

# FIRE SPRINKLER INSTALLATION FOR LIBRARY

STATE PROJECT NO.: H34-9545

150 GRAMLING DRIVE  
SPARTANBURG, SC 29303

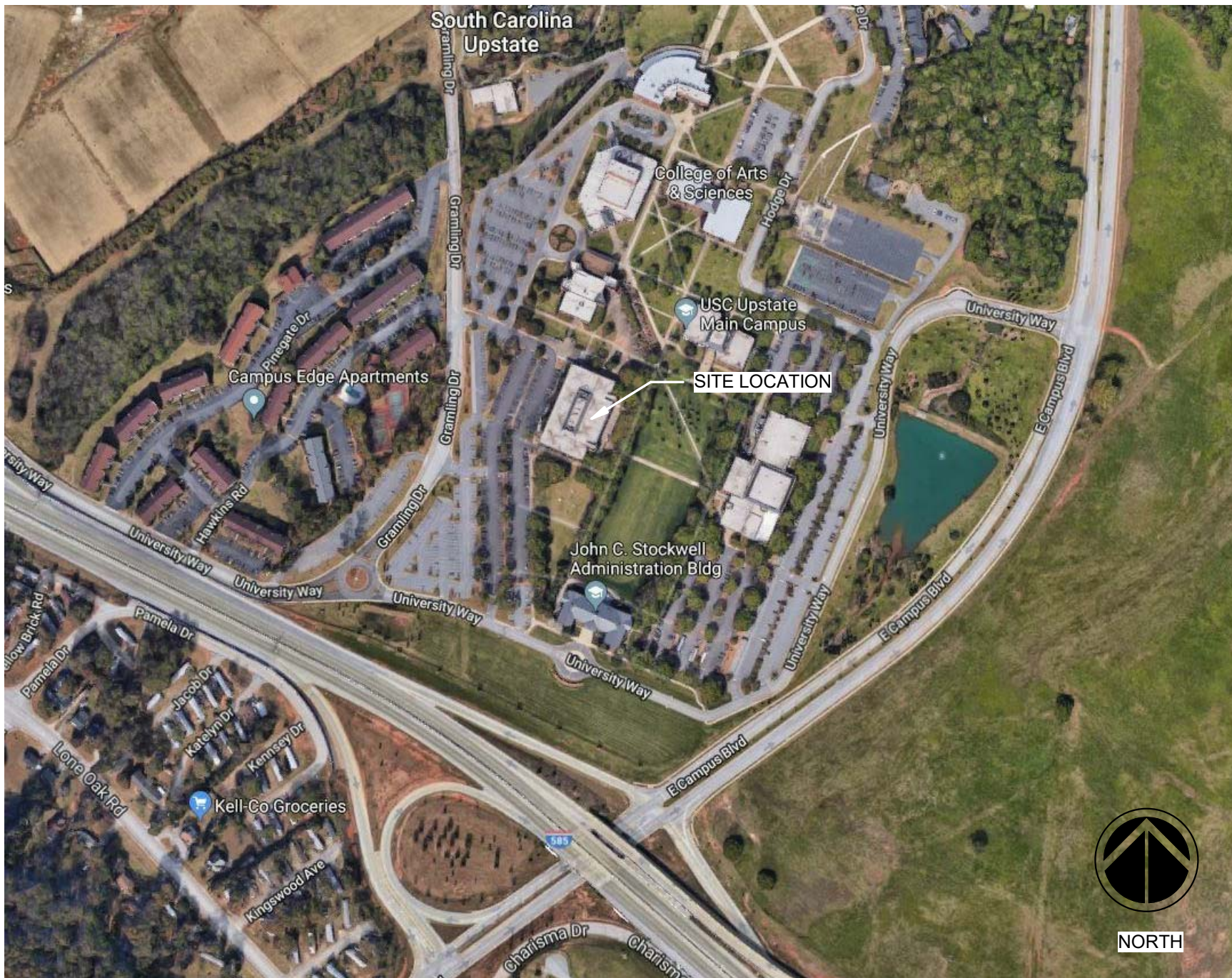
## DRAWING INDEX

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FP101	FIRST FLOOR PLAN
FP102	SECOND FLOOR PLAN AND NOTES
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## GENERAL NOTES

- THE TERM "WORK" AS USED IN THESE NOTES SHALL INCLUDE ALL PROVISIONS AS DRAWN OR SPECIFIED IN THESE DOCUMENTS AS WELL AS ALL OTHER PROVISIONS SPECIFICALLY INCLUDED BY THE OWNER IN THE FORM OF DRAWINGS, SPECIFICATIONS, AND WRITTEN INSTRUCTIONS AND APPROVED BY THE ARCHITECT.
- THE TERM "CONTRACTOR" AS USED IN THESE NOTES SHALL REFER TO THE GENERAL CONTRACTOR OR TO THE SUB-CONTRACTORS. THE OWNER MAY ELECT TO CONTRACT DIRECTLY WITH A SUB-CONTRACTOR FOR ANY PART OF THE WORK.
- SCOPE OF WORK: THE CONTRACTOR SHALL INCLUDE AND PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, TRANSPORTATION, AND PAY ALL EXPENSES INCURRED IN THE PROPER COMPLETION OF WORK UNLESS SPECIFICALLY NOTED TO BE THE WORK OF OTHERS. CONTRACTOR SHALL PERFORM ALL WORK NECESSARY FOR PRODUCING A COMPLETE, HABITABLE PROJECT.
- BEFORE CONSTRUCTION BEGINS, THE CONTRACTOR SHALL VISIT THE SITE TO VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS AND SHALL NOTIFY THE ARCHITECT, IN WRITING, OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK AND SHALL BE RESPONSIBLE FOR SAME.
- IF THE CONTRACT DOCUMENTS ARE FOUND TO BE UNCLEAR, AMBIGUOUS OR CONTRADICTORY, THE CONTRACTOR MUST REQUEST CLARIFICATION FROM THE ARCHITECT IN WRITING BEFORE PROCEEDING WITH THAT PART OF THE WORK.
- IF A CONDITION EXISTS THAT REQUIRES OBSERVATION OR ACTION BY THE ARCHITECT, OR OTHER DESIGN PROFESSIONAL, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT.
- CONTRACTOR SHALL BE FAMILIAR WITH PROVISIONS OF ALL APPLICABLE CODES AND SHALL ENSURE THE COMPLIANCE OF THE WORK WITH ALL LOCAL, STATE AND FEDERAL CODES, TRADE STANDARDS AND MANUFACTURER'S RECOMMENDATIONS. IN THE EVENT OF CONFLICT BETWEEN LOCAL, STATE AND NATIONAL CODES, THE MORE STRINGENT SHALL GOVERN. BEFORE COMMENCING WORK NOT SHOWN IN DOCUMENTS, BUT REQUIRED TO ACHIEVE FULL COMPLIANCE WITH CODES, CONTRACTOR SHALL NOTIFY ARCHITECT.
- THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, COMPLIANCE WITH STATE AND FEDERAL REGULATIONS REGARDING SAFETY AND COMPLIANCE WITH REQUIREMENTS SPECIFIED IN THE OWNER/CONTRACTOR CONTRACT IS, AND SHALL BE, THE CONTRACTOR'S RESPONSIBILITY.
- CONTRACTOR SHALL PAY ALL TAXES, SECURE ALL PERMITS AND PAY ALL FEES INCURRED IN THE COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL UNCONDITIONALLY WARRANTY ALL MATERIALS, AND WORKMANSHIP FURNISHED OR INSTALLED BY HIM OR HIS SUBCONTRACTORS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE AND SHALL REPLACE ANY DEFECTIVE WORK WITHIN THAT PERIOD WITHOUT EXPENSE TO THE OWNER AND PAY FOR ALL DAMAGES TO OTHER PARTS OF THE BUILDING RESULTING FROM DEFECTIVE WORK OR ITS REPAIR. THE CONTRACTOR SHALL REPLACE DEFECTIVE WORK WITHIN A REASONABLE, AGREED UPON TIME FRAME, AFTER IT IS BROUGHT TO HIS ATTENTION.
- THE CONTRACTOR SHALL AT ALL TIMES KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS AND RUBBISH AND AT THE COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE ALL RUBBISH, IMPLEMENTS, AND SURPLUS MATERIALS AND LEAVE THE BUILDING IN NEW AND CLEAN CONDITION.
- CONTRACTOR IS TO PROVIDE TO THE OWNER A LIST OF ALL SUBCONTRACTORS USED, COMPLETE WITH ADDRESSES, PHONE NUMBERS AND COPIES OF ALL WARRANTIES AND OPERATIONS AND MAINTENANCE MANUALS.
- CONTRACTOR SHALL PROTECT ALL EXISTING FINISHES AND OWNER FURNISHINGS DURING CONSTRUCTION AND DEMOLITION ACTIVITIES. OWNER WILL MOVE FURNITURE, FURNISHINGS, ETC. AS NEEDED FROM IMMEDIATE CONSTRUCTION ZONES, BUT NOT ALL OF THESE ITEMS WILL BE REMOVED FROM THE PREMISES. ANY ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR.
- A SEPARATE RENOVATION PROJECT (UNDER SEPARATE CONTRACT) WILL OCCUR IN CONJUNCTION WITH THE SCOPE OF THIS PROJECT. TO INCLUDE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL MODIFICATIONS, INCLUDING REMOVAL AND REPLACEMENT OF EXISTING CEILINGS THROUGHOUT. COORDINATE WORK WITH SEPARATE CONTRACT TO FACILITATE INSTALLATION OF NEW WORK AND AVOID SCHEDULING CONFLICTS.**
- A SEPARATE SITEWORK PROJECT (UNDER SEPARATE CONTRACT) WILL ALSO OCCUR IN CONJUNCTION WITH THE SCOPE OF THIS PROJECT. TO INCLUDE INSTALLATION OF A NEW UNDERGROUND FIRE LINE TO SUPPORT THE SPRINKLER INSTALLATION PACKAGE. COORDINATE WORK WITH SEPARATE CONTRACT TO FACILITATE INSTALLATION OF NEW WORK AND AVOID SCHEDULING CONFLICTS.**

## VICINITY MAP



## ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE	MAS	MASONRY
ALUM	ALUMINUM	MB	MARKER BOARD
BD	BOARD	MECH	MECHANICAL
BLKG	BLOCKING	MFR	MANUFACTURER
CB	CHALK BOARD	MIR	MIRROR
CJ	CONTROL JOINT	MO	MASONRY OPENING
CT	CERAMIC TILE	MTL	METAL
CMU	CONCRETE MASONRY UNIT	NSG	NOISING
CONC	CONCRETE	NIC	NOT IN CONTRACT
CONST	CONSTRUCTION	OC	ON CENTER
CONT	CONTINUOUS	OD	OUTSIDE DIAMETER
CPT	CARPET	OPNG	OPENING
CR	CLASSROOM	PL LAM	PLASTIC LAMINATE
DBL	DOUBLE	PL	PLATE
DS	DEEP SHELVES	PLUMB	PLUMBING
DTL	DETAIL	PR	PAIR
DIM	DIMENSION	PT	PAINT
ELEV	ELEVATION	RD	ROOF DRAIN
EA	EACH	REINF	REINFORCE (D) (ING)
EJ	EXPANSION JOINT	REQD	REQUIRED
ELEC	ELECTRICAL	SCHED	SCHEDULE
EQ	EQUAL	SEC	SECTION
EXIST	EXISTING	SHT	SHEET
EXP	EXPANSION	SIM	SIMILAR
EXT	EXTERIOR	SS	STAINLESS STEEL
FD	FLOOR DRAIN	STL	STEEL
FE	FIRE EXTINGUISHER	SWC	SOLID WOOD CORE
FF	FINISH FLOOR	TB	TACK BOARD
FLR	FLOOR	TEMP	TEMPERED
FLOUR	FLOURESCENT FIXTURE	TOIL	TOILET
FTG	FOOTING	TRTD	TREATED
GALV	GALVANIZED	TYP	TYPICAL
GB	GRAB BAR	UL	UNDERWRITER'S LABORATORY
GC	GENERAL CONTRACTOR	U.N.O.	UNLESS NOTED OTHERWISE
GL	GLASS	VCT	VINYL COMPOSITION TILE
GWB	GYP SUM WALL BOARD	VER	VERIFY
HM	HOLLOW METAL	VERT	VERTICAL
HORIZ	HORIZONTAL	V.I.F.	VERIFY IN FIELD
ID	INSIDE DIAMETER	VW	VIEW WINDOW
INSUL	INSULATION	W	WITH
INT	INTERIOR	W/O	WITH OUT
LAV	LAVATORY	WD	WOOD

## DRAWING SYMBOL LEGEND



## BUILDING CODE ANALYSIS SUMMARY

Project: USC Upstate Library Modifications  
Code & Edition: 2018 IBC, 2017 ICC A117.1

Construction Classification: TYPE IIB

Occupancy Classification(s): B (Business)  
A-2 (Cafeterias)  
A-3 (Libraries)

Non-separated Mixed Use  
Most Restrictive Occupancy Classification: A-2

Allowable Area per Story by Table (Sprinklered):  
Basement: 28,500 SF  
First Floor: 28,500 SF  
Second Floor: 28,500 SF  
Total: 85,500 SF

Frontage increase required:  
If = (F/P - 0.25) W/30  
If = (720/720 - 0.25) 30/30  
If = 75%  
Allowable Area per Story (Aa) = [A1 + (NS x If)]  
Aa = [28,500 + (9,500 x 0.75)] = 35,625

Area as Designed per Story:  
Basement: 6,682 SF  
First Floor: 29,310 SF  
Second Floor: 29,780 SF  
Total: 65,772 SF

Allowable Height in Feet: 75  
Allowable Height in Stories: 3  
Height as Designed in Feet: 48  
Height as Designed in Stories: 3

Fire Resistance Ratings (TYPE IIB)  
Primary Structural Frame: 0 hour  
Bearing Walls (Exterior): 0 hour  
Bearing Walls (Interior): 0 hour  
Nonbearing Walls (Exterior): 0 hour  
Nonbearing Walls (Interior): 0 hour  
Floor Construction: 0 hour  
Roof Construction: 0 hour  
Fire Walls: NA  
Fire Barriers (Stairs): 1 hour  
Shaft Enclosures: 1 hour  
Fire Partitions: NA

Exit Access Travel Distance: 250' maximum

## PROJECT CONTACTS

OWNER	ARCHITECT	FIRE PROTECTION	ELECTRICAL / FIRE ALARM
USC UPSTATE 155 AMERICAN WAY SPARTANBURG, SC 29303 CONTACT: FRED SCOTT  T: 864.503.5538	JUMPER CARTER SEASE ARCHITECTS, PA 412 MEETING STREET WEST COLUMBIA, SC 29169 CONTACT: L. TODD SEASE, AIA  T: 803.791.1020	SWYGERT ASSOCIATES 1315 STATE STREET CAYCE, SC 29033 CONTACT: TODD SWYGERT, PE  T: 803.791.9300	SIMS GROUP 800 COLUMBIANA DRIVE, SUITE 208 IRMO, SC 29063 CONTACT: CHRIS PARTRICH, PE  T: 803.765.1007
FSCOTT@USCUPSTATE.EDU	TODD@JCSARCHITECTS.COM	TODD@SWYGERT-ASSOCIATES.COM	CHRIS@SIMSGROUPUSA.COM

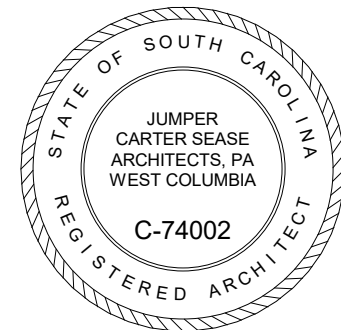
Jumper

Carter

Sease

ARCHITECTS

412 Meeting Street  
West Columbia  
South Carolina



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150 GRAMLING DRIVE, SPARTANBURG, SC 29303  
STATE PROJECT NO.: H34-9545

No	Description	Date

DRAWN BY: DB  
CHECKED BY: TS  
COMM NO: 18104  
DATE: 12/4/2020  
SHEET TITLE: TITLE SHEET

SHEET NO:

T101



## NOTES TO SHEET

1. RISER ROOM WILL HAVE A CEILING OVER IT TO ALLOW FOR RETURN AIR ABOVE THE SPACE. SEISMIC BRACING SHALL EXTEND UP TO BUILDING STRUCTURE FOR BRACING WHILE AVOIDING EXISTING DUCTWORK. SEE PHOTO THIS SHEET.
2. AREA WITH NO CEILING. UPRIGHT HEADS REQUIRED.
3. AREA WITH EXISTING HARD CEILINGS. PROVIDE COVERAGE WITH SIDEWALL HEAD WITH PIPING IN ADJACENT SPACE.
4. EXPOSED PIPING IN STAIRWELL WILL BE PERMITTED. ANY PIPE PENETRATIONS THROUGH WALLS OF STAIRWELL SHALL BE FIRE CAULKED FOR 1-HOUR RATING.
5. TABLES AND CHAIRS IN TUKEY AUDITORIUM 002 ARE FIXED AND THIS CONTRACTOR SHALL PLAN TO WORK AROUND THESE ACCORDINGLY.

## GENERAL NOTES

1. SUBMIT DRAWINGS INDICATING EXACT LOCATION OF ALL SPRINKLER HEADS FOR ARCHITECTS REVIEW AND BRING ALL FIELD CONFLICTS AND REQUIRED ADJUSTMENTS TO THE ARCHITECTS ATTENTION FOR VERIFICATION OF FINAL LOCATION OF ALL SPRINKLER HEADS.
2. SPRINKLER DRAWINGS PROVIDED ARE TO ASSIST THE CONTRACTOR. SUCCESSFUL CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF A COMPLETE SYSTEM PER THESE PLANS AND SPECIFICATIONS AND IN COMPLIANCE WITH ALL APPLICABLE CODES. ENGINEER WILL BE RESPONSIBLE FOR SUBMISSION TO THE OFFICE OF THE STATE FIRE MARSHAL.
3. THE DESIGN TEAM, TO INSURE COMPATIBILITY WITH THE BUILDING DESIGN INTENT, WILL CAREFULLY REVIEW SPRINKLER PLANS. CORRECTIONS WILL BE MADE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.
4. SYSTEM DRAINS SHALL BE INSTALLED AS REQUIRED PER NFPA. DRAINS SHALL BE EXTENDED OUTSIDE THE BUILDING. DRAIN LOCATIONS SHALL BE APPROVED BY THE A/E TEAM AND SHALL BE INDICATED ON THE SHOP DRAWINGS.
5. PROVIDE NECESSARY GUARDS OVER EQUIPMENT IN ELECTRICAL ROOMS WHERE REQUIRED BY NFPA 13.
6. WHERE PIPING IS TO BE RUN EXPOSED, SUCH AS STAIRWELLS, CARE SHALL BE TAKEN TO MINIMIZE THE ABILITY OF BUILDING OCCUPANTS TO TOUCH, HANG FROM, OR OTHERWISE VANDALIZE FIRE PROTECTION SYSTEM.
7. SPRINKLER HEADS SHALL BE LOCATED A MINIMUM OF 6" AWAY FROM CEILING GRID IN ALL ACOUSTICAL CEILING TILES.
8. SPRINKLER PIPING SHALL BE INSTALLED TO MEET SEISMIC REQUIREMENTS WITH LATERAL SWAY BRACING, LONGITUDINAL SWAY BRACING, AND FOUR-WAY BRACING AS REQUIRED BY NFPA AND THE INTERNATIONAL BUILDING CODES.
9. ALL PIPING 2-1/2" AND LARGER SHALL BE SCHEDULE 10 STEEL PIPING AND ALL PIPING SMALLER THAN 2-1/2" SHALL BE SCHEDULE 40 STEEL PIPING.
10. CONTRACTOR SHALL PROTECT ALL EXISTING FINISHES AND OWNER FURNISHINGS DURING CONSTRUCTION ACTIVITIES. OWNER WILL MOVE FURNITURE, FURNISHINGS, ETC. AS NEEDED FROM IMMEDIATE CONSTRUCTION ZONES, BUT THESE ITEMS MAY NOT BE REMOVED FROM THE PREMISES. ANY ITEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR.
11. PHASING OF INSTALLATION WILL BE REQUIRED. CONTRACTOR SHALL COORDINATE WITH OWNER AND USE FOR AN MUTUALLY AGREED UPON SCHEDULE.
12. FIRE SPRINKLER CONTRACTOR SHALL COORDINATE WITH FIRE ALARM INSTALLER FOR LOCATIONS OF ALL VALVES THAT ARE TO BE MONITORED.
13. A SEPARATE RENOVATION PROJECT (UNDER SEPARATE CONTRACT) WILL OCCUR IN CONJUNCTION WITH THE SCOPE OF THIS PROJECT, TO INCLUDE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL MODIFICATIONS. COORDINATE WORK WITH SEPARATE CONTRACT TO FACILITATE INSTALLATION OF NEW WORK AND AVOID SCHEDULING CONFLICTS. EXISTING ACOUSTICAL CEILING SYSTEM (GRID AND TILES) TO BE REMOVED AND REPLACED UNDER SEPARATE CONTRACT BY OTHERS.

Fire Protection Sprinkler System Specification Sheet  
(Per 440-18-250)

Project Data				
Project name: USC Upstate Library Fire Sprinkler				
Location in South Carolina:	Address (street # & street name): 150 Gramling Drive	State project: X Yes <input type="checkbox"/> No		
	City: Spartanburg	County: Spartanburg	State project #: H34-9545	
Water Supply Information				
(flow test data must be per NFPA 1, 13, or 24 or per 440-18-250 A.1.1)				
Date test conducted:	11/05/2020	Static pressure (psi): 68	Residual pressure (psi): 57	
Distances of test gauges relative to the base of the riser:		Horizontal (ft): 400'	Vertical (elevation difference in ft): -5'	
Source of water supply:		<input type="checkbox"/> Municipal dead-end	<input checked="" type="checkbox"/> Municipal circulation	
Test data by/from:		Name: Mike Campbell	Title: General Manager	
		Organization: Metro Water Works	Telephone #: 864-503-0822	
Fire pump:		<input type="checkbox"/> Yes X No	Pump Capacity (gpm): N/A	
		<input type="checkbox"/> New <input type="checkbox"/> Existing	Churn Pressure (psi): N/A	
		Rated Pressure (psi): N/A	Pressure @ 150% flow (psi): N/A	
On-site storage tank:		<input type="checkbox"/> Yes X No	<input type="checkbox"/> New <input type="checkbox"/> Existing	
		Tank capacity (gallons): N/A		
NFPA Hazard Classification				
(attach continuation page when necessary)				
Area #	Class or Code Reference	Description of Hazard Protected (commodity description, storage height, and arrangement as applicable)		
1	Light Hazard	Library, Offices, Classrooms, Etc.		
2	Ordinary Hazard - Group I	Equipment Rooms, Storage Areas		
3	Ordinary Hazard - Group II	Library Stack Room Area		
Design Parameters				
(attach continuation page when necessary)				
Area #	System Type	Density (gpm/ft <sup>2</sup> ) / Area (ft <sup>2</sup> ) or Other (reference code section)	Inside Hose (gpm)	Outside Hose (gpm)
1	Wet	0.10/1500	0	100
2	Wet	0.15/1500	0	250
3	Wet	0.20/1500	0	250
Seismic Design Data: S <sub>s</sub> =0.268				
Codes and Standards				
(attach continuation page when necessary)				
Applicable Codes, Standards & Editions (i.e. "2006 IBC", "2007 NFPA 13", etc.) for the Scope of Work on the Sprinkler System				
International Building Code - 2018 Edition; International Fire Code - 2018 Edition				
NFPA 13 - 2016 Edition				
Scope of work (such as sprinkler system A.G. from 1'-0" A.F.F., U.G. from top to 5'-0" outside, etc.) and notes (attach continuation page when necessary):				
Above ground from 5'-0" outside of the building				
Specifier's Information				
Name: Todd F. Swygert, P.E.				
Engineering services provided through a firm: X Yes <input type="checkbox"/> No				
Firm name: Swygert and Associates, Ltd.				
Address: Post Office Box 11686				
City: Columbia				
State: South Carolina Zip: 29211				
Phone #: (803)791-9300 Fax #: (803)791-0830				
E-mail: Todd@swygert-associates.com				
Revision No.: 2		Page 1 of 1		Date: 11-16-2020
Certificate of Authorization		Professional Engineer's Seal		
Swygert and Associates, Ltd. No. 00027		No. 15574 Todd F. Swygert		
Form: Fire Sprinkler Specification Sheet - 2022-11-16 (Download latest @ <a href="http://www.ldr.state.sc.us/marshall/index.asp?file=forms.htm">http://www.ldr.state.sc.us/marshall/index.asp?file=forms.htm</a> )				

NOTE:  
BUILDING SHALL BE FULLY SPRINKLERED  
PER THE REQUIREMENTS OF NFPA 13  
- 2016 EDITION FOR A WET PIPE  
SPRINKLER SYSTEM.

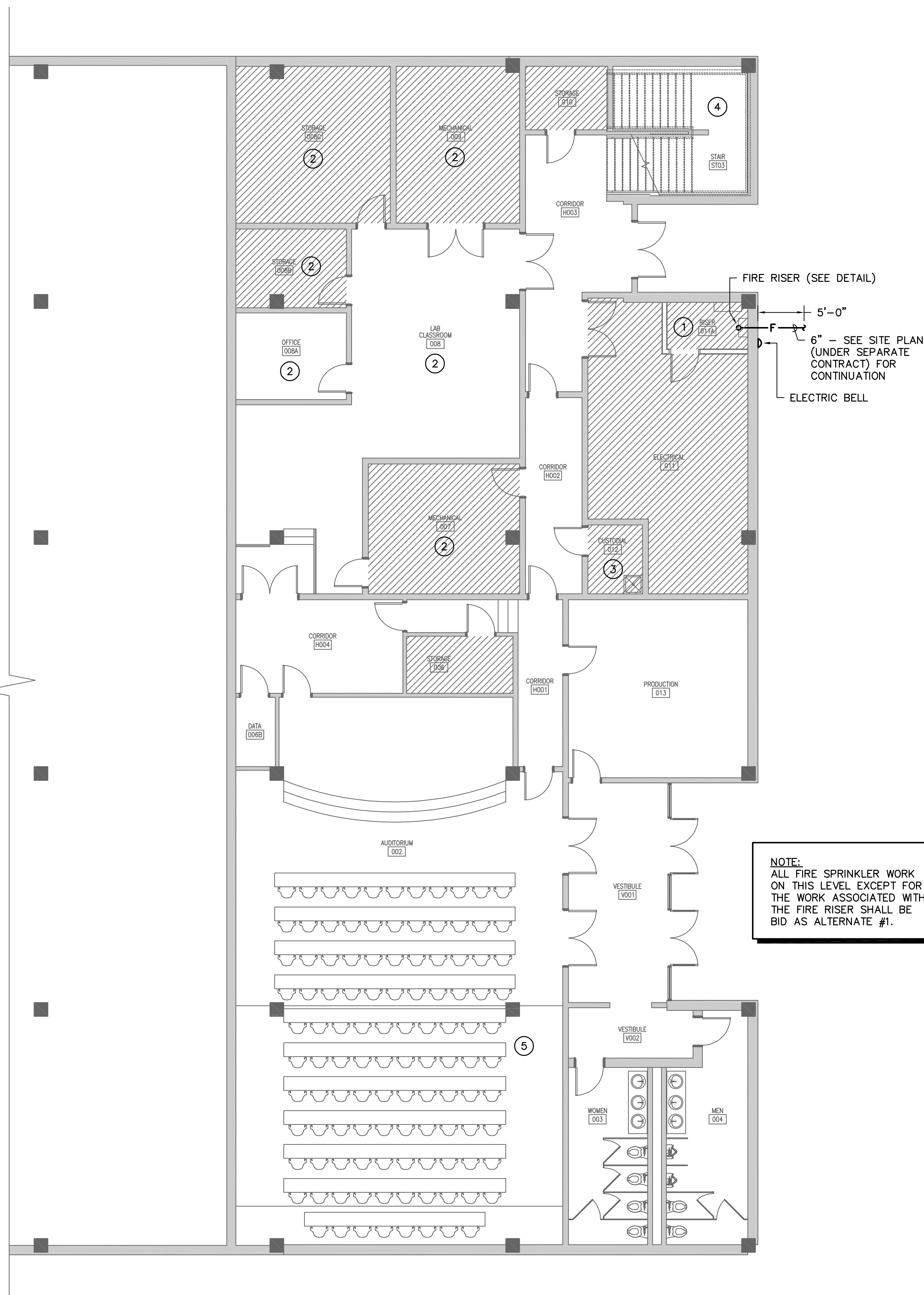
## WATER FLOW INFORMATION

STATIC: 68 PSI  
RESIDUAL: 57 PSI  
FLOW: 1150 GPM  
DATE: 10/05/2020

INFORMATION PROVIDED BY  
METROPOLITAN WATER & SEWER  
DISTRICT (864) 503-0822.

## LEGEND

□ - LIGHT HAZARD  
▨ - ORDINARY HAZARD - GROUP I

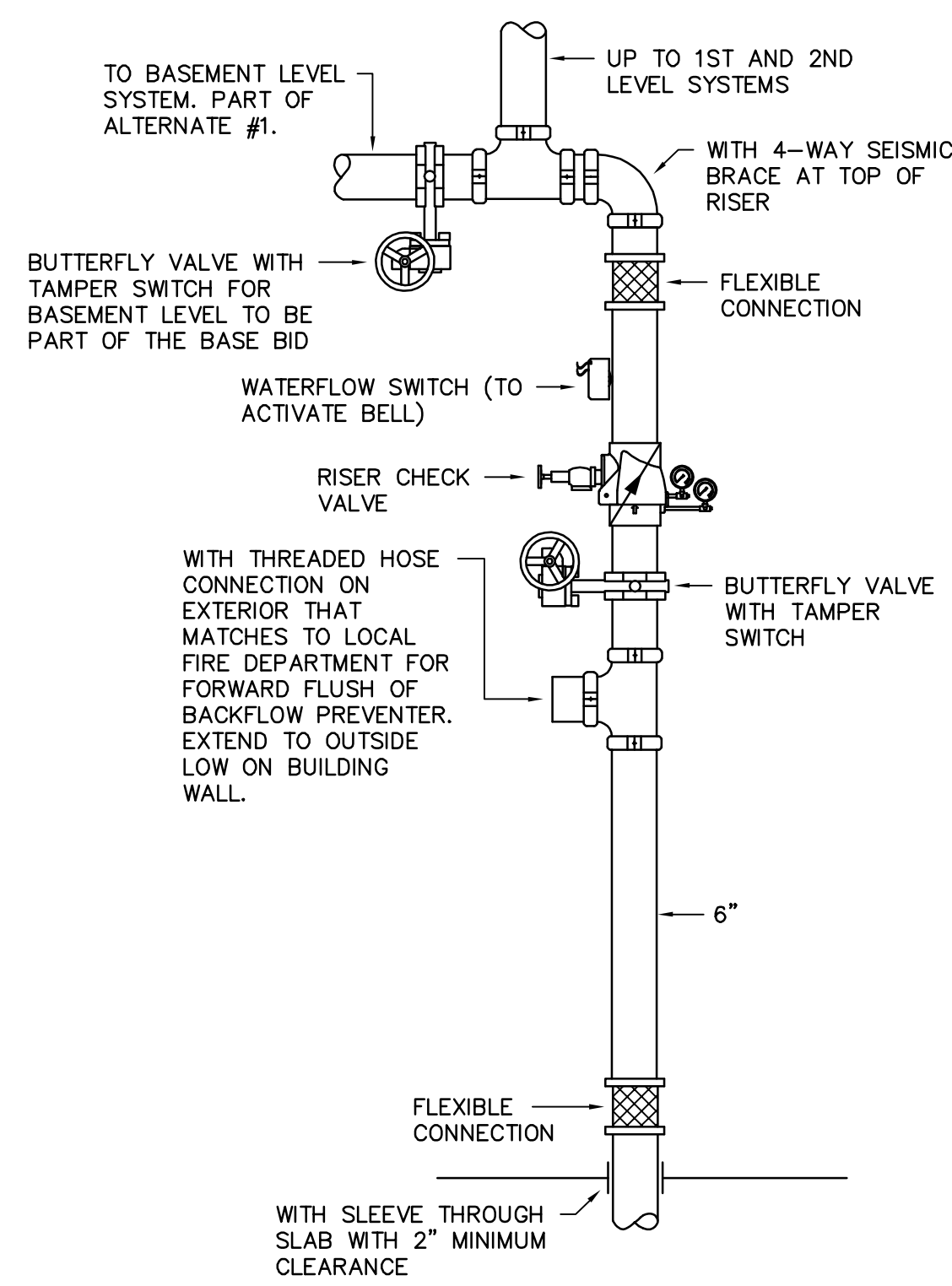


NOTE:  
ALL FIRE SPRINKLER WORK  
ON THIS LEVEL EXCEPT FOR  
THE WORK ASSOCIATED WITH  
THE FIRE RISER SHALL BE  
BID AS ALTERNATE #1.



## NEW RISER ROOM LOCATION

NO SCALE



## RISER DETAIL

NO SCALE

1  
FP100

## BASEMENT FLOOR PLAN - ALTERNATE #1

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

Swygert & Associates  
CONSULTING ENGINEERS

DBA Swygert & Assoc., Ltd. Telephone: (803) 791-9300  
Post Office Box 11686 Greenville: (803) 791-0830  
Columbia, S.C. 29211 mol@swygert-associates.com

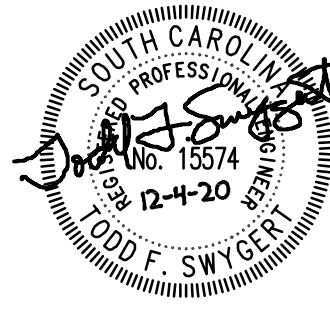
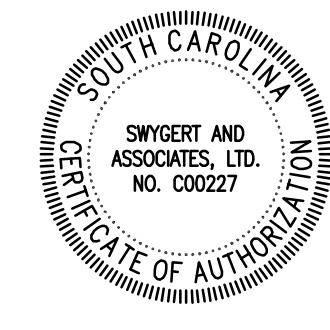
Jumper

Carter

Sease

## ARCHITECTS

412 Meeting Street  
West Columbia  
South Carolina



FIRE SPRINKLER INSTALLATION FOR LIBRARY  
USC UPSTATE  
150 GRAMLING DRIVE, SPARTANBURG, SC 29303  
STATE PROJECT NO.: H34-9545

Date	Description	No

DRAWN BY: DEM

CHECKED BY: TFS

COMM NO: 18104

DATE: 12/04/2020

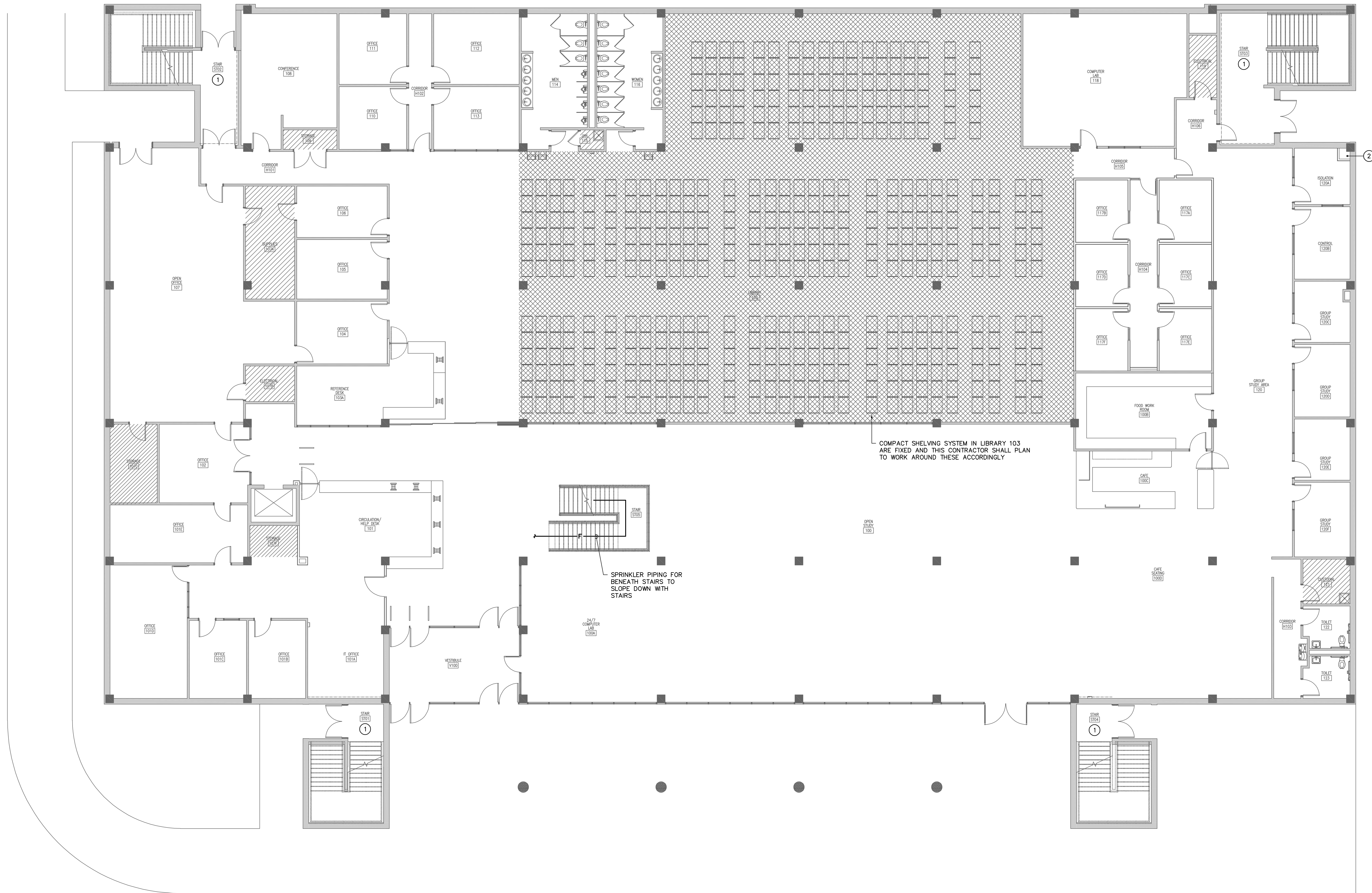
SHEET TITLE:  
BASEMENT  
FLOOR PLAN,  
NOTES, AND  
DETAIL

SHEET NO:

FP100



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NOTE:  
BUILDING SHALL BE FULLY SPRINKLERED  
PER THE REQUIREMENTS OF NFPA 13  
- 2016 EDITION FOR A WET PIPE  
SPRINKLER SYSTEM.

LEGEND

- LIGHT HAZARD
- ORDINARY HAZARD - GROUP I
- ORDINARY HAZARD - GROUP II

NOTES TO SHEET

- EXPOSED PIPING IN STAIRWELL WILL BE PERMITTED. ANY PIPE PENETRATIONS THROUGH WALLS OF STAIRWELL SHALL BE FIRE CAULKED FOR 1-HOUR RATING.
- FIRE SPRINKLER SYSTEM FROM BELOW AND TO UPPER FLOORS IN THIS LOCATION. PIPE PENETRATIONS THROUGH FLOOR SLAB SHALL BE FIRE CAULKED FOR 1-HOUR RATING.



1  
FP101

FIRST FLOOR PLAN  
SCALE: 1/8" = 1'-0"

Swygart & Associates  
CONSULTING ENGINEERS

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Post Office Box 11666 Greenville: (803) 791-9830  
Columbia, S.C. 29211 mol@swygart-associates.com

SHEET NO.:  
**FP101**

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USC UPSTATE  
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DRAWN BY:	DEM
CHECKED BY:	TFS
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SHEET TITLE:	FIRST FLOOR PLAN

SHEET NO.:

FP101

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ARCHITECTS  
412 Meeting Street  
West Columbia  
South Carolina



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NOTE:  
BUILDING SHALL BE FULLY SPRINKLERED  
PER THE REQUIREMENTS OF NFPA 13  
- 2016 FOR A WET PIPE SPRINKLER  
SYSTEM.

LEGEND

□ - LIGHT HAZARD

▨ - ORDINARY HAZARD - GROUP I

NOTES TO SHEET

① EXPOSED PIPING IN STAIRWELL WILL BE PERMITTED. ANY PIPE PENETRATIONS THROUGH WALLS OF STAIRWELL SHALL BE FIRE CAULKED FOR 1-HOUR RATING.

② FIRE SPRINKLER SYSTEM TO ABOVE CEILING IN THIS LOCATION. PIPE PENETRATIONS THROUGH FLOOR SLAB SHALL BE FIRE CAULKED FOR 1-HOUR RATING.

1 SECOND FLOOR PLAN

FP102 SCALE: 1/8" = 1'-0"

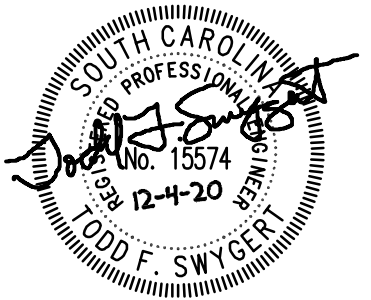
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USC UPSTATE  
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No	Description	Date

DRAWN BY:	DEM
CHECKED BY:	TFS
COMM NO:	18104
DATE:	12/04/2020
SHEET TITLE:	SECOND FLOOR PLAN AND NOTES

SHEET NO:

Swygert & Associates  
CONSULTING ENGINEERS

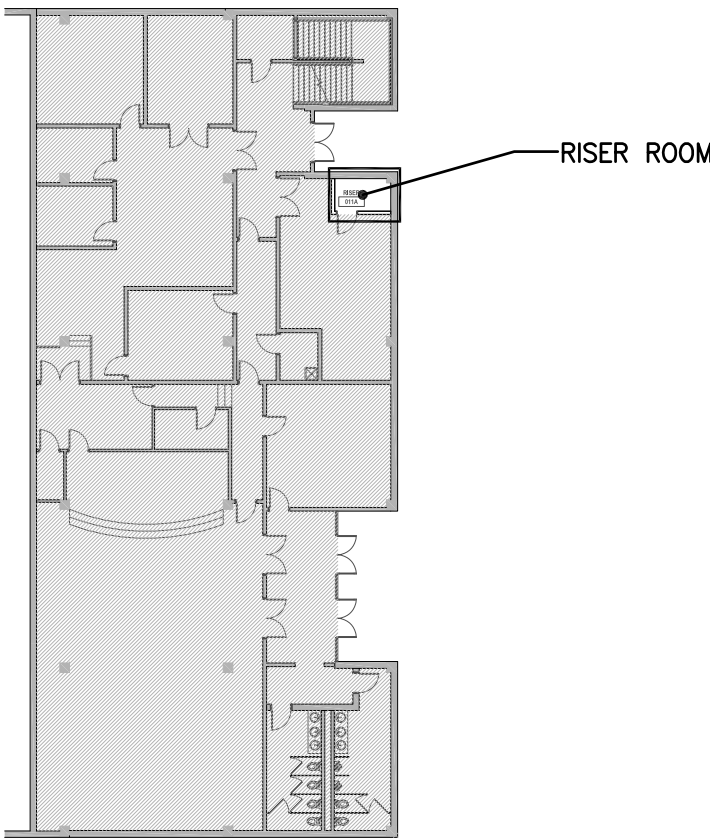
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FP102

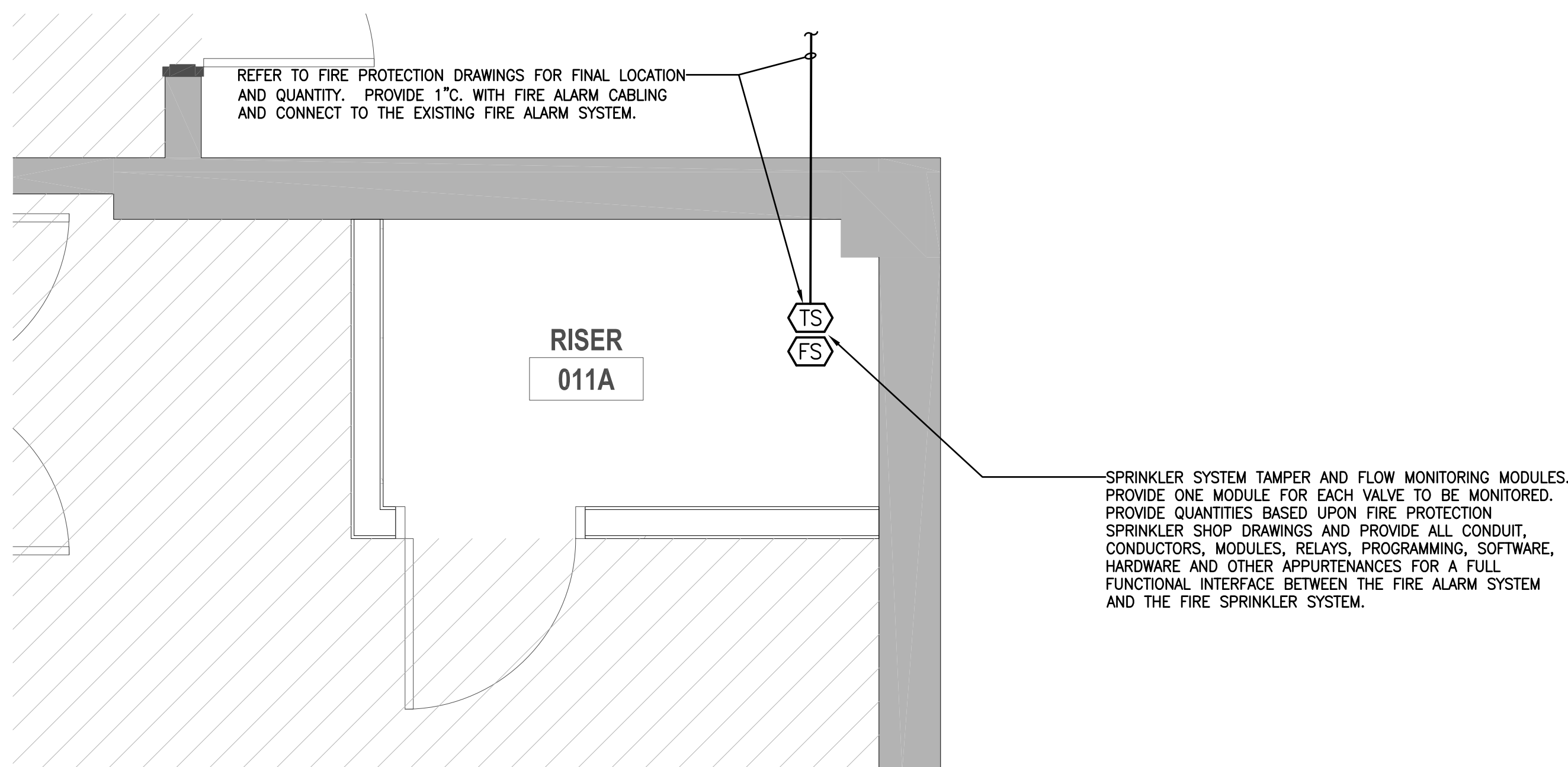


STANDARD ELECTRICAL SYMBOLS	
	PANELBOARD.
	BRANCH CIRCUIT WIRING RUN CONCEALED IN WALLS OR CEILING, 1#12G, 2#12 UNLESS NOTED OTHERWISE. ARROW DENOTES HOME RUN AND NUMERAL DENOTES CIRCUIT NUMBER. WHERE MORE THAN TWO CONDUCTORS ARE REQUIRED, SLASH MARKS INDICATE NUMBER OF #12 CONDUCTORS.
	SHORT SLASH DENOTES HOT OR SWITCH LEG.
	LONG SLASH DENOTES NEUTRAL.
	1" DENOTES GROUNDING WIRE.
	MULTIWIRE BRANCH CIRCUITS USING A SHARED OR COMMON NEUTRAL ARE NOT PERMITTED ON THIS PROJECT. THE CONTRACTOR SHALL PULL A SEPARATE NEUTRAL FOR ALL 120V AND 277V CIRCUITS. CONDUIT HOMERUNS TO PANELBOARDS SHALL BE 3/4" MINIMUM, OTHERWISE RACEWAYS SHALL BE 1/2" MINIMUM, EXCEPT THAT FLEXIBLE CONDUIT SHALL BE 3/8" MINIMUM.
	SAME, EXCEPT RUN UNDERGROUND OR UNDERFLOOR.
	SAME, EXCEPT RUN EXPOSED.
	COMMUNICATIONS CONDUIT (OR CONDUIT & WIRING WHERE SPECIFIED), SIZE AS NOTED. CONDUIT TO BE EMT RUN OVERHEAD CONCEALED IN WALLS OR CEILING UNLESS NOTED OTHERWISE.

STANDARD FIRE ALARM SYMBOLS	
	FAC FIRE ALARM CONTROL PANEL
	FAA FIRE ALARM ANNUNCIATOR
	FPE FIRE ALARM POWER EXTENDER PANEL
	FSD FIRE/SMOKE DAMPER LOCATION
	FIRE ALARM MANUAL PULL STATION. 48" AFF.
	FIRE ALARM WALL MOUNTED HORN WITH STROBE LIGHT, CANDELA RATING AS NOTED. MOUNT BETWEEN 80" AND 96" AFF PER NFPA 72 AND ADA REQUIREMENTS.
	CEILING MOUNTED FIRE ALARM HORN WITH STROBE LIGHT, CANDELA RATING AS NOTED.
	FIRE ALARM WALL MOUNTED STROBE LIGHT, CANDELA RATING AS NOTED. MOUNT BETWEEN 80" AND 96" AFF PER NFPA 72 AND ADA REQUIREMENTS.
	CEILING MOUNTED FIRE ALARM STROBE LIGHT, CANDELA RATING AS NOTED.
	MULTI SENSOR (PHOTOELECTRIC, THERMAL) DETECTOR. CEILING MOUNTED, UNLESS NOTED.
	HEAT DETECTOR. CEILING MOUNTED, UNLESS NOTED OTHERWISE.
	DUCT MOUNTED SMOKE DETECTOR.
	DUCT SMOKE DETECTOR REMOTE ALARM INDICATOR WITH INTEGRATED KEYED TEST SWITCH.
	WALL MOUNTED MAGNETIC DOOR HOLDER, 120V. 76" AFF, UNLESS NOTED - FIELD VERIFY WITH ARCHITECT.
	FIRE ALARM MONITORING MODULE.
	FIRE ALARM CONTROL MODULE.
	SPRINKLER SYSTEM TAMPER SWITCH MONITORING MODULE
	SPRINKLER SYSTEM FLOW SWITCH MONITORING MODULE
	WP WEATHERPROOF DEVICE. PROVIDE BACKBOX AND COVER U.L. LISTED AS WEATHERPROOF.
FIRE ALARM SYMBOL SCHEDULE NOTES: 1. WALL MOUNTED NOTIFICATION DEVICES SHALL BE LOCATED AT UNIFORM HEIGHT ABOVE FINISHED FLOOR WHERE CEILING HEIGHTS ALLOW. 2. PROVIDE MINIMUM 3/4" C. WITH FIRE ALARM CABLING AND CONNECT ALL NEW DEVICES TO THE EXISTING EDWARDS SYSTEM TECHNOLOGY FIRE ALARM SYSTEM. 3. ALL NEW FIRE ALARM DEVICES SHALL MATCH THE EXISTING TYPE.	



2 BASEMENT KEY PLAN  
NO SCALE



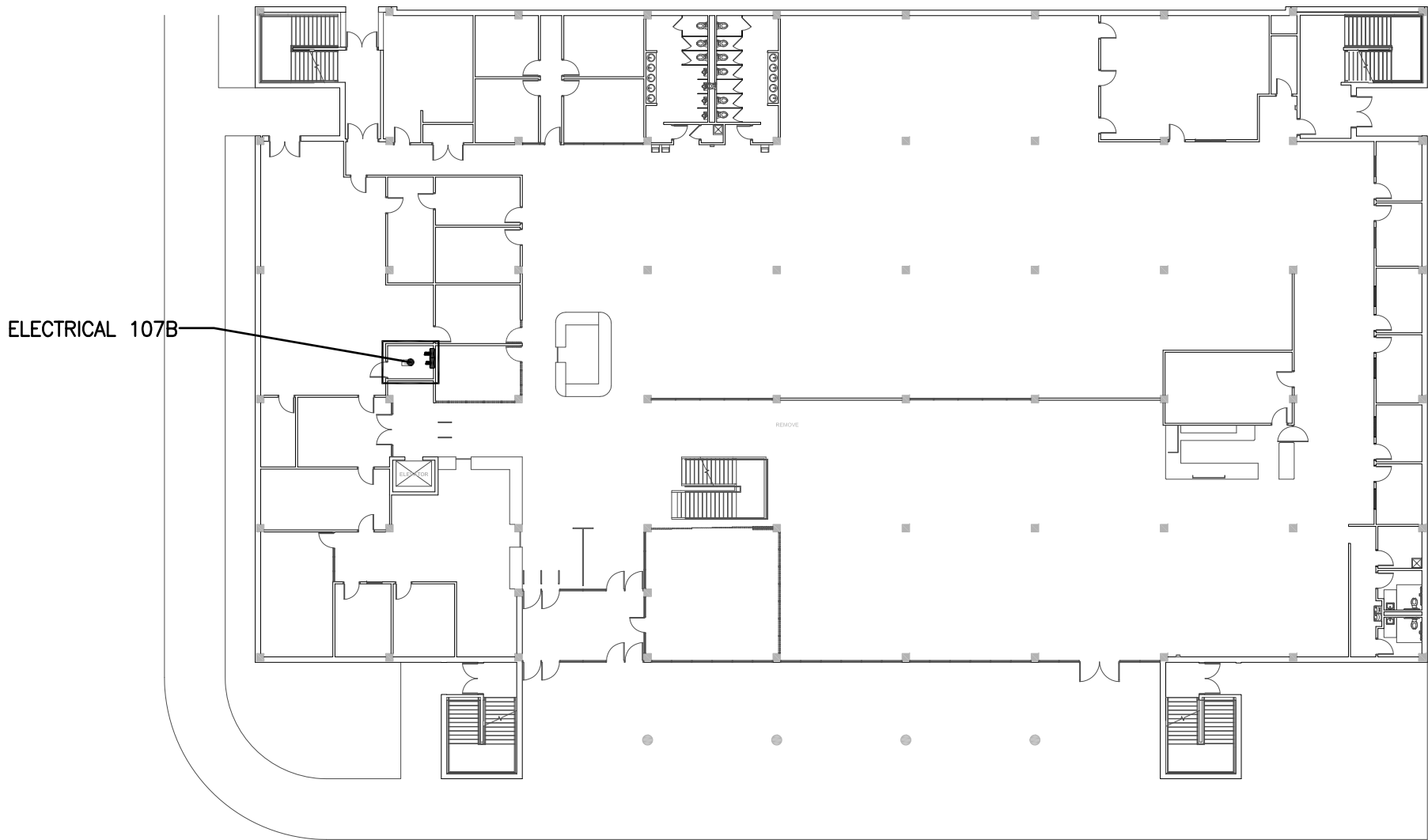
1 BASEMENT PLAN - RISER ROOM 011A (ALT. NO. 2)  
SCALE: 1/2"=1'-0"

SCOPE OF WORK	
THE WORK OF THIS SECTION SHALL PROVIDE COMPLETE ELECTRICAL SYSTEMS AS SPECIFIED HEREIN AND SHALL INCLUDE THE PROVIDING OF ALL CONDUCTORS, RACEWAYS, FITTINGS, BOXES, SUPPORTS, AND ALL ASSOCIATED APPURTENANCES AND MISCELLANEOUS EQUIPMENT NECESSARY. ALL OF WHICH SHALL BE COMPLETELY CONNECTED, TESTED, ADJUSTED AND LEFT IN PROPER OPERATING CONDITION.	
GENERAL NOTES:	
1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE 2017 NATIONAL ELECTRICAL CODE (NEC), THE 2018 INTERNATIONAL BUILDING CODE (IBC), AND ANY LOCAL CODES, LAWS AND ORDINANCES WHICH MAY APPLY. WHERE DIFFERENCES EXIST BETWEEN THE CODES, THE STRICTER CODE SHALL APPLY.	
2. THE CONTRACTOR FOR THE WORK UNDER THIS SECTION SHALL PROCURE AND PAY FOR ALL PERMITS, FEES, AND LICENSES REQUIRED FOR THE EXECUTION OF THIS WORK. SATISFACTORY EVIDENCE OF COMPLIANCE WITH THE REQUIREMENT AND ALL CERTIFICATES OF INSPECTION SHALL BE DELIVERED TO THE OWNER PROMPTLY UPON REQUEST.	
3. TYPE MC CABLE MAY BE USED FOR INTERIOR, CONCEALED BRANCH CIRCUITS. WHERE CABLE WOULD OTHERWISE BE EXPOSED, IT SHALL BE INSTALLED IN CONDUIT. REDHEAD BUSHINGS SHALL BE PROVIDED AT EACH CABLE TERMINATION. TYPE MC MAY NOT BE USED UNDERGROUND OR UNDER SLAB. TYPE MC CABLE MAY NOT PENETRATE RATED WALLS OR FLOORS.	
4. FIRE ALARM SYSTEM CONDUITS AND COMMUNICATIONS SYSTEM CONDUITS TO BE EMT RUN OVERHEAD CONCEALED IN WALLS OR CEILING UNLESS NOTED OTHERWISE.	
5. ALL FIRE RATED WALLS, FLOORS, ETC WHICH HAVE A CONDUIT OR OTHER ELECTRICAL PENETRATION SHALL BE SEALED TO EQUAL THE RATING OF THE WALL, FLOOR, ETC. THAT IS PENETRATED. CONTRACTOR SHALL USE A U.L. RATED AND LISTED ASSEMBLY FOR THE SEALING MATERIAL AND METHOD. COORDINATE MANUFACTURER WITH THE GENERAL CONTRACTOR SO THAT ALL TRADES ON THE PROJECT USE THE SAME MANUFACTURER. THROUGH PENETRATIONS OF CONDUITS AND CABLES OF FIRE RESISTANCE RATED WALLS MUST COMPLY WITH SECTION 714.3.1 OF THE IBC. THROUGH PENETRATIONS OF FIRE RESISTANCE CEILING ASSEMBLIES MUST COMPLY WITH SECTION 714.4.1.1 OF THE IBC.	
6. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS, LOCATIONS, CABINETS, ETC.	
7. CONCEAL ALL CONDUIT AND FITTINGS EXCEPT WHERE THE ARCHITECT GRANTS SPECIFIC PERMISSION.	
8. ALL WORK AND MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF ACCEPTANCE.	
9. PROVIDE ONE COMPLETE SET OF ELECTRICAL DRAWINGS MARKED UP FOR RECORD DRAWINGS. SHOW ALL LOCATIONS OF EQUIPMENT AND MATERIALS.	
10. INSTALL ALL MATERIALS PER MANUFACTURER'S INSTRUCTIONS.	
11. IDENTIFY MAJOR EQUIPMENT INSTALLED WITH LAMICOR LABELS (SEE SPECS). PROVIDE FLASH HAZARD SIGN AT ALL ELECTRICAL PANELS. PROVIDE A TYPED DIRECTORY IN ALL PANEL BOARDS CLEARLY DESCRIBING THE LOCATION OF AND TYPE OF LOAD BEING SERVED FOR ALL CIRCUITS.	
12. VISIT SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING BID.	
13. CONTRACTOR SHALL DO ALL CUTTING AND PATCHING AS REQUIRED TO INSTALL HIS WORK. FINISH PATCHING AND PAINTING WILL BE DONE BY THE GENERAL CONTRACTOR.	
14. PRIOR TO DIGGING ANY TRENCHES, NOTIFY ALL UTILITIES AND OBTAIN LOCATIONS OF UNDERGROUND UTILITIES. ANY DAMAGES DONE TO UNDERGROUND UTILITIES OR PIPING BY THIS CONTRACTOR WILL BE REPAIRED BY THE OWNER OF THE LINE IN A SATISFACTORY MANNER. THIS CONTRACTOR WILL BEAR ALL COSTS FOR REPAIRS.	
15. CONDUITS TO BE RUN UNDER WALKWAYS AND PAVINGS SHALL BE INSTALLED BY JACKING OR BORING, UNLESS NOTED. DO NOT CUT WALKWAYS OR PAVEMENTS, UNLESS ACCEPTABLE TO THE ENGINEER. ALLOWED CUTS IN PAVEMENT OR CONCRETE SHALL BE MADE USING A PAVEMENT SAW, AND SHALL BE PATCHED TO MATCH THE EXISTING SURFACE.	
16. WHERE DISAGREEMENTS EXISTS ON THE DESIGN DOCUMENTS, THE ITEM OR ARRANGEMENTS OF BETTER QUALITY, GREATER QUANTITY, OR HIGHER COST SHALL BE INCLUDED IN THE BASE BID. ANY DISCREPANCIES BETWEEN THE DRAWINGS, SPECIFICATIONS, AND FIELD CONDITIONS SHALL BE RESOLVED WITH THE ENGINEER PRIOR TO COMMENCING WORK. ALL AGREEMENTS SHALL BE VERIFIED IN WRITING.	
17. ALL WORK UNDER THIS SECTION SHALL BE COORDINATED WITH OTHER TRADES TO INSURE PROPER LOCATION OF OUTLETS AND EQUIPMENT CONNECTIONS, AND TO MINIMIZE CONFLICTS WITH STRUCTURAL MEMBERS, DUCT WORK, PIPING, ETC. CONFLICTS BETWEEN EQUIPMENT AND/OR MATERIAL LOCATIONS SHALL BE CORRECTED AS DIRECTED BY THE ARCHITECT-ENGINEER AT NO ADDITIONAL COST TO THE OWNER.	

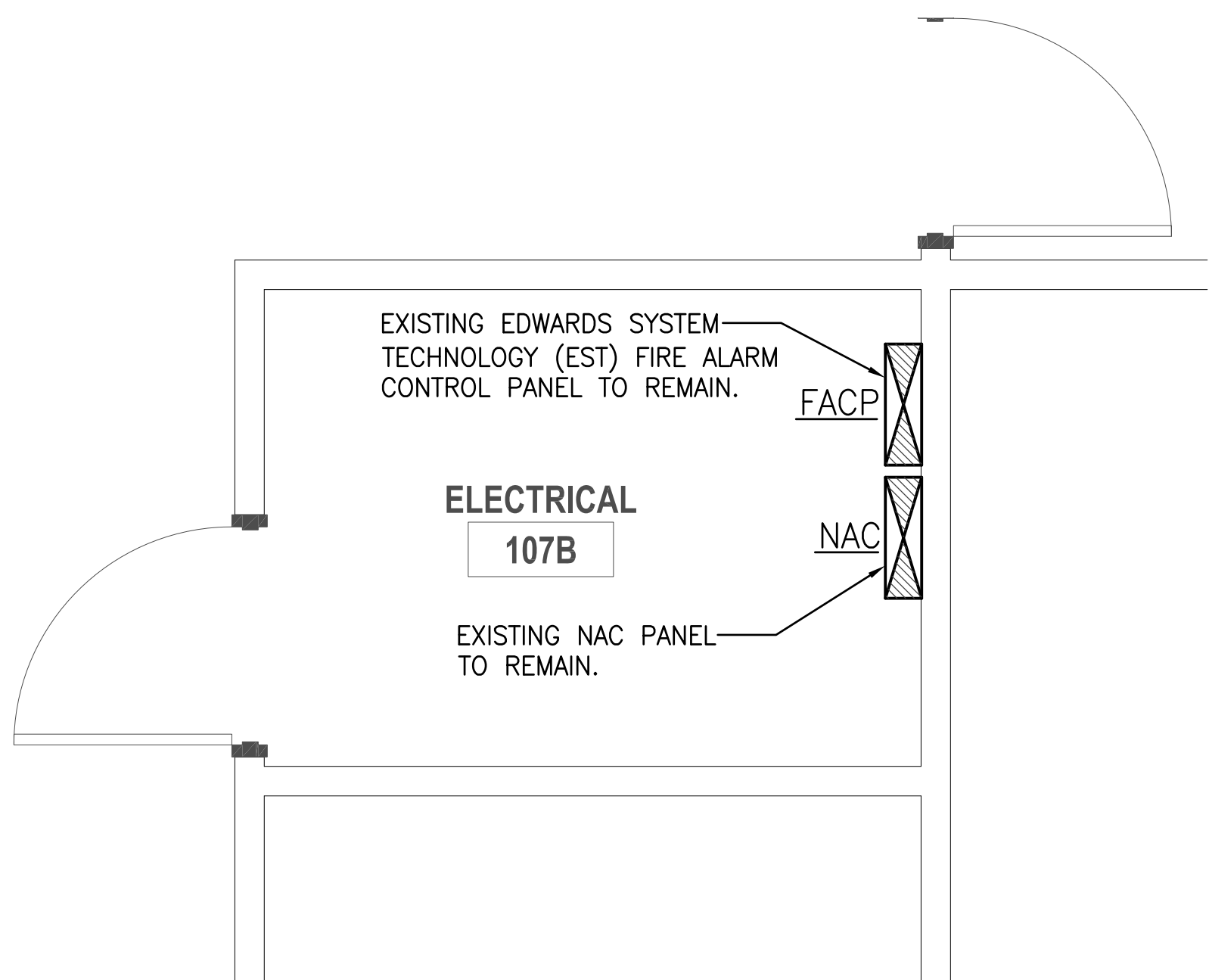
ELECTRICAL SUBMITTALS	
ELECTRICAL SHOP DRAWINGS SHALL BE SUBMITTED IN ONE COMPLETE PACKAGE CONTAINING ALL ITEMS REQUIRED BY THE ELECTRICAL DRAWINGS AND THE DIVISION 26-28 SPECIFICATIONS. PARTIAL SHOP DRAWING SUBMITTALS MAY BE REJECTED BY THE ARCHITECT-ENGINEER. REFER TO SECTION 260110 OF THE ELECTRICAL SPECIFICATIONS FOR REQUIRED SUBMITTAL FORMAT AND FOR ADDITIONAL REQUIREMENTS.	

ABBREVIATIONS		
A	AMPERES	LTG LIGHTING
AFF	ABOVE FINISHED FLOOR	MFR MANUFACTURER
AFG	ABOVE FINISHED GRADE	MLO MAIN LUGS ONLY
AWG	AMERICAN WIRE GAUGE	NEC NATIONAL ELECTRICAL CODE
AHJ	AUTHORITY HAVING JURISDICTION	NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CKT	CIRCUIT	NIC NOT IN CONTRACT
CU	COPPER	PHØ PHASE
EC	EMPTY CONDUIT	RCPT RECEPTACLE
EQPT	EQUIPMENT	RE: REFER TO
EXST	EXISTING	TYP TYPICAL
FWE	FURNISHED WITH EQUIPMENT	UNO UNLESS NOTED OTHERWISE
GFI	GROUND FAULT INTERRUPTER	V VOLTS
IAW	IN ACCORDANCE WITH	W WIRE OR WATTS
KVA	KILOVOLTAMPERES	WP WEATHERPROOF
KW	KILOWATTS	

ELECTRICAL DEMOLITION NOTES	
A. PRIOR TO SUBMITTING BID, THE CONTRACTOR SHALL SURVEY THE EXISTING BUILDING AND MAKE NOTE OF ANY ADDITIONAL DEMOLITION AND/OR ANY ADDITIONAL REMOVAL AND RELOCATION WHICH MAY BE REQ'D IN ORDER TO ACCOMPLISH RENOVATIONS INDICATED IN CONTRACT DOCUMENTS. NO CHANGE ORDER WILL BE ISSUED FOR ADDITIONAL WORK REQUIRED FOR DEMOLITION, REMOVAL, OR RELOCATION WORK NOT INDICATED ON THESE DRAWINGS BUT NECESSARY TO COMPLETE WORK.	
B. IN ALL AREAS WHERE EXISTING WALLS ARE BEING REMOVED, NEW WALLS ARE BEING ADDED, AND WHERE OTHER DEMOLITION WORK IS OCCURRING, REMOVE ALL EXISTING RECEPTACLES, LIGHTS, AND OTHER ELECTRICAL DEVICES, AND ALL WIRING AND CONDUIT NOT BEING REUSED. EXISTING CONDUIT RUN CONCEALED IN EXISTING WALLS NOT BEING REMOVED AND/OR REPLACED MAY BE ABANDONED. ALL DEMOLITION MUST BE COORDINATED WITH THE ARCHITECT AND WITH ALL OTHER TRADES TO AVOID CONFLICTS. REFER TO THE ARCHITECTURAL DEMOLITION PLAN.	
C. NO EXISTING ELECTRICAL MATERIALS, EQUIPMENT, WIRING, OR CONDUIT BEING REMOVED MAY BE REUSED ON THIS PROJECT UNLESS SPECIFICALLY NOTED OTHERWISE ON THESE DRAWINGS. ALL EXISTING ELECTRICAL MATERIALS AND EQUIPMENT NOT BEING REUSED SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTES.	



4 FIRST FLOOR KEY PLAN  
NO SCALE



3 PARTIAL FIRST FLOOR PLAN  
SCALE: 1/2"=1'-0"

BID SET	C18073
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SHEET TITLE: (ALT. NO. 2) ELECTRICAL SYMBOLS, NOTES & ELECTRICAL PLANS	

SHEET NO:

E001