

City of Raymore

100 Municipal Circle · Raymore, MO. 64083 Phone · 816-892-3045 · Fax · 816-892-3093

ADDENDUM NO. 2

Raymore Activity Center: Project #17-229-201

All plan holders are hereby notified and agree by signature below, that the bid includes consideration of the following changes, amendments, and/or clarifications and costs associated with these changes and are included in the bid.

Addendum No. 1 – General Notes, Questions, and Clarifications:

- 1. **Question:** Sheet ID113 RE: the individual letters "Family Restroom" and "Restrooms" the spec calls case letter, but they don't make 4.5" cast. Would flat cut out plate letters in aluminum (FCO) be allowable?
 - **a. Response:** Yes, flat cut out plate letters in aluminum are allowable.
- 2. **Question:** RE: Sheet ID113 the interior ADA code signs with Braille is a photopolymer sign at .125" thickness allowable?
 - **a. Response:** Yes, a photopolymer sign at .125" thickness is allowable.
- 3. **Question:** RE: Sheet ID211 Vinyl film on interior walls. What color and model spec are they asking? Is 3M 220 series vinyl allowable?
 - a. **Response:** Please refer to revised spec section 101423 panel signage.
- 4. **Question:** Is there a bid form to use for signage?
 - **a. Response:** There is no bid form for signage. Subcontractors should submit subcontract bid to general contractor for inclusion in lump sum bid stipulated sum for single prime contract.
- 5. **Question:** Finish hardware set 03 has MD8610 Sargent Panics which are Hurricane Resistant. The doors/frames are listed as standard on Door Schedule. There are no hollow metal specs for hurricane openings. Are these two openings 112B, 104 to be Fema or Hurricane rated?
 - **a. Response** The 8610 is only Hurricane Resistant or Windstorm Rated which is called out as WS8610. Currently the MD8610 is our standard application for a panic device. These openings are not to be FEMA or Hurricane Rated.
- 6. **Question:** The hollow metal spec section 081113 lists standard hollow metal openings at exterior openings. These openings 104, 112B, and 111A are in finish hardware sets 03 and 04. The sets list weather-stripping in KERFED frames and the astragal with a Trio E hollow metal door? Should these 3 openings include the kerfed hollow metal frames and Trio doors, or per the spec section 081113.
 - **a. Response** Yes, we have called out for KERFED Frames as part of Trio E Hollow Metal Assembly for exterior hollow metal openings.

- 7. **Question:** Will the 2-digit clock be going on the wall? As far as I can see, they are not being placed on the backboards. Will this clock need its own controller or is it being controlled by the basketball scoreboard's controller and running with the basketball scoreboard? Verify there is only (1) Two-digit Clock required.
 - **a. Response:** The 2-digit clock is to be place on the backboard.
 - **b. Response:** Clocks are to be controlled by the basketball scoreboards controller and run with the basketball scoreboard.
 - c. **Response:** There are (2) two-digit clocks, 1 per backboard.
- 8. **Question:** The plans call for a 3" domestic water service and a 3" meter pit assy. It does not give a detail and I could not find one in your spec book. They also call for the pipe to be a 3" copper tube size HDPE DR11. I went through your spec book and it looks like you are Ductile Iron Pipe only. Is that correct? Do you have a detail for a 3" Meter Pit Assy that you require?
 - a. **Response:** The plans show a 3" water line at the domestic water service entry. The 3" line at the domestic water service entrance shall be Class 52 ductile iron pipe. The piping material specifications can be found on Sheet P401, Section 15B Piping Materials.
 - b. **Response:** The HDPE DR11 pipe as called out on the plans is correct. The meter pit assembly is per the city and no details of that will be shown on the plans.
- 9. **Question:** The plans called for 6" C-900 but did not say what class. I went through your spec book and it looks like you are Ductile Iron Pipe only. Is that correct?
 - **a. Response:** The piping material specification can be found on Sheet P401, Section 15B Piping Materials.
- 10. **Question:** Section 312000, 3.8.D states "Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work." After proof-rolling subgrades, will there be a change order to cut and replace per the specification above?
 - **a. Response:** No, there will be no change order to cut and replace per the specification above.
- 11. **Question:** Can we use onsite excavated material for onsite fill? Including areas of fill beneath the LVC layer in the building pad and in areas of fill in paving and other areas?
 - a. Response: Onsite excavated material for onsite fill cannot be used with in the LVC layer. Can be used anywhere else as long as it meets requirements stated in the geotechnical report.
- 12. **Question:** Is the liner panel above 20' the facing for the simple saver liner.
 - a. **Response:** Yes, this is the simple saver liner.
- 13. **Clarification:** On drawing C400 there is a fire sprinkler backflow preventer shown on the fire line in vault outside. On drawing FP202 there is a fire sprinkler backflow preventer shown inside on the sprinkler riser. Please indicate as to which location is correct.
 - **a. Response:** Backflow preventer shown on C400 is to remain. Backflow preventer shown on FP202 inside on the sprinkler riser is to be removed from the project.
- 14. **Clarification:** Opening 112A is not on the door schedule of plans, but it is listed in finish hardware set 03.
 - a. **Response:** Door 104 at the Gymnasium should read 112A door 104 should not exist.
- 15. **Clarification:** There is no Door Type B noted in the door schedule.
 - a. **Response:** Door Type B on sheet A601 is not used in this project.
- 16. **Clarification:** In addendum 1 it mentions the asphalt walkway and gravel drive in questions 26, 30, and 35. There is still some confusion on whether these will be part of the bid, if so, will new drawings be provided to show the full extent of the walkway/drive and will a new bid form be provided that includes the new alternates for each?
 - a. **Response:** The asphalt walkway and gravel drive is not be constructed with this set of plans. Therefore they should not be included in the bid nor as alternates.
- 17. **Clarification:** Sheet ID211, on multiple details, it calls for vinyl wall covering, and in the same area it calls for P-3 paint. Can you give some clarification on this?
 - a. **Response:** Any paint tags on the vinyl wall covering are indicating the color for the vinyl wall covering. The colors of the vinyl wall covering are to match the paint colors noted on the finish legend. Please refer to revised spec section 101423 panel signage for more information.

- 18. **Clarification:** Referring to RFP # 17-229-201 Appendix B, X. American Products, page 19 of 33. Also referring to Sheet P502, 15B Material and Workmanship, the second paragraph "Pipe, pipe fittings, pipe specialties and valves shall be manufactured in plans located in the United State." Please provide some clarifications if plumbing fixtures, and piping, are required to by Buy American.
 - a. **Response:** Please provide American made products per the specifications. If you have any additional questions or issues with finding these products, please refer back to the Raymore Activity Center RFP for further direction.

Addendum No. 1 – Specifications:

- 1. SECTION 00 41 13 BID FORM
 - a. REPLACE section in its entirety with attached section with the same name and number.
- 2. SECTION 01 23 00 ALTERNATES
 - a. REVISE 3.1 A. to read as follows
 - i. "Deduct Alternate No. 1: Entry Trellis & Wood Canopy."
- 3. SECTION 08 71 00 DOOR HARDWARE
 - a. DELETE door 104 from hardware Set 3.0
- 4. SECTION 09 65 19 RESILIENT SPORTS FLOORING
 - a. ADD the following to list of manufacturers after 2.3 A. 2.
 - i. "Shaw Rexcourt 6.5"
 - ii. "Regents Flooring Rec 60 by Gerflor"

5. SECTION 09 66 26 - RESINOUS MATRIX TERRAZZP FLOORING

- a. REVISE number on section header to read as follows
 - i. "Section 09 66 26"
- b. REVISE table of contents section 09 66 26 title to read as follows
 - i. "Epoxy Resin Flooring and Base"

6. SECTION 10 14 23 - PANEL SIGNAGE

- a. ADD the following after section 1.2 A. 1.
 - i. "Field-applied, vinyl-character signs."
- b. ADD the following section after section 2.3 D.
 - i. "FIELD-APPLIED, VINYL-CHARACTER SIGNS."
 - 1. "Field-Applied, vinyl-Character Sign VG-1: Prespaced characters die cut from 3- to 3.5-mil (0.076- to 0.089-mm) thick, weather-resistant vinyl film with release liner on the back and carrier film on the front for on-site alignment and application."
 - a. "Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:"
 - i. "APCO Graphics, Inc."
 - ii. "Mohawk Sign System."
 - b. "Size: As indicated."
 - c. "Substrate: Doors and Walls."
 - d. "Graphics, Color, and Shapes: As indicated."
- c. ADD the following paragraph after 2.5 A.

- i. "Adhesives: As recommended by sign manufacturer and with a VOC content of 70 g/L or less for adhesives used inside the weatherproofing system and applied on-site when calculated according to 40 CFR 59, Subpart D (EPA Method 24)."
- d. ADD the following paragraph after paragraph 3.2 C. 1.
 - i. "Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets."
- e. ADD the following paragraph after paragraph 3.2 C.
 - i. "Field-Applied, Vinyl-Character Signs: Clean and dry substrate. Align sign characters in final position before removing release liner. Remove release liner in stages, and apply and firmly press characters into final position. Press from the middle outward to obtain good bond without blisters or fishmouths. Remove carrier film without disturbing applied vinyl film."

7. SECTION 11 66 53 – GYMNASIUM DIVIDERS

- a. ADD the following to the Manufacturers list after 2.2 A. 5.
 - i. "AALCO Athletic Equipment: www.aalcomfg.com."

8. SECTION 13 34 19 – METAL BUILDING SYSTEMS

- a. ADD the following to list of Manufacturers after 2.1 A. 7.
 - i. "Red Dot Buildings."
 - ii. "Kirby Building Systems; a Nucor Company."
- b. REVISE 2.2 G. 1. to read as follows.
 - i. "Profile: Flush profile, as Basis of Design."
- c. REVISE 2.2 G. 2. to read as follows
 - i. "Thickness: 20-gauge minimum."
- d. REVISE 2.6 A. 1. to read as follows.
 - "Material: Zinc-coated (galvanized) or aluminum-zinc alloy coated steel sheet, 20 gauge minimum nominal uncoated steel thickness with 20-24 gauge minimum trim. Prepainted by the coil-coating process to comply with ASTM A755/ A 755M."
- e. REVISE 2.7 A. 1. To read as follows.
 - "Material: Zinc-coated (galvanized) or aluminum-zinc alloy coated steel sheet, 20 gauge minimum nominal uncoated steel thickness with 20-24 gauge minimum trim. Prepainted by the coil-coating process to comply with ASTM A755/ A 755M."

Addendum No. 1 – Drawings:

- 1. A601 DOOR AND STOREFRONT TYPES AND SCHEDULES (Replace sheet in its entirety with the attached)
 - a. REVISED door schedule
 - i. Door 104 is now door 112A
 - ii. Door 112A is door type A
 - iii. Door Type B is "not used"
- 2. E111 LIGHTING RCP (Replace sheet in its entirety with the attached)
 - a. Added keyed notes #6 and #7
 - b. Added emergency lighting fixture on exterior of building at main entrance. Provided with remote battery backup in vestibule.
- 3. E203 ELECTRICAL SCHEDULES (Replace sheet in its entirety with the attached)
 - a. Added fixture EM
 - b. Revised description of fixture F4E
- 4. FP202 FIRE PROTECTION DETAILS (Replace sheet in its entirety with the attached)
 - a. REMOVED backflow preventer from riser detail.
- 5. FP301 FIRE PROTECTION SPECIFICATIONS (Replace sheet in its entirety with the attached)
 - a. REMOVED reference to backflow preventer and added check valve to Service Entrance section.

<u>Attachments:</u> 004113, A601, E111, E203, FP202, FP301

Any other questions regarding this proposal shall be submitted to Kim Quade, CPPB by e-mail at kquade@raymore.com or by phone at (816) 892-3045. There will be no questions allowed after February 10th, 2017 at 5 p.m.

I hereby certify that the above have been considered and associated costs have been included in this bid.

Company Name:		
By:		
Title:		
	Phone:	
Signature of Bidde		

ADDENDUM MUST BE SUBMITTED WITH BID

END OF ADDENDUM

Page: 5

RAYMORE PARKS ACTIVITY CENTER

ADDENDUM #2

BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

SECTION 004113

SECTION 004113 - BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.1	BID INFORMATION
A.	Bidder:
B.	Project Name: Raymore Parks Activity Center.
C.	Project Location: 1011 S. Madison Street Raymore, Missouri 64083.
D.	Owner: City of Raymore.
E.	Architect: SFS Architecture, Inc.
F.	Architect Project Number: 15930.
.2	CERTIFICATIONS AND BASE BID
A.	Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by sfs architecture and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:
	1Dollars
	(\$).
	2. The above amount may be modified by amounts indicated by the Bidder on the attached Document 004323 "Alternates Form."
.3	BID GUARANTEE
A.	The undersigned Bidder agrees to execute a contract for this Work in the above amount and to furnish surety as specified within 10 days after a written Notice of Award, if offered within 60 days after receipt of bids, and on failure to do so agrees to forfeit to Owner the attached cash, cashier's check, certified check, U.S. money order, or bid bond, as liquidated damages for such failure, in the following amount constituting five percent (5%) of the Base Bid amount above:
	1 Dollars
	(\$).
B.	In the event Owner does not offer Notice of Award within the time limits stated above, Owner

bid bond.

will return to the undersigned the cash, cashier's check, certified check, U.S. money order, or

<u>SFS/15930</u> <u>SECTION 004113</u>

RAYMORE PARKS ACTIVITY CENTER ADDENDUM #2

BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.4	ITEN	MIZED PRICE BREAKDOWN			
A.	Prov	ride a breakdown of the bid amount for the following the portions of the Work indicated:			
	1.	Pre-Engineered Metal Building Systems:			
	2.	Resilient Sports Flooring (MAF-1)			
	3.	Resilient Sports Flooring (RV-1):			
1.5	TIMI	E OF COMPLETION			
A.	The undersigned Bidder proposes and agrees hereby to commence the Work of the Control Documents on a date specified in a written Notice to Proceed to be issued by Johnson Coul Parks and Recreation Department, and shall fully complete the Work within 240 calendar days				
1.6	ACK	NOWLEDGEMENT OF ADDENDA			
A.		undersigned Bidder acknowledges receipt of and use of the following Addenda in the aration of this Bid:			
	1.	Addendum No. 1, dated			
	2.	Addendum No. 2, dated			
1.7	BID	SUPPLEMENTS			
A.	The	following supplements are a part of this Bid Form and are attached hereto.			
	1.	Bid Form Supplement – Deduct Alternates:			
		a. Deduct Alternate No 1 bid amount:			
		b. Deduct Alternate No. 2 bid amount:			
	2	Bid Form Supplement - Rid Bond Form (AIA Document A310)			

1.8 CONTRACTOR'S LICENSE

A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in the State of Kansas, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

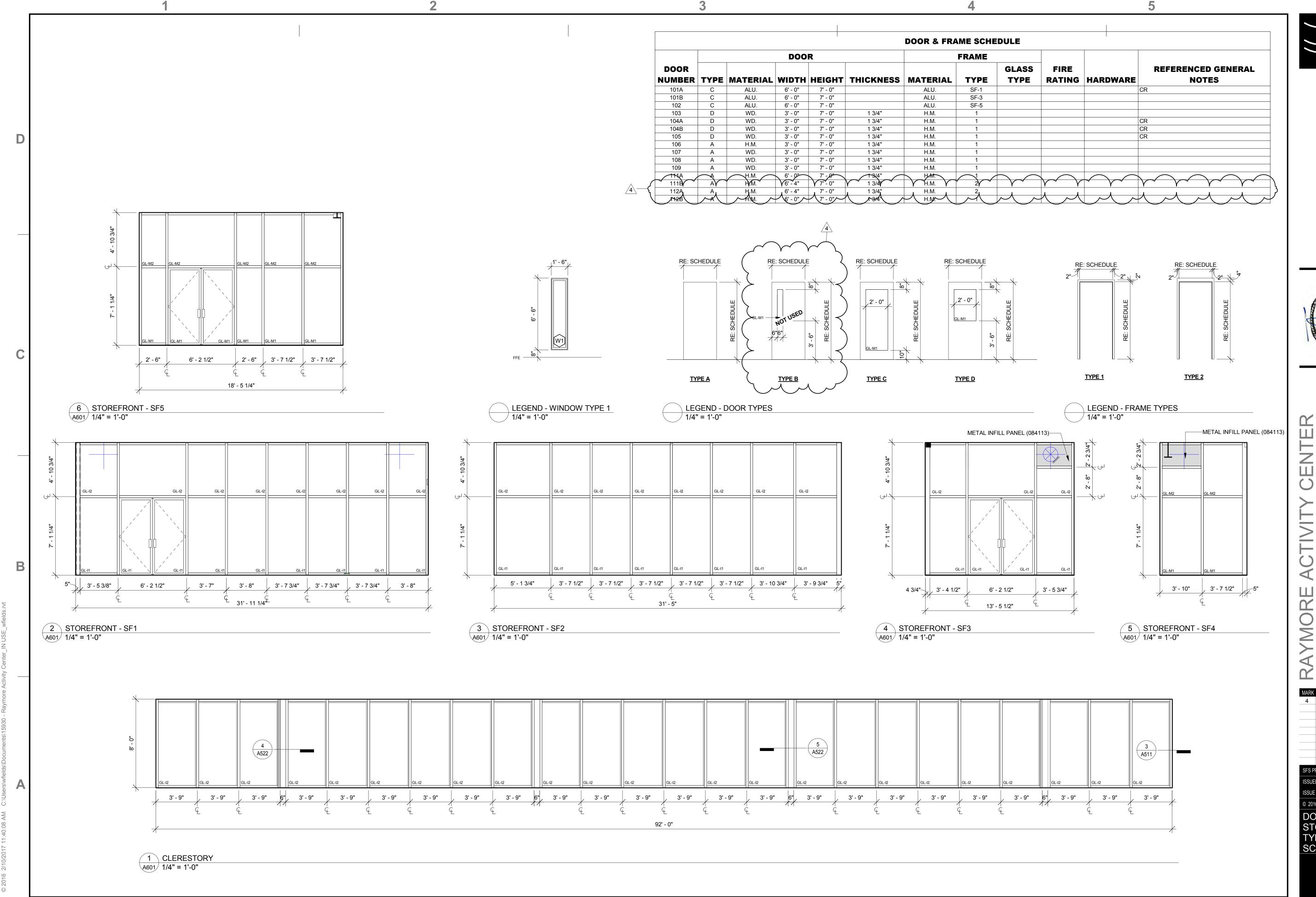
SFS/15930 SECTION 004113

RAYMORE PARKS ACTIVITY CENTER ADDENDUM #2

BID FORM - STIPULATED SUM (SINGLE-PRIME CONTRACT)

1.9	SUBMISSION OF BID	
A.	Respectfully submitted this day of	, 2017.
B.	Submitted By:corporation).	(Name of bidding firm or
C.	Authorized Signature:	(Handwritten signature).
D.	Signed By:	(Type or print name).
E.	Title:	(Owner/Partner/President/Vice President).
F.	Witness By:	(Handwritten signature).
G.	Attest:	(Handwritten signature).
H.	By:	(Type or print name).
l.	Title:	(Corporate Secretary or Assistant Secretary).
J.	Street Address:	.
K.	City, State, Zip:	·
L.	Phone:	·
M.	License No.:	·
N.	Federal ID No.:	(Affix Corporate Seal Here).

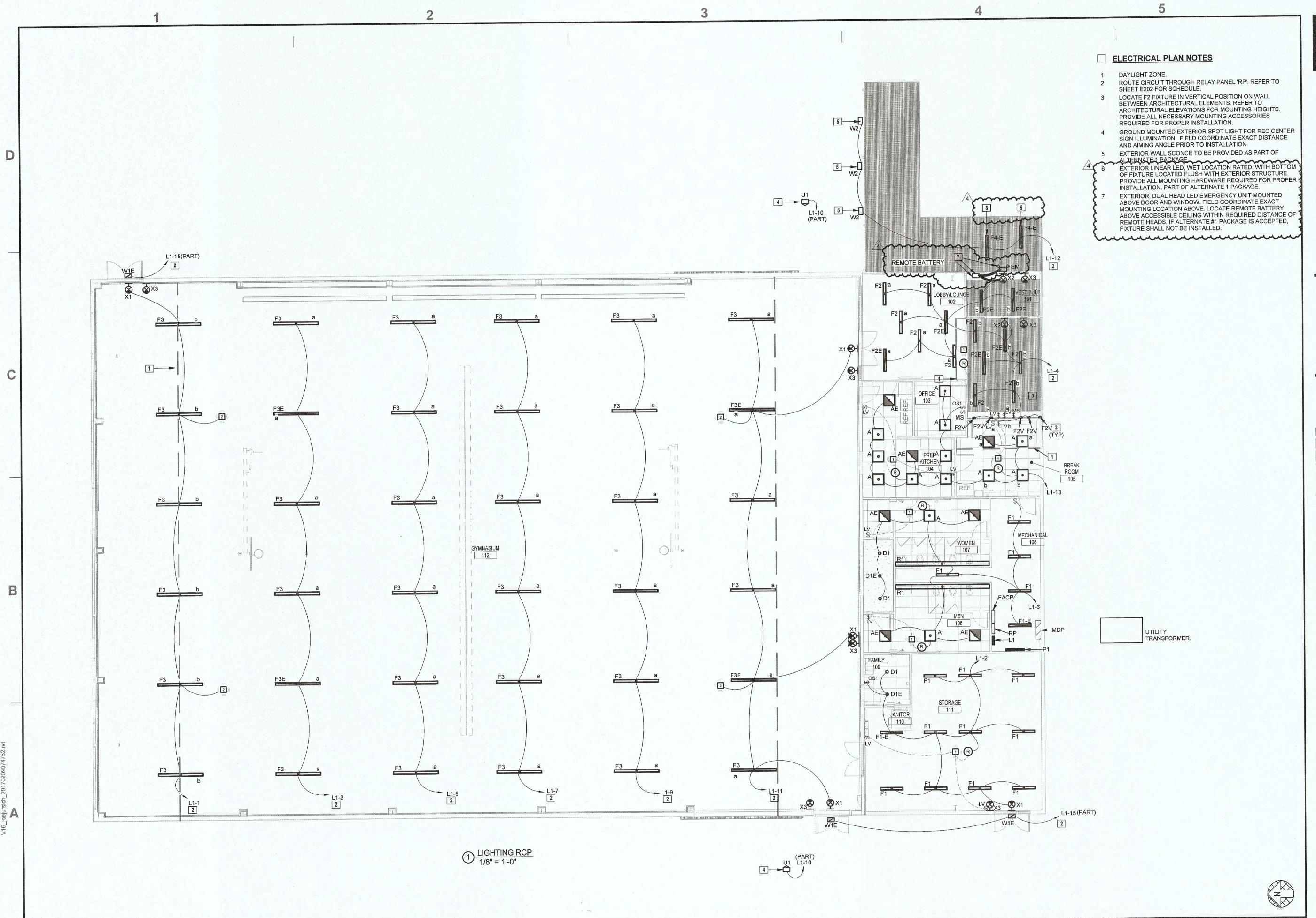
END OF DOCUMENT 004113





City of Raymore 1011 S. Madison Street Raymore, MO 64083 MARK DATE DESCRIPTION 4 2/10/17 Addendum No. 2

SFS PROJECT NO: 15930 ISSUED FOR: CONSTRUCTION DOCUMENTS ISSUE DATE: 01.09.17 © 2016 SFS ARCHITECTURE DOOR AND STOREFRONT TYPES AND SCHEDULES





HENDERSON ENGINEERSE

1801 MAIN, SUITE 300 KANSAS CITY, MO 64108 TEL 816 663 8700 FAX 816 663 8701 www.hei-eng.com MO. CORPORATE NUMBER: E-556D EXPIRES 12/31/2018

JULIETTE A. PIERCE LICENSE # PE-2009003622



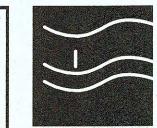
RAYMORE

1 01.06.17 PLAN REVIEW
COMMENTS
2 01.06.17 FIRE REVIEW
COMMENTS
4 02.10.17 ADDENDUM 2

SFS PROJECT NO: 15930 SSUED FOR: CONSTRUCTION DOCUMENTS ISSUE DATE: 01.09.17 © 2016 SFS ARCHITECTURE LIGHTING RCP

							E SCHEDULE	
TYPE	MANUFACTURER/MODEL #	NO.	LAMPS TYPE	VOLT	INPUT WATTS	INPUT VA	DESCRIPTION	NOTES
A	HE WILLIAMS #LT SERIES COOPER - CORELITE #CLASS R2X SERIES HUBBELL #LCAT SERIES OR APPROVED EQUIVALENT	NO	LED 80 CRI, 3500K 5,00 LUMENS 50,000 HRS	120	40	44	2'x2' RECESSED LENSED ARCHITECTURAL TROFFER WITH 22-GAUGE COLD ROLLED STEEL FOR GRID CEILING APPLICATIONS. FROSTED ACRYLIC SHIELD. HIGHLY REFLECTIVE NON-GLARE MATTE WHITE POWDER COAT FINISH. PROVIDE WITH 5,000 LUMEN PACKAGE AND DRIVER PREWIRED FOR 0-10V LOW VOLTAGE DIMMING APPLICATIONS.	
AE	HE WILLIAMS #L60 SERIES OR APPROVED EQUIVALENT		LED 80 CRI, 3500K 2,000 LUMENS 50,000 HRS	120	40	44	SAME AS TYPE 'A' BUT PROVIDE WITH EMERGENCY BATTERY BACKUP CAPABLE OF A MINIMUM 1000 LUMENS FOR 90 MINUTES.	
D1	HE WILLIAMS #L60 SERIES OR APPROVED EQUIVALENT		LED 80 CRI, 3500K 2,000 LUMENS 50,000 HRS	120	27	30	6" RECESSED ROUND DOWNLIGHT WITH CLEAR SEMI-SPECULAR REFLECTOR. 20-GAUGE DIE-FORMED GALVANIZED STEEL FRAME. PRE-WIRED FOR NON-DIMMING APPLICATIONS.	
D1E	HE WILLIAMS #L60 SERIES OR APPROVED EQUIVALENT	-	LED 80 CRI, 3500K 2,000 LUMENS	120	27	30	SAME AS TYPE 'D1' BUT PROVIDE WITH EMERGENCY BATTERY BACKUP CAPABLE OF A MINIMUM 1000 LUMENS FOR 90 MINUTES.	~~
EM	LITHONIA #ELA LED T WP OR APPROVED EQUIVALENT	-	LED	120	12	12	EXTERIOR WALL MOUNT EMERGENCY LIGHTING UNIT WITH TWO-HEADS AND REMOTE BATTERY UNIT. LOCATE BATTERY ABOVE ACCESSIBLE CEILING WITHIN VESTIBULE AREA. BATTERY SHALL BE CAPABLE OF OPERATING LAMPS AT FULL OUTPUT FOR A MINIMUM OF 90 MINUTES. IF ALTERNATE #1 IS ACCEPTED, THIS FIXTURE SHALL BE REMOVED FROM PROJECT AND NOT INSTALLED. COORDINATE FINISH COLOR WITH OWNER.	3
F1	HE WILLIAMS #75 SERIES OR APPROVED EQUIVALENT		LED 80 CRI, 3500K 3,000 LUMENS 50,000 HRS	120	23	26	4' LED STRIP FIXTURE WITH 22-GAUGE DIE FORMED COLD ROLLED STEEL HOUSING. MAXIMUM HEIGHT OF 2.5". WHITE POLYESTER POWDER COAT FINISH. PROVIDE MOUNTING KITS FOR SUSPEND APPLICATIONS FROM STEEL DECK AND JOISTS. WIRE GUARD.	
F1-E	HE WILLIAMS #75 SERIES OR APPROVED EQUIVALENT	-	LED 80 CRI, 3500K 3,000 LUMENS 50,000 HRS	120	23	26	SAME AS TYPE 'F1' BUT PROVIDE WITH EMERGENCY BATTERY BACKUP CAPABLE OF A MINIMUM 1000 LUMENS FOR 90 MINUTES.	
F2	LUMENWERX #VIA1.5	-	LED 80 CRI, 3500K 500 LMS/FT	120	24	25	4' LINEAR STRIP FIXTURE. SURFACE MOUNTED.	
F2-E	LUMENWERX #VIA1.5	-	LED 80 CRI, 3500K 500 LMS/FT	120	24	25	SAME AS TYPE 'F2' BUT PROVIDE WITH EMERGENCY BATTERY BACKUP CAPABLE OF A MINIMUM 1000 LUMENS FOR 90 MINUTES.	
F2-V	LUMENWERX #VIA1.5	-	LED 80 CRI, 3500K 350 LMS/FT	120	17	18	4' LINEAR STRIP FIXTURE. SURFACE MOUNTED, VERTICAL POSITION.	
F3	COOPER METALUX #ILED SERIES OR APPROVED EQUIVALENT		LED 80 CRI, 3500K 22,000 LUMENS 50,000 HRS	120	148	164	8' HIGH BAY LINEAR STRIP WITH WIDE DISTRIBUTION. DIE-FORMED COLD ROLLED STEEL WITH WIDE DISTRIBUTION. PROVIDE WITH (2) DRIVERS, WIRE GUARD AND CHAIN HANG ACCESSORIES. BOTTOM OF FIXTURE IS EVEN WITH BOTTOM OF STRUCTURAL BEAMS.	
F3-E	COOPER METALUX #ILED SERIES OR APPROVED EQUIVALENT	-	LED 80 CRI, 3500K 22,000 LUMENS 50,000 HRS	120	148	164	SAME AS TYPE 'F3' BUT PROVIDE WITH EMERGENCY BATTERY BACKUP CAPABLE OF A MINIMUM 1000 LUMENS FOR 90 MINUTES.	4
F4-E	LUMENWERX #VIAWETS	-	LED 80 CRI, 3500K 750 LMS/FT	120	34.5	39	4' LINEAR STRIP FIXTURE WITH WET LISTING WITH EMERGENCY BATTERY BACKUP CAPABLE OF A MINIMUM 1000 LUMENS FOR 90 MINUTES. PART OF ALTERNATE #1.	3
R1	LUMENWERX #VIA 3 PERIMETER SERIES		LED 80 CRI, 3500K 750LMS/FT	120	9/FT	10/FT	3" CONTINUOUS COVE LIGHT RECESSES AT WALL/CEILING INTERSECTION.	
U1	EATON #LUMARK		LED 70 CRI, 4000K 9,500 LUMENS	UNV	129	135	EXTERIOR LED GROUND MOUNTED FLOODLIGHT WITH DIE-CAST ALUMINUM HOUSING. PROVIDE WITH TOP AND SIDE VISORS AND STANDARD BRONZE FINISH. FIELD VERIFY EXACT MOUNTING DISTANCE FROM BUILDING AND AIMING ANGLE TO ILLUMINATE BUILDING SIGNAGE.	
W1E	COOPER LUMARK #XTOR MAXX LED SERIES	-	LED 80 CRI, 4000K 6,000 LUMENS 75,000 HRS	120	58	60	EXTERIOR LED WALL PACK WITH REFRACTIVE LENS CAPABLE OF OPERATION IN TEMPERATURES BETWEEN -40 AND 40 DEGREES CELCIUS. CARBON BRONZE FINISH. PROVIDE WITH COLD WEATHER EMERGENCY BATTERY PACK CAPABLE OF A MINIMUM 468 LUMENS FOR 90 MINUTES. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT.	
W2	TECH LIGHTING #TEGEL 12	-	LED 80 CRI, 4000K 2,400 LUMENS 75,000 HRS	UNV	30	32	EXTERIOR LED DIRECT-INDIRECT WALL SCONCE WITH LENS CAPABLE OF OPERATION IN TEMPERATURES BETWEEN -40 AND 40 DEGREES CELCIUS. CARBON BRONZE FINISH. 36 DEGREE BEAM SPREAD UP AND DOWN. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT.	
X1	LITHONIA #LQM SERIES OR APPROVED EQUIVALENT		LED	120	1	1.5	PART OF ALTERNATE #1. UNIVERSAL MOUNT, WHITE EXIT SIGN WITH STENCILED RED LETTERING, UNIVERSAL CHEVRONS, INTEGRAL BATTERY PACK, AND THERMOPLASTIC HOUSEING. BATTERY SHALL BE CAPABLE OF OPERATING UNIT FOR A MINIMUM OF 90 MINUTES. PROVIDE WIRE GUARD FOR FIXTURES IN GYM.	
X2	EATON SURE-LITES #EUS SERIES OR APPROCED EQUIVALENT	-	LED	UNV	5	5	SURFACE MOUNT, CLEAR EXIT SIGN WITH RED LETTERING, UNIVERSAL CHEVRONS, INTEGRAL BATTERY PACK, AND THERMOPLASTIC HOUSING. BATTERY SHALL BE CAPABLE OF OPERATING UNIT FOR A MINIMUM OF 90 MINUTES.	
X3	EVERLITE #B-SLX-10-61-R-AF-N OR APPROCED EQUIVALENT	-	<u>-</u>	-	-	-	UNIVERSAL MOUNT EXIT SIGN WITH RED LETTERING, TRITIUM FILLED GAS TUBES REQUIRING NO ELECTRICAL INPUT AND COMPLIANTE WITH UL924 STANDARD	

- A. ANY PROPRIETARY, SOLE-SOURCED LIGHT FIXTURE LISTED IN THE LIGHT FIXTURE SCHEDULE SHALL BE UNIT PRICED ONLY. NO PACKAGING OR LOT PRICING OF THESE
- LIGHT FIXTURES SHALL BE ALLOWED. UNIT PRICES SHALL BE CLEARLY IDENTIFIED ON THE BID FORM.
- B. REPRESENTATIVE AGENTS SHALL BE ALLOWED TO OFFER MINI-LOT PRICING (MLP) FOR LIGHT FIXTURES SPECIFED IN DIV 16 SHEET SPECS ONLY. REFER TO SPECIFICATION FOR DEFINITION, TERMS AND LIMITATIONS OF MLP. C. PACKAGING OF LIGHT FIXTURES WILL NOT BE CONSIDERED OR APPROVED.
- D. LIGHTING CONTROLS PRICING, INCLUDING BUT NOT LIMITED TO THOSE REFERENCED IN DIV 16 SHEET SPECS, SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING. ANY LIGHTING CONTROLS PRICING THAT
- IS SUBMITTED WITH LIGHT FIXTURE PRICING (UNIT OR MINI-LOT) WILL BE IMMEDIATELY REJECTED IN ITS ENTIRETY.
- E. VERIFY CEILING CONDITIONS AND COORDINATE LIGHT FIXTURE MOUNTING HARDWARE AND TRIMS NEEDED TO SUIT CEILING CONDITIONS PRIOR TO ORDERING.
- F. VERIFY QUANTITIES, MODEL NUMBERS AND DESCRIPTIONS WITH MANUFACTURER PRIOR TO PLACING ORDER.
- G. VERIFY FINISH AND COLOR WITH ARCHITECT PRIOR TO PLACING ORDER.
- H. REFER TO ARCHITECTURAL DRAWINGS AND DETAILS FOR EXACT LOCATIONS, MOUNTING HEIGHTS AND ADDITIONAL MOUNTING INFORMATION. CONTACT ARCHITECT IMMEDIATELY IF THERE ARE DISCREPANCIES
- BETWEEN THE ARCHITECTURAL AND ELECTRICAL LIGHTING PLANS.
- I. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBERS ONLY. FIRST READ THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS IN CONJUNCTION WITH THE CATALOG NUMBER TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURES LISTED ARE THE BASIS FOR THE DESIGN.
- J. CONTRACTOR SHALL PROVIDE ALL LIGHT FIXTURES UNLESS NOTED OTHERWISE. K. REFER TO LIGHTING CONTACTOR OR RELAY SCHEDULE AND PANELBOARD SCHEDULES FOR CONTROL INFORMATION.



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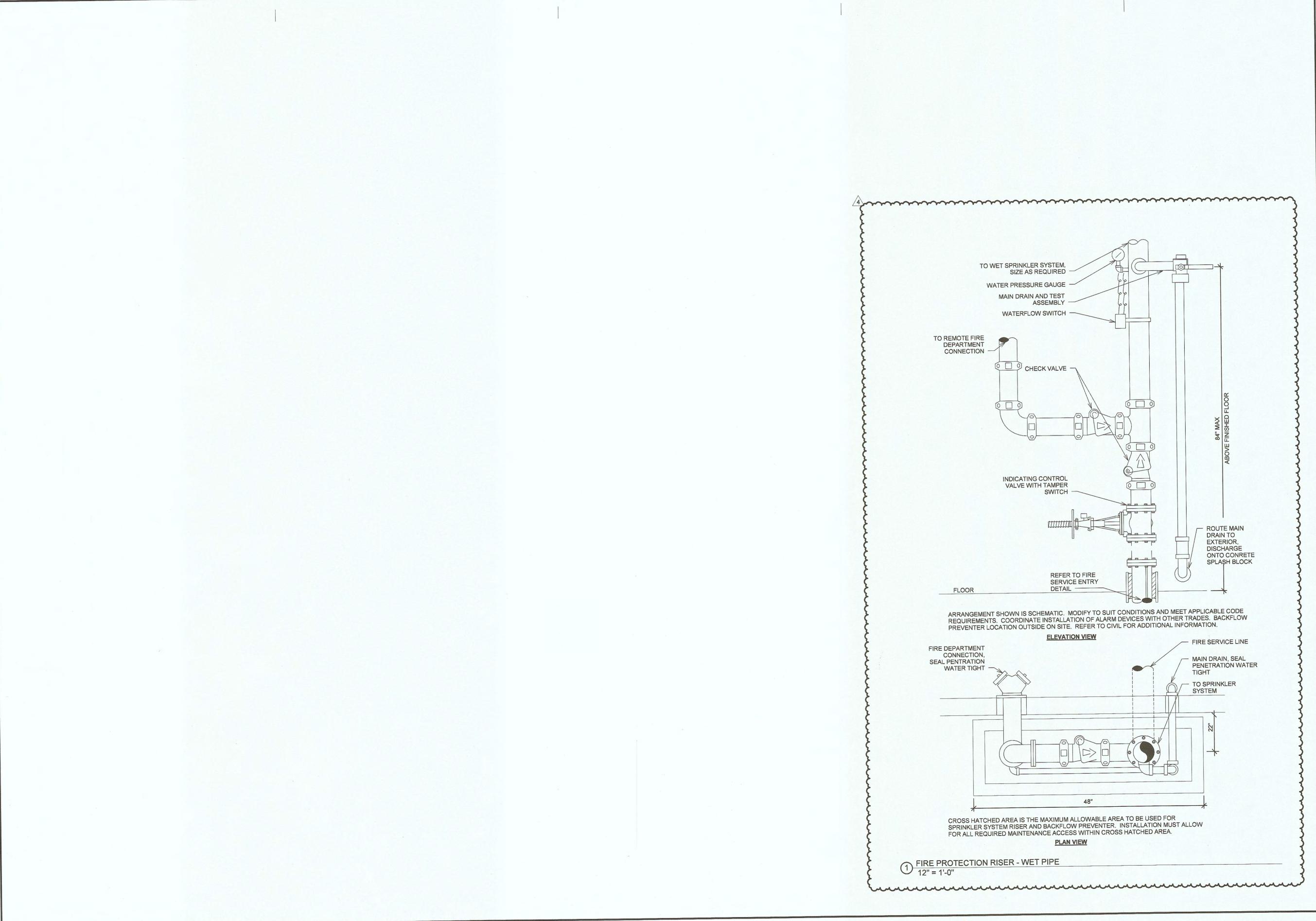


1 01.06.17 PLAN REVIEW COMMENTS

COMMENTS 4 02.10.17 ADDENDUM 2 SFS PROJECT NO: 15930 ISSUED FOR: CONSTRUCTION DOCUMENTS ISSUE DATE: 01.09.17 © 2016 SFS ARCHITECTURE ELECTRICAL

2 01.06.17 FIRE REVIEW

SCHEDULES





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RAYMORE

1101 S. Madison Street Raymore, MO 64083 DESCRIPTION

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EXPIRES 12/31/2018

2016 SFS ARCHITECTURE FIRE SPRINKLER

SPECIFICATIONS

SECTION 15C: AUTOMATIC SPRINKLER SYSTEM: **15C GENERAL**

15C GENERAL REQUIREMENTS

ALL REQUIREMENTS UNDER THE GENERAL AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE A PART OF THIS SECTION. EACH CONTRACTOR SHALL BE RESPONSIBLE TO THOROUGHLY BECOME FAMILIAR WITH ALL ITS CONTENTS AS TO CODES AND REQUIREMENTS THAT AFFECT THIS DIVISION OR SECTION. THE WORK REQUIRED UNDER THIS SECTION INCLUDES ALL MATERIAL, EQUIPMENT, APPLIANCES, TRANSPORTATION, SERVICES, AND LABOR REQUIRED TO COMPLETE THE ENTIRE SYSTEM AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.

THE SPECIFICATIONS WRITTEN HEREIN AND THE ASSOCIATED DRAWINGS ARE COMPLEMENTARY, AND ANY PORTION OF THE WORK DESCRIBED IN ONE, SHALL BE PROVIDED AS IF DESCRIBED IN BOTH. IN THE EVENT OF DISCREPANCIES ON THE DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL ADVISE THE ENGINEER OF SAME PRIOR TO PROCEEDING WITH THE WORK INVOLVED, IN ORDER THAT CORRECT PROGRESS OF THE WORK MAY BE ENSURED. REFER TO SECTION 15B PLUMBING FOR ADDITIONAL REQUIREMENTS THAT APPLY TO THIS INSTALLATION THAT ARE NOT WRITTEN HEREIN.

15C DEFINITIONS

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING. ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

FURNISHED BY OWNER OR FURNISHED BY OTHERS: THE ITEM WILL BE FURNISHED BY THE OWNER OR OTHERS. IT IS TO BE INSTALLED AND CONNECTED UNDER THE REQUIREMENTS OF THIS DIVISION, COMPLETE AND READY FOR OPERATION, INCLUDING ITEMS INCIDENTAL TO THE WORK, INCLUDING SERVICES NECESSARY FOR PROPER INSTALLATION AND OPERATION. THE INSTALLATION SHALL BE INCLUDED UNDER THE GUARANTEE REQUIRED BY THIS DIVISION.

ENGINEER: WHERE REFERENCED IN THIS DIVISION, "ENGINEER" IS THE ENGINEER OF RECORD AND THE DESIGN PROFESSIONAL FOR THE WORK UNDER THIS DIVISION, AND IS A CONSULTANT TO, AND AN AUTHORIZED REPRESENTATIVE OF, THE ARCHITECT, AS DEFINED IN THE GENERAL AND/OR SUPPLEMENTARY CONDITIONS. WHEN USED IN THIS DIVISION, IT MEANS INCREASED INVOLVEMENT BY, AND OBLIGATIONS TO, THE ENGINEER, IN ADDITION TO INVOLVEMENT BY, AND OBLIGATIONS TO, THE "ARCHITECT".

AHJ: THE CODE AND/OR INSPECTION AGENCY (AUTHORITY) HAVING JURISDICTION OVER THE WORK.

THE TERMS "APPROVED EQUAL", "EQUIVALENT", OR "EQUAL" ARE USED SYNONYMOUSLY AND SHALL MEAN "ACCEPTED BY OR ACCEPTABLE TO THE ENGINEER AS EQUIVALENT TO THE ITEM OR MANUFACTURER SPECIFIED". THE TERM "APPROVED" SHALL MEAN LABELED, LISTED, OR BOTH, BY A NATIONALLY RECOGNIZED TESTING LABORATORY (E.G. UL, ETL, CSA), AND ACCEPTABLE TO THE AHJ OVER THIS PROJECT.

15C INSPECTION OF SITE

THE CONTRACTOR SHALL PERSONALLY INSPECT THE SITE OF THE PROPOSED WORK AND BECOME FULLY INFORMED AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE DONE. FAILURE TO DO SO WILL NOT BE CONSIDERED SUFFICIENT JUSTIFICATION TO REQUEST OR OBTAIN EXTRA COMPENSATION OVER AND ABOVE THE CONTRACT

15C SCOPE

PROVIDE COMPLETE WITH ALL RELATED ITEMS. A WET-PIPE. AUTOMATIC FIRE SPRINKLER SYSTEM FOR THE BUILDING SHOWN ON THE DRAWINGS. CONTRACTOR SHALL BE APPROVED AND STATE LICENSED FOR DESIGN AND INSTALLATION OF FIRE PROTECTION SYSTEMS. THE WORK DONE UNDER THIS SECTION SHALL BE PERFORMED ONLY BY A CONTRACTOR WHOSE WORKMEN ARE EXPERIENCED AND REGULARLY ENGAGED IN THE INSTALLATION OF FIRE PROTECTION SYSTEMS. CONTRACTOR SHALL BE CAPABLE OF PREPARING HYDRAULIC CALCULATIONS AND SYSTEM LAYOUTS.

PROVIDE ALL FIRE SPRINKLER ALARM DEVICES INCLUDING WATERFLOW ALARM AND VALVE TAMPER SWITCHES FOR ALL SYSTEM CONTROL VALVES. PROVIDE A NOTIFICATION APPLIANCE ACCEPTABLE TO THE AHJ ON THE EXTERIOR OF THE BUILDING AT 8'-0" ABOVE FINISHED GRADE ADJACENT TO THE FIRE DEPARTMENT CONNECTION. COORDINATE ALL WIRING AND CONDUIT FOR A COMPLETE AND FUNCTIONAL INSTALLATION.

SYSTEM SHALL, AT A MINIMUM, BE IN ACCORDANCE WITH THE 2010 EDITION OF NFPA 13, 24, UNDERWRITERS LABORATORIES (UL), AND MUST BE ACCEPTABLE TO THE OWNER'S INSURER, THE AHJ AND ALL APPLICABLE LOCAL, STATE AND NATIONAL CODES AND STANDARDS. WHERE THE CONTRACT DOCUMENTS EXCEED THE REQUIREMENTS OF THE REFERENCED CODES, STANDARDS, ETC., THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE.

WORK SHALL INCLUDE, BUT SHALL NOT NECESSARILY BE LIMITED TO THE FOLLOWING:

1) ALL UNDERGROUND PIPING (WHICH PERTAINS TO THE FIRE SPRINKLER SYSTEM) AS INDICATED ON THE DRAWINGS, INCLUDING ALL REQUIRED PIPE, VALVES, ETC., AS WELL AS THE REQUIRED PREPARATORY AND FINISHING WORK SUCH AS TRENCHING. BACKFILLING, AND PAVEMENT REPLACEMENT. PROVIDE THRUST BLOCKS, SUPERVISED POST INDICATING VALVE, AND VALVE PIT AS REQUIRED OR SHOWN ON DRAWINGS.

2) CONNECTION TO CITY MAIN SHALL BE A WET TAP AND SHALL INCLUDE ALL REQUIRED FITTINGS, VALVES, METER VAULTS, BACKFLOW PREVENTERS, BACKFLOW PREVENTER VAULT, ETC. PROVIDE BACKFLOW PREVENTION EQUIPMENT AS REQUIRED BY LOCAL CODES.

3) DESIGN AND INSTALLATION OF A COMPLETE WET-PIPE, AUTOMATIC FIRE SPRINKLER SYSTEM FOR THE AREA OF WORK SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN.

4) PORTIONS OF SYSTEMS SUBJECT TO FREEZING OR TEMPERATURES BELOW 40° F SHALL BE PROTECTED AGAINST FREEZING AS REQUIRED BY NFPA 13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS AND FOR ALL COSTS INCURRED FROM DAMAGE CAUSED BY FREEZING OF THE FIRE PROTECTION SYSTEM.

CONTRACTOR SHALL VERIFY DESIGN CRITERIA AND RATING HAZARDS WITH THE OWNER'S INSURER PRIOR TO DESIGNING THE SYSTEM. WATERFLOW AND PRESSURE TEST DATA SHALL BE ACQUIRED BEFORE SYSTEM IS CALCULATED AND BE DATED NOT MORE THAN 12 MONTHS PRIOR TO THE SUBMITTAL OF SPRINKLER SHOP DRAWINGS. ARRANGEMENTS FOR AND COST OF FLOW TESTS SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

HYDRAULIC CALCULATIONS SHALL BE SUBMITTED INCLUDING SUPPLY AND DEMAND GRAPH; ALL HYDRAULIC REFERENCE POINTS AND AREA OF APPLICATION SHALL APPEAR ON THE PLAN. CONTRACTOR SHALL VERIFY WITH AHJ ANY MINIMUM SAFETY FACTOR REQUIREMENTS. DEMAND SHALL NOT BE LESS THAN 10 PSI BELOW THE SUPPLY AT THE

PROTECT ENTIRE BUILDING, UNLESS NOTED OTHERWISE WITH A WET TYPE SPRINKLER SYSTEM DESIGNED IN ACCORDANCE WITH NFPA 13. DESIGN SYSTEM FOR LIGHT HAZARD, 0.10 GPM/SF OVER THE HYDRAULICALLY REMOTE 1500 SF AREA. INCLUDE MINIMUM 100 GPM HOSE ALLOWANCE ADDED AT THE BASE OF RISER.

PROTECT MECHANICAL, ELECTRICAL, KTICHEN AND STORAGE AREAS/ROOMS WITH A WET TYPE SPRINKLER SYSTEM DESIGNED IN ACCORDANCE WITH NFPA 13. DESIGN SYSTEM FOR ORDINARY HAZARD GROUP 1, 0.15 GPM/SF OVER THE HYDRAULICALLY REMOTE 1500 SF AREA OR ENTIRE AREA, WHICHEVER IS SMALLER. INCLUDE MINIMUM 250 GPM HOSE ALLOWANCE ADDED AT THE BASE OF RISER.

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE HYDRAULIC CALCULATIONS, THE FINAL SYSTEM DESIGN, AND THE LAYOUT OF ALL COMPONENTS OF THE SYSTEM AS REQUIRED FOR APPROVAL BY THE OWNER'S INSURER AND THE AHJ.

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR COORDINATING SYSTEM LAYOUT WITH OTHER CONTRACTORS. CHANGES TO SYSTEM DESIGN DUE TO LACK OF COORDINATION SHALL BE PAID FOR BY THIS

DESIGNS REQUIRING CUTTING OF STRUCTURAL MEMBERS FOR PASSAGE OF SPRINKLER PIPES OR HANGERS SHALL NOT BE ACCEPTED. WHEN DESIGN APPEARANCE OR SIMILAR ASPECTS REQUIRE CUTTING, DUE TO ECONOMY, IT SHALL BE HELD TO AN ABSOLUTE MINIMUM AND DONE ONLY WITH THE ARCHITECT AND STRUCTURAL ENGINEER'S WRITTEN APPROVAL. ANY EXCESSIVE REQUIREMENTS OF THIS TYPE SHALL BE IDENTIFIED DURING THE BID

SPRINKLER SPACING SHALL CONFORM TO NFPA 13. EXTENDED COVERAGE SPRINKLERS SHALL NOT BE USED IN UNFINISHED (SHELL)

THE HYDRAULIC AREA OF OPERATION SHALL NOT BE REDUCED AS ALLOWED BY NFPA 13 FOR AREAS UTILIZING QUICK RESPONSE SPRINKLERS.

SIX (6) COPIES OF SHOP DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE FURNISHED TO THE ARCHITECT AND/OR ENGINEER, FOR HIS APPROVAL. SUBMIT SHOP DRAWINGS AS EARLY AS REQUIRED TO SUPPORT THE PROJECT SCHEDULE. ALLOW FOR TWO WEEKS ENGINEER REVIEW TIME PLUS MAILING TIME PLUS A DUPLICATION OF THIS TIME FOR RESUBMITTAL IF REQUIRED.

SUBMITTALS AND SHOP DRAWINGS SHALL NOT CONTAIN HEI'S FIRM NAME OR LOGO, NOR SHALL IT CONTAIN THE HEI'S ENGINEERS' SEAL AND SIGNATURE. THEY SHALL NOT BE COPIES OF HEI'S WORK PRODUCT. IF THE CONTRACTOR DESIRES TO USE ELEMENTS OF SUCH PRODUCT, REFER TO PARAGRAPH "ELECTRONIC DRAWING FILES" FOR PROCEDURES TO BE USED.

SHOP DRAWINGS SHALL MEET THE REQUIREMENTS OF NFPA 13 FOR WORKING LEVEL DRAWINGS AND SHALL INCLUDE THE FOLLOWING:

1) SUBMIT WORKING PLANS PER NFPA 13 INCLUDING LAYOUT DRAWINGS OF THE COMPLETE OVERHEAD SPRINKLER SYSTEM INDICATING RELATIONSHIP OF SPRINKLER PIPING AND SPRINKLERS TO ALL OTHER OVERHEAD ITEMS INCLUDING CEILING GRID AND TILES, LIGHT FIXTURES, DIFFUSERS, REGISTERS, GRILLES, DUCTWORK, STRUCTURE, SOFFITS, OBSTRUCTIONS, ETC. LOCATION OF RISERS. PIPING, ETC., SHALL BE AS INCONSPICUOUS AS POSSIBLE AND SHALL FULFILL ALL FUNCTIONAL REQUIREMENTS. SYSTEM DESIGN CAPABILITIES AND DEMAND SHALL ALSO BE NOTED ON THE DRAWINGS.

2) SUBMIT COMPLETE DETAILS AND SECTIONS AS REQUIRED TO CLEARLY DEFINE AND CLARIFY THE DESIGN, INCLUDING A MATERIALS LIST DESCRIBING ALL PROPOSED MATERIALS BY MANUFACTURER'S NAME AND CATALOG NUMBER.

3) HYDRAULIC CALCULATIONS.

4) PRODUCT DATA FOR ALL FIRE SPRINKLER SYSTEM COMPONENTS. CLEARLY INDICATE COMPONENTS TO BE USED WHERE MULTIPLE COMPONENTS APPEAR ON THE SAME CUT SHEET.

WHERE REQUIRED BY THE AHJ, CONTRACTOR IS RESPONSIBLE FOR OBTAINING A PROFESSIONAL ENGINEER OR NICET STAMP AND SIGNATURE ON THEIR SHOP DRAWING SUBMITTAL. HEI IS NOT RESPONSIBLE AND WILL NOT PROVIDE THIS.

SHOP DRAWINGS SHALL BE PRODUCED USING COMPUTER AIDED DESIGN. HAND DRAWN DOCUMENTS WILL NOT BE REVIEWED OR APPROVED.

REFER TO DIVISION 1 FOR ACCEPTANCE OF ELECTRONIC SUBMITTALS FOR THIS PROJECT. FOR ELECTRONIC SUBMITTALS, CONTRACTOR SHALL SUBMIT THE DOCUMENTS IN ACCORDANCE WITH THE PROCEDURES SPECIFIED IN DIVISION 1. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER THAT THE SHOP DRAWINGS HAVE BEEN POSTED. IF ELECTRONIC SUBMITTAL PROCEDURES ARE NOT DEFINED IN DIVISION 1, CONTRACTOR SHALL INCLUDE THE WEBSITE, USER NAME AND PASSWORD INFORMATION NEEDED TO ACCESS THE SUBMITTALS. FOR SUBMITTALS SENT BY E-MAIL, CONTRACTOR SHALL COPY THE ARCHITECT AND ENGINEER'S DESIGNATED REPRESENTATIVES. CONTRACTOR SHALL ALLOW THE ENGINEER REVIEW TIME AS SPECIFIED ABOVE IN THE CONSTRUCTION SCHEDULE. CONTRACTOR SHALL SUBMIT ONLY THE DOCUMENTS REQUIRED TO PURCHASE THE MATERIALS AND/OR EQUIPMENT IN THE ELECTRONIC SUBMITTAL AND SHALL CLEARLY INDICATE THE MATERIALS, PERFORMANCE CRITERIA AND ACCESSORIES BEING PROPOSED. GENERAL PRODUCT CATALOG DATA NOT SPECIFICALLY NOTED TO BE PART OF THE SPECIFIED PRODUCT WILL BE REJECTED AND RETURNED WITHOUT REVIEW.

15C ELECTRONIC DRAWINGS

IN PREPARATION OF SHOP DRAWINGS OR RECORD DRAWINGS. CONTRACTOR MAY, AT HIS OPTION, OBTAIN ELECTRONIC DRAWING FILES IN AUTOCAD VERSION 14, 2006 OR DXF FORMAT, AS DESIRED. FROM THE ENGINEER FOR A FEE OF \$200 FOR A DRAWING SET UP TO 12 SHEETS AND \$15 PER SHEET FOR A SET OF MORE THAN 12 SHEETS. CONTRACTOR SHALL CONTACT THE ENGINEER TO OBTAIN THE NECESSARY RELEASE AGREEMENT FORM AND TO SPECIFY SHIPPING METHOD AND DRAWING FORMAT. PAYMENT MUST BE RECEIVED BEFORE ELECTRONIC DRAWING FILES WILL BE SENT.

15C RECORD DRAWINGS

DURING PROGRESS OF THE WORK OF THIS SECTION, THIS CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF ALL CHANGES MADE IN THE INSTALLATION OF THE SYSTEM. UPON COMPLETION OF THE WORK, ACCURATELY TRANSFER ALL RECORD INFORMATION TO THREE IDENTICAL SETS OF THE APPROVED SHOP DRAWINGS. INSERT ONE SET INTO EACH COPY OF THE MANUAL DESCRIBED BELOW.

15C SYSTEM MANUAL

UPON COMPLETION OF THE INSTALLATION, AND AS A CONDITION OF ITS ACCEPTANCE, CONTRACTOR SHALL COMPILE THREE 8-1/2" BY 11" MANUALS, FIRMLY BOUND IN HEAVYWEIGHT PLASTIC OR PAPER COVER TO WITHSTAND HARD USE. LOOSE-LEAF BINDING IS NOT ACCEPTABLE. MANUALS SHALL BE DELIVERED TO THE ARCHITECT, AND SHALL CONTAIN THE FOLLOWING ITEMS:

1) IDENTIFICATION CLEARLY VISIBLE ON OR THROUGH THE COVER, THE NAME OF THE PROJECT AND "FIRE SPRINKLER SYSTEM MANUAL".

2) NEATLY TYPED INDEX AT FRONT WITH ALL EMERGENCY INFORMATION CLEARLY IDENTIFIED.

3) COMPLETE LIST OF ALL SYSTEM COMPONENTS WITH MANUFACTURER'S NAMES, CATALOG NUMBERS, AND ALL DATA FOR

4) ONE COPY OF THE RECORD DRAWINGS, AS DESCRIBED ABOVE.

5) ALL INFORMATION REQUIRED TO SECURE EMERGENCY REPAIRS OR

6) TEST REPORTS AND CERTIFICATES INCLUDE "CONTRACTOR'S MATERIAL AND TEST CERTIFICATE(S) FOR UNDERGROUND PIPING" AND "CONTRACTOR'S MATERIAL AND TEST CERTIFICATE(S) FOR ABOVEGROUND PIPING" AS DESCRIBED IN NFPA 13.

15C GUARANTEE

THE ENTIRE INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. LABOR (INCLUDING TRAVEL EXPENSES) TO TROUBLE-SHOOT, REPAIR, REPROGRAM, OR REPLACE COMPONENTS SHALL BE FURNISHED BY THIS CONTRACTOR AT NO CHARGE DURING THE WARRANTY PERIOD.

15C MATERIALS AND INSTALLATION

ALL FIRE PROTECTION SYSTEM COMPONENTS SHALL BE UNDERWRITER'S LABORATORIES LISTED FOR THEIR INTENDED USE.

15C PIPING AND COMPONENTS

UNDERGROUND PIPING SHALL BE CEMENT LINED DUCTILE IRON OR OTHER APPROVED OR LISTED MATERIAL, INSTALLED IN ACCORDANCE WITH NFPA AND FM STANDARDS; FIRE MAIN SHALL INCLUDE ALL REQUIRED FITTINGS AND VALVES.

SPRINKLER PIPING 2-1/2" AND LARGER SHALL BE SCHEDULE 10 OR SCHEDULE 40 BLACK STEEL. SPRINKLER PIPING 2" AND SMALLER SHALL BE SCHEDULE 40. PIPES SHALL HAVE WELDED, THREADED, OR MECHANICALLY JOINED FITTINGS, BASED ON THE PIPE MATERIAL AND SIZE PER NFPA 13 REQUIREMENTS.

ACCEPTABLE ALTERNATIVES TO SCHEDULE 10 AND SCHEDULE 40 PIPE SHALL BE MANUFACTURED TO STANDARDS RECOGNIZED BY NFPA 13. PIPE SHALL HAVE A CORROSION RESISTANCE RATING OF 1.0 OR GREATER. CRIMP-TYPE COUPLINGS SHALL NOT BE USED. THREADABLE THINWALL PIPE WITH CORROSION RESISTANCE RATING LESS THAN 1.0 NOT PERMITTED.

ALL PIPING ON THE EXTERIOR OF THE BUILDING AND/OR EXPOSED TO THE ELEMENTS SHALL BE EXTERNALLY GALVANIZED.

15C SPRINKLERS

SPRINKLERS IN AREAS WITH GYPSUM BOARD CEILINGS SHALL BE WHITE PLATED RECESSED TYPE WITH WHITE ESCUTCHEONS.

SPRINKLERS IN AREAS WITH SUSPENDED ACOUSTICAL CEILINGS SHALL BE (WHITE PLATED RECESSED TYPE WITH WHITE ESCUTCHEONS.

SPRINKLERS IN AREAS WITH EXPOSED PIPING MAY BE PENDENT OR UPRIGHT TYPES WITH ROUGH BRASS FINISH.

PROVIDE QUICK RESPONSE SPRINKLERS IN ALL LIGHT HAZARD AREAS.

15C SERVICE EN I KANCE

FIRE PROTECTION SERVICE ENTRANCE SHALL BE LOCATED WHERE INDICATED ON THE DRAWINGS. THE SERVICE SHALL BE EQUIPPED WITH A CHECK VALVE AS REQUIRED BY THE AHJ

SPRINKLER SYSTEM RISER SHALL BE EQUIPPED WITH AN APPROVED TYPE INDICATING CONTROL VALVE WITH TAMPER SWITCH, WATERFLOW ALARM SWITCH, NOTIFICATION APPLIANCE, CHECK VALVE, SYSTEM DRAIN TERMINATING OUTDOORS, GAUGES AND FIRE DEPARTMENT CONNECTION WITH CHECK VALVE. EACH RISER SHALL MEET NFPA 13 STANDARDS AND REQUIREMENTS FOR ACCEPTABLE VALVE ARRANGEMENTS. IF BACKFLOW PREVENTER IS LOCATED AT THE SERVICE ENTRANCE AND BUILDING IS PROTECTED WITH A SINGLE RISER. SEPARATE CONTROL VALVE AND CHECK VALVE MAY BE

PROVIDE NEXT TO THE SPRINKLER RISER, A PRINTED SHEET. PROTECTED BY GLASS OR A TRANSPARENT PLASTIC COVER, GIVING BRIEF INSTRUCTIONS REGARDING CONTROL, EMERGENCY PROCEDURE AND OTHER DATA AS REQUIRED BY NFPA 13. FOR HYDRAULICALLY DESIGNED SYSTEMS, A PLACARD MUST BE PERMANENTLY ATTACHED TO THE RISER INDICATING THE LOCATION, AND THE BASIS OF DESIGN (DISCHARGE DENSITY AND SYSTEM DEMAND).

ALL CONTROL VALVE SUPERVISORY SWITCHES, WATERFLOW ALARM SWITCHES AND SPRINKLER SYSTEM EQUIPMENT PANELS REQUIRING INTERCONNECTION TO THE FIRE ALARM SYSTEM SHALL BE PROVIDED BY THIS CONTRACTOR. CONTRACTOR SHALL PROVIDE A LINE SEIZURE TYPE AUTOMATIC DIALER (ADEMCO OR EQUAL) AND RELATED TELEPHONE WIRING FOR REMOTE MONITORING OF FIRE SPRINKLER ALARM DEVICES AND OPERATION OF THE NOTIFICATION APPLIANCE.

PROVIDE STORZ FIRE DEPARTMENT CONNECTION: UL LISTED 5" ROUGH BRASS FIRE DEPARTMENT CONNECTION WITH DRAIN, LOCATED WHERE INDICATED ON DRAWINGS. FIRE DEPARTMENT CONNECTION SHALL BE COMPLETE WITH 30? ELBOW, AND HOSE INLET CAP WITH CHAIN. PROVIDE CHECK VALVE SIZED PER NFPA 13 WITH 3/4" BALL DRIP DRAIN PIPED TO THE EXTERIOR OF THE BUILDING. FIRE DEPARTMENT CONNECTION SHALL BE PERMANENTLY LABELED "AUTOMATIC SPRINKLER FIRE DEPARTMENT CONNECTION".

PROVIDE A CABINET CONTAINING SPARE SPRINKLERS AND APPROPRIATE WRENCH(ES) PER NFPA 13, AT THE FIRE SPRINKLER SYSTEM SERVICE ENTRANCE AREA.

15C EXECUTION

15C PIPING AND FINISHES

EXCAVATION, TRENCHING AND BACKFILLING SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE EXCAVATION AND BACKFILL SECTION OF THE PLUMBING SPECIFICATIONS.

PIPING IN AREAS HAVING CEILINGS, OTHER THAN THE UNDERSIDE OF THE ROOF DECK, SHALL BE CONCEALED. PIPING IN AREAS WITHOUT CEILINGS MAY BE EXPOSED BUT KEPT AT A MINIMUM DISTANCE FROM THE DECK. ALL PIPING SHALL BE CLEAN AND FREE OF RUST. INSTALL SYSTEM SUCH THAT ALL PIPING IS RIGIDLY SECURED AND SUPPORTED. ALL DUCTWORK, LIGHTS, STRUCTURAL MEMBERS AND MAIN RUNS OF PIPING SHALL TAKE PRECEDENCE OVER SPRINKLER PIPING. CUTTING OF STRUCTURAL MEMBERS FOR PASSAGE OF SPRINKLER PIPES OR HANGERS WILL NOT BE PERMITTED. ALL HORIZONTAL PIPING IN CEILING SPACE SHALL BE AT AN ELEVATION ABOVE THE TOP OF LIGHT FIXTURES AND AIR OUTLETS TO ALLOW FOR ACCESS TO LIGHT FIXTURES AND AIR OUTLETS WITHOUT REMOVING HORIZONTAL PIPING. ROUTE ALL SPRINKLER PIPING AND PROVIDE ALL OFFSETS, BENDS, AND ELBOWS AROUND ALL MECHANICAL, ELECTRICAL, AND STRUCTURAL MEMBERS AS REQUIRED.

WHERE EXPOSED PIPING PASSES THROUGH FINISH WORK, CHROME PLATED (OR OTHER FINISH ACCEPTABLE TO THE ARCHITECT) SPLIT WALL PLATES OR ESCUTCHEONS SHALL BE INSTALLED TO FIT SNUGLY AROUND THE PIPING. WHERE PIPING IS CONCEALED OR INSTALLED IN UNFINISHED AREAS, SUITABLE PLATES SHALL BE PROVIDED AT EACH PENETRATION TO ASSURE EFFECTIVENESS OF CONSTRUCTION AS A

ALL OPENINGS FOR PIPING SHALL BE ANTICIPATED AND INDICATED ON THE APPROVED SHOP DRAWINGS. ANY ADDITIONAL CUTTING OF OPENINGS MUST HAVE THE WRITTEN APPROVAL OF THE ARCHITECT.

PIPING SHALL BE ROUTED PARALLEL TO MAJOR BUILDING LINES.

DESIGN SHALL ALLOW FOR SUITABLE DRAINAGE OF SYSTEM, ALL TO MEET WITH THE APPROVAL OF THE AFOREMENTIONED AUTHORITIES. PROVIDE ACCESS PANELS AS REQUIRED. ALL DRAIN LOCATIONS REQUIRING ACCESS PANELS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION.

SPRINKLERS IN SUSPENDED CEILINGS SHALL BE NOT LESS THAN 6-INCHES FROM THE GRID IN ALL DIRECTIONS.

CONTRACTOR SHALL COORDINATE THE CONNECTION OF THE FIRE SPRINKLER ALARM DEVICES TO THE FIRE ALARM SYSTEM AS

COORDINATE ALL SCHEDULING AND WORK WITH OTHER TRADES SO AS TO PREVENT CONFLICTS, AND TO ENSURE ORDERLY PROGRESS OF THE WORK, WITH A MINIMUM OF DELAYS. WHEN SPRINKLER PIPING IS INSTALLED WITHOUT COORDINATING WITH OTHER TRADES AND CONFLICTS OCCUR, SPRINKLER PIPING SHALL BE RELOCATED AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER TO RESOLVE THE

15C PENETRATIONS

SEAL ALL FIRE PROTECTION FLOOR, WALL AND ROOF PENETRATIONS WATERTIGHT AND WEATHERTIGHT. CAULK AROUND FIRE PROTECTION PENETRATIONS WITH 3M CP-25, OR APPROVED EQUAL FIRE BARRIER CAULK (THICKNESS AS REQUIRED AND RECOMMENDED BY MANUFACTURER) TO MAINTAIN FIRE RESISTANCE RATING OF FIRE-RATED ASSEMBLIES.

15C TESTING AND ACCEPTANCE

CONTRACTOR SHALL COMPLETE THE AUTOMATIC FIRE SPRINKLER SYSTEM, AS SOON AS POSSIBLE, WHEN BUILDING CONSTRUCTION ALLOWS. FOLLOWING SYSTEM INSTALLATION, THE CONTRACTOR SHALL PLACE THE SYSTEM IN SERVICE. AFTER THE SYSTEM HAS BEEN PLACED IN SERVICE FOR CONTINUOUS USE, WATER CHARGES, IF ANY

UPON COMPLETION OF THE SYSTEMS INSTALLATION, AND PRIOR TO ACCEPTANCE BY THE ENGINEER AND OWNER. THIS CONTRACTOR SHALL MAKE GENERAL OPERATING TESTS TO DEMONSTRATE THAT ALL EQUIPMENT AND SYSTEMS ARE IN PROPER WORKING ORDER, AND ARE FUNCTIONING IN CONFORMANCE WITH THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.

PRIOR TO CONNECTING TO THE OVERHEAD SPRINKLER PIPING, THE UNDERGROUND MAIN SHALL BE FLUSHED THOROUGHLY AND TESTED IN ACCORDANCE WITH NFPA 24. SECURE ALL REQUIRED APPROVALS OF THE FLUSHING OPERATION. ABOVE GROUND PIPING SHALL BE TESTED IN ACCORDANCE WITH NFPA 13. ALL SPRINKLER PIPING SHALL BE HYDROSTATICALLY TESTED AT A MINIMUM PRESSURE OF 200-PSI FOR A MINIMUM 2-HOUR PERIOD OF TIME. CORRECT ANY FAULTY OR LEAKING JOINTS AND PIPE. THE USE OF ANY SUBSTANCE OR MATERIAL ADDED TO THE WATER TO CORRECT LEAKS SHALL NOT BE PERMITTED. CAULKING OF DEFECTIVE JOINTS, CRACKS OR HOLES WILL NOT BE PERMITTED. TESTS SHALL BE REPEATED AFTER DEFECTS HAVE BEEN ELIMINATED. ALL TESTS SHALL BE MADE IN THE PRESENCE OF THE AHJ AND/OR THE OWNER'S AUTHORIZED REPRESENTATIVE.

UPON COMPLETION OF EACH PHASE OF THE INSTALLATION, EACH SYSTEM SHALL BE TESTED IN CONFORMANCE WITH LOCAL CODE REQUIREMENTS. THE CONTRACTOR SHALL FURNISH ALL LABOR AND EQUIPMENT REQUIRED TO PROPERLY TEST ALL SPRINKLER EQUIPMENT INSTALLED UNDER THIS CONTRACT, AND HE SHALL ASSUME ALL COSTS INVOLVED IN MAKING THE TESTS, AND REPAIRING AND/OR REPLACING ALL DAMAGE RESULTING THEREFROM.

THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND THE AUTHORITY HAVING JURISDICTION, THREE (3) WORKING DAYS PRIOR TO MAKING SPRINKLER SYSTEM TESTS. CONCEALED WORK SHALL REMAIN UNCOVERED UNTIL THE REQUIRED TESTS HAVE BEEN COMPLETED, BUT IF NECESSARY DUE TO CONSTRUCTION PROCEDURE. TESTS ON PORTIONS OF THE WORK MAY BE MADE, AND IF SATISFACTORY, THE WORK MAY BE CONCEALED.

15C INSTRUCTIONS

AFTER COMPLETION OF ALL INSTALLATION, TESTS, ETC., AND PRIOR TO THE FINAL ACCEPTANCE DATE, THE CONTRACTOR SHALL INSTRUCT THE BUILDING OWNER AND HIS SELECTED PERSONNEL IN THE OPERATION OF THE SPRINKLER SYSTEM AND THE PROCEDURE TO CONDUCT QUARTERLY MAIN DRAIN TESTS AS REQUIRED BY NFPA 25. SPECIAL CARE SHALL BE TAKEN TO MAKE SURE THE BUILDING PERSONNEL WILL IMMEDIATELY RECOGNIZE WHETHER THE MAIN VALVE IS IN AN OPEN POSITION, WILL KNOW HOW TO DRAIN THE SYSTEM, AND WILL KNOW HOW TO TEST THE SYSTEM. THE BUILDING PERSONNEL SHALL ALSO BE MADE FAMILIAR WITH THE EXISTENCE AND CONTENTS OF THE SYSTEM MANUAL DESCRIBED IN THIS SPECIFICATION.

END OF SECTION 15C

4 02.10.17 ADDENDUM 2 FS PROJECT NO: 15930 SUED FOR: CONSTRUCTION DOCUMENTS SUE DATE: 01.09.17