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Trafalgar Campus
1430 Trafalgar Rd
Oakville, ON
L6H 2L1

Trafalgar Campus - B244 Classroom Renovation

Issued For Tender on November 21st 2024

GENERAL NOTES

1. ALL CONTRACTORS MUST MAKE AN ON SITE INSPECTION WITH SHERIDAN COLLEGE'S PROJECT COORDINATOR PRIOR TO SUBMITTING ANY TENDERS. NO EXTRAS WILL BE ALLOWED AFTER THE LETTING OF THE CONTRACT FOR ANY EVENTUALITIES WHICH MAY HAVE BEEN FORESEEN BY SUCH PRIOR INSPECTION.
2. THE WORK SITE IS LOCATED AT THE TRAFALGAR CAMPUS IN OAKVILLE.
3. THE CONTRACTOR IS TO VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY DISCREPANCIES TO SHERIDAN P.C. PRIOR TO TENDER CLOSING. WRITTEN DIMENSIONS ARE TO TAKE PRECEDENCE OVER SCALED DIMENSIONS.
4. ALL CONTRACTORS AND SUBCONTRACTORS SHALL ADHERE TO LATEST EDITION OF THE PLUMBING CODE, ONTARIO ELECTRICAL SAFETY CODE, ONTARIO BUILDING CODE AND MUNICIPAL REGULATIONS.
5. PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN BY WORKERS AT ALL TIMES (IE. SAFETY FOOTWEAR, HATS, GLASSES, ETC.) WHERE APPLICABLE. FAILURE TO DO SO MAY RESULT IN SUSPENSION OR CONTRACT TERMINATION.
6. SHERIDAN COLLEGE BUILDING AND PROPERTIES CONTAIN HAZARDOUS ELECTRICAL LINES & EQUIPMENT. SHERIDAN COLLEGE MUST BE INFORMED AHEAD OF TIME OF ANY SITE VISITS, INSPECTIONS OR WORK BY CONTRACTORS AT ALL TIMES IN OR AROUND COLLEGE. PRIOR TO CONSTRUCTION, UNDER NO CIRCUMSTANCES SHALL A CONTRACTOR, THEIR REPRESENTATIVES OR WORKERS ENTER COLLEGE PROPERTY WITHOUT SIGNING IN WITH SECURITY. THESE RESTRICTIONS APPLY TO ALL SUBCONTRACTORS EMPLOYED BY THE GENERAL CONTRACTOR. PLEASE CONTACT SHERIDAN COLLEGE'S PROJECT COORDINATOR TO MAKE ARRANGEMENTS.
7. UPON AWARD OF CONTRACT, CONTRACTOR TO PROVIDE DETAILED CONSTRUCTION SCHEDULE.
8. SUBMIT ALL SHOP DWGS + SPECIFICATIONS TO SHERIDAN P.C. FOR REVIEW AND APPROVAL
9. SHERIDAN TO BE NOTIFIED OF ALL NOISY ACTIVITIES WHICH MAY DISTURB SURROUNDING; STUDENTS, FACULTY + STAFF. COORDINATE W/ SHERIDAN.
10. WORK SHALL BE EXECUTED BY EXPERIENCED WORKERS WITH RESPECT TO THE DUTIES FOR WHICH THEY ARE EMPLOYED.
11. KEEP PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS & RUBBISH. UPON COMPLETION OF WORK, CLEAN AND REMOVE FROM WORK SITE ALL DEBRIS, SURPLUS MATERIAL, TOOLS & EQUIPMENT OF THE TRADES. LEAVE THE BUILDING AND THE SITE IN A NEAT AND TIDY CONDITION TO THE SATISFACTION OF THE PROJECT COORDINATOR.
12. ANY FINISHES THAT MAY BE DAMAGED DURING THE COURSE OF THIS WORK TO BE MADE GOOD AS PER EXISTING AND THE SATISFACTION OF SHERIDAN COLLEGE'S PROJECT COORDINATOR.
13. REFER TO THE TECHNICAL REQUIREMENTS ON DRAWINGS.
14. CONTRACTOR(S) ARE RESPONSIBLE TO PAY FOR ON-SITE DAILY PARKING PERMIT(PAY-BY-PLATE) AND TO PARK IN THE CONTRACTOR DESIGNATED PARKING SPACES ONLY, UNLESS OTHERWISE NOTED. FAILURE TO OBTAIN PARKING PERMIT MAY RESULT IN FINES TO THE CONTRACTOR(S) NOT AT THE EXPENSE OF SHERIDAN COLLEGE.
15. CONTRACTOR(S) ARE RESPONSIBLE TO SIGN IN AND SIGN OUT AT THE SECURITY DESK ON A DAILY BASIS.
16. UPON PROJECT COMPLETION, GENERAL CONTRACTOR SHALL PROVIDE SHERIDAN WITH CLOSE-OUT DOCUMENTATION (2 HARD COPIES AND 1 ELECTRONIC COPY SUBMISSION OF DRAWINGS, LETTER(S) OF WARRANTY, SUB-TRADE CONTRACT INFORMATION, AS-BUILT(S), TEST REPORTS, INSPECTIONS, PERMITS, SHOP DRAWINGS, MAINTENANCE AND OPERATION MANUALS, PRODUCT DATA SHEETS, SCHEDULES, ETC.)

DRAWING INDEX

ARCHITECTURAL:

DWG No.	DWG TITLE
A-1	SITE AND KEY PLAN
A-2	ARCHITECTURAL NOTES & SPECIFICATIONS
A-3	DEMOLITION FLOOR PLAN
A-4	PROPOSED FLOOR PLAN
A-5	PROPOSED FURNITURE PLAN
A-6	EXISTING REFLECTED CEILING PLAN
A-7	PROPOSED REFLECTED CEILING PLAN
A-8	EXISTING ELEVATIONS
A-9	PROPOSED ELEVATIONS

POWER AND SYSTEMS:

DWG No.	DWG TITLE
E-1	NOTES & LEGENDS
E-2	ELECTRICAL SCHEDULES AND DETAILS
E-3	DALI LIGHTING CONTROLS, DETAILS AND LUMINARE SCHEDULE
E-4	LIGHTING DEMOLITION PLAN ELECTRICAL
E-5	PROPOSED LIGHTING PLAN ELECTRICAL
E-6	POWER & SYSTEMS DEMOLITION PLAN
E-7	PROPOSED POWER & SYSTEMS PLAN
E-8	COMMUNICATIONS DEMOLITION PLAN
E-9	PROPOSED COMMUNICATIONS PLAN

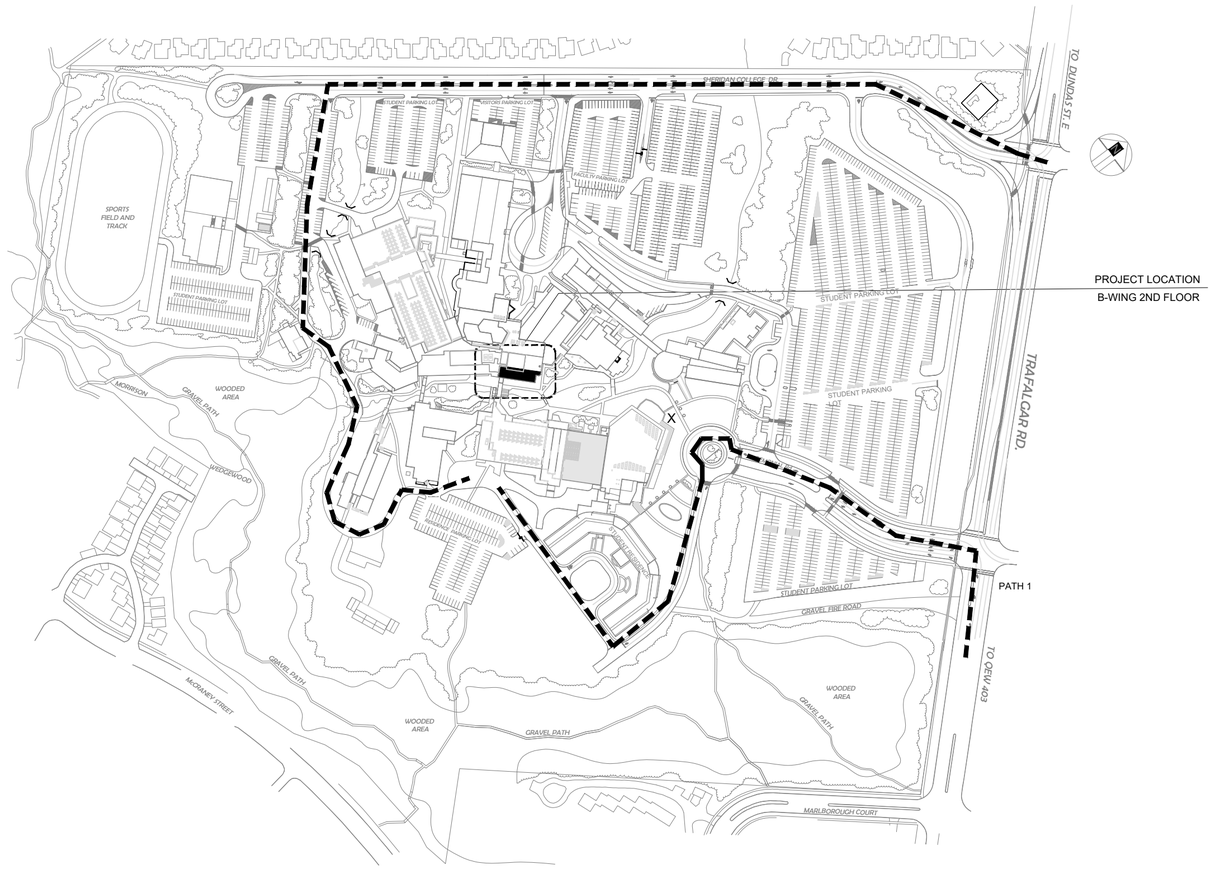
MECHANICAL:

DWG No.	DWG TITLE
M-0	KEYPLAN & TITLE SHEET
M-1.1	MECHANICAL LEGEND
M-1.2	MECHANICAL SPECIFICATIONS 1
M-1.3	MECHANICAL SPECIFICATIONS 2
M-1.4	MECHANICAL SPECIFICATIONS 3 AND SEQUENCE OF OPERATIONS
M-1.5	MECHANICAL SCHEDULES
M-1.6	MECHANICAL DETAILS 1
M-1.7	MECHANICAL DETAILS 2
M-2.1	SECOND FLOOR PLAN - HVAC DEMOLITION
M-2.2	SECOND FLOOR PLAN - HVAC PROPOSED
M-2.3	SECOND FLOOR PLAN - HYDRONICS DEMOLITION
M-2.4	SECOND FLOOR PLAN - HYDRONICS PROPOSED

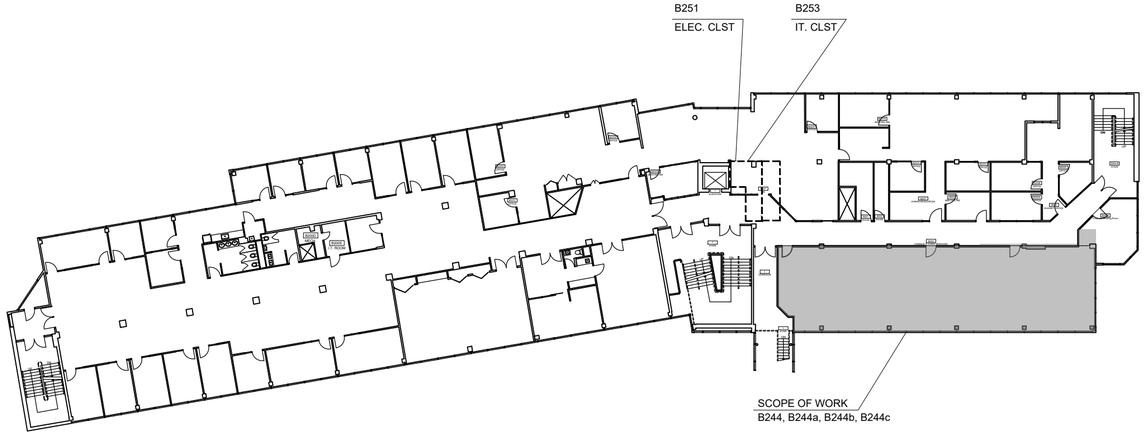
CONTACT INFORMATION

SHERIDAN COLLEGE PROJECT MANAGER

NICOLE WHITESIDE, FACILITIES PROJECTS
(647) 385-6519
Nicole.whiteside@sheridancollege.ca



1 / A1 TRAFALGAR SITE PLAN
NTS



2 / A1 PROJECT LOCATION
NTS

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Trafalgar Campus
1430 Trafalgar Road
Oakville, ON
(905) 845 - 9430

Consultant(s):

Construction North | True North

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- Coordinate all required testing and inspections
- Protect furniture, equipment and items to remain (ie. flooring) during construction.
- Electrical Contractor shall verify capacity and location of electrical panel required to complete scope of work.
- Data Contractor shall verify capacity and location of wiring closet required to complete scope of work.
- Refer to tender, specifications, instructions and all other documents related to scope of work to complete project.

No.	Issues/Revisions	Date
1	ISSUED FOR TENDER	November 2024

Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

Sheet Name:
Key and Site Plan

Drawn By: N.W..

Issued Date: 21 / 11 / 2024

Revision: - Scale: AS NOTED

Drawing No.:
A1

ABBREVIATIONS:

SYMBOL	DEFINITION
ACT	ACOUSTICAL TILE/PANEL
AFF	ABOVE FINISHED FLOOR
B/S	BOTH SIDES
CA	COMPRESSED AIR
C/C	CENTRE ON CENTRE
CCT	CIRCUIT
C/W	COMPLETE WITH
CH	DENOTES DEVICE TO BE MOUNTED COUNTER HEIGHT
CW	COLD WATER
D	DENOTES EXISTING TO BE REMOVED
DIA	DIAMETER
DWG	DRAWING
E	DENOTES EXISTING TO REMAIN
EQ	EQUAL
FD	FLOOR DRAIN
G	GAS
GWB	GYPSUM WALLBOARD
GWG	GEORGIAN WIRED GLASS
GFI	GROUND FAULT INTERRUPTER
HW	HOT WATER
HM	HOLLOW METAL
HVAC	HEATING/ VENTILATION/ AIR CONDITIONING
K	DENOTES KEY OPERATED
L	DENOTES LOCAL NETWORK (RELATES TO DATA DROP REQUIREMENTS)
MW	DENOTES DEVICE TO BE FLUSH MOUNTED IN MILLWORK
NTS	NOT TO SCALE
O/C	ON CENTRE (s)
OWSJ	OPEN WEB STEEL JOIST
QTY	QUANTITY
R	DENOTES EXISTING TO BE RELOCATED
RB	RUBBER BASE
RO	REVERSE OSMOSIS
RP	DENOTES EXISTING IN RELOCATED POSITION
SS	STAINLESS STEEL
S	DENOTES SHERIDAN NETWORK (RELATES TO DATA DROP REQUIREMENTS)
TEL	TELEPHONE
TL	DENOTES TWIST LOCK
TV	TELEVISION
TYP	TYPICAL
U/S	UNDERSIDE
V	VACUUM
W/	WITH
WG	DENOTES WIRE GUARD
WP	DENOTES WEATHERPROOF

LEGENDS:

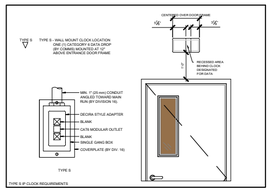
ARCHITECTURAL:

SYMBOL	DEFINITION
####	SPECIFICATION / MATERIAL TAG
1 AX	INTERIOR ELEVATION MARKER
EL. AFF.	CEILING HEIGHT MARKER
1 AX	SECTION MARKER
1 AX	DETAIL CALL OUT
1	PARTITION / WALL TAG
P1	PAINT COLOR TAG
F#	FLOOR TYPE TAG
W#	WINDOW TAG
D#	DOOR TAG
000.000	EXISTING ELEVATION
000.000	NEW ELEVATION
BB11 FM Office - sq ft	ROOM TAG
	EXISTING WALL ASSEMBLY TO REMAIN
	NEW WALL ASSEMBLY
	EXISTING WALL ASSEMBLY TO BE DEMOLISHED
	LINE TYPE DENOTES EXISTING OBJECT TO REMAIN
	LINE TYPE DENOTES EXISTING OBJECT TO BE DISPOSED OFFSITE OR DISASSEMBLED AND RELOCATED - REFER TO NOTES FOR FURTHER INSTRUCTION
	BATT INSULATION (PLAN VIEW)

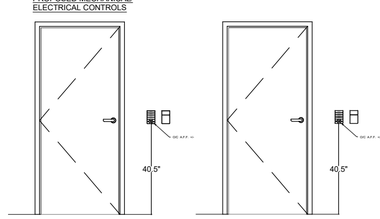
MISCELLANEOUS:

SYMBOL	DEFINITION
1	DENOTES REFER TO NOTE (s)
1	DENOTES GENERAL TASK (s) FOR SCOPE OF WORK AREA

SHERIDAN STANDARDS:



PROPOSED MECHANICAL/ ELECTRICAL CONTROLS



DOOR, WINDOW, PAINT, FINISH, FLOOR AND WALL STANDARDS/SCHEDULES:

PAINT SCHEDULE

- P1 — WALLS & CONDUITS: SHERWIN WILLIAMS 'ALABASTER 7006' EGGSHELL FINISH
- P2 — ACCENT COLOUR #1: SHERWIN WILLIAMS SW9177 'SALTY DOG' EGGSHELL FINISH
- P3 — ACCENT COLOUR #2: SHERWIN WILLIAMS SW6950 'CALYPSO BLUE' EGGSHELL FINISH
- P4 — DOOR, FRAMES, WINDOW: SHERWIN WILLIAMS SW7645 'THUNDER GRAY' SEMI-GLOSS FINISH

GENERAL NOTE: THE PAINT COLOURS LISTED ABOVE ARE ONLY MEANT FOR COLOUR CODES. PAINT BASE MUST BE BENJAMIN MOORE ULTRA SPEC 500 INTERIOR IN EGGSHELL FINISH FOR ALL PAINTS UNLESS OTHERWISE SPECIFIED. PAINT BASE FOR DOORS, DOOR FRAMES, WINDOW FRAMES, RAILINGS, AND GUARDRAILS MUST BE BENJAMIN MOORE SCUFF-X IN SEMI-GLOSS FINISH. PRIMER SHALL BE APPLIED BEFORE PUTTING NEW PAINT ON EXISTING SURFACE.

FLOOR SCHEDULE

- F1 — CARPET TILE: MANUFACTURE: MILLIKEN; COLLECTION: COLOR FIELD; COLOUR: GLACIER-GREY; COL193-105; TILE SIZE: 25CM X 1M; INSTALLATION METHOD: BRICK
- F2 — CARPET TILE: MANUFACTURE: MILLIKEN; COLLECTION: COLOR FIELD; COLOUR: AERO; COL106; TILE SIZE: 25CM X 1M; INSTALLATION METHOD: BRICK
- F3 — VINYL WALLBASE: MANUFACTURE: JOHNSONITE; PROFILE: TRADITIONAL VINYL 4 ⅛"; COLOUR: THUNDER GREY
- F4 — TRANSITION STRIP: MANUFACTURE:TARKETT; COLLECTION: METAL EDGE; PROFILE: "DETERMINE ONSITE AFTER REVIEW EXISTING FLOORING

GENERAL NOTE: REFER TO THE ATTACHED SPECIFICATIONS FOR INSTALLATION GUIDE. USE THE MANUFACTURER APPROVED GLUE FOR INSTALLING THE NEW FLOORING. FLOORING CONTRACTOR IS RESPONSIBLE FOR MOISTURE TEST PRIOR TO INSTALL. PROVIDE RESULTS TO SHERIDAN PM.

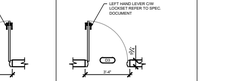
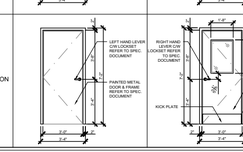
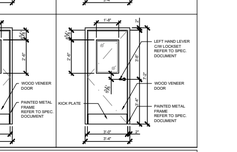
CEILING SCHEDULE

- C1 — CEILING TILE: MANUFACTURE: ARMSTRONG; ULTIMA HIGH NRC SQUARE LAY-IN WITH PRELUDE 15/16"; 1940 FINE TEXTURE, WHITE; 24" X 24" X 1"
- C2 — CEILING SYSTEM: MANUFACTURE: ARMSTRONG; 15/16" PRELUDE XL SUSPENSION SYSTEM IN LIGHT GREY

WINDOW SCHEDULE

- W1 — WINDOW COVERING: MANUFACTURE: GLAMOUR LINE; SINGLE MANUAL BLACKOUT BLINDS; PANTAFLEX BLACKOUT; GREY 609; CASSETTE IN CLEAR ANODIZED ALUMINUM; SIZES VARY - CONFIRM ON SITE

WALL ASSEMBLY SCHEDULE

DOOR TYPE	D1	D2	D3
PLAN VIEW			
ELEVATION			

DOOR SCHEDULE

Door Number	To	SIZE	DOOR				FRAME			HARDWARE	NOTES
			HAND	MAT.	FINISH	GLASS PANEL	MAT.	FINISH	TYPE		
D1	B635	84"X96"X1 3/4"	LH	PAINTED HOLLOW CORE	PT	N/A	PAINTED HOLLOW	PT	G.W.B.	LOCKSET AND DOOR CLOSER AS SPECS	
D2	B629e	84"X96"X1 3/4"	RH	PAINTED HOLLOW CORE	PLASTIC LAMINATE	YES	PAINTED HOLLOW	PT	G.W.B.	DOOR CLOSER AS SPECS	MANUFACTURED BY BALLARGEON OR LAMBTON DOORS
D3	B634f	84"X96"X1 3/4"	LH	PAINTED HOLLOW CORE	PLASTIC LAMINATE	YES	PAINTED HOLLOW	PT	G.W.B.	LOCKSET AND DOOR CLOSER AS SPECS	MANUFACTURED BY BALLARGEON OR LAMBTON DOORS

GENERAL CONSTRUCTION NOTES

1. MATERIALS, CONSTRUCTION & INSTALLATION METHODS SHALL COMPLY WITH THE LATEST EDITION OF THE ONTARIO BUILDING CODE CONTAINING O. REG. 350/06, REGIONAL MUNICIPALITY PUBLIC WORKS DEPARTMENT AND THE LOCAL BUILDING DEPARTMENT AND FIRE DEPARTMENT BY-LAWS DESIGN CRITERIA, CONSTRUCTION STANDARDS AND SPECIFICATIONS. ALL WORK SHALL ALSO COMPLY WITH OTHER CODES, STANDARDS AND REGULATIONS REFERRED TO IN THE ABOVE DOCUMENTS AND ADOPTED BY THE AUTHORITIES HAVING JURISDICTION.
2. IF DRAWINGS & SPECIFICATIONS CONFLICT WITH REGULATIONS & BY-LAWS, CONTRACTOR(S) SHALL NOTIFY CONSULTANT IN WRITING FOR CLARIFICATION. IN NO INSTANCE REDUCE STANDARDS OF DRAWINGS BY APPLYING ANY CODES OR STANDARDS, ALL MATERIALS AND METHODS MUST AT LEAST MATCH EXISTING BASE BUILDING STANDARDS - BUILDING OWNER / OPERATOR TENANT MECHANICAL REQUIREMENTS FORM AN INTEGRAL PART OF THESE SPECIFICATIONS.
3. DRAWINGS ONLY SHOW GENERAL INTENT AND SCOPE OF WORK AND NOT EXACT DETAILS OF INSTALLATION. CONTRACTOR SHALL PROVIDE ALL MATERIALS & ACCESSORIES NECESSARY FOR COMPLETE AND FULLY OPERATIONAL MECHANICAL SYSTEMS SHOWN. BEFORE SUBMITTING PRICES, CONTRACTORS SHALL REVIEW ALL PERTINENT DRAWINGS & ANY RELEVANT ON-SITE CONDITIONS TO VERIFY THAT WORK CAN BE CARRIED OUT AS SHOWN ON DRAWINGS. NO CLAIMS FOR EXTRA PAYMENTS WILL BE CONSIDERED FOR FAILURE TO DO SO. CONTRACTOR(S) WILL ALSO MAKE ALLOWANCES IN TENDERING FOR SPACE LIMITATIONS & THE SIMULTANEOUS WORKING OF DIFFERENT TRADES. ANY DRAWING OF FLOOR SLABS MUST BE CARRIED OUT AS PER BUILDING MANAGER'S STANDARDS, WITH X-RAY IF REQUIRED.
4. THE CONSULTANT RESERVES THE RIGHT TO MAKE REASONABLE CHANGES REQUIRED TO ACCOMMODATE CONDITIONS ARISING DURING THE PROGRESS OF THE WORK, AT NO EXTRA COST TO THE OWNER.
5. CONTRACTORS SHALL MAINTAIN MARKED-UP PRINTS OF "AS-BUILT" CONDITIONS AS THE JOB PROGRESSES AND, AT THE END OF CONSTRUCTION, CONTRACTOR SHALL OBTAIN & PAY FOR ONE SET OF REPRODUCIBLE DRAWINGS AND TRANSFER ALL "AS-BUILT" CONDITIONS TO THESE DRAWINGS. THESE DOCUMENTS, SHOWING APPROXIMATE FINAL LOCATIONS & ELEVATIONS OF ALL MECHANICAL SYSTEMS, ESPECIALLY ANY BURIED & CONCEALED WORKS, SHALL BE PROVIDED TO THE CONSULTANT FOR REVIEW & RECORD.
6. CONTRACTORS SHALL PROVIDE SIX COPIES OF CLEARLY IDENTIFIED, PROJECT SPECIFIC, SHOP DRAWINGS FOR ALL FIXTURES AND EQUIPMENT FOR APPROVAL BEFORE ORDERING. EQUIPMENT, DEVICES & FIXTURES SHALL BE SUPPLIED WITH ALL ACCESSORIES REQUIRED FOR A COMPLETE INSTALLATION. CONTRACTOR WILL REVIEW SHOP DRAWINGS PRIOR TO SUBMISSION, THUS INDICATING THAT HE HAS DETERMINED & VERIFIED THAT ALL MATERIALS, CATALOG NUMBERS ETC., PERFORMANCES, SIZES AND AVAILABLE SPACE AND FIELD CONDITIONS MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. ALL MATERIALS USED MUST BE NEW, CLEAN AND FREE OF DEFECTS.
7. AT THE END OF THE PROJECT, CONTRACTORS SHALL PROVIDE 4 OPERATING AND MAINTENANCE INSTRUCTION MANUALS WITH WARRANTIES, CERTIFICATIONS, REPORTS, OPERATING INSTRUCTIONS AND A COPY OF CONSULTANT REVIEWED SHOP DRAWINGS.
8. CONTRACTORS SHALL ONLY MAINTAIN QUALIFIED PERSONNEL & SUPPORTING STAFF, AT THE SITE, WHO ARE EXPERIENCED IN COMPARABLE PROJECTS. IF THE BUILDING MANAGER REQUIRES WORK TO BE DONE AFTER HOURS, THIS MUST BE ALLOWED FOR AND ARRANGEMENTS MADE BY THE CONTRACTOR FOR ACCESS. CONTRACTORS SHALL BE RESPONSIBLE FOR MAINTAINING GOOD ORDER AND DISCIPLINE AMONG THEIR EMPLOYEES, AND FOR REMOVING DEBRIS AND MAINTAINING A CLEAN WORK AREA, DURING, AND UPON COMPLETION OF THE PROJECT.
9. CONTRACTORS SHALL WARRANTY HIS WORK, PARTS AND LABOR, FOR A PERIOD OF 1 YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.

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1	ISSUED FOR TENDER	November 2024

Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

Sheet Name: Arch Notes & Specs

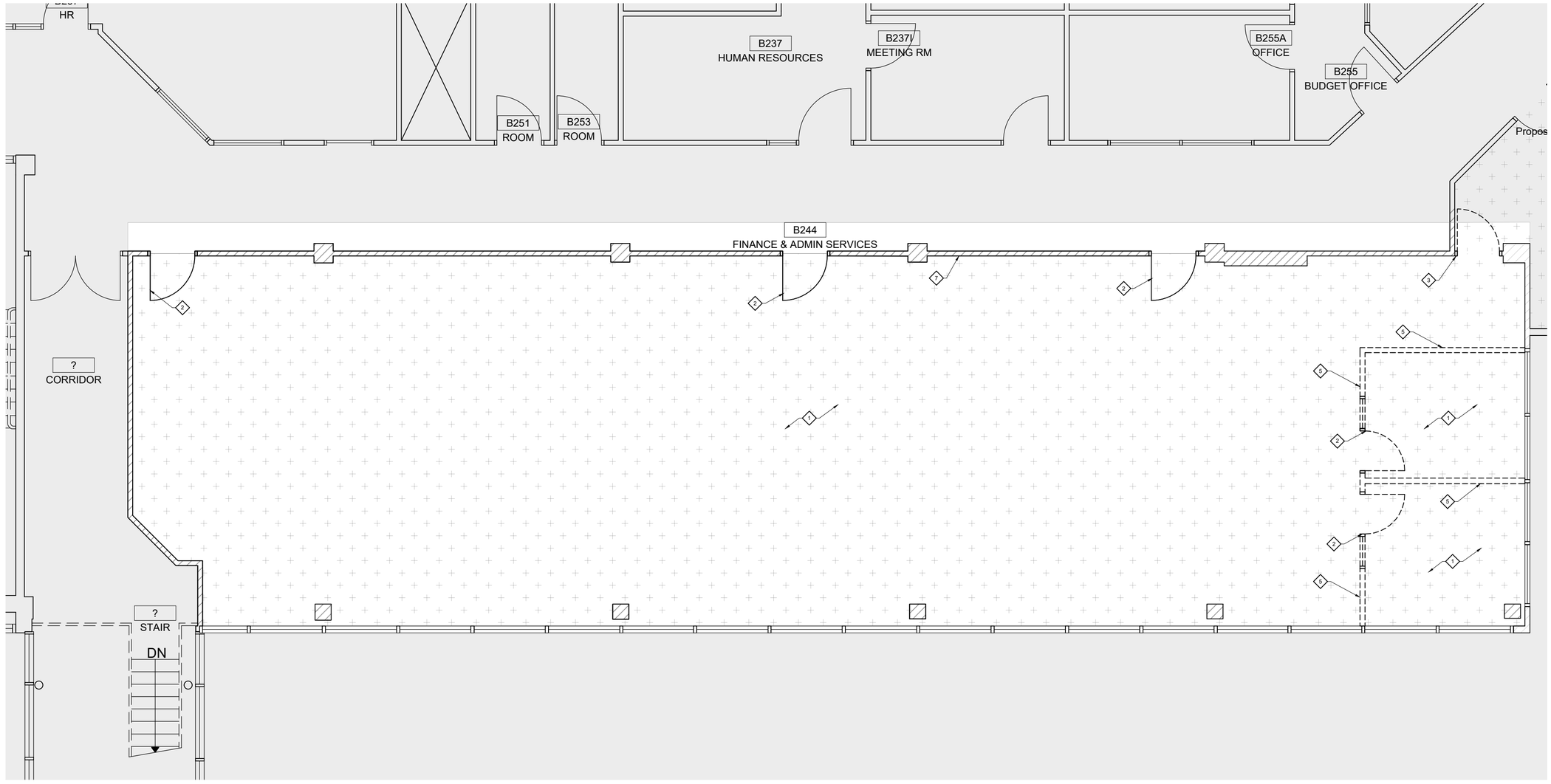
Drawn By: N.W.. Checked By:

Issued Date: 21 / 11 / 2024

Revision: - Scale: AS NOTED

Drawing No.:

A2



1 / A3 B244 DEMOLITION PLAN
3/16" = 1'-0"

DEMOLITION FLOOR PLAN:

1. REMOVE EXISTING FLOOR ADHESIVE AND PREP CONCRETE SLAB FOR NEW FLOORING. REFER TO PROPOSED PLAN.
2. REMOVE AND DISPOSE OFFSITE DOOR. FRAME TO REMAIN. HAND OVER EXISTING HARDWARE (LEVERS & LOCKSET) TO SHERIDAN PM.
3. REMOVE AND DISPOSE OFFSITE DOOR AND FRAME. HAND OVER EXISTING HARDWARE (LEVERS & LOCKSET) TO SHERIDAN PM.
4. REMOVE AND HAND OVER EXISTING DOOR SIGNAGE.
5. DEMOLISH EXISTING WALL PARTITION AS SHOWN ON DRAWINGS AND DISPOSE ALL DEBRIS OFF SITE.
6. REFER TO PROVIDED PINCHIN ENVIRONMENTAL REPORT REGARDING ASBESTOS CORRESPONDING PROCEDURES FOR REMOVAL PRIOR TO DEMOLITION.
7. CONFIRM WATER LINE HAS BEEN SHUT OFF. REMOVE AND DISPOSE OF ABANDONED WATER LINE FROM WALL.

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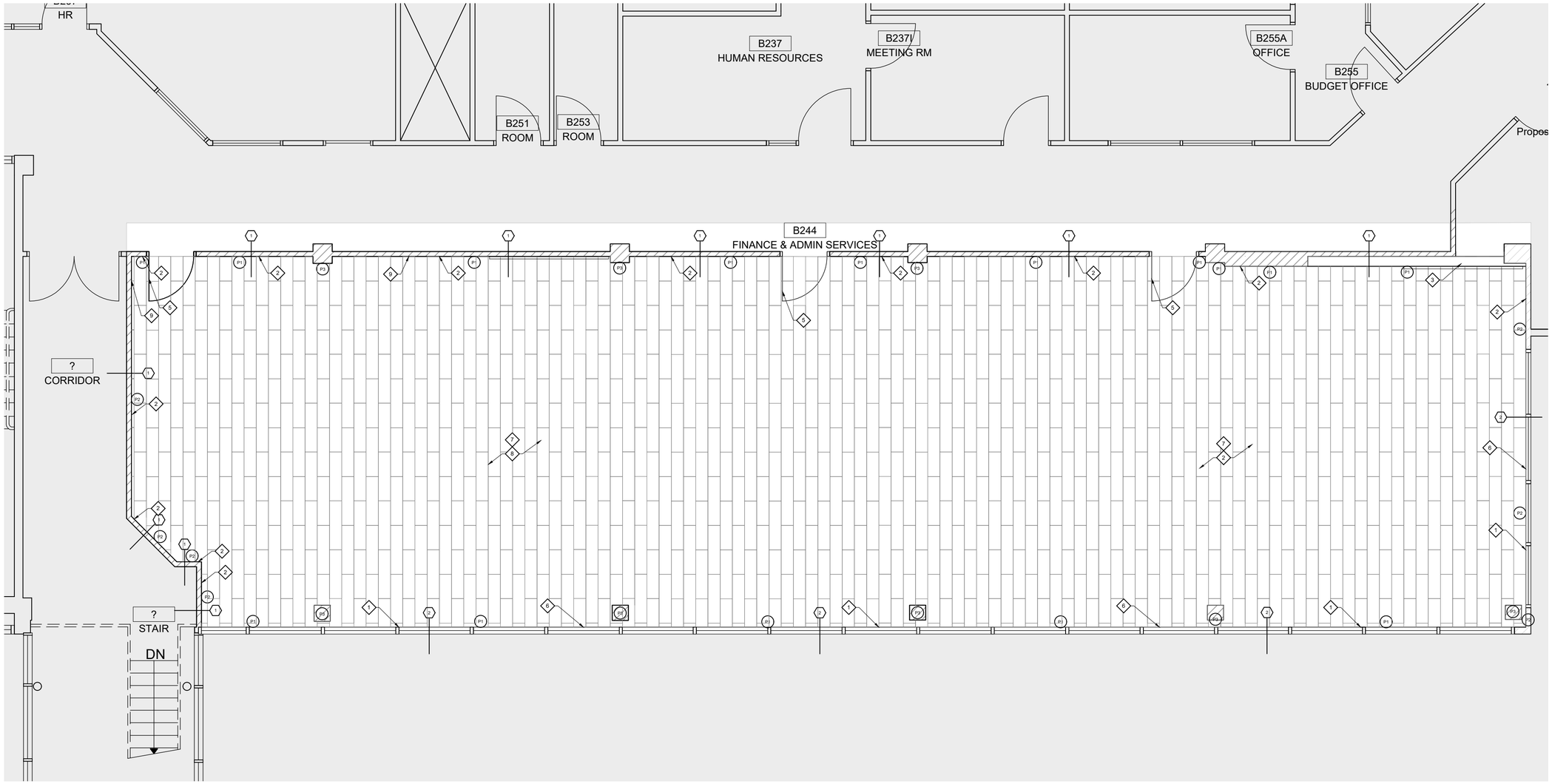
DEMOLITION FLOOR PLAN

Drawn By: N.W. | Checked By:
Issued Date: 21 / 11 / 2024
Revision: - | Scale: AS NOTED
Drawing No.:
A3



1 A3 B244 FLOOR PROPOSED FLOOR PLAN
3/16" = 1'-0"

PROPOSED FLOOR PLAN:

1. CONSTRUCT, FRAME AND BUILD OUT DRYWALL PARTITIONS - PARTITION WALLS SHOULD EXTEND TO U/S OF SLAB, REFER TO ELEVATIONS AND SCHEDULE
2. SUPPLY AND INSTALL INSULATION AND DRYWALL ON EXISTING PARTITIONS - REFER TO PARTITION SPECS
3. FUR OUT EXISTING PARTITION TO LEVEL WALL BEHIND FIRE HOUSE CABINET - REFER TO PARTITION SPECS
4. PATCH, PREP, PRIME AND PAINT ALL WALLS, DOORS AND COLUMNS - REFER TO PAINT SCHEDULE
5. INSTALL NEW DOOR AND HARDWARE, DOOR FRAME REMAINS - REFER TO DOOR SCHEDULE AND SPECS
6. SUPPLY AND INSTALL NEW BLACK OUT WINDOW COVERINGS TO ALL WINDOWS AS SPECIFIED (W1) . MANUAL OPERATED ROLLER SHADES WITH CASSETTE IN CLEAR ANODIZED ALUMINUM
7. PREP EXISTING SUBFLOOR PRIOR TO INSTALLING NEW FLOORING. GENERAL CONTRACTOR TAKES RESPONSIBILITY TO VERIFY EXISTING CONDITION ON SITE TO DETERMINE IF LEVELING / SKIMMING / SANDING WORK IS NEEDED BEFORE BID SUBMISSION.
8. SUPPLY AND INSTALL NEW CARPET TILE AND WALL BASE AS PER FLOOR SCHEDULE
9. REPAIR PARTIAL RE-FRAMING WHERE REQUIRED. CONFIRM WITH SHERIDAN P.M. PRIOR TO INSTALLATION
10. RE-FRAME, REPAIR AND INSTALL NEW DRYWALL AND INSULATION IN WALL OPENING WHERE REQUIRED ONCE EXISTING HVAC DUCTWORK HAS BEEN REMOVED. CONFIRM WITH SHERIDAN P.M. PRIOR TO INSTALLATION
11. PATCH AND MAKE IT LOOK GOOD PRIOR TO PAINTING AND PAINT ALL WALLS THAT WERE AFFECTED FROM ARCHITECTURAL, MECHANICAL, AND ELECTRICAL WORK (IE. WALLS, LIGHT SWITCHES, AND SERVICES ETC.) THIS SCOPE INCLUDES ALL AREAS OF THE SITE AND INCLUDING PERIMETER CORRIDOR.

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Consultant(s):

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- Dispose of all material and debris within scope of work offsite
- Make good of all areas affected by work to Sheridan Standards.
- Coordinate all required testing and inspections
- Protect furniture, equipment and items to remain (ie. flooring) during construction.
- Electrical Contractor shall verify capacity and location of electrical panel required to complete scope of work.
- Data Contractor shall verify capacity and location of wiring closet required to complete scope of work.
- Refer to tender, specifications, instructions and all other documents related to scope of work to complete project.

No.	Issues/Revisions	Date
1	ISSUED FOR TENDER	November 2024

Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

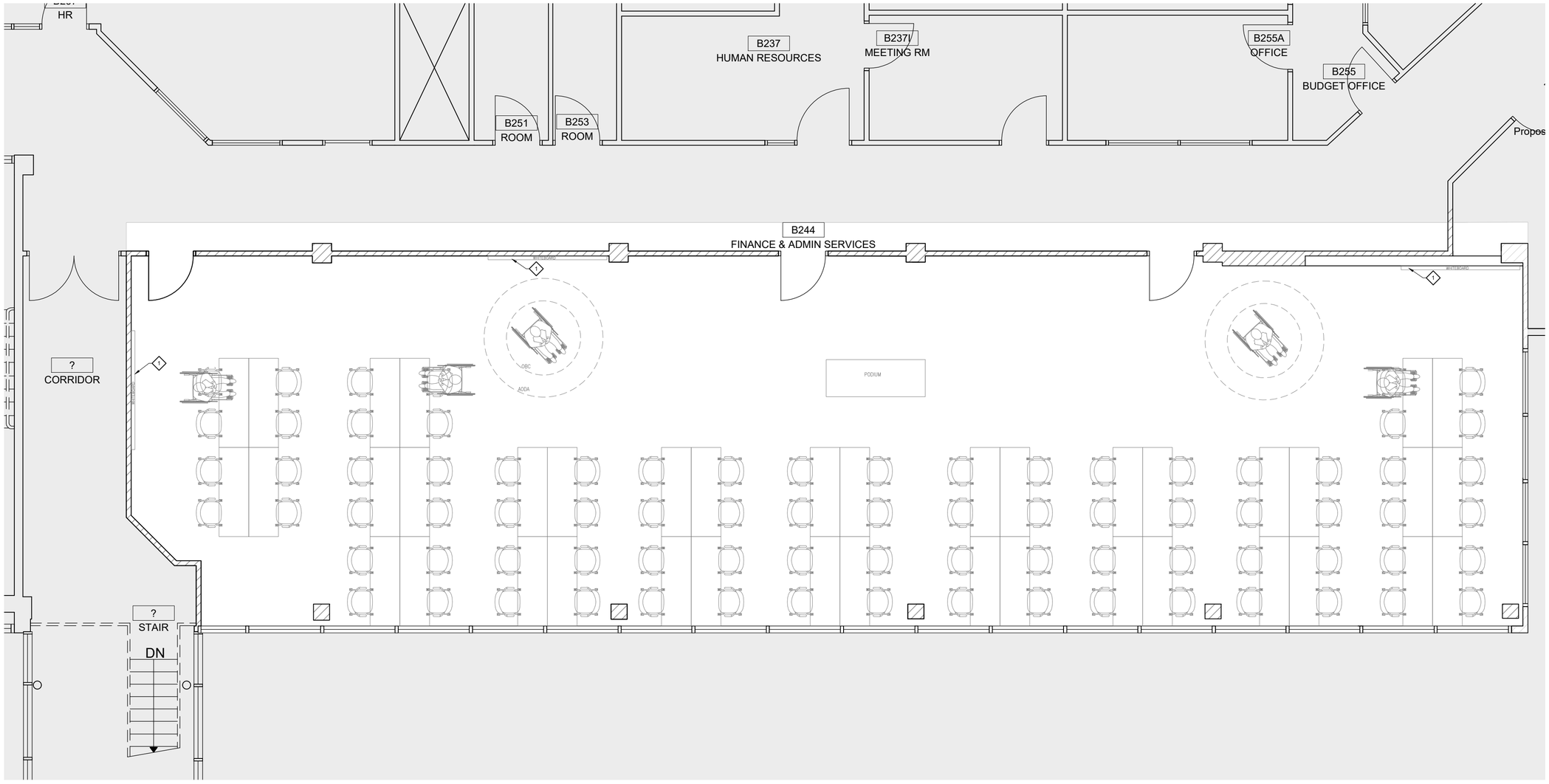
Sheet Name: Proposed Floor Plan

Drawn By: N.W. Checked By:

Issued Date: 21 / 11 / 2024

Revision: - Scale: AS NOTED

Drawing No.: A4



1 A3 B244 PROPOSED FURNITURE PLAN
3/16" = 1'-0"

PROPOSED FURNITURE PLAN:

1 SUPPLY AND INSTALL THREE NEW 4'-0" X 8'-0" WHITEBOARDS

2 SHERIDAN TO SUPPLY NEW STUDENT TABLES, CHAIRS AND PODIUM - COORDINATE DELIVERY & INSTALLATION WITH SHERIDAN P.M.

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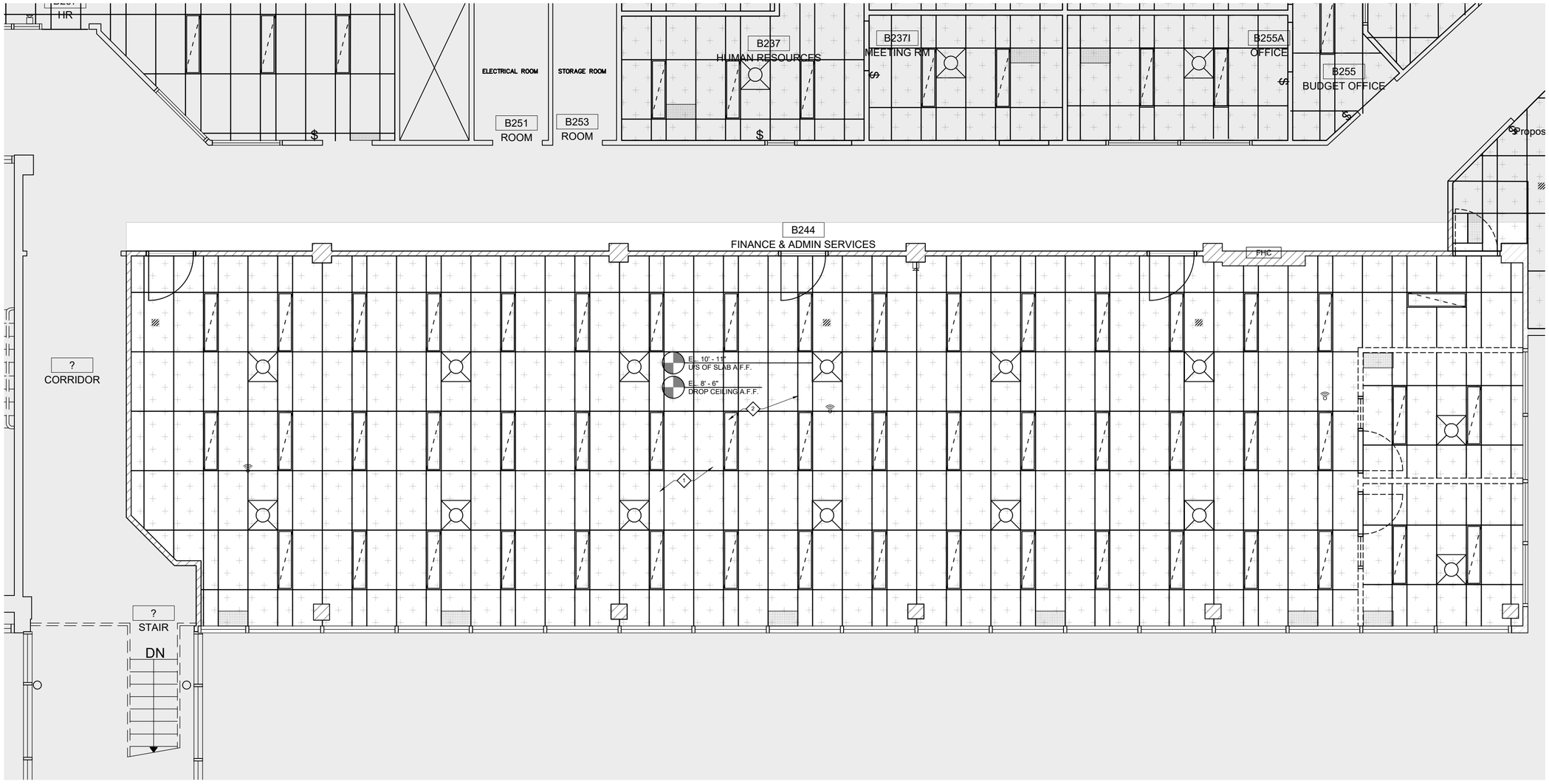
No.	Issues/Revisions	Date
1	ISSUED FOR TENDER	November 2024

Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

Sheet Name:
Proposed Furniture Plan

Drawn By: N.W. | Checked By:
Issued Date: 21 / 11 / 2024
Revision: - | Scale: AS NOTED
Drawing No.:
A5



1 / A3 B244 EXISTING REFLECTED CEILING PLAN
3/16" = 1'-0"

EXISTING REFLECTED CEILING PLAN:

1. REMOVE AND DISPOSE OFF SITE EXISTING CEILING TILES AND T-BAR.
2. REMOVE AND DISPOSE OFF SITE EXISTING LIGHT FIXTURES

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No.	Issues/Revisions	Date
1	ISSUED FOR TENDER	November 2024

Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

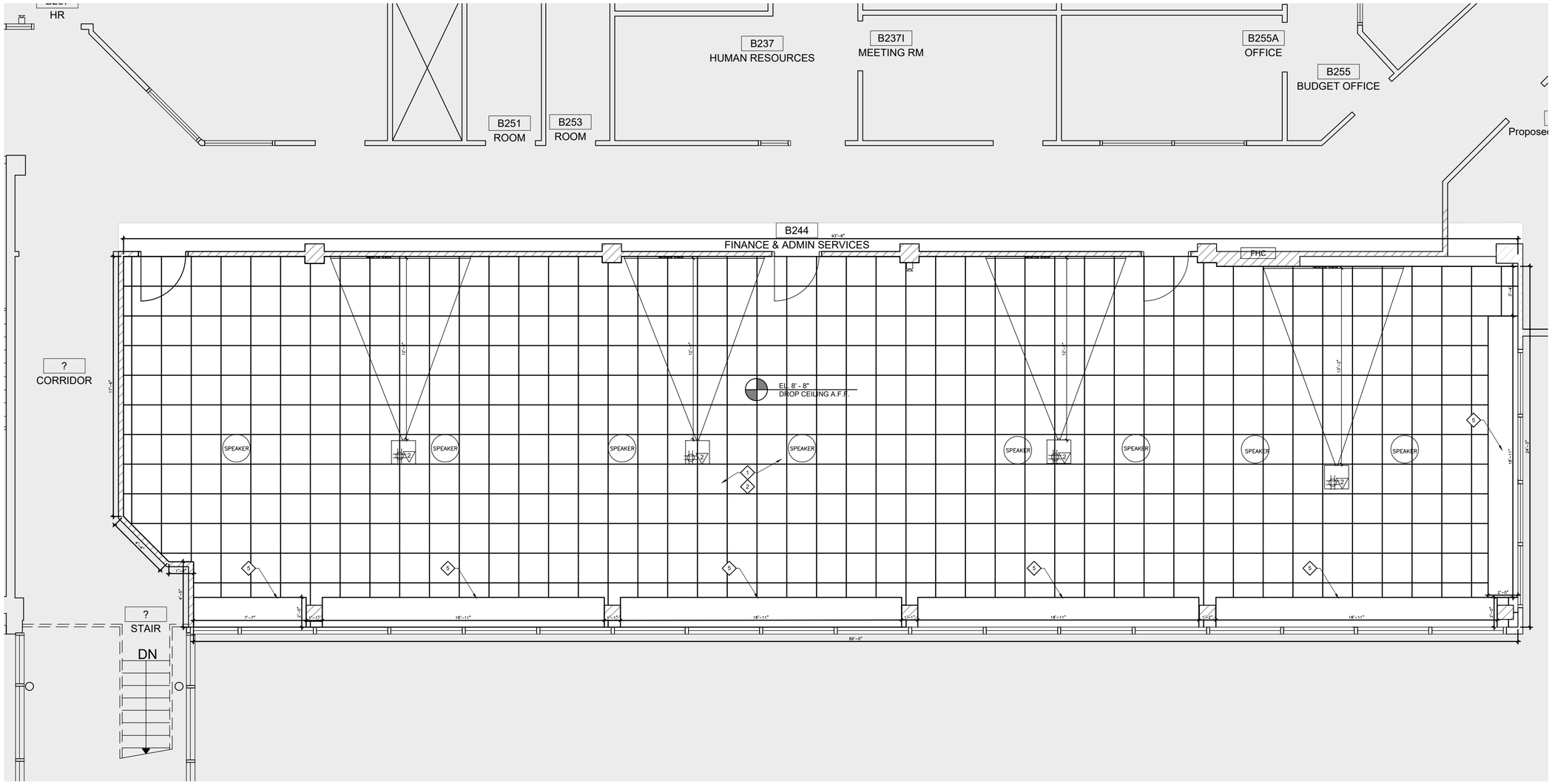
Sheet Name: Existing Reflected Ceiling Plan

Drawn By: N.W. | Checked By:

Issued Date: 21 / 11 / 2024

Revision: - | Scale: AS NOTED

Drawing No.: A6



1 / A3 B244 PROPOSED REFLECTED CEILING PLAN
3/16" = 1'-0"

PROPOSED REFLECTED CEILING PLAN:

1. SUPPLY AND INSTALL NEW CEILING GRID AS PER SPEC (C2). ARMSTRONG 15/16" PRELUDE XL SUSPENSION SYSTEM IN LIGHT GREY.
2. SUPPLY AND INSTALL NEW CEILING TILES AS PER SPEC (C1). ARMSTRONG OPTIMA SQUARE LAY-IN 3152 - WHITE - 22" X 12" X 1"
3. T-BAR LAYOUT TO MATCH DRAWING, COORDINATE WITH PROPOSED LIGHTING LAYOUT AND VERIFY WITH SHERIDAN P.M. PRIOR TO INSTALLATION
4. GENERAL CONTRACTOR IS FULLY RESPONSIBLE FOR DISCONNECTION AND RECONNECTION OF EXISTING FIRE/SMOKE DETECTORS RELATED TO CEILING REPLACEMENT. SHERIDAN OPERATIONS AND SECURITY REQUIRE MIN. 5 BUSINESS DAYS FOR FIRE INTERFERENCE.
5. PROVIDE INDICATED T-BAR OPENINGS FOR RADIANT PANELS TO BE INSTALLED FLUSH WITH THE T-BAR HEIGHT AS PER THE PROPOSED MECHANICAL DRAWINGS AND SPECIFICATIONS.
6. WHEN NSTALLING T-BAR AND TILES REFER TO DRAWINGS FOR FINISHED HEIGHTS. COORDINATE FINAL HEIGHTS WITH P.M. PRIOR TO INSTALL.

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Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

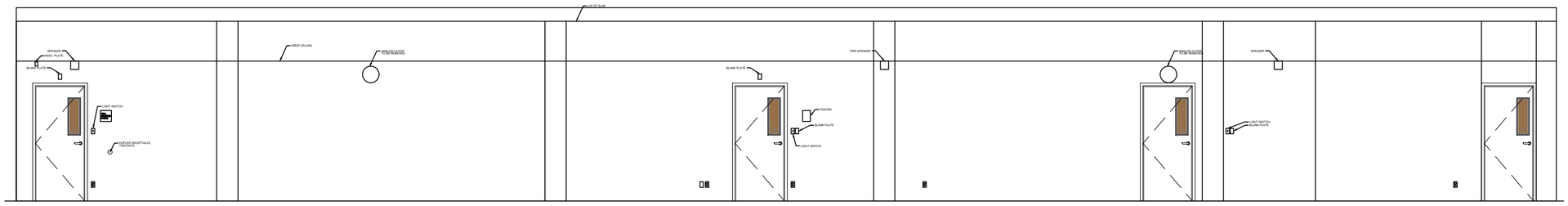
Sheet Name: Proposed Reflected Ceiling Plan

Drawn By: N.W. | Checked By:

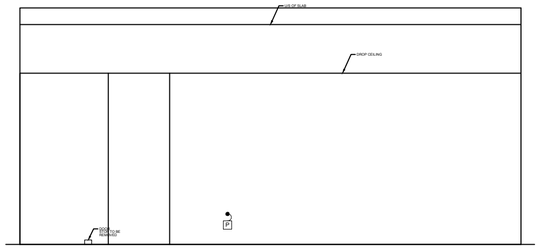
Issued Date: 21 / 11 / 2024

Revision: - | Scale: AS NOTED

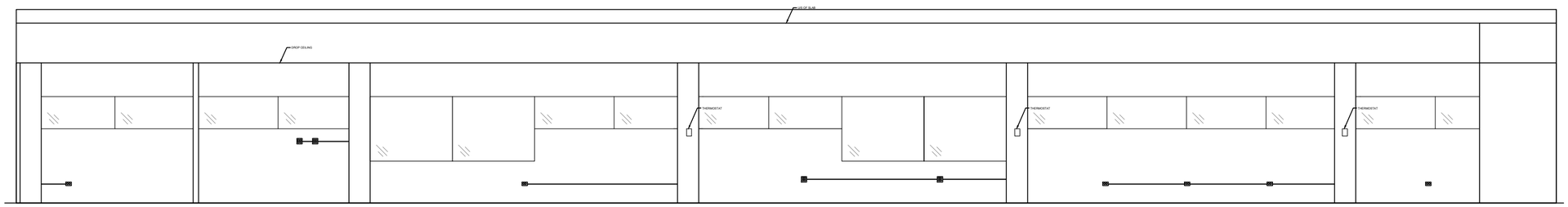
Drawing No.: A7



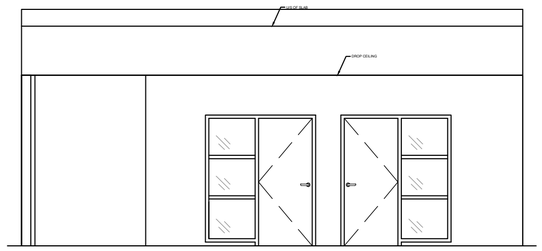
EXISTING ELEVATION B244 – NORTH WALL



EXISTING ELEVATION B244 – WEST WALL



EXISTING ELEVATION B244 – SOUTH WALL



EXISTING ELEVATION B244 – EAST WALL

1 / A3 B244 EXISTING ELEVATIONS
3/16" = 1'-0"

EXISTING ELEVATIONS:

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No.	Issues/Revisions	Date
1	ISSUED FOR TENDER	November 2024

Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

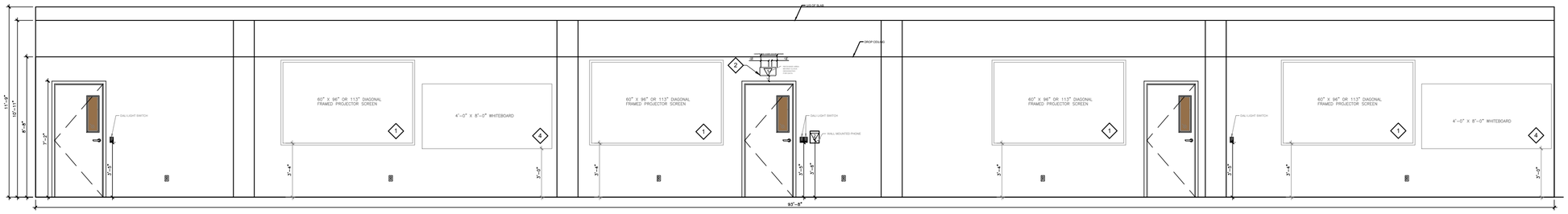
Sheet Name: Existing Elevations

Drawn By: N.W. | Checked By:

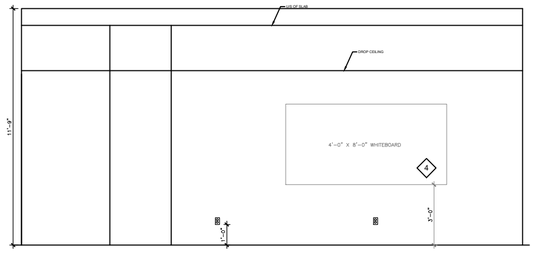
Issued Date: 21 / 11 / 2024

Revision: - | Scale: AS NOTED

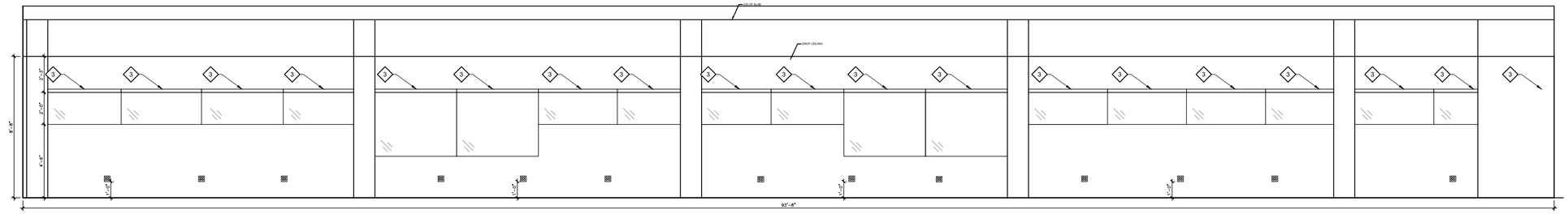
Drawing No.: A8



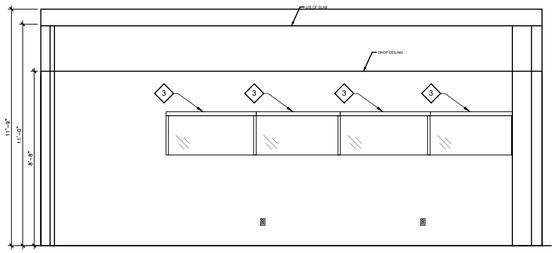
PROPOSED ELEVATION B244 – NORTH WALL



PROPOSED ELEVATION B244 – WEST WALL



PROPOSED ELEVATION B244 – SOUTH WALL



PROPOSED ELEVATION B244 – EAST WALL

1 / A3 B244 PROPOSED ELEVATIONS
3/16" = 1'-0"

PROPOSED ELEVATIONS:

1. SHERIDAN TO SUPPLY PROJECTOR SCREENS - COORDINATE INSTALLATION WITH SHERIDAN AV TEAM AND P.M.
2. SHERIDAN TO SUPPLY I.P. CLOCKS - COORDINATE INSTALLATION WITH SHERIDAN I.T. TEAM AND P.M.
3. SUPPLY AND INSTALL NEW ROLLER BLINDS - REFER TO WINDOW SCHEDULE
4. SUPPLY AND INSTALL NEW WHITEBOARDS
5. CONFIRM ON SITE ALL DEVICE AND SERVICES MOUNTING HEIGHTS WITH SHERIDAN P.M.

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No.	Issues/Revisions	Date
1	ISSUED FOR TENDER	November 2024

Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

Sheet Name: PROPOSED ELEVATIONS

Drawn By: N.W.. Checked By:

Issued Date: 21 / 11 / 2024

Revision: - Scale: AS NOTED

Drawing No.: A9

ELECTRICAL SPECIFICATION

1. EXAMINE THE EXISTING SITE CONDITION TOGETHER WITH THE PROPOSED WORK AND THE WORK OF ALL OTHER TRADES TO DETERMINE THE COMPLETE EXTENT OF RENOVATIONS TO THE EXISTING BUILDING. INCLUDE IN THE TENDER PRICE FOR THE TOTAL SCOPE OF WORK INCLUDING BUT NOT LIMITED TO CUTTING, PATCHING, REMOVING, REROUTING OF ALL EXISTING ELECTRICAL EQUIPMENT AND WIRING TO SUCCESSFULLY EXECUTE ALL WORK DESCRIBED.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE ONTARIO BUILDING CODE, PROVINCIAL ELECTRICAL SAFETY CODE, C.S.A. STANDARD, U.L.C., N.F.P.A., O.S.H.A., AND ALL OTHER APPLICABLE CODES AS REQUIRED.
3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH BASE BUILDING STANDARDS.
4. OBTAIN AND PAY FOR ALL REQUIRED ELECTRICAL PERMITS AND INSPECTIONS. ALL REQUIRED PERMITS SHALL BE SUBMITTED TO THE OWNER PRIOR TO COMMENCING THE WORK.
5. ALL WORK SHALL BE INSTALLED IN A CO-ORDINATED MANNER WITH ALL TRADES.
6. DRAWINGS SHALL NOT BE SCALED FOR MEASUREMENTS.
7. ALL INTERRUPTIONS OF SERVICES TO ANY PART OF THE BUILDING SHALL BE EXECUTED AFTER HOURS, WITH PRIOR APPROVAL AND ARRANGEMENTS WITH THE BUILDING OWNER OR REPRESENTATIVE, MINIMUM 48HRS. NOTICE REQUIRED. INCLUDE FOR ALL PREMIUM TIME REQUIRED FOR INTERRUPTIONS OF SERVICES, AND REQUIRED TIE-INS TO EXISTING SERVICES.
8. PROVIDE ALL MATERIALS, EQUIPMENT AND LABOUR NECESSARY TO PERFORM THE COMPLETE WORK AS INDICATED.
9. DAMAGE TO ANY SYSTEM OCCURRING DURING EXECUTION OF THE WORK SHALL BE RECTIFIED AT THE CONTRACTORS EXPENSE.
10. ALL NEW EQUIPMENT SHALL BE IDENTIFIED WITH LAMACOID PLATES. BLACK BACKGROUND WITH WHITE LETTERING. WORDING ON ALL LAMACOID PLATES SHALL BE APPROVED BY THE CONSULTANT AND THE BUILDING OWNER PRIOR TO ENGRAVING.
11. PROVIDE A FULLY ITEMIZED BREAKDOWN OF ALL MATERIALS, EQUIPMENT AND LABOUR FOR SUBMISSIONS OF ALL CHANGES TO THE CONTRACT. CONTRACTOR SHALL UTILIZE NECA 1 LABOUR RATES, AND TRADE PRICES. WORK ASSOCIATED WITH ANY CHANGES TO THE CONTRACT SHALL NOT PROCEED WITH-OUT WRITTEN APPROVAL.
12. PRIOR TO INSTALLATION OF ANY DEVICES, THE CONSULTANT AND OR INTERIOR CONSULTANT SHALL HAVE THE RIGHT TO CHANGE LOCATIONS OF OUTLETS WITHIN 3 METERS (10 FEET) WITH-OUT ANY EXTRA COST TO THE OWNER.
13. PERFORM ALL WORK REQUIRED TO THE FIRE ALARM SYSTEM AS INDICATED. RETAIN THE FORCES OF THE OWNER TO PERFORM FINAL CONNECTIONS, TESTING AND VERIFICATION OF ALL WORK. DEVICES SHALL MATCH THE EXISTING SYSTEM IN CHARACTERISTICS AND TYPES. VERIFY IN ACCORDANCE WITH ULC S524 AND LOCAL AUTHORITIES HAVING JURISDICTION VERIFY FIRE ALARM CIRCUITS TO ENSURE PROPER OPERATION & COVERAGE.
14. SUBMIT SHOP DRAWINGS, FIVE (5) COPIES FOR ALL MAJOR EQUIPMENT. SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED FOR ACCEPTANCE BY THE APPROPRIATE TRADE PRIOR TO STAMPED "REVIEWED" BY THE CONSULTANT.
15. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION SCHEDULE.
16. ANY ALTERATIONS BY MEANS OF CUTTING, DRILLING, CORING OR OTHERWISE TO STRUCTURAL COLUMNS, FLOORS, WALL OR ROOF ARE NOT PERMITTED WITHOUT PRIOR WRITTEN PERMISSION BY OWNER AND REQUIRED REVIEW BY BASE BUILDING STRUCTURAL ENGINEER. CUTTING AND CORING OF REINFORCED CONCRETE STRUCTURE MAY NOT PROCEED WITHOUT X-RAYING BY A QUALIFIED CONTRACTOR. CORE DRILLING TO BE COORDINATED THROUGH PROJECT MANAGER WITH PROPERTY MANAGEMENT OFFICE. CONTRACTOR TO COORDINATE WITH PROPERTY MANAGEMENT 3-5 DAYS IN ADVANCE.
17. PROVIDE THE OWNER WITH A 2-YEAR WRITTEN WARRANTY FOR ALL LABOUR, MATERIALS AND EQUIPMENT SUPPLIED IN THIS CONTRACT. WARRANTY SHALL COMMENCE AT SUCH TIME THAT THE CONSULTANT DEEMS THE WORK IS ACCEPTABLE.
18. ALL POWER WIRING AND SUPPLY OF STARTERS FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED BY DIV.16, UNLESS OTHERWISE NOTED. ALL CONTROL WIRING AND CONTROL DEVICES SHALL BE PROVIDED BY DIV.15. CONFIRM AND CO-ORDINATE ALL POWER CHARACTERISTICS WITH DIV.15 PRIOR TO PROCESSING SHOP DRAWINGS AND EQUIPMENT ORDERING.
19. PROVIDE ALL ACCESS DOORS WHERE REQUIRED TO SERVICE ALL NEW AND EXISTING EQUIPMENT. ACCESS PANELS SHALL BE EQUAL TO LEHAGE AND SHALL BE COMPATIBLE WITH CEILING/WALL TYPE AND FINISH. ACCESS DOORS SHALL BE RECESSED TYPE WITH A DRYWALL INFILL. ELECTRICAL SERVICES ARE TO BE CO-ORDINATED TO MINIMIZE THE NUMBER OF ACCESS LOCATIONS. CO-ORDINATE LOCATION AND SIZES WITH THE CONSULTANT. SUBMIT DRAWING(S) TO THE CONSULTANT FOR REVIEW INDICATING SIZE AND LOCATION OF ALL ACCESS LOCATIONS PRIOR TO PROCEEDING WITH THE INSTALLATION.
20. ALL LUMINAIRES SHALL BE CLEANED AT THE COMPLETION OF THE PROJECT.
21. UPON COMPLETION OF ELECTRICAL WORK, SUBMIT THE MARKED UP RECORD DRAWINGS TO ENGINEERS. ENGINEER TO TRANSFER ALL UPDATED INFORMATION FROM THE PRINTS TO DIGITAL FILES (AUTOCAD) USING PROPER COMPUTER DRAFTING PRACTICE. ENGINEER TO SUBMIT AS PART OF CLOSE OUT DOCUMENTS.
22. UPON COMPLETION OF THE WORK, PROVIDE A COPY OF THE LOCAL HYDRO CERTIFICATE, AND FIRE ALARM VERIFICATION. SUBMIT RECORDS TO CONSULTANT AND OWNER.
23. PROVIDE TYPE WRITTEN PANELBOARD DIRECTORIES FOR ALL NEW PANELS AND ALL EXISTING PANELS AFFECTED BY THIS RENOVATION.
24. ALL EQUIPMENT AND MATERIALS SHALL BE NEW, UN-USED AND C.S.A. APPROVED.
25. ALL WIRING SHALL BE INSTALLED IN EMT CONDUIT. ARMOURED "BX" CABLE MAY BE USED TO A MAXIMUM OF 2 METERS (6 FEET) FOR FLEXIBLE LIGHTING, SWITCHED LEGS, EMERGENCY REMOTE HEADS AND EXIT SIGNS.
26. ALL WIRING SHALL BE COPPER, MINIMUM # 12 AWG RW90.
27. MINIMUM SIZE OF CONDUIT SHALL BE 21 ø (3/4") EMT UNLESS OTHERWISE NOTED. NO SECTION OF CONDUIT SHALL BE LONGER THAN 30 METERS (100 FEET) OR CONTAIN MORE THAN TWO 90-DEGREE BENDS BETWEEN PULL BOXES.
28. PROVIDE COPPER GROUND WIRE IN ALL CONDUIT FOR BRANCH AND FEEDER CIRCUITS.
29. PROVIDE NYLON PULLSTRINGS IN ALL EMPTY CONDUIT.
30. PROVIDE FLEXIBLE METAL CONDUIT FOR ALL CONNECTIONS TO MOTORS, TRANSFORMERS AND GENERATORS.
31. INDEPENDENTLY SUPPORT FROM BUILDING STRUCTURE WITH APPROVED CHAINS ALL EXISTING AND NEW LUMINAIRES THROUGH-OUT.
32. PROVIDE A SEPARATE NEUTRAL CONDUCTOR FOR EACH CIRCUIT DO NOT SHARE NEUTRALS.
33. ALL PENETRATIONS THROUGH FLOORS AND FIRE RATED WALLS SHALL BE PACKED AND SEALED WITH APPROVED FIRE MATERIAL AND SILICON SEALANT.
34. WHERE A MANUFACTURER IS NOT SPECIFIED, THE PRODUCTS SHALL BE OF SAME MANUFACTURER AS BASE BUILDING.
35. PROVIDE DIMMERS AS INDICATED. DIMMERS SHALL SUIT THE TYPE AND SIZE OF LOAD. PROVIDE DE-BUZZING COILS FOR ALL NEW DIMMERS.
36. UPON COMPLETION OF COMMUNICATIONS WORK, SUBMIT THE MARKED UP RECORD DRAWINGS TO ENGINEERS. ENGINEER TO TRANSFER ALL UPDATED INFORMATION FROM THE PRINTS TO DIGITAL FILES (AUTOCAD) USING PROPER COMPUTER DRAFTING PRACTICE. ENGINEER TO SUBMIT AS PART OF CLOSE OUT DOCUMENTS.
37. ALL DEVICES AND COVERPLATES SHALL BE PASS & SEYMOUR MODULAR DECORA TYPE. STAINLESS STEEL COVERPLATES.
38. ALL SURFACE FLOOR OUTLETS SHALL BE CANADIAN ELECTRICAL RACEWAYS INC. SERIES 4000 OR WELLMARK EQUAL. FINISH SHALL BE STAINLESS STEEL.
39. WHERE SWITCHES, DIMMERS, AND RECEPTACLES ARE SHOWN SIDE BY SIDE, PROVIDE GANGED COVERPLATES. GANGED DIMMERS SHALL BE DE-RATED AND INSTALLED AS PER MANUFACTURES INSTRUCTIONS.
40. ENSURE THAT ALL NEUTRALS OF ALL TRANSFORMERS ARE GROUNDED TO THE BUILDING GROUND SYSTEM IN ACCORDANCE WITH TABLE 17 OF THE O.H.E.S.C.
41. ALL TRANSFORMERS, DISTRIBUTION PANELS, AND PANELBOARDS SHALL BE COMPLETE WITH COPPER BUS (OR WINDINGS), AND 200
42. ALL FUSES SHALL BE HRC TYPE " J " WITH TIME DELAY.
43. CIRCUITING SHOWN FOR GROUPING PURPOSES ONLY. VERIFY EXACT CIRCUITS AVAILABLE AND PROVIDE NEW CIRCUITS AND BREAKERS AS REQUIRED TO BALANCE LOADS WITH-IN 10% ACROSS PHASES, SUBMIT TEST REPORT FOR REVIEW BY THE CONSULTANT.
44. CO-ORDINATE ALL EQUIPMENT SUPPLIED BY OTHER TRADES TO ENSURE VOLTAGE AND AMPERAGE COMPATIBILITY WITH DESIGN DOCUMENTS PRIOR TO EQUIPMENT BEING ORDERED.
45. PROVIDE TEMPORARY ELECTRICAL POWER AND LIGHTING AS REQUIRED BY THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER. CO-ORDINATE REQUIREMENTS FOR PHASING OF WORK.

1 E-1 ELECTRICAL SPECIFICATION
SCALE: N.T.S.

LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING BASE BUILDING LUMINAIRE TO REMAIN.		DIRECT CONNECTION TO EQUIPMENT AS INDICATED.
	NEW OR RELOCATED LUMINAIRE. TYPE AS NOTED.		UNFUSED DISCONNECT SWITCH.
	EXISTING BASE BUILDING LUMINAIRE TO BE REMOVED OR RELOCATED.		PANEL (RECESSED OR SURFACE).
	LUMINAIRE CONNECTED TO 120V EMERGENCY LIGHTING CIRCUIT.		CIRCUIT LOCK RECEPTACLE/DISCONNECT.
	TRACK LIGHTING C/W NUMBER OF FIXTURES INDICATED.		FIRE ALARM SMOKE DETECTOR.
	FLUORESCENT STRIP LIGHT.		FIRE ALARM HEAT DETECTOR.
	CEILING MOUNTED (RECESSED OR SURFACE) LUMINAIRE.		FIRE ALARM PULL STATION.
	CEILING MOUNTED (RECESSED OR SURFACE) LUMINAIRE.		FIRE ALARM EVAC SPEAKER. CEILING/WALL MOUNTED AS SHOWN ON PLANS.
	WALL MOUNTED LUMINAIRE.		FIRE ALARM EVAC SPEAKER/STROBE LIGHT.
	CEILING MOUNTED EXIT SIGN C/W FACES AND ARROWS AS INDICATED.		FIRE ALARM HOLD-OPEN DEVICE. CONNECTION/WIRING ONLY.
	WALL MOUNTED EXIT SIGN C/W FACES AND ARROWS AS INDICATED.		SURFACE EMERGENCY LIGHTING BATTERY UNIT C/W LUMINAIRE(S).
$	SINGLE POLE LINE VOLTAGE SWITCH.	1 2	RECESSED SINGLE GANG BACKBOX 1-DENOTES SINGLE GANG, 2-DENOTES DOUBLE GANG. PROVIDE REQUIRED COVERPLATE TO SUIT DEVICE.
$3	3 WAY LIGHT LINE VOLTAGE SWITCH.	S	SCHOOL PAGING SPEAKER
$F	EXHAUST FAN SWITCH C/W PILOT LIGHT.	A	SUSPENDED AUDIO/VISUAL SPEAKER
D	DIMMER SWITCH. (RATING AND TYPE TO SUIT LOAD).	AV	RECESSED SINGLE GANG AUDIO VISUAL SERVICE BOX.
	WALL MOUNTED DUPLEX RECEPTACLE.	CR	SECURITY CARD READER.
U	WALL MOUNTED DUPLEX RECEPTACLE WITH USB CHARGING. OUTLET.	DC	SECURITY DOOR CONTACT.
IG	WALL MOUNTED DUPLEX RECEPTACLE WITH ISOLATED GROUND (COLORED ORANGE).	W	WIRELESS PUSH BUTTON.
	WALL MOUNTED SPLIT RECEPTACLE.	EML	ELECTRIC MORTISE LOCK
SC	WALL MOUNTED DUPLEX RECEPTACLE. SEPARATE CIRCUIT.	ES	SECURITY ELECTRIC STRIKE.
GFI	WALL MOUNTED DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER.		SECURITY "REX" MOTION SENSOR
C	CEILING RECEPTACLE C/W RECEPTACLE REEL.		SECURITY MOTION SENSOR.
	WALL MOUNTED QUAD RECEPTACLE.		EMERGENCY LIGHTING REMOTE HEADS DOUBLE, AND SINGLE AS NOTED.
	RECESSED FLOOR BOX C/W OUTLETS AS NOTED.	SC	SECURITY CAMERA.
		DR.	PUSH BUTTON DOOR RELEASE.
W	CONNECTION TO ELECTRIFIED FURNITURE, REFER TO ELECTRIFIED FURNITURE CONNECTION SCHEDULE. (W-DENOTES WALL FEED, C-DENOTES CEILING POLE FEED, F-DENOTES FLOOR FEED, WM- DENOTES WIREMOLD FEED)	N-1	DENOTES REFER TO NOTE N-1.
		O/C	DENOTES OVER COUNTER
		E	DENOTES EXISTING TO REMAIN.
	WALL MOUNTED WIREMOLD C/W WIREMOLD RECEPTACLE AND DATA OUTLET.	6 E-1	DENOTES REFER TO DETAIL#6 ON DRAWING #E-1.
2	WALL MOUNTED DATA OUTLET. QUANTITY OF OUTLETS AS NOTED.		
1C	CEILING MOUNTED DATA OUTLET. QUANTITY OF OUTLETS AS NOTED.		
	CEILING MOUNTED WI-FI TRANSMITTER.		

2 E-1 ELECTRICAL LEGEND
SCALE: N.T.S.

DRAWING LIST

DWG. No.	DESCRIPTION
E-1	ELECTRICAL SPEC, LEGEND, DRAWING LIST, DETAILS, AND GENERAL NOTES
E-2	ELECTRICAL SCHEDULES, AND DETAILS
E-3	DALI LIGHTING CONTROL DETAILS, AND LUMINAIRE SCHEDULE
E-4	LIGHTING DEMOLITION PLAN ELECTRICAL
E-5	PROPOSED LIGHTING PLAN ELECTRICAL
E-6	POWER & SYSTEMS DEMOLITION PLAN ELECTRICAL
E-7	PROPOSED POWER & SYSTEMS PLAN ELECTRICAL
E-8	COMMUNICATIONS DEMOLITION PLAN ELECTRICAL
E-9	PROPOSED COMMUNICATIONS PLAN ELECTRICAL

5 E-1 DRAWING LIST
SCALE: N.T.S.

SYMBOL ON PLANS

4 #VD

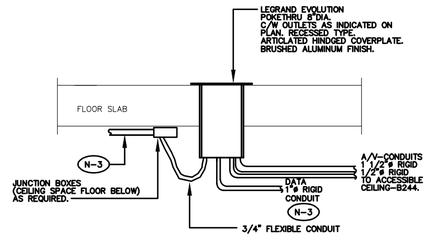
NOTES:

N-1 CO-ORDINATE EXACT LOCATIONS OF FLOOR MONUMENTS ON SITE PRIOR TO ROUGH-IN.

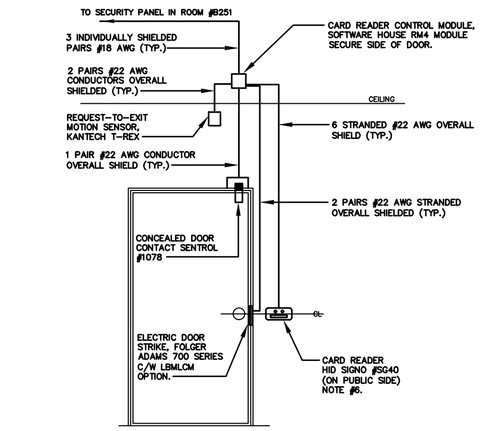
N-2 X-RAY/BATT SCAN FLOOR SLAB PRIOR TO CORE DRILLING. CO-ORDINATE SCHEDULING WITH LANDLORD. WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL CARRY ALL COSTS.

N-3 CONDUITS SHALL BE ROUTED TO ELECTRICAL PANEL/I.T RACK 2ND FLOOR ELECTRICAL ROOM B251. PROVIDE ADDITIONAL CORE HOLES AS REQUIRED.

N-4 INCLUDE FOR STRUCTURAL REVIEW OF X-RAY/BATT SCAN BY STRUCTURAL ENGINEER. ELECTRICAL CONTRACTOR SHALL INCLUDE FOR ALL COSTS.



6 E-1 RECESSED FLOOR OUTLET DETAIL (8"DIA)
SCALE: N.T.S.



NOTES:

1. THIS DRAWING PROVIDES GENERAL INSTALLATION INFORMATION ONLY. ALL DETAILS MUST BE CONFIRMED BY SECURITY COMPANY. FOR MORE INFORMATION ON CARD READER, ELECTRIC STRIKE, SONALERT AND CONCEALED CONTACT, SEE DETAILS OF EXACT MODEL.
2. ALL EXPOSED DEVICES OR WIRES TO BE MOUNTED ON INSIDE OF PROTECTED AREA (WITH EXCEPTION OF READHEAD)
3. ALL CONDUITS ARE PROVIDED BY ELECTRICAL TRADE.
4. ALL DOOR HARDWARE ACCESSORIES SHALL BE PROVIDED AND INSTALLED BY THIS CONTRACTOR. CABLING SHALL BE RUN BACK TO SECURITY PANEL SERVING THIS AREA. COORDINATE WITH SHERIDAN COLLEGE CARD READER STANDARDS.
5. JACKET RATING TO SUIT WHERE IT IS INSTALLED. (FT6 WHERE REQUIRED) CABLE CORE - STRANDED COMMUNICATION GRADE CONDUCTORS.
6. SECURITY CARD READER SHALL BE SUPPLIED BY SHERIDAN COLLEGE, AND INSTALLED BY THIS CONTRACTOR.

3 E-1 SECURITY ELECTRIC STRIKE DOOR DETAIL
SCALE: N.T.S.

GENERAL NOTES:

1. ALL RECEPTACLES, DATA OUTLETS, AND SWITCHES SHALL BE DECORA TYPE "WHITE" C/W STAINLESS STEEL COVERPLATE. COMMERCIAL GRADE.
2. OUTLETS SHALL NOT BE INSTALLED BACK TO BACK IN PARTITIONS. STAGGER TO PREVENT SOUND TRANSFER.
3. COMPLETE EXTENT OF DEMOLITION IS NOT SHOWN. TENDERERS SHALL REVIEW THE SITE TOGETHER WITH THE DOCUMENTS OF ALL OTHER TRADES TO DETERMINE THE COMPLETE EXTENT OF DEMOLITION. MAKE ALLOWANCES FOR ANY NEW OR EXISTING SERVICES, DEVICES, OR EQUIPMENT RELOCATIONS NECESSARY TO COMPLETE THE WORK. ALLOW FOR ALL COSTS.
4. COMMISSIONING OF SYSTEMS (LIGHTING/EMERG. LIGHTING/LIGHTING CONTROLS/ETC) SHALL BE PERFORMED. SHERIDAN COLLEGE SHALL COVER ALL COSTS. ELECTRICAL CONTRACTOR SHALL BE PRESENT DURING COMMISSIONING OF SYSTEMS. ALLOW FOR ALL COSTS.

4 E-1 GENERAL NOTES
SCALE: N.T.S.

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1430 Trafalgar Road
Oakville, ON
(905) 845 - 9430

Consultant(s):
DYNAMIC DESIGNS AND ENGINEERING INC.
111 Hodgson Ave. Kettleby, Ontario L7B 0C7
Tel. (905) 841-7278
dynengs@rogers.com

Construction North | True North

General Notes:
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Project Specific:
- Dispose of all material and debris within scope of work offsite
- Make good of all areas affected by work to Sheridan Standards.
- Coordinate all required testing and inspections
- Protect furniture, equipment and items to remain (ie. flooring) during construction.
- Electrical Contractor shall verify capacity and location of electrical panel required to complete scope of work.
- Data Contractor shall verify capacity and location of wiring closet required to complete scope of work.
- Refer to tender, specifications, instructions and all other documents related to scope of work to complete project.

No.	Issues/Revisions	Date
4	ISSUED FOR TENDER	NOV21/24
3	RE-ISSUED FOR 100% REVIEW	NOV15/24
2	ISSUED FOR 100% REVIEW	NOV06/24
1	ISSUED FOR REVIEW	OCT15/24

Project Name:
Trafalgar Campus - B244 Classroom Renovation

Seal:
LICENSED PROFESSIONAL ENGINEER
D.E.TOMINGAS
90236233
PROVINCE OF ONTARIO

24 040

Sheet Name:
ELECTRICAL SPEC, LEGEND, DRAWING LIST, DETAILS, AND GENERAL NOTES

Drawn By: STAFF Checked By: TM
Issued Date: 11-09-2024
Revision: - Scale: 3/16"=1'-0"
Drawing No.: E-1

PANEL : PP-2A						SURFACE ■ FLUSH □	
120/208V ■ 347/600V □						1ø – 3W □ 3ø – 4W ■	
100A □ 225A ■		OTHER □				TYPE : WESTINGHOUSE NQB	
LOCATION : ELECT. ROOM						NEW □ EXISTING ■	
DESCRIPTION	BRKR . SIZE	CCT NO.	PH .	CCT NO.	BRKR . SIZE	DESCRIPTION	
FLOOR RECEPT RM B244	15A	A 1 B	A	2	A 15A B 15A	**PROJECTOR RM B244**	
FLOOR RECEPT RM B244	15A		B	4		RECEPT RM 206/207	
FLOOR RECEPT RM B244	15A	A 3 B	B		A 15A B 15A	**RECEPTACLES RM B244**	
SPARE	15A		C	6		RECEPT RM 207	
RECEPTACLES RM B244	**15A**	A 5 B			A 15A B 15A	**RECEPTACLES RM B244**	
RECEPTACLES RM B244	**15A**	A 7 B	A	8	A 15A B 15A	RECEPT RM 208	
EXISTING	15A		B			**PROJECTOR RM B244**	
SPARE	15A	A 9 B	B	10	A 15A B 15A	RECEPT RM 208/209	
SPARE	15A		C			**SPARE CLG B244**	
SPARE	15A	A 11 B		12	A 15A B 15A	RECEPT RM 209	
SPARE	15A		A			**PROJECTOR RM B244**	
RECEPTACLES RM B244	15A	A 13 B		14	A 15A B 15A	T.V RECEPT	
RECEPT RM 224	15A		B			**PROJECTOR RM B244**	
LIGHTS RM 221	15A	A 15 B		16	15A	LIGHTS ROOM 211 RECEPT STAIR #3	
RECEPTACLES RM B244	15A		C				
MICROWAVE-RECEPT KITCHEN B237	15A	17		18	20A	PRINTER RM 255A	
COUNTER RECEPT KITCHEN B237	15A	19	A	20	15A	**RECEPTACLES ROOM B244**	
RECEPTACLES ROOM B244	15A	21	B	22	15A	I.T RECEPT	
RECEPTACLES ROOM B244	15A	23	C	24	15A	T.V RECEPT ROOMS 211/212/213	
RECEPT RM 224 SOUTH WALL	15A	25	A	26	60A		
RECEPT ROOMS 227/211	15A	27	B	28		PANEL PP-2B	
RECEPTACLES ROOM B244	15A	29	C	30	3P		

LINETYPE/SYMBOL LEGEND

LINETYPE DENOTES: EXISTING.

LINETYPE DENOTES: NEW BY ELECTRICAL CONTRACTOR.

1 E-2 PANEL SCHEDULE PP-2A
SCALE: N.T.S.

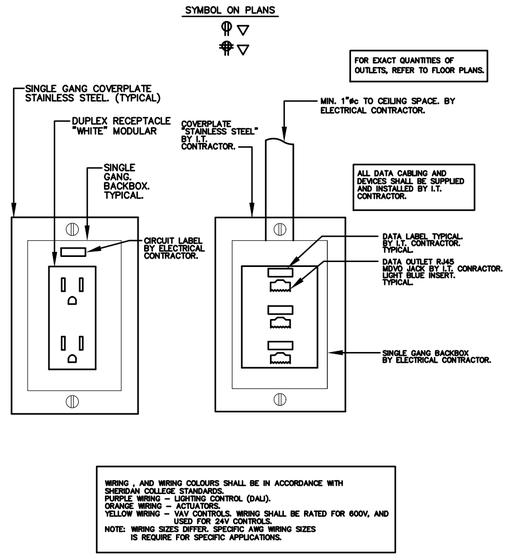
PANEL : PP-2B						SURFACE ■ FLUSH □	
120/208V ■ 347/600V □						1ø – 3W □ 3ø – 4W ■	
100A ■ 225A □		OTHER □				TYPE : SQUARE D	
LOCATION : ELECT. ROOM						NEW □ EXISTING ■	
DESCRIPTION	BRKR . SIZE	CCT NO.	PH .	CCT NO.	BRKR . SIZE	DESCRIPTION	
RECEPT RM B255C	15A	1	A	2	15A	RECEPTACLES NORTH OPEN OFFICE	
RECEPT RM B255B	15A	3	B	4	15A	RECEPTACLES NORTH OPEN OFFICE	
RECEPTACLES NORTH OPEN OFFICE	15A	5	C	6	15A	RECEPTACLE ROOM B255F	
RECEPTACLES HALL/ OPEN OFFICES	15A	7	A	8	15A	FRIDGE RECEPTACLE ROOM B255G	
RECEPTACLES WEST OPEN OFFICE	15A	9	B	10	15A	RECEPTACLES ROOMS B255F/B255G	
RECEPTACLES ROOM B255A	15A	11	C	12	15A	RECEPTACLES ROOM B255G/HALL	
MICROWAVE RECEPT ROOM B255	15A	13	A	14	15A	RECEPTACLES ROOM B255D	
MICROWAVE RECEPT ROOM B255	15A	15	B	16	15A	RECEPTACLES ROOM B255E	
RECEPTACLES RM B244	**15A**	A 17 B	C	18	15A	RECEPTACLES ROOM B255H	
RECEPTACLES RM B244	**15A**						
PROJECTOR RECEPT ROOM B255A	15A	19	A	20	15A	EXISTING	
SPIDER BOXES ROOM B255A	15A	21	B	22	15A	EXISTING	
AUTO DOOR OPENER	15A	23	C	24	A 15A B 15A	**RECEPTACLES RM B244** **RECEPTACLES RM B244**	

LINETYPE LEGEND

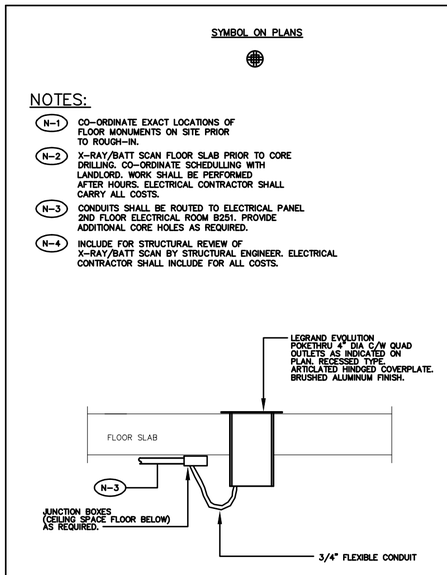
LINETYPE DENOTES: EXISTING.

LINETYPE DENOTES: NEW BY ELECTRICAL CONTRACTOR.

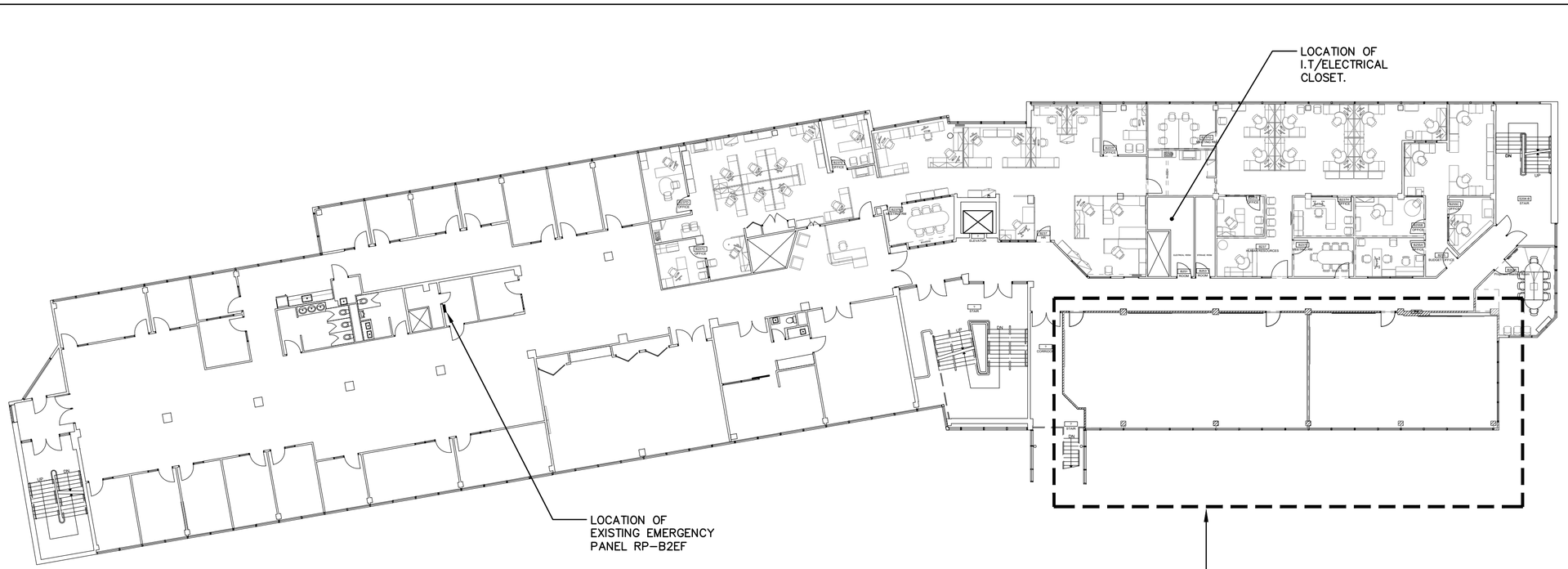
2 E-2 PANEL SCHEDULE PP-2B
SCALE: N.T.S.



3 E-2 TYPICAL WALL OUTLET DETAIL
SCALE: N.T.S.



4 E-2 RECESSED FLOOR OUTLET DETAIL (4"DIA)
SCALE: N.T.S.



5 E-2 SECOND FLOOR VICINITY PLAN-ELECTRICAL
SCALE: N.T.S.

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Project Name:
Trafalgar Campus –
B244 Classroom Renovation

Seal:
LICENSED PROFESSIONAL ENGINEER
D.E.TOMINGAS
90236233
PROVINCE OF ONTARIO

24 040

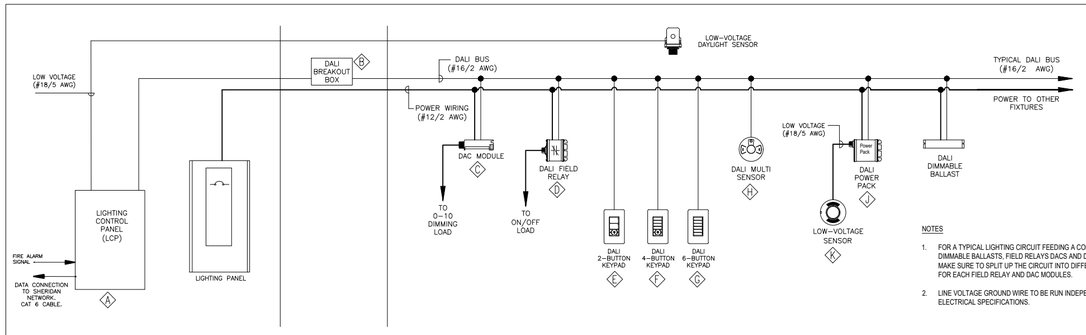
Sheet Name:
ELECTRICAL SCHEDULES, AND DETAILS

Drawn By: **STAFF** Checked By: **TM**

Issued Date: 11-09-2024

Revision: – **Scale: 3/16"=1'-0"**

Drawing No.:
E-2



LIGHTING CONTROLS TYPICAL RISER DIAGRAM

NOTES

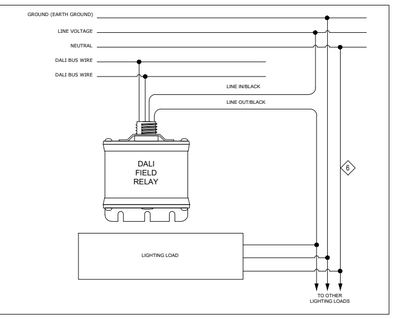
1. FOR A TYPICAL LIGHTING CIRCUIT FEEDING A COMBINATION OF DALI DIMMABLE BALLASTS. FIELD RELAYS DACS AND DIMMING MODULES. MAKE SURE TO SPLIT UP THE CIRCUIT INTO DIFFERENT BRANCHES FOR EACH FIELD RELAY AND DAC MODULES.
2. LINE VOLTAGE GROUND WIRE TO BE RUN INDEPENDENTLY AS PER ELECTRICAL SPECIFICATIONS.

	LEGEND	DESCRIPTION	COOPER PART #
A	LCP	LIGHTING CONTROL PANEL	–
B	BB	DALI BREAKOUT BOX	–
C	DAC	DALI TO 0–10V CONVERTER	FLT–DAC–DALI–DC1
D	DFR	DALI FIELD RELAY	FLT–HPRS–DALI
E	KP2D	DALI 2–BUTTON KEYPAD	FDW–2TLB–RL–W
F	KP4D	DALI 4–BUTTON KEYPAD	FDW–4TSB–RL–W
G	KP6	DALI 6–BUTTON KEYPAD	FDW–6TSB–W
H	OC2	DALI MULTI–SENSOR OC1 – SHORT RANGE OC2 – LONG RANGE	 FLT–MTS6–DALI FLT–MTS12–DALI
J	DPP	DALI POWER PACK FOR 347V APPLICATION FOR 120V APPLICATION	 FLT–SP–347–DC1 FLT–SP–MV–DC1
K	OC4	LOW VOLTAGE SENSOR OC3 – SHORT RANGE OC4 – LONGE RANGE OC5 – WALL MOUNT VERSION	 OAC–DT–1000–R OAC–DT–2000–R OAWC–DT–120W–R

NOTES

1. EACH DALI BUS REQUIRES TWO (2) #16 AWG WIRES MINIMUM. EACH PAIR OF DALI WIRES CAN BE RUN IN FREE AIR OR IN THE SAME POWER CONDUIT AS THE LIGHTING BRANCH CIRCUIT CONDUCTORS IF THE WIRES ARE INSULATED FOR AT LEAST THE SAME VOLTAGE AS THAT OF THE CIRCUIT HAVING THE HIGHEST VOLTAGE. CONTRACTOR IS RESPONSIBLE TO ENSURE INSTALLATION MEETS ALL LOCAL ELECTRICAL CODES.
2. EACH DALI BUS MUST NOT EXCEED A MAXIMUM DISTANCE OF 300 METERS BETWEEN THE FURTHEST DALI DEVICE AND THE DESIGNATED LIGHTING CONTROL PANEL (LCP).
3. EACH DALI BUS CAN HAVE A MAXIMUM OF SIXTY FOUR (64) DALI DEVICES, WHICH CAN BE CONNECTED IN PARALLEL BUS CONFIGURATION. CONTRACTOR TO FOLLOW DALI BUS DESIGN PROVIDED ON THE LIGHTING PLAN(S).
4. CONTRACTOR TO TERMINATE ALL DALI BUS WIRES AT A DESIGNATED LCP ACCORDING TO THE "LCP SCHEDULE(S)" PROVIDED .
5. FOR A LIGHTING CIRCUIT FEEDING A COMBINATION OF DALI BALLASTS, FIELD RELAYS, DAC AND DIMMING MODULES, MAKE SURE TO SPLIT UP THE CIRCUIT INTO DIFFERENT BRANCHES FOR EACH FIELD RELAY AS SPECIFIED ON THE LIGHTING PLAN(S).

6 NEUTRAL AND GROUND WIRES ARE NOT REQUIRED FOR EACH FIELD RELAY.

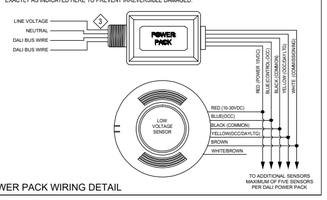


NOTES

1. POLARITY FOR 0-10V WIRES MUST BE STRICTLY FOLLOWED FROM FIXTURE TO THE NEXT. .
2. WIRING TO BE 16 AWG STRANNDED WIRE SHIELDED OR NON SHIELDED.

3 USE BLACK LEAD FOR 120VAC. USE ORANGE LEAD FOR 277 VAC. CAP UNUSED LEAD.

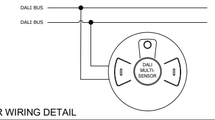
4. THE LINE VOLTAGE SUPPLY WIRES FOR EACH POWER PACK MUST BE CONNECTED EXACTLY AS INDICATED HERE TO PREVENT IRREVERSIBLE DAMAGED.



DALI POWER PACK WIRING DETAIL

NOTES

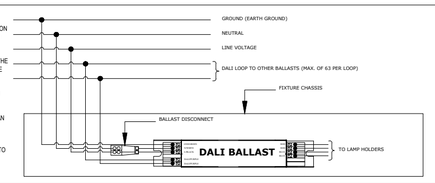
1. EACH DALI BUS REQUIRES TWO (2) #16 AWG WIRES MINIMUM. EACH PAIR OF DALI WIRES CAN BE RUN IN FREE AIR OR IN THE SAME POWER CONDUIT AS THE LIGHTING BRANCH CIRCUIT CONDUCTORS IF THE WIRES ARE INSULATED FOR AT LEAST THE SAME VOLTAGE AS THAT OF THE CIRCUIT HAVING THE HIGHEST VOLTAGE. CONTRACTOR IS RESPONSIBLE TO ENSURE INSTALLATION MEETS ALL LOCAL ELECTRICAL CODES.
2. EACH DALI BUS MUST NOT EXCEED A MAXIMUM DISTANCE OF 300 METERS BETWEEN THE FURTHEST DALI DEVICE AND THE DESIGNATED LIGHTING CONTROL PANEL (LCP).
3. EACH DALI BUS CAN HAVE A MAXIMUM OF SIXTY FOUR (64) DALI DEVICES, WHICH CAN BE CONNECTED IN PARALLEL BUS CONFIGURATION. CONTRACTOR TO FOLLOW DALI BUS DESIGN PROVIDED ON THE LIGHTING PLAN(S).
4. CONTRACTOR TO TERMINATE ALL DALI BUS WIRES AT A DESIGNATED LCP ACCORDING TO THE "LCP SCHEDULE(S)" PROVIDED .



DALI MULTI-SENSOR WIRING DETAIL

NOTES

1. EACH DALI LOOP REQUIRES TWO (2) #16 AWG MINIMUM. PURPLE WIRES C/W 600V INSULATION RATING WHEN ROUTED WITH POWER WIRING IN CONDUIT OR PLENUM-RATED CABLING C/W VIOLET JACKET (BELDEN 6200UE.007.1000 C/W VIOLET JACKET).
2. EACH PAIR OF DALI WIRES CAN BE RUN IN FREE AIR OR IN THE SAME POWER CONDUIT AS THE LIGHTING BRANCH CIRCUIT CONDUCTORS IF THE WIRES ARE INSULATED FOR AT LEAST THE SAME VOLTAGE AS THAT OF THE CIRCUIT HAVING THE HIGHEST VOLTAGE.
3. EACH DALI BUS LOOP MUST NOT EXCEED A MAXIMUM DISTANCE OF 300 METERS BETWEEN THE FURTHEST DALI DEVICE AND THE DESIGNATED LIGHTING CONTROL PANEL (LCP).
4. EACH DALI BUS LOOP CAN HAVE A MAXIMUM OF SIXTY FOUR (64) DALI BALLASTS, WHICH CAN BE CONNECTED IN PARALLEL BUS CONFIGURATION. THE NEAREST DALI DEVICE CAN BE "HOME-RUN" BACK TO THE DESIGNATED LCP.
5. ELECTRICAL CONTRACTOR TO TERMINATE ALL DALI LOOP WIRES AT THE LCP ACCORDING TO THE "LCP SCHEDULES" PROVIDED.



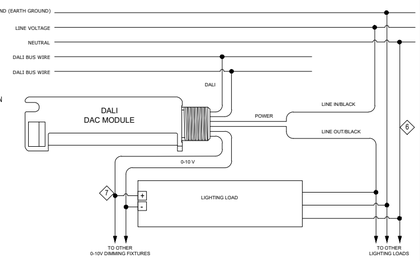
GENERIC DALI DIMMING BALLAST (1-LAMP FIXTURES)

NOTES

1. EACH DALI BUS REQUIRES TWO (2) #16 AWG WIRES MINIMUM. EACH PAIR OF DALI WIRES CAN BE RUN IN FREE AIR OR IN THE SAME POWER CONDUIT AS THE LIGHTING BRANCH CIRCUIT CONDUCTORS IF THE WIRES ARE INSULATED FOR AT LEAST THE SAME VOLTAGE AS THAT OF THE CIRCUIT HAVING THE HIGHEST VOLTAGE. CONTRACTOR IS RESPONSIBLE TO ENSURE INSTALLATION MEETS ALL LOCAL ELECTRICAL CODES.
2. EACH DALI BUS MUST NOT EXCEED A MAXIMUM DISTANCE OF 300 METERS BETWEEN THE FURTHEST DALI DEVICE AND THE DESIGNATED LIGHTING CONTROL PANEL (LCP).
3. EACH DALI BUS CAN HAVE A MAXIMUM OF SIXTY FOUR (64) DALI DEVICES, WHICH CAN BE CONNECTED IN PARALLEL BUS CONFIGURATION. CONTRACTOR TO FOLLOW DALI BUS DESIGN PROVIDED ON THE LIGHTING PLAN(S).
4. CONTRACTOR TO TERMINATE ALL DALI BUS WIRES AT A DESIGNATED LCP ACCORDING TO THE "LCP SCHEDULE(S)" PROVIDED .
5. FOR A LIGHTING CIRCUIT FEEDING A COMBINATION OF DALI BALLASTS, FIELD RELAYS, DAC AND DIMMING MODULES, MAKE SURE TO SPLIT UP THE CIRCUIT INTO DIFFERENT BRANCHES FOR EACH DALI-ANALOG CONVERTER (DAC) MODULE AS SPECIFIED ON THE LIGHTING PLAN(S).

6 NEUTRAL AND GROUND WIRES ARE NOT REQUIRED FOR EACH DAC MODULE.

7 POLARITY FOR 0-10V WIRES MUST BE STRICTLY FOLLOWED FROM ONE FIXTURE TO THE NEXT.



DALI DAC MODULE WIRING DETAIL

1. LIGHT FIXTURES, AND LIGHTING CONTROLS (DALI KEYPADS, SENSORS, POWER PACKS, DACS, AND DALI FIELD RELAYS) WILL BE SUPPLIED BY THE ELECTRICAL CONTRACTOR. SHERIDAN WILL NOT BE SUPPLYING THESES ITEMS. SHERIDAN COLLGE FOR THIS PROJECT. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL LIGHTING AND LIGHTING CONTROLS AND PROVIDING ALL CONDUIT, WIRING, ANCHORS, AND MISC MATERIALS FOR A FULLY COMPLETE AND OPERATIONAL LIGHTING SYSTEM. ALL LIGHTING AND CONTROLS TO BE INSTALLED TO SUIT MANUFACTURER'S RECOMMENDATIONS. SHERIDAN HAS RELATIONSHIPS WITH THE FOLLOWING LIGHTING SUPPLIERS TO ORDER LIGHTING, LIGHTING CONTROLS, AND COMMISSIONING SUPPORT FROM COOPER LIGHTING CONTROLS.
   - ROBERTSON ELECTRIC: CONTACT – MARCO SIMONE, EMAIL MSIMONE@ROBERTSON-ELECTRIC.COM, TEL: 1-877-856-9311 X333
   - NEDCO ONTARIO: CONTACT – JASON SCOTT, EMAIL JASON.SCOTT@NEDCO.CA, TEL: (905) 827-4421
2. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR TROUBLESHOOTING ALL MISCELLANEOUS LIGHTING FIXTURE AND/OR CONTROL ISSUES FOR FULLY FUNCTIONAL SYSTEM. SHERIDAN WILL NOT BE RESPONSIBLE FOR ADDITIONAL CHARGES TO RESOLVE. CONTRACTOR RESPONSIBLE FOR ANY LOOSE FIXTURE WIRING, MISSING CONTROL WIRING, BAD DRIVERS, AND FIXTURES REQUIRING REPLACEMENT. CONTRACTOR CAN EXPECT UP TO 20% OF DEVICES TO HAVE MISCELLANEOUS DEFECTS OR ISSUES REQUIRING ATTENTION.
3. EXACT LIGHT FIXTURE LOCATIONS AND HEIGHTS TO BE COORDINATED ON SITE WITH SHERIDAN PM PRIOR TO INSTALLATION. TYPICALLY SHERIDAN WANTS FIXTURE HEIGHTS MAXIMIZED. LOCATIONS AND EXACT HEIGHTS FOR OCCUPANCY SENSORS NEEDS TO BE COORDINATED ON SITE AND MAY NEED TO BE STEM MOUNTED TO AVOID CEILING INTERFERENCES AND ALLOW FOR PROPER COVERAGES.
4. FINAL COMMISSIONING OF LIGHTS TO BE COMPLETED BY COOPER LIGHTING CONTROLS AND WILL BE COORDINATED AND HIRED BY ELECTRICAL CONTRACTOR AND SOME COORDINATION BETWEEN COOPER AND SHERIDAN WILL BE REQUIRED. ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR COMMISSIONING ALL LIGHTING AND DALI DEVICES TO ENSURE THEY RESPOND TO DALI TESTS AS OUTLINED IN "ELECTRICAL CONTRACTOR TESTING PROTOCOL PRODUCTION CHECKLIST". CONTRACTOR MUST VERIFY VOLTAGE(S) OF DALI LOOPS TO ENSURE IT IS LIMITED TO LOW VOLTAGE (24V) PRIOR TO LANDING WIRES ON SHERIDAN DALI BREAK-OUT BOX TERMINALS. ALL FIXTURES AND DEVICES NEED TO BE CONTROLLABLE AND CONTRACTOR WILL NEED TO RESOLVE ANY MISC ISSUES PRIOR TO FINAL COMMISIONING. SHERIDAN WILL REQUIRE TO WITNESS FINAL DALI TEST(S) PRIOR TO SCHEDULING COOPER COMMISSIONING WORK. ELECTRICAL CONTRACTOR WILL BE REQUIRED TO COORDINATE AND ASSIST COOPER WITH FINAL LIGHTING COMMISSIONING WORK.
5. LIGHTING AND LIGHTING CONTROLS TO BE CONCEALED AND MECHANICALLY PROTECTED IN MINIMUM 3/4" CONDUIT FOR ALL EXPOSED AREAS. SHERIDAN STANDARDS REQUIRE ALL DALI WIRING TO HAVE PURPLE JACKET AND ALL 0-10V WIRING TO HAVE GREY JACKET. PREFERED SHERIDAN INSTALLATION HAS CONTRACTOR PULLING IN PURPLE (VIOLET) TWO NYLON 14 AWG CONDUCTORS WITH SAME INSULATION RATING AS POWER WIRING. FOR DROP CEILINGS, PLENUM RATED BELDEN 6200UE.007.1000 WITH PURPLE JACKET CABLE CAN BE UTILIZED. DALI WIRING NEEDS TO BE NEATED DRESSED AND TIE-WRAPPED TO POWER WIRING AND CANNOT BE LAYING ON TOP OF DROP CEILING. CONTRACTOR RESPONSIBLE FOR PROVING ALL DALI HOME RUNS BACK TO SHERIDAN LCP AS DIRECTRED BY COOPER CONTROLS/SHERIDAN COLLEGE.
6. NO MARRETS ALLOWED FOR ANY LIGHTING CONTROLS (DALI OR 0-10V) WIRING TERMINATIONS. USE ONLY PUSH-IN WIRE CONNECTORS (WAGO 221 SERIES OR IDEAL) RATED FOR 600V. ALL WIRING TERMINATIONS TO BE CONCEALED IN ELECTRICAL BOXES.

GENERAL LIGHTING CONTROL NOTES

1 DALI LIGHTING CONTROL DETAILS
E–3 SCALE: N.T.S.

LUMINAIRE SCHEDULE

TYPE	LAMP	DESCRIPTION	MANUFACTURER
'C'	29W LED 4000K	RECESSED T–BAR 2 X 2 LED INDIRECT LUMINAIRE. 347 VOLT. 0–5V DALI DIMMING.	METALUX #22EN–LD2–34–347–L840–5LTD–1–U
'C1'	29W LED 4000K	RECESSED T–BAR 2 X 2 LED INDIRECT LUMINAIRE. 120 VOLT. 0–5V DALI DIMMING.	METALUX #22EN–LD2–34–120–L840–5LTD–1–U

2 LUMINAIRE SCHEDULE
E–3 SCALE: N.T.S.

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Tel. (905) 841-7278
dyneng@rogers.com

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Project Specific:

- Dispose of all material and debris within scope of work offsite
- Make good of all areas affected by work to Sheridan Standards.
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- Electrical Contractor shall verify capacity and location of electrical panel required to complete scope of work.
- Data Contractor shall verify capacity and location of wiring closet required to complete scope of work.
- Refer to tender, specifications, instructions and all other documents related to scope of work to complete project.

No.	Issues/Revisions	Date
4	ISSUED FOR TENDER	NOV21/24
3	RE–ISSUED FOR 100% REVIEW	NOV15/24
2	ISSUED FOR 100% REVIEW	NOV06/24
1	ISSUED FOR REVIEW	OCT15/24

Project Name:
Trafalgar Campus – B244 Classroom Renovation

Seal:
LICENSED PROFESSIONAL ENGINEER
D.E.TOMINGAS
90236233
PROVINCE OF ONTARIO

24 040

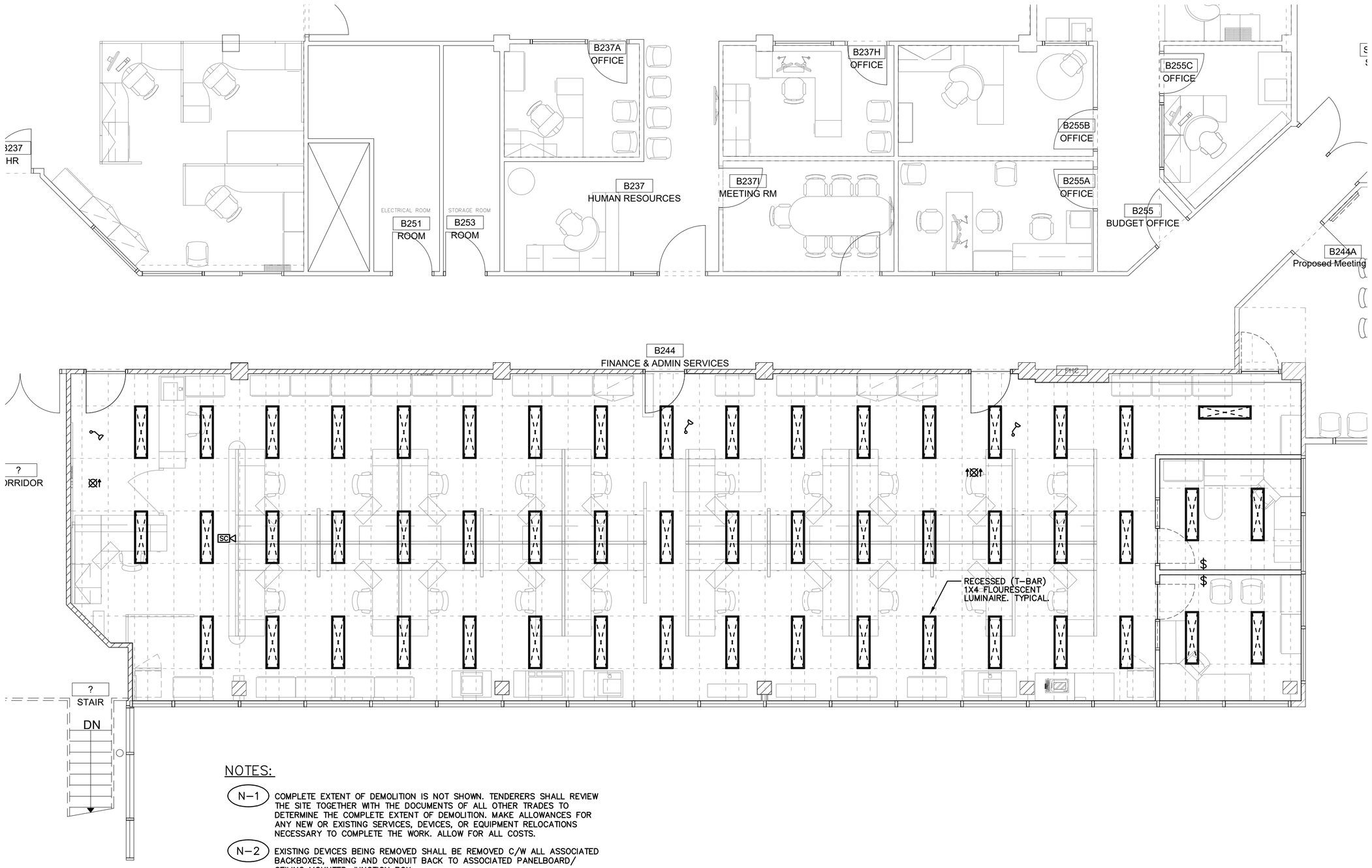
Sheet Name:
DALI LIGHTING CONTROL DETAILS, AND LUMINAIRE SCHEDULE

Drawn By: STAFF Checked By: TM

Issued Date: 11–09–2024

Revision: – Scale: 3/16"=1'–0"

Drawing No.: E–3



NOTES:

N-1 COMPLETE EXTENT OF DEMOLITION IS NOT SHOWN. TENDERERS SHALL REVIEW THE SITE TOGETHER WITH THE DOCUMENTS OF ALL OTHER TRADES TO DETERMINE THE COMPLETE EXTENT OF DEMOLITION. MAKE ALLOWANCES FOR ANY NEW OR EXISTING SERVICES, DEVICES, OR EQUIPMENT RELOCATIONS NECESSARY TO COMPLETE THE WORK. ALLOW FOR ALL COSTS.

N-2 EXISTING DEVICES BEING REMOVED SHALL BE REMOVED C/W ALL ASSOCIATED BACKBOXES, WIRING AND CONDUIT BACK TO ASSOCIATED PANELBOARD/ CEILING MOUNTED JUNCTION BOX.

N-3 ALL DEMOLISHED MATERIALS AND EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED ENTIRELY FROM THE SITE UNLESS OTHERWISE NOTED.

N-4 ALL LUMINAIRES, ASSOCIATED CONTROLS, DEVICES, AS NOTED SHALL BE REMOVED C/W ALL ASSOCIATED WIRING. EXISTING CIRCUITS SHALL BE RE-USED FOR NEW LIGHTING.

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dynengs@rogers.com

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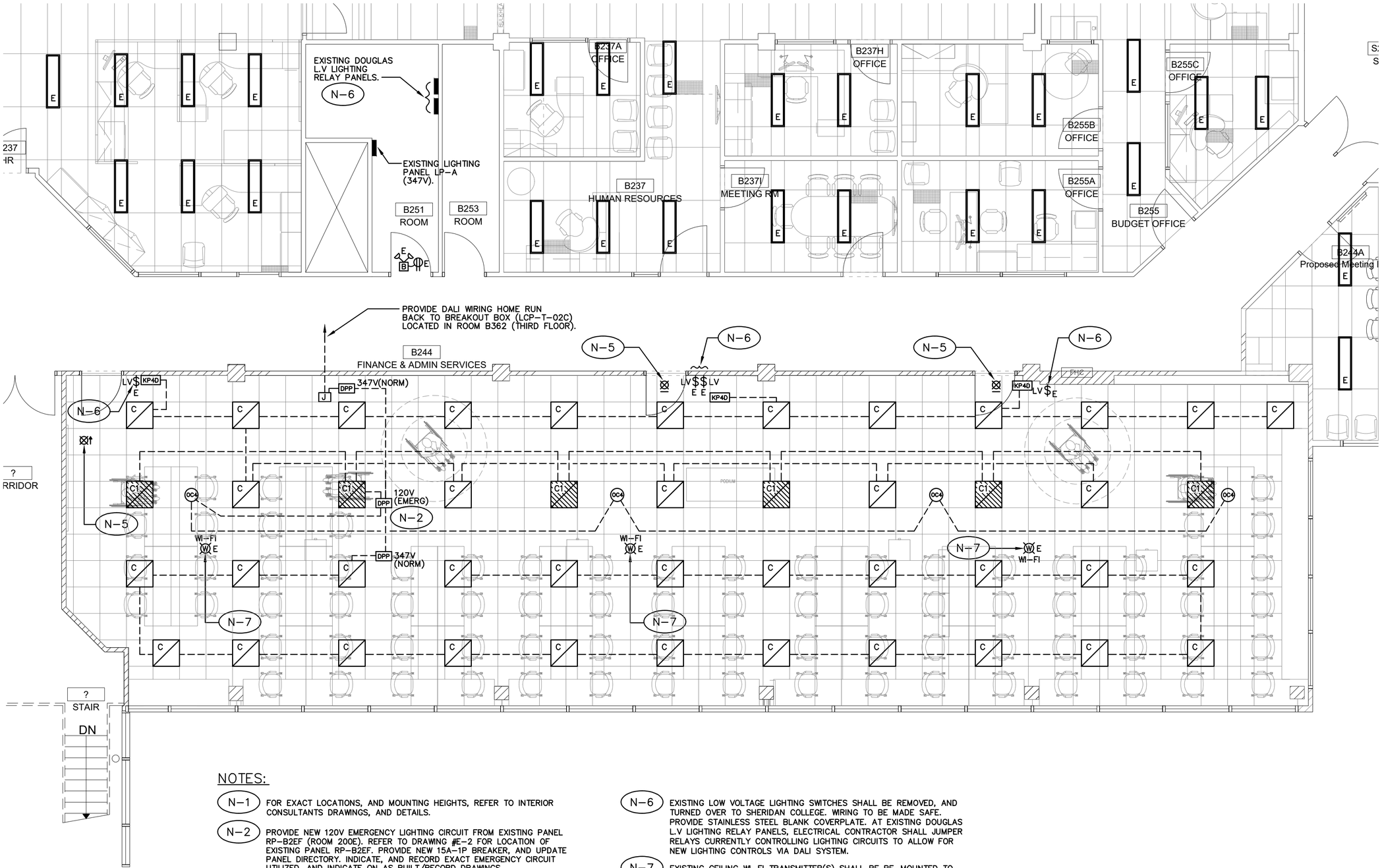
Project Name:
Trafalgar Campus -
B244 Classroom Renovation

Seal:
LICENSED PROFESSIONAL ENGINEER
D.E.TOMINGAS
90236233
PROVINCE OF ONTARIO

24 040

Sheet Name:
LIGHTING DEMOLITION PLAN
ELECTRICAL

Drawn By: STAFF Checked By: TM
Issued Date: 11-09-2024
Revision: - Scale: 3/16"=1'-0"
Drawing No.: E-4



NOTES:

- (N-1) FOR EXACT LOCATIONS, AND MOUNTING HEIGHTS, REFER TO INTERIOR CONSULTANTS DRAWINGS, AND DETAILS.
- (N-2) PROVIDE NEW 120V EMERGENCY LIGHTING CIRCUIT FROM EXISTING PANEL RP-B2EF (ROOM 200E). REFER TO DRAWING #E-2 FOR LOCATION OF EXISTING PANEL RP-B2EF. PROVIDE NEW 15A-1P BREAKER, AND UPDATE PANEL DIRECTORY. INDICATE, AND RECORD EXACT EMERGENCY CIRCUIT UTILIZED, AND INDICATE ON AS BUILT/RECORD DRAWINGS.
- (N-3) UTILIZE EXISTING LIGHTING CIRCUITS (347V) NORMAL TO FEED NEW NORMAL LIGHTING. PROVIDE NEW 120V EMERGENCY POWER CIRCUIT TO FEED LUMINAIRES ON EMERGENCY POWER. ALL LIGHTING SHALL BE CONTROLLED VIA DALI LIGHTING CONTROL SYSTEM.
- (N-4) ALL DALI DEVICES SHALL BE INTERCONNECTED AND HOME RUN CABLING BACK TO EXISTING DALI BREAK-OUT BOX.
- (N-5) EDGE LIT EXIT LIGHT. RUNNING MAN, PICTOGRAM DIRECTIONS AND FACES AS NOTED. PROVIDE STANPRO #RMTE-1-UM-WH-120V. CONNECT TO NEW EMERGENCY LIGHTING CIRCUIT. SUPPLIED AND INSTALLEDBY ELECTRICAL CONTRACTOR.
- (N-6) EXISTING LOW VOLTAGE LIGHTING SWITCHES SHALL BE REMOVED, AND TURNED OVER TO SHERIDAN COLLEGE. WIRING TO BE MADE SAFE. PROVIDE STAINLESS STEEL BLANK COVERPLATE. AT EXISTING DOUGLAS L.V LIGHTING RELAY PANELS, ELECTRICAL CONTRACTOR SHALL JUMPER RELAYS CURRENTLY CONTROLLING LIGHTING CIRCUITS TO ALLOW FOR NEW LIGHTING CONTROLS VIA DALI SYSTEM.
- (N-7) EXISTING CEILING WI-FI TRANSMITTER(S) SHALL BE RE-MOUNTED TO NEW CEILING.
- (N-8) ALL DALI LIGHTING CONTROL WIRING SHALL BE PURPLE FOR EASE OF IDENTIFYING BY SHERIDAN COLLEGE.

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1	ISSUED FOR REVIEW	OCT15/24

Project Name:
Trafalgar Campus –
B244 Classroom Renovation

Seal:
LICENSED PROFESSIONAL ENGINEER
D.E.TOMINGAS
90236233
PROVINCE OF ONTARIO

24 040

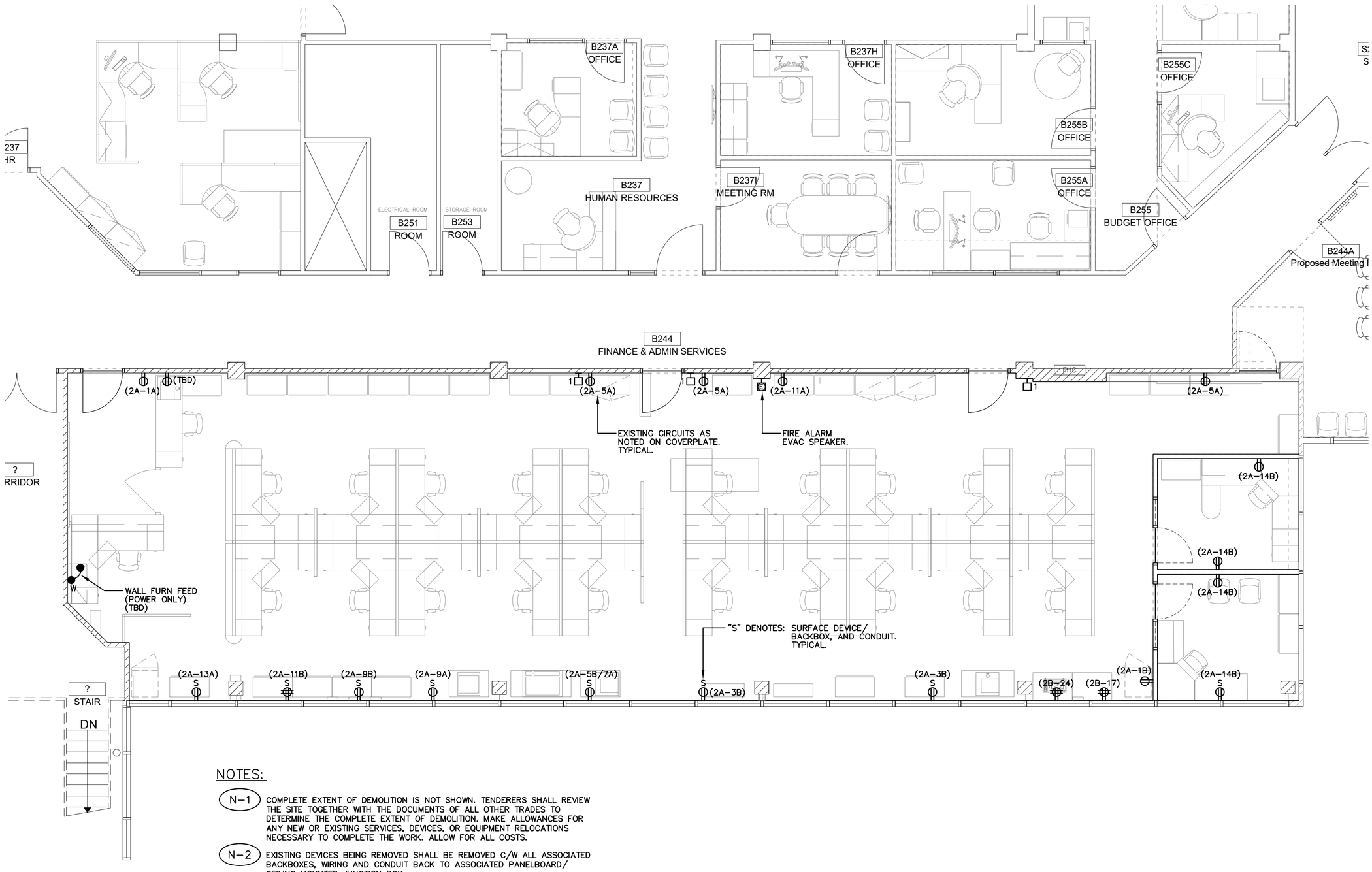
Sheet Name:
PROPOSED LIGHTING PLAN
ELECTRICAL

Drawn By: STAFF Checked By: TM

Issued Date: 11-09-2024

Revision: – Scale: 3/16"=1'-0"

Drawing No.:
E-5



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N–2 EXISTING DEVICES BEING REMOVED SHALL BE REMOVED C/W ALL ASSOCIATED BACKBOXES, WIRING AND CONDUIT BACK TO ASSOCIATED PANELBOARD/ CEILING MOUNTED JUNCTION BOX.

N–3 ALL DEMOLISHED MATERIALS AND EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED ENTIRELY FROM THE SITE UNLESS OTHERWISE NOTED.

N–4 ALL DEVICES, AND CONNECTIONS INDICATED SHALL BE REMOVED C/W BACKBOXES, AND WIRING BACK TO SOURCE.

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dynengs@rogers.com

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1	ISSUED FOR REVIEW	OCT15/24

Project Name:
Trafalgar Campus –
B244 Classroom Renovation

Seal:
LICENSED PROFESSIONAL ENGINEER
D.E.TOMINGAS
90236233
PROVINCE OF ONTARIO

24 040

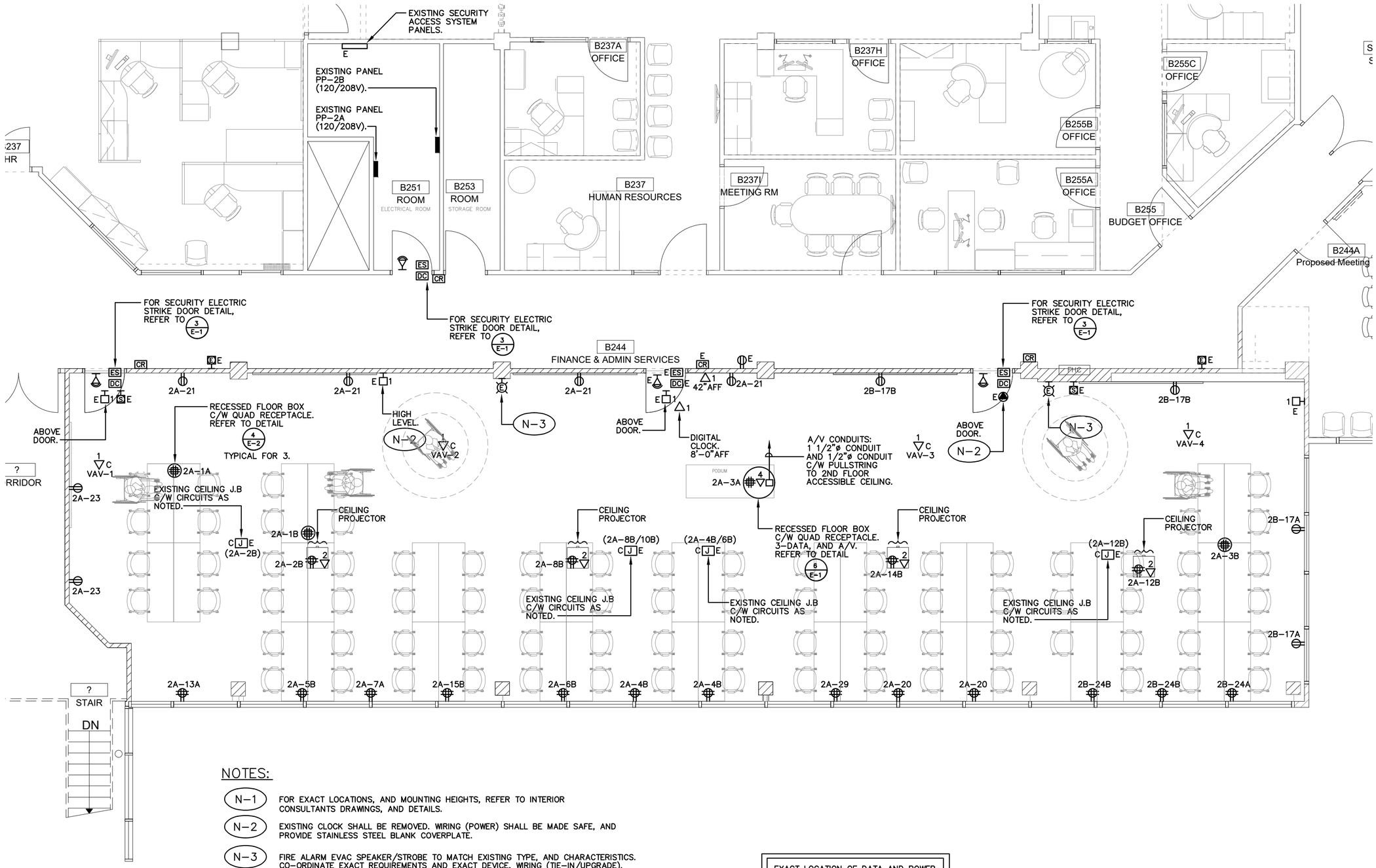
Sheet Name:
POWER & SYSTEMS
DEMOLITION PLAN
ELECTRICAL

Drawn By: STAFF Checked By: TM

Issued Date: 11–09–2024

Revision: – Scale: 3/16"=1'-0"

Drawing No.:
E–6



NOTES:

N-1 FOR EXACT LOCATIONS, AND MOUNTING HEIGHTS, REFER TO INTERIOR CONSULTANTS DRAWINGS, AND DETAILS.

N-2 EXISTING CLOCK SHALL BE REMOVED. WIRING (POWER) SHALL BE MADE SAFE, AND PROVIDE STAINLESS STEEL BLANK COVERPLATE.

N-3 FIRE ALARM EVAC SPEAKER/STROBE TO MATCH EXISTING TYPE, AND CHARACTERISTICS. CO-ORDINATE EXACT REQUIREMENTS AND EXACT DEVICE, WIRING (TIE-IN/UPGRADE), LOCATION, PROGRAMMING, AND DEVICE VERIFICATION WITH BASE BUILDING FIRE ALARM SYSTEM VERIFYING AGENT (HAMILTON FIRE CONTROL Co.). ELECTRICAL CONTRACTOR SHALL CARRY THE COSTS OF THE BASE BUILDING FIRE ALARM SYSTEM VERIFYING AGENT "HAMILTON FIRE CONTROL Co. (905) 527-7237". SUBMIT FIRE ALARM VERIFICATION/ CERTIFICATE AT COMPLETION OF WORK.

EXACT LOCATION OF DATA AND POWER RECEPTACLES TO BE DETERMINED ON SITE.

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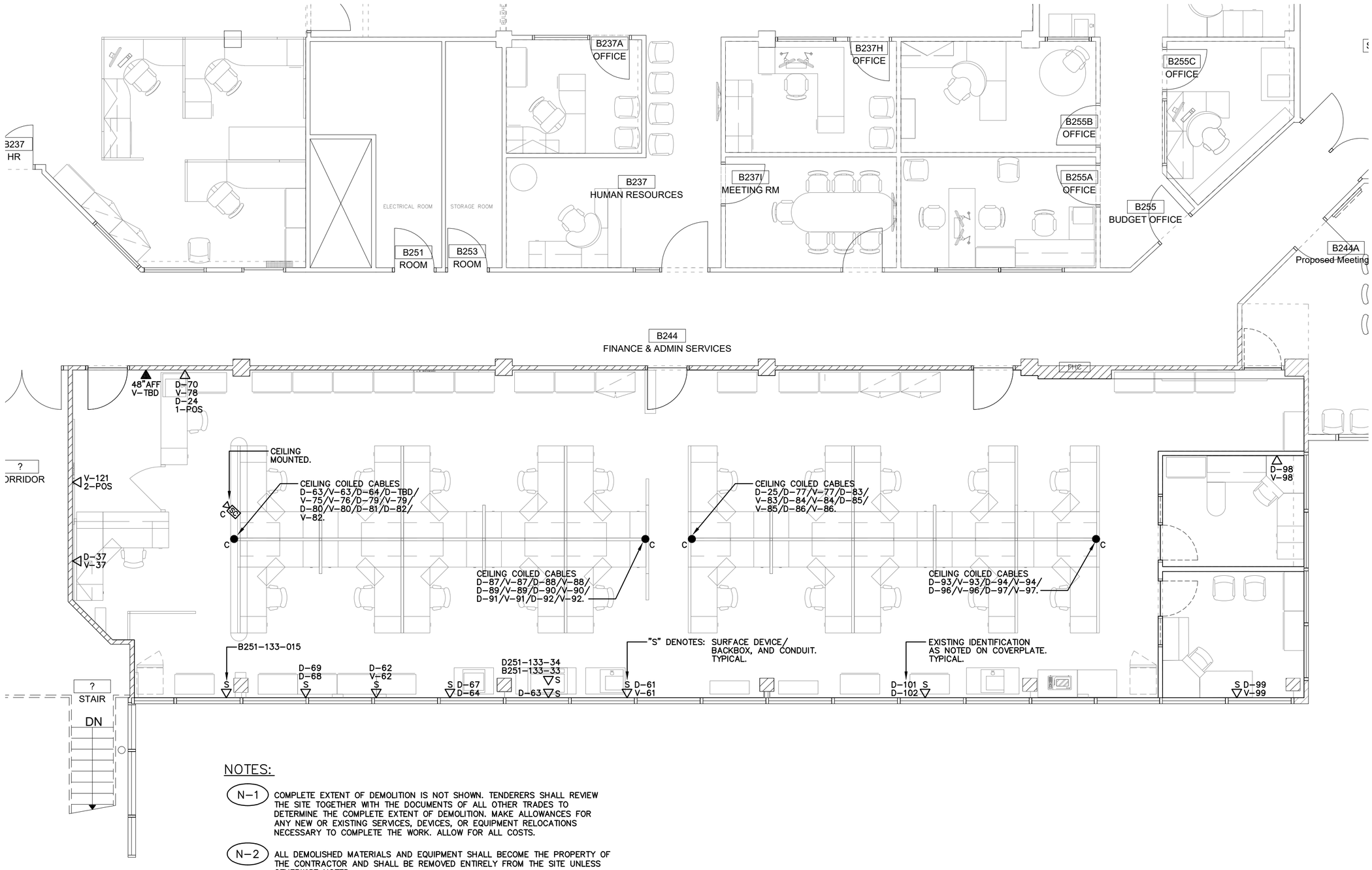
Project Name:
Trafalgar Campus – B244 Classroom Renovation

Seal:
LICENSED PROFESSIONAL ENGINEER
D.E.TOMINGAS
90236233
PROVINCE OF ONTARIO

24 040

Sheet Name:
PROPOSED POWER & SYSTEMS PLAN ELECTRICAL

Drawn By: STAFF Checked By: TM
Issued Date: 11-09-2024
Revision: – Scale: 3/16"=1'-0"
Drawing No.: E-7



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N-2 ALL DEMOLISHED MATERIALS AND EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED ENTIRELY FROM THE SITE UNLESS OTHERWISE NOTED.

N-3 EXISTING CAT 6 CABLING MAY BE RE-USED FOR NEW REQUIREMENTS PROVIDING LENGTH IS SUITABLE. CAREFULLY PULL BACK TO CEILING CABLE TRAY FOR RE-USE. DATA CABLING BEING RE-USED SHALL BE APPROVED BY SHERIDAN COLLEGE I.T REPRESENTATIVE. ALL DATA CABLING CONDUIT SMALLER THAN 1"ø SHALL BE REPLACED WITH 1"ø c/OR SIZE TO SUIT (40% FILL).

N-4 ALL REDUNDANT DATA CABLING SHALL BE REMOVED BACK TO DATA RACK, AND REMOVED FROM PATCH PANEL.

N-5 ALL DEVICES, AND CONNECTIONS INDICATED SHALL BE REMOVED C/W BACKBOXES, AND WIRING BACK TO SOURCE.

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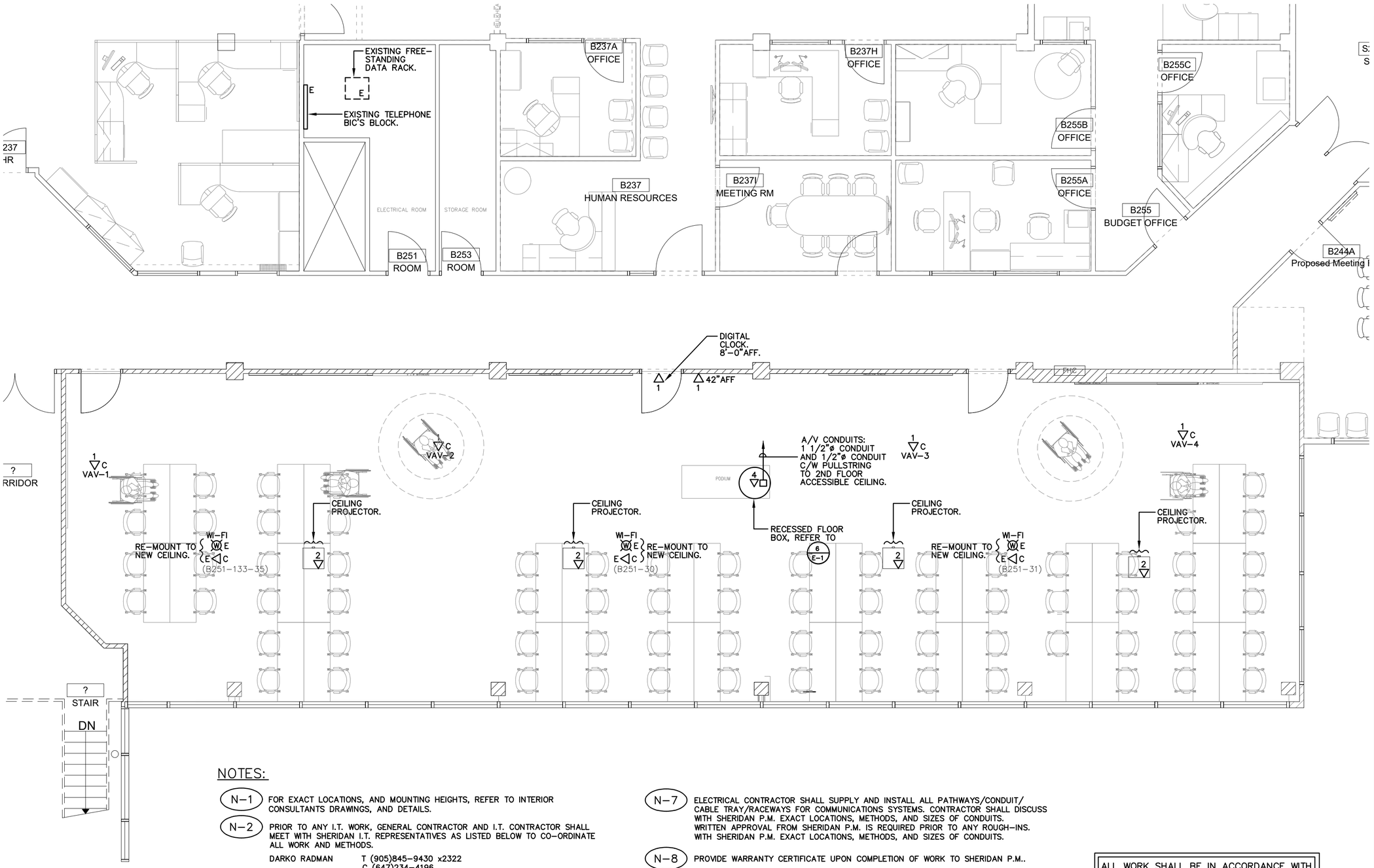
Project Name:
Trafalgar Campus –
B244 Classroom Renovation

Seal:
LICENSED PROFESSIONAL ENGINEER
D.E.TOMINGAS
90236233
PROVINCE OF ONTARIO

24 040

Sheet Name:
COMMUNICATIONS DEMOLITION PLAN
ELECTRICAL

Drawn By: STAFF Checked By: TM
Issued Date: 11-09-2024
Revision: - Scale: 3/16"=1'-0"
Drawing No.: E-8



NOTES:

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N-2 PRIOR TO ANY I.T. WORK, GENERAL CONTRACTOR AND I.T. CONTRACTOR SHALL MEET WITH SHERIDAN I.T. REPRESENTATIVES AS LISTED BELOW TO CO-ORDINATE ALL WORK AND METHODS.

DARKO RADMAN T (905)845-9430 x2322
C (647)234-4196
darko.radman@sheridancollege.ca

MARTIN NOWAKOWSKI T (905)845-9430 x2645
C (416)577-4969
martin.nowakowski@sheridancollege.ca

N-3 ALL DATA OUTLETS NOTED C/W CABLING (CAT 6) SHALL BE NEW. PROVIDE DEVICES, AND CABLING IN ACCORDANCE WITH SHERIDAN COLLEGE "COMMUNICATIONS INFRASTRUCTURE DESIGN GUIDE V5.01 (MARCH 24 2020)".

N-4 MINIMUM SIZE DATA CONDUIT SHALL BE 1"ø. ANY EXISTING CONDUITS SMALLER THAN 1"ø SHALL BE REMOVED, AND REPLACED. CONDUIT SIZING SHALL BE SIZED FOR A MAXIMUM FILL RATE NOT TO EXCEED 40%. (I.E. 1" CONDUIT MAXIMUM FILL RATIO: 6 CABLE X 0.40=2.4 CABLES).
4-PAIR CAT 6 (TYPICAL CABLE O.D.=0.24")

TRADE SIZE	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
INSIDE ø	0.824"	1.049"	1.380"	1.610"	2.067"	2.469"	3.068"	4.026"
MAXIMUM	–	6	10	15	20	30	40	–

N-5 ALL CABLING AND OUTLETS SHALL BE TESTED, AND CERTIFIED. SUBMIT VERIFICATION SHEETS AT COMPLETION OF WORK. BY I.T. CONTRACTOR. PROVIDE ELECTRONIC COPIES OF BOTH SUMMARY AND TEST RESULTS TO SHERIDAN P.M..

N-6 UPON COMPLETION OF WORK, SUBMIT DATA CABLING, AND DATA OUTLET LABELING AS-BUILT IN PDF AND CAD. BY I.T. CONTRACTOR.

N-7 ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL PATHWAYS/CONDUIT/ CABLE TRAY/RACEWAYS FOR COMMUNICATIONS SYSTEMS. CONTRACTOR SHALL DISCUSS WITH SHERIDAN P.M. EXACT LOCATIONS, METHODS, AND SIZES OF CONDUITS. WRITTEN APPROVAL FROM SHERIDAN P.M. IS REQUIRED PRIOR TO ANY ROUGH-INS. WITH SHERIDAN P.M. EXACT LOCATIONS, METHODS, AND SIZES OF CONDUITS.

N-8 PROVIDE WARRANTY CERTIFICATE UPON COMPLETION OF WORK TO SHERIDAN P.M..

N-9 COMMUNICATIONS CONTRACTOR SHALL VERIFY CAPACITY AND LOCATION OF WIRING CLOSET REQUIRED TO COMPLETE THE WORK.

N-10 COMMUNICATIONS CONTRACTOR SHALL SUPPLY AND INSTALL STAINLESS STEEL DECORA COVERPLATES.

N-11 ALL DATA SHALL BE FED FROM WIRING CLOSET ROOM B251. PROVIDE 1'-0" LIGHT BLUE CAT6 BELDEN CERTIFIED PATCH CABLE AT CLOSET, AND 7'-0" AT DEVICE END. LIGHT BLUE MDVO SHALL BE USED UNLESS OTHERWISE NOTED.
WRITTEN APPROVAL FROM SHERIDAN P.M. IS REQUIRED PRIOR TO ANY ROUGH-INS. WITH SHERIDAN P.M. EXACT LOCATIONS, METHODS, AND SIZES OF CONDUITS.

N-12 ALL DATA DEVICES SHALL BE LABELED AS FOLLOWS:
WIRING CLOSET#-"U"#-PORT# (LOCATION ON PATCH PANEL). I.E. B251-115-47.

ALL WORK SHALL BE IN ACCORDANCE WITH SHERIDAN COLLEGE "COMMUNICATIONS INFRASTRUCTURE DESIGN GUIDE V5.01" (MARCH 24,2020)

EXACT LOCATION OF DATA DEVICES TO BE DETERMINED ON SITE.

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1430 Trafalgar Road
Oakville, ON
(905) 845 - 9430

Consultant(s):
DYNAMIC DESIGNS AND ENGINEERING INC.
111 Hodgson Ave. Kettleby, Ontario L7B 0C7
Tel. (905) 841-7278
dynengs@rogers.com

Construction North | True North

General Notes:
- Drawings are meant to be read, and not scaled
- Dimensions to be verified on site
- Contractors must check and verify all dimensions and report discrepancies to the Project Coordinator before commencing with work
- All drawings remain the property of Sheridan College and shall not be reproduced or reused without written consent.

Project Specific:
- Dispose of all material and debris within scope of work offsite
- Make good of all areas affected by work to Sheridan Standards.
- Coordinate all required testing and inspections
- Protect furniture, equipment and items to remain (ie. flooring) during construction.
- Electrical Contractor shall verify capacity and location of electrical panel required to complete scope of work.
- Data Contractor shall verify capacity and location of wiring closet required to complete scope of work.
- Refer to tender, specifications, instructions and all other documents related to scope of work to complete project.

No.	Issues/Revisions	Date
4	ISSUED FOR TENDER	NOV21/24
3	RE-ISSUED FOR 100% REVIEW	NOV15/24
2	ISSUED FOR 100% REVIEW	NOV06/24
1	ISSUED FOR REVIEW	OCT15/24

Project Name:
Trafalgar Campus - B244 Classroom Renovation

Seal:
LICENSED PROFESSIONAL ENGINEER
D.E.TOMINGAS
90236233
PROVINCE OF ONTARIO

24 040

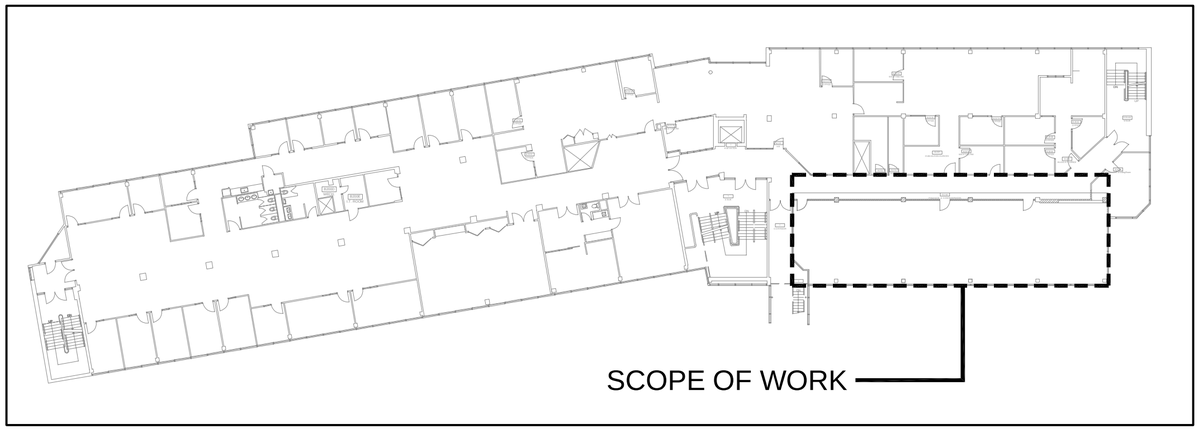
Sheet Name:
PROPOSED COMMUNICATIONS PLAN ELECTRICAL

Drawn By: STAFF Checked By: TM
Issued Date: 11-09-2024
Revision: - Scale: 3/16"=1'-0"
Drawing No.:
E-9

SHERIDAN TRAFALGAR CAMPUS - B244 CLASSROOM RENOVATION

1430 TRAFALGAR ROAD
OAKVILLE, ON

MECHANICAL DRAWINGS



1
M-0

2ND FLOOR UKEYPLAN
NTS

DRAWING LIST

DWG. NO.	DRAWING NAME
M-0	TITLE SHEET
M-1.1	MECHANICAL SPECIFICATIONS I
M-1.2	MECHANICAL SPECIFICATIONS II
M-1.3	MECHANICAL SPECIFICATIONS III AND SEQUENCE OF OPERATIONS
M-1.4	MECHANICAL LEGEND
M-1.5	MECHANICAL SCHEDULES
M-1.6	MECHANICAL DETAILS I
M-1.7	MECHANICAL DETAILS II
M-2.1	SECOND FLOOR PLAN – HVAC DEMOLITION
M-2.2	SECOND FLOOR PLAN – HVAC NEW
M-2.3	SECOND FLOOR PLAN – HYDRONICS DEMOLITION
M-2.4	SECOND FLOOR PLAN – HYDRONICS NEW

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Consultant Seal

No.	Issues/Revisions	Date
4	ISSUED FOR TENDER	2024-11-20
3	RE-ISSUED FOR 100% REVIEW	2024-11-19
2	ISSUED FOR 100% REVIEW	2024-11-05
1	ISSUED FOR REVIEW	2024-10-23

Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

Sheet Name:
TITLE SHEET

Drawn By: G.G. Checked By: J.H.
Issued Date: 11-09-2024
Project Number: 24-168 Scale: AS NOTED
Drawing No.:
M-0

HVAC LEGEND

	EXISTING DUCTWORK/EQUIPMENT
	EXISTING DUCTWORK/EQUIPMENT TO BE REMOVED
	NEW RIGID DUCTWORK
	EXISTING FLEXIBLE DUCTWORK
	NEW FLEXIBLE DUCTWORK
	SUPPLY AIR DUCTWORK UP
	SUPPLY AIR DUCTWORK DOWN
	RETURN AIR DUCTWORK UP
	RETURN AIR DUCTWORK DOWN
S/A	'SUPPLY AIR'
R/A	'RETURN AIR'
F/D	'FIRE DAMPER'
BD	'BALANCING DAMPER'
BDD	'BACKDRAFT DAMPER'
M/D	'MOTORIZED DAMPER'
	SQUARE SUPPLY AIR DIFFUSER
	SUPPLY AIR GRILLE
	RETURN AIR GRILLE
T	THERMOSTAT
	WALL SWITCH
A–6"ø 150CFM	DIFF TYPE/SIZE → AIR CAPACITY
TYP.	'TYPICAL'
X–XX	EQUIPMENT TAG
CTE	'CONNECT TO EXISTING'
	VAV TERMINAL UNIT
	CABINET EXHAUST FAN
	INLINE EXHAUST FAN
	CIRCULAR EXHAUST FAN
	BASEBOARD HEATER
	DUCTWORK WITH ACOUSTIC OR THERMAL INSULATION (SEE SPECS.)
	DUCTWORK WITH ACOUSTIC INSULATION
	DUCTWORK WITH THERMAL INSULATION
	CONTINUATION OF DUCTWORK/PIPING
	EXISTING CONTROL WIRING
	NEW CONTROL WIRING
	SPIN–ON DUCT CONNECTION WITH BALANCING DAMPER
7	DRAWING NOTE
CAP	CAP ON DUCTWORK
	BRANCH ON DUCTWORK

PIPING LEGEND

EX.HWS	EXISTING HEATING WATER SUPPLY
EX.HWR	EXISTING HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
EX.CHWS	EXISTING CHILLED WATER SUPPLY
EX.CHWR	EXISTING CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CHWR	CHILLED WATER RETURN
EX.CWS	EXISTING CONDENSER WATER SUPPLY
EX.CWR	EXISTING CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
REFL	REFRIGERANT LIQUID LINE
REFS	REFRIGERANT SUCTION LINE
	3–PORT CONTROL VALVE
	2–WAY CONTROL VALVE
	GATE VALVE
	GLOBE VALVE
	CHECK VALVE
CBV	CIRCUIT BALANCING VALVE
	BALL VALVE
	SAFETY RELIEF VALVE
	STRAINER
	UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
N.O.	'NORMALLY OPEN'
N.C.	'NORMALLY CLOSED'
	PRESSURE GAUGE
	THERMOMETER
	AQUASTAT
AAV	AUTOMATIC AIR VENT
	BUTTERFLY VALVE
	TEST PORT
	PUMP
CAP	CAP ON PIPING
7	DRAWING NOTE
	ISOLATION VALVE
HB	HOSE BIBB

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Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

Sheet Name:
MECHANICAL LEGEND

Drawn By: G.G. Checked By: J.H.
Issued Date: 11-09-2024
Project Number: 24-168 Scale: AS NOTED
Drawing No.:
M-1.1

GENERAL SPECIFICATIONS

1. GENERAL

1.1. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH LATEST EDITION OF THE ONTARIO BUILDING CODE, CSA, ASHRAE, NFPA, ETC. WHERE CODES/STANDARD ARE PRESENT FORM MULTIPLE SOURCES, THE MOST STRINGENT SHALL BE UTILIZED.

1.2. THE FOLLOWING SPECIFICATIONS FORM AN ESSENTIAL PART OF THE CONTRACT DOCUMENTS. REFER AND COORDINATE WITH ALL OTHER DIVISIONS, SECTIONS AND SPECIFICATIONS TO PROVIDE A COMPLETE AND OPERATIONAL INSTALLATION.

1.3. FOR THE PURPOSE OF THESE SPECIFICATIONS, DRAWINGS AND CONTRACT DOCUMENTS, THE WORD 'PROVIDE' REFERS TO THE SUPPLY, INSTALLATION AND TESTING OF THE RESPECTIVE EQUIPMENT/COMPONENTS.

1.4. CONTRACTOR IS TO REPORT ALL APPARENT DISCREPANCIES BETWEEN DRAWINGS AND SPECIFICATIONS OF ALL DIVISIONS PRIOR TO TENDER SUBMISSION. NO EXCEPTIONS WILL BE GIVEN TO CONTRACTORS WHO DO NOT COMPLETELY UNDERSTAND THE SCOPE OF WORK.

1.5. ALL DIV.23 WORK SHALL BE COORDINATED AND SCHEDULED WITH ALL OTHER DIVISIONS.

1.6. THIS CONTRACTOR SHALL VISIT THE SITE AND COMPLETELY INVESTIGATE AND UNDERSTAND THE EXISTING CONDITIONS AND THEIR RELATION TO THE DESIGN DRAWINGS/DOCUMENTS. NO CONSIDERATION WILL BE GIVEN TO THE CONTRACTOR FOR ANY HINDRANCES TO THE MECHANICAL INSTALLATION FROM SITE CONDITIONS WHICH EXISTED PRIOR TO TENDER SUBMISSION. AS SUCH AND WHERE REQUIRED, THE CONTRACTOR SHALL PROVIDE INTERFERENCE DRAWINGS AND SHALL SUBMIT THEM TO THE CONSULTANT FOR REVIEW.

1.7. PROVIDE NEW MATERIALS AND EQUIPMENT OF ACCEPTABLE QUALITY THAT ARE MANUFACTURED IN CANADA OR THE UNITED STATES AND BEAR THE APPROVAL OF RECOGNIZED NORTH AMERICAN STANDARD ASSOCIATIONS SUCH AS CSA, ASME, ETC. THE CONTRACTOR SHALL MAXIMIZE THE UTILIZATION OF CANADIAN EQUIPMENT, MATERIALS, ETC.

1.8. ALL EQUIPMENT, MATERIALS, ETC. SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.

1.9. THE MECHANICAL DRAWINGS DISPLAY A GENERAL DESIGN AND INSTALLATION. THEREFORE THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE CONSULTANT PRIOR TO INSTALLATION.

1.10. THESE DRAWINGS HAVE BEEN PREPARED FOR DIV.23 AND DO NOT ACCURATELY DISPLAY ALL ELECTRICAL, STRUCTURAL AND ARCHITECTURAL ELEMENTS. REFER TO OTHER DIVISION'S DRAWINGS FOR CLARIFICATION.

1.11. IN NO CASE SHALL THESE DRAWINGS BE SCALED. ALL ROUGH-IN'S SHALL BE COORDINATED WITH OTHER DIVISIONS.

1.12. DO NOT PROCEED WITH WORK OUTSIDE THE SCOPE OF THE DESIGN DRAWINGS AND SPECIFICATIONS WITHOUT WRITTEN CONSENT FROM THE OWNER. THIS APPLIES TO ALL DIV.23 CHANGE NOTICES AS ISSUED BY THE CONSULTANT.

1.13. IN REGARDS TO DIV.23 CHANGE NOTICES, CONTRACTOR SHALL PROVIDE A BREAKDOWN INCLUDING, BUT NOT LIMITED TO, MATERIALS, LABOUR, MARK-UP, ETC. QUOTATIONS SHALL BE BASED ON ALLPRISER FOR EQUIPMENT AND THE MECHANICAL CONTRACTORS OF AMERICA, SMACNA, AND NATIONAL ELECTRICAL CONTRACTORS FOR LABOUR RATES.

1.14. WHERE EQUIPMENT HAS BEEN PRE-PURCHASED, DIV.23 SHALL ACCEPT ALL RESPONSIBILITY FOR EQUIPMENT DELIVERY, INSTALLATION, TESTING AND WARRANTY, SIMILAR TO AS IF THE EQUIPMENT WAS PURCHASED BY DIV.23.

1.15. THE CONTRACTOR SHALL WARRANTY ALL MATERIALS, EQUIPMENT, INSTALLATION AND QUALITY OF WORKMANSHIP FOR A MINIMUM OF ONE (1) YEAR UNLESS OTHERWISE NOTED.

1.16. IT IS THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO PAY FOR ALL CHARGES AND DAMAGES ASSOCIATED WITH EQUIPMENT THAT IS NOT PROVIDED AS SPECIFIED AND INCLUDES NOT MEETING THE MANUFACTURER'S RATINGS, PUBLISHED DATA AND/OR THE APPLICABLE GOVERNING STANDARDS.

1.17. THE CONTRACTOR MAY SUBMIT FOR ALTERNATE MATERIALS AND EQUIPMENT ONLY WHEN THE SPECIFIED ARE NOT AVAILABLE OR WILL ADVERSELY IMPACT THE COMPLETION SCHEDULE. THE CONTRACTOR SHALL COMPENSATE THE CONSULTANT FOR THEIR TIME REQUIRED TO REVIEW THE ALTERNATE SUBMITTALS.

2. SUBMITTALS

2.1. THE CONTRACTOR SHALL SUBMIT THREE (3) HARD COPIES OF MECHANICAL SHOP DRAWINGS TO THE CONSULTANTS FOR REVIEW. ELECTRONIC SUBMISSION OF SHOP DRAWINGS SHALL BE DEEMED ACCEPTABLE UPON APPROVAL FROM CONSULTANT. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH THE DOCUMENT SUBMITTAL PROCESS.

2.2. ALL SHOP DRAWINGS SUBMITTED FOR REVIEW MUST BEAR THE REVIEW STAMP OF THE MECHANICAL CONTRACTOR SHOP DRAWINGS THAT DO NOT BEAR THE CONTRACTOR'S STAMP WILL, WITHOUT QUESTION, BE REJECTED BY THE CONSULTANT.

2.3. SHOP DRAWINGS SHALL INCLUDE ALL INFORMATION REQUIRED FOR THE CONSULTANT TO PERFORM A REASONABLE REVIEW OF THE SUBMITTALS AS THEY PERTAIN TO THE MECHANICAL DESIGN DRAWINGS AND SPECIFICATIONS.

2.4. SHOP DRAWINGS SHALL HAVE THE SAME IDENTIFYING NUMBER AS NOTED IN THE MECHANICAL DRAWINGS.

2.5. PROVIDE SHOP DRAWINGS WITH TECHNICAL SUBMITTALS ON ALL TYPES OF INSULATION TO BE INSTALLED.

2.6. THE CONTRACTOR SHALL MAINTAIN ON SITE ONE (1) RECORD OF MECHANICAL DRAWINGS THAT SHALL INDICATE WITH RED LINES ALL PROJECT CONDITIONS, LOCATIONS, CONFIGURATIONS AND ANY OTHER CHANGES OR DEVIATIONS WHICH MAY VARY FROM THE ORIGINAL CONTRACT DOCUMENTS AND DRAWINGS. IN ADDITION, THIS SET SHALL INCLUDE REVISIONS AS A RESULT OF ALL ADDENDAS, CHANGE NOTICES, SITE INSTRUCTIONS, ETC. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT TO THE OWNER AND ENGINEER ONE (1) COPY EACH OF A HARDCOPY AND ELECTRONIC COPY (PDF) FOR REVIEW. ONE (1) SET OF BOTH COPIES SHALL ALSO BE INCLUDED IN THE CLOSEOUT DOCUMENT PACKAGE.

2.7. TWO (2) COPIES OF OPERATION AND MAINTENANCE MANUALSSHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW UPON PROJECT COMPLETION. THE

GENERAL SPECIFICATIONS

MANUALS SHALL CONTAIN THE FOLLOWING WHERE APPLICABLE:
- DESCRIPTION OF EACH SYSTEM
- DESCRIPTION OF EACH MAJOR COMPONENT OF SYSTEM
- ALL SHOP DRAWINGS WITH APPROVAL STAMPS
- EQUIPMENT MANUFACTURER'S INSTALLATION AND OPERATION MANUALS AND SPARE PARTS LIST
- WIRING DIAGRAMS
- LUBRICATION SCHEDULE
- EQUIPMENT IDENTIFICATION LIST WITH SERIAL NUMBERS
- VALVE TAG SCHEDULES AND FLOW DIAGRAMS
- FINAL AND REVIEWED BALANCING REPORTS (AIR AND WATER)
- WATER TREATMENT PROCEDURE AND TESTS
- CONTROL DRAWINGS AND SEQUENCES OF OPERATION
- AS-BUILT DRAWINGS (HARDCOPY AND ELECTRONIC)
- WARRANTY DOCUMENTATION

3. EXECUTION

3.1. PERIODIC INSPECTIONS OF THE WORK WILL BE CONDUCTED OVER THE COURSE OF THE PROJECT. ALL REPORTED DEFICIENCIES SHALL BE RECTIFIED BY THE CONTRACTOR IN A TIMELY FASHION. FAILURE TO DO SO WILL RESULT IN THE CONTRACTOR NOT MEETING THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

3.2. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL INSPECTIONS WITH CITY AND/OR MUNICIPAL OFFICIALS AND ALL OTHER AUTHORITIES HAVING JURISDICTION.

3.3. IN REGARDS TO TEMPORARY SERVICES, PROVIDE, AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION, TEMPORARY FIRE PROTECTION SYSTEMS. REFRAIN FROM USING INSTALLED SYSTEMS FROM THE CONTRACT DOCUMENTS AS A TEMPORARY SERVICES. THIS SHALL APPLY TO ALL MECHANICAL SYSTEMS INCLUDING HVAC, PLUMBING AND DRAINAGE, ETC.

3.4. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, PATCHING AND RESTORATION. WHERE REQUESTED, THE CONTRACTOR SHALL CONTRACT THE SERVICES OF THE BASE BUILDING TRADES AT DIV.23 EXPENSE.

3.5. PROVISIONS SHALL BE MADE FOR THE PROTECTION OF DIV.23 WORK UNTIL THE COMPLETION OF THE PROJECT. THIS MAY INCLUDE, BUT NOT LIMITED TO, COVERING OF EQUIPMENT OPENINGS AND DUCTWORK, PLUMBING FIXTURES, FLOOR DRAINS, ETC.

3.6. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL MAKE ALL FINAL ADJUSTMENTS TO EQUIPMENT AS WELL AS REMOVE ALL PROTECTION. ALL INSTALLATIONS SHALL BE CLEANED THOROUGHLY AND TESTED FOR PROPER OPERATION. CHANGE ALL AIR AND WATER FILTERS AS REQUIRED.

3.7. IN REGARDS TO INTERRUPTION OF SERVICES, THE CONTRACTOR SHALL CARRY OUT THEIR WORK IN A MANNER THAT CAUSES THE LEAST DISTURBANCE TO THE OWNER. PROVIDE NOTIFICATION TO THE OWNER IN WRITING WITH AT LEAST 72 HOURS OF THE SCHEDULED INTERRUPTION.

3.8. ARRANGE AND PAY FOR THE SAFE DISPOSAL OF REMOVED ITEMS AS SPECIFIED. PROVIDE PROOF OF SAFE DISPOSAL FOR ITEMS SUCH AS HVAC REFRIGERANT. COORDINATE THE TIME AND METHOD OF DISPOSAL WITH THE OWNER. FOR EXAMPLE, CLEARLY INDICATE THE ROUTE THAT WILL BE TAKEN FROM THE INSIDE OF THE BUILDING TO THE OUTDOORS, AS WELL AS THE STORAGE LOCATION OUTDOORS IF APPLICABLE.

3.9. WHERE COMPONENTS ARE TO BE REUSED, THE CONTRACTOR SHALL CLEAN AND TEST THE COMPONENT TO ENSURE PROPER OPERATION. THE CONSULTANT SHALL BE NOTIFIED IN THE EVENT THERE IS A DEFICIENCY WITH THE COMPONENT.

3.10. PERFORM WORK SO AS TO CAUSE MINIMAL DISTURBANCE TO OWNER AND/OR ADJACENT AREAS. MINIMIZE DUST AND NOISE AND PROVIDE TEMPORARY AIR FILTERS ON AIR HANDLING SYSTEMS AFFECT BY THE AREA OF WORK. ALL COSTS ASSOCIATED WITH DAMAGES AS A RESULT OF THE MECHANICAL INSTALLATION SHALL BE COVERED BY DIV.23. MAINTAIN SAFETY STANDARDS AND PROVIDE ADEQUATE SIGNAGE FOR BOTH WORKERS AND OCCUPANTS.

3.11. WHERE CUTTING OR CORE DRILLING OF THE EXISTING CONCRETE STRUCTURE IS REQUIRED, THE MECHANICAL CONTRACTOR SHALL CONTRACT THE SERVICES OF AN EXPERIENCED AND REPUTABLE COMPANY TO CARRY OUT X-RAYING. THE RESULTS SHALL BE SUBMITTED TO THE BASE BUILDING STRUCTURAL ENGINEER AND NOT CUTTING OR CORING SHALL TAKE PLACE UNTIL WRITTEN APPROVAL IS RECEIVED. THE CONTRACTOR SHALL PROVIDE A WRITTEN REQUEST TO PERFORM X-RAYING WITH AT LEAST 72 HOURS IN ADVANCE.

4. IDENTIFICATION OF MECHANICAL SERVICES

4.1. PROVIDE SMS WRAP-MARK ON ALL PIPE COVERINGS WITH FLOW ARROW AND ALTERNATING WORDING. COVERING COLOURS SHALL MATCH BASE BUILDING. IN THE CASE WHERE THERE IS NO EXISTING STANDARD, INDUSTRY STANDARDS SHALL BE FOLLOWED.

4.2. USE STENCILS AND STENCIL PAINT ON DUCTWORK AND DUCTWORK INSULATION WITH BLACK CAPITALIZED LETTERS 2" (50 MM) HIGH AND SOLID BLACK FLOW ARROWS.

4.3. IDENTIFICATION OF PIPING AND DUCTWORK SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:

- AT LEAST ONCE IN EACH ROOM
- AT EACH PIECE OF EQUIPMENT
- AT EACH BRANCH CLOSE TO THE CONNECTION POINT AT MAIN
- AT NOT GREATER INTERVALS OF 50 FT. (15 M) ON STRAIGHT RUNS OF EXPOSED PIPING AND DUCTWORK.
- AT ENTRY AND LEAVING POINT TO PIPE AND DUCT CHASES, OR OTHER CONCEALED SPACES
- BOTH SIDES WHERE PIPING AND DUCTWORK PASSES THROUGH WALL, PARTITIONS AND FLOORS
- ON VERTICAL PIPES AND DUCTS APPROXIMATELY 6 FT. (1800 MM) A.F.F.
- BEHIND EACH ACCESS DOOR AND PANEL

4.4. PROVIDE IDENTIFICATION FOR PIPING CONTAINING ELECTRICAL HEAT TRACING.

4.5. TAG ALL VALVES, EXCEPT SMALL VALVES ISOLATING EQUIPMENT, WITH BRASS TAGS AND HIGH DIE-STAMPED BLACK LETTERS ATTACHED TO VALVES WITH 4" BRASS CHAINS.

4.6. PROVIDE IDENTIFICATION FOR ALL NEW EQUIPMENT, STARTERS AND REMOTE CONTROL DEVICES WITH LAMACOID LABELS ENGRAVED WITH WHITE LETTERING AND A BLACK BACKGROUND. THE MINIMUM LETTERING SIZE SHALL BE 3/8" (10 MM).

5. ACCESS DOORS AND PANELS

5.1. PROVIDE ADEQUATE ACCESS TO CONCEALED EQUIPMENT AND COMPONENTS THAT

GENERAL SPECIFICATIONS

REQUIRE ACCESS FOR MAINTENANCE, ADJUSTMENT AND INSPECTION. PROVIDE MARKING TO THE OWNER'S SATISFACTION THE LOCATIONS WHERE CONCEALED EQUIPMENT IS LOCATED.

5.2. ENSURE THAT THE SIZE OF THE DOOR COMPLIES WITH THE MANUFACTURER'S SUGGESTED ACCESS REQUIREMENTS.

5.3. COORDINATE ALL ACCESS DOOR AND PANEL SIZES AND LOCATIONS WITH ARCHITECT/INTERIOR DESIGNER.

6. FLASHING, CURBS AND CONCRETE

6.1. FLASHING SHALL BE CARRIED OUT AS SHOWN ON ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS AT THE EXPENSE OF DIV.23.

6.2. ALL CURBS REQUIRED FOR MECHANICAL EQUIPMENT SHALL BE CARRIED OUT AS SHOWN ON ARCHITECTURAL AND/OR MECHANICAL DRAWINGS AT THE EXPENSE OF DIV.23. CURBS SHALL BE INSTALLED AT LEAST 14" ABOVE THE ROOF LEVEL.

6.3. PREMANUFACTURED EQUIPMENT CURBS SHALL BE SUPPLIED BY THE EQUIPMENT MANUFACTURER.

6.4. PROVIDE 4" (100 MM) THICK CONCRETE HOUSEKEEPING PADS WHERE INDICATED ON ARCHITECTURAL AND/OR STRUCTURAL DRAWINGS.

7. FIRESTOPPING

7.1. PROVIDE FIRE STOPPING SYSTEMS AND PRODUCTS FOR ALL DUCTS, PIPING, ETC. PENETRATING FIRE SEPARATIONS THAT ARE ULC LISTED AND COMPLY WITH CAN4-S115S AND THE AUTHORITIES HAVING JURISDICTION.

7.2. MAINTAIN ALL FLOOR AND WALL FIRE RATINGS TO COMPLY WITH BASE BUILDING STANDARDS AND THE AUTHORITIES HAVING JURISDICTION.

8. PIPE, DUCT AND EQUIPMENT INSTALLATION

8.1. INSTALL ALL PIPING, DUCTWORK AND EQUIPMENT TO PROVIDE ADEQUATE CLEARANCES FOR SERVICING AS WELL AS MAXIMUM USABLE SPACE FOR ALL OTHER DIVISIONS.

8.2. INSTALL PIPING AND DUCTWORK STRAIGHT, IN A NEAT AND CLEAN FASHION AND TIGHT TO STRUCTURES ABOVE (UNLESS OTHERWISE NOTED).

8.3. TAKE MEASURES TO PROTECT COPPER PIPING CORROSION FROM CONTACT WITH DISSIMILAR METALS.

9. HANGERS AND SUPPORTS

9.1. PROVIDE HANGER SYSTEMS FOR ALL DUCTWORK, PIPING AND EQUIPMENT TO RENDER A SAFE AND FUNCTIONAL INSTALLATION. HANGER RODS SHALL BE ATTACHED DIRECTLY TO THE STRUCTURE AND IN NO WAY SHALL BE ATTACHED TO OTHER MECHANICAL COMPONENTS OR CEILING SYSTEMS. WHERE COMPONENTS ARE TO BE SUSPENDED BETWEEN JOISTS OR BEAMS, PROVIDE AUXILIARY STEEL CHANNELS TO SUIT.

9.2. FOR GENERAL CONDITIONS, PROVIDE ROUND STEEL THREADED RODS CONFORMING TO ASTM A-36. WHERE SPECIAL CONDITIONS EXIST, SUCH AS HIGH HUMIDITY OR EXPOSURE TO ELEMENTS, PROVIDE HANGER COMPONENTS TO SUIT.

9.3. IN REGARDS TO ALL PIPING, PROVIDE SUPPORTS AT CONNECTION (SUCH AS HUB) AND AT EVERY CHANGE IN DIRECTION.

10. STRUCTURAL AND SEISMIC

10.1. WHERE THERE IS NO STRUCTURAL DIVISION AS PART OF THE PROJECT, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO PROVIDE STRUCTURAL REINFORCING FOR ALL DIV.23 INSTALLATIONS. THE CONTRACTOR SHALL OBTAIN THE SERVICES OF A LICENSED PROFESSIONAL ENGINEER WHO IS TO PROVIDE A DESIGN BEARING THEIR PROFESSIONAL SEAL. THE CONTRACTOR SHALL APPLY FOR BUILDING PERMIT AND ASSUME ALL RESPONSIBILITY AND COST FOR THE PERMIT PROCESS. UPON COMPLETION OF WORK, CONTRACTOR SHALL SUBMIT A LETTER FROM THE STRUCTURAL ENGINEER COMPLETE WITH PROFESSIONAL SEAL TO INDICATE THAT THE WORK HAS BEEN COMPLETED TO THE ONTARIO BUILDING CODE, ALL OTHER RELEVANT CODES AND STANDARDS AND TO THE AUTHORITIES HAVING JURISDICTION.

10.2. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE THE REQUIREMENTS FOR SEISMIC BRACING AND SUPPORTS WITH STRUCTURAL DRAWINGS. DIV.23 SHALL CONTRACT THE SERVICES OF A LICENSED PROFESSIONAL ENGINEER TO DESIGN SUPPORTS AND BRACING IN ACCORDANCE WITH ALL CURRENT CODES AND THAT MATCHES THE REQUIREMENT OF THE LOCATION IN WHICH THE SYSTEMS ARE BEING INSTALLED. UPON COMPLETION OF THE PROJECT, SEISMIC ENGINEER SHALL PROVIDE A LETTER BEARING THEIR PROFESSIONAL SEAL INDICATING THAT THE INSTALLATION MEETS THE SEISMIC DESIGN DOCUMENT AND CONFORMS TO THE BUILDING CODE AND THE AUTHORITIES HAVING JURISDICTION.

11. ELECTRICAL

11.1. ALL ELECTRICAL MOTORS, STARTERS, CONTACTORS, DISCONNECT SWITCHES AND CONTROL DEVICES FOR DIV.23 WORK SHALL BE PROVIDED BY DIV.23.

11.2. DIV.26 SHALL BE RESPONSIBLE FOR POWERING LOAD SIDE OF STARTERS AND CONTACTORS, POWER FOR ELECTRICAL HEAT TRACING AND CONTROLS, LINE SIDE POWER TO LOOSE STARTERS AND DISCONNECTS.

11.3. ALL LOW VOLTAGE WIRING AND CONNECTION IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR.

11.4. WHERE THERE IS NO DIV.26 (ELECTRICIAN) AS PART OF THE PROJECT, THE MECHANICAL CONTRACTOR SHALL CONTRACT THE SERVICES OF A LICENSED ELECTRICAL CONTRACTOR AND OBTAIN THE APPROPRIATE INSPECTIONS AND APPROVALS FOR THE INSTALLATION OF ALL ELECTRICAL WORK REQUIRED FOR MECHANICAL SYSTEMS.

12. PROJECT CLOSEOUT

12.1. PRIOR TO THE ISSUING OF A PROJECT COMPLETION NOTICE OR A SIGN-OFF LETTER, THE FOLLOWING DOCUMENTS, AT A MINIMUM, MUST BE PROVIDED TO THE ENGINEER FOR REVIEW:

- AIR BALANCING REPORT
- NFPA-13 LETTER
- APPLICABLE SYSTEM/EQUIPMENT TESTING REPORT

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MECHANICAL SPECIFICATIONS I

Drawn By: G.G. Checked By: J.H.
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HVAC SPECIFICATIONS

1. PROVIDE ALL LABOUR AND MATERIALS TO SUPPLY AND INSTALL THE DUCTWORK AND SHEET METAL SYSTEMS AS INDICATED ON MECHANICAL DRAWINGS. THIS INCLUDES INSTALLING THE DUCTWORK, ACCESSORIES, ASSOCIATED ITEMS AND ALL NECESSARY CONNECTIONS TO OUTLETS, INLETS AND EQUIPMENT TO PROVIDE A COMPLETE SYSTEM.

2. UNLESS OTHERWISE NOTED, FABRICATE ALL DUCTWORK SYSTEMS, INCLUDING DUCTWORK, HOUSINGS, DAMPERS AND ACCESS DOORS, WITH GALVANIZED STEEL SHEET METAL MEETING ASTM A653 AND A924. CONSTRUCTION OF THE DUCTWORK SYSTEMS SHALL BE IN STRICT ACCORDANCE WITH SMACNA, SMACNA DUCT CLEANLINESS AND ASHRAE. ALL DUCTWORK SHALL BE SMOOTH ON THE INSIDE AND SHALL BE FREE FROM RATTLING OR VIBRATION. DUCTWORK NOT MEETING THESE STANDARDS WILL BE REPLACED AT NO EXTRA CHARGE TO THE OWNER.

3. CONSTRUCT DUCTWORK AND SEAL ACCORDING TO THE APPROPRIATE SMACNA STANDARDS. LOW PRESSUE DUCTWORK SHALL BE CONSTRUCTED WITH THE ONE (1) INCH PRESSURE CLASSIFICATION AND ALL OTHER DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE THREE (3) INCH CLASSIFICATION. DUCT PRESSURES SHALL BE CLASSIFIED AS FOLLOWS:

   3.1. LOW: DUCT PRESSURES (LOW) OF 1/2" TO 2" W.C. AND NOT EXCEEDING AN AIR VELOCITY OF 2000 FPM.

   3.2. MEDIUM: DUCT PRESSURES EXCEEDING 2" W.C. OR AND AIR VELOCITY OF 2000 FPM.

   3.3. THREE INCH: ALL VARIABLE AIR VOLUME (VAV) SUPPLY AIR DUCT SYSTEMS AND AIR DUCTWORK SYSTEMS EXPOSED TO THE OUTDOORS.

4. FLEXIBLE DUCTWORK

   4.1. PROVIDE, WHERE INDICATED ON MECHANICAL DRAWINGS, FLEXIBLE DUCTWORK EQUAL TO FLEXMASTER TRIPLE LOCK ALUMINUM DUCTWORK. THE PRESSURE RATING OF THE DUCTWORK SHALL MATCH THE DUCTWORK SYSTEM TO WHICH IT IS ATTACHED. MATCH THE DUCTWORK SIZE TO THE CONNECTION OUTLET OF THE AIR TERMINAL.

   4.2. SECURE FLEXIBLE DUCTWORK USING GEAR CLAMPS WITH AN ADJUSTING WORM DRIVE TYPE SCREW. SEAL AROUND CONNECTION WITH DUCT TAPE TO OBTAIN THE APPROPRIATE SMACNA SEAL CLASS.

   4.3. MAXIMUM LENGTH OF FLEXIBLE DUCTWORK PERMITTED IN LOW PRESSURE SYSTEMS IS 10'–0" AND 4'–0" IN ALL OTHER HIGHER PRESSURE SYSTEMS.

5. ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSIONS. CONTRACTOR TO TAKE INTO ACCOUNT DUCT LINERS, ETC. WHEN PERFORMING TAKE–OFFS.

6. MAKE ALL DUCT CONNECTIONS, CONCENTRIC AND ECCENTRIC TRANSITIONS, ETC., IN ACCORDANCE WITH SMACNA.

7. PROVIDE DUCT ACCESS DOORS AT LOCATIONS AS SHOWN ON DRAWINGS, AS WELL AS AT THE LINKAGE SIDE OF AUTOMATIC DAMPERS, FIRE DAMPERS AND ANY OTHER SERVICE, BALANCE OR CONTROL DEVICE REQUIRING PERIODIC MAINTENANCE. THE DOORS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA AND SHALL MATCH THE PRESSURE RATING OF THE DUCTWORK SYSTEM TO WHICH IT IS BEING INSTALLED.

8. PROVIDE FLEXIBLE CONNECTIONS AT THE INLET AND OUTLET CONNECTION FOR EACH FAN BETWEEN DUCTWORK AND INLET AND OUTLET COLLARS. FLEXIBLE CONNECTIONS SHALL BE CONSTRUCTED OF NON–COMBUSTIBLE NEOPRENE COATED FIBERGLASS FABRIC. FOR OUTDOOR CONNECTIONS, PROVIDE A CONNECTOR THAT IS SUITABLE FOR EXPOSURE TO SUNLIGHT AND THE ELEMENTS.

9. PROVIDE FIRE DAMPERS WHERE INDICATED ON MECHANICAL DRAWINGS. ALL DAMPERS SHALL BE SELECTED TO SUIT THE RATING OF THE FLOOR OR WALL ASSEMBLY IN WHICH IT WILL BE INSTALLED. FIRE DAMPERS SHALL BE ULC LISTED AND INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, NFPA 90A AND THE AUTHORITIES HAVING JURISDICTION. TYPE A FIRE DAMPERS ARE PERMITTED FOR NON–DUCTED TRANSFER DUCTWORK. TYPE B FIRE DAMPERS SHALL BE USED IN ALL OTHER CASES UNLESS OTHERWISE NOTED.

   9.1. REMOVABLE DUCT SECTIONS FOR FIRE AND SMOKE DAMPER ACCESS: WHERE A MINIMUM 12"X12" ACCESS PANEL CAN NOT BE INSTALLED ON DUCTWORK, A REMOVABLE DUCTWORK SECTION FOR DAMPER INSPECTION AND MAINTENANCE SHALL BE PROVIDED. REMOVABLE DUCTWORK SECTION TO FUNCTION WITHOUT THE USE OF TOOLS AND SHALL NOT BE MORE THAN 4" AWAY FROM THE FIRE DAMPER SLEEVE BREAK AWAY CONNECTION.

10. MANUAL BALANCING DAMPERSINSTALLED IN DUCTWORK NOT EXCEEDING 12" ON THE LONGEST SIDE SHALL BE CONSTRUCTED AS PER SMACNA. PROVIDE OPPOSED BLADE DAMPERS WHERE THE DIMENSION OF THE LONGEST SIDE OF THE DUCTWORK EXCEEDS 12", OPPOSED BLADE DAMPERS SHALL BE OF GALVANIZED STEEL CONSTRUCTION WITH LOCK SCREWS AT OPPOSITE ENDS. PROVIDE BALANCING DAMPERS WHERE SHOWN ON DRAWING AS WELL AS ON BRANCHES OFF OF MAIN DUCTWORK WITH ADEQUATE ACCESS.

11. PROVIDE ALL DIFFUSERS, REGISTERS, GRILLES, ETC. OF TYPE AND SIZE AS INDICATED ON MECHANICAL DRAWINGS. CONFIRM ALL AIR TERMINAL COLOURS WITH ARCHITECT/INTERIOR DESIGNER, REGARDLESS OF SPECIFICATION ON MECHANICAL DRAWINGS. MECHANICAL CONTRACTOR IS TO COORDINATE INSTALLATION OF DOOR GRILLES WITH ARCHITECTURAL DRAWINGS AND GENERAL CONTRACTOR.

12. PROVIDE DUCTWORK INSULATION AND LINERS WHERE NOTED ON MECHANICAL DRAWINGS, AS PER THE FOLLOWING:

   12.1. ACOUSTIC LINING:

      12.1.1. DUCT LINING SHALL COMPLY WITH NFPA 90A AND DUCT LINER MATERIALS STANDARD OF THE THERMAL INSULATION MANUFACTURER'S ASSOCIATION.

      12.1.2. RECTANGULAR DUCTWORK: PROVIDE ONE INCH (1") THICK ACOUSTIC LINING EQUAL TO JOHNS MANVILLE LINACOUSTIC RC COMPLETE WITH PERMACOTE ACRYLIC ANTI–MICROBIAL COATING.

      12.1.3. SPIRAL DUCTWORK: PROVIDE ONE INCH (1") THICK ACOUSTIC LINING EQUAL TO JOHNS MANVILLE SPINACOUSTIC PLUS ROUND DUCT LINER SYSTEM COMPLETE WITH PERMACOTE ANTI–MICROBIAL COATING.

      12.1.4. PROVIDE ACOUSTIC LINING AS SPECIFIED ON ALL SUPPLY, RETURN AND EXHAUST FAN EQUIPMENT FOR 10'–0" (3.0 M) FROM THE INLET/OUTLET.

   12.2. THERMAL INSULATION

      12.2.1. PROVIDE THERMAL INSULATION WHERE NOTED ON MECHANICAL DRAWINGS. INSULATE ALL DUCTWORK LEAVING OR ENTERING THE BUILDING FOR THE FIRST 6 FT. FROM THE BUILDING PENETRATION WITH 2" OF THERMAL INSULATION.

      12.2.2. RECTANGULAR DUCTWORK: PROVIDE ONE INCH (1") JOHNS MANVILLE SERIES 814 SPIN–GLAS FIBER GLASS DUCT BOARD INSULATION WITH FSK FACING. IMPALE ON MECHANICALLY FASTENED PINS LOCATED AT NOT MORE THAN 12" ON CENTRE, AND SECURE WITH SPEED WASHERS.

      12.2.3. RIGID ROUND (SPIRAL) DUCTWORK: PROVIDE ONE INCH (1") JOHNS MANVILLE MICROLITE EQ FSK FIBER GLASS DUCT WRAP INSULATION WHERE INDICATED ON DRAWINGS. ADHERE INSULATION TO DUCT SURFACE AND LAP ALL EDGES AT LEAST 2". SEAL JOINTS WITH 4" WIDE ALUMINUM FOIL TAPE.

      12.2.4. FLEXIBLE DUCTWORK: PROVIDE ONE INCH (1.25") JOHNS MANVILLE FLEX–GLAS EQ FLEXIBLE DUCTWORK INSULATION WITH FSK FACING. LAP JOINTS AND SEAL WITH 4" WIDE ALUMINUM FOIL TAPE.

      12.2.5. WHERE DUCTWORK IS INSTALLED OUTSIDE THE BUILDING OR EXPOSED TO THE ELEMENTS, PROVIDE TWO INCHES (2") OF THERMAL INSULATION, BUTT JOINTS TIGHTLY TOGETHER AND SEAL WASHERS, BREAKS AND JOINTS WITH SELF–ADHERING FOUR INCHES (4") WIDE PLAIN ALUMINUM TAPE, OR ADHERE FOIL WITH CHILDERS CP82 OR BAKELITE 230–39 ADHESIVE.

   12.3. JACKETING

      12.3.1. RECOVER ALL DUCTWORK OUTSIDE THE BUILDING OR EXPOSED TO THE ELEMENTS WITH ALUMINUM JACKETING TO ASTM B209 WITH MOISTURE BARRIER, THICKNESS 0.50MM SHEET, STUCCO EMBOSSED FINISH, JACKET BANDING AND MECHANICAL SEALS 12MM WIDE AND 0.5MM THICK STAINLESS STEEL.

13. HVAC BALANCING

   13.1. PROVIDE BALANCING OF ALL AIR AND WATER SYSTEMS AS INDICATED ON MECHANICAL DRAWINGS. THE BALANCING CONTRACTOR SHALL HAVE A MINIMUM OF FIVE (5) YEARS EXPERIENCE AND BE NEBB CERTIFIED. ALL BALANCING, TESTING ADJUSTING AND REPORTING SHALL BE CARRIED OUT IN ACCORDANCE WITH NEBB, PROCEDURAL STANDARDS FOR TESTING, ADJUSTING AND BALANCING OF ENVIRONMENTAL SYSTEMS. WHERE APPLICABLE, THE MECHANICAL CONTRACTOR SHALL CONTRACT THE SERVICES OF THE BASE BUILDING APPROVED TAB CONTRACTOR.

   13.2. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE CURRENT EDITION OF THE NEBB STANDARDS. MARK EQUIPMENT AND BALANCING DEVICE SETTING WITH PAINT OR OTHER SUITABLE PERMANENT IDENTIFICATION MATERIAL TO SHOW FINAL SETTINGS.

   13.3. BALANCE AIRFLOW AND HYDRONIC FLOW QUANTITIES WITHIN +/– 10% OF THE DESIGN CRITERIA. IN THE EVENT THAT A CONDITION OR DEFICIENCY IS PREVENTING THE ACCEPTANCE RANGE FROM BEING ACHIEVED, IT SHALL BE NOTED WITH DESCRIPTION ON THE TAB REPORT. UPON COMPLETION, SUBMIT A FINAL TAB REPORT TO THE CONSULTANT FOR REVIEW.

14. CONTROLS

   14.1. PROVIDE ALL CONTROLS, WIRING, CONDUIT, ACCESSORIES, ETC. AND INTERLOCK WITH EQUIPMENT/STARTERS AS INDICATED ON DRAWINGS.

   14.2. WHEN INSTALLED IN CEILING PLENUMS, CABLE MAY BE FREE–AIR, UNLESS OTHERWISE NOTED, PROVIDING THE WIRING IS FT–6 PLENUM RATED.

   14.3. WHEN INSTALLED IN OPEN AREAS, PROVIDE EMT CONDUIT, FITTINGS, MOUNTING ACCESSORIES, ETC. TO DELIVER A NEAT AND CLEAN INSTALLATION.

   14.4. MOUNTING HEIGHTS:

      14.4.1. OCCUPANT ADJUSTABLE: MOUNT AT 3'–11" (1200 MM) A.F.F.
      14.4.2. NON–AJUSTABLE (SENSOR ONLY): MOUNT AT 5'–0" (1500 MM) A.F.F.

      **CONFIRM MOUNTING HEIGHTS WITH CONSULTANT PRIOR TO INSTALLATION.

   14.5. COORDINATE INSTALLATION OF ALL CONTROL DEVICES/SENSORS WITH ARCHITECTURAL DRAWINGS.

   14.6. INSTALL CONTROL DEVICES/SENSORS CLEAR OF DIMMERS SO AS TO AVOID INTERFERENCE.

   14.7. THE MECHANICAL CONTRACTOR SHALL TEST ALL CONTROLS/INTERLOCKS FOR GOOD OPERATION PRIOR TO PROJECT CLOSE–OUT. PROVIDE A REPORT FOR REVIEW TO THE ENGINEER INDICATING DEFICIENCIES.

   14.8. WIRE ALL DEVICES TO THEIR RESPECTIVE MAGNETIC STARTERS AND PROVIDE POWER TO DIV.23 CONTROL PANELS FROM NEAREST AND MOST SUITABLE ELECTRICAL PANEL.

   14.9. CONTRACT THE SERVICES OF THE BASE BUILDING APPROVED CONTROLS CONTRACTOR WHERE APPLICABLE.

   14.10. PNEUMATIC CONTROLS

      14.10.1. PROVIDE TYPE M SEAMLESS COPPER TUBING THAT COMPLIES WITH ASTM B280, WROUGHT COPPER FITTINGS THAT COMPLY WITH ANSI/ASME B16.22, AND JOINTS THAT COMPLY WITH ANSI/ASTM B32.

      14.10.2. CONCEAL TUBING, UNLESS LOCATED IN MECHANICAL ROOMS, AND MECHANICALLY FASTEN TO SUPPORTING STRUCTURES. PURGE TUBING WITH OIL–FREE COMPRESSED AIR BEFORE CONNECTING TO CONTROL INSTRUMENTS.

HYDRONIC SYSTEMS SPECIFICATIONS

1. PRODUCTS

   1.1. PIPE

      1.1.1. PROVIDE SCHDULE 40 (NPS) STEEL PIPE CONFORMING TO ASTM–A53/A53M, GRADE B

   1.2. PIPE JOINTS

      1.2.1. FOR NPS 2"ø AND SMALLER, USE SCREWED FITTING WITH PTFE TAPE OR LEAD–FREE PIPE DOPE.
      1.2.2. FOR NPS 2–1/2"ø AND OVER: WELDED FITTINGS AND FLANGES TO CAN/CSA–W48.
      1.2.3. ROLL GROOVED: RIGID COUPLINGS TO CSA B242.
      1.2.4. FLANGES: PLAIN ASME B16.1, RAISED FACE, SLIP–ON OR WELD NECK TO ASME B16.5.
      1.2.5. ORIFICE FLANGES: SLIP–ON RAISED FACE, 2100 kPa.
      1.2.6. FLANGE GASKETS TO AWWA C111
      1.2.7. PIPE THREAD SHALL BE TAPERED.
      1.2.8. BOLTS AND NUTS TO ASME B18.2.1 AND ASME B18.2.2.
      1.2.9. ROLL GROOVED COUPLING GASKETS: NPS 2"ø TO 8"ø, TYPE EHP, EPDM HIGH PERFORMANCE, –40°C TO 120°C FOR CONTINUOUS OPERATION.

   1.3. FITTINGS

      1.3.1. SCREWED FITTINGS SHALL BE MALLEABLE IRON CONFORMING TO ASME B16.3, CLASS 150.

      1.3.2. PIPE FLANGES AND FLANGED FITTINGS:
         1.3.2.1. CAST IRON TO ASME B16.1, CLASS 125
         1.3.2.2. STEEL TO ASME B16.5

      1.3.3. BUTT–WELDED FITTINGS, STEEL, TO ASME B16.9.

      1.3.4. UNIONS SHALL BE MALLEABLE IRON CONFORMING TO ASTM–A47/A47M AND ASME B16.3.

      1.3.5. FITTINGS FOR ROLL GROOVED PIPING, MALEABLE IRON TO ASTM–A47/A47M, DUCTILE IRON TO ASTM–A536.

   1.4. VALVES

      1.4.1. CONNECTIONS:

         1.4.1.1. NPS 2"ø AND SMALLER: SCREWED ENDS.
         1.4.1.2. NPS 2–1/2"ø AND LARGER: FLANGED OR GROOVED ENDS.

      1.4.2. GATE VALVES TO MSS–SP–70 AND MSS–SP–80 FOR ISOLATING EQUIPMENT, CONTROL VALVES, ETC.

         1.4.2.1. NPS 2"ø AND SMALLER: BRONZE, CLASS 125 RISING STEM, SOLID WEDGE DISC.
         1.4.2.2. NPS 2–1/2"ø AND OVER: CAST IRON, RISING STEM, SOLID WEDGE DISC, LEAD FREE BRONZE TRIM.

      1.4.3. BUTTERFLY VALVES TO MSS–SP–67 FOR ISOLATING CELLS OR SECTIONS OF MULTIPLE COMPONENT EQUIPMENT. FOR NPS 2–1/2"ø AND OVER: LUG TYPE OR GROOVED ENDS.

      1.4.4. GLOBE VALVES TO MSS–SP–80 AND 85 FOR THROTTLING, FLOW CONTROL AND EMERGENCY BYPASS.

         1.4.4.1. NPS 2"ø AND SMALLER: BRONZE, WITH PLUG DISC.
         1.4.4.2. NPS 2–1/2"ø AND OVER: CAST IRON, COMPOSITION BRONZE DISC AND BRONZE TRIM.

      1.4.5. BALANCING FOR TAB

         1.4.5.1. NPS 2"ø AND SMALLER: COPPER ALLOY BODY THREADED, 2.1 MPa RATING, GLOBE STYLE, SELF SEALING MEASURING PORTS FOR TEMPERATURE AND PRESSURE PROBES, LOCKING TAMPER PROOF SETTING, WITH PLUG DISC. COMBINATION BALANCING VALVE, STRAINER AND DRAIN BALL VALVE MAY ALSO BE USED IN LIEU OF STANDARD VALVE.
         1.4.5.2. NPS 2–1/2"ø AND OVER: DUCTILE IRON BODY, FLANGED OR GROOVED CONNECTIONS, 1700 kPa RATING MINIMUM, GLOBE STYLE, SELF–SEALING MEASUREMENT PARTS FOR TEMPERATURE OR PRESSURE PROBES, LOCKING TAMPER PROOF SETTING.

      1.4.6. DRAIN VALVES BRONZE, GATE, CLASS 125 NON–RISING STEM, SOLID WEDGE DISC.

      1.4.7. SWING CHECK VALVES TO MSS–SP–71

         1.4.7.1. NPS 2"ø AND SMALLER: BRONZE, CLASS 125 SWING WITH COMPOSITION DISC.
         1.4.7.2. NPS 2–1/2"ø AND OVER: CAST IRON, FLANGED OR GROOVED ENDS.

      1.4.8. BALL VALVES FOR NPS 2"ø AND SMALLER, USE SCREWED END BALL VALVES CONSTRUCTED OF CAST HIGH TENSILE BRONZE CONFORMING TO ASTM–B16 OR ASTM–B62. SCREWED ENDS SHALL CONFORM TO ANSI–B1.20.1 WITH HEX SHOULDERS. BALL SHALL BE REPLACEABLE AND CONSTRUCTED OF EITHER STAINLESS STEEL OR HARD CHROME.

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HYDRONIC SYSTEMS SPECIFICATIONS

2. INSTALLATION OF PIPEWORK

2.1. EXECUTION

2.1.1. MAKE ALL CONNECTIONS TO EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.

2.1.2. PROVIDE VALVES AND UNIONS AT CONNECTION FOR MAINTENANCE/REPLACEMENT PURPOSES.

2.1.3. PROVIDE DRAINS AT SYSTEM LOW POINTS, EQUIPMENT AND ISOLATING SECTIONS. INSTALL NPS 3/4"ø GATE OR GLOBE VALVE WITH HOSE END MALE THREAD, CAP AND CHAIN.

2.1.4. PROVIDE AUTOMATIC AIR VENTS AT SYSTEM HIGH POINTS COMPLETE WITH ISOLATING VALVE.

2.2. CLEARANCES PROVIDE THE REQUIRED CLEARANCES AROUND EQUIPMENT, PIPING, SYSTEMS, ETC. TO RENDER THE NECESSARY SPACE REQUIREMENTS FOR SERVICE, INSPECTION, OPERATION, REPLACEMENT AND MAINTENANCE. REFER TO ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR REQUIRED AND RECOMMENDED CLEARANCES.

2.3. DIELECTRIC FITTINGS WHERE DISSIMILAR METALS ARE JOINED, PROVIDE DIELECTRIC ISOLATING FITTINGS (COMPLETE WITH THERMOPLASTIC LINER), UNIONS OR BRONZE VALVES.

2.4. PIPEWORK INSTALLATION

2.4.1. SCREWED FITTING CONNECTIONS SHALL BE COMPLETE WITH PIPE DOPE OR TEFLON TAPE.

2.4.2. PROTECT ALL SYSTEM OPENINGS DURING CONSTRUCTION TO PREVENT THE ENTRY OF FOREIGN MATERIAL.

2.4.3. INSTALL ALL PIPING, EQUIPMENT, ETC. TO BE PARALLEL OR PERPENDICULAR WITH BUILDING LINES.

2.4.4. PROPERLY REAM AND REMOVE SCALE AND FOREIGN MATERIAL PRIOR TO ASSEMBLY.

2.4.5. VALVES

2.4.5.1. INSTALL ALL VALVES IN ACCESSIBLE LOCATIONS FOR MAINTENANCE WITHOUT REMOVING ADJACENT PIPING.
2.4.5.2. USE BALL OR BUTTERFLY VALVES AT BRANCH TAKE-OFFS FOR ISOLATING PURPOSES EXCEPT WHERE OTHERWISE SPECIFIED.
2.4.5.3. INSTALL BUTTERFLY VALVES ON CHILLED WATER AND RELATED CONDENSER WATER SYSTEMS ONLY.
2.4.5.4. INSTALL BALL VALVES FOR GLYCOL SERVICE.
2.4.5.5. USE CHAIN OPERATORS ON VALVES NPS 2-1/2"ø AND LARGER WHERE INSTALLED MORE THAN 2400 MM ABOVE FLOOR IN MECHANICAL ROOMS.

2.4.6. CHECK VALVES

2.4.6.1. INSTALL SILENT CHECK VALVES ON DISCHARGE OF PUMPS AND IN VERTICAL PIPES WITH DOWNWARD FLOW AND ELSEWHERE INDICATED.
2.4.6.2. INSTALL SWING CHECK VALVES IN HORIZONTAL LINES ON DISCHARGE OF PUMPS AND ELSEWHERE AS INDICATED.

2.4.7. WHERE PIPING PASSES THROUGH MASONRY, FIRE-RATED ASSEMBLIES, FOUNDATION WALLS, POURED WALLS, ETC., PROVIDE PIPE SLEEVES CONSTRUCTED OF SCHEDULE 40 BLACK STEEL PIPE. ALLOW FOR 0.25" OF CLEARANCE BETWEEN INSIDE OF SLEEVE AND OUTSIDE OF PIPE/INSULATION. SEAL WITH A FIRE RETARDANT AND WATERPROOF NON HARDENING MASTIC. WHERE SLEEVE IS INSTALLED IN A FIRE RATED ASSEMBLY, PROVIDE FIRESTOPPING CONFORMING TO ULC.

2.4.8. PROVIDE ESCUTCHEON PLATES ON PIPING PASSING THROUGH FINISHED WALLS, FLOOR AND CEILINGS.

2.4.9. PROPERLY FLUSH AND CLEAN SYSTEM AND REMOVE ALL FOREIGN MATTER PRIOR TO SYSTEM STARTUP. PREPARATORY TO ACCEPTANCE, CLEAN AND REFURBISH EQUIPMENT AND LEAVE IN OPERATING CONDITION, INCLUDING REPLACEMENT OF FILTERS IN PIPING SYSTEMS.

2.4.10. PRESSURE TEST SYSTEM AND MONITOR FOR PRESSURE LOSS FOR A MINIMUM OF 4 HOURS, UNLESS OTHERWISE SPECIFIED.

2.5. HANGERS AND SUPPORTS

2.5.1. UTILIZE PIPE HANGERS AND SUPPORTS CONSTRUCTED OF GALVANIZED STEEL.

2.5.2. INSTALL HANGERS SO THAT RODS ARE VERTICAL. ENSURE LOAD EQUALIZATION WITH ROD ADJUSTMENT.

2.5.3. FOR RISER CLAMPS, PROVIDE GALVANIZED BLACK CARBON STEEL, ULC LISTED OR FM APPROVED WHERE REQUIRED. BOLTS AND NUTS SHALL CONFORM TO ASTM-A307 AND ASTM-A563, RESPECTIVELY.

2.5.4. FOR BASE-MOUNTED EQUIPMENT, PROVIDE CONCRETE HOUSE-KEEPING PADS 4" TALL AND 6" OF SPACE AROUND EQUIPMENT AND CHAMFERED EDGES.

2.5.5. HANGER SPACING

2.5.5.1. PROVIDE HANGERS AT SPACING INDICATED BELOW AND AT EVERY JOINT AND CHANGE OF DIRECTION.

HYDRONIC SYSTEMS

2.5.5.2. PROVIDE HANGERS FOR VARIOUS PIPE SIZES AT THE FOLLOWING SPACING: 1-1/4"ø - 1.8 m, 1-1/2 "ø - 2.4 m AND 2"ø - 2.7 m.

2.6. PIPING INSULATION

2.6.1. PROVIDE PIPING INSULATION FOR THE HYDRONIC SYSTEMS AS FOLLOWS:

2.6.1.1. HEATING WATER (HWS/HWR): TYPE 'A', UP TO 1"ø - 1" THICK, 1-1/4"ø AND LARGER - 1-1/2" THICK.
2.6.1.2. CHILLED WATER (CHWS/CHWR): TYPE 'A', UP TO 1"ø - 1" THICK, 1-1/4"ø AND LARGER - 1-1/2" THICK. RECOVER WITH PVC JACKETING AS SPECIFIED BELOW.
2.6.1.3. CONDENSER WATER (INDOOR CWS/CWR): NOT REQUIRED
2.6.1.3. CONDENSER WATER (OUTDOOR, CWS/CWR): TYPE 'A', ALL SIZES - 1" THICK. RECOVER WITH PVC JACKETING AS SPECIFIED BELOW.

2.6.2. TYPE 'A': JOHNS MANVILLE MICRO-LOK FIBRE GLASS PIPE INSULATION COMPLETE WITH JACKET AND VAPOUR RETARDER. CONNECT SECTIONS OF INSULATION WITH SELF-ADHESIVE BUTT STRIPS SUPPLIED BY THE INSULATION MANUFACTURER.

2.6.3. WHERE NOTED, RECOVER INSULATION WITH HEAVY-GAUGE UV-RESISTANT PVC FITTINGS, COVER AND JACKETING EQUAL TO JOHNS MANVILLE ZESTON 300 SERIES.

2.6.4. PROVIDE PRE-FORMED INSULATION FOR FITTINGS AND VALVES.

3. SYSTEM CHEMICAL TREATMENT

3.1. PROVIDE SYSTEM CHEMICAL TREATMENT AFTER THE SYSTEM HAS BEEN CLEANED AND STARTED UP IN ACCORDANCE WITH THE MECHANICAL SPECIFICATIONS. THIS CONTRACTOR SHALL PAY FOR AND CONTRACT THE SERVICES OF THE BASE BUILDING CHEMICAL TREATMENT CONTRACTOR TO CARRY OUT THE CHEMICAL TREATMENT PROCESS.

VAV SEQUENCE OF OPERATIONS

1. GENERAL

1.1. THE VAV SYSTEM PROVIDES COOLING, HEATING AND VENTILATION TO THE SPACE.

1.2. THE PERIMETER HEATING ELEMENT PROVIDES HEAT TO THE SPACE.

2. MODES OF OPERATION

2.1. THE OCCUPIED AND UNOCCUPIED MODES ARE DETERMINED BY A TIME OF DAY SCHEDULE.

3. OCCUPIED MODE

3.1. OVERVIEW: THE VAV BOX WILL PROVIDE VARIABLE AIRFLOW TO THE SPACE TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT. THE SPACE TEMPERATURE SETPOINT WILL BE SET TO 23 DEG C. A BIAS OF +/- 1 DEG C WILL BE APPLIED TO THE SPACE TEMPERATURE SETPOINT TO ALLOW FOR HEATING AND COOLING CONTROL. COLD AIR FROM THE AIR HANDLING UNIT PROVIDES COOLING TO THE SPACE. PERIMETER HEATING AND THE REHEAT COIL (WHERE APPLICABLE) WILL PROVIDE SOURCES OF HEAT FOR THE SPACE.

3.2. AIRFLOW SETPOINT: THE CONTROLLER WILL READ IN VELOCITY PRESSURE AND CONVERT IT TO AIRFLOW BASED ON THE BOX SIZE. THE AIRFLOW SETPOINT IS AUTOMATICALLY CALCULATED BETWEEN THE MINIMUM AND MAXIMUM VALUES TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT. WHEN THE AIR HANDLING UNIT IS OPERATING, SETPOINT WILL INCREASE TO PROVIDE MORE COOLING AND DECREASE TO PROVIDE LESS COOLING. NOTE IN CASES WHERE THE RHC REQUIRES MORE AIRFLOW THAN THE BOX MIN, THE AIRFLOW SETPOINT WILL INCREASE TO A MAXIMUM OF 50% OF THE COOLING MAX WHEN THE RHC IS FULLY OPEN AND ADDITIONAL HEAT IS REQUIRED.

3.3. DAMPER MODULATION: THE DAMPER WILL MODULATE TO MAINTAIN THE AIRFLOW AT SETPOINT.

3.4. REHEAT COIL VALVE: THE REHEAT COIL VALVE WILL MODULATE TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT ONCE THE VAV BOX IS AT THE MINIMUM HEATING AIRFLOW SETPOINT. IF THE BOX IS EQUIPPED WITH PERIMETER HEATING, THE REHEAT COIL VALVE MODULATION WILL BE HELD OFF UNTIL THE PERIMETER HEATING VALVE IS OPEN.

3.5. PERIMETER HEATING VALVE: THE PERIMETER HEATING VALVE WILL MODULATE TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT ONCE THE VAV BOX IS AT THE MINIMUM HEATING AIRFLOW SETPOINT.

4. UNOCCUPIED MODE

4.1. OVERVIEW: WHEN THE AIR HANDLING UNIT IS RUNNING THE VAV BOX WILL PROVIDE VARIABLE AIRFLOW TO THE SPACE TO MAINTAIN THE SPACE TEMPERATURE AT THE UNOCCUPIED SETPOINTS. THE SPACE TEMPERATURE HEATING SETPOINT WILL BE SET TO 18 DEG C AND THE SPACE TEMPERATURE COOLING SETPOINT WILL BE SET TO 28 DEG C. COLD AIR FROM THE AIR HANDLING UNIT PROVIDES COOLING TO THE SPACE. PERIMETER HEATING (WHERE APPLICABLE) WILL PROVIDE HEATING TO THE SPACE. IF THE AIR HANDLING UNIT IS RUNNING THE REHEAT COIL (WHERE APPLICABLE) WILL PROVIDE HEAT FOR THE SPACE.

4.2. AIRFLOW SETPOINT: THE CONTROLLER WILL READ IN VELOCITY PRESSURE AND CONVERT IT TO AIRFLOW BASED ON THE BOX SIZE. THE AIRFLOW SETPOINT IS AUTOMATICALLY CALCULATED BETWEEN THE UNOCCUPIED MINIMUM AND MAXIMUM VALUES TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT. WHEN THE AIR HANDLING UNIT IS OPERATING, AIRFLOW SETPOINT WILL INCREASE TO PROVIDE MORE COOLING AND DECREASE TO PROVIDE LESS COOLING. NOTE IN CASES WHERE THE RHC REQUIRES MORE AIRFLOW THAN THE BOX MIN, THE AIRFLOW SETPOINT WILL INCREASE TO A MAXIMUM OF 50% OF THE COOLING MAX WHEN THE RHC IS FULLY OPEN AND ADDITIONAL HEAT IS REQUIRED.

4.3. DAMPER MODULATION: THE DAMPER WILL MODULATE TO MAINTAIN THE AIRFLOW AT SETPOINT. IF THE AIR HANDLING UNIT IS OFF THE DAMPER WILL BE FULLY OPEN.

4.4. REHEAT COIL VALVE: IF THE AHU IS ON THE REHEAT COIL VALVE WILL MODULATE TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT ONCE THE VAV BOX IS AT THE MINIMUM HEATING AIRFLOW SETPOINT. IF THE BOX IS EQUIPPED WITH PERIMETER HEATING THE REHEAT COIL VALVE MODULATION WILL BE HELD OFF UNTIL THE PERIMETER HEATING VALVE IS OPEN.

4.5. PERIMETER HEATING VALVE: THE PERIMETER HEATING VALVE WILL MODULATE TO MAINTAIN THE SPACE TEMPERATURE AT SETPOINT ONCE THE VAV BOX IS AT THE MINIMUM HEATING AIRFLOW SETPOINT (UNLESS THE AHU IS OFF IN WHICH CASE THE PH VALVE WILL SIMPLY MODULATE TO MAINTAIN TEMPERATURE).

5. INTEGRATION WITH OTHER SYSTEMS

5.1. A STARVED BOX (AIRFLOW) FLAG IS SET WHEN THE DAMPER IS FULLY OPEN AND AIRFLOW IS BELOW SETPOINT.

6. CRITICAL EVENTS

6.1. THE SPACE TEMPERATURE DROPS BELOW 10 DEG C.

7. NON-CRITICAL EVENTS

7.1. THE SPACE TEMPERATURE IS MORE THAN 2 DEG C ABOVE OR BELOW SETPOINT (30 MINUTE DELAY).

7.2. MANUAL OVERRIDES ARE PLACED ON THE SYSTEM.

8. TRENDS

8.1. ALL INPUTS AND OUTPUTS WILL BE TRENDED AT 30 MINUTE INTERVALS FOR 3 DAYS.

8.2. ADDITIONALLY THE FOLLOWING WILL ALSO BE TRENDED:

8.2.1. AIRFLOW SETPOINT.
8.2.2. SPACE TEMPERATURE SETPOINT.

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MECHANICAL SPECIFICATIONS III AND SEQUENCE OF OPRERATIONS

Drawn By: G.G. Checked By: J.H.
Issued Date: 11-09-2024
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RADIANT PANEL SCHEDULE

REF.	TYPE	MANU.	MODEL	CONFIG.	PANEL WIDTH (IN.)	ACTIVE LENGTH (IN.)	ROWS	HEATING OUTPUT DENSITY (BTU/FT)	HEATING WATER			TOTAL CAPACITY (MBH)	WPD (FT.H2O)	REMARKS
									FLOW RATE (GPM)	EWT (°F)	LWT (°F)			
A	RH–1	ENGINEERED AIR	HEF–2	CEILING MOUNTED	24	90.0	4	389	0.292	180	160	2.92	0.11	CEILING MOUNTED RADIANT PANEL HEATER, 24 INCHES WIDE, CONSTRUCTED FROM ALUMINUM EXTRUSIONS, EXACT PANEL LENGTH FIELD CUT ON SITE TO SUIT INSTALLATION CONDITIONS. THERMOSTAT AND CONTROLS SHALL BE PROVIDED BY CONTROLS CONTRACTOR TO MATCH BASE BUILDING.
B	RH–2 RH–3 RH–4 RH–5	ENGINEERED AIR	HEF–2	CEILING MOUNTED	24	227.0	4	389	0.735	180	160	7.35	1.28	CEILING MOUNTED RADIANT PANEL HEATER, 24 INCHES WIDE, CONSTRUCTED FROM ALUMINUM EXTRUSIONS, EXACT PANEL LENGTH FIELD CUT ON SITE TO SUIT INSTALLATION CONDITIONS. THERMOSTAT AND CONTROLS SHALL BE PROVIDED BY CONTROLS CONTRACTOR TO MATCH BASE BUILDING.
C	RH–5	ENGINEERED AIR	HEF–2	CEILING MOUNTED	24	220.0	4	389	0.712	180	160	7.12	1.24	CEILING MOUNTED RADIANT PANEL HEATER, 24 INCHES WIDE, CONSTRUCTED FROM ALUMINUM EXTRUSIONS, EXACT PANEL LENGTH FIELD CUT ON SITE TO SUIT INSTALLATION CONDITIONS. THERMOSTAT AND CONTROLS SHALL BE PROVIDED BY CONTROLS CONTRACTOR TO MATCH BASE BUILDING.
D	RH–6	ENGINEERED AIR	HEF–2	CEILING MOUNTED	24	216.0	4	389	0.700	180	160	7.00	2.8	CEILING MOUNTED RADIANT PANEL HEATER, 24 INCHES WIDE, CONSTRUCTED FROM ALUMINUM EXTRUSIONS, EXACT PANEL LENGTH FIELD CUT ON SITE TO SUIT INSTALLATION CONDITIONS. THERMOSTAT AND CONTROLS SHALL BE PROVIDED BY CONTROLS CONTRACTOR TO MATCH BASE BUILDING.

NOTES:

1. CONNECT CONTROL VALVE TO BAS AND MATCH DEVICES AND CONTROL STRATEGIES TO BASE BUILDING. WHERE NO CONTROL STRATEGY EXISTS, REFER TO SEQUENCE OF OPERATIONS.
2. FLOOR PLANS ONLY DEPICT ACTIVE LENGTHS, PROVIDE BLANK OFF SECTIONS ACROSS COLUMNS FOR CONTINUOUS PANEL INSTALLATION. CONTRACTOR TO FIELD CUT ON SITE TO ACCOMMODATE COLUMNS AND OTHER OBSTRUCTIONS.

DIFFUSER SCHEDULE

TAG	MAKE/MODEL	FINISH	REMARKS
A	EH PRICE MODEL SPD 24/24 SQUARE S/A DIFFUSER	–	SQUARE PLAQUE DIFFUSER, STEEL CONSTRUCTION FOR T–BAR LAY–IN. SIZE NECK AND BALANCE AS INDICATED ON DRAWING.
B	EH PRICE MODEL 80 EGG CRATE GRILLE	–	CORE ONLY, 1/2"x1/2"x1/2" ALUMINUM GRID CORE, FOR T–BAR LAY–IN. SIZE AS INDICATED ON DRAWINGS.

NOTES:

1. SIZE ALL GRILLES, DIFFUSERS, ETC. AS PER MECHANICAL DRAWINGS.
2. CONFIRM ALL FINISHES WITH ARCHITECT/INTERIOR DESIGNER.

VAV TERMINAL UNIT SCHEDULE

TAG	MANU.	MODEL NO.	INLET SIZE DIA. (IN.)	MAX (CFM)	MIN (CFM)	HEATING COIL PERFORMANCE				CONTROLS TYPE	REMARKS
						AIRFLOW (CFM)	WATER (GPM)	CAP. (MBH)	EWT/LWT (°F)		
VAV–1	EH PRICE	SDV	10"ø	1000	300	500	2.0	19.6	180/160	DIGITAL	PRESSURE INDEPENDENT VAV TERMINAL UNIT C/W 3'–0" SOUND ATTENUATOR AND HIGH CAPACITY 1 ROW MULTI CIRCUIT HYDRONIC REHEAT COIL. CONTROLS PROVIDED BY CONTROLS CONTRACTOR TO MATCH BASE BUILDING. PROVIDE BELIMO ZONE TIGHT 2–WAY CONTROL VALVE WITH ELECTRONIC ACTUATOR.
VAV–2	EH PRICE	SDV	10"ø	1000	300	500	2.0	19.6	180/160	DIGITAL	PRESSURE INDEPENDENT VAV TERMINAL UNIT C/W 3'–0" SOUND ATTENUATOR AND HIGH CAPACITY 1 ROW MULTI CIRCUIT HYDRONIC REHEAT COIL. CONTROLS PROVIDED BY CONTROLS CONTRACTOR TO MATCH BASE BUILDING. PROVIDE BELIMO ZONE TIGHT 2–WAY CONTROL VALVE WITH ELECTRONIC ACTUATOR.
VAV–3	EH PRICE	SDV	10"ø	900	270	450	2.0	16.8	180/160	DIGITAL	PRESSURE INDEPENDENT VAV TERMINAL UNIT C/W 3'–0" SOUND ATTENUATOR AND STANDARD CAPACITY 1 ROW MULTI CIRCUIT HYDRONIC REHEAT COIL. CONTROLS PROVIDED BY CONTROLS CONTRACTOR TO MATCH BASE BUILDING. PROVIDE BELIMO ZONE TIGHT 2–WAY CONTROL VALVE WITH ELECTRONIC ACTUATOR.
VAV–4	EH PRICE	SDV	10"ø	900	270	450	2.0	16.8	180/160	DIGITAL	PRESSURE INDEPENDENT VAV TERMINAL UNIT C/W 3'–0" SOUND ATTENUATOR AND STANDARD CAPACITY 1 ROW MULTI CIRCUIT HYDRONIC REHEAT COIL. CONTROLS PROVIDED BY CONTROLS CONTRACTOR TO MATCH BASE BUILDING. PROVIDE BELIMO ZONE TIGHT 2–WAY CONTROL VALVE WITH ELECTRONIC ACTUATOR.

NOTES:

1. COORDINATE ALL REQUIRED POWER AND LOCATIONS WITH DIV.26.
2. INCLUDE FOR ALL WORK ASSOCIATED WITH CONNECTION TO BAS SYSTEM.
3. CONTROLS WORK SHALL BE CARRIED OUT BY THE BASE BUILDING CONTROLS CONTRACTOR AT THE EXPENSE OF DIV.23.
4. ALL TERMINAL UNITS SHALL BE PROVIDED WITH FACTORY–SUPPLIED 3'–0" SOUND ATTENUATOR, UNLESS NOTED OTHERWISE.
5. ALL VAV'S COMPLETE WITH REHEAT COIL AS SPECIFIED.

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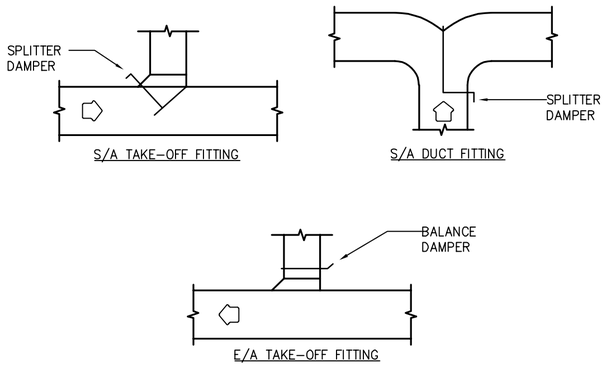
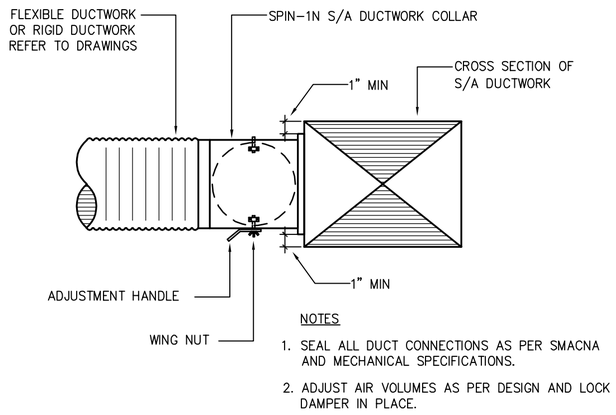


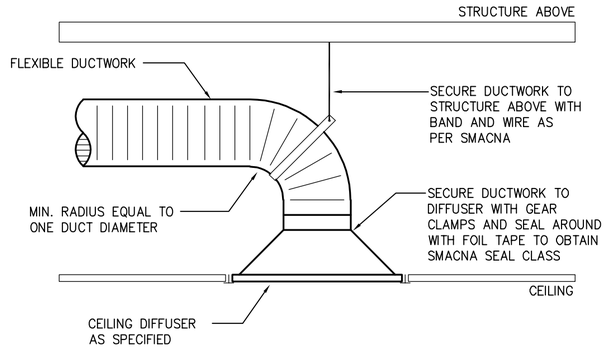
1 M-1.6 DUCTWORK FITTINGS DETAIL

NTS



2 M-1.6 SPIN-IN DUCT COLLAR CONNECTION DETAIL

NTS



3 M-1.6 DIFFUSER SUPPORT DETAIL

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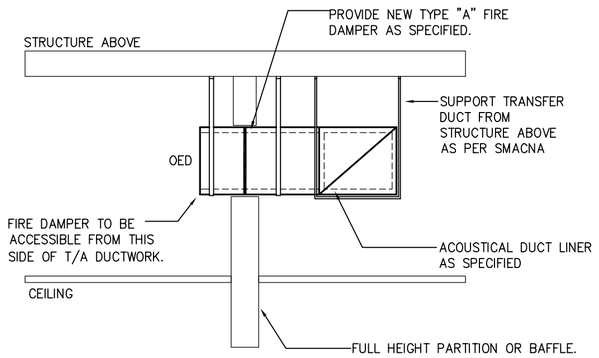

4 M-1.6 TRANSFER DUCTWORK DETAIL

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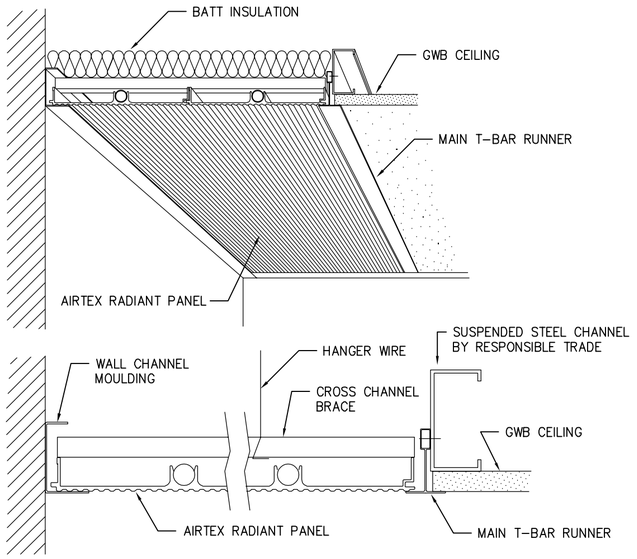
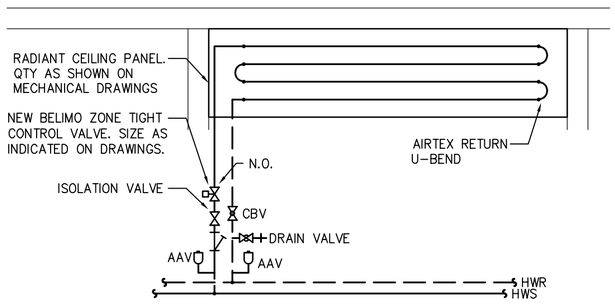


5 M-1.6 RADIANT CEILING PANEL INSTALLATION DETAIL

NTS



6 M-1.6 RADIANT PANEL PIPING DETAIL

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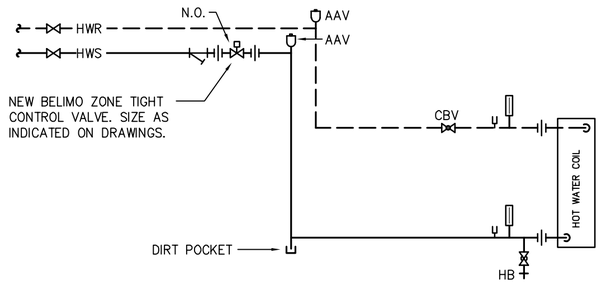
NOTES

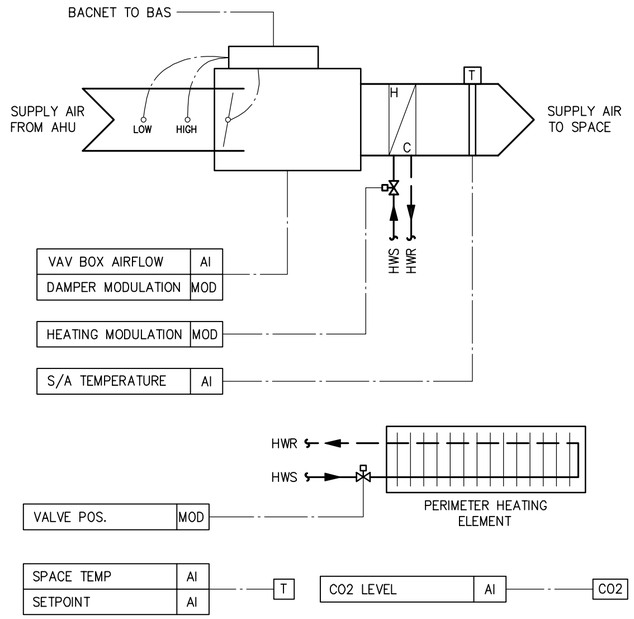
1. GENERAL INSTALLATION DETAIL SHOWN.
2. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS.



1 M-1.7 **VAV REHEAT COIL CONNECTION DETAIL**
NTS

NOTES

1. ALL CONTROLS WORK TO BE CARRIED OUT BY BASE BUILDING CONTROLS CONTRACTOR AT THE EXPENSE OF DIV. 23.



2 M-1.7 **TYPICAL CONTROLS SCHEMATIC**
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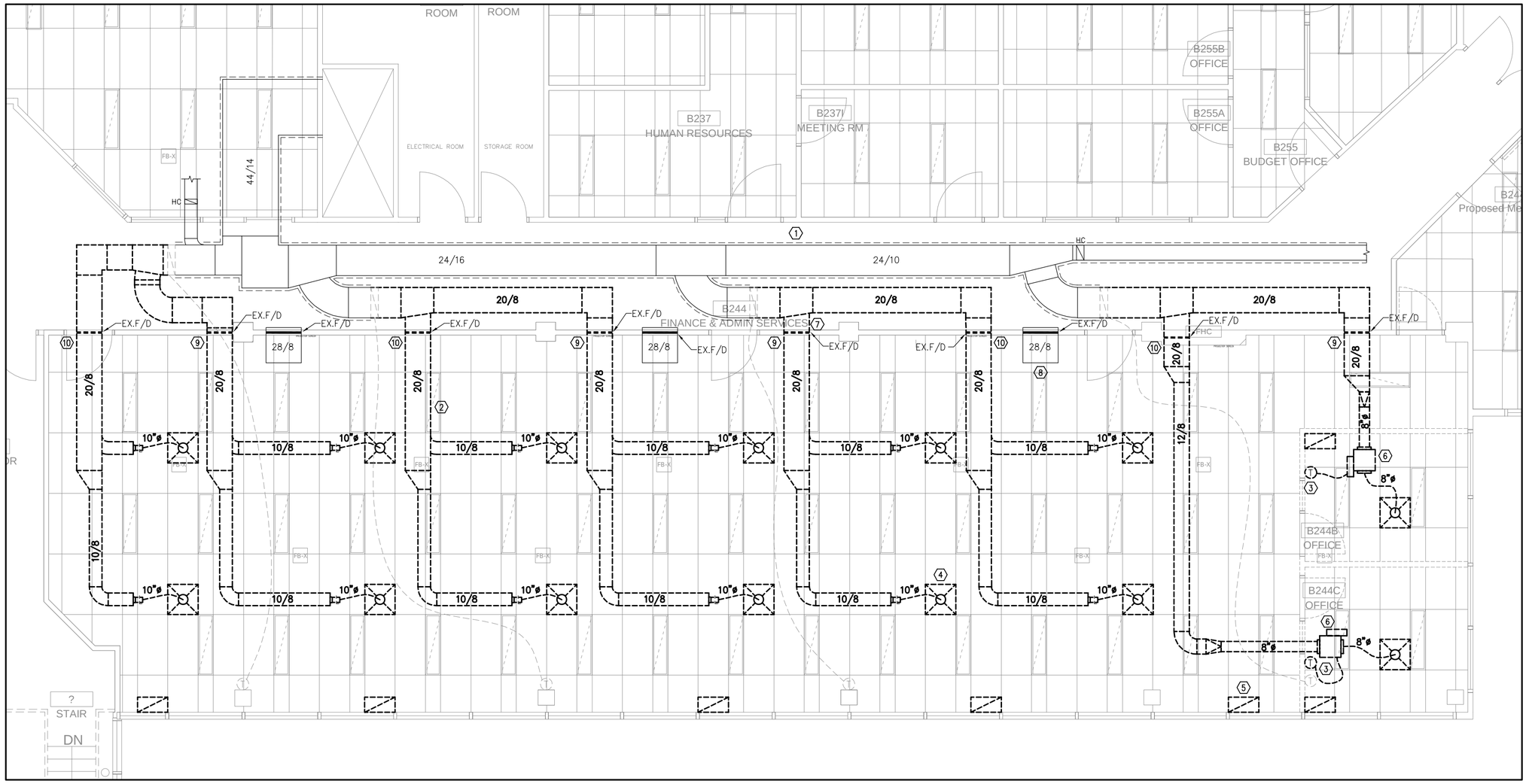

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M-2.1

SECOND FLOOR PLAN - HVAC DEMOLITION

HVAC NOTES

1. EXISTING S/A DUCTWORK TO REMAIN (TYPICAL).
2. EXISTING S/A DUCTWORK TO BE REMOVED AND DISPOSED OF (TYPICAL).
3. EXISTING SIEMENS THERMOSTAT AND ASSOCIATED PNEUMATIC TUBING TO BE REMOVED, DECOMMISSIONED AND DISPOSED OF.
4. EXISTING S/A DIFFUSER AND ASSOCIATED FLEXIBLE DUCTWORK TO BE REMOVED AND DISPOSED OF (TYPICAL).
5. EXISTING R/A GRILLE TO BE REMOVED AND DISPOSED OF (TYPICAL).
6. EXISTING VVT BOX AND ASSOCIATED PNEUMATIC TUBING TO BE REMOVED, DECOMMISSIONED AND DISPOSED OF.
7. EXISTING FIRE DAMPER AT S/A DUCTWORK PENETRATION THROUGH WALL TO BE REMOVED AND DISPOSED OF (TYPICAL).
8. EXISTING T/A DUCTWORK TO REMAIN.
9. EXISTING OPENING IN RATED PARTITION ABOVE CEILING TO BE PATCHED TO BASE BUILDING STANDARDS.
10. EXISTING OPENING IN RATED PARTITION ABOVE CEILING TO REMAIN FOR NEW DUCT PENETRATION. ENLARGE PENETRATION AS REQUIRED TO SUIT NEW S/A DUCT SIZE. REFER TO NEW HVAC PLANS.

GENERAL HVAC NOTES

1. WHERE COMPONENTS ARE TO BE REUSED, THE CONTRACTOR SHALL CLEAN AND TEST THE COMPONENT TO ENSURE PROPER OPERATION. THE CONSULTANT SHALL BE NOTIFIED IN THE EVENT THERE IS A DEFICIENCY WITH THE COMPONENT.
2. PERFORM DEMOLITION WORK SO AS TO CAUSE MINIMAL DISTURBANCE TO OWNER AND/OR ADJACENT AREAS. MINIMIZE DUST AND NOISE AND PROVIDE TEMPORARY AIR FILTERS ON AIR HANDLING SYSTEMS AFFECT BY THE AREA OF WORK. ALL COSTS ASSOCIATED WITH DAMAGES AS A RESULT OF THE MECHANICAL DEMOLITION SHALL BE COVERED BY DIV.23. MAINTAIN SAFETY STANDARDS AND PROVIDE ADEQUATE SIGNAGE FOR BOTH WORKERS AND OCCUPANTS.
3. THE MECHANICAL DRAWINGS DISPLAY A GENERAL DESIGN AND INSTALLATION. THEREFORE, IF REQUIRED, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE CONSULTANT PRIOR TO INSTALLATION.
4. THESE DRAWINGS HAVE BEEN PREPARED FOR DIV.23 AND DO NOT ACCURATELY DISPLAY ALL ELECTRICAL, STRUCTURAL AND ARCHITECTURAL ELEMENTS. REFER TO OTHER DIVISION'S DRAWINGS FOR CLARIFICATION.
5. THIS CONTRACTOR SHALL VISIT THE SITE AND COMPLETELY INVESTIGATE AND UNDERSTAND THE EXISTING CONDITIONS AND THEIR RELATION TO THE DESIGN DRAWINGS/DOCUMENTS. NO CONSIDERATION WILL BE GIVEN TO THE CONTRACTOR FOR ANY HINDRANCES TO THE MECHANICAL INSTALLATION FROM SITE CONDITIONS WHICH EXISTED PRIOR TO TENDER SUBMISSION. AS SUCH AND WHERE REQUIRED, THE CONTRACTOR SHALL PROVIDE INTERFERENCE DRAWINGS AND SHALL SUBMIT THEM TO THE CONSULTANT FOR REVIEW.

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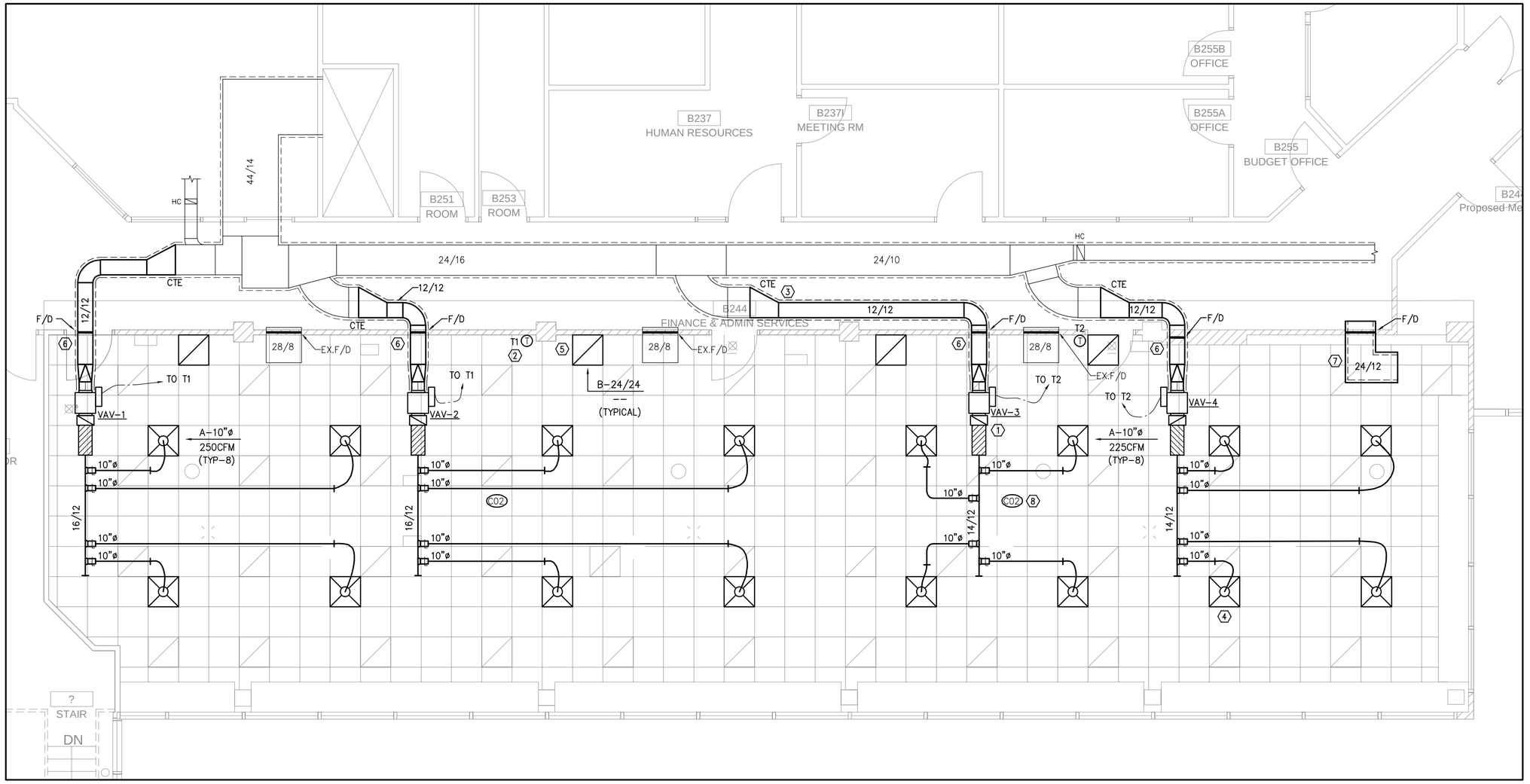

1
M-2.2

SECOND FLOOR PLAN - HVAC NEW

HVAC NOTES

1. PROVIDE NEW VAV C/W REHEAT COIL AS SPECIFIED AND INTERLOCK WITH BAS. BALANCE AS INDICATED IN MECHANICAL SCHEDULES (TYPICAL).
2. PROVIDE NEW SHERIDAN STANDARD DELTA THERMOSTAT WHERE SHOWN SERVING VAV TERMINAL UNITS. EXACT LOCATION TO BE COORDINATED ON SITE WITH CLIENT (TYPICAL).
3. PROVIDE NEW THERMALLY INSULATED S/A DUCTWORK. CONNECT TO EXISTING WHERE SHOWN AND PROVIDE TRANSITION AS REQUIRED TO SUIT EXISTING DUCTWORK (TYPICAL).
4. PROVIDE NEW SQUARE S/A PLAQUE DIFFUSER AS SPECIFIED (TYPICAL).
5. PROVIDE NEW R/A GRILLE AS SPECIFIED (TYPICAL).
6. NEW S/A DUCTWORK TO PENETRATE WALL IN SAME LOCATION OF EXISTING PENETRATION. PROVIDE NEW FIRE DAMPER AT RATED WALL. MODIFY SIZE OF EXISTING PENETRATION AS REQUIRED TO SUIT NEW DUCT SIZE.
7. PROVIDE NEW ACOUSTICALLY LINED T/A DUCTWORK C/W FIRE DAMPER AT CORRIDOR PENETRATION. ENSURE FIRE DAMPER IS FULLY ACCESSIBLE FROM CORRIDOR SIDE.
8. PROVIDE NEW CEILING MOUNTED CO2 SENSOR TO MATCH BASE BUILDING. CONTROLS AND GRAPHICS TO MATCH BASE BUILDING CONTROLS SEQUENCE (TYPICAL).

GENERAL HVAC NOTES

1. WHERE COMPONENTS ARE TO BE REUSED, THE CONTRACTOR SHALL CLEAN AND TEST THE COMPONENT TO ENSURE PROPER OPERATION. THE CONSULTANT SHALL BE NOTIFIED IN THE EVENT THERE IS A DEFICIENCY WITH THE COMPONENT.
2. PERFORM DEMOLITION WORK SO AS TO CAUSE MINIMAL DISTURBANCE TO OWNER AND/OR ADJACENT AREAS. MINIMIZE DUST AND NOISE AND PROVIDE TEMPORARY AIR FILTERS ON AIR HANDLING SYSTEMS AFFECT BY THE AREA OF WORK. ALL COSTS ASSOCIATED WITH DAMAGES AS A RESULT OF THE MECHANICAL DEMOLITION SHALL BE COVERED BY DIV.23. MAINTAIN SAFETY STANDARDS AND PROVIDE ADEQUATE SIGNAGE FOR BOTH WORKERS AND OCCUPANTS.
3. THE MECHANICAL DRAWINGS DISPLAY A GENERAL DESIGN AND INSTALLATION. THEREFORE, IF REQUIRED, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE CONSULTANT PRIOR TO INSTALLATION.
4. THESE DRAWINGS HAVE BEEN PREPARED FOR DIV.23 AND DO NOT ACCURATELY DISPLAY ALL ELECTRICAL, STRUCTURAL AND ARCHITECTURAL ELEMENTS. REFER TO OTHER DIVISION'S DRAWINGS FOR CLARIFICATION.
5. THIS CONTRACTOR SHALL VISIT THE SITE AND COMPLETELY INVESTIGATE AND UNDERSTAND THE EXISTING CONDITIONS AND THEIR RELATION TO THE DESIGN DRAWINGS/DOCUMENTS. NO CONSIDERATION WILL BE GIVEN TO THE CONTRACTOR FOR ANY HINDRANCES TO THE MECHANICAL INSTALLATION FROM SITE CONDITIONS WHICH EXISTED PRIOR TO TENDER SUBMISSION. AS SUCH AND WHERE REQUIRED, THE CONTRACTOR SHALL PROVIDE INTERFERENCE DRAWINGS AND SHALL SUBMIT THEM TO THE CONSULTANT FOR REVIEW.
6. HEATING/COOLING FUNCTIONALITY SHALL BE COMMISSIONED DURING SUMMER/WINTER SEASON PRIOR TO CONSTRUCTION COMPLETION.
7. ALL CONTROLS WORK TO BE CARRIED OUT BY BASE BUILDING CONTROLS CONTRACTOR AT THE EXPENSE OF DIV. 23.

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Consultant Seal

No.	Issues/Revisions	Date
4	ISSUED FOR TENDER	2024-11-20
3	RE-ISSUED FOR 100% REVIEW	2024-11-19
2	ISSUED FOR 100% REVIEW	2024-11-05
1	ISSUED FOR REVIEW	2024-10-23

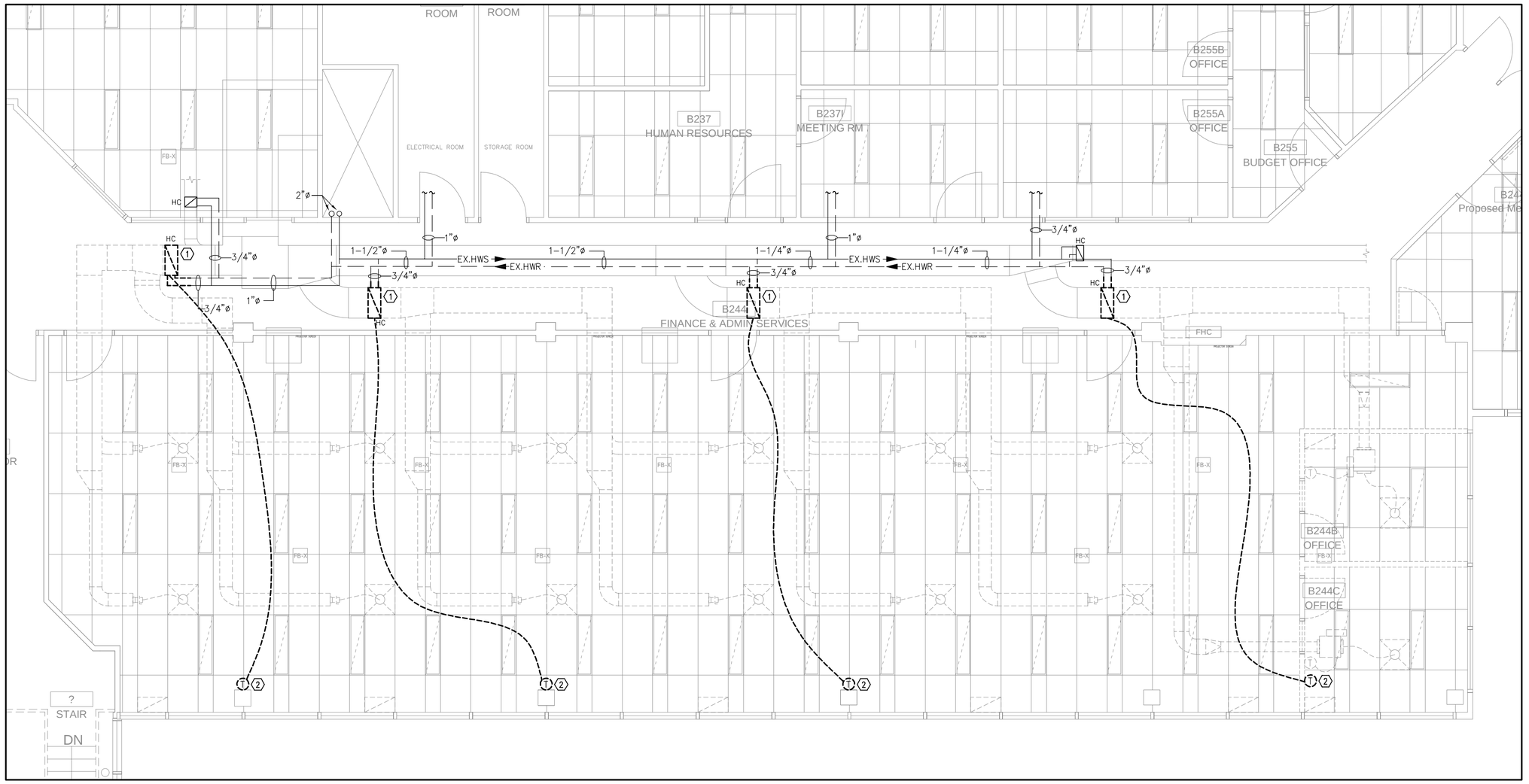
Project Name: Trafalgar Campus - B244 Classroom Renovation

Seal:

Sheet Name: SECOND FLOOR PLAN - HVAC NEW

Drawn By: G.G. Checked By: J.H.
Issued Date: 11-09-2024
Project Number: 24-168 Scale: AS NOTED

Drawing No.: M-2.2



SECOND FLOOR PLAN - HYDRONICS DEMOLITION

1 / M-2.3

HVAC NOTES

1. EXISTING HYDRONIC REHEAT COIL AND ALL ASSOCIATED VALVES TO BE REMOVED AND DISPOSED OF. REMOVE EXISTING HWS/HWR PIPING BACK TO WHERE SHOWN. PREPARE FOR NEW CONNECTION.
2. EXISTING THERMOSTAT AND ASSOCIATED CONTROL WIRING/PNEUMATIC TUBING TO BE REMOVED AND DISPOSED OF.

GENERAL HVAC NOTES

1. WHERE COMPONENTS ARE TO BE REUSED, THE CONTRACTOR SHALL CLEAN AND TEST THE COMPONENT TO ENSURE PROPER OPERATION. THE CONSULTANT SHALL BE NOTIFIED IN THE EVENT THERE IS A DEFICIENCY WITH THE COMPONENT.
2. PERFORM DEMOLITION WORK SO AS TO CAUSE MINIMAL DISTURBANCE TO OWNER AND/OR ADJACENT AREAS. MINIMIZE DUST AND NOISE AND PROVIDE TEMPORARY AIR FILTERS ON AIR HANDLING SYSTEMS AFFECT BY THE AREA OF WORK. ALL COSTS ASSOCIATED WITH DAMAGES AS A RESULT OF THE MECHANICAL DEMOLITION SHALL BE COVERED BY DIV.23. MAINTAIN SAFETY STANDARDS AND PROVIDE ADEQUATE SIGNAGE FOR BOTH WORKERS AND OCCUPANTS.
3. THE MECHANICAL DRAWINGS DISPLAY A GENERAL DESIGN AND INSTALLATION. THEREFORE, IF REQUIRED, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE CONSULTANT PRIOR TO INSTALLATION.
4. THESE DRAWINGS HAVE BEEN PREPARED FOR DIV.23 AND DO NOT ACCURATELY DISPLAY ALL ELECTRICAL, STRUCTURAL AND ARCHITECTURAL ELEMENTS. REFER TO OTHER DIVISION'S DRAWINGS FOR CLARIFICATION.
5. THIS CONTRACTOR SHALL VISIT THE SITE AND COMPLETELY INVESTIGATE AND UNDERSTAND THE EXISTING CONDITIONS AND THEIR RELATION TO THE DESIGN DRAWINGS/DOCUMENTS. NO CONSIDERATION WILL BE GIVEN TO THE CONTRACTOR FOR ANY HINDRANCES TO THE MECHANICAL INSTALLATION FROM SITE CONDITIONS WHICH EXISTED PRIOR TO TENDER SUBMISSION. AS SUCH AND WHERE REQUIRED, THE CONTRACTOR SHALL PROVIDE INTERFERENCE DRAWINGS AND SHALL SUBMIT THEM TO THE CONSULTANT FOR REVIEW.

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Seal:

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Issued Date: 11-09-2024

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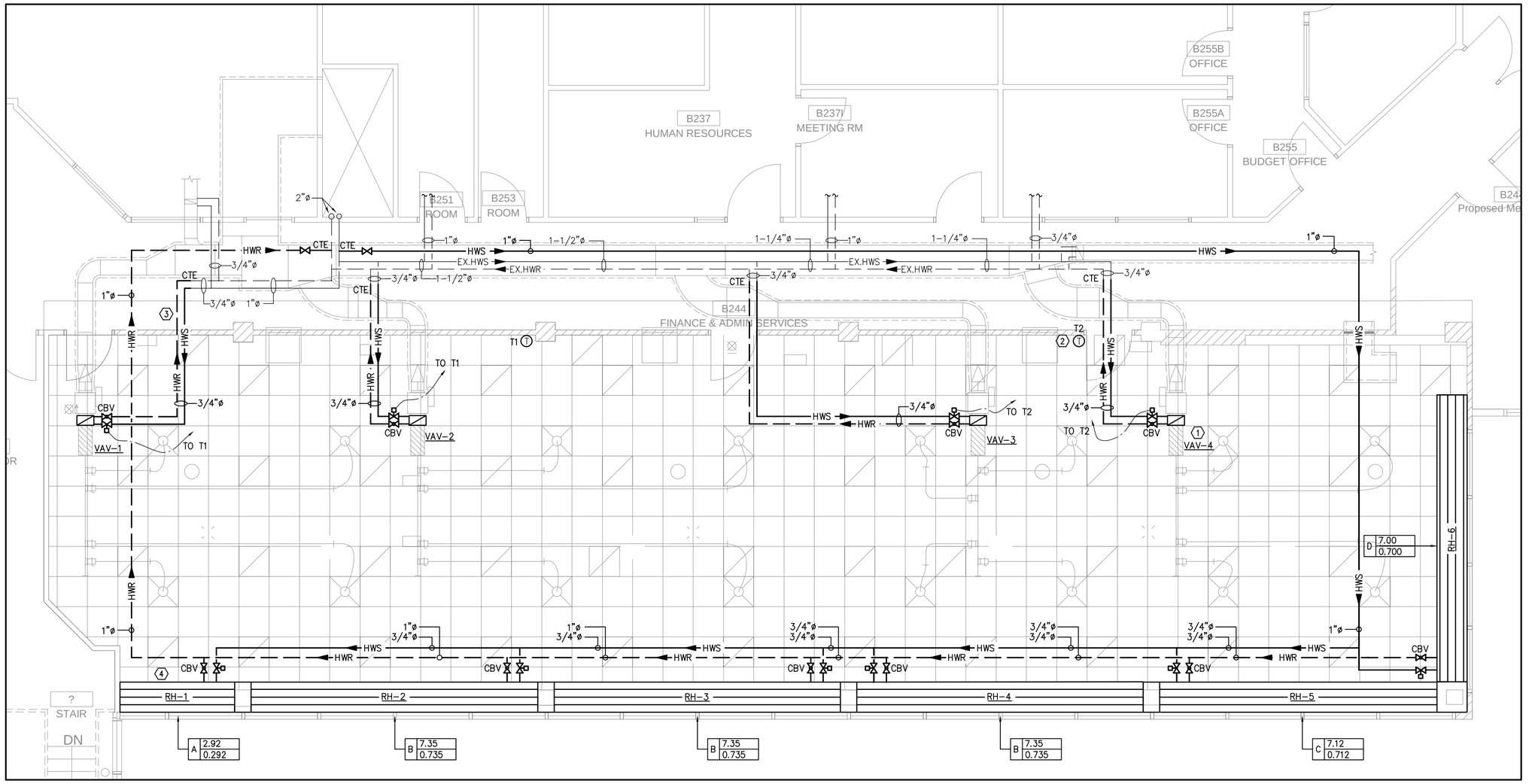

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M-2.4

SECOND FLOOR PLAN - HYDRONICS NEW

HVAC NOTES

1. PROVIDE NEW VAV C/W REHEAT COIL AS SPECIFIED AND INTERLOCK WITH BAS. BALANCE AS INDICATED IN MECHANICAL SCHEDULES (TYPICAL).
2. PROVIDE NEW SHERIDAN STANDARD DELTA THERMOSTAT WHERE SHOWN SERVING VAV TERMINAL UNITS. EXACT LOCATION TO BE COORDINATED ON SITE WITH CLIENT (TYPICAL).
3. PROVIDE NEW HYDRONIC PIPING IN CEILING SPACE (TYPICAL).
4. PROVIDE NEW CEILING MOUNTED RADIANT PANEL AS SPECIFIED C/W ALL HANGERS AND SUPPORTS AS REQUIRED. REFER TO DETAILS (TYPICAL).

GENERAL HVAC NOTES

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3. THE MECHANICAL DRAWINGS DISPLAY A GENERAL DESIGN AND INSTALLATION. THEREFORE, IF REQUIRED, THE CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE CONSULTANT PRIOR TO INSTALLATION.
4. THESE DRAWINGS HAVE BEEN PREPARED FOR DIV.23 AND DO NOT ACCURATELY DISPLAY ALL ELECTRICAL, STRUCTURAL AND ARCHITECTURAL ELEMENTS. REFER TO OTHER DIVISION'S DRAWINGS FOR CLARIFICATION.
5. THIS CONTRACTOR SHALL VISIT THE SITE AND COMPLETELY INVESTIGATE AND UNDERSTAND THE EXISTING CONDITIONS AND THEIR RELATION TO THE DESIGN DRAWINGS/DOCUMENTS. NO CONSIDERATION WILL BE GIVEN TO THE CONTRACTOR FOR ANY HINDRANCES TO THE MECHANICAL INSTALLATION FROM SITE CONDITIONS WHICH EXISTED PRIOR TO TENDER SUBMISSION. AS SUCH AND WHERE REQUIRED, THE CONTRACTOR SHALL PROVIDE INTERFERENCE DRAWINGS AND SHALL SUBMIT THEM TO THE CONSULTANT FOR REVIEW.
6. HEATING/COOLING FUNCTIONALITY SHALL BE COMMISSIONED DURING SUMMER/WINTER SEASON PRIOR TO CONSTRUCTION COMPLETION.
7. ALL CONTROLS WORK TO BE CARRIED OUT BY BASE BUILDING CONTROLS CONTRACTOR AT THE EXPENSE OF DIV. 23.

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