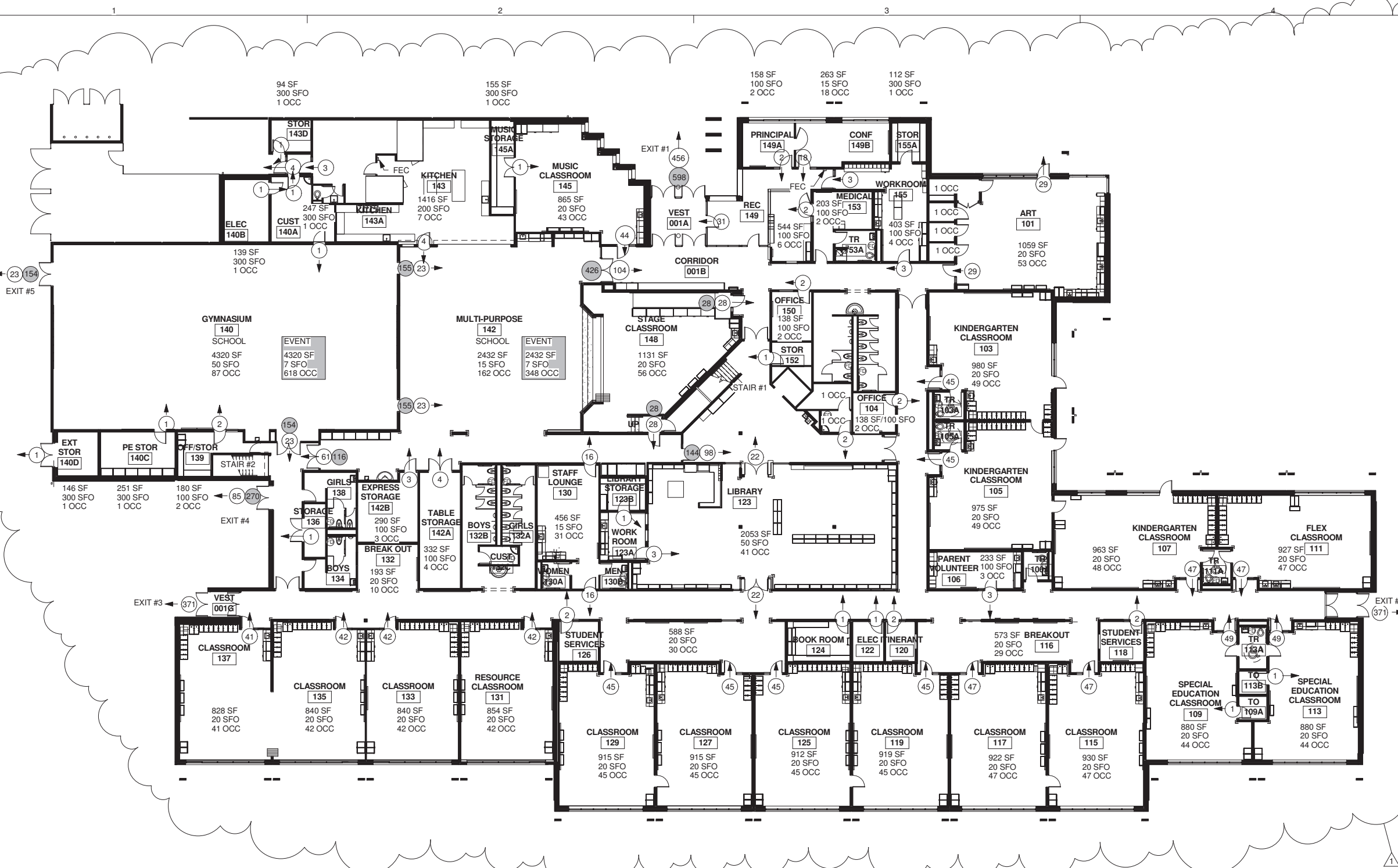
DRAWN
KVP

DWG. NO.
S-09

JOB NO.
2012-055

REF. SHT.
S-512

DESCRIPTION
DETAIL



EXITING REQUIREMENTS	
SCHOOL	EVENT
EXIT #1 (456 PEOPLE) x (0.15")= 68.4" 136" PROVIDED	EXIT #1 (598 PEOPLE) x (0.15")= 89.7" 136" PROVIDED
EXIT #2 (371 PEOPLE) x (0.15")= 55.65" 68" PROVIDED	EXIT #4 (270 PEOPLE) x (0.15")= 40.5" 68" PROVIDED
EXIT #3 (371 PEOPLE) x (0.15")= 55.65" 68" PROVIDED	EXIT #5 (154 PEOPLE) x (0.15")= 23.1" 68" PROVIDED
EXIT #4 (85 PEOPLE) x (0.15")= 12.75" 68" PROVIDED	
EXIT #5 (23 PEOPLE) x (0.15")= 3.45" 68" PROVIDED	
STAIR #1 (206 PEOPLE) x (0.20")= 41.2" 56" PROVIDED	
STAIR #2 (206 PEOPLE) x (0.20")= 41.2" 60" PROVIDED	

1 OVERALL LEVEL 1

1/4" LEXAN PLASTIC
WITH ROUTERED
ROUNDED EDGE

SINGL GANG, SHALLOW
TYPE FS CAST METAL
BOX MOUNTED INSIDE
BOLLARD

CARD READER MOUNTED
INSIDE WITH FOAM BEHIND
READER TO PUSH READER
AGAINST LEXAN PLASTIC

TORX ANTI-TAMPER SCREWS

SIDE VIEW

FRONT VIEW

B1

CARD READER HARDENED ENCLOSURE

SCALE : 6" = 1'-0"

ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT Mullan Road Elementary
Modernization and Addition
2012-055
Spokane Public Schools

DATE
01.24.2013

DRAWN
EDW

DWG. NO.
A-02

JOB NO.
2012-055

REF. SHT.
A-551

DESCRIPTION
CARD READER ENCLOSURE

MECHANICAL ADDENDUM NO. 1

The additions, omissions, clarifications and corrections contained herein shall be made to drawings and specifications for the project and shall be included in scope of work and proposals to be submitted. References made below to specifications and drawings shall be used as a general guide only. Bidder shall determine the work affected by Addendum items.

In the Specification:

1.	23 34 23 – Power Ventilators	Change: I, 1. Should read as follows: "Provide damper capable of 24 volt operation. Actuators to be provided under specification section 230923."
2.	23 64 26 – Scroll Water Chillers	Change: 2.2, D "Compressors", 1. "fully hermetic digital scroll type compressors."
3.	23 81 27 – Ductless Split System AC Units	Add: Ductless Split System AC Unit section.

In the Drawings:

1.	Sheet P-132 – Roof	Add: Ductless split system condensing unit (DCU-1). Mount unit and bolt legs on pressure treated 4x4 lumber. See attached addendum drawing M-03.
2.	Sheet P-601 – Roof Drain Schedule	Change DSN-1 to Model No. 1775 as manufactured by Jay R. Smith
3.	Sheet M-111 – Electrical room 140B	Add: exhaust fan (EF-15) and associated ductwork, motorized damper, and controls. See attached addendum drawing M-05.
4.	Sheet M-123 – Electrical room 122	Add: ductless split system (DAC-1) and mount above door entrance. Route condensate piping down wall cavity to inlet side of p-trap on sink in 119-classroom. See attached addendum drawing M-02.
5.	Sheet M-511 – Detail 5	Contractor to provide a return and supply temperature sensor (analog input to DDC controller) for each chiller (CH-1 & 2).
6.	Sheet M-513 – TC Diagrams	Add: Detail #12 "Ductless Split AC Unit Temperature Control Diagram." See attached addendum drawing M-06.
7.	Sheet M-513 – TC Diagrams	Add: Detail #12 "Ductless Split AC Unit Temperature Control Diagram." See attached addendum drawing M-06.
8.	Sheet M-601 – Boiler Schedule	Add: Key Note #4 and shall read as follows, "boilers shall be minimum 92% efficiency."
9.	Sheet M-601 – Exhaust Fan Schedule	Add: Exhaust fan EF-15. See attached addendum drawing M-04.

MECHANICAL ADDENDUM NO. 1

10.	Sheet M-602 – Fan Coil Schedules	Key Note #2: "Provide factory installed brass male coil connection adapters."
11.	Sheet M-602 – Ductless Split AC/CU Units	Add: Ductless Split AC system (DAC-1 & DCU-1). See attached addendum drawing M-01.

Acceptance of Substitutions

Add the following to approved list of manufacturers at this time.

This approval is an approval of quality only. No attempt has been made to check each material as to special features, capacities or physical dimensions especially required by this project. It shall be the responsibility of supplier, manufacturer and Contractor to check all requirements before submitting for final approval. Final approval of exact features, sizes, capacities, etc., all of which must match materials indicated/specified, will be determined when submitted during construction period. Certain approvals are subject to conditions as noted.

	SECTION	ITEM	MANUFACTURER
1.	22 40 00	Manual Faucets	American Standard
2.	23 64 26	Scroll Water Chillers	Petra Engineering
3.	23 72 10	Indoor Air Handling Units	Dynamic Air Solutions

SECTION 23 81 27

DUCTLESS SPLIT-SYSTEM AIR CONDITIONING UNITS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes split-system heat pump air-conditioning units consisting of separate evaporator-fan and compressor-condenser components. Units are designed for exposed or concealed mounting.

1.2 SUBMITTALS

- A. Product Data: For each unit indicated. Include performance data in terms of capacities, outlet velocities, static pressures, sound power characteristics, motor requirements, and electrical characteristics.
- B. Operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Energy-Efficiency Ratio: Equal to or greater than prescribed by ASHRAE 90.1, "Energy Efficient Design of New Buildings except Low-Rise Residential Buildings."
- C. Coefficient of Performance: Equal to or greater than prescribed by ASHRAE 90.1, "Energy Efficient Design of New Buildings except Low-Rise Residential Buildings."

1.4 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace split-system air-conditioning units that fail in materials and workmanship within five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. Carrier Air Conditioning; Div. of Carrier Corp.
2. Friedrich Air Conditioning Company.
3. Lennox Industries Inc.
4. Mitsubishi Inc.
5. Trane Co. (The); Unitary Products Group.
6. York International Corp.

2.2 EVAPORATOR-FAN UNIT

- A. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins, complying with ARI 210/240, and with thermal-expansion valve.
- B. Evaporator Fan: Forward-curved, double-width wheel of galvanized steel; directly connected to motor.
- C. Fan Motor: Multi-speed.
- D. Filters: 1 inch thick, in fiberboard frames.

2.3 AIR-COOLED, COMPRESSOR-CONDENSER UNIT

- A. Casing steel, finished with baked enamel, with removable panels for access to controls, weep holes for water drainage, and mounting holes in base. Provide brass service valves, fittings, and gage ports on exterior of casing.
- B. Compressor: Hermetically sealed reciprocating or scroll type with crankcase heater and mounted on vibration isolation. Compressor motor shall have thermal- and current-sensitive overload devices, start capacitor, relay, and contactor.
- C. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins, complying with ARI 210/240, and with liquid subcooler.
- D. Fan: Aluminum-propeller type, directly connected to motor.
- E. Motor: Permanently lubricated, with integral thermal-overload protection.
- F. Low Ambient Kit: Permits operation down to -10 deg F.
- G. Reversing Valve

2.4 ACCESSORIES

- A. Microprocessor controls.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install evaporator-fan components using manufacturer's standard mounting devices securely fastened to building structure.

- B. AC-1 and AC-6 shall be set up with a deadband of 5 degrees F. Space temperature setpoint of AC-1 shall be 70 degrees F and AC-6 shall be 75 degrees F. AC-6 is provided as a fully redundant back-up unit.

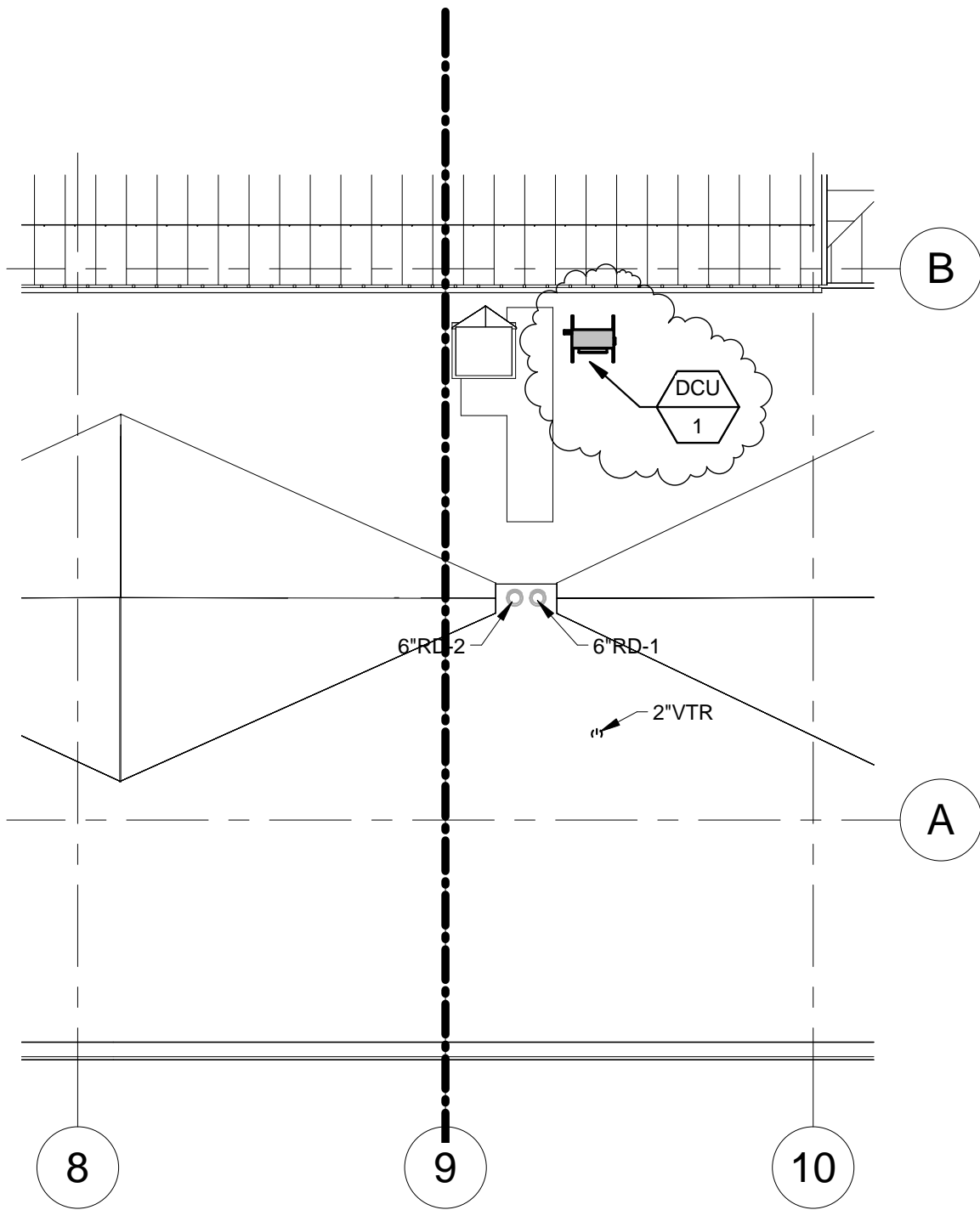
3.2 CONNECTIONS

- A. Install tubing to allow access to unit.
- B. Install piping adjacent to unit to allow service and maintenance.
- C. Condensate piping shall comply with section 232113. Plastic tubing is not allowed.

3.3 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust field-assembled components and equipment installation, including connections. Report results in writing.
- B. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
- C. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation. Remove malfunctioning units, replace with new components, and retest.
- D. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

END OF SECTION



ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT Mullan Road Elementary
2012-055

DATE
01/23/14

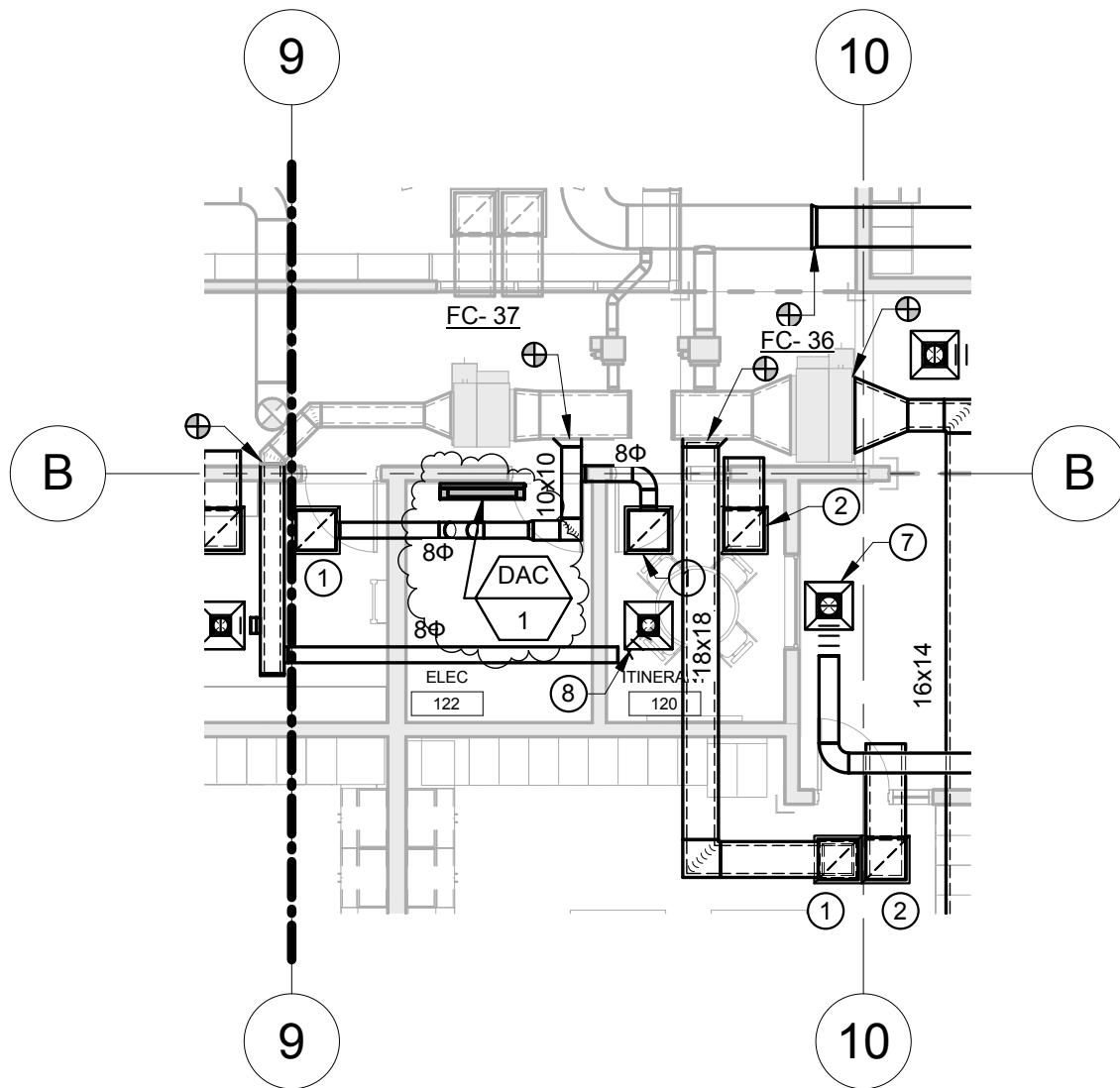
DRAWN
NAH

DWG. NO.
M-02

JOB NO.
2012-055

REF. SHT.
P-132

DESCRIPTION
PLUMBING ROOF PLAN



ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT Mullan Road Elementary
2012-055

DATE
01/23/14

DRAWN
NAH

DWG. NO.
M-03

JOB NO.
2012-055

REF. SHT.
M-123

DESCRIPTION
FLOOR PLAN - HVAC

EXHAUST FAN SCHEDULE

#	MFR	MODEL	TYPE	SERVICE	CFM	DRIVE	ESP (")	FAN RPM	SONE LEVEL	MOTOR		NOTES
										HP	V/PH	
EF 1	COOK	GN-180	IN-LINE	EXHAUST	200	DIRECT	0.25	1500	3.6	0.009	120/1	②
EF 2	COOK	GN-520	IN-LINE	EXHAUST	300	DIRECT	0.375	1200	2.8	0.062	120/1	②
EF 3	COOK	GN-180	IN-LINE	EXHAUST	200	DIRECT	0.25	1500	3.6	0.009	120/1	②
EF 4	-	EXISTING	-	KITCHEN HOOD	2400	-	-	-	-	-	208/3	
EF 5	-	EXISTING	-	DISHWASHER HOOD	1000	-	-	-	-	-	120/1	
EF 6	COOK	GN-720	IN-LINE	EXHAUST	650	DIRECT	0.375	1325	3.2	0.25	120/1	②
EF 7	COOK	GN-180	IN-LINE	EXHAUST	200	DIRECT	0.375	1500	3.8	0.009	120/1	②
EF 8	COOK	GN-180	IN-LINE	EXHAUST	200	DIRECT	0.25	1500	3.6	0.009	120/1	②
EF 9	COOK	GC-240	CEILING	EXHAUST	75	DIRECT	0.25	1200	1.5	0.009	120/1	① ②
EF 10	COOK	GN-180	IN-LINE	EXHAUST	200	DIRECT	0.375	1500	3.8	0.009	120/1	②
EF 11	COOK	GN-720	IN-LINE	EXHAUST	650	DIRECT	0.375	1325	3.2	0.25	120/1	②
EF 12	COOK	GN-640	IN-LINE	EXHAUST	450	DIRECT	0.25	1000	1.4	0.083	120/1	②
EF 13	COOK	GN-740	IN-LINE	EXHAUST	750	DIRECT	0.25	1600	4.9	0.25	120/1	②
EF 14	COOK	GC-240	CEILING	EXHAUST	75	DIRECT	0.25	1200	1.5	0.009	120/1	① ② ③
EF 15	COOK	GN-720	IN-LINE	EXHAUST	650	DIRECT	0.375	1325	3.2	0.25	120/1	②

NOTES:

① PROVIDE CEILING GRILLE.

② PROVIDE SOLID STATE SPEED CONTROL FACTORY MOUNTED AND WIRED.

③ INTERLOCK FAN WITH KILN.

ADDENDUM # 1

PROJECT Mullan Road Elementary
2012-055

DATE
01/23/14

DRAWN
NAH

DWG. NO.
M-04

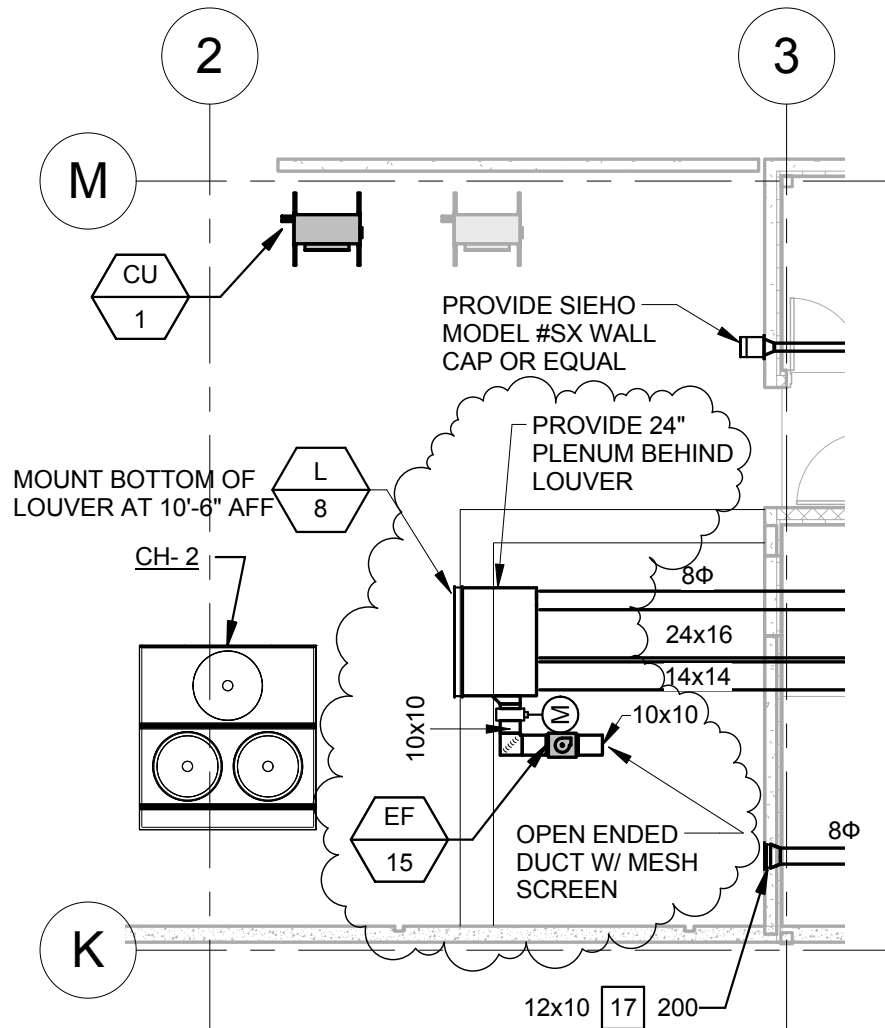
JOB NO.
2012-055

REF. SHT.
M-601

DESCRIPTION

ALSC

ARCHITECTS



ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT Mullan Road Elementary
2012-055

DATE
01/23/14

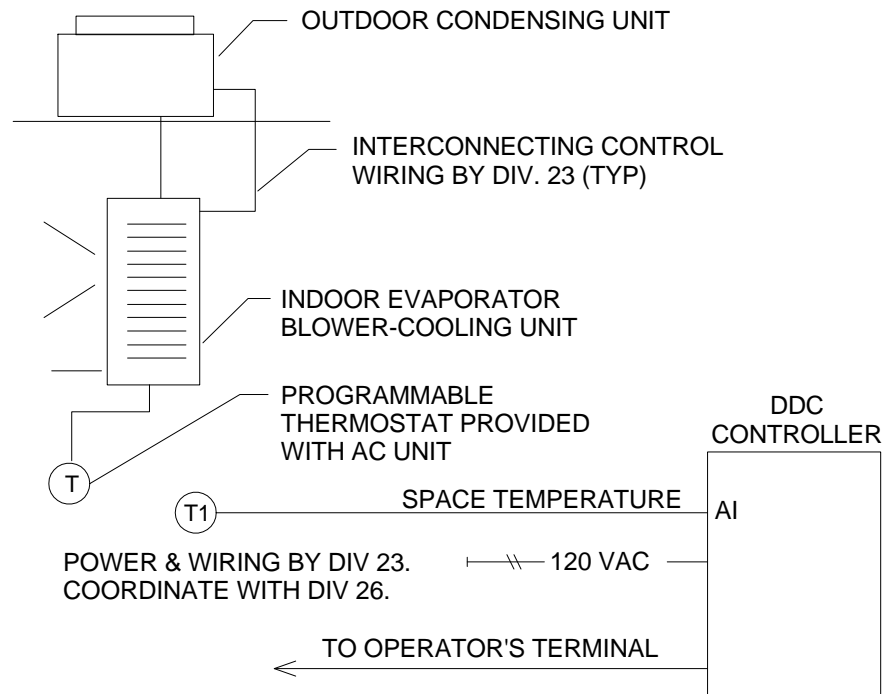
DRAWN
NAH

DWG. NO.
M-05

JOB NO.
2012-055

REF. SHT.
M-111

DESCRIPTION
FLOOR PLAN - HVAC



SEQUENCE OF OPERATION - SPLIT SYSTEM AC UNIT

THE PROGRAMMABLE ROOM THERMOSTAT, FURNISHED WITH THE AC UNIT, SHALL OPERATE THE INDOOR BLOWER UNIT TO PROVIDE COOLING TO THE SPACE TO MAINTAIN SETPOINT. PROVIDE INTERCONNECTING WIRING TO OUTDOOR UNIT. THE EMCS SHALL MONITOR THE SPACE TEMPERATURE..

SPLIT SYSTEM AIR CONDITIONER CONTROL DIAGRAM

12

Scale: NOT TO SCALE

det #:

ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT Mullan Road Elementary
2012-055

DATE
01/23/14

DRAWN
NAH

DWG. NO.
M-06

JOB NO.
2012-055

REF. SHT.
M-513

DESCRIPTION

ELECTRICAL ADDENDUM NO. 1

The additions, omissions, clarifications and corrections contained herein shall be made to drawings and specifications for the project and shall be included in scope of work and proposals to be submitted. References made below to specifications and drawings shall be used as a general guide only. Bidder shall determine the work affected by Addendum items.

In the Specification:

1. Section 27 21 72
Classroom Audio Visual
In Paragraph 2.1.E.1.a, Delete "CommScope Cat 5e cable"
Also delete paragraph 2.1.E.1.c
2. Section 27 21 72
Classroom Audio Visual
In Paragraph 2.1.D.1, Add "Mounting plate shall be 2'X2' Draper Accuset Suspended Ceiling Panel with 1.5" fitting for extension column and adjustable collar to allow 6" range of Left-Right projector position adjustment. Extension column provided by Owner. Extension column shall be offset 3" to left of center of projection screen."
3. Section 27 21 72
Classroom Audio Visual
In Paragraph 2.1.A.6, Delete the requirement for automatic muting when an intercom system page is broadcast.
4. Section 27 51 21
Sound Reinforcement
Add paragraph 1.5.A.3 that reads "System shall provide automatic muting when an intercom page is broadcast."
5. Section 28 00 00
Integrated Security System
Section 28 13 00
Access Control System
Section 28 16 00
Intrusion Detection System
Section 28 23 00
Surveillance System
These sections are For Reference Only. The work will be provided by Others.

In the Drawings:

1. Sheet E-112
See attached clarification drawing E-01 for the re configuration of RM 140B and the addition of an ATS and panel EP-1WH5
2. Sheet E-105
See attached clarification drawing E-02 for revised switch groups in room 101.
3. Sheet E-705
See attached clarification drawing E-03 for revised panel schedules EP-1WH3 & EP-1WH4.

ELECTRICAL ADDENDUM NO. 1

- | | | |
|-----|-------------|---|
| 4. | Sheet E-705 | See attached clarification drawing E-04 for revised panel schedules EP-1WL6 & EP-2WL5. |
| 5. | Sheet E-705 | See attached clarification drawing E-05 for revised panel schedules EP-1EH3 & EP-2WH1. |
| 6. | Sheet E-709 | See attached clarification drawing E-06 for new panel schedules EP-1WH6. |
| 7. | Sheet E-601 | See attached clarification drawing E-07 for additional sheet notes and revision to the generator system one-line. |
| 8. | Sheet E-602 | See attached clarification drawing E-08 for additional sheet notes and revision to the generator system one-line |
| 9. | Sheet E-112 | In room 140 the receptacle for the new scoreboard shall be mounted 11 Feet from the west wall at 13'6" AFF, not 16' AFF. |
| 10. | Sheet E-112 | In room 140, the motorized screen shall be 11'6" AFF. |
| 11. | Sheet E-112 | In room 142, add a ceiling mounted receptacle centered on the stage for a ceiling mounted projector. Verify exact location with architectural plans. See sheet note #13. |
| 12. | Sheet E-112 | Add sheet note #13 – "Install as projector height, conceal circuiting inside wall." |
| 13. | Sheet E-112 | Add a GFCI receptacle for the hand wash station outside of restrooms 132A & B south of room 132C. Connect receptacle to circuit PNL-1WL2:5. |
| 14. | Sheet E-112 | In room 132, relocated the COW quad receptacles on the west and east wall to the Northwest and Northeast corners of the room. Verify exact location with Architectural floor plans. |
| 15. | Sheet E-112 | In room 129, add a receptacle to the west wall just south of the student cubbies. Connect to circuit PNL-1WL2:11. |
| 16. | Sheet E-112 | In room 129, change the COW quad receptacle on the east wall to a GFCI rated quad receptacle. |

ELECTRICAL ADDENDUM NO. 1

- | | | |
|-----|-------------|--|
| 17. | Sheet E-112 | In room 127, Swap locations including associated circuiting between the Northern most receptacle on the east wall and the COW quad receptacle on the west wall. Change the circuit 17 receptacle to a GFCI rated receptacle. |
| 18. | Sheet E-112 | In room 125, Swap locations including associated circuiting between the Northern most receptacle on the west wall and the COW quad receptacle on the east wall. Change the circuit 23 receptacle to a GFCI rated receptacle. |
| 19 | Sheet E-112 | In room 128, relocated the COW quad receptacle on the North wall to the South wall. Verify exact locations on the architectural floor plan. |
| 20. | Sheet E-112 | In corridor 001C, change the receptacle circuited to PNL-1EL5:15 serving the drinking fountain to a GFCI rated receptacle. |
| 21. | Sheet E-112 | In corridor 001B, change the mounting height of the receptacle on the south wall from 24" AFF to 45" AFF. |
| 22. | Sheet E-122 | In room 149B – Add a junction box centered on the east wall mounted at 88" AFF. Connect junction box to circuit PNL-1EL5:10. |
| 23. | Sheet E-122 | Relocate the receptacle and sheet note #5 on the north wall of room 155 to the east wall of room 155A. The receptacle shall be located below the LBB cabinet and mounted at 18" AFF. |
| 24. | Sheet E-122 | In room 155 change the special receptacle symbol on the east wall serving the copier to a regular 20A receptacle. |
| 25. | Sheet E-122 | In room 101, Relocated the 'Kiln On' light to above the south entrance to storage room 101D instead of the east entrance. |
| 26. | Sheet E-122 | In room 101, Add a receptacle on the north wall just east of the exterior door. Connect to circuit PNL-1EL5:9. |

ELECTRICAL ADDENDUM NO. 1

- | | | |
|-----|-------------|--|
| 27. | Sheet E-122 | Add a GFCI receptacle for the hand wash station north of restrooms 154A & B. Connect receptacle to circuit PNL-1EL5:7. |
| 28. | Sheet E-122 | In room 107, Change the receptacle on the south wall immediately west of the sink cabinetry to a GFCI rated receptacle. |
| 29. | Sheet E-122 | In room 111, Change the receptacle on the south wall immediately east of the sink cabinetry to a GFCI rated receptacle. |
| 30. | Sheet E-122 | In room 116, Relocate the COW quad receptacle on the North wall to the South wall. Verify exact location with architectural floor plan. |
| 31. | Sheet E-122 | In room 113, Remove the +30" for the refrigerator receptacle on the North wall. |
| 32. | Sheet E-122 | In room 113, Add a quad receptacle for a COW receptacle on the east wall immediately south of the student cubbies. Verify exact location with architectural floor plans. |
| 33. | Sheet E-122 | In room 109, Add the "COW" tag to the quad receptacle on the west wall immediately south of the student cubbies. Change circuit to CP-1EL1:27. |
| 34. | Sheet E-122 | In room 115, change the quad receptacle on the east wall immediately south of the sink cabinetry to a GFCI rated duplex receptacle. Circuit to PNL-1EL2:12. |
| 35. | Sheet E-122 | In room 117, change the quad receptacle on the east wall immediately south of the sink cabinetry to a GFCI rated duplex receptacle. Circuit to PNL-1EL2:8. |
| 36. | Sheet E-122 | In room 119, change the quad receptacle on the west wall immediately south of the sink cabinetry to a GFCI rated duplex receptacle. Circuit to PNL-1EL2:2. |
| 37. | Sheet E-132 | In room 214, Add a junction box mounted at 88" AFF centered on the south wall. Connected junction box to circuit PNL-2WL4:7. |
| 38. | Sheet E-132 | In room 220, change the (3) general receptacles in room to GFCI rated receptacles. |

ELECTRICAL ADDENDUM NO. 1

39. Sheet E-132 Add a GFCI receptacle for the hand wash station west of restrooms 204A & B. Connect receptacle to circuit PNL-2WL4:3.
40. Sheet E-122 Change sheet note #4 to read, "NEMA 6-50R RECEPTACLE AND SIZE 3 CONTACTOR. SEE DETAIL A5 ON SHEET E-501."
41. Sheet E-102 Change sheet note #9 to read, "PROVIDE TWO (2) SQUARE-D LIGHTING CONTACTORS (IDENTIFIED AS LC-1 AND LC-2) IN ELECTRICAL ROOM 140B. ROUTE 277V CIRCUITS INDICATED ON PLANS FROM PANEL 1WH2 TO CONTACTOR RELAYS AND OUT TO EXTERIOR LUMINAIRES. LIGHTING CONTACTOR COIL VOLTAGE TO BE 120 VOLT ENERGIZED WITH CIRCUIT 1WL5:7. LIGHTING CONTACTORS LC-1 AND LC-2 ARE TO BE CONTROLLED BY AN OUTPUT FROM EMS PANEL IN ROOM 220. REFER TO DETAIL 1, SHEET M-513. PROVIDE NECESSARY CONDUIT AND CABLING. PROVIDE TWO PILOT OVERRIDE BYPASS SWITCHES TO ENERGIZE THE EXTERIOR LIGHTING VIA LC-1 AND LC-2."
42. Sheet E-103 Delete sheet note #1 bubbles from rooms: Gym 140, MPR 142, Elev Pit , Elev Mach 152B, and Elec Rm 140B. Add sheet note #1 bubble to rooms: Vest 004B.
43. Sheet E-002 Change Lighting Plans note #6 to read "EXISTING LUMINAIRES RELOCATED OR REUSED ARE 120 VOLT UNLESS OTHERWISE INDICATED."
- Add Lighting Plans note #7 which reads "ALL OCCUPANCY SENSORS SHALL HAVE AUXILARY OUTPUT CONTACTS FOR MECHANICAL LOADS."
- Add Lighting Plans note #8 which reads "NOT ALL LIGHTING CONTROL SYSTEM LOW VOLTAGE HAS BEEN SHOWN. PROVIDE ALL NECESSARY CABLING FOR A FULLY OPERATIONAL LIGHTING CONTROL SYSTEM."

ELECTRICAL ADDENDUM NO. 1

44. Sheet E-111, E-121, E-131

Change General Note #1 to read "THE BASIS OF DESIGN LIGHTING CONTROL SYSTEM IS HUBBELL BUILDING AUTOMATION WI-HUBB. DOCUMENTATION REQUIRED FOR THE OWNER AT TIME OF OPENING SHALL BE THREE COPIES OF THE FOLLOWING: PLANS SHOWING CONTROLLER LOCATIONS, CONTROLLER SCHEDULES WITH AREAS BEING CONTROLLED; IP ADDRESS FOR SCHOOL; AND A FLOW CHART SHOWING WHAT IS CONTROLLING LIGHTING, SWITCHES; ETC WITH APPROPRIATE SCHEDULES. REFER TO NETWORK LIGHTING CONTROL SCHEDULE FOR FURTHER REQUIREMENTS. ALL LIGHTING CONTROL SYSTEM LOW VOLTAGE CABLING SHALL HAVE ORANGE JACKET AND SHALL NOT BE PAINTED. CONNECTORS SHALL BE AS REQUIRED BY THE LIGHTING CONTROL SYSTEM. PREFERENCES SHALL BE FOR CAT 5 WITH RJ45 PLUGS. ALL DDC/EMS CONNECTIONS TO LIGHTING CONTROL SYSTEM TO BE HARD WIRED."

Add General Note #3 which reads "CORRIDOR AND SIMILAR LIGHTING TO BE CONTROLLED VIA LIGHTING CONTROL SYSTEM (HUBBELL BUILDING AUTOMATION WIHUBB) AND WILL NOT BE CONNECTED TO DDC."

Add General Note #4 which reads "LIGHTING CONTROL SWITCH SEQUENCE FOR CORRIDORS AND SIMILAR AREA: DURING SCHOOL HOURS LIGHTING TO BE TURNED ON ONLY AND THE SWITCHES SHALL BE NON-FUNCTIONAL. AFTER SCHOOL HOURS, SWITCHES SHALL RETURN TO NORMAL ON/OFF FUNCTIONALITY. LIGHTING CONTROL SYSTEM SHALL ENERGIZE LIGHTING AT START OF SCHOOL AND SWEEP OFF ALL LIGHTING AT 11:45 PM (VERIFY WITH OWNER)."

Add General Note #5 which reads "ALL NORMAL AND EMERGENCY EXIT LIGHTING SHALL BE TURNED OFF BY THE LIGHTING CONTROL SYSTEM WHEN THE BUILDING IS ARMED THROUGH THE SECURITY SYSTEM (BLACK OUT POLICY). PROVIDE NECESSARY INPUT TO MONITOR SECURITY SYSTEM PANEL AND INITIATE INDICATED ACTION. WHEN THE BUILDING IS DISARMED, EMERGENCY LIGHTING SHALL ENERGIZE. ONCE THE SECURITY PANEL IS ARMED, THE NORMAL LIGHTING SHALL DEENERGIZE WHILE THE EMERGENCY LIGHTING SHALL INCORPORATE A 10 MINUTE DELAY TO ALLOW FOR EXIT BEFORE DEENERGIZING."

ELECTRICAL ADDENDUM NO. 1

45. Sheet E-111, E-121, E-131

Add General Note #6 which reads "SWITCHES IN GYM, MPR, AND SIMILAR COMMON AREAS SHALL BE LABELED WITH ENGRAVING AND/OR PHENOLIC PLATES WITH DESCRIPTIONS OF CONTROLLED AREAS. DESCRIPTIONS SHALL UTILIZE ROOM NAMES AND NOT ARBITRARY LETTERS OR NUMBERS."

Add General Note #7 which reads "COMMON AREAS LIKE CORRIDORS, GYM, MPR, ETC SHALL HAVE LOCAL CONTROLS AND BE PROGRAMMED TO PROVIDE LOCAL, MANUAL CONTROL FOR USE DURING IRREGULAR EVENING AND WEEKEND EVENTS IN ORDER TO PREVENT AUTOMATIC SWEEP OFF DURING USE."

Add General Note #8 which reads "DASHED LINES TO OCCUPANCY SENSORS, SMART PACKS, AND OTHER COMPONENTS OF HUBBELL BUILDING AUTOMATION WI-HUBB LIGHTING CONTROL SYSTEM SHOW LOW VOLTAGE CABLING AND ARE FOR CLARITY ONLY. NOT ALL LOW-VOLTAGE CABLING IS SHOWN."

46. Sheet E-001

Change the symbol for Data Outlet to read "Data Outlet, 4-Ports UNO"

47. Sheet E-001

Change the symbol for Data Outlet to read "Data Outlet, 4-Ports Unless Noted Otherwise". This is an increase of two ports per outlet.

48. Sheet E-112, E-113

Add a Telecommunications Enclosure (TE) and receptacle at 72" AFF on the west wall of PE Storage 140C. The TE shall be a relocated unit from a 2nd Floor Classroom. Connect receptacle to circuit EP-1WL1:15.

49. Sheet E-113

In the Gym, Add two sets of Smoke Beam Transmitter/Receivers, transmitting from south wall to north wall.

In the Multi-purpose Room, Add one set of Smoke Beam Transmitter/Receivers, transmitting from south wall to north wall.

ELECTRICAL ADDENDUM NO. 1

- | | | |
|-----|-------------|--|
| 50. | Sheet E-113 | In the Gym, Add a control connection of $\frac{3}{4}$ "C – 1 PR. #22 Shield from the Scoreboard control circuit to two shot clocks, one on the west wall between Grids F & H and one on the east wall between Grids K & H, both at 11'-3" AFF. |
| 51. | Sheet E-113 | Under Alternate #3, Add a Sound Control Station in the Gym on the south wall near the east corner. |
| 52. | Sheet E-113 | Under Alternate #3, Add a Sound Control Station in the Multi Purpose Room on the east wall, north of the stage. |
| 54. | Sheet E-113 | In the Gym, Change the location of the Wireless Access Point from the south wall to the north wall between Grids 2 & 3 at 7'-0" AFF. |
| 55. | Sheet E-113 | In the Gym, Add a data outlet with 2 ports on the south wall at Grid 4.
Also change the data outlet on the south wall near Grid to 2-ports. |
| 56. | Sheet E-113 | Change the location of the Wireless Access Point at the southeast corner of the Kitchen to Music 145 to the east of the Teachers Desk. |
| 57. | Sheet E-113 | Change the location of the Wireless Access Point at the southeast corner of the Kitchen to Music 145 to the east of the Teachers Desk. |
| 58. | Sheet E-113 | In Stage 148, Add a Wireless Access Point just east of the teachers desk. |
| 59. | Sheet E-113 | In Corridor 001B, Change the height of the data outlet on the south wall from 24" to 45".. |
| 60. | Sheet E-113 | In Staff Lounge 130, Add a Wireless Access Point at the south side of room.
Also Change the data outlet to 2 ports. |
| 61. | Sheet E-113 | In Work Room 123A, Change the data outlet on west wall to 2 ports. |
| 62. | Sheet E-113 | In Break Out 132, Add a data outlet on the north wall. |
| 63. | Sheet E-113 | In Break Out 128, Add a data outlet on the south wall in middle.
Also add a data outlet with 2 ports on the east wall at north end. |

ELECTRICAL ADDENDUM NO. 1

- | | | |
|-----|---------------------------|--|
| 64. | Sheet E-113 | Change the location of the two Wireless Access Points in south Corridor 001E to the north side of Classrooms 133 and 127. |
| 65. | Sheet E-113, E-123, E-133 | Add a Wireless Access Point in Classrooms 137, 115, 119 at the north side. |
| 66. | Sheet E-113, E-123, E-133 | In Classrooms 127, 129, 119, 201, 203, 205, 209, 211, 219, Add a data outlet in the middle of the east wall. |
| 67. | Sheet E-113, E-123, E-133 | In Classrooms 125, 127, 129, 131, 133, 135, 137, 109, 113, 115, 117, 119, 103, 105, 111, 201, 203, 205, 207, 209, 211, 215, 217, 219, Change the data outlets on the outside wall to one 4-port outlet and one 2-port outlet. Delete two data outlets. |
| 68. | Sheet E-113 | Change the number of Cat 5e cables in Sheet Note 9 from 2 to 1. |
| 69. | Sheet E-113 | In the Library, Delete one data outlet from each floor box west of Grid 8.
Also, Change one data outlet in the floor boxes east of Grid 8 from 4-ports to 1-port.
And Delete the data outlet on the north wall closest to Grid 7. |
| 70. | Sheet E-113 | Add one smoke detector in the Library near Grid D/9 |
| 71. | Sheet E-113 | In the Library, Change the height of the AV outlet in the southwest corner to 18" AFF. |
| 72. | Sheet E-123 | In Break Out 116, Add a data outlet in the middle of the south wall.
Also add a 2-port data outlet on the west wall at the north end. |
| 73. | Sheet E-123 | Change the location of the Wireless Access Point in Corridor 001E to the north side of Classroom 109. |
| 74. | Sheet E-123 | In Book Room 123, Add a door contact to the roof hatch at the east wall. |
| 75. | Sheet E-123, E-133 | In Classrooms 101, 107, 209, 219, Add a Wireless Access Point at the Northeast corner. |
| 76. | Sheet E-123 | In Classroom 107, Delete the 1 st and 3 rd data outlets from the west end on the north wall. |

ELECTRICAL ADDENDUM NO. 1

- | | | |
|-----|-------------|--|
| 77. | Sheet E-123 | Add an intercom speaker/horn and a fire alarm bell on the exterior wall of Classroom 111 between Grids 13 and 14. |
| 78. | Sheet E-123 | Change the location of the Wireless Access Point outside Classroom 105 to the northwest corner of Classroom 105. |
| 79. | Sheet E-123 | In the Library, Change the height of the AV outlet at the northeast corner to 42" AFF. |
| 80. | Sheet E-123 | Delete the Wireless Access Point in Corridor 001B. |
| | Sheet E-123 | In Workroom 155, Change the two above-counter data outlets to 2-port.
Also, Delete the data outlet on the north wall. |
| 81. | Sheet E-123 | In Storage 155A, Add a 2-port data outlet on the east wall at the south end.
Also, Add a note to the Telcom Enclosure that reads "Install relocated Telcom Enclosure from 2 nd Floor Classroom." |
| 82. | Sheet E-123 | In Conference 149B, Change the data outlet on the east wall to 2-ports. |
| 83. | Sheet E-133 | Change the location of the two Wireless Access Points in Corridor 001M to the north side of Classrooms 205 and 215 |
| 84. | Sheet E-133 | Add a Wireless Access Point at the southeast corner of Classroom 201. |
| 85. | Sheet E-133 | In Mechanical 220, Add a data outlet with 2 ports at the DDC Panel on the south(east) wall near Grid H/8 |
| 86. | Sheet E-133 | Add a Wireless Access Point in Conference 214 at the southwest corner. |
| 87. | Sheet E-401 | On Detail B4, Change the data outlets at the FACP and Security Panel to 2-ports.
Also, Add 2-port data outlets at the Intercom rack and the UPS.
And Add a 1" conduit to the roof at the northwest corner. |

ELECTRICAL ADDENDUM NO. 1

- | | | |
|-----|---------------------------|--|
| 88. | Sheet E-501 | On Detail B3, Add a note to the AV Data outlet that reads "2-Ports" |
| 89. | Sheet E-113 | Add a fire manual pull station in the Gym at the doors in the west wall. |
| 90. | Sheet E-133 | Add a fire manual pull station in Mech Mezzanine 009 and Mech 220 near the door. |
| 91. | Sheet E-113, E-123, E-133 | Change heat detectors in restrooms to smoke detectors. |
| 92. | Sheet E-123 | Add a heat detector in Art 101. |
| 93. | Sheet E-123 | <p>Add a note in Music 145 that reads "During Phase 4, this room will be converted into temporary Administration space. The layout of this rooms is to be determined by Owner. Provide all necessary labor and materials for the following electrical infrastructure to support this space:</p> <ul style="list-style-type: none">a. 2 Power Poles and wall-mounted surface racewayb. Power and data to serve 5 desks, 2 work counters, a copier, and a fax machinec. Copper telephone line for Red Admin telephoned. Intercom Speaker/Clocke. Intercom desk annunciator stationf. Fire alarm annunciatorg. Fire pull stationh. Security lock-down switch |
| 94. | Sheet E-113, E-123 | Add a General Note that reads "Cabling from Telcom Enclosures to exterior cameras shall transition to an outdoor rated cable whip from the outside wall to the camera. Coordinate installation with Camtek." |
| 95. | Sheet E-113 | In the Kitchen, provide wiring for a KE2 controller at the Freezer and the Cooler. Coordinate with Camtek." |
| 96. | Sheet E-002 | Add a Demolition Plan Note that reads "Salvage the following items to the Owner: Generator and Transfer Switch, Fire Alarm Panel, Panelboards (coordinate which ones with Owner), IT Rack, and UPS. The Security Panels and Cameras will be removed by Camtek." |

ELECTRICAL ADDENDUM NO. 1

- | | |
|---------------------------------|--|
| 97. Sheet E-002 | Add a General Note that reads "Notify the Owner of any power outage at least 48 hrs. in advance so systems can be shut down in proper order." |
| 98. Sheet E-002 | Add a General Note that reads "For power outages lasting overnight provide temporary power to keep the school's IT, security , and fire alarm systems running." |
| 99. Sheet E-112 | Add a equipment connection in room 140B for EF-115. Connect to circuit MP-1EL6:18. Provide a ¾"C-2#12,1#12G from panel MP-1EL6. |
| 100. Sheet E-113 | Add an equipment connection in room 122 for DAC-1. Provide new 15A/1P circuit breaker and connect to circuit MP-1EL3. Provide ¾"C-2#12,1#12G from panel MP-1EL3. |
| 101. Sheet E-132 | Add an equipment connect on roof for DCU-1. Provide new 25A/2P circuit breaker and connect to circuit MP-2WL3:38,40. Provide 30A/2P fused disconnect switch with 25A fuses. Provide a ¾"C-2#10,1#10G from panel MP-2WL3. Verify location with mechanical roof plan and contractor. |
| 102. Sheet E-120 | See Clarification Sketch E-13 for existing Annex systems riser diagrams for reference |
| 103. Sheets E-110, E-120, E-130 | See Clarification Sketches E-9, E-10, E-11, E-12, E-14, E-15 for existing main building systems riser diagrams for reference |
| 104. Sheet E-001 | Add to Wireless Access Point Symbol: "1-port" |
| 105. Sheet E-113 | Add a note to the Intercom Station in Vestibule 001A that reads "Surface-mount intercom door station with microphone, speaker, and call button. Install on double-mullion." |

ELECTRICAL ADDENDUM NO. 1

Acceptance of Substitutions

Add the following to approved list of manufacturers at this time.

This approval is an approval of quality only. No attempt has been made to check each material as to special features, capacities or physical dimensions especially required by this project. It shall be the responsibility of supplier, manufacturer and Contractor to check all requirements before submitting for final approval. Final approval of exact features, sizes, capacities, etc., all of which must match materials indicated/specified, will be determined when submitted during construction period. Certain approvals are subject to conditions as noted.

SECTION	ITEM	MANUFACTURER
1. 26 51 00	X1 (EL.A1)	CHLORIDE
2. 26 51 00	HF.A1	PAL LITECONTROL
3. 26 51 00	HF.B1#	PAL AXIS LIGHTING
4. 26 51 00	HF.C1	LAMAR LIGHTING LITHONIA LIGHTING
5. 26 56 00	PL.A1	GARDCO / ULS LITHONIA LIGHTING
6. 26 56 00	PL.B1	GARDCO / ULS LITHONIA LIGHTING
7. 26 56 00	PL.C1	KING LUMINAIRE SELUX LUMINIS
8. 26 51 00	RF.A1	VOIGT LIGHTING LITHONIA LIGHTING (SEE NOTE 1 BELOW)
9. 26 51 00	RF.A2	VOIGT LIGHTING LITHONIA LIGHTING (SEE NOTE 1 BELOW)
10. 26 51 00	RF.A3	VOIGT LIGHTING LITHONIA LIGHTING (SEE NOTE 1 BELOW)
11. 26 51 00	RF.B1	PAL AXIS LIGHTING LITECONTROL
12. 26 51 00	RF.C1	DAY-BRITE LIGHTING LITHONIA LIGHTING
13. 26 51 00	RF.D1	DAY-BRITE LIGHTING LITHONIA LIGHTING
14. 26 51 00	RL.A1	ARCHITECTURAL STAR LIGHTING LITHONIA LIGHTING
15. 26 51 00	RL.A2	ARCHITECTURAL STAR LIGHTING LITHONIA LIGHTING
16. 26 51 00	RL.A3	ARCHITECTURAL STAR LIGHTING LITHONIA LIGHTING
17. 26 51 00	SF.A1	DAY-BRITE LIGHTING KENALL

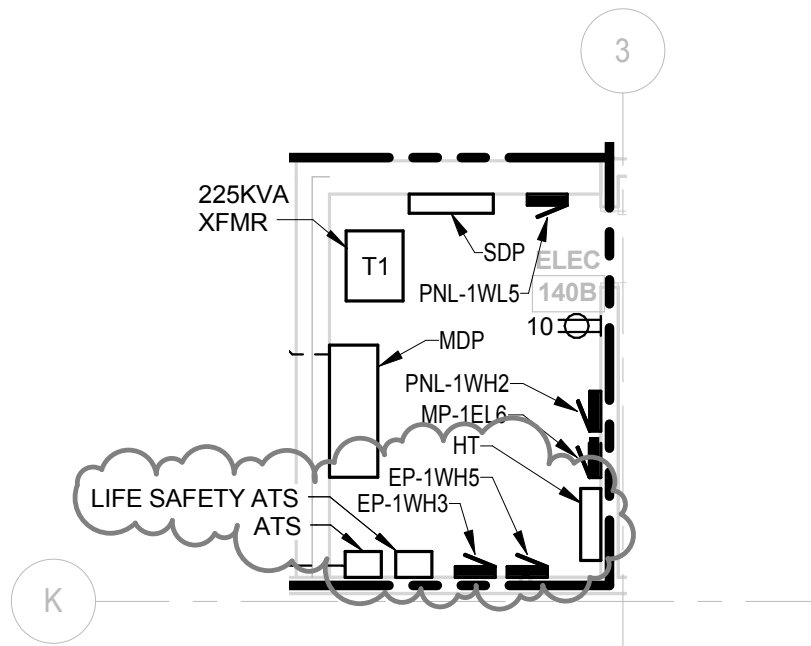
Spokane Public Schools District 81
Mullan Road Elementary Modernization & Addition
ALSC Job No. 2012-055
Bid Date: Base Bid:
Alternate Bid:

ALSC Architects, P.S.
203 North Washington, Suite 400
Spokane, WA 99201
March 24, 2011
Page 14

ELECTRICAL ADDENDUM NO. 1

18.	26 51 00	SF.B1	PAL
19.	26 51 00	SF.C1	VOIGT LIGHTING LITHONIA LIGHTING
20.	26 51 00	SF.D1	PINNALCE ARCHITECTURAL LIGHTING AXIS LIGHTING SELUX
21.	26 51 00	WF.A1	PAL AXIS LIGHTING
22.	26 51 00	WF.A2	PAL AXIS LIGHTING
23.	26 51 00	WF.C1	LITHONIA LIGHTING
23.	26 51 00	WF.D1	GARDCO LITHONIA LIGHTING
24.	26 51 00	TL.A1	ICON INT TSQL
25.	26 09 43	LIGHTING CONTROL SYSTEM	WATTSTOPPER DLM Nlight / Sensor Switch (Extended range) COOPER ROOM CONTROLLER/GREENGATE LUTRON

Note #1: Approval of substitutions is for bid purposes only and does not guarantee acceptance against specified Basis of Design components during submittal review.



KEY NOTES

10. INTERCEPT EXISTING (3) 3 1/2" C BELOW GRADE. TURN CONDUITS UP INTO A NEW DIVIDED JUNCTION ENCLOSURE MOUNT AT GRADE. EXTEND ALL (3) 3 1/2" C OVERHEAD TO RM. 140B. ROUTE (2) CONDUITS TO PANEL MDP AND (1) CONDUIT TO PANEL EP-1WH3 AND EP-1WH5.
11. RE-CIRCUIT TO SPARE 20A/1P CIRCUIT BREAKER IN PANEL 1WL2 IF ALTERNATE #3 IS TAKEN.
12. PANEL MP-1WL3 SHALL BE INSTALLED DURING PHASE #2.

ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

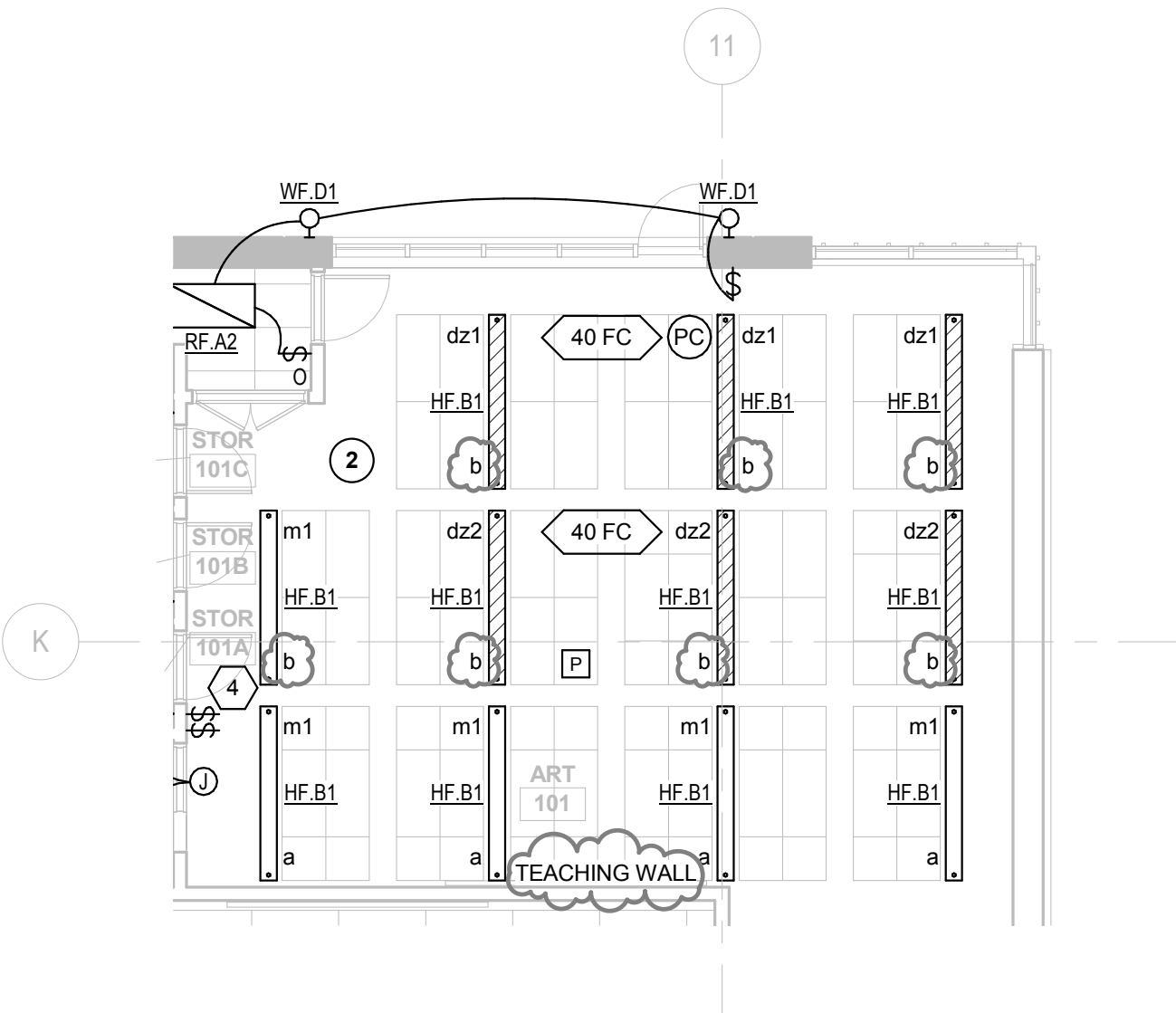
DRAWN
MTP

DWG. NO.
E-01

JOB NO.
2012-055

REF. SHT.
E-112

DESCRIPTION
SECTOR A - POWER PLAN REVISIONS



ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

DRAWN
MTP

DWG. NO.
E-02

JOB NO.
2012-055

REF. SHT.
E-105

DESCRIPTION
SECTOR B - LIGHTING PLAN REVISIONS

Project		3-PHASE PANEL SCHEDULE					PANEL:		EP-1WH3		
Location:		Feed-Thru to:					Date: 1/21/2014				
Ckt	Description	Phase	Amp	Poles	Notes	Ckt Totals	Specifications				
1	PANEL EP-1EH3	A	30	3		0.1	Overcurrent Rating (Amps):		60		
3	-	B	-	-		0.2	Voltage (L-L):		480		
5	-	C	-	-			Phase:		3		
7	PANEL EP-2WH1	A	30	3		0.7	Wire:		4		
9	-	B	-	-		0.1	Bus Current Rating (Amps):		100		
11	-	C	-	-		0.5	Bus Material:		Cu/Al		
13	PANEL EP-1WH4	A	30	3		0.9	Short Circuit Current Rating (Amps)		22kA		
15	-	B	-	-		0.3	Main Type:		MLO		
17	-	C	-	-		0.4	Neutral Type:		FULL		
19		A					Mounting/Encl.:		SURFACE		NEMA 1
21		B					2008 NEC Sections Used in Demand Calculations				
23		C					Factor #	NEC Reference		Notes	
25		A					1	TBL 220.44 Receptacles ND		1st 10k @100%, Remainder @50%	
27		B									
29		C					2	TBL 220.42 Apartments General Lighting		1st 20k@50%, 20-100k @40%, >100k @30%	
31		A									
33		B									
35		C					3	430.24 Motors		Largest @125% Remainder @100%	
37		A									
39		B					4	210.19(A)1 Cont Loads		125%	
41		C					5	Non-Cont Loads		100%	
							6	220.51 Heating		100%	
2	LTG - RM 140B	A	20	1		0.1	Feeder Load Breakdown		Conn(KVA)		Dm d Fact
4	LTG - RM 001A	B	20	1		0.1	Non-Dwelling Receptacles		0.00		0.00
6	GENERATOR DEVICES	C	20	1		0.5	Dwelling General Illumination		0.00		0.00
8	SPARE	A	20	1			Non-Continuous Lighting		0.00		1.00
10	SPARE	B	20	1			Continuous Lighting		3.31		1.25
12	SPARE	C	20	1			Exterior Lighting		0.21		1.25
14	SPARE	A	20	1			Kitchen Appliances		0.00		1.00
16	SPARE	B	20	1			Motors		0.00		1.00
18		C	20	1			Largest Motor (per phase)		0.00		0.25
20		A					Fixed Heating		0.00		1.00
22		B					Fixed Cooling		0.00		1.00
24		C					Non-Diversity Loads		0.50		1.00
26		A					Other		0.00		1.00
28		B									
30		C					Connected Feeder Load Summary				
32		A						CONN KVA	CONN AMPS	NEC KVA	NEC AMPS
34		B									
36		C					PHASE A:	1.83	6.59	2.28	8.23
38		A					PHASE B:	0.84	3.03	1.05	3.79
40		B					PHASE C:	1.35	4.87	1.56	5.64
42		C					TOTAL:	4.02	4.83	4.89	5.89
Notes:											
Panel Loading: ACCEPTABLE											

Project						3-PHASE PANEL SCHEDULE				PANEL:		EP-1WH4	
Location:		Feed-Thru to:				Date: 1/21/2014							
Ckt	Description	Phase	Amp	Poles	Notes	Ckt Totals	Specifications						
1	LTG - RM 001E, 001F	A	20	1		0.7	Overcurrent Rating (Amps): 30						
3	LTG - RM 001C	B	20	1		0.3	Voltage (L-L): 480						
5	LTG - RM 001H	C	20	1		0.4	Phase: 3						
7	LTG - EXT 001H	A	20	1		0.2	Wire: 4						
9	SPARE	B	20	1			Bus Current Rating (Amps): 100						
11	SPARE	C	20	1			Bus Material: Cu/Al						
							Short Circuit Current Rating (Amps) 10kA						
							Main Type: BKR						
							Neutral Type: FULL						
							Mounting/Encl.: SURFACE NEMA 1						
							2008 NEC Sections Used in Demand Calculations						
							Factor #	NEC Reference		Notes			
							1	TBL 220.44 Receptacles ND		1st 10k @100%, Remainder @50%			
							2	TBL 220.42 Apartments General Lighting		1st 20k@50%, 20-100k @40%, >100k @30%			
							3	430.24 Motors		Largest @125% Remainder @100%			
							4	210.19(A)1 Cont Loads		125%			
							5	Non-Cont Loads		100%			
							6	220.51 Heating		100%			
2	SPARE	A	20	1			Feeder Load Breakdown						
4	SPARE	B	20	1			Non-Dwelling Receptacles		0.00		Conn(KVA) Dm d Fact		
6	SPARE	C	20	1			Dwelling General Illumination		0.00		0.00		
8	SPARE	A	20	1			Non-Continuous Lighting		0.00		1.00		
10	SPARE	B	20	1			Continuous Lighting		1.40		1.25		
12	SPARE	C	20	1			Exterior Lighting		0.21		1.25		
							Kitchen Appliances		0.00		1.00		
							Motors		0.00		1.00		
							Largest Motor (per phase)		0.00		0.25		
							Fixed Heating		0.00		1.00		
							Fixed Cooling		0.00		1.00		
							Non-Diversity Loads		0.00		1.00		
							Other		0.00		1.00		
							Connected Feeder Load Summary						
								CONN KVA	CONN AMPS	NEC KVA	NEC AMPS		
							PHASE A:	0.91	3.28	1.14	4.10		
							PHASE B:	0.35	1.24	0.43	1.56		
							PHASE C:	0.35	1.26	0.44	1.58		
							TOTAL:	1.61	1.93	2.01	2.41		
Notes:													
Panel Loading: ACCEPTABLE													

ALSC ARCHITECTS		ADDENDUM # 1				
PROJECT MULLAN ROAD ELEMENTARY MODERNIZATION AND ADDITION SPOKANE PUBLIC SCHOOLS 2012-055		DATE 01/24/2014	DRAWN MTP	DWG. NO. E-03	JOB NO. 2012-055	REF. SHT. E-705
		DESCRIPTION PANEL SCHEDULE REVISIONS				

Project		3-PHASE PANEL SCHEDULE					PANEL:		EP-1WL6		
Location:		Feed-Thru to:					Date: 1/21/2014				
Ckt	Description	Phase	Amp	Poles	Notes	Ckt Totals	Specifications				
1	REC - RM 127,129 IT RACK	A	20	1		0.6	Overcurrent Rating (Amps):	60			
3	REC - RM 119,125 IT RACK	B	20	1		0.6	Voltage (L-L):	208			
5	REC - RM 115,117 IT RACK	C	20	1		0.6	Phase:	3			
7	REC - RM 109,113 IT RACK	A	20	1		0.6	Wire:	4			
9	REC - RM 107,111 IT RACK	B	20	1		0.6	Bus Current Rating (Amps):	100			
11	REC - RM 103,105 IT RACK	C	20	1		0.6	Bus Material:	Cu/Al			
13	REC - RM 101,123 IT RACK	A	20	1		0.6	Short Circuit Current Rating (Amps)	10kA			
15	REC - RM 135,137 IT RACK	B	20	1		0.6	Main Type:	BKR			
17	REC - RM 131,133 IT RACK	C	20	1		0.6	Neutral Type:	FULL			
19		A					Mounting/Encl.:	SURFACE NEMA 1			
21		B					2008 NEC Sections Used in Demand Calculations				
23		C					Factor #	NEC Reference	Notes		
							1	TBL 220.44 Receptacles ND	1st 10k @100%, Remainder @50%		
							2	TBL 220.42 Apartments General Lighting	1st 20k@50%, 20-100k @40%, >100k @30%		
							3	430.24 Motors	Largest @125% Remainder @100%		
							4	210.19(A)1 Cont Loads	125%		
							5	Non-Cont Loads	100%		
							6	220.51 Heating	100%		
2	REC - RM 122 IT	A	20	1		0.6	Feeder Load Breakdown				
4	REC - RM 122 IT	B	20	1		0.6	Conn(KVA) Dm d Fact				
6	REC - RM 122 IT	C	20	1		0.6	Non-Dwelling Receptacles	3.06	1.00		
8	REC - RM 122 IT	A	20	1		0.6	Dwelling General Illumination	0.00	0.00		
10	FIRE ALARM PANEL	B	20	1		0.6	Non-Continuous Lighting	0.00	1.00		
12	SECURITY PANEL	C	20	1		0.5	Continuous Lighting	0.00	1.25		
14	REC - RM 122 IT	A	20	1		0.7	Exterior Lighting	0.00	1.25		
16	SPARE	B	20	1			Kitchen Appliances	0.00	1.00		
18	SPARE	C	20	1			Motors	0.00	1.00		
20		A					Largest Motor (per phase)	0.00	0.25		
22		B					Fixed Heating	0.00	1.00		
24		C					Fixed Cooling	0.00	1.00		
							Non-Diversity Loads	6.20	1.00		
							Other	0.00	1.00		
							Connected Feeder Load Summary				
								CONN KVA	CONN AMPS	NEC KVA	NEC AMPS
							PHASE A:	3.62	30.14	3.62	30.14
							PHASE B:	2.82	23.48	2.82	23.48
							PHASE C:	2.82	23.48	2.82	23.48
							TOTAL:	9.26	25.70	9.26	25.70
Notes:											
Panel Loading: ACCEPTABLE											

Project							3-PHASE PANEL SCHEDULE							PANEL:		EP-2WL5	
Location:			Feed-Thru to:				Date: 1/21/2014										
Ckt	Description	Phase	Amp	Poles	Notes	Ckt Totals	Specifications										
1	REC - RM 217,219 IT RACK	A	20	1		0.6	Overcurrent Rating (Amps):							60			
3	REC - RM 211, 215 IT RACK	B	20	1		0.6	Voltage (L-L):							208			
5	REC - RM 207, 209 IT RACK	C	20	1		0.6	Phase:							3			
7	SPARE	A	20	1			Wire:							4			
9	SPARE	B	20	1			Bus Current Rating (Amps):							100			
11	SPARE	C	20	1			Bus Material:							Cu/Al			
13	SPARE	A	20	1			Short Circuit Current Rating (Amps)							10kA			
15	SPARE	B	20	1			Main Type:							BKR			
17	SPARE	C	20	1			Neutral Type:							FULL			
19		A					Mounting/Encl.:	SURFACE						NEMA 1			
21		B					2008 NEC Sections Used in Demand Calculations										
23		C					Factor #	NEC Reference			Notes						
							1	TBL 220.44 Receptacles ND			1st 10k @100%, Remainder @50%						
							2	TBL 220.42 Apartments General Lighting			1st 20k@50%, 20-100k @40%, >100k @30%						
							3	430.24 Motors			Largest @125% Remainder @100%						
							4	210.19(A)1 Cont Loads			125%						
							5	Non-Cont Loads			100%						
							6	220.51 Heating			100%						
2	REC - RM 201, 203 IT RACK	A	20	1		0.6	Feeder Load Breakdown			Conn(KVA)		Dmd Fact					
4	REC - RM 205 IT RACK	B	20	1		0.4	Non-Dwelling Receptacles			0.90		1.00					
6	SPARE	C	20	1			Dwelling General Illumination			0.00		0.00					
8	SPARE	A	20	1			Non-Continuous Lighting			0.00		1.00					
10	SPARE	B	20	1			Continuous Lighting			0.00		1.25					
12	SPARE	C	20	1			Exterior Lighting			0.00		1.25					
14	SPARE	A	20	1			Kitchen Appliances			0.00		1.00					
16	SPARE	B	20	1			Motors			0.00		1.00					
18	SPARE	C	20	1			Largest Motor (per phase)			0.00		0.25					
20		A					Fixed Heating			0.00		1.00					
22		B					Fixed Cooling			0.00		1.00					
24		C					Non-Diversity Loads			1.80		1.00					
							Other			0.00		1.00					
							Connected Feeder Load Summary										
								CONN KVA	CONN AMPS	NEC KVA	NEC AMPS						
							PHASE A:	1.16	9.66	1.16	9.66						
							PHASE B:	0.96	7.99	0.96	7.99						
							PHASE C:	0.58	4.83	0.58	4.83						
							TOTAL:	2.70	7.49	2.70	7.49						
Notes:																	
Panel Loading: ACCEPTABLE																	

ALSC ARCHITECTS		ADDENDUM # 1				
PROJECT MULLAN ROAD ELEMENTARY MODERNIZATION AND ADDITION SPOKANE PUBLIC SCHOOLS 2012-055		DATE 01/24/2014	DRAWN MTP	DWG. NO. E-04	JOB NO. 2012-055	REF. SHT. E-705
		DESCRIPTION PANEL SCHEDULE REVISIONS				

Project		3-PHASE PANEL SCHEDULE					PANEL:		EP-2WH1		
Location:		Feed-Thru to:					Date: 1/21/2014				
Ckt	Description	Phase	Amp	Poles	Notes	Ckt Totals	Specifications				
1	LTG - RM 001M, 204A, 204B	A	20	1		0.7	Overcurrent Rating (Amps):	30			
3	LTG - RM 001P	B	20	1		0.1	Voltage (L-L):	480			
5	LTG EGRESS EXIT SIGNS	C	20	1		0.5	Phase:	3			
7	SPARE	A	20	1			Wire:	4			
9	SPARE	B	20	1			Bus Current Rating (Amps):	100			
11	SPARE	C	20	1			Bus Material:	Cu/Al			
13		A					Short Circuit Current Rating (Amps)	10kA			
15		B					Main Type:	BKR			
17		C					Neutral Type:	FULL			
19		A					Mounting/Encl.:	SURFACE	NEMA 1		
21		B					2008 NEC Sections Used in Demand Calculations				
23		C					Factor #	NEC Reference		Notes	
25		A					1	TBL 220.44 Receptacles ND		1st 10k @100%, Remainder @50%	
27		B									
29		C					2	TBL 220.42 Apartments General Lighting		1st 20k@50%, 20-100k @40%, >100k @30%	
31		A									
33		B									
35		C					3	430.24 Motors		Largest @125% Remainder @100%	
37		A									
39		B					4	210.19(A)1 Cont Loads		125%	
41		C					5	Non-Cont Loads		100%	
							6	220.51 Heating		100%	
2	SPARE	A	20	1			Feeder Load Breakdown				
4	SPARE	B	20	1			Non-Dwelling Receptacles		0.00	0.00	
6	SPARE	C	20	1			Dwelling General Illumination		0.00	0.00	
8	SPARE	A	20	1			Non-Continuous Lighting		0.00	1.00	
10	SPARE	B	20	1			Continuous Lighting		1.28	1.25	
12	SPARE	C	20	1			Exterior Lighting		0.00	1.25	
14		A					Kitchen Appliances		0.00	1.00	
16		B					Motors		0.00	1.00	
18		C					Largest Motor (per phase)		0.00	0.25	
20		A					Fixed Heating		0.00	1.00	
22		B					Fixed Cooling		0.00	1.00	
24		C					Non-Diversity Loads		0.00	1.00	
26		A					Other		0.00	1.00	
28		B									
30		C					Connected Feeder Load Summary				
32		A						CONN KVA	CONN AMPS	NEC KVA	
34		B								NEC AMPS	
36		C					PHASE A:	0.67	2.42	0.84	
38		A					PHASE B:	0.11	0.40	0.14	
40		B					PHASE C:	0.50	1.80	0.63	
42		C					TOTAL:	1.28	1.54	1.60	
Notes:											
							Panel Loading: ACCEPTABLE				

<div>ALSC</div> <div>ARCHITECTS</div>		ADDENDUM # 1				
PROJECT MULLAN ROAD ELEMENTARY MODERNIZATION AND ADDITION SPOKANE PUBLIC SCHOOLS 2012-055	DATE 01/24/2014	DRAWN MTP	DWG. NO. E-05	JOB NO. 2012-055	REF. SHT. E-705	
	DESCRIPTION PANEL SCHEDULE REVISIONS					

Project **3-PHASE PANEL SCHEDULE** **PANEL:** **EP-1WH6**

Location: Feed-Thru to: Date: 1/15/2014

Ckt	Description	Phase	Amp	Poles	Notes	Ckt Totals	Specifications
1	PANEL EP-1WL6	A	40	3		3.6	Overcurrent Rating (Amps): 40
3	-	B	-	-		2.8	Voltage (L-L): 480
5	-	C	-	-		2.8	Phase: 3
7	SPARE	A	40	3			Wire: 4
9	-	B	-	-			Bus Current Rating (Amps): 100
11	-	C	-	-			Bus Material: Cu/Al
							Short Circuit Current Rating (Amps) 22kA
							Main Type: BKR
							Neutral Type: FULL
							Mounting/Encl.: SURFACE NEMA 1
2008 NEC Sections Used in Demand Calculations							
							Factor # NEC Reference Notes
							1 TBL 220.44 Receptacles ND 1st 10k @100%, Remainder @50%
							2 TBL 220.42 Apartments General Lighting 1st 20k @50%, 20-100k @40%, >100k @30%
							3 430.24 Motors Largest @125% Remainder @100%
							4 210.19(A)1 Cont Loads 125%
							5 Non-Cont Loads 100%
							6 220.51 Heating 100%
2	PANEL EP-2WL5	A	40	3		1.2	Feeder Load Breakdown Conn(KVA) Dmd Fact
4	-	B	-	-		1.0	Non-Dwelling Receptacles 3.96 1.00
6	-	C	-	-		0.6	Dwelling General Illumination 0.00 0.00
8		A	20	1			Non-Continuous Lighting 0.00 1.00
10		B	20	1			Continuous Lighting 0.00 1.25
12		C	20	1			Exterior Lighting 0.00 1.25
							Kitchen Appliances 0.00 1.00
							Motors 0.00 1.00
							Largest Motor (per phase) 0.00 0.25
							Fixed Heating 0.00 1.00
							Fixed Cooling 0.00 1.00
							Non-Diversity Loads 8.00 1.00
							Other 0.00 1.00
Connected Feeder Load Summary							
							CONN KVA CONN AMPS NEC KVA NEC AMPS
							PHASE A: 4.78 17.25 4.78 17.25
							PHASE B: 3.78 13.64 3.78 13.64
							PHASE C: 3.40 12.27 3.40 12.27
							TOTAL: 11.96 14.39 11.96 14.39

Notes:

Panel Loading: ACCEPTABLE

ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

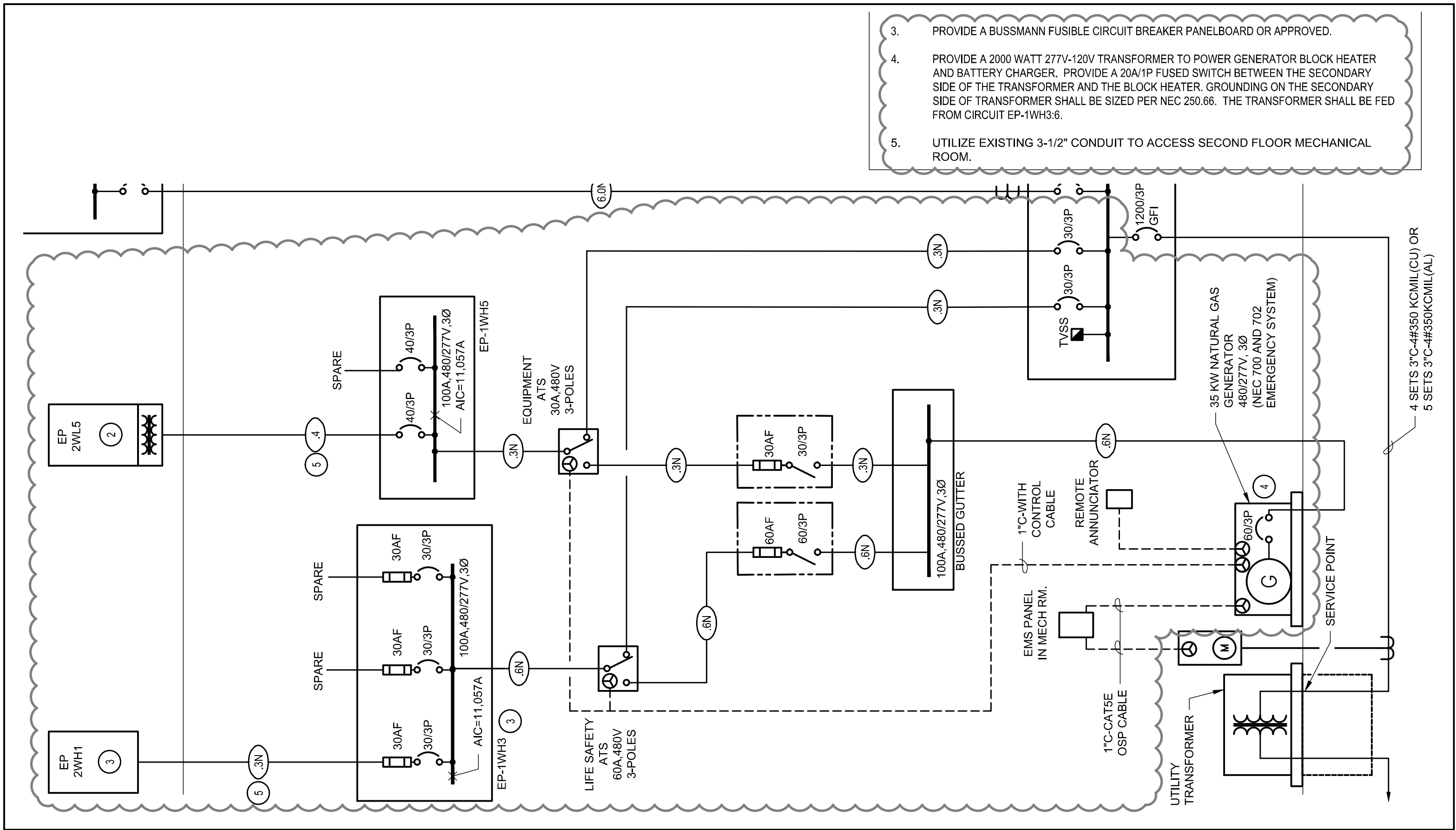
DRAWN
MTP

DWG. NO.
E-06

JOB NO.
2012-055

REF. SHT.
E-709

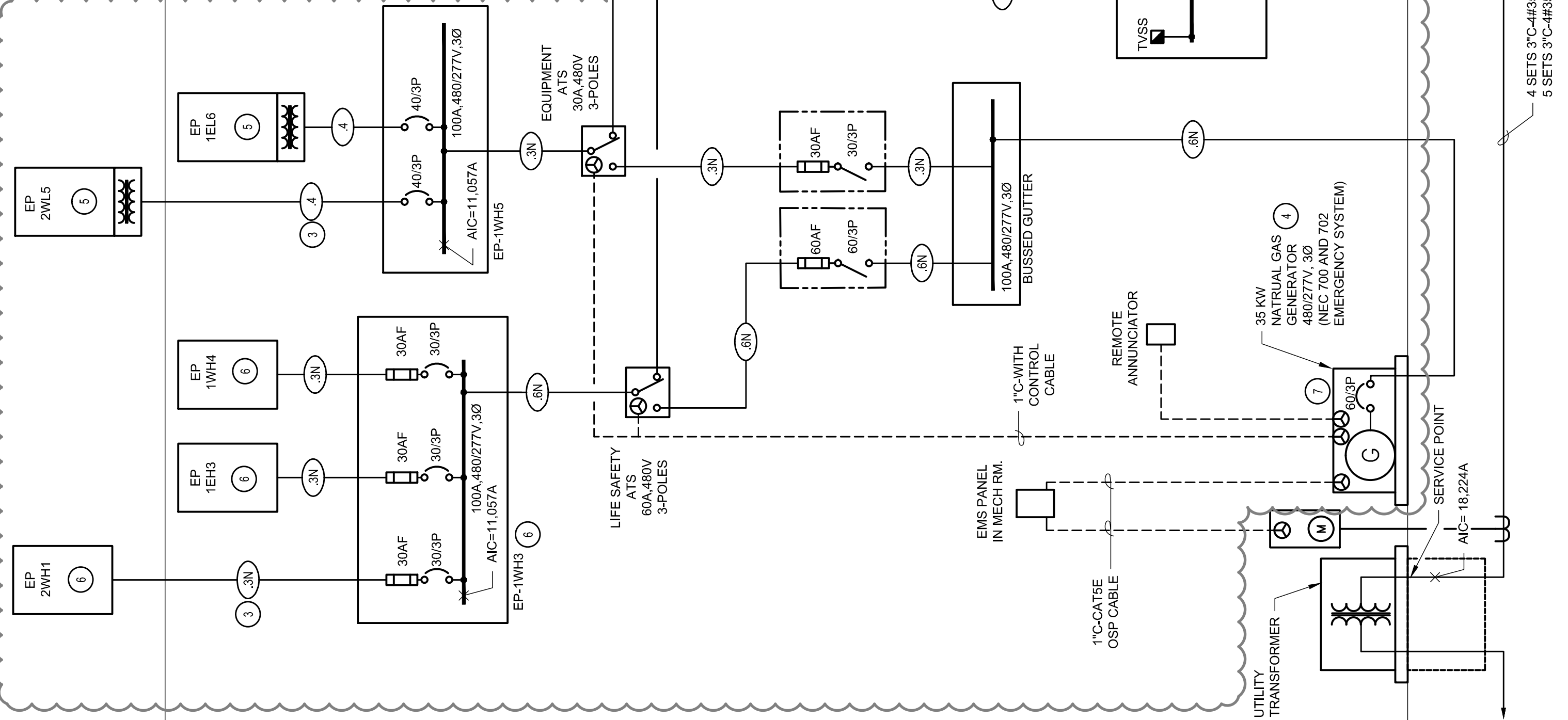
DESCRIPTION
PANEL SCHEDULE REVISIONS

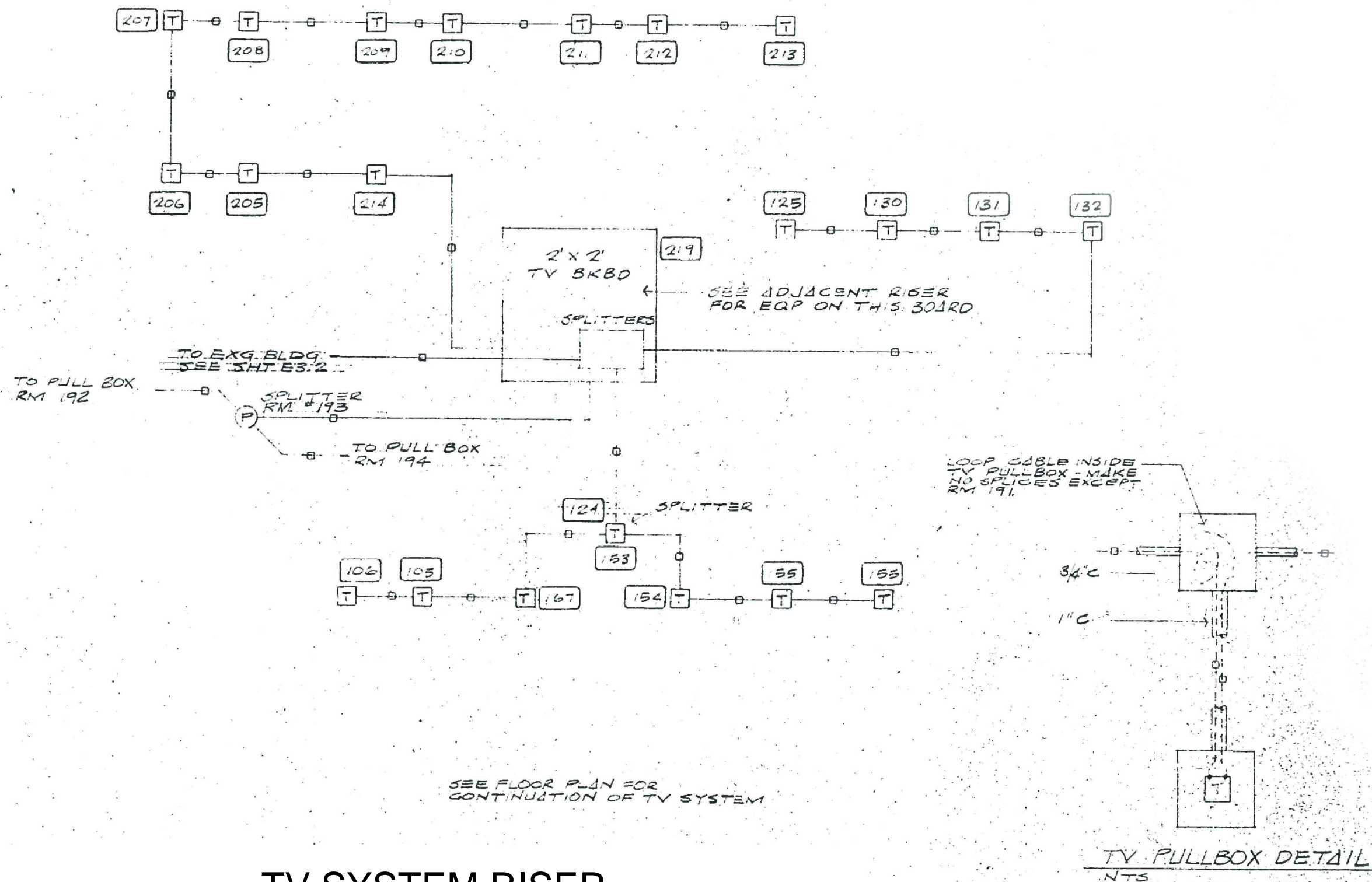


3. PROVIDE A BUSSMANN FUSIBLE CIRCUIT BREAKER PANELBOARD OR APPROVED.
4. PROVIDE A 2000 WATT 277V-120V TRANSFORMER TO POWER GENERATOR BLOCK HEATER AND BATTERY CHARGER. PROVIDE A 20A/1P FUSED SWITCH BETWEEN THE SECONDARY SIDE OF THE TRANSFORMER AND THE BLOCK HEATER. GROUNDING ON THE SECONDARY SIDE OF TRANSFORMER SHALL BE SIZED PER NEC 250.66. THE TRANSFORMER SHALL BE FED FROM CIRCUIT EP-1WH3:6.
5. UTILIZE EXISTING 3-1/2" CONDUIT TO ACCESS SECOND FLOOR MECHANICAL ROOM.

ALSC ARCHITECTS		ADDENDUM # 1				
PROJECT MULLAN ROAD ELEMENTARY MODERNIZATION AND ADDITION SPOKANE PUBLIC SCHOOLS 2012-055		DATE 01/24/2014	DRAWN MTP	DWG. NO. E-07	JOB NO. 2012-055	REF. SHT. E-601
		DESCRIPTION ONE-LINE DIAGRAM (END OF PHASE 2) REVISIONS				

6. PROVIDE A BUSSMANN FUSIBLE CIRCUIT BREAKER PANELBOARD OR APPROVED.
7. PROVIDE A 2000 WATT 277V-120V TRANSFORMER TO POWER GENERATOR BLOCK HEATER AND BATTERY CHARGER. PROVIDE A 20A/1P FUSED SWITCH BETWEEN THE SECONDARY SIDE OF THE TRANSFORMER AND THE BLOCK HEATER. GROUNDING ON THE SECONDARY SIDE OF TRANSFORMER SHALL BE SIZED PER NEC 250.66. THE TRANSFORMER SHALL BE FED FROM CIRCUIT EP-1WH3:6.





TV SYSTEM RISER

SCALE: NTS

ALSC

ARCHITECTS

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

ADDENDUM # 1

DATE
01/24/2014

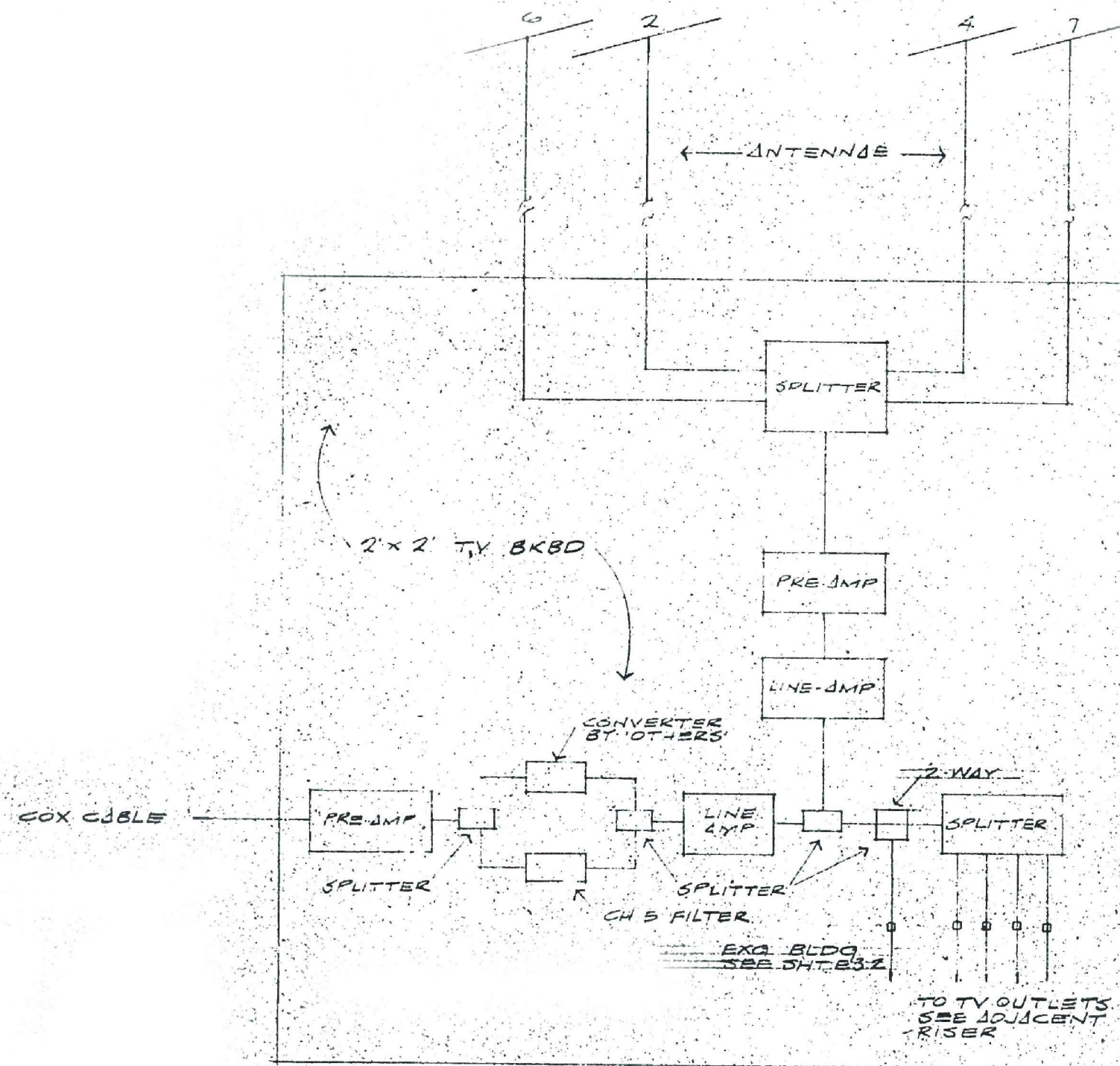
DRAWN
MTP

DWG. NO.
E-09

JOB NO.
2012-055

REF. SHT.
-

DESCRIPTION
EXISTING SYSTEMS RISER DIAGRAM (FOR REFERENCE ONLY)



TV BACKBOARD RISER

SCALE: NTS

ALSC

ARCHITECTS

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

ADDENDUM # 1

DATE
01/24/2014

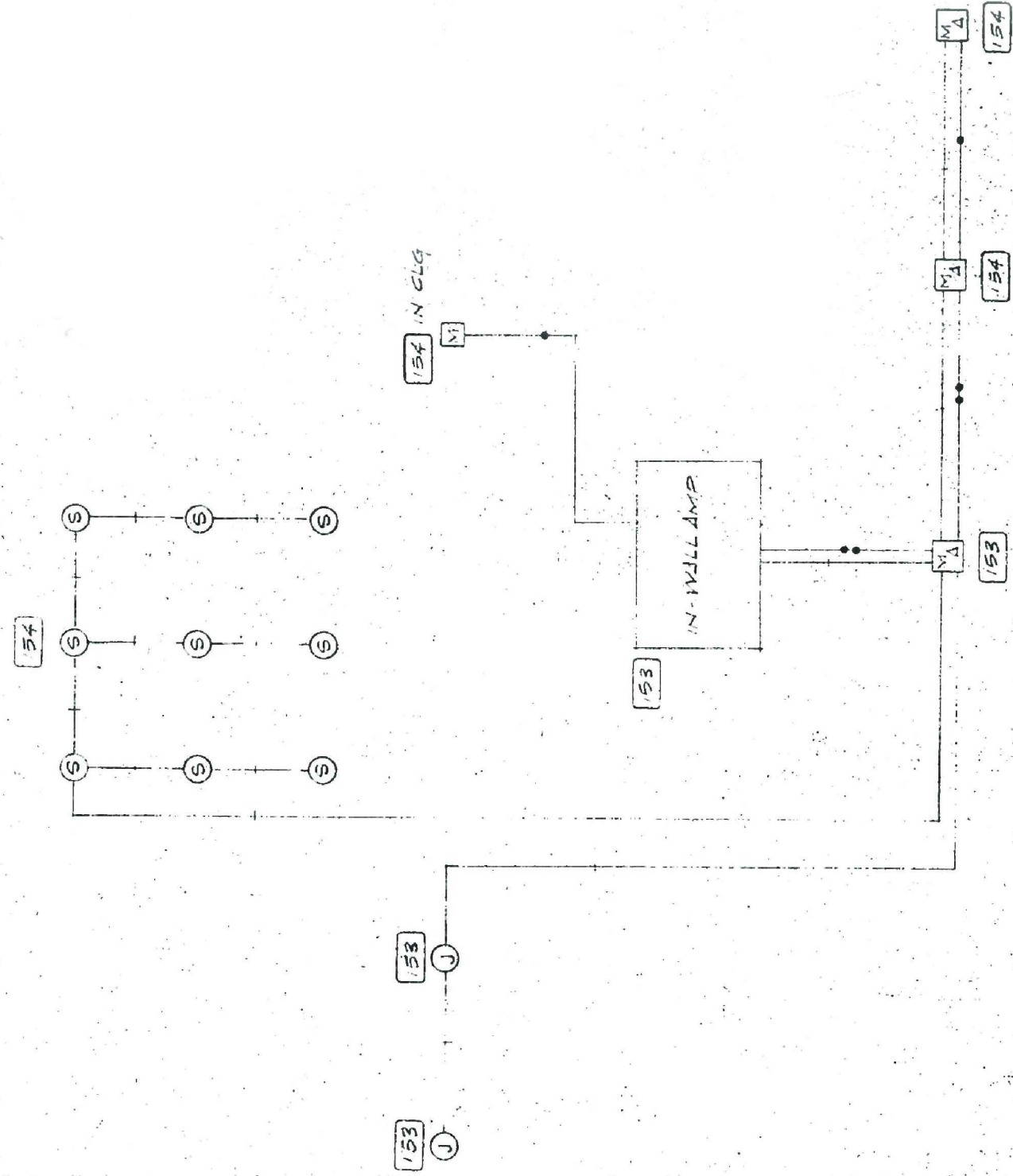
DRAWN
MTP

DWG. NO.
E-10

JOB NO.
2012-055

REF. SHT.
-

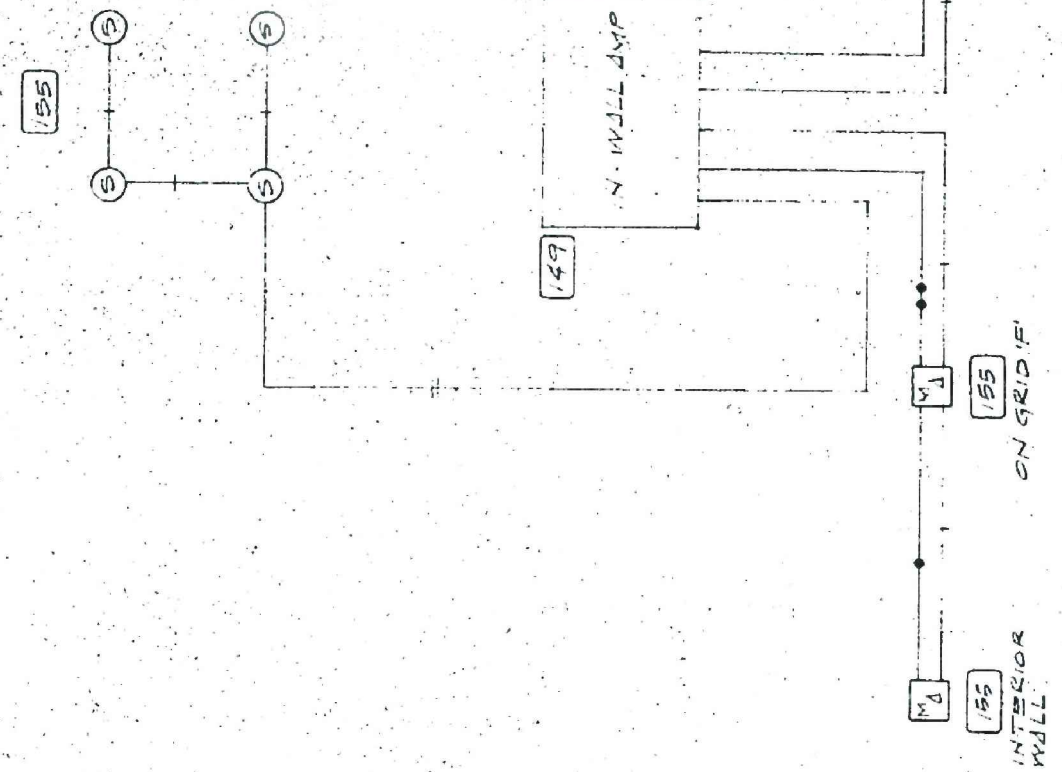
DESCRIPTION
EXISTING SYSTEMS RISER DIAGRAM (FOR REFERENCE ONLY)



MULTI-PURPOSE ROOM SOUND SYSTEM RISER

SCALE: NTS

NOTE
FOR BOTH SOUND SYSTEM RISERS:
EACH DOT DENOTES (1) BELDEN #8761
EACH CROSSHATCH DENOTES (1) BELDEN #8471



GYM SOUND SYSTEM RISER

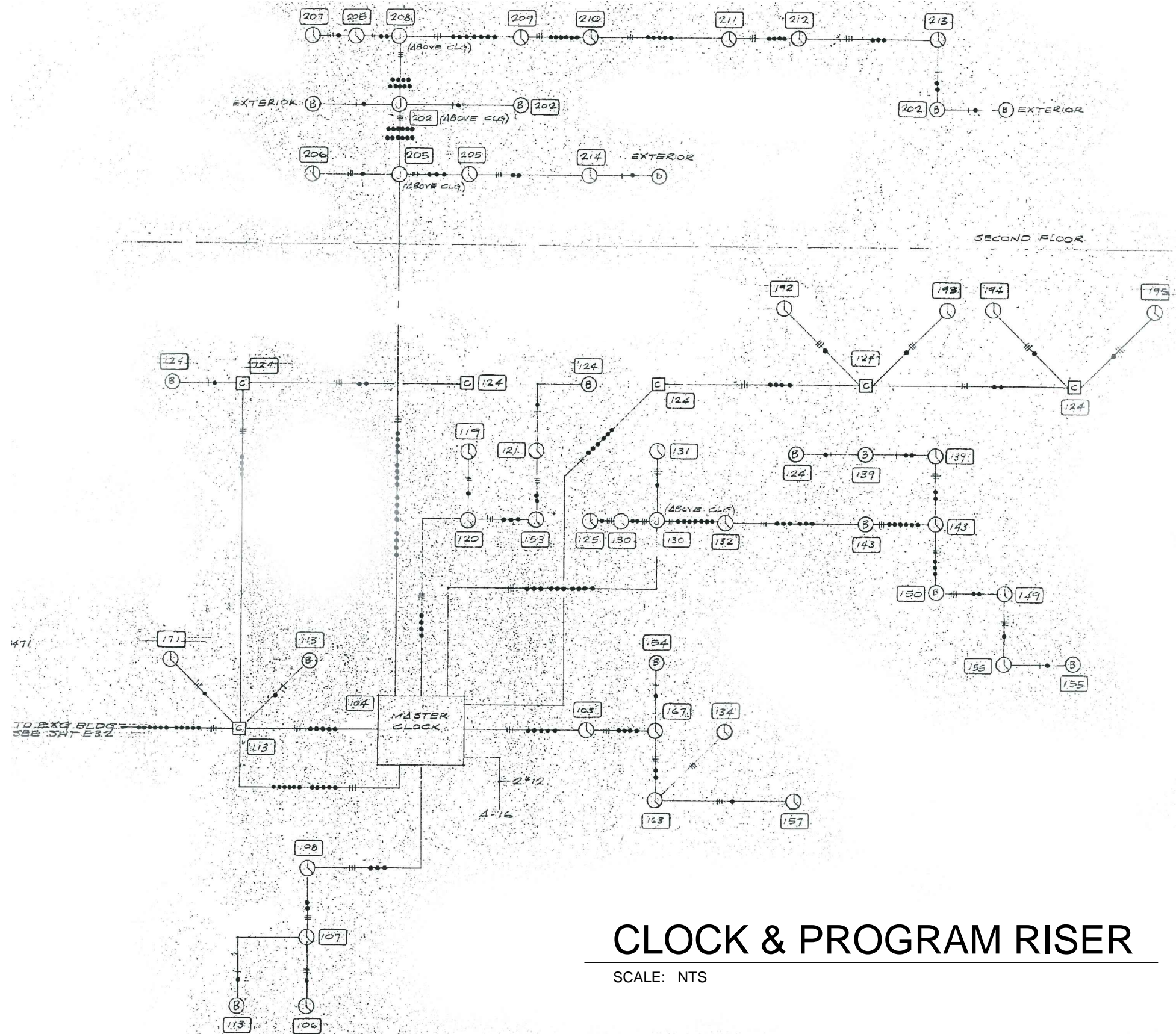
SCALE: NTS

ALSC ARCHITECTS

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

ADDENDUM # 1

DATE	DRAWN	DWG. NO.	JOB NO.	REF. SHT.
01/24/2014	MTP	E-11	2012-055	-
DESCRIPTION EXISTING SYSTEMS RISER DIAGRAM (FOR REFERENCE ONLY)				



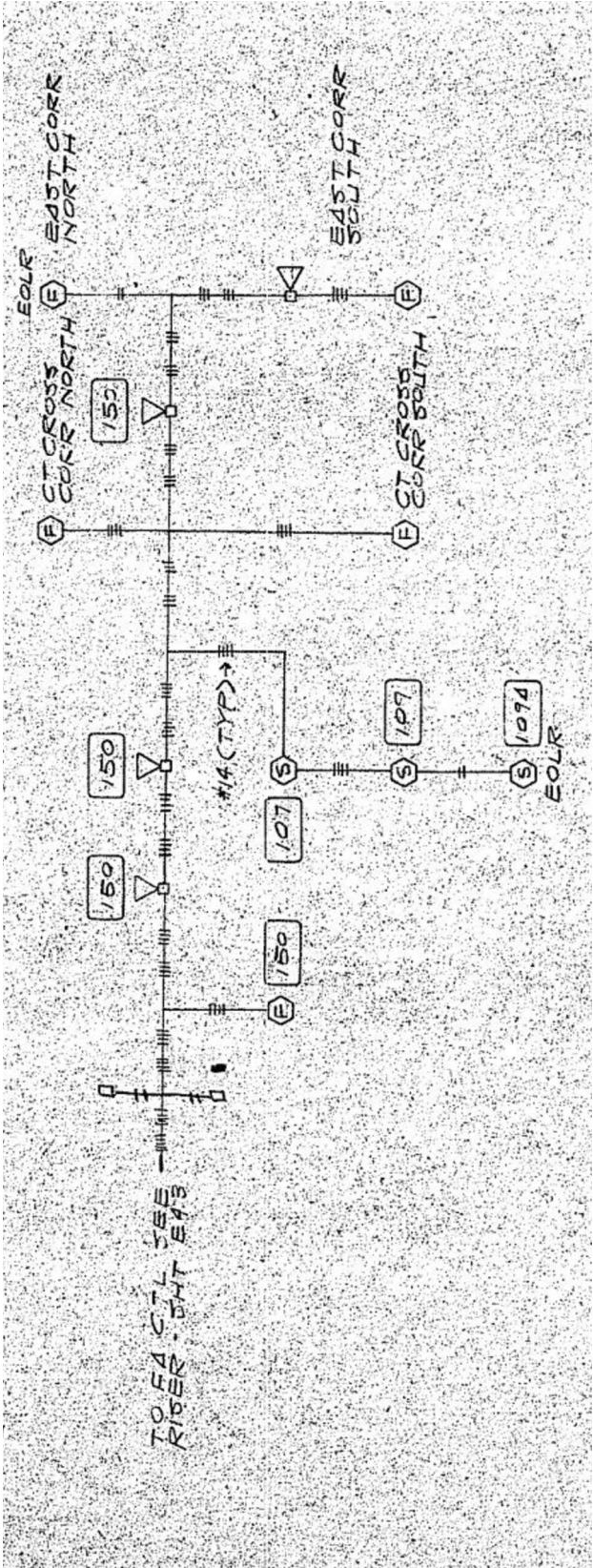
ALSC

ARCHITECTS

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

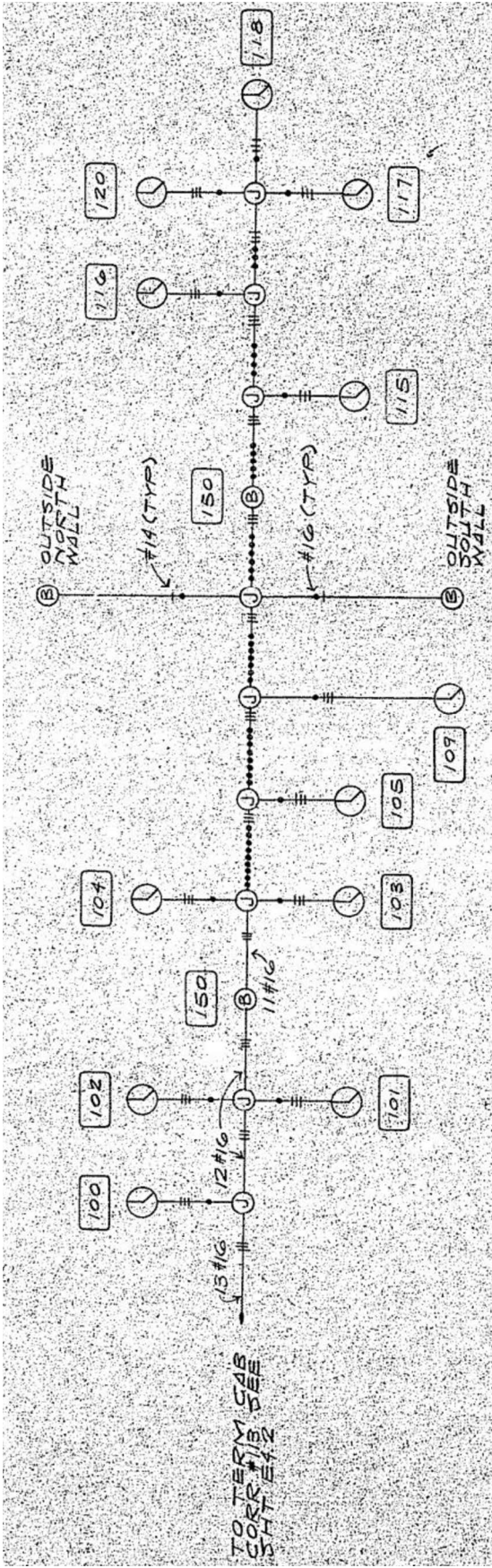
ADDENDUM # 1

DATE	DRAWN	DWG. NO.	JOB NO.	REF. SHT.
01/24/2014	MTP	E-12	2012-055	-
DESCRIPTION EXISTING SYSTEMS RISER DIAGRAM (FOR REFERENCE ONLY)				



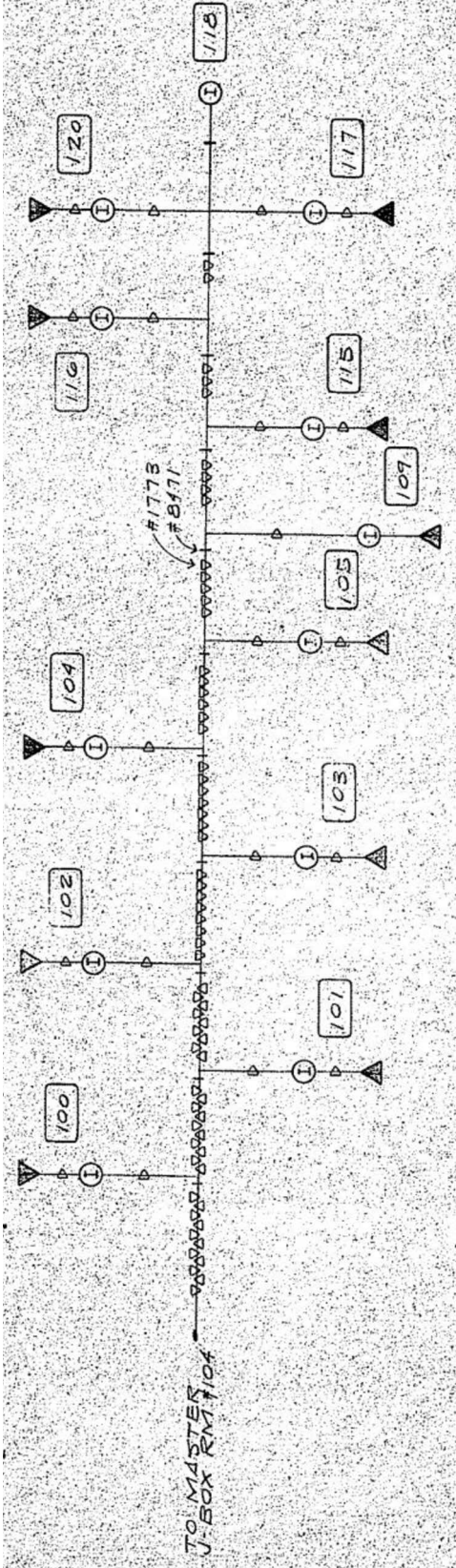
(ANNEX) FIRE ALARM RISER DIAGRAM

SCALE: NTS



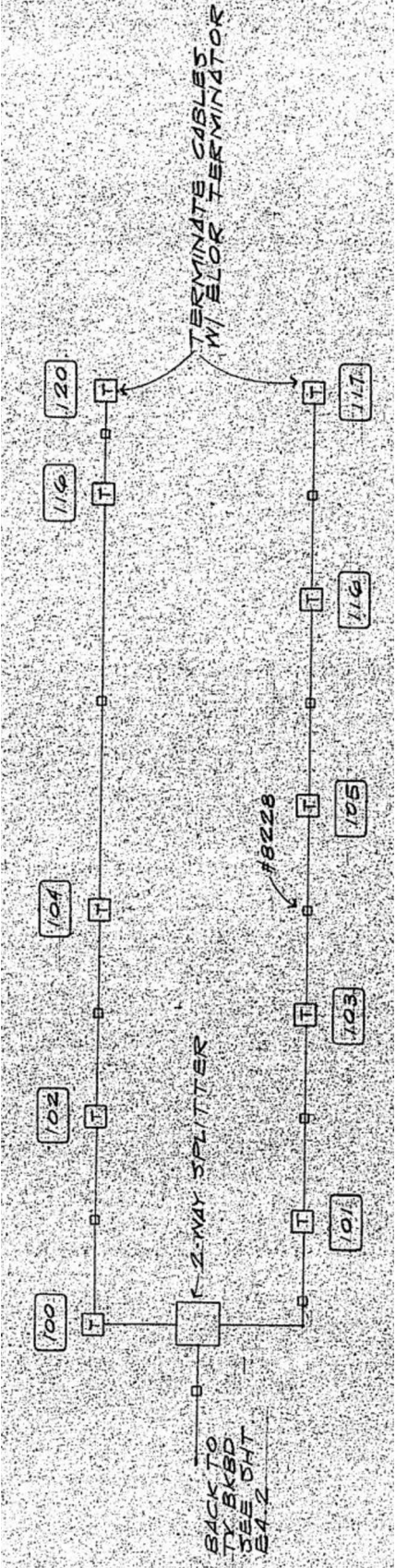
(ANNEX) CLOCK & PROGRAM DIAGRAM

SCALE: NTS



(ANNEX) INTERCOM RISER DIAGRAM

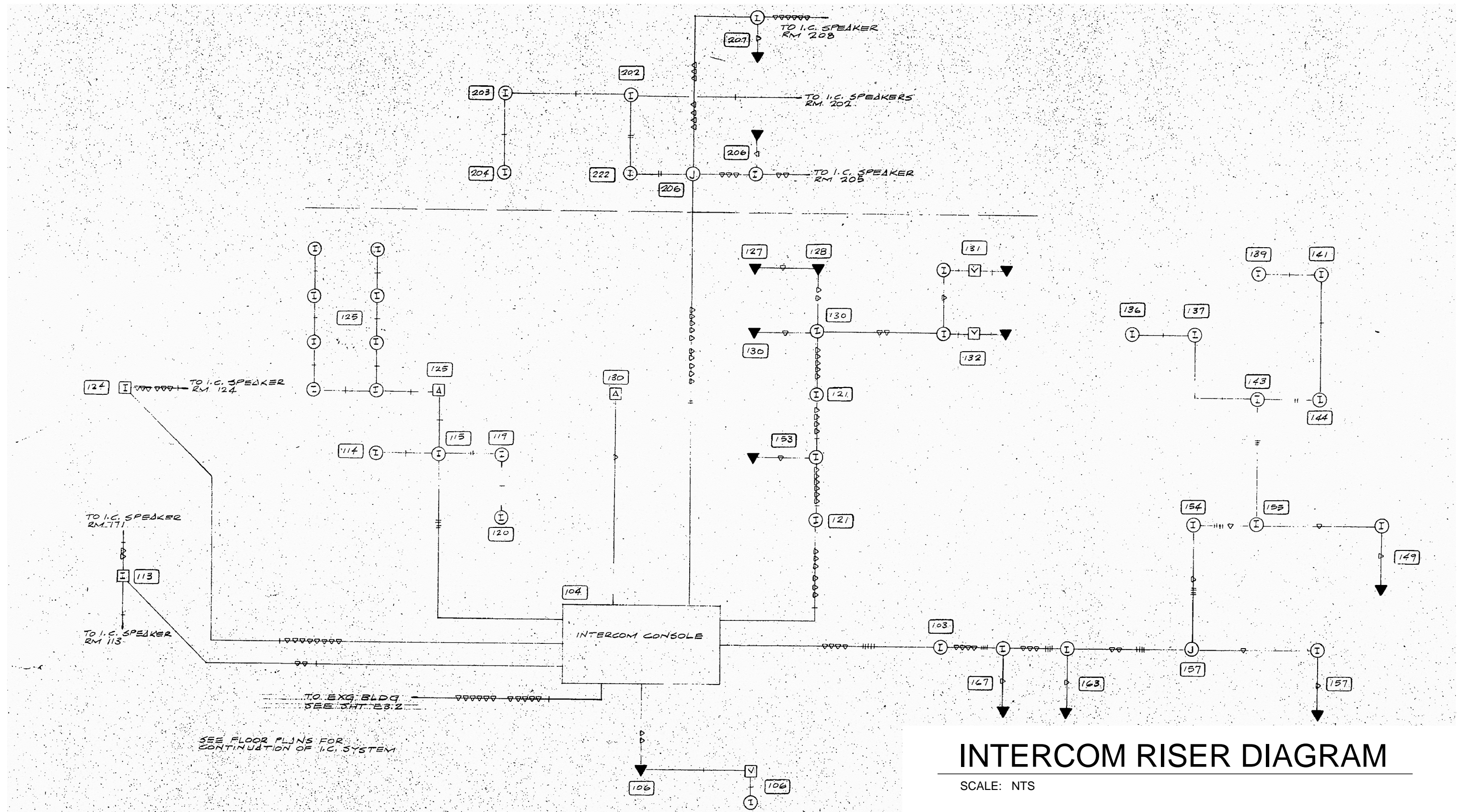
SCALE: NTS



(ANNEX) TV RISER DIAGRAM

SCALE: NTS

PROJECT MULLAN ROAD ELEMENTARY MODERNIZATION AND ADDITION SPOKANE PUBLIC SCHOOLS 2012-055	ADDENDUM # 1				
	DATE 01/24/2014	DRAWN MTP	DWG. NO. E-13	JOB NO. 2012-055	REF. SHT. -
	DESCRIPTION EXISTING SYSTEMS RISER DIAGRAM (FOR REFERENCE ONLY)				



INTERCOM RISER DIAGRAM

SCALE: NTS

ALSC

ARCHITECTS

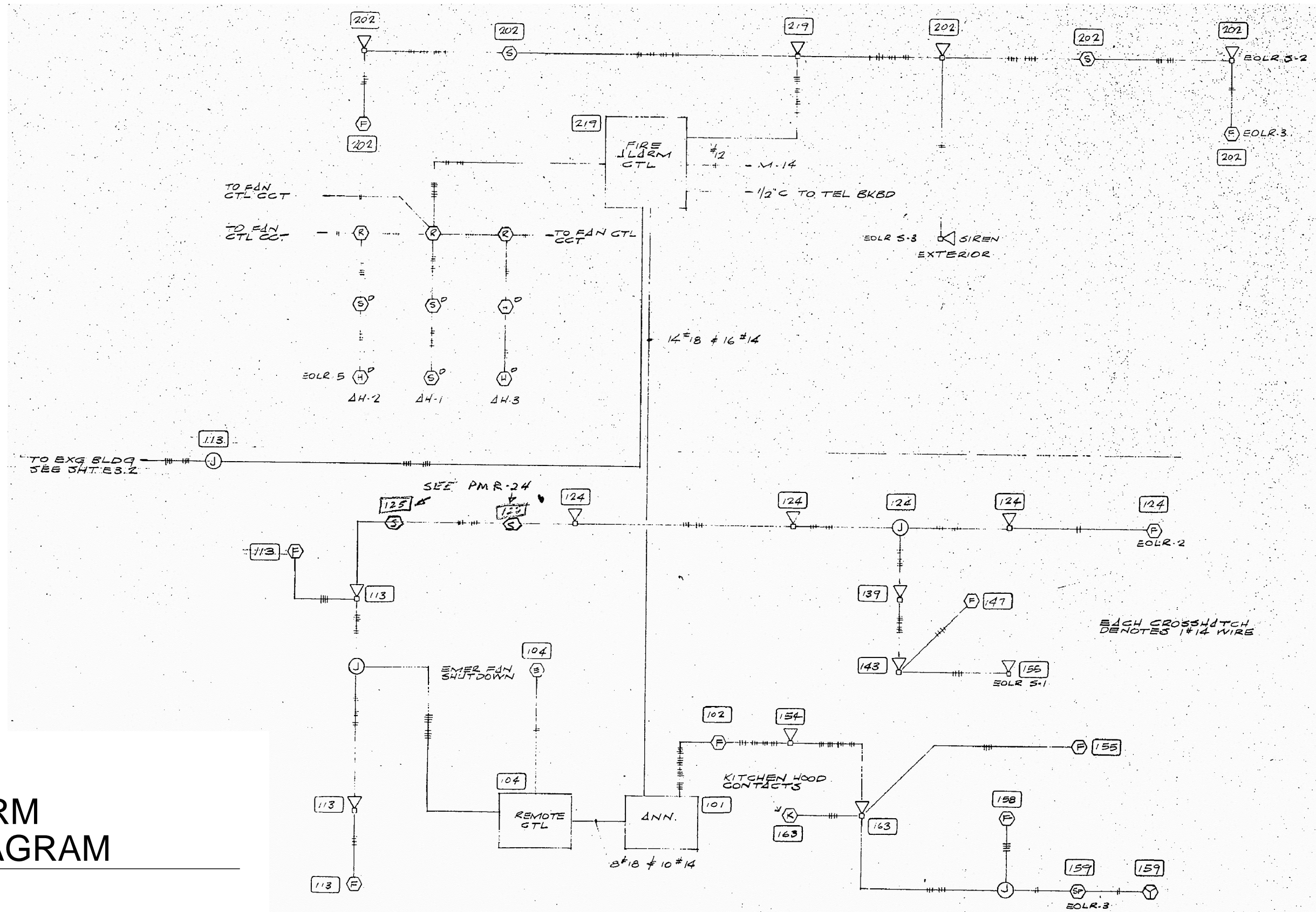
PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

ADDENDUM # 1

DATE	DRAWN	DWG. NO.	JOB NO.	REF. SHT.
01/24/2014	MTP	E-14	2012-055	-
DESCRIPTION EXISTING SYSTEMS RISER DIAGRAM (FOR REFERENCE ONLY)				

FIRE ALARM RISER DIAGRAM

SCALE: NTS



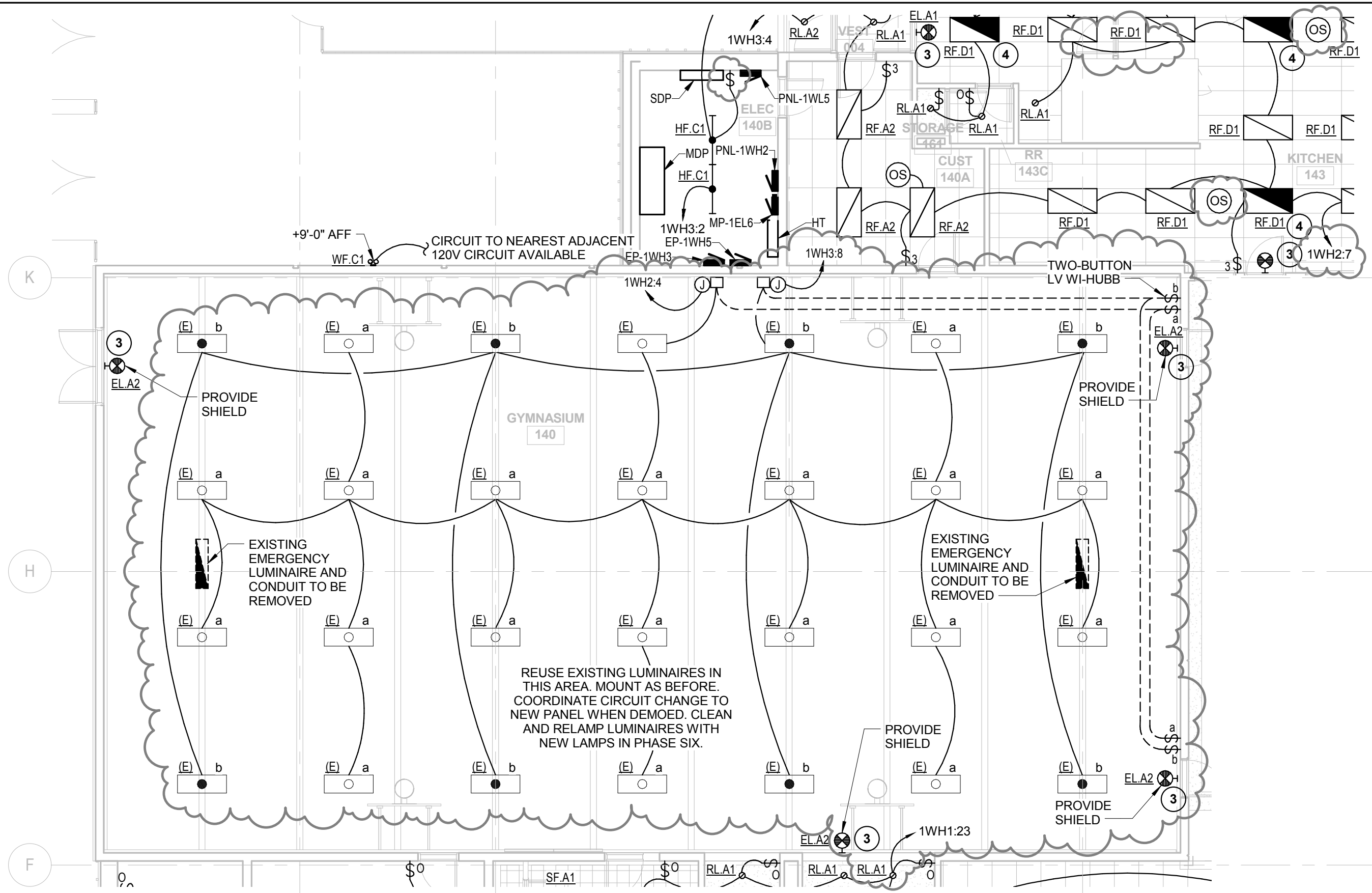
ALSC

ARCHITECTS

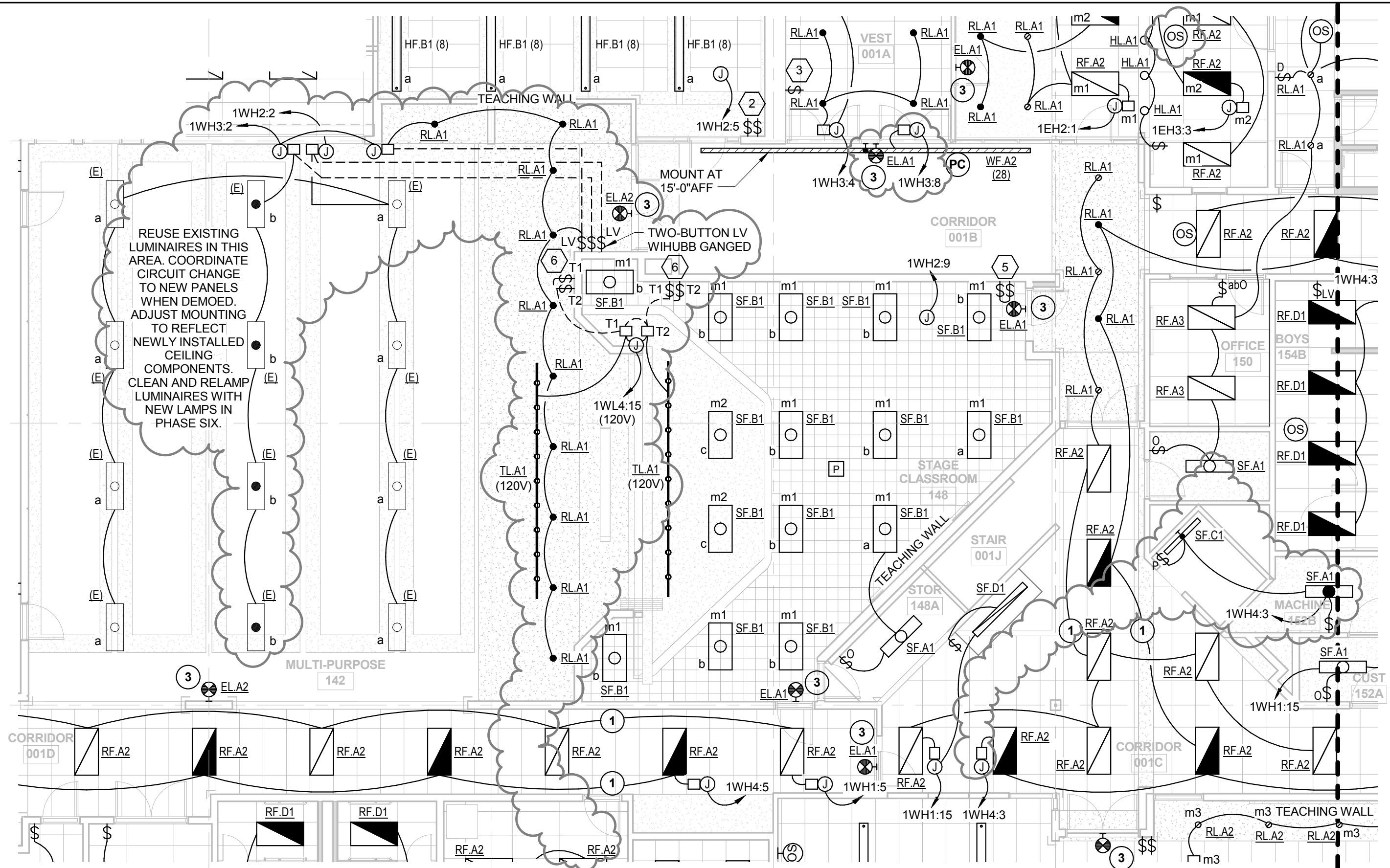
PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

ADDENDUM # 1

DATE	DRAWN	DWG. NO.	JOB NO.	REF. SHT.
01/24/2014	MTP	E-15	2012-055	-
DESCRIPTION EXISTING SYSTEMS RISER DIAGRAM (FOR REFERENCE ONLY)				

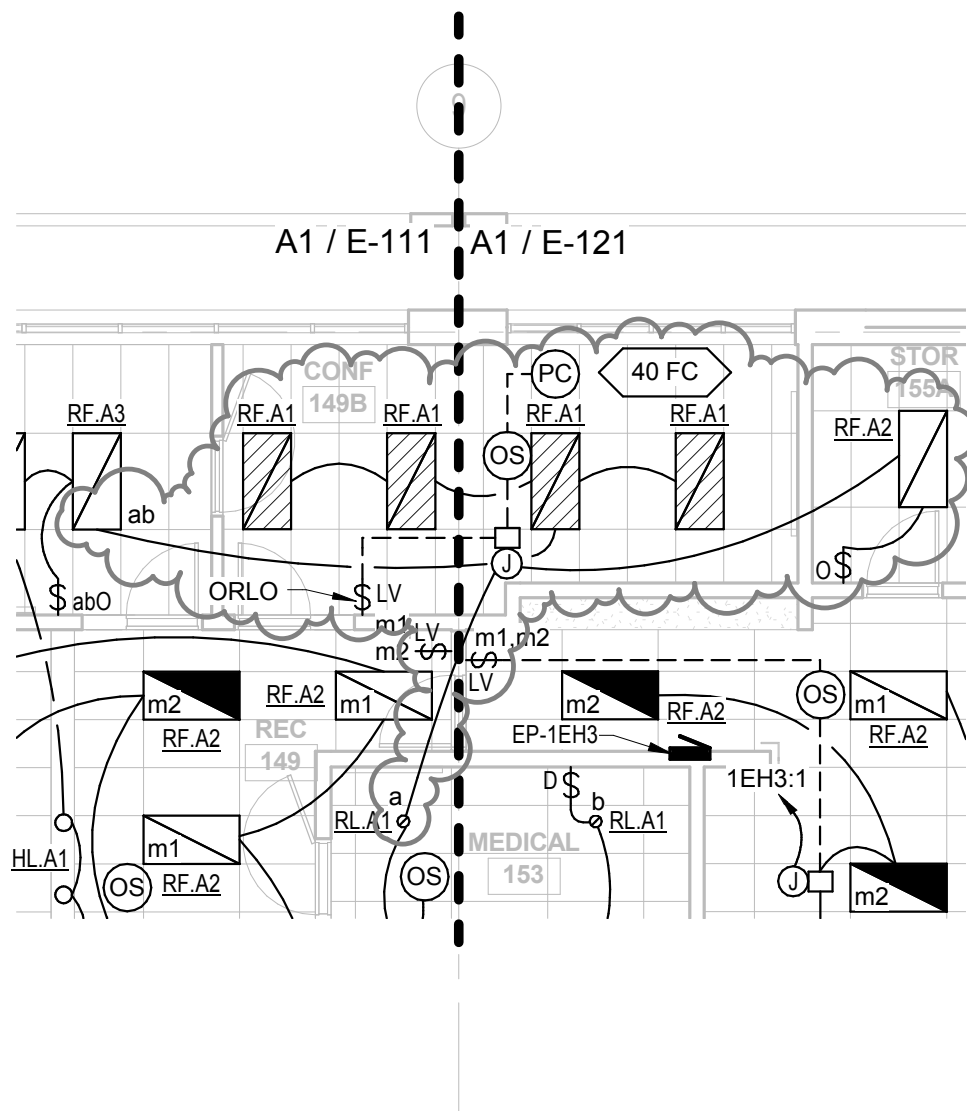


ALSC ARCHITECTS		ADDENDUM # 1			
PROJECT MULLAN ROAD ELEMENTARY MODERNIZATION AND ADDITION SPOKANE PUBLIC SCHOOLS 2012-055		DATE 01/24/2014	DRAWN MTP	DWG. NO. E-16	JOB NO. 2012-055
		DESCRIPTION SECTOR A - LIGHTING PLAN REVISIONS			
		REF. SHT. E-111			



ALSC ARCHITECTS		ADDENDUM # 1				
PROJECT MULLAN ROAD ELEMENTARY MODERNIZATION AND ADDITION SPOKANE PUBLIC SCHOOLS 2012-055		DATE 01/24/2014	DRAWN MTP	DWG. NO. E-17	JOB NO. 2012-055	REF. SHT. E-111
		DESCRIPTION SECTOR A - LIGHTING PLAN REVISIONS				

M



ALSC

ARCHITECTS

ADDENDUM # 1

PROJECT MULLAN ROAD ELEMENTARY
MODERNIZATION AND ADDITION
SPOKANE PUBLIC SCHOOLS
2012-055

DATE
01/24/2014

DRAWN
MTP

DWG. NO.
E-18

JOB NO.
2012-055

REF. SHT.
E-111

DESCRIPTION
SECTOR A - LIGHTING PLAN REVISIONS