

# THE COLLEGE OF NEW JERSEY CAMPUS FIRE ALARM PROJECT PART B - HARDWARE AND SOFTWARE UPGRADES

2000 PENNINGTON ROAD  
EWING, NJ 08618



SITE LOCATION



AERIAL IMAGE

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ITEM	DATE	ISSUE DESCRIPTION
1	05/03/2020	ISSUED FOR BID

**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724  
Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

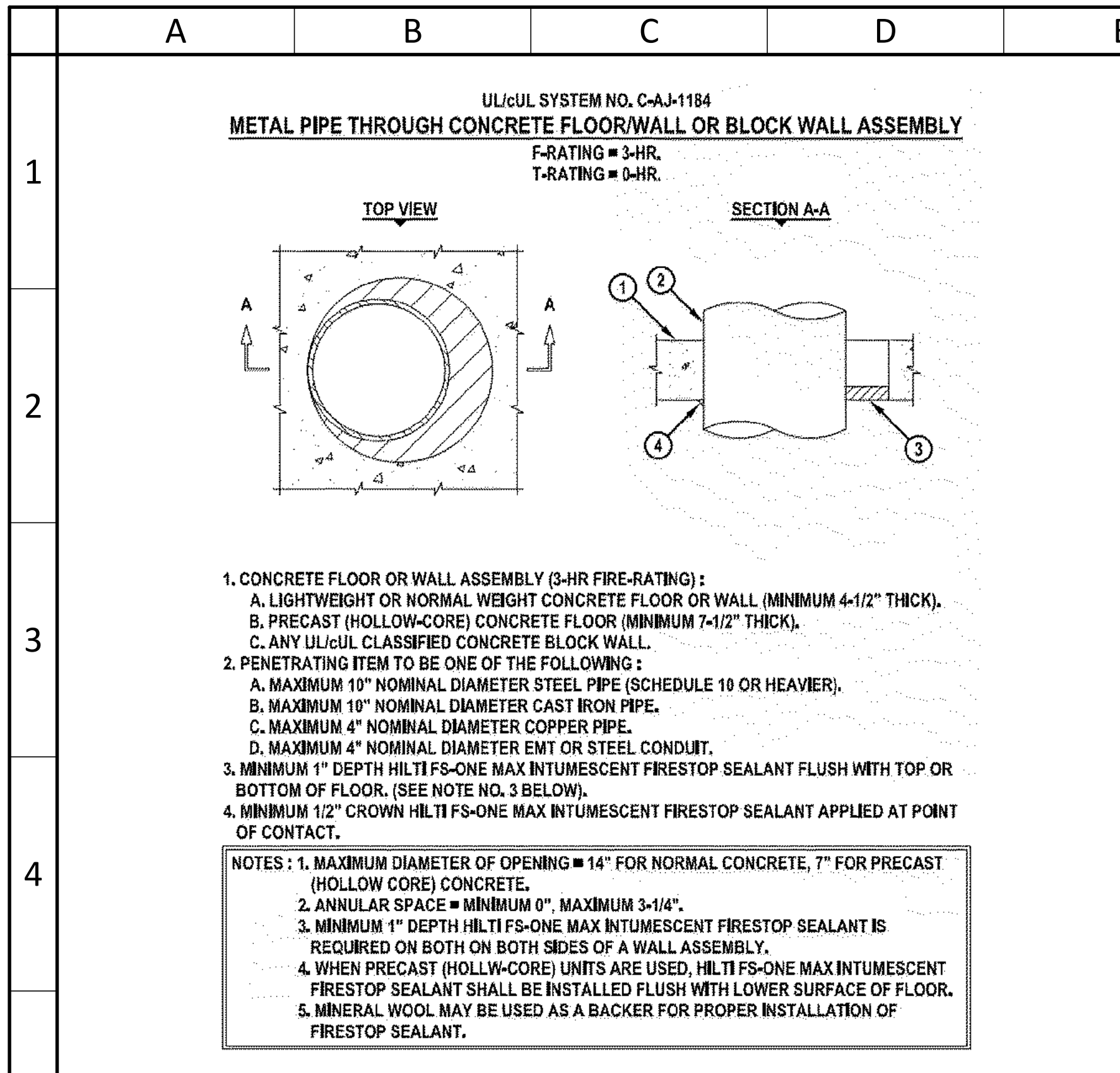
project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
COVER SHEET  
scale AS SHOWN  
drawn by SC  
checked by SG  
date 5/03/2020

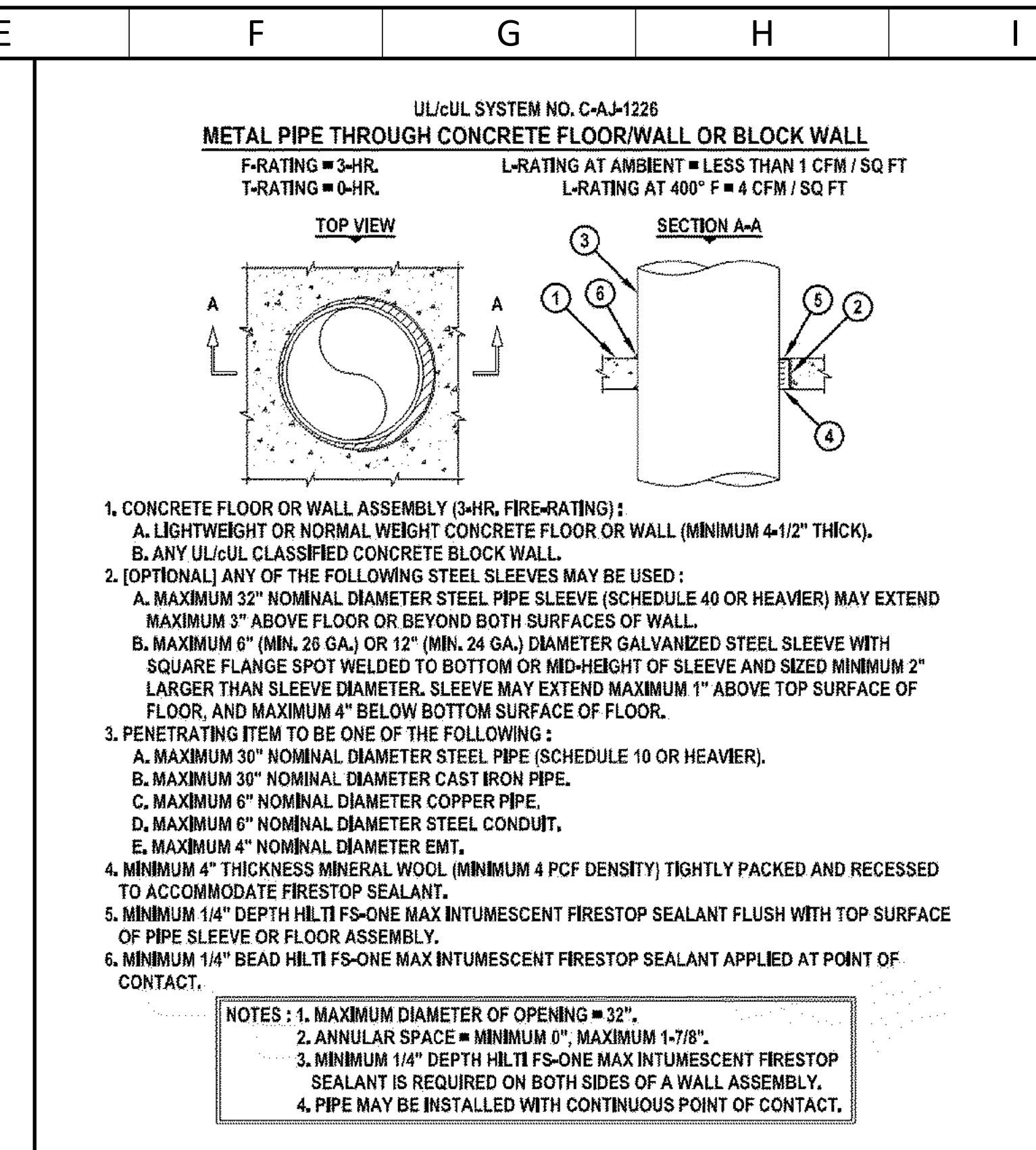
dwg. no.  
**E000**



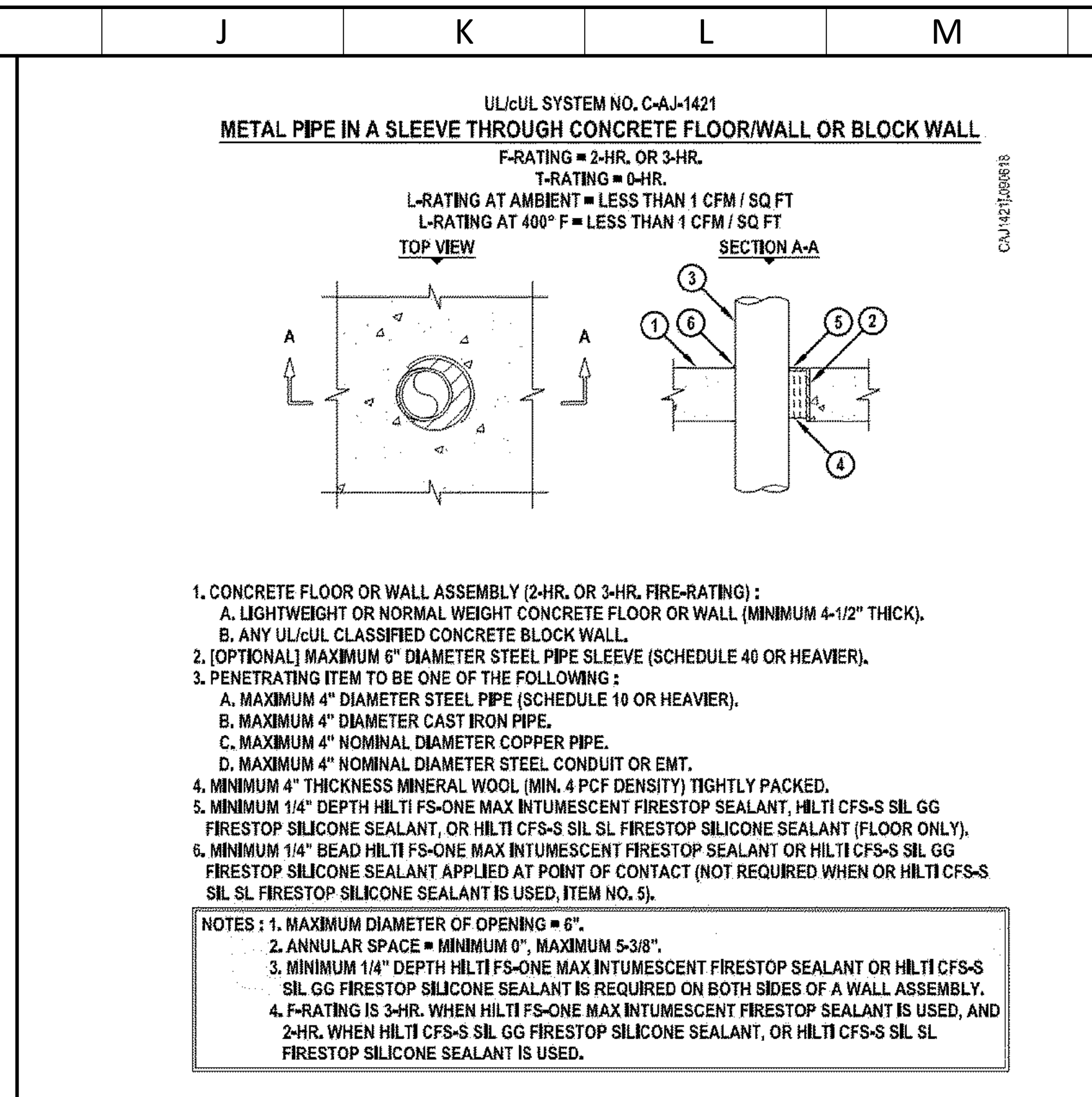




**METAL PIPE THROUGH CONCRETE FLOOR / WALL ASSEMBLY** Scale: NTS Drawing: **E003** Detail: **01**



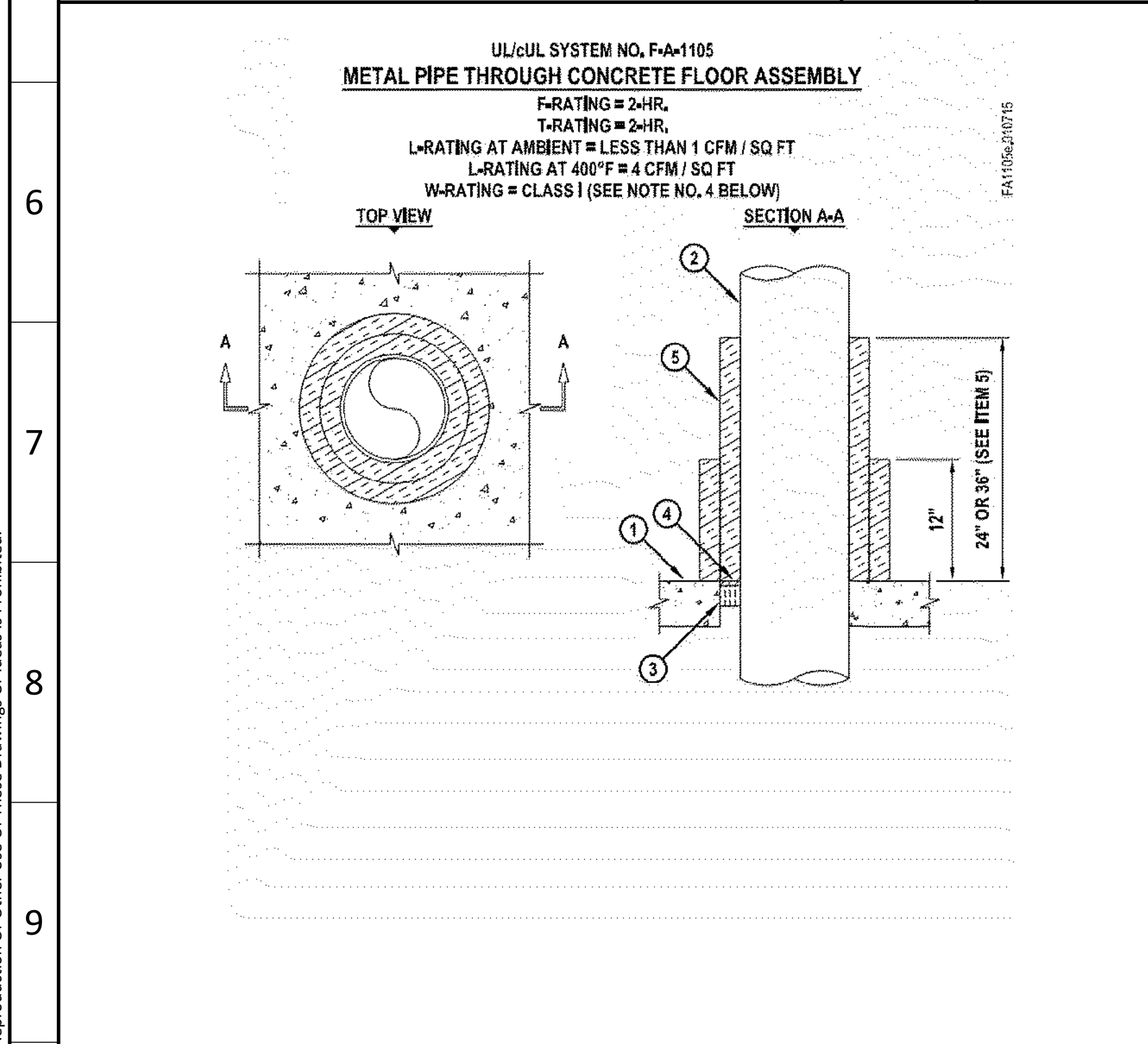
**METAL PIPE THROUGH CONCRETE FLOOR / WALL ASSEMBLY** Scale: NTS Drawing: **E003** Detail: **02**



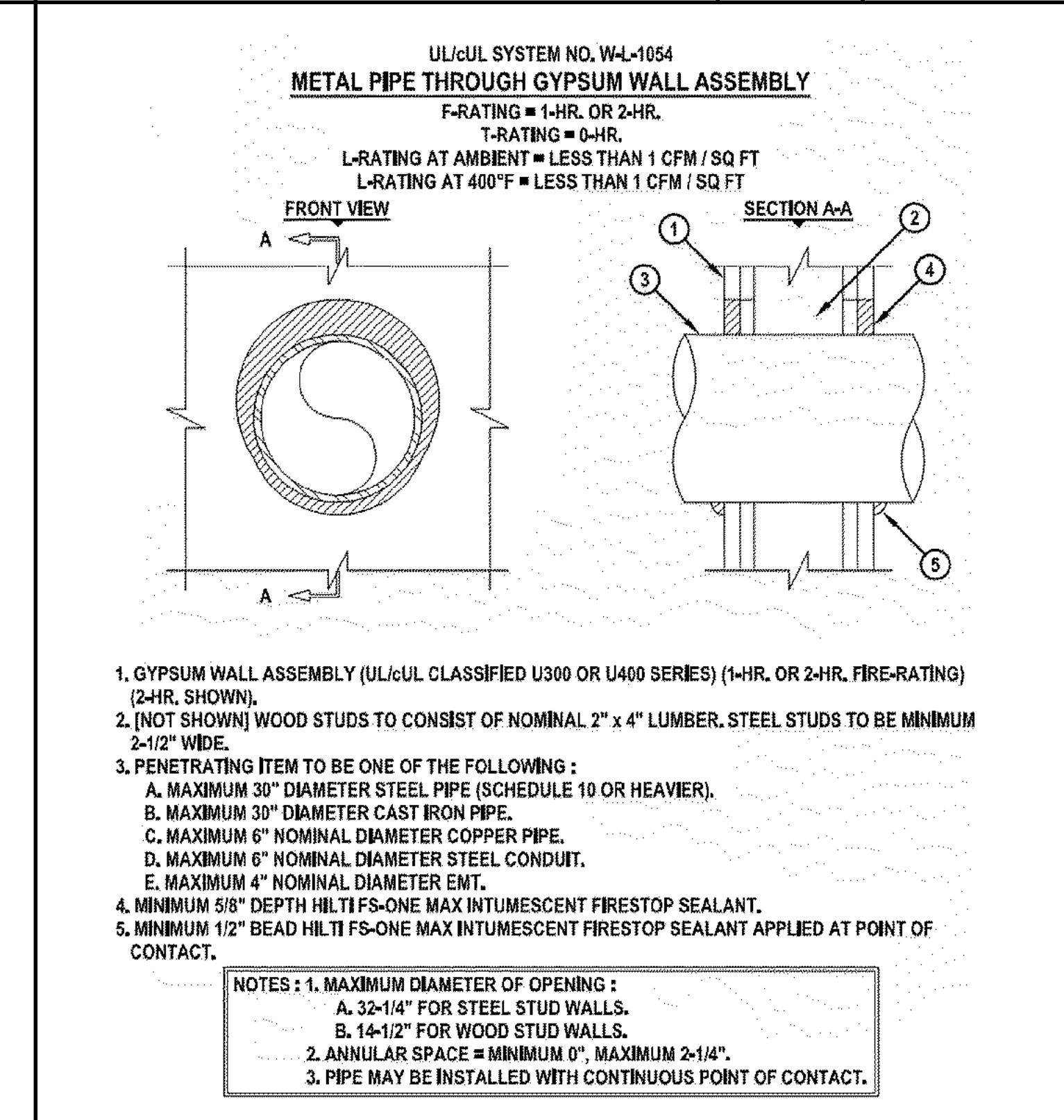
**METAL PIPE IN A SLEEVE THROUGH CONCRETE FLOOR / WALL OR BLOCK WALL ASSEMBLY** Scale: NTS Drawing: **E003** Detail: **03**

**PENETRATION FIRESTOPPING GENERAL NOTES**

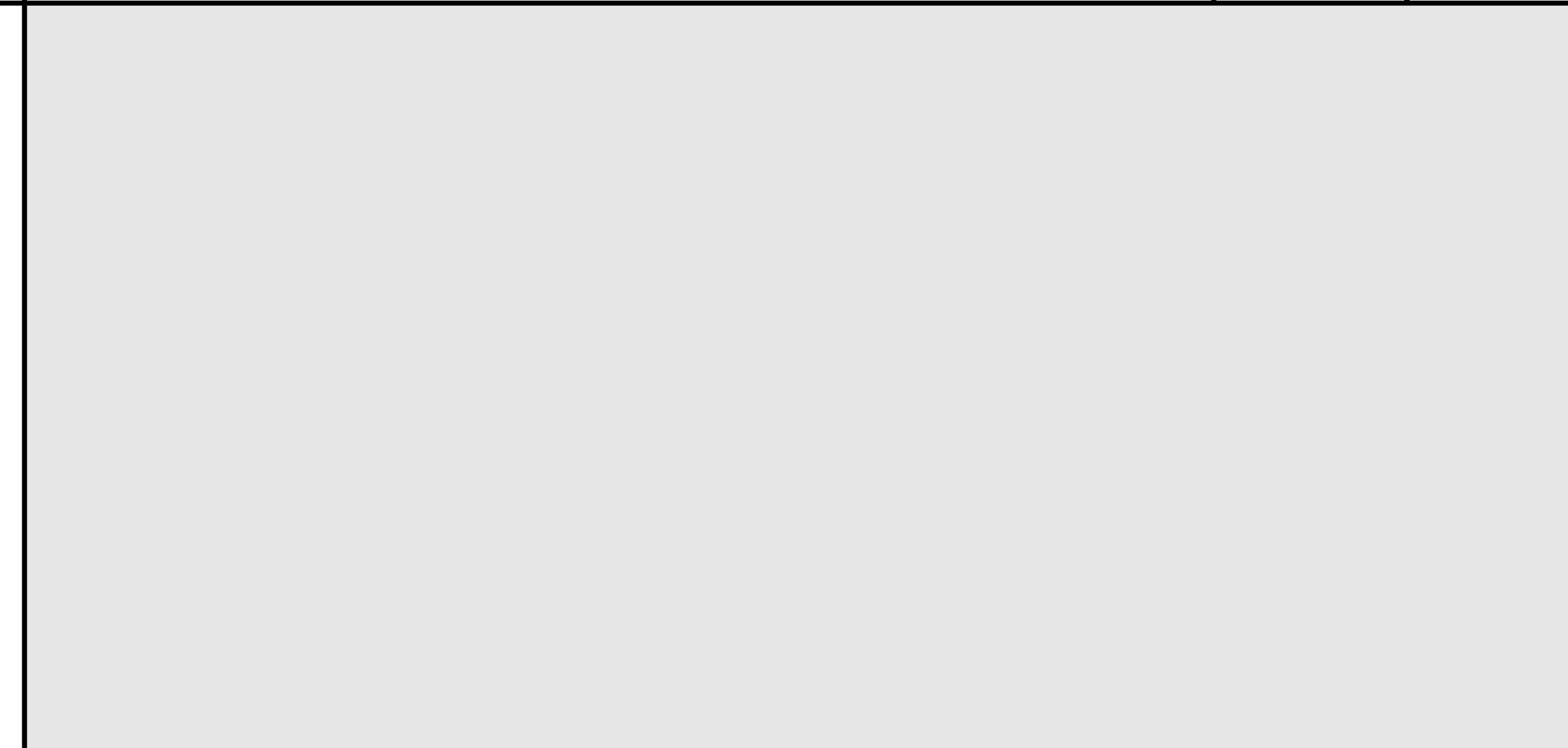
- Firestopping: Material or combination of materials used to retain integrity of fire-rated construction by maintaining an effective barrier against the spread of flame, smoke, and hot gases through penetrations in joints between rated wall and floor assemblies.
- Only tested firestop systems shall be used in specific locations as follows: Penetrations for the passage of conduit through fire-rated vertical barriers (walls and partitions), and horizontal barriers (floor/ceiling assemblies).
- Test Requirements: ASTM E-814-02, "Standard Method of Fire Tests of Through Penetration Fire Stops"; Underwriters Laboratories (UL) of Northbrook, IL runs ASTM E-814 under their designation of UL 1479 and publishes the results in their "FIRE RESISTANCE DIRECTORY" that is updated annually.
- A manufacturer's direct representative (not distributor or agent) to be on-site during initial installation of firestop systems to train appropriate contractor personnel in proper selection and installation procedures. This will be done per manufacturer's written recommendations published in their literature and drawing details.
- Firestop System installation must meet requirements of ASTM E-814, UL 1479 or UL 2079 tested assemblies that provide a fire rating equal to that of construction being penetrated.
- Proposed firestop materials and methods shall conform to applicable governing codes having local jurisdiction.
- For those firestop applications that exist for which no UL tested system is available through a manufacturer, an engineering judgment derived from similar UL system designs or other tests will be submitted to local authorities having jurisdiction for their review and approval prior to installation. Engineer judgment drawings must follow requirements set forth by the International Firestop Council (September 7, 1994, as may be amended from time to time).
- REQUIRED SUBMITTALS**
  - Shop Drawings: Proposed conduit routes per building with each penetration identified.
  - Product Data: Manufacturer's specifications and technical data for each material including the composition and limitations, documentation of UL firestop systems to be used and manufacturer's installation instructions to comply with Section 1300.
  - Manufacturer's engineering judgment identification number and drawing details when no UL system is available for an application. Engineer judgment must include both project name and contractor's name who will install firestop system as described in drawing.
  - Submit material safety data sheets provided with product delivered to job-site.
- INSTALLER QUALIFICATIONS:** Engage an experienced installer who is certified, licensed, or otherwise qualified by the firestopping manufacturer as having been provided the necessary training to install manufacturer's products per specified requirements. A supplier's willingness to sell its firestopping products to the Contractor or to an installer engaged by the Contractor does not in itself confer qualification on the buyer.



**METAL PIPE THROUGH CONCRETE FLOOR ASSEMBLY (2-HR FIRE RATING)** Scale: NTS Drawing: **E003** Detail: **04**



**METAL PIPE THROUGH GYPSUM WALL ASSEMBLY** Scale: NTS Drawing: **E003** Detail: **05**



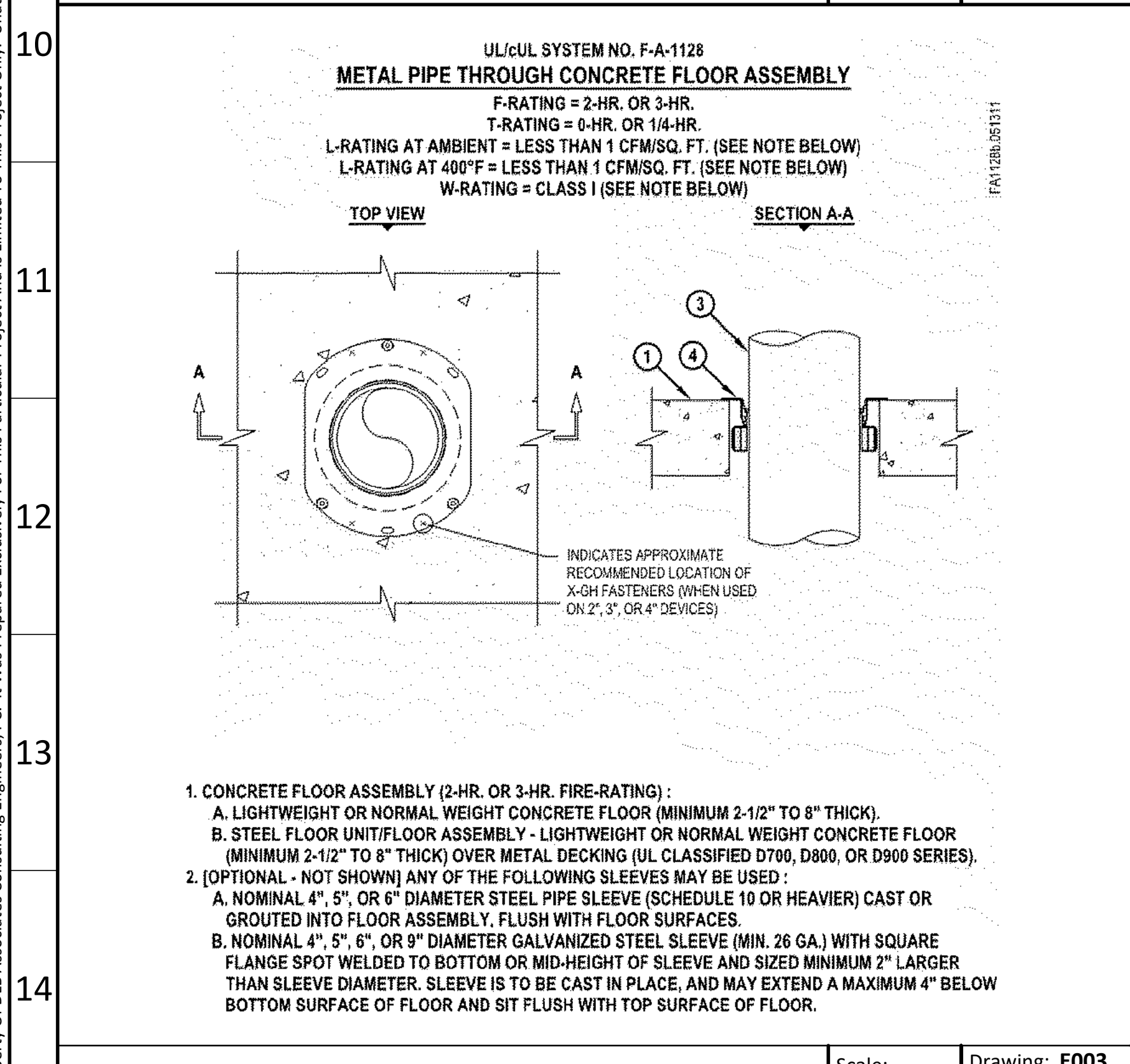
**METAL PIPE THROUGH WOOD FLOOR / CEILING ASSEMBLY** Scale: NTS Drawing: **E003** Detail: **07**

**SCHEDULE OF FIREPROOFING OF WALL & FLOOR / CEILING PENETRATIONS**

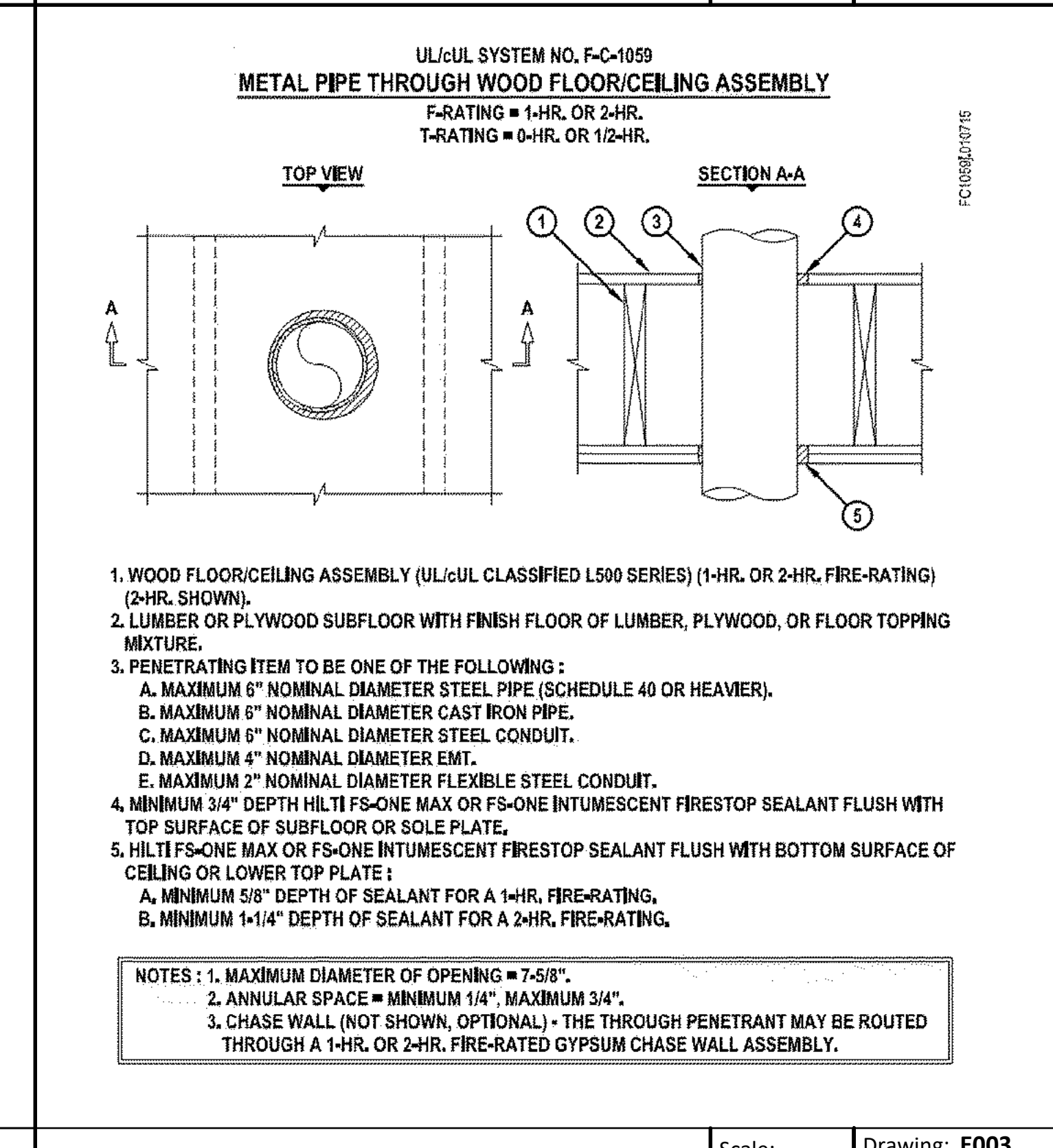
Location	Penetrated Item	Fire Resistance Rating in Hours	Penetrating Item	Applicable UL System Detail(s)
Wall	Metal Stud and Drywall	2	1" - 4" Metal (EMT)	W-L-1054; W-L-1441
Wall	Wood Stud and Drywall	2	1" - 4" Metal (EMT)	W-L-1054; W-L-1441
Wall	Brick Masonry	2	1" - 4" Metal (EMT)	C-AJ-1184; C-AJ-1226; C-AJ-1421
Wall	CMU	2	1" - 4" Metal (EMT)	C-AJ-1184; C-AJ-1226; C-AJ-1421
Wall	Concrete	2	1" - 4" Metal (EMT)	C-AJ-1184; C-AJ-1226; C-AJ-1421
Floor / Ceiling	Wood Floor	2	1" - 4" Metal (EMT)	F-C-1059
Floor / Ceiling	Concrete Floor	2	1" - 4" Metal (EMT)	C-AJ-1184; C-AJ-1226; F-A-1105; F-A-1128; C-AJ-1421

**NOTES:**

- The details listed above are for typical construction assemblies expected to be encountered on this project. They are provided for the contractor's information and may not represent all construction assemblies that will be penetrated. It is the contractor's responsibility to apply the appropriate detail to each penetration.
- Where multiple applicable details are shown the contractor may select one based upon the existing conditions, constructability and product availability.
- While some penetrations may not be through fire walls, in the interest of life safety and simplification of construction, all penetrations are to be firestopped as if the wall had a two hour fire-resistance rating. If during construction the contractor encounters a three hour fire-resistance rated wall and the applicable details do not offer a three hour rated option, notify the Engineer immediately for resolution.
- The contractor is responsible for the conduit pathway routing and will identify walls, floors and ceilings to be penetrated prior to the ordering of materials. The contractor is to provide proposed conduit path drawings (may be hand-marked) for each building and system for Engineer review and approval prior to beginning the work. All penetrations are at the discretion of the contractor in the field and will be accounted for in the contractor's bid. There will be no change orders issued for number or type of penetrations to be created and firestopped.
- The applicable details listed here and included in the drawings are based upon the use of Hilti products. The contractor is to use a single source for fireproofing materials. The same listed detail may be used from an alternate approved manufacturer at the contractor's request prior to beginning the work.




**METAL PIPE THROUGH CONCRETE FLOOR ASSEMBLY (2-3HR FIRE RATING)** Scale: NTS Drawing: **E003** Detail: **06**



**METAL PIPE THROUGH WOOD FLOOR / CEILING ASSEMBLY** Scale: NTS Drawing: **E003** Detail: **07**

30x42	<p>CONSULTING ENGINEERS, P.C. 265 Industrial Way West, Eatontown, N.J. 07724</p> <p>Questions For DLB Call: DLB Project ID: 47211 Anthony Laskosky Phone: 732-927-5038</p>			<p>project</p> <p><b>TCNJ - CAMPUS FIRE ALARM PROJECT</b> <b>PART B - HARDWARE &amp; SOFTWARE UPGRADES</b> 2000 PENNINGTON ROAD, EWING NJ, 08618</p>	<p>title</p> <p><b>FIREPROOFING GENERAL SCOPE AND DETAILS</b></p>	<p>dwg. no.</p> <p><b>E003</b></p>
	<p>scale</p> <p>AS SHOWN</p>		<p>drawn by</p> <p>CDO</p>	<p>checked by</p> <p>AL</p>	<p>date</p> <p>5/03/2020</p>	
	<p>1   05/01/2020   ISSUED FOR BID</p>					
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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R																												
1				<b>PROJECT OVERVIEW</b> 1. Project Description: A. The Project Consists Of The Replacement Of The Existing Fire Alarm System In The Building With A New Addressable Fire Alarm System. The System Is Being Replaced Due To Its Age And Lack Of Availability Of Replacement Parts. 2. Overview: A. The Following Is A Brief Scope Of The Work For This Project (Not Intended To Be All Inclusive): 1) New Addressable Fire Alarm System. Fire Alarm Control Panel Will Be Located In The, And Annunciator Panel Located In The Front Entry. 2) Fire Alarm Shop Drawings Shall Meet The Requirements Of IBC 2015 (NJ Edition) Section 907.1.2 And Shall Be Submitted For Review And Approval Prior To System Installation. 3) Removal And Disposal Of Existing Fire Alarm System. 4) Patch, Repair, And Refinish Walls, Floors, Ceilings And Other Finished Surfaces Affected By Removal Of Existing System.				<b>SPECIAL EMPHASIS, CONCERNS, AND LIMITATIONS</b> <b>Special Emphasis, Concerns &amp; Limitations</b> 1. When Replacing The Existing FACP It Is The Contractors Responsibility To Transfer All Systems That Are Currently Reporting To The Existing Panel. There Are Certain Panels That Monitor Accessory Systems Such As Security, Fire Shutters Clean Agent Systems, CO Detectors, Access Control Etc. Contractor Shall Survey The Buildings And Include All Accessory Systems And Intermediary Devices Required To Integrate Said Systems On Their Shop Drawings. 2. Communication A. The Engineer Shall Be Notified Immediately Upon Discovery Of A Problem Or Conflict. Contractor Shall Promptly Identify One Or More Proposed Solutions But Shall Not Proceed Until So Authorized. 3. Construction A. Submittals (Shop Drawings) Shall Be Provided For Each Piece Of Purchased Equipment. Ensure Thoroughness And Accuracy Of The Submittals. The Contractor Shall Provide A Stamp On The Shop Drawings Stating That They Conform To The Specifications. B. Long Lead Items Must Be Ordered Promptly To Ensure Timely Deliveries. C. All Work Shall Be Performed During Normal Working Hours. 3. Contractors' Responsibilities A. Before Submitting Their Bid, The Contractor Shall Visit The Job Site And Examine And Fully Acquaint Themselves With The Existing Job Conditions. B. The Contractor Shall Furnish And Install All Supports, Hangers, Boxes, Or Panels As Required, And Shall Perform Demolition And Modification Work As Required, To Make A Complete And Operable System Without Additional Cost To Owner. C. Contractor Shall Arrange And Pay For All Permits, Certificates, Inspections, Etc. And Pay All Fees Levied By State, Local And Municipal Authorities Having Jurisdiction Over Work Done Under This Contract. D. Contractor Shall Provide All Required Temporary Utilities And Pay All Associated Fees And Operating Costs. E. Any Work By Any Party As A Result Of Failure To Familiarize Themselves Or Coordinate Work Is The Responsibility Of The Contractor And Shall Be Provided At No Cost To The Owner. F. Make Final Connections, Perform Acceptance Testing, And Coordinate With NJ Department Of Community Affairs For Device Verifications For A Complete And Operational System Upon Completion. Contractor Shall Be Present And Provide Assistance As Necessary For Device Verifications With Fire Marshal And Also Include All Associated Costs For This. G. Final Locations Of All New Devices And Equipment Shall Be Field Coordinated With Proposed Equipment And Device Ratings, Existing Field Conditions And With Other Existing Installations. H. Make Every Attempt To Ensure Thoroughness And Accuracy Of The Submittals. If Shop Drawings Are Not Approved Following A Maximum Of Two (2) Reviews, The Contractor Will Be Back-charged For The Engineer's Effort. I. Contractor Shall Furnish And Install Access Doors For Access To Any Above Ceiling Detectors Or Devices Which Are Above Gypsum Board Ceilings Or Other Non-Accessible Ceiling Spaces. 4. Limitations On Downtime A. A Schedule Of Interruptions / Shutdowns Shall Be Submitted To The Engineer And Owner. Each Interruption Shall Be Approved By The Owner With Written Consent Before Any Interruption Is Permitted. B. Contractor Shall Furnish Fire Watch During Any Fire Alarm Or Fire Protection Interruptions.				<b>DESIGN CRITERIA &amp; ADDITIONAL PROJECT REQUIREMENTS</b> <b>Applicable Codes And References</b> The Entire Installation Shall Comply With All Local And State Codes, Including Amendments To Said Codes, And Other Authorities Having Jurisdiction. 1. International Building Code, 2015 Edition (NJ Edition) 2. International Fire Code, 2015 Edition 3. International Mechanical Code, 2015 Edition 4. NFPA 72, 2013 5. National Electrical Code, 2014 Edition 6. New Jersey Administrative Code (Subchapter 6 Rehabilitation Subcode) <b>Seismic Requirements</b> 1. The Design And Application Of Seismic Restraints Shall Be In Accordance With The Following Criteria, As Listed In Chapter 16 Of The 2015 International Building Code. A. Determination Of Design Spectral Response Acceleration: Short Periods: 0.245 One-second Periods: 0.105 B. Seismic Occupancy Category: Section 1604.5: Risk Category II Seismic Design Category: B 2. Electrical Components / Systems In Buildings That Are Assigned To Seismic Design Category A Or B (ASCE 13.1.4.2) Are Exempt From Seismic Requirements.																																	
2												<b>DRAWING LIST</b> <table border="1"> <thead> <tr> <th>No.</th> <th>Drawing Title</th> </tr> </thead> <tbody> <tr> <td>E000</td> <td>COVER SHEET</td> </tr> <tr> <td>E001</td> <td>GENERAL INFORMATION SHEET</td> </tr> <tr> <td>E002</td> <td>PHOTO OVERVIEW</td> </tr> <tr> <td>ED101</td> <td>BASEMENT AND FIRST FLOOR PLANS - FIRE ALARM DEMOLITION</td> </tr> <tr> <td>ED102</td> <td>SECOND FLOOR PLAN - FIRE ALARM DEMOLITION</td> </tr> <tr> <td>ED103</td> <td>THIRD FLOOR PLAN - FIRE ALARM DEMOLITION</td> </tr> <tr> <td>ED104</td> <td>FOURTH FLOOR PLAN - FIRE ALARM DEMOLITION</td> </tr> <tr> <td>ED105</td> <td>FIFTH FLOOR PLAN - FIRE ALARM DEMOLITION</td> </tr> <tr> <td>E101</td> <td>BASEMENT AND FIRST FLOOR PLANS - FIRE ALARM</td> </tr> <tr> <td>E102</td> <td>SECOND FLOOR PLAN - FIRE ALARM</td> </tr> <tr> <td>E103</td> <td>THIRD FLOOR PLAN - FIRE ALARM</td> </tr> <tr> <td>E104</td> <td>FOURTH FLOOR PLAN - FIRE ALARM</td> </tr> <tr> <td>E105</td> <td>FIFTH FLOOR PLAN - FIRE ALARM</td> </tr> <tr> <td>E200</td> <td>SCHEDULES AND DETAILS</td> </tr> </tbody> </table>				No.	Drawing Title	E000	COVER SHEET	E001	GENERAL INFORMATION SHEET	E002	PHOTO OVERVIEW	ED101	BASEMENT AND FIRST FLOOR PLANS - FIRE ALARM DEMOLITION	ED102	SECOND FLOOR PLAN - FIRE ALARM DEMOLITION	ED103	THIRD FLOOR PLAN - FIRE ALARM DEMOLITION	ED104	FOURTH FLOOR PLAN - FIRE ALARM DEMOLITION	ED105	FIFTH FLOOR PLAN - FIRE ALARM DEMOLITION	E101	BASEMENT AND FIRST FLOOR PLANS - FIRE ALARM	E102	SECOND FLOOR PLAN - FIRE ALARM	E103	THIRD FLOOR PLAN - FIRE ALARM	E104	FOURTH FLOOR PLAN - FIRE ALARM	E105	FIFTH FLOOR PLAN - FIRE ALARM	E200	SCHEDULES AND DETAILS
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3				<b>ENVIRONMENTAL SURVEY OBSERVATIONS</b> The Observations Listed Below Were Compiled Based On Information From TCNJ And Visual Field Inspections At Each Building. Full Building Environmental Surveys Were Not Performed Under This Scope And Underground Conditions Are Unknown. Contractor Shall Thoroughly Investigate Any Proposed Routing For Environmental Hazards. 1. Green Hall And Recreation Center Both Have Known Areas Of Asbestos In Certain Above Ceiling Areas. 2. Most Buildings Have Lead-Based Paint In One Form Or Another And Lead-Safe Work Protocols Shall Be Incorporated Into Standard Work Procedures For This Project Including, But Not Limited To, The Following: A. Contractor To Be EPA Certified In Lead-Based Paint Safe Work Practices And Train All Workers In Said Practices. B. Work Area Containment To Be Used To Prevent Dust And Debris From Leaving The Work Place. C. Thorough Cleaning Followed By Cleaning Verification To Minimize Lead-Based Paint Hazard Exposures. D. No Eating Or Drinking In The Work Area. E. Post Signs Clearly Identifying Work Area. F. Provide Asbestos Testing In Any Suspect Areas.																																									
4												<b>ELECTRICAL GENERAL NOTES</b> <b>Electrical Wiring</b> 1. In General, Branch Circuit Wiring Is Not Shown On The Plan Drawings. 2. The Minimum Branch Circuit Wiring Size Shall Be #12, #12 Ground In 3/4 Inch Conduit Unless Otherwise Noted. <b>Wiring Methods</b> 1. General A. In Finished Areas, Conceal All Wiring In Building Walls, Floors, And Above Finished Ceilings. Wiring May Be Run Exposed In Mechanical/Electrical Equipment Rooms, Electrical Closets, Utility Rooms. B. For Devices Mounted To Block Walls : Approved Surface Mounted Raceway May Be Utilized (Such As Wiremold). C. Final Connections To Mechanical Equipment, Lighting Fixtures, Motors, Transformers, Instruments, And Control Devices Shall Be Flexible Conduit To Minimize Vibration Transmission. 2. Indoors (Unclassified Areas) A. Exposed: EMT Conduit With Steel Set Screw Fittings, Unless Otherwise Noted B. In Dry Walls/Above Ceilings: EMT Conduit With Steel Set Screw Fittings (Type MC Clad Cable May Be Used For 1 Pole, 15 And 20 Amp Branch Circuits ) <b>Equipment Grounding</b> 1. An Insulated (Green) Equipment Ground Conductor(s) Shall Be Provided In All Branch Circuits. Utilizing The Conduit As The Equipment Grounding Conductor Is Not Acceptable. <b>Electrical Enclosures And Terminations</b> 1. Electrical Equipment Enclosures Shall Be Provided As Listed Below Unless Otherwise Noted. A. Indoors Unclassified Areas NEMA 1 B. Indoors Classified 'Damp' NEMA 1 C. Outdoors NEMA 3R 2. Electrical Terminations (Lugs, Terminals, Etc.) On All Equipment Shall Be Rated For Use With 75 Degree Celsius Conductors. 3. Firestopping A. Provide UL Listed Fire Stopping Assemblies For Raceways And Wire Passing Through Floor Slots, Sleeves Or Openings In Fire-Partitioned Rooms. B. Provide Sealant For Raceways And Wire Passing Through Floor Slots, Sleeves Or Openings In Non-Fire-Partitioned Rooms <b>FIRE ALARM</b> 1. Fire Alarm Must Be Routed In Its Own Separate Pathway And Cannot Share Pathway With Any Other Infrastructure. 2. Provide Ceiling Mounted Smoke Detector At Each Fire Alarm Control Panel, Remote Power Panel, And Remote Annunciation Panel. 3. Duct Smoke Detectors Shall Be Furnished And Installed As Part Of The Electrical Work. A. Duct Mounted Smoke Detectors Shall Be Wired To Shut Down The Associated Unit And Annunciate At The Fire Alarm Control Panel. B. Remote Reset Capability Shall Be Provided For Each Detector. Coordinate Location Of Test Switches In The Field With Owner So That They Are Accessible. Switches Shall Be Provided With Identification Label. 4. Locations Of Fire Alarm Devices And Equipment Shown On The Plan Drawings Is Diagrammatic. Exact Locations Shall Be Determined By The Electrical Contractor In Accordance With Field Conditions And The Following: A. Ceiling Mounted Devices Shall Be Coordinated With Suspended Ceiling, Lighting Fixtures, Diffusers, Ductwork, Sprinkler Heds, Etc. And Per NFPA Requirements. B. Wall Mounted Devices Shall Be Coordinated With Other Wall Mounted Devices, Wall Construction Type, Etc. And NFPA And IBC Requirements. Whenever Possible Devices Shall Be Mounted Flush Or Semi Flush. Surface Mounted Devices Will Be Permitted Where Approved By Engineer And Owner.																																	
5												<b>KEY PARTICIPANTS &amp; ROLES</b> <table border="0"> <tr> <td>Electrical Engineer DLB Associates, PC 265 Industrial Way West Eatontown, NJ 07724 Contact: Anthony Laskosky - Project Manager Tel: (732) 927-5038</td> <td>Client The College Of New Jersey 2000 Pennington Road Ewing, NJ 08628-0718 Contact: Mumtaz Makhdomi Email: cplanconsult2@tcnj.edu Phone: (609)-771-2372</td> </tr> </table>				Electrical Engineer DLB Associates, PC 265 Industrial Way West Eatontown, NJ 07724 Contact: Anthony Laskosky - Project Manager Tel: (732) 927-5038	Client The College Of New Jersey 2000 Pennington Road Ewing, NJ 08628-0718 Contact: Mumtaz Makhdomi Email: cplanconsult2@tcnj.edu Phone: (609)-771-2372																												
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6												<b>DOCUMENT ORGANIZATION</b> <b>Miscellaneous</b> 1. The Terms 'Sheet', 'Plan', And 'Drawing' Are Used Interchangeably. 2. For Items That Are Plans, Details, And Other Graphic Items, Titles Are At The Bottom Of The Item Described. For Items That Are Predominately Text Such As Schedules, Titles Are At The Top Of The Item Described. 3. Shading Of An Area Often Is Used To Emphasize An Area To The Reader. Some Of The Possible Purposes Of This Emphasis Can Be: A. Identify Major Pieces Of Equipment B. Defining A Topic's Boundary Without Conflicting With Other Linework C. Help To Emphasize The Existence Of A Part Plan Of The Area D. Differentiate Line Work In Congested Areas 4. Printing Of The Plans Is Often Reduced, So A Graphic Scale Is Provided On Each Sheet. <b>How Notes Are Used</b> 1. General Notes Are One Or More Notes In List Form Which Are Not Indicated Specifically On A Plan, Section, Elevation, Or Detail. 2. Key Notes Are Used In Lieu Of Standard Notes Where They Improve Readability, Key Notes Are Gathered Together And Listed Collectively On The Drawings On Which They Are Located. <b>Addenda &amp; Revisions</b> Some Addenda And Revisions Are Identified On The Drawings Using A $\Delta$ . The Number In The Triangle Links To The Revision Block In The Title Block Section. Sometimes The Most Recent Change Is Clouded  To Provide Increased Clarity.																																	
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**GENERAL INFORMATION SHEET**  
**FORCINA BUILDING**

scale: NTS  
 drawn by: SC  
 checked by: SF  
 date: 5/03/2020

dwg. no.  
**E001-FRC**



**PHOTO A - FIRE ALARM ANNUNCIATOR**  
Fire Alarm Annunciator Located Within Corridor To Be Demolished



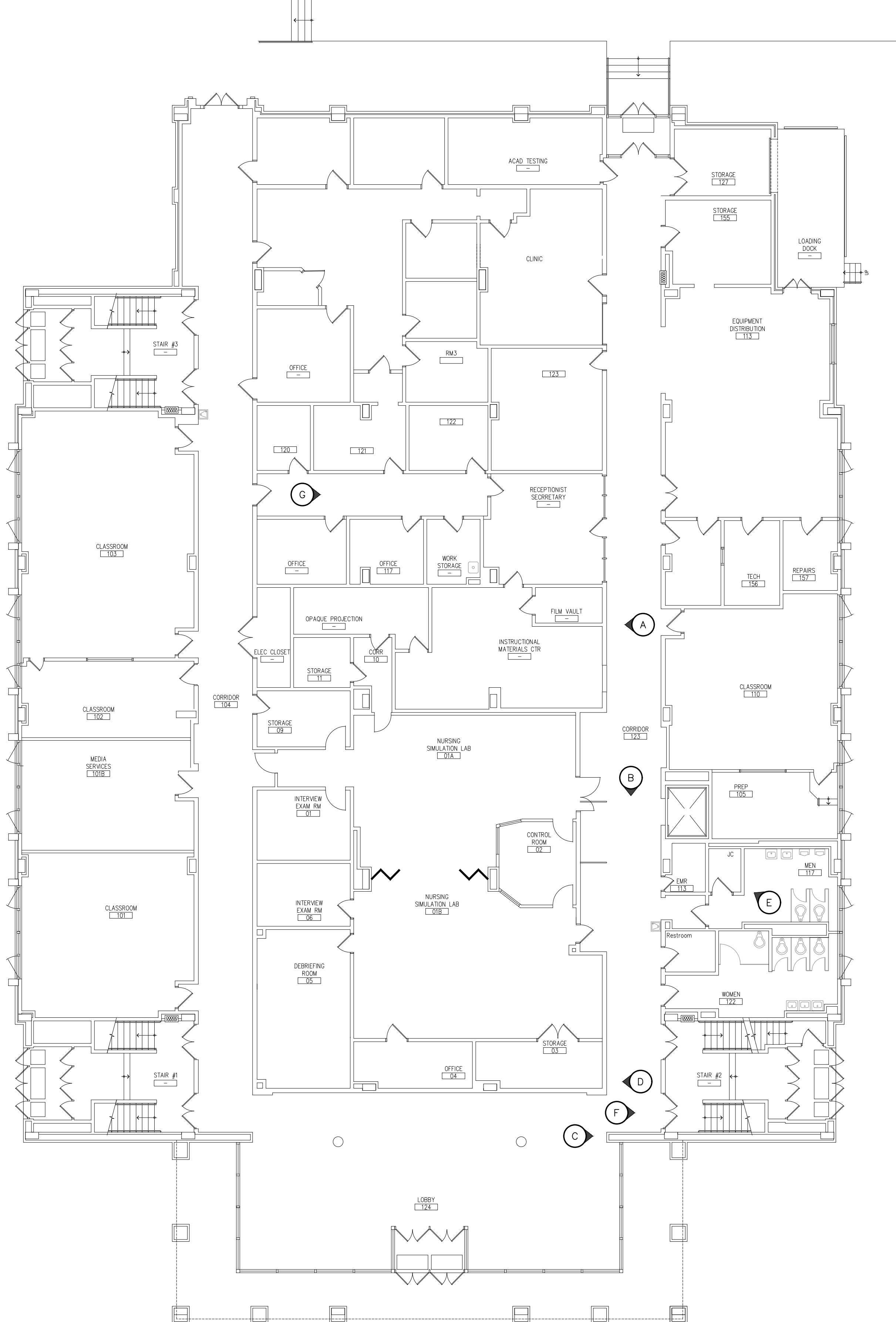
**PHOTO B - SMOKE DETECTION**  
Typical Smoke Detectors For Elevator Recall To Be Demolished



**PHOTO C - MANUAL FIRE ALARM INITIATION**  
Typical Pull Stations With Protective Cover Located Within Corridors To Be Demolished



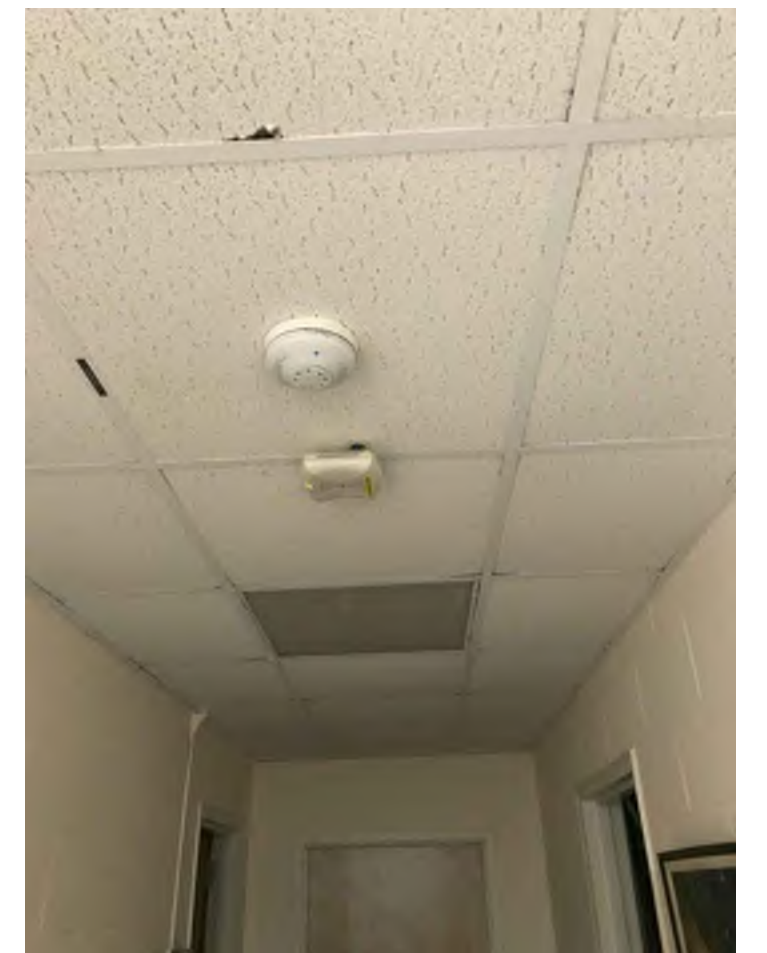
**PHOTO D - NOTIFICATION**  
Typical Wall Mounted Bells Located Throughout Building To Be Demolished



**PHOTO E - HORN AND STROBES**  
Typical Horns / Strobe Located Throughout Building To Be Demolished



**PHOTO F - HEAT DETECTION**  
Typical Ceiling Mounted Heat Detectors Located Throughout Building To Be Demolished



**PHOTO G - HEAT DETECTION**  
Typical Ceiling Mounted Heat Detectors Located Throughout Building To Be Demolished

LEGEND	
Identifier	Description
⊙	Photo Tag
■	No Access

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30x42	1	05/01/2020	ISSUED FOR BID	ITEM	DATE	ISSUE DESCRIPTION

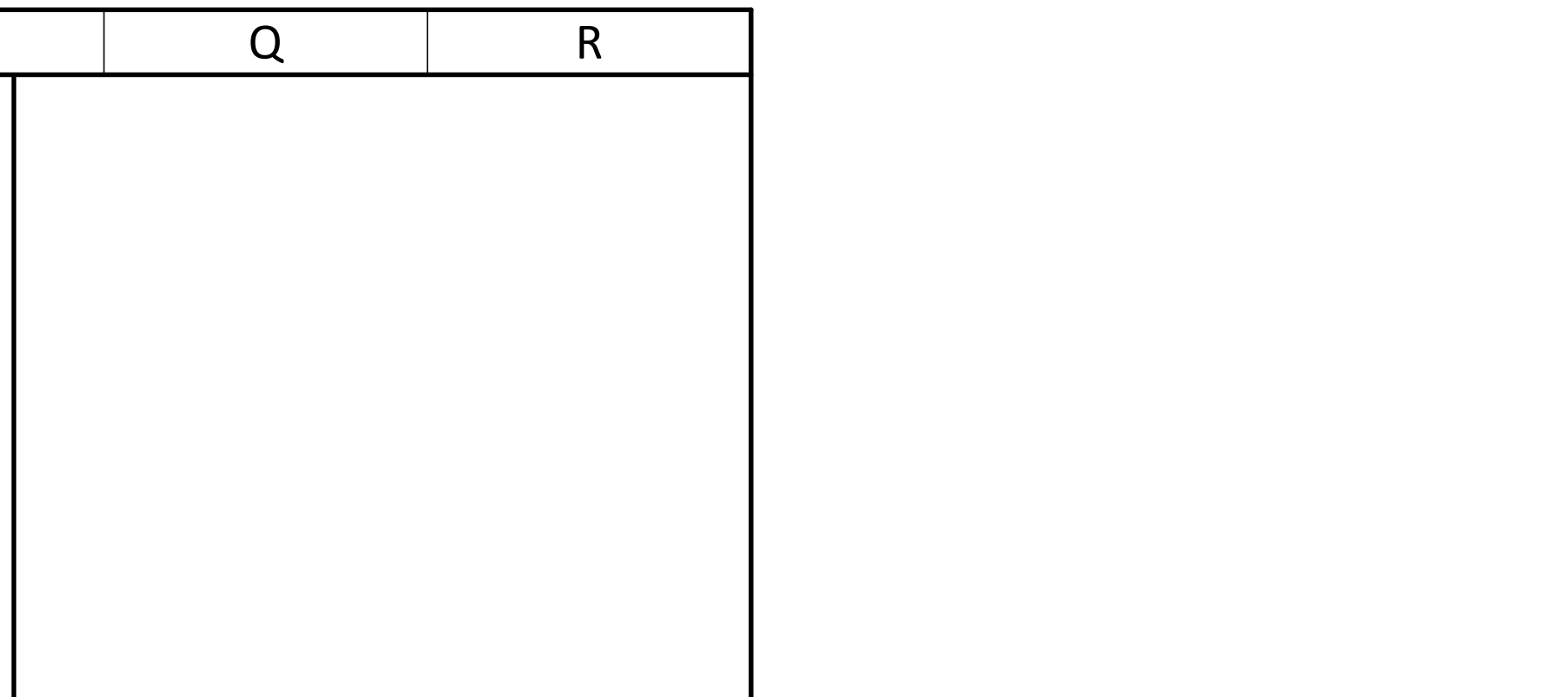
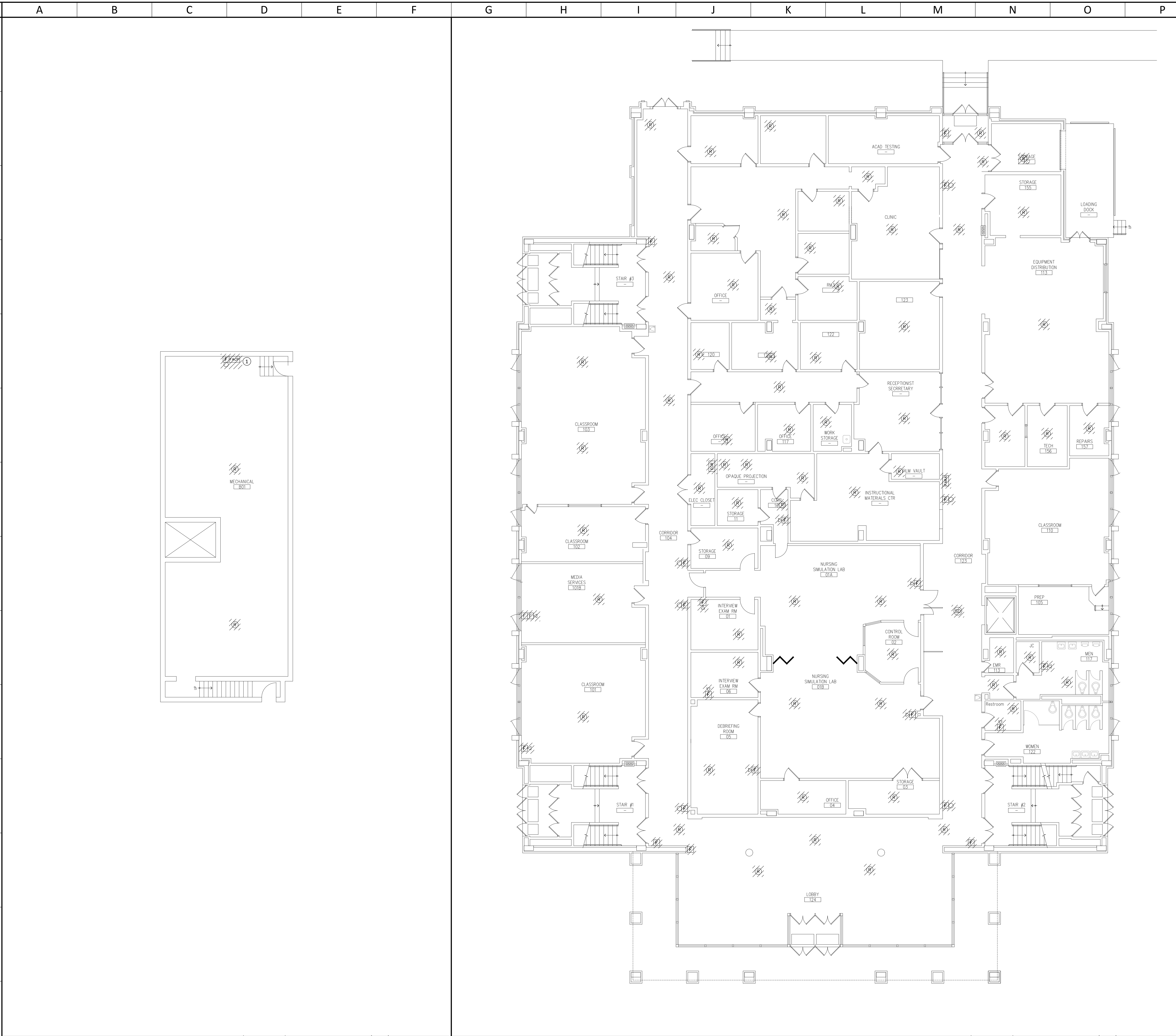
**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724  
Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
PHOTO OVERVIEW  
FORCINA BUILDING  
scale NTS  
drawn by SC  
checked by SF  
date 5/03/2020

dwg. no.  
**E002-FRC**  
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**KEY NOTES (SYMBOLS ①, ②, ETC.)**

- Existing FACP. FACP Power Circuit Is Supplied From Adjacent Power Panel In The Electric Room. Existing Branch Circuit Shall Be Removed.

**GENERAL NOTES**

- The Intent Of This Drawing Is To Provide The General Scope Of The Demolition / Devices To Be Removed For The Project.
- Maintain The Continuity And Normal Operation Of The Existing Fire Alarm System For The Maximum Extent Practical Prior To Being Demolished.
- The Existing Fire Alarm System Shall Be Removed In Its Entirety From All Areas Of The Existing Facility. Do Not Leave Any Component Of The System Or Wiring Abandoned In Place.
- Temporarily Relocate Existing System Devices, And Wiring Out Of The Way Of Demolition And Construction Work, Temporarily Support From Existing Surface To Remain, And Protect From Physical Damage.
- Temporarily Reinstall Existing System Devices Until Installation Of New System Devices And Wiring Is Complete, Tested, Inspected, And Accepted, At Which Time The Existing System Devices And Wiring Shall Be Removed.
- Any Required Fire Alarm System Outages Shall Be Performed Under A Supervised Fire Watch.
- Any Required System Outages Shall Be Requested In Writing At Least Two Days Prior And Performed During Regular Hours.
- Patch, Repair, And Refinish Walls, Floors, Ceilings, And Other Finished Surfaces Affected By Removal Of Existing Fire Alarm System.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
F	Manual Pull Station	FACP	Fire Alarm Control Panel
Ⓢ	Strobe Only	FARA	Fire Alarm Remote Annunciator
Ⓢ	Horn/Strobe	SDD	Duct Smoke Detector
Ⓢ	Smoke Detector	SD	Smoke Detector
Ⓢ	Heat Detector, Combination Fixed Temperature And Rate Of Rise		
FACP	Fire Alarm Control Panel		
FARA	Fire Alarm Remote Annunciator Panel		
SDD	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator		
///	Hatching Indicates Device To Be Demolished		

**FLOOR PLAN - BASEMENT** Scale: 1/8"=1'-0" Drawing: ED101 Detail: 01

**FLOOR PLAN - FIRST FLOOR** Scale: 1/8"=1'-0" Drawing: ED101 Detail: 02

ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID

ITEM	DATE	ISSUE DESCRIPTION

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265 Industrial Way West, Eatontown, N.J. 07724

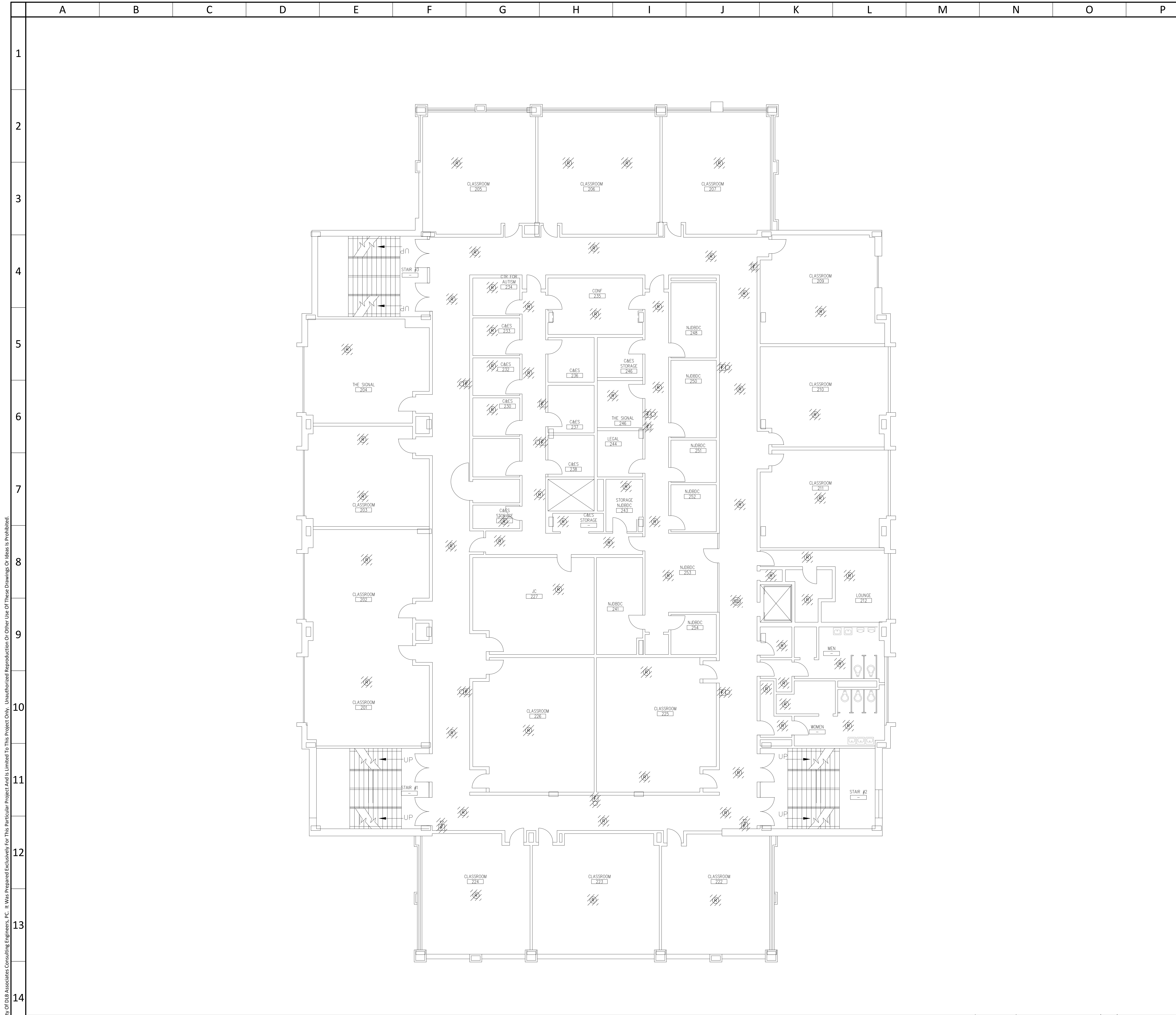
Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
BASEMENT AND FIRST FLOOR PLANS  
FIRE ALARM DEMOLITION  
FORCINA BUILDING

scale 1/8" = 1'-0" drawn by SC checked by SF date 5/03/2020

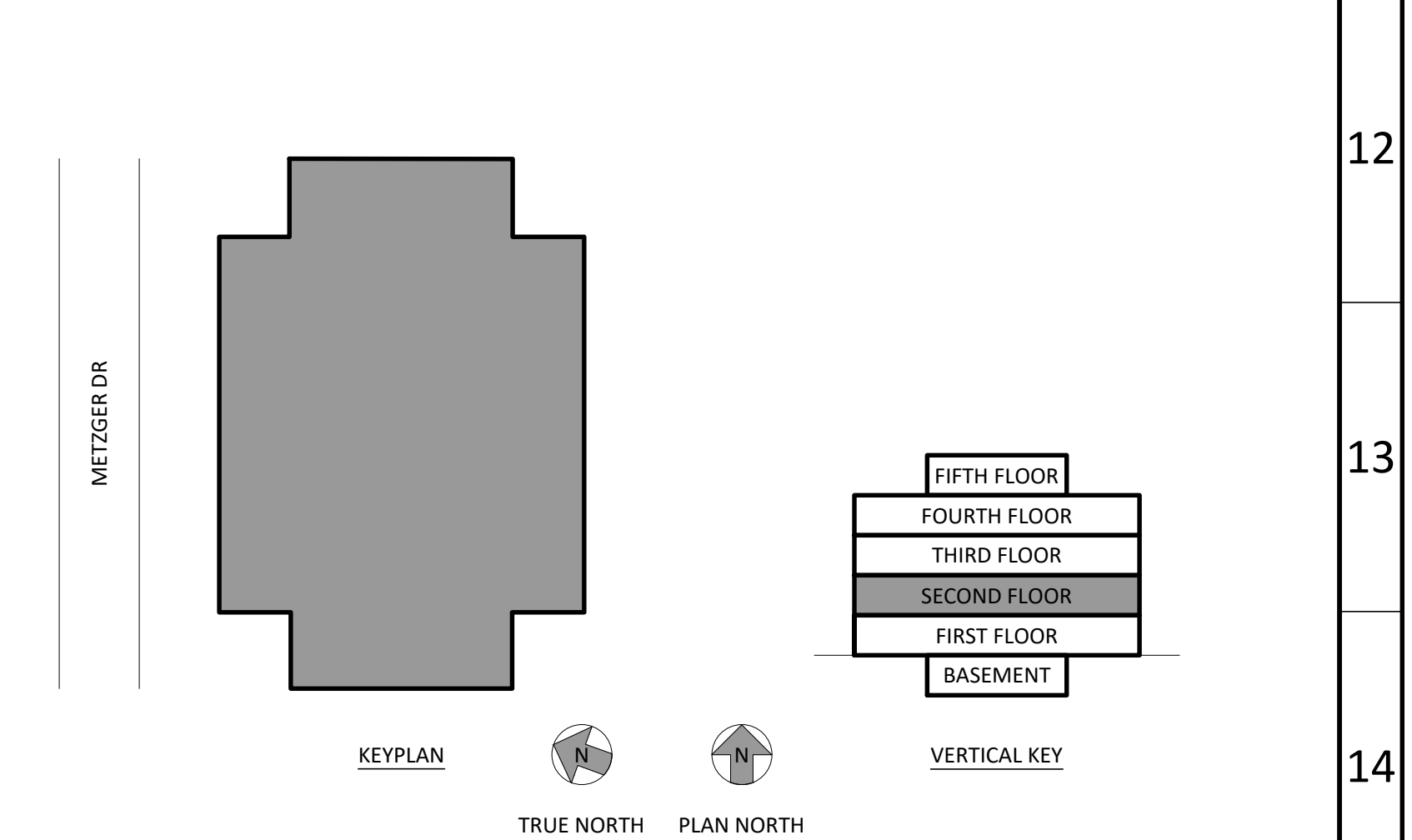
dwg. no.  
**ED101-FRC**



- GENERAL NOTES**
1. The Intent Of This Drawing Is To Provide The General Scope Of The Demolition / Devices To Be Removed For The Project.
  2. Maintain The Continuity And Normal Operation Of The Existing Fire Alarm System For The Maximum Extent Practical Prior To Being Demolished.
  3. The Existing Fire Alarm System Shall Be Removed In Its Entirety From All Areas Of The Existing Facility. Do Not Leave Any Component Of The System Or Wiring Abandoned In Place.
  4. Temporarily Relocate Existing System Devices, And Wiring Out Of The Way Of Demolition And Construction Work, Temporarily Support From Existing Surface To Remain, And Protect From Physical Damage.
  5. Temporarily Reinstall Existing System Devices Until Installation Of New System Devices And Wiring Is Complete, Tested, Inspected, And Accepted, At Which Time The Existing System Devices And Wiring Shall Be Removed.
  6. Any Required Fire Alarm System Outages Shall Be Performed Under A Supervised Fire Watch.
  7. Any Required System Outages Shall Be Requested In Writing At Least Two Days Prior And Performed During Regular Hours.
  8. Patch, Repair, And Refinish Walls, Floors, Ceilings, And Other Finished Surfaces Affected By Removal Of Existing Fire Alarm System.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
[F]	Manual Pull Station	FACP	Fire Alarm Control Panel
[S]	Strobe Only	FARA	Fire Alarm Remote Annunciator
[F]	Horn/Strobe	SDD	Duct Smoke Detector
[SD]	Smoke Detector	SD	Smoke Detector
[R]	Heat Detector, Combination Fixed Temperature And Rate Of Rise		
[FACP]	Fire Alarm Control Panel		
[FARA]	Fire Alarm Remote Annunciator Panel		
[SDD]	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator		
[Hatching]	Hatching Indicates Device To Be Demolished		



FLOOR PLAN Scale: 1/8"=1'-0" Drawing: ED102  
 2' 4' 8' 16' Detail: 01

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

ITEM	DATE	ISSUE DESCRIPTION

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 DLB Project ID: 47211 Phone: 732-927-5038

project  
 TCNJ - CAMPUS FIRE ALARM PROJECT  
 PART B - HARDWARE & SOFTWARE UPGRADES  
 2000 PENNINGTON ROAD,  
 EWING NJ, 08618

title  
 SECOND FLOOR PLAN  
 FIRE ALARM DEMOLITION  
 FORCINA BUILDING

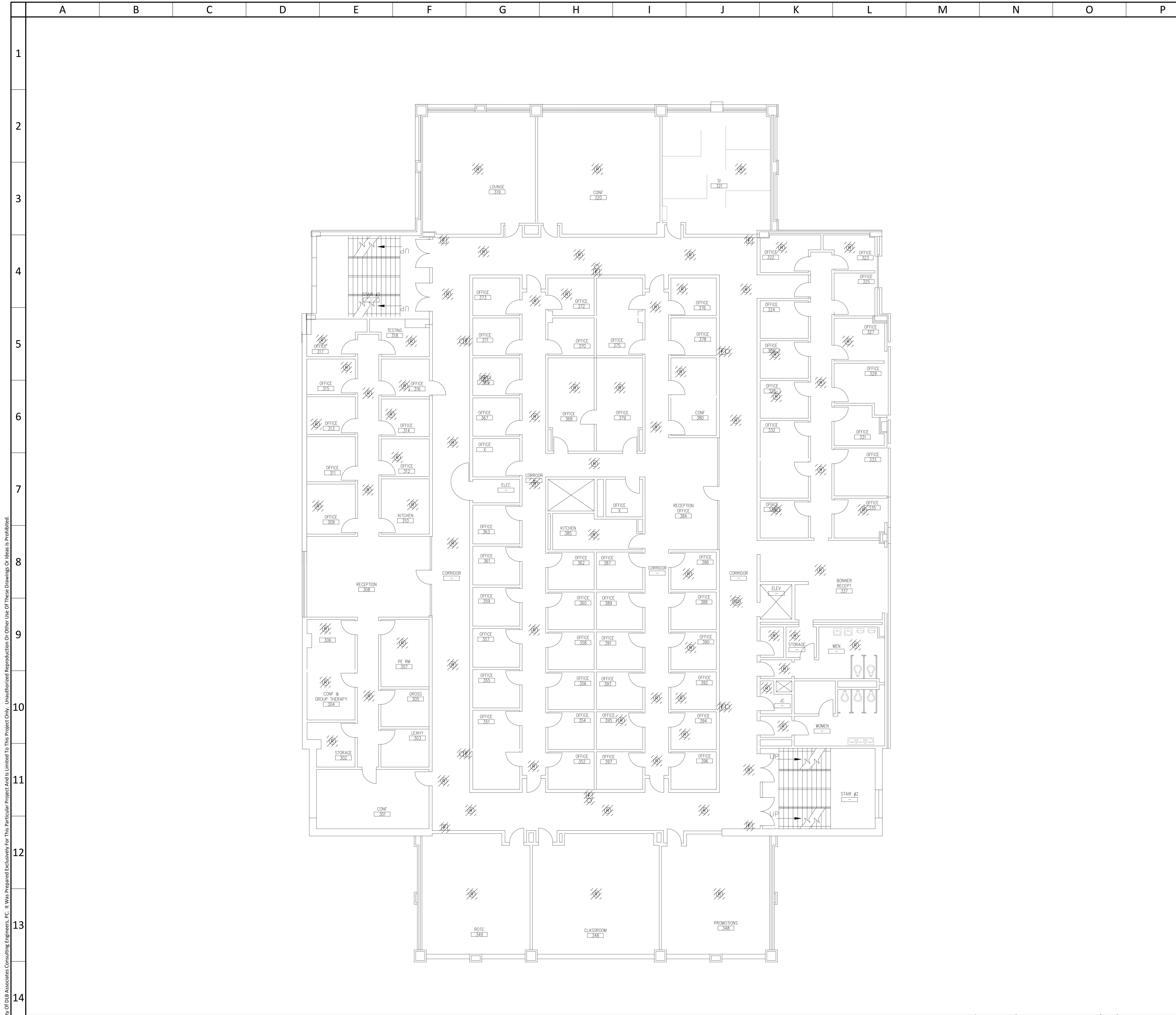
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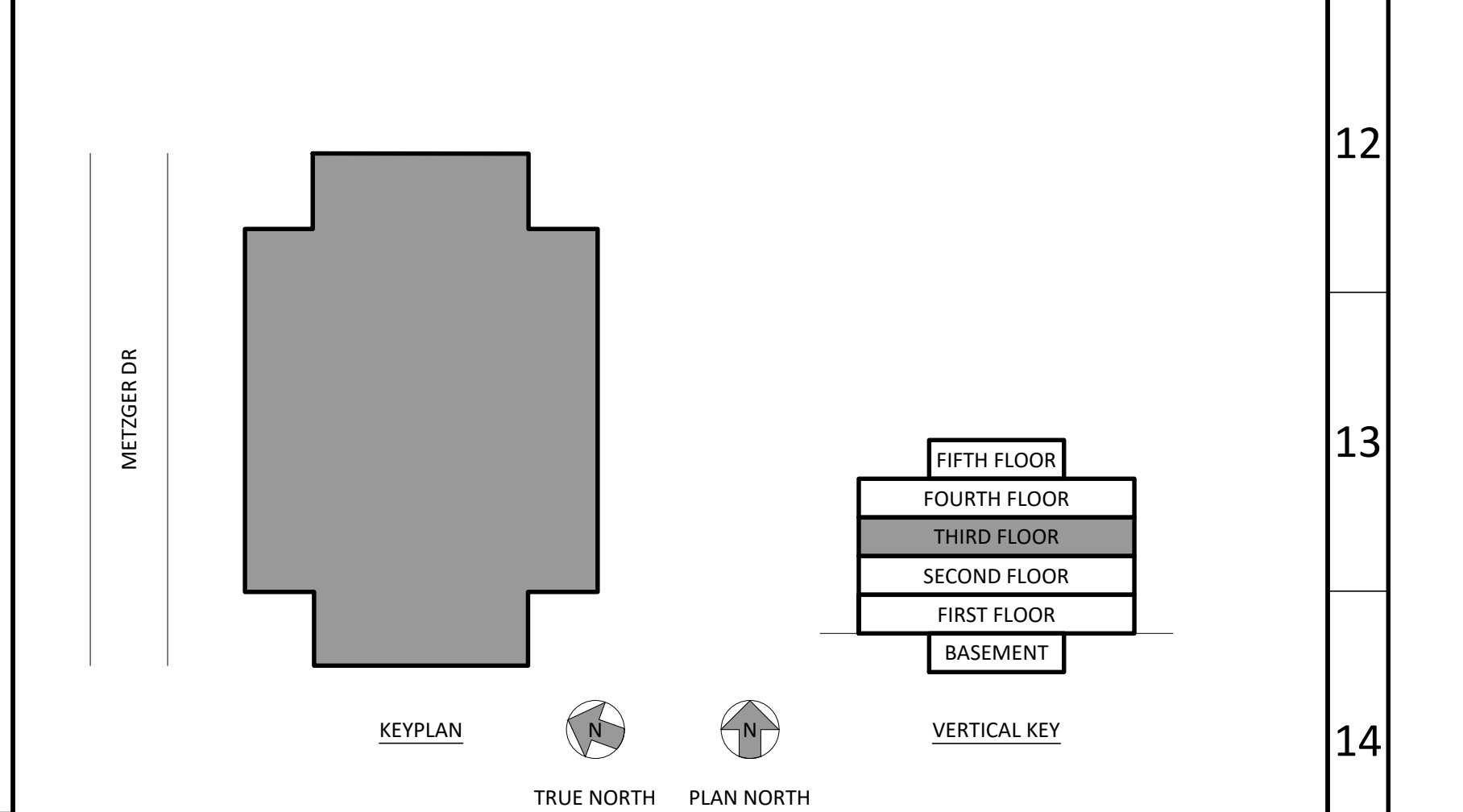


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- GENERAL NOTES**
1. The Intent Of This Drawing Is To Provide The General Scope Of The Demolition / Devices To Be Removed For The Project.
  2. Maintain The Continuity And Normal Operation Of The Existing Fire Alarm System For The Maximum Extent Practical Prior To Being Demolished.
  3. The Existing Fire Alarm System Shall Be Removed In Its Entirety From All Areas Of The Existing Facility. Do Not Leave Any Component Of The System Or Wiring Abandoned In Place.
  4. Temporarily Relocate Existing System Devices, And Wiring Out Of The Way Of Demolition And Construction Work, Temporarily Support From Existing Surface To Remain, And Protect From Physical Damage.
  5. Temporarily Reinstall Existing System Devices Until Installation Of New System Devices And Wiring Is Complete, Tested, Inspected, And Accepted, At Which Time The Existing System Devices And Wiring Shall Be Removed.
  6. Any Required Fire Alarm System Outages Shall Be Performed Under A Supervised Fire Watch.
  7. Any Required System Outages Shall Be Requested In Writing At Least Two Days Prior And Performed During Regular Hours.
  8. Patch, Repair, And Refinish Walls, Floors, Ceilings, And Other Finished Surfaces Affected By Removal Of Existing Fire Alarm System.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
F	Manual Pull Station	FACP	Fire Alarm Control Panel
S	Strobe Only	FARA	Fire Alarm Remote Annunciator
F	Horn/Strobe	SDD	Duct Smoke Detector
SD	Smoke Detector	SD	Smoke Detector
R	Heat Detector, Combination Fixed Temperature And Rate Of Rise		
FACP	Fire Alarm Control Panel		
FARA	Fire Alarm Remote Annunciator Panel		
SDD	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator		
///	Hatching Indicates Device To Be Demolished		



**FLOOR PLAN** Scale: 1/8"=1'-0" 2' 4' 8' 16'

Drawing: ED103  
Detail: 01

project: TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title: THIRD FLOOR PLAN  
FIRE ALARM DEMOLITION  
FORCINA BUILDING

scale: 1/8" = 1'-0"  
drawn by: SC  
checked by: SF  
date: 5/03/2020

dwg. no.: ED103-FRC

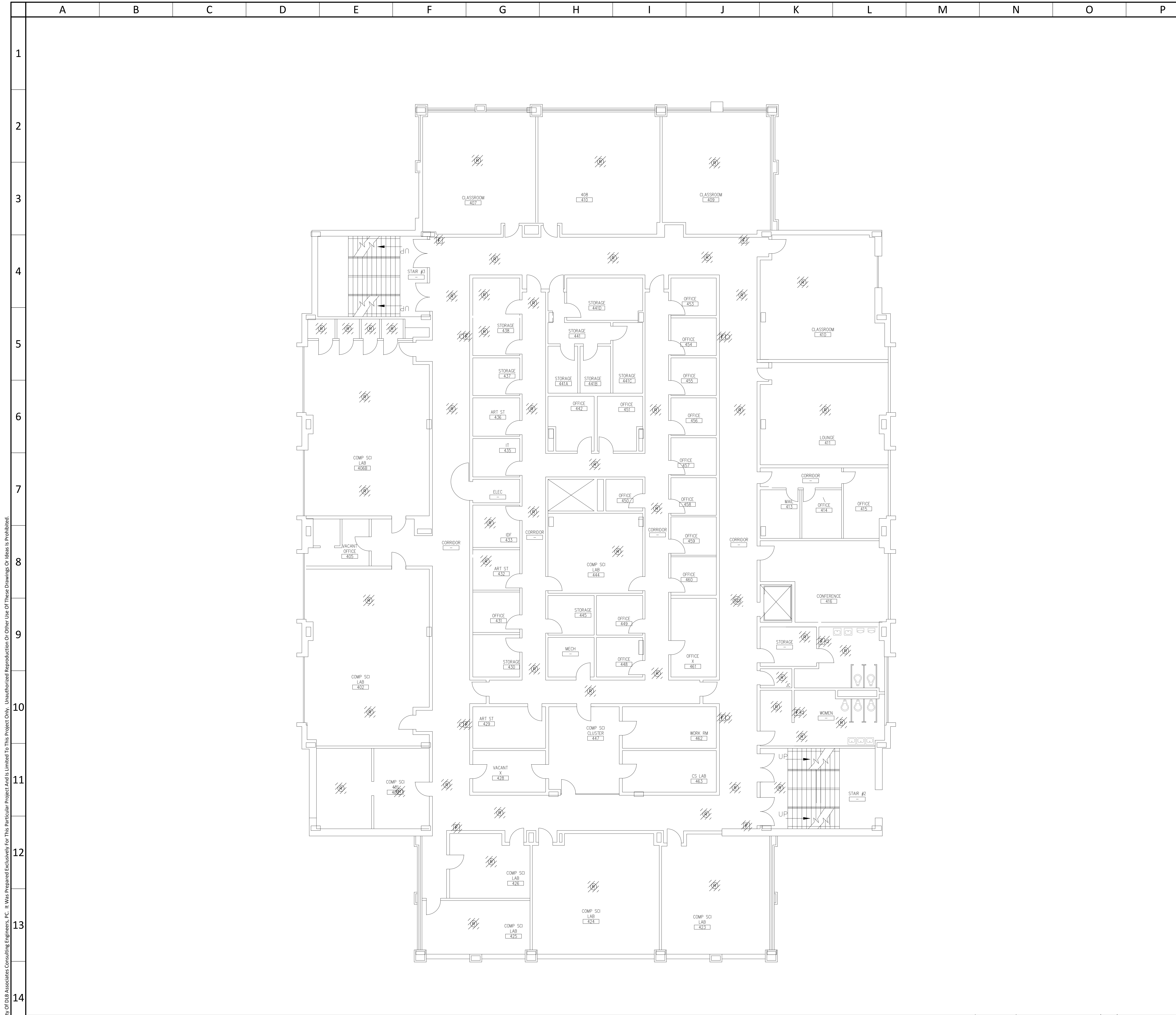
1	05/01/2020	ISSUED FOR BID	ITEM	DATE	ISSUE DESCRIPTION
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Last Saved: \\w-fs\vol3\47\4721\TCNJ Campus Fire Alarm\47211-110-ED103-FRC.dwg, 10/23/19 at 1:49 PM By HFLORES - Last Printed: 5/4/20 at 5:25 PM By Gowers, Scot

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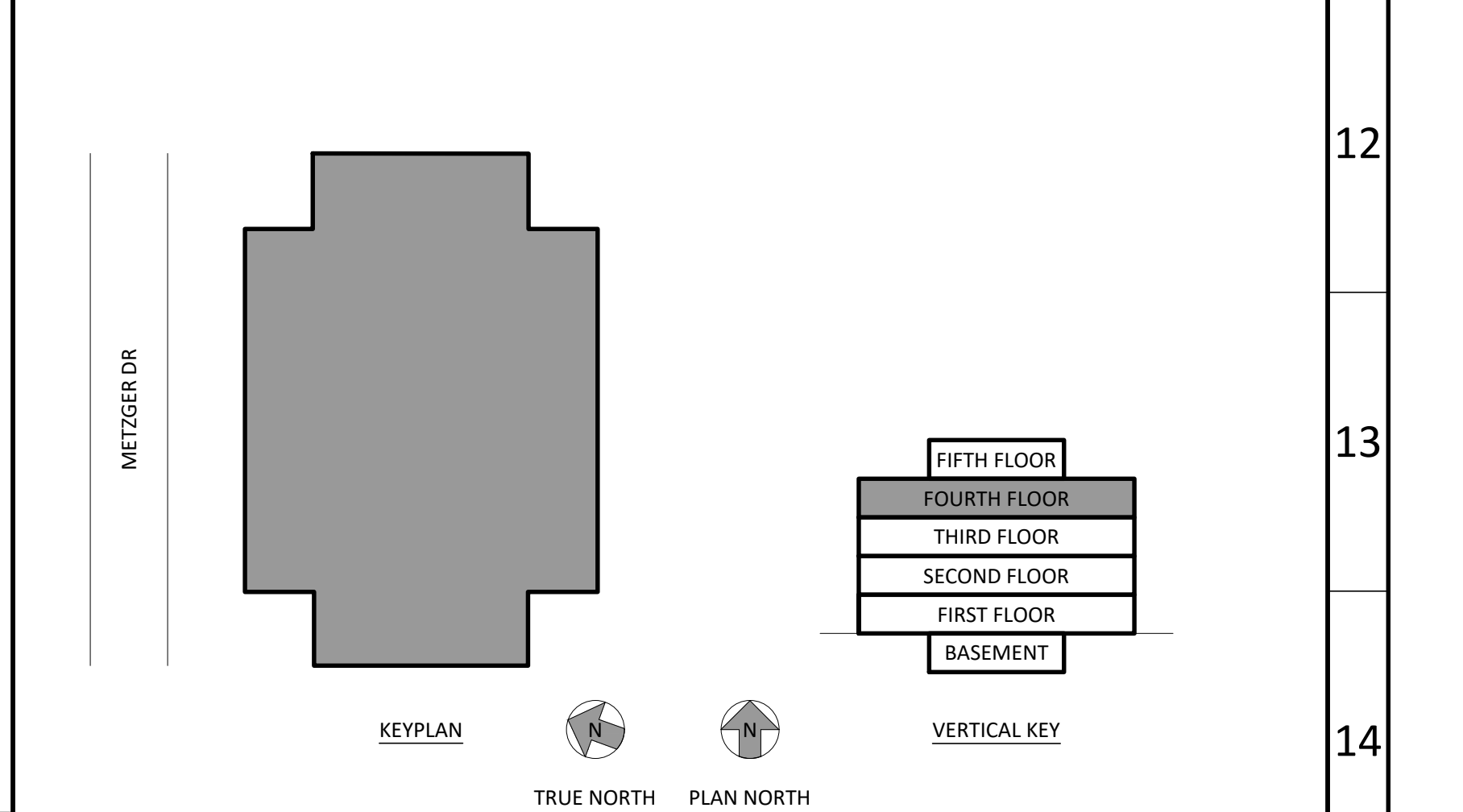


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- GENERAL NOTES**
1. The Intent Of This Drawing Is To Provide The General Scope Of The Demolition / Devices To Be Removed For The Project.
  2. Maintain The Continuity And Normal Operation Of The Existing Fire Alarm System For The Maximum Extent Practical Prior To Being Demolished.
  3. The Existing Fire Alarm System Shall Be Removed In Its Entirety From All Areas Of The Existing Facility. Do Not Leave Any Component Of The System Or Wiring Abandoned In Place.
  4. Temporarily Relocate Existing System Devices, And Wiring Out Of The Way Of Demolition And Construction Work, Temporarily Support From Existing Surface To Remain, And Protect From Physical Damage.
  5. Temporarily Reinstall Existing System Devices Until Installation Of New System Devices And Wiring Is Complete, Tested, Inspected, And Accepted, At Which Time The Existing System Devices And Wiring Shall Be Removed.
  6. Any Required Fire Alarm System Outages Shall Be Performed Under A Supervised Fire Watch.
  7. Any Required System Outages Shall Be Requested In Writing At Least Two Days Prior And Performed During Regular Hours.
  8. Patch, Repair, And Refinish Walls, Floors, Ceilings, And Other Finished Surfaces Affected By Removal Of Existing Fire Alarm System.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
F	Manual Pull Station	FACP	Fire Alarm Control Panel
Ⓢ	Strobe Only	FARA	Fire Alarm Remote Annunciator
Ⓢ	Horn/Strobe	SDD	Duct Smoke Detector
Ⓢ	Smoke Detector	SD	Smoke Detector
Ⓢ	Heat Detector, Combination Fixed Temperature And Rate Of Rise		
FACP	Fire Alarm Control Panel		
FARA	Fire Alarm Remote Annunciator Panel		
SDD	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator		
///	Hatching Indicates Device To Be Demolished		



FLOOR PLAN Scale: 1/8"=1'-0" 2' 4' 8' 16' Drawing: ED104 Detail: 01

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
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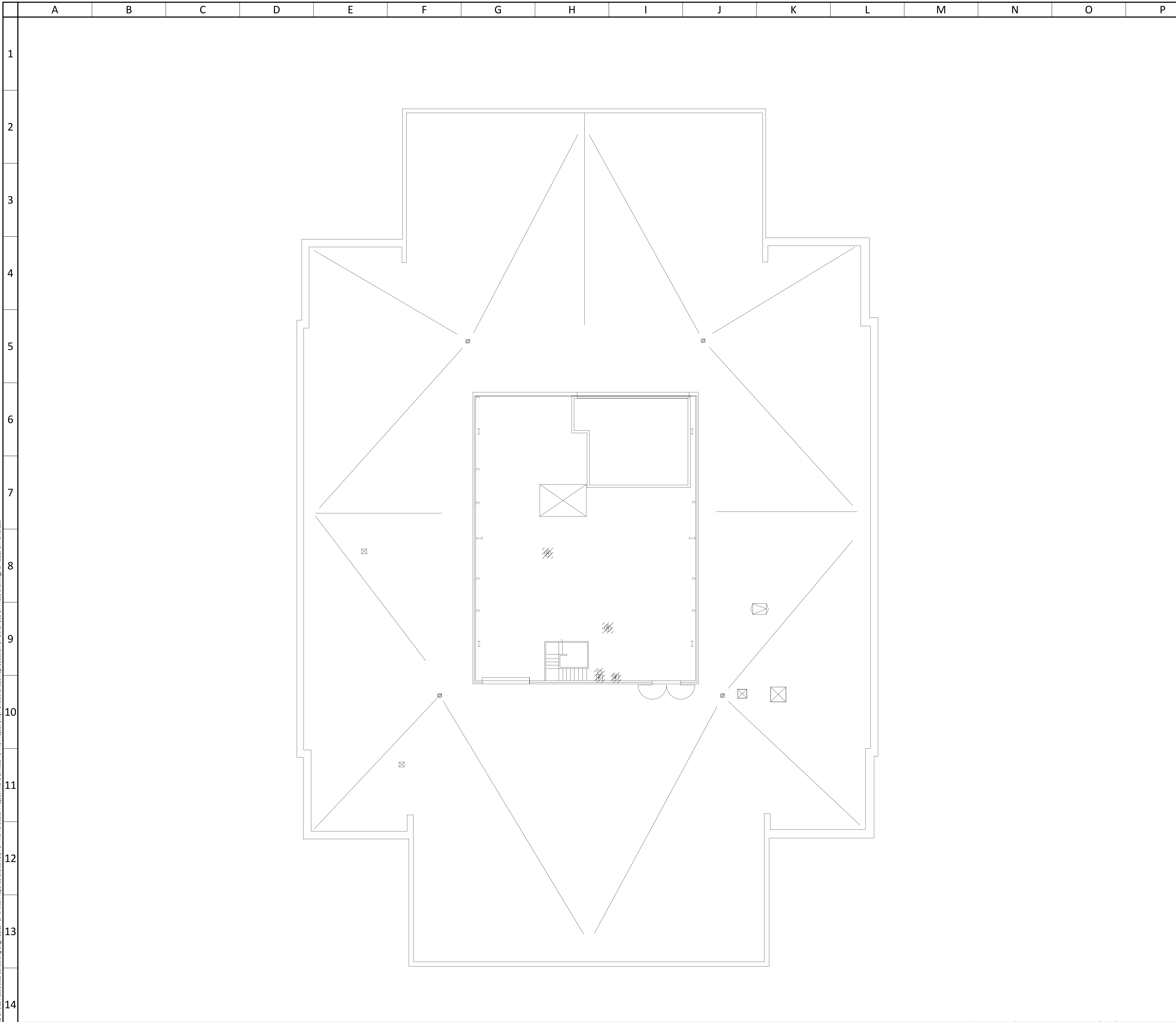
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Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
FOURTH FLOOR PLAN  
FIRE ALARM DEMOLITION  
FORCINA BUILDING  
scale 1/8" = 1'-0" drawn by SC checked by SF date 5/03/2020  
dwg. no.  
**ED104-FRC**  
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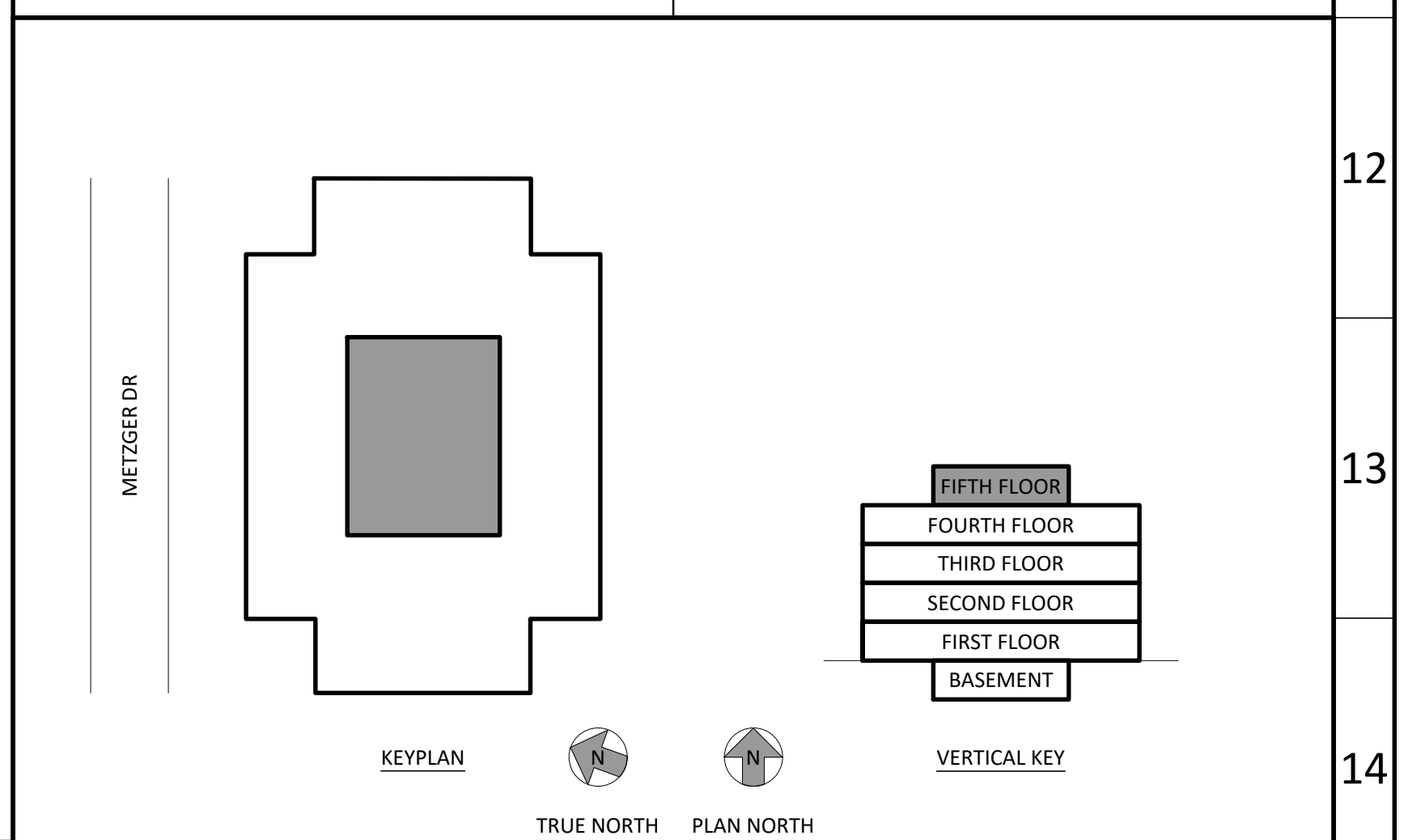


Q R

- GENERAL NOTES**
1. The Intent Of This Drawing Is To Provide The General Scope Of The Demolition / Devices To Be Removed For The Project.
  2. Maintain The Continuity And Normal Operation Of The Existing Fire Alarm System For The Maximum Extent Practical Prior To Being Demolished.
  3. The Existing Fire Alarm System Shall Be Removed In Its Entirety From All Areas Of The Existing Facility. Do Not Leave Any Component Of The System Or Wiring Abandoned In Place.
  4. Temporarily Relocate Existing System Devices, And Wiring Out Of The Way Of Demolition And Construction Work, Temporarily Support From Existing Surface To Remain, And Protect From Physical Damage.
  5. Temporarily Reinstall Existing System Devices Until Installation Of New System Devices And Wiring Is Complete, Tested, Inspected, And Accepted, At Which Time The Existing System Devices And Wiring Shall Be Removed.
  6. Any Required Fire Alarm System Outages Shall Be Performed Under A Supervised Fire Watch.
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  8. Patch, Repair, And Refinish Walls, Floors, Ceilings, And Other Finished Surfaces Affected By Removal Of Existing Fire Alarm System.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
[Symbol]	Manual Pull Station	FACP	Fire Alarm Control Panel
[Symbol]	Strobe Only	FARA	Fire Alarm Remote Annunciator
[Symbol]	Horn/Strobe	SDD	Duct Smoke Detector
[Symbol]	Smoke Detector	SD	Smoke Detector
[Symbol]	Heat Detector, Combination Fixed Temperature And Rate Of Rise		
[Symbol]	Fire Alarm Control Panel		
[Symbol]	Fire Alarm Remote Annunciator Panel		
[Symbol]	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator		
[Symbol]	Hatching Indicates Device To Be Demolished		



ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/03/2020	ISSUED FOR BID			

**FLOOR PLAN** Scale: 1/8"=1'-0"  
 2' 4' 8' 16'

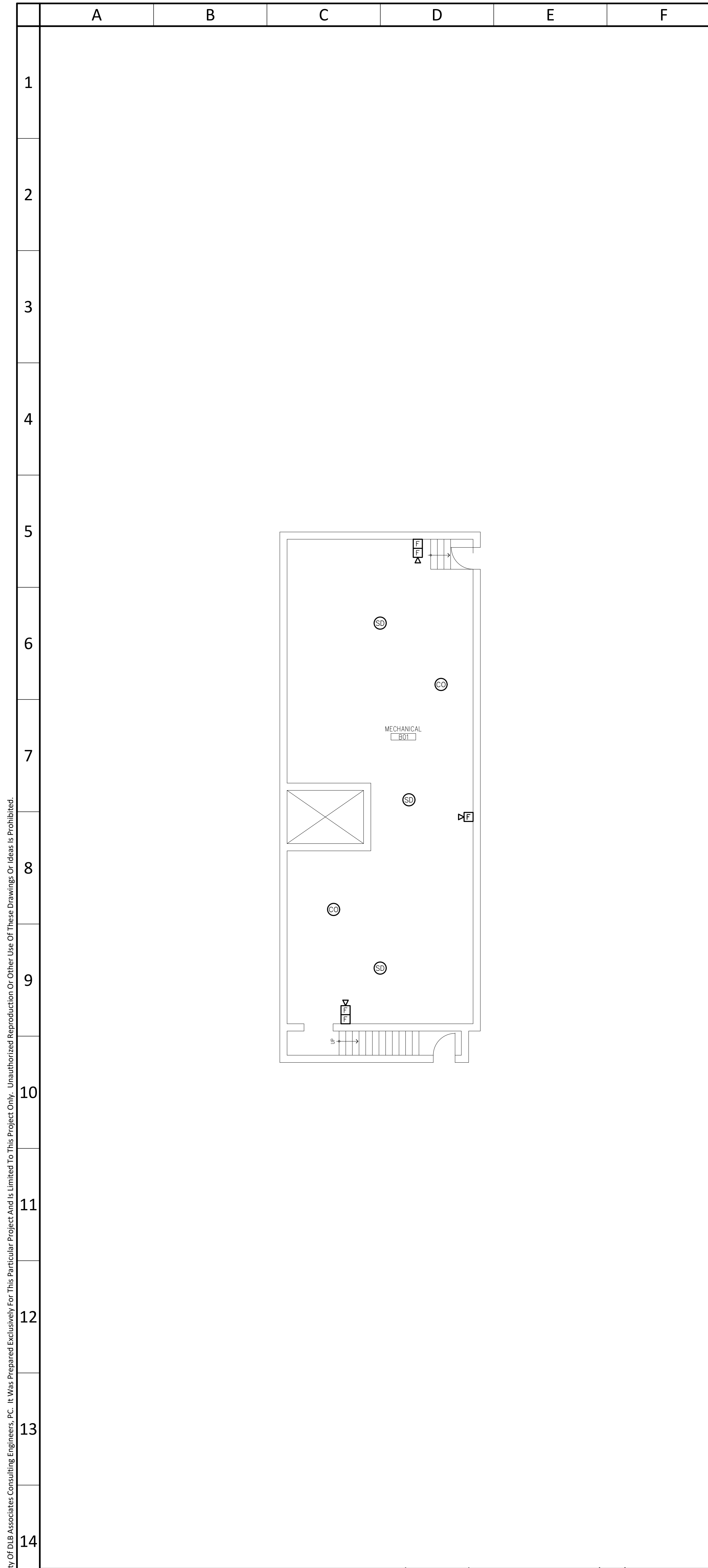
**dlb associates**  
 CONSULTING ENGINEERS, P.C.  
 265 Industrial Way West, Eatontown, N.J. 07724  
 Questions For DLB Call: Anthony Laskosky  
 DLB Project ID: 47211 Phone: 732-927-5038

project  
 TCNJ - CAMPUS FIRE ALARM PROJECT  
 PART B - HARDWARE & SOFTWARE UPGRADES  
 2000 PENNINGTON ROAD,  
 EWING NJ, 08618

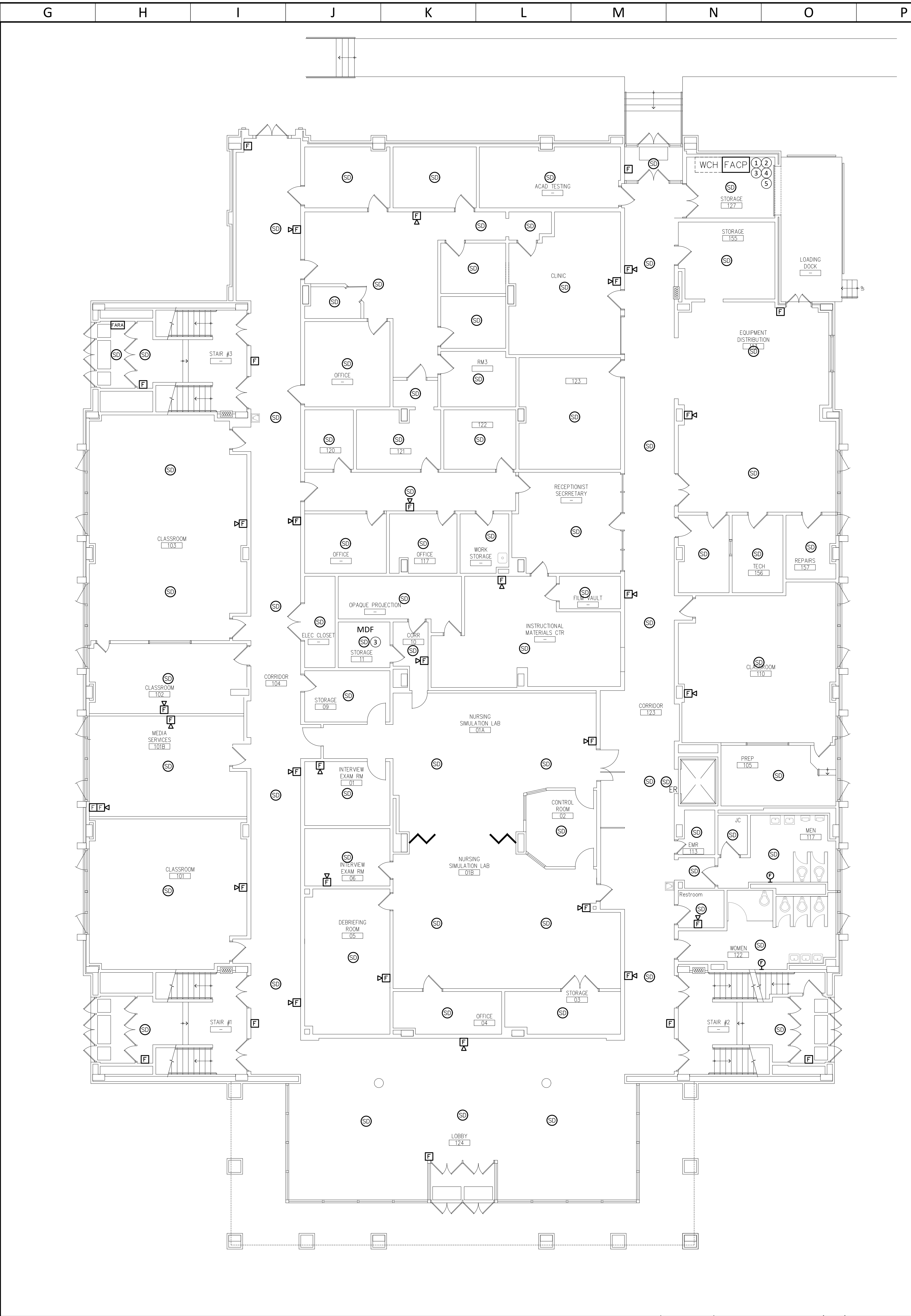
title  
 FIFTH FLOOR PLAN  
 FIRE ALARM DEMOLITION  
 FORCINA BUILDING

scale 1/8" = 1'-0"  
 drawn by SC checked by SF date 5/03/2020

dwg. no.  
**ED105-FRC**



**FLOOR PLAN - BASEMENT** Scale: 1/8"=1'-0" Drawing: **E101** Detail: **01**



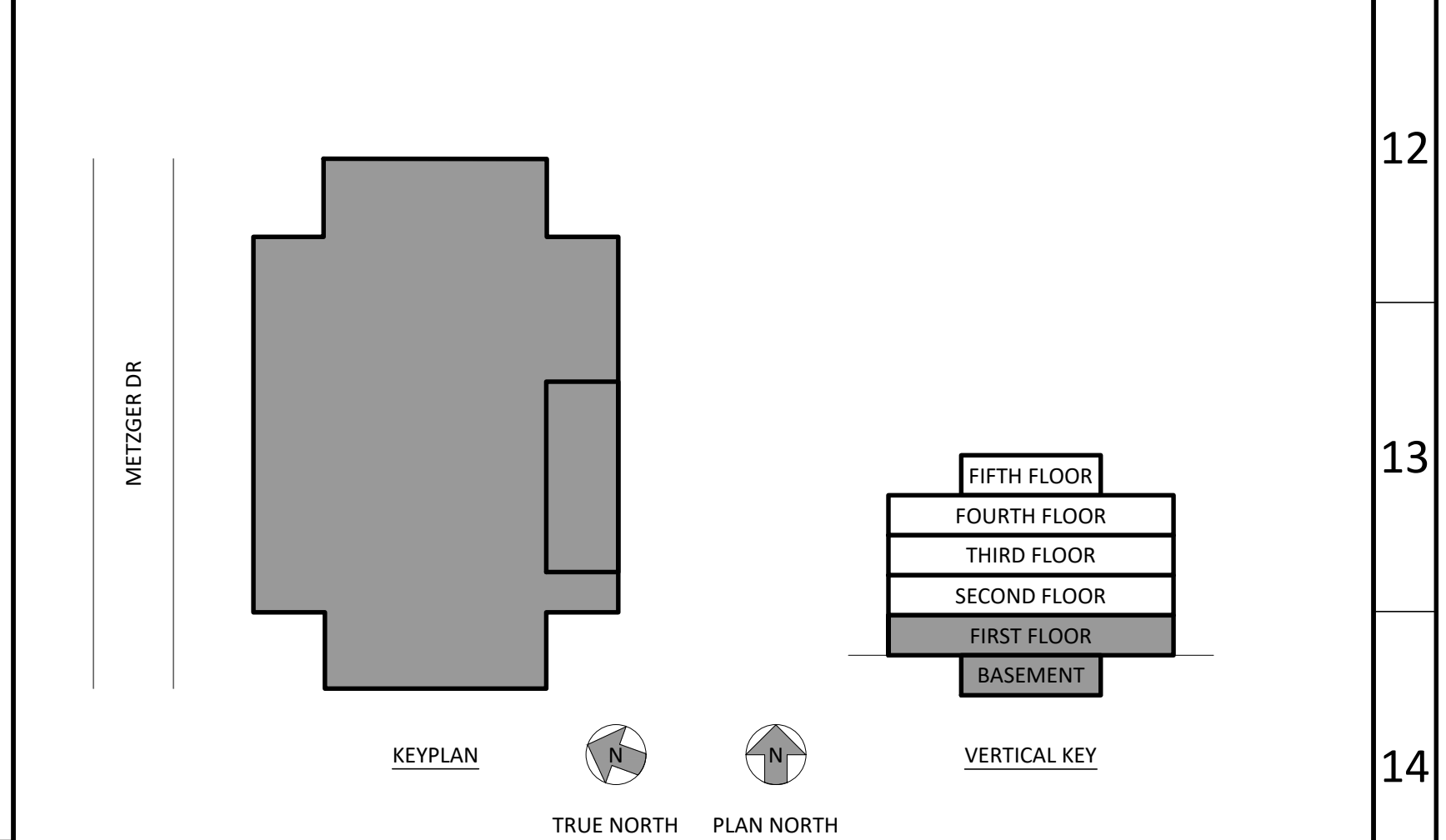
**FLOOR PLAN - FIRST FLOOR** Scale: 1/8"=1'-0" Drawing: **E101** Detail: **02**

- KEY NOTES (SYMBOLS ①, ②, ETC.)**
1. Provide A New Fire Alarm Panel.
  2. Provide UL Listed Alarm System Loop Circuit Surge Protection For Each 24V Alarm System Loop Circuits In A Field-Replaceable Module. Includes Hardwired Mounting Base For Each Module.
  3. Provide Two Duplex Fiber Jumper Cables Pre-terminated On Both Ends, Between The Existing WCH And Fire Alarm Control Panel As Per Detail 3 Sheet E200. Also Provide Duplex Fiber Jumper Cables Pre-terminated On Both Ends At The MDF between required interconnection points. Contractor Shall Coordinate And Confirm Jumper Connection Types, Fiber Type, Length, Routing Conditions, Etc With Field Conditions. Coordinate With TCNJ IT Department For Fiber Connection And Labeling Information.
  4. Provide Branch Circuit For The New Fire Alarm Panel From Existing Electrical Panel In Electric Room That Currently Supplies The Existing Fire Alarm Panel. Utilize 2#12, #12G In 3/4" Conduit And Provide New 20 Amp Circuit Breaker (Red And Clearly Identify FACP Circuit). Match Existing Type/Ratings For Circuit Breaker.

- GENERAL NOTES**
1. The Fire Alarm Plan Shows The General Layout And Intent Of The Fire Alarm System. It Does Not Necessarily Reflect Exact Quantities Required By Code. The Contractor Shall Determine The Actual Quantity And Location Of Devices Required Based Upon Actual Field Conditions Required As Per NFPA 72.
  2. The Fire Alarm System Shall Consist Of Smoke Detectors, Heat Detectors, And Manual Fire Alarm Boxes Placed At Each Exterior Exit. The Fire Alarm System Shall Consist Of Speaker And Strobes To Provide Audible And Visual Annunciation. The Entire System Shall Be Controlled Via The Fire Alarm Control Panel.
  3. The Fire Alarm System Shall Comply With NFPA 72 And All Local Codes And Amendments.
  4. All HVAC Duct Smoke Detectors Shall Be Monitored By The Fire Alarm Control Panel. Duct Smoke Detectors Shall Be Provided With An Appropriate Environmental Housing, Addressable Control Relay, Remote Indicator Test Station, And Sampling Tube. Coordinate Location Of Remote Indicator Test Station With Architect. Coordinate Exact Location And Quantity Of Devices With Field Conditions.
  5. Provide Fire Alarm Wiring Connections To Each Non-Addressable Device Via Monitor Modules.
  6. Fire Alarm Cabling Routed Above A Finished Ceiling Can Be Routed Utilizing Dedicated J-Hooks Or Other Approved Means Of Support. Cabling Shall Not Be Bundled With Other Cabling Or Supported From Existing Conduit, Piping, Cabling. Fire Alarm Cabling Shall Be Plenum Rated And Shall Not Be Spliced. Fire Alarm Wiring Is Permitted To Be Installed In Open Raceways Where Concealed. Fire Alarm Rated MC Cable Is Acceptable For Concealed Locations. All Cabling Shall Be Sleeved When Passing Thru A Wall Using Conduit Sleeves With Bushings And Fire Stopped.
  7. Fire Alarm Cabling That Cannot Be Concealed Shall Be Neatly Surface Mounted Utilizing Surface Metal Raceway In Finished Areas Or EMT In Non-Finished Areas. All Exposed EMT Shall Be Prepped And Painted To Match Adjacent Wall Surface.
  8. All Conduits Entering / Leaving The Building Shall Be Sealed At The Building's Exterior To Prevent Moisture Within The Raceway From Entering The Facility. The Sealing Method Shall Be Compatible With The Conduit And Conductors Installed
  9. Panel Board Circuit Breaker Supplying Fire Alarm Control Panel And Associated Equipment Shall Have A Handle "Lock On" Device.
  10. Visual Fire Alarms (Strobes) Shall Have Minimum 5'-0" Clearance From Any Obstructions. All The Strobes Shall Be Synchronized.
  11. Provide Installation Testing Per NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.
  12. Replace Any Acoustical Ceiling Tile Which Is Damaged During The Course Of Construction To Match Existing In All Respects.
  13. Smoke Detectors To Interface With The Elevator Controller As Primary Recall Are Located Within Elevator Machine Room, Top Of Elevator Shaft, And All Elevator Lobbies Excluding The Egress Floor. Smoke Detector Within Egress Floor's Elevator Lobby Shall Interface With The Elevator Controller As Secondary Recall.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
Ⓜ	Manual Fire Alarm Box	Ⓢ	Heat Detector, Fixed Temperature (194°)
Ⓢ	Fire Alarm Strobe	FARA	Fire Alarm Remote Annunciator Panel
Ⓢ	Speaker / Strobe	Ⓢ	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator
Ⓢ <sub>ER</sub>	Smoke Detector (ER Indicates Elevator Recall)	CO	Carbon Monoxide
Ⓢ	CO Detector	FACP	Fire Alarm Control Panel
Ⓢ	Heat Detector, Combination Fixed Temperature And Rate Of Rise	FARA	Fire Alarm Remote Annunciator
FACP	Fire Alarm Control Panel	SDD	Duct Smoke Detector
		SD	Smoke Detector



ITEM	DATE	ISSUE DESCRIPTION
1	05/03/2020	ISSUED FOR BID

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**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724

Questions For DLB Call: **Anthony Laskosky**  
DLB Project ID: 47211 Phone: 732-927-5038

project  
**TCNJ - CAMPUS FIRE ALARM PROJECT**  
**PART B - HARDWARE & SOFTWARE UPGRADES**  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
**BASEMENT AND FIRST FLOOR PLANS**  
**FIRE ALARM**  
**FORCINA BUILDING**

scale 1/8" = 1'-0" drawn by SC checked by SF date 5/03/2020

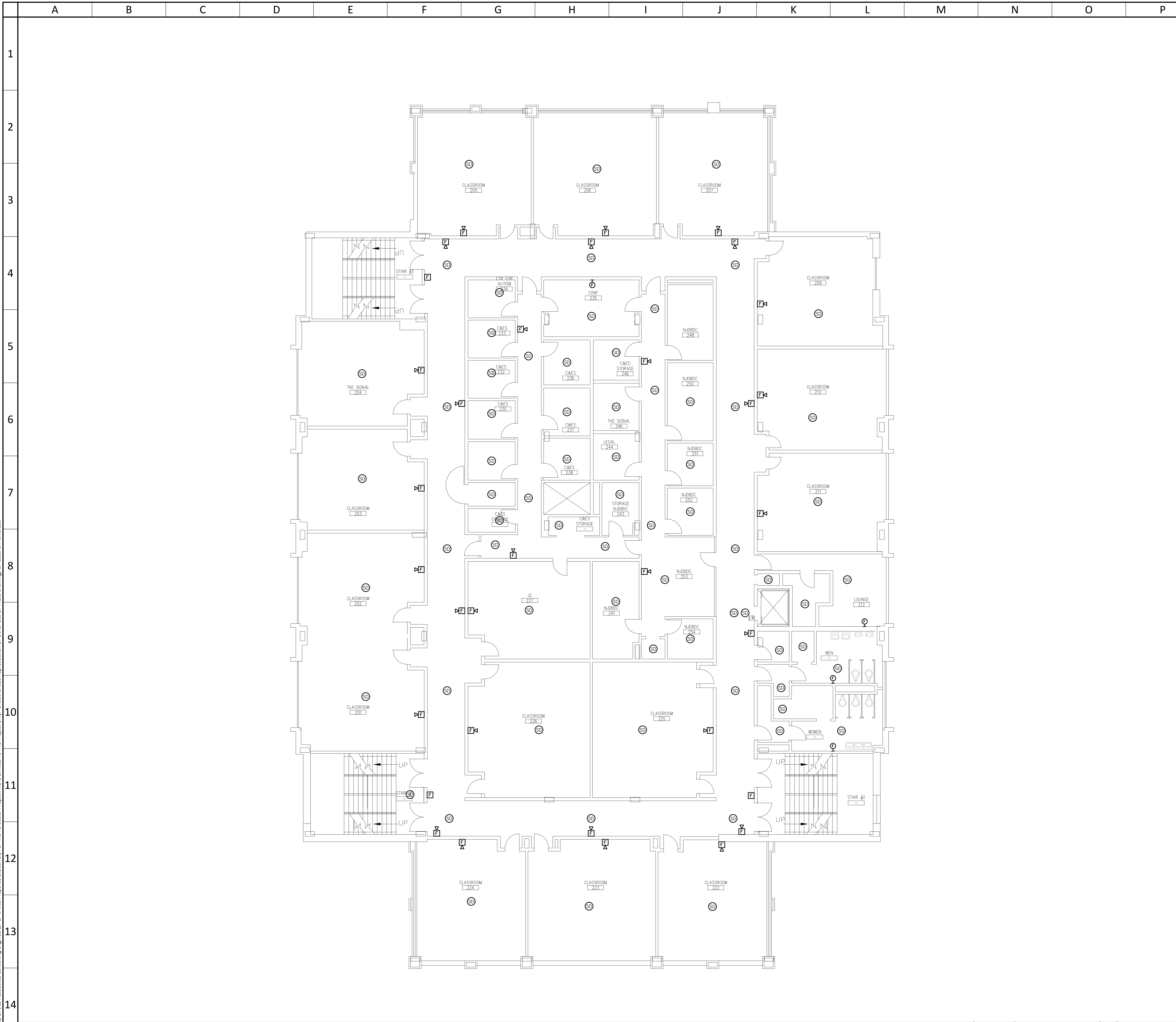
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**E101-FRC**

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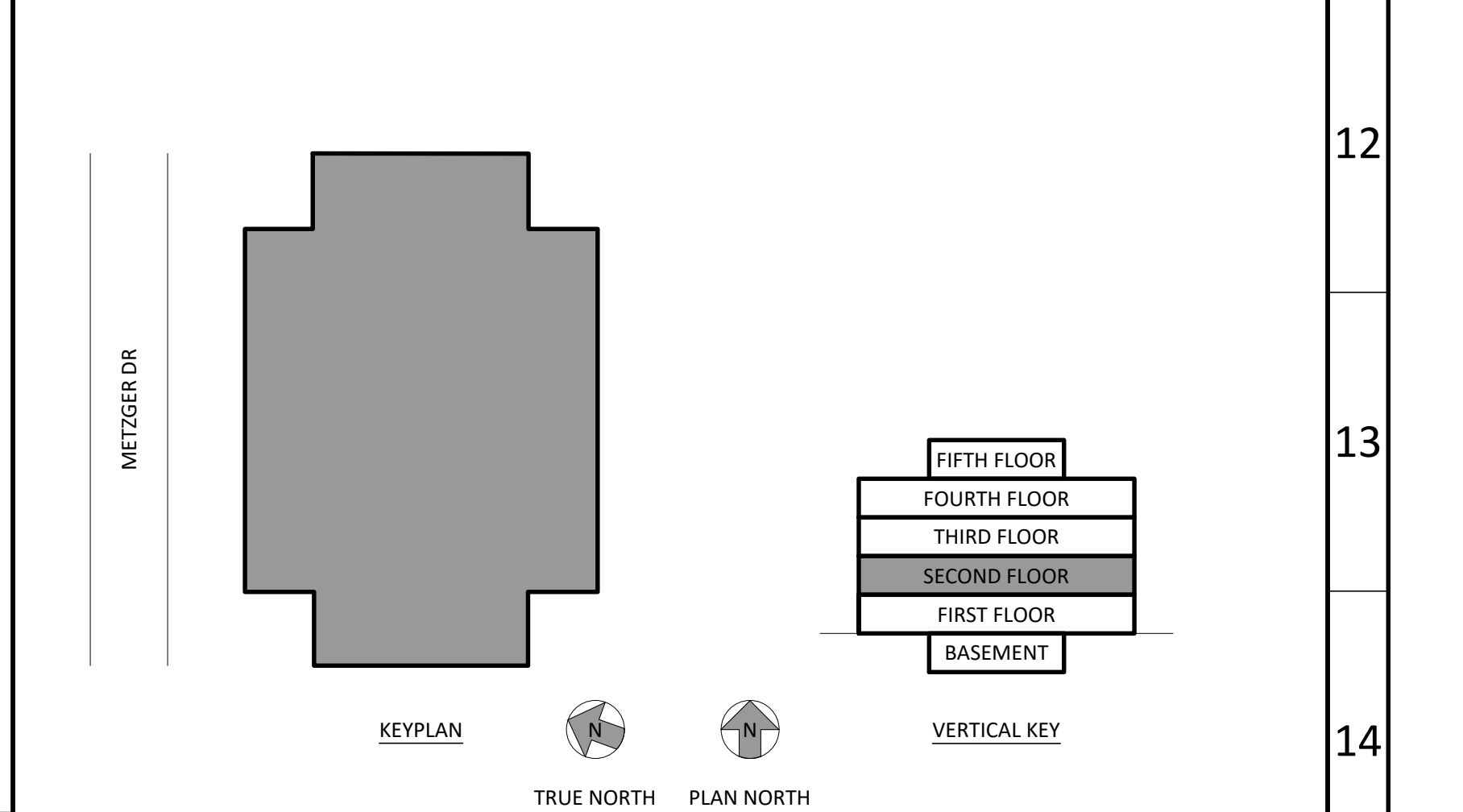


GENERAL NOTES

- The Fire Alarm Plan Shows The General Layout And Intent Of The Fire Alarm System. It Does Not Necessarily Reflect Exact Quantities Required By Code. The Contractor Shall Determine The Actual Quantity And Location Of Devices Required Based Upon Actual Field Conditions Required As Per NFPA 72.
- The Fire Alarm System Shall Consist Of Smoke Detectors, Heat Detectors, And Manual Fire Alarm Boxes Placed At Each Exterior Exit. The Fire Alarm System Shall Consist Of Speaker And Strobes To Provide Audible And Visual Annunciation. The Entire System Shall Be Controlled Via The Fire Alarm Control Panel.
- The Fire Alarm System Shall Comply With NFPA 72 And All Local Codes And Amendments.
- All HVAC Duct Smoke Detectors Shall Be Monitored By The Fire Alarm Control Panel. Duct Smoke Detectors Shall Be Provided With An Appropriate Environmental Housing, Addressable Control Relay, Remote Indicator Test Station, And Sampling Tube. Coordinate Location Of Remote Indicator Test Station With Architect. Coordinate Exact Location And Quantity Of Devices With Field Conditions.
- Provide Fire Alarm Wiring Connections To Each Non-Addressable Device Via Monitor Modules.
- Fire Alarm Cabling Routed Above A Finished Ceiling Can Be Routed Utilizing Dedicated J-Hooks Or Other Approved Means Of Support. Cabling Shall Not Be Bundled With Other Cabling Or Supported From Existing Conduit, Piping, Cabling. Fire Alarm Cabling Shall Be Plenum Rated And Shall Not Be Spliced. Fire Alarm Wiring Is Permitted To Be Installed In Open Raceways Where Concealed. Fire Alarm Rated MC Cable Is Acceptable For Concealed Locations. All Cabling Shall Be Sleeved When Passing Thru A Wall Using Conduit Sleeves With Bushings And Fire Stopped.
- Fire Alarm Cabling That Cannot Be Concealed Shall Be Neatly Surface Mounted Utilizing Surface Metal Raceway In Finished Areas Or EMT In Non-Finished Areas. All Exposed EMT Shall Be Prepped And Painted To Match Adjacent Wall Surface.
- All Conduits Entering / Leaving The Building Shall Be Sealed At The Building's Exterior To Prevent Moisture Within The Raceway From Entering The Facility. The Sealing Method Shall Be Compatible With The Conduit And Conductors Installed.
- Panel Board Circuit Breaker Supplying Fire Alarm Control Panel And Associated Equipment Shall Have A Handle "Lock On" Device.
- Visual Fire Alarms (Strobes) Shall Have Minimum 5'-0" Clearance From Any Obstructions. All The Strobes Shall Be Synchronized.
- Provide Installation Testing Per NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.
- Replace Any Acoustical Ceiling Tile Which Is Damaged During The Course Of Construction To Match Existing In All Respects.
- Smoke Detectors To Interface With The Elevator Controller As Primary Recall Are Located Within Elevator Machine Room, Top Of Elevator Shaft, And All Elevator Lobbies Excluding The Egress Floor. Smoke Detector Within Egress Floor's Elevator Lobby Shall Interface With The Elevator Controller As Secondary Recall.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
F	Manual Fire Alarm Box	⊙	Heat Detector, Fixed Temperature (194°)
S	Fire Alarm Strobe	CO	Carbon Monoxide
V	Speaker / Strobe	FACP	Fire Alarm Control Panel
SD <sub>ER</sub>	Smoke Detector (ER Indicates Elevator Recall)	FARA	Fire Alarm Remote Annunciator Panel
CO	CO Detector	SDD	Duct Smoke Detector
HD	Heat Detector, Combination Fixed Temperature And Rate Of Rise	SD	Smoke Detector
FACP	Fire Alarm Control Panel		
FARA	Fire Alarm Remote Annunciator Panel		
SDD	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator		



**FLOOR PLAN** Scale: 1/8"=1'-0" Drawing: **E102** Detail: **01**

project: TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title: SECOND FLOOR PLAN  
FIRE ALARM  
FORCINA BUILDING

scale: 1/8" = 1'-0" drawn by: SC checked by: SF date: 5/03/2020

dlb associates  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724  
Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

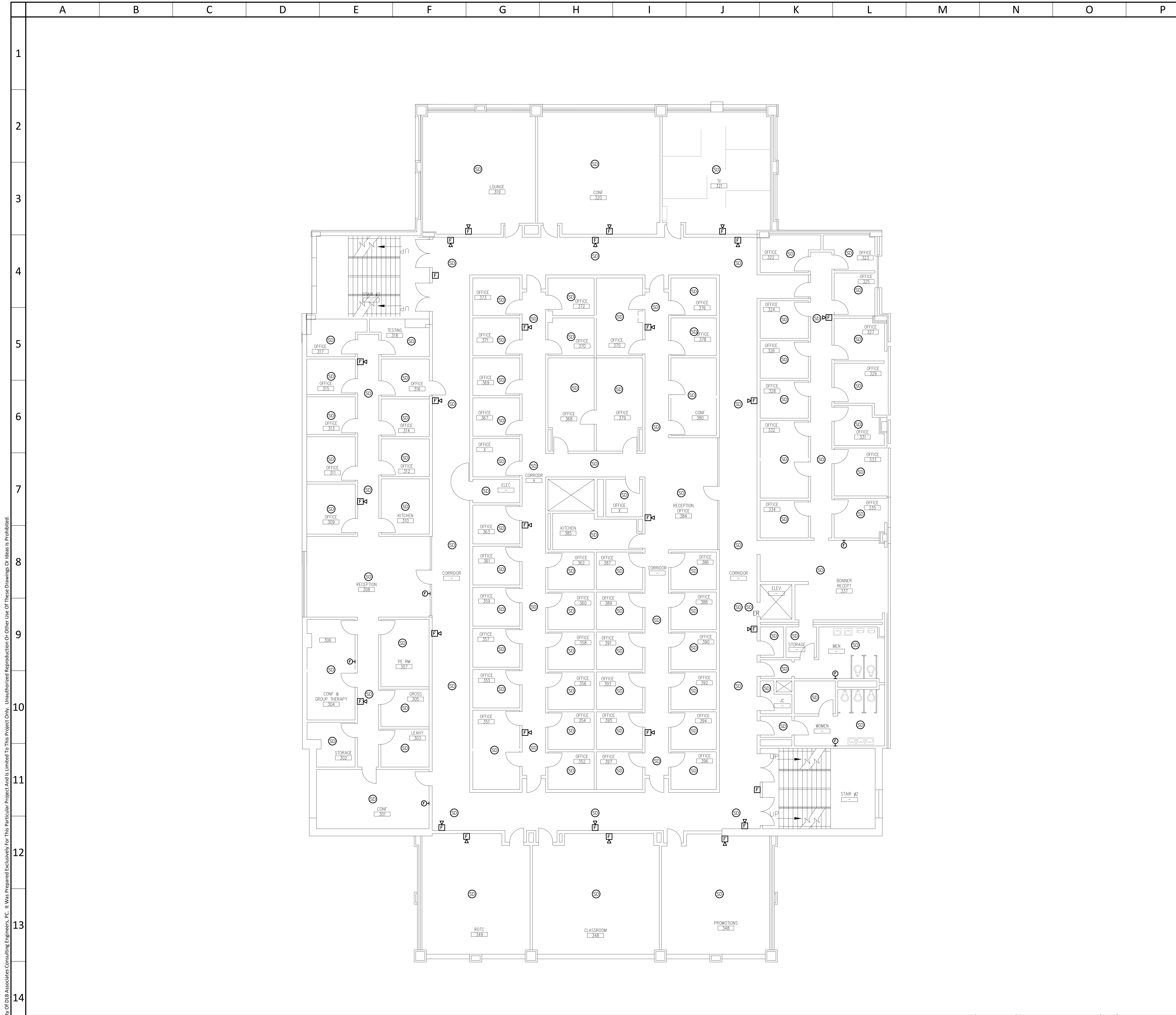
dwg. no.: **E102-FRC**

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

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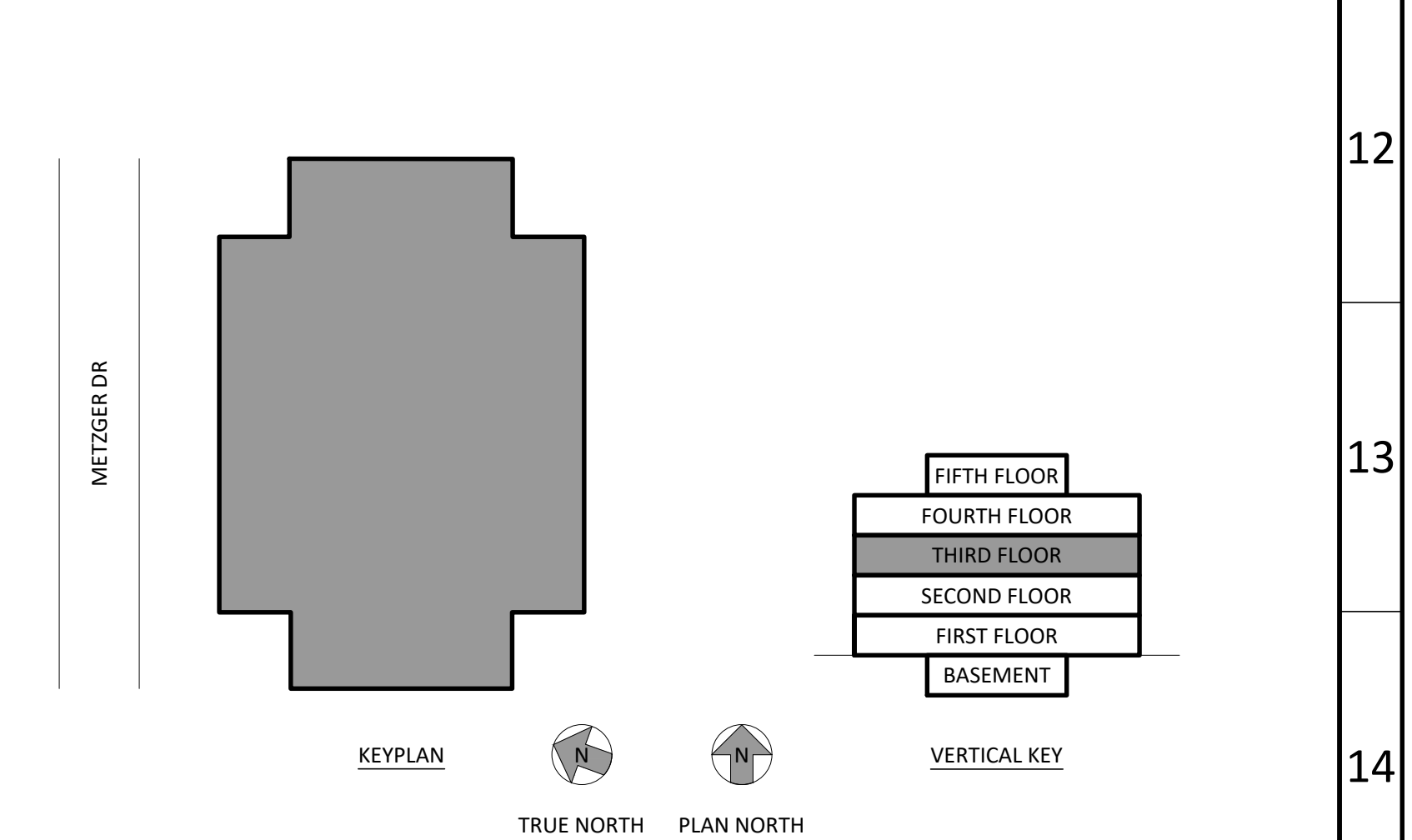
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- GENERAL NOTES**
- The Fire Alarm Plan Shows The General Layout And Intent Of The Fire Alarm System. It Does Not Necessarily Reflect Exact Quantities Required By Code. The Contractor Shall Determine The Actual Quantity And Location Of Devices Required Based Upon Actual Field Conditions Required As Per NFPA 72.
  - The Fire Alarm System Shall Consist Of Smoke Detectors, Heat Detectors, And Manual Fire Alarm Boxes Placed At Each Exterior Exit. The Fire Alarm System Shall Consist Of Speaker And Strobes To Provide Audible And Visual Annunciation. The Entire System Shall Be Controlled Via The Fire Alarm Control Panel.
  - The Fire Alarm System Shall Comply With NFPA 72 And All Local Codes And Amendments.
  - All HVAC Duct Smoke Detectors Shall Be Monitored By The Fire Alarm Control Panel. Duct Smoke Detectors Shall Be Provided With An Appropriate Environmental Housing, Addressable Control Relay, Remote Indicator Test Station, And Sampling Tube. Coordinate Location Of Remote Indicator Test Station With Architect. Coordinate Exact Location And Quantity Of Devices With Field Conditions.
  - Provide Fire Alarm Wiring Connections To Each Non-Addressable Device Via Monitor Modules.
  - Fire Alarm Cabling Routed Above A Finished Ceiling Can Be Routed Utilizing Dedicated J-Hooks Or Other Approved Means Of Support. Cabling Shall Not Be Bundled With Other Cabling Or Supported From Existing Conduit, Piping, Cabling. Fire Alarm Cabling Shall Be Plenum Rated And Shall Not Be Spliced. Fire Alarm Wiring Is Permitted To Be Installed In Open Raceways Where Concealed. Fire Alarm Rated MC Cable Is Acceptable For Concealed Locations. All Cabling Shall Be Sleeved When Passing Thru A Wall Using Conduit Sleeves With Bushings And Fire Stopped.
  - Fire Alarm Cabling That Cannot Be Concealed Shall Be Neatly Surface Mounted Utilizing Surface Metal Raceway In Finished Areas Or EMT In Non-Finished Areas. All Exposed EMT Shall Be Prepped And Painted To Match Adjacent Wall Surface.
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  - Panel Board Circuit Breaker Supplying Fire Alarm Control Panel And Associated Equipment Shall Have A Handle "Lock On" Device.
  - Visual Fire Alarms (Strobes) Shall Have Minimum 5'-0" Clearance From Any Obstructions. All The Strobes Shall Be Synchronized.
  - Provide Installation Testing Per NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.
  - Replace Any Acoustical Ceiling Tile Which Is Damaged During The Course Of Construction To Match Existing In All Respects.
  - Smoke Detectors To Interface With The Elevator Controller As Primary Recall Are Located Within Elevator Machine Room, Top Of Elevator Shaft, And All Elevator Lobbies Excluding The Egress Floor. Smoke Detector Within Egress Floor's Elevator Lobby Shall Interface With The Elevator Controller As Secondary Recall.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
F	Manual Fire Alarm Box	HTR	Heat Detector, Fixed Temperature (194°)
S	Fire Alarm Strobe	CO	Carbon Monoxide
V	Speaker / Strobe	FACP	Fire Alarm Control Panel
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CO	CO Detector	SDD	Duct Smoke Detector
HTR	Heat Detector, Combination Fixed Temperature And Rate Of Rise	SD	Smoke Detector
FACP	Fire Alarm Control Panel		
FARA	Fire Alarm Remote Annunciator Panel		
SDD	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator		



FLOOR PLAN Scale: 1/8"=1'-0" 2' 4' 8' 16' Drawing: E103 Detail: 01

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

ITEM	DATE	ISSUE DESCRIPTION

**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724

Questions For DLB Call: Anthony Laskosky Phone: 732-927-5038  
DLB Project ID: 47211

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

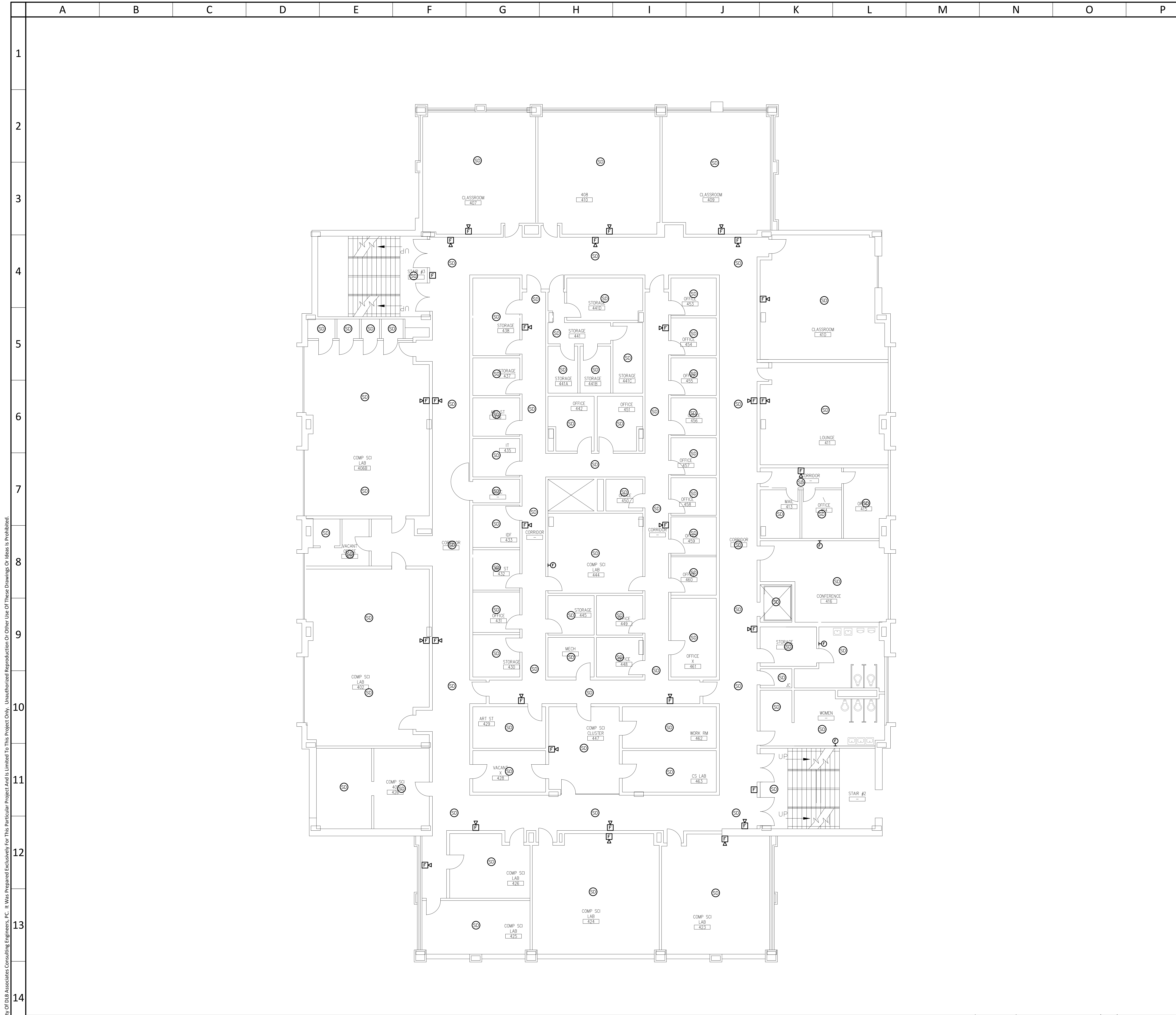
title  
THIRD FLOOR PLAN  
FIRE ALARM  
FORCINA BUILDING

scale 1/8" = 1'-0" drawn by SC checked by SF date 5/03/2020

dwg. no.  
**E103-FRC**

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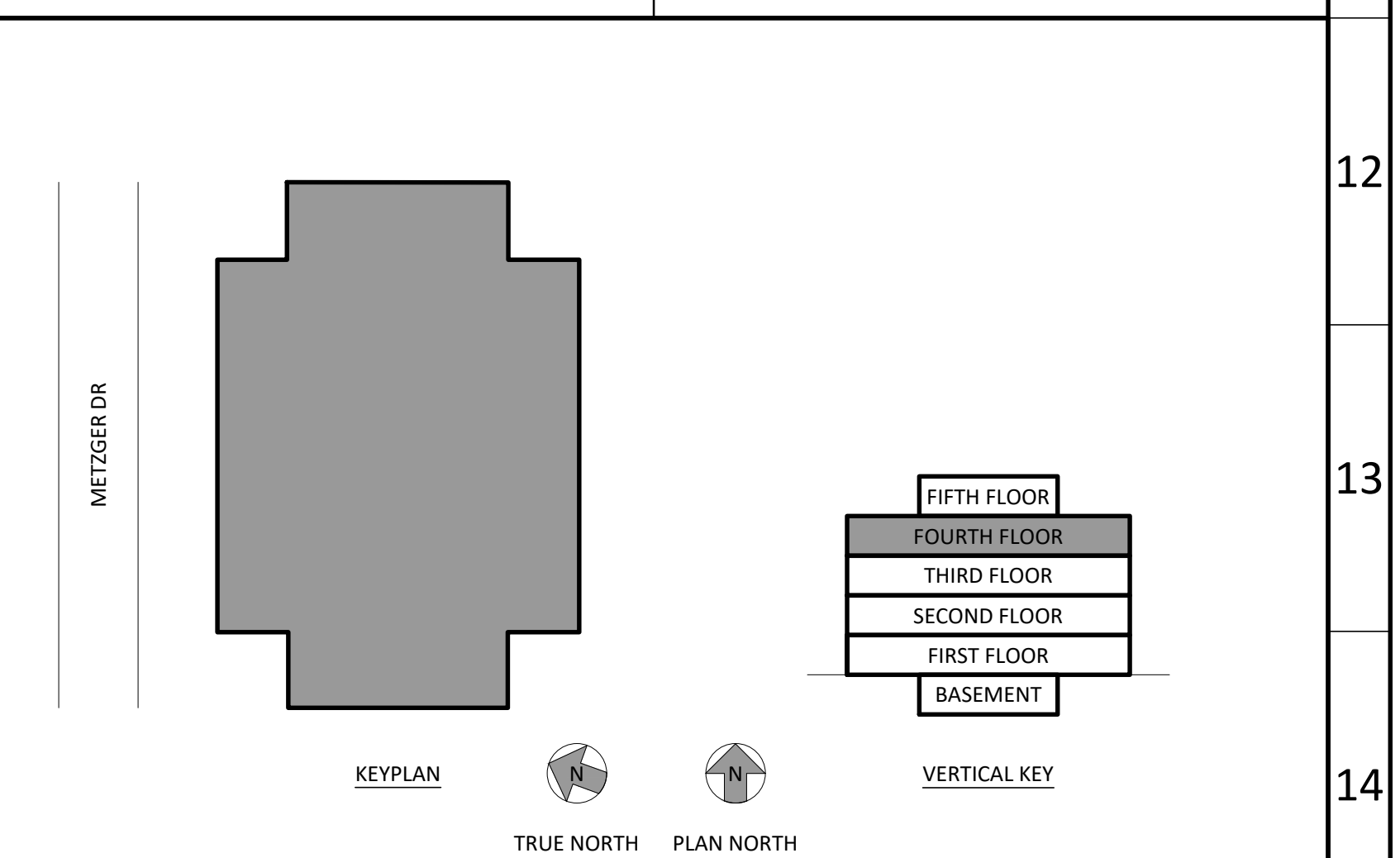
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- GENERAL NOTES**
- The Fire Alarm Plan Shows The General Layout And Intent Of The Fire Alarm System. It Does Not Necessarily Reflect Exact Quantities Required By Code. The Contractor Shall Determine The Actual Quantity And Location Of Devices Required Based Upon Actual Field Conditions Required As Per NFPA 72.
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  - The Fire Alarm System Shall Comply With NFPA 72 And All Local Codes And Amendments.
  - All HVAC Duct Smoke Detectors Shall Be Monitored By The Fire Alarm Control Panel. Duct Smoke Detectors Shall Be Provided With An Appropriate Environmental Housing, Addressable Control Relay, Remote Indicator Test Station, And Sampling Tube. Coordinate Location Of Remote Indicator Test Station With Architect. Coordinate Exact Location And Quantity Of Devices With Field Conditions.
  - Provide Fire Alarm Wiring Connections To Each Non-Addressable Device Via Monitor Modules.
  - Fire Alarm Cabling Routed Above A Finished Ceiling Can Be Routed Utilizing Dedicated J-Hooks Or Other Approved Means Of Support. Cabling Shall Not Be Bundled With Other Cabling Or Supported From Existing Conduit, Piping, Cabling. Fire Alarm Cabling Shall Be Plenum Rated And Shall Not Be Spliced. Fire Alarm Wiring Is Permitted To Be Installed In Open Raceways Where Concealed. Fire Alarm Rated MC Cable Is Acceptable For Concealed Locations. All Cabling Shall Be Sleeved When Passing Thru A Wall Using Conduit Sleeves With Bushings And Fire Stopped.
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⊙	Heat Detector, Combination Fixed Temperature And Rate Of Rise	SD	Smoke Detector
FACP	Fire Alarm Control Panel		
FARA	Fire Alarm Remote Annunciator Panel		
SDD	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator		



FLOOR PLAN Scale: 1/8"=1'-0" 2' 4' 8' 16' Drawing: E104 Detail: 01

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

ITEM	DATE	ISSUE DESCRIPTION

**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724

Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
FOURTH FLOOR PLAN  
FIRE ALARM  
FORCINA BUILDING

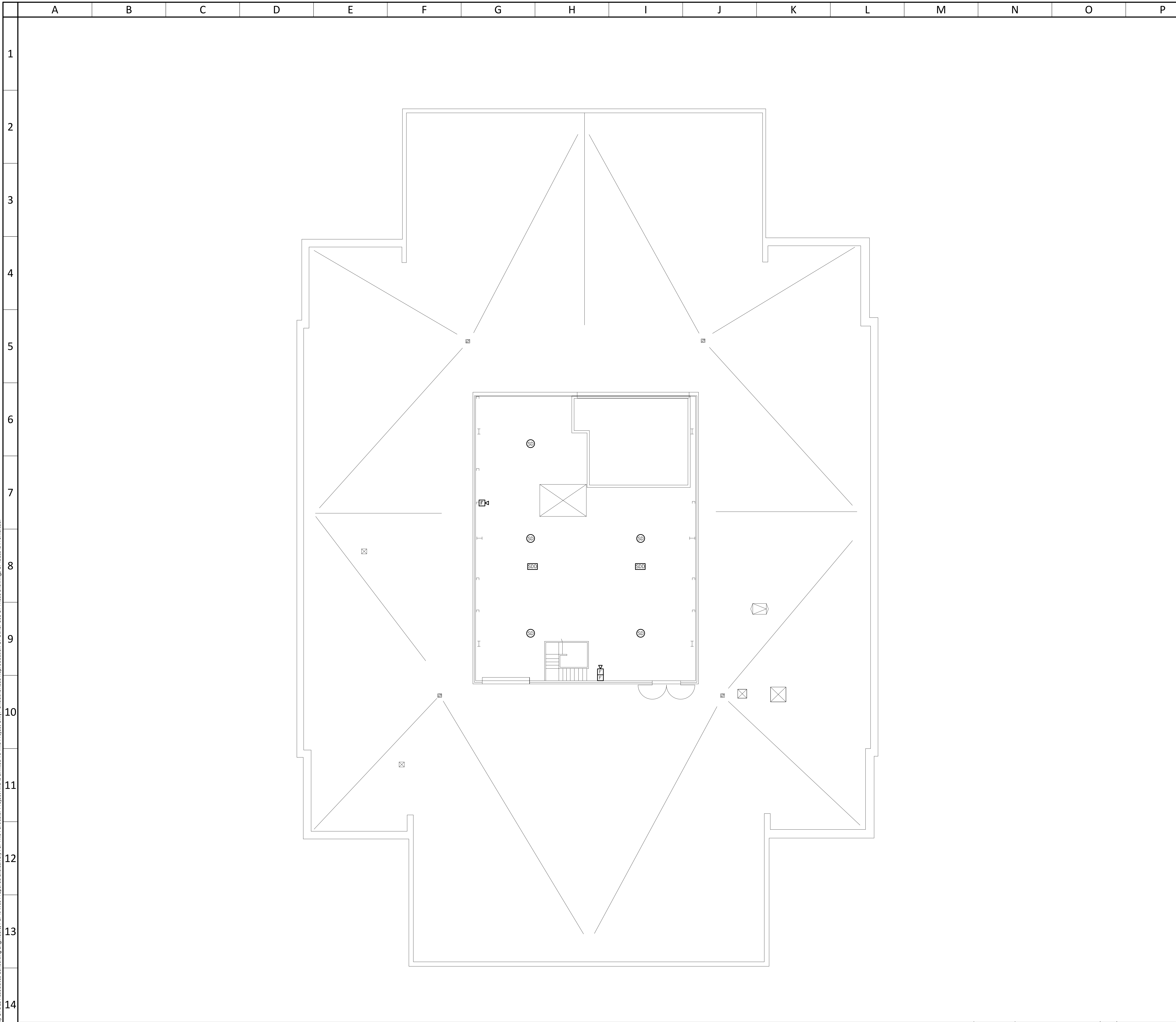
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dwg. no.  
**E104-FRC**

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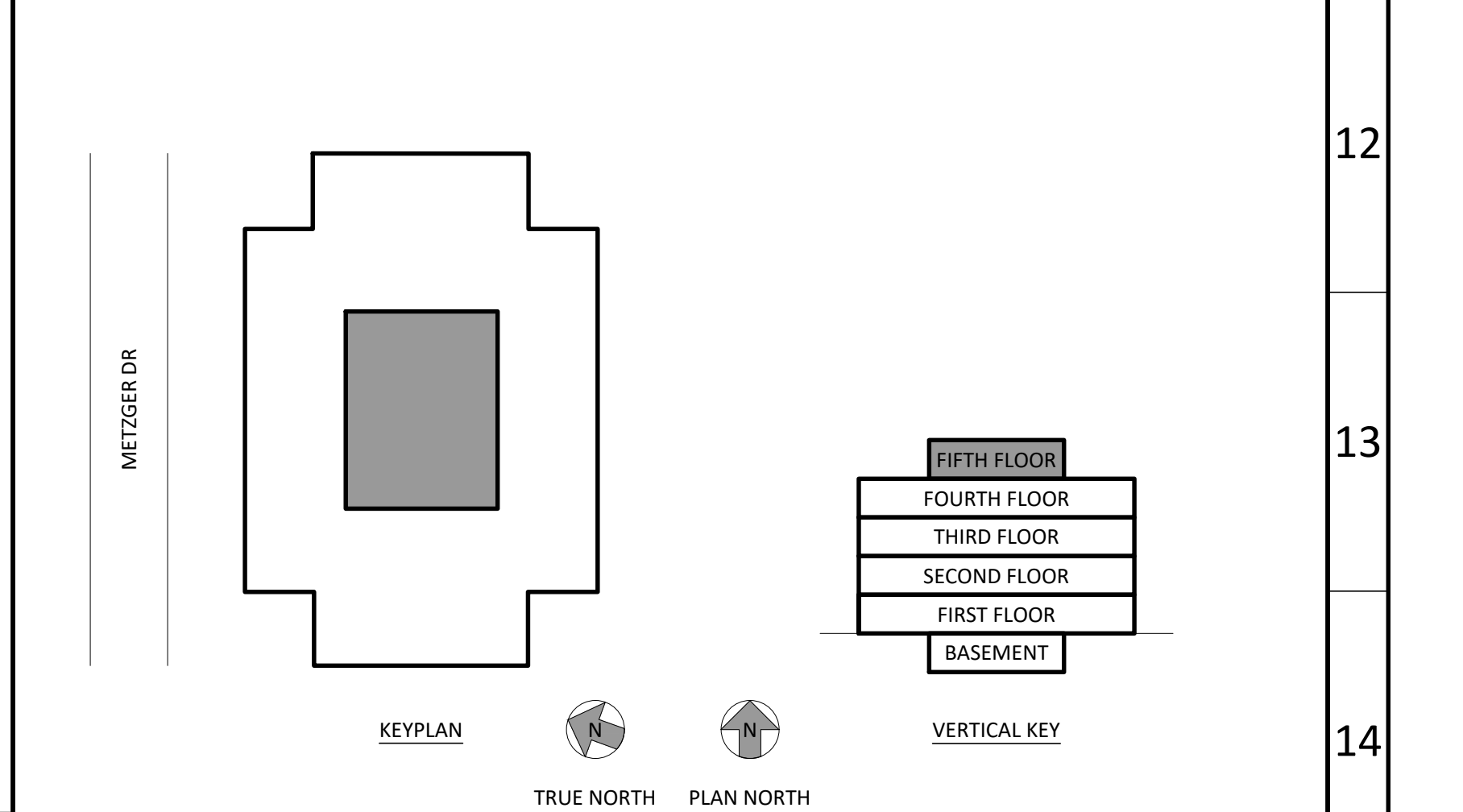


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  - Provide 24V Transformer For Duct Smoke Detector.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
F	Manual Fire Alarm Box	⊙	Heat Detector, Fixed Temperature (194°)
S	Fire Alarm Strobe	SDD	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator
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CO	CO Detector	FARA	Fire Alarm Remote Annunciator
HD	Heat Detector, Combination Fixed Temperature And Rate Of Rise	SDD	Duct Smoke Detector
FACP	Fire Alarm Control Panel	SD	Smoke Detector
FARA	Fire Alarm Remote Annunciator Panel		



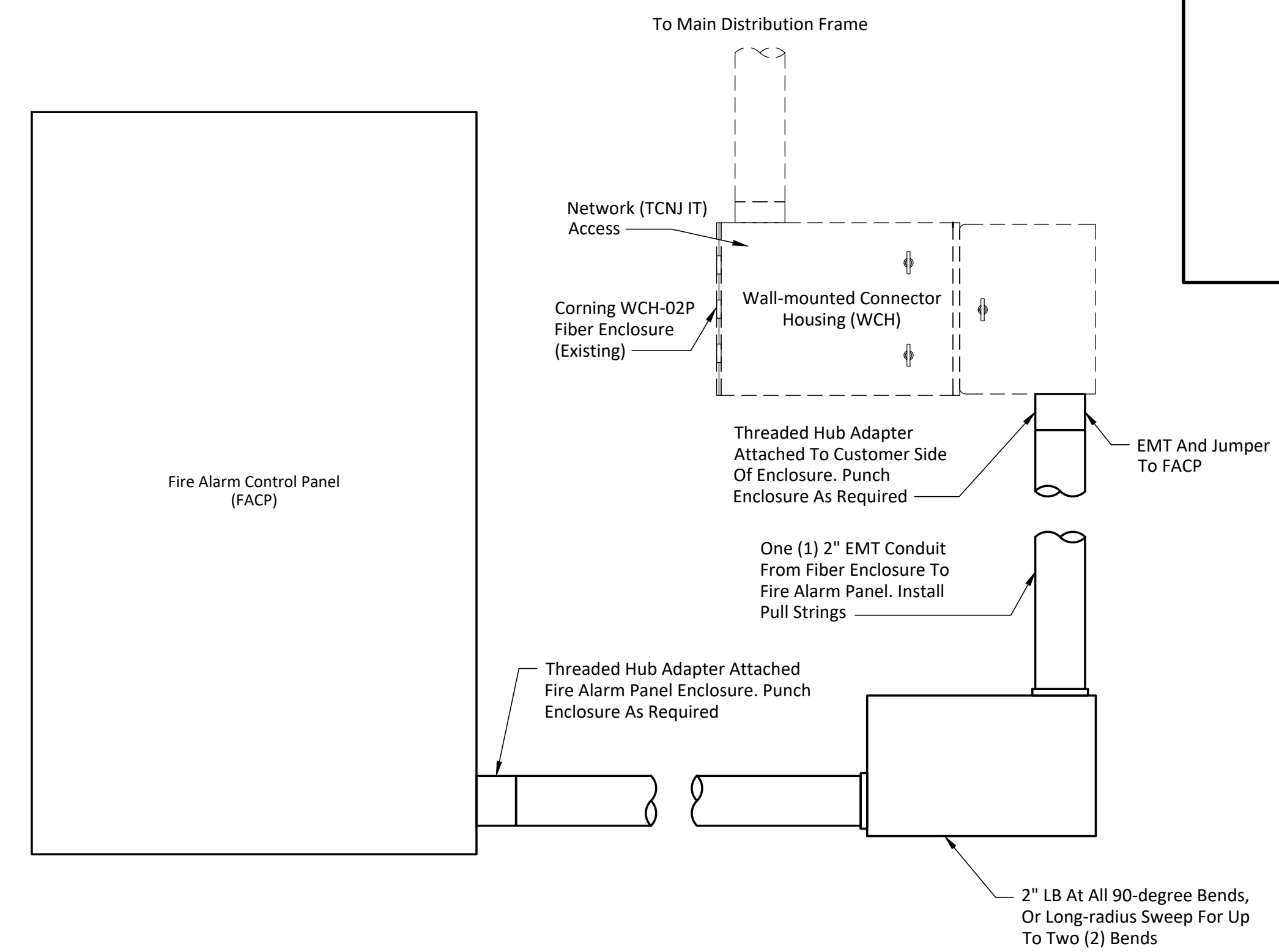
<b>FLOOR PLAN</b>	Scale: 1/8"=1'-0"		Drawing: <b>E105</b>	Detail: <b>01</b>	
<b>dlb associates</b> CONSULTING ENGINEERS, P.C. 265 Industrial Way West, Eatontown, N.J. 07724		project <b>TCNJ - CAMPUS FIRE ALARM PROJECT</b> <b>PART B - HARDWARE &amp; SOFTWARE UPGRADES</b> 2000 PENNINGTON ROAD, EWING NJ, 08618		title <b>FIFTH FLOOR PLAN</b> <b>FIRE ALARM</b> <b>FORCINA BUILDING</b>	
Questions For DLB Call: DLB Project ID: 47211		Anthony Laskosky Phone: 732-927-5038		scale 1/8" = 1'-0"	
drawn by SC		checked by SF		date 5/03/2020	



FIRE ALARM SYSTEM RESPONSE MATRIX		Response												
System	Component	Building					FACP		Annunciator		Central Station			
		Activate Audio / Visual Signals Throughout Building	Shut Down All HVAC Units	Close Fire Aht / Or Smoke Dampers	Release Door- Hold Open With Electro-Magnetic Holders	Activate Door Control System For Emergency Release	Audio / Visual Annunciation Of Alarm	Audio / Visual Annunciation Of Trouble	Notification Only	Audio / Visual Annunciation Of Alarm	Audio / Visual Annunciation Of Trouble	Transmit Alarm	Transmit Trouble	Transmit Supervisory Signal
General	Manual Fire Alarm Box	X	X	X	X	X	X		X		X			
	Heat Detector	X	X	X	X	X	X		X		X			
	Smoke Detector	X	X	X	X	X	X		X		X			
	Duct Smoke Detector		X	X	X	X	X		X		X			
	Carbon Monoxide Detector						X	X		X			X	
	FACP Troubles Per NFPA 72							X				X		
Sprinkler	Flow Switch	X	X	X	X	X	X		X		X			
	Tamper Switch							X		X			X	

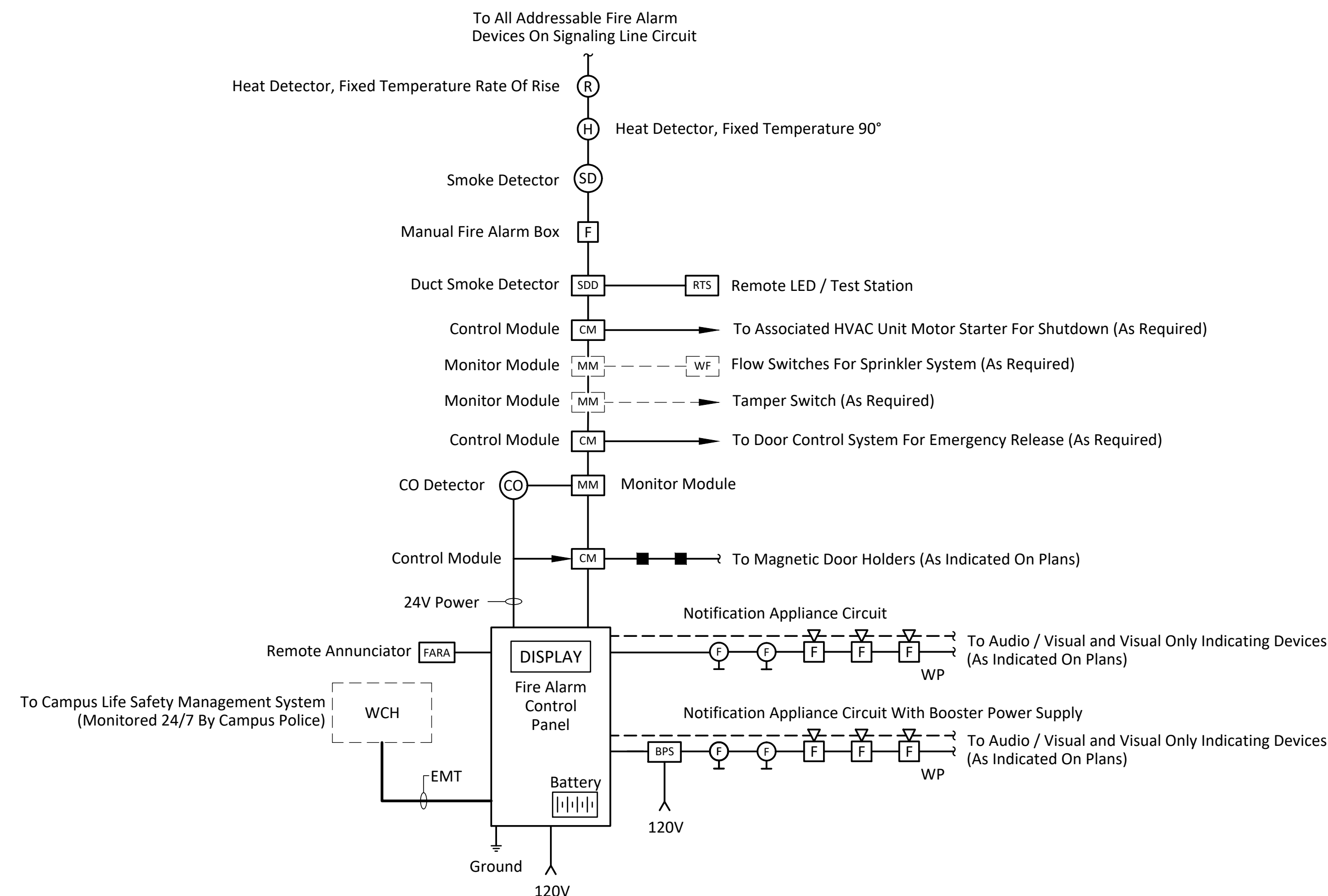
Notes:  
1. Confirm System Response With Current TCNJ Campus Life And Police Procedures.

RESPONSE MATRIX Scale: NTS Drawing: E200 Detail: 01



NOTES:  
1. Coordinate Position Installation Of EMT Into FACP Enclosure With Respect To Fiber Termination Connections In FACP Enclosure, And With TCNJ/IT  
2. Install 2" EMT From Fiber Enclosure To FACP Enclosure. Use LBS At Each 90-degree End Unless Swept Long-radius Bends Can Be Installed. No More Than (2) 90-degree Bends Are Permitted Before An Accessible Pulling Point Shall Be Furnished.  
3. Install Fiber Jumpers Between WCH And FACP.

FIRE ALARM FIBER ENCLOSURE INSTALLATION Scale: NTS Drawing: E200 Detail: 03



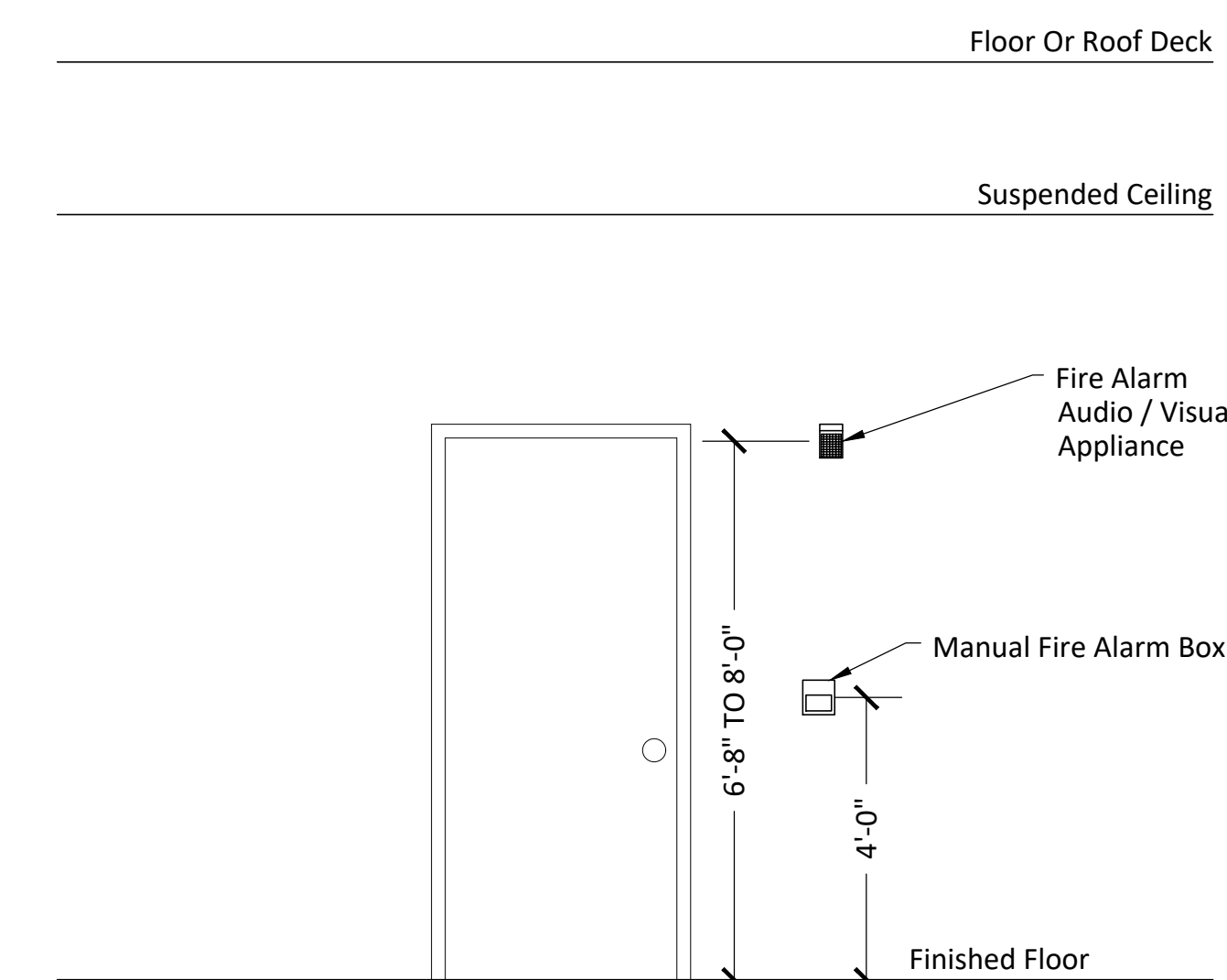
MARK	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL
FARA	REMOTE ANNUNCIATOR
F	MANUAL FIRE ALARM BOX
FV	FIRE ALARM AUDIO / VISUAL DEVICE
FS	FIRE ALARM STROBE VISUAL DEVICE
H	HEAT DETECTOR - FIXED TEMPERATURE (194°)
H	HEAT DETECTOR - COMBINATION FIXED TEMPERATURE AND RATE OF RISE
SD	SMOKE DETECTOR
SDD	DUCT SMOKE DETECTOR
RTS	DUCT SMOKE DETECTOR REMOTE LED / TEST STATION
WF	SPRINKLER FLOW SWITCH
TS	SPRINKLER TAMPER SWITCH
CM	FIRE ALARM CONTROL MODULE
MM	FIRE ALARM MONITOR MODULE
BPS	NOTIFICATION APPLIANCE CIRCUIT BOOSTER POWER SUPPLY
---	POWER OR SIGNALING LINE CIRCUIT
WP	WEATHERPROOF

- NOTES:  
1. General  
A. The Schematic Riser Diagram Is Intended As An Overview Of The Fire Alarm System Including The General Configuration And Type Of Devices Found Throughout The Building.  
B. An Addressable Type, Fire Alarm System Shall Be Installed Throughout The Building. This System Shall Consist Of A Central Fire Alarm Control Panel (FACP), Detection Devices, And Notification Appliances.  
C. The FACP Shall Connect The Campus Life Safety Management System.  
2. Equipment  
A. Refer To Floor Plan Drawings For Additional Provisions That Shall Be Provided.  
B. Provide All Required Expansion Panels, PC Boards, Power Supplies, Batteries, Amplifiers, Branch Circuits, And NAC Signal Power Boosters, For A Complete And Operable Fire Alarm System.  
C. Field Verify Exact Location, Quantity, And Voltage Of Duct Smoke Detectors.  
D. Provide Remote LED Indicator / Test Station At Accessible Locations For RTU(s) Equipped With Duct Smoke Detector.  
3. Wiring  
A. The FACP Power Supply Shall Be Derived From A Dedicated, Lockable Electrical Circuit (Colored Red) As Well As An Internal Battery Sized To Provide 15 Minutes Of Alarm Condition After 24 Hours Of Operation Without Normal Power And Include 20% Additional Spare Capacity.  
B. The FACP Ground Shall Consist Of An #8 AWG Conductor In 3/4" Conduit From The Fire Alarm Control Panel (FACP) To The Building's Grounding Electrode System. Bond To Metallic Conduit On Both Ends With Listed Hardware.  
C. The Fire Alarm System's Wiring Method Shall Be Class A Rated Between Panels (Where Applicable) And Class B Rated For Detection Devices And Notification Appliances.  
D. Each Notification Appliance Circuit Shall Contain A Minimum Of 30% Spare Capacity. Provide Fire Alarm Panel With Hardware For Two (2) Spare Circuits.  
4. Testing  
A. Perform A Final Acceptance Test Of The Entire Fire Alarm System In Accordance With All Applicable Codes Including The International Building Code (IBC) And NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.

FIRE ALARM RISER Scale: NTS Drawing: E200 Detail: 02

TYPICAL FIRE ALARM DEVICE MOUNTING HEIGHT Scale: NTS Drawing: E200 Detail: 04

SYMBOLS LEGEND	
Plan View	Detail View
[Symbol]	[Symbol]
[Symbol]	[Symbol]



dlb associates  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724  
Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
SCHEDULES AND DETAILS  
FORCINA BUILDING  
scale  
NTS  
drawn by  
SC  
checked by  
AL  
date  
5/03/2020

dwg. no.  
E200-FRC

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A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R																														
1	<p><b>PROJECT OVERVIEW</b></p> <p>1. Project Description:</p> <p>A. The Project Consists Of The Replacement Of The Existing Fire Alarm System In The Building With A New Addressable Fire Alarm System. The System Is Being Replaced Due To Its Age And Lack Of Availability Of Replacement Parts.</p> <p>2. Overview:</p> <p>A. The Following Is A Brief Overview Of The Existing System (Not Intended To Be All Inclusive):</p> <ol style="list-style-type: none"> <li>1) Fire Alarm Control Panel Currently Located In The Electrical Room.</li> <li>2) Audible Devices Located In The Corridors, Shops, And Office Areas.</li> </ol> <p>B. The Following Is A Brief Scope Of The Work For This Project (Not Intended To Be All Inclusive):</p> <ol style="list-style-type: none"> <li>1) New Addressable Fire Alarm System. Fire Alarm Control Panel Will Be Located In The Electrical Room, And Annunciator Panel Located In The Front Entry.</li> <li>2) Fire Alarm Shop Drawings Shall Meet The Requirements Of IBC 2015 (NJ Edition) Section 907.1.2 And Shall Be Submitted For Review And Approval Prior To System Installation.</li> <li>3) Removal And Disposal Of Existing Fire Alarm System.</li> <li>4) Patch, Repair, And Refinish Walls, Floors, Ceilings And Other Finished Surfaces Affected By Removal Of Existing System.</li> </ol>			<p><b>SPECIAL EMPHASIS, CONCERNS, AND LIMITATIONS</b></p> <p><b>Special Emphasis, Concerns &amp; Limitations</b></p> <ol style="list-style-type: none"> <li>1. When Replacing The Existing FACP It Is The Contractors Responsibility To Transfer All Systems That Are Currently Reporting To The Existing Panel. There Are Certain Panels That Monitor Accessory Systems Such As Security, Fire Shutters Clean Agent Systems, CO Detectors, Access Control Etc. Contractor Shall Survey The Buildings And Include All Accessory Systems And Intermediary Devices Required To Integrate Said Systems On Their Shop Drawings.</li> <li>2. Communication <p>A. The Engineer Shall Be Notified Immediately Upon Discovery Of A Problem Or Conflict. Contractor Shall Promptly Identify One Or More Proposed Solutions But Shall Not Proceed Until So Authorized.</p> </li> <li>3. Construction <p>A. Submittals (Shop Drawings) Shall Be Provided For Each Piece Of Purchased Equipment. Ensure Thoroughness And Accuracy Of The Submittals. The Contractor Shall Provide A Stamp On The Shop Drawings Stating That They Conform To The Specifications.</p> <p>B. Long Lead Items Must Be Ordered Promptly To Ensure Timely Deliveries.</p> <p>C. All Work Shall Be Performed During Normal Working Hours.</p> </li> <li>3. Contractors' Responsibilities <p>A. Before Submitting Their Bid, The Contractor Shall Visit The Job Site And Examine And Fully Acquaint Themselves With The Existing Job Conditions.</p> <p>B. The Contractor Shall Furnish And Install All Supports, Hangers, Boxes, Or Panels As Required, And Shall Perform Demolition And Modification Work As Required, To Make A Complete And Operable System Without Additional Cost To Owner.</p> <p>C. Contractor Shall Arrange And Pay For All Permits, Certificates, Inspections, Etc. And Pay All Fees Levied By State, Local And Municipal Authorities Having Jurisdiction Over Work Done Under This Contract.</p> <p>D. Contractor Shall Provide All Required Temporary Utilities And Pay All Associated Fees And Operating Costs.</p> <p>E. Any Work By Any Party As A Result Of Failure To Familiarize Themselves Or Coordinate Work Is The Responsibility Of The Contractor And Shall Be Provided At No Cost To The Owner.</p> <p>F. Make Final Connections, Perform Acceptance Testing, And Coordinate With NJ Department Of Community Affairs For Device Verifications For A Complete And Operational System Upon Completion. Contractor Shall Be Present And Provide Assistance As Necessary For Device Verifications With Fire Marshal And Also Include All Associated Costs For This.</p> <p>G. Final Locations Of All New Devices And Equipment Shall Be Field Coordinated With Proposed Equipment And Device Ratings, Existing Field Conditions And With Other Existing Installations.</p> <p>H. Make Every Attempt To Ensure Thoroughness And Accuracy Of The Submittals. If Shop Drawings Are Not Approved Following A Maximum Of Two (2) Reviews, The Contractor Will Be Back-charged For The Engineer's Effort.</p> <p>I. Contractor Shall Furnish And Install Access Doors For Access To Any Above Ceiling Detectors Or Devices Which Are Above Gypsum Board Ceilings Or Other Non-Accessible Ceiling Spaces.</p> </li> <li>4. Limitations On Downtime <p>A. A Schedule Of Interruptions / Shutdowns Shall Be Submitted To The Engineer And Owner. Each Interruption Shall Be Approved By The Owner With Written Consent Before Any Interruption Is Permitted.</p> <p>B. Contractor Shall Furnish Fire Watch During Any Fire Alarm Or Fire Protection Interruptions.</p> </li> </ol>			<p><b>DESIGN CRITERIA &amp; ADDITIONAL PROJECT REQUIREMENTS</b></p> <p><b>Applicable Codes And References</b></p> <p>The Entire Installation Shall Comply With All Local And State Codes, Including Amendments To Said Codes, And Other Authorities Having Jurisdiction.</p> <ol style="list-style-type: none"> <li>1. International Building Code, 2015 Edition (NJ Edition)</li> <li>2. International Fire Code, 2015 Edition</li> <li>3. International Mechanical Code, 2015 Edition</li> <li>4. NFPA 72, 2013</li> <li>5. National Electrical Code, 2014 Edition</li> <li>6. New Jersey Administrative Code (Subchapter 6 Rehabilitation Subcode)</li> </ol> <p><b>Seismic Requirements</b></p> <ol style="list-style-type: none"> <li>1. The Design And Application Of Seismic Restraints Shall Be In Accordance With The Following Criteria, As Listed In Chapter 16 Of The 2015 International Building Code. <p>A. Determination Of Design Spectral Response Acceleration: Short Periods: 0.245 One-second Periods: 0.105</p> <p>B. Seismic Occupancy Category: Section 1604.5; Risk Category II Seismic Design Category: B</p> </li> <li>2. Electrical Components / Systems In Buildings That Are Assigned To Seismic Design Category A or B (ASCE 13.1.4.2) Are Exempt From Seismic Requirements.</li> </ol>			<p><b>DRAWING LIST</b></p> <table border="1"> <thead> <tr> <th>No.</th> <th>Drawing Title</th> </tr> </thead> <tbody> <tr> <td>E000</td> <td>COVER SHEET</td> </tr> <tr> <td>E001</td> <td>GENERAL INFORMATION SHEET</td> </tr> <tr> <td>E002</td> <td>PHOTO OVERVIEW</td> </tr> <tr> <td>ED101</td> <td>DEMOLITION FLOOR PLAN - FIRE ALARM</td> </tr> <tr> <td>E101</td> <td>FLOOR PLAN - FIRE ALARM</td> </tr> <tr> <td>E200</td> <td>SCHEDULES AND DETAILS</td> </tr> </tbody> </table> <p><b>ELECTRICAL GENERAL NOTES</b></p> <p><b>Electrical Wiring</b></p> <ol style="list-style-type: none"> <li>1. In General, Branch Circuit Wiring Is Not Shown On The Plan Drawings.</li> <li>2. The Minimum Branch Circuit Wiring Size Shall Be #12, #12 Ground In 3/4 Inch Conduit Unless Otherwise Noted.</li> </ol> <p><b>Wiring Methods</b></p> <ol style="list-style-type: none"> <li>1. General <p>A. In Finished Areas, Conceal All Wiring In Building Walls, Floors, And Above Finished Ceilings. Wiring May Be Run Exposed In Mechanical/Electrical Equipment Rooms, Electrical Closets, Utility Rooms.</p> <p>B. For Devices Mounted To Block Walls : Approved Surface Mounted Raceway May Be Utilized.</p> <p>C. Final Connections To Mechanical Equipment, Lighting Fixtures, Motors, Transformers, Instruments, And Control Devices Shall Be Flexible Conduit To Minimize Vibration Transmission.</p> </li> <li>2. Indoors (Unclassified Areas) <p>A. Exposed: EMT Conduit With Steel Set Screw Fittings, Unless Otherwise Noted</p> <p>B. In Dry Walls/Above Ceilings: EMT Conduit With Steel Set Screw Fittings (Type MC Clad Cable May Be Used For 1 Pole, 15 And 20 Amp Branch Circuits )</p> </li> <li>3. Outdoors (Including Unconditioned Covered Areas) <p>A. Above Ground: RGS Threaded Conduit</p> <p>B. Final Connections: Liquid-Tight Flexible Conduit</p> </li> </ol> <p><b>Equipment Grounding</b></p> <ol style="list-style-type: none"> <li>1. An Insulated (Green) Equipment Ground Conductor(s) Shall Be Provided In All Branch Circuits. Utilizing The Conduit As The Equipment Grounding Conductor Is Not Acceptable.</li> </ol> <p><b>Electrical Enclosures And Terminations</b></p> <ol style="list-style-type: none"> <li>1. Electrical Equipment Enclosures Shall Be Provided As Listed Below Unless Otherwise Noted. <p>A. Indoors Unclassified Areas NEMA 1</p> <p>B. Indoors Classified 'Damp' NEMA 1</p> <p>C. Outdoors NEMA 3R</p> </li> <li>2. Electrical Terminations (Lugs, Terminals, Etc.) On All Equipment Shall Be Rated For Use With 75 Degree Celsius Conductors.</li> <li>3. Firestopping <p>A. Provide UL Listed Fire Stopping Assemblies For Raceways And Wire Passing Through Floor Slots, Sleeves Or Openings In Fire-Partitioned Rooms.</p> <p>B. Provide Sealant For Raceways And Wire Passing Through Floor Slots, Sleeves Or Openings In Non-Fire-Partitioned Rooms</p> </li> </ol> <p><b>FIRE ALARM</b></p> <ol style="list-style-type: none"> <li>1. Fire Alarm Must Be Routed In Its Own Separate Pathway And Cannot Share Pathway With Any Other Infrastructure.</li> <li>2. Provide Ceiling Mounted Smoke Detector At Each Fire Alarm Control Panel, Remote Power Panel, And Remote Annunciation Panel.</li> <li>3. Duct Smoke Detectors Shall Be Furnished And Installed As Part Of The Electrical Work. <p>A. Duct Mounted Smoke Detectors Shall Be Wired To Shut Down The Associated Unit And Annunciate At The Fire Alarm Control Panel.</p> <p>B. Remote Reset Capability Shall Be Provided For Each Detector. Coordinate Location Of Test Switches In The Field With Owner So That They Are Accessible. Switches Shall Be Provided With Identification Label.</p> </li> <li>4. Locations Of Fire Alarm Devices And Equipment Shown On The Plan Drawings Is Diagrammatic. Exact Locations Shall Be Determined By The Electrical Contractor In Accordance With Field Conditions And The Following: <p>A. Ceiling Mounted Devices Shall Be Coordinated With Suspended Ceiling, Lighting Fixtures, Diffusers, Ductwork, Spinkler Heads, Etc. And Per NFPA Requirements.</p> <p>B. Wall Mounted Devices Shall Be Coordinated With Other Wall Mounted Devices, Wall Construction Type, Etc. And NFPA And IBC Requirements. Whenever Possible Devices Shall Be Mounted Flush Or Semi Flush. Surface Mounted Devices Will Be Permitted Where Approved By Engineer And Owner.</p> </li> </ol> <p><b>ELECTRICAL GENERAL NOTES</b></p> <p><b>Key Participants &amp; Roles</b></p> <table border="0"> <tr> <td>Electrical Engineer DLB Associates, PC 265 Industrial Way West Eatontown, NJ 07724 Contact: Anthony Laskosky - Project Manager Tel: (732) 927-5038</td> <td>Client The College Of New Jersey 2000 Pennington Road Ewing, NJ 08628-0718 Contact: Mumtaz Makhdomi Email: cplancsult2@tcnj.edu Phone: (609)-771-2372</td> </tr> </table> <p><b>DOCUMENT ORGANIZATION</b></p> <p><b>Miscellaneous</b></p> <ol style="list-style-type: none"> <li>1. The Terms 'Sheet', 'Plan', And 'Drawing' Are Used Interchangeably.</li> <li>2. For Items That Are Plans, Details, And Other Graphic Items, Titles Are At The Bottom Of The Item Described. For Items That Are Predominately Text Such As Schedules, Titles Are At The Top Of The Item Described.</li> <li>3. 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<p><b>PROJECT GENERAL NOTES</b></p> <p><b>General Requirements</b></p> <ol style="list-style-type: none"> <li>1. General: <p>A. All Work Shall Be Performed In A Neat Workmanlike Manner.</p> <p>B. All Exposed Cables Of Any Type Within A Plenum Ceiling Space Shall Be Plenum Rated.</p> <p>C. "Furnish And Install" Or "Provide" Means To Supply, Erect, Install, And Connect Up To Complete For Readiness For Regular Operation, The Particular Work Referred To.</p> <p>D. All Temporary Construction Services Shall Be Determined / Arranged By The Contractor And Included In The Bid Price.</p> </li> <li>2. Coordination: <p>A. Contractors Shall Coordinate Their Work With The Existing Field Conditions.</p> <p>B. Contractor Shall Visit The Job Site And Verify Existing Field Conditions Prior To Submission Of Bid.</p> <p>C. Contractor Shall Secure And Pay For All Required Permits And Shall Arrange All Required Inspections.</p> </li> <li>3. Installation / Demolition: <p>A. Contractor Shall Provide All Necessary Miscellaneous Steel For The Support Of All Equipment Suspended From Slab, Steel, Wall, Or Trusswork.</p> <p>B. Proper Fire Protection Measures, Satisfactory To The Local Fire Department, Shall Be Taken When Welding Or Cutting With Torches Or Electric Arc.</p> <p>C. Contractor Shall Be Responsible For All Cutting And Patching Of Walls, Ceilings, Roofs, And Floors Required As A Result Of Their Work.</p> <p>D. All Penetrations Of Floors (Whether Or Not Fire Resistance Rated) And All Penetrations Of Fire Rated Walls Shall Be Firestopped. Refer To The Specification For Additional Requirements.</p> <p>E. If Areas Of Conflict Are Encountered, The Engineer Shall Be Notified And Contractors Recommendations Shall Be Submitted To The Engineer For Approval Before Work Has Begun.</p> </li> <li>4. Seismic: <p>A. Provide Seismic Bracing And Anchoring Of All Electrical And Fire Protection Equipment In Accordance With The Codes And Seismic Design Criteria Listed In These Documents.</p> <p>B. Provide Structural Tests And Special Inspections In Accordance With The Building Code Listed In The Applicable Codes And References Section Of These Documents.</p> </li> </ol>																																															

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<b>dlb associates</b> CONSULTING ENGINEERS, P.C. 265 Industrial Way West, Eatontown, N.J. 07724 <small>Questions For DLB Call: DLB Project ID: 47211 Anthony Laskosky Phone: 732-927-5038</small>	project <b>TCNJ - CAMPUS FIRE ALARM PROJECT PART B - HARDWARE &amp; SOFTWARE UPGRADES</b> 2000 PENNINGTON ROAD, EWING NJ, 08618	title <b>GENERAL INFORMATION SHEET MAINTENANCE BUILDING</b> scale NTS drawn by HF checked by AL date 5/03/2020 dwg. no. <div style="font-size: 24pt; font-weight: bold; text-align: center;">E001-MNT</div>
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A B C D E F G H I J K L M N O P Q R

1 2 3 4 5 6 7 8 9 10 11 12 13 14



PHOTO A - FIRE ALARM PANEL  
Standard Time Fire Alarm Control Panel To Be Demolished

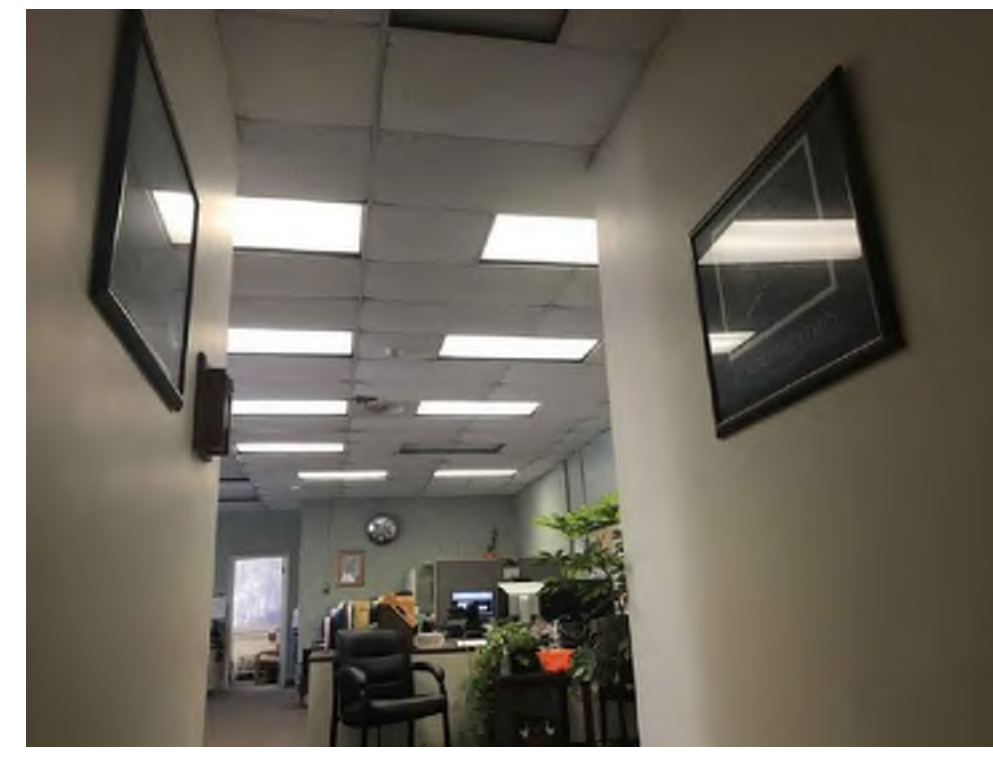


PHOTO B - OFFICE AREA  
Office With Dropped Ceilings To Be Demolished



PHOTO C - CORRIDOR  
Open Ceiling Maintenance Corridor Heat Detectors To Be Demolished



PHOTO D - SHOP  
Shop Area Pull Stations And Bell Notification To Be Demolished

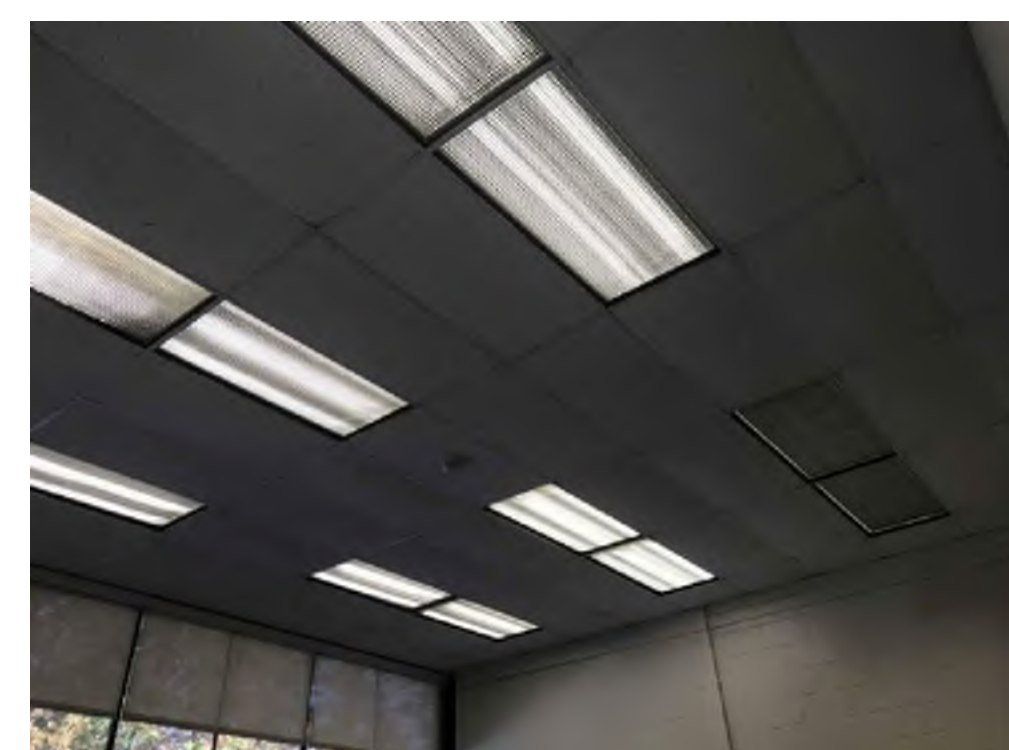
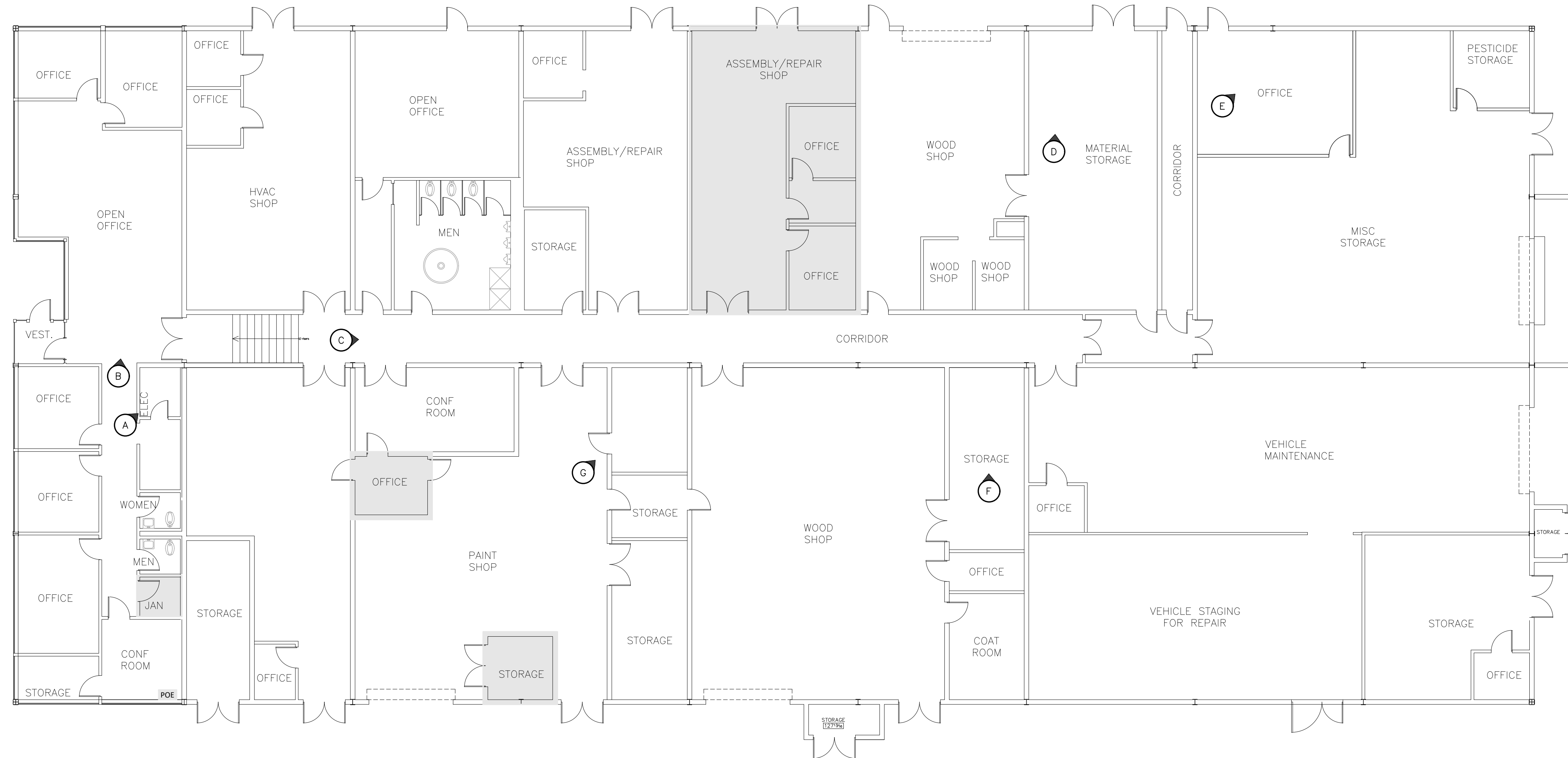


PHOTO E - OFFICE  
Rear Office Dropped Ceiling Heat Detectors To Be Demolished



PHOTO F - MEZZANINE AREA  
Storage Area Below Mezzanine Area To Be Demolished

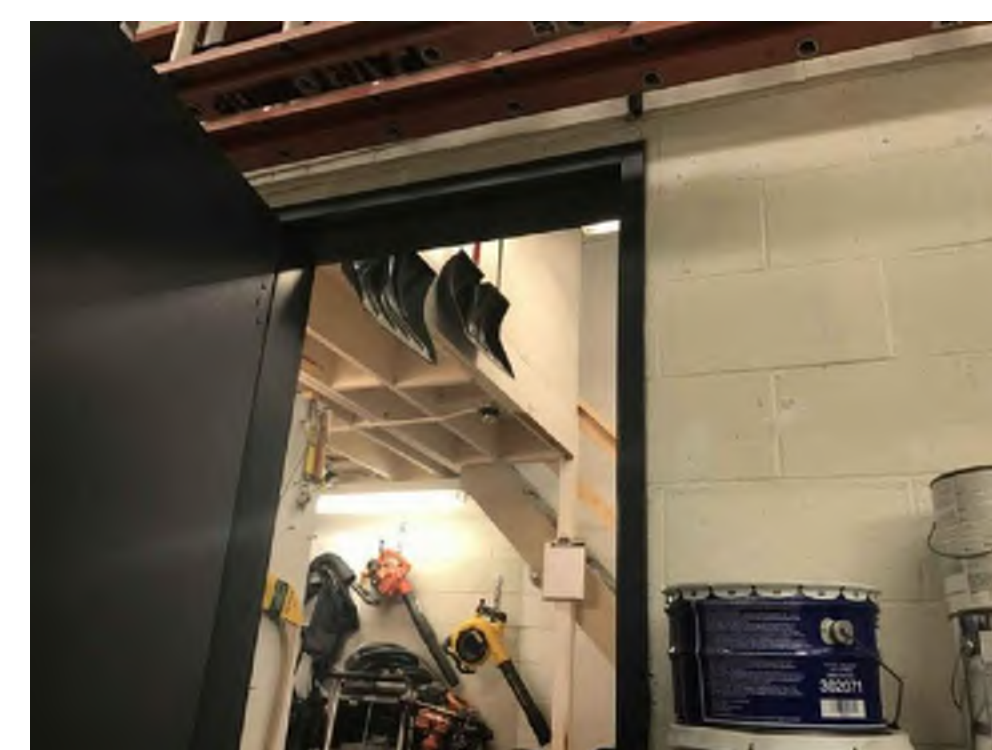


PHOTO G - STORAGE  
Storage Area At Mezzanine To Be Demolished



PHOTO H - EXTERIOR  
Bell And Beacon To Be Demolished

LEGEND			
Identifier	Description		
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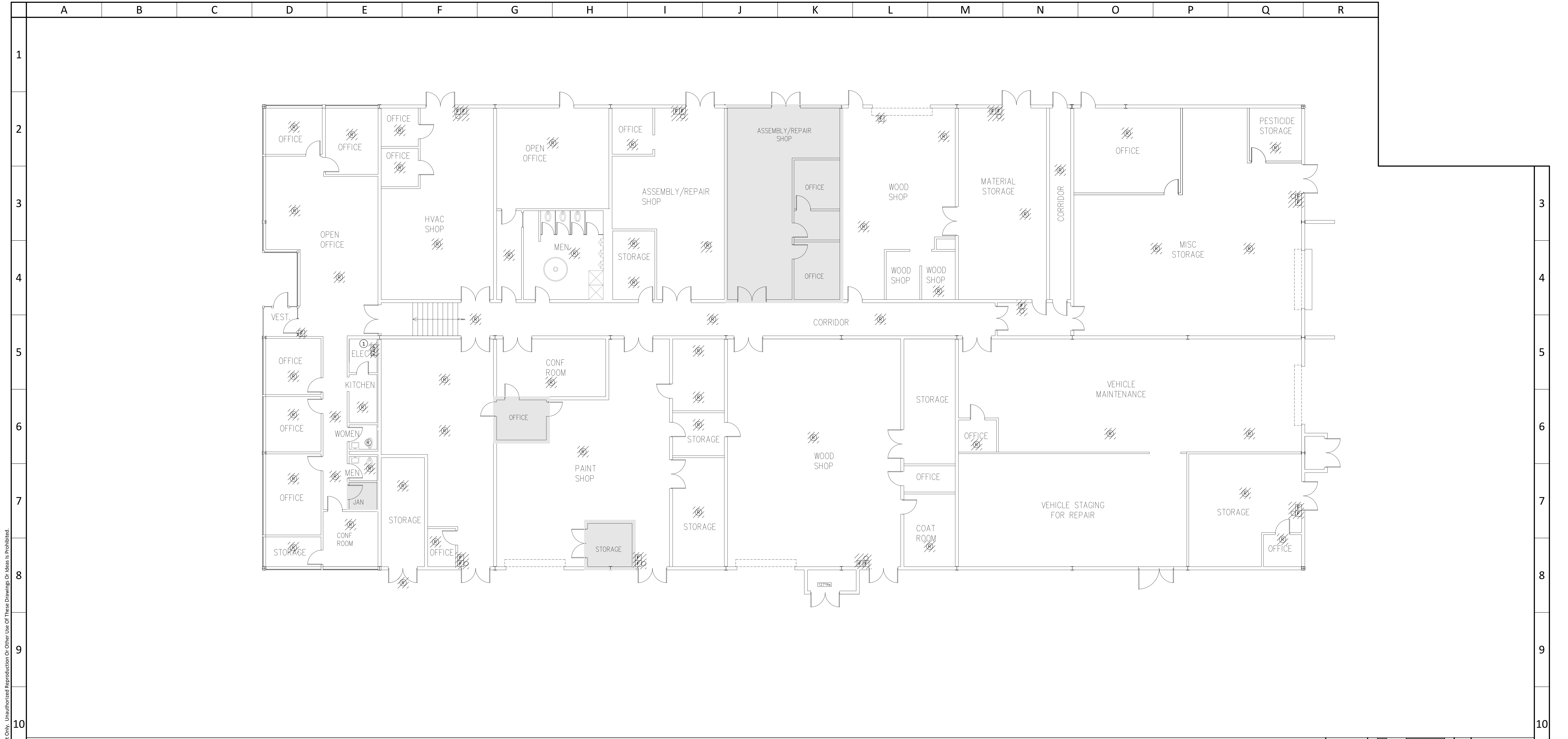
scale	drawn by	checked by	date
NTS	HF	AL	5/03/2020

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724  
Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
PHOTO OVERVIEW  
MAINTENANCE BUILDING  
dwg. no.  
**E002-MNT**



FLOOR PLAN Scale: 1/8"=1'-0" 2' 4' 8' 16' Drawing: ED101 Detail: 01

**KEY NOTES (SYMBOLS ①, ②, ETC.)**

- Existing FACP. FACP Power Circuit Is Supplied From Adjacent Power Panel In The Electric Room. Existing Branch Circuit Shall Be Removed.

**GENERAL NOTES**

- The Intent Of This Drawing Is To Provide The General Scope Of The Demolition / Devices To Be Removed For The Project.
- Maintain The Continuity And Normal Operation Of The Existing Fire Alarm System For The Maximum Extent Practical Prior To Being Demolished.
- The Existing Fire Alarm System Shall Be Removed In Its Entirety From All Areas Of The Existing Facility. Do Not Leave Any Component Of The System Or Wiring Abandoned In Place.
- Temporarily Relocate Existing System Devices, And Wiring Out Of The Way Of Demolition And Construction Work, Temporarily Support From Existing Surface To Remain, And Protect From Physical Damage.
- Temporarily Reinstall Existing System Devices Until Installation Of New System Devices And Wiring Is Complete, Tested, Inspected, And Accepted, At Which Time The Existing System Devices And Wiring Shall Be Removed.
- Any Required Fire Alarm System Outages Shall Be Performed Under A Supervised Fire Watch.
- Any Required System Outages Shall Be Requested In Writing At Least Seven Days Prior And Performed During Regular Hours.
- Patch, Repair, And Refinish Walls, Floors, Ceilings, And Other Finished Surfaces Affected By Removal Of Existing Fire Alarm System.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description
[F]	Existing Manual Pull Station
[S]	Existing Strobe Only
[V]	Existing Horn/Strobe
[SD]	Existing Smoke Detector
[R]	Existing Heat Detector, Combination Fixed Temperature And Rate Of Rise
[FACP]	Existing Fire Alarm Control Panel
[FARA]	Existing Fire Alarm Remote Annunciator Panel
[ANS]	Existing Ansul System Control Panel
[SDS]	Existing Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator
[//]	Device To Be Demolished

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
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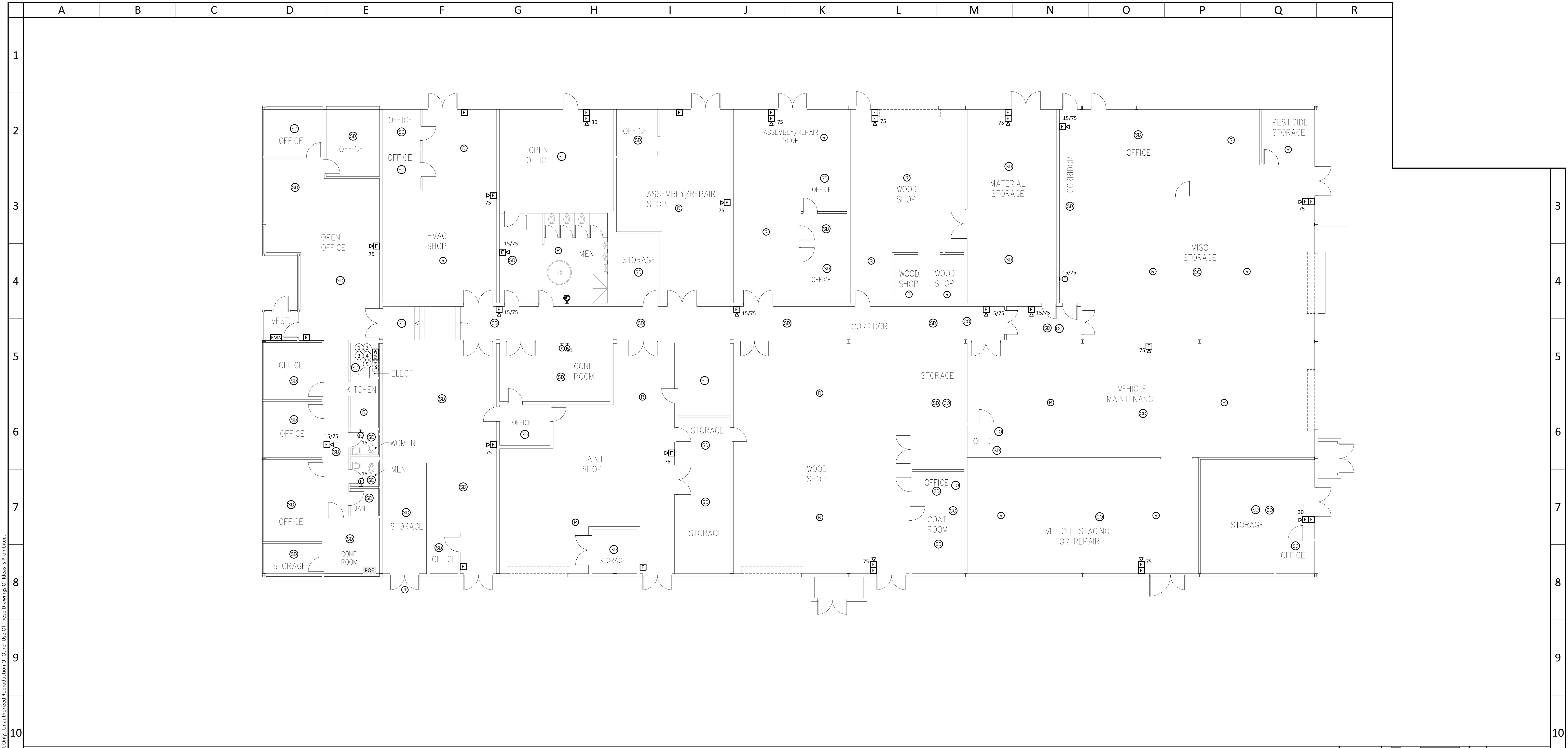
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title  
DEMOLITION FLOOR PLAN - FIRE ALARM  
MAINTENANCE BUILDING  
scale  
1/8" = 1'-0"  
drawn by  
HF  
checked by  
AL  
date  
5/03/2020

dwg. no.  
**ED101-MNT**

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30442



FLOOR PLAN Scale: 1/8"=1'-0" Drawing: E101  
 2' 4' 8' 16' Detail: 01

- KEY NOTES (SYMBOLS ①, ②, ETC.)**
1. Provide New Fire Alarm Panel.
  2. Provide UL Listed Alarm System Loop Circuit Surge Protection For Each 24V Alarm System Loop Circuits In A Field-Replaceable Module. Includes Hardwired Mounting Base For Each Module.
  3. Provide Two Duplex Fiber Jumper Cables Pre-terminated On Both Ends, Between The Existing WCH And Fire Alarm Control Panel As Per Detail 3 Sheet E200. Also Provide Duplex Fiber Jumper Cables Pre-terminated On Both Ends At The MDF between required interconnection points. Contractor Shall Coordinate And Confirm Jumper Connection Types, Fiber Types, Length, Routing Conditions, Etc With Field Conditions. Coordinate With TCNJ IT Department For Fiber Connection And Labeling Information.
  4. Contractor Shall Coordinate And Confirm Jumper Length With Field Conditions / Routing Distance Between MDF WCH And FACP. Coordinate With TCNJ IT Department For Specific Fiber Connection Information And Labeling.
  5. Provide Branch Circuit For Fire Alarm Panel From Existing Electrical Panel In Electric Room That Currently Supplies The Existing Fire Alarm Panel. Utilize 2#12, #12G In 3/4" Conduit And Provide New 20Amp Circuit Breaker (Red And Clearly Identify FACP Circuit). Match Existing Type/Ratings For Circuit Breaker.

- GENERAL NOTES**
1. The Fire Alarm Plan Shows The General Layout And Intent Of The Fire Alarm System. It Does Not Necessarily Reflect Exact Quantities Required By Code. The Contractor Shall Determine The Actual Quantity And Location Of Devices Required Based Upon Actual Field Conditions Required As Per NFPA 72.
  2. The Fire Alarm System Shall Consist Of Smoke Detectors, Heat Detectors, Manual Fire Alarm Box Placed At Each Exterior Exit. The Fire Alarm System Shall Consist Of Speaker And Strobes To Provide Audible And Visual Annunciation. The Entire System Shall Be Controlled Via The Fire Alarm Control Panel.
  3. The Fire Alarm System Shall Comply With NFPA 72 And All Local Codes And Amendments.
  4. All HVAC Duct Smoke Detectors Shall Be Monitored By The Fire Alarm Control Panel. Duct Smoke Detectors Shall Be Provided With An Appropriate Environmental Housing, Addressable Control Relay, Remote Indicator Test Station, And Sampling Tube. Coordinate Location Of Remote Indicator Test Station With Architect. Coordinate Exact Location And Quantity Of Devices With Field Conditions.
  5. Provide Fire Alarm Wiring Connections To Each Non-Addressable Device Via Monitor Modules.
  6. Fire Alarm Cabling Routed Above A Finished Ceiling Can Be Routed Utilizing Dedicated J-Hooks Or Other Approved Means Of Support. Cabling Shall Not Be Bundled With Other Cabling Or Supported From Existing Conduit, Piping, Cabling. Fire Alarm Cabling Shall Be Plenum Rated And Shall Not Be Spliced. Fire Alarm Wiring Is Permitted To Be Installed In Open Raceways Where Concealed. Fire Alarm Rated MC Cable Is Acceptable For Concealed Locations. All Cabling Shall Be Sleeved When Passing Thru A Wall Using Conduit Sleeves With Bushings And Fire Stopped.
  7. Fire Alarm Cabling That Cannot Be Concealed Shall Be Neatly Surface Mounted Utilizing Surface Metal Raceway In Finished Areas Or EMT In Non-Finished Areas. All Exposed EMT Shall Be Prepped And Painted To Match Adjacent Wall Surface.
  8. All Conduits Entering / Leaving The Building Shall Be Sealed At The Building's Exterior To Prevent Moisture Within The Raceway From Entering The Facility. The Sealing Method Shall Be Compatible With The Conduit And Conductors Installed.
  9. Coordinate The Exact Quantity And Location Of Water Flow And Tamper Switches With Field Quantities. Provide Fire Alarm Wiring Connections To Each Device.
  10. Panel Board Circuit Breaker Supplying Fire Alarm Control Panel and Associated Equipment Shall Have A Handle "Lock On" Device.

- GENERAL NOTES (CONTINUED)**
11. Visual Fire Alarms (Strobes) Shall Have Minimum 5'-0" Clearance From Any Obstructions. All The Strobes Shall Be Synchronized.
  12. Provide Installation Testing Per NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.
  13. Replace Any Acoustical Ceiling Tile Which Is Damaged During The Course Of Construction To Match Existing In All Respects.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
F	Manual Fire Alarm Box	FAPA	Fire Alarm Remote Annunciator Panel
S	Fire Alarm Strobe	ANS	Ansul System Control Panel
SP	Speaker / Strobe	SMDS	Duct Mounted Smoke Detector W/ Addressable Control Relay & Remote Indicator
SD	Smoke Detector	HTD	Heat Detector, Fixed Temperature (194°)
CD	CO Detector	CMND	Carbon Monoxide Detector With Local Audio And Visual Notification.
HTD	Heat Detector, Combination Fixed Temperature And Rate Of Rise		
FACP	Fire Alarm Control Panel		
WCH	Existing Wall Mounted Connector Housing		

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

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 265 Industrial Way West, Eatontown, N.J. 07724  
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 DLB Project ID: 47211  
 Anthony Laskosky  
 Phone: 732-927-5038

project  
 TCNJ - CAMPUS FIRE ALARM PROJECT  
 PART B - HARDWARE & SOFTWARE UPGRADES  
 2000 PENNINGTON ROAD,  
 EWING NJ, 08618

title  
 FLOOR PLAN - FIRE ALARM  
 MAINTENANCE BUILDING  
 scale  
 1/8" = 1'-0"  
 drawn by  
 HF  
 checked by  
 AL  
 date  
 5/03/2020

dwg. no.  
**E101-MNT**  
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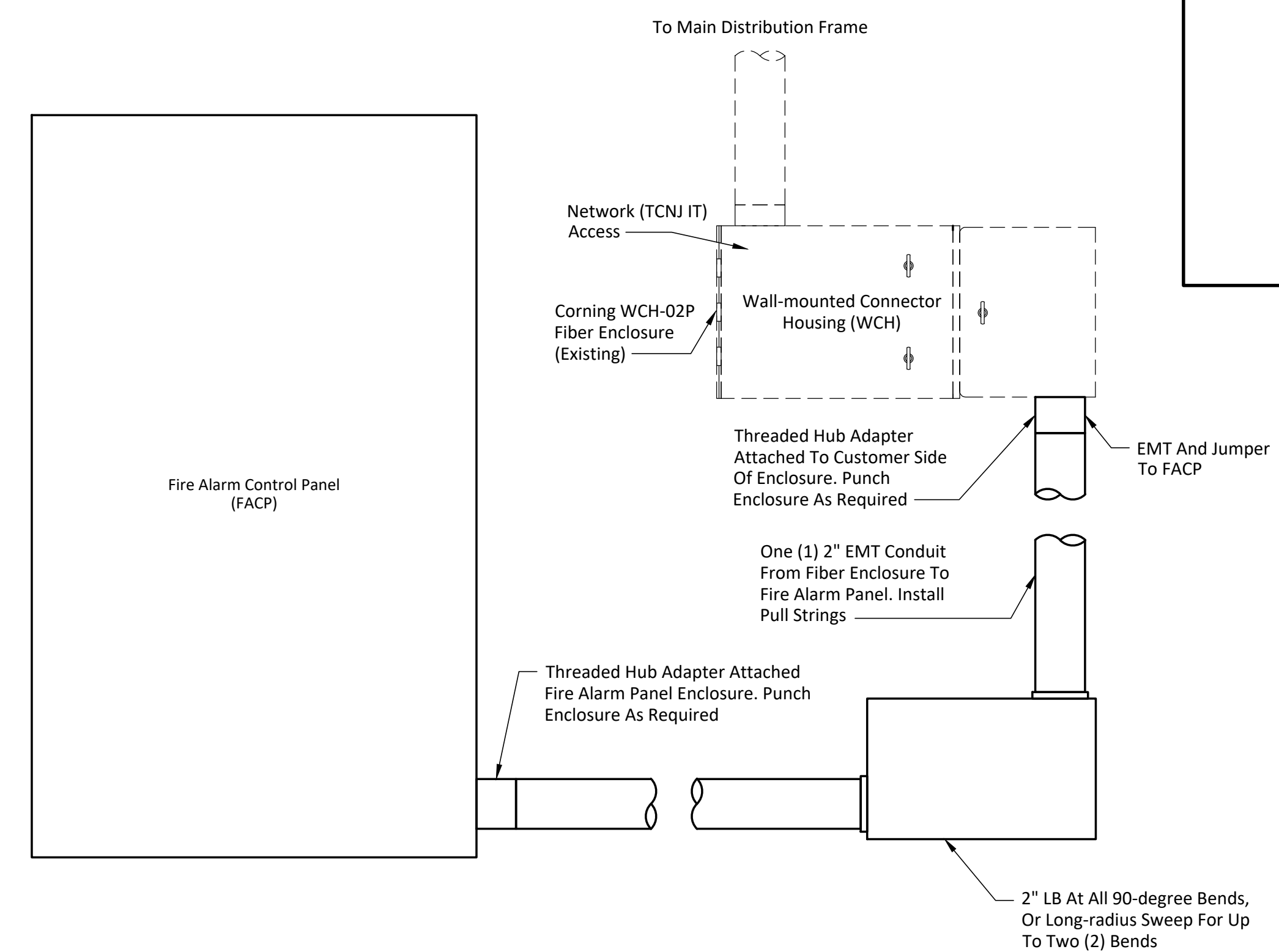
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30442

FIRE ALARM SYSTEM RESPONSE MATRIX		Response											
System	Component	Building					FACP		Annunciator		Central Station		
		Activate Audio / Visual Signals Throughout Building	Shut Down All HVAC Units	Close Fire Ahi / Or Smoke Dampers	Release Door- Held Open With Electro-Magnetic Holders	Activate Door Control System For Emergency Release	Audio / Visual Annunciation Of Alarm	Audio / Visual Annunciation Of Trouble	Notification Only	Audio / Visual Annunciation Of Alarm	Audio / Visual Annunciation Of Trouble	Transmit Alarm	Transmit Trouble
General	Manual Fire Alarm Box	X	X	X	X	X	X		X		X		
	Heat Detector	X	X	X	X	X	X		X		X		
	Smoke Detector	X	X	X	X	X	X		X		X		
	Duct Smoke Detector		X	X	X	X	X		X		X		
	Carbon Monoxide Detector						X	X		X		X	
	FACP Troubles Per NFPA 72							X				X	
Sprinkler	Flow Switch	X	X	X	X	X	X		X		X		
	Tamper Switch							X		X		X	

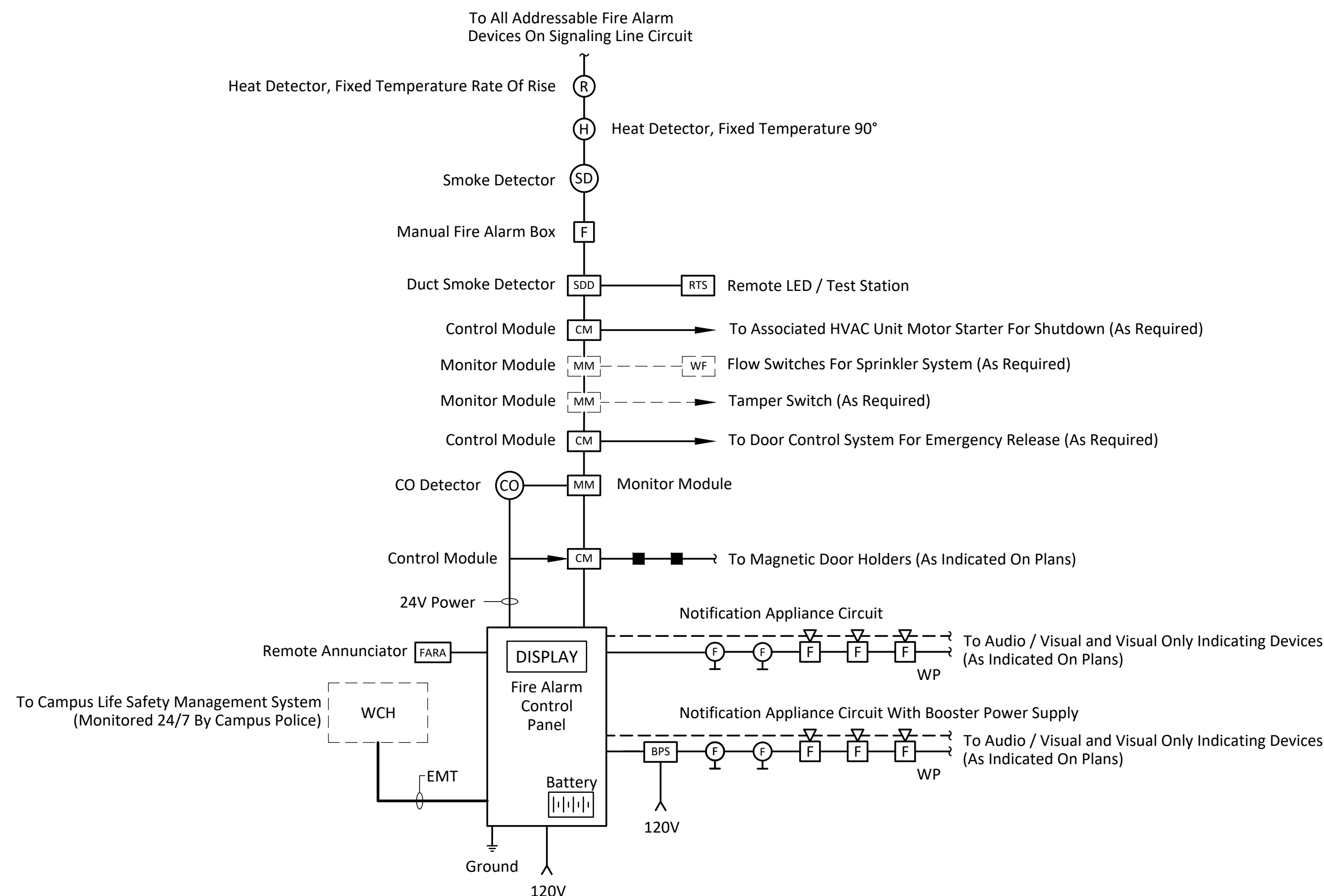
Notes:  
1. Confirm System Response With Current TCNJ Campus Life And Police Procedures.

RESPONSE MATRIX Scale: NTS Drawing: E200 Detail: 01



NOTES:  
1. Coordinate Position Installation Of EMT Into FACP Enclosure With Respect To Fiber Termination Connections In FACP Enclosure, And With TCNJ/IT  
2. Install 2" EMT From Fiber Enclosure To FACP Enclosure. Use LBS At Each 90-degree End Unless Swept Long-radius Bends Can Be Installed. No More Than (2) 90-degree Bends Are Permitted Before An Accessible Pulling Point Shall Be Furnished.  
3. Install Fiber Jumpers Between WCH And FACP.

FIRE ALARM FIBER ENCLOSURE INSTALLATION Scale: NTS Drawing: E200 Detail: 03



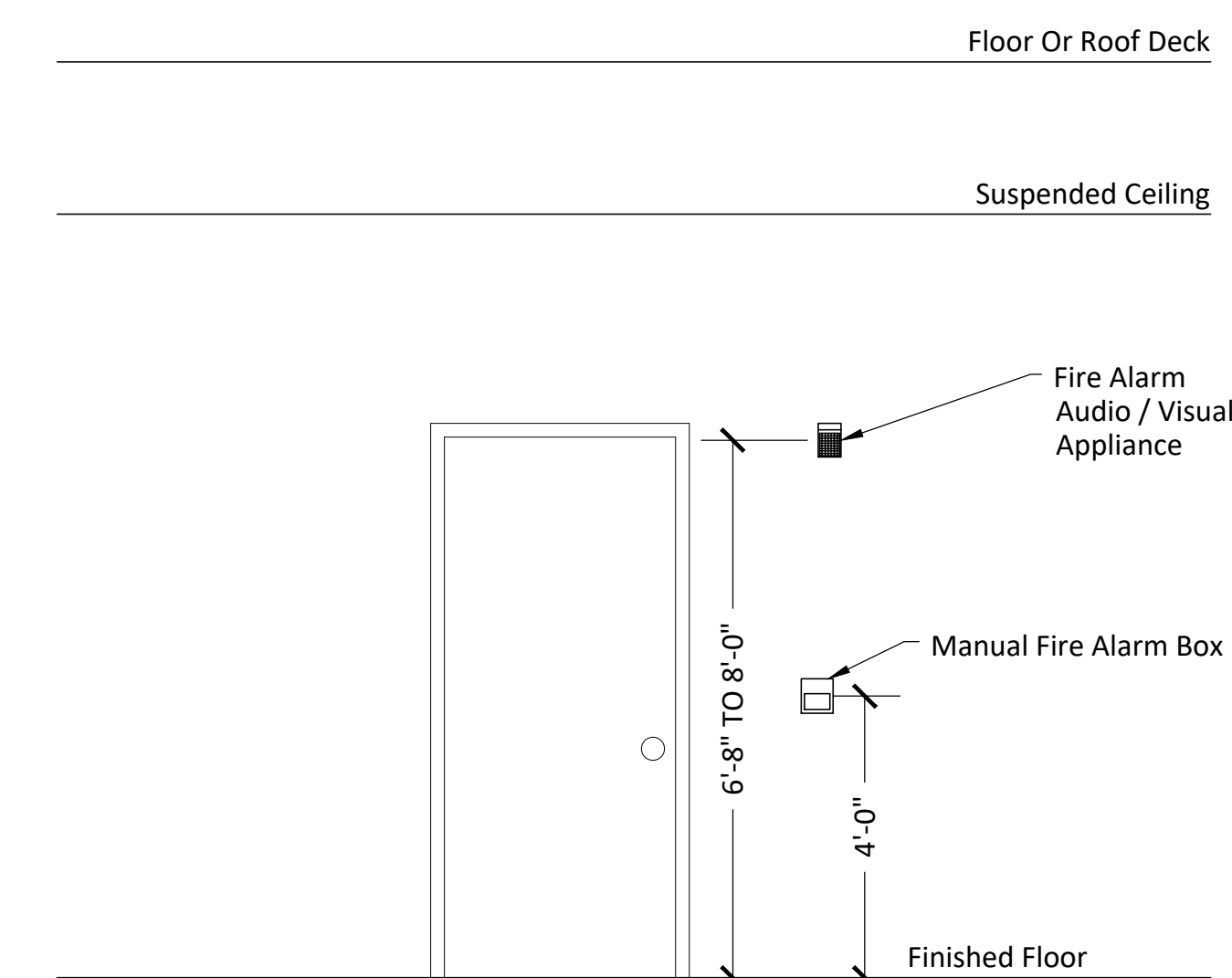
MARK	DESCRIPTION
FACP	FIRE ALARM CONTROL PANEL
FARA	REMOTE ANNUCIATOR
F	MANUAL FIRE ALARM BOX
FV	FIRE ALARM AUDIO / VISUAL DEVICE
FS	FIRE ALARM STROBE VISUAL DEVICE
H	HEAT DETECTOR - FIXED TEMPERATURE (194°)
R	HEAT DETECTOR - COMBINATION FIXED TEMPERATURE AND RATE OF RISE
SD	SMOKE DETECTOR
SDD	DUCT SMOKE DETECTOR
RTS	DUCT SMOKE DETECTOR REMOTE LED / TEST STATION
WF	SPRINKLER FLOW SWITCH
TS	SPRINKLER TAMPER SWITCH
CM	FIRE ALARM CONTROL MODULE
MM	FIRE ALARM MONITOR MODULE
BPS	NOTIFICATION APPLIANCE CIRCUIT BOOSTER POWER SUPPLY
---	POWER OR SIGNALING LINE CIRCUIT
WP	WEATHERPROOF

- NOTES:
- General
    - The Schematic Riser Diagram Is Intended As An Overview Of The Fire Alarm System Including The General Configuration And Type Of Devices Found Throughout The Building.
    - An Addressable Type, Fire Alarm System Shall Be Installed Throughout The Building. This System Shall Consist Of A Central Fire Alarm Control Panel (FACP), Detection Devices, And Notification Appliances.
    - The FACP Shall Connect The Campus Life Safety Management System.
  - Equipment
    - Refer To Floor Plan Drawings For Additional Provisions That Shall Be Provided.
    - Provide All Required Expansion Panels, PC Boards, Power Supplies, Batteries, Amplifiers, Branch Circuits, And NAC Signal Power Boosters, For A Complete And Operable Fire Alarm System.
    - Field Verify Exact Location, Quantity, And Voltage Of Duct Smoke Detectors.
    - Provide Remote LED Indicator / Test Station At Accessible Locations For RTU(s) Equipped With Duct Smoke Detector.
  - Wiring
    - The FACP Power Supply Shall Be Derived From A Dedicated, Lockable Electrical Circuit (Colored Red) As Well As An Internal Battery Sized To Provide 15 Minutes Of Alarm Condition After 24 Hours Of Operation Without Normal Power And Include 20% Additional Spare Capacity.
    - The FACP Ground Shall Consist Of An #8 AWG Conductor In 3/4" Conduit From The Fire Alarm Control Panel (FACP) To The Building's Grounding Electrode System. Bond To Metallic Conduit On Both Ends With Listed Hardware.
    - The Fire Alarm System's Wiring Method Shall Be Class A Rated Between Panels (Where Applicable) And Class B Rated For Detection Devices And Notification Appliances.
    - Each Notification Appliance Circuit Shall Contain A Minimum Of 30% Spare Capacity. Provide Fire Alarm Panel With Hardware For Two (2) Spare Circuits.
  - Testing
    - Perform A Final Acceptance Test Of The Entire Fire Alarm System In Accordance With All Applicable Codes Including The International Building Code (IBC) And NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.

FIRE ALARM RISER Scale: NTS Drawing: E200 Detail: 02

TYPICAL FIRE ALARM DEVICE MOUNTING HEIGHT Scale: NTS Drawing: E200 Detail: 04

SYMBOLS LEGEND	
Plan View	Detail View



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project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARES & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
SCHEDULES AND DETAILS  
MAINTENANCE BUILDING

dwg. no.  
**E200-MNT**

scale: NTS  
drawn by: HF  
checked by: AL  
date: 5/03/2020

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ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/03/2020	ISSUED FOR BID			

**FIRE ALARM PHOTOS**



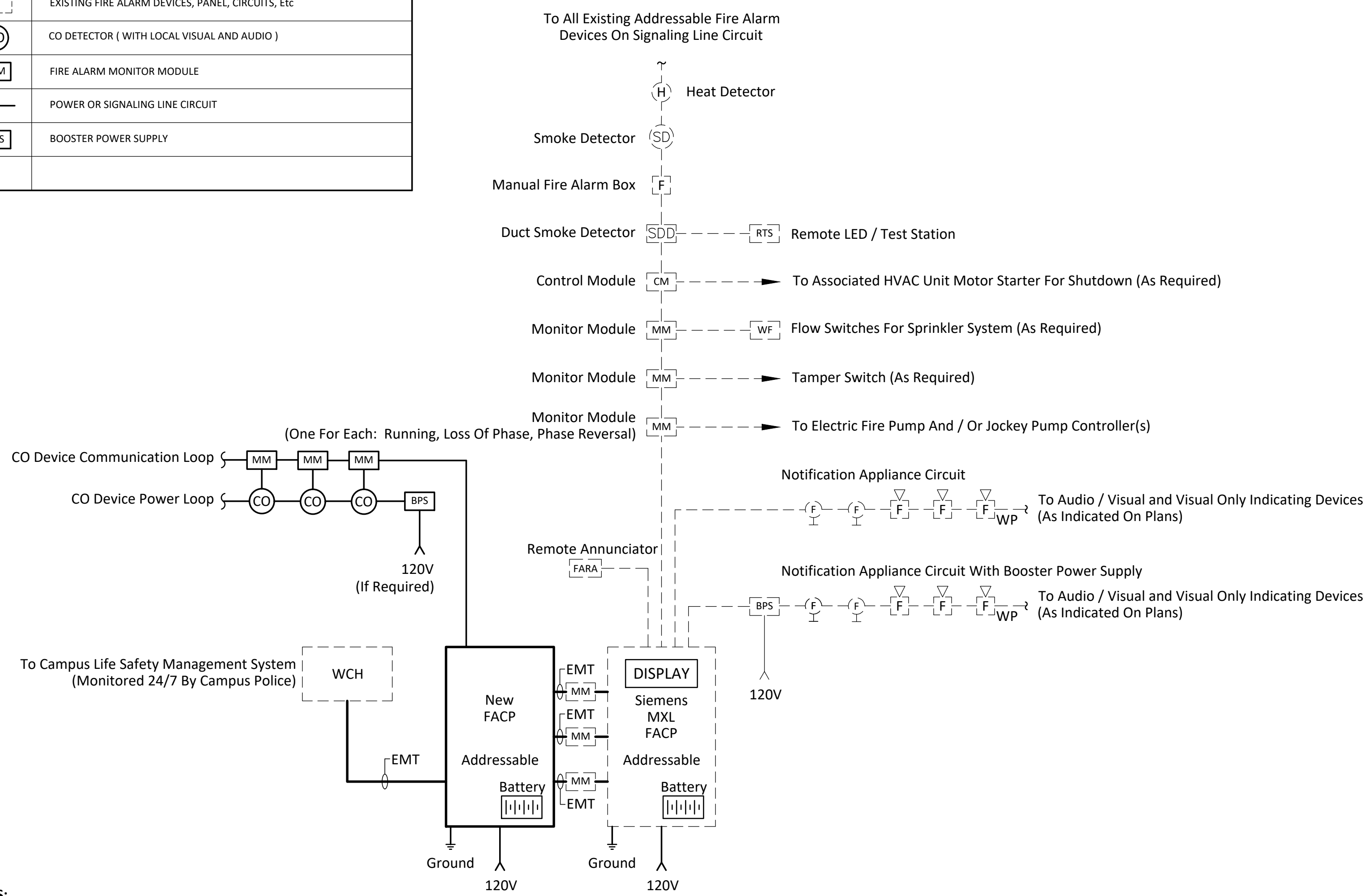
**PHOTO A - SIEMENS FIRE ALARM CONTROL PANEL**  
Existing Siemens MXL Addressable Fire Alarm Control Panel With Exposed Conduit Located Within Lower Level Mechanical Room



**SIEMENS FIRE ALARM DEVICES**  
Existing Siemens Addressable Fire Alarm Devices Located Throughout The Building

**FIRE ALARM SCHEDULE**

MARK	DESCRIPTION
---	EXISTING FIRE ALARM DEVICES, PANEL, CIRCUITS, ETC.
CO	CO DETECTOR ( WITH LOCAL VISUAL AND AUDIO )
MM	FIRE ALARM MONITOR MODULE
---	POWER OR SIGNALING LINE CIRCUIT
BPS	BOOSTER POWER SUPPLY



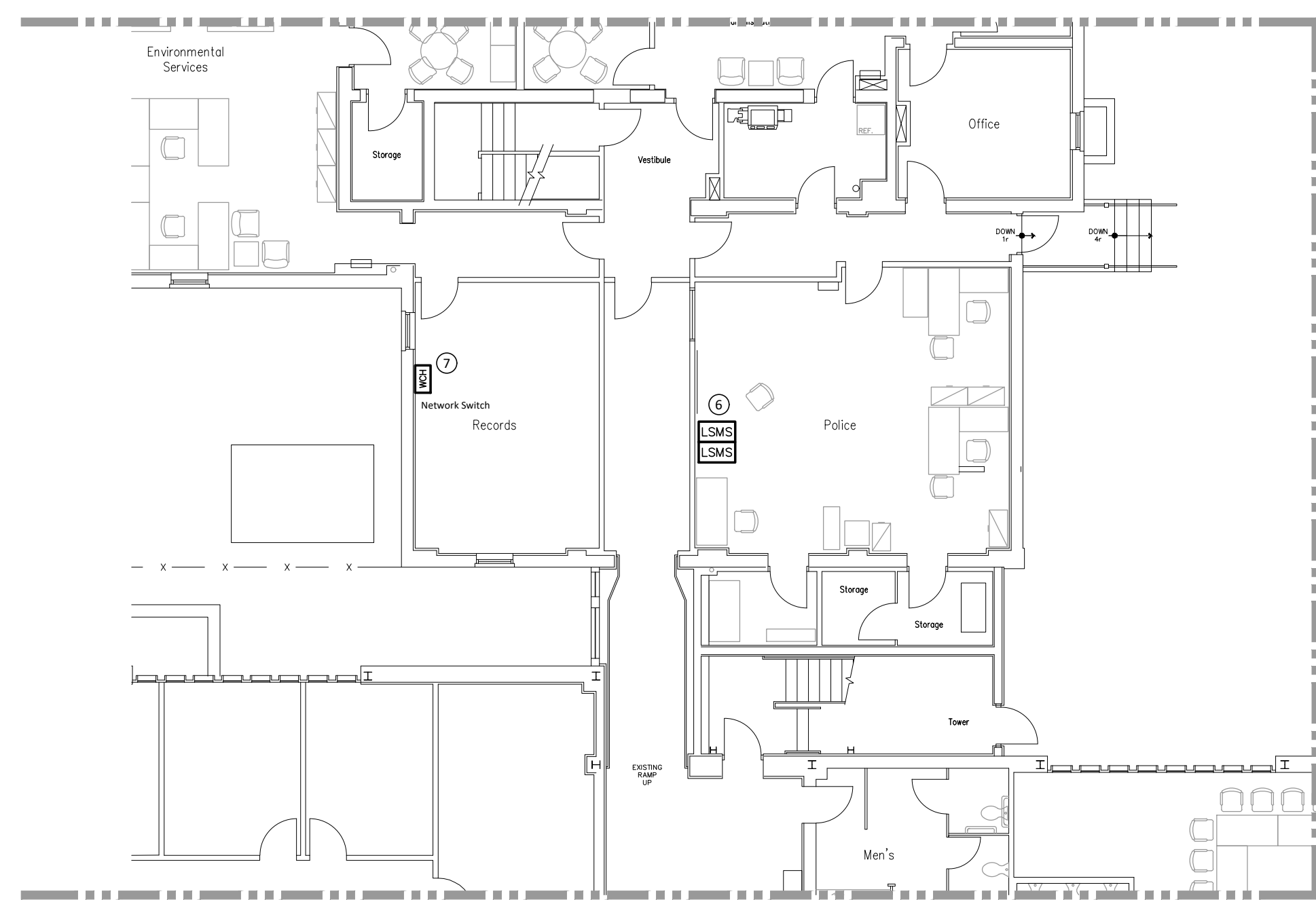
- NOTES:**
- General
    - The Riser Above Depicts A "Honeywell" Basis Of Design With A New Honeywell FACP. All Existing Siemens End Devices Would Not Be Compatible With The New FACP.
      - Install New FACP With Capacity Noted Below.
      - New Honeywell FACP Would Monitor Existing Siemens FACP For Alarm, Tamper, Trouble, And Other Points That Are Currently Monitored By The Front End At A Minimum.
      - This Building Would NOT Be Considered A Fully Addressable Building.
    - The Schematic Riser Diagram Is Intended As An Overview Of The Fire Alarm System Including The General Configuration And Type Of Devices Found Throughout The Building.
    - The FACP Shall Connect The Campus Life Safety Management System.
  - Equipment
    - The Administrative Services Building Is Currently Covered By Fire Notification And Detection / Initiation Devices From An Addressable Siemens MXL System.
    - Fire Alarm Fiber Jumper Is To Be Brought Into Wall Mounted Connector Housing In The Vicinity Of The FACP.
  - Wiring
    - The FACP Power Supply Shall Be Derived From A Dedicated, Lockable Electrical Circuit (Colored Red) As Well As An Internal Battery Sized To Provide 15 Minutes Of Alarm Condition After 24 Hours Of Operation Without Normal Power And Include 20% Additional Spare Capacity.
    - The FACP Ground Shall Consist Of An #8 AWG Conductor In 3/4" Conduit From The Fire Alarm Control Panel (FACP) To The Building's Grounding Electrode System. Bond To Metallic Conduit On Both Ends With Listed Hardware. See Sheet E102 For Location Of Main Electric Room.
    - The Fire Alarm System's Wiring Method Shall Be Class A Rated Between Panels (Where Applicable) And Class B Rated For Detection Devices And Notification Appliances.
    - The New FACP Shall Contain A Minimum Of 30% Spare Capacity Above The Total Amount Of Existing Devices Connected To The Existing FACP Provide Fire Alarm Panel With Hardware For Two (2) Spare Circuits.
    - Surge Protector To Be Provided For Each 120V Power Supply Circuit, Refer To Specifications For Further Information.
  - Testing
    - Perform A Final Acceptance Test Of The Entire Fire Alarm System In Accordance With All Applicable Codes Including The International Building Code (IBC) And NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.

**FIRE ALARM RISER** Scale: NTS Drawing: **E101** Detail: **01**

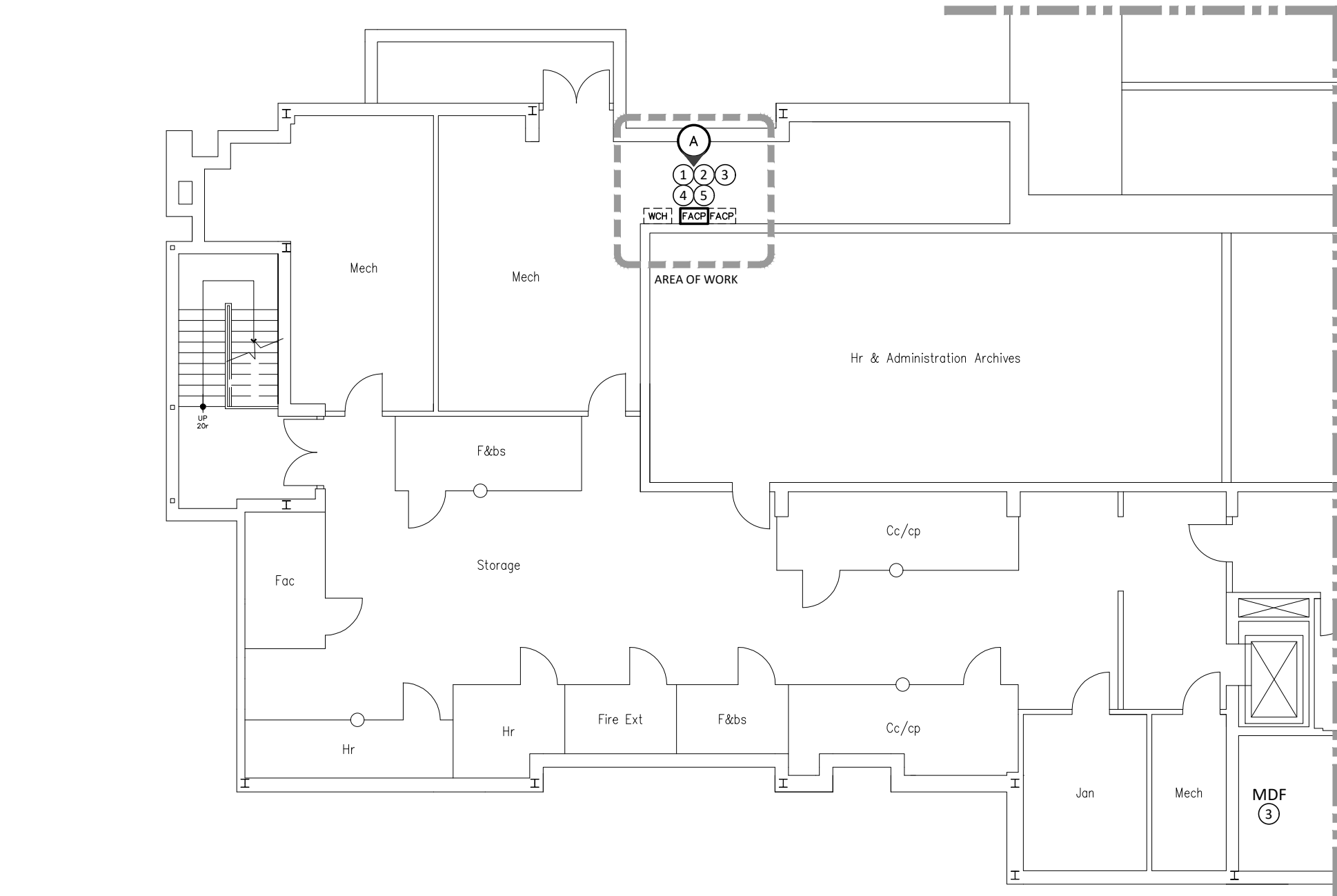
**NOTES:**

- Coordinate Position Installation Of EMT Into FACP Enclosure With Respect To Fiber Termination Connections In FACP Enclosure, And With TCNJ/IT
- Install 2" EMT From Fiber Enclosure To FACP Enclosure. Use LBs At Each 90-Degree End Unless Swept Long-Radius Bends Can Be Installed. No More Than (2) 90-degree Bends Are Permitted Before An Accessible Pulling Point Shall Be Furnished.
- Install Fiber Jumpers Between WCH And FACP.

**FIRE ALARM FIBER ENCLOSURE INSTALLATION** Scale: NTS Drawing: **E101** Detail: **02**



**PARTIAL FLOOR PLAN - LOWER LEVEL** Scale: 1/8"=1'-0" Drawing: **E101** Detail: **04**



**PARTIAL FLOOR PLAN - LOWER LEVEL** Scale: 1/8"=1'-0" Drawing: **E101** Detail: **04**

**KEY NOTES (SYMBOLS ①, ②, ETC.)**

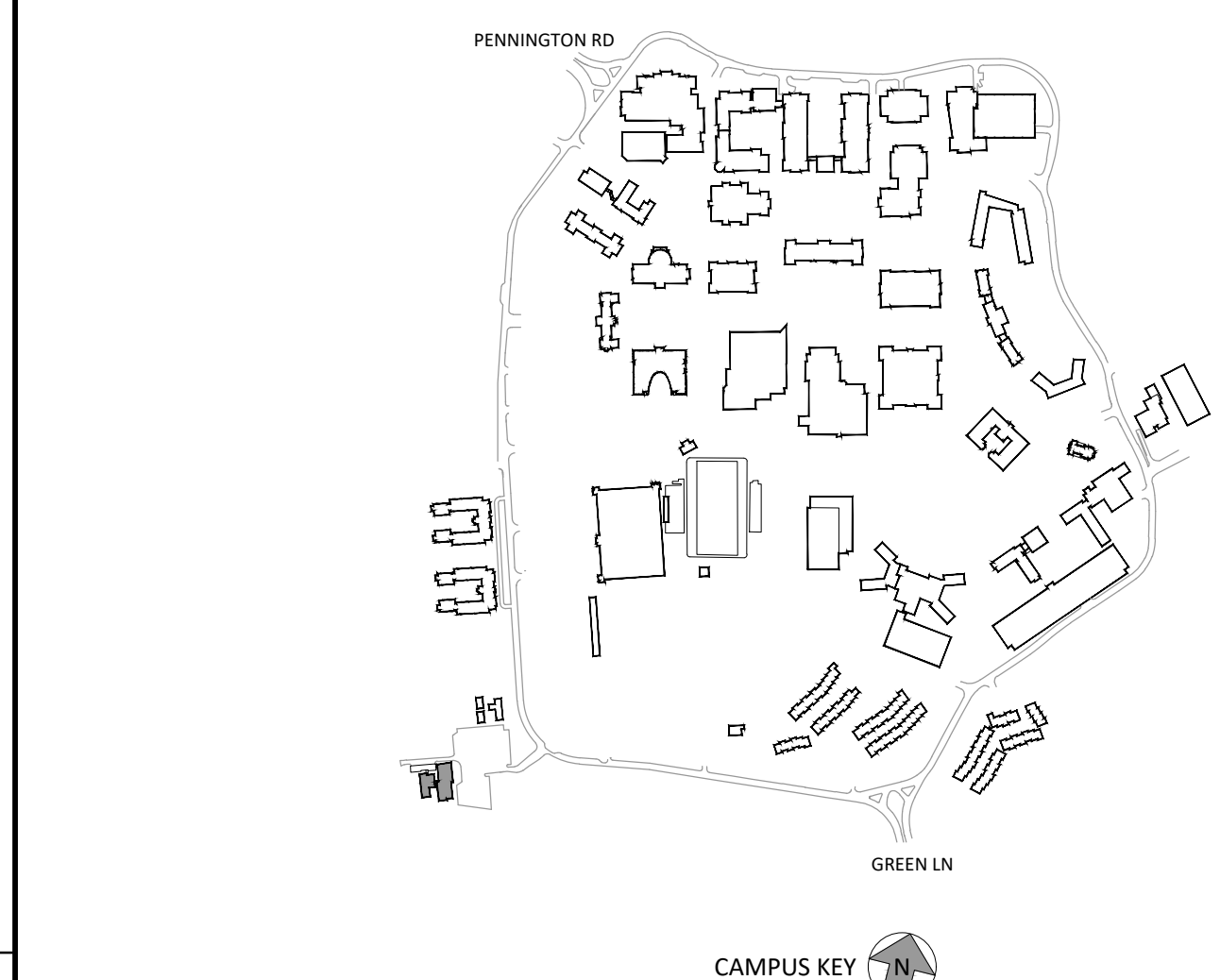
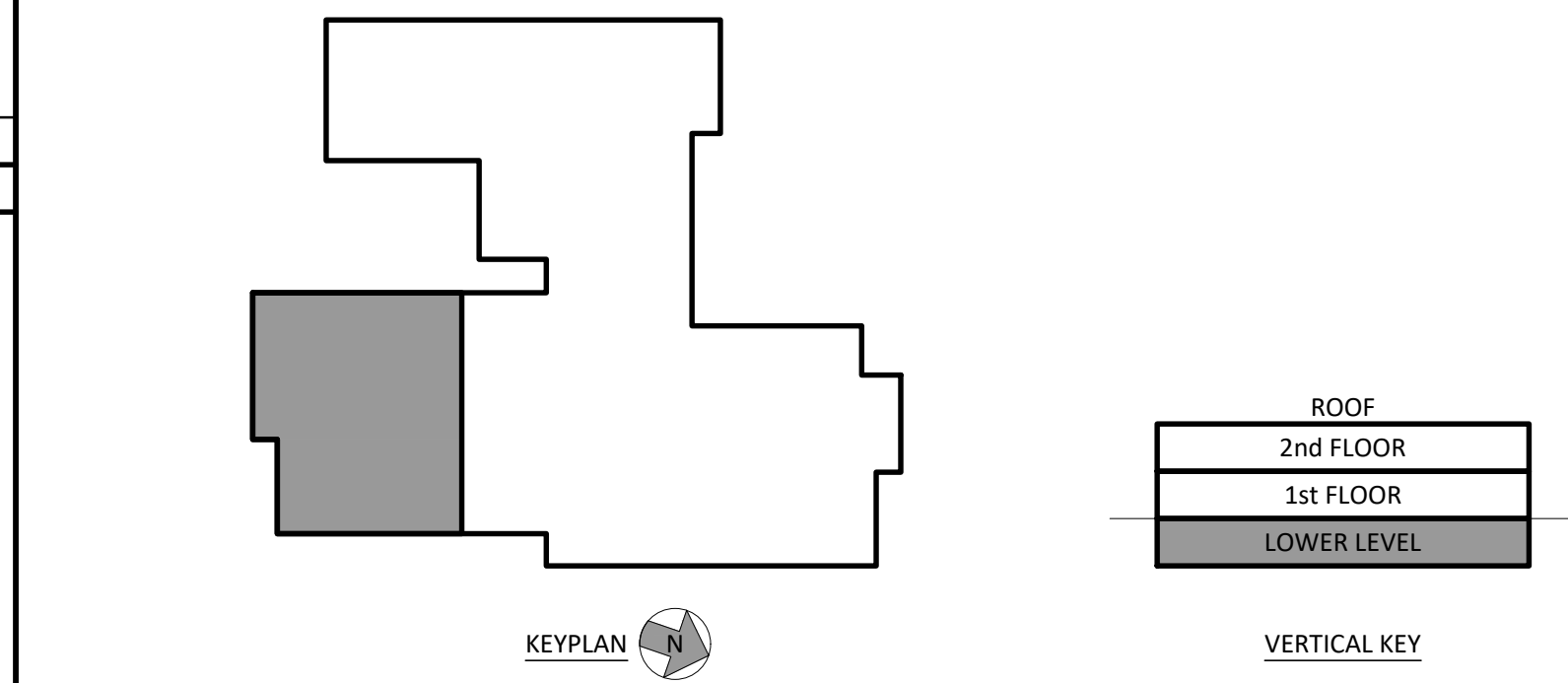
- Provide A New Fire Alarm Panel, Or Replace Existing Fire Alarm Panel, Or Replace Existing Fire Alarm System To Enable Addressable Communication With The New Campus Front End. To Count As One Of The Fully Addressable Buildings, Each Device Point Must Be Communicated To The Front End System.
- Provide UL Listed Alarm System Loop Circuit Surge Protection For Each 24V Alarm System Loop Circuits In A Field-Replaceable Module. Includes Hardwired Mounting Base For Each Module.
- Provide Two Duplex Fiber Jumper Cables Pre-terminated On Both Ends, Between The Existing WCH And Fire Alarm Control Panel As Per Detail 2. Also Provide Duplex Fiber Jumper Cables Pre-terminated On Both Ends At The MDF Between Required Interconnection Points. Contractor Shall Coordinate And Confirm Jumper Connection Types, Fiber Type, Length, Routing Conditions, Etc With Field Conditions. Coordinate With TCNJ IT Department For Fiber Connection And Labeling Information.
- Provide Branch Circuit For The New Fire Alarm Panel From Existing Electrical Panel In Electric Room That Currently Supplies The Existing Fire Alarm Panel. Utilize 2#12, #12G In 3/4" Conduit And Provide New 20Amp Circuit Breaker (Red And Clearly Identify FACP Circuit). Match Existing Type/Ratings For Circuit Breaker.
- Provide New CO Devices Connected To New Panel. See Sheet E102 For Approximate Location.
- Two (2) New Life Safety Management System Front End Workstation To Be Provided In Police Area Location And CAbing To connect To LSMS Network. See Specifications And Cable Infrastructure Package A Set For Additional Details.
- Provide New Fire Alarm Network Switch And Fiber Patch Cords As Required For New Life Safety Management System Network Architecture. Coordinate With TCNJ IT Department For Connection Of Switch To Fiber Network.

**GENERAL NOTES**

- The Fire Alarm Plan Shows The General Layout And Intent Of The Fire Alarm System. It Does Not Necessarily Reflect Exact Quantities Required By Code. The Contractor Shall Determine The Actual Quantity And Location Of Devices Required Based Upon Actual Field Conditions Required As Per NFPA 72.
- The Fire Alarm System Shall Comply With NFPA 72 And All Local Codes And Amendments. Provide Installation Testing Per NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.
- Fire Alarm Cabling That Cannot Be Concealed Shall Be Neatly Surface Mounted Utilizing Wire Mold In Finished Areas Or EMT In Non-Finished Areas. All Exposed EMT Shall Be Prepped And Painted To Match Adjacent Wall Surface.
- Panel Board Circuit Breaker Supplying Fire Alarm Control Panel And Associated Equipment Shall Have A Handle "Lock On" Device.
- When Replacing An Existing FACP It Is The Contractors Responsibility To Transfer All Systems That Are Currently Reporting To The Existing Panel. There Are Certain Panels That Monitor Accessory Systems Such As Security, Fire Shutters Clean Agent Systems, CO Detectors, Access Control Etc. Contractor Shall Survey The Buildings And Include All Accessory Systems And Intermediary Devices Required To Integrate Said Systems On Their Shop Drawings.
- CO Detectors To Provide Local Audio Visual And Supervisory At FACP And LSMS Control Station.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
FACP	Fire Alarm Control Panel	□	New Equipment
WCH	Existing Wall-Mounted Connector Housing	□	Existing Equipment
FACP	Existing Fire Alarm Control Panel	⊙	Photo Tag
		→	Connect To Existing



**FIRE ALARM PANEL REPLACEMENT PART B - HARDWARE & SOFTWARE UPGRADES ADMINISTRATIVE SERVICES BUILDING** dwg. no. **E101-ASB**

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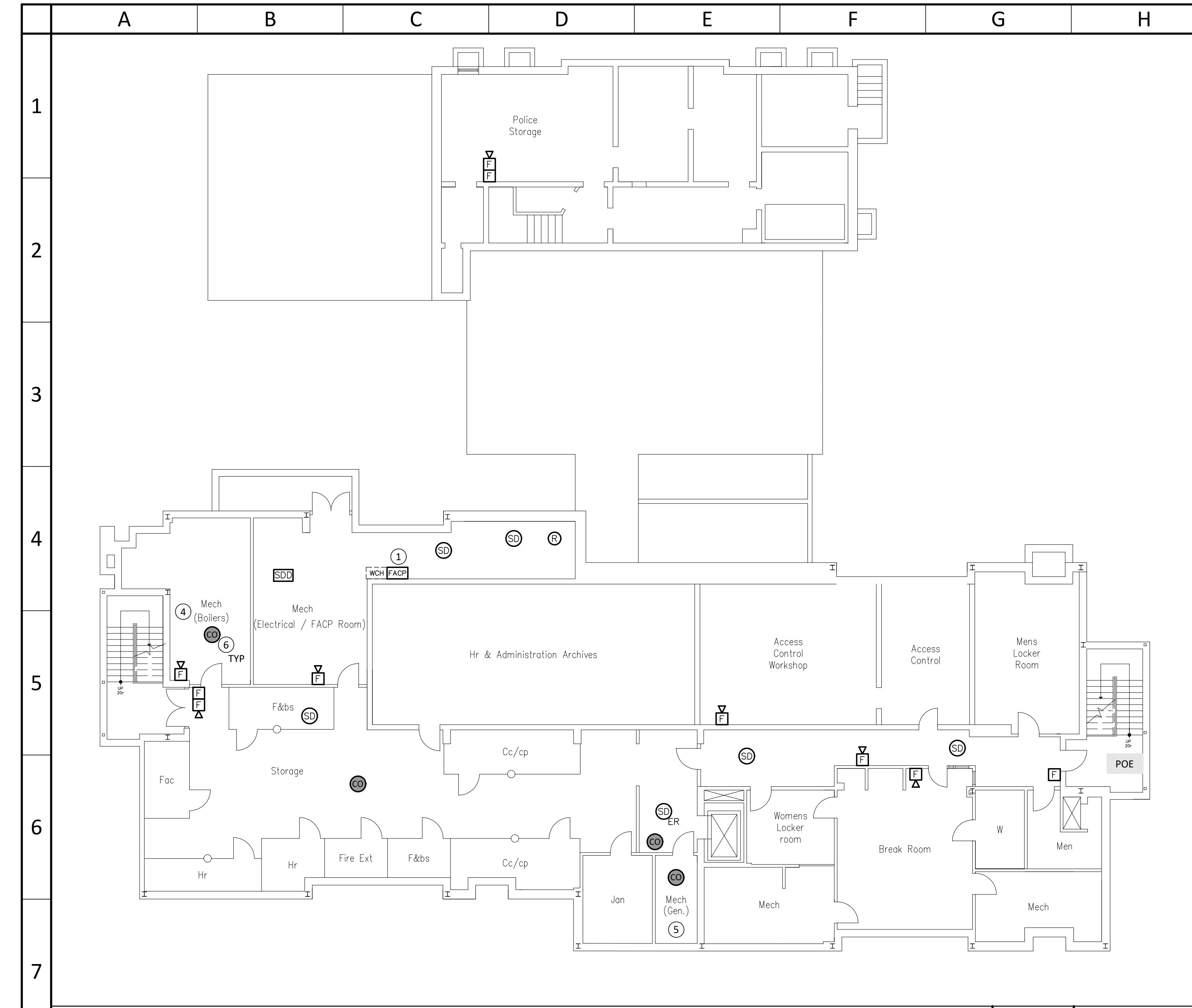
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ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

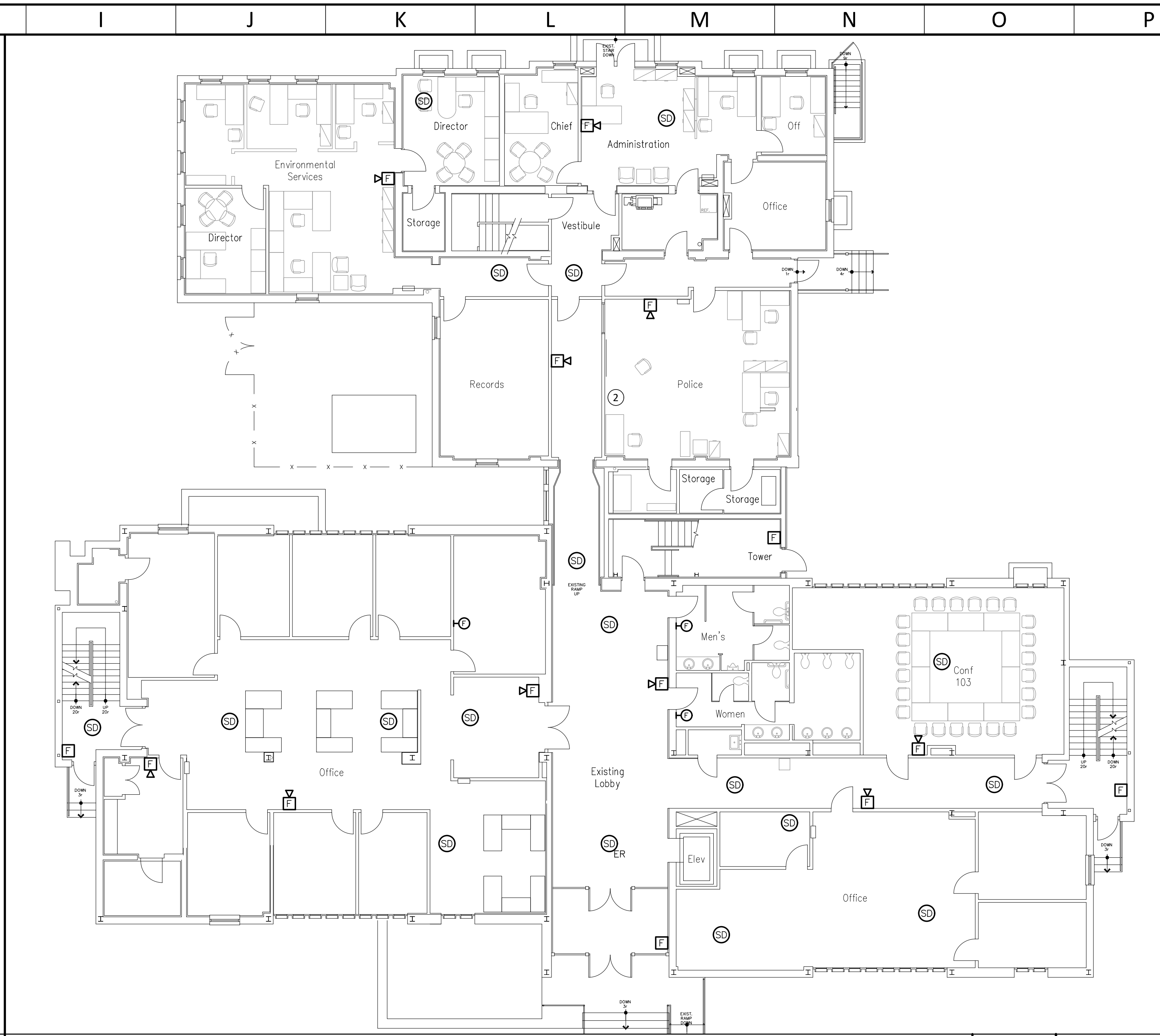
**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724  
Questions For DLB Call: Anthony Laskosky Phone: 732-927-5038

project  
**TCNJ - CAMPUS FIRE ALARM PROJECT PART B - HARDWARE & SOFTWARE UPGRADES**  
2000 PENNINGTON ROAD, EWING NJ, 08618

scale	drawn by	checked by	date
AS SHOWN	SC	SF	5/03/2020



**LOWER LEVEL LAYOUT** Scale: 3/32"=1'-0" Drawing: **E102** Detail: **01**



**FIRST FLOOR LAYOUT** Scale: 3/32"=1'-0" Drawing: **E102** Detail: **02**

**KEY NOTES (SYMBOLS ①, ②, ETC.)**

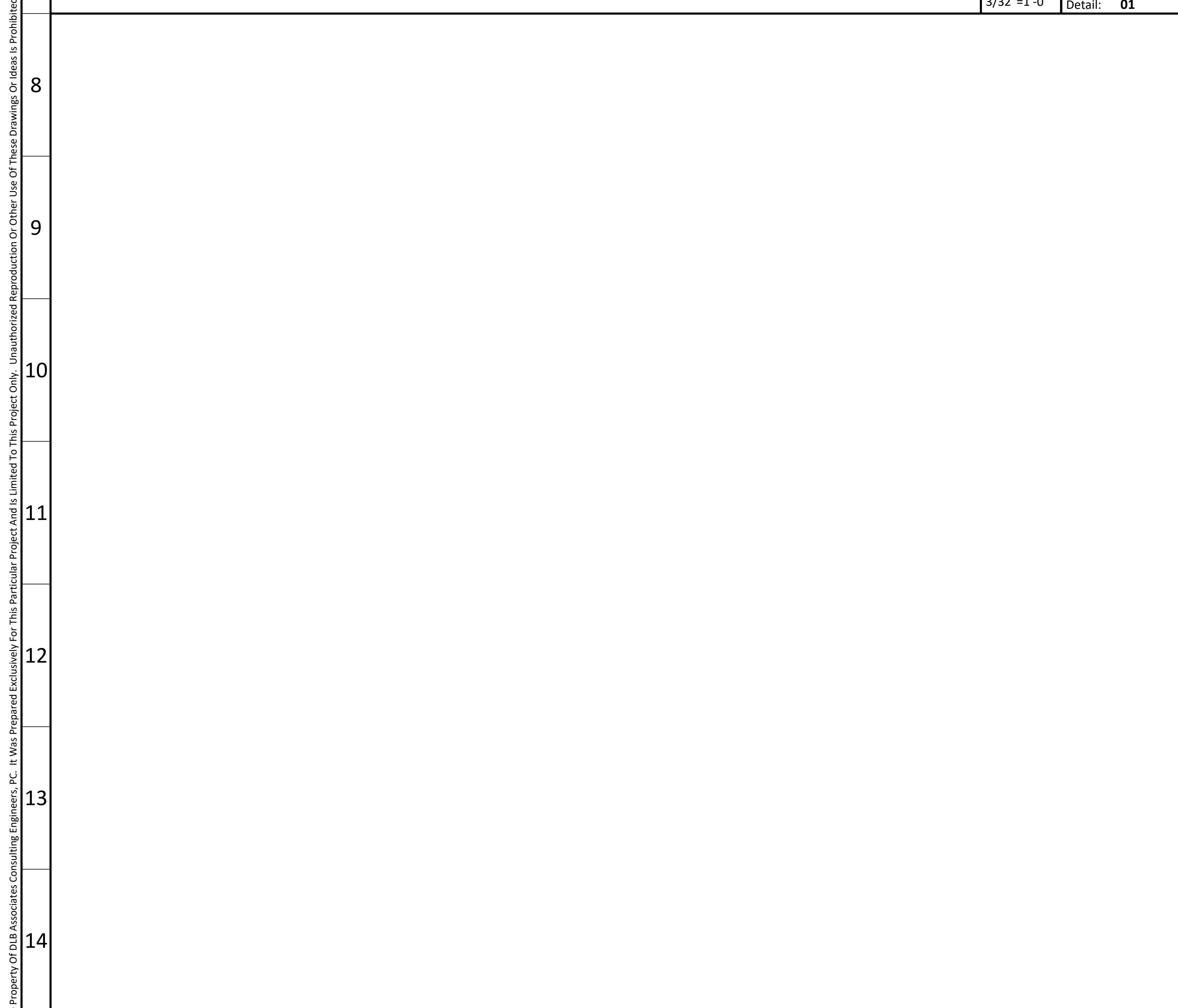
- Existing Fire Alarm Control Panel.
- Existing Front End Work Station.
- Not Used
- Gas Boiler.
- Gas Generator.
- New CO Detector.

**GENERAL NOTES**

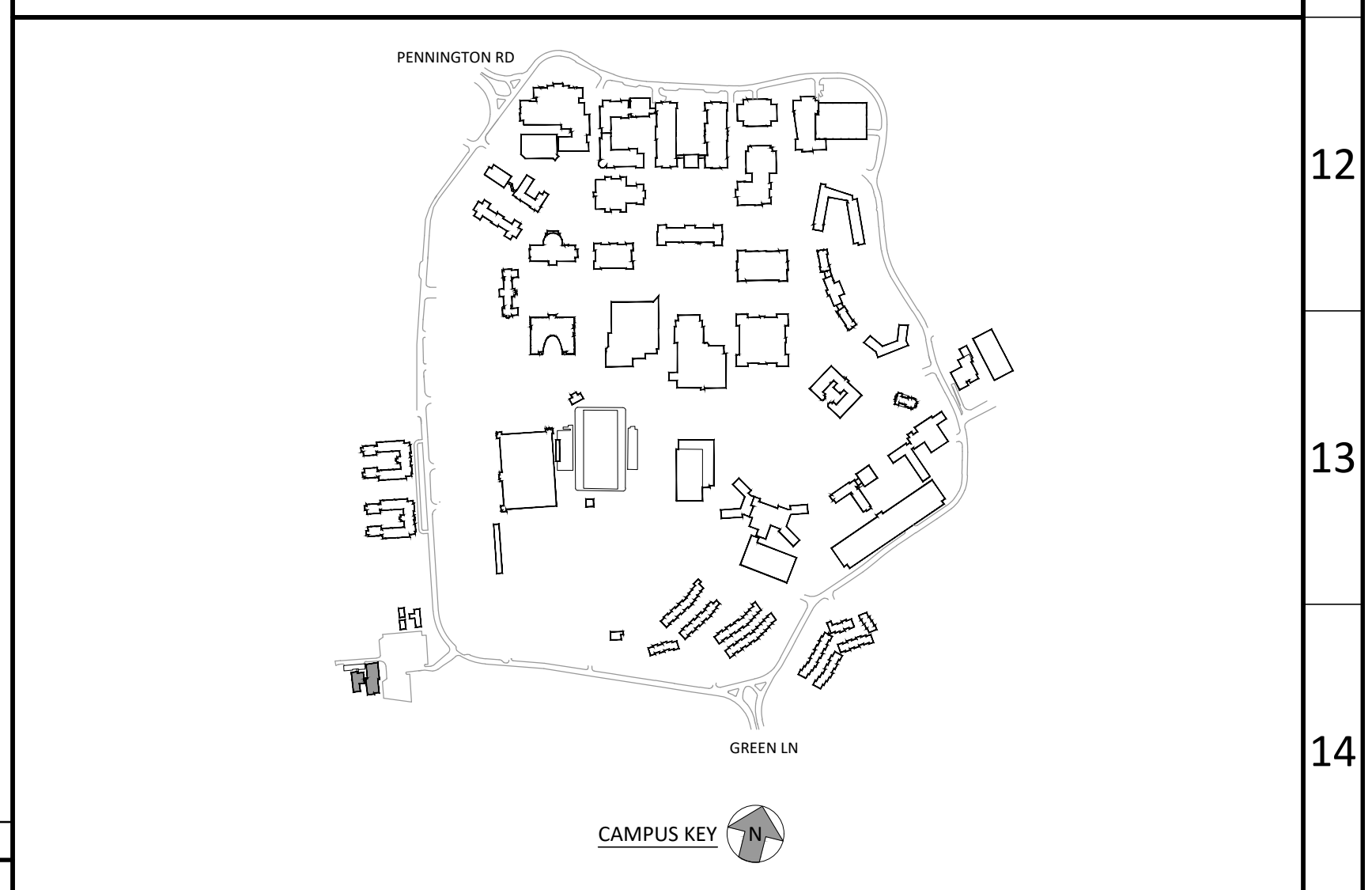
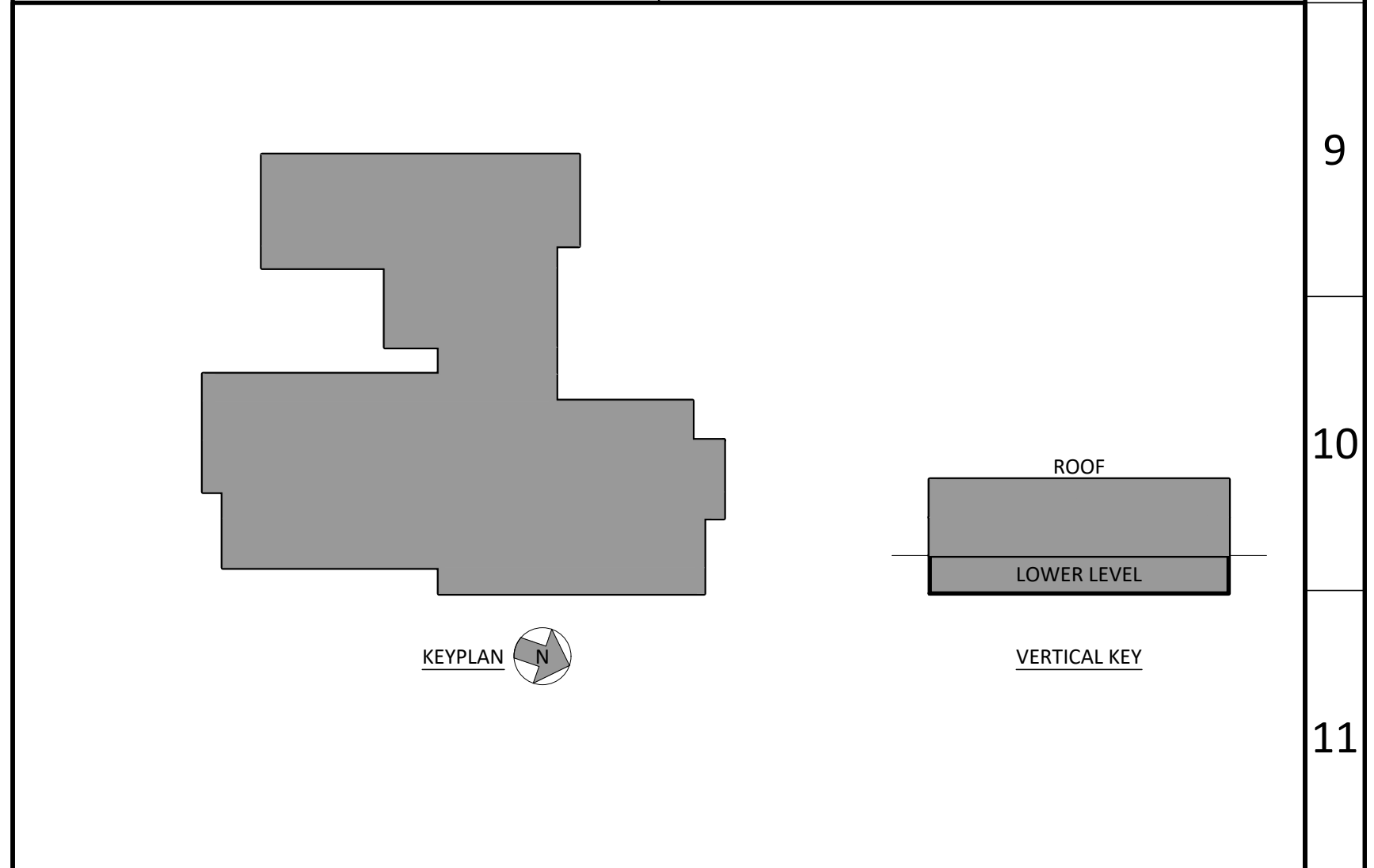
- This Drawing Is Provided For Reference Only And Includes Existing Fire Alarm Devices Noted During A Visual Walk Through To Provide An Understanding Of The Existing Level Of Detection Within Each Building. The Intent Of This Reference Drawing Is To Provide A Baseline Or Minimum Level Of Protection That Shall Be Maintained In Within The Building. It Is Not Intended To Depict The Requirements For A Complete System Replacement Or Layout Of New Devices For This Building.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
F	Manual Pull Station	□	No Access
Ⓢ	Strobe Only	Ⓢ	New Smoke Detector
F	Horn/Strobe	F	New Manual Pull Station
Ⓢ	Smoke Detector	Ⓢ	New Strobe
ⓈER	Smoke Detector (ER Indicates Elevator Recall)	Ⓢ	New Horn / Strobe
ⓈSB	Smoke Detector With Sounder Base	Ⓢ	New Carbon Monoxide Detector With Local Audio And Visual Notification.
Ⓢ	Heat Detector, Combination Fixed Temperature And Rate Of Rise	Ⓢ	Photo Location Indicator
Ⓢ	CO Detector	FACP	Fire Alarm Control Panel
SDC	Duct Mounted Smoke Detector	CO	Carbon Monoxide
FACP	Fire Alarm Control Panel	POE	Point Of Entry
FARA	Fire Alarm Remote Annunciator Panel		
FABP	Fire Alarm Booster Panel		
TS	Fire Sprinkler Tamper Switch		
FS	Fire Sprinkler Flow Switch		
WCH	Existing Wall Mounted Connector Housing		



**SECOND FLOOR LAYOUT** Scale: 3/32"=1'-0" Drawing: **E102** Detail: **03**



ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

Drawings Based On Visual Inspection Site Walk Through Completed During Nov 2017 - March 2018

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

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DLB Project ID: 47211 Phone: 732-927-5038

scale	drawn by	checked by	date
AS SHOWN	SC	SF	5/03/2020

title  
FIRE ALARM - EXISTING LAYOUT  
ADMINISTRATIVE SERVICES BUILDING  
dwg. no.  
**E102-ASB**

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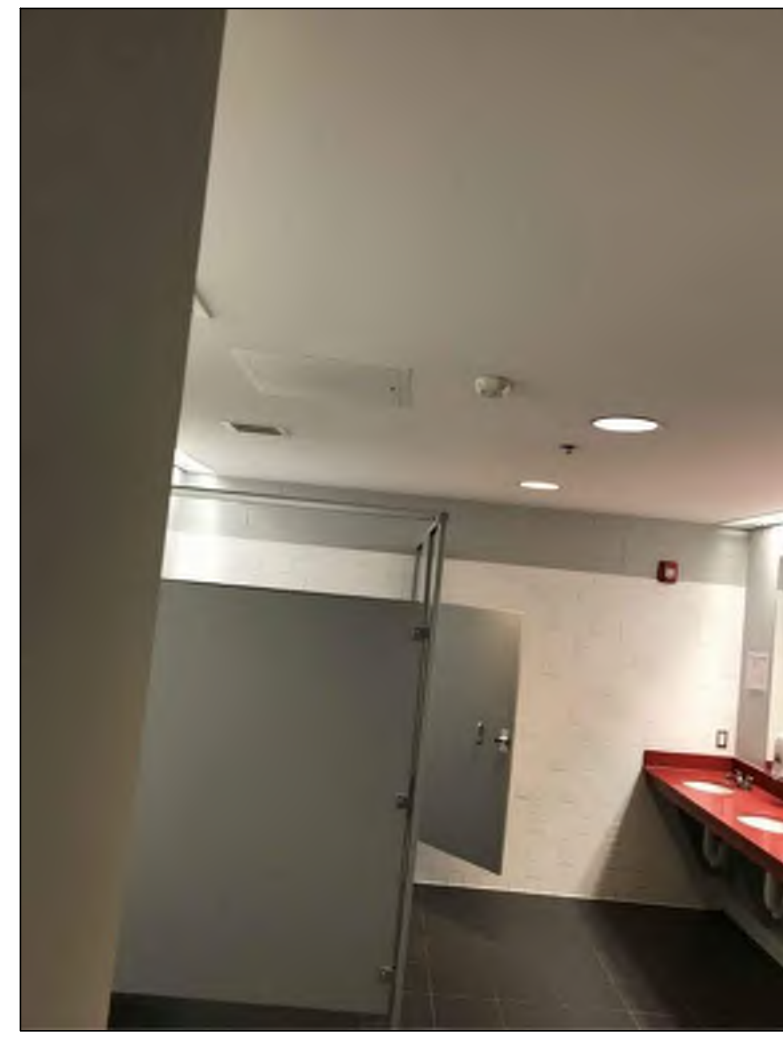
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**FIRE ALARM PHOTOS**



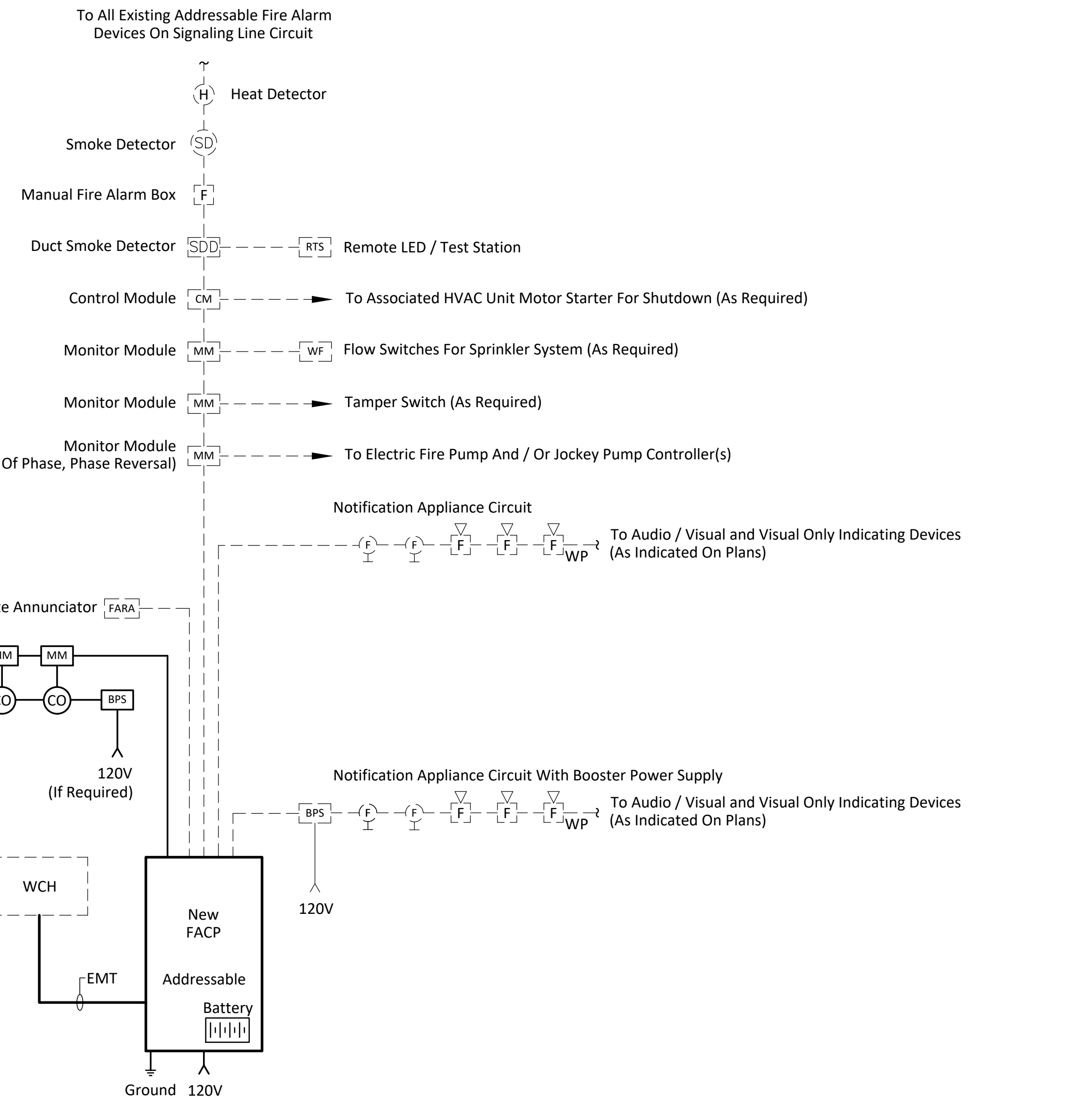
**PHOTO A - HONEYWELL FIRE ALARM CONTROL PANEL**  
Honeywell XLS1000 Addressable Fire Alarm Control Panel With Exposed Conduit Located Within Lower Level Electrical Room



**HONEYWELL FIRE ALARM DEVICES**  
Existing Honeywell Addressable Fire Alarm Devices Located Throughout The Building

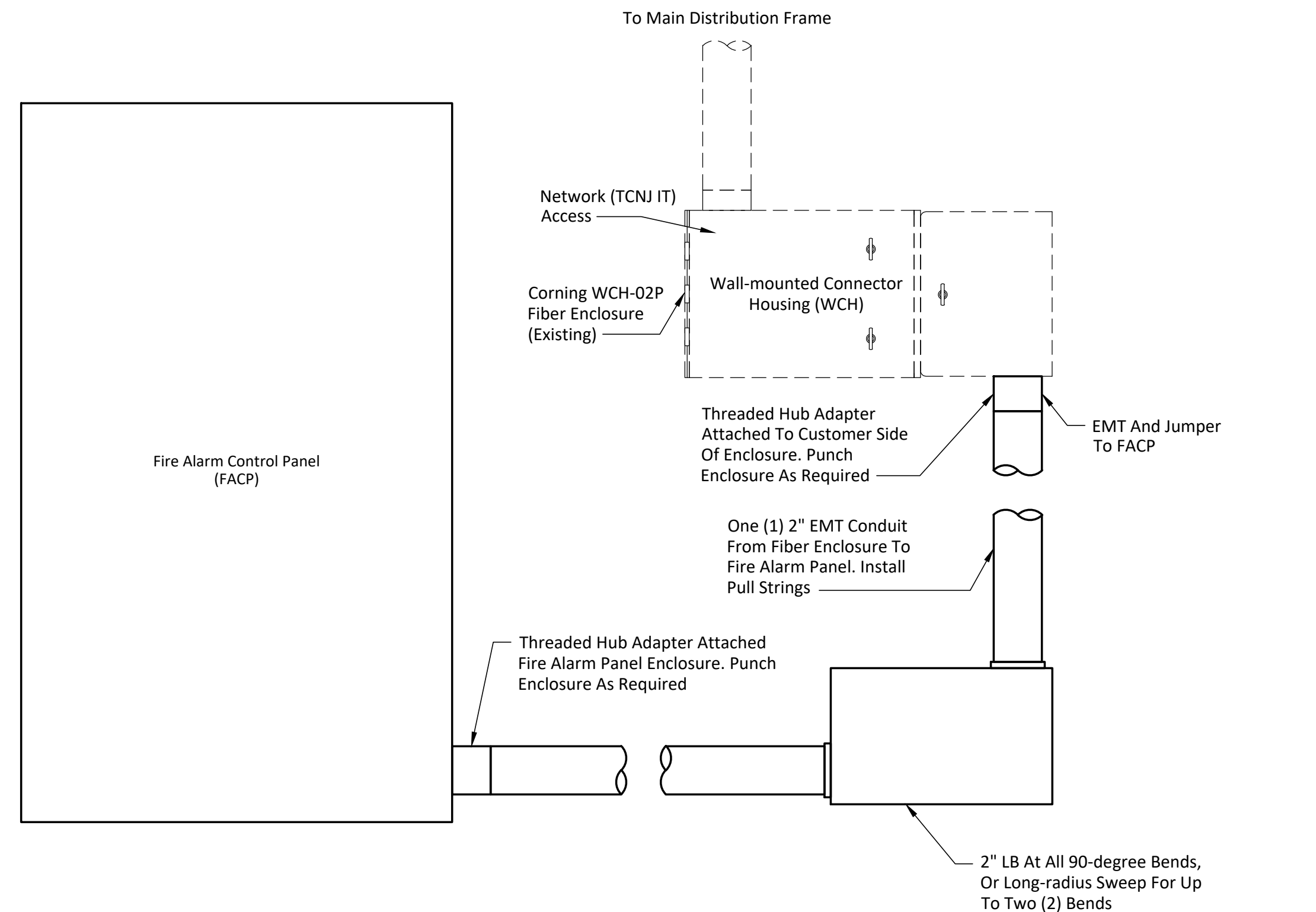
**FIRE ALARM SCHEDULE**

MARK	DESCRIPTION
⊠	EXISTING FIRE ALARM DEVICES, PANEL, CIRCUITS, ETC.
⊙	CO DETECTOR ( WITH LOCAL VISUAL AND AUDIO )
MM	FIRE ALARM MONITOR MODULE
—	POWER OR SIGNALING LINE CIRCUIT
BPS	BOOSTER POWER SUPPLY



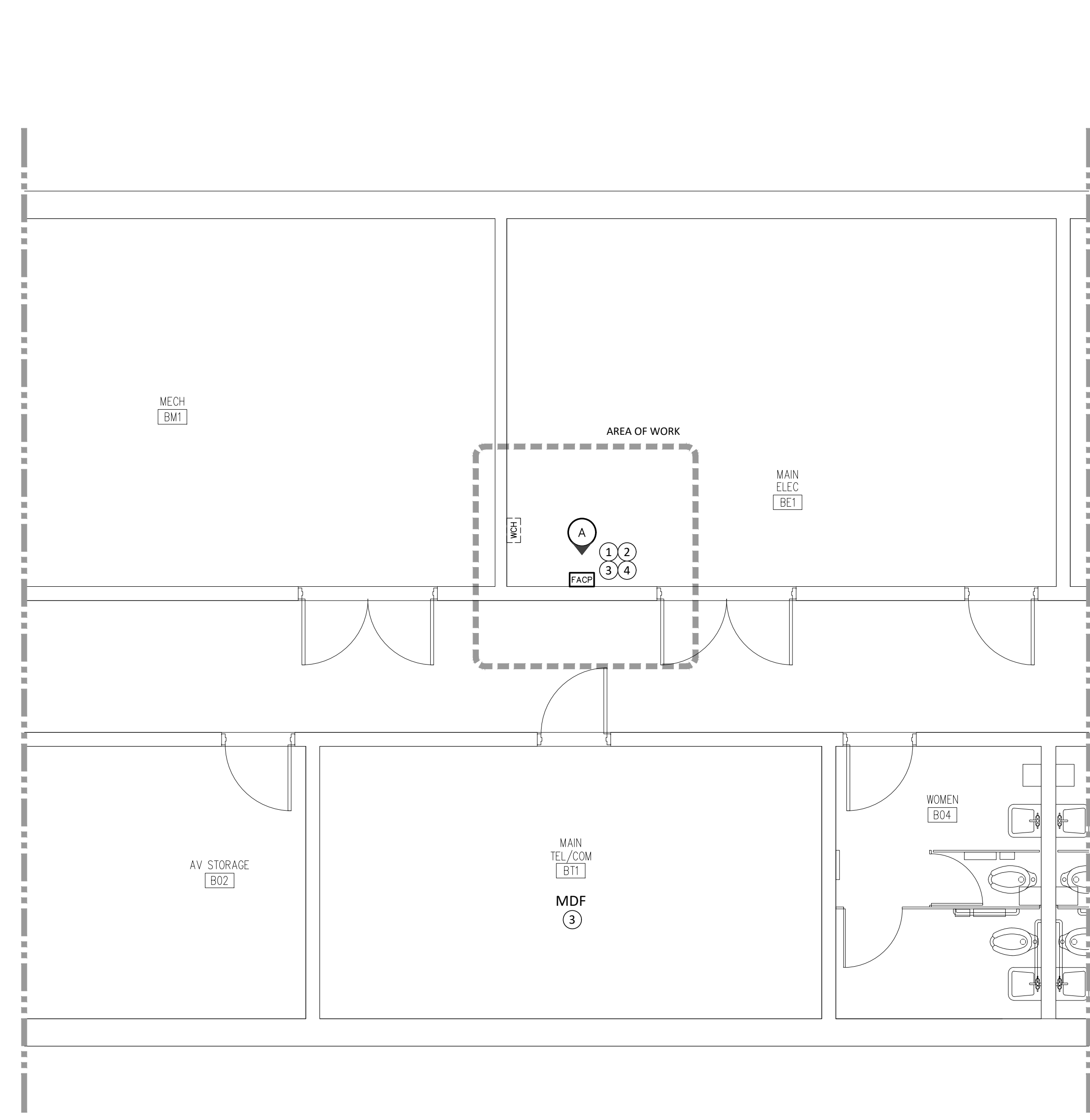
- NOTES:**
- General**
    - The Riser Above Depicts A "Honeywell" Basis of Design With A New Honeywell FACP. All Existing Honeywell End Devices Would Be Compatible With The New FACP.
      - Install New FACP With Capacity Noted Below.
      - New Honeywell FACP Would Communicate The Point Identification Of Each Device To The New Front End.
      - This Building Would Be Considered A Fully Addressable Building.
    - The Schematic Riser Diagram Is Intended As An Overview Of The Fire Alarm System Including The General Configuration And Type Of Devices Found Throughout The Building.
    - The FACP Shall Connect The Campus Life Safety Management System.
  - Equipment**
    - The AIMM Building Is Currently Covered By Fire Notification And Detection / Initiation Devices From An Addressable Honeywell XLS 1000 System.
    - Fire Alarm Fiber Jumper Is To Be Brought Into Wall Mounted Connector Housing In The Vicinity Of The FACP.
  - Wiring**
    - The FACP Power Supply Shall Be Derived From A Dedicated, Lockable Electrical Circuit (Colored Red) As Well As An Internal Battery Sized To Provide 15 Minutes Of Alarm Condition After 24 Hours Of Operation Without Normal Power And Include 20% Additional Spare Capacity.
    - The FACP Ground Shall Consist Of An #8 AWG Conductor In 3/4" Conduit From The Fire Alarm Control Panel (FACP) To The Building's Grounding Electrode System. Bond To Metallic Conduit On Both Ends With Listed Hardware. See Sheet E102 For Location Of Main Electric Room.
    - The Fire Alarm System's Wiring Method Shall Be Class A Rated Between Panels (Where Applicable) And Class B Rated For Detection Devices And Notification Appliances.
    - The New FACP Shall Contain A Minimum Of 30% Spare Capacity Above The Total Amount Of Existing Devices Connected To The Existing FACP Provide Fire Alarm Panel With Hardware For Two (2) Spare Circuits.
    - Surge Protector To Be Provided For Each 120V Power Supply Circuit, Refer To Specifications For Further Information.
  - Testing**
    - Perform A Final Acceptance Test Of The Entire Fire Alarm System In Accordance With All Applicable Codes Including The International Building Code (IBC) And NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.

**FIRE ALARM RISER** Scale: NTS Drawing: **E101** Detail: **01**



- NOTES:**
- Coordinate Position Installation Of EMT Into FACP Enclosure With Respect To Fiber Termination Connections In FACP Enclosure, And With TCNJ/IT
  - Install 2" EMT From Fiber Enclosure To FACP Enclosure. Use LBs At Each 90-Degree End Unless Swept Long-Radius Bends Can Be Installed. No More Than (2) 90-degree Bends Are Permitted Before An Accessible Pulling Point Shall Be Furnished.
  - Install Fiber Jumpers Between WCH And FACP.

**FIRE ALARM FIBER ENCLOSURE INSTALLATION** Scale: NTS Drawing: **E101** Detail: **02**



**PARTIAL FLOOR PLAN - LOWER LEVEL** Scale: 1/4"=1'-0" Drawing: **E101** Detail: **03**

**KEY NOTES (SYMBOLS ①, ②, ETC.)**

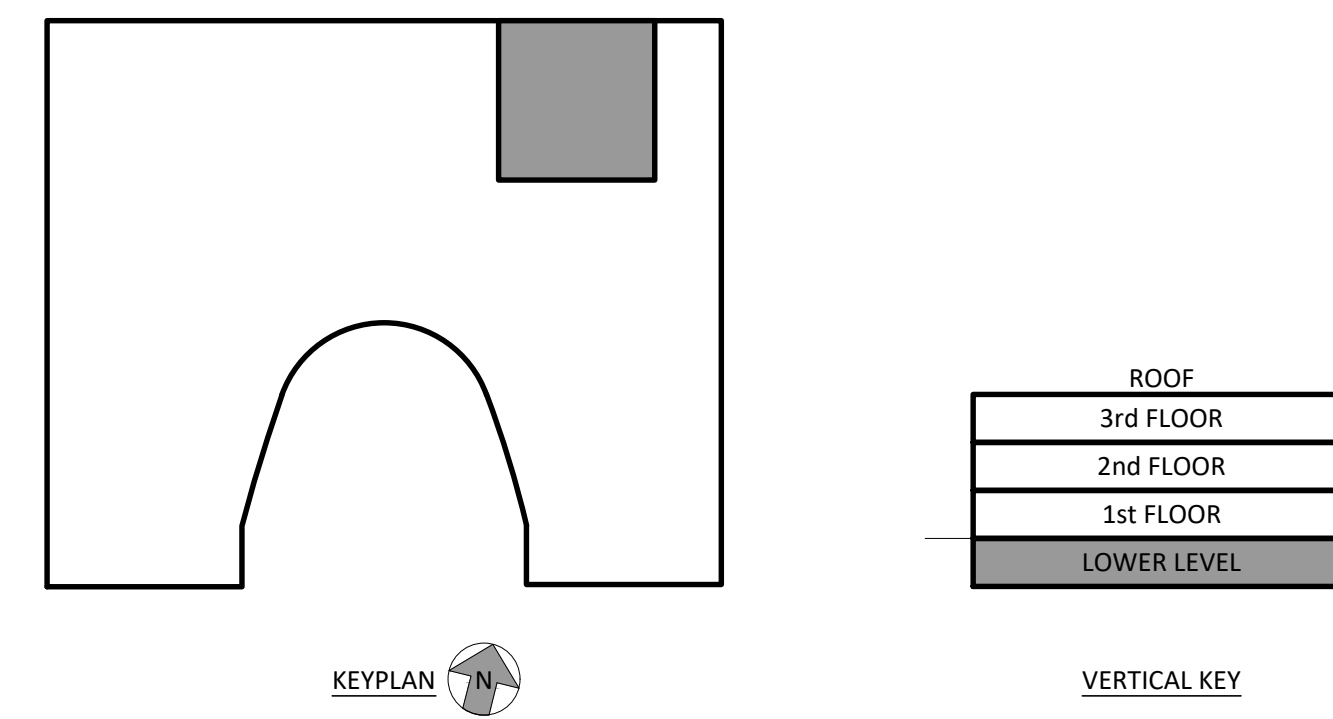
- Provide A New Fire Alarm Panel, Or Replace Existing Fire Alarm Panel, Or Replace Existing Fire Alarm System To Enable Addressable Communication With The New Campus Front End. To Count As One Of The Fully Addressable Buildings, Each Device Point Must Be Communicated To The Front End System.
- Provide UL Listed Alarm System Loop Circuit Surge Protection For Each 24V Alarm System Loop Circuits In A Field-Replaceable Module. Includes Hardwired Mounting Base For Each Module.
- Provide Two Duplex Fiber Jumper Cables Pre-terminated On Both Ends, Between The Existing WCH And Fire Alarm Control Panel As Per Detail 2. Also Provide Duplex Fiber Jumper Cables Pre-terminated On Both Ends At The MDF Between Required Interconnection Points. Contractor Shall Coordinate And Confirm Jumper Connection Types, Fiber Type, Length, Routing Conditions, Etc With Field Conditions. Coordinate With TCNJ IT Department For Fiber Connection And Labeling Information.
- Provide Branch Circuit For The New Fire Alarm Panel From Existing Electrical Panel In Electric Room That Currently Supplies The Existing Fire Alarm Panel. Utilize 2#12, #12G In 3/4" Conduit And Provide New 20Amp Circuit Breaker (Red And Clearly Identify FACP Circuit). Match Existing Type/Ratings For Circuit Breaker.
- Provide New CO Devices Connected To New Panel. See Sheet E102 For Approximate Location.

**GENERAL NOTES**

- The Fire Alarm Plan Shows The General Layout And Intent Of The Fire Alarm System. It Does Not Necessarily Reflect Exact Quantities Required By Code. The Contractor Shall Determine The Actual Quantity And Location Of Devices Required Based Upon Actual Field Conditions Required As Per NFPA 72.
- The Fire Alarm System Shall Comply With NFPA 72 And All Local Codes And Amendments. Provide Installation Testing Per NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.
- Fire Alarm Cabling That Cannot Be Concealed Shall Be Neatly Surface Mounted Utilizing Wire Mold In Finished Areas Or EMT In Non-Finished Areas. All Exposed EMT Shall Be Prepped And Painted To Match Adjacent Wall Surface.
- Panel Board Circuit Breaker Supplying Fire Alarm Control Panel And Associated Equipment Shall Have A Handle "Lock On" Device.
- When Replacing An Existing FACP It Is The Contractors Responsibility To Transfer All Systems That Are Currently Reporting To The Existing Panel. There Are Certain Panels That Monitor Accessory Systems Such As Security, Fire Shutters Clean Agent Systems, CO Detectors, Access Control Etc. Contractor Shall Survey The Buildings And Include All Accessory Systems And Intermediary Devices Required To Integrate Said Systems On Their Shop Drawings.
- CO Detectors To Provide Local Audio Visual And Supervisory At FACP And LSMS Control Station.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
FACP	Fire Alarm Control Panel	□	New Equipment
WCH	Existing Wall-Mounted Connector Housing	⊠	Existing Equipment
FACP	Existing Fire Alarm Control Panel	⊙	Photo Tag
		↔	Connect To Existing



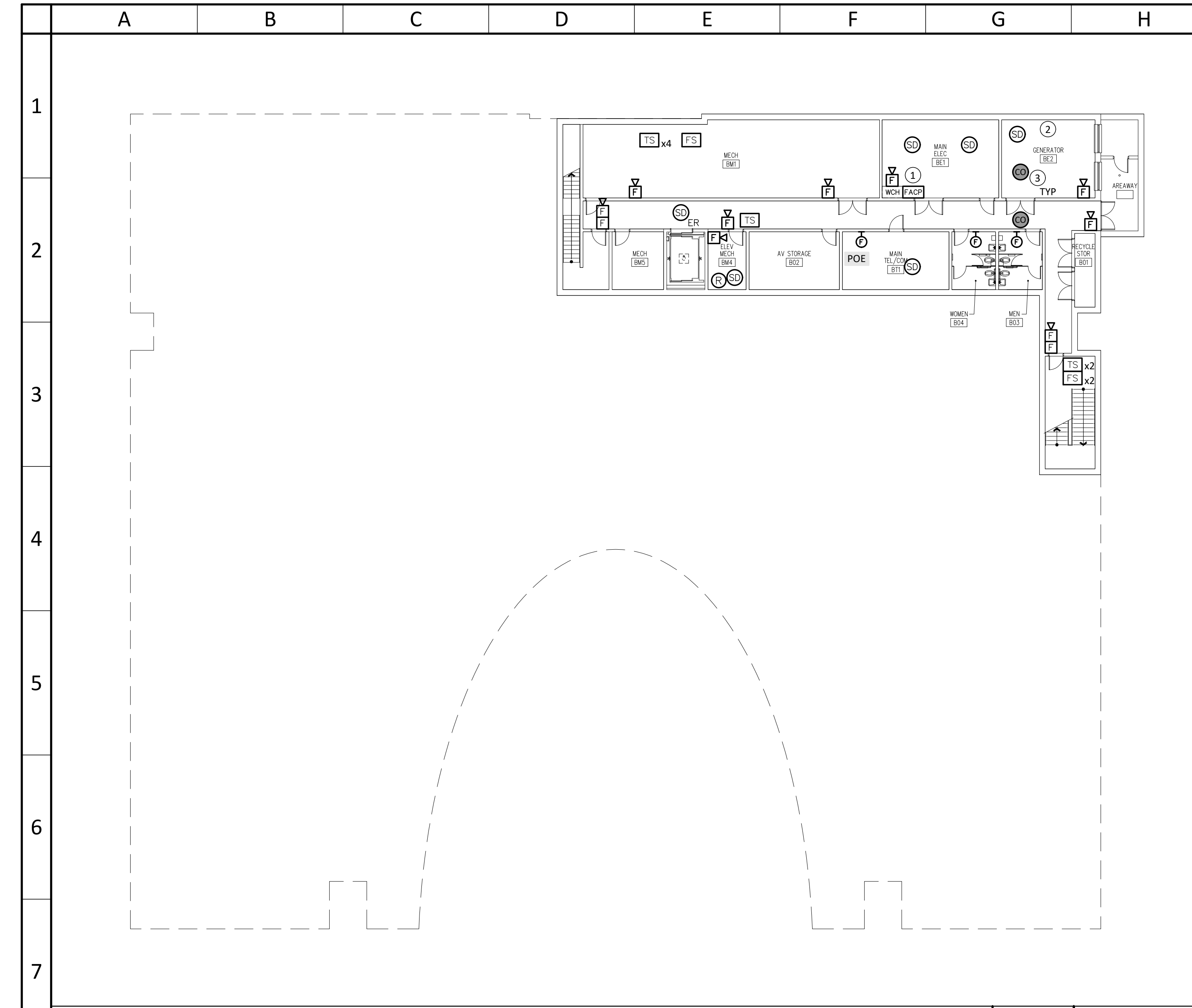
**FIRE ALARM PANEL REPLACEMENT**  
AIMM BUILDING  
scale AS SHOWN drawn by SC checked by SF date 5/03/2020  
dwg. no. **E101-AIMM**

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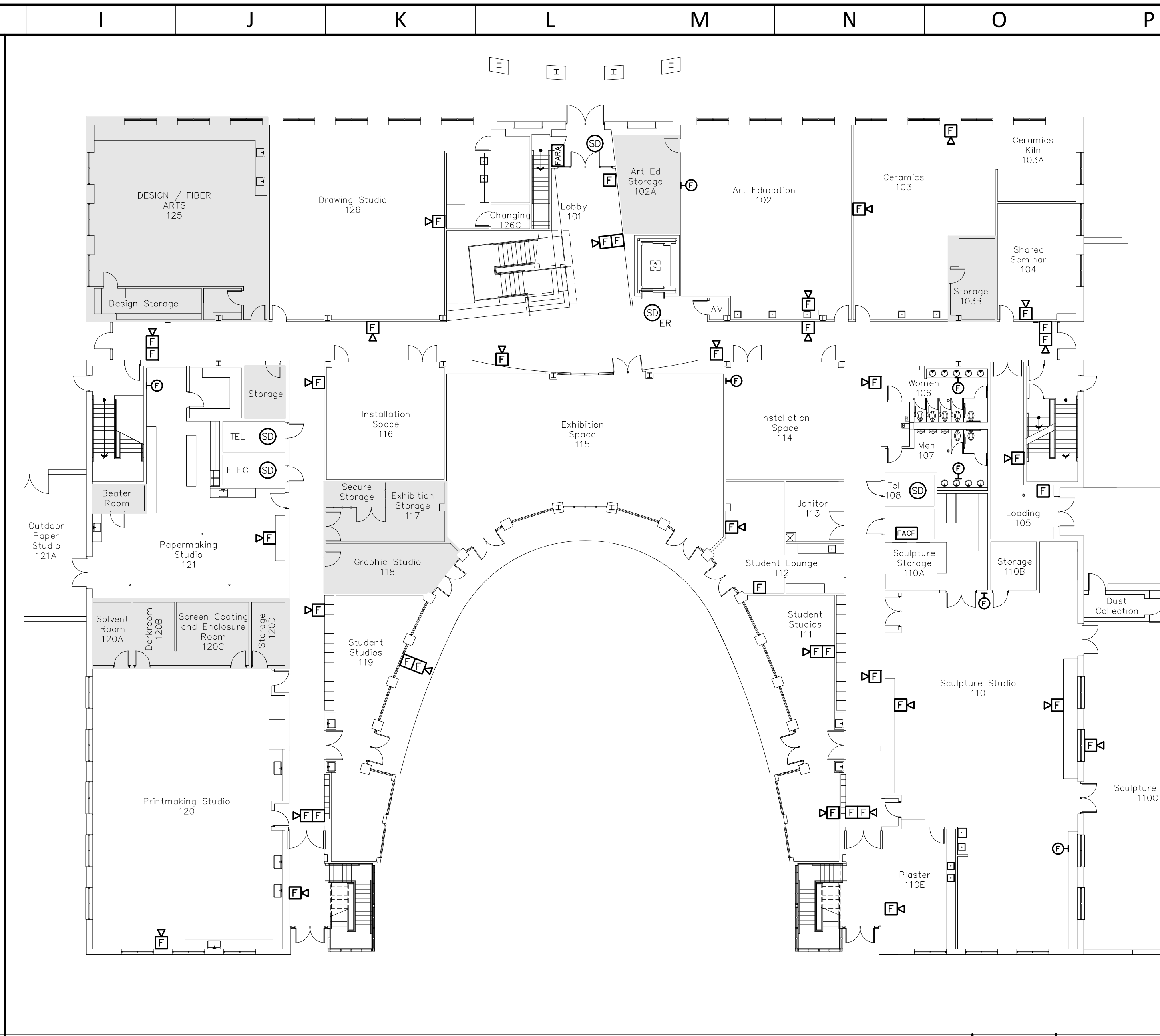
30x42

**dlb associates**  
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265 Industrial Way West, Eatontown, N.J. 07724  
Questions For DLB Call: Anthony Laskosky Phone: 732-927-5038

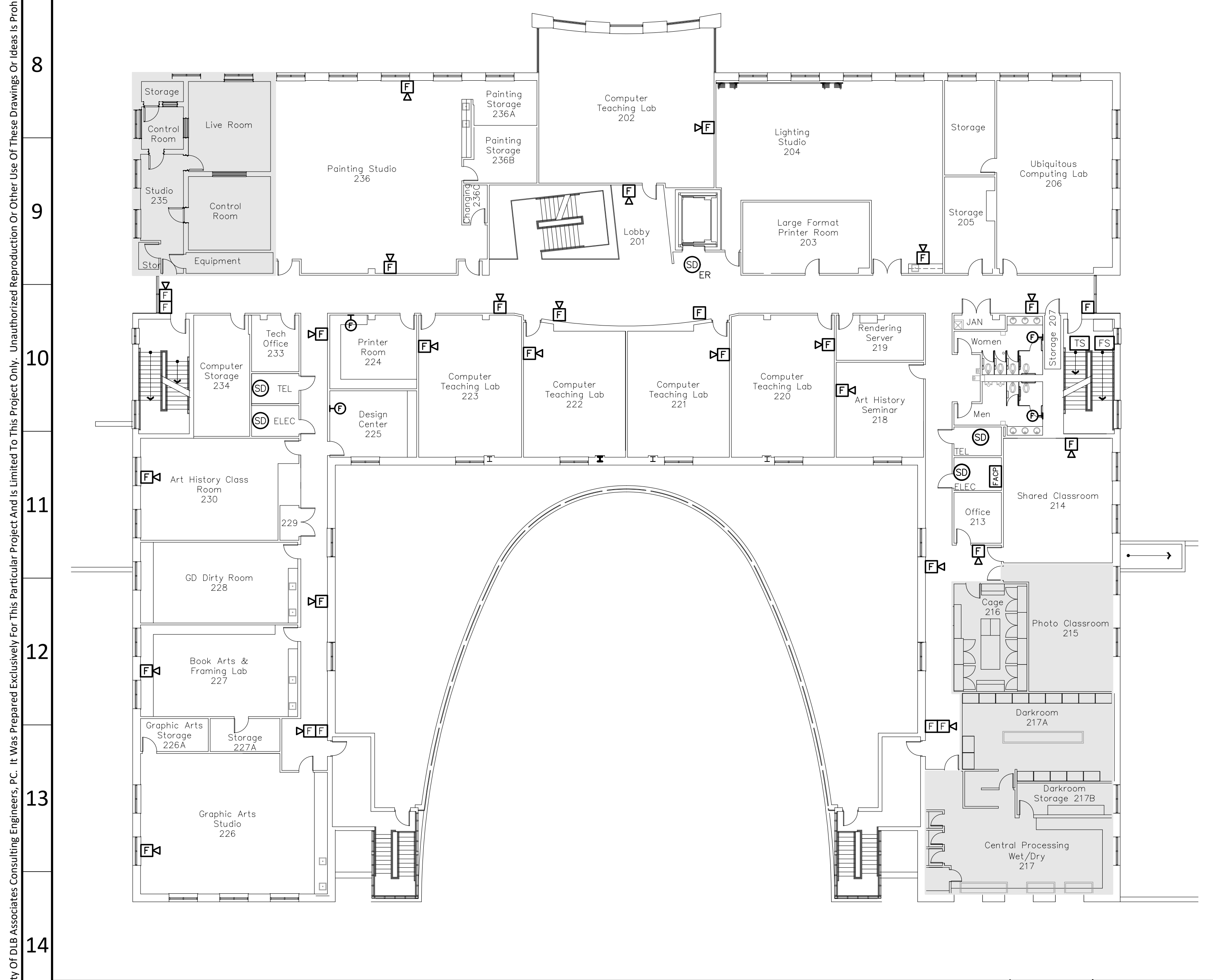
project  
**TCNJ - CAMPUS FIRE ALARM PROJECT**  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618



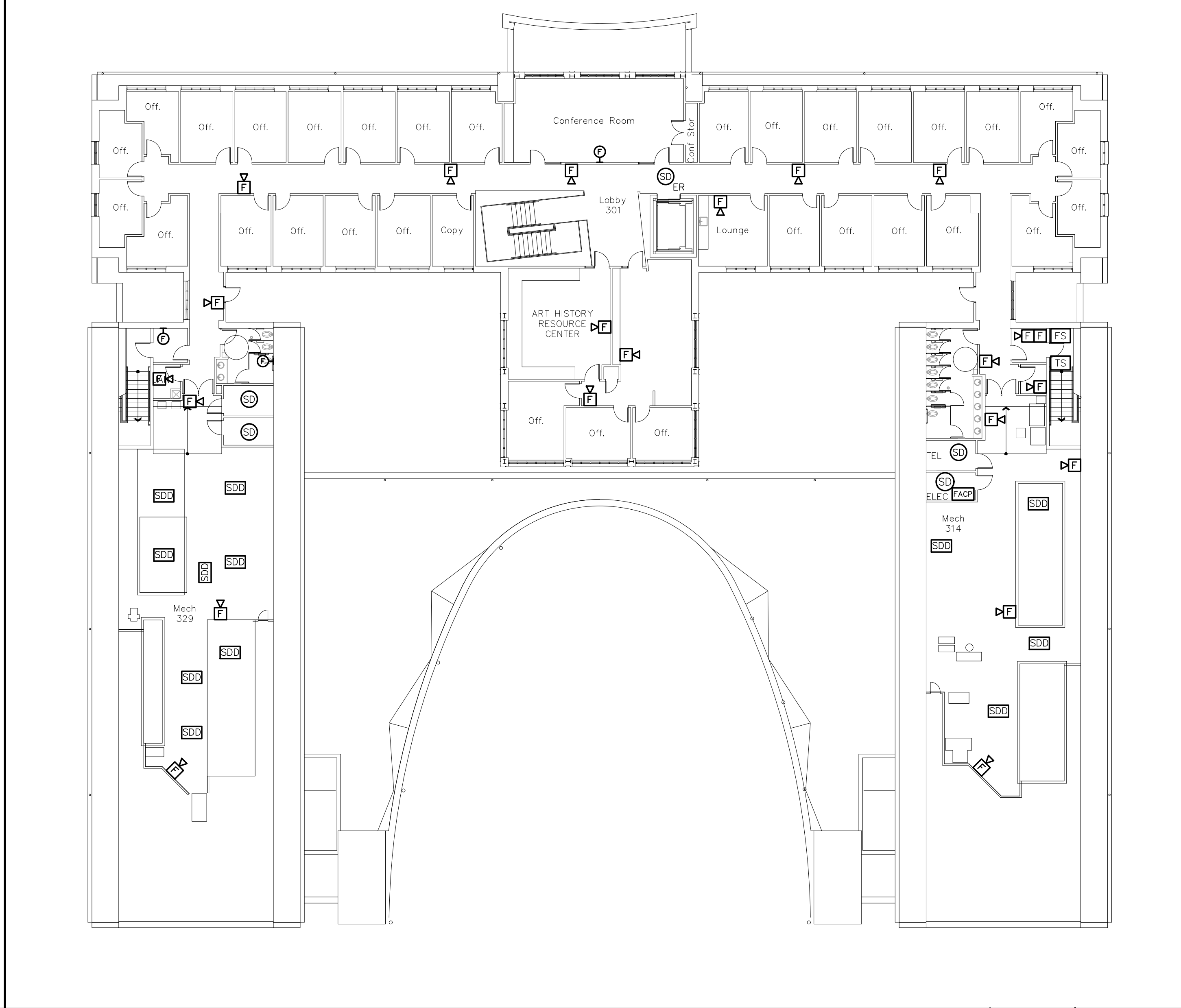
**BASEMENT LAYOUT** Scale: 1/16"=1'-0" Drawing: **E102**  
Detail: **01**



**FIRST FLOOR LAYOUT** Scale: 1/16"=1'-0" Drawing: **E102**  
Detail: **02**



**SECOND FLOOR LAYOUT** Scale: 1/16"=1'-0" Drawing: **E102**  
Detail: **03**



**THIRD FLOOR LAYOUT** Scale: 1/16"=1'-0" Drawing: **E102**  
Detail: **04**

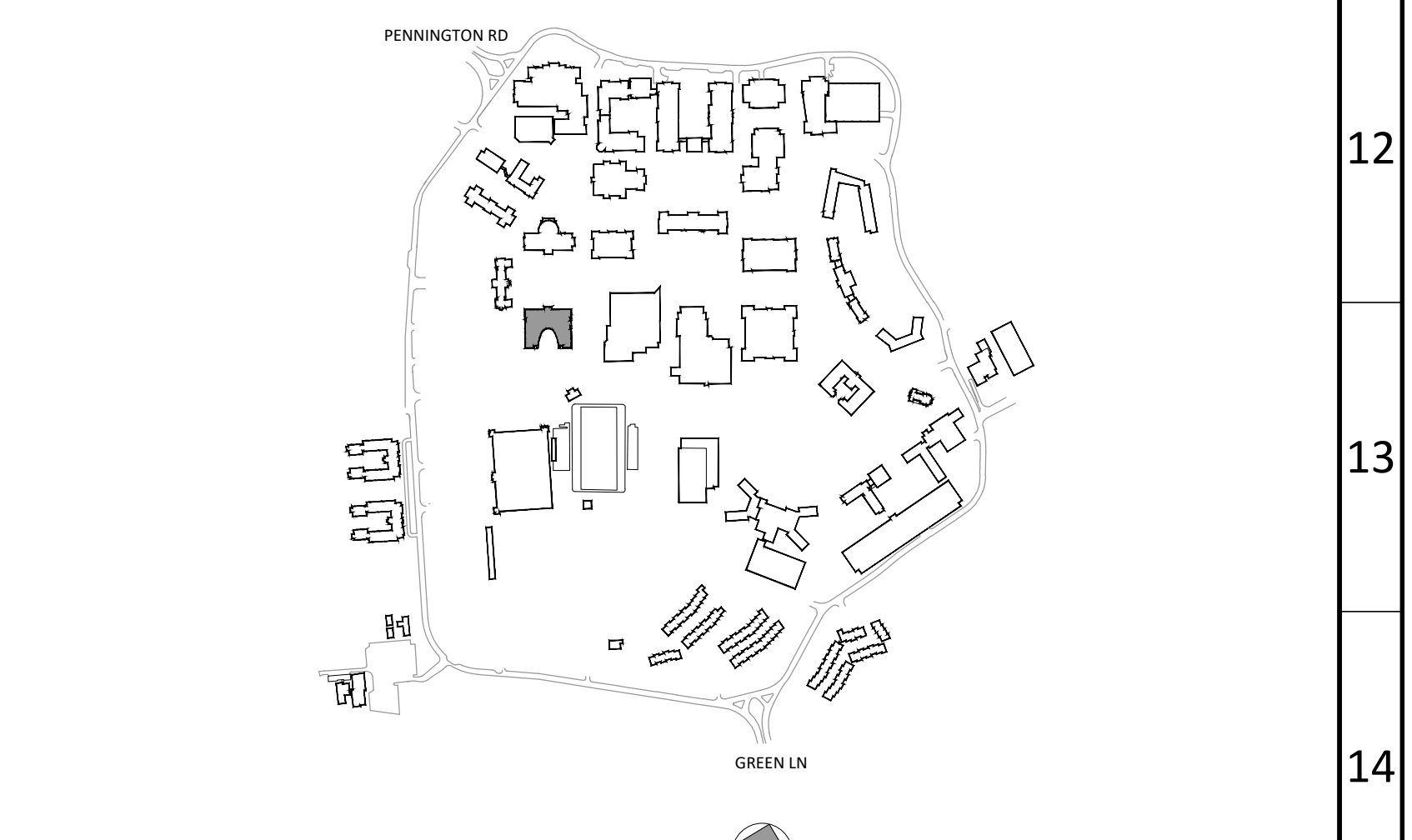
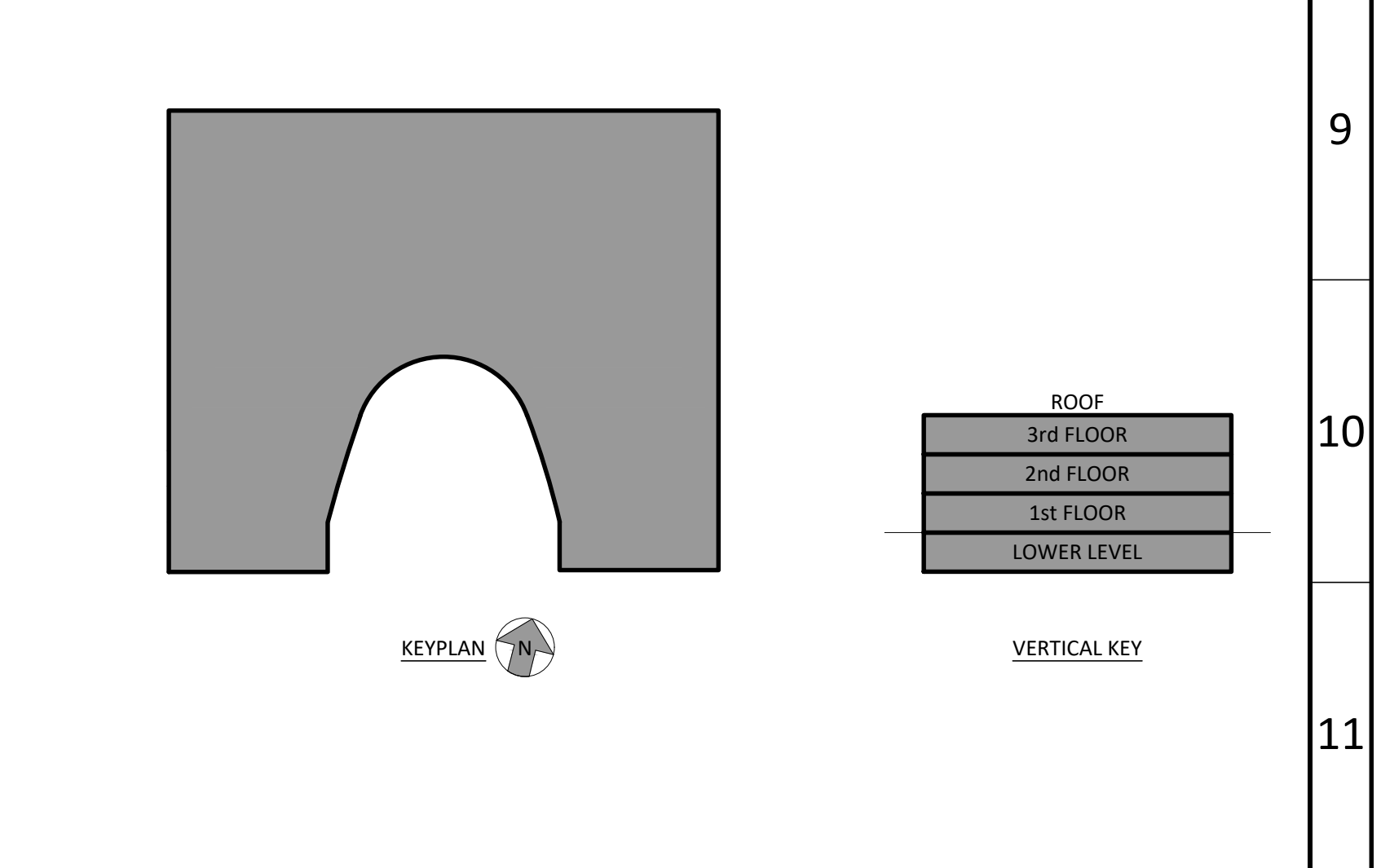
- KEY NOTES (SYMBOLS ①, ②, ETC.)**
- Existing Fire Alarm Control Panel.
  - Gas Generator.
  - New CO Detector.

**GENERAL NOTES**

- This Drawing Is Provided For Reference Only And Includes Existing Fire Alarm Devices Noted During A Visual Walk Through To Provide An Understanding Of The Existing Level Of Detection Within Each Building. The Intent Of This Reference Drawing Is To Provide A Baseline Or Minimum Level Of Protection That Shall Be Maintained In Within The Building. It Is Not Intended To Depict The Requirements For A Complete System Replacement Or Layout Of New Devices For This Building.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
Ⓜ	Manual Pull Station	□	No Access
Ⓢ	Strobe Only	Ⓢ	New Smoke Detector
Ⓜ	Horn/Strobe	Ⓜ	New Manual Pull Station
Ⓢ	Smoke Detector	Ⓢ	New Strobe
ⓈER	Smoke Detector (ER Indicates Elevator Recall)	Ⓜ	New Horn / Strobe
ⓈSB	Smoke Detector With Sounder Base	Ⓢ	New Carbon Monoxide Detector With Local Audio And Visual Notification.
Ⓢ	Heat Detector, Combination Fixed Temperature And Rate Of Rise	Ⓧ	Photo Location Indicator
Ⓢ	CO Detector	Ⓜ	FACP
ⓈDC	Duct Mounted Smoke Detector	Ⓢ	CO
Ⓜ	Fire Alarm Control Panel	Ⓜ	POE
Ⓜ	Fire Alarm Remote Annunciator Panel		
Ⓜ	Fire Alarm Booster Panel		
Ⓜ	Fire Sprinkler Tamper Switch		
Ⓜ	Fire Sprinkler Flow Switch		
Ⓜ	Existing Wall Mounted Connector Housing		



ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

Drawings Based On Visual Inspection Site Walk Through Completed During Nov 2017 - March 2018

**dlb associates**  
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265 Industrial Way West, Eatontown, N.J. 07724  
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DLB Project ID: 47211 Phone: 732-927-5038

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
FIRE ALARM - EXISTING LAYOUT  
AIMM BUILDING  
scale AS SHOWN  
drawn by SC  
checked by SF  
date 5/03/2020  
dwg. no.  
**E102-AIMM**  
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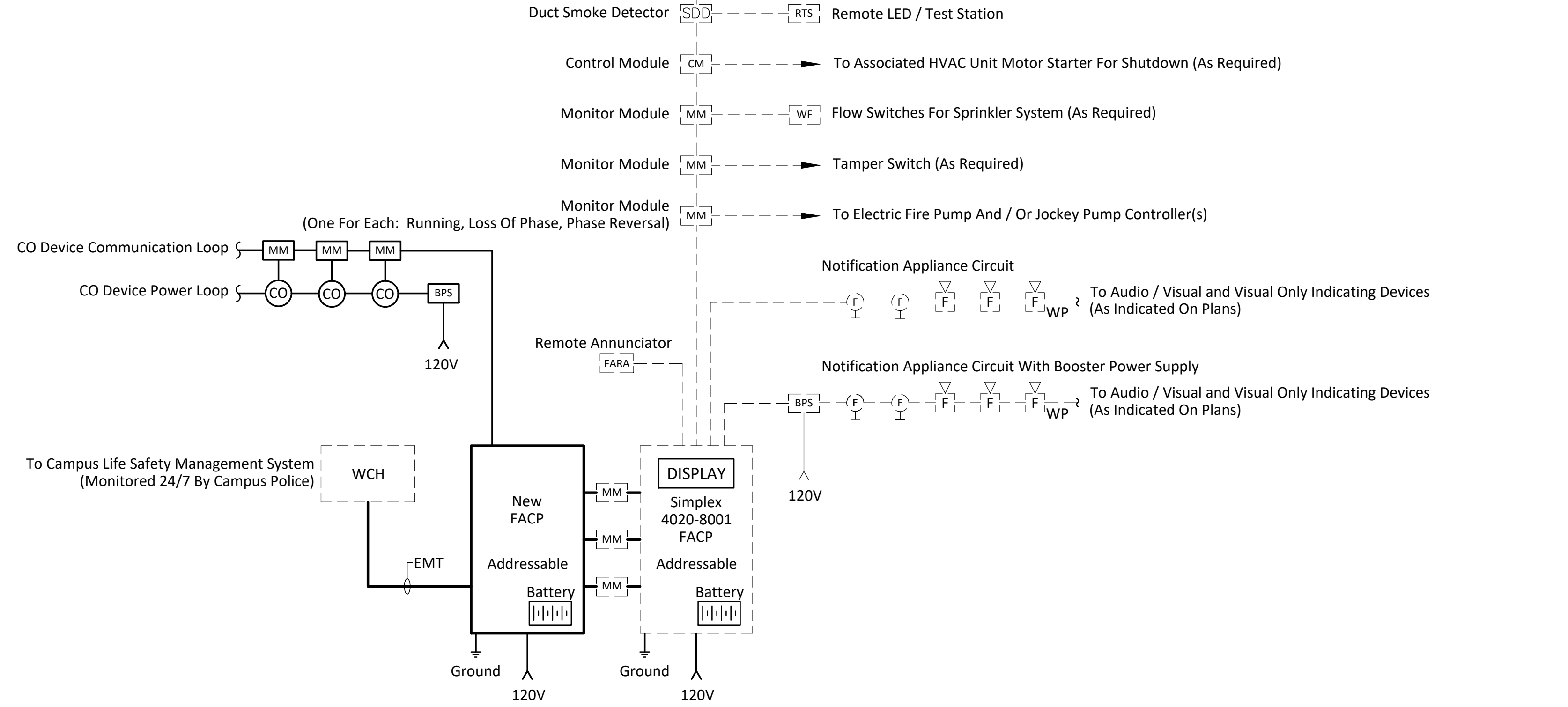
30x42



**PHOTO A - SIMPLEX FIRE ALARM CONTROL PANEL**  
Existing Simplex 4020 Addressable Fire Alarm Control Panel, Honeywell FS90 Intermediary Fire Alarm Control Panel, And Simplex NAC Panel, With Exposed Conduit Located In Fire Alarm Panel Room

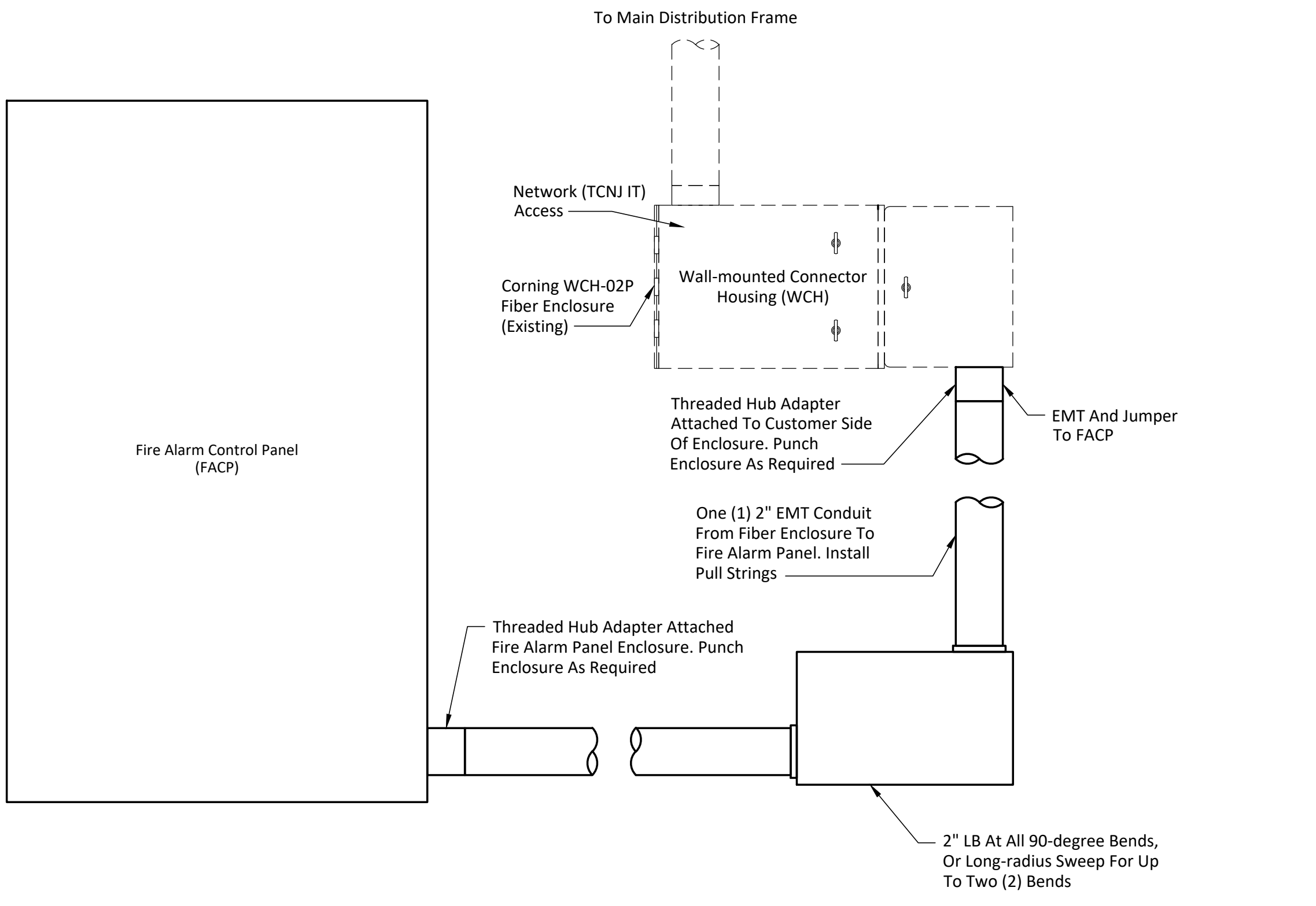
**SIMPLEX FIRE ALARM DEVICES**  
Existing Simplex Addressable Fire Alarm Devices Located Throughout The Building

FIRE ALARM SCHEDULE	
MARK	DESCRIPTION
(---)	EXISTING FIRE ALARM DEVICES, PANEL, CIRCUITS, ETC
(CO)	CO DETECTOR ( WITH LOCAL VISUAL AND AUDIO )
(MM)	FIRE ALARM MONITOR MODULE
(---)	POWER OR SIGNALING LINE CIRCUIT
(BPS)	BOOSTER POWER SUPPLY



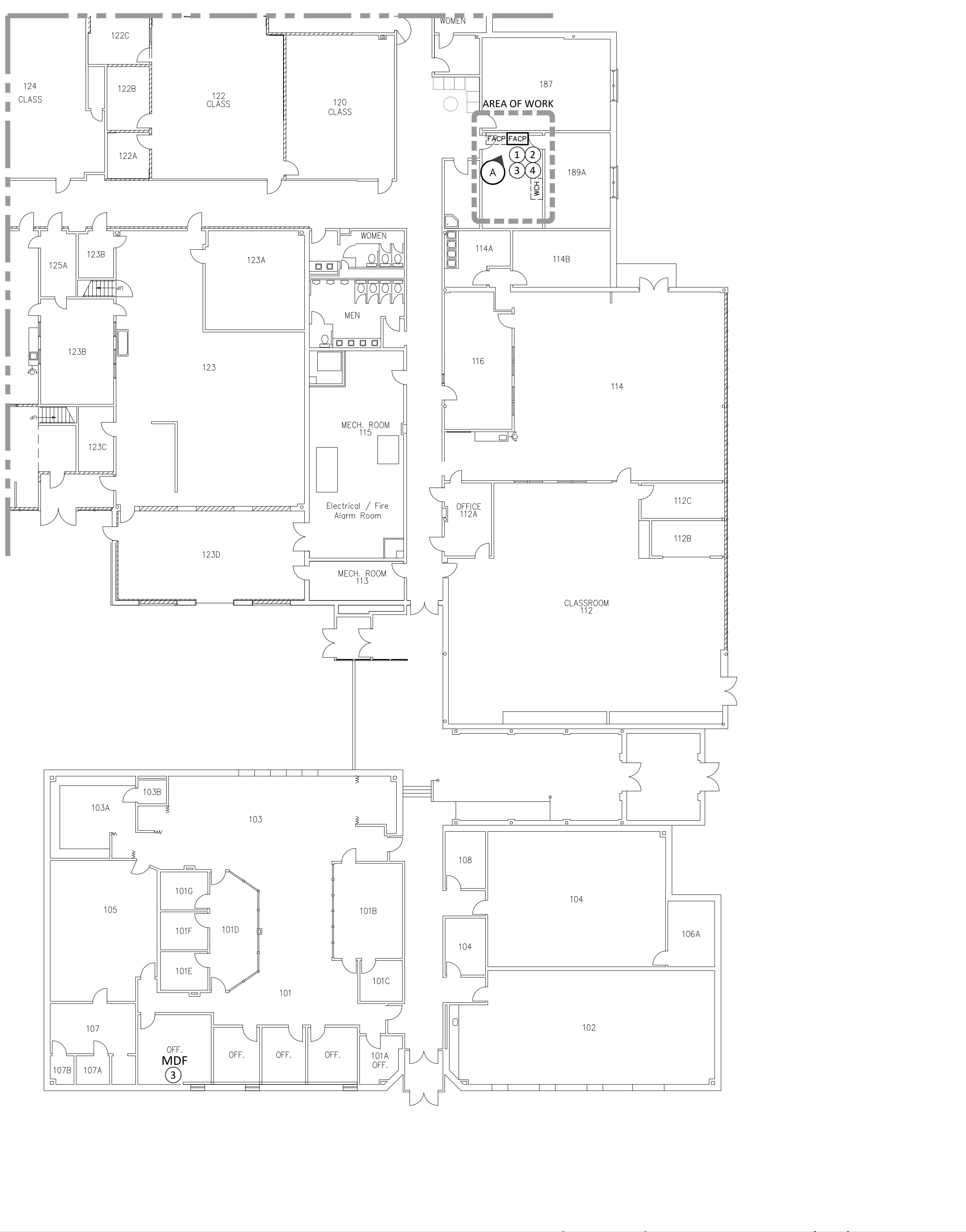
- NOTES:**
- General
    - The Riser Above Depicts A "Honeywell" Basis Of Design With A New Honeywell FACP. All Existing Simplex End Devices Would Not Be Compatible With The New FACP.
      - Install New FACP With Capacity Noted Below.
      - New Honeywell FACP Would Monitor Existing Simplex FACP For Alarm, Tamper, Trouble, And Other Points That Are Currently Monitored By The Front End At A Minimum.
      - This Building Would NOT Be Considered A Fully Addressable Building.
    - The Schematic Riser Diagram Is Intended As An Overview Of The Fire Alarm System Including The General Configuration And Type Of Devices Found Throughout The Building.
    - The FACP Shall Connect The Campus Life Safety Management System.
  - Equipment
    - Armstrong Hall Is Currently Covered By Fire Notification And Detection / Initiation Devices From An Addressable Simplex 4020-8001 System.
    - Fire Alarm Fiber Jumper Is To Be Brought Into Wall Mounted Connector Housing In The Vicinity Of The FACP.
  - Wiring
    - The FACP Power Supply Shall Be Derived From A Dedicated, Lockable Electrical Circuit (Colored Red) As Well As An Internal Battery Sized To Provide 15 Minutes Of Alarm Condition After 24 Hours Of Operation Without Normal Power And Include 20% Additional Spare Capacity.
    - The FACP Ground Shall Consist Of An #8 AWG Conductor In 3/4" Conduit From The Fire Alarm Control Panel (FACP) To The Building's Grounding Electrode System. Bond To Metallic Conduit On Both Ends With Listed Hardware. See Sheet E102 For Location Of Main Electric Room.
    - The Fire Alarm System's Wiring Method Shall Be Class A Rated Between Panels (Where Applicable) And Class B Rated For Detection Devices And Notification Appliances.
    - The New FACP Shall Contain A Minimum Of 30% Spare Capacity Above The Total Amount Of Existing Devices Connected To The Existing FACP Provide Fire Alarm Panel With Hardware For Two (2) Spare Circuits.
    - Surge Protector To Be Provided For Each 120V Power Supply Circuit, Refer To Specifications For Further Information.
  - Testing
    - Perform A Final Acceptance Test Of The Entire Fire Alarm System In Accordance With All Applicable Codes Including The International Building Code (IBC) And NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.

**FIRE ALARM RISER** Scale: NTS Drawing: **E101** Detail: **01**



- NOTES:**
- Coordinate Position Installation Of EMT Into FACP Enclosure With Respect To Fiber Termination Connections In FACP Enclosure, And With TCNJ/IT
  - Install 2" EMT From Fiber Enclosure To FACP Enclosure. Use LBs At Each 90-degree End Unless Swept Long-radius Bends Can Be Installed. No More Than (2) 90-degree Bends Are Permitted Before An Accessible Pulling Point Shall Be Furnished.
  - Install Fiber Jumpers Between WCH And FACP.

**FIRE ALARM FIBER ENCLOSURE INSTALLATION** Scale: NTS Drawing: **E101** Detail: **02**

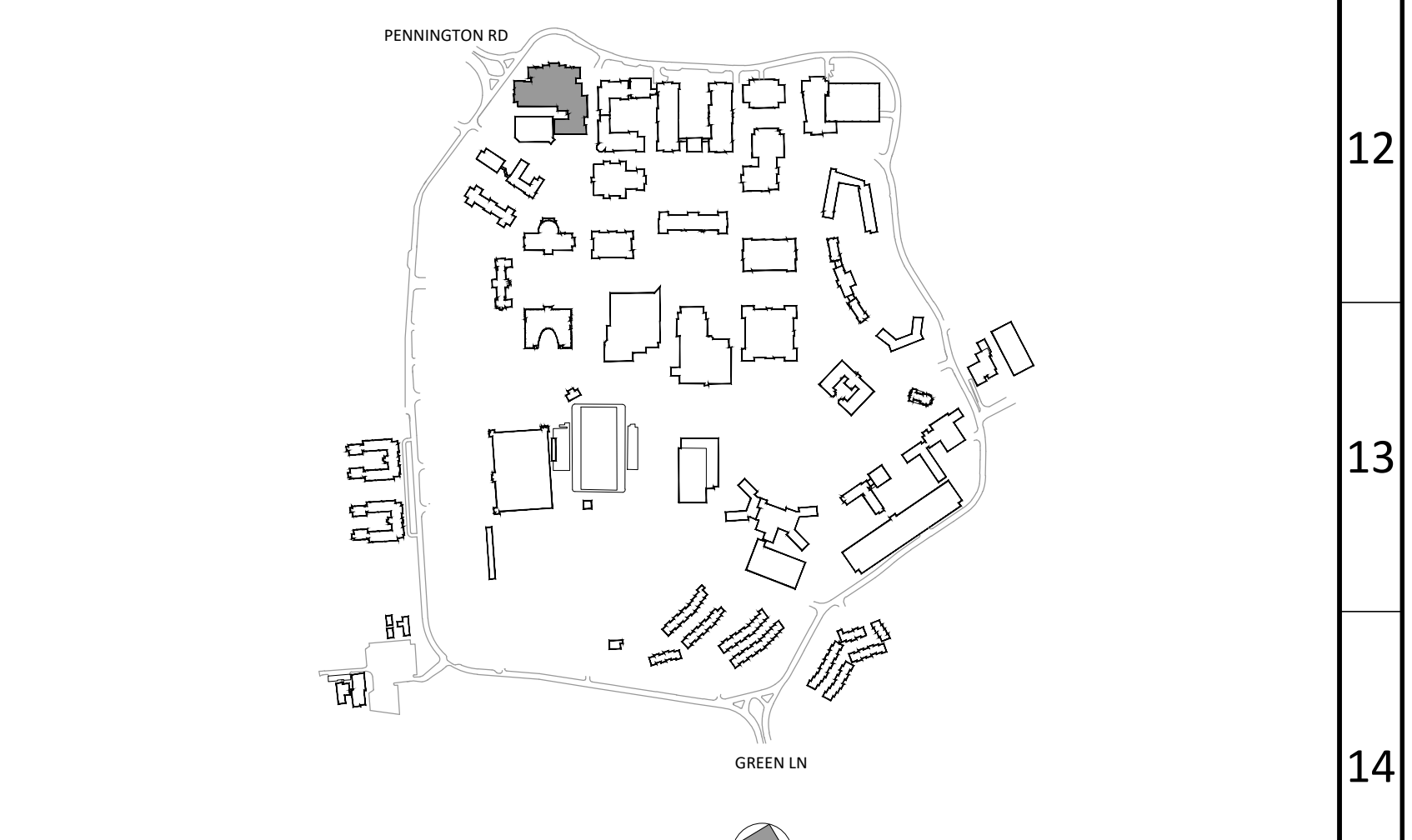
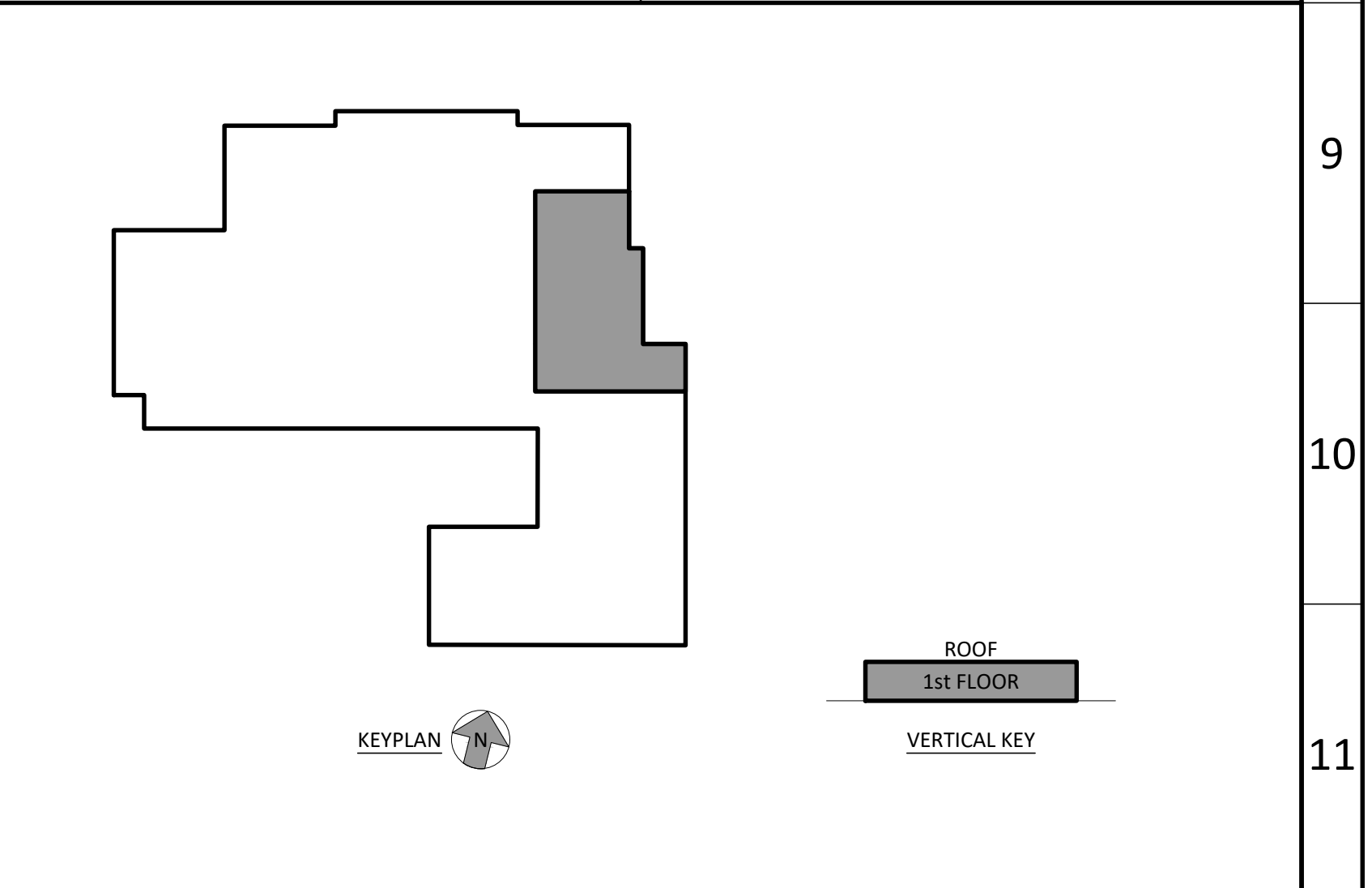


**FIRST FLOOR PART PLAN** Scale: 1/16"=1'-0" Drawing: **E101** Detail: **03**

- KEY NOTES (SYMBOLS ①, ②, ETC.)**
- Provide A New Fire Alarm Panel, Or Replace Existing Fire Alarm Panel, Or Replace Existing Fire Alarm System To Enable Addressable Communication With The New Campus Front End. To Count As One Of The Fully Addressable Buildings, Each Device Point Must Be Communicated To The Front End System.
  - Provide UL Listed Alarm System Loop Circuit Surge Protection For Each 24V Alarm System Loop Circuits In A Field-Replaceable Module. Includes Hardwired Mounting Base For Each Module.
  - Provide Two Duplex Fiber Jumper Cables Pre-terminated On Both Ends, Between The Existing WCH And Fire Alarm Control Panel As Per Detail 2. Also Provide Duplex Fiber Jumper Cables Pre-terminated On Both Ends At The MDF Between Required Interconnection Points. Contractor Shall Coordinate And Confirm Jumper Connection Types, Fiber Type, Length, Routing Conditions, Etc With Field Conditions. Coordinate With TCNJ IT Department For Fiber Connection And Labeling Information.
  - Provide Branch Circuit For The New Fire Alarm Panel From Existing Electrical Panel In Electric Room That Currently Supplies The Existing Fire Alarm Panel. Utilize 2#12, #12G In 3/4" Conduit And Provide New 20Amp Circuit Breaker (Red And Clearly Identify FACP Circuit). Match Existing Type/Ratings For Circuit Breaker.
  - Provide New CO Devices Connected To New Panel. See Sheet E102 For Approximate Location.
- GENERAL NOTES**
- The Fire Alarm Plan Shows The General Layout And Intent Of The Fire Alarm System. It Does Not Necessarily Reflect Exact Quantities Required By Code. The Contractor Shall Determine The Actual Quantity And Location Of Devices Required Based Upon Actual Field Conditions Required As Per NFPA 72.
  - The Fire Alarm System Shall Comply With NFPA 72 And All Local Codes And Amendments. Provide Installation Testing Per NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.
  - Fire Alarm Cabling That Cannot Be Concealed Shall Be Neatly Surface Mounted Utilizing Wire Mold In Finished Areas Or EMT In Non-Finished Areas. All Exposed EMT Shall Be Prepped And Painted To Match Adjacent Wall Surface.
  - Panel Board Circuit Breaker Supplying Fire Alarm Control Panel And Associated Equipment Shall Have A Handle "Lock On" Device.
  - When Replacing An Existing FACP It Is The Contractors Responsibility To Transfer All Systems That Are Currently Reporting To The Existing Panel. There Are Certain Panels That Monitor Accessory Systems Such As Security, Fire Shutters Clean Agent Systems, CO Detectors, Access Control Etc. Contractor Shall Survey The Buildings And Include All Accessory Systems And Intermediary Devices Required To Integrate Said Systems On Their Shop Drawings.
  - CO Detectors To Provide Local Audio Visual And Supervisory At FACP And LSMS Control Station.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
(FACP)	Fire Alarm Control Panel	(---)	New Equipment
(WCH)	Existing Wall-Mounted Connector Housing	(---)	Existing Equipment
(FACP)	Existing Fire Alarm Control Panel	(C)	Photo Tag
		(---)	Connect To Existing



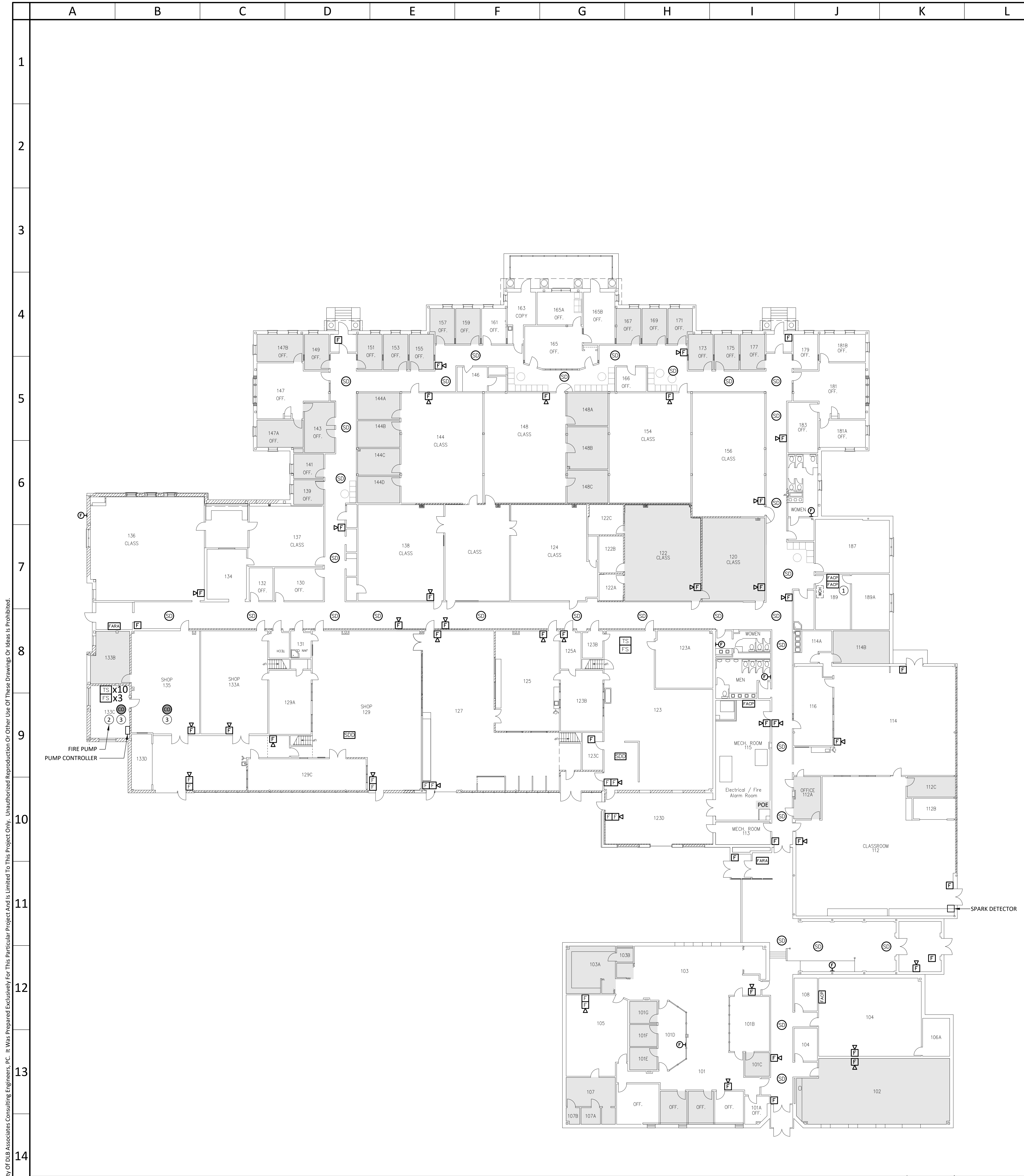
**FIRE ALARM PANEL REPLACEMENT ARMSTRONG HALL** Scale: AS SHOWN Drawing: **E101-ARM** Detail: **03**

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

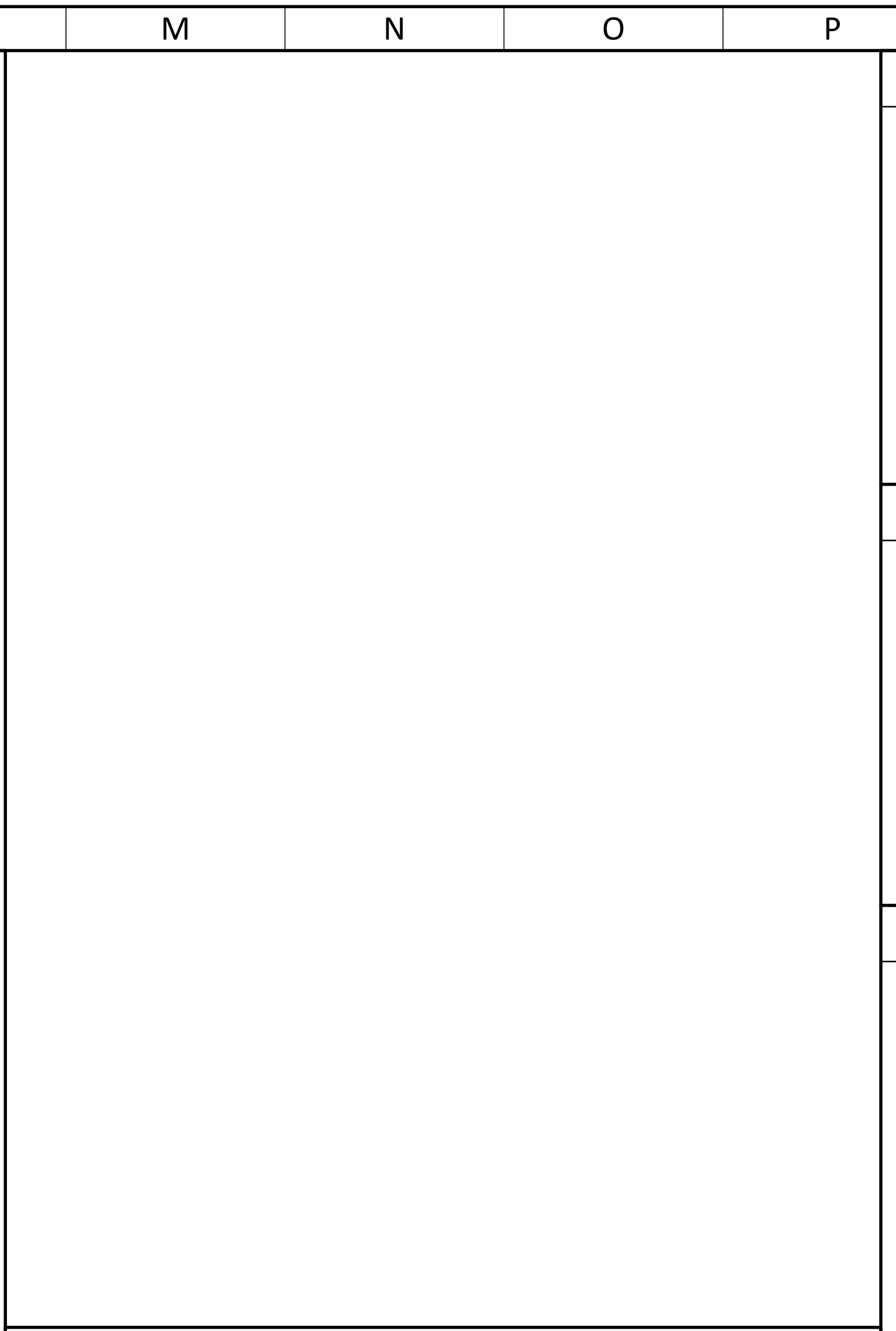
**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724  
Questions For DLB Call: Anthony Laskosky Phone: 732-927-5038

project: TCNJ - CAMPUS FIRE ALARM PROJECT PART B - HARDWARE & SOFTWARE UPGRADES 2000 PENNINGTON ROAD, EWING NJ, 08618

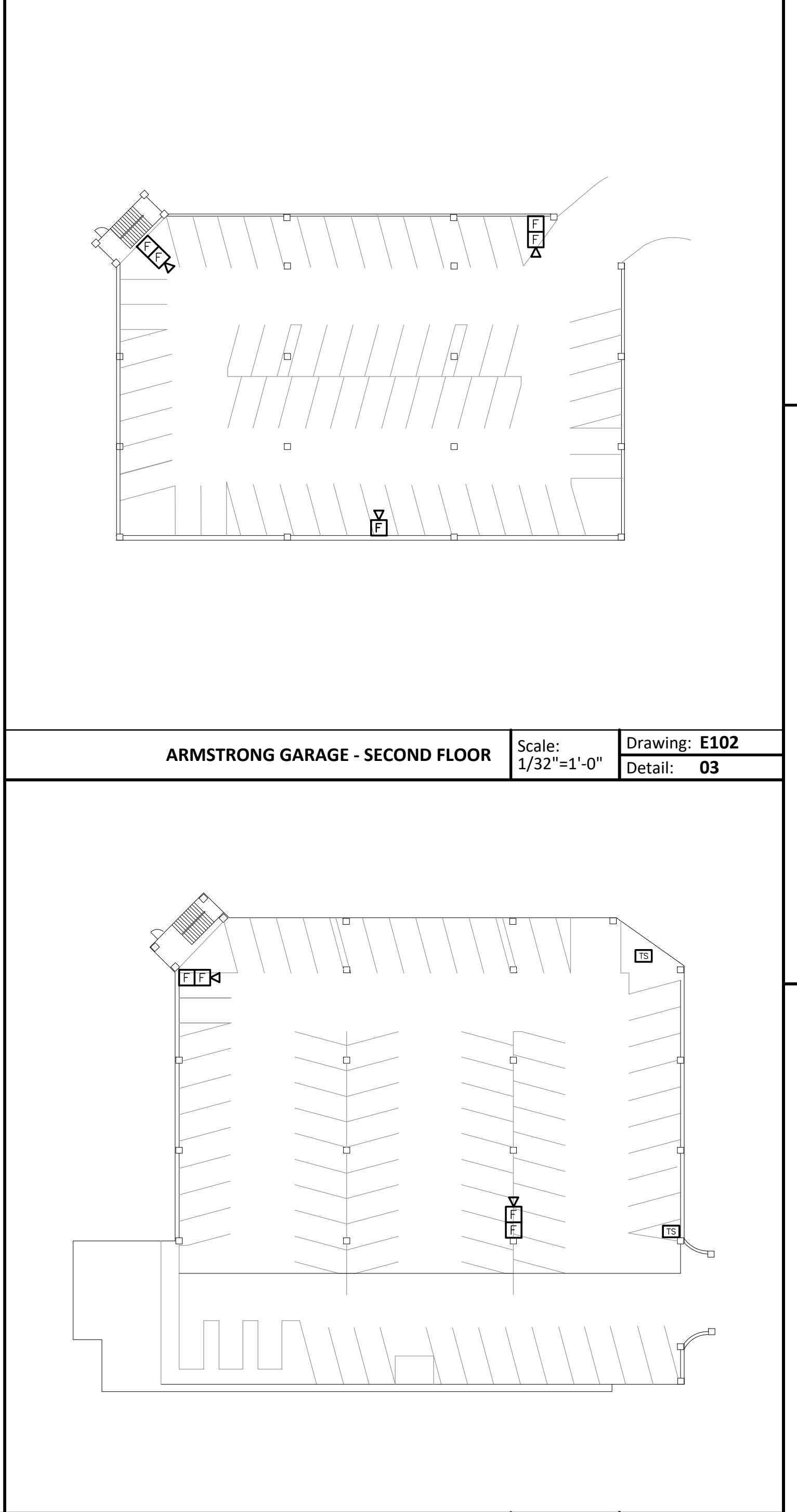
scale AS SHOWN	drawn by SC	checked by SF	date 5/03/2020
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**FIRST FLOOR LAYOUT** Scale: 1/16"=1'-0" Drawing: **E102** Detail: **01**



**ARMSTRONG GARAGE - SECOND FLOOR** Scale: 1/32"=1'-0" Drawing: **E102** Detail: **03**



**ARMSTRONG GARAGE - GROUND FLOOR** Scale: 1/32"=1'-0" Drawing: **E102** Detail: **02**

**KEY NOTES (SYMBOLS ①, ②, ETC.)**

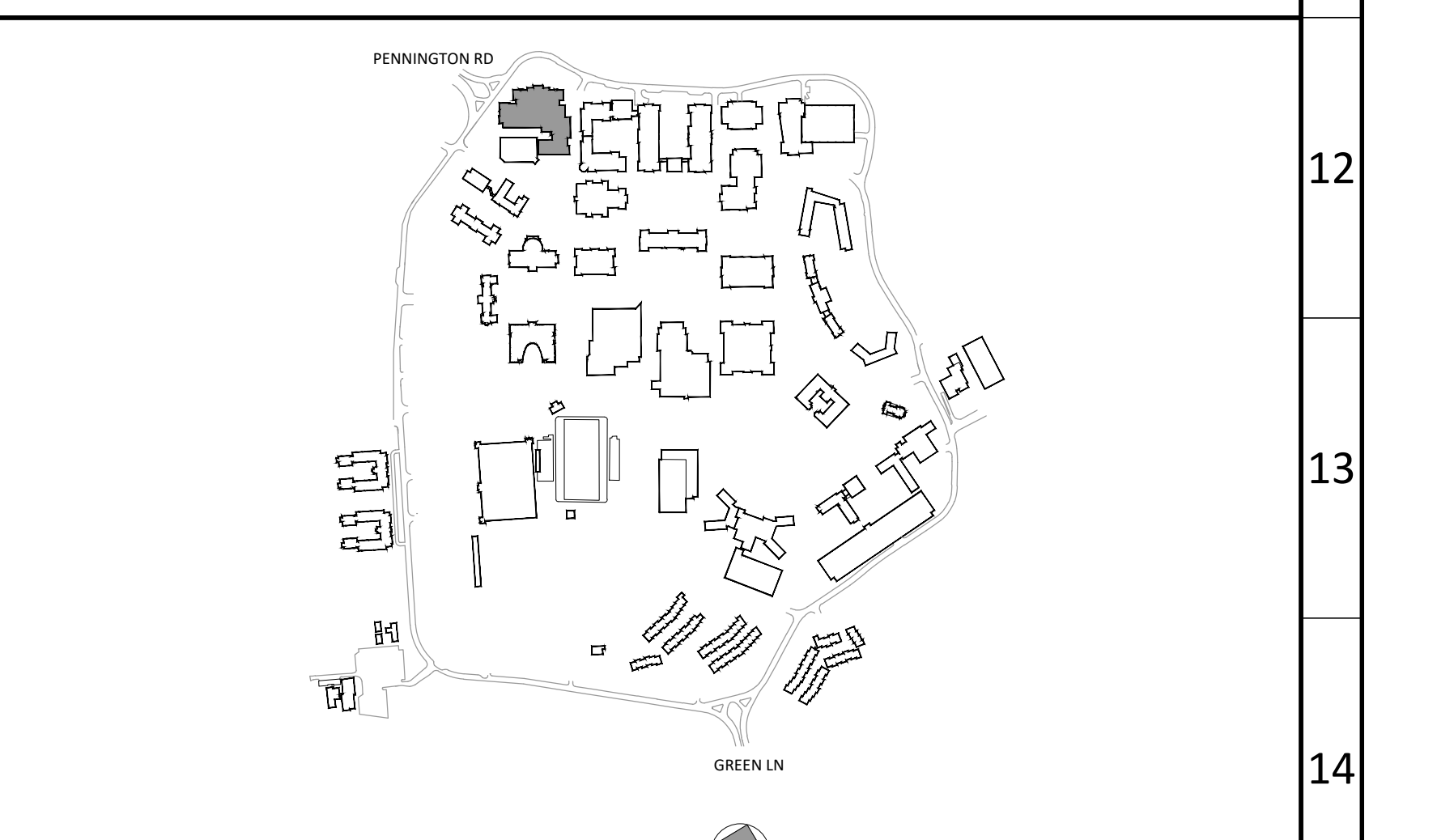
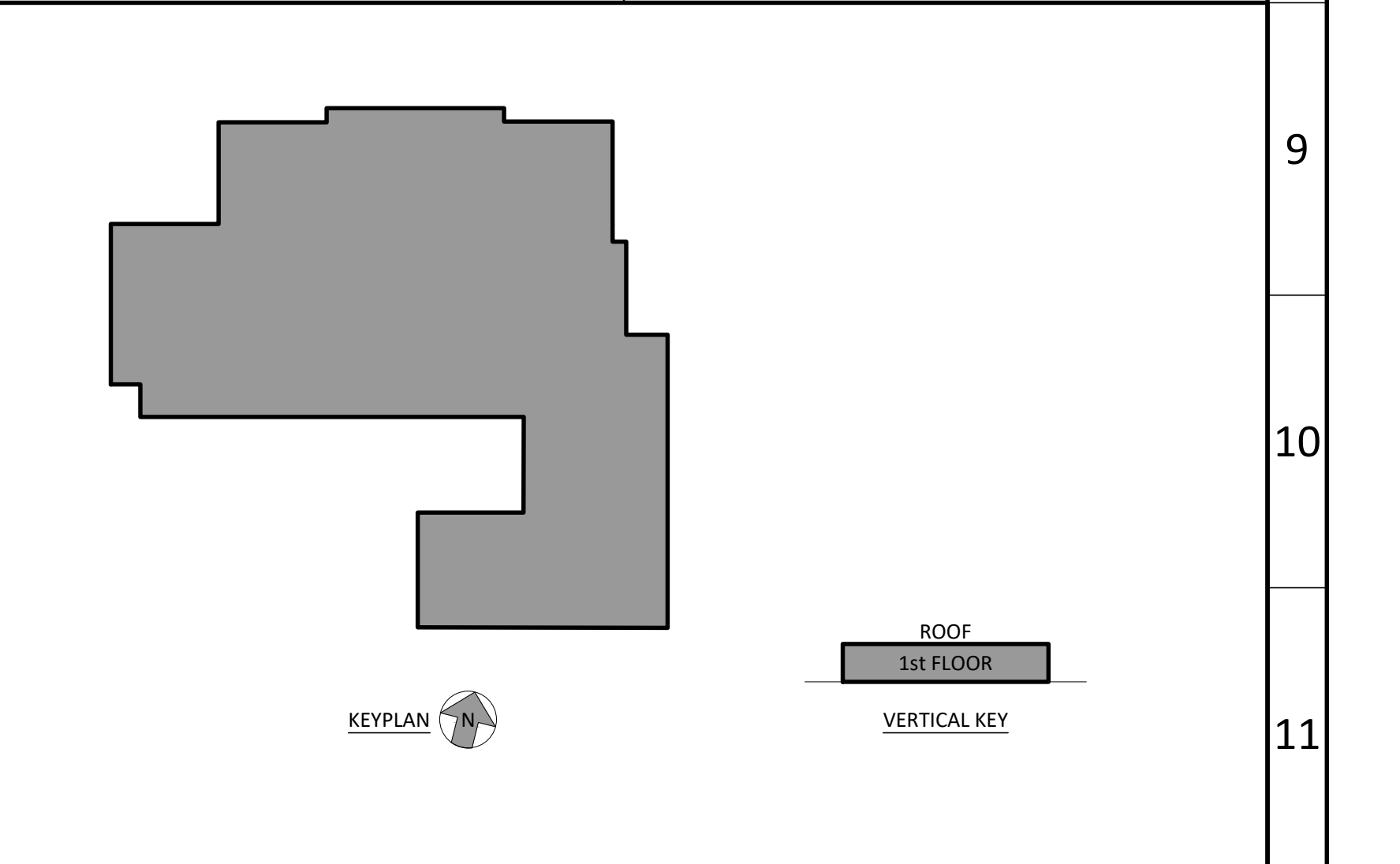
- Existing Fire Alarm Control Panel.
- Diesel Fire Pump.
- New CO Detector.

**GENERAL NOTES**

- This Drawing Is Provided For Reference Only And Includes Existing Fire Alarm Devices Noted During A Visual Walk Through To Provide An Understanding Of The Existing Level Of Detection Within Each Building. The Intent Of This Reference Drawing Is To Provide A Baseline Or Minimum Level Of Protection That Shall Be Maintained In Within The Building. It Is Not Intended To Depict The Requirements For A Complete System Replacement Or Layout Of New Devices For This Building.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
Ⓜ	Manual Pull Station	□	No Access
Ⓢ	Strobe Only	Ⓢ	New Smoke Detector
Ⓜ	Horn/Strobe	Ⓜ	New Manual Pull Station
Ⓢ	Smoke Detector	Ⓢ	New Strobe
Ⓢ <sub>ER</sub>	Smoke Detector (ER Indicates Elevator Recall)	Ⓜ	New Horn / Strobe
Ⓢ <sub>SB</sub>	Smoke Detector With Sounder Base	Ⓢ	New Carbon Monoxide Detector With Local Audio And Visual Notification.
Ⓢ	Heat Detector, Combination Fixed Temperature And Rate Of Rise	Ⓧ	Photo Location Indicator
Ⓢ	CO Detector	FACP	Fire Alarm Control Panel
Ⓢ <sub>DC</sub>	Duct Mounted Smoke Detector	CO	Carbon Monoxide
FACP	Fire Alarm Control Panel	POE	Point Of Entry
FARA	Fire Alarm Remote Annunciator Panel		
FAB	Fire Alarm Booster Panel		
TS	Fire Sprinkler Tamper Switch		
FS	Fire Sprinkler Flow Switch		
WCH	Existing Wall Mounted Connector Housing		



30x42

ITEM	DATE	ISSUE DESCRIPTION	ITEM	DATE	ISSUE DESCRIPTION
1	05/01/2020	ISSUED FOR BID			

Drawings Based On Visual Inspection Site Walk Through Completed During Nov 2017 - March 2018

**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
FIRE ALARM - EXISTING LAYOUT  
ARMSTRONG HALL

scale AS SHOWN  
dwg. no. **E102-ARM**  
drawn by SC  
checked by SF  
date 5/03/2020

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**FIRE ALARM PHOTOS**

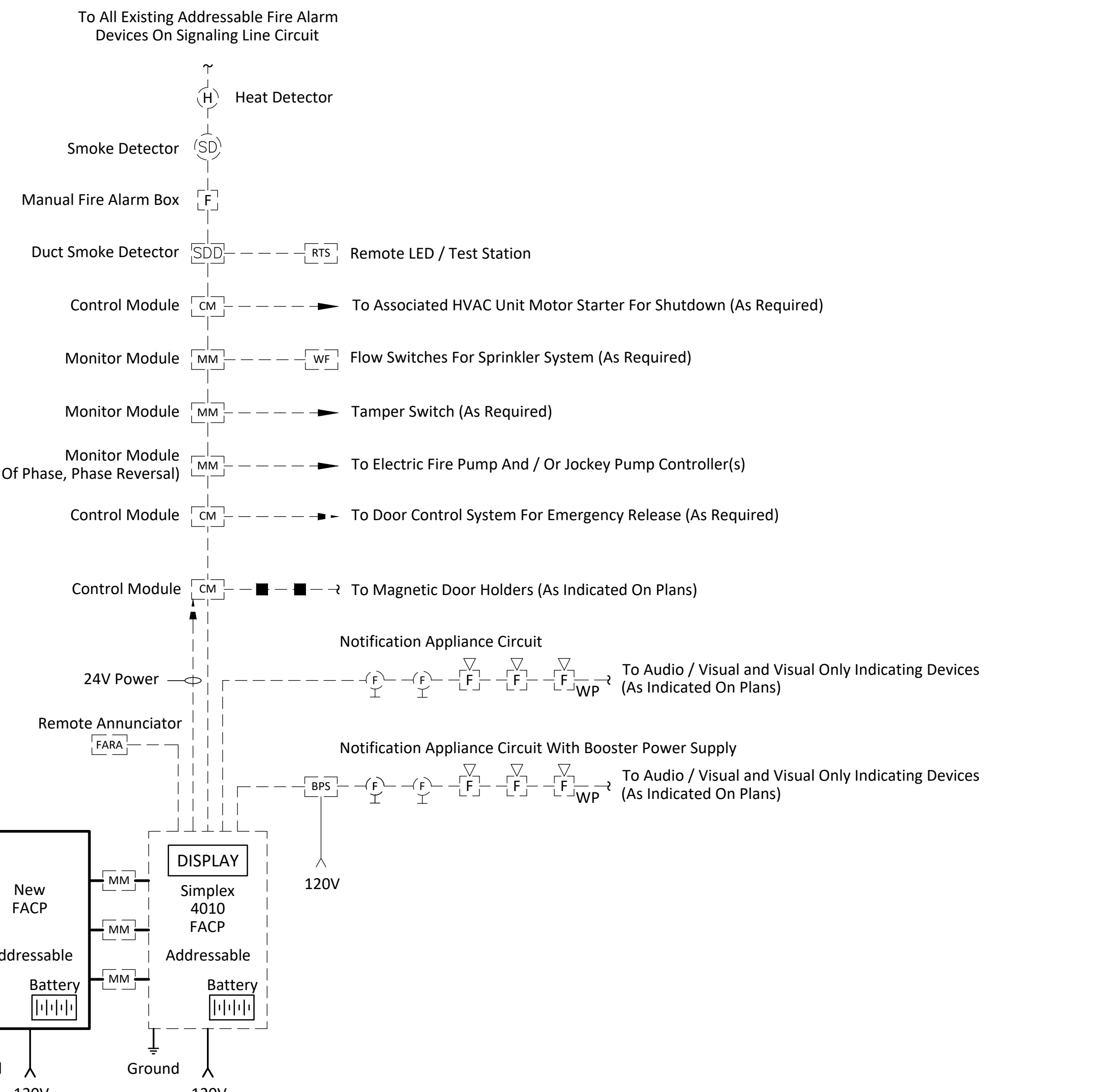


**PHOTO A - SIMPLEX FIRE ALARM CONTROL PANEL**  
Simplex 4010 Addressable Fire Alarm Control Panel And Honeywell FS/90 Intermediary Fire Alarm Control Panel With Exposed Conduit Located Within Lower Level Electrical Room

**SIMPLEX FIRE ALARM DEVICES**  
Existing Simplex Addressable Fire Alarm Devices Located Throughout The Building

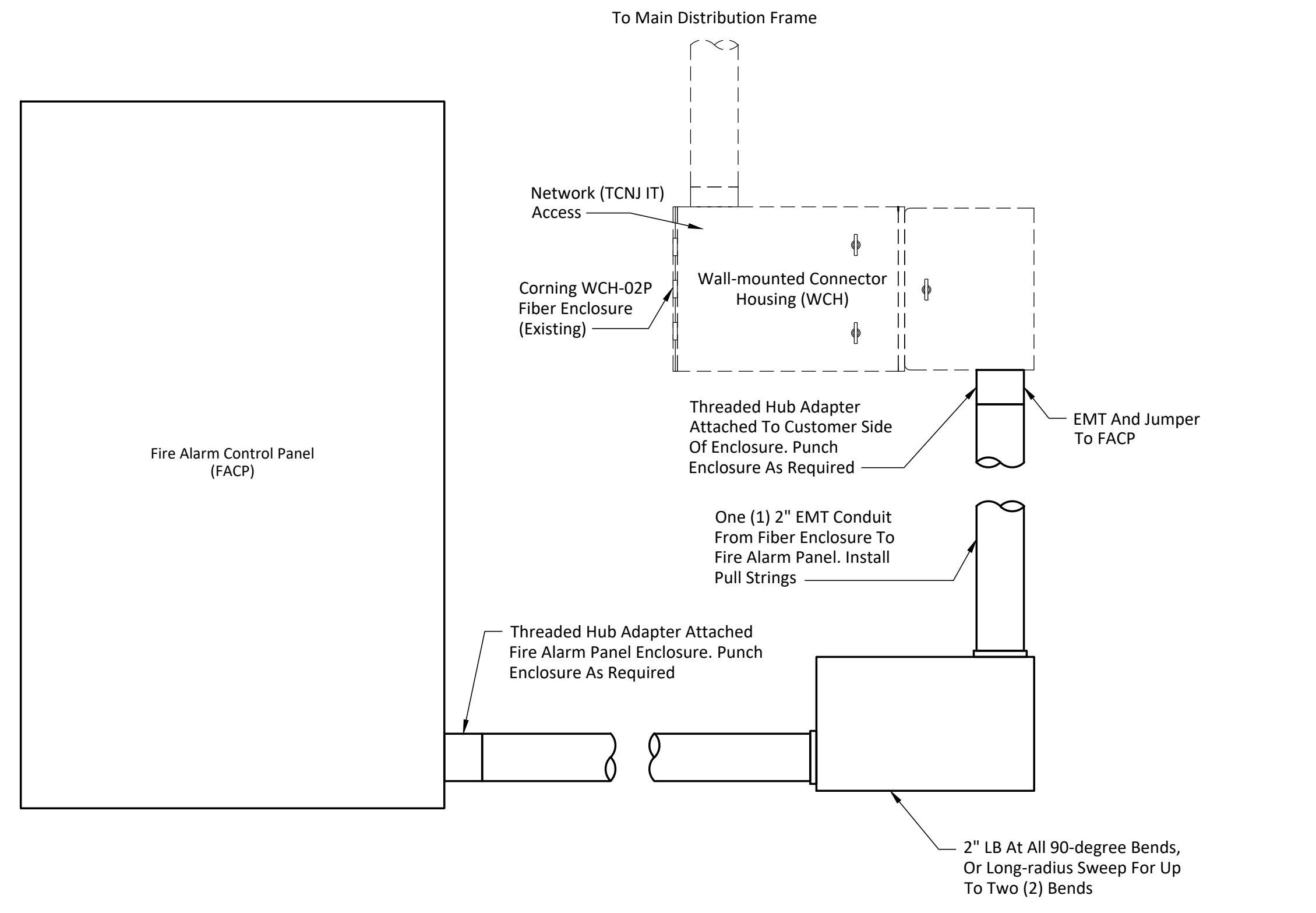
**FIRE ALARM SCHEDULE**

MARK	DESCRIPTION
[Symbol]	EXISTING FIRE ALARM DEVICES, PANEL, CIRCUITS, ETC
[CO]	CO DETECTOR ( WITH LOCAL VISUAL AND AUDIO )
[MM]	FIRE ALARM MONITOR MODULE
[Line]	POWER OR SIGNALING LINE CIRCUIT
[BPS]	BOOSTER POWER SUPPLY



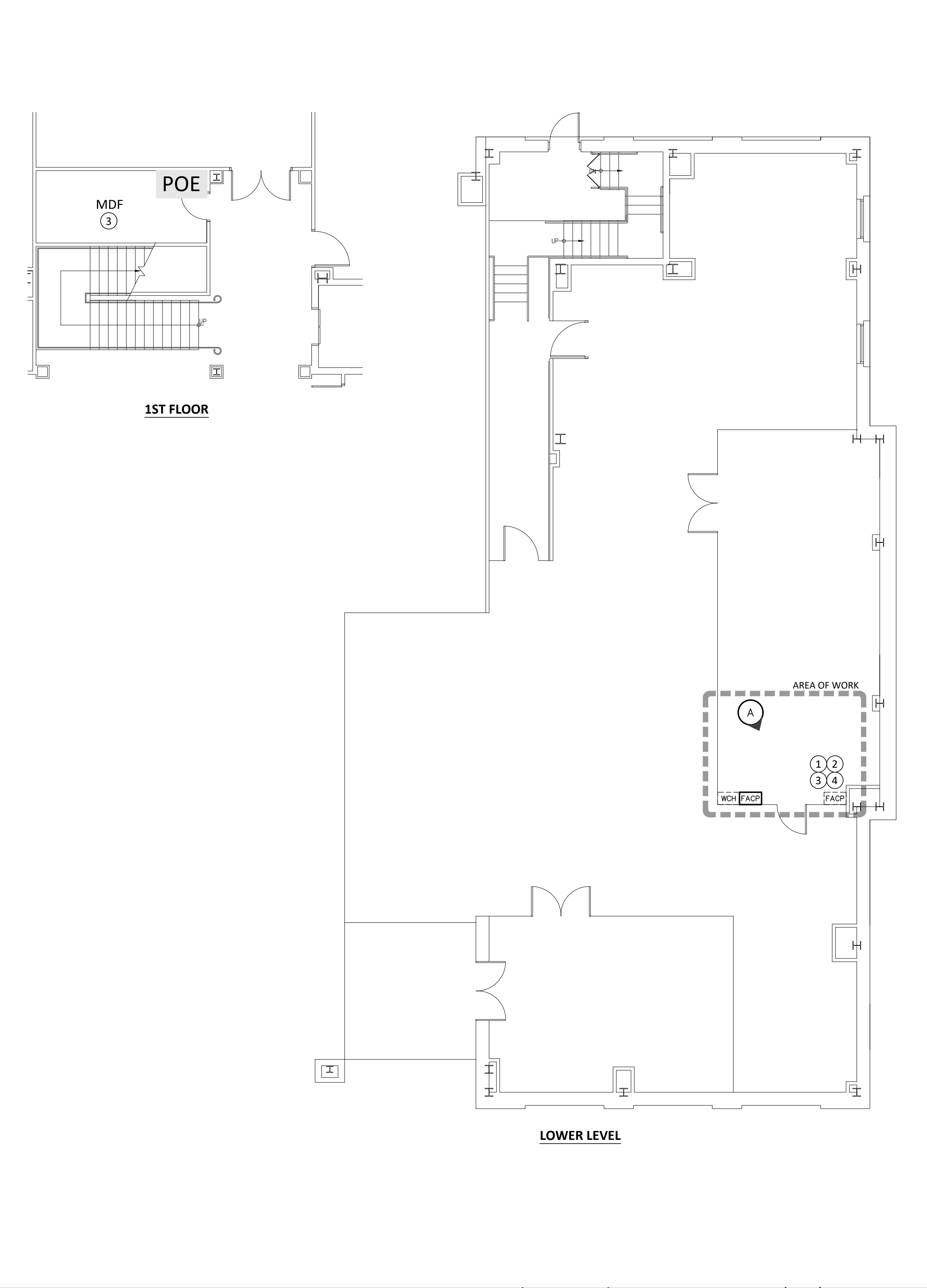
- NOTES:**
- General
    - The Riser Above Depicts A "Honeywell" Basis Of Design With A New Honeywell FACP. All Existing Simplex End Devices Would Not Be Compatible With The New FACP.
      - Install New FACP With Capacity Noted Below.
      - New Honeywell FACP Would Monitor Existing Simplex FACP For Alarm, Tamper, Trouble, And Other Points That Are Currently Monitored By The Front End At A Minimum.
      - This Building Would NOT Be Considered A Fully Addressable Building.
    - The Schematic Riser Diagram Is Intended As An Overview Of The Fire Alarm System Including The General Configuration And Type Of Devices Found Throughout The Building.
    - The FACP Shall Connect The Campus Life Safety Management System.
  - Equipment
    - The Biology Building Is Currently Covered By Fire Notification And Detection / Initiation Devices From An Addressable Simplex 4010 System.
    - Fire Alarm Fiber Jumper Is To Be Brought Into Wall Mounted Connector Housing In The Vicinity Of The FACP.
  - Wiring
    - The FACP Power Supply Shall Be Derived From A Dedicated, Lockable Electrical Circuit (Colored Red) As Well As An Internal Battery Sized To Provide 15 Minutes Of Alarm Condition After 24 Hours Of Operation Without Normal Power And Include 20% Additional Spare Capacity.
    - The FACP Ground Shall Consist Of An #8 AWG Conductor In 3/4" Conduit From The Fire Alarm Control Panel (FACP) To The Building's Grounding Electrode System. Bond To Metallic Conduit On Both Ends With Listed Hardware. See Sheet E102 For Location Of Main Electric Room.
    - The Fire Alarm System's Wiring Method Shall Be Class A Rated Between Panels (Where Applicable) And Class B Rated For Detection Devices And Notification Appliances.
    - The New FACP Shall Contain A Minimum Of 30% Spare Capacity Above The Total Amount Of Existing Devices Connected To The Existing FACP Provide Fire Alarm Panel With Hardware For Two (2) Spare Circuits.
    - Surge Protector To Be Provided For Each 120V Power Supply Circuit, Refer To Specifications For Further Information.
  - Testing
    - Perform A Final Acceptance Test Of The Entire Fire Alarm System In Accordance With All Applicable Codes Including The International Building Code (IBC) And NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.

<b>FIRE ALARM RISER</b>	Scale: NTS	Drawing: <b>E101</b>	Detail: <b>01</b>
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- NOTES:**
- Coordinate Position Installation Of EMT Into FACP Enclosure With Respect To Fiber Termination Connections In FACP Enclosure, And With TCNJ/IT
  - Install 2" EMT From Fiber Enclosure To FACP Enclosure. Use LBs At Each 90-Degree End Unless Swept Long-Radius Bends Can Be Installed. No More Than (2) 90-degree Bends Are Permitted Before An Accessible Pulling Point Shall Be Furnished.
  - Install Fiber Jumpers Between WCH And FACP.

<b>FIRE ALARM FIBER ENCLOSURE INSTALLATION</b>	Scale: NTS	Drawing: <b>E101</b>	Detail: <b>02</b>
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<b>FLOOR PLAN - LOWER LEVEL</b>	Scale: 1/8"=1'-0"	Drawing: <b>E101</b>	Detail: <b>03</b>
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**KEY NOTES (SYMBOLS ①, ②, ETC.)**

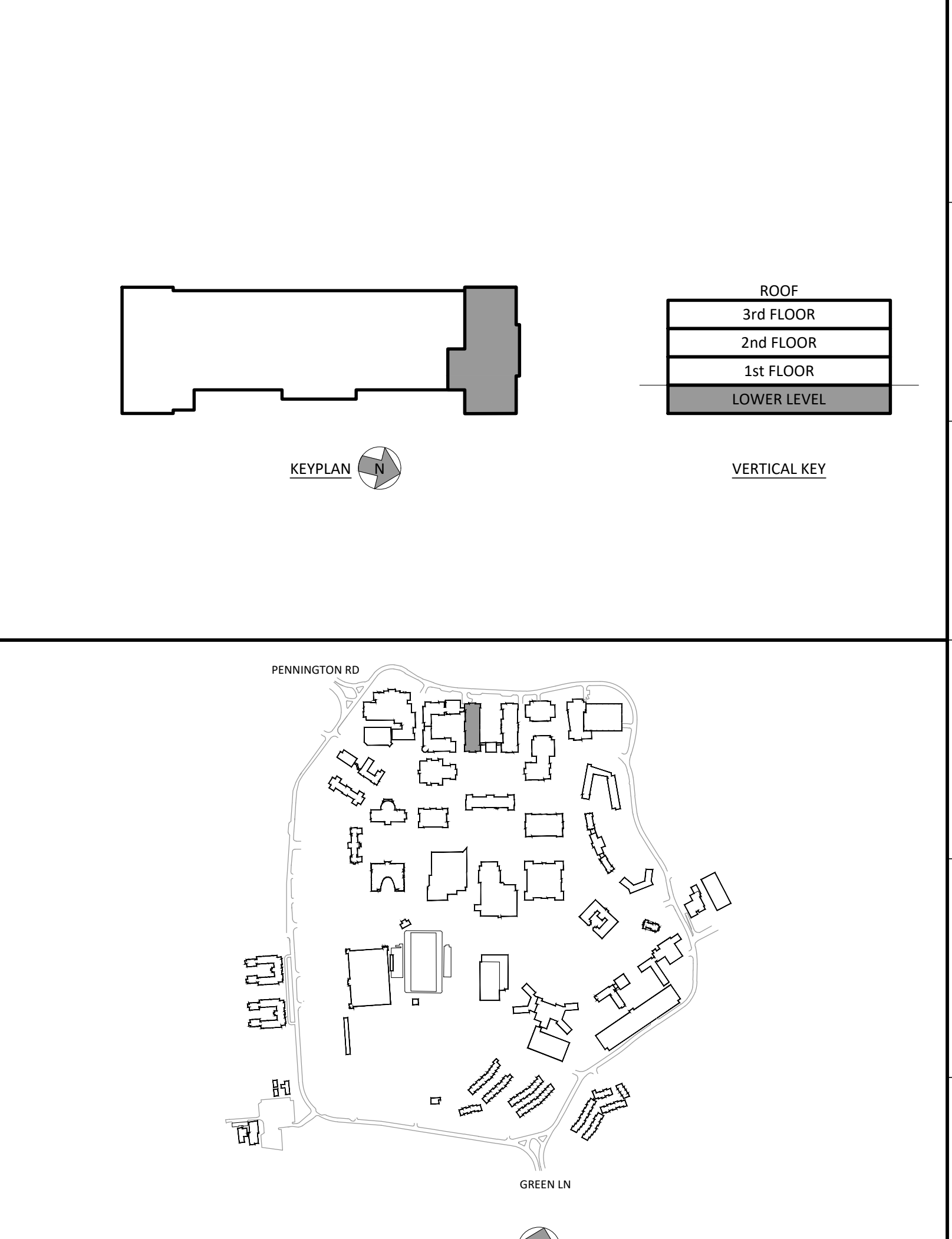
- Provide A New Fire Alarm Panel, Or Replace Existing Fire Alarm Panel, Or Replace Existing Fire Alarm System To Enable Addressable Communication With The New Campus Front End. To Count As One Of The Fully Addressable Buildings, Each Device Point Must Be Communicated To The Front End System.
- Provide UL Listed Alarm System Loop Circuit Surge Protection For Each 24V Alarm System Loop Circuits In A Field-Replaceable Module. Includes Hardwired Mounting Base For Each Module.
- Provide Two Duplex Fiber Jumper Cables Pre-terminated On Both Ends, Between The Existing WCH And Fire Alarm Control Panel As Per Detail 2. Also Provide Duplex Fiber Jumper Cables Pre-terminated On Both Ends At The MDF Between Required Interconnection Points. Contractor Shall Coordinate And Confirm Jumper Connection Types, Fiber Type, Length, Routing Conditions, Etc With Field Conditions. Coordinate With TCNJ IT Department For Fiber Connection And Labeling Information.
- Provide Branch Circuit For The New Fire Alarm Panel From Existing Electrical Panel In Electric Room That Currently Supplies The Existing Fire Alarm Panel. Utilize 2#12, #12G In 3/4" Conduit And Provide New 20Amp Circuit Breaker (Red And Clearly Identify FACP Circuit). Match Existing Type/Ratings For Circuit Breaker.
- Provide New CO Devices Connected To New Panel. See Sheet E102 For Approximate Location.

**GENERAL NOTES**

- The Fire Alarm Plan Shows The General Layout And Intent Of The Fire Alarm System. It Does Not Necessarily Reflect Exact Quantities Required By Code. The Contractor Shall Determine The Actual Quantity And Location Of Devices Required Based Upon Actual Field Conditions Required As Per NFPA 72.
- The Fire Alarm System Shall Comply With NFPA 72 And All Local Codes And Amendments. Provide Installation Testing Per NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.
- Fire Alarm Cabling That Cannot Be Concealed Shall Be Neatly Surface Mounted Utilizing Wire Mold In Finished Areas Or EMT In Non-Finished Areas. All Exposed EMT Shall Be Prepped And Painted To Match Adjacent Wall Surface.
- Panel Board Circuit Breaker Supplying Fire Alarm Control Panel And Associated Equipment Shall Have A Handle "Lock On" Device.
- When Replacing An Existing FACP It Is The Contractors Responsibility To Transfer All Systems That Are Currently Reporting To The Existing Panel. There Are Certain Panels That Monitor Accessory Systems Such As Security, Fire Shutters Clean Agent Systems, CO Detectors, Access Control Etc. Contractor Shall Survey The Buildings And Include All Accessory Systems And Intermediary Devices Required To Integrate Said Systems On Their Shop Drawings.
- CO Detectors To Provide Local Audio Visual And Supervisory At FACP And LSMS Control Station.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
[FACP]	Fire Alarm Control Panel	[New Box]	New Equipment
[WCH]	Existing Wall-Mounted Connector Housing	[Old Box]	Existing Equipment
[FACP]	Existing Fire Alarm Control Panel	[C]	Photo Tag
		[Arrow]	Connect To Existing

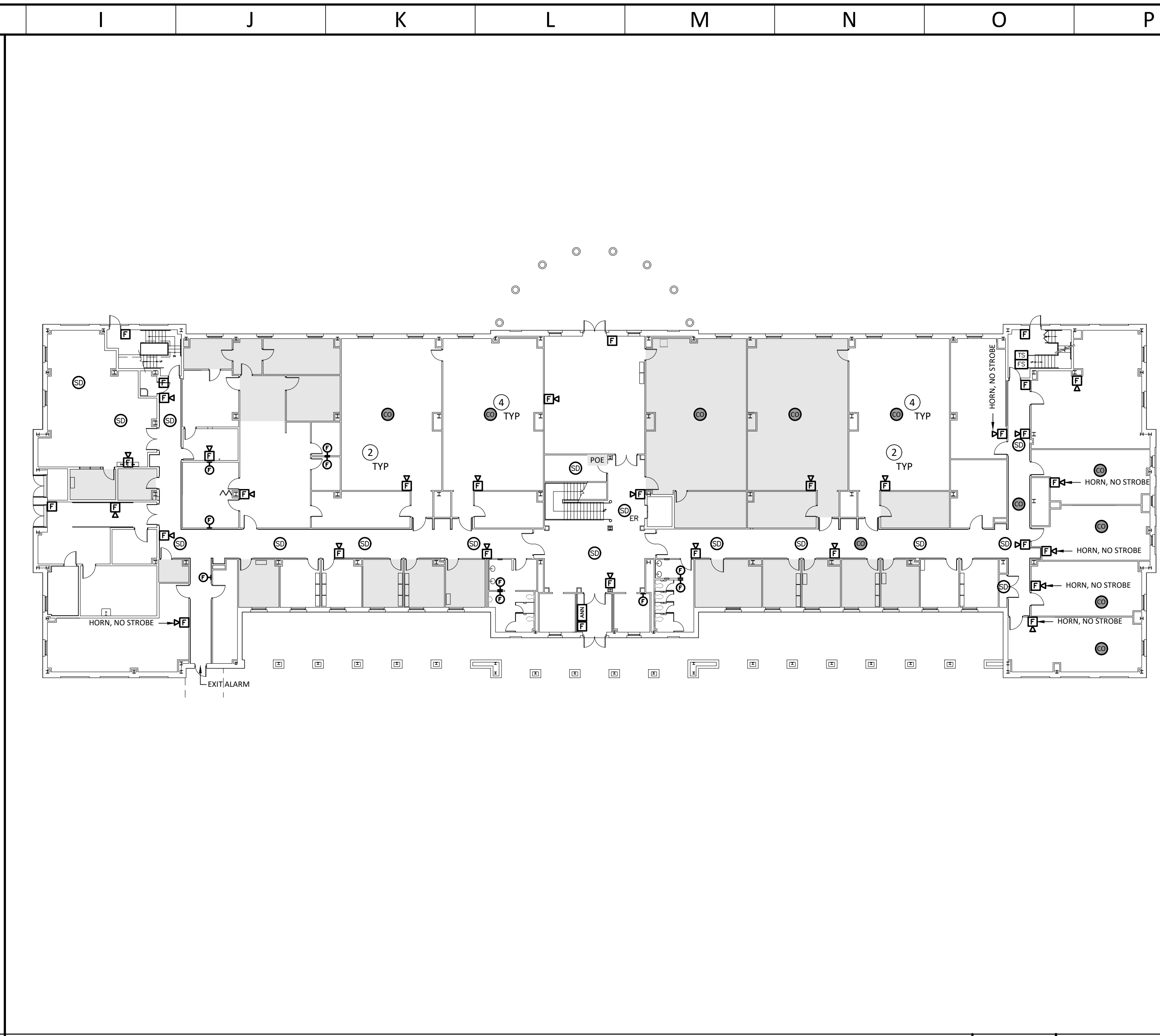
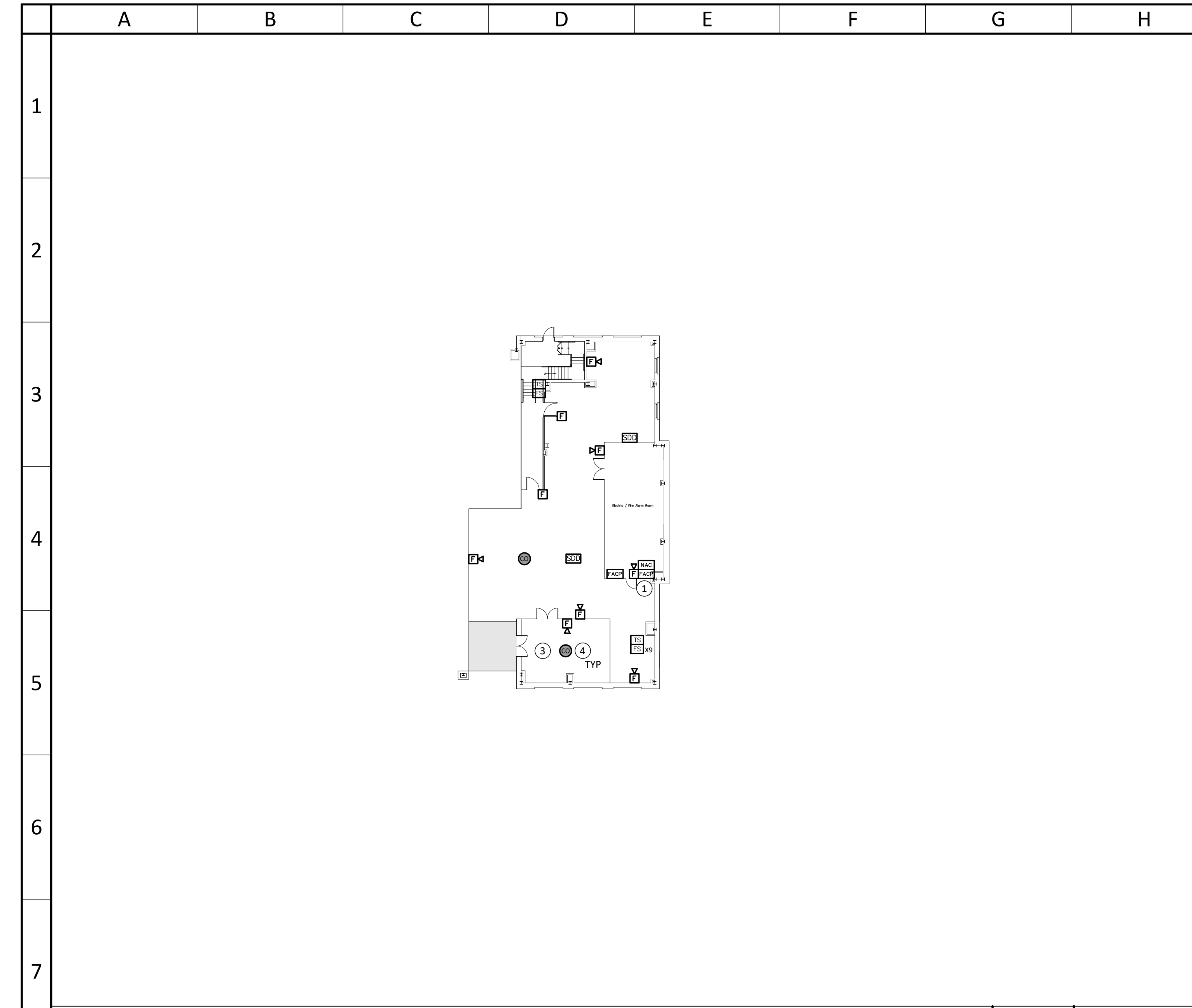


<b>FIRE ALARM PANEL REPLACEMENT BIOLOGY BUILDING</b>	Scale: AS SHOWN	drawn by: SC	checked by: SF	date: 5/03/2020
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<p><b>dlb associates</b> CONSULTING ENGINEERS, P.C. 265 Industrial Way West, Eatontown, N.J. 07724</p> <p>Questions For DLB Call: Anthony Laskosky DLB Project Id: 47211 Phone: 732-927-5038</p>	<p>project <b>TCNJ - CAMPUS FIRE ALARM PROJECT PART B - HARDWARE &amp; SOFTWARE UPGRADES</b> 2000 PENNINGTON ROAD, EWING NJ, 08618</p>	<p>title <b>FIRE ALARM PANEL REPLACEMENT BIOLOGY BUILDING</b></p>	<p>dwg. no. <b>E101-BIO</b></p>
	<p>scale AS SHOWN</p>	<p>drawn by SC</p>	<p>checked by SF</p>

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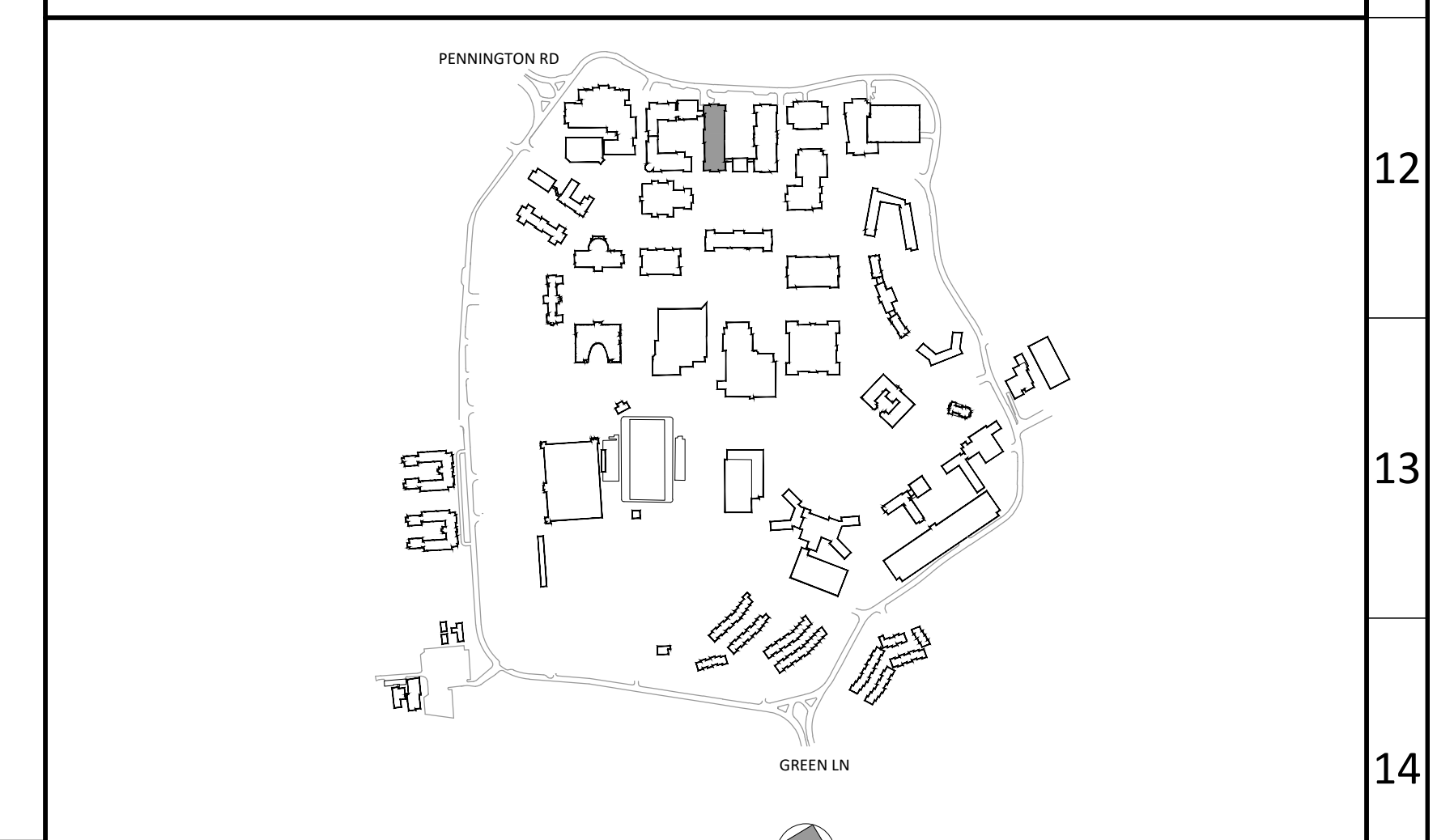
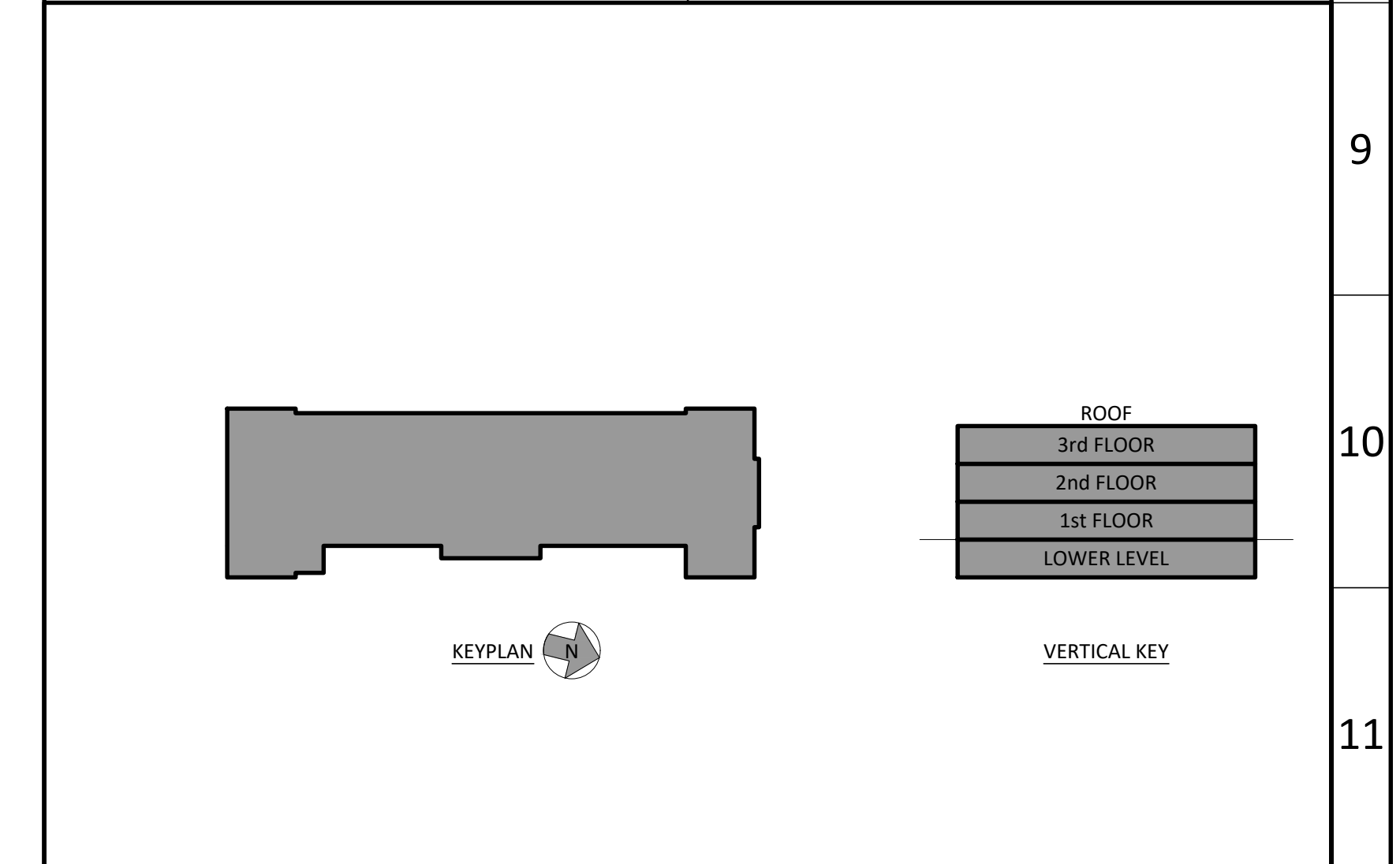
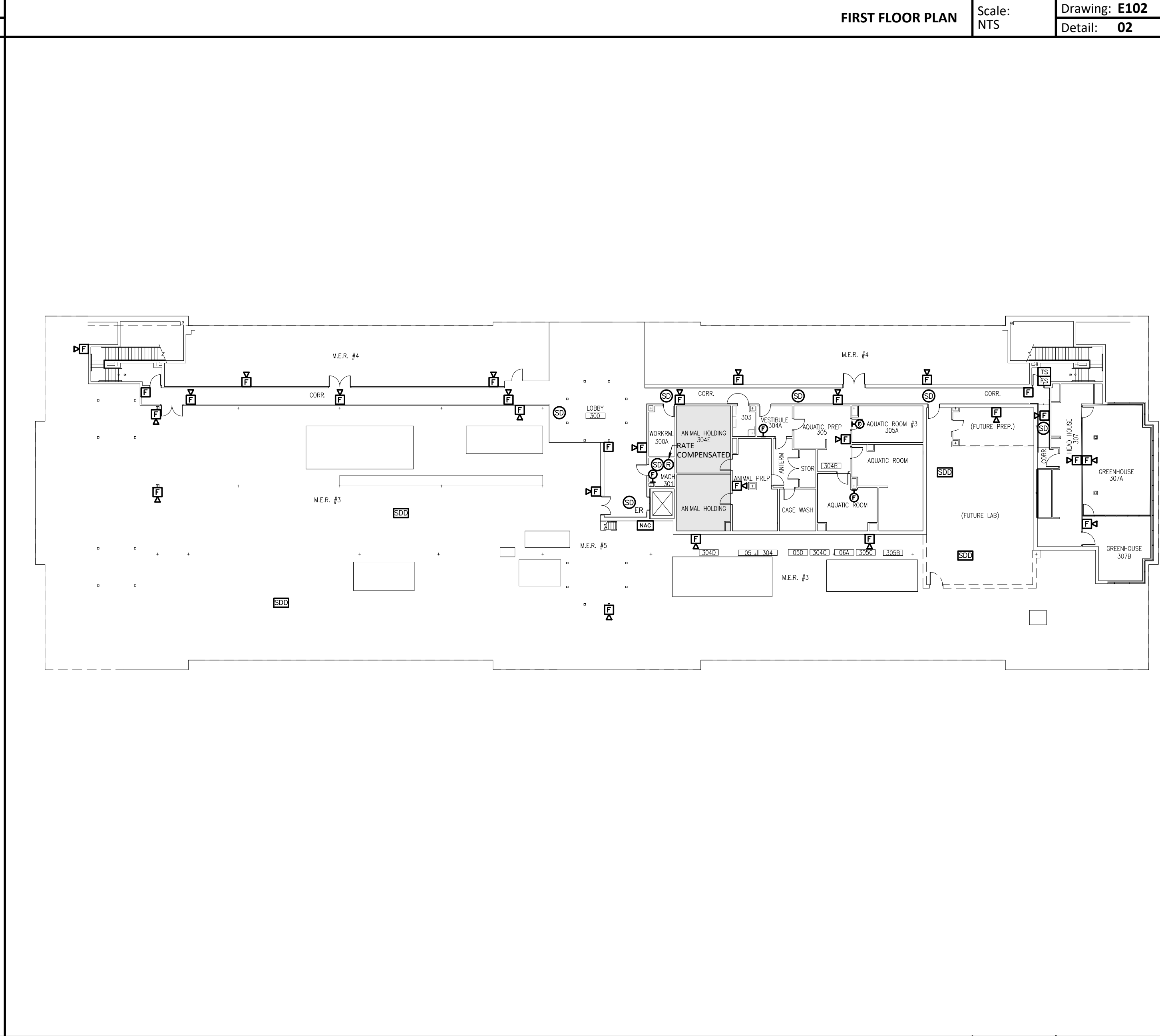
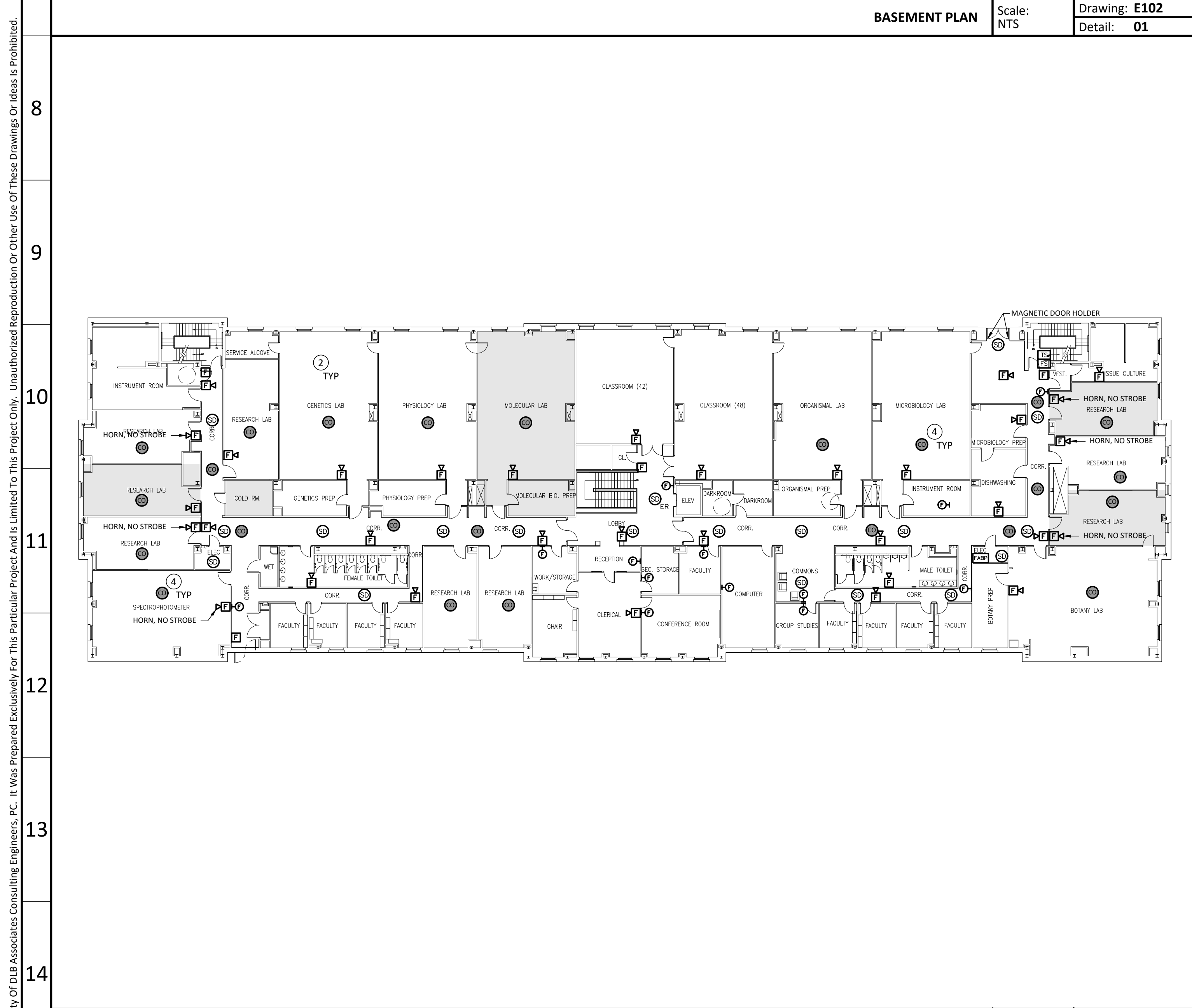
- KEY NOTES (SYMBOLS ①, ②, ETC.)**
- Existing Fire Alarm Control Panel.
  - Labs With Gas Connection.
  - Gas Generator.
  - New CO Detector

**GENERAL NOTES**

- This Drawing Is Provided For Reference Only And Includes Existing Fire Alarm Devices Noted During A Visual Walk Through To Provide An Understanding Of The Existing Level Of Protection Within Each Building. The Intent Of This Reference Drawing Is To Provide A Baseline Or Minimum Level Of Protection That Shall Be Maintained In Within The Building. It Is Not Intended To Depict The Requirements For A Complete System Replacement Or Layout Of New Devices For This Building.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
Ⓜ	Manual Pull Station	□	No Access
Ⓢ	Strobe Only	Ⓢ	New Smoke Detector
Ⓜ/Ⓢ	Horn/Strobe	Ⓜ	New Manual Pull Station
Ⓢ	Smoke Detector	Ⓢ	New Strobe
Ⓢ <sub>ER</sub>	Smoke Detector (ER Indicates Elevator Recall)	Ⓜ/Ⓢ	New Horn / Strobe
Ⓢ <sub>SB</sub>	Smoke Detector With Sounder Base	Ⓢ	New Carbon Monoxide Detector With Local Audio And Visual Notification.
Ⓢ	Heat Detector, Combination Fixed Temperature And Rate Of Rise	Ⓢ	Photo Location Indicator
Ⓢ	CO Detector	FACP	Fire Alarm Control Panel
Ⓢ <sub>DM</sub>	Duct Mounted Smoke Detector	CO	Carbon Monoxide
FACP	Fire Alarm Control Panel	POE	Point Of Entry
FABP	Fire Alarm Booster Panel		
FARP	Fire Alarm Remote Annunciator Panel		
FABP	Fire Alarm Booster Panel		
TS	Fire Sprinkler Tamper Switch		
FS	Fire Sprinkler Flow Switch		



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Drawings Based On Visual Inspection Site Walk Through Completed During Nov 2017 - March 2018

**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724

Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

project  
TCNJ - CAMPUS FIRE ALARM PROJECT  
PART B - HARDWARE & SOFTWARE UPGRADES  
2000 PENNINGTON ROAD,  
EWING NJ, 08618

title  
FIRE ALARM - EXISTING LAYOUT  
BIOLOGY BUILDING

scale AS SHOWN  
drawn by SC  
checked by SF  
date 5/03/2020

dwg. no.  
**E102-BIO**

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**FIRE ALARM PHOTOS**



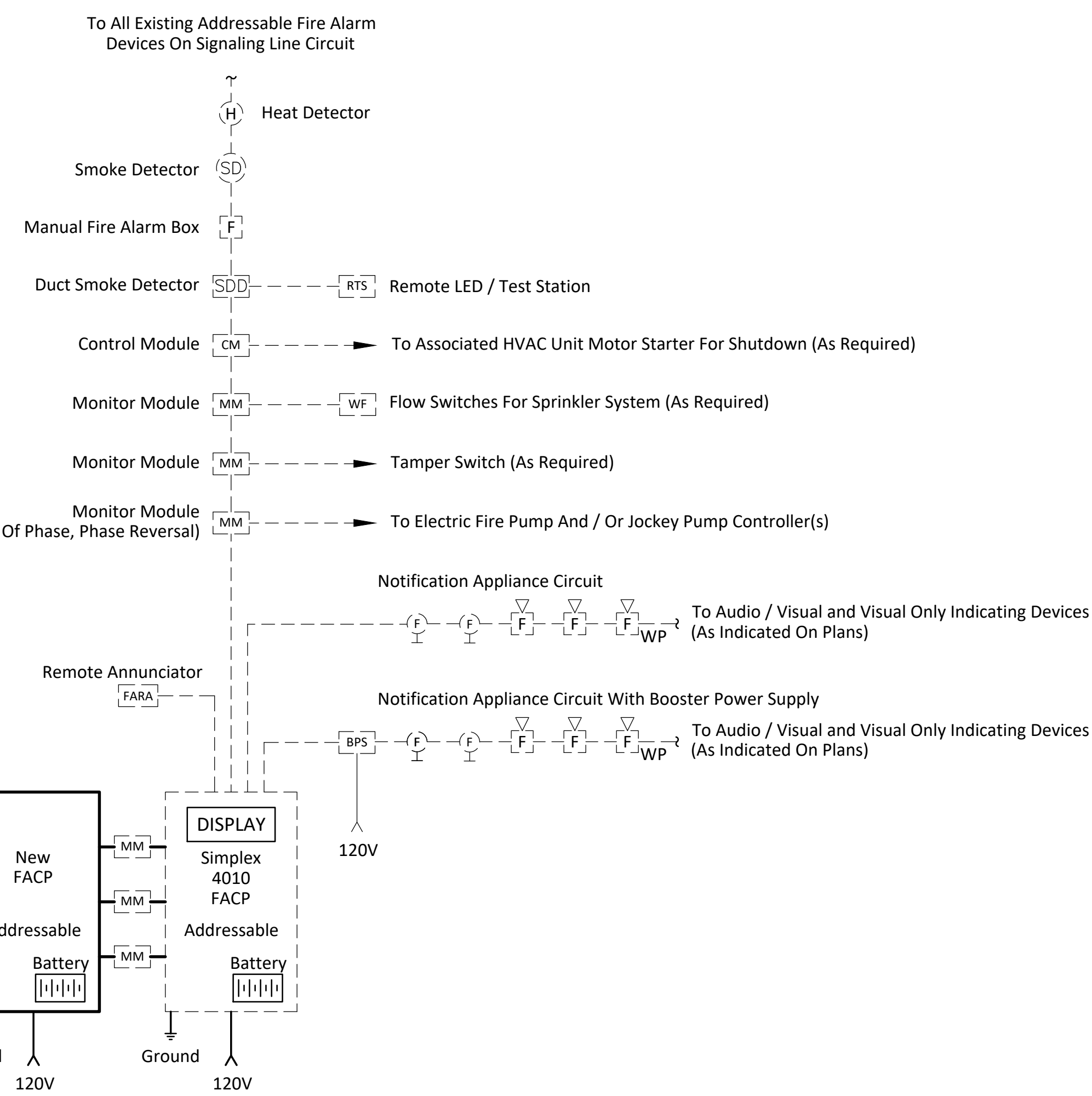
**PHOTO A - SIMPLEX FIRE ALARM CONTROL PANEL**  
Simplex 4010 Addressable Fire Alarm Control Panel With Exposed Conduit Located Within Lower Level Electrical Room



**SIMPLEX FIRE ALARM DEVICES**  
Existing Simplex Addressable Fire Alarm Devices Located Throughout The Building

**FIRE ALARM SCHEDULE**

MARK	DESCRIPTION
---	EXISTING FIRE ALARM DEVICES, PANEL, CIRCUITS, ETC.
CO	CO DETECTOR ( WITH LOCAL VISUAL AND AUDIO )
MM	FIRE ALARM MONITOR MODULE
---	POWER OR SIGNALING LINE CIRCUIT
BPS	BOOSTER POWER SUPPLY

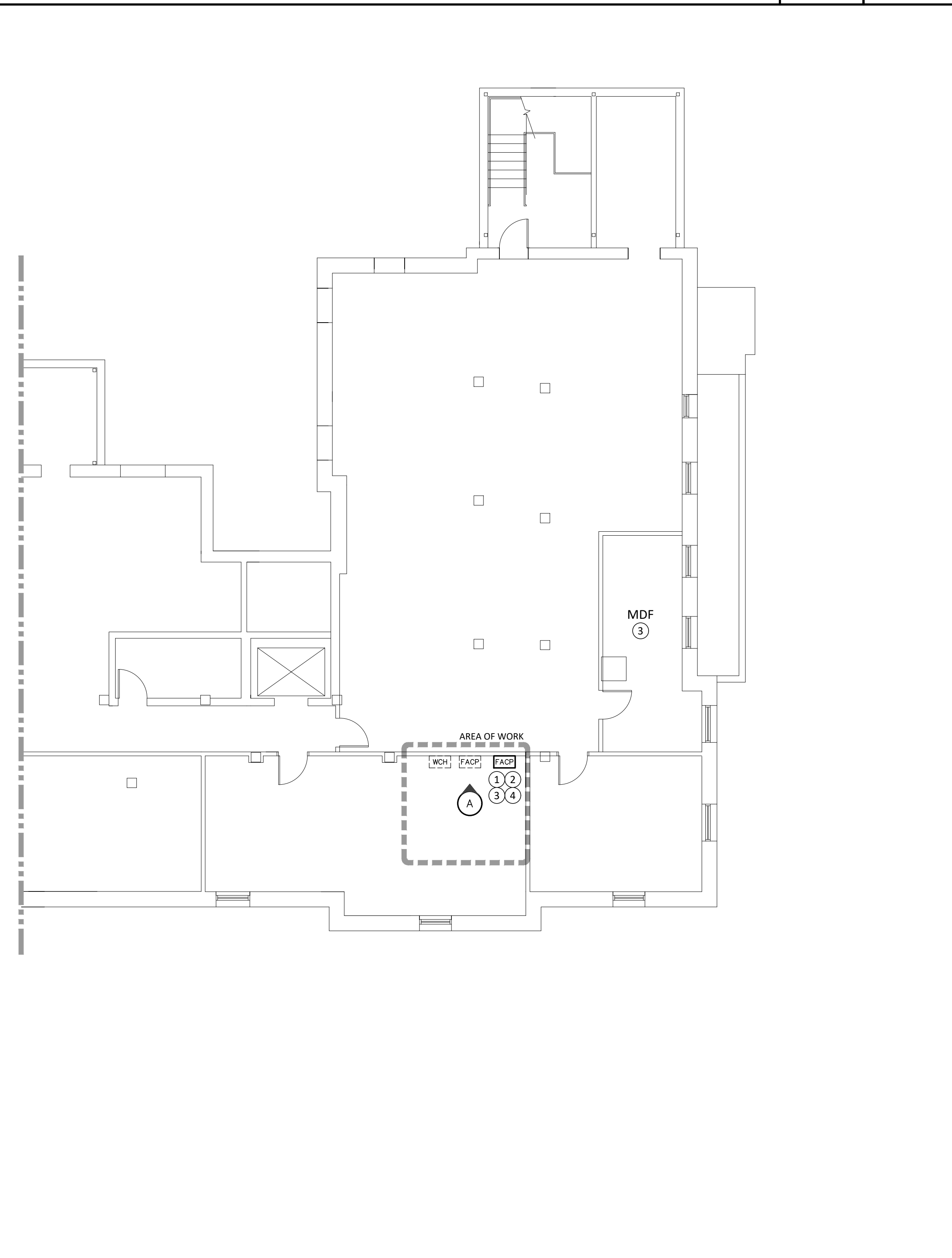


- NOTES:**
- General
    - The Riser Above Depicts A "Honeywell" Basis Of Design With A New Honeywell FACP. All Existing Simplex End Devices Would Not Be Compatible With The New FACP.
      - Install New FACP With Capacity Noted Below.
      - New Honeywell FACP Would Monitor Existing Simplex FACP For Alarm, Tamper, Trouble, And Other Points That Are Currently Monitored By The Front End At A Minimum.
      - This Building Would NOT Be Considered A Fully Addressable Building.
    - The Schematic Riser Diagram Is Intended As An Overview Of The Fire Alarm System Including The General Configuration And Type Of Devices Found Throughout The Building.
    - The FACP Shall Connect The Campus Life Safety Management System.
  - Equipment
    - Bliss Hall & Annex Are Currently Covered By Fire Notification And Detection / Initiation Devices From A Addressable Simplex 4010 System.
    - Fire Alarm Fiber Jumper Is To Be Brought Into Wall Mounted Connector Housing In The Vicinity Of The FACP.
  - Wiring
    - The FACP Power Supply Shall Be Derived From A Dedicated, Lockable Electrical Circuit (Colored Red) As Well As An Internal Battery Sized To Provide 15 Minutes Of Alarm Condition After 24 Hours Of Operation Without Normal Power And Include 20% Additional Spare Capacity.
    - The FACP Ground Shall Consist Of An #8 AWG Conductor In 3/4" Conduit From The Fire Alarm Control Panel (FACP) To The Building's Grounding Electrode System. Bond To Metallic Conduit On Both Ends With Listed Hardware. See Sheet E102 For Location Of Main Electric Room.
    - The Fire Alarm System's Wiring Method Shall Be Class A Rated Between Panels (Where Applicable) And Class B Rated For Detection Devices And Notification Appliances.
    - The New FACP Shall Contain A Minimum Of 30% Spare Capacity Above The Total Amount Of Existing Devices Connected To The Existing FACP Provide Fire Alarm Panel With Hardware For Two (2) Spare Circuits.
    - Surge Protector To Be Provided For Each 120V Power Supply Circuit, Refer To Specifications For Further Information.
  - Testing
    - Perform A Final Acceptance Test Of The Entire Fire Alarm System In Accordance With All Applicable Codes Including The International Building Code (IBC) And NFPA 72 By NICET Level II Or Greater Certified Fire Alarm Technician.

**FIRE ALARM RISER** Scale: NTS Drawing: **E101** Detail: **01**

- NOTES:**
- Coordinate Position Installation Of EMT Into FACP Enclosure With Respect To Fiber Termination Connections In FACP Enclosure, And With TCNJ/IT
  - Install 2" EMT From Fiber Enclosure To FACP Enclosure. Use LBs At Each 90-Degree End Unless Swept Long-Radius Bends Can Be Installed. No More Than (2) 90-degree Bends Are Permitted Before An Accessible Pulling Point Shall Be Furnished.
  - Install Fiber Jumpers Between WCH And FACP.

**FIRE ALARM FIBER ENCLOSURE INSTALLATION** Scale: NTS Drawing: **E101** Detail: **02**



**PARTIAL FLOOR PLAN - LOWER LEVEL** Scale: 1/8"=1'-0" Drawing: **E101** Detail: **03**

**KEY NOTES (SYMBOLS ①, ②, ETC.)**

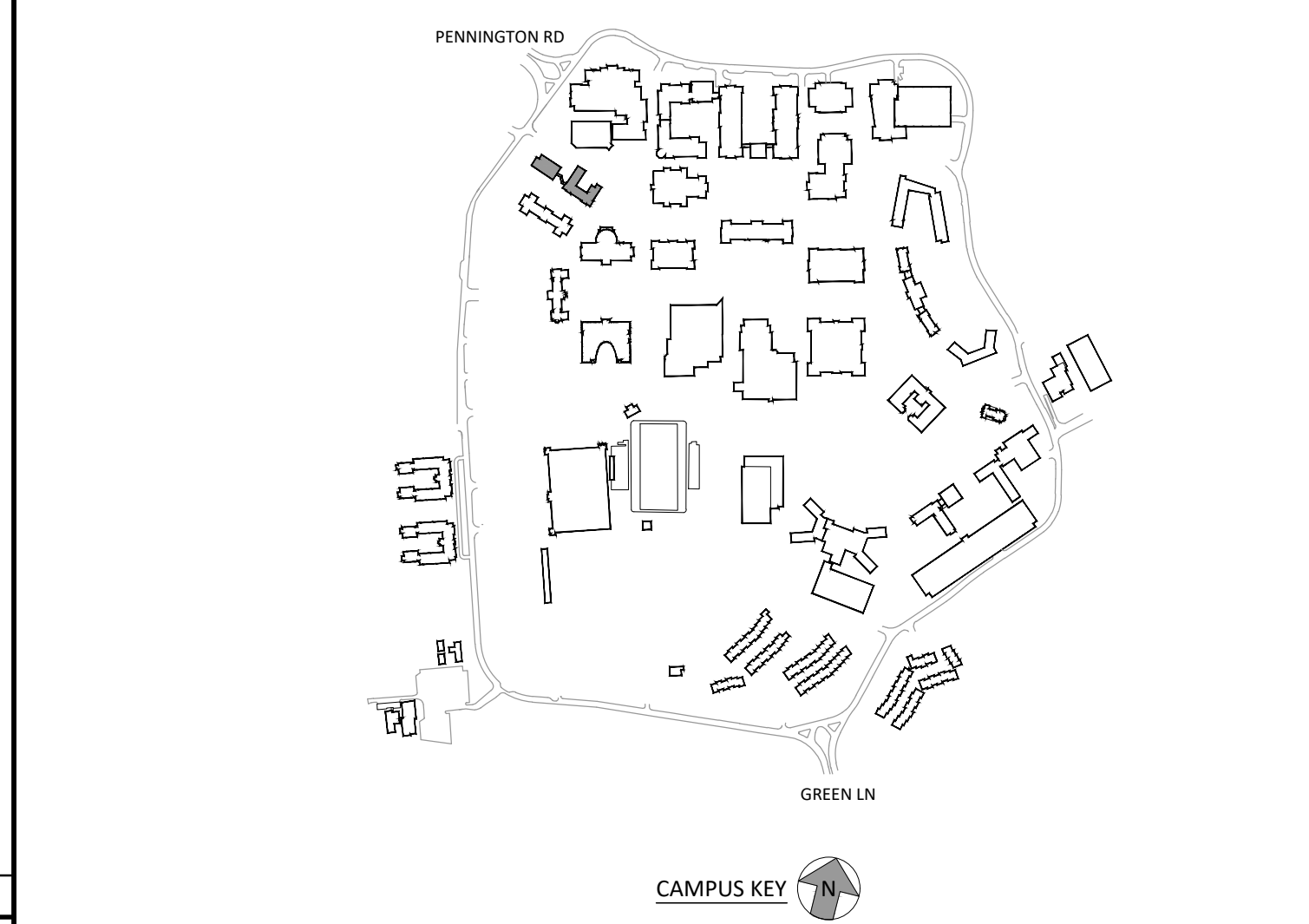
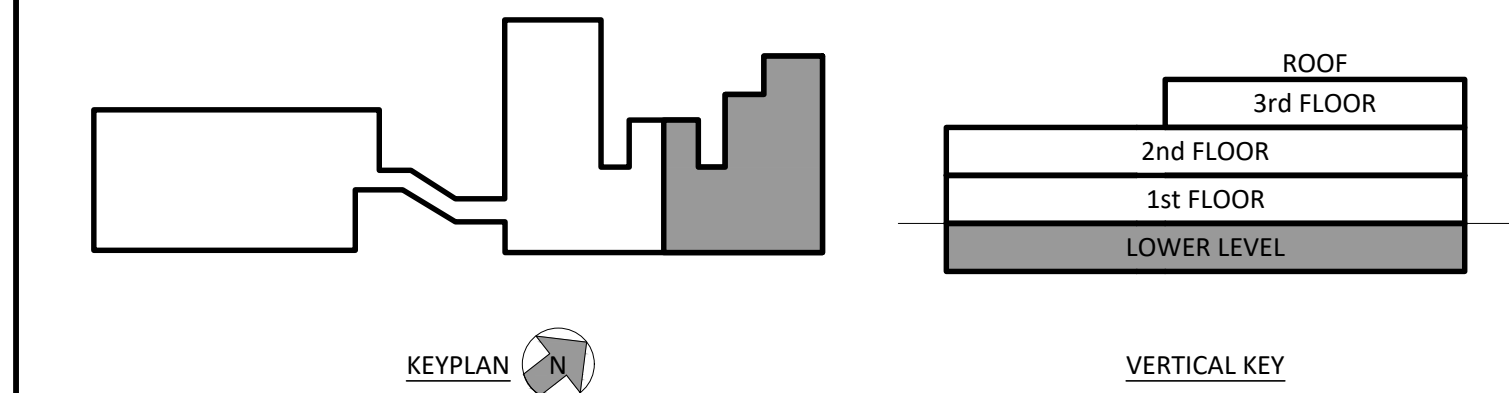
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- Provide New CO Devices Connected To New Panel. See Sheet E102 For Approximate Location.

**GENERAL NOTES**

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- CO Detectors To Provide Local Audio Visual And Supervisory At FACP And LSMS Control Station.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
FACP	Fire Alarm Control Panel	□	New Equipment
WCH	Existing Wall-Mounted Connector Housing	□	Existing Equipment
FACP	Existing Fire Alarm Control Panel	○	Photo Tag
		→	Connect To Existing



**FIRE ALARM PANEL REPLACEMENT**  
**BLISS HALL & ANNEX**  
title  
project  
scale AS SHOWN  
drawing by SC  
checked by SF  
date 5/03/2020  
drawing no. **E101-BLIS**

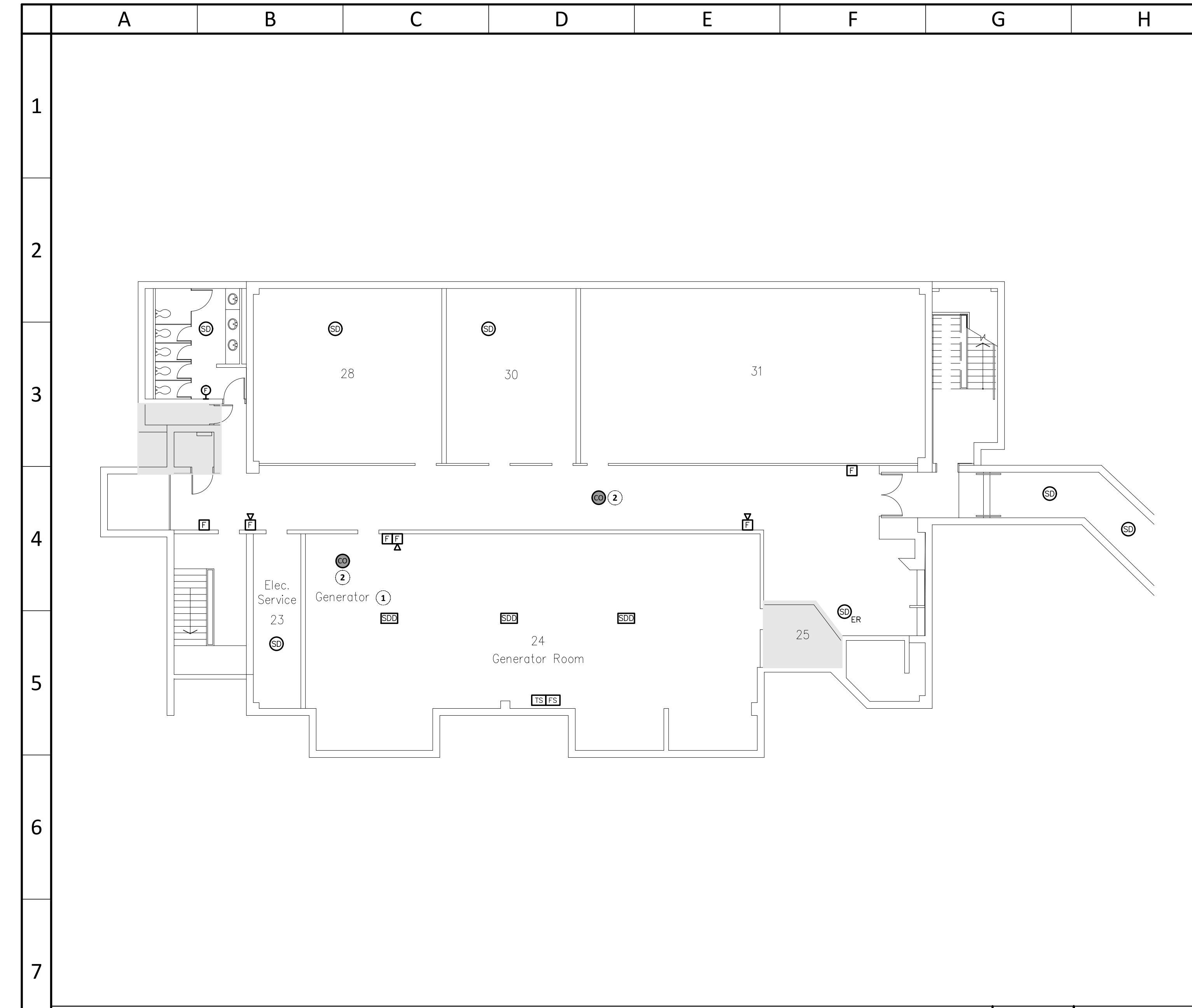
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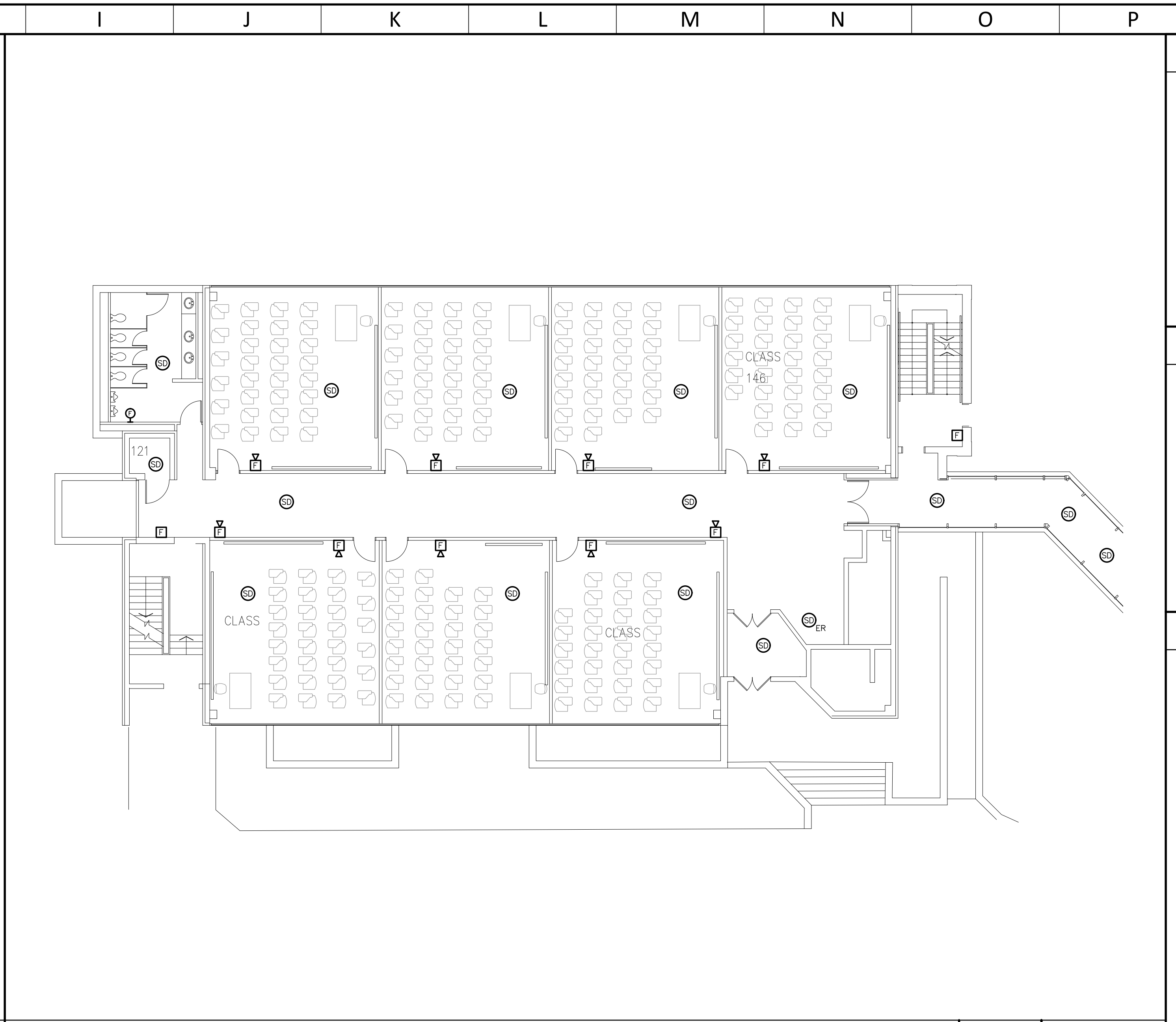
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**dlb associates**  
CONSULTING ENGINEERS, P.C.  
265 Industrial Way West, Eatontown, N.J. 07724  
Questions For DLB Call: Anthony Laskosky  
DLB Project ID: 47211 Phone: 732-927-5038

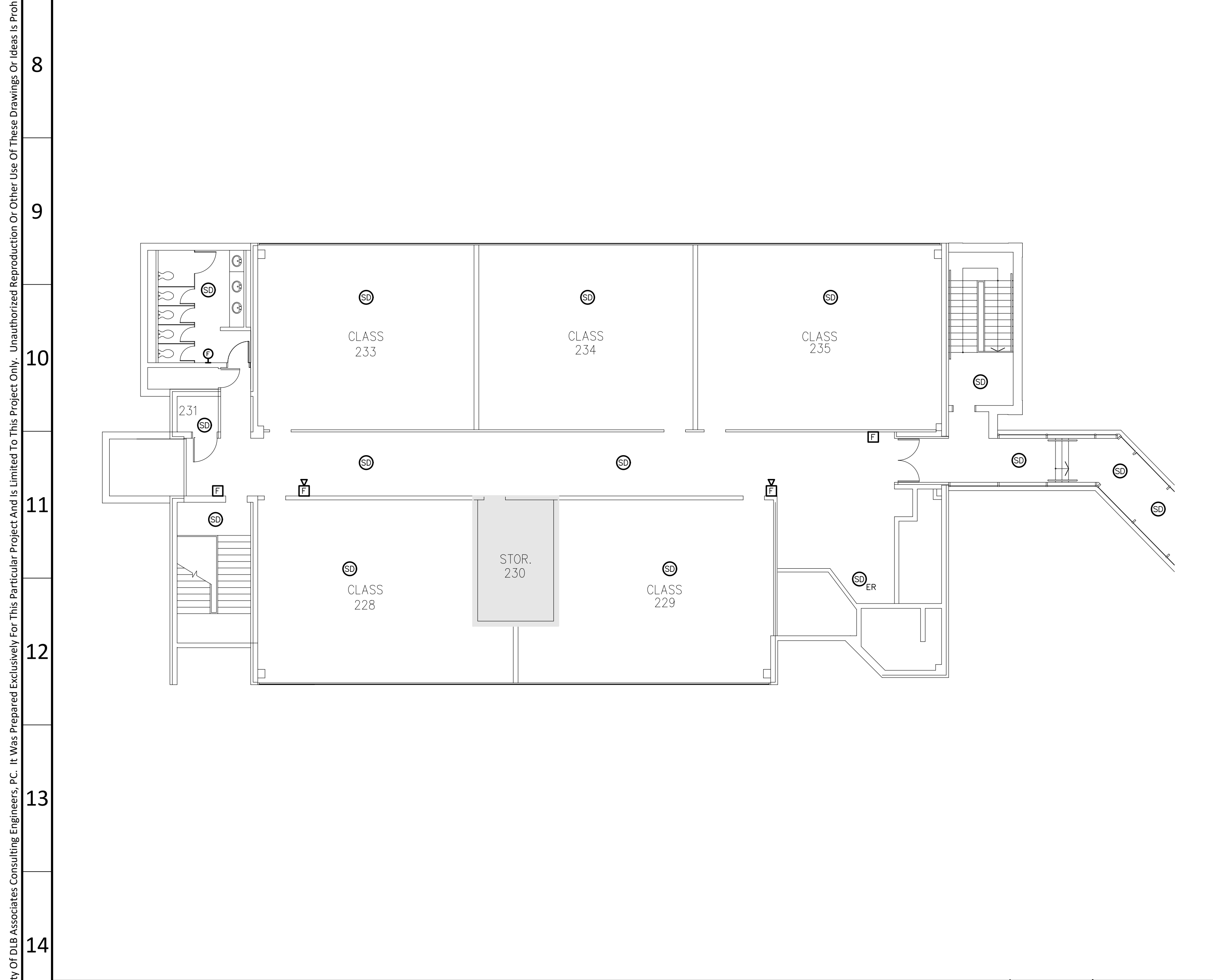
project  
**TCNJ - CAMPUS FIRE ALARM PROJECT**  
**PART B - HARDWARE & SOFTWARE UPGRADES**  
2000 PENNINGTON ROAD,  
EWING NJ, 08618



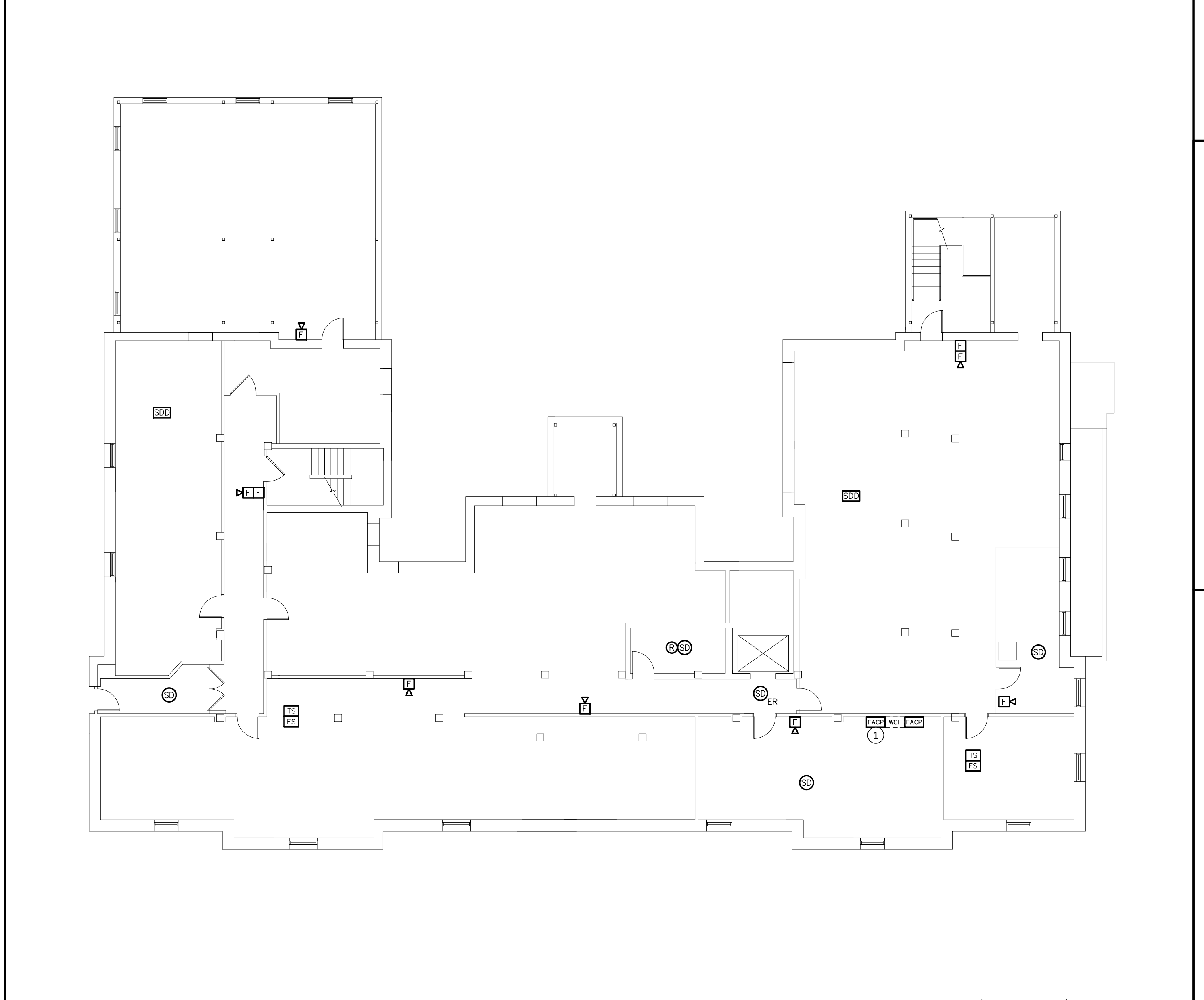
**BLISS ANNEX - BASEMENT LAYOUT** Scale: 3/32"=1'-0" Drawing: **E102** Detail: **01**



**BLISS ANNEX - FIRST FLOOR LAYOUT** Scale: 3/32"=1'-0" Drawing: **E102** Detail: **02**



**BLISS ANNEX - SECOND FLOOR LAYOUT** Scale: 3/32"=1'-0" Drawing: **E102** Detail: **03**



**BLISS HALL - LOWER LEVEL LAYOUT** Scale: 3/32"=1'-0" Drawing: **E102** Detail: **04**

**KEY NOTES (SYMBOLS ①, ②, ETC.)**

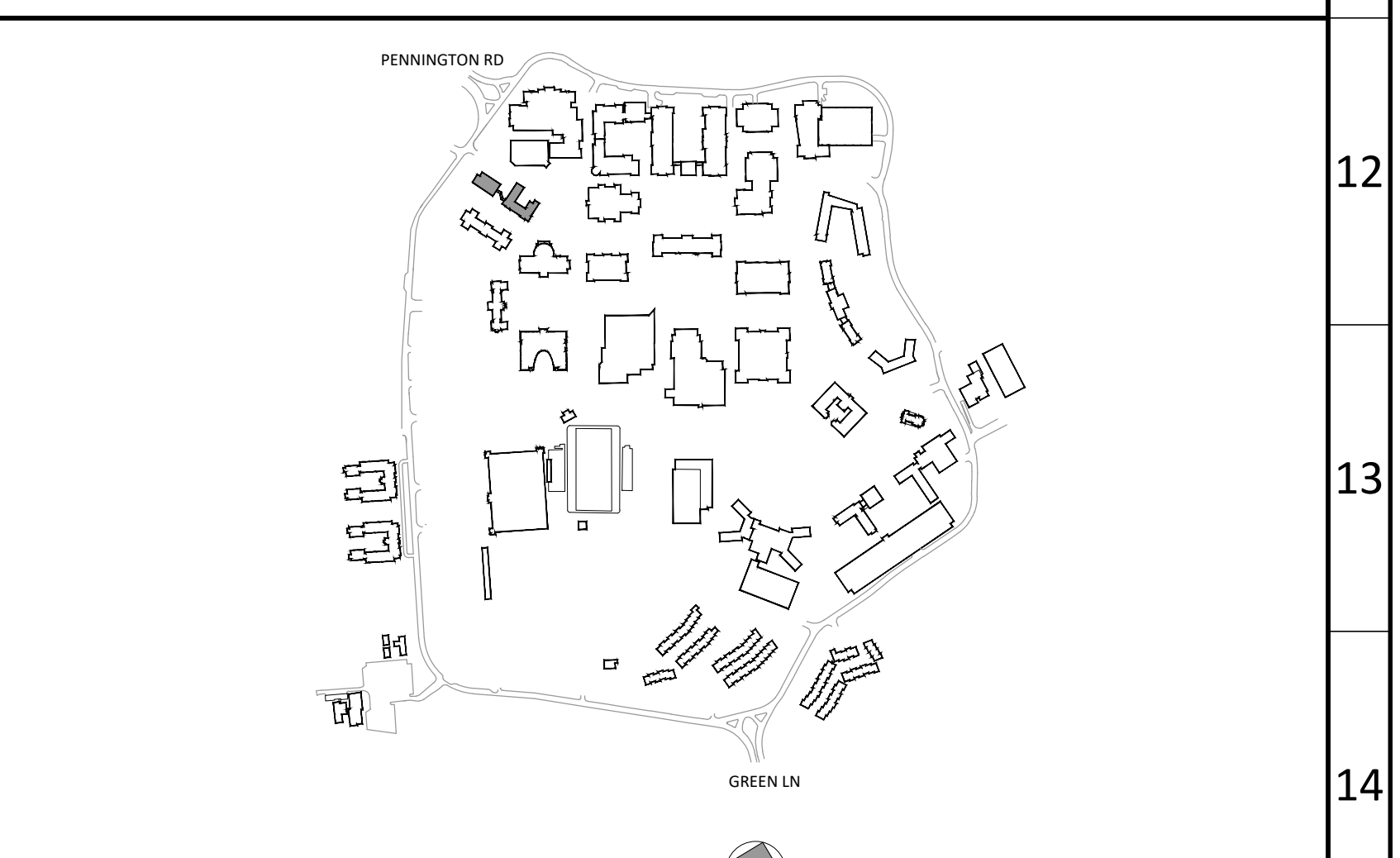
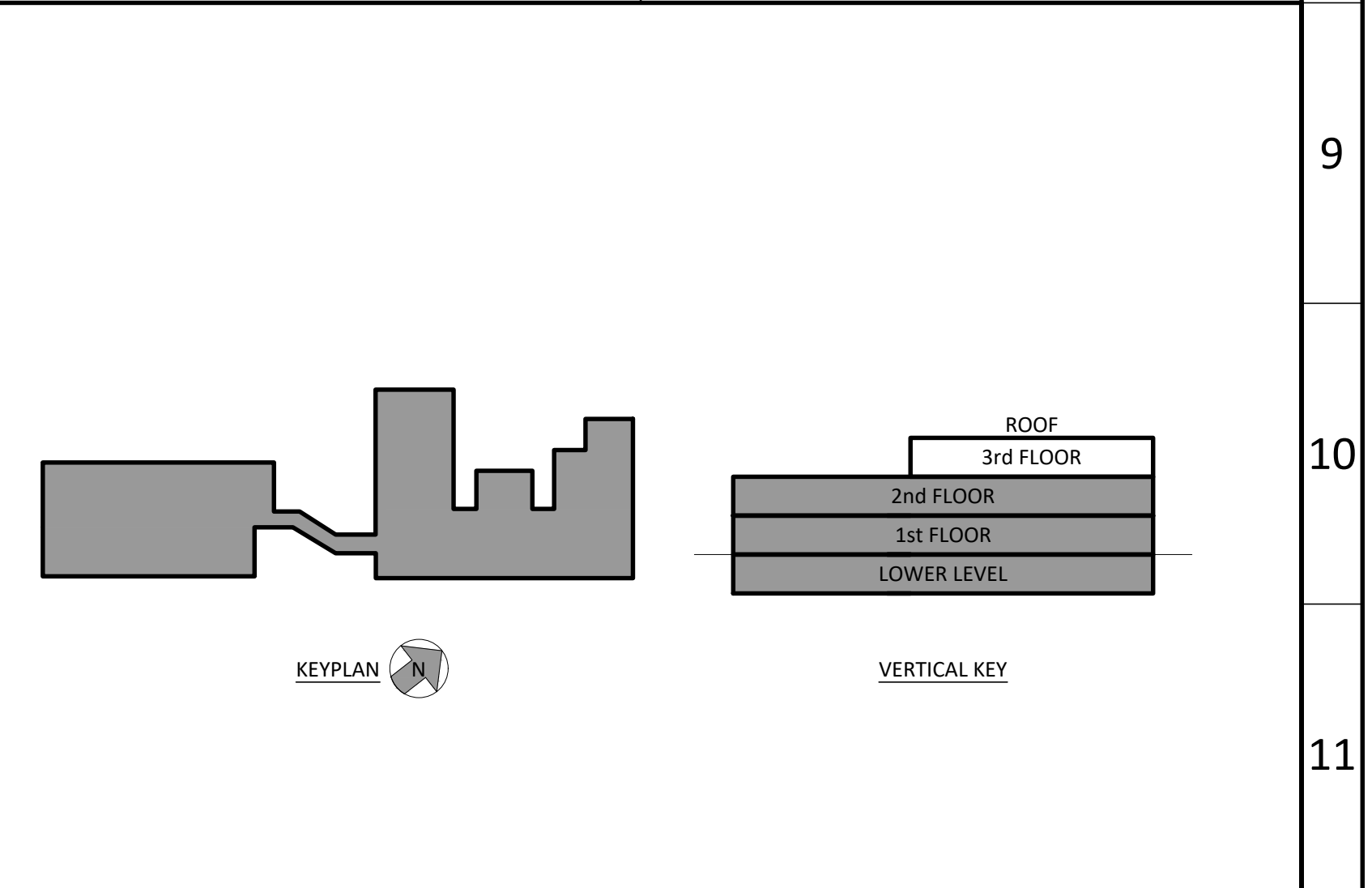
- Gas Generator.
- New CO Detector.

**GENERAL NOTES**

- This Drawing Is Provided For Reference Only And Includes Existing Fire Alarm Devices Noted During A Visual Walk Through To Provide An Understanding Of The Existing Level Of Detection Within Each Building. The Intent Of This Reference Drawing Is To Provide A Baseline Or Minimum Level Of Protection That Shall Be Maintained In Within The Building. It Is Not Intended To Depict The Requirements For A Complete System Replacement Or Layout Of New Devices For This Building.

**PARTIAL SYMBOLS & ABBREVIATIONS**

Identifier	Description	Identifier	Description
Ⓜ	Manual Pull Station	□	No Access
Ⓢ	Strobe Only	Ⓢ	New Smoke Detector
Ⓢ	Horn/Strobe	Ⓜ	New Manual Pull Station
Ⓢ	Smoke Detector	Ⓢ	New Strobe
Ⓢ <sub>ER</sub>	Smoke Detector (ER Indicates Elevator Recall)	Ⓢ	New Horn / Strobe
Ⓢ <sub>SB</sub>	Smoke Detector With Sounder Base	Ⓢ	New Carbon Monoxide Detector With Local Audio And Visual Notification.
Ⓢ	Heat Detector, Combination Fixed Temperature And Rate Of Rise	Ⓢ	Photo Location Indicator
Ⓢ	CO Detector	FACP	Fire Alarm Control Panel
Ⓢ <sub>DM</sub>	Duct Mounted Smoke Detector	CO	Carbon Monoxide
FACP	Fire Alarm Control Panel	POE	Point Of Entry
FARA	Fire Alarm Remote Annunciator Panel		
FABP	Fire Alarm Booster Panel		
FS	Fire Sprinkler Tamper Switch		
FS	Fire Sprinkler Flow Switch		
WCH	Existing Wall Mounted Connector Housing		



30442

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Drawings Based On Visual Inspection Site Walk Through Completed During Nov 2017 - March 2018

Anthony Laskosky  
732-927-5038

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265 Industrial Way West, Eatontown, N.J. 07724

Questions For DLB Call: DLB Project ID: 47211

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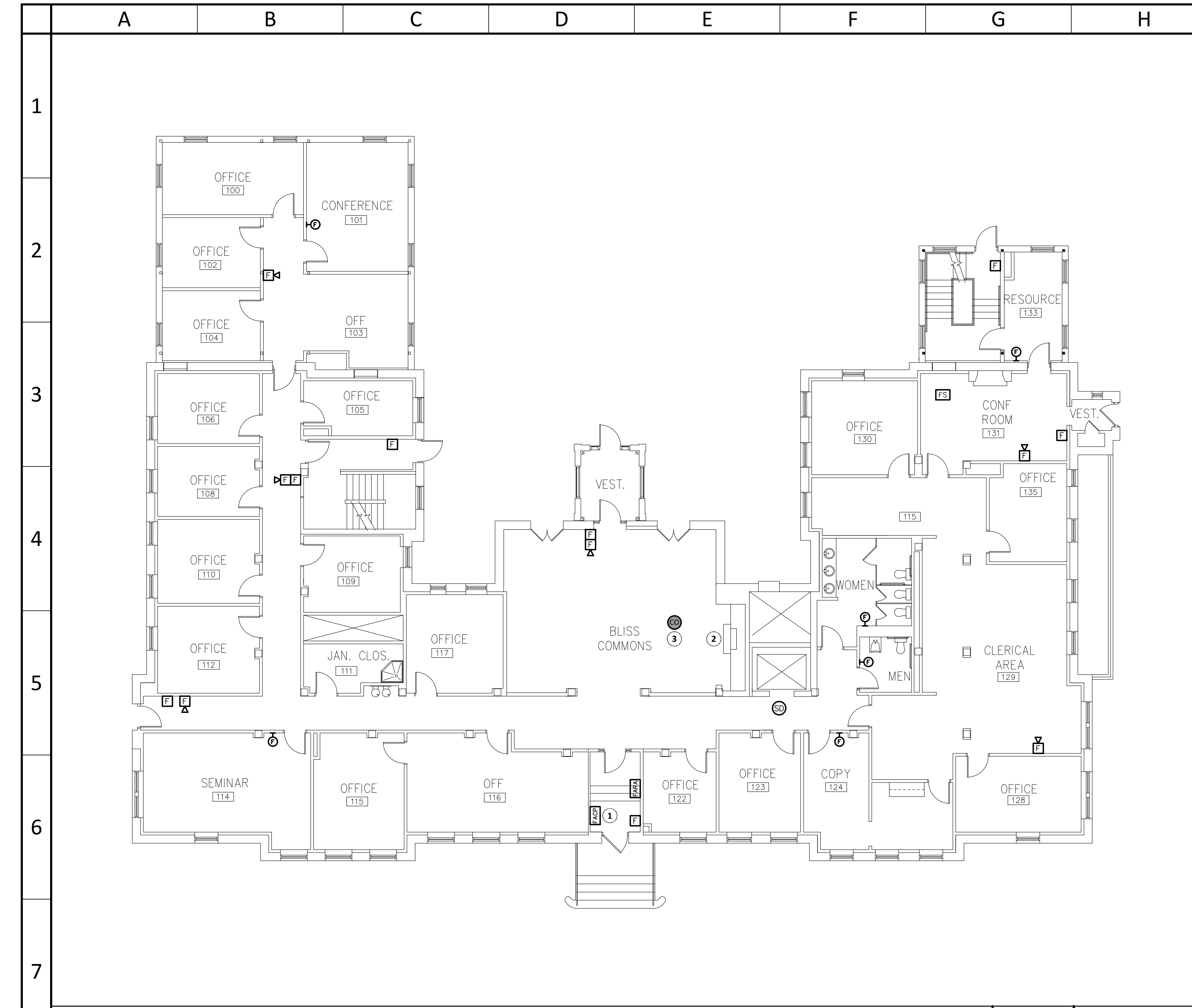
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FIRE ALARM - EXISTING LAYOUT  
BLISS HALL & ANNEX

scale AS SHOWN  
drawn by SC  
checked by SF  
date 5/03/2020

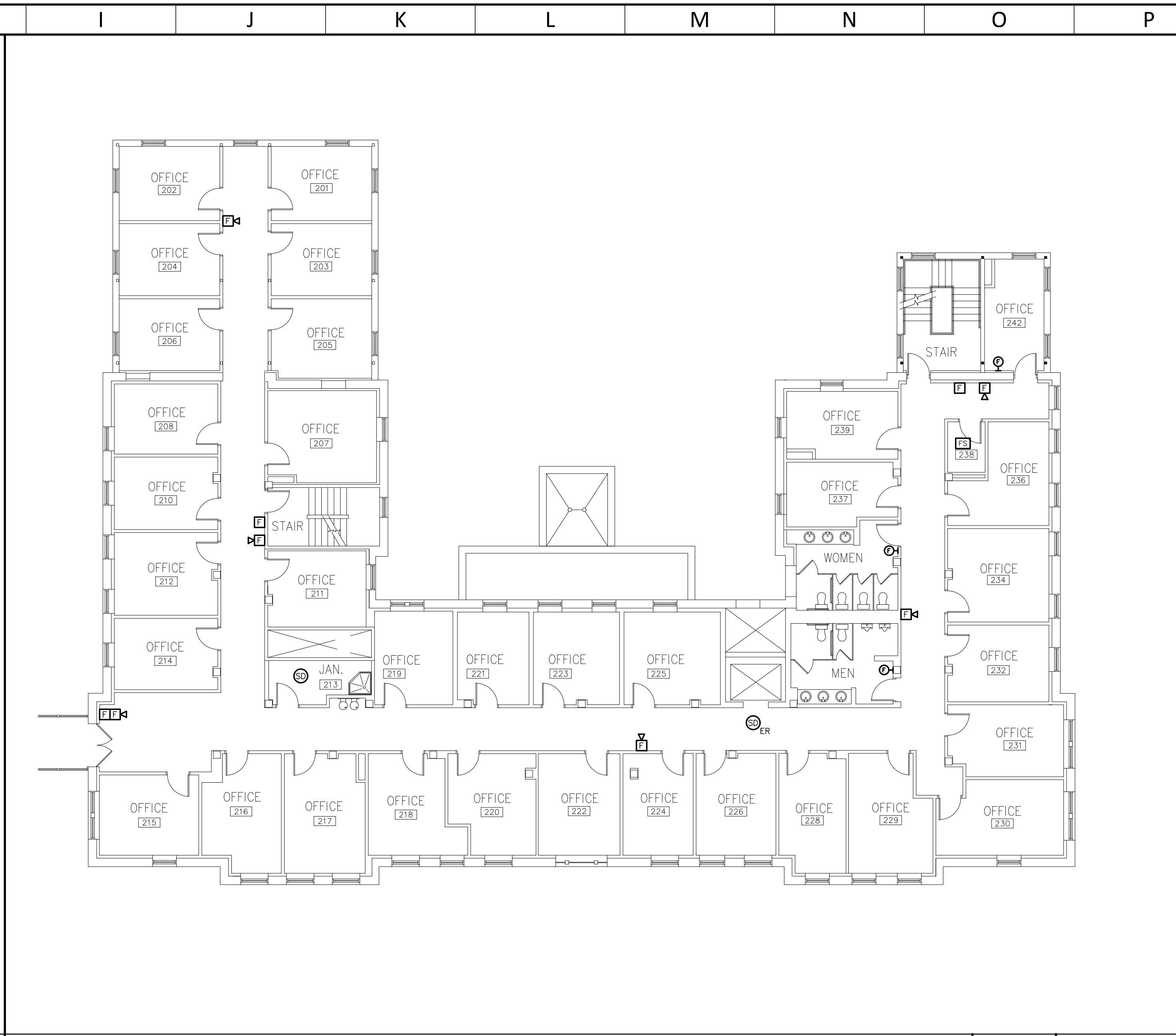
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**FIRST FLOOR LAYOUT** Scale: 3/32"=1'-0" Drawing: **E103** Detail: **01**



**SECOND FLOOR LAYOUT** Scale: 3/32"=1'-0" Drawing: **E103** Detail: **02**

**KEY NOTES (SYMBOLS ①, ②, ETC.)**

- Existing Fire Alarm Control Panel.
- Fireplace.
- New CO Detector.

**GENERAL NOTES**

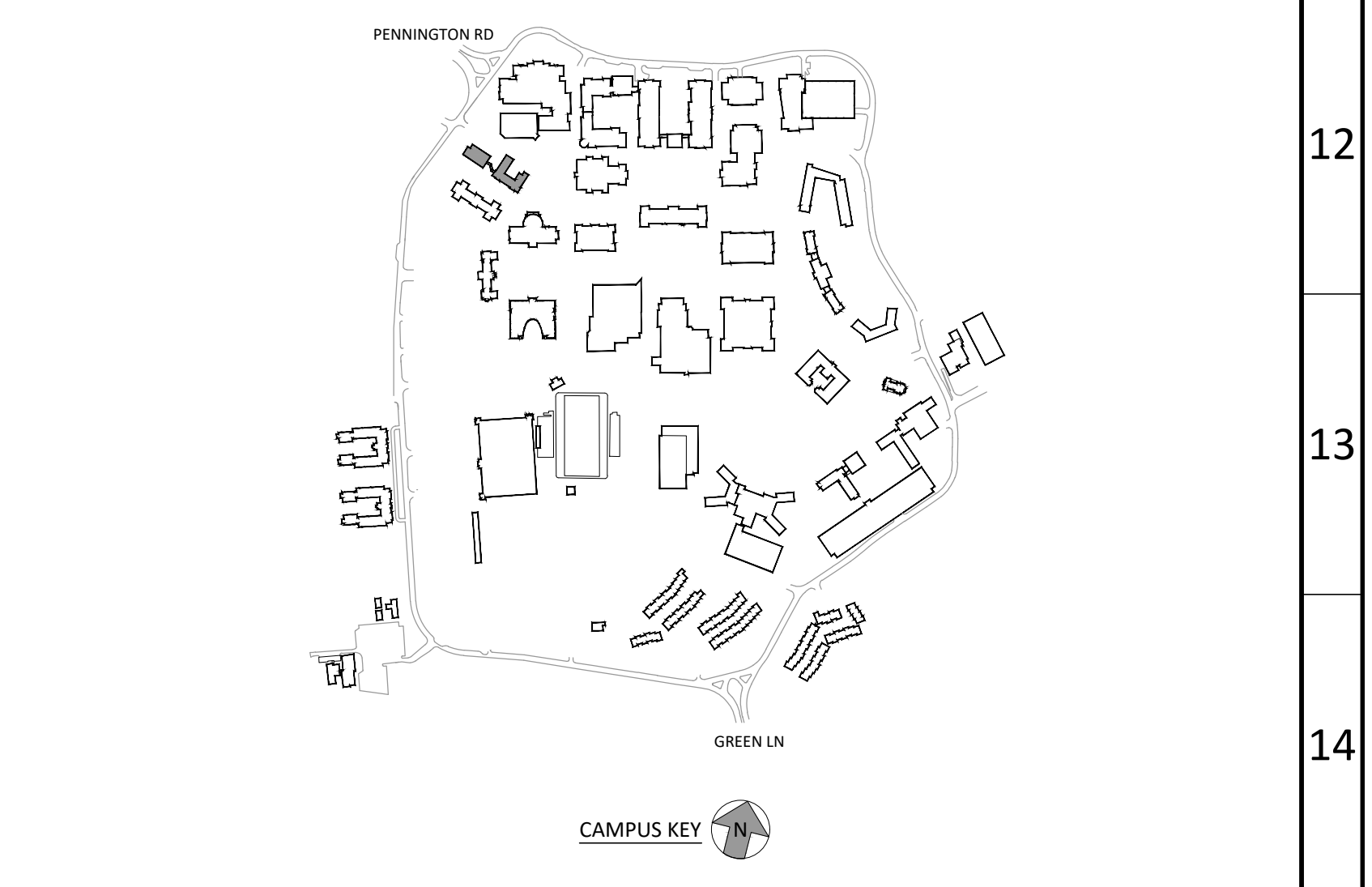
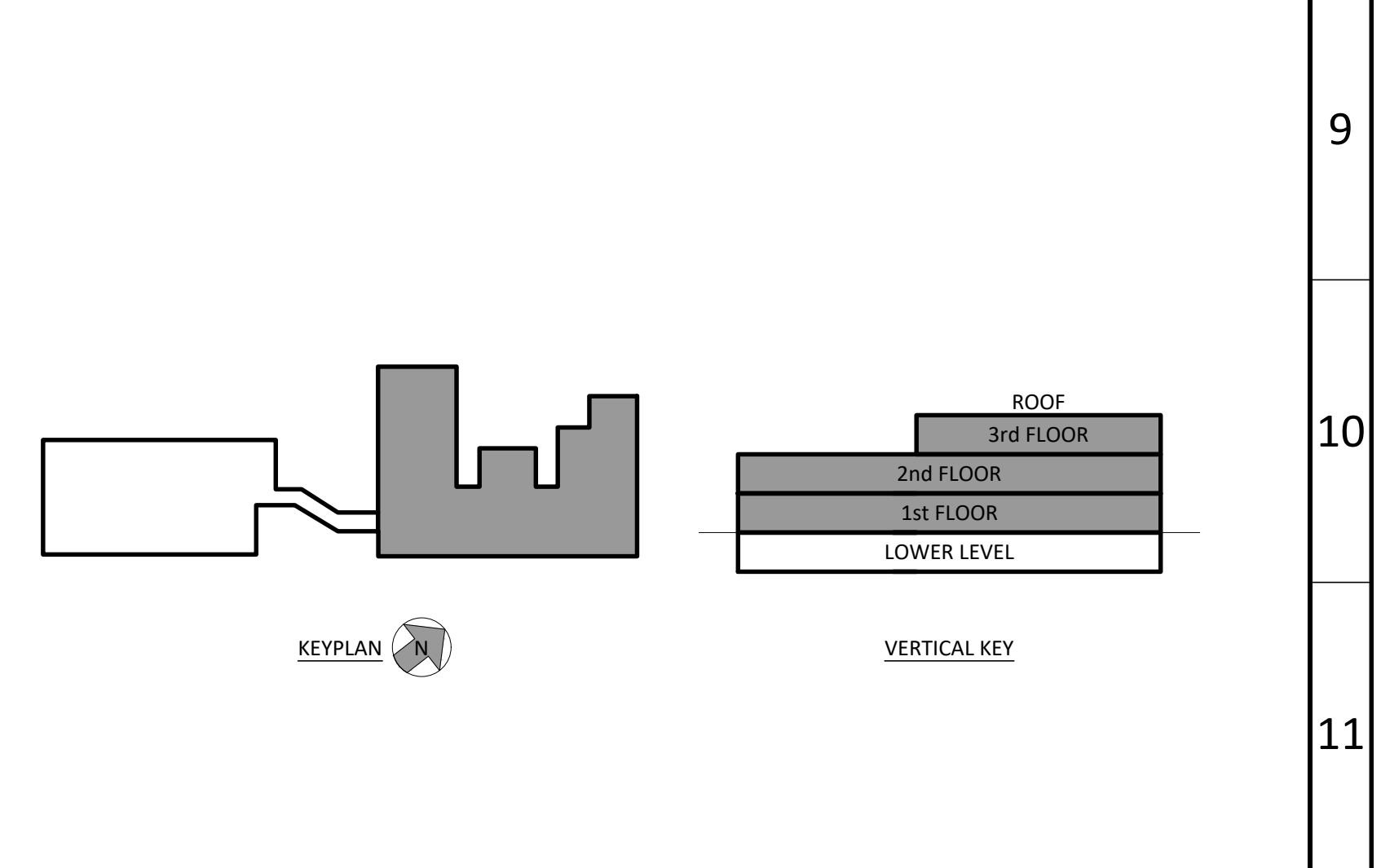
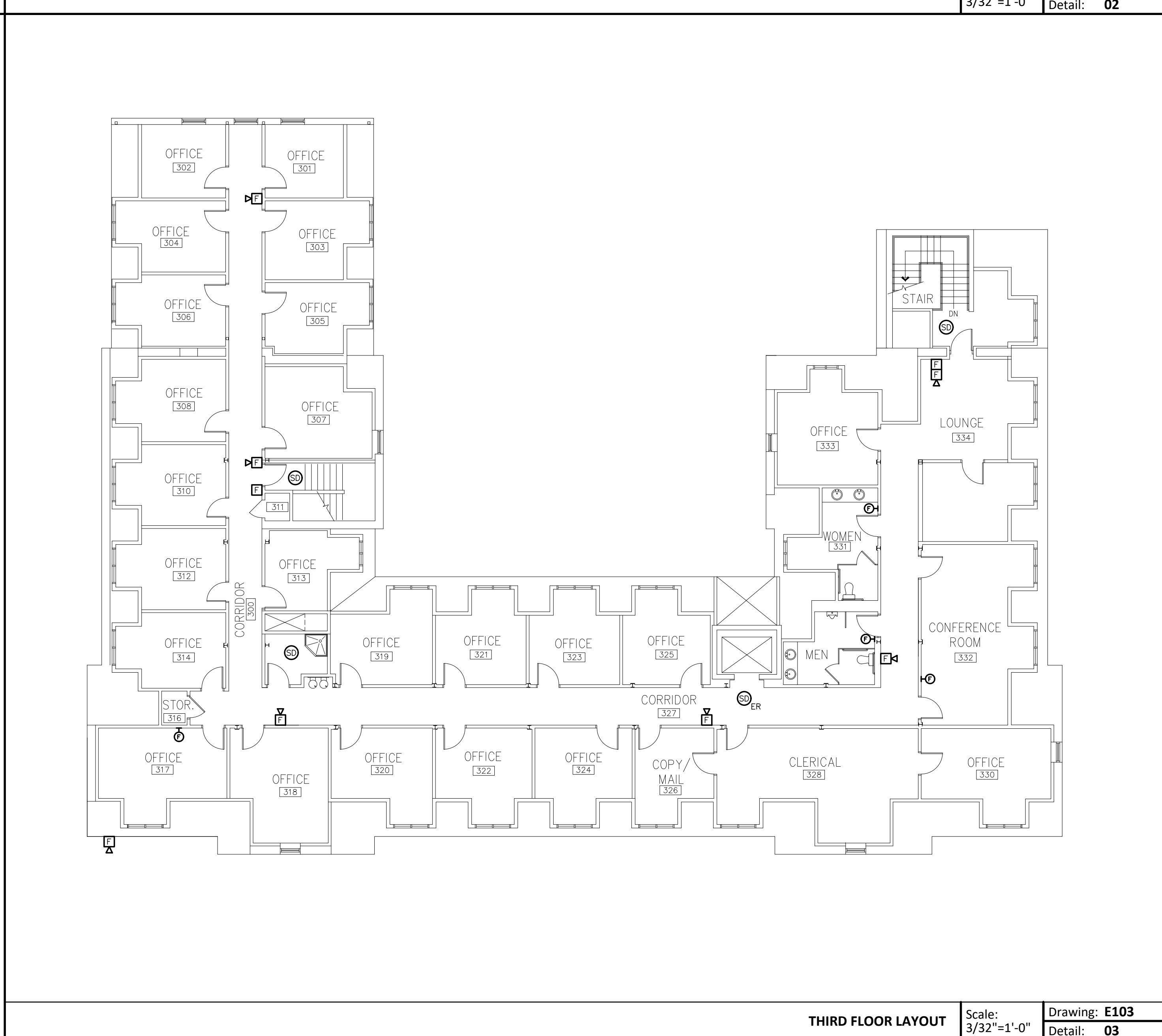
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FACP	Fire Alarm Control Panel	POE	Point Of Entry
FARA	Fire Alarm Remote Annunciator Panel		
FABP	Fire Alarm Booster Panel		
FS	Fire Sprinkler Tamper Switch		
FS	Fire Sprinkler Flow Switch		



**THIRD FLOOR LAYOUT** Scale: 3/32"=1'-0" Drawing: **E103** Detail: **03**



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title  
FIRE ALARM - EXISTING LAYOUT  
BLISS HALL & ANNEX  
dwg. no.  
**E103-BLIS**  
scale AS SHOWN  
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