

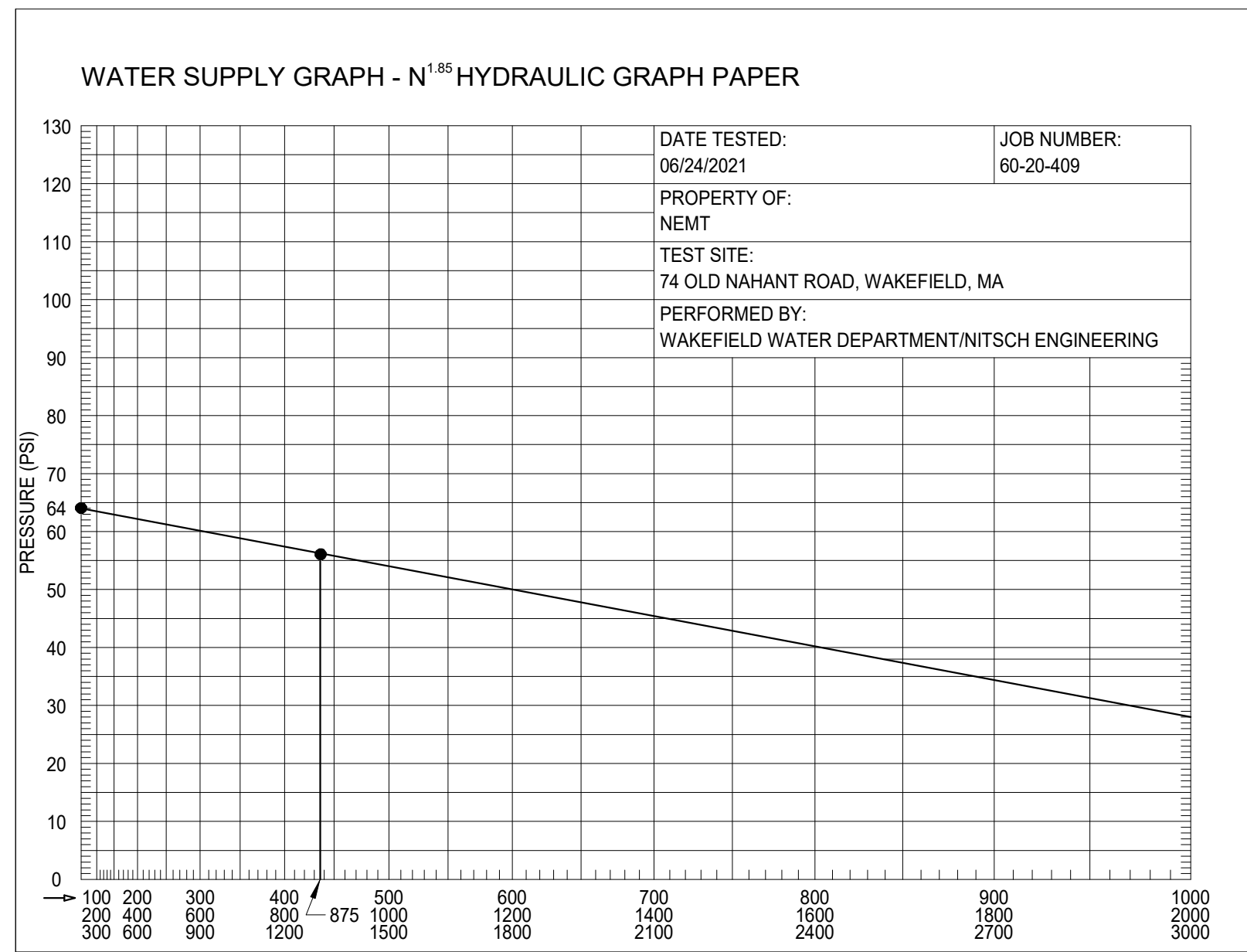
ABBREVIATIONS	
(E) EXISTING ITEM	
(ER) EXISTING ITEM TO BE DEMOLISHED	
(N) NEW ITEM	
(RL) EXISTING ITEM TO BE RELOCATED	
A COMPRESSED AIR	
AC ABOVE CEILING	
AF ABOVE FINISHED FLOOR	
AFG ABOVE FINISHED GRADE	
AP ABOVE PIPE	
BF BELOW RAISED FLOOR	
BPF BACKFLOW PREVENTER	
BUDG BUILDING	
BOP BOTTOM OF PIPE	
CA CLEAN AGENT	
CBV CURB BOX & VALVE	
CP CAST IRON PIPE	
CLO CEILING	
CONN CONNECT	
CONT CONTINUATION	
DD DETECTION DEVICE (SHOWN IN SYMBOL)	
DI DUCTILE IRON PIPE	
DN DOWN	
DR DRY PIPE	
DRN DRAIN RISER	
DSP DRY STANDPIPE	
DWG DRAWING	
EA EACH	
EC ELECTRICAL CONTRACTOR	
ELEV ELEVATION	
EQUIP EQUIPMENT	
FCV FLOOR CONTROL VALVE	
FD FLOOR DRAIN	
FDG FIRE DEPARTMENT CONNECTION	
FH FIRE HYDRANT	
FHC FIRE HOSE CABINET	
FHR FIRE HOSE RACK	
FHV FIRE HOSE VALVE	
FPC FIRE PROTECTION CONTRACTOR	
FTTH FIRE PUMP TEST HEADER	
FS FLOW SWITCH	
FT FOOT FEET	
GC GENERAL CONTRACTOR	
GP GALVANIZED PIPE	
GPD GALLONS PER DAY	
GPM GALLONS PER MINUTE	
H HALON	
IE INVERT ELEVATION	
LZ LOW ZONE	
NC NORMALLY CLOSED	
NC NOT IN CONTRACT	
NO NORMALLY OPEN	
NTS NOT TO SCALE	
PA PRE ACTION	
PC PLUMBING CONTRACTOR	
PG PRESSURE GAUGE	
PV POST INDICATOR VALVE	
PRSS PRESSURE	
PS PRESSURE SWITCH	
PSI POUNDS PER SQUARE INCH	
PSIG POUNDS PER SQUARE INCH GAUGE	
SF SQUARE FOOT	
SPR SPRINKLER	
STDP STAND PIPE	
TB THRUST BLOCK	
TDH TOTAL DYNAMIC HEAD	
TOP TOP OF PIPE	
TYP TYPICAL	
VF VERIFY IN FIELD	
W WITH	
WO WITHOUT	
WSP WET STAND PIPE	

PIPE LOCATION NOTES	
1 CONCEALED IN CEILING SPACE ABOVE	
2 EXPOSED IN STRUCTURE ABOVE	
3 CONCEALED IN CEILING SPACE, BELOW FLOOR	
4 EXPOSED ON STRUCTURE, FLOOR BELOW	
5 BELOW GRADE	
6 RACK ON WALL, BELOW COUNTER TOP	
7 ABOVE FLOOR	
8 RUN THROUGH OR BETWEEN BAR JOIST	
9 CONCEALED BELOW RAISED FLOOR	

FIRE PROTECTION LEGEND	
FP	FIRE MAN
(E) FP	EXISTING FIRE MAN
DR	DRAIN PIPING
(E) DR	EXISTING DRAIN PIPING
SP	SPRINKLER PIPING
(E) SP	EXISTING SPRINKLER PIPING
PA	PREACTION SPRINKLER PIPING
(E) PA	EXISTING PREACTION SPRINKLER PIPING
D	DRY SPRINKLER PIPING
(E) D	EXISTING DRY SPRINKLER PIPING
CA	CLEAN AGENT SYSTEM PIPING
(E) CA	EXISTING CLEAN AGENT SYSTEM PIPING
DSP	DRY STAND PIPE
(E) DSP	EXISTING DRY STAND PIPE
CV	CHECK VALVE
BV	BUTTERFLY VALVE
BV	BALL VALVE
AS	GATE VALVE - OUTSIDE SCREW & YOKE
AS	ANGLE VALVE
FL	PIPE CAP - FLANGED, SCREWED OR GROOVED TYPE
FL	FLANGED PIPE CONNECTION
FL	GROOVED PIPE MECHANICAL CONNECTION
UN	UNION
FDG	FIRE DEPARTMENT CONNECTION ("Y" PROTECTING)
FDG	FIRE DEPARTMENT CONNECTION (FL/PH)
FDG	FIRE DEPARTMENT CONNECTION (SIDEWALK)
FDG	FIRE DEPARTMENT CONNECTION (SIDEWALK)
FHR	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FHV	FIRE HOSE VALVE
FPC	FIRE PROTECTION CONTRACTOR
FTTH	FIRE PUMP TEST HEADER
FS	FLOW SWITCH
FT	FOOT FEET
GC	GENERAL CONTRACTOR
GP	GALVANIZED PIPE
GPD	GALLONS PER DAY
GPM	GALLONS PER MINUTE
H	HALON
IE	INVERT ELEVATION
LZ	LOW ZONE
NC	NORMALLY CLOSED
NC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PA	PRE ACTION
PC	PLUMBING CONTRACTOR
PG	PRESSURE GAUGE
PV	POST INDICATOR VALVE
PRSS	PRESSURE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
SF	SQUARE FOOT
SPR	SPRINKLER
STDP	STAND PIPE
TB	THRUST BLOCK
TDH	TOTAL DYNAMIC HEAD
TOP	TOP OF PIPE
TYP	TYPICAL
VF	VERIFY IN FIELD
W	WITH
WO	WITHOUT
WSP	WET STAND PIPE

GENERAL NOTES	
1.	THE WORK TO BE DONE UNDER THESE SPECIFICATIONS AND THE DRAWINGS CONSISTS OF PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES AND PERFORMING ALL OPERATIONS TO COMPLETE THE CONSTRUCTION WORK FOR THIS PROJECT. ANY WORK NOT SPECIFICALLY COVERED BY THESE SPECIFICATIONS OR INDICATED ON THE CONTRACT DRAWINGS, BUT NECESSARY TO COMPLETE OR PERFECT ANY PART OF THIS INSTALLATION IN A SUBSTANTIAL MANNER, SHALL BE PROVIDED WITHOUT EXTRA COST TO THE OWNER.
2.	THE WORK SHALL CONFORM TO THE MORE STRINGENT OF ALL APPLICABLE CODES & REGULATIONS, UL GUIDELINES, LEED REQUIREMENTS, MANUFACTURER'S LITERATURE AND RECOMMENDATIONS, AND TO THE REQUIREMENTS OF FEDERAL, STATE AND LOCAL REGULATORY AGENCIES AND AUTHORITIES HAVING JURISDICTION.
3.	THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE EXTENT, GENERAL CHARACTER, LOCATION AND ARRANGEMENT OF THE WORK UNDER THIS CONTRACT. WHERE JOB CONDITIONS REQUIRE MINOR CHANGES OR ADJUSTMENTS IN THE INDICATED LOCATIONS OR ARRANGEMENT OF THE WORK, SUCH CHANGES SHALL BE PROVIDED WITHOUT EXTRA COST. THE CONTRACTOR SHALL RE-INSTALL EQUIPMENT THAT HAS INADEQUATE OR INSUFFICIENT ACCESSIBILITY.
4.	INSTALLATION OF WORK SHALL PROVIDE REASONABLE ACCESSIBILITY FOR OPERATION, INSPECTION AND MAINTENANCE OF EQUIPMENT AND ACCESSORIES. PROVIDE CLEARANCES REQUIRED BY MANUFACTURERS AND APPLICABLE CODES. ALL CEILING MOUNTED EQUIPMENT SHALL BE INSTALLED IN SUCH A MANNER THAT LIGHTS, PIPING, AND DUCTWORK DO NOT BLOCK ACCESS TO EQUIPMENT AND RELATED ACCESSORIES.
5.	THE TERM "TURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "MECHANICAL WORK," "ELECTRICAL WORK," "PLUMBING WORK," ETC. SHALL MEAN ALL LABOR, MATERIAL, EQUIPMENT, SCAFFOLDING, RIGGING, TOOLS, SUPERVISION, SERVICES AND OTHER INCIDENTALS NECESSARY FOR COMPLETE AND OPERABLE INSTALLATION.
6.	THE CM/AG SHALL MAKE SETS OF THE BID DOCUMENTS CONSISTING OF COMPLETE SETS OF DRAWINGS AND SPECIFICATIONS, AND ISSUE THEM TO EACH OF THE PRIME AND SUB-CONTRACTORS. EVERY PRIME AND SUB-CONTRACTOR ON EACH BIDDING TEAM SHALL RECEIVE COMPLETE SETS OF DRAWINGS AND SPECIFICATIONS. THERE ARE NOTES AND CROSS REFERENCES FOR VARIOUS TRADE CONTRACTORS IN MULTIPLE TRADE OR DISCIPLINE DRAWINGS AND SPECIFICATIONS. THIS EACH CONTRACTOR IS TO RECEIVE COMPLETE SETS OF THE BID DOCUMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THESE DRAWINGS FROM CM/AG. EACH CONTRACTOR WORKS AS NOTED AND APPROVED BY ALL PARTIES OUTLINED HEREIN PRIOR TO PROCUREMENT OF FIRE PROTECTION EQUIPMENT, FABRICATION AND INSTALLATION OF ANY FIRE PROTECTION SYSTEM.
7.	CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FULL COORDINATION EFFORT IN ORDER TO CREATE A FINALIZED COORDINATED LAYOUT OF ALL EQUIPMENT, SYSTEMS, DUCTWORK, PIPING AND ALL OTHER ITEMS WITH THEIR RESPECTIVE SCOPE. THE CONTRACTOR SHALL INCLUDE COORDINATED INFORMATION FROM ALL OTHER TRADE CONTRACTORS INVOLVED IN THE PROJECT SCOPE IN ORDER TO PROVIDE COORDINATION BETWEEN TRADES AND ALL EXISTING CONDITIONS. ALL ERRORS MADE AS A RESULT OF A LACK OF COORDINATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND CORRECTED AT NO ADDITIONAL COST TO THE PROJECT. MINOR RELOCATIONS AND SHIFTS OF EQUIPMENT, DUCTWORK, AND PIPING WHICH DO NOT CHANGE THE DESIGN INTENT INDICATED ON THE CONTRACT DOCUMENTS, REQUIRED TO ACCOMMODATE FIELD CONDITIONS ARE AT THE CONTRACTORS DISCRETION AND DO NOT REQUIRE ENGINEER APPROVAL.
8.	CONTRACTOR SHALL ARRANGE AND OBTAIN ALL PERMITS, INSPECTIONS AND APPROVALS, AND PAY ALL RELATED FEES.
9.	THE DRAWINGS INDICATE APPROXIMATE LOCATIONS BASED UPON INFORMATION OBTAINED WITHOUT REMOVING CEILING TILES OR WALLS. THEREFORE, THE CONTRACTOR SHALL INCLUDE IN THEIR BID CONTINGENCY COSTS TO ADDRESS CONFLICTS BETWEEN DESIGN AND EXISTING CONDITIONS. ANY CHANGES AND/OR MODIFICATIONS MUST BE REVIEWED AND APPROVED BY THE ENGINEER AND/OR OWNER REPRESENTATIVE PRIOR TO CONSTRUCTION.
10.	FOR ANY DISCREPANCY BETWEEN DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL BASE THEIR BID UPON THE MOST STRINGENT REQUIREMENT (QUALITY, QUANTITY, SIZE, ETC.). THE CONTRACTOR SHALL IDENTIFY DISCREPANCIES AS PART OF THEIR BID.
11.	THE CONTRACTOR SHALL EFFECTIVELY PROTECT ALL MATERIALS AND EQUIPMENT FROM ENVIRONMENTAL AND PHYSICAL DAMAGE UNTIL FINAL ACCEPTANCE. CLOSE AND PROTECT ALL OPENINGS DURING CONSTRUCTION. PROVIDE NEW MATERIALS AND EQUIPMENT TO REPLACE ITEMS DAMAGED.
12.	WHERE BEAMS ARE INDICATED TO BE PENETRATED WITH DUCTWORK AND/OR PIPING, CAREFULLY COORDINATE SIZES AND LOCATIONS OF THE ELEMENTS BEFORE FABRICATION. COORDINATE WITH FINAL LOCATION OF BEAM PENETRATIONS AND SHEAR WALL PENETRATIONS.
13.	CONTRACTOR SHALL COORDINATE LOCATION OF ALL WALL, FLOOR AND ROOF OPENINGS WITH STRUCTURAL AND OTHER TRADES.
14.	PROVIDE CUTTING AND PATCHING AS REQUIRED AND WHERE NECESSARY TO ACCOMMODATE NEW WORK AND THE REPAIR OF EXISTING WORK.
15.	WHEN WORK INVOLVES CONTACT WITH MATERIALS CONTAINING ASBESTOS, PCB, OR OTHER TOXIC MATERIALS, NOTIFY OWNER, WHO WILL ESTABLISH PROCEDURES FOR REMEDIATION AND REMOVAL.
16.	CONTRACTOR SHALL SCHEDULE THE WORK UNDER THIS CONTRACT WITH WORK OF OTHER TRADES AS NOT TO DELAY THE OVERALL PROGRESS OF THE PROJECT.
17.	CONTRACTOR SHALL NOTIFY ARCHITECT/ENGINEER OF ANY CONFLICTS PRIOR TO PURCHASING EQUIPMENT AND PRIOR TO CUTTING OPENINGS.
18.	CONTRACTOR SHALL PROVIDE SHOP DRAWINGS PER SPECIFICATIONS PRIOR TO PURCHASING OR INSTALLING EQUIPMENT AND SYSTEMS INDICATED ON CONTRACT DOCUMENTS. PRIOR TO SUBMITTAL, CONTRACTOR SHALL VERIFY THAT ADEQUATE SPACE EXISTS FOR THE SUBMITTED EQUIPMENT. SHOP DRAWINGS MUST BE REVIEWED BY ARCHITECT/ENGINEER.
19.	CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY OTHER TRADES DUE TO SUBSTITUTION OF OTHER THAN SCHEDULED EQUIPMENT. WHEN EQUIPMENT FURNISHED IS DIFFERENT THAN INDICATED, THE COST OF ADDITIONAL ELECTRICAL SERVICE, STRUCTURAL AND RELATED WORK SHALL BE PAID BY THIS CONTRACTOR.
20.	ALL WORK SHALL BE EXECUTED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE DONE IN ACCORDANCE WITH GOOD TRADE PRACTICE AND IN CONFORMANCE WITH APPLICABLE MANUFACTURERS' RECOMMENDATIONS.
21.	CONTRACTOR SHALL REMOVE ALL TRASH, DEBRIS AND DEMOLITION MATERIAL FROM PREMISES AT THE END OF EACH DAY.
22.	RESTORE ALL SURFACES (WALLS, CEILINGS, FLOORS AND ROOFS) THAT ARE DAMAGED BY THE WORK OF THIS CONTRACT TO THEIR ORIGINAL CONDITION AT NO EXTRA COST TO THE OWNER.
23.	PRIOR TO EQUIPMENT STARTUP, CONTRACTOR SHALL PERFORM THE SPECIFIED STARTUP AND COMMISSIONING PROCEDURES.
24.	IN THE ABSENCE OF OTHER SPECIFIC INSTRUCTIONS, ALL WORK AND MATERIALS SUPPLIED SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF THEIR ACCEPTANCE BY THE OWNER.
25.	BALA CONSULTING ENGINEERS, INC. (BALA) WILL PROVIDE CONTRACTOR WITH ELECTRONIC CADD FILES OF THE ENGINEERING DESIGNS FOR THE SOLE USE IN EXPEDITING SHOP DRAWINGS. BALA'S FILES SHALL NOT BE DIRECTLY COPIED AND ISSUED AS SHOP DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FIELD COORDINATION, DIMENSIONING AND ADHERENCE TO THE SHOP DRAWING REQUIREMENTS AS NOTED IN THE SPECIFICATIONS. SHOULD THE SHOP DRAWINGS SUBMITTED PROVE TO BE A DIRECT COPY OF OUR FILES WITHOUT THE NECESSARY FIELD COORDINATION, DIMENSIONING AND ADHERENCE TO THE SHOP DRAWING REQUIREMENTS AS NOTED IN THE SPECIFICATIONS, THESE SHOP DRAWINGS WILL BE RETURNED AS REJECTED. BALA'S ELECTRONIC FILES ARE SAVED IN VERSIONS V17.201 AND ARE COMPATIBLE WITH ALL VERSIONS AFTER THAT. BALA MAKES NO REPRESENTATION AS TO THE COMPATIBILITY OF THESE FILES WITH THE CONTRACTOR'S HARDWARE OR THEIR SOFTWARE. DATA CONTAINED ON THESE ELECTRONIC FILES ARE PART OF BALA'S "INSTRUMENTS OF SERVICE" AND ARE COPYRIGHTED. CONTRACTOR'S USE OF FILES IS FOR THE SOLE PURPOSE AS A CONVENIENCE IN THE PREPARATION OF DRAWINGS FOR THE REFERENCED PROJECT. ANY OTHER USE OR REUSE BY CONTRACTOR IS UNLAWFUL.

FIRE PROTECTION GENERAL NOTES	
1.	THE CONTRACT DRAWINGS ARE PERFORMANCE IN NATURE AND REQUIRE DELEGATED FIRE PROTECTION DESIGN SERVICE AS REQUIRED BY NFPA. ALL PIPING, SPECIALTIES AND ACCESSORIES NOT SHOWN SHALL BE PROVIDED AS REQUIRED FOR A COMPLETE AND FUNCTIONAL FIRE PROTECTION SYSTEM. CONTRACTOR SHALL SUBMIT SPRINKLER SYSTEM DRAWINGS IDENTIFIED AS "WORKING DRAWINGS" AND PREPARED IN CONFORMANCE WITH NFPA CODES. SUBMIT ENGINEERED HYDRAULIC CALCULATIONS AND PIPING DIAGRAMS, INCLUDING FLOW TEST DATA, IN CONFORMANCE WITH NFPA STANDARDS. INSURANCE UNDERWRITER AND THE LOCAL AUTHORITY HAVING JURISDICTION, WORKING DRAWINGS AND CALCULATIONS SHALL BE PROVIDED WITH PRELIMINARY APPROVALS FROM THE FIRE PROTECTION CONTRACTOR'S PROFESSIONAL ENGINEER OR NOTICED CERTIFIED DESIGNER, THE INSURANCE UNDERWRITER AND THE LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO SUBMISSION TO THE ARCHITECT OR ENGINEER.
2.	SEE ALL DRAWINGS AND SPECIFICATIONS FOR STANDPIPE AND SPRINKLER SYSTEM HYDRAULIC DESIGN CRITERIA. HYDRAULIC CALCULATION NODE POINTS FOR THE MOST DEMANDING SPRINKLER PROTECTION AREAS(S) AND FIRE EXTINGUISHING CONNECTIONS ARE INDICATED ON THE PLANS FOR SYSTEM INFORMATION ONLY. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATIONS FOR EACH TYPE OF OCCUPANCY FOR EACH SPRINKLER ZONE AND SHALL PROVIDE HYDRAULIC CALCULATIONS FOR THE MOST REMOTE OR HYDRAULICALLY DEMANDING FIRE DEPARTMENT HOSE CONNECTION BASED ON THE MAXIMUM SYSTEM DEMAND AS REQUIRED PER APPLICABLE NFPA STANDARDS. WORKING DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE SUBMITTED AND APPROVED BY ALL PARTIES OUTLINED HEREIN PRIOR TO PROCUREMENT OF FIRE PROTECTION EQUIPMENT, FABRICATION AND INSTALLATION OF ANY FIRE PROTECTION SYSTEM.
3.	CONTRACTOR SHALL PROVIDE FIRE WATER SERVICE RESTRAINTS AND THRUST BLOCKS AS REQUIRED.
4.	STANDPIPE SYSTEMS SHALL BE DESIGNED AND INSTALLED IN STRICT ACCORDANCE WITH NFPA 14. ALL APPLICABLE CODES AND THE AUTHORITY HAVING JURISDICTION, FIRE DEPARTMENT HOSE CONNECTION PATTERNS SHALL MEET THE REQUIREMENTS OF THE LOCAL FIRE MARSHAL AND THE AUTHORITY HAVING JURISDICTION.
5.	ALL DEDICATED WATER SUPPLY WORK ON SITE, INSIDE OF THE PROPERTY LINE, INCLUDING CONNECTION TO THE UTILITY IF APPLICABLE, SERVING THE FIRE PROTECTION SYSTEM (PIPE, FITTINGS, HYDRANTS, ETC.) SHALL BE INSTALLED UNDER THIS CONTRACT.
6.	ALL EXPOSED PIPING AND PIPING ABOVE THE CEILINGS SHALL BE INSTALLED AS CLOSE AS PRACTICAL TO THE UNDERSIDE OF STRUCTURAL MEMBERS OR TO WITHIN ONE FOOT OF THE FLOOR / ROOF DECK ABOVE WHEREVER POSSIBLE.
7.	PROVIDE 2" DRAM FROM EACH SPRINKLER ZONE CONTROL VALVE ASSEMBLY AND EXTEND TO 2" OR 3" DRAIN RISER, AS APPLICABLE, DISCHARGING TO EXTERIOR GRADE, AN APPROVED DRAINAGE SPECIALTY SIZED TO ACCOMMODATE THE ANTICIPATED DEMAND AS SHOWN ON THE DRAWINGS.
8.	FINAL LOCATION OF EXTERIOR FIRE DEPARTMENT CONNECTIONS SHALL BE APPROVED BY THE LOCAL FIRE MARSHAL PRIOR TO INSTALLATION.
9.	PROVIDE ALL NEW SPRINKLER SYSTEM COMPONENTS, REFURBISHING, TESTING, CERTIFICATION, AND ANY OTHER WORK REQUIRED TO ENSURE A COMPLETELY APPROVED AND OPERATIONAL SYSTEM. CONTRACTOR SHALL EXTEND FROM EXISTING PIPING OF ADEQUATE SIZE OR MAKE NEW PIPING CUT-INS AS REQUIRED TO SUIT NEW SPRINKLER LOCATIONS.
10.	FIELD COORDINATE ALL FIRE PROTECTION PIPING AND EQUIPMENT LOCATIONS AND/OR MODIFICATIONS WITH THE GENERAL ELECTRICAL AND MECHANICAL CONTRACTORS PRIOR TO COMMENCEMENT OF WORK TO ELIMINATE FIELD CONFLICTS. FINAL SPRINKLER LOCATIONS SHALL BE COORDINATED WITH LIGHTS, FIXTURES, DUCTWORK, DIFFUSERS, PIPING, EQUIPMENT, ETC.
11.	THE FIRE PROTECTION CONTRACTOR SHALL CONFIRM LIGHTING TO BE INSTALLED FOR COORDINATION OF LOCATIONS, SIZE, AND MOUNTING HEIGHTS. THE CONTRACTOR SHALL COORDINATE FINAL SPRINKLER HEAD LOCATIONS PER NFPA 13 OBSTRUCTION REQUIREMENTS AND COORDINATE WITH THE ELECTRICAL CONTRACTOR TO ENSURE ALL AREAS ARE COVERED IN ACCORDANCE WITH NFPA STANDARDS.
12.	COORDINATE ALL LOCATIONS AND MOUNTING HEIGHTS OF FIRE PROTECTION DEVICES AND APPURTENANCES WITH THE LOCAL AUTHORITY HAVING JURISDICTION, APPLICABLE ADA REQUIREMENTS AND ALL TRADE CONTRACTORS.
13.	HYDRAULIC CALCULATIONS SHALL DICTATE THE ADEQUATE SIZES OF PIPING. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING PIPING OF A LARGER DIAMETER, IF NECESSARY, TO BRING THE SYSTEM TO FULL COMPLIANCE WITH THE HYDRAULIC CALCULATIONS.
14.	AS APPLICABLE, FIRE PROTECTION SPRINKLER AND OR STANDPIPE SYSTEM HYDRAULIC CALCULATIONS SHALL BE SUBMITTED AND APPROVED BY THE OWNERS UNDERWRITER, AUTHORITIES HAVING JURISDICTION AND THE ENGINEER PRIOR TO REVIEW AND APPROVAL OF A FIRE PUMP SHOP DRAWING SUBMISSION.
15.	CONTRACTOR SHALL VERIFY CONCEALED SPACES ARE PROTECTED IN ACCORDANCE WITH NFPA 13 AND ANY LOCAL CODE REQUIREMENTS.
16.	ADDITIONAL SPRINKLER HEADS SHALL BE PROVIDED UNDER ALL DUCTS AND ALL OTHER OBSTRUCTIONS THAT ARE 4" OR GREATER IN WIDTH IN ACCORDANCE WITH NFPA 13. COORDINATE FINAL SPRINKLER HEAD LOCATIONS AND REQUIREMENTS WITH THE MECHANICAL AND ARCHITECTURAL DRAWINGS.
17.	ADDITIONAL SPRINKLER HEADS SHALL BE PROVIDED AT THE LOWEST LANDING AND TOP OF ALL STARTTOWERS IN ACCORDANCE WITH NFPA 13.
18.	SPRINKLER SHALL BE LOCATED IN THE CENTER OF CEILING TILES UNLESS SPECIFICALLY NOTED OTHERWISE.
19.	ALL PIPING PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED WITH UL LISTED FIREPROOFING SYSTEM TO MATCH THE RATING OF THE WALL OR FLOOR.
20.	PROVIDE NEC REQUIRED PIPE CLEARANCE ABOVE OR AROUND ANY ELECTRICAL EQUIPMENT, PANELS, ETC.
21.	PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7' 0" F.I. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
22.	SPRINKLER PIPING, IN BAR JOIST CONSTRUCTION, SHALL BE SUPPORTED FROM PANEL JOINTS OF BAR JOIST. THRUST SUPPORTS SHALL BE ATTACHED TO TOP CHORD ONLY, UNLESS SUFFICIENT CROSS BRACING IS PROVIDED.
23.	FOR ADDITION OR RELOCATION OF SPRINKLER HEADS IN NEW AND EXISTING CONSTRUCTION, ALL SPRINKLER HEAD RESPONSE CHARACTERISTICS SHALL MATCH EXISTING SPRINKLER HEADS WITHIN THE SCOPE OF WORK INCLUDING SURROUNDING SPACES OUTSIDE OF THE SCOPE OF WORK AS REQUIRED PER NFPA STANDARDS.



HYDRANT FLOW TEST DATA	
STATIC PRESSURE	64 PSI
RESIDUAL PRESSURE	56 PSI
FLOW	875 GPM
BASED ON PUMP TEST PERFORMED 06/24/2021	
DESIGN CRITERIA	
LIGHT HAZARD OCCUPANCY FOR OFFICE, TYPE SPACES & SIMILAR	
DENSITY 0.10 GPM/SQ.FT. / 1500 SQ. FT.	
SPRINKLER SPACING NOT TO EXCEED 225 SQ.FT.	
MINIMUM 100 GPM OUTSIDE HOSE ALLOWANCE	
ORDINARY HAZARD GROUP II OCCUPANCY FOR STORAGE AREAS, RECEIVING AREAS AND SIMILAR AREAS	
DENSITY 0.20 GPM/SQ.FT. / 1500 SQ. FT.	
SPRINKLER SPACING NOT TO EXCEED 130 SQ.FT.	
MINIMUM 250 GPM OUTSIDE HOSE ALLOWANCE	
ORDINARY HAZARD GROUP I OCCUPANCY FOR FOR MECHANICAL SPACES, KITCHEN TYPE SPACES AND SIMILAR AREAS	
DENSITY 0.15 GPM/SQ.FT. / 1500 SQ. FT.	
SPRINKLER SPACING NOT TO EXCEED 130 SQ.FT.	
MINIMUM 250 GPM OUTSIDE HOSE ALLOWANCE	
EXTRA HAZARD GROUP I OCCUPANCY FOR PAINT BOOTHS	
DENSITY 0.40 GPM/SQ.FT. / 2000 SQ. FT.	
SPRINKLER SPACING NOT TO EXCEED 100 SQ.FT.	
MINIMUM 500 GPM OUTSIDE HOSE ALLOWANCE	
EXTRA HAZARD GROUP I OCCUPANCY FOR METAL FABRICATION	
DENSITY 0.30 GPM/SQ.FT. / 2500 SQ. FT.	
SPRINKLER SPACING NOT TO EXCEED 100 SQ.FT.	
MINIMUM 500 GPM OUTSIDE HOSE ALLOWANCE	

DRAWING LIST - FIRE PROTECTION	
DRAWING NUMBER	DRAWING TITLE
	06-23-2022 DESIGN/DEVELOPMENT COST ESTIMATE SET
	11-13-2022 60% CONSTRUCTION DOCUMENTS COST ESTIMATE SET
	01-13-2023 MSBA 60% CD SUBMISSION
FP-0-1	FIRE PROTECTION COVER SHEET
FP-1-0-SCD	FIRE PROTECTION UNDER MEZZANINE - AREAS C&D
FP-1-1-0C	FIRE PROTECTION LOWER LEVEL FLOOR PLAN - AREA C
FP-1-1-0D	FIRE PROTECTION LOWER LEVEL FLOOR PLAN - AREA D
FP-1-1-1-5AB	FIRE PROTECTION FIRST FLOOR MEZZANINE LVL PLAN - AREA A
FP-1-1-1A	FIRE PROTECTION FIRST FLOOR PLAN - AREA A
FP-1-1-1B	FIRE PROTECTION FIRST FLOOR PLAN - AREA B
FP-1-1-1C	FIRE PROTECTION FIRST FLOOR PLAN - AREA C
FP-1-1-1D	FIRE PROTECTION FIRST FLOOR PLAN - AREA D
FP-1-1-2A	FIRE PROTECTION SECOND FLOOR PLAN - AREA A
FP-1-1-2B	FIRE PROTECTION SECOND FLOOR PLAN - AREA B
FP-1-1-2C	FIRE PROTECTION SECOND FLOOR PLAN - AREA C
FP-1-1-2D	FIRE PROTECTION SECOND FLOOR PLAN - AREA D
FP-1-1-3A	FIRE PROTECTION THIRD FLOOR PLAN - AREA A
FP-1-1-3B	FIRE PROTECTION THIRD FLOOR PLAN - AREA B
FP-1-1-3C	FIRE PROTECTION THIRD FLOOR PLAN - AREA C
FP-1-1-3D	FIRE PROTECTION THIRD FLOOR PLAN - AREA D
FP-1-1-4A	FIRE PROTECTION FOURTH FLOOR PLAN - AREA A
FP-1-1-4B	FIRE PROTECTION FOURTH FLOOR PLAN - AREA B
FP-1-1-4C	FIRE PROTECTION FOURTH FLOOR PLAN - AREA C
FP-1-1-4D	FIRE PROTECTION FOURTH FLOOR PLAN - AREA D
FP-2-1A	FIRE PROTECTION ROOF PLAN - AREA A
FP-2-1B	FIRE PROTECTION ROOF PLAN - AREA B
FP-2-1C	FIRE PROTECTION ROOF PLAN - AREA C
FP-2-1D	FIRE PROTECTION ROOF PLAN - AREA D
FP-0-1	FIRE PROTECTION RISER DIAGRAM
FP-0-1	FIRE PROTECTION DETAILS



Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT 06074
Tel: 817.984.1700
www.draam.com

260 Charles Street
Studio 300
Waltham, MA 02453
Tel: 817.984.1700
www.draam.com

Northeast
Metropolitan
Regional
Vocational High
School

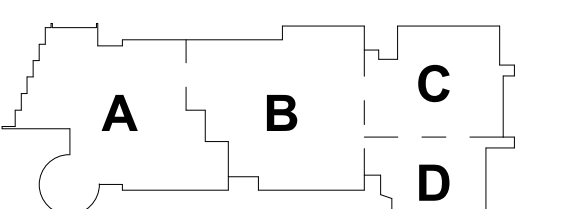
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMME ROSANE ANDERSON, INC.

BALA
ENGINEERS
BALA CONSULTING ENGINEERS, INC.
100 WILSON AVENUE, SUITE 200
NEWTON, MASSACHUSETTS 02459
TEL: 617.552.1100
WWW.BALAE.COM

MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN

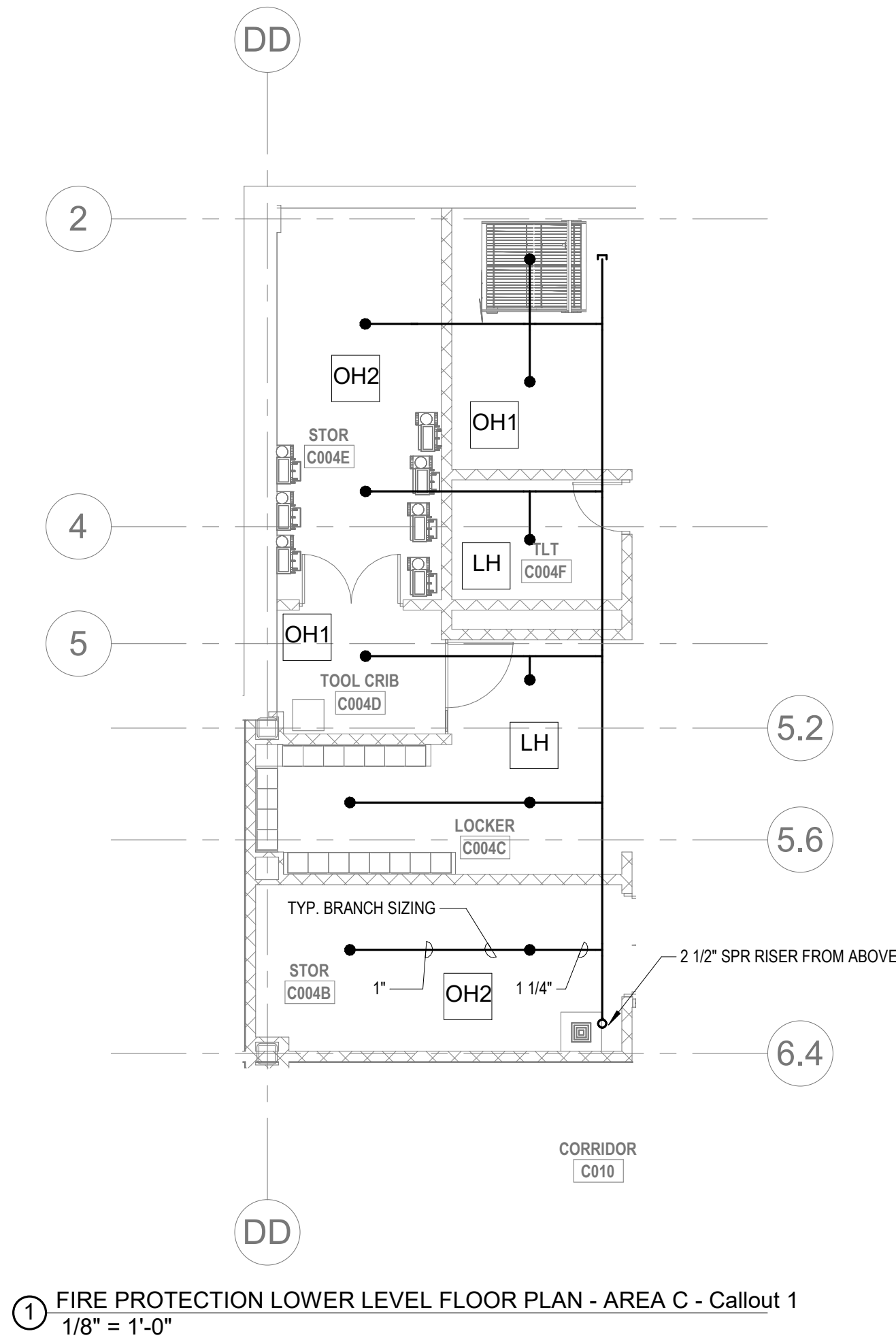
PROJECT NORTH
MAGNETIC NORTH

FIRE
PROTECTION
COVER SHEET

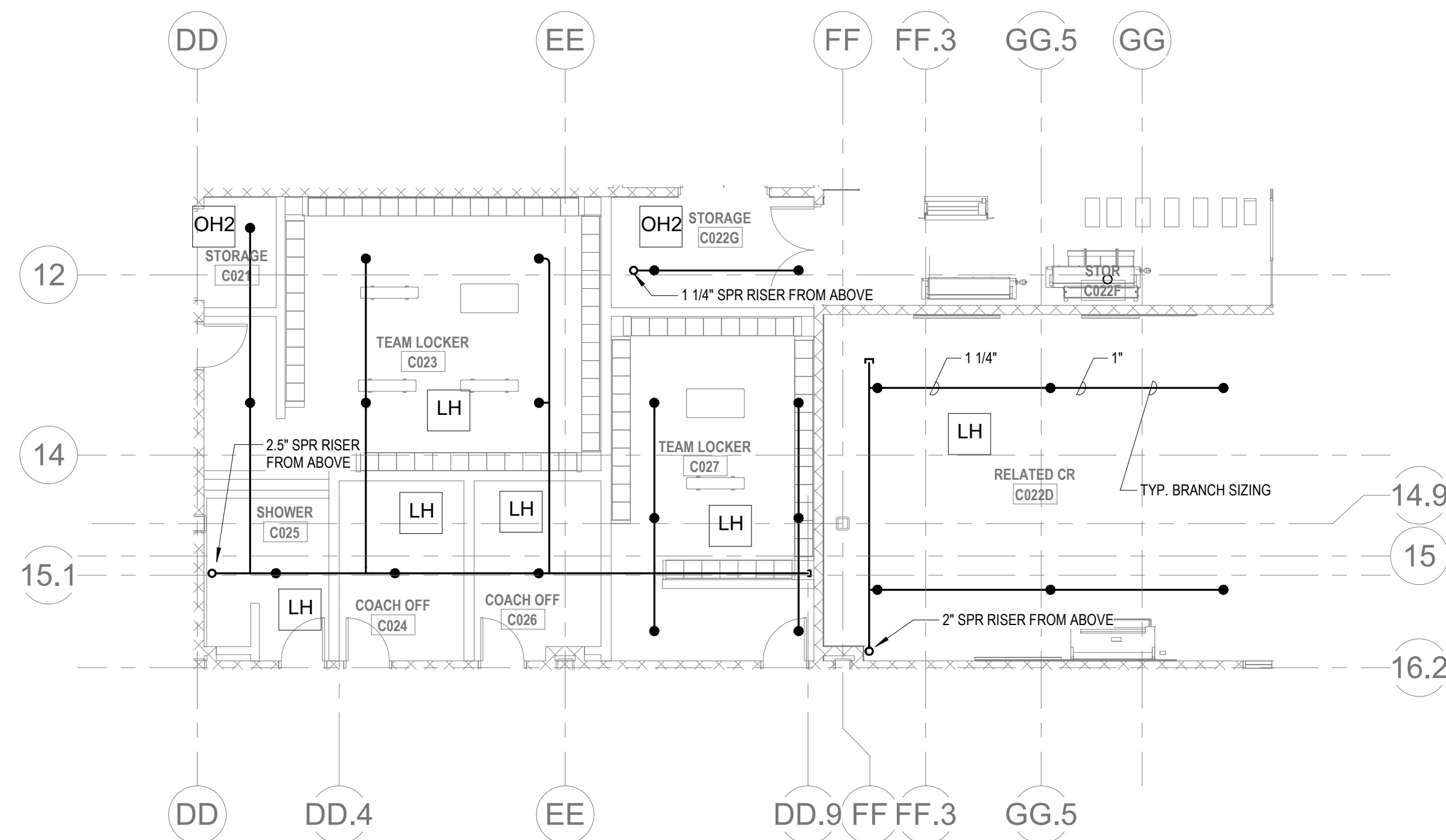
Scale: As indicated
Job No.: 2002
Drawn By: DRA
Date: January 13, 2023

FP0-0-1

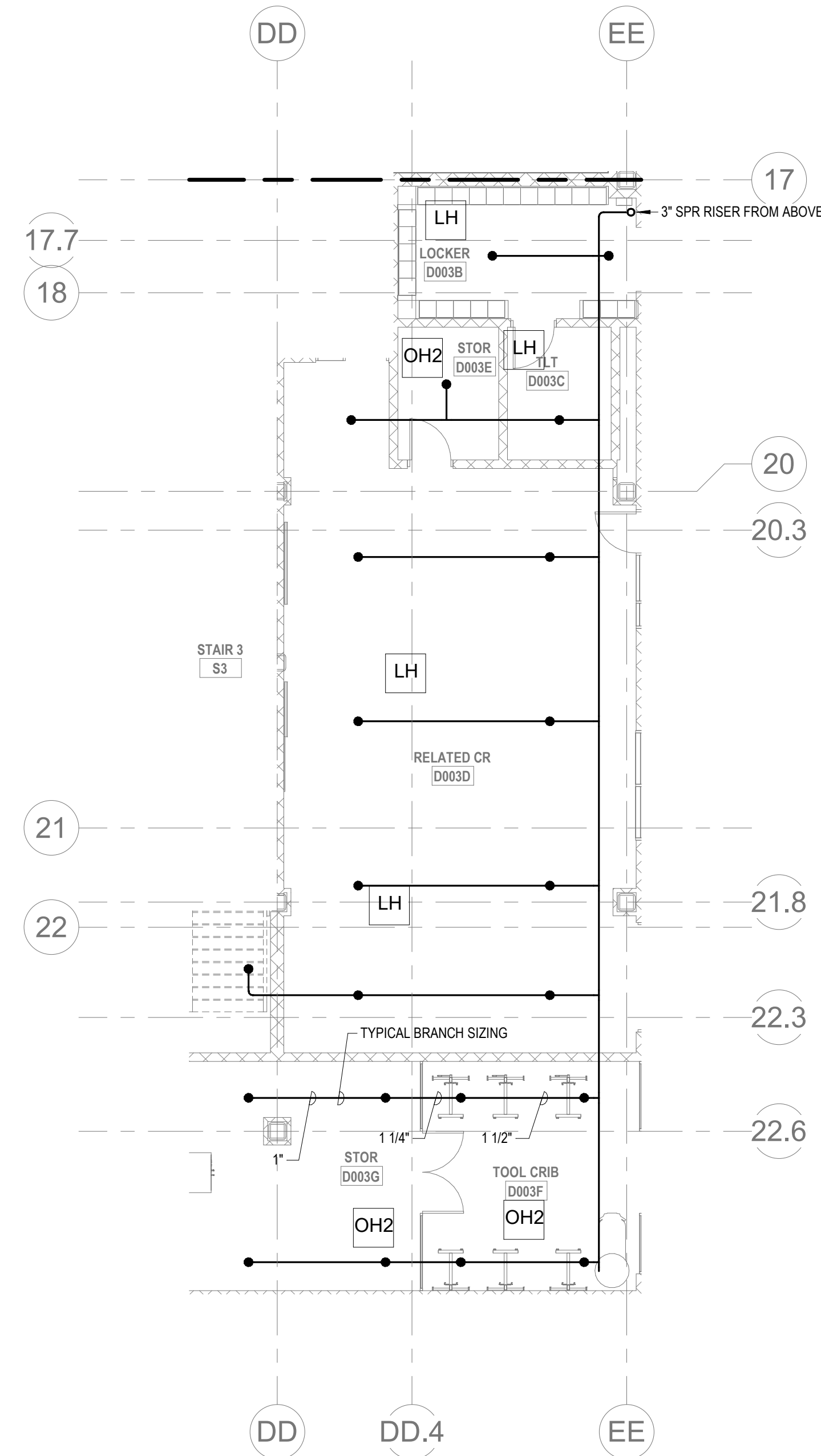
KEYNOTES
LH LIGHT HAZARD OCCUPANCY
OH ORDINARY HAZARD OCCUPANCY
EH EXTRA HAZARD OCCUPANCY



1 FIRE PROTECTION LOWER LEVEL FLOOR PLAN - AREA C - Callout 1
1/8" = 1'-0"



2 FIRE PROTECTION LOWER LEVEL FLOOR PLAN - AREA C - Callout 2
1/8" = 1'-0"



3 FIRE PROTECTION LOWER LEVEL FLOOR PLAN - AREA D - Callout 1
1/8" = 1'-0"



Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
Tel: 817.984.1700
www.draan.com

280 Charles Street
Studio 300
Waltham, MA
02453

Planning | Architecture | Interior Design

Northeast Metropolitan Regional Vocational High School

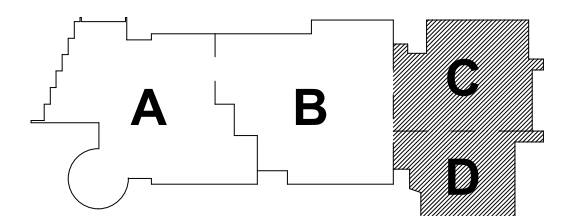
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.

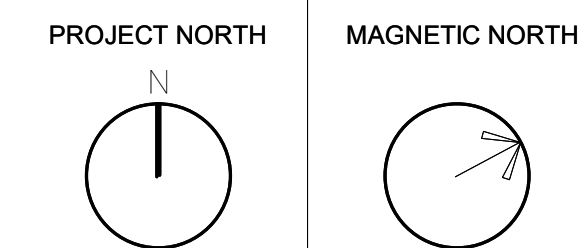


MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN



FIRE PROTECTION UNDER MEZZANINE - AREAS C&D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

FP1-1-0.5CD

DRA

Drummett Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074

260 Charles Street
Studio 300
Waltham, MA
02453

Planning | Architecture | Interior Design
Tel: 617.984.1700
www.dra.com

**Northeast
Metropolitan
Regional
Vocational High
School**

Wakefield, MA 01880

KEYNOTES

- LH LIGHT HAZARD OCCUPANCY
OH ORDINARY HAZARD OCCUPANCY
EH EXTRA HAZARD OCCUPANCY

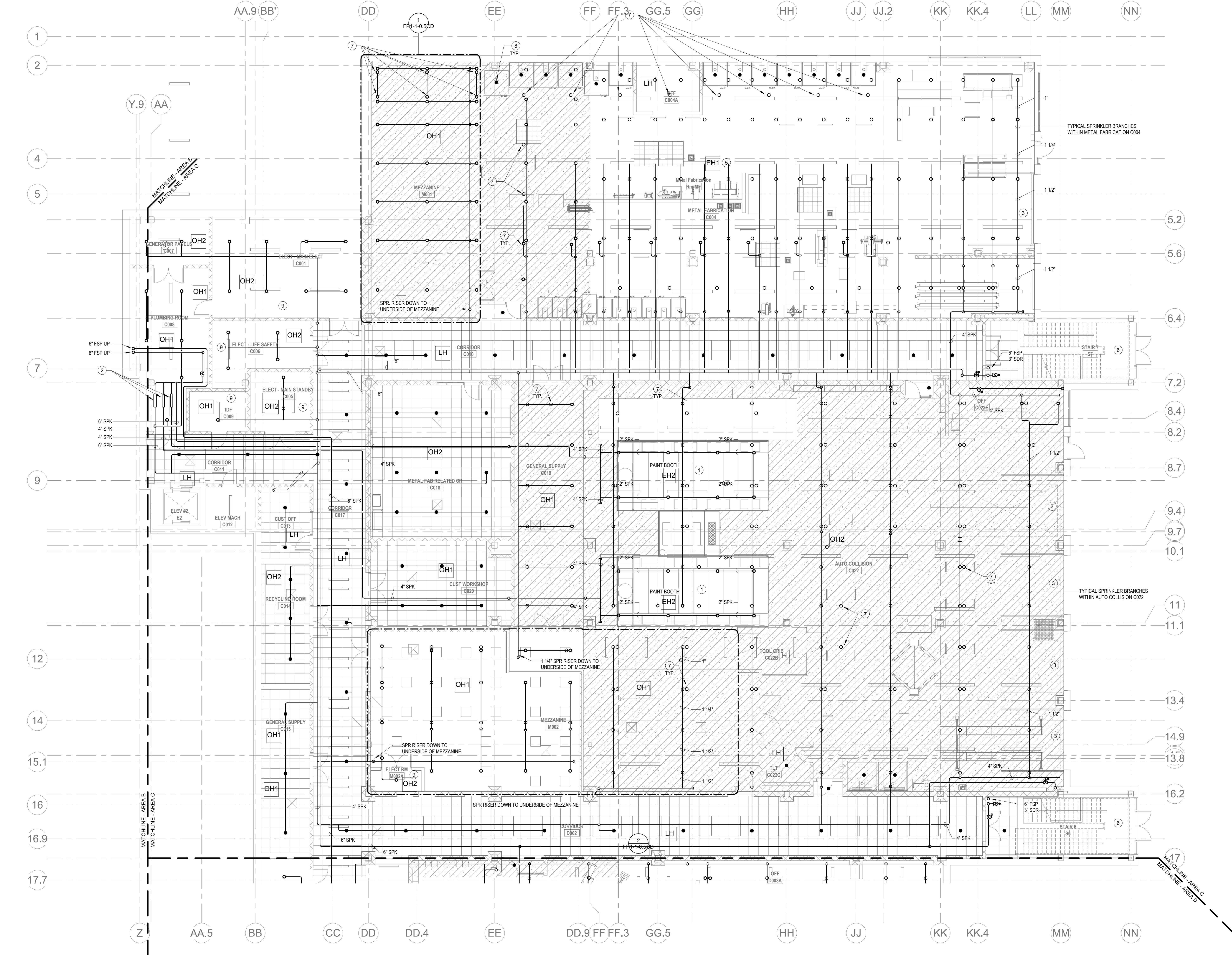
- THE INDICATED AREA SHALL BE PROTECTED BY SPRINKLERS WITH A EXTRA HAZARD GROUP 2 EQUIVA SPRINKLER DESIGN CRITERIA PER NFPA 13.
- PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL).
- PROVIDE DRY PENDENTS WITH GUARDS BENEATH THE GARAGE DOOR TRACK.
- FOR ALL PIPING PASSING THROUGH COORDINATE Y9, PROVIDE AN EXPANSION LOOP AND ADD FLEXIBLE COUPLINGS ON EITHER SIDE.
- PROVIDE HIGH TEMPERATURE RATED SPRINKLERS THROUGHOUT THE INDICATED AREA.
- SPRINKLER COVERAGE REQUIRED BELOW ALL ACCESSIBLE AREAS.
- PROVIDE SPRINKLER UNDERSIDE OF DUCTWORK. FIELD COORDINATE.
- PROVIDE SPRINKLER IN EACH WELDING PAINT BOOTH. COORDINATE SPRINKLER LOCATION WITH MANUFACTURER.
- FINAL LOCATION OF ALL PIPING AND SPRINKLER HEADS IN ELECTRIC TYPE SPACES AND UTILITY ROOMS SHALL BE FIELD COORDINATED WITH ELECTRICAL CONTRACTOR AS TO VERIFY COMPLIANCE WITH ELECTRICAL CODES.

GENERAL NOTES FOR PAINT SPRAY BOOTHS

- SPRINKLERS PROTECTING THE PAINT SPRAY BOOTHS SHALL BE DESIGNED FOR AN EXTRA HAZARD (GROUP 2) OCCUPANCY IN ACCORDANCE WITH NFPA 13.
- THE SPRINKLER SYSTEM PROTECTING DUCTS SHALL MEET ALL OF THE FOLLOWING REQUIREMENTS:
 - ONE SPRINKLER SHALL BE LOCATED AT THE TOP OF EACH VERTICAL RISER AND AT THE MIDPOINT OF EACH OFFSET. ADDITIONAL HEADS SHALL BE SPACED ON 24 FT CENTERS IF THE RISE IS GREATER THAN 24 FT.
 - HORIZONTAL EXHAUST DUCTS SHALL HAVE SPRINKLERS LOCATED 12 FT CENTERS BEGINNING NO MORE THAN 6 FT FROM THE DUCT ENTRANCE.
 - WHERE EXHAUST DUCTS ARE MANIFOLDED, A SPRINKLER SHALL BE LOCATED IN THE MANIFOLD AT THE JUNCTION OF EACH EXHAUST DUCT WITH THE MANIFOLD.
 - SPRINKLERS SHALL PROVIDE A MINIMUM FLOW OF 30 GPM PER HEAD AT A MINIMUM OF 15 PSI PRESSURE.
 - SPRINKLERS SHALL BE ORDINARY TEMPERATURE RATE, UNLESS REQUIRED TO BE HIGHER DUE TO OPERATING TEMPERATURES MEASURED IN THE DUCTS, IN WHICH CASE THE OPERATING TEMPERATURE SHALL BE AT LEAST 50 F ABOVE THE INSIDE TEMPERATURE OF THE DUCT.
- EXHAUST DUCTS SHALL BE PROVIDED WITH ACCESS OPENING FOR INSPECTION AND MAINTENANCE OF SPRINKLERS.
- SPRINKLERS SHALL BE PERMITTED TO BE COVERED ONLY BY CELLOPHANE BAGS HAVING A THICKNESS OF 0.003 IN. OR LESS OR BY TYPICAL PAPER BAGS. THESE COVERINGS SHALL BE REPLACED FREQUENTLY SO THAT HEAVY DEPOSITS DO NOT ACCUMULATE.
- SPRINKLERS THAT HAVE BEEN PAINTED OR COATED BY OVERSPRAY OR RESIDUES SHALL BE REPLACED WITH NEW SPRINKLERS.

GENERAL NOTES

- WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILINGS ARE INDICATED. EXTEND NEW 1" ARMOROVERS TO NEW CONCEALED PENDENTS. 1" SPRIGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRED TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
- PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
- SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERES WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
- CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR, UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
- DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
- SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.



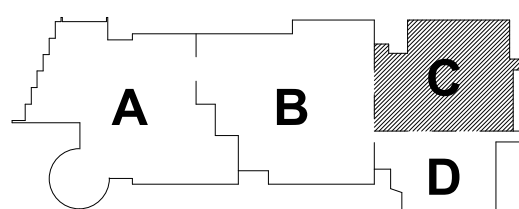
2 FIRE PROTECTION LOWER LEVEL FLOOR PLAN - AREA C
1/8" = 1'-0"

© COPYRIGHT 2021 DRUMMETT ROSANE ANDERSON, INC.

BALA
ENGINEERS

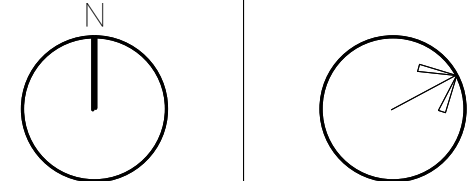
MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN

PROJECT NORTH
MAGNETIC NORTH



**FIRE
PROTECTION
LOWER LEVEL
FLOOR PLAN -
AREA C**

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

Job No.: 2002

Drawn By: DRA

Date: January 13, 2023

FP1-1-0C

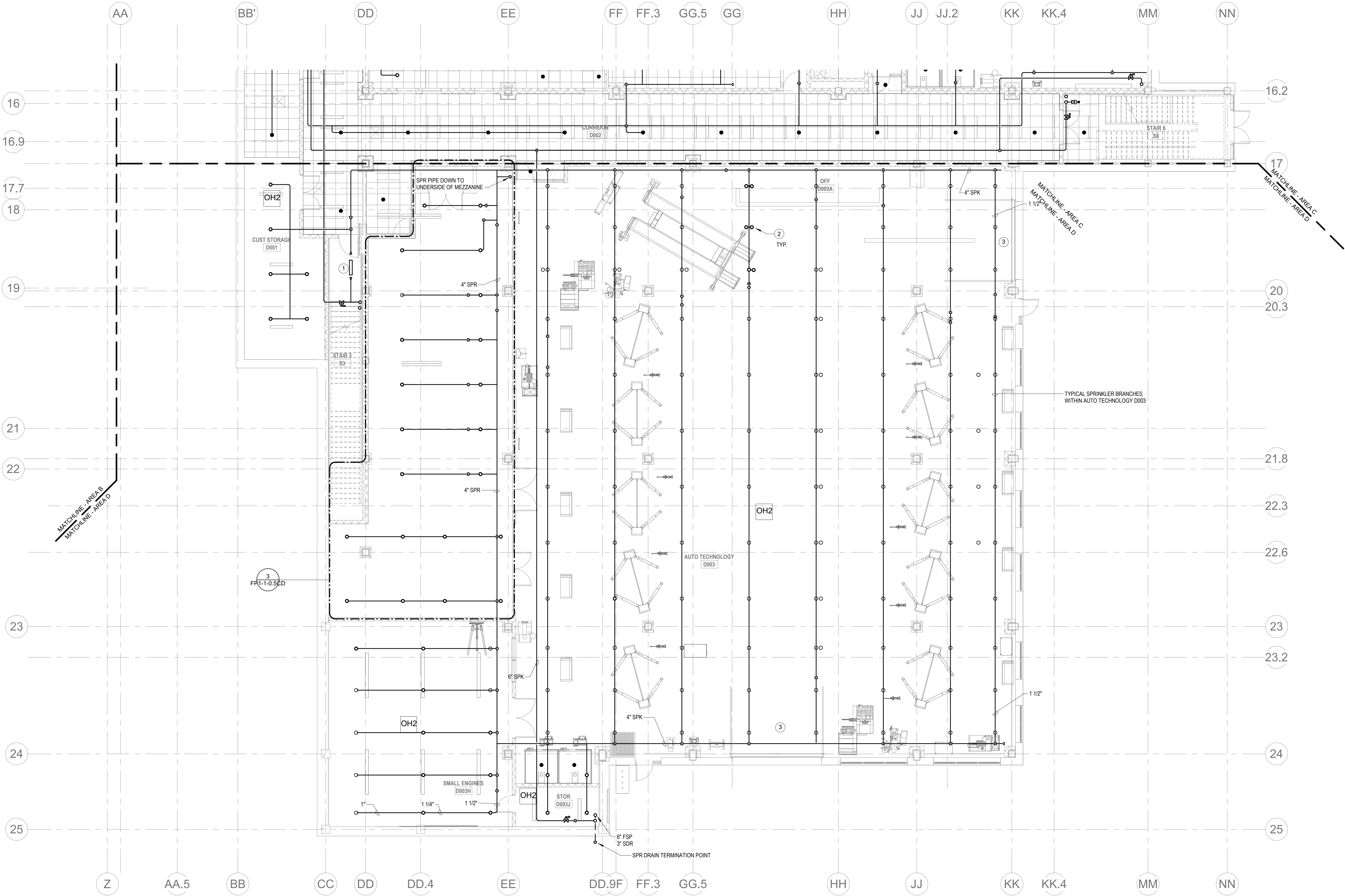
KEYNOTES

- LH LIGHT HAZARD OCCUPANCY
OH ORDINARY HAZARD OCCUPANCY
EH EXTRA HAZARD OCCUPANCY

- 1 PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL).
- 2 PROVIDE SPRINKLER UNDERSIDE OF DUCTWORK. FIELD COORDINATE.
- 3 PROVIDE DRY PENDENTS WITH GUARDS BENEATH THE GARAGE DOOR TRACK.

GENERAL NOTES

1. WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILINGS ARE INDICATED. EXTEND NEW 1" ARMOVERS TO NEW CONCEALED PENDENTS. 1" SPRIGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRE TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
2. PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.T. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
3. SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
4. SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERES WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
5. CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
6. SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
7. DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40°.
8. SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.



2 FIRE PROTECTION LOWER LEVEL FLOOR PLAN - AREA D
1/8" = 1'-0"



Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074

260 Charles Street
Studio 300
Waltham, MA
02453

Planning | Architecture | Interior Design
Tel: 617.984.1700
www.draan.com

Northeast
Metropolitan
Regional
Vocational High
School

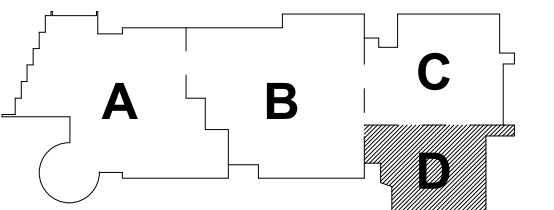
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMME ROSANE ANDERSON, INC.



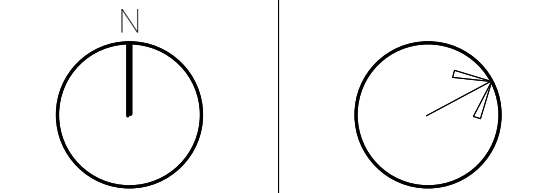
MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN

PROJECT NORTH MAGNETIC NORTH



FIRE
PROTECTION
LOWER LEVEL
FLOOR PLAN -
AREA D

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

Job No.: 20202

Drawn By: DRA

Date: January 13, 2023

FP1-1-0D

KEYNOTES

- LH LIGHT HAZARD OCCUPANCY
OH ORDINARY HAZARD OCCUPANCY
EH EXTRA HAZARD OCCUPANCY

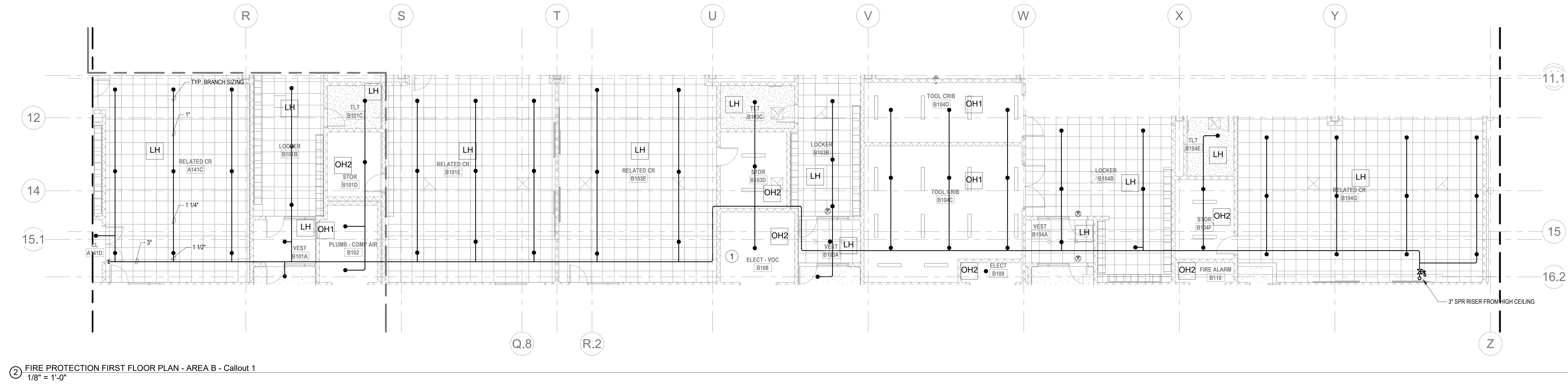
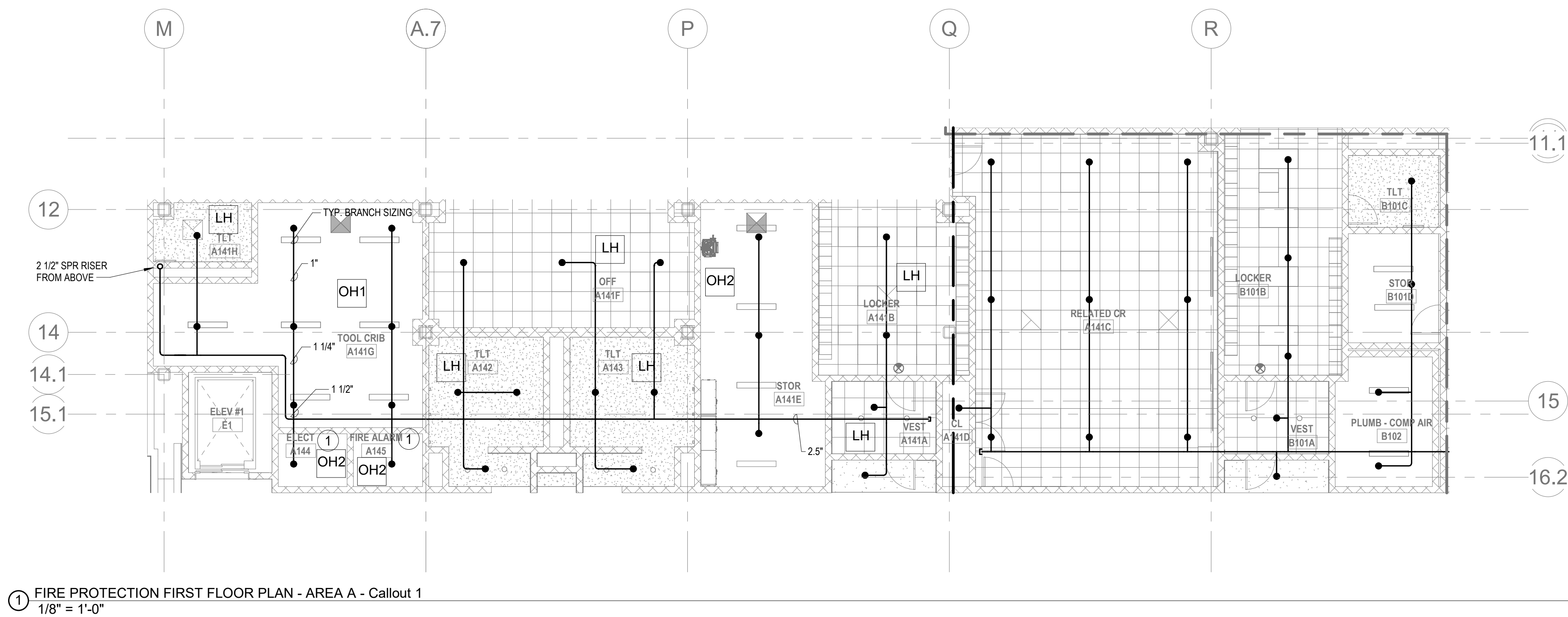
1 FINAL LOCATION OF ALL PIPING AND SPRINKLER HEADS IN ELECTRIC TYPE SPACES AND UTILITY ROOMS SHALL BE FIELD COORDINATED WITH ELECTRICAL CONTRACTOR AS TO VERIFY COMPLIANCE WITH ELECTRICAL CODES.



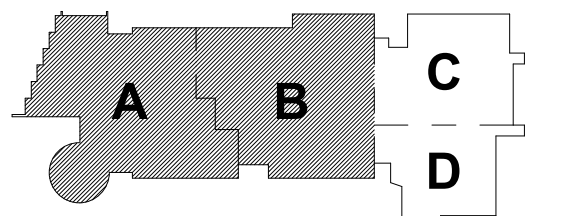
Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
260 Charles Street
Studio 300
Waltham, MA
02453
Planning | Architecture | Interior Design
Tel: 860.644.8300
www.dra-inc.com

Northeast
Metropolitan
Regional
Vocational High
School

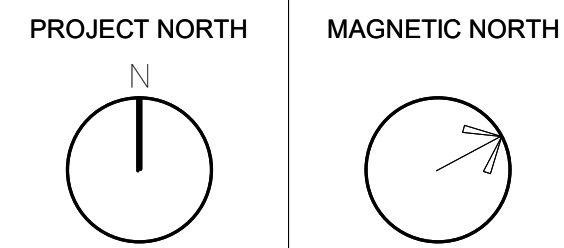
Wakefield, MA 01880



MSBA 60% CD
SUBMISSION
January 13, 2023



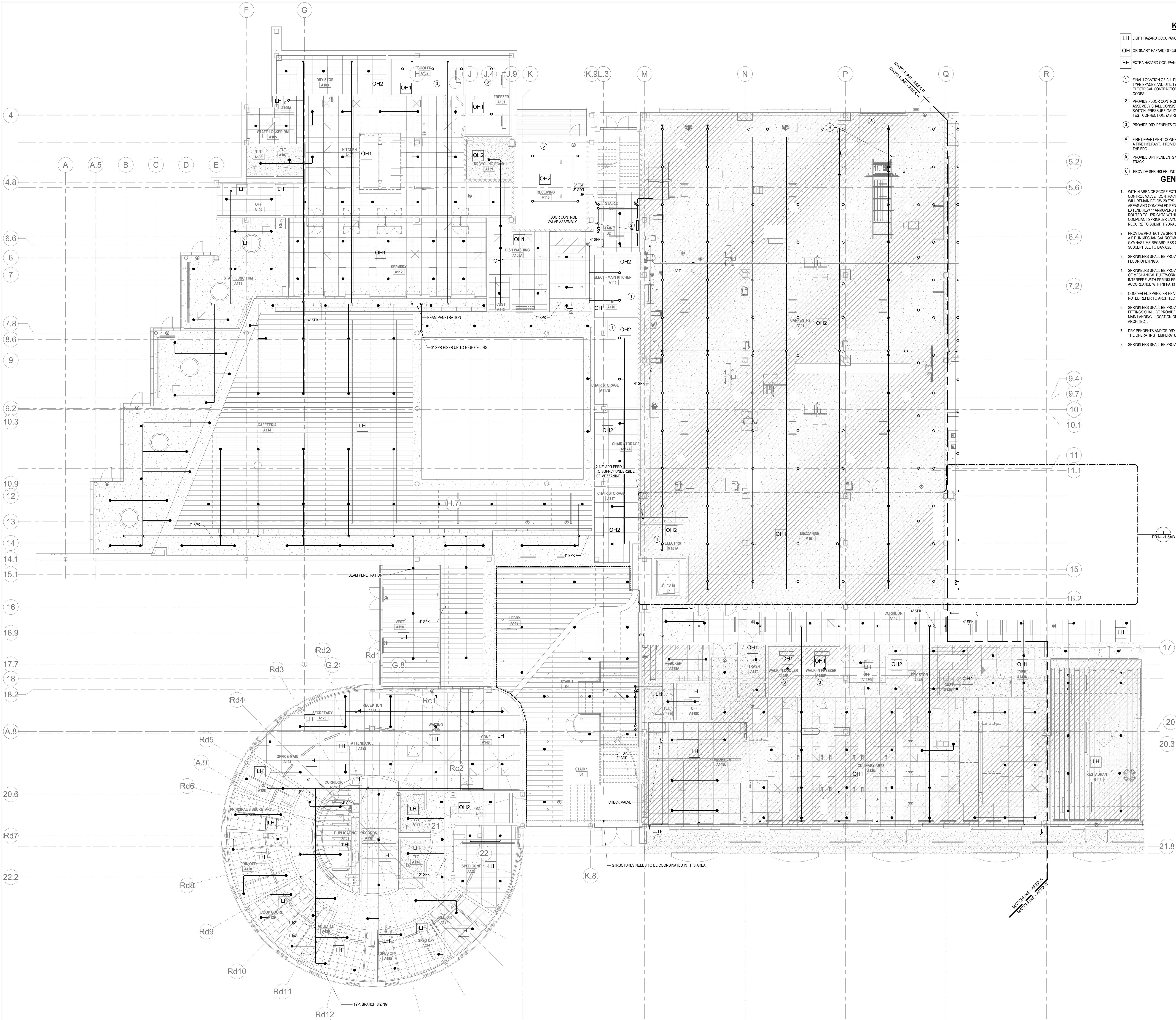
KEY PLAN



FIRE
PROTECTION
FIRST FLOOR
MEZZANINE LVL
PLAN - AREA A

Scale: 1/8 inch = 1'-0 inch
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

FP1-1-1.5AB



1 FIRE PROTECTION FIRST FLOOR PLAN - AREA A
1/8" = 1'-0"

KEYNOTES

- LH LIGHT HAZARD OCCUPANCY
OH ORDINARY HAZARD OCCUPANCY
EH EXTRA HAZARD OCCUPANCY

- FINAL LOCATION OF ALL PIPING AND SPRINKLER HEADS IN ELECTRIC TYPE SPACES AND UTILITY ROOMS SHALL BE FIELD COORDINATED WITH ELECTRICAL CONTRACTOR AS TO VERIFY COMPLIANCE WITH ELECTRICAL CODES.
- PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTORS TEST CONNECTION. (AS REQUIRED PER DETAIL).
- PROVIDE DRY PENDENTS TO SERVE THE ROOM.
- FIRE DEPARTMENT CONNECTION SHALL BE LOCATED WITHIN 100 FEET OF A FIRE HYDRANT. PROVIDE ELECTRIC ALARM BELL TO BE MOUNTED TO THE FDC.
- PROVIDE DRY PENDENTS WITH GUARDS BENEATH THE GARAGE DOOR TRACK.
- PROVIDE SPRINKLER UNDERSIDE OF DUCTWORK. FIELD COORDINATE.

GENERAL NOTES

- WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROPT CEILINGS ARE INDICATED. EXTEND NEW 1" ARMOVERS TO NEW CONCEALED PENDENTS. 1" SPRIGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTORS REQUIRE TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
- PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
- SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERES WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
- CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDINGS. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
- DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
- SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.

DRA

Drummett Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
Tel: 817.984.1700
www.dra-inc.com

Planning | Architecture | Interior Design
**Northeast
Metropolitan
Regional
Vocational High
School**

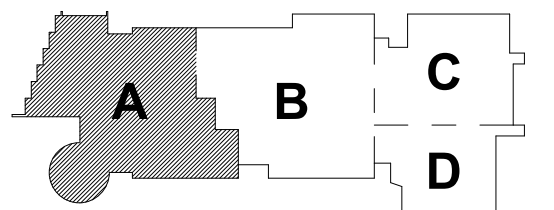
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMMETT ROSANE ANDERSON, INC.

BALA
ENGINEERS
BALA CONSULTING ENGINEERS, INC.
200 WEST 10TH STREET
SUITE 200
DALLAS, TEXAS 75201
TEL: 214.760.4400 FAX: 214.760.4401
WWW.BALA-ENGINEERS.COM

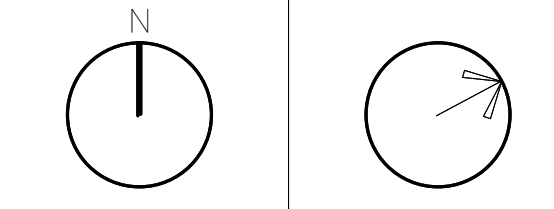
MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN

PROJECT NORTH MAGNETIC NORTH



**FIRE
PROTECTION
FIRST FLOOR
PLAN - AREA A**

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

Job No.: 20022

Drawn By: DRA

Date: January 13, 2023

FP1-1-1A

KEYNOTES

- LH LIGHT HAZARD OCCUPANCY
OH ORDINARY HAZARD OCCUPANCY
EH EXTRA HAZARD OCCUPANCY

- 1 FINAL LOCATION OF ALL PIPING AND SPRINKLER HEADS IN ELECTRIC TYPE SPACES AND UTILITY ROOMS SHALL BE FIELD COORDINATED WITH ELECTRICAL CONTRACTOR AS TO VERIFY COMPLIANCE WITH ELECTRICAL CODES.
2 FOR ALL PIPING PASSING THROUGH COORDINATE Y8, PROVIDE AN EXPANSION LOOP AND ADD FLEXIBLE COUPLINGS ON EITHER SIDE.
3 PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL).
4 PROVIDE DRY PENDENTS WITH GUARDS BENEATH THE GARAGE DOOR TRACK.
5 PROVIDE SPRINKLER UNDERSIDE OF DUCTWORK, FIELD COORDINATE.

GENERAL NOTES

1. WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILINGS ARE INDICATED. EXTEND NEW 1" HANGERS TO NEW CONCEALED PENDENTS. 1" SPRINGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRED TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
2. PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, CLOSET AREAS, ETC. REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
3. SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
4. SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERE WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
5. CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
6. SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
7. DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
8. SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.

DRA

Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
Planning | Architecture | Interior Design
Tel: 817.984.1700
www.dra-inc.com

Northeast
Metropolitan
Regional
Vocational High
School

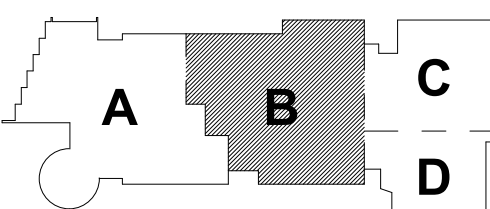
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMME ROSANE ANDERSON, INC.

BALA
ENGINEERS

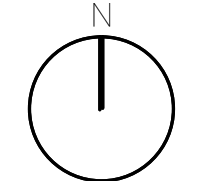
MSBA 60% CD
SUBMISSION

January 13, 2023

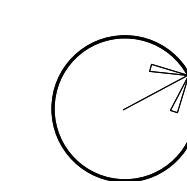


KEY PLAN

PROJECT NORTH



MAGNETIC NORTH



FIRE
PROTECTION
FIRST FLOOR
PLAN - AREA B

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

Job No.: 20202

Drawn By: DRA

Date: January 13, 2023

FP1-1-1B

FIRE PROTECTION FIRST FLOOR PLAN - AREA B
1/8" = 1'-0"

DRA

Planning | Architecture | Interior Design
Tel: 617.564.1700
www.draas.com

Wakefield, MA 01880

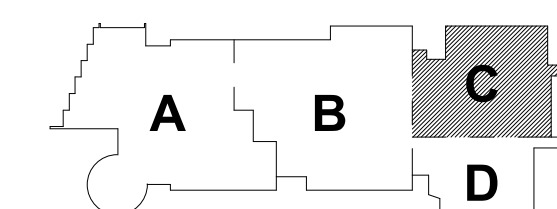
- [illegible]



© COPYRIGHT 2021 DRIMNEY ROSANE ANDERSON INC

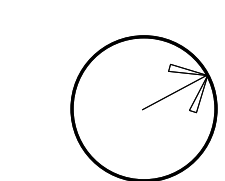
BALA
ENGINEERS

January 13, 2023



KEY PLAN

MAGNETIC NORTH



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

Job No.: 20202

Drawn By: DR

Date: January 13, 202

FP1-1-1C

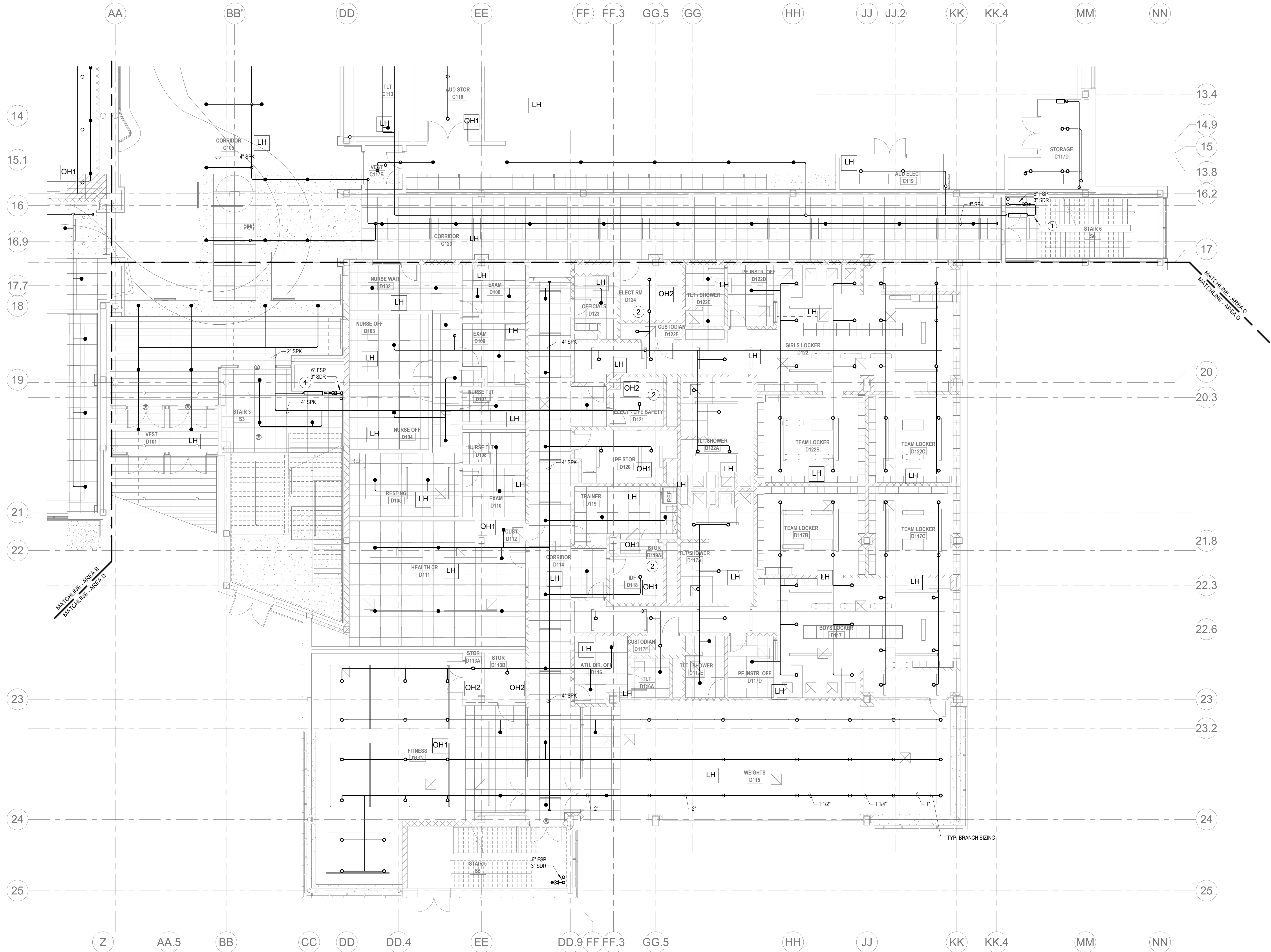
KEYNOTES

- LH LIGHT HAZARD OCCUPANCY
OH ORDINARY HAZARD OCCUPANCY
EH EXTRA HAZARD OCCUPANCY

- 1 PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL)
- 2 FINAL LOCATION OF ALL PIPING AND SPRINKLER HEADS IN ELECTRIC TYPE SPACES AND UTILITY ROOMS SHALL BE FIELD COORDINATED WITH ELECTRICAL CONTRACTOR AS TO VERIFY COMPLIANCE WITH ELECTRICAL CODES.

GENERAL NOTES

1. WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILINGS ARE INDICATED. EXTEND NEW 1" ARMED OVER TO NEW CONCEALED PENDENTS. 1" SPRIGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRED TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
2. PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
3. SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
4. SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERES WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
5. CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
6. SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDINGS. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
7. DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
8. SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.



1 FIRE PROTECTION FIRST FLOOR PLAN - AREA D
1/8" = 1'-0"

DRA

Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
Tel: 817.984.1700
www.dra-inc.com

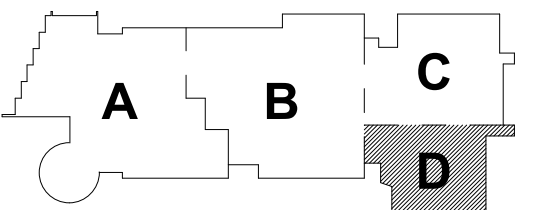
Northeast
Metropolitan
Regional
Vocational High
School

Wakefield, MA 01880

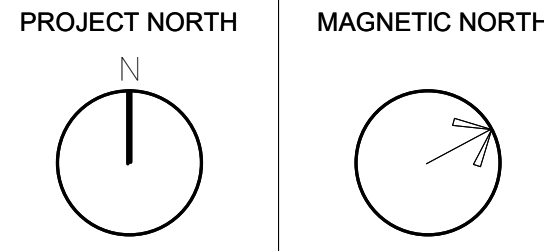
© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.

BALA
ENGINEERS
BALA CONSULTING ENGINEERS, INC.
300 WEST 10TH STREET
SUITE 200
DALLAS, TEXAS 75201
TEL: 214.742.1100 FAX: 214.742.1101
WWW.BALA-ENGINEERS.COM

MSBA 60% CD
SUBMISSION
January 13, 2023

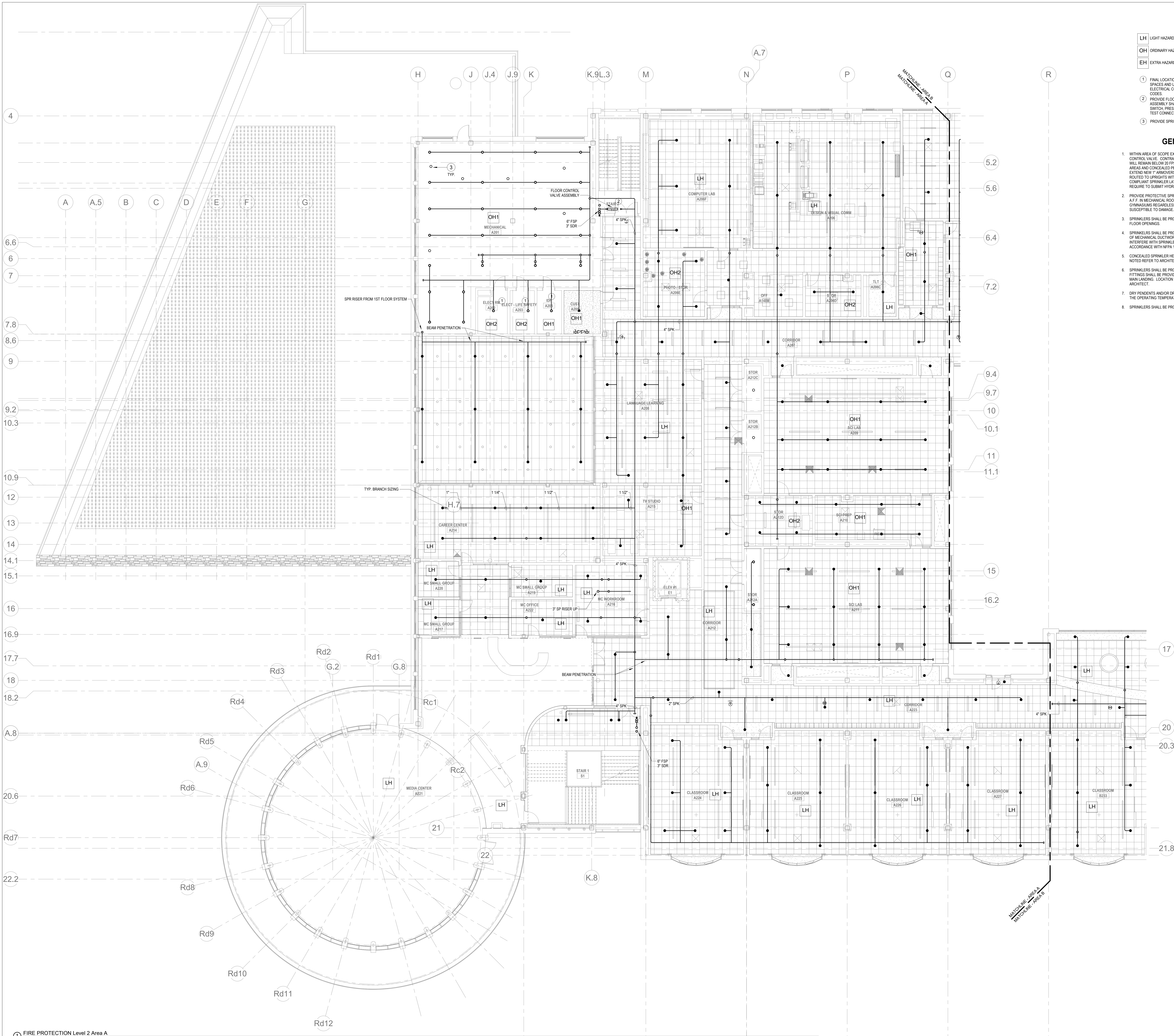


KEY PLAN



FIRE
PROTECTION
FIRST FLOOR
PLAN - AREA D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023
FP1-1-1D



- KEYNOTES**
- LH LIGHT HAZARD OCCUPANCY
 - OH ORDINARY HAZARD OCCUPANCY
 - EH EXTRA HAZARD OCCUPANCY
- FINAL LOCATION OF ALL PIPING AND SPRINKLER HEADS IN ELECTRIC TYPE SPACES AND UTILITY ROOMS SHALL BE FIELD COORDINATED WITH ELECTRICAL CONTRACTOR AS TO VERIFY COMPLIANCE WITH ELECTRICAL CODES.
 - PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL).
 - PROVIDE SPRINKLER UNDERSIDE OF DUCTWORK. FIELD COORDINATE.

- GENERAL NOTES**
- WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FLOW VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILING ARE INDICATED. EXTEND NEW 1" BRANCHES TO NEW CONCEALED PENDENTS. 1" SPRIGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRED TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
 - PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
 - SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
 - SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERE WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
 - CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
 - SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
 - DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
 - SPRINKLERS SHALL BE PROVIDED BENEATH FEATURES GREATER THAN 4 FT IN WIDTH.

1 FIRE PROTECTION Level 2 Area A
1/8" = 1'-0"

DRA

Drummeys Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT 06074
Tel: 817.984.1700
www.dra.com

260 Charles Street
Studio 300
Waltham, MA 02453
Tel: 817.984.1700
www.dra.com

Planning | Architecture | Interior Design

**Northeast
Metropolitan
Regional
Vocational High
School**

Wakefield, MA 01880

BALA
ENGINEERS

BALA CONSULTING ENGINEERS, INC.
300 WEST 10TH STREET
SUITE 200
DENVER, CO 80202
TEL: 303.733.1111 FAX: 303.733.1112
WWW.BALA-ENGINEERS.COM

MSBA 60% CD
SUBMISSION

January 13, 2023

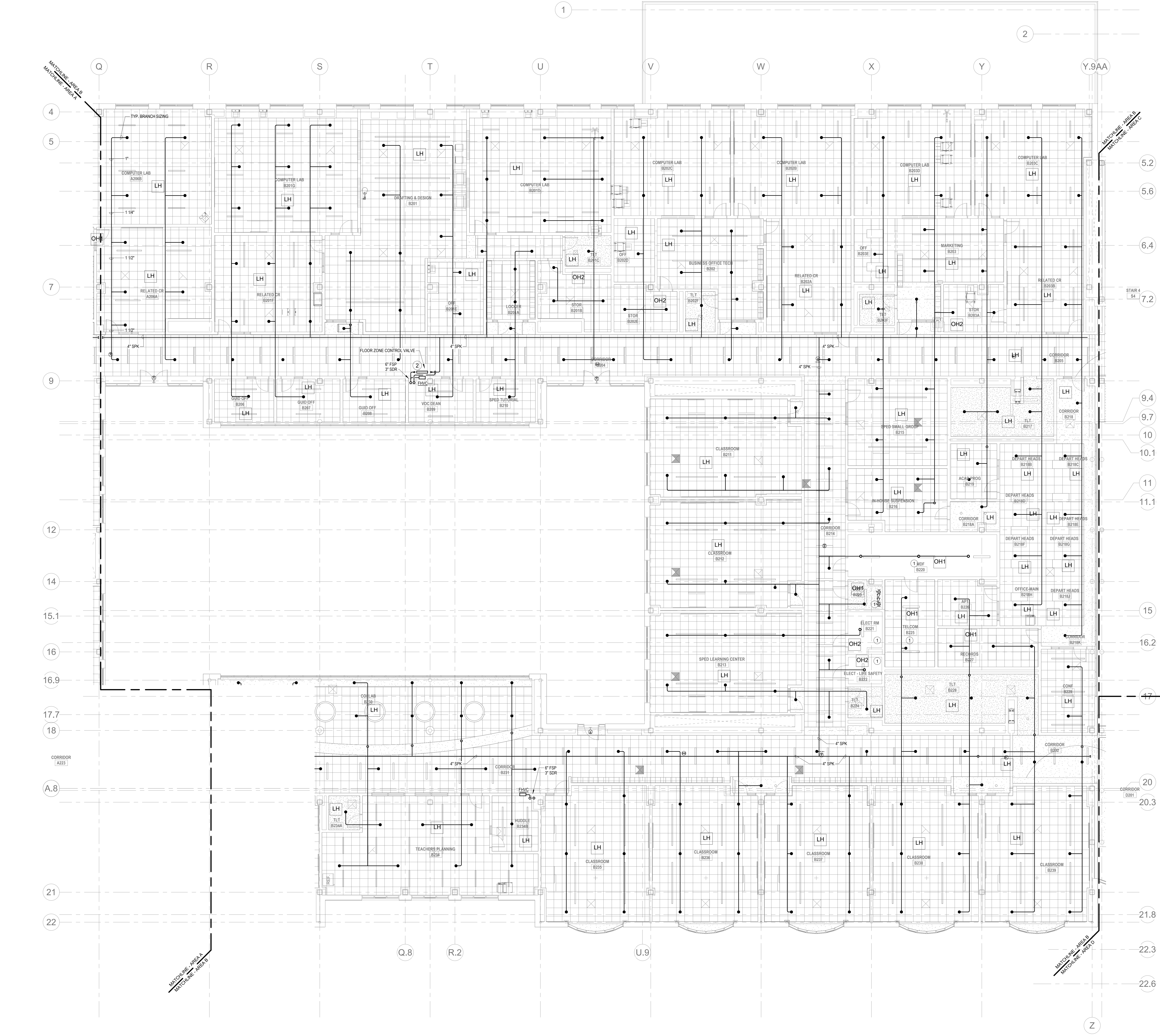
KEY PLAN

PROJECT NORTH
MAGNETIC NORTH

**FIRE
PROTECTION
SECOND FLOOR
PLAN - AREA A**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

FP1-1-2A



- ### KEYNOTES
- LH LIGHT HAZARD OCCUPANCY
 - OH ORDINARY HAZARD OCCUPANCY
 - EH EXTRA HAZARD OCCUPANCY
- ### GENERAL NOTES
- FINAL LOCATION OF ALL PIPING AND SPRINKLER HEADS IN ELECTRIC TYPE SPACES AND UTILITY ROOMS SHALL BE FIELD COORDINATED WITH ELECTRICAL CONTRACTOR AS TO VERIFY COMPLIANCE WITH ELECTRICAL CODES.
 - PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL).
- ### GENERAL NOTES
- WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE SPRINKLS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILING ARE INDICATED. EXTEND NEW 1" ARMED OVER TO NEW CONCEALED PENDENTS. 1" SPRINGS SHALL BE ROUTED TO SPRINKLS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRED TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HORIZONTAL OUTLET.
 - PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
 - SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
 - SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERES WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
 - CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
 - SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
 - DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
 - SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.

1 FIRE PROTECTION SECOND FLOOR PLAN - AREA B
1/8" = 1'-0"

DRA

Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT 06074
Tel: 817.984.1700
www.dra.com

260 Charles Street
Studio 300
Waltham, MA 02453

Planning | Architecture | Interior Design

Northeast Metropolitan Regional Vocational High School

Wakefield, MA 01880

MSBA 60% CD
SUBMISSION

January 13, 2023

KEY PLAN

PROJECT NORTH
MAGNETIC NORTH

FIRE PROTECTION SECOND FLOOR PLAN - AREA B

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

FP1-1-2B

LH	LIGHT HAZARD OCCUPANCY
OH	ORDINARY HAZARD OCCUPANCY
EH	EXTRA HAZARD OCCUPANCY

- ① PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL).
- ② PROVIDE SPRINKLER UNDERSIDE OF DUCTWORK. FIELD COORDINATE.
- ③ PROVIDE SPRINKLER PROTECTION UNDERNEATH CATWALK ABOVE THE STAGE IN ACCORDANCE WITH 780 CMR 410.7.

WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER RAIM PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL PLACE BRANCH PIPING TO ALLOW FOR VELOCITY TESTING AND PRESSURE TESTS. PROVIDE RESPONSE UPTIME IN OPEN CEILING AREAS AND CONCEALED PENDENT IN CEILING WHERE DROP CEILINGS ARE INDICATED. PROVIDE SMOKE DETECTOR WIRING TO THE FIRE ALARM PANEL. PROVIDE SMOKE DETECTORS ROUTED TO UNGATED FENDITH "N" DECK. DESIGN INTENT IS TO PROVIDE A COVERED ACCESS TO THE DETECTOR. PROVIDE DETECTOR WITH AN ACCESSIBLE COVER THAT REQUIRE TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.

2. PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 0' AFF. IF MECHANICAL ROOMS, STORAGE ROOMS, PLUMP ROOMS, SERVICE AREAS, CHIMNEY AREAS, ETC. ARE LOCATED ABOVE THE SPARKER HEAD LEVELS AND WOULD OTHERWISE BE SUSCEPTIBLE TO DAMAGE.

3. SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOR OPENINGS.

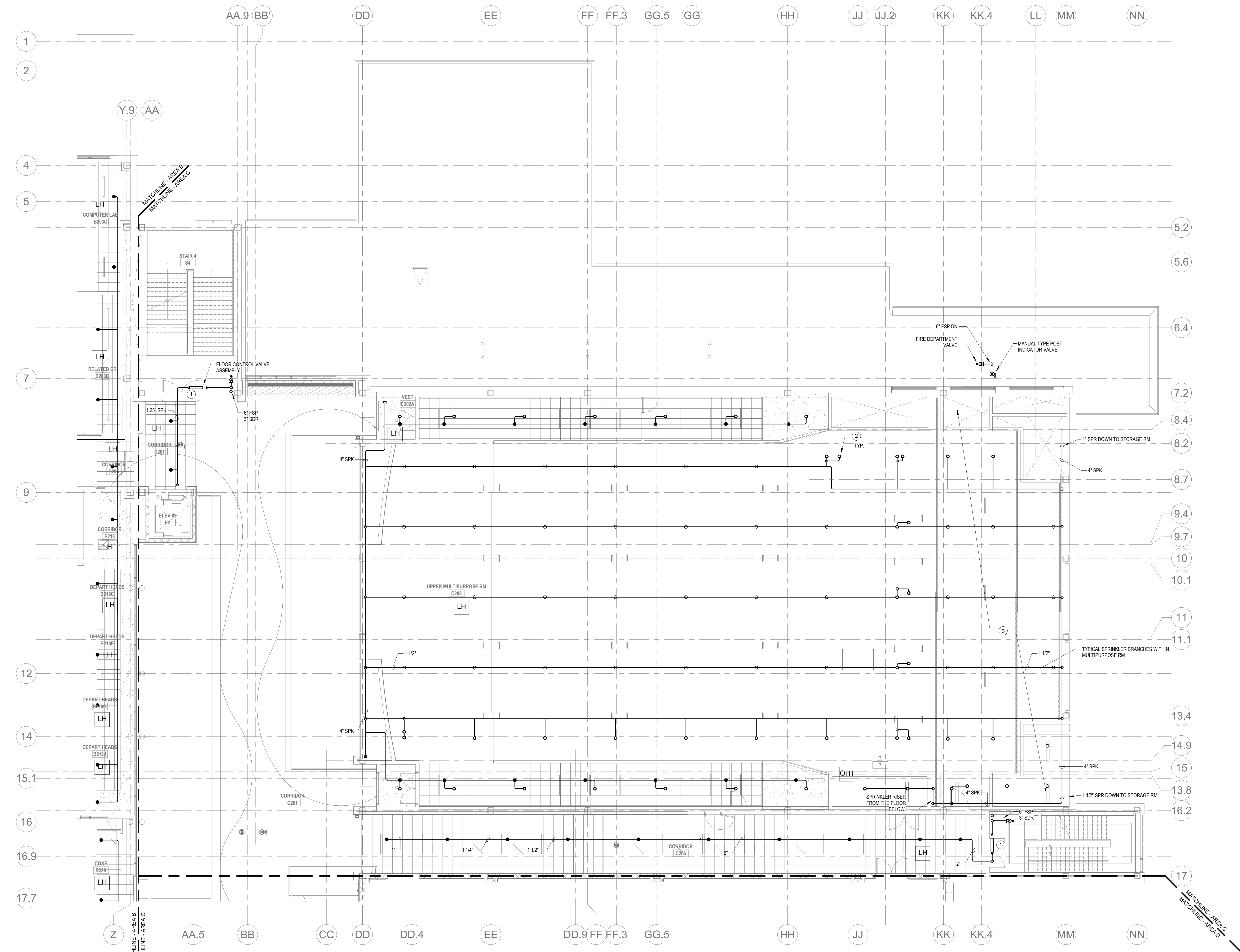
4. SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL, DUCTWORK AND GROUPS OF EQUIPMENT GREATER THAN 10' AFF. IF WIDTH OF THESE EQUIPMENTS INTERFERE WITH SPRINKLERS, ADJUNCT COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13

5. CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR, UNLESS OTHERWISE SPECIFIED BY ARCHITECTURAL DRAWINGS.

6. SPRINKLERS SHALL BE PROVIDED BEHIND ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLER BEAM ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.

7. DRY PENETRANTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40°F.

8. SPRINKLERS SHALL BE PROVIDED BEHIND FIXTURES GREATER THAN 4' AFF. IF WIDTH



① FIRE PROTECTION SECOND FLOOR PLAN - AREA C
1/8" = 1'-0"

**Northeast
Metropolitan
Regional
Vocational High
School**

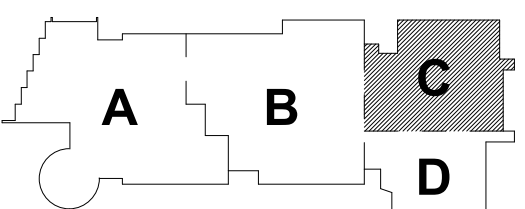
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.

BALA
ENGINEERS

MSBA 60% CD
SUBMISSION

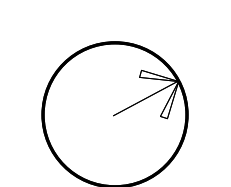
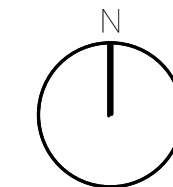
January 13, 2023



KEY PLAN

PROJECT NO.

MAGNETIC NORTH



**FIRE
PROTECTION
SECOND FLOOR
PLAN - AREA C**

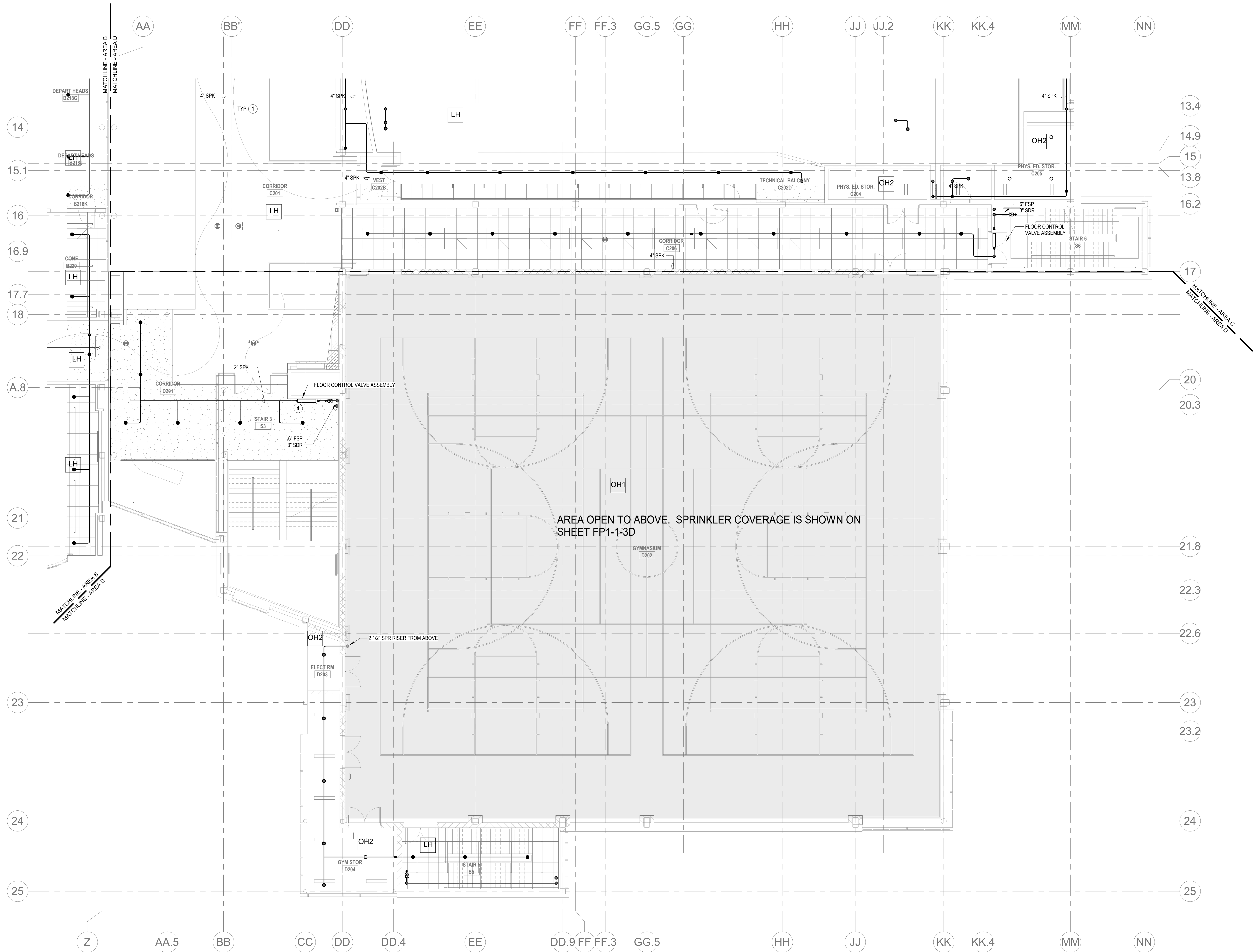
Scale: 1/8" = 1'-0"

Job No.: 20202

Drawn By: DB

Date: January 13, 202

FP1-1-2C



1 FIRE PROTECTION SECOND FLOOR PLAN - AREA D
1/8" = 1'-0"

- KEYNOTES
- LH LIGHT HAZARD OCCUPANCY
 - OH ORDINARY HAZARD OCCUPANCY
 - EH EXTRA HAZARD OCCUPANCY

- 1 PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL.)

GENERAL NOTES

- WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILINGS ARE INDICATED. EXTEND NEW 1" BRANCHES TO NEW CONCEALED PENDENTS. 1" SPRIGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRE TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
- PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
- SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
- SPRINKLES SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERE WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
- CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
- DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40°.
- SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.



Drummeey Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT 06074
Tel: 817.984.1700
www.dra-inc.com

280 Charles Street
Studio 300
Waltham, MA 02453

Planning | Architecture | Interior Design

Northeast Metropolitan Regional Vocational High School

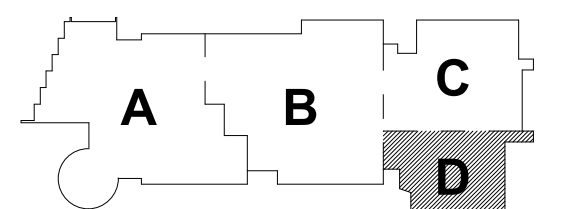
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.



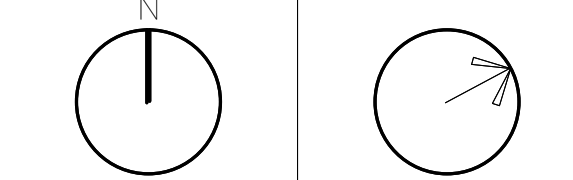
MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN

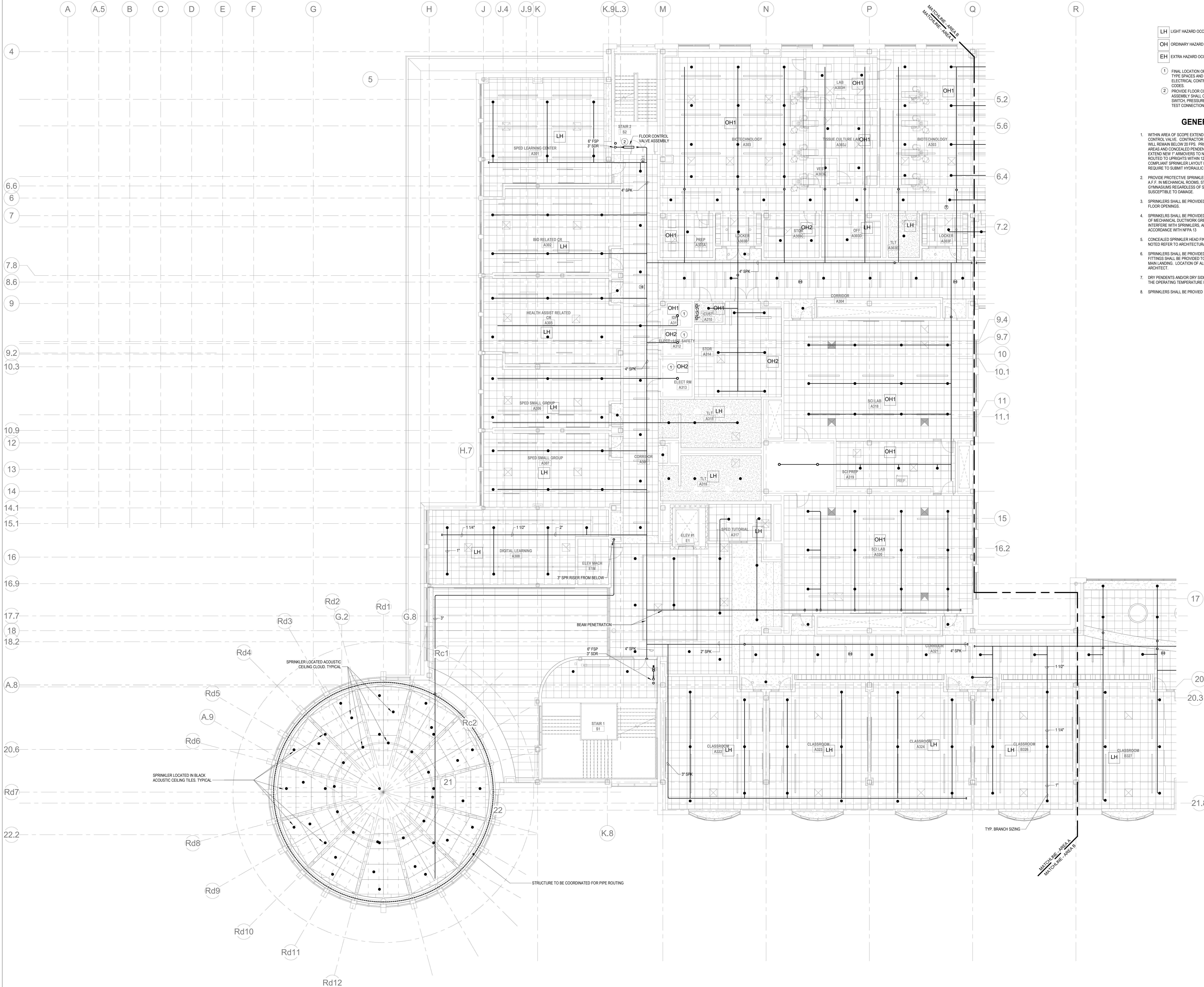
PROJECT NORTH MAGNETIC NORTH



FIRE PROTECTION SECOND FLOOR PLAN - AREA D

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

FP1-1-2D



KEYNOTES

- LH LIGHT HAZARD OCCUPANCY
 - OH ORDINARY HAZARD OCCUPANCY
 - EH EXTRA HAZARD OCCUPANCY
- FINAL LOCATION OF ALL PIPING AND SPRINKLER HEADS IN ELECTRIC TYPE SPACES AND UTILITY ROOMS SHALL BE FIELD COORDINATED WITH ELECTRICAL CONTRACTOR AS TO VERIFY COMPLIANCE WITH ELECTRICAL CODES.
 - PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL)

GENERAL NOTES

- WITHIN AREA OF SCOPE, EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILING IS INDICATED. EXTEND NEW 1" ARMEDERS TO NEW CONCEALED PENDENTS. 1" SPRIGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRE TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
- PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
- SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERE WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
- CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
- DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40°F.
- SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.

DRA

Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT 06074
Tel: 817.984.1700
www.dra.com

260 Charles Street
Studio 300
Waltham, MA 02453
Tel: 817.984.1700
www.dra.com

Planning | Architecture | Interior Design

Northeast
Metropolitan
Regional
Vocational High
School

Wakefield, MA 01880

MSBA 60% CD
SUBMISSION

January 13, 2023

A B C D

KEY PLAN

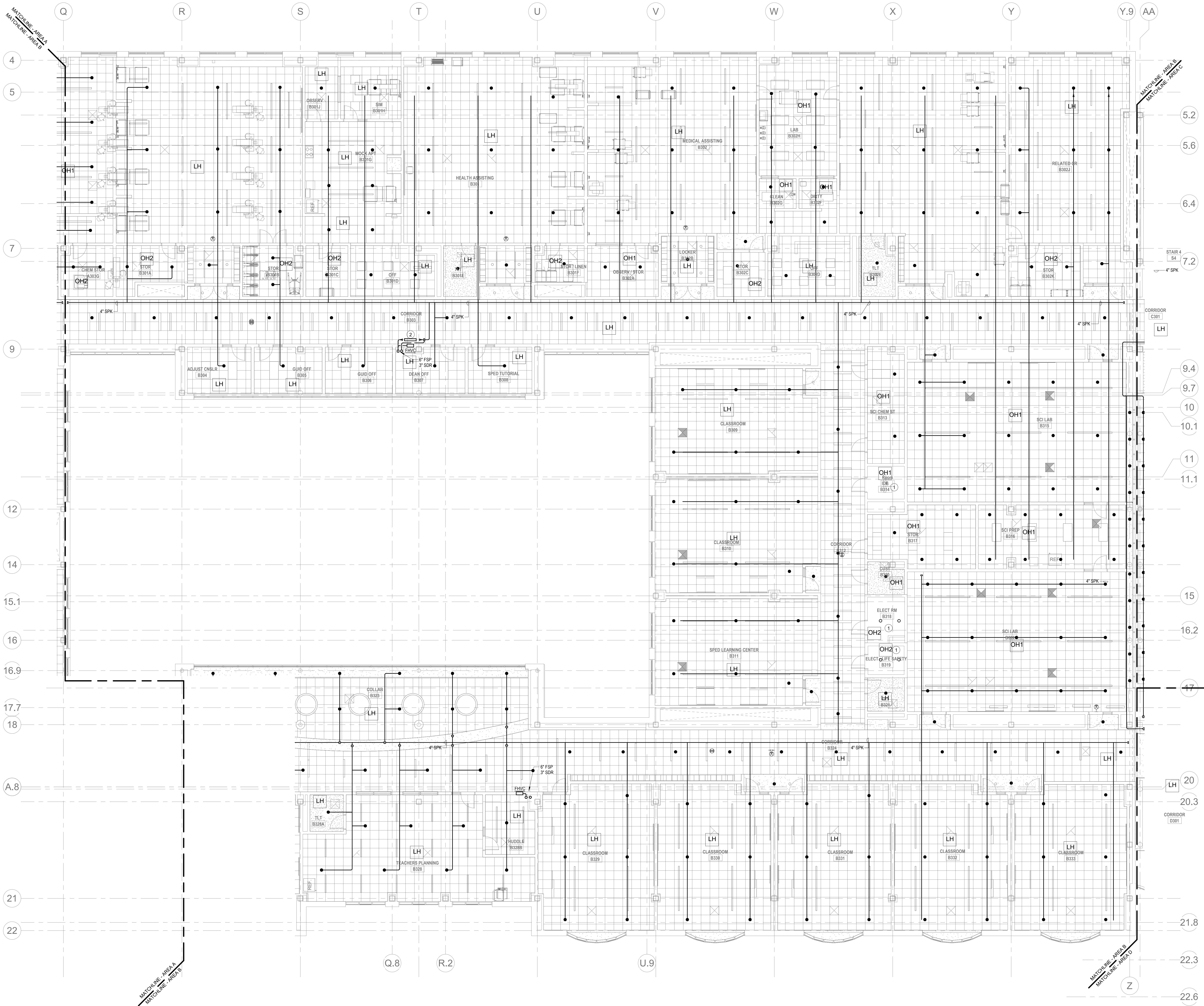
PROJECT NORTH
MAGNETIC NORTH

FIRE
PROTECTION
THIRD FLOOR
PLAN - AREA A

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

FP1-1-3A

© COPYRIGHT 2021 DRUMME ROSANE ANDERSON, INC.



- KEYNOTES
- LH LIGHT HAZARD OCCUPANCY
 - OH ORDINARY HAZARD OCCUPANCY
 - EH EXTRA HAZARD OCCUPANCY
- 1 FINAL LOCATION OF ALL PIPING AND SPRINKLER HEADS IN ELECTRIC TYPE SPACES AND UTILITY ROOMS SHALL BE FIELD COORDINATED WITH ELECTRICAL CONTRACTOR AS TO VERIFY COMPLIANCE WITH ELECTRICAL CODES.
- 2 PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL).

GENERAL NOTES

- WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE SPRINKLERS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILINGS ARE INDICATED. EXTEND NEW 1" ARMED SPRINKLERS TO NEW CONCEALED PENDENTS. 1" SPRINGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRED TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
- PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
- SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERS WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
- CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
- DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
- SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.

Northeast Metropolitan Regional Vocational High School

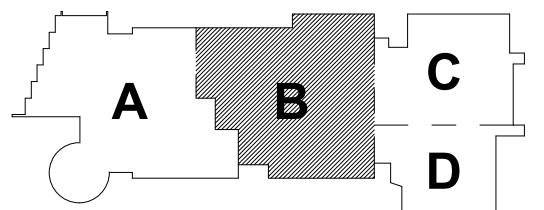
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.

BALA
ENGINEERS

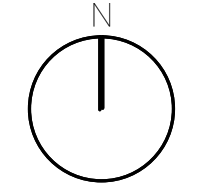
MSBA 60% CD
SUBMISSION

January 13, 2023

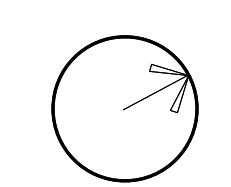


KEY PLAN

PROJECT NORTH



MAGNETIC NORTH



FIRE PROTECTION THIRD FLOOR PLAN - AREA B

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

Job No.: 20202

Drawn By: DRA

Date: January 13, 2023

FP1-1-3B

DRA

Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
260 Charles Street
Studio 300
Waltham, MA
02453
Planning | Architecture | Interior Design
Tel: 617.984.1700
www.dra-inc.com

Northeast
Metropolitan
Regional
Vocational High
School

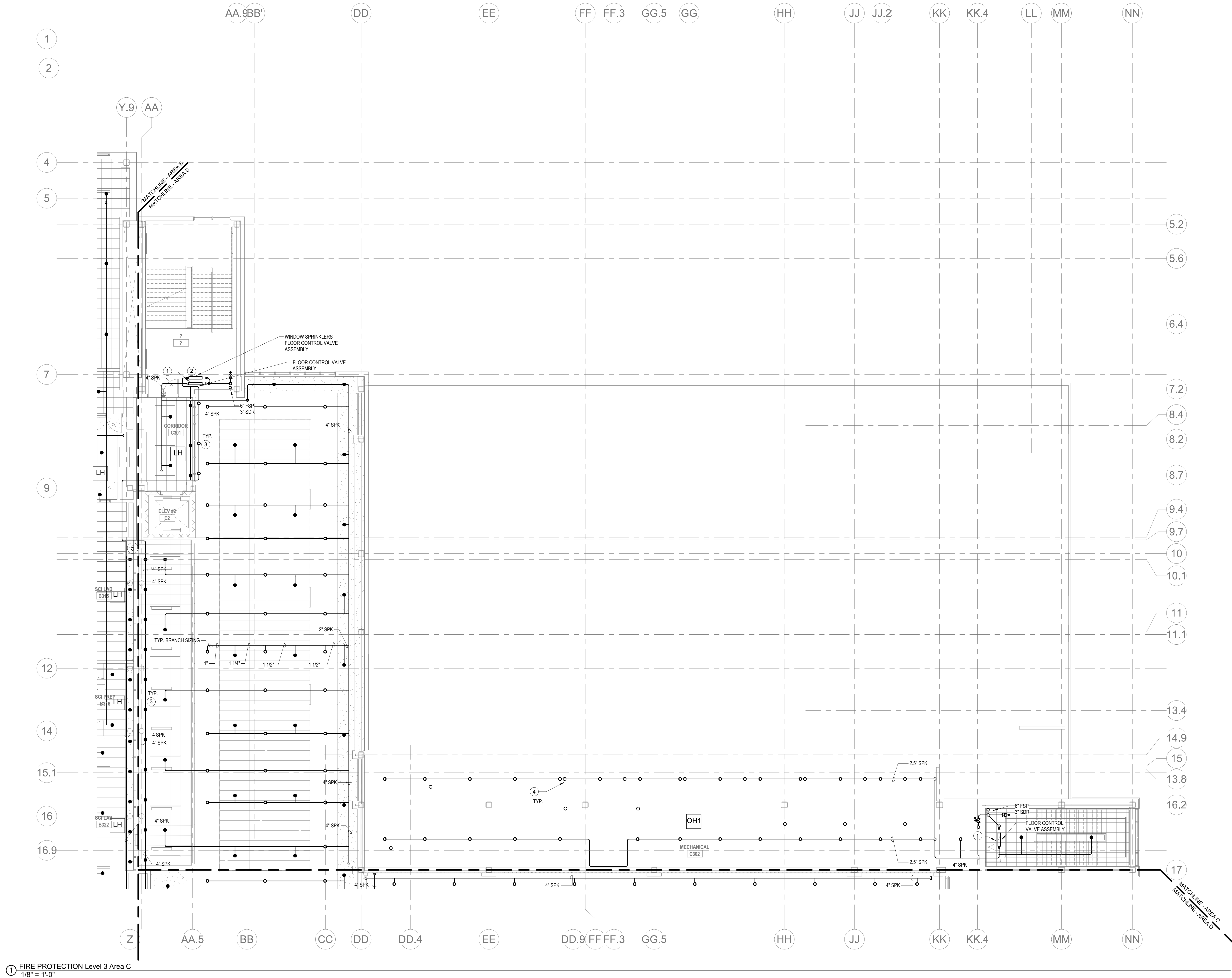
Wakefield, MA 01880

- KEYNOTES
- LH LIGHT HAZARD OCCUPANCY
 - OH ORDINARY HAZARD OCCUPANCY
 - EH EXTRA HAZARD OCCUPANCY

- 1 PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL.)
- 2 PROVIDE FLOOR CONTROL VALVE FOR THE WINDOW SPRINKLERS. THE FLOOR CONTROL VALVE SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION.
- 3 PROVIDE WINDOW SPRINKLERS WITHIN 2 IN. OF THE GLASS PARTITIONS IN ACCORDANCE WITH NFPA 13 TABLE 7.8.4. THESE SPRINKLERS SHALL BE SPACED NOT MORE THAN 10 FT FROM EACH OTHER.
- 4 PROVIDE SPRINKLER UNDERSIDE OF DUCTWORK. FIELD COORDINATE.
- 5 FOR ALL PIPING PASSING THROUGH COORDINATE Y9, PROVIDE AN EXPANSION LOOP AND ADD FLEXIBLE COUPLINGS ON EITHER SIDE.

GENERAL NOTES

1. WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK-RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILINGS ARE INDICATED. EXTEND NEW 1" AND WENDERS TO NEW CONCEALED PENDENTS. 1" SPRINGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRE TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
2. PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, CHIMNEYS/STAIRS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
3. SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
4. SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERE WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
5. CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED, REFER TO ARCHITECTURAL DRAWINGS.
6. SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
7. DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
8. SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.



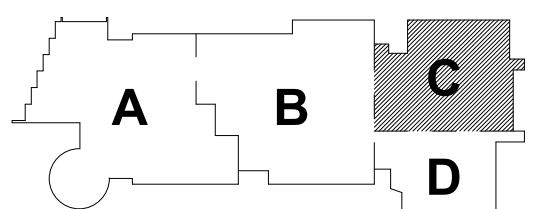
1 FIRE PROTECTION Level 3 Area C
1/8" = 1'-0"

© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.

BALA
ENGINEERS
BALA CONSULTING ENGINEERS, INC.
200 WEST 10TH STREET
SUITE 200
MINNEAPOLIS, MN 55402
TEL: 612.338.1100 FAX: 612.338.1101
WWW.BALA-ENGINEERS.COM

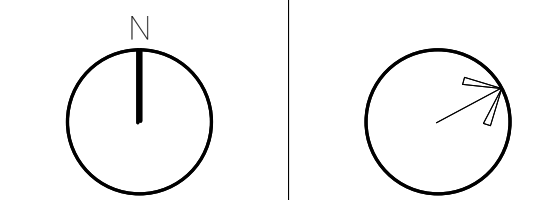
MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN

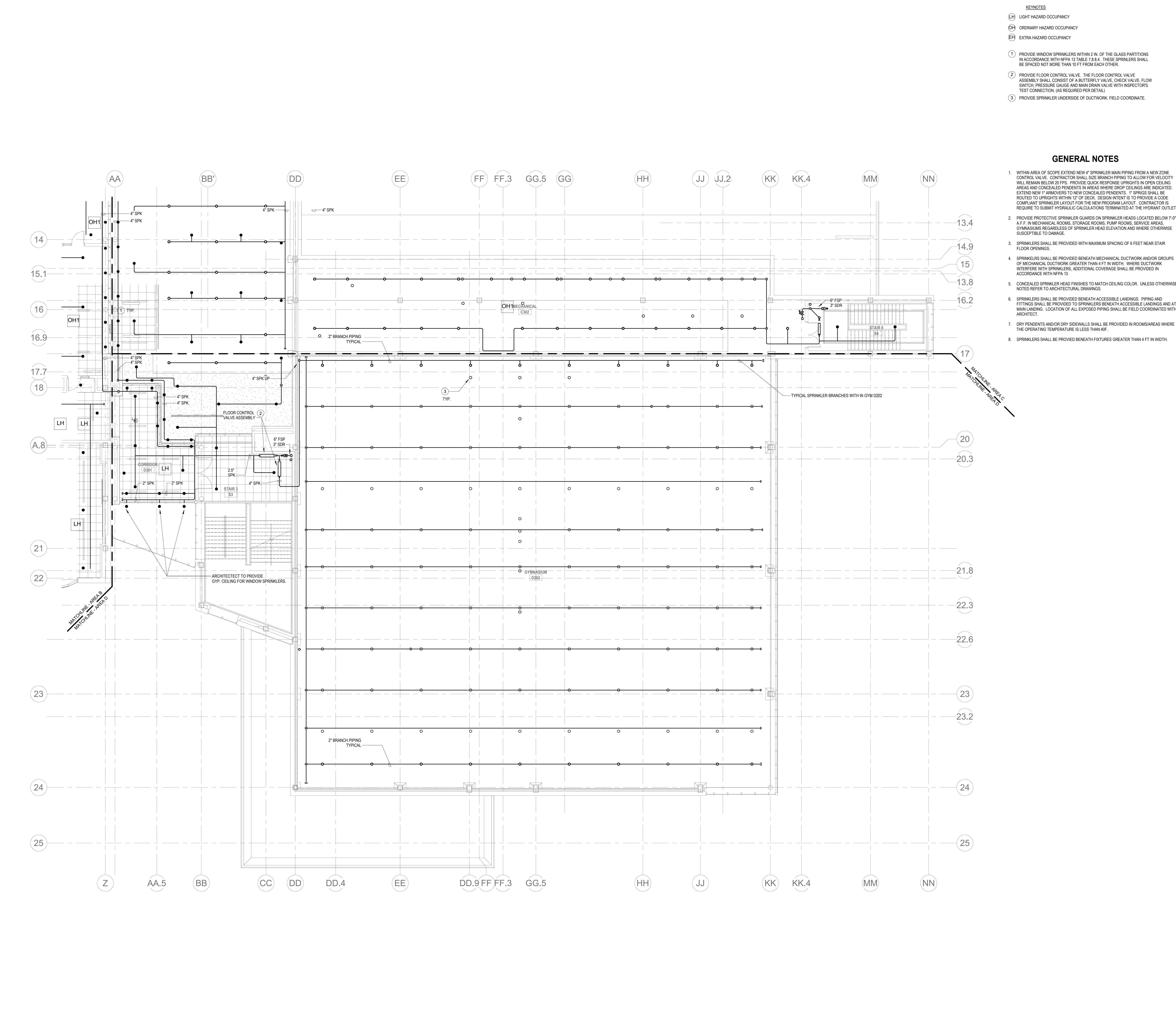
PROJECT NORTH MAGNETIC NORTH



FIRE
PROTECTION
THIRD FLOOR
PLAN - AREA C

Scale: 1/8" = 1'-0"
Job No.: 2002
Drawn By: DRA
Date: January 13, 2023

FP1-1-3C





Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023



Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074

260 Charles Street
Studio 300
Waltham, MA
02453

Planning | Architecture | Interior Design
Tel: 617.984.1700
www.dra-inc.com

Northeast Metropolitan Regional Vocational High School

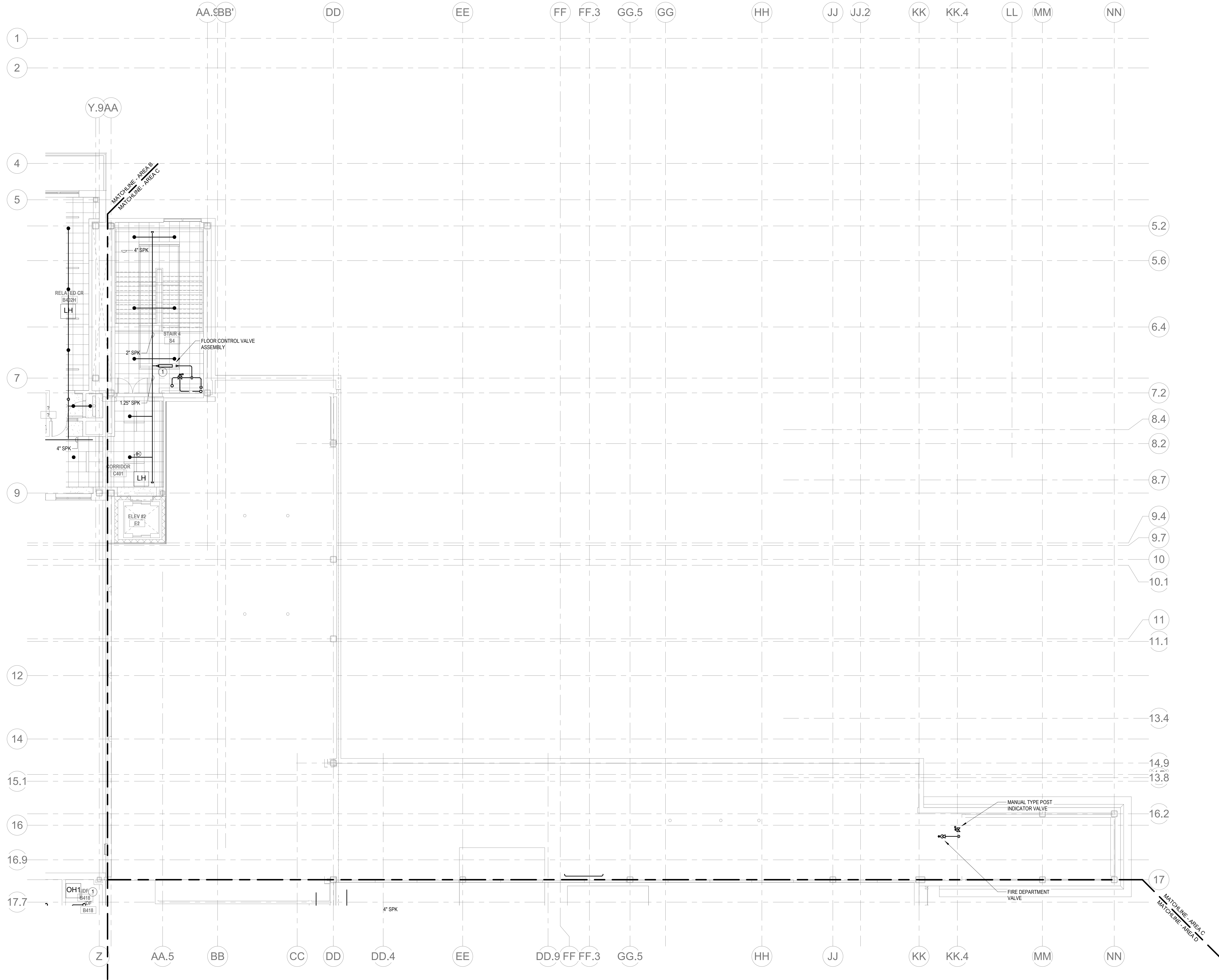
Wakefield, MA 01880

- KEYNOTES
- LH LIGHT HAZARD OCCUPANCY
 - OH ORDINARY HAZARD OCCUPANCY
 - EH EXTRA HAZARD OCCUPANCY

- 1 PROVIDE FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL)

GENERAL NOTES

- WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILINGS ARE INDICATED. EXTEND NEW 1" RUNNERS TO NEW CONCEALED PENDENTS. 1" SPRIGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTOR IS REQUIRE TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
- PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
- SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERE WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
- CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
- SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
- DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
- SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.



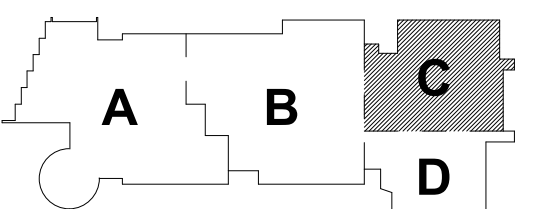
1 FIRE PROTECTION FOURTH FLOOR PLAN - AREA C
1/8" = 1'-0"

© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.

BALA
ENGINEERS
Bala Consulting Engineers, Inc.
200 Main Street, Suite 200
Wakefield, MA 01880
Tel: 617.984.1700
Fax: 617.984.1701
www.bala-engineers.com

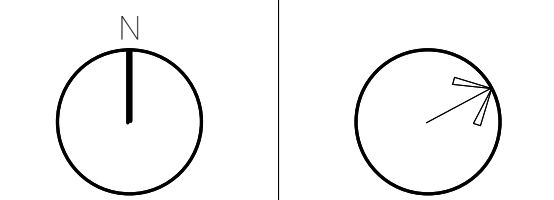
MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN

PROJECT NORTH MAGNETIC NORTH



FIRE PROTECTION FOURTH FLOOR PLAN - AREA C

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

Job No.: 20202

Drawn By: DRA

Date: January 13, 2023

FP1-1-4C

DRA

Drumme Rosane Anderson, Inc.

225 Oakland Road
Studio 205
South Windsor, CT
06074

260 Charles Street
Studio 300
Waltham, MA
02453

Planning | Architecture | Interior Design
Tel: 817.984.1700
www.draan.com

Northeast
Metropolitan
Regional
Vocational High
School

Wakefield, MA 01880

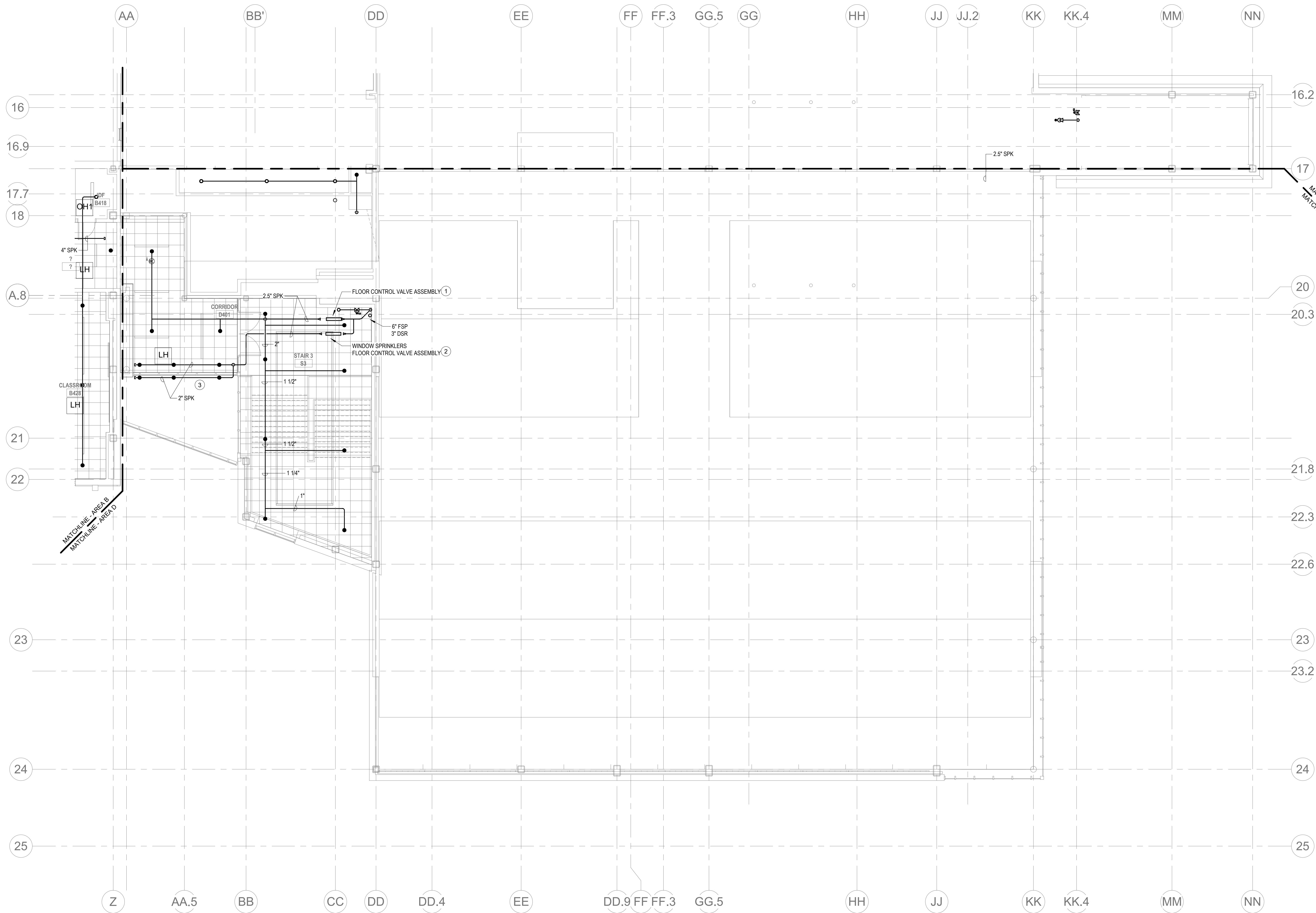
KEYNOTES

- LH LIGHT HAZARD OCCUPANCY
OH ORDINARY HAZARD OCCUPANCY
EH EXTRA HAZARD OCCUPANCY

- 1 PROVIDE 2.5" FLOOR CONTROL VALVE. THE FLOOR CONTROL VALVE ASSEMBLY SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION. (AS REQUIRED PER DETAIL)
- 2 PROVIDE 2.5" FLOOR CONTROL VALVE FOR THE WINDOW SPRINKLERS. THE FLOOR CONTROL VALVE SHALL CONSIST OF A BUTTERFLY VALVE, CHECK VALVE, FLOW SWITCH, PRESSURE GAUGE AND MAIN DRAIN VALVE WITH INSPECTOR'S TEST CONNECTION.
- 3 PROVIDE WINDOW SPRINKLERS WITHIN 2 IN. OF THE GLASS PARTITIONS IN ACCORDANCE WITH NFPA 13 TABLE 7.8.8.4. THESE SPRINKLERS SHALL BE SPACED NOT MORE THAN 10 FT FROM EACH OTHER.

GENERAL NOTES

1. WITHIN AREA OF SCOPE EXTEND NEW 4" SPRINKLER MAIN PIPING FROM A NEW ZONE CONTROL VALVE. CONTRACTOR SHALL SIZE BRANCH PIPING TO ALLOW FOR VELOCITY WILL REMAIN BELOW 20 FPS. PROVIDE QUICK RESPONSE UPRIGHTS IN OPEN CEILING AREAS AND CONCEALED PENDENTS IN AREAS WHERE DROP CEILINGS ARE INDICATED. EXTEND NEW 1" ARMOVERS TO NEW CONCEALED PENDENTS. 1" SPRIGS SHALL BE ROUTED TO UPRIGHTS WITHIN 12" OF DECK. DESIGN INTENT IS TO PROVIDE A CODE COMPLIANT SPRINKLER LAYOUT FOR THE NEW PROGRAM LAYOUT. CONTRACTORS REQUIRE TO SUBMIT HYDRAULIC CALCULATIONS TERMINATED AT THE HYDRANT OUTLET.
2. PROVIDE PROTECTIVE SPRINKLER GUARDS ON SPRINKLER HEADS LOCATED BELOW 7'-0" A.F.F. IN MECHANICAL ROOMS, STORAGE ROOMS, PUMP ROOMS, SERVICE AREAS, GYMNASIUMS REGARDLESS OF SPRINKLER HEAD ELEVATION AND WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.
3. SPRINKLERS SHALL BE PROVIDED WITH MAXIMUM SPACING OF 6 FEET NEAR STAIR FLOOR OPENINGS.
4. SPRINKLERS SHALL BE PROVIDED BENEATH MECHANICAL DUCTWORK AND/OR GROUPS OF MECHANICAL DUCTWORK GREATER THAN 4 FT IN WIDTH. WHERE DUCTWORK INTERFERES WITH SPRINKLERS, ADDITIONAL COVERAGE SHALL BE PROVIDED IN ACCORDANCE WITH NFPA 13.
5. CONCEALED SPRINKLER HEAD FINISHES TO MATCH CEILING COLOR. UNLESS OTHERWISE NOTED REFER TO ARCHITECTURAL DRAWINGS.
6. SPRINKLERS SHALL BE PROVIDED BENEATH ACCESSIBLE LANDINGS. PIPING AND FITTINGS SHALL BE PROVIDED TO SPRINKLERS BENEATH ACCESSIBLE LANDINGS AND AT MAIN LANDING. LOCATION OF ALL EXPOSED PIPING SHALL BE FIELD COORDINATED WITH ARCHITECT.
7. DRY PENDENTS AND/OR DRY SIDEWALLS SHALL BE PROVIDED IN ROOMS/AREAS WHERE THE OPERATING TEMPERATURE IS LESS THAN 40F.
8. SPRINKLERS SHALL BE PROVIDED BENEATH FIXTURES GREATER THAN 4 FT IN WIDTH.



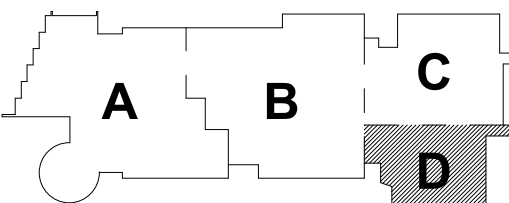
1 FIRE PROTECTION Level 4 Area D
1/8" = 1'-0"

© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.

BALA
ENGINEERS

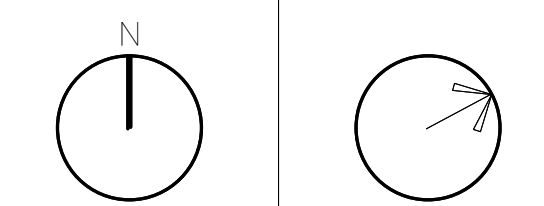
MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN

PROJECT NORTH MAGNETIC NORTH



FIRE
PROTECTION
FOURTH FLOOR
PLAN - AREA D

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

Job No.: 20202

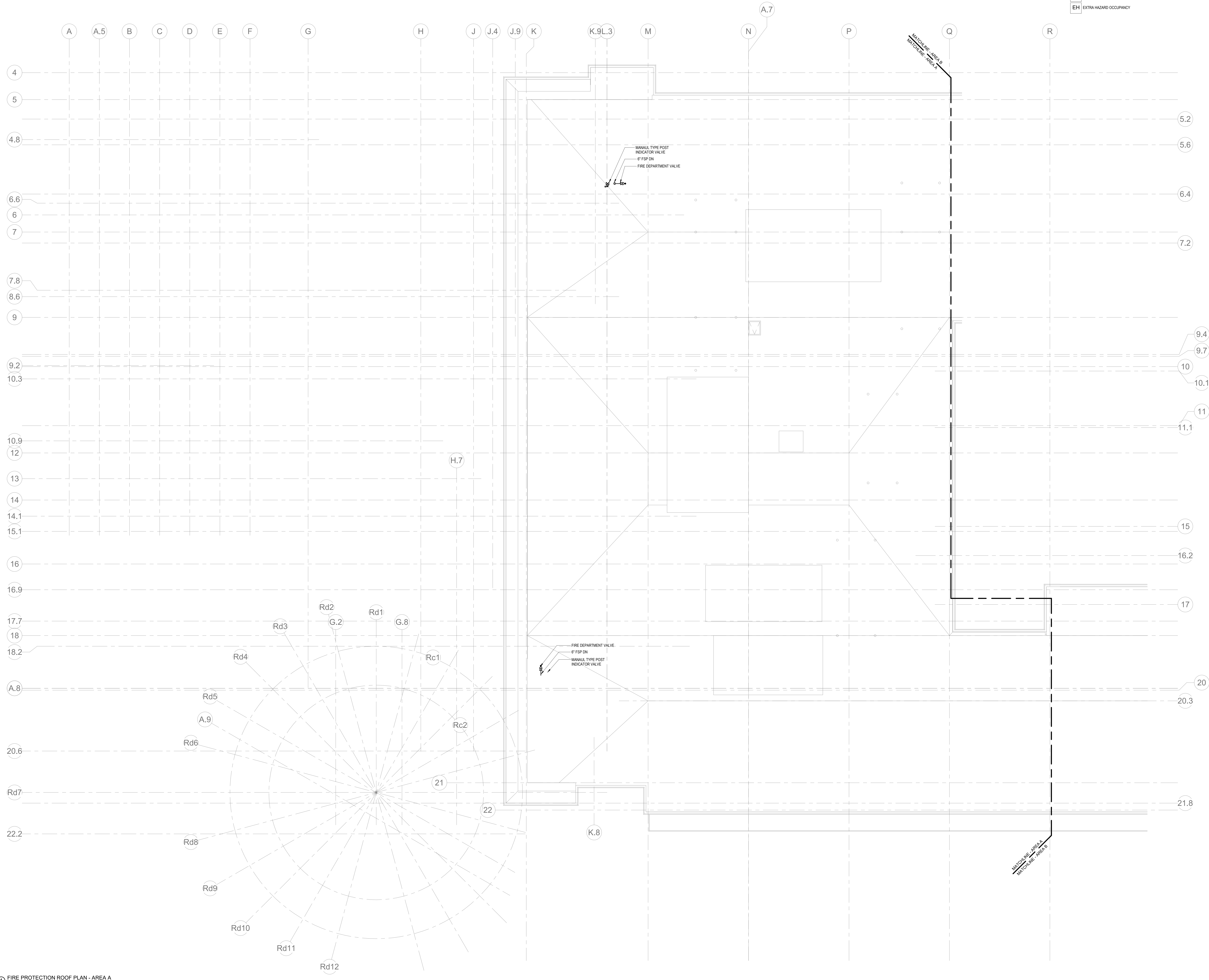
Drawn By: DRA

Date: January 13, 2023

FP1-1-4D

KEYNOTES

LH	LIGHT HAZARD OCCUPANCY
OH	ORDINARY HAZARD OCCUPANCY
EH	EXTRA HAZARD OCCUPANCY



1 FIRE PROTECTION ROOF PLAN - AREA A
1/8" = 1'-0"



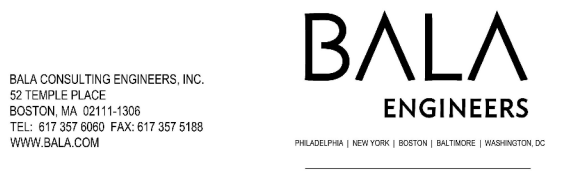
Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
Tel: 817-984-1700
www.dra-inc.com

260 Charles Street
Studio 300
Waltham, MA
02453

**Northeast
Metropolitan
Regional
Vocational High School**

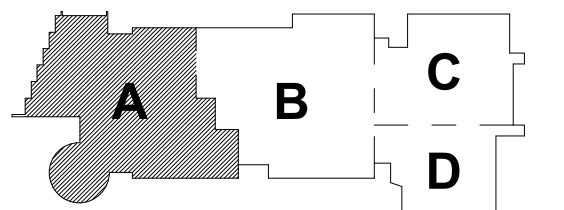
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMME ROSANE ANDERSON, INC.

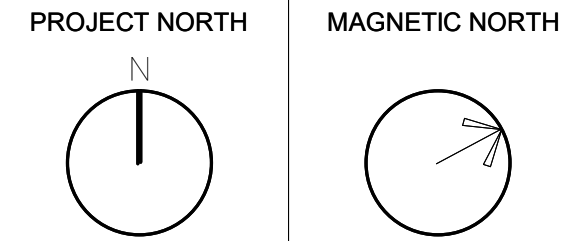


MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN



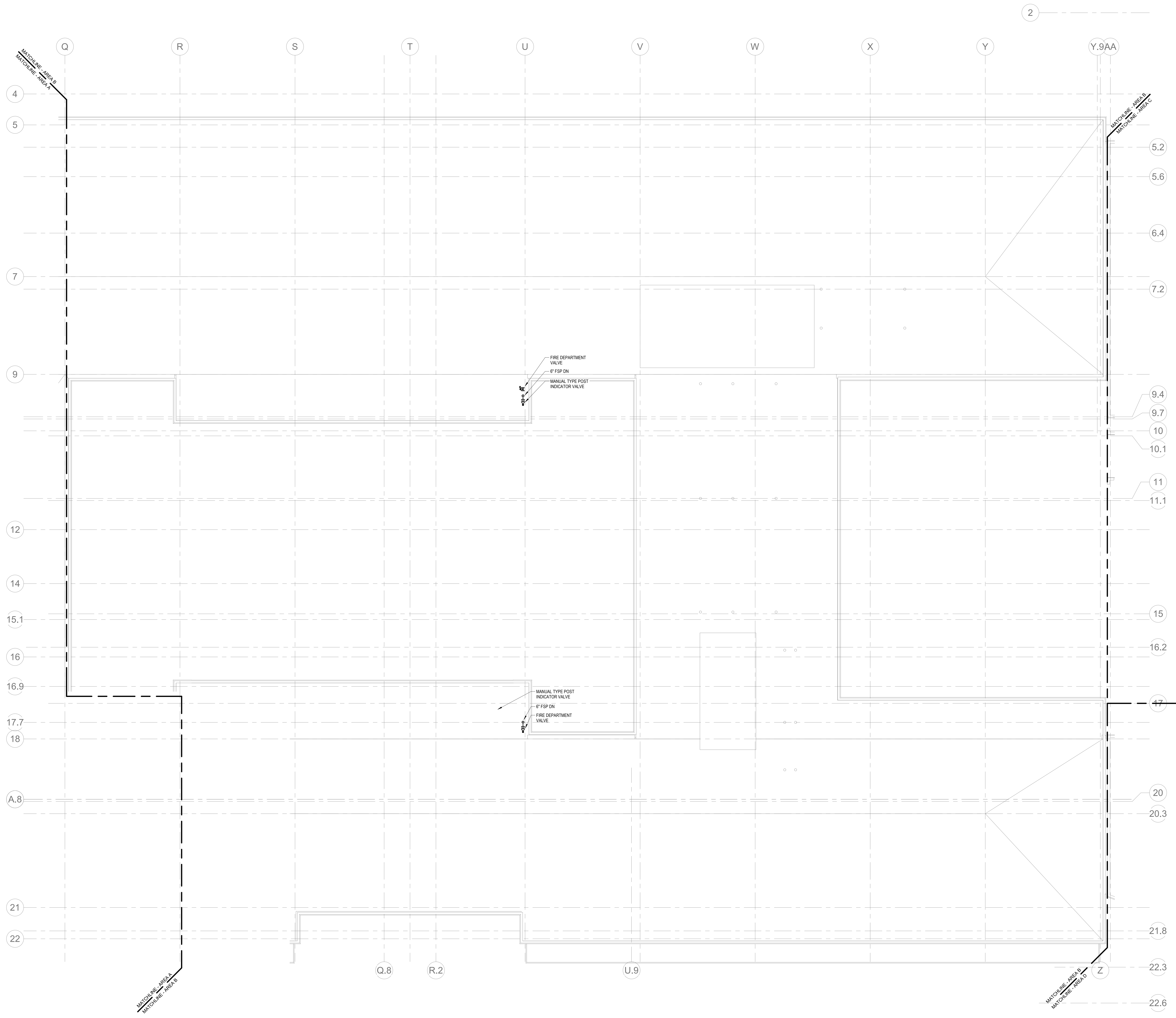
**FIRE
PROTECTION
ROOF PLAN -
AREA A**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

FP1-2-1A

KEYNOTES

LH	LIGHT HAZARD OCCUPANCY
OH	ORDINARY HAZARD OCCUPANCY
EH	EXTRA HAZARD OCCUPANCY



1 FIRE PROTECTION ROOF PLAN - AREA B
1/8" = 1'-0"



Drummeey Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
Tel: 817.984.1700
www.dra.com

280 Charles Street
Studio 300
Waltham, MA
02453

Planning | Architecture | Interior Design

Northeast
Metropolitan
Regional
Vocational High School

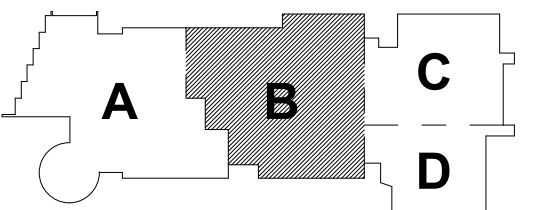
Wakefield, MA 01880

© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.

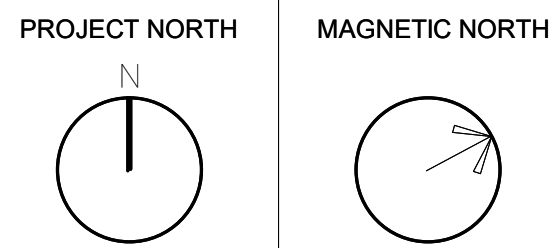


MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN



FIRE
PROTECTION
ROOF PLAN -
AREA B

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

FP1-2-1B

LH	LIGHT HAZARD OCCUPANCY
OH	ORDINARY HAZARD OCCUPANCY
EH	EXTRA HAZARD OCCUPANCY

Drummeys Rosane Anderson, Inc.	
225 Oakland Road	260 Charles Street
Studio 205	Studio 300
South Windsor, CT	Waltham, MA
06074	02453

Planning | Architecture | Interior Design
Tel: 617.964.1700
www.drakes.com

Wakefield, MA 01880



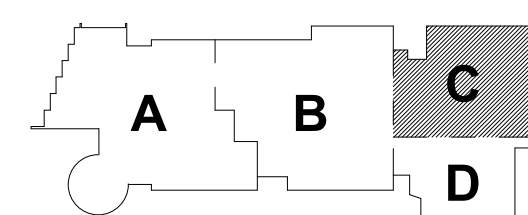
© COPYRIGHT 2021 DRIMMEY ROSANE ANDERSON INC

BALM
ENGINEERS

BALA CONEIL, THE ENGINEERS, E
52 TEMPLE PLACE
BOSTON, MA 02111-1308
TEL: 617 237 8880 FAX: 617 237 5
WWW.BALA.COM

MSBA 60% CD
SUBMISSION

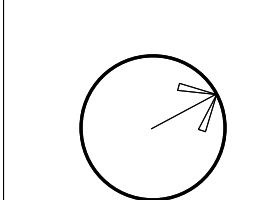
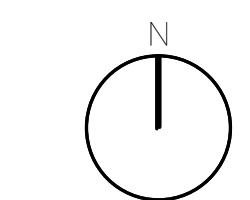
January 13, 2023



KEY PLAN

PROJECT NORT

MAGNETIC NORTH



**FIRE
PROTECTION
ROOF PLAN -
AREA C**

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

Job No.: 30202

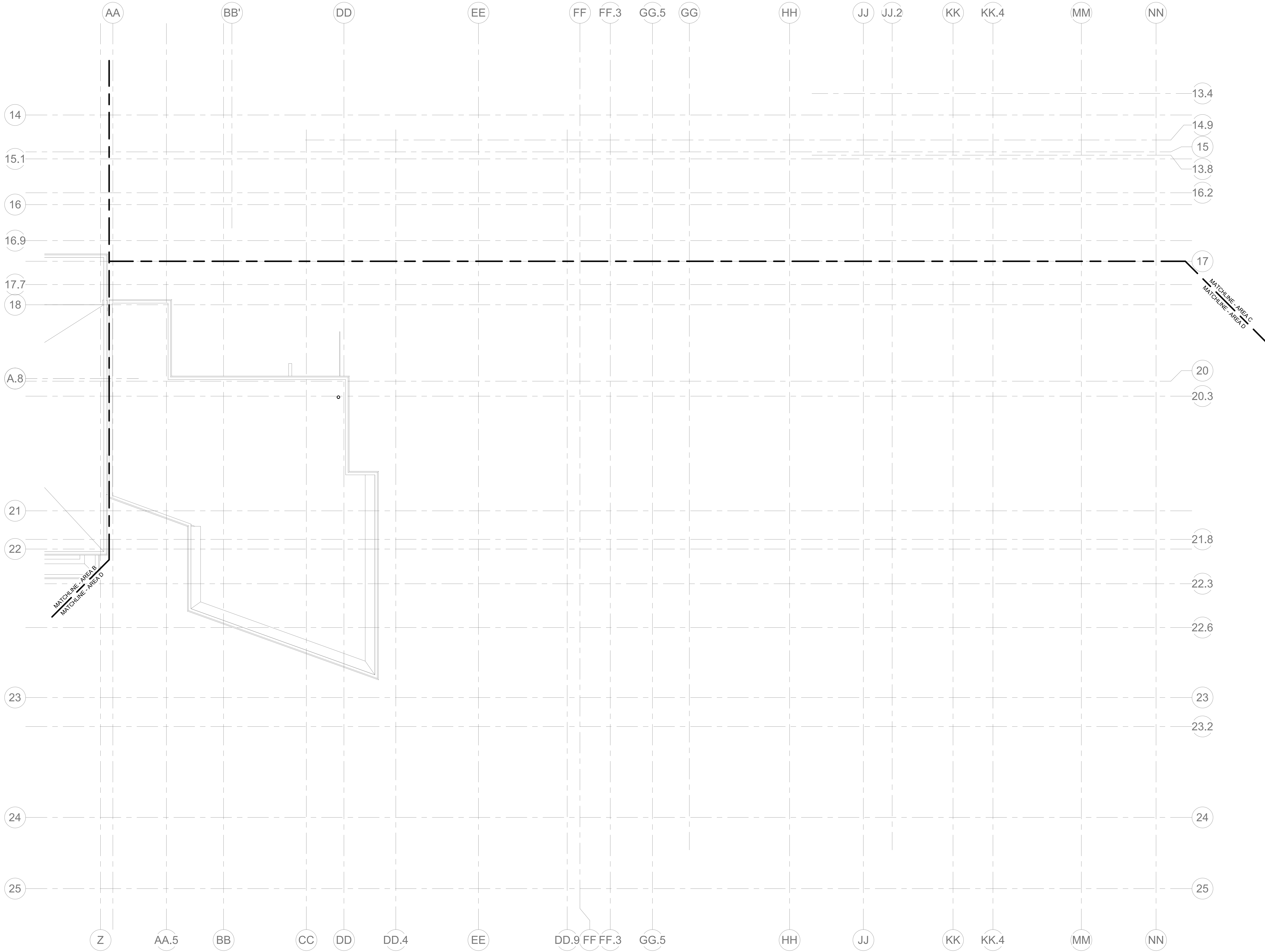
Drawn By: DR.

Date: January 13, 202

FP1-2-1C

KEYNOTES

LH	LIGHT HAZARD OCCUPANCY
OH	ORDINARY HAZARD OCCUPANCY
EH	EXTRA HAZARD OCCUPANCY



1 FIRE PROTECTION ROOF PLAN - AREA D
1/8" = 1'-0"



Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
Planning | Architecture | Interior Design
Tel: 817.984.1700
www.draan.com

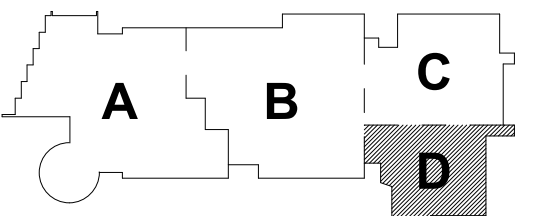
**Northeast
Metropolitan
Regional
Vocational High School**

Wakefield, MA 01880

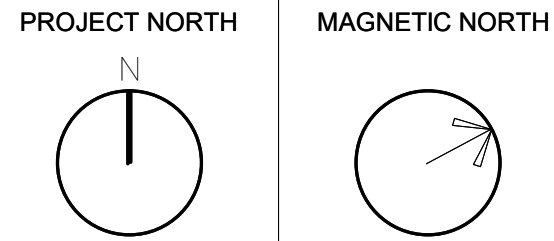


MSBA 60% CD
SUBMISSION

January 13, 2023



KEY PLAN



**FIRE
PROTECTION
ROOF PLAN -
AREA D**

Scale: 1/8" = 1'-0"
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

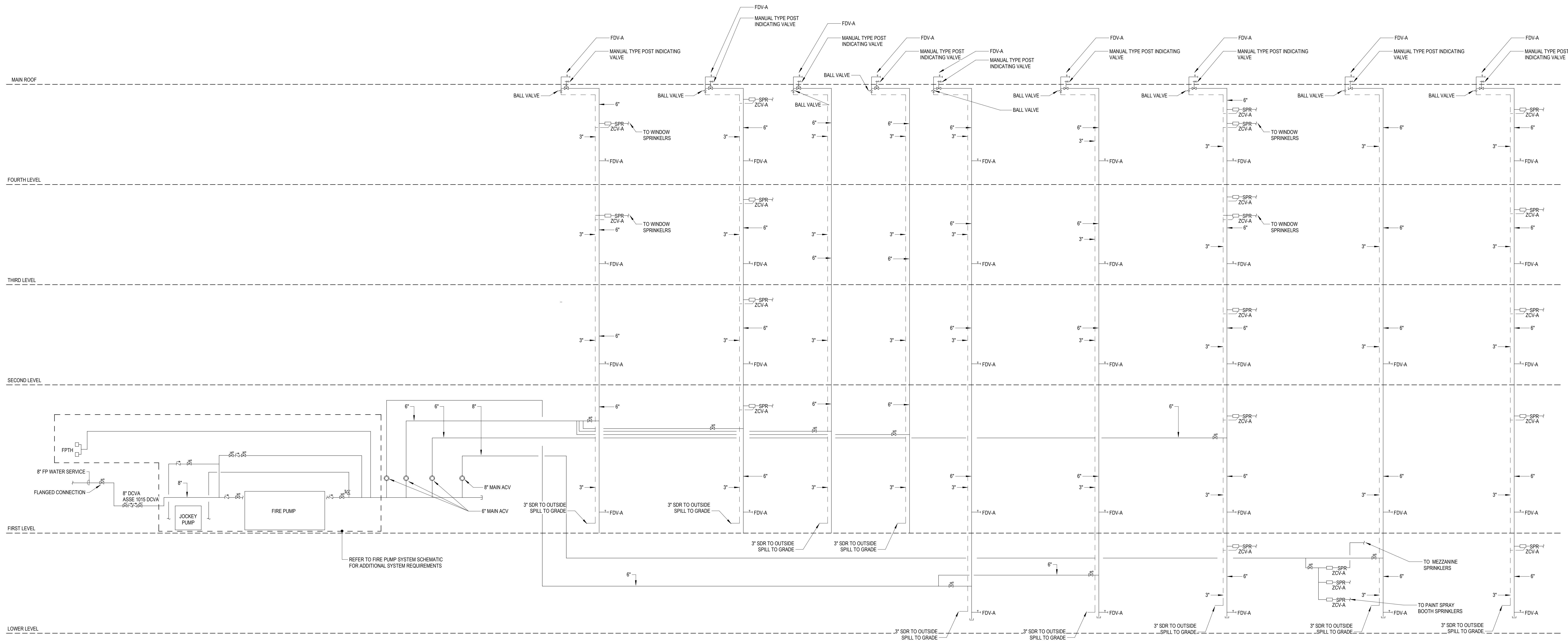
FP1-2-1D

DRA

Drumme Rosane Anderson, Inc.
225 Oakland Road
Studio 205
South Windsor, CT
06074
Planning | Architecture | Interior Design
Tel: 617.984.1700
www.dra.com

Northeast
Metropolitan
Regional
Vocational High
School

Wakefield, MA 01880



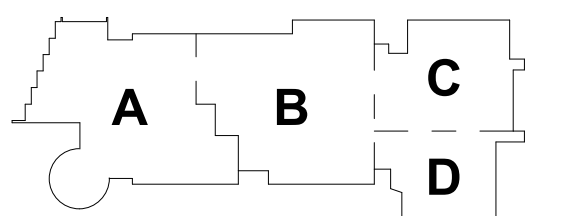
1 FIRE PROTECTION RISER DIAGRAM
FP5-0-1 NONE

© COPYRIGHT 2021 DRUMMEY ROSANE ANDERSON, INC.

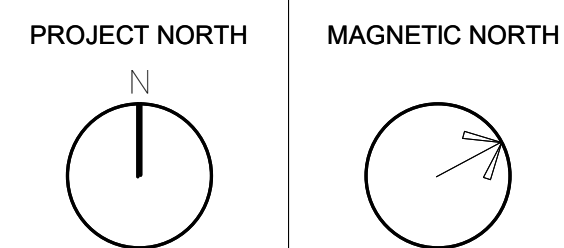
BALA
ENGINEERS
BALA CONSULTING ENGINEERS, INC.
200 WEST 14TH STREET
NEW YORK, NY 10011-4209
TEL: 212.693.4000 FAX: 212.693.4001
WWW.BALAE.COM

MSBA 60% CD
SUBMISSION

January 13, 2023

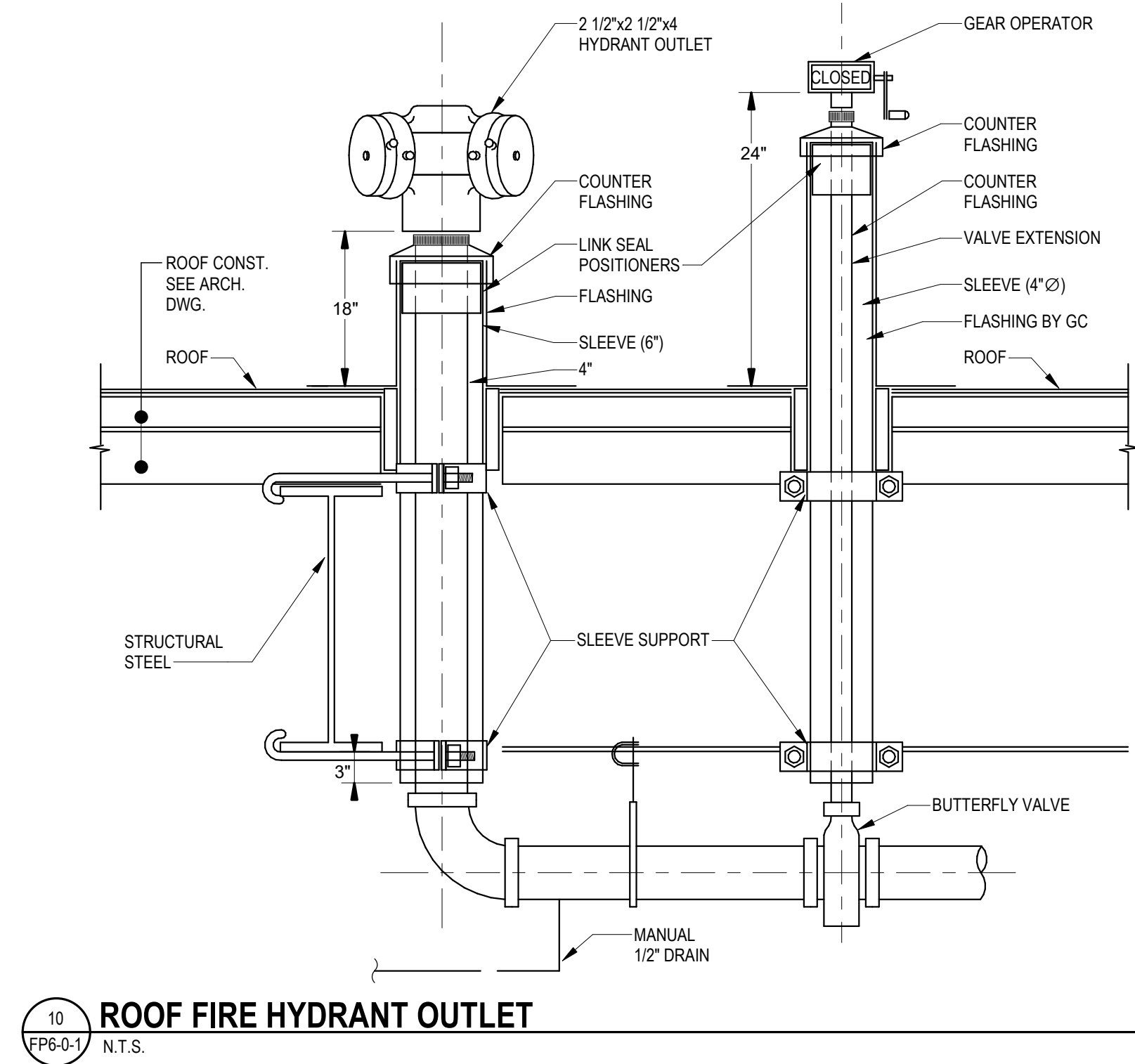
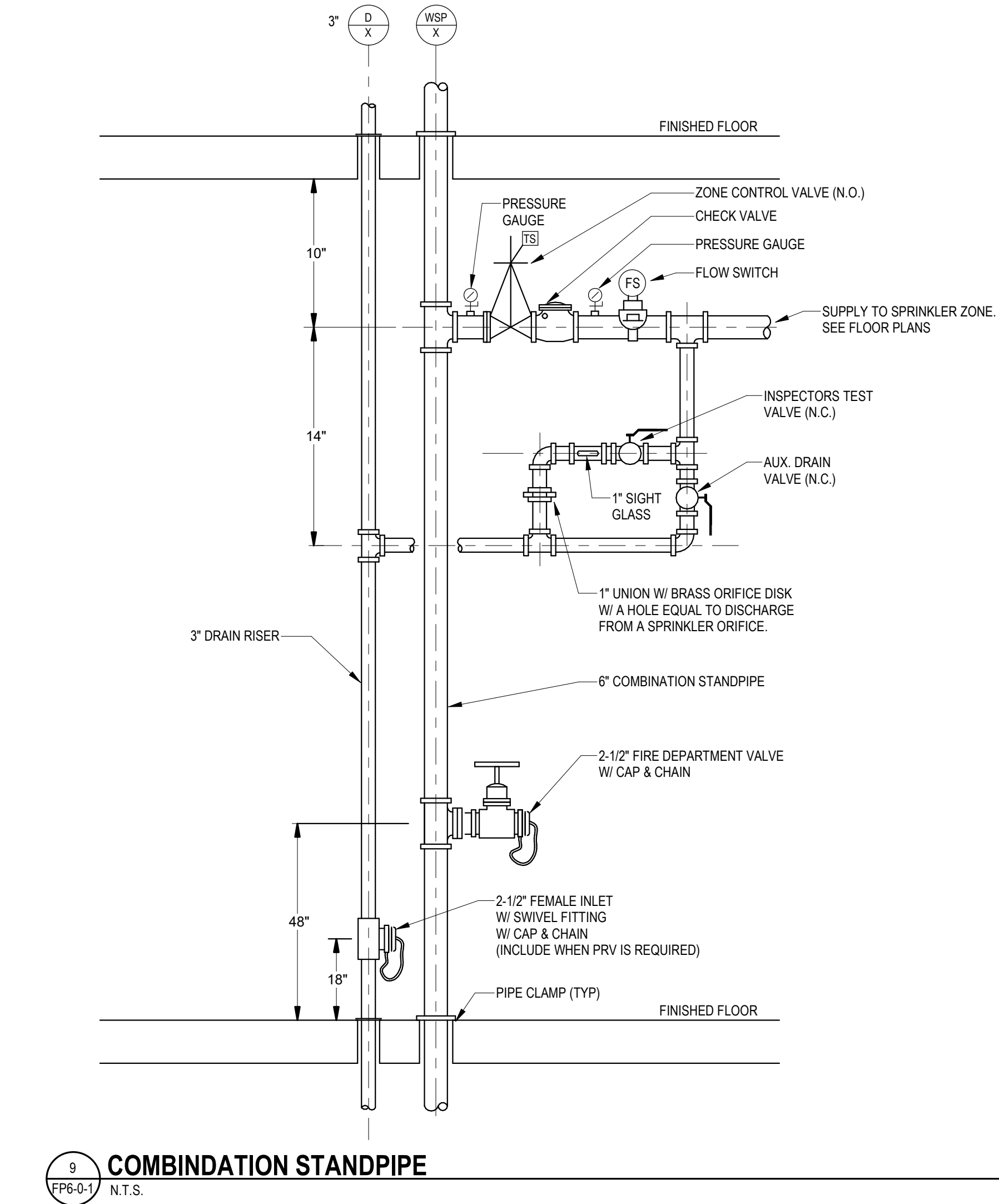
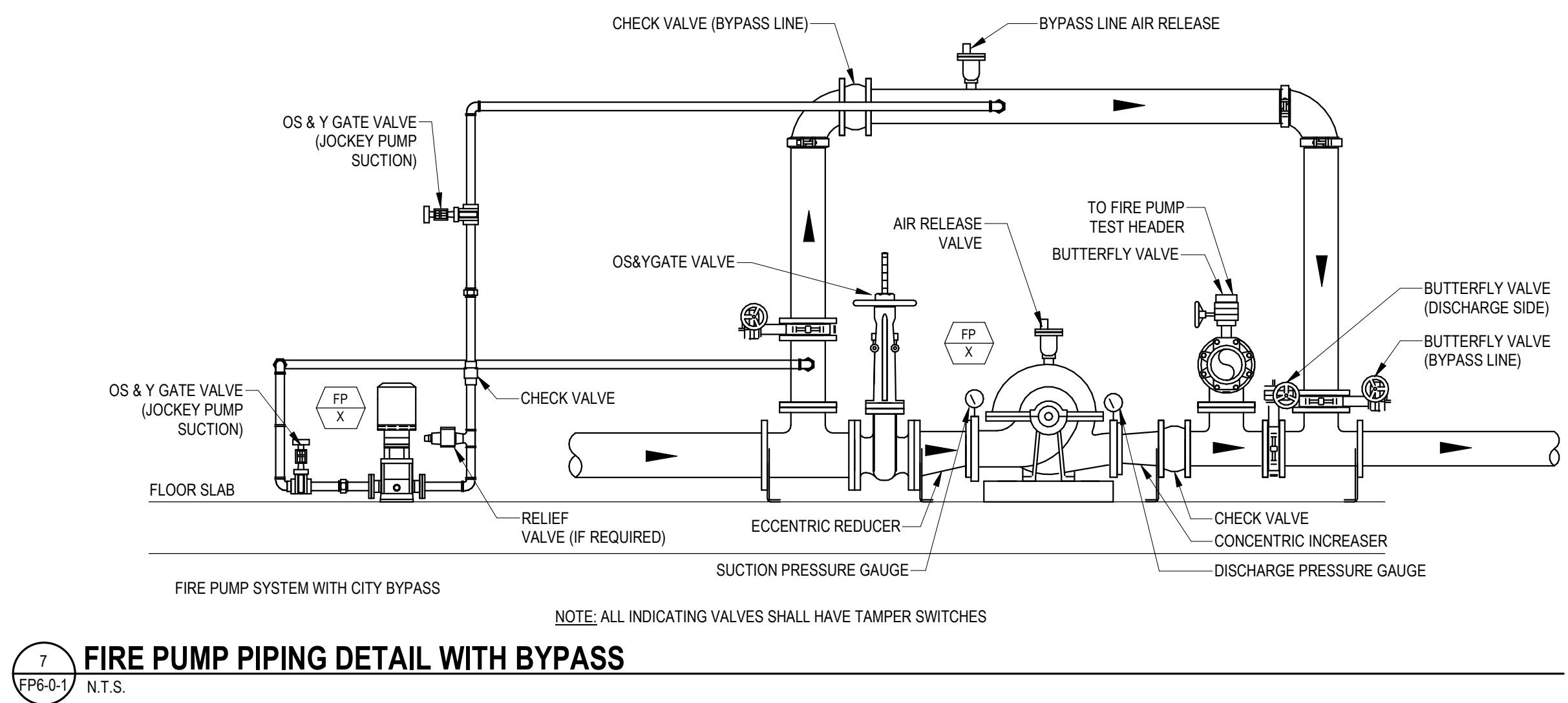
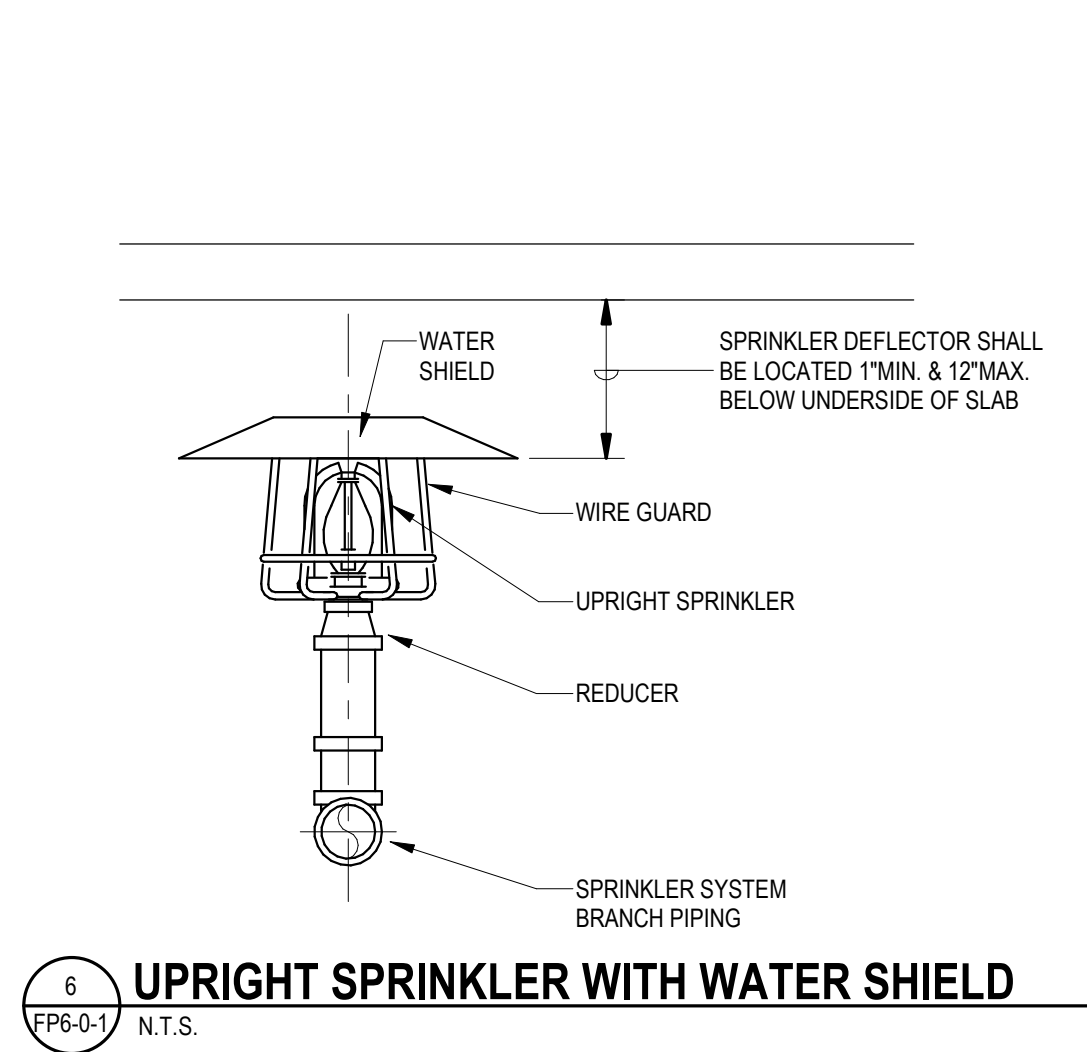
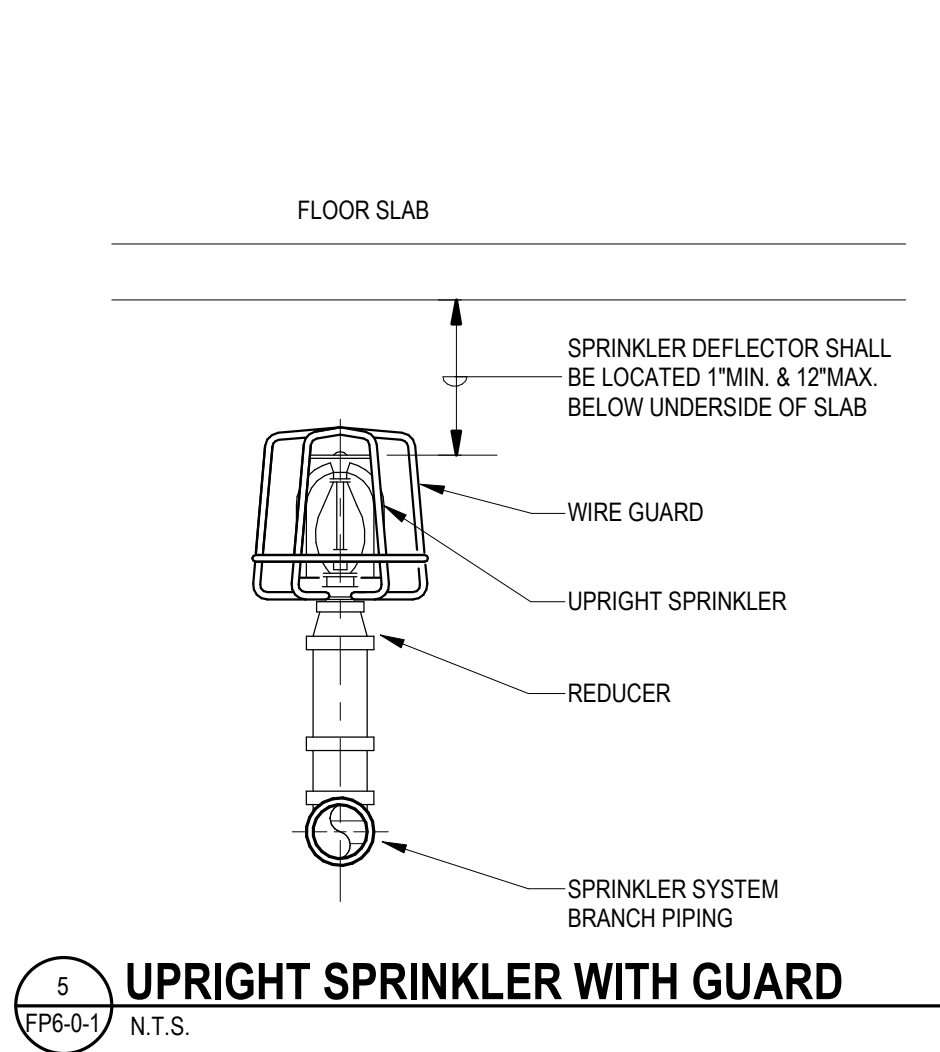
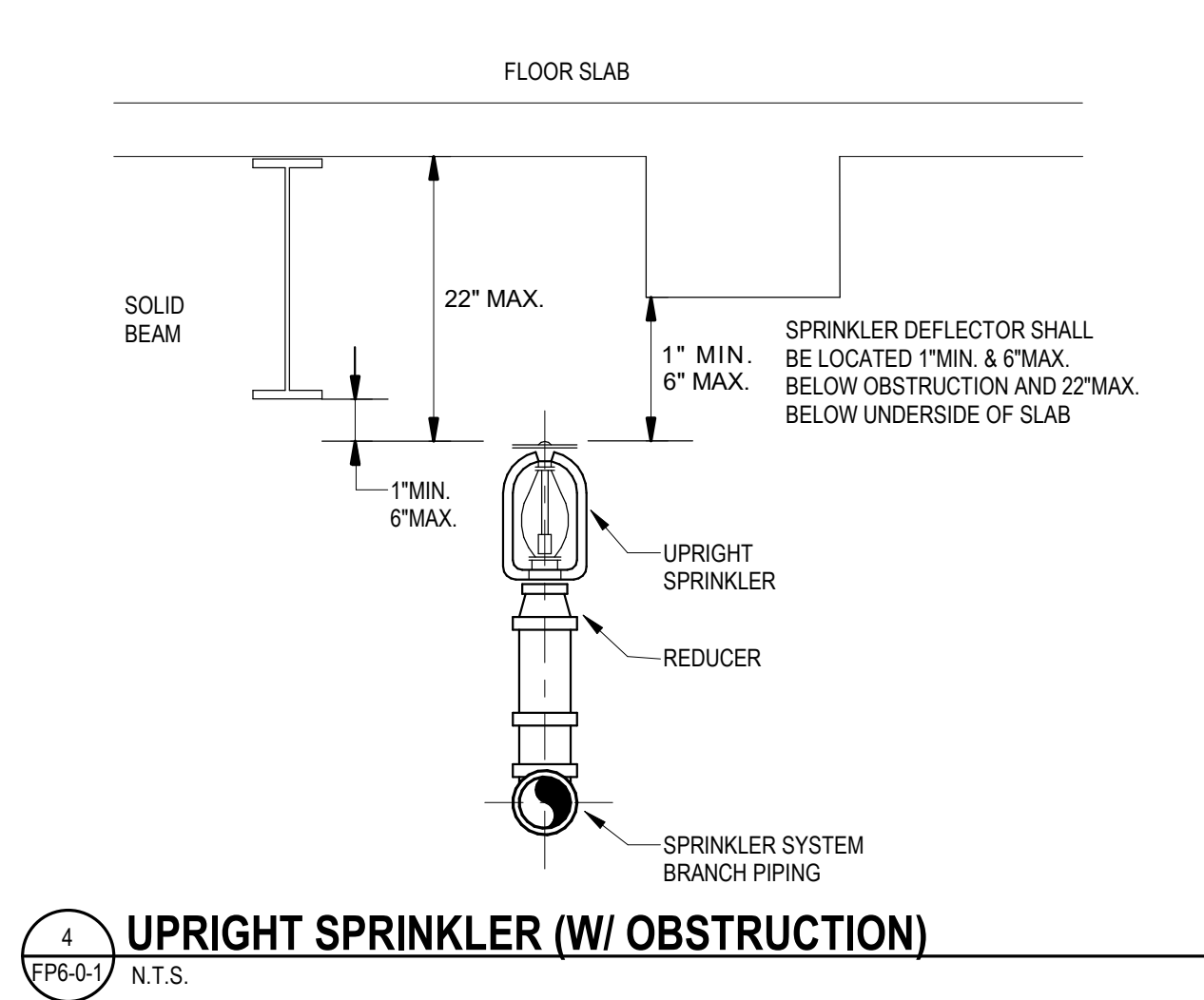
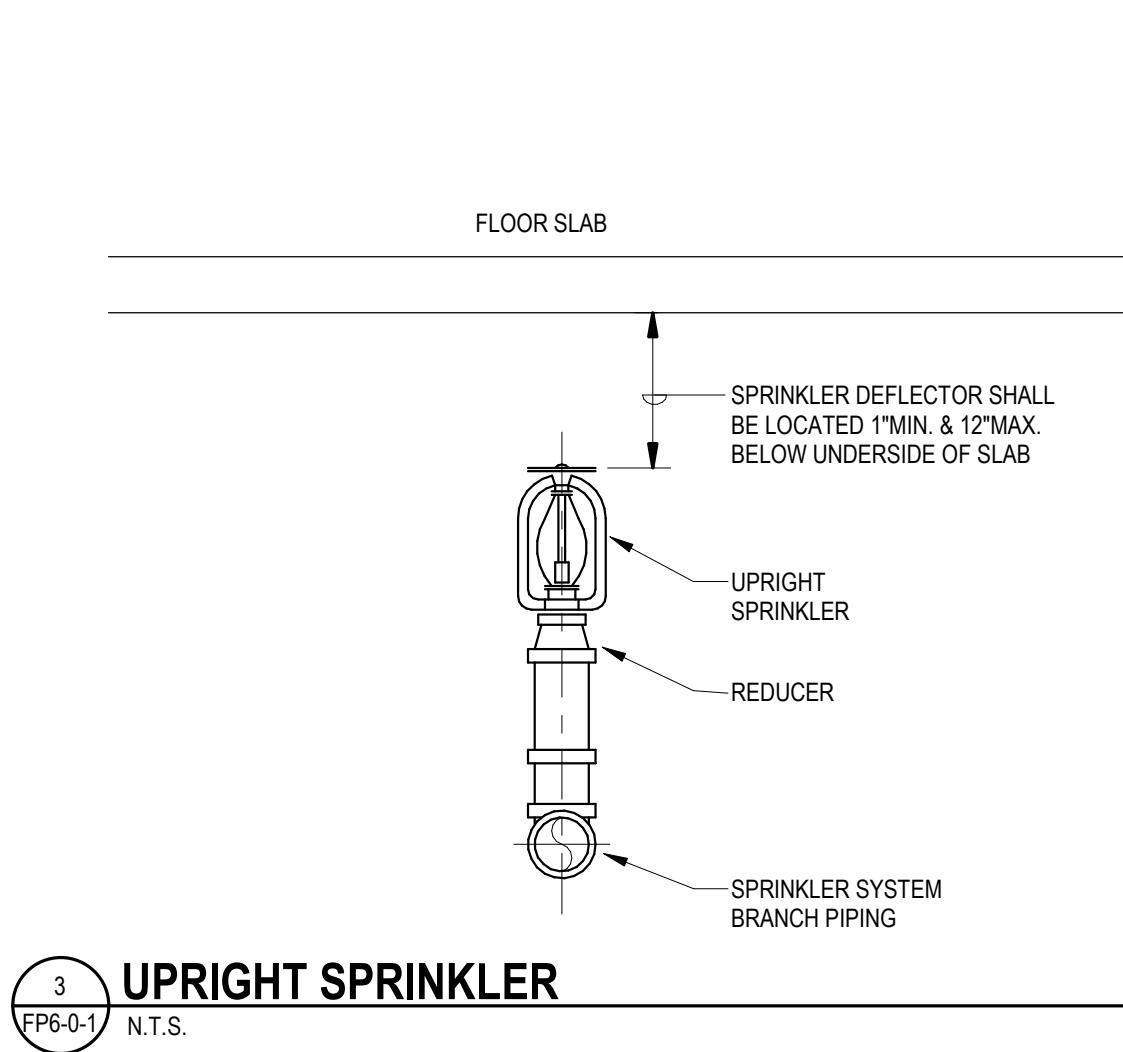
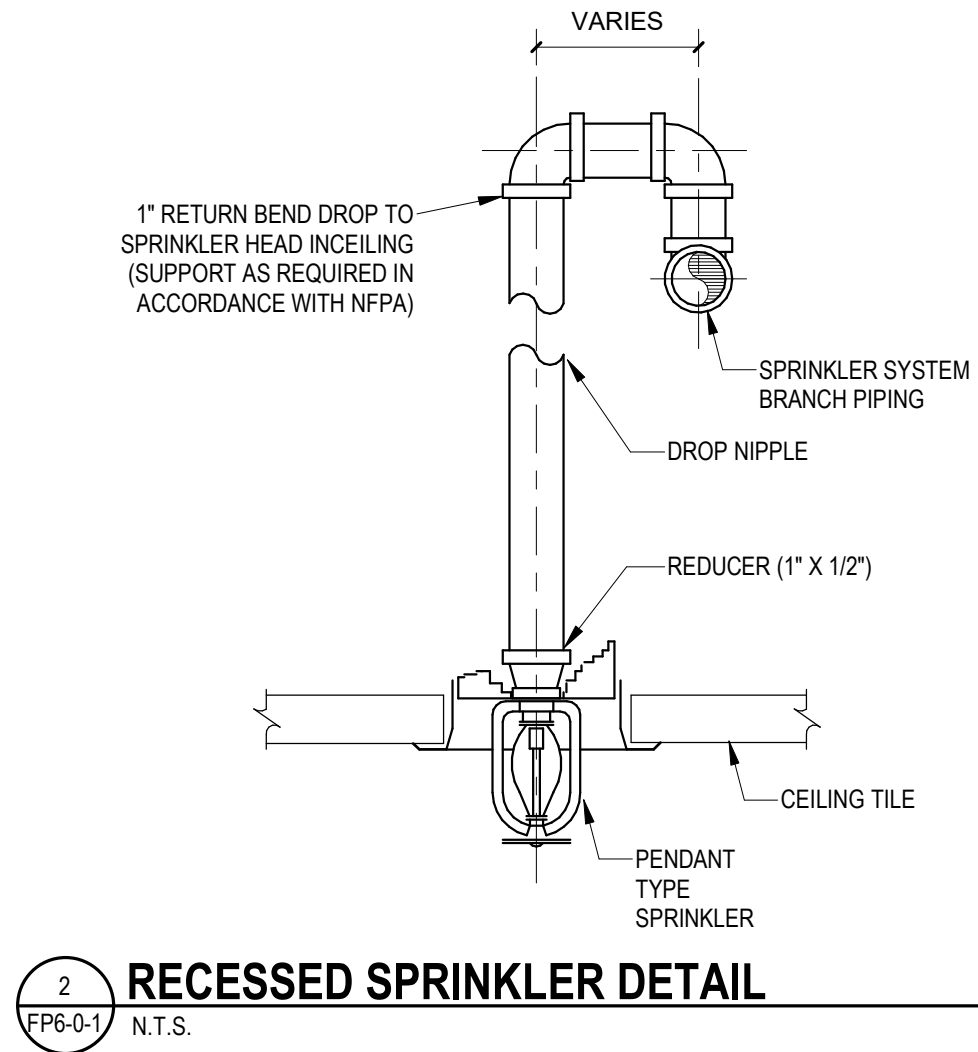
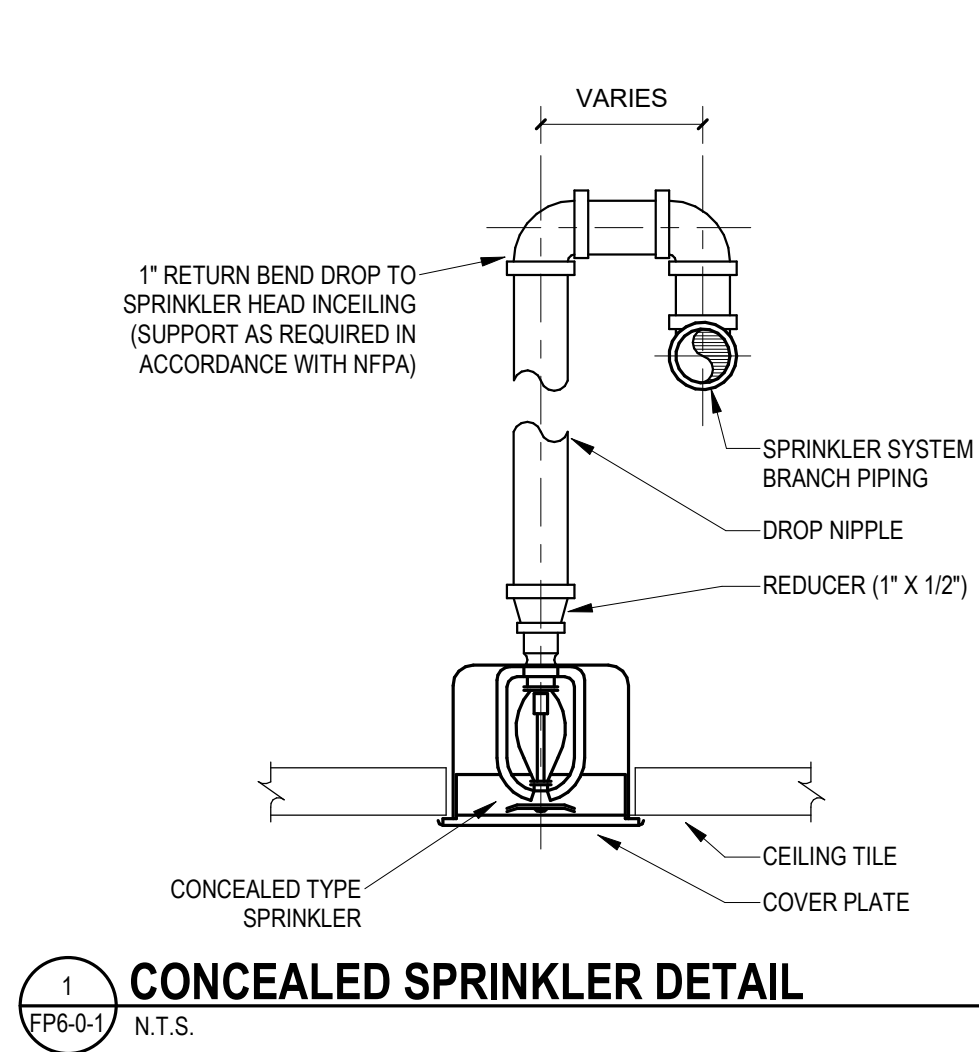


KEY PLAN



FIRE
PROTECTION
RISER DIAGRAM

Scale: NONE
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023
FP5-0-1



DRA

Drummay Rosane Anderson, Inc.

225 Oakland Road
Studio 205
South Windsor, CT
06074

260 Charles Street
Studio 300
Waltham, MA
02453

Planning | Architecture | Interior Design

Tel: 817.984.1700
www.dra-inc.com

**Northeast
Metropolitan
Regional
Vocational High
School**

Wakefield, MA 01880

© COPYRIGHT 2021 DRUMMAY ROSANE ANDERSON, INC.

BALA
ENGINEERS

MSBA 60% CD
SUBMISSION

January 13, 2023

KEY PLAN

PROJECT NORTH
MAGNETIC NORTH

**FIRE
PROTECTION
DETAILS**

Scale: N.T.S.
Job No.: 20202
Drawn By: DRA
Date: January 13, 2023

FP6-0-1