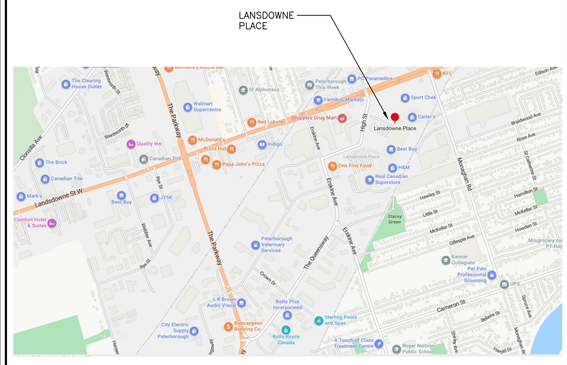

LANDLORD NOTES

1. ATTACHMENTS/PENETRATIONS OR SUSPENSION FROM ROOF DECK ARE NOT PERMITTED. ALL SUPPORT HANGERS/BRACING IS TO BE SECURED TO STEEL STRUCTURE ONLY.
2. TENANT FORCES RESPONSIBLE FOR SCANNING/X–RAYING CONCRETE SLAB PRIOR TO CORING, TRENCHING, DRILLING, ETC.
3. CLOSE OUT DOCUMENTS TO BE SUBMITTED TO LANDLORD: OCCUPANCY PERMIT, SUBMIT AIR BALANCING REPORT AND PROVIDE AS BUILT DRAWINGS AT END OF PROJECT.
4. UNION: THE FOLLOWING PROPERTY HAS UNION AFFILIATION REQUIREMENTS. REFER TO TENANT CONSTRUCTION SITE RULES AND REGULATIONS FOR ADDITIONAL INFORMATION.
5. PRIOR TO CONSTRUCTION COMMENCING, TENANT CONTRACTOR TO SCHEDULE A MEETING WITH ONSITE MALL MANAGEMENT TO REVIEW: MALL'S RULES AND REGULATIONS, ACTIVITIES IMPACTING THE CENTRE AND TO PROVIDE ALL APPLICABLE START UP DOCUMENTS.
6. ALL ROOF, SPRINKLER, FIRE ALARM WORK BY LANDLORD DESIGNATED BASE BUILDING CONTRACTORS ONLY. TO BE ENGAGED BY TENANT AT TENANT'S COST.
7. PREMISES IS PROVIDED IN AN "AS IS" CONDITION.
8. ALL WORK IS BY TENANT AT TENANT'S EXPENSE.

1

TORRID

LANSDOWNE PLACE

645 LANSDOWNE ST. W, SPACE NO. 161

PETERBOROUGH, ON K9J 7YK

STORE #3541-B

City of Peterborough
Recieved
May 19, 2023
Building Services Division

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

City of Peterborough
Building Code Review
By: Jeremy Bender
BCIN: 27481 Date: May 26, 2023
For Inspection and Inquiries
Please Call: 705.742.7777 ext 1892

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR
A.F.C.	ABOVE FINISHED CEILING
AC.T.	ACOUSTICAL TILE
ADJ.	ADJACENT
ALT.	ALTERNATE
APPROX.	APPROXIMATE
ARCH.	ARCHITECT (URAL)
BLK.	BLOCK
BLKG.	BLOCKING
BD.	BOARD
CLG.	CEILING
CLG.HT.	CEILING HEIGHT
CLR.	CLEAR (ANCE)
CLO.	CLOSET
COL.	COLUMN
C.M.U.	CONCRETE MASONRY UNIT
CONST.	CONSTRUCTION
COORD.	COORDINATE
CORR.	CORRIDOR
CTR.	CENTER
C.T.	CERAMIC TILE
DET.	DETAIL
DIAG.	DIAGONAL
DIA.	DIAMETER
DIF.	DIFFUSER
DIM.	DIMENSION
DISP.	DISPENSER
DR.	DOOR
DWG.	DRAWING
ELEC.	ELECTRICAL
E.P.	ELECTRIC PANEL
ELEV.	ELEVATION
E.W.C.	ELECTRIC WATER COOLER
EXIST	EXISTING
EQUIP.	EQUIPMENT
EXH.	EXHAUST
EXP. JT.	EXPANSION JOINT
FIN.	FINISH (ED)
F.E.	FIRE EXTINGUISHER
FP.	FIREPROOFING
F.D.	FLOOR DRAIN
FLUOR.	FLUORESCENT
F.R.T.	FIRE RETARDANT TREATED
FURR.	FURRED (ING)
GA.	GAUGE
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
GYP. BD.	GYPSUM BOARD
H.V.A.C.	HEATING/VENTILATION/ AIR CONDITIONING
H.C.	HOLLOW CORE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
H.W.	HOT WATER
IN.(")	INCH
INT.	INTERIOR
JT.	JOINT
MFR.	MANUFACTURE (R)
MECH.	MECHANIC (AL)
MTL.	METAL
MEZZ.	MEZZANINE
MIN. (')	MINIMUM, MINUTE
MISC.	MISCELLANEOUS
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO. or #	NUMBER
O.F.C.I.	OWNER FURNISHED CONTRACTOR INSTALLED
O.F.O.I.	OWNER FURNISHED OWNER INSTALLED
O.C.	ON CENTER (S)
OPP.	OPPOSITE
P. L.	PLASTIC LAMINATE
PLBG.	PLUMBING
PWD.	PLYWOOD
PVC.	POLYVINYL CHLORIDE
P.M.	PROJECT MANAGER
R.A.	RETURN AIR
R.C.P.	REFLECTED CEILING PLAN
REF.	REFERENCE
REG.	REGISTER
REINF.	REINFORCE (D), (ING)
REQ'D.	REQUIRED (REQ.)
REV.	REVISION (S), REVISED
R.O.	ROUGH OPENING
SHT.	SHEET
SIM.	SIMILAR
S.C.	SOLID CORE
S.S.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STO.	STORAGE
S.D.	STORM DRAIN
STRUCT.	STRUCTURAL
SUSP.	SUSPENDED
T.B.D.	TO BE DETERMINED
TEL.	TELEPHONE
TS.	TUBE STEEL
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
VEST.	VESTIBULE
V.C.T.	VINYL COMPOSITION TILE
V.I.F.	VERIFY IN FIELD
W.C.	WATER CLOSET
WP.	WATERPROOF(ING)
WS.	WEATHER STRIPPING
W/	WITH
W/O	WITHOUT
WD.	WOOD

GRAPHIC SYMBOLS

GENERAL NOTES

1. BEFORE PROCEEDING WITH AND SUBMITTING BID PROPOSALS FOR THE WORK IN THESE SPECIFICATIONS & DRAWINGS, EACH CONTRACTOR/ SUBCONTRACTOR SHALL EXAMINE THE SITE AND FAMILIARIZE THEMSELVES WITH ALL EXIST. CONDITIONS. NO EXTRA COMPENSATION WILL BE ALLOWED BECAUSE OF A MISUNDERSTANDING AS TO THE AMOUNT OF WORK INVOLVED OR LACK OF KNOWLEDGE OF EXISTING CONDITIONS. IN CASE OF ANY INCONSISTENCIES OR DISCREPANCIES BETWEEN DRAWINGS, THE MOST STRINGENT NOTE OR CONDITION SHALL APPLY AND THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF SUCH DISCREPANCIES. NOT REPORTING ANY SUCH UNSUITABLE CONDITION WILL CONSTITUTE ACCEPTANCE OF ALL CONDITIONS BY CONTRACTOR AND/OR SUBCONTRACTOR.
2. PERSONALLY SUPERVISE & DIRECT ALL WORK. BE RESPONSIBLE FOR ALL CONSTRUCTION AND INSTALLATION METHODS, TECHNIQUES, SEQUENCES, PROCEDURES AND FOR COORDINATION OF ALL TRADES OF REQUIRED WORK.
3. APPROVAL OF SHOP DRAWINGS IS FOR THE GENERAL METHOD OF FABRICATION ONLY. DIMENSIONS & QUANTITIES MAY NOT BE CHECKED, AND APPROVAL OF SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE W/ THE REQUIREMENT OF THE DRAWINGS & SPECIFICATIONS UNLESS SPECIFICALLY INDICATED IN THE APPROVAL.
4. DO NOT SCALE DRAWINGS, WRITTEN DIMENSIONS GOVERN. FIELD VERIFY ALL DIMENSIONS AND SITE CONDITIONS.
5. ALL DIMENSIONS ARE TO THE FACE OF GYPSUM BOARD FINISH, UNLESS OTHERWISE NOTED.
6. WHEREVER EXISTING CONDITIONS ARE TO BE CUT OR DISTURBED TO ALLOW INSTALLATION OF NEW WORK, THIS CONSTRUCTION SHALL BE PATCHED TO MATCH THE ORIGINAL CONSTRUCTION METHOD AND FINISH.
7. ALL PENETRATIONS THROUGH FIRE RESISTIVE FLOORS, WALLS OR SHAFT WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALLATION METHODS THAT CONFORM TO U.L. STANDARDS FOR FIRESTOP SYSTEMS. THE GC SHALL SUBMIT SHOP DRAWING DETAILS WHICH SHOW COMPLETE CONFORMANCE TO THE U.L. LISTING TO THE ARCHITECT.
8. ALL MANUFACTURED ARTICLES, MATERIALS & EQUIPMENT SHALL BE CONDITIONED, USED, INSTALLED, CONNECTED, ERECTED, & CLEANED IN ACCORDANCE W/ THE MANUFACTURER'S WRITTEN SPECIFICATIONS OR INSTRUCTIONS.
9. CONTRACTOR'S CARTS, EQUIP. BOXES, ETC., MUST BE EQUIPPED WITH RUBBER WHEELS.

PROJECT DATA

1. **PROJECT NAME:** . . . . TORRID # 3541
2. **PROJECT DESCRIPTION:** . . . . . . CLOTHING SALES (RETAIL) – NEW TENANT BUILD OUT
3. **PROJECT LOCATION:** . . . . LANSDOWNE PLACE
645 LANSDOWNE ST. W.
PETERBOROUGH, ON K9J 7YK
4. **TENANT:** . . . . **TORRID**
18305 E. SAN JOSE AVENUE
CITY OF INDUSTRY, CALIFORNIA 91748
PHONE # (480) 250–8406
CONTACT: BILL KOHLERMAN (PROJECT MANAGER)
EMAIL: bkohlerman@torrid.com
5. **LANDLORD:** . . . . **PRIMARIS REIT**
26 WELLINGTON ST. E. SUITE 400
TORONTO, ON M5E 1S2
CONTACT: CHARMAINE SERRANO–CHAN (TENANT COORDINATOR)
PHONE # 416–642–7816
EMAIL: cSerranoChan@primarisreit.com
CONTACT: MARIO SERRACINO (ONSITE OPERATIONS MANAGER) 1
PHONE # 705–748–2961
EMAIL: mserracino@primarisreit.com
6. **TENANT'S ARCHITECT:** . . . . **ARCVISION INC.**
1950 CRAIG RD. – SUITE 300
ST. LOUIS, MO 63146
PHONE # (800) 489–2233
CONTACT: AUTUMN BRIGHTWELL
7. **BUILDING DEPARTMENT:** . . . . **CITY OF PETERBOROUGH, BUILDING SERVICES DIVISION**
500 GEORGE ST. N.
PETERBOROUGH, ON K9H 3R9
PHONE # 705–742–7777 ex. 1892
CONTACT: PLAN REVIEWER
8. **GOVERNING CODES:** . . . . ALL WORK SHALL BE IN CONFORMANCE WITH, BUT NOT LIMITED TO, THE REQUIREMENTS OF THE FOLLOWING AND ANY OTHER STATE AND LOCAL CODES HAVING JURISDICTION.

INTERNATIONAL BUILDING CODE (IBC)

BUILDING:	2012 ONTARIO BUILDING CODE
PLUMBING:	2012 ONTARIO BUILDING CODE
MECHANICAL:	2012 ONTARIO BUILDING CODE
FIRE:	2015 ONTARIO FIRE CODE
ELECTRICAL:	2015 ONTARIO ELECTRICAL SAFETY CODE
ENERGY:	2012 ONTARIO BUILDING CODE

9. **CONSTRUCTION TYPE:** . . . . II–B
10. **OCCUPANCY:** . . . . M (MERCANTILE)
11. **GROSS LEASED PREMISES:** . . . . 3,128 SQ. FT. / 290.6 SM
12. **OCCUPANCY LOADS:** . . . . **SALES FLOOR** 2,115 SQ. FT. / 196.5 SM DIVIDED BY 3.7 = 54
FITTING ROOMS 317 SQ. FT. / 29.5 SM DIVIDED BY 3.7 = 8
STOCK ROOM 591 SQ. FT. / 54.9 SM DIVIDED BY 46 = 2
TOTAL OCCUPANTS = 64
* TOTAL NUMBER OF EMPLOYEES AT ONE TIME = 4
13. **FIRE SUPPRESSION SYSTEM:** . . . . . . **YES** ☒ **NO** ☐
14. **MISCELLANEOUS NOTES:** . . . . TENANT'S GENERAL CONTRACTOR SHALL VISIT THE PREMISES AND VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION AND SHALL REPORT ALL DISCREPANCIES TO TENANT'S ARCHITECT. TENANT'S GENERAL CONTRACTOR SHALL CONFORM TO ALL REQUIREMENTS REGARDING CONSTRUCTION PROCEDURES, INSURANCE, ETC., AS SET FORTH BY THE LANDLORD.
15. **FIRE SPRINKLERS:** . . . . AN AUTOMATIC FIRE SPRINKLER SYSTEM IS EXISTING WITHIN THIS SPACE. THE CONTRACTOR SHALL REWORK AND MODIFY FOR NEW ROOM LAYOUT & CEILING HEIGHTS IN CONFORMANCE WITH N.F.P.A. 13 STANDARDS & LOCAL CODES & REGULATIONS. ALL WORK SHALL BE DONE BY A QUALIFIED SPRINKLER CONTRACTOR WHO SHALL DESIGN & PREPARE SHOP DRAWINGS & SUBMIT THEM TO THE LANDLORD FOR APPROVAL PRIOR TO FABRICATION & INSTALLATION. SPRINKLER CONTRACTOR SHALL BE LANDLORD APPROVED. HEADS IN CEILING TILES TO BE CENTERED IN TILES WHEN IN A PUBLIC AREA.

NOTE:
FIRE SPRINKLER DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE SUBMITTED BY THE LICENSED FIRE SPRINKLER CONTRACTOR TO THE GOVERNING MUNICIPALITY FOR APPROVAL PRIOR TO ANY WORK BEING PERFORMED.

G.C. NOTE:
ALL SUBCONTRACTORS SHALL RECEIVE A COMPLETE SET OF CONSTRUCTION DOCUMENTS AND SPECIFICATIONS AND SHALL BE RESPONSIBLE FOR THEIR COMPLETE SCOPE OF WORK REGARDLESS OF WHERE IN THE DOCUMENT SET THE DESCRIPTION OF WORK APPEARS.

SITE LOCATION PLAN

NORTH

LANDSDOWNE PLACE

SPACE LOCATION PLAN

NORTH

LEVEL: 1 OF 2

TORRID STORE NO. 3541

DETAILED SCOPE OF WORK

PROJECT SCOPE: NEW TORRID SPACE TENANT BUILD OUT IN AN EXISTING SHELL BUILDING FOR THE SALE OF RETAIL CLOTHING, SHOES, AND ACCESSORIES. REMOVE NON–LOAD BEARING INTERIOR WALLS & INSTALL NEW NON–LOAD BEARING WALLS. INSTALL TENANT FIXTURES & LIGHTING. REUSE HVAC WITH SOME NEW DUCTS AS PER MECH. SHEETS, WITHIN PREVIOUS TENANT USE/ LEASED PREMISES.

DRAWING INDEX

	SHEET	DESCRIPTION	REV	DATE
1	T0.0	TITLE SHEET		
2	T1.0	ARCHITECTURAL SPECIFICATIONS		
3	T2.0	ARCHITECTURAL SCHEDULES		
4	T3.0	EGRESS PLAN		
5	D1.0	DEMOLITION PLAN		
6	A1.0	FLOOR PLAN		
7	A2.0	REFLECTED CEILING PLAN		
8	A3.0	FIXTURE/ FLOOR FINISH PLAN		
9	A3.1	STANDARD DETAILS		
10	A4.0	SALES AREA ELEVATIONS		
11	A4.1	TYPICAL FITTING ROOM DETAILS		
12	A4.2	STOCKROOM ELEVATIONS		
13	A5.0	STOREFRONT PLAN & ELEVATION		
14	A5.1	STOREFRONT SECTIONS		
15	A6.0	SECTIONS & DETAILS		
16	A7.0	SECTIONS & DETAILS		
17	M1.0	MECHANICAL PLAN		
18	M2.0	MECHANICAL SCHEDULES AND DETAILS		
19	M3.0	MECHANICAL DETAILS		
20	M4.0	MECHANICAL SPECIFICATIONS		
21	M5.0	MECHANICAL SPECIFICATIONS		
22	E1.0	ELECTRICAL POWER PLAN		
23	E2.0	ELECTRICAL LIGHTING PLAN		
24	E3.0	ELECTRICAL DETAILS AND SCHEDULES		
25	E4.0	ELECTRICAL SPECIFICATIONS		
26	E4.1	ELECTRICAL SPECIFICATIONS		
27	FA1.0	FIRE ALARM PLAN		
28	FA2.0	FIRE ALARM SPECIFICATIONS		
29	FA2.1	FIRE ALARM SPECIFICATIONS		
30	SP1.0	FIRE SPRINKLER PLAN		
31	SP2.0	FIRE SPRINKLER DETAILS		
32	SP3.0	FIRE SPRINKLER SPECIFICATIONS		

DEFERRED SUBMITTALS

- SIGNAGE
- STRUCTURAL SHELVING
- FIRE SPRINKLER SYSTEM
- FIRE ALARM SYSTEM

TORRID PRE/POST PUNCHLIST

1. FRONT & BACK DOORS TO HAVE A 7–PIN CYLINDER FOR TD PROVIDED CORES.
2. IF NOT ALREADY EXISTING, GC TO FURNISH & INSTALL A PEEP HOLE AT 5'–0" AFF IN BACK DOOR.
3. GC TO INSTALL A PRY PLATE ON BACKDOOR IF NOT EXISTING.
4. GC TO FURNISH AND INSTALL A NEW BATTERY FOR THE DETEX IN BACK DOOR.
5. GC TO INSTALL 2 INK TAG DETACHERS IN CASHWRAP.
6. CORK BOARDS TO BE INSTALLED IN BACK ROOM/HALLWAY BY GC AT STORE OPERATIONS DISCRETION.
7. ADA STICKERS & SIGNS TO BE INSTALLED BY GC ON CASHWRAP, FRONT WINDOW, & FITTING ROOM.
8. LOCKING COVER ON THERMOSTAT
9. GC TO SUPPLY 8 KEYS FOR FITTING ROOM DOORS (IF MULTIPLE FITTING ROOMS, EACH DOOR IS TO BE KEYED ALIKE)
10. GC TO CAULK AROUND FITTING ROOM BENCHES & BASE BOARDS W/CLR. SILICONE
11. IF REUSING AN ADA FITTING ROOM, GC TO ADD A FITTING ROOM HOOK AT 48" NEXT TO FITTING ROOM BENCH

REGISTRATION SEAL

FREDERICK J. GOGLIA
LICENCE
7605

5/2/23

FREDERICK J. GOGLIA
ARCHITECT, NCARB, RDI
1950 CRAIG ROAD, SUITE 300 ST. LOUIS, MO 63146
PH. (314) 415–2400 FAX (314) 415–2300 www.arcv.com

TORRID

LANSDOWNE PLACE
645 LANSDOWNE ST. W
PETERBOROUGH, ON K9J 7Y5
SPACE #161 STORE #3541-B

REV	DATE	DESCRIPTION	NAME
1	05/01/23	LANDLORD COMMENTS	MML
		FOR PERMIT - 05/18/23	

PROJECT NO: 230088
DRAWN BY: MML
CHECKED BY: KEU

ISSUE DATE:
04/13/23

TITLE SHEET

T0.0

00700 GENERAL CONDITIONS:

AS INDICATED IN THE AID DOCUMENT #A201 "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION" 1987 EDITION.

00810 MODIFICATIONS TO GENERAL CONDITIONS:

ARTICLE 4

4.4.1 ADD THE FOLLOWING: UTILITIES SHALL INCLUDE A JOB TELEPHONE TO BE INSTALLED WITHIN FIVE (5) WORKING DAYS AFTER COMMENCEMENT OF THE WORK. COORDINATE WITH TENANT UTILITY MANAGER.

4.10.1 ADD THE FOLLOWING: CONTRACTOR SHALL SUPPLY PROJECT MANAGER WITH A COMPLETE LIST OF ALL SUB-CONTRACTORS INVOLVED WITH THE WORK, (NAME, ADDRESS AND TELEPHONE NUMBER) WITH SECOND APPLICATION FOR PAYMENT . SEND TWO COPIES TO THE HOME OFFICE, ATTENTION STORE PLANNING. HVAC AND H.W. HEATER INFORMATION MUST BE NOTED. REFER TO TENANT FORM.

01010 SUMMARY OF WORK:

WORK OF CONTRACT CAN BE SUMMARIZED BY REFERENCE TO THE CONTRACT, GENERAL CONDITIONS, SPECIFICATIONS, DRAWINGS, ADDENDA AND MODIFICATIONS TO THESE DOCUMENTS ISSUED SUBSEQUENT TO THE INITIAL PRINTING OF SAME.

A RESPONSIBILITY SCHEDULE IS INDICATED ON THE PLANS. IT INCLUDES COORDINATION WITH OTHER WORK PERFORMED BY SEPARATE CONTRACTORS OF THE PROJECT.

CONTRACTOR RESPONSIBILITY:

GENERAL CONTRACTOR SHALL PROVIDE AND PAY FOR: LABOR, MATERIAL, EQUIPMENT, TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, WATER, HEAT AND UTILITIES REQUIRED FOR CONSTRUCTION AS WELL AS ANY OTHER FACILITIES AND SERVICE NECESSARY FOR PROPER EXECUTION AND COMPLETION OF THE WORK.

GENERAL CONTRACTOR SHALL SECURE AND PAY FOR THE FOLLOWING ITEMS, NECESSARY FOR EXECUTION AND COMPLETION OF THE WORK, AND AS APPLICABLE AT THE TIME OF RECEIPT OF BIDS: PERMITS, FEES, LICENSES, BONDS AND INSURANCE'S REQUIRED BY LOCAL AUTHORITIES AND/OR LANDLORD.

REGULATORY AGENCIES:

ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES HAVING JURISDICTION, AND IN ACCORDANCE WITH THE "DESIGN CRITERIA FOR TENANT WORK" ISSUED BY THE LANDLORD.

REFERENCE STANDARDS:

COMPLY WITH THE APPLICABLE SPECIFICATIONS AND STANDARDS OF UL, ASTM, ANSI, AWI, NEMA, AIA AND ALL OTHER STANDARDS OF MANUFACTURERS ASSOCIATIONS.

QUALITY ASSURANCE:

THE CONTRACTOR ASSUMES OVERALL RESPONSIBILITY FOR THE WORK OF THIS PROJECT TO ASSURE THAT ALL ASSEMBLES, COMPONENTS AND PARTS INDICATED OR REQUIRED COMPLY WITH CONTRACT DOCUMENTS. ANY SUBSTITUTIONS MADE BY THE CONTRACTOR WITHOUT PRIOR WRITTEN APPROVAL OF THE OWNER WILL BE REJECTED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR ALSO ASSURES THAT ALL COMPONENTS, SPECIFIED OR REQUIRED TO SATISFACTORILY COMPLETE THE INSTALLATION ARE COMPATIBLE WITH EACH OTHER, WITH ADJOINING SUBSTRATES, MATERIALS AND WORK BY OTHER TRADES, AND WITH THE CONDITIONS OF INSTALLATION AND EXPECTED USE.

FIRE-RATED CONSTRUCTION:

WHEREVER A FIRE RESISTANCE CLASSIFICATION IS INDICATED OR REQUIRED FOR CONSTRUCTION, PROVIDE MATERIALS, ACCESSORIES AND APPLICATION PROCEDURES WHICH COMPLY WITH THE REQUIREMENTS OF UL "FIRE RESISTANCE INDEX" FOR THE UL DESIGN NUMBERS CORRESPONDING WITH THE CONSTRUCTION ASSEMBLIES INDICATED.

01030 SHORT / DAMAGED FREIGHT:

INDICATED BELOW ARE INSTRUCTIONS ON HOW TO HANDLE SHORT, OR DAMAGED FREIGHT:

1. BEFORE SIGNING THE FREIGHT BILL, NOTE SPECIFICALLY THE ITEM(S) DAMAGED OR MISSING i.e., ONE LIGHT FIXTURE, TWO PIECES OF SLATWALL, ETC.
2. AFTER DAMAGED OR MISSING ITEMS ARE NOTED ON FREIGHT BILL, HAVE CARRIER'S DRIVER ALSO SIGN IT. THIS WILL VERIFY THAT BOTH PARTIES AGREE TO THE EXTENT OF DAMAGE OR SHORT ITEMS.
3. THERE ARE TIMES WHEN DAMAGE IS DISCOVERED ONLY UPON UNPACKING THE FREIGHT. IN ORDER TO RECEIVE PAYMENT FROM FREIGHT COMPANY, WE MUST PROVE THAT THE FREIGHT WAS DELIVERED IN DAMAGED CONDITION. THEREFORE, ALL CARTONS MUST BE INSPECTED FOR SIGNS OF DAMAGE OR ABUSE AND THIS IS TO BE NOTED WITHIN 24 HRS.
4. PHONE THE TRAFFIC DEPARTMENT AT LAUREL, BLAIR BUCHANAN (856) 461-6600 EXT. 306, AND ADVISE EXTENT OF DAMAGE OR SHORTNESS AND TO RECEIVE DISPOSITION INSTRUCTIONS.
5. BE SURE TO CONTACT THE PROJECT MANAGER WITHIN 24 HRS. TO INFORM HIM/HER OF THE LOSS SO THAT, IF NECESSARY, THE ITEM(S) CAN BE REORDERED.

PROTECTION OF MATERIALS / FURNITURE ON SITE:

G.C. IS RESPONSIBLE FOR THE SECURITY, CARE AND DAMAGE PREVENTION OF ALL MATERIALS AFTER DELIVERY TO JOB SITE. G.C. WILL BE BACKCHARGED FOR DAMAGES AND MISSING ITEMS.

01500 EXISTING CONDITIONS:

GENERAL CONTRACTOR IS TO VISIT THE JOB SITE TO INSPECT THE EXISTING CONDITIONS AND TO VERIFY THE AMOUNT OF WORK THAT WILL BE NECESSARY FOR THE PROJECT TO BE COMPLETED ACCORDING TO THE CONSTRUCTION DOCUMENTS.

EXAMINE THE SUBSTRATES AND ADJOINING CONSTRUCTION, AND THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. DO NOT PROCEED WITH THE WORK UNTIL UNSATISFACTORY CONDITIONS DETRIMENTAL TO THE PROPER AND TIMELY COMPLETION OF THE WORK HAVE BEEN CORRECTED.

BEFORE PERFORMING ANY WORK OR ORDERING ANY MATERIAL, THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS OF ANY EXISTING OR NEW WORK AND SHALL BE RESPONSIBLE FOR THEIR ACCURACY. ANY DIFFERENCES FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE PROCEEDING WITH WORK.

01610 PRODUCT HANDLING:

DELIVER AND STORE MATERIALS IN SEALED CONTAINERS AND BUNDLES, FULLY IDENTIFIED WITH MANUFACTURER'S NAME, BRAND, TYPE AND GRADE. PROTECT MATERIALS FROM CORROSION AND DAMAGE. STORE IN A DRY VENTILATED SPACE, OFF THE GROUND. COORDINATE ALL DELIVERIES WITH THE MALL LANDLORD AND TENANT SUPPLIED MATERIAL VENDORS.

GENERAL CONTRACTOR WILL RECEIVE AND UNLOAD ALL FIXTURES FROM THE FIXTURE SUPPLIER, ACCORDING TO THE TERMS AND CONDITIONS IMPOSED BY THE MALL DEVELOPER, I.E. SPECIAL TIMES TO UNLOAD, ETC. FIXTURES TO BE SET BY GENERAL CONTRACTOR.

GENERAL CONTRACTOR WILL NOTIFY TENANT IMMEDIATELY OF ANY MISSING OR DAMAGED ITEMS THAT TENANT SUPPLIES AND GENERAL CONTRACTOR INSTALLS. HE WILL OBTAIN AND FILL ALL NECESSARY PAPERWORK REQUIRED IN ORDER TO FACILITATE TENANT IN HIS ABILITY TO PROPERLY FILE CLAIM FOR DAMAGES OR LOSSES. REFER TO TENANT SHORTAGE/DAMAGED GOODS POLICY INCLUDED IN BID INSTRUCTIONS FROM TENANT.

0710 CLEANING/ADJUSTING/MAINTENANCE/WARRANTIES:

EXECUTE PERIODIC CLEANING DURING PROCESS OF WORK, AND AT COMPLETION OF THE WORK, SO THAT ALL FINISHED SURFACES ARE FREE OF ANY FOREIGN MATERIAL. CONDUCT CLEANING AND DISPOSAL OPERATIONS TO COMPLY WITH CODES, ORDINANCES, REGULATIONS, ANTI-POLLUTION LAWS AND LANDLORD REQUIREMENTS. REMOVE GREASE, MASTIC, ADHESIVES, DIRT, STAINS, LABELS AND OTHER FOREIGN MATERIALS FROM SIGHT EXPOSED SURFACES. GENERAL CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS FROM JOBSITE, ON A DAILY BASIS.

PROTECTION:

PROTECT AND MAINTAIN ALL WORK THROUGHOUT CONSTRUCTION SO THAT IT WILL BE FREE OF DAMAGE AT THE TIME OF ACCEPTANCE BY THE TENANT.

COMPLETION:

STORE TO BE READY FOR OCCUPANCY - ALL SURFACES CLEAN.

01700 CLEANING/ADJUSTING/MAINTENANCE/WARRANTIES:

PART 1 - GENERAL

A. FINAL CLEANING
   1. GENERAL CONTRACTOR TO PROVIDE A PROFESSIONAL CLEANING SERVICE TO EXECUTE FINAL CLEANING PRIOR TO
B. ADJUSTING
   1. ADJUST OPERATING PRODUCTS AND EQUIPMENT TO ENSURE TURN-OVER.
C. OPERATION AND MAINTENANCE DATA
   1. SUBMIT DATA BOUND IN 8-1/2x11 INCH TEXT PAGES, THREE D PRODUCTS IN QUANTITIES SPECIFIED IN INDIVIDUAL SPECIFICATION SECTIONS.
   2. PREPARE BINDER COVER WITH PRINTED TITLE "OPERATION & MAINTENANCE INSTRUCTIONS", TITLE OF PROJECT. SIDE RING BINDER W/ DURABLE PLASTIC COVERS.

PART 2 - PREPARATION / EXECUTION:

A. FINAL CLEANING
   1. CLEAN INTERIOR AND EXTERIOR GLASS, SURFACES EXPOSED TO VIEW; REMOVE TEMPORARY LABELS, STAINS & FOREIGN SUBSTANCES, POLISH TRANSPARENT AND GLOSSY SURFACES, VACUUM CARPETED AND SOFT SURFACES.
   2. CLEAN EQUIPMENT AND FIXTURES TO A SANITARY CONDITION WITH CLEANING MATERIALS APPROPRIATE TO THE SURFACE AND MATERIAL BEING CLEANED.
   3. REMOVE WASTE & SURPLUS MATERIALS, RUBBISH & CONSTRUCTION FACILITIES FROM THE SITE.

02050 DEMOLITION:

ANY AND ALL DEMOLITION REQUIRED TO COMPLETE CONSTRUCTION FOR THIS PROJECT MUST BE CONSIDERED PART OF THIS CONTRACT AND SHOULD BE EXECUTED IN ACCORDANCE WITH THE LANDLORD'S REQUIREMENTS. REQUIREMENTS.

THE CONSTRUCTION DOCUMENTS INDICATED EXISTING CONDITIONS, WALLS, AREAS TO REMAIN BUT THE ARCHITECT DOES NOT CERTIFY THAT ALL DEMOLITION WORK IS INDICATED ON THE PLANS. ANY ITEMS INDICATED AS EXISTING, TO REMAIN, HAVE TO BE INSPECTED BY THE GENERAL CONTRACTOR TO DETERMINE IF ANY OF THESE ITEMS CAN BE REUSED. AT THE END OF CONSTRUCTION, THE EXISTING WALLS, AREAS, ETC., SHOULD BE LIKE-NEW CONSTRUCTION. ALL DEMOLISHED WORK SHALL BE REMOVED FROM THE PROJECT SITE AND LEGALLY DISPOSED OF. NO CONSTRUCTION MATERIALS ARE TO BE DISPOSED OF IN THE MALL TRASH RECEPTACLES OR DUMPSTERS WITHOUT LANDLORD'S PRIOR APPROVAL. REFER TO DEMOLITION PLAN NOTES.

1. SCOPE: FURNISH EQUIPMENT AND PERFORM LABOR REQUIRED TO EXECUTE THIS WORK AS INDICATED ON THE DRAWINGS AS SPECIFIED AND AS NECESSARY TO COMPLETE THE CONTRACT, INCLUDING, BUT NOT LIMITED TO, THESE MAJOR ITEMS.
   A. PROTECTION OF EXISTING WORK TO REMAIN.
   B. DEMOLISH EXISTING CONSTRUCTION WHERE INDICATED ON THE DRAWINGS AND WHERE REQUIRED BY JOB CONDITIONS.
   C. REMOVAL OF PARTITIONS, DOORS, FLOOR COVERINGS, AND CEILINGS.
   D. REMOVAL AND CAPPING OF MECHANICAL AND ELECTRICAL FIXTURES AND SERVICES.
   E. DEBRIS REMOVAL AND DISPOSAL.
   F. REMOVAL OR CORING OF PORTIONS OF THE EXISTING CONCRETE SLAB AS REQUIRED FOR SERVICE AND EQUIPMENT LINE INSTALLATION. PATCHING SHALL BE ACCEPTABLE TO THE POINT THAT THE FINISH WILL ACCEPT SCHEDULED FINISH MATERIAL WITH NO NOTICEABLE EFFECT OF AN ALTERATION HAVING BEEN MADE.
   G. REMOVAL OF ANY EXISTING STOREFRONT, INCLUDING OVERHEAD ROLL-UP GRILLE.
2. GENERAL REQUIREMENTS
   A. THE CONTRACTORS SHALL BE FULLY RESPONSIBLE FOR THE ADEQUACY AND INSTALLATION OF ALL TEMPORARY SHORING SYSTEMS USED DURING THE REMOVING OF ALL STRUCTURAL ELEMENTS.
   B. THE DRAWINGS DO NOT NECESSARILY INDICATE THE FULL EXTENT OF THE WORK REQUIRED TO BE PERFORMED. INSPECT THE EXISTING CONSTRUCTION CAREFULLY TO DETERMINE THE FULL EXTENT OF WORK TO BE PERFORMED AND THE PROBLEMS INVOLVED. NO EXTRA COMPENSATION WILL BE ALLOWED BECAUSE OF FAILURE TO ESTIMATE THE FULL EXTENT OF THE WORK OR FOR ANY CONTINGENCY ALLOWANCES.
   C. ALL WORK SHALL BE PERFORMED BY SKILLED AND PROPERLY EQUIPPED PERSONNEL. DEMOLITION AND REMOVAL OF ITS ITEMS SCAFFOLD HIGH OR HIGHER SHALL BE LOWERED BY CONTROLLED METHODS, NOT BY THROWING OR DROPPING. PERFORM CUTTING AND STRIPPING SO THAT THE WORK TO REMAIN IS UNDAMAGED AND IN SUCH A MANNER THAT NEW WORK CAN BE PROPERLY BE CONNECTED WITH IT.
   D. UNFORESEEN CONDITIONS: INCLUDE IN THE BASE BID MISCELLANEOUS CUTTING AND PATCHING NECESSITATED AS A RESULT OF UNFORESEEN CONDITIONS AND THE REWORKING OF ABUTTING SURFACES AS REQUIRED TO MAKE NEW WORK JOIN AND MATCH EXISTING SURFACES TO REMAIN. NO EXTRA PAYMENTS BASED ON THE PLEA OF UNFORESEEN CONDITIONS WILL BE ALLOWED.
   E. G.C. TO COORDINATE WITH THE LANDLORD ALL WORK THAT MAY EFFECT NORMAL DAILY OPERATIONS OF THE LANDLORD PREMISES AND COMPLY WITH ALL RESTRICTIONS THE LANDLORD MAY HAVE ON DEMOLITION AND/ORCONSTRUCTION SCHEDULES. COOPERATE FULLY TO THE END THAT CERTAIN FACILITIES AND SERVICES ARE MAINTAINED IN OPERATION UNTIL IMMEDIATELY BEFORE THEIR REMOVAL IS REQUIRED TO PERMIT INSTALLATION OF NEW WORK.
   F. NOISE CONTROL: CARRY ON ALL WORK IN A MANNER WHICH WILL PRODUCE THE LEAST AMOUNT OF NOISE. INSTRUCT ALL WORKERS IN NOISE CONTROL PROCEDURES.
3. PROTECTION OF PERSONNEL: ERECT SIGNS, BARRICADES AND SUCH OTHER FORMS OF WARNING AS MAY BE REQUIRED TO PREVENT PERSONNEL FROM PUTTING THEMSELVES IN THE WAY OF INJURY.
4. MECHANICAL, ELECTRICAL, AND PLUMBING
   A. CAREFULLY REVIEW PLANS AND DETERMINE LINES TO BE REMOVED AND THOSETO BE KEPT ACTIVE OR TO BE REACTIVATED. PROTECT LINES TO REMAIN. PROVIDE FOR MINIMUM SERVICE INTERRUPTION OF LINES TO REMAIN.
   B. REMOVE LINES COMPLETELY WHENEVER POSSIBLE. CUT AND CAP OR PLUG TO PREVENT ESCAPE OF GAS, LIQUID, ETC.. BEHIND THE BACK OF THE FINISH MATERIAL.
   C. REPAIR, REPLACE, OR MAKE GOOD DAMAGE TO EXISTING CONSTRUCTION WHICH OCCURS AS A RESULT OF DEMOLITION OPERATIONS, AT NO ADDITIONAL COST TO OWNER, THE ARCHITECT OF RECORD, OR THE LANDLORD. THESE REPAIRS SHALL INCLUDE ANY ROOF PATCHING REQUIRED DUE TO DEMOLITION AND SHALL BE COORDINATED WITH LANDLORD AND LANDLORD'S ROOFING CONTRACTOR.

03010 CONCRETE:

WHEN THE CONCRETE FLOOR SLAB IS EXISTING, PREPARE THE SLAB TO RECEIVE FINISH AS INDICATED ON THE PLANS. WHEN ON A GROUND FLOOR LOCATION, THE CONCRETE SLAB FLOOR SHALL BE SEALED IN THE AREAS TO RECEIVE CARPETING. WHEN SLAB FLOOR IS TO BE EXECUTED AS PART OF THE CONTRACT, FOLLOW LANDLORD'S DIRECTIONS AND SPECIFICATIONS.

03015 FLOOR SLAB MODIFICATIONS:

GENERAL CONTRACTOR SHALL INSPECT THE EXISTING SLAB CONDITIONS TO DETERMINE THE AMOUNT OF CONCRETE FLOOR SLAB TO BE REMOVED AND REPLACED FOR INSTALLATION OF ELECTRICAL, MECHANICAL AND PLUMBING WORK AND STEEL COLUMNS FOR GRILLE SUPPORT. ALL CONCRETE TRENCHING AND REFILLING, AS WELL AS ANY AND ALL PENETRATIONS OF THE SLAB, SHALL BE EXECUTED IN ACCORDANCE WITH THE LANDLORD'S REQUIREMENTS.

05010 STRUCTURAL METALS:

THE DESIGN, FABRICATION AND INSTALLATION OF ALL MISCELLANEOUS METAL LINTELS, SUPPORTS AND FRAMING REQUIRED FOR ALL STORE FRONT WORK SHALL BE THE SOLE RESPONSIBILITY OF THE TENANT'S GENERAL CONTRACTOR.

06100 ROUGH CARPENTRY:

ALL WOOD FRAMEWORK, WOOD BLOCKING AND PLYWOOD CONSTRUCTION SHALL BE FIRE RETARDANT TREATED AS REQUIRED BY LOCAL CODES AND LANDLORD REQUIREMENTS.

PARTICLE BOARD SHALL BE UL CLASS 1 FIRE-RATED, SANDED AND PREPARED TO RECEIVE PLASTIC LAMINATE OR PAINTED METAL LAMINATE.

WOOD FRAMING MEMBERS SHALL BE NO. 1 LIGHT FRAMING DOUGLAS FIR OR NO. 2 OR BETTER YELLOW PINE OF THE DIMENSIONS INDICATED ON THE PLANS.

PLYWOOD SHALL BE GRADE B-D DOUGLAS FIR, SANDED AND PREPARED YO RECEIVE PLASTIC LAMINATE, METAL LAMINATE OR PAINT.

PLYWOOD BACKING PANELS FOR MOUNTING ELECTRICAL OR TELEPHONE EQUIPMENT SHOULD BE FIRE RETARDANT TREATED PLYWOOD WITH GRADE DESIGNATION, APA C-D NOT LESS THAN 3/4" THICK.

PROVIDE FASTENERS AND ANCHORAGE OF THE TYPE, SIZE, MATERIAL AND FINISH AS RECOMMENDED BY APPLICABLE STANDARDS, COMPLYING WITH APPLICABLE FEDERAL SPECIFICATIONS FOR NAILS, STAPLES, SCREWS, BOLTS, NUTS, WASHERS AND ANCHORING DEVICES.

PROVIDE BLOCKING AS REQUIRED FOR INSTALLATION OF SHELVING, EQUIPMENT, ACCESSORIES, FIXTURES, AND FINISH HARDWARE OR OTHER HEAVY ITEMS ON WALLS.

06400 ARCHITECTURAL WOODWORK:

FINISHED WOODS SHALL BE OF THE TYPE SPECIFIED IN THE PLANS AND SHOULD COMPLY WITH PREMIUM GRADE WORK AS DESCRIBED IN "ARCHITECTURAL WOODWORK QUALITY STANDARDS" PUBLISHED BY THE ARCHITECTURAL WOODWORD INSTITUTE.

THE WOOD SHALL BE STRAIGHT AND FREE OF BLEMISHES AND OF SUFFICIENT LENGTH TO PERMIT A MINIMUM NUMBER OF JOINTS. CONDITION WOODWORK TO PREVAILING HUMIDITY CONDITIONS IN INSTALLATION AREAS PRIOR TO INSTALLING.

INSTALL WOODWORK PLUMB, LEVEL, TRUE AND STRAIGHT WITH NO DISTORTIONS. SHIM AS REQUIRED USING CONCEALED SHIMS. INSTALL TO A TOLERANCE OF 1/8" IN 8'-0" FOR PLUMB & LEVEL & W/ NO VARIATIONS IN FLUSHNESS OF ADJOINING SURFACES. ANCHOR WOODWORK TO ANCHORS, OR BLOCKING BUILT-IN, OR DIRECTLY ATTACHED TO SUBSTRATE. SECURE W/ CONCEALED FASTENERS.

ALL SURFACES SHALL BE SANDED TO A SMOOTH SURFACE, READY FOR STAINING OR FINISH PAINTING AS PER DETAILS AND SCHEDULES.

06410 HARDWARE:

HARDWARE SHALL BE OF THE TYPE, FINISH AND MANUFACTURER SHOWN. MANUFACTURER'S CATALOG NUMBERS USED HEREIN ARE INTENDED TO INDICATE THE QUALITY REQUIRED. ALTERNATE MANUFACTURERS AND PRODUCTS MAY BE SUBMITTED TO THE TENANT FOR SUBSTITUTION APPROVAL. NO OTHERS SHALL BE ACCEPTABLE.

FURNISH HARDWARE TEMPLATES IN A TIMELY MANNER TO THE VARIOUS AFFECTED TRADES FOR COORDINATION OF THEIR WORK.

07900 SEALANT:

PART 1 - GENERAL

A. EXPANSION JOINT MATERIAL, SEALANTS AND JOINT BACKING FOR JOINTS BETWEEN DISSIMILAR MATERIALS.
   1. SILICONE SEALANTS (TYPE S): ASTM C920, SINGLE COMPONENT, NON-SAGGING, NON-STAINING, NON-BLEEDING; FOR USE AS GENERAL CAULKING; COLOR TO MATCH ADJACENT SURFACES, MANUFACTURER BY GE SILICONES OR EQUAL.
   2. JOINT BACKING: ROUND, OPEN CELL POLYETHYLENE FOAM ROD.

PART 2 - PREPARATION / EXECUTION

A. REMOVE LOOSE MATERIALS AND FOREIGN MATTER WHICH MIGHT IMPAIR ADHESION OF SEALANT.
B. CLEAN AND PRIME JOINTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
C. PROTECT ELEMENTS SURROUNDING THE WORK OF THIS SECTION FROM DAMAGE OR DISFIGURATION.
D. INSTALL SEALANT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
E. INSTALL JOINT BACKING.
F. APPLY SEALANT WITHIN RECOMMENDED APPLICATION TEMPERATURE RANGES. CONSULT MANUFACTURER WHEN SEALANT CANNOT BE APPLIED WITHIN THESE TEMPERATURE RANGES.

08210 WOOD DOORS:

ALL INTERIOR WOOD DOORS SHALL BE SOLID CORE (COORDINATE WITH DOOR SCHEDULE) FLUSH CONSTRUCTION, OF THE DIMENSIONS SHOWN, AND SHALL MEET OR EXCEED THE ANSI/NWSA INDUSTRY STANDARD I.S./SERIES & AWI QUALITY STANDARD FOR ARCHITECTURAL FLUSH DOORS.

DOORSKIN FOR PAINTED AND VINYL COVERED SURFACES SHALL BE OF PAINT GRADE. OVERALL THICKNESS OF DOORSKIN SHALL BE 1/8" AND SHOULD BE BELT SANDED FOR PAINT FINISH. FINAL SANDING BY FIELD FINISHER. WHEN REQUIRED BY CODE, FIRE DOORS SHOULD HAVE THE REQUIRED FIRE RATING.

WOOD FRAMES:

EXAMINE DOOR FRAMES AND VERIFY THAT THE FRAMES ARE THE CORRECT TYPE AND HAVE BEEN INSTALLED AS REQUIRED FOR PROPER HANGING OF CORRESPONDING DOORS. ALIGN AND FIT THE DOORS IN THE FRAMES WITH THE FOLLOWING UNIFORM CLEARANCES AND BEVELS. TRIM STILES AND RAILS ONLY TO THE EXTENT PERMITTED BY LABELING AGENCY.

FOR NON-RATED DOORS, PROVIDE CLEARANCES OF 1/8" AT JAMBS AND HEADS, AND 1/8" FROM THE BOTTOM OF THE DOOR TO THE TOP OF THE FINISH OR COVERING.

FOR FIRE-RATED DOORS, PROVIDE CLEARANCES AND CORRESPONDING FIRE-RATED FRAMES IN ACCORDANCE WITH REQUIREMENTS OF NFPA NO. 80

EXISTING DOORS:

WHEN EXISTING DOOR IS TO REMAIN IN SERVICE, DOOR AND FRAME MUST BE RAISED 3/8" FROM EXISTING FLOOR TO PROVIDE FOR DOOR CLEARANCE IF OVER NEW CARPET.

A. KEYING
   1. GENERAL CONTRACTOR TO COORDINATE KEYING AND MASTER KEYING WITH CONSTRUCTION MANAGER.
   2. GENERAL CONTRACTOR TO INSTALL CONSTRUCTION CORES DURING CONSTRUCTION AND REPLACE WITH PERMANENT AT END OF JOB PRIOR TO TURN-OVER.
B. PROVIDE COMMERCIAL GRADE HARDWARE, COMPLYING WITH PROJECT SPECIFICATIONS, IN SETS ACCORDING TO THE SCHEDULE HEREIN AND ON DOOR SCHEDULE DRAWING. REFER TO DOOR SCHEDULE HARDWARE.

PART 2 - PREPARATION / EXECUTION

A. COORDINATE THE WORK WITH OTHER DIRECTLY AFFECTED SECTIONS INVOLVING FABRICATION OF WALL INT. REINFORCEMENT FOR DOOR HARDWARE & RECESSED ITEMS.
B. VERIFY THAT DOORS AND FRAMES ARE READY TO RECEIVE WORK AND DIMENSIONS ARE AS INDICATED.
C. INSTALL HARDWARE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
D. USE TEMPLATES PROVIDED BY HARDWARE ITEM MANUFACTURER.
E. WHEREVER CUTTING AND FITTING IS REQUIRED TO INSTALL HARDWARE ONTO OR INTO SURFACES WHICH ARE LATER TO BE PAINTED OR OTHERWISE FINISHED, INSTALL EACH ITEM COMPLETELY, THEN REMOVE AND STORE DURING APPLICATION OF FINISHES. REINSTALL UPON COMPLETION OF FINISHING OPERATIONS. SPACE FASTENERS AND ANCHORAGES AS INDICATED OR IN ACCORDANCE WITH FACTORY STANDARDS.
F. ADJUST HARDWARE FOR SMOOTH OPERATION.

08710 DOOR HARDWARE:

PART 1 - GENERAL

A. FURNISH & INSTALL FINISH HARDWARE FOR INTERIOR & EXTERIOR DOORS WHEN CALLED FOR ON PLAN
B. SEE DOOR SCHEDULE FOR SPECIFIC ITEMS, MANUFACTURERS AND MODEL NUMBERS. TEMPLATES SHALL BE FURNISHED FOR USE IN FIELD.
C. FOLLOW DHI (DOOR AND HARDWARE INSTITUTE) STANDARDS & GUIDELINES AND AWI (AMERICAN WOODWORKING INSTITUTE) STANDARDS FOR HARDWARE INSTALLED ON WOOD DOORS.
D. FURNISH OWNER WITH MAINTENANCE DATA, MAINTENANCE PROCEDURES, MANUFACTURERS WARRANTIES AND SPECIAL TOOLS.
E. FINISHES: PER HARDWARE SCHEDULE

09250 GYPSUM DRYWALL SYSTEMS:

PROVIDE ALL GYPSUM DRYWALL MATERIALS THROUGHOUT THE WORK PRODUCED BY ONE MANUFACTURER. PROVIDE METAL STUDS AND FRAMING MEMBERS OF TYPES, GAUGES, SIZES AND CORROSIVE RESISTIVE TREATMENTS AS SHOWN.

STUDS AND FRAMING: ROLL FORMED CHANNEL STUDS AND RUNNERS: ASTM C-645, FABRICATED OF

GALVANIZED STEEL PER ASTM WITH FLANGES NOT LESS THAN 1 1/4" OF THE SIZES AND GAUGES SHOWN.

METAL FURRING CHANNELS: HAT SHAPED, 7/8" HIGH, 25 GAUGE GALVANIZED.
BACKER PLATES: 20 GAUGE GALVANIZED.
HANGER WIRE: GALVANIZED, SOFT TEMPER STEEL WIRE, SIZED IN ACCORDANCE WITH ASTM C-754.

HANGER ANCHORAGE: PROVIDE CONCRETE INSERTS, CLIPS, BOLTS, SCREWS AND OTHER DEVICES APPLICABLE TO THE INDICATED METHOD OF STRUCTURAL ANCHORAGE FOR CEILING HANGERS.

FURRING ANCHORAGE'S: 16 GAUGE GALVANIZED WIRE TIES, MANUFACTURER'S STANDARD WIRE-TYPE CLIPS, BOLTS, NAILS OR SCREWS, IN ACCORDANCE WITH ASTM C-754.

METAL TO METAL WITHIN THE DRYWALL SYSTEM: 3/8" TYPE "S" OR S-12, PAN HEAD.
ADHESIVES: AS RECOMMENDED BY THE GYPSUM BOARD MANUFACTURER.

TRIM ACCESSORIES:

PROVIDE TRIM ACCESSORIES OF THE SIZES REQUIRED FOR THE DRYWALL APPLICATIONS SHOWN SPECIFIED, FABRICATED FROM GALVANIZED STEEL, & OF THE FOLLOWING TYPE: PROVIDE DRYWALL MOULDING OF THE TYPE AND SIZE INDICATED. PROVIDE METAL CORNER BEAD AT EXTERNAL CORNERS WITH SMOOTH RIGID NOSE AND PERFORATED AND KNURLED FLANGES. CONCEAL FLANGES WITH AT LEAST 2 COATS OF JOINT COMPOUND FEATHERED OUT APPROXIMATELY 9" ON BOTH SIDES OF THE EXPOSED METAL.

WHERE DRYWALL ABUTS OR INTERSECTS DISSIMILAR CONSTRUCTION, PROVIDE SQUARE EDGE SEMI-FINISHING CASING BEAD (NO JOINT COMPOUND TREATMENT NECESSARY).

TAPE AND JOINT MATERIAL SHALL BE APPLIED TO THE JOINTS. THE JOINT COMPOUND SHALL BE SMOOTHED OUT APPROXIMATLEY 4" WIDE. THIS IS TO BE IN THE NORMAL THREE-COAT PROCESS, ALLOWING 24 HOURS DRYING TIME BETWEEN COATS. ALL NAILS, SCREWS, HEADS OR DIMPLES SHALL ALSO RECEIVE A THREE-COAT FINISH USING THE SAME MATERIAL AND MANNER NAILS, SCREWS, HEADS OR DIMPLES SHALL ALSO RECEIVE A THREE-COAT FINISH USING THE SAME MATERIAL AND MANNER AS THAT FOR AS THAT FOR THE JOINTS. SAND SMOOTH ALL JOINTS AND SURFACES AND HAVE THEM READY TO RECEIVE THE WALL FINISH. VERIFY SAND SMOOTH ALL JOINTS AND SURFACES AND HAVE THEM READY TO RECEIVE THE WALL FINISH. VERIFY THAT THE EXISTING WALL THAT THE EXISTING WALL SURFACES, IF ANY, ARE SMOOTH AND SUITABLE, AS A SUBSTRATE FOR THE FINISHES SCHEDULED.

GYPSUM BOARD:

5/8" THICK UNLESS NOTED OTHERWISE.
ASTM C36, TAPERED EDGES. PROVIDE "TYPE X" (FIRE RETARDANT) WHERE SHOWN AND AT DEMISING WALLS.

WATER RESISTANT GYPSUM BOARD (GREENBOARD) ASTM C-630 TYPE "W". PROVIDE FOR WET WALLS IN TOILETS. USE "DURLOCK" BEHIND ALL CERAMIC TILE AND MARBLE ON WALLS.

PART 1 - GENERAL

A. FURNISH AND INSTALL ALL GYPSUM DRYWALL AND SYSTEMS COMPLETE WITH PARTITION FRAMING, CEILING SUSPENSION SYSTEMS AND RELATED ACCESSORIES, PARTS, MATERIALS, ETC. AS SHOWN ON DRAWINGS AND AS SPECIFIED. INSTALL ALL MATERIALS PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.
B. GYPSUM DRYWALL: ALL GYPSUM BOARD TO BE 5/8" TYPE "X" AS NOTED ON SHEET A1.0 (CONSTRUCTION PLAN). RESTROOMS TO RECEIVE MOISTURE RESISTANT GYPSUM BOARD.
C. FASTENERS: DRYWALL SCREWS OF PROPER SIZE AND TYPE PER MANUFACTURERS RECOMMENDATIONS.
D. PROVIDE MATERIALS, JOINT COMPOUNDS, TRIM, EDGES, BEADS, ETC. FROM A SINGLE SOURCE SUPPLIER. ALL TRIM SHALL CONSIST OF A TAPERED, GROOVED, AND PREPUNCHED FIN FOR SCREW ATTACHMENT AND TO ACCEPT BONDING AGENT. ALL BUTT JOINTS ARE TO BE NEAT WITH TIGHT JOINTS, AND ALL CORNERS ARE TO BE MITERED. ALL EDGES, BEADS AND TRIM TO BE PRE-FINISH ALUMINUM.

ACCESS PANELS:

1. G.C. SHALL PROVIDE AND INSTALL ACCESS PANELS AS REQUIRED BY LANDLORD AND SITE CONDITIONS (COORDINATE SIZE REQUIREMENTS, NUMBER OF PANELS REQUIRED AND LOCATIONS WITH LANDLORD AND ALL MECHANICAL TRADES).
2. ACCESS PANELS SHALL BE FLUSH TYPE (NO EXPOSED FLANGES) STYLE "DW" AS MANUFACTURED BY: MILCOR, 1101 EAST KIBBY, LIMA, OHIO, 45804. PHONE NUMBER: 419-227-6899 (SIZE AS REQUIRED)
3. PANELS TO BE FACTORY PRIMED (WHITE) READY TO RECEIVE FINAL FINISH (PAINT) BY G.C.

09300 PORCELAIN TILE:

SECTION 1-PRODUCTS

1.1 CERAMIC TILE SHALL CONFORM TO REQUIREMENTS OF ANSI A137.1-1988
TYPE: CERAMIC TILE, REFER TO MATERIALS SCHEDULE.
SIZE: CERAMIC TILE SHALL BE MANUFACTURED TO SPECIFIC SIZE AFTER FIRING AND SHALL BE NOMINAL SIZE, REFER TO MATERIALS SCHEDULE.
THICKNESS: CERAMIC TILE SHALL BE MANUFACTURED TO SPECIFIC THICKNESS AFTER FIRING AND SHALL BE NOMINAL, REFER TO MATERIALS SCHEDULE.
COLOR: REFER TO MATERIALS SCHEDULE.

1.2 SETTING MATERIALS: USE APPROPRIATE INSTALLATION MORTARS ACCORDING TO ANSI A118. SERIES OR A136.1992 TYPE 1.

1.3 GROUTING MATERIALS: SELECT GROUT PER ANSI A118.3, A118.5, A118.6 OR A118.8- 1992. POLYBLEND NON-SANDED GROUT. MANUF. : BONSAL CO. COLOR: HONEY.

1.4 WATERPROOFING/ANTI-FRACTURE MEMBRANE: SELECT PER ANSI A118.10-1993 AS REQUIRED.

1.5 GROUT SEALER: BONSAL OR EQUAL.

SECTION 2-INSTALLATION

2.1 ACCEPTABILITY OF SURFACES

A. BEFORE TILING, VERIFY THAT ALL SURFACES TO BE TILED ARE STRUCTURALLY SOUND TRUE TO PLANE, AND FALL WITHIN MAXIMUM VARIATIONS SHOWN BELOW:
   WALLS FLOORS 1/8" IN 8' 1/8" IN 10'
   REPORT ALL UNACCEPTABLE SURFACES TO THE ARCHITECT IN WRITING, AND DO NOT TILE SUCH SURFACES UNTIL THEY ARE LEVELED ENOUGH TO MEET ABOVE REQUIREMENTS.
B. BEFORE TILING, ALL SURFACES MUST BE FREE OF CURING COMPOUNDS, OIL, GREASE, WAX, DIRT, DUST, FORM RELEASES OR OTHER SUBSTANCES THAT WOULD INTERFERE WITH PROPER BOND OF SETTING MATERIALS. IF TILE IS INSTALLED BY THE THIN-SET METHOD, CONCRETE SLABS SHALL BE STEEL TROWEL OR LIGHT BROOM FINISH.

2.2 SETTING METHODS: COMPLY WITH APPROPRIATE ANSI A108 SPECIFICATION CURRENT AND TILE COUNCIL OF AMERICA HANDBOOK FOR APPROPRIATE METHOD OF INSTALLATION FOR EACH SPECIFICATION. FOR ADHESIVE MORTAR APPLICATION USE FOLLOWING: WITH FLAT SIDE OF TROWEL, KEY MORTAR INTO SUBSTRATE. USING THE APPROPRIATE SIZE TROWEL, COMB MORTAR IN ONE DIRECTION WITH NOTCHED SIDE OF TROWEL. SET TILE WITH A SLIDING MOTION, PERPENDICULAR TO THE MORTAR % COVERAGE AS POSSIBLE OF MORTAR TO TILE. RIDGES. OBTAIN AS NEAR AS 100 MORTAR MUST BE SUFFICIENTLY DISTRIBUTED TO GIVE FULL SUPPORT UNDER ALL CORNERS AND EDGES OF THE TILE. PERIODICALLY, REMOVE SHEETS OR INDIVIDUAL TILES TO ASSURE PROPER BOND COVERAGE CONSISTENT WITH INDUSTRY SPECIFICATIONS.

2.3 MAX. GROUT JOINT = 1/8".

2.4 EXPANSION JOINTS: INSTALL ARCHITECTURALLY DESIGNED EXPANSION JOINTS AS PER CURRENT TCA DETAIL EJ171. PREFABRICATED EXPANSION JOINT STRIPS CAN ALSO BE USED WHEN SUITABLE.

2.5 GROUTING METHODS: FOLLOW EXACTLY GROUT MANUFACTURES INSTRUCTIONS AND COMPLY WITH APPROPRIATE ANSI A108 SPECIFICATION DEPENDING ON TYPE OF GROUT SELECTED. GROUTING IS NOT COMPLETE UNTIL ALL GROUT HAZE AND RESIDUES ARE REMOVED FROM THE SURFACE OF THE TILE.

2.6 GROUT SEALER: COMPLY WITH MANUFACTURES INSTRUCTIONS AND APPROPRIATE ANSI SPECIFICATIONS FOR PRODUCT SELECTED.

2.7 CLEANING AND PROTECTION

A. LEAVE FINISHED INSTALLATION FREE OF CRACKED, CHIPPED, BROKEN, UNBONDED OR OTHERWISE DEFECTIVE TILE WORK.
B. PROTECT ALL FLOOR TILE INSTALLATIONS WITH CLEAN CONSTRUCTION PAPER OR OTHER HEAVY COVERING DURING CONSTRUCTION PERIOD TO PREVENT STAINING OR DAMAGE. NO FOOT OR WHEEL TRAFFIC PERMITTED ON FLOOR FOR AT LEAST THREE (3) DAYS AFTER GROUTING.

09900 PAINTING:

PROVIDE PAINTING AS SHOWN OR SPECIFIED. THE TERM "PAINT" INCLUDES ALL OPAQUE OR NATURAL, PRIME, INTERMEDIATE OR FINISH COATS OF FIELD APPLIED COATINGS. APPLY PAINT IN ACCORDANCE WITH MANUFACTURER'S DIRECTIONS. USE APPLICATORS AND TECHNIQUES BEST SUITED FOR SUBSTRATE AND TYPE OF MATERIAL BEING APPLIED. PROVIDE TOP-OF-THE-LINE PAINT PRODUCTS MANUFACTURED BY ONE OF THE FOLLOWING MANUFACTURERS: ALL DESCRIPTIONS BASED ON SHERWIN-WILLIAMS:

BENJAMIN MOORE, PPG INDUSTRIES,
SHERWIN-WILLIAMS, PRATT & LAMBERT, GLIDDEN,
NAPCO, BUTE

PROVIDE SUITABLE COVERING TO PROTECT WORK, THE WORK OF OTHERS AND ADJACENT SURFACES AND OBJECTS. REMOVE OR PROTECT SUCH ITEMS AS HARDWARE, ACCESSORIES, PLATES, LIGHT FIXTURES AND SIMILAR ITEMS PLACED PRIOR TO PAINTING. REPOSITION OR REMOVE PROTECTION UPON COMPLETION OF EACH SPACE.

PREPARE SURFACES TO RECEIVE PAINT: THOROUGHLY CLEAN OFF GRIME, GREASE, DIRT, CHALK, DUST, LOOSE MATERIAL AND OTHER SUBSTANCES THAT MAY INTERFERE WITH PROPER ADHESION OF PAINT. PAINT DRY SURFACE ONLY. SAND LIGHTLY BETWEEN EACH SUCCEEDING COAT OF PAINT.

FILL DENTS, CRACKS, HOLLOW PLACES, OPEN JOINTS AND OTHER IRREGULARITIES WITH AN APPROVED FILLER SUITABLE FOR THE PURPOSE. AFTER SETTING, SAND TO A SMOOTH, HARD FINISH.

CLEAN OFF ALL PAINT SPLATTER OCCURRING ON ADJACENT WORK. REPAIR OR REPLACE WITH NEW APPROVED MATERIAL ALL SURFACES DEFACED AS A RESULT OF THE WORK OF THIS SECTION AND LEAVE WORK IN A CLEAN, ACCEPTABLE CONDITION.

DRYWALL:

PRIME GYPSUM BOARD SURFACES WITH A LATEX PRIMER AND APPLY TWO (2) COATS OF ACRYLIC LATEX, "REGAL WALL SATIN" (FLAT).

WOODWORK:

PRIME WOODWORK SURFACES AND TRIMS WITH A WOOD PRIMER, AND APPLY TWO (2) COATS OF "REGAL AQUAGLO" SATIN FINISH ENAMEL. WHEN TRANSPARENT FINISHES ARE CALLED FOR, USE MULTIPLE COATS TO PRODUCE GLASS-SMOOTH SURFACE FILM OF EVEN LUSTER. PROVIDE SATIN FINISH FOR FINAL COAT.

METAL WORK:

PRIME METAL SURFACES (AC REGISTERS AND DIFFUSER ACCESS PANELS) WITH AN ADEQUATE PRIMER AND APPLY TWO (2) COATS OF FLAT LATEX TO MATCH CEILING COLOR. PAINT INTERIOR SURFACES O.D. DUCTS WHERE VISIBLE THROUGH REGISTERS OR GRILLES WITH A FLAT, NON SPECULAR BLACK PAINT. OMIT PRIMER ON SURFACES THAT HAVE BEEN SHOP-PRIMED.

METAL DOORS:

PRIME DOOR SURFACES AND TRIM WITH ENAMEL PRIMER AND APPLY TWO (2) COATS OF SATIN FINISH ENAMEL AS SCHEDULED.

10430 ILLUMINATED SIGNS AND CEILING ELEMENTS:

SUPPLIED AND INSTALLED BY TENANT'S SIGN CONTRACTOR. GENERAL CONTRACTOR SHALL COORDINATE INSTALLATION TO ASSURE PROPER COMPLIANCE WITH CONSTRUCTION DOCUMENTS AND LANDLORD CRITERIA.

10440 INTERIOR SIGNAGE:

SUPPLIED AND INSTALLED BY GENERAL CONTRACTOR AS PER MANUFACTURER'S INSTRUCTIONS. REFER TO DRAWINGS FOR TYPE AND LOCATION.

DIVISION 011000 - EQUIPMENT:

011001 - EQUIPMENT

PART 1 - GENERAL

A. CONTRACTOR SHALL COORDINATE ALL EQUIPMENT WORK AND PLACEMENT WITH THE WORK OF ALL OTHER TRADES AND MAKE ADJUSTMENTS AS REQUIRED TO ACCOMMODATE LOCATIONS OF EQUIPMENT.
B. ALL EQUIPMENT WORK SHALL COMPLY WITH ALL GOVERNING BUILDING CODES AND LOCAL CODES.
C. EQUIPMENT SHALL BE FURNISHED, UNLOADED, UNPACKED OR UNCRATED AND PLACED ACCORDING TO THE CONSTRUCTION DOCUMENTS.

PART 2 - PREPARATION / EXECUTION

A. ALL EQUIPMENT PROVIDED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR IS TO BE INCLUDED IN GENERAL BID.
B. GENERAL CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY DAMAGE TO THE EQUIPMENT PRIOR TO INSTALLATION.
C. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL HOOKUP OF ALL EQUIPMENT SUCH AS ALL MECHANICAL WORK, PLUMBING, & ELECTRICAL FOR THE EQUIPMENT LIST.
D. ALL EQUIPMENT MANUALS, INSTRUCTION BOOKLETS & WARRANTY INFORMATION SHALL BE NEATLY BOUND & TURNED OVER TO THE OWNER BEFORE FINAL APPROVAL OF THE BUILDING.

END OF DIVISION

City of Peterborough
Recieved
May 19, 2023
Building Services Division

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

REGISTRATION SEAL

ONTARIO ASSOCIATION OF ARCHITECTS
FREDERICK J. GOGLIA
LICENCE
7605

5/2/23

FREDERICK J. GOGLIA
ARCHITECT, NCARB, RDI
1950 CRAIG ROAD, SUITE 300 ST. LOUIS, MO 63146
PH. (314) 415-2400 FAX (314) 415-2300 www.arcv.com

TORRID

LANSDOWNE PLACE
645 LANSDOWNE ST. W
PETERBOROUGH, ON K9J 7Y5
SPACE #161 STORE #3541-B

REV	DATE	DESCRIPTION	NAME
		FOR PERMIT - 05/18/23	

PROJECT NO: 230088
DRAWN BY: MML
CHECKED BY: KEU
ISSUE DATE: 04/13/23

ARCHITECTURAL SPECIFICATIONS

T1.0

FINISH SCHEDULE

PAINT

ALL WALLS: EGGSHELL FLAME SPREAD CLASS 1/A
FITTING DOORS/TRIM/CUSTOM MIRROR FRAMES: HIGH-GLOSS ALKYD FLAME SPREAD CLASS 1/A
NON-FITTING DOORS/FRAMES: SEMI-GLOSS FLAME SPREAD CLASS 1/A
ALL CEILING/DECK: FLAT LATEX FLAME SPREAD CLASS 1/A

INSTALLATION: GYPSUM BOARD TO RECEIVE LATEX PAINT TO BE PRIMED WITH (1) COAT OF VINYL PLASTIC SEALER PRIOR TO RECEIVING (2) COATS OF PAINT. WOOD TRIM TO RECEIVE ALKYD OR ENAMEL PAINT TO BE PRIMED W/ ONE COAT OF ENAMEL UNDERCOATER PRIOR TO RECEIVING (2) COATS OF PAINT. PAINT ALL WIRES, RETURN AIR GRILLE, & SUPPLY AIR GRILLE TO MATCH ADJACENT CEILING AREAS. G.C. TO DO "TOUCH-UP" PAINTING AT DAY OF STORE OPENING.

P-1	SHERWIN WILLIAMS #7005 "PURE WHITE"
P-2	BENJAMIN MOORE #1614 "DELRAY GRAY"
P-3	BENJAMIN MOORE #CC-544 "OVERCOAT" - OUTLET ONLY

CORNER GUARDS

CG-1	ALUMINUM CORNER GUARD 94"x1"x1" 90° 060 TYPE 5052 SATIN #4 BRUSHED FINISH

FLOORING

***** IN THE EVENT THAT G.C. IS DIRECTED TO OVERLAY EXISTING FLOOR, NEW FLOORING SHALL HAVE A SMOOTH TROWEL FINISH*****

CS-1	SURTECH - #CS-672 W/ #575 CONCRETE SEALER APPLICATION. - GRIND FLOOR W/ 80 GRIT DIAMOND PAD - FILL JOINTS AND CRACKS W/ URETHANE BASED CAULK - PATCH AREAS OF DAMAGED SLAB W/ "CGM BUILDING PRODUCTS" - LEV-L-ASTIC COMPOUND - SAND SMOOTH ANY AREAS THAT WERE PATCHED AND REMOVE DUST - APPLY TWO (2) COATS PRIMER AND THREE (3) COATS SEALANT
PT-1	CONCEPT SURFACE - ICON "DOVE GREY" - 12"X24" SATIN FINISH. INSTALL IN RUNNING BOND PATTERN. GROUT JOINTS TO BE 1/16" MAX.
VF-1	ARMSTRONG CONNECTION, TILE VINYL FLOORING, CORLON #88712 "LIMESTONE", OR APPROVED EQUAL. SEE DETAIL ON SHEET A3.1. HEAT WELDED SEAMS & 6" COVED SELF BASE - USE MFR'S RECOMMENDED ADHESIVE. FLAME SPREAD CLASS 1/A
VF-2	MATS INC. - PLANK COLLECTION, ASH #W7550 GRAY ASH, 6"X36" PLANK. FURNISHED BY TENANT, INSTALLED BY G.C. FLOOR MOISTURE READING MUST BE COMPLETED PRIOR TO INSTALLATION. SEE MANUFACTURER'S SPECIFICATION SHEETS FOR RECOMMENDED MOISTURE LIMITS.

BASE

B-1	HARDWOOD BASE - 6" HIGH. PAINT "P-2" AT SALES AREA U.O.N. AND PAINT "P-1" AT FITTING ROOMS AND ALCOVE. SEE DETAIL ON A3.1.
B-2	JOHNSONITE - #40 "BLACK", 4" HIGH RUBBER COVED BASE. PROVIDE 90 DEGREE CORNERS WHERE REQ'D. SEE DETAIL ON A3.1. FLAME SPREAD CLASS 1/A

CEILING

ACT-1	ARMSTRONG - 24"X48"X3/4" WHITE "CORTEGA" SECOND LOOK II ITEM #2767 TEGULAR ANGLED TILE. - WHITE PRELUDE 15/16" EXPOSED TEE GRID - SALES AREA PAINTED "P-2". - FLAME SPREAD INDEX OF 25 OR LESS, SMOKE DEVELOPED INDEX OF 50 OR LESS.

WALLCOVERING

WC-1	"DENOVO WALL" POPOLO "STEEL BEAM" #DN2-POP-06. FURNISHED BY TENANT, INSTALLED BY G.C.
WC-2	"DENOVO WALL" POPOLO "VANILLA ICE" #DN2-POP-01. FURNISHED BY TENANT, INSTALLED BY G.C.
WC-3	FRP WAINSCOT - WHITE W/SMOOTH FINISH - INCLUDE ALL REQ'D. TRIM/CAPS. FLAME SPREAD CLASS 3/C

METAL

MTL	BRAKE METAL PANEL. MINIMUM 18 GA. REQUIRED. POWDER COATED WHITE, RAL #9003, GLOSS FINISH.

TRIM

HT-1	1x3 HARDWOOD PERIMETER TRIM. PAINT "P-1". SEE ELEVATIONS ON SHEET A4.0 AND DETAIL ON 13/A7.0

TOILET ACCESSORIES

NOTE: IF ITEMS ARE EXISTING, REPLACE DAMAGED OR MISSING ITEMS AS SHOWN HERE.

AC-1	TOILET - SEE SHEET P1. - FURNISH NEW TOILET SEAT - F.C.I.C.
AC-2	LAVATORY - SEE SHEET P1. - F.C.I.C.
AC-3	18" GRAB BAR - BOBRICK #B-6106 X 18 - SURFACE MOUNTED. PROVIDE SOLID BLOCKING IN WALL - F.C.I.C.
AC-4	36" GRAB BAR - BOBRICK #B-6106 X 36 - SURFACE MOUNTED. PROVIDE SOLID BLOCKING IN WALL - REAR BAR TO EXTEND 12" BEYOND CENTER OF THE WATER CLOSET TOWARD THE SIDE WALL AT LEAST 24" TOWARD THE OPEN SIDE OF THE WATER CLOSET AND MOUNTED NO MORE THAN 9" BEHIND THE WATER CLOSET SEAT. - F.C.I.C.
AC-5	42" GRAB BAR - BOBRICK #B-6106 X 42 - SURFACE MOUNTED. PROVIDE SOLID BLOCKING IN WALL - F.C.I.C.
AC-6	TOILET PAPER DISPENSER - CENTERED @ 19" A.F.F., MIN. - SURFACE MOUNTED. - F.T.I.C. GEORGIA-PACIFIC: SOFPUL CENTERPULL DISPENSER - MFG. PART #56501 COLOR: SMOKE GEORGIA-PACIFIC: SOFPUL CENTERPULL ADA NOZZLE - MFG. PART #56505
AC-7	WALL MOUNTED 24"X36" MIRROR - WITH BOTTOM OF REFLECTIVE SURFACE AT +40" A.F.F. BOBRICK #B-240-2436 - CLEAR CAULK AROUND MIRROR FOR TURNOVER. - F.C.I.C.
AC-8	AUTOMATED ROLL TOWEL DISPENSER - GEORGIA-PACIFIC: SOFPUL AUTOMATED DISPENSER - MFG. PART #59010 COLOR: BLACK - F.T.I.C.
AC-9	WATER HEATER MOUNTED ABOVE MOP SINK - SEE SHEET P1. - F.C.I.C.
AC-10	SHELVING SYSTEM - PROVIDED & INSTALLED BY MOBILE MEDIA
AC-11	SIGN WITH RAISED BRAILLE LETTERS - MOUNTED AT +60 A.F.F. - F.C.I.C.
AC-12	MOP SINK - SEE SHEET P1. - F.C.I.C.
AC-13	DRINKING FOUNTAIN - SEE SHEET P1. - F.C.I.C.
AC-14	SOAP DISPENSER - BRIGHTON PROFESSIONAL (800mL) - MFG. ITEM #26463 COLOR: BLACK - F.T.I.C.
AC-15	TOILET SEAT COVER DISPENSER - BRIGHTON PROFESSIONAL - MFG. ITEM #BPR24778 - COLOR: WHITE - F.T.I.C.

ABBREVIATIONS

FURNISHED BY TENANT, INSTALLED BY CONTRACTOR -	(F.T.I.C.)
FURNISHED BY CONTRACTOR, INSTALLED BY CONTRACTOR -	(F.C.I.C.)
FURNISHED BY LANDLORD, INSTALLED BY CONTRACTOR -	(F.L.I.C.)
FURNISHED BY LANDLORD, INSTALLED BY LANDLORD -	(F.L.I.L.)

DOOR NOTES

- EXIT DOORS SHALL BE OPERABLE FROM WITHIN WITHOUT USE OF ANY SPECIAL KNOWLEDGE OR EFFORT WHEN THE SPACE IS OCCUPIED.
- MAXIMUM PULL FORCES FOR INTERIOR AND EXTERIOR DOOR SHALL NOT EXCEED: 5 LBS. FOR INTERIOR DOORS / 5 LBS. FOR EXTERIOR DOORS / 15 LBS. FORCE FOR FIRE RATED DOORS.
- G.C. TO USE HARDWARE MOUNTING KIT FOR TORRID
- LEVER HANDLED HARDWARE SHOULD NOT REQUIRE TIGHT GRASPING, ETC. PULL FORCES SHALL NOT EXCEED: 5 LBS. FOR INT. DOORS / 5 LBS. FOR EXT. DOORS / 15 LBS. FORCE FOR FIRE RATED DOORS.
- ROOM IDENTIFICATION SIGNAGE, WHEN PROVIDED, SHALL COMPLY W/LOCAL AUTHORITY
- BOTTOM 10" AT ALL DOORS, EXCEPT AUTOMATIC DOORS, SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE.
- G.C. TO SUBMIT SHOP DRAWINGS FOR DOOR HARDWARE TO PROJECT MANAGER FOR APPROVAL PRIOR TO ORDERING.
- HAND ACTIVATED DOOR OPENING HARDWARE TO BE MOUNTED AT 38" A.F.F. AND OPERATED WITH A SINGLE EFFORT BY LEVER TYPE HARDWARE.
- ALIGNMENT OF DOOR HEADS SHALL BE AT A CONSTANT LEVEL AND NOT FOLLOW POTENTIAL VARIATIONS IN THE FLOOR PLANS.
- UNDER CUT DOOR 3/4" MINIMUM.

VENDOR SCHEDULE

COMPANY	CONTACT	PHONE NUMBER	EMAIL ADDRESS
APEX SIGN GROUP	DAN MURPHY	(610) 715-3369	dan.murphy@apexsigngroup.com
BOSTON BARRICADE	JOY WILD	(772) 257-7313	jwild@bostonrs.com
CASTLE DESIGN	GARY HUNTER	(818) 848-1303	gary@castledesignfab.com
MIDWEST LIGHTING	ANO GULASARIAN	(323) 957-6031	ano@midwestlighting.com
MOBILE MEDIA	LINDA LUONGO	(800) 784-8080	tlteam@mobilemediastorage.com
ONSITE MEDIA SOLUTION	DANIEL VIGNOLA	(435) 214-4956	hottopic@onsitemedia.com
QUAD GROUP		(262) 289-2671	torridsupport@qg.com
SENSORMATIC	CECILIA MORENO	(310) 347-7351	cecilia.moreno@jci.com
SHOPPER TRAK		(312) 529-5411	orders@shoppertrak.com
REEVE	FRANK MACHUCA	(562) 949-2535	hottopic@reeveco.com
WORLDLINK	DAREN HARVEY	(949) 861-2830 EXT. 226	construction@worldlinkintegration.com
POLLOCK ORORA	MONICA FRANKS	(972) 337-3645	hottopic@pollock.com
RADIANT FREIGHT	NATHANIEL BROWN		hottopic@radiantdelivers.com
KASTON	JOHN STEGER	(866) 943-5334	john@kastongroup.com
MATS INC.	MARY CRANE	(781) 573-0265	mcrane@matsinc.com
CIS INTERNET	TOM BUSHMAN/ NANCY BENNETT	(626) 839-4681 EXT. 2879	pm@cisvpn.com
VISUAL CREATIONS	KRISTEN DUFFY	(401) 588-5151 EXT. 257	customerservice@rosedisplays.com
NCR	RYAN TUCKER	(770) 212-6056	ryan.tucker@ncr.com
WEST TECH	NICK LEE	(818) 357-9842	nick@westechtrading.com
SITE CREW INC.			ht@sitecrewinc.com
STAPLES	YVONNE CARSTEN	(303) 664-2331	yvonne.carsten@staples.com
BUNZL RETAIL SERVICES	JOSH BALLEW	(612) 217-6312	jballew@ddsjit.com
GRENEKER	SUSAN ARICA	(323) 263-9000 EXT. 3308	torrid@greneker.com
KOROSEAL	JESSICA COOPER	(866) 628-2280 EXT. 1	na@koroseal.com
FLOR STORE	MELISSA JONGEBLOED	(312) 350-5853	harorders@flor.com

DOOR SCHEDULE

KEY DESCRIPTION

1 **STOREFRONT DOORS:**

DOORS:
PR. 3'-0" x 9'-0" GLASS DOORS.
DOOR STOPS:
FLOOR - CRL. LOW PROFILE DOME DOOR STOP DL2501DU, FINISHED POLISHED CHROME
TOP OF STOREFRONT DOOR - CRL. HEADER MOUNTED DOUBLE DOOR STOP 1NT308A, FINISHED POLISHED CHROME
BOTTOM RAIL:
6" SQUARE DRY GLAZE DOOR RAIL DR6SBL12SL W/ DOOR LOCK CYLINDERS & THUMBTURN BY G.C., TO FIT 7-PIN FALCON CORES, BY OWNER
DOOR PATCH:
TOP: CRL. PH21ADU WITH INT303 PIVOT INSERT, BOTTOM: CRL. PH11CDU WITH INT301 INSERT, FINISHED POLISHED CHROME
DUST PROOF KEEPER/STRIKE:
CRL. AMR207BN, FINISHED POLISHED CHROME
DOOR PULLS:
2'-0" LONG POLISHED CHROME PULLS - ROCKWOOD 118, G.C. TO VERIFY STYLE WITH PROJECT MANAGER.
SIGNAGE:
PROVIDE - SIGN ABOVE DOOR IN 1" HIGH LETTERS ON A CONTRASTING BACKGROUND STATING "THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED" WHEN REQUIRED BY CODE

2 **ACCESSIBLE FITTING ROOM DOOR:**

☒ NEW ☐ EXISTING - PROVIDE AS NOTED BELOW IF EXISTING IS UNSUITABLE.
DOOR:
3'-2" x 5'-0" x 1 3/4" DOOR SUPPLIED BY TENANT & INSTALLED BY G.C.
FRAME (BY G.C.):
1" x 3" WOOD CASING & JAMB. PROVIDE 3 WOOD JAMB ANCHORS PER JAMB - PAINT "P-1" - F.C.I.C.
HINGES:
SCHLAGE RHODES (2) SC3P1012F-619E 3.5" X 3.5" SATIN NICKEL, #626, 1/4" RADIUS CORNER MORTISE HINGE, PART #70-402954. USE #12 X 1 1/4" WD. SCREWS @ DOOR AND #12 (24) X 1/2" MACHINE SCREW @ FRAME, SUPPLIED BY TENANT.
LOCKS / LATCHES:
SCHLAGE - RHODES ND80PD - STOREROOM TYPE, #626.
DOOR STOP:
HINGE MOUNTED DOOR STOP - F.T.I.C.
NOTES:
- (8) KEYS TO BE FURNISHED PER DOOR, ALL DOORS KEYED ALIKE, SUPPLIED BY TENANT.
- ROUGH OPENING TO BE 38" WIDE. TORRID G.C. TO PROVIDE DOOR FRAME, DOOR TRIM, BORE AND MORTISE DOOR AND INSTALL BOTTOM OF DOOR @ 12" A.F.F.

3 **FITTING ROOM DOOR:**

☒ NEW ☐ EXISTING - PROVIDE AS NOTED BELOW IF EXISTING IS UNSUITABLE.
DOOR:
3'-0" x 5'-0" x 1 3/4" DOOR SUPPLIED BY TENANT & INSTALLED BY G.C.
FRAME (BY G.C.):
1" x 3" WOOD CASING & JAMB. PROVIDE 3 WOOD JAMB ANCHORS PER JAMB - PAINT "P-1" - F.C.I.C.
HINGES:
SCHLAGE RHODES (2) SC3P1012F-619E 3.5" X 3.5" SATIN NICKEL, #626, 1/4" RADIUS CORNER MORTISE HINGE, PART #70-402954. USE #12 X 1 1/4" WD. SCREWS @ DOOR AND #12 (24) X 1/2" MACHINE SCREW @ FRAME, SUPPLIED BY TENANT.
LOCKS / LATCHES:
SCHLAGE - RHODES ND80PD - STOREROOM TYPE, #626.
DOOR STOP:
HINGE MOUNTED DOOR STOP - F.T.I.C.
NOTES:
- (8) KEYS TO BE FURNISHED PER DOOR, ALL DOORS KEYED ALIKE, SUPPLIED BY TENANT.
- ROUGH OPENING TO BE 38" WIDE. TORRID G.C. TO PROVIDE DOOR FRAME, DOOR TRIM, BORE AND MORTISE DOOR AND INSTALL BOTTOM OF DOOR @ 12" A.F.F.

4 **SALES AREA TO STOCKROOM DOOR:**

☒ NEW ☐ EXISTING - PROVIDE AS NOTED BELOW IF EXISTING IS UNSUITABLE.
DOOR:
3'-0" x 7'-0" x 1-3/4" HOLLOW METAL DOOR. PAINT "P-1"
FRAME:
3'-0" X 7'-0" HM DRYWALL FRAME - PAINT "P-1"
HINGES:
1-1/2 PAIR 4" x 4" (3/BOX) - #US26
LOCKS / LATCHES:
SCHLAGE ND80PD RHO - HEAVY DUTY STOCKROOM LEVER LOCK WITH CYLINDER
CLOSER:
NORTON NO. 1603 ALUMINUM DOOR CLOSURE. W/ 90° HOLD OPEN
FLOOR STOP:
IVES FS13, OR EQUAL - #US26
NOTES:
- PROVIDE DOOR BUMPER "QUALITY" NO. 302. (VERIFY W/ PLAN WHEN DOOR SWINGS TO WALL)
- PROVIDE 30" x 34" STAINLESS STEEL ARMOR PLATE. SEE INTERIOR ELEVATIONS
- GC TO PROVIDE/INSTALL WIRELESS ENTRY ALERT CHIME WITH RECEIVER BY SAFETY TECHNOLOGY INTERNATIONAL TO STOCK SIDE OF DOOR. CONFIRM LOCATION OF PLUG IN CHIME @ CASHWRAP WITH PM

5 **STOCKROOM TO TOILET ROOM DOOR:**

☐ NEW ☒ EXISTING - PROVIDE AS NOTED BELOW IF EXISTING IS UNSUITABLE.
DOOR:
3'-0" x 7'-0" x 1 3/4" HOLLOW METAL DOOR. DEEP CLEAN AS NEEDED
FRAME:
3'-0" X 7'-0" HM DRYWALL FRAME - DEEP CLEAN AS NEEDED
HINGES:
1-1/2 PAIR 4" x 4" (3/BOX) - #US26
LOCKS / LATCHES:
FALCON B301-D LEVER TYPE PRIVACY SET - #626
SIGNAGE:
PROVIDE INTERNATIONAL SYMBOL OF ACCESSIBILITY AS REQUIRED BY CODE
CLOSER:
NORTON NO. 1603 ALUMINUM DOOR CLOSURE. W/ 90° HOLD OPEN
NOTES:
- PROVIDE DOOR BUMPER "QUALITY" NO. 302. (VERIFY W/ PLAN WHEN DOOR SWINGS TO WALL)
- PROVIDE 30" x 34" STAINLESS STEEL ARMOR PLATE AT STOCKROOM/ HALLWAY SIDE ONLY.

6 **STOCKROOM TO OFFICE DOOR:** △1

☐ NEW ☒ EXISTING - PROVIDE AS NOTED BELOW IF EXISTING IS UNSUITABLE.
DOOR:
3'-0" x 7'-0" x 1-3/4" HOLLOW METAL DOOR. PAINT "P-1"
FRAME:
3'-0" X 7'-0" HM DRYWALL FRAME - PAINT "P-1"
HINGES:
1-1/2 PAIR 4" x 4" (3/BOX) - #US26
LOCKS / LATCHES:
PASSAGE TYPE LEVER SET BY G.C.
CLOSER:
NORTON NO. 1603 ALUMINUM DOOR CLOSURE. W/ 90° HOLD OPEN
FLOOR STOP:
IVES FS13, OR EQUAL - #US26
NOTES:
- PROVIDE DOOR BUMPER "QUALITY" NO. 302. (VERIFY W/ PLAN WHEN DOOR SWINGS TO WALL)

RESPONSIBILITY SCHEDULE

ITEM	FURNISHED			INSTALLED			EXIST.		REMARKS
	LANDLORD	TENANT	CONTRACTOR	LANDLORD	TENANT	CONTRACTOR	NO CHANGE	SPCL. ACTION	RESPONSIBILITY SCHEDULE IS GENERAL IN NATURE AND DOES NOT REFLECT EVERY COMPONENT OR RESPONSIBILITY. U.O.N. RESPONSIBILITY IS G.C. FURNISHED AND INSTALLED.
SIGNAGE									
STOREFRONT ILLUMINATED SIGN		●			●				"TORRID" LOGO LETTER SIGN
AWNING			●			●		●	G.C. TO REPLACE OR REPAIR AS REQUIRED.
BLADE SIGN & BRACKETS		●			●				PER LANDLORD'S CRITERIA
REAR DOOR SIGNAGE			●			●			PER LANDLORD'S CRITERIA
VINYL WINDOW GRAPHICS		●				●			AT 36" A.F.F. AT STOREFRONT
BARRICADE GRAPHICS		●				●			PER LANDLORD'S CRITERIA
CODE-RELATED SIGNAGE AT ANY DOOR			●			●			PER INSPECTOR'S REQUIREMENTS
SIGN PERMIT & APPL.		●			●				WHEN REQUIRED
EXISTING SIGNAGE REMOVAL			●			●			WHEN REQUIRED
TOILET ROOM	L	T	C	L	T	C	N	S	
WATER CLOSET							●		SEE SHEET P1
LAVATORY							●		SEE SHEET P1
MOP SINK			●			●			SEE SHEET P1
DRINKING FOUNTAIN			●			●			SEE SHEET P1
TOILET PAPER DISPENSER							●		
PAPER TOWEL DISPENSER							●		
GRAB BARS							●		G.C. TO REPLACE OR REPAIR AS REQUIRED.
MIRROR(S)							●		G.C. TO REPLACE OR REPAIR AS REQUIRED.
MARLITE PANELS/J-MOLDING							●		REPLACE AS REQUIRED - SEE FINISH SCHED.
BACKING FOR ALL ITEMS LISTED ABOVE AS REQ.							●		
TRASH CAN							●		
SOAP DISPENSER							●		
SHELVING / HANGING							●		INCL. SHELVES, STANDARDS AND BRACKETS
TOILET SEAT COVER DISPENSER							●		
WATER HEATER			●			●		●	TO BE REPLACED IF OLDER THAN 7 YEARS △1
WATERPROOFING							●		PER LANDLORD'S CRITERIA
M.E.P.	L	T	C	L	T	C	N	S	

SEE MECHANICAL, PLUMBING, AND ELECTRICAL SHEETS FOR ENGINEERING SCHEDULES AND SPECIFICATIONS

MISCELLANEOUS	L	T	C	L	T	C	N	S	
PICK-UP PERMIT/ PAY PERMIT FEES			●			●			
CONSTRUCTION SITE PHONE AND FAX			●			●		●	PROVIDE INFORMATION TO TORRID AND ARCHITECT.
CONSTRUCTION SITE DIGITAL CAMERA			●					●	PROVIDE WEEKLY E-MAIL PHOTOS TO TORRID
OBTAIN C/O APPROVALS IN WRITING A.W.A.								●	
SPRINKLER SYS. PLANS/ PLANS/ PERMIT/ FEES			●			●			CHANGE ORDERS NOT PROCESSED WITHOUT A.W.A. #'S.
MODIFY SPRINKLER SYS.			●			●			VERIFY MALL'S REQUIRED CONTRACTOR
MALL DEPOSIT/ INSURANCE WAIVERS			●						
JANITORIAL SERVICE/ FINAL CLEANING			●						TWO CLEANINGS: FIRST AT PUNCHLIST, SECOND CLEANING DAY PRIOR TO OPENING.
TRASH REMOVAL/ DUMPSER RENTAL			●						PROVIDE EXTRA 30 YD DUMPSTER THE DAY PRIOR TO TURNOVER FOR TENANT DEBRIS.
FIRE EXTINGUISHERS			●			●			AS REQUIRED BY CODE AND LOCAL AUTHORITIES
INSPECTIONS			●			●			AS REQUIRED BY LOCAL AUTHORITIES
"COMING SOON" GRAPHIC		●			●				COORDINATE WITH TENANT AND LANDLORD
HAZ-MAT ABATEMENT			●			●			AS REQUIRED
FLOOR PREPARATION			●			●			
ROOF PENETRATIONS			●			●			VERIFY MALL'S REQUIRED CONTRACTOR
DEMOLITION/ PERMIT AND FEES AS REQUIRED			●						
OBTAIN INSPECTIONS/ PROVIDE STATUS REPORT			●						
PROVIDE AS-BUILT COPY OF JOB SITE PLANS.			●						PROVIDE (2) COPIES
RECEIVE/ UNLOAD ALL TENANT SUPPLIED ITEMS			●						
SUB-CONTRACTOR LIST AND WARRANTIES			●						PROVIDE TO OWNER AT TURNOVER
TEMPORARY BARRICADE			●			●			COORDINATE WITH LANDLORD AND MALL.
G.C. PROJECT MGR. SITE VISITS DURING CONST.			●						
COMPLIANCE TO TENANT TURNOVER REQUIREMENTS			●						AS REQUIRED: MINIMUM (1) AT FIELD REPORT.
AUDIO SYSTEM		●			●				COORD. CLOSELY WITH TENANTS VENDOR FOR INSTALLATION SCOPE.
CONDUITS & PULL STRING POWER AUDIO SYS./DATA/ALARMS/ETC.			●			●			G.C TO PROVIDE CONDUIT W/ PULL STRING COORDINATE W/ APPLICABLE VENDORS.
P.O.S. SYS. (DATA AND TELEPHONE EQUIPMENT)		●			●				G.C. TO ASSIST BY INSTALLING SHELVING AT CASHWRAP.
DE-BRANDING OF EXISTING TORRID STORE			●			●			WHEN STORE IS A RELOCATION, GC TO DEBRAND EXISTING STORE. CONFIRM REQUIREMENTS W/ TORRID P.M.

7 **REAR SERVICE DOOR:**

☐ NEW ☐ NOT USED ☒ EXISTING - PROVIDE AS NOTED BELOW IF EXISTING IS UNSUITABLE.
DOOR:
3'-0" x 7'-0" METAL DOOR AND FRAME, V.I.F. INSTALL DOOR SWEEP ON EXTERIOR SIDE OF DOOR, IF NOT EXISTING. EXISTING THRESHOLD AND WEATHERSTRIPPING TO BE REPAIRED OR REPLACED, AS NEEDED.
LOCKS / LATCHES:
ALARM LOCK #700 OR DETEX PANIC/ ALARM HARDWARE W/ 7-PIN MORTISE CYLINDER & SATIN CHROME STRIKE. (ALWAYS PROVIDE THIS UNLESS SUITABLE EXISTS) G.C. TO INSTALL PRY PLATE AT EXTERIOR, NO HANDLE ALLOWED.
SIGNAGE:
LABEL MALL SIDE WITH TENANT'S NAME AND SPACE NO. PER LANDLORD'S REQUIREMENTS
CLOSER:
NORTON NO. 1603 ALUMINUM DOOR CLOSURE. W/ 90° HOLD OPEN
VIEWER:
BLACK OR NICKEL DOOR VIEWER @ 5'-0" A.F.F. - FIRE RATED, AS REQUIRED.
NOTES:
- TENANT'S G.C. SHALL MAINTAIN TIGHT FITTING SMOKE AND DRAFT CONTROL ASSEMBLY HAVING A FIRE RATING OF NOT LESS THAN 90 MIN. WHEN TESTED. INSTALL GASKET MATERIAL AS TO PROVIDE A SEAL WHERE DOOR MEETS THE STOP ON ALL SIDES.
- PAINT MALL SIDE OF DOOR AND FRAME TO MATCH ADJACENT MALL'S FINISH OR AS DIRECTED BY THE MALL'S ON-SITE REPRESENTATIVE.

RESPONSIBILITY SCHEDULE

ITEM	FURNISHED			INSTALLED			EXIST.		REMARKS
	LANDLORD	TENANT	CONTRACTOR	LANDLORD	TENANT	CONTRACTOR	NO CHANGE	SPCL. ACTION	RESPONSIBILITY SCHEDULE IS GENERAL IN NATURE AND DOES NOT REFLECT EVERY COMPONENT OR RESPONSIBILITY. U.O.N. RESPONSIBILITY IS G.C. FURNISHED AND INSTALLED.
STOREFRONT									
NEUTRAL PIERS							●		VERIFY DETAILS WITH LANDLORD
CONTINUOUS REVEALS			●			●			3/4" METAL REVEAL
STOREFRONT FRAMING			●			●			SEE SHEET A5.0
PR. ENTRY DRS/ HARDWARE			●			●			SEE DOOR SCHEDULE
WINDOW FILM			●			●			G.C. TO COORD. W/ OWNERS VENDOR
FLOORING / BASE	L	T	C	L	T	C	N	S	
FLOOR CORING/CONC. INFILL/PATCH EXIST.			●			●			G.C. TO COORD. W/ OWNERS VENDOR
CONCRETE SEALER			●			●			SEE FINISH SCHEDULE
SHT. VINYL @ TOILET RM.			●			●			SEE FINISH SCHEDULE
FLOOR TRANSITIONS			●			●			
RUBBER BASE			●			●			NON-PUBLIC AREAS ONLY, SEE FINISH SCHEDULE
WOOD BASE			●			●			G.C. TO SCRIBE TO FLOOR, SEE FINISH SCHEDULE
CARPET TILE		●				●			SEE FINISH SCHEDULE
SALES FLOOR FLOORING		●				●			SEE FINISH SCHEDULE
WALLS	L	T	C	L	T	C	N	S	
DEMISING PART. STUDS							●		MAINTAIN AND REPAIR AS REQUIRED
DEMISING PART. DRYWALL			●			●		●	PATCH, REPAIR, & REPLACE AS REQUIRED
NEW WALLS FRAMING/ BLOCKING/GYP. BD.			●			●			
TOILET ROOM FRAMING/ BLOCKING/GYP. BD.			●			●		●	PATCH, REPAIR, & REPLACE AS REQUIRED
FURRING AROUND COLUMNS AT DEMISE			●			●		●	PATCH, REPAIR, & REPLACE AS REQUIRED
INTERIOR COLUMN FURRING			●			●			
BLOCKING FOR DOORS			●			●			
WALL PREP. AND PAINT			●			●			
CORNER GUARDS			●			●			G.C. TO CUT DOWN IN FIELD AS NEEDED
CEILINGS	L	T	C	L	T	C	N	S	
GYP. BD. CEILINGS OR SOFFITS			●			●			
PAINT AT EXPOSED DECK AT PUBLIC AREAS			●			●			
THREADED ROD/ UNISTRUT/ AIRCRAFT CABLE			●			●			AS REQUIRED
DEMO/PREP OF EXPOSED DECK READY TO PAINT			●			●			
SUSPENDED ACT CEILING			●			●			WHEN REQUIRED
DOORS	L	T	C	L	T	C	N	S	
FITTING ROOM FRAME /TRIM			●			●			SEE DOOR SCHEDULE
ALCOVE & STOCK ROOM DOOR/FRAME/HARDWARE			●			●			SEE DOOR SCHEDULE
TOILET ROOM DOOR/ FRAME/HARDWARE							●		SEE DOOR SCHEDULE
REAR DOOR AND FRAME			●			●	●		G.C. TO REPLACE OR REPAIR AS REQUIRED.
REAR DOOR PANIC BAR/ 7 PIN RIM CYLINDER			●			●		●	G.C. TO REPLACE OR REPAIR AS REQUIRED.
KEY ALL DOORS ALIKE @ TURNOVER		●				●			
ACCESS PANELS AS REQ'D FOR MOTORS/VAV/ETC.			●			●			AS REQUIRED
FITTING ROOMS & ALCOVE	L	T	C	L	T	C	N	S	
HOOKS		●				●			
MIRRORS		●				●			
ADA MIRROR(S) & 3-WAY			●			●			
CAULKS/SILICONES/ MASTICS/ADHESIVES			●			●			EACH TRADE TO PROVIDE, AS REQUIRED
BENCHES		●				●			
METAL MESH/ FRAMES		●				●			
DOORS/ HARDWARE		●				●			
SALES AREA & FIXTURES	L	T	C	L	T	C	N	S	
FREESTANDING FLOOR FIXTURES		●				●			G.C. TO ASSEMBLE AS REQUIRED
WALL STANDARDS		●				●			POWDER COATED SCREWS INCLUDED
CASH WRAP/ COUNTERS		●				●			G.C. TO ASSEMBLE AS REQUIRED
WALL & DISPLAY FIXTURES		●				●			
MISC. SALES WOOD TRIM			●			●			G.C. TO ASSEMBLE AS REQUIRED
MIRRORS			●			●			
LOOSE HARDWARE AND SHELVING		●				●			G.C. TO CLEAN AND INSTALL
RECEIVING HARDWARE/ FIXTURES INTO STORE			●			●			
UNPACK/ DISPOSE OF FIXTURE WRAPPINGS			●			●			OFFLOAD FROM TRUCK
STOCKROOM	L	T	C	L	T	C	N	S	
CORNER GUARDS			●			●			REQUIREMENTS TO BE DETERMINED IN FIELD
BULLETIN BOARDS AND MISC. ITEMS		●				●			
STRUCTURAL SUPPORT FOR XFMR. IF REQ'D.			●			●			
TABLE/FILE CABINET		●				●			
LOCKER/ MICRO./ FRIG.		●			●				
MOBILE SHELVING SYSTEM		●			●				
SHELVING / HANGING		●				●			VENDOR TO INCL. SHELVES/ STANDARDS/ BRACKETS
BACKING FOR ALL ITEMS LISTED ABOVE			●			●			AS REQUIRED FOR SECURE ATTACHMENT

***G.C. NOTE:**

G.C. TO REVIEW BILL OF LADING UPON RECEIPT OF ALL SHIPMENTS. ANY DAMAGES OR SHORTAGES ARE TO BE INDICATED AT RECEIPT, OR WITHIN 24 HOURS. FAILURE TO DO SO WILL REQUIRE G.C. TO CONTACT VENDORS LISTED ABOVE AND PURCHASE SAID ITEMS AT G.C. COST.

THE 'RESPONSIBILITY SCHEDULE' IS INTENDED TO BE USED AS A GUIDE ONLY AND IS NOT ALL-INCLUSIVE. ALL PERSONS BIDDING WORK OR CONTRACTED FOR WORK ARE TO REVIEW THESE DOCUMENTS, THE LANDLORD'S CRITERIA AND THE EXECUTED LEASE AGREEMENT IN THEIR ENTIRETY. ALL ITEMS MARKED AS FURNISHED OR INSTALLED BY LANDLORD ARE 'AS-IS'. LANDLORD IS NOT PERFORMING ADDITIONAL WORK.

City of Peterborough
Recieved
May 19, 2023
Building Services Division

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

REGISTRATION SEAL

FREDERICK J. GOGLIA
LICENCE
7605

5/2/23

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TORRID

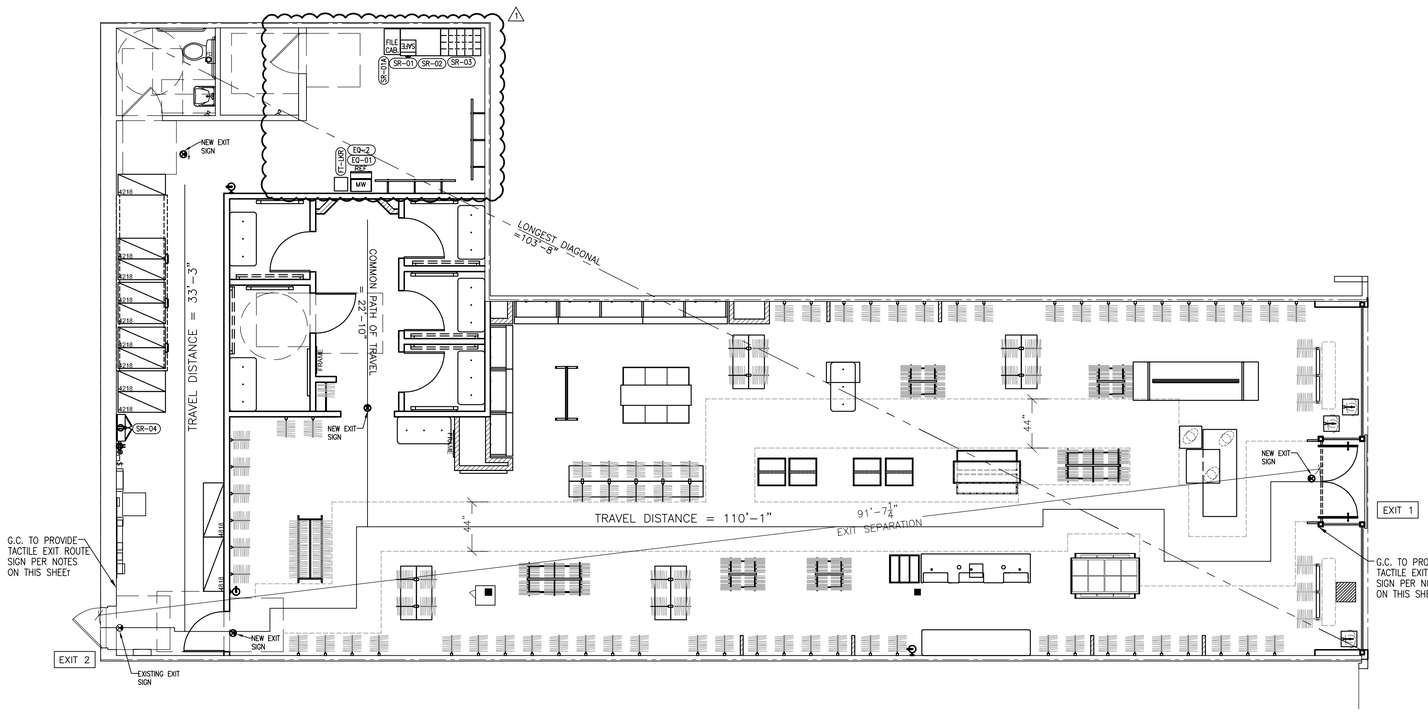
LANSDOWNE PLACE
645 LANSDOWNE ST. W
PETERBOROUGH, ON K9J 7Y5
SPACE #161 STORE #3541-B

REV	DATE	DESCRIPTION	NAME
1	05/01/23	CLIENT COMMENTS	MML
		FOR PERMIT - 05/18/23	

PROJECT NO. 230088
DRAWN BY: MML
CHECKED BY: KEU
ISSUE DATE: 04/13/23

ARCHITECTURAL SCHEDULES

T2.0



1 EGRESS PLAN
SCALE: 3/16" = 1'-0"

LIFE SAFETY/EGRESS NOTES

1. CONTRACTOR TO FIELD VERIFY THE PRESENCE OF A DUCT SMOKE DETECTOR & THAT IT IS IN COMPLIANCE WITH IBC 2015 MECHANICAL SECTION 606 AND NFPA 90A. SEE MECHANICAL SHEETS FOR ADDITIONAL INFORMATION.
2. SEE REFLECTED CEILING PLAN AND ELECTRICAL LIGHTING PLAN FOR DESCRIPTION OF LIGHT FIXTURES SHOWN.
3. PROVIDE (1) TYPE-ABC FIRE EXTINGUISHER FOR EACH 2,500 S.F. AND NOT MORE THAN 75 FEET APART.
4. FIRE EXTINGUISHERS SHALL BE VISIBLE AND ACCESSIBLE AT ALL TIMES DURING REMODELING.
5. ALL EXIT WAYS SHALL BE KEPT FREE AND CLEAR FOR EXITING AND ENTERING PURPOSES.
6. REFER TO DOOR SCHEDULE ON A100 FOR MORE INFORMATION ON DOOR HARDWARE ALONG EGRESS ROUTE.
7. EXIT SIGNS & EMERGENCY LIGHTING REQUIRED IN ALL ROOMS, INCLUDING RESTROOMS. REFERENCE ELECTRICAL SHEETS FOR MORE INFORMATION.

DENOTES 5LB ABC FIRE EXTINGUISHER

MEANS OF EGRESS

NO. OF EXITS: (2 REQ'D BY 2012 ONTARIO BUILDING CODE)	TOTAL: 2
EXIT WIDTH PROVIDED: (EXIT WIDTH REQ'D:[OCC. LOAD x FACTOR (0.2")]:	108" 32" MIN.
MAXIMUM DISTANCE TO EXITS: (MAXIMUM ALLOWED = 250')	110'-1"
COMMON PATH OF TRAVEL:	22'-10"
EXIT SEPARATION	
LONGEST DIAGONAL	103'-8"
REQUIRED (NON SPRINKLERED)	51'-10"
PROVIDED	91'-7 1/4"

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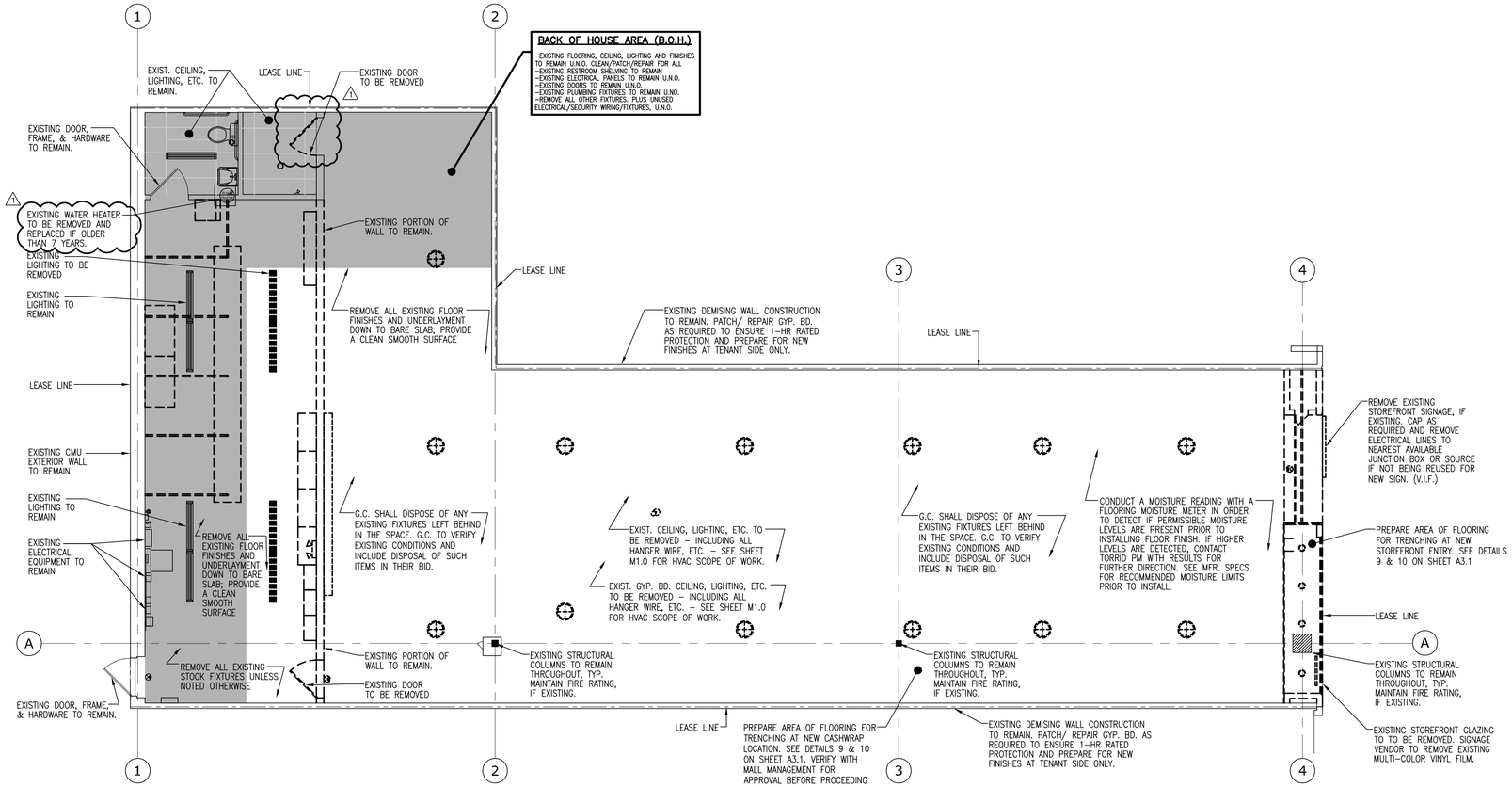
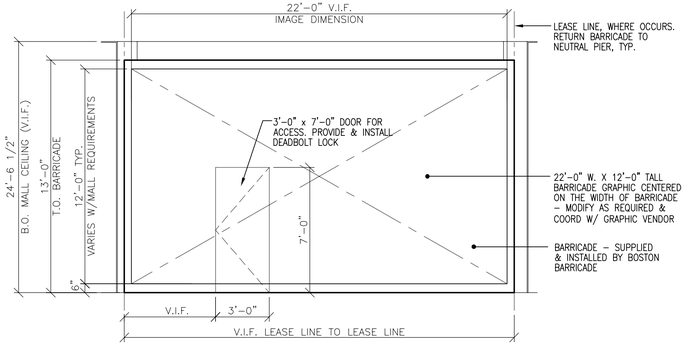
EGRESS PLAN

T3.0

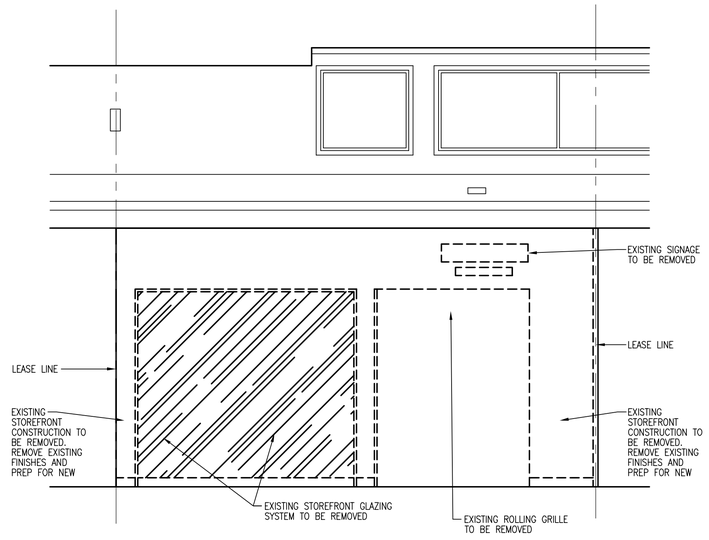


1 DEMOLITION PLAN
SCALE: 3/16" = 1'-0"



2 BARRICADE ELEVATION
SCALE: 1/4" = 1'-0"

NOTES:
1. CONTRACTOR TO VERIFY BARRICADE REQUIREMENTS & COORDINATE INSTALLATION W/MALL MANAGEMENT & BOSTON BARRICADE



3 DEMOLITION ELEVATION
SCALE: 1/4" = 1'-0"

LANDLORD NOTE:
TENANT TO REMOVE ALL ITEMS NOT INTENDED FOR REUSE. UNUSED WIRING TO BE REMOVED BACK TO THE SOURCE.

NOTES:
1. G.C. TO VERIFY ALL DIMENSIONS WITHIN (1) WEEK OF START OF PROJECT &/OR BEFORE ANY NEW CONSTRUCTION BEGINS. ANY DISCREPANCIES TO BE RESOLVED WITH TORRID PROJECT MANAGER PRIOR TO START OF FRAMING OR ROUGH-IN.
2. G.C. TO INSTALL TENANT PROVIDED GRAPHICS 48 HOURS AFTER START DATE, BARRICADE CONSTRUCTION OR RECEIPT OF GRAPHICS.
3. CONTRACTOR TO VERIFY, PRIOR TO BIDDING, COMPLETE SCOPE OF DEMOLITION. ALL REQUIRED DEMOLITION TO BE INCLUDED IN THE BASE BID. DEMOLITION PLAN IS ONLY AN ESTIMATE OF SCOPE OF WORK.
4. ALL DEMOLITION WORK IS BY G.C. UNLESS NOTED OTHERWISE.
5. G.C. SHALL CONTACT THE MALL OPERATIONS MANAGER & CONFIRM THE REQUIREMENTS FOR THE STOREFRONT BARRICADE & PROVIDE ACCORDINGLY
6. G.C. TO VERIFY IF THERE ARE ANY OBSTACLES WITHIN FIRST WEEK. IF THERE ARE ANY OBSTACLES IN OBTAINING PROPER HEIGHTS FOR FIXTURES OR FINISHES CONTACT TORRID PROJECT MANAGER IMMEDIATELY.
7. WHERE COMMUNICATION, COMPUTER, SECURITY, OR TELEPHONE LINES ARE (RE)LOCATED, COORDINATE WITH TORRID PM FOR ROUTING AND TIMING OF NEW LINES TO SERVICE REGISTERS AND SECURITY/ SOUND. ABANDONED TELEPHONE AND COMMUNICATION LINES ARE TO BE IDENTIFIED, MARKED AND CAPPED AS REQUIRED TO NEAREST AVAILABLE JUNCTION BOX OR SOURCE AND/ OR REMOVED BY G.C. V.I.F.
8. FIELD VERIFY FOR ANY RECESSED STANDARDS. IF EXISTING, CONTACT TORRID PM IMMEDIATELY.
9. CONSTRUCTION SITE TO BE A NON-SMOKING ENVIRONMENT AT ALL TIMES.
10. SUPERINTENDENT TO HAVE A WALK THROUGH WITH ELECTRICAL CONTRACTOR AND DEMOLITION CONTRACTOR PRIOR TO DEMOLITION TO IDENTIFY CIRCUITS AND WIRING THAT CAN BE RETAINED FOR THE NEW LAYOUT.

DEMOLITION NOTES:
1. EXISTING DEMISING WALLS – REMOVE ALL EXISTING FIXTURES ON WALLS – REPAIR, REPLACE OR INSTALL NEW 5/8" TYPE "X" GYPSUM BOARD.
2. REMOVE ANY EXISTING FIXTURES AND MATERIALS IN SPACE. REMOVE EXISTING CEILING AND GRID, AS NECESSARY. UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO VERIFY CONDITION OF ANY EXISTING DOORS TO REMAIN. VERIFY CONDITION OF HARDWARE. REPLACE IF NECESSARY. PROVIDE HARDWARE AS SPEC'D ON DRAWINGS.
4. SEE MECH. & ELECTRICAL DRAWINGS FOR FURTHER DEMOLITION WORK.
5. G.C. TO VERIFY AND REMOVE ADDITIONAL ITEMS PER PLANS AS REQ'D.
6. GENERAL CONTRACTOR TO MAINTAIN THE INTEGRITY OF ALL FIRE-RATED CONSTRUCTION. G.C. TO REPLACE OR RELOCATE, IN ACCORDANCE W/ LOCAL CODES, ALL FIRE SUPPRESSION & FIRE ALARM EQUIPMENT DISTURBED BY DEMOLITION OR CONSTRUCTION.
7. REMOVE ALL DEMOLITION MATERIALS INCLUDING RUBBISH AND DEBRIS PRIOR TO NEW CONSTRUCTION.
8. G.C. TO REMOVE ALL FLOORING & SUB-FLOORING MATERIAL DOWN TO THE SLAB – PROVIDE SMOOTH LEVEL SLAB FOR SCHEDULED FINISHES AND REMOVE ALL ADHESIVES, SOLVENTS OR OTHER COMPOUNDS – CHEMICAL PREPARATION OF THE SLAB IS NOT ACCEPTABLE – REFER TO MANUFACTURER'S INSTALLATION DIRECTIONS FOR FURTHER REQUIREMENTS.
9. FIRE RATING OF EXISTING FIREPROOFING TO BE MAINTAINED AT FLOOR/CEILING AREAS, INCLUDING PATCHING OF DISTURBED AREAS, AND EXISTING STRUCTURAL ASSEMBLIES.

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SPACE #161 STORE #3541-B

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		FOR PERMIT - 05/18/23	

PROJECT NO: 230088
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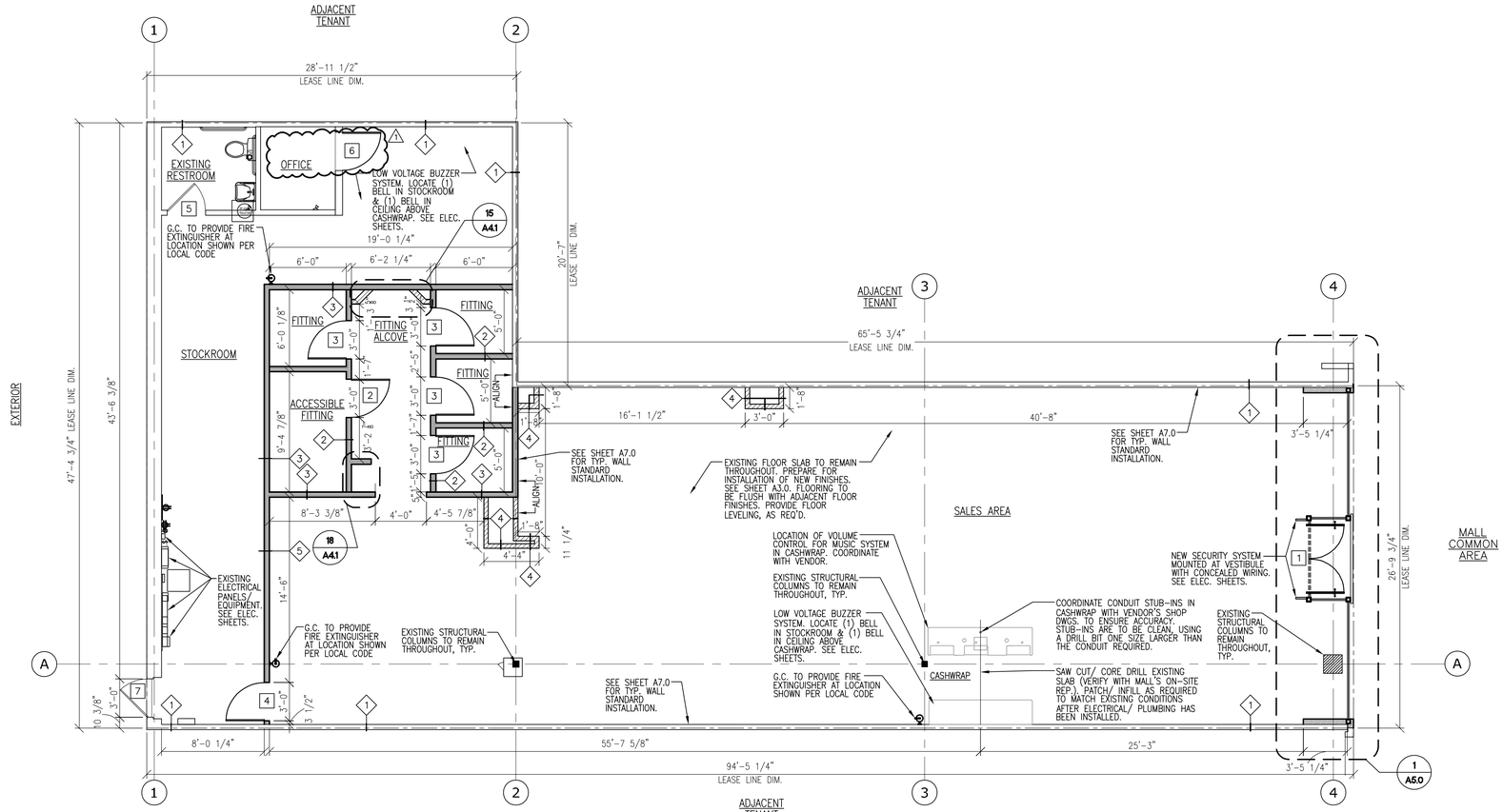
CHECKED BY: KEU
ISSUE DATE: 04/13/23

DEMOLITION PLAN

D1.0



1 FLOOR PLAN
SCALE: 3/16" = 1'-0"

⚠1 **LANDLORD NOTES:**

MAINTAIN FIRE RATINGS OF BASE BUILDING WALL ASSEMBLIES. DEMISING WALLS PROVIDED AS IS. ENSURE WALL RATINGS COMPLY WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

SQUARE FOOTAGES

SALES:	2,115 SQ.FT.
FITTING ROOMS:	317 SQ.FT.
STOCKROOM:	591 SQ.FT.
⚠1 RESTROOM:	61 SQ.FT.
OFFICE:	44 SQ.FT.
TOTAL BUILDING:	3,128 SQ.FT.

GENERAL NOTES:

1. CONTRACTOR TO INCLUDE IN BASE BID TO PATCH, FLOAT OR REPLACE GYP. BD. ON DEMISING WALLS WHERE DAMAGED, UNSIGHTLY, OR MISSING FOR AN "AS NEW" FINISHED SURFACE.
2. WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS.

FOR FINISH SCHEDULE SEE SHEET T2.0

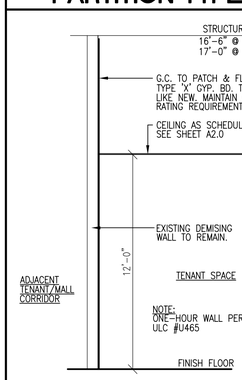
FOR DOOR DESCRIPTION(S) SEE DOOR SCHEDULE, SHEET T2.0

NOTE:
1. **G.C. TO VERIFY ALL DIMENSIONS WITHIN (1) WEEK OF START OF PROJECT &/OR BEFORE ANY NEW CONSTRUCTION BEGINS. ANY DISCREPANCIES TO BE RESOLVED WITH TORRID P.M. PRIOR TO START OF FRAMING OR ROUGH-IN.**
2. **G.C. TO VERIFY FINAL FIXTURE LAYOUT AS WELL AS FINAL STANDARD LAYOUT WITH TORRID P.M. PRIOR TO INSTALLATION.**

WALL PARTITION LEGEND

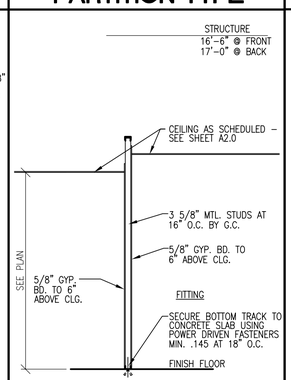
ITEM	DESCRIPTION		
	LEASE LINE		NEW FULL HEIGHT PARTITION, MTL. STUDS & FINISH TO CEILING OR DECK
	EXISTING DEMISING PARTITION		NEW PARTITION, MTL. STUDS AND GYP. BD. STOPS SHORT OF CEILING OR DECK
	NEW DEMISING PARTITION – PER MALL CRITERIA BY LANDLORD'S G.C.		NEW ONE-HOUR PARTITION
	EXISTING PARTITION TO REMAIN	X	PARTITION TYPE – SEE SHEET A1.0
	EXISTING MASONRY DEMISING PARTITION	X	DOOR TYPE – SEE SHEET T2.0

PARTITION TYPE



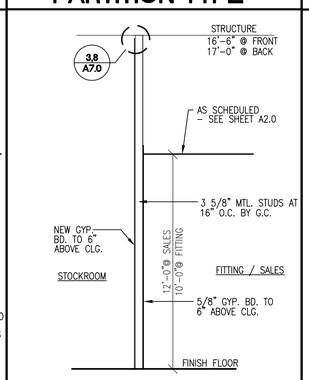
⚠1 **EXISTING ONE-HOUR RATED DEMISING WALL PARTITION** N.T.S.

PARTITION TYPE



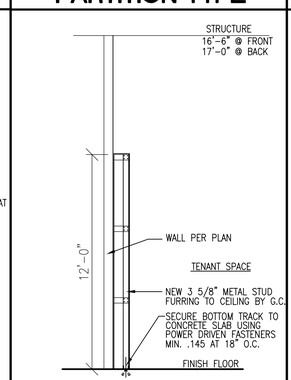
2 **WALL PARTITION** N.T.S.

PARTITION TYPE



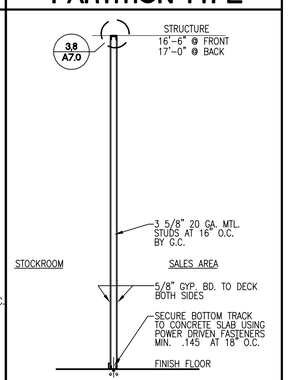
3 **WALL PARTITION** N.T.S.

PARTITION TYPE



4 **WALL PARTITION** N.T.S.

PARTITION TYPE



5 **WALL PARTITION** N.T.S.

STUD GA. LIMITING HT. SCHEDULE

A. TABLE BELOW IS BASED ON THE STEEL STUD MANUFACTURERS ASSOCIATION 2015 IBC TECHNICAL INFORMATION CATALOG (INTERIOR WALL LIMITING HEIGHTS – NON-COMPOSITE – FULL BRACED), REQUIREMENT FOR 5 PSF LATERAL PRESSURE AND 1/240 ALLOWABLE DEFLECTION FOR FLEXIBLE FINISHES, WITH 1 LAYER OF GYP. BD. PER SIDE OF STUD.

B. SCHEDULED HEIGHTS MAY BE INCREASED BY 50% WHERE THE STUDS ARE DIAGONALLY BRACED AT THE MAXIMUM HEIGHT POINT TO THE STRUCTURE ABOVE @ 4'-0" O.C.

C. CAUTION! WHEN USING STUDS MANUFACTURED BY A COMPANY GENERAL CONTRACTOR TO VERIFY MANUFACTURERS STUD STRENGTH AND LIMITING HEIGHT. ADJUST GAUGE AND MAXIMUM HEIGHT RECOMMENDED BY MANUFACTURER'S CURRENT PRINTED SPECIFICATION.

Stud Width	Stud Type	Stud Gauge	Stud Spacing	Maximum Height
1–5/8"	162S125–30	20 GA. DRYWALL	16"	8'–5"
	162S125–33	20 GA. STRUCTURAL	16"	8'–8"
2–1/2"	250S125–30	20 GA. DRYWALL	16"	11'–7"
	250S125–33	20 GA. STRUCTURAL	16"	12'–0"
	250S125–43	18 GA.	16"	13'–0"
3–5/8"	362S125–30	20 GA. DRYWALL	16"	15'–6"
	362S125–33	20 GA. STRUCTURAL	16"	16'–0"
	362S125–43	18 GA.	16"	17'–5"
	362S125–54	16 GA.	16"	18'–7"
	362S125–68	14 GA.	16"	19'–11"
6"	600S125–30	20 GA. DRYWALL	16"	22'–11"
	600S125–33	20 GA. STRUCTURAL	16"	23'–9"
	600S125–43	18 GA.	16"	26'–1"
	600S125–54	16 GA.	16"	27'–11"
	600S125–68	14 GA.	16"	30'–0"

NESTED STUD COLUMNS: SEE PLAN FOR SIZES AND GAUGE.
NESTED STUD BEAMS: SEE PLANS FOR SIZES AND GAUGE.

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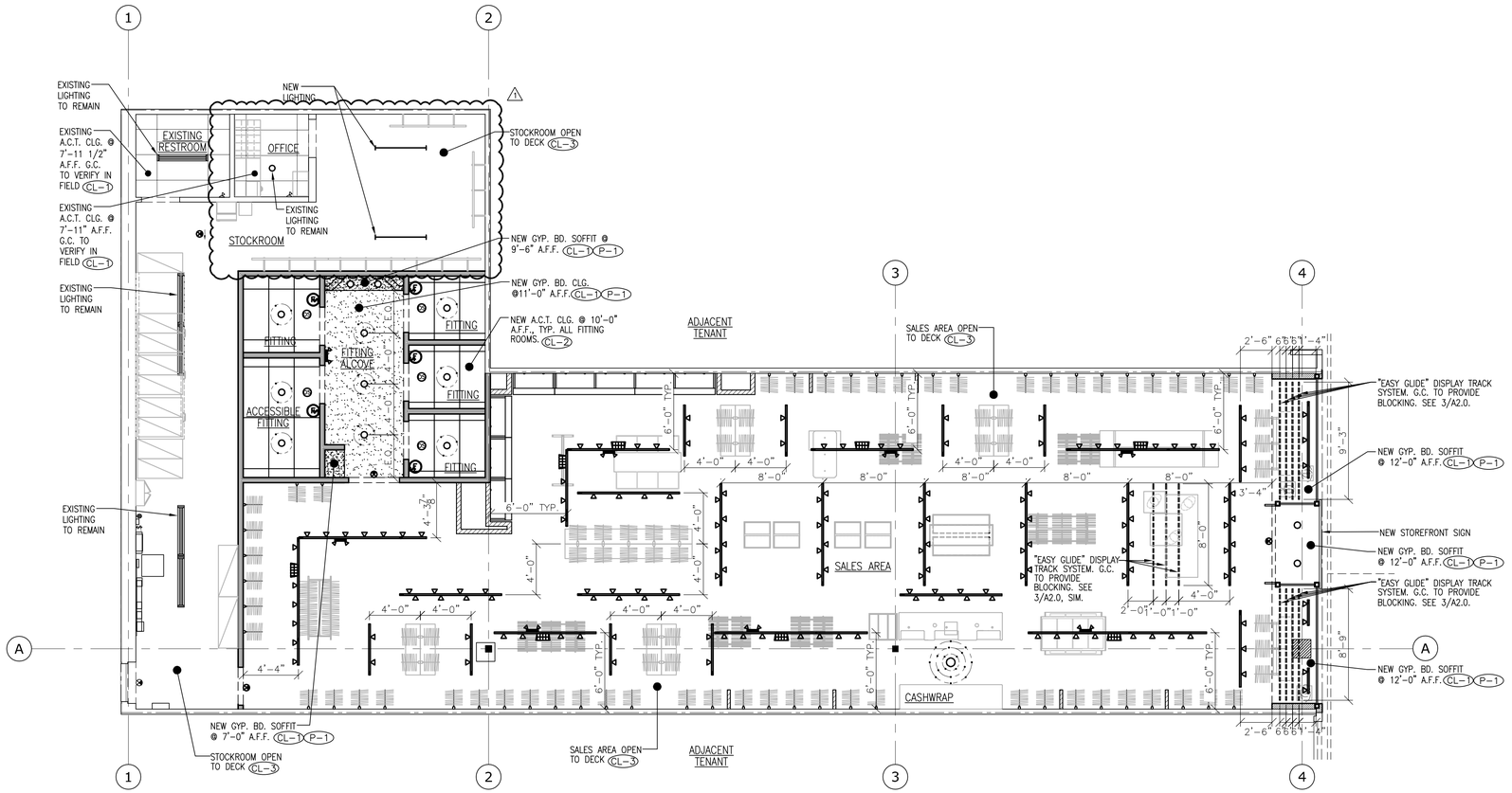
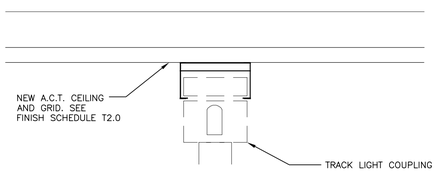
FLOOR PLAN

A1.0

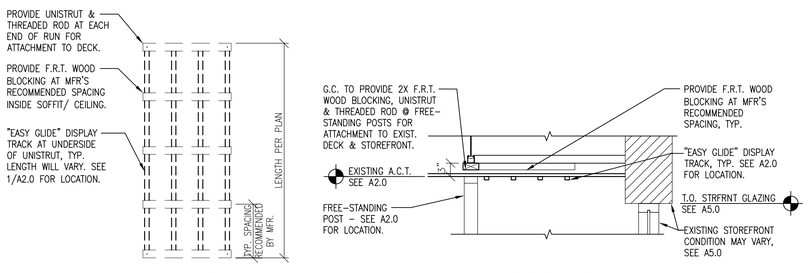


NOTE:
NEW LIGHTING TO TIE INTO EXISTING WIRING WHERE FEASIBLE.

1 REFLECTED CEILING PLAN
SCALE: 3/16" = 1'-0"



2 SUSPENDED TRACK LIGHT DETAIL
SCALE: 1" = 1'-0"



3 DISPLAY TRACK DETAIL
SCALE: 3/4"=1'-0"

CEILING TYPE SCHEDULE

SYMBOL	DESCRIPTION
CL-1	5/8" GYP. BD. OVER 3 5/8" X 18 GA. MTL. STUDS (362S162-43) @ 16" O.C. PREPARE FOR PAINT OR OTHER FINISHES, AS NOTED. HEIGHT PER PLAN.
CL-2	ACOUSTICAL CEILING SYSTEM. ENSURE GRID AND TILES ARE COMPATIBLE PRIOR TO ORDERING. ALL PIPES/ CONDUIT/ DUCTWORK, ETC. TO BE ABOVE CEILING, IF POSSIBLE. ANY COMPONENTS THAT ARE BELOW CEILING ARE TO BE GANGED, PARALLEL & PERPENDICULAR TO LEASE LINES.
CL-3	TO REMAIN OPEN TO DECK ABOVE. ALL CONDUITS SHALL BE GANGED, PARALLEL & PERPENDICULAR TO LEASE LINES. ALL PIPES, DUCTS & FIXTURES SHALL BE SUPPORTED FROM HANGRODS, NOT WIRE. REMOVE ANY UNUSED ITEMS. VERIFY HEIGHT IN FIELD.
CL-4	EXISTING GYP. BD. SOFFIT/ CEILING. PATCH/ REPAIR/ REPLACE AS REQUIRED FOR NEW FINISHES.
CL-5	EXISTING ACOUSTICAL CEILING SYSTEM. PATCH/ REPAIR/ REPLACE AS REQUIRED TO MATCH EXISTING. PROVIDE NEW A.C.T. WHERE REQUIRED. V.I.F. TYPE BEFORE ORDERING.

EMERGENCY LIGHTING NOTE:
1. G.C. TO COORDINATE LOCATION OF STOCKROOM EMERGENCY LIGHTING LOCATED ADJACENT TO SHELVING UNITS AND CLEAR SHELVING. VERIFY W/ TORRID P.M.

LIGHTING NOTE:
1. FINAL LOCATIONS OF ALL TRACK LIGHTING IN SALES AREA TO BE APPROVED BY TORRID P.M. G.C. TO COORDINATE LOCATIONS WITH FINAL STORE FIXTURE LAYOUT.

FIRE PROTECTION NOTES:
1. FIRE SPINKLER/ ALARM DESIGN, IF REQUIRED, SHALL BE CONDUCTED BY A STATE CERTIFIED DESIGNER.
2. FIRE SPRINKLER/ ALARM CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO LANDLORD AND ALL APPLICABLE CODE OFFICIALS, AS REQUIRED, FOR APPROVAL/ PERMITS.
3. FIRE SPRINKLER/ ALARM CONTRACTOR SHALL USE CEILING PLANS FOR LAYOUT TO COORDINATE SPRINKLER HEAD LOCATIONS AND ALTERATIONS OF EXISTING SYSTEM TO AVOID CONFLICTS WITH EXISTING CONDITIONS OR MECHANICAL AND ELECTRICAL SYSTEMS.
4. IT IS THE INTENT THAT SPRINKLER MAIN AND BRANCH LINES WILL NOT BE RELOCATED. HEADS WILL NEED TO BE (RE)LOCATED AS REQ'D. BY CHANGES IN THE CEILING DESIGN FROM CURRENT LAYOUT PER NFPA STANDARDS.
5. REPLACE HEADS WITH FULLY RECESSED HEADS WITH WHITE CAPS IN AN EXISTING A.C.T. OR GYP. BD. CEILING, WHERE NOT EXISTING.

REFLECTED CEILING PLAN NOTES:
1. THE REFLECTED CEILING PLAN SHALL GOVERN ALL CEILING PENETRATION LOCATIONS. MECHANICAL DUCTWORK & ALL ELECTRICAL CONDUITS SHALL BE RUN TO AVOID CONFLICT WITH THE REFLECTED CEILING PLAN. G.C. SHALL NOTIFY TENANT UPON THE START OF PROJECT OF EXISTING DUCTWORK, CONDUIT OR OTHER EXISTING SYSTEMS WILL CONFLICT WITH THE PROPOSED REFLECTED CEILING PLAN. NO MODIFICATIONS TO THE REFLECTED CEILING PLAN WILL BE ACCEPTED DUE TO INSTALLATION OF CONTRACTOR PROVIDED SYSTEMS OR EQUIPMENT.
2. PROVIDE CEILING ACCESS PANELS IN GYP. BD. CEILINGS, AS REQUIRED BY ENGINEERS & FOR ANY EXISTING LANDLORD EQUIPMENT. PAINT TO MATCH ADJACENT CEILING FINISHES.
3. PROVIDE ADEQUATE CLEARANCES FOR DUCTS & RELATED APPURTENANT ITEMS NECESSARY TO MAINTAIN THE SPECIFIED HEIGHTS FOR CEILING SYSTEMS AND LIGHT FIXTURES ABOVE THE FINISHED FLOOR.
4. TRACK LIGHTS/ BIAX FIXTURES TO BE ALIGNED IN GRID PATTERN AND LENGTH OF TRACK TO BE OFFSET 2" PARALLEL TO GRID. AIM PER TENANT'S DIRECTION.
5. G.C. TO COORDINATE EXACT LOCATION OF SPEAKERS WITH VENDOR.
6. CEILING COMPONENTS IN SALES AREA INCLUDING A.C.T. GRID, MECH. DIFFUSERS AND CEILING GRATES TO BE PAINTED "P-2". COORDINATE WITH TENANT.

CONTRACTOR'S NOTE:
1. WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS & DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF, TO TENANT REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. EXTRAS WILL NOT BE ALLOWED FOR JOB OR CODE COMPLIANCE CONDITIONS AFTER COMMENCEMENT OF CONSTRUCTION.

LIGHT FIXTURE SCHEDULE

SYMBOL	TYPE	MANUFACTURER	CATALOG NO.	DESCRIPTION	BULB	MOUNT	REF NOTES
○	A	INDY	C6VT-126/42T-MVOLT-NDB/ C6VT-OR-CS-PF	6" VERTICAL CFL DOWNLIGHT	--	RECESSED	1
▦	C	JUNO	T259L-30K-WH	TRAC-MASTER LED WALL WASH/ FLOOD	--	TRACK	1
▽	D	JUNO	T689-WH	TRAC-MASTER SPOTLIGHT W/ LED PAR30 LAMP	--	TRACK	1
▭	E2	JUNO	--	TRAC-MASTER SINGLE CIRCUIT TRACK 2'-0" - WHITE FINISH	--	SUSPEND @ 12'-0" A.F.F.	1
▭	E4	JUNO	--	TRAC-MASTER SINGLE CIRCUIT TRACK 4'-0" - WHITE FINISH	--	SUSPEND @ 12'-0" A.F.F.	1
▭	E6	JUNO	--	TRAC-MASTER SINGLE CIRCUIT TRACK 6'-0" - WHITE FINISH	--	SUSPEND @ 12'-0" A.F.F.	1
▭	E8	JUNO	--	TRAC-MASTER SINGLE CIRCUIT TRACK 8'-0" - WHITE FINISH	--	SUSPEND @ 12'-0" A.F.F.	1
○	F	JUNO	CV8-126/32/42T-820C-WH	8" VERTICAL CFL DOWNLIGHT	--	RECESSED	9
◎	H	TROY LIGHTING	KF17414, LED4E12B-1127K CANDELABRA	CEILING PENDANT - POLISHED STAINLESS STEEL FINISH	(30) 4W LED TORPEDO	SUSPEND B.O. FIXT. @ 7'-9" A.F.F.	1
○	I	TROY LIGHTING	KF17414-20-1, LED4E12B-1127K CANDELABRA	FITTING - CEILING PENDANT - POLISHED STAINLESS STEEL FINISH	(8) 15W E14 CLR	SUSPEND B.O. FIXT. @ 8'-6" A.F.F.	1
▬	J	LITHONIA	ZL1N L48 5000LM FST MVOLT 30K 80CR1 WH	48"L LED STRIP - WHITE FINISH	--	SUSPEND @ 13'-0" A.F.F/ SURFACE	1
--	P	SLIMLITE	--	BACKLIT MIRROR LIGHTING	(2) 58" XL T5	PREMOUNTED ON FIXT.	1
(F)	R	--	--	FITTING ROOM FAN SEE ELECTRICAL SHEETS	--	--	9
⊗	W	JUNO	--	EXIT SIGN W/ REQUIRED LETTERS	--	DIRECTLY BELOW CLG OR B.O. FIXT. @ 12'-0"	1
▬	Y	LITHONIA	ELM6L-UVOLT-LTP-SDRT	SALES/ FITTING ALCOVE: EMERGENCY WALL PACK W/90 MIN BATTERY BACKUP	--	CLG OR B.O. FIXT. @ 12'-0"	1,6,7
▬	YY	MAXILUME	ELM-LED-803	STOCK/HALL/RESTROOM: EMERGENCY WALL PACK W/90 MIN BATTERY BACKUP	--	WALL @ 8'-0" A.F.F.	1,6,7
⊘	Z	--	--	EXHAUST FAN SEE MECHANICAL SHEETS	--	RECESSED/ SURFACE	1

NOTES:
1. FIXTURES AND LAMPS SUPPLIED BY TENANT'S VENDOR AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
2. LIGHTING VENDOR IS RESPONSIBLE FOR VERIFYING CORRECT NUMBER OF FIXTURES/LAMPS REQUIRED.
3. ALL STOREFRONT LIGHTS AND SIGNAGE ARE TO BE ON A 24-HR TIMER SET BY G.C. COORDINATE REQUIRED HOURS WITH LANDLORD.
4. "N/L" INDICATES NIGHT LIGHT FIXTURES. COORDINATE WITH ELECTRICAL SHEETS.
5. "R" INDICATES EXISTING LIGHT FIXTURES TO BE RELOCATED. COORDINATE WITH ELECTRICAL SHEETS.
6. FIXTURES USED FOR EXIT, EMERGENCY, OR NIGHT LIGHTING TO BE ON LOCKOUT CIRCUIT.
7. ALL FIXTURES USED FOR EXIT, OR EMERGENCY LIGHTS TO HAVE 90 MINUTE BATTERY BACK UP.
8. ALL FIXTURES EXISTING TO REMAIN ARE TO BE CLEANED TO "LIKE-NEW" & RELAMPED BY G.C. REBALLAST FIXTURES ONLY AS REQUIRED.
9. FAN IS TO BE CEILING MOUNTED AND ORIENTED SO THAT AIR FLOW IS DIRECTED TOWARD FITTING ROOM BENCH. PROVIDE BLOCKING IN CLG FOR ADEQUATE SUPPORT OF FAN. REFER TO CUT SHEET ON TORRID PROCORE SITE AND ELECTRICAL SHEETS FOR ADDITIONAL INFORMATION.
10. WHEN REQUIRED - LIGHTING CONTROLS ARE SUPPLIED BY TENANT'S VENDOR AND INSTALLED BY ELECTRICAL CONTRACTOR.

REGISTRATION SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
FREDERICK J. GOGLIA
LICENCE 7605

5/2/23

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TORRID

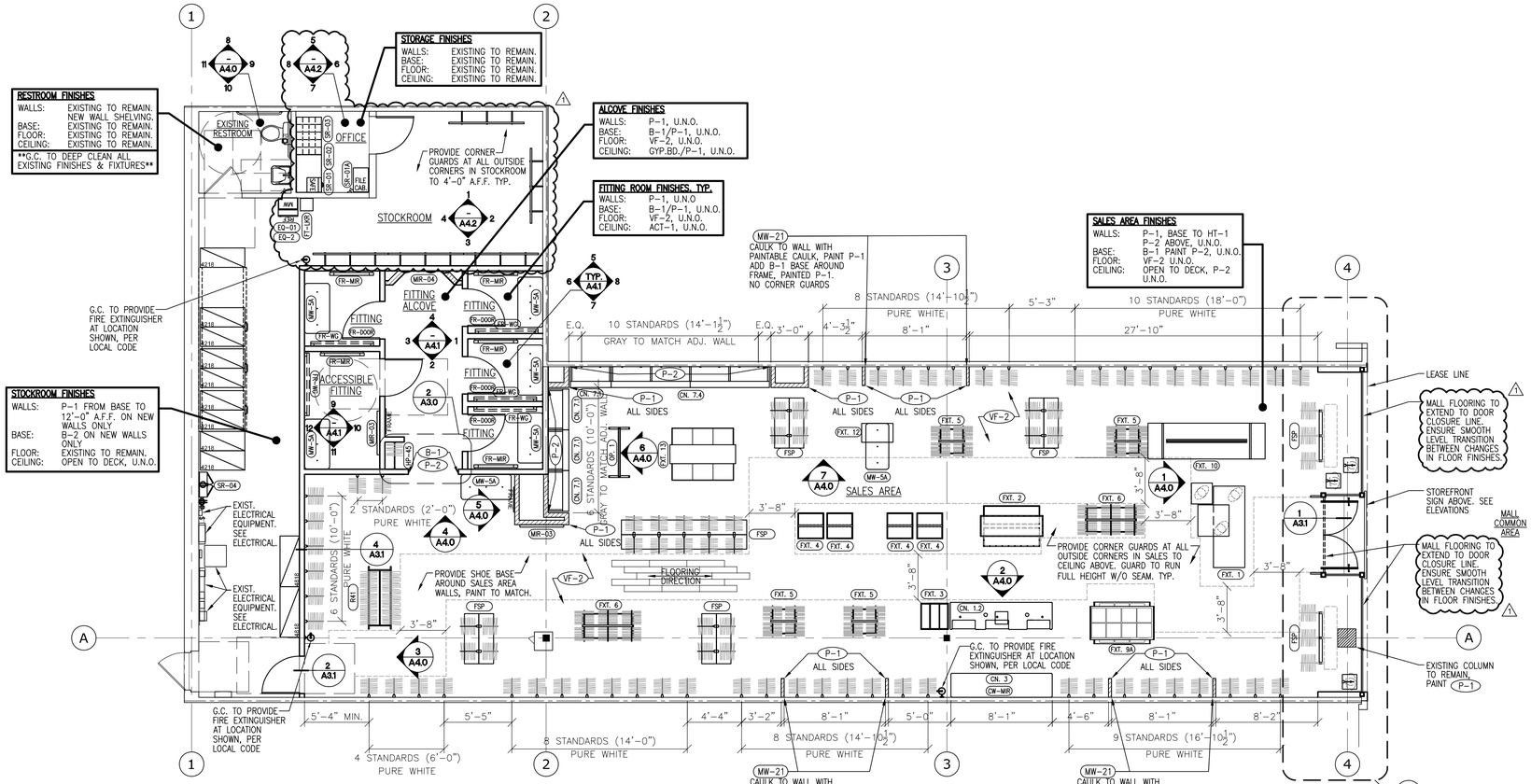
LANSDOWNE PLACE
645 LANSDOWNE ST. W
PETERBOROUGH, ON K9J 7Y5
SPACE #161 STORE #3541-B

REV	DATE:	DESCRIPTION	NAME
1	05/01/23	LANDLORD & CLIENT COMMENTS	MML
		FOR PERMIT - 05/18/23	

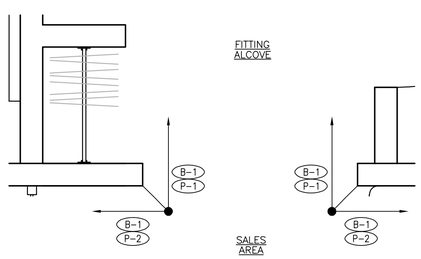
PROJECT NO: 230088
DRAWN BY: MML
CHECKED BY: KEU
ISSUE DATE: 04/13/23

REFLECTED CEILING PLAN

A2.0



1 FIXTURE/FLOOR FINISH PLAN
SCALE: 3/16" = 1'-0"



2 BASE TRANSITION DETAIL
SCALE: 3/4" = 1'-0"

FOR FINISH SCHEDULE SEE SHEET T2.0

CONTRACTOR'S NOTE:

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2. FIXTURE PLAN, FLOOR PLAN, INTERIOR ELEVATION SHEET, REFLECTED CEILING PLAN, DEMOLITION PLAN ARE OF THE SPECIFIC STORE. DETAIL SHEETS ARE GENERAL AND MAY OR MAY NOT BE STORE SPECIFIC.

FIXTURE SCHEDULE

QUANTITY	SYMBOL	DESCRIPTION	SUPPLIED BY	INSTALLED BY
15	FSP	FREE-STANDING POST, 2-SIDED	TENANT	G.C.
1	FXT. 2	(TD-FXT-2) JEWELRY TABLE	TENANT	G.C.
1	OP. 1	(TD-OP-1) ROLLING RACK	TENANT	G.C.
1	R41	(R41) CLEARANCE RACK	TENANT	G.C.
1	HP-45	GO-BACK BAR	TENANT	G.C.
6	MW-5A	(TRD-MW5A) FR SOFA	TENANT	G.C.
1	MW-5A	(TRD-MW5A) SHOE SOFA	TENANT	G.C.
3	MW-21	PERIMETER WALL FRAME	TENANT	G.C.
1	CN. 7.4	(TD-CN-7-4) 4-BAY INTIMATES BACK WALL CABINET	TENANT	G.C.
3	CN. 7.1	(TD-CN-7-1) INTIMATES BACK WALL SINGLE CABINET	TENANT	G.C.
1	FXT. 13	(TYD-FXT-13) PANTY TABLE	TENANT	G.C.
1	CN. 3	(TD-CN-3) BACK WRAP	TENANT	G.C.
1	CN. 1.2	(TD-CN-1-2) CASH WRAP	TENANT	G.C.
1	CN. 2.2	(TD-CN-2-2) CASH WRAP - ADA SIDE	TENANT	G.C.
9	CW-MIR	(TD-CWMIR) BACK WRAP MIRRORS	TENANT	G.C.
1	FXT. 10	(TD-FXT-10) DENIM TABLE	TENANT	G.C.
4	FXT. 4	(TD-FXT-4) H RACK - ACCESSORY	TENANT	G.C.
4	FXT. 5	(TD-FXT-5) DOUBLE GONDOLA	TENANT	G.C.
2	FXT. 6	(TD-FXT-6) TRIPLE GONDOLA	TENANT	G.C.
3	FXT. 9A	(TD-FXT-9A) NESTING TABLE	TENANT	G.C.
1	FXT. 1	(TD-FXT-1) ENTRY TABLE	TENANT	G.C.
1	FXT. 12	(TD-FXT-12) SHOE TABLE	TENANT	G.C.
--	MIR-01	MIRROR - CUSTOM FRAMED	G.C.	G.C.
--	MIR-02	MIRROR - CUSTOM FRAMED	G.C.	G.C.
1	MIR-03	FITTING ROOM MIRROR - CUSTOM FRAMED - NON BACKLIT	G.C.	G.C.
1	MIR-04	3-WAY MIRROR	G.C.	G.C.
1	FXT. 3	(TD-FXT-3) IMPULSE FIXTURE	TENANT	G.C.
1	EQ-01	DANBY 0.7 CU FT COUNTERTOP MICROWAVE OVEN - DMW07A42DB	TENANT	G.C.
1	EQ-02	DANBY 3.2 CU FT COMPACT REFRIGERATOR - DCR032C1WDB	TENANT	G.C.
5	FR-WG	(FR-WG) FITTING ROOM GRID	TENANT	G.C.
5	FR-MIR	(FR-MIR) FITTING ROOM MIRROR - CUSTOM FRAMED - BACKLIT	TENANT	G.C.
5	FR-DOOR	(FR-DOOR) FITTING ROOM DOOR	TENANT	G.C.
1	SR-01	SAFE	TENANT	TENANT'S VENDOR
1	SR-01A	FILE CABINET	TENANT	G.C.
1	SR-02	MANAGER'S DESK	TENANT	TENANT'S VENDOR
1	SR-03	TUBE STORAGE	TENANT	TENANT'S VENDOR
1	SR-04	IT CABINET @ 7'-6" A.F.F.	TENANT	G.C.
1	FT-LKR	LOCKER	TENANT	VENDOR
55	--	SURFACE MOUNTED STANDARDS - SALES AREA, POWDER COATED PURE WHITE	TENANT	G.C.
16	--	SURFACE MOUNTED STANDARDS - INTIMATES CABINET, POWDER COATED GRAY	TENANT	G.C.
--	--	CUP	TENANT	G.C.
--	--	BULLETIN BOARD	TENANT	G.C.
--	--	DETAGGER	TENANT	G.C.
4	--	MOBILE SHELVING UNITS	TENANT	TENANT'S VENDOR
6	--	FIXED SHELVING UNITS	TENANT	G.C. TO RELOCATE
--	--	HANGING ROD - SIZE PER PLAN	TENANT	TENANT'S VENDOR
--	--	HANGING ROD - HANGER MANAGEMENT	TENANT	TENANT'S VENDOR

NOTE: STANDARDS FOR HANGING RODS FURNISHED BY VENDOR. WOOD MOUNTING STRIPS, HANGROD, FASTENERS AND INSTALLATION BY VENDOR.

G.C. MISC. & TURNOVER NOTES:

1. G.C. TO REVIEW BILL OF LADING UPON RECEIPT OF ALL SHIPMENTS. ANY DAMAGES OR SHORTAGES ARE TO BE INDICATED AT RECEIPT, OR WITHIN 24 HOURS. FAILURE TO DO SO WILL REQUIRE G.C. TO CONTACT VENDORS LISTED AND PURCHASE SAID ITEMS AT G.C. COST.
2. ALL OVERAGES OF TENANT SUPPLIED ITEMS ARE TO BE STORED IN STOCKROOM.
3. G.C. TO PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY CODE. G.C. TO ALSO PROVIDE THE FIRST SERVICE TAG WITH DATE PRIOR TO TURNOVER.
4. G.C. TO REPORT ANY MISSING PIECES OF VENDOR SUPPLIED SHELVING WITHIN 48 HOURS OF RECEIVING ORDER, FAILURE TO DO SO WILL RESULT IN G.C. HAVING TO REPLACE AT OWN EXPENSE.
5. VENDOR TO BOLT THE SAFE TO THE FLOOR, UNDERNEATH THE MANAGER'S DESK. COORDINATE WITH TORRID PROJECT MANAGER.
6. MEET PHONE COMPANY FOR PHONE LINES AND JACK INSTALLATION:
   A. CALL IN ADVANCE TO FIND OUT EXPECTED TIME OF ARRIVAL.
   B. INSTRUCT PHONE TECH TO INSTALL (1) JACK AT #1 CASH REGISTER LOCATION.
   C. EVERY JACK SHOULD BE CLEARLY LABELED WITH PHONE NUMBER.
   D. CALL NANCY @ (626) 839-4681 TO VERIFY INSTALLATION IS COMPLETE.
7. CONDUCT FINAL WALK THROUGH WITH DM:
   A. BE SURE THEY HAVE ALL KEYS TO THE STORE.
   B. WRITE DOWN ANY EXTRA REQUESTS FROM DM ON STORE INSPECTION SHEET.
   C. VERIFY THE LIST IS COMPLETED BEFORE YOU LEAVE THE JOB SITE.
   D. DM MUST SIGN OFF ON THIS PORTION OF G.C.'S DUTIES FOR COMPLETION OF PUNCH LIST.
8. TRUCK ARRIVAL: TRUCK WILL ARRIVE ON FRIDAY AT 7:00 AM.
9. BE PRESENT TO CORRECT ANY PROBLEMS THAT MAY ARISE DURING CONNECTIVITY TEST TO CATS WIRING CONDUCTED BY TORRID P.M.
10. COVER AND PROTECT CARPET TILES AFTER INSTALLATION.
11. PROVIDE SECOND DUMPSTER AT TURNOVER FOR TENANT REFUSE.
12. PLACE PLASTIC PIECES FOR DISPLAY TRACK IN CASHWRAP DRAWER AT TURNOVER.
13. ALL SHELVES TO BE INSTALLED IN CASHWRAP FOR TURNOVER.
14. SENSOR DETAGGERS TO BE INSTALLED ON CASHWRAP, NOT BACKWRAP (CONFIRM PLACEMENT WITH TORRID P.M.)
15. ALL HARDWARE BOXES TO BE STAGED FOR TURNOVER UNDER CORRECTLY PLACED TABLES; MUST BE DUST FREE AND STACKED BY LIKENESS.
16. OWNER SUPPLIED FITTING ROOM HOOKS TO BE INSTALLED PER ELEVATIONS.
17. MANAGER'S DESK AND MARKETING UNIT TO BE SUPPLIED AND INSTALLED BY TENANT PER LAYOUT. NO CHANGES ALLOWED WITHOUT APPROVAL.
18. ROLLER RACKING TO BE SUPPLIED AND INSTALLED BY TENANT PER THE SUPPLIED INSTRUCTIONS. NO CHANGES ALLOWED WITHOUT APPROVAL.
19. ALL 5 PALLETS OF OFFICE SUPPLIES RECEIVED FROM DDS TO BE STAGED BACK TO BACK, STARTING AT THE CENTER FLOOR-TO-CEILING POST WITH BOX NUMBERS FACING FORWARD. MUST CONFIRM ALL BOXES RECEIVED AND WITHOUT DAMAGE BEFORE THE DRIVER LEAVES THE SITE.
20. FIXTURE ASSEMBLY REQUIRED UPON DELIVERY OF THE FOLLOWING:
   A. ALL SALES FLOOR TABLES
   B. ALL GONDOLAS AND ACCESSORY FIXTURES
   C. ALL FLOOR-TO-CEILING POSTS
   D. ALL INTIMATE CABINETS
21. INSTALL BULLETIN BOARDS AND OTHER MISC. OWNER SUPPLIED ITEMS PER PM/DM DIRECTION.
22. SUPPLY FITTING ROOM DOOR FRAMES. FITTING ROOM DOORS TO BE MORTISED BY G.C.
23. UNBOX ALL SHELVES AND SPREAD EVENLY AROUND PERIMETER OF SALES FOR TURNOVER. BROWN SHELVES BY DENIM TABLE. ALL PALLETS AND BOXES ARE TO BE DISCARDED.
24. LEAVE ALL HARDWARE IN BOXES AND PLACE ON EACH SIDE OF THE CENTER POST FIXTURE AND STACKED BY LIKENESS.
25. PROVIDE A FORKLIFT WITH EXTENSION AND PALLET JACK-REQUIRED TO UNLOAD TWO DELIVERIES OF FIXTURES.

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TORRID

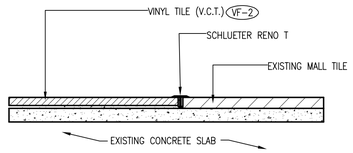
LANSDOWNE PLACE
645 LANSDOWNE ST. W
PETERBOROUGH, ON K9J 7Y5
SPACE #161 STORE #3541-B

REV.	DATE	DESCRIPTION	NAME
1	05/01/23	LANDLORD & CLIENT COMMENTS FOR PERMIT - 05/18/23	MML

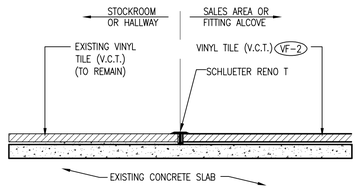
PROJECT NO: 230088
DRAWN BY: MML
CHECKED BY: KEU
ISSUE DATE: 04/13/23

FIXTURE/ FLOOR FINISH PLAN

A3.0



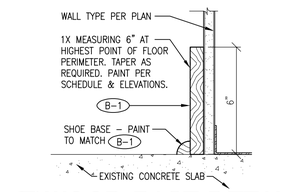
1 MALL TILE TO VINYL
SCALE: 6" = 1'-0"



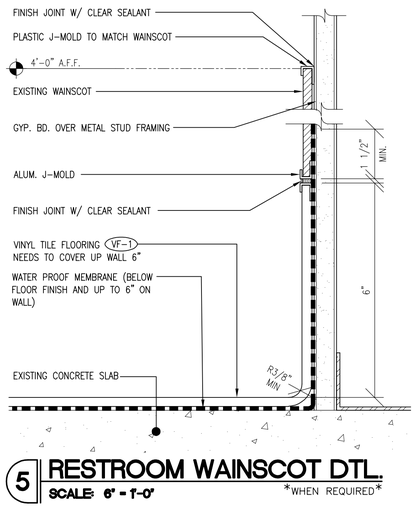
2 VINYL TILE/ VINYL TILE DTL.
SCALE: 6" = 1'-0"

DETAIL NOT CURRENTLY USED

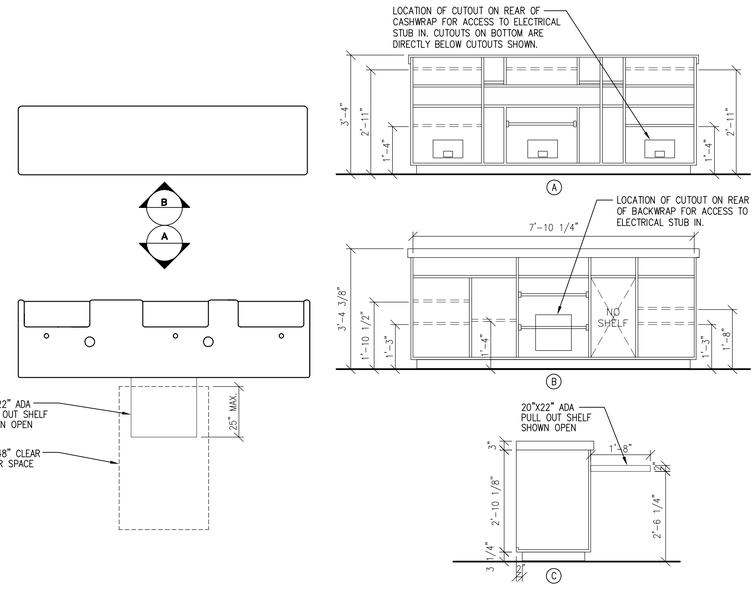
3 VINYL TILE/CARPET TILE
SCALE: 3/4" = 1'-0"



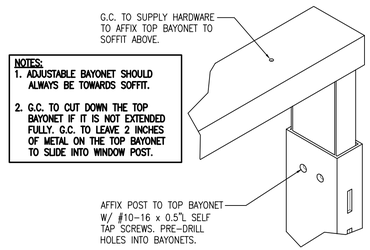
4 WOOD BASE DETAIL
SCALE: 3" = 1'-0"



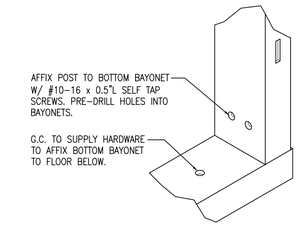
5 RESTROOM WAINSCOT DTL.
SCALE: 6" = 1'-0" *WHEN REQUIRED*



6 CASHWRAP + ADA SHELF
SCALE: 1/2" = 1'-0"



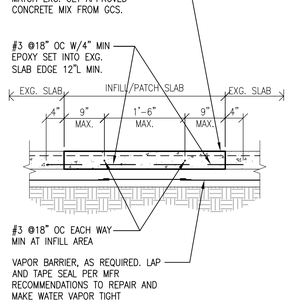
7 POST DETAIL @ SOFFIT
SCALE: N.T.S



8 POST DETAIL @ FLOOR
SCALE: N.T.S

DETAIL NOT CURRENTLY USED

9 CONCRETE SLAB DETAIL
SCALE: N.T.S.



10 SLAB REPAIR DETAIL
SCALE: 3/4" = 1'-0"

CONTRACTOR'S NOTES:

1. WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF, TO TENANT REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. EXTRAS WILL NOT BE ALLOWED FOR JOB OR CODE COMPLIANCE CONDITIONS AFTER COMMENCEMENT OF CONSTRUCTION.
2. FIXTURE PLAN, FLOOR PLAN, INTERIOR ELEVATION SHEET, REFLECTED CEILING PLAN, DEMOLITION PLAN ARE OF THE SPECIFIC STORE. DETAIL SHEETS ARE GENERAL AND MAY OR MAY NOT BE STORE SPECIFIC.

REGISTRATION SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
FREDERICK J. GOGLIA
LICENCE 7605

5/2/23

FREDERICK J. GOGLIA
ARCHITECT, NCARB, RDI
1950 CRAIG ROAD, SUITE 300 ST. LOUIS, MO 63146
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TORRID

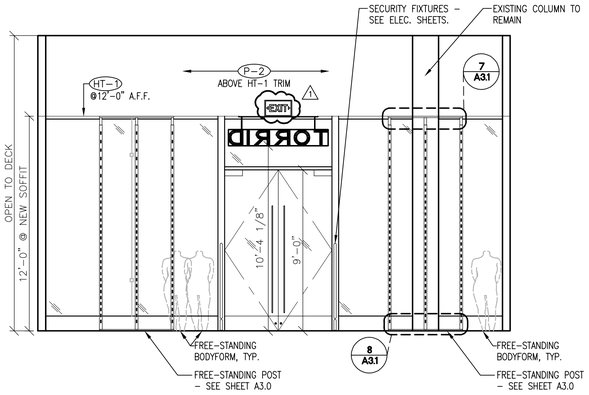
LANSDOWNE PLACE
645 LANSDOWNE ST. W
PETERBOROUGH, ON K9J 7Y5
SPACE #161 STORE #3541-B

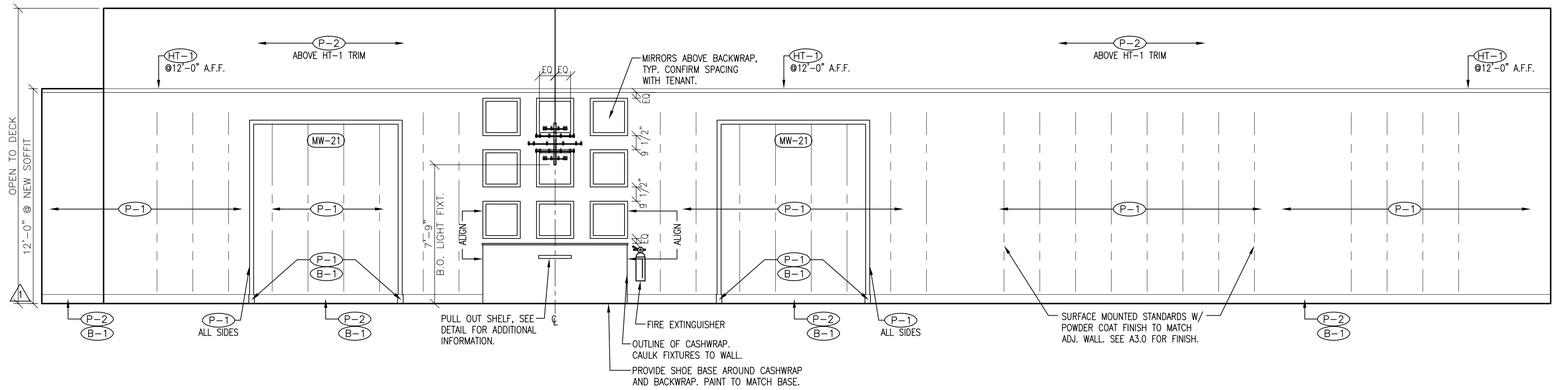
REV	DATE	DESCRIPTION	NAME
		FOR PERMIT - 05/18/23	

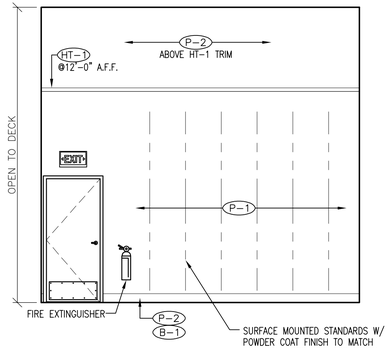
PROJECT NO: 230088
DRAWN BY: MML
CHECKED BY: KEU
ISSUE DATE: 04/13/23

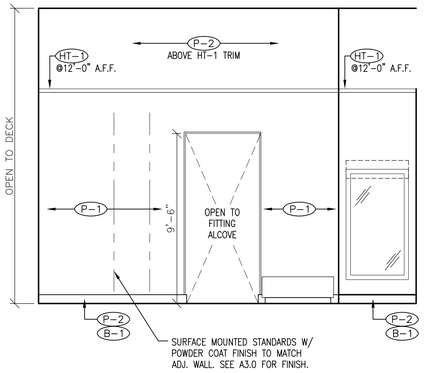
STANDARD DETAILS

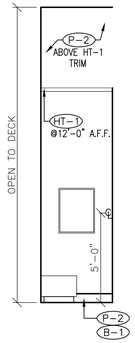
A3.1

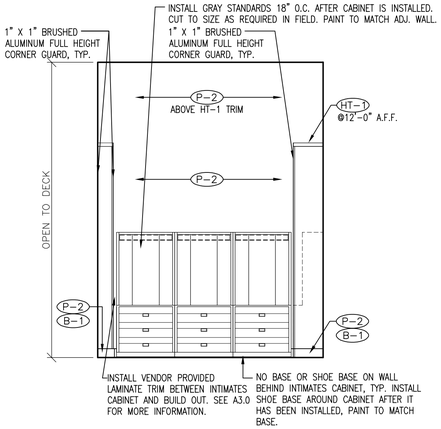


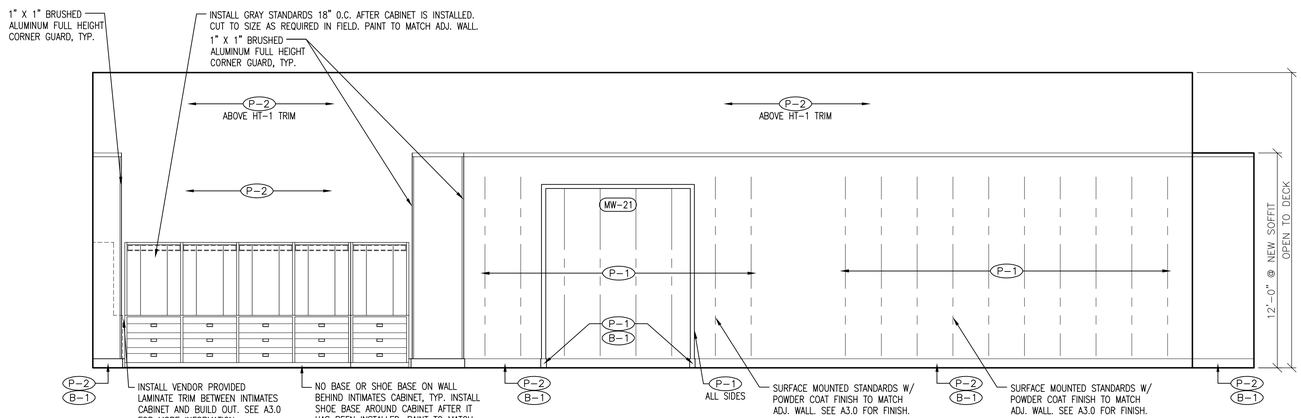






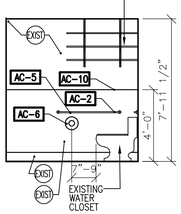


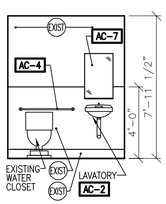


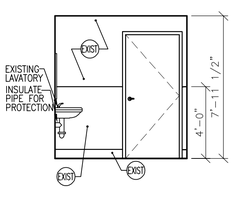


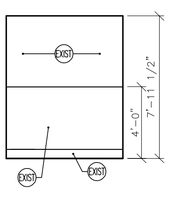
TOILET ROOM SHELVING NOTE:

G.C TO INSTALL 12" x 48" x 3/4" WHITE MELAMINE CLAD WOOD SHELVES ON H.D. BRACKETS & ADJUSTABLE STANDARDS, MADE OF THE SAME COMPONENTS AS THE STOCK ROOM SHELVING SYSTEM. G.C. TO PROVIDE BACKING IN WALL FOR SECURE ATTACHMENT OF STANDARDS TO WALL. SCREW SHELES TO BRACKETS THRU PROVIDED MOUNTING HOLES.









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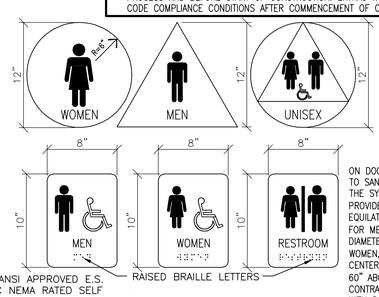
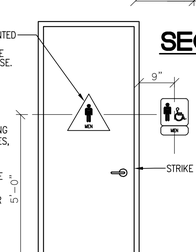
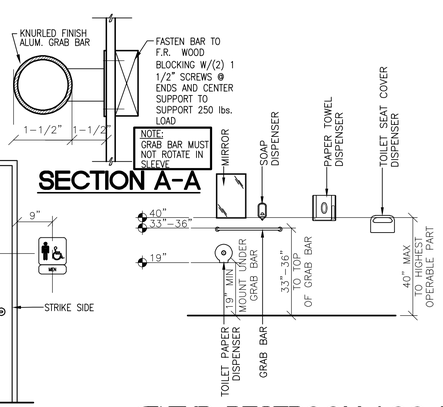
1. WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF, TO TENANT REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. EXTRAS WILL NOT BE ALLOWED FOR JOB OR CODE COMPLIANCE CONDITIONS AFTER COMMENCEMENT OF CONSTRUCTION.







8 (E) RESTROOM ELEV. SCALE: 1/4" = 1'-0"

9 (E) RESTROOM ELEV. SCALE: 1/4" = 1'-0"

10 (E) RESTROOM ELEV. SCALE: 1/4" = 1'-0"

11 (E) RESTROOM ELEV. SCALE: 1/4" = 1'-0"

12 RESTROOM DOOR SIGNAGE SCALE: 1/4" = 1'-0"

13 TYP. RESTROOM ACC. DTL. SCALE: NTS.

City of Peterborough
Recieved
May 19, 2023
Building Services Division

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

REGISTRATION SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
FREDERICK J. GOGLIA
LICENCE 7605
5/2/23

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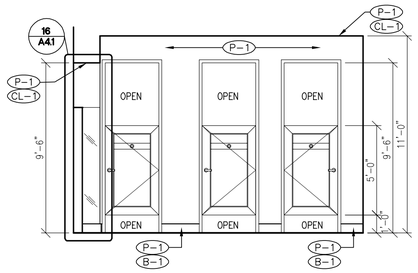
SPACE #161 STORE #3541-B

REV	DATE	DESCRIPTION	NAME
1	05/01/23	LANDLORD COMMENTS	MML
		FOR PERMIT - 05/18/23	

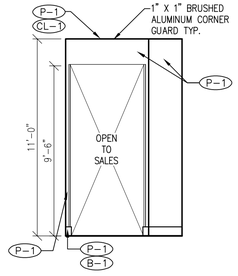
PROJECT NO: 230088
DRAWN BY: MML
CHECKED BY: KCU
ISSUE DATE: 04/13/23

SALES AREA ELEVATIONS

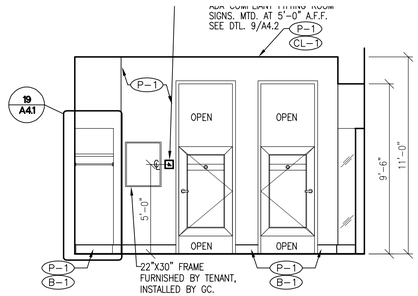
A4.0



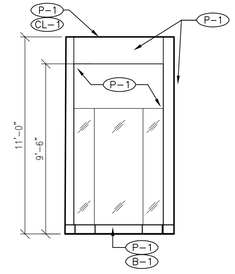
1 FITTING ALCOVE ELEVATION
SCALE: 1/4" = 1'-0"



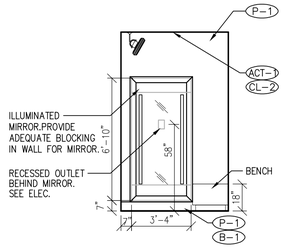
2 FITTING ALCOVE ELEVATION
SCALE: 1/4" = 1'-0"



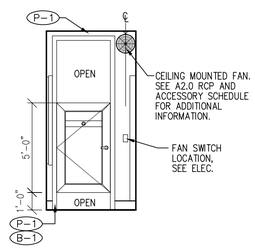
3 FITTING ALCOVE ELEVATION
SCALE: 1/4" = 1'-0"



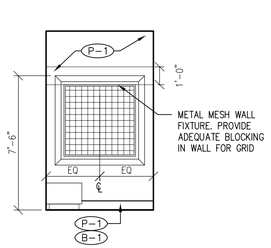
4 FITTING ALCOVE ELEVATION
SCALE: 1/4" = 1'-0"



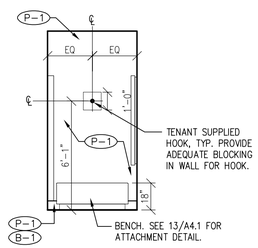
5 FITTING ROOM ELEVATION
SCALE: 1/4" = 1'-0"



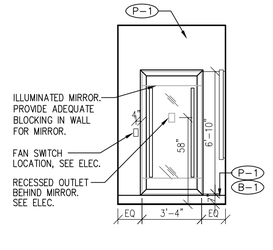
6 FITTING ROOM ELEVATION
SCALE: 1/4" = 1'-0"



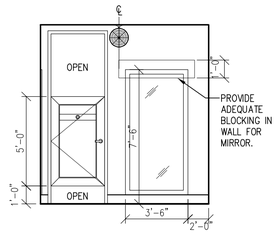
7 FITTING ROOM ELEVATION
SCALE: 1/4" = 1'-0"



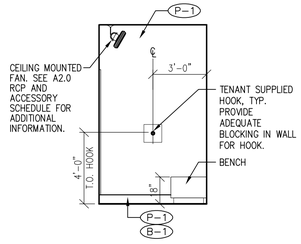
8 FITTING ROOM ELEVATION
SCALE: 1/4" = 1'-0"



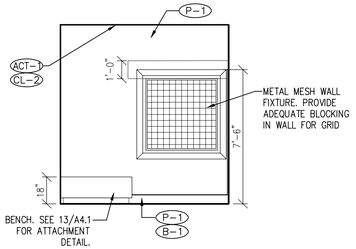
9 ADA FITTING ROOM ELEV.
SCALE: 1/4" = 1'-0"



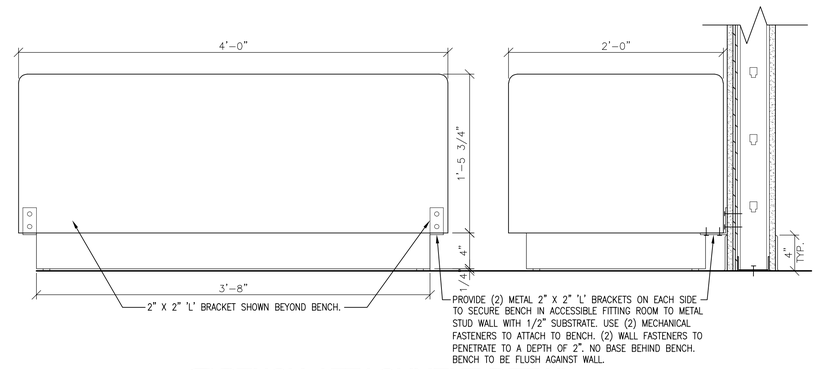
10 ADA FITTING ROOM ELEV.
SCALE: 1/4" = 1'-0"



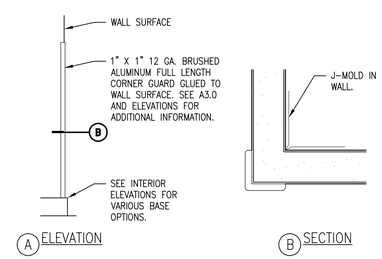
11 ADA FITTING ROOM ELEV.
SCALE: 1/4" = 1'-0"



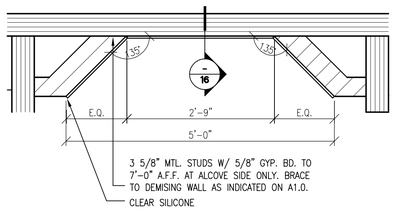
12 ADA FITTING ROOM ELEV.
SCALE: 1/4" = 1'-0"



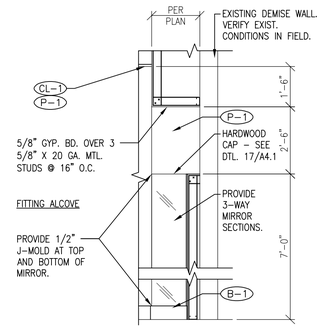
13 BENCH ATTACHMENT DETAIL
SCALE: 1 1/2" = 1'-0"



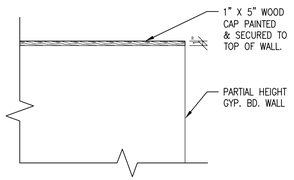
14 ALUMINUM CORNER GUARD
SCALE: 3/4" = 1'-0"



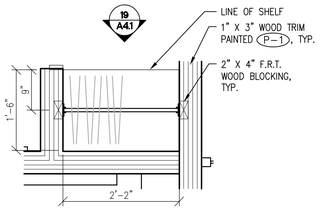
15 3-WAY MIRROR DETAIL
SCALE: 3/4" = 1'-0"



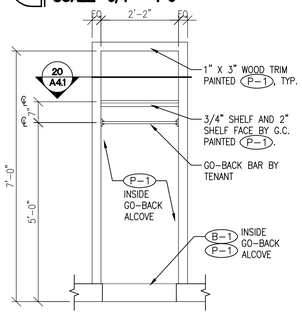
16 3-WAY MIRROR SECTION
SCALE: 3/8" = 1'-0"



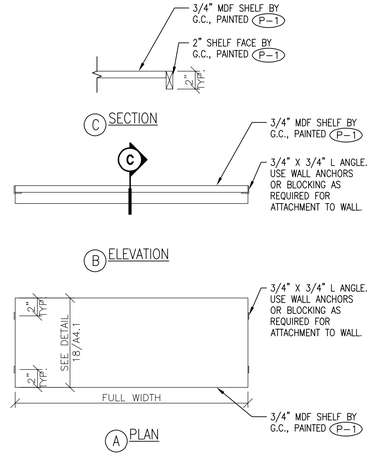
17 HARDWOOD CAP
SCALE: 3/4" = 1'-0"



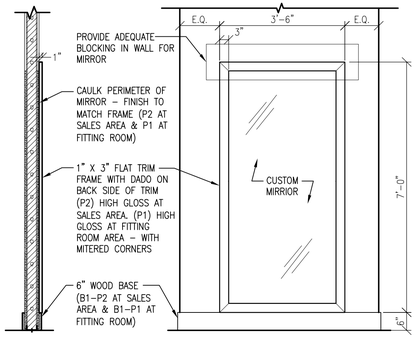
18 GO-BACK BAR
SCALE: 3/4" = 1'-0"



19 GO-BACK ELEV.
SCALE: 1/2" = 1'-0"



20 GO-BACK BAR SHELF DETAIL
SCALE: 1 1/2" = 1'-0"



21 CUSTOM FRAME MIRROR
SCALE: 1/2" = 1'-0"

REGISTRATION SEAL
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SPACE #161 STORE #3541-B

REV	DATE	DESCRIPTION	NAME
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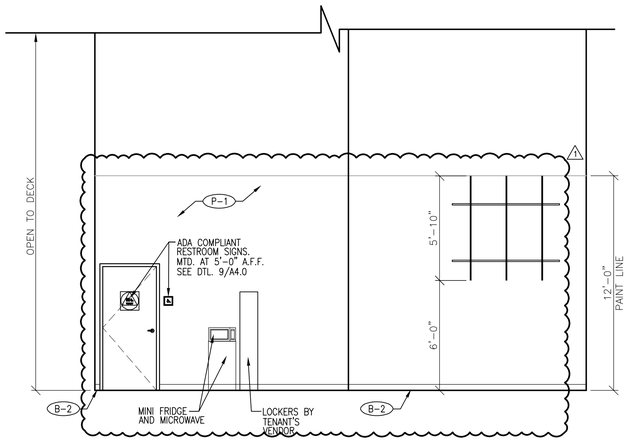
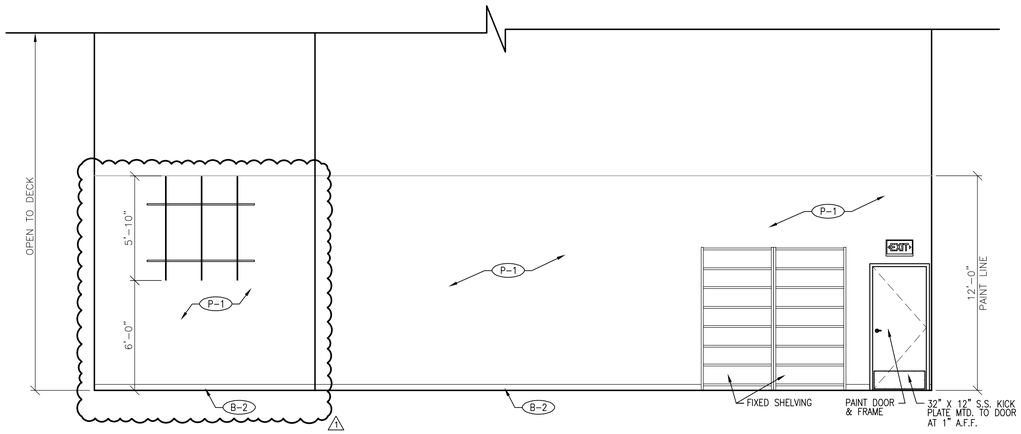
PROJECT NO: 230088
DRAWN BY: MML
CHECKED BY: KEU
ISSUE DATE: 04/13/23

FITTING ROOM DETAILS

A4.1



1 STOCKROOM ELEVATION
SCALE: 1/4" = 1'-0"



2 STOCKROOM ELEVATION
SCALE: 1/4" = 1'-0"

3 STOCKROOM ELEVATION
SCALE: 1/4" = 1'-0"

4 STOCKROOM ELEVATION
SCALE: 1/4" = 1'-0"

5 OFFICE ELEVATION
SCALE: 1/4" = 1'-0"

6 OFFICE ELEVATION
SCALE: 1/4" = 1'-0"

7 OFFICE ELEVATION
SCALE: 1/4" = 1'-0"

8 OFFICE ELEVATION
SCALE: 1/4" = 1'-0"

REGISTRATION SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
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5/2/23

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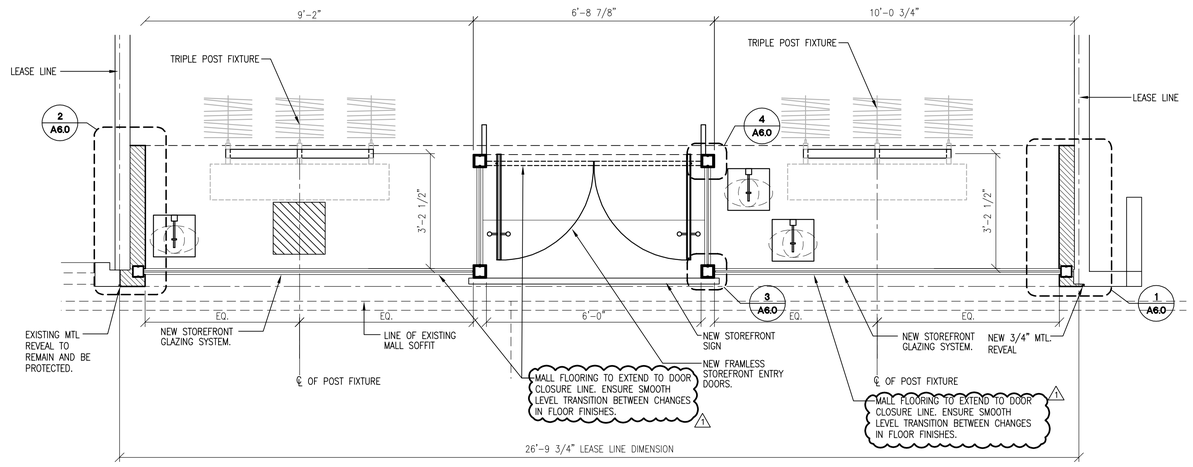
SPACE #161 STORE #3541-B

REV	DATE	DESCRIPTION	NAME
1	05/01/23	CLIENT COMMENTS FOR PERMIT - 05/18/23	MML

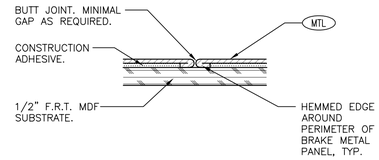
PROJECT NO: 230088
DRAWN BY: MML
CHECKED BY: KEU
ISSUE DATE: 04/13/23

STOCKROOM ELEVATIONS

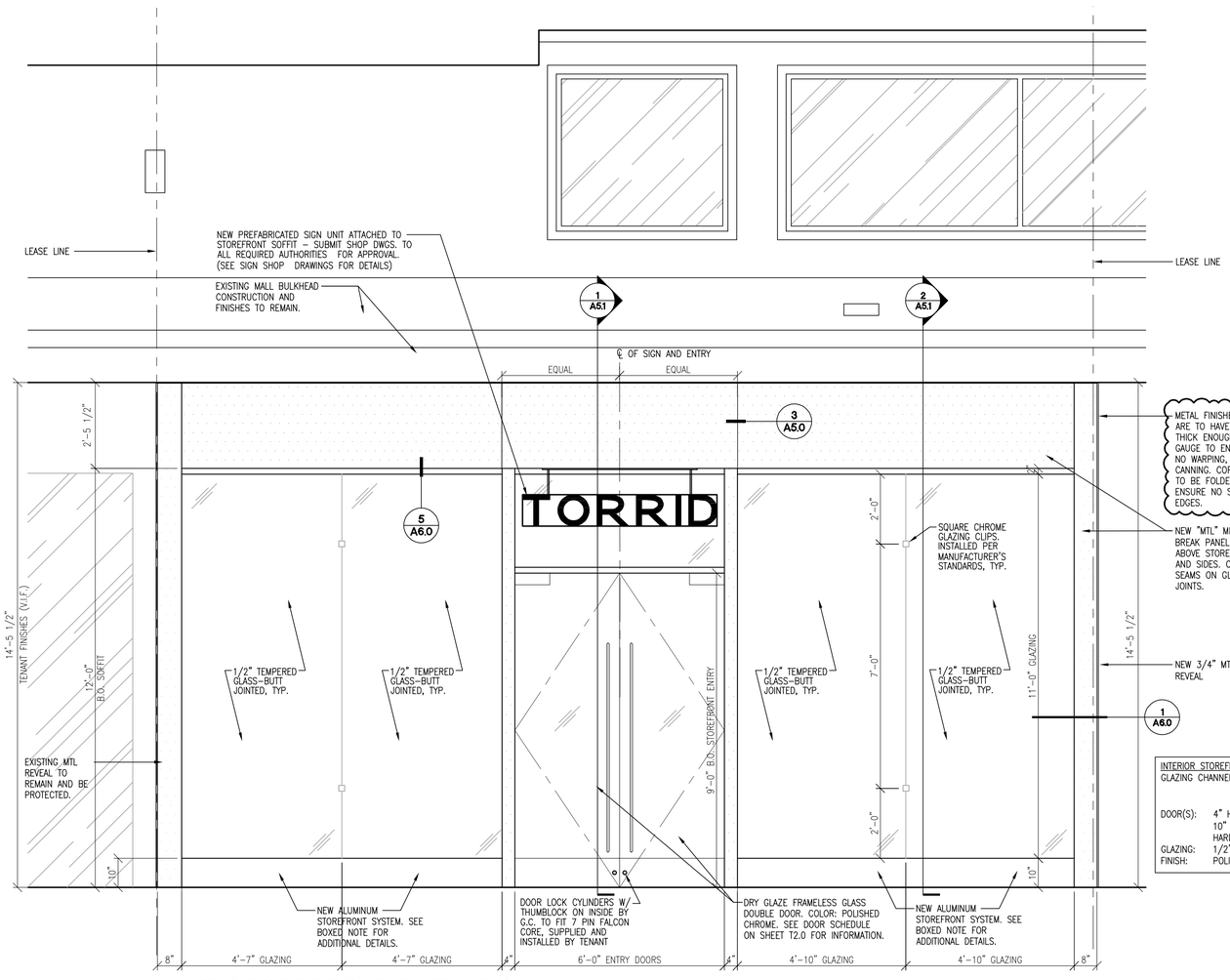
A4.2



1 STOREFRONT FLOOR PLAN
SCALE: 1/2" = 1'-0"



3 SEAM DETAIL
SCALE: 6" = 1'-0"



2 STOREFRONT ELEVATION
SCALE: 1/2" = 1'-0"

INTERIOR STOREFRONT SYSTEM:
GLAZING CHANNEL: 2" HIGH TOP RAIL
6" HIGH BOTTOM RAIL
2" DEEP
DOOR(S): 4" HIGH TOP PATCH
10" HIGH BOTTOM RAIL
HARDWARE PER SCHEDULE ON T2.0
GLAZING: 1/2" CLEAR, TEMPERED
FINISH: POLISHED CHROME

1 LANDLORD NOTES:
1. SUBMIT SHOP DRAWINGS FOR LANDLORD REVIEW.
2. NO PERMANENT PROMOTIONAL SIGNS OF ANY TYPE ARE PERMITTED. REGISTERED TRADEMARKS NOT PERMITTED.
3. MANUFACTURER LABELS TO BE CONCEALED FROM VIEW OF PUBLIC. IF POSSIBLE INSTALL ON TOP PORTION OF SIGN.
4. TO BE AN ILLUMINATED SIGN. SIGNAGE IS TO BE WIRED TO TENANT'S ELECTRICAL PANEL. ALL ELECTRICAL POWER PROVISIONS TO SIGNAGE TO BE FULLY CONCEALED.
5. ENSURE SIGN IS SET TO BE ILLUMINATED ON A SCHEDULE SIMILAR TO THE MALL'S SCHEDULE.
6. NO EXPOSED FASTENERS ON FACE, BOTTOM OR SIDE EDGES. USE CONCEALED TYPE FASTENERS PAINTED TO MATCH WHERE NEEDED ON SIDES/BOTTOMS. ANY SWITCHES TO BE PAINTED TO MATCH SURROUNDING AREA.

REGISTRATION SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
FREDERICK J. GOGLIA
LICENCE 7605
5/2/23

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TORRID

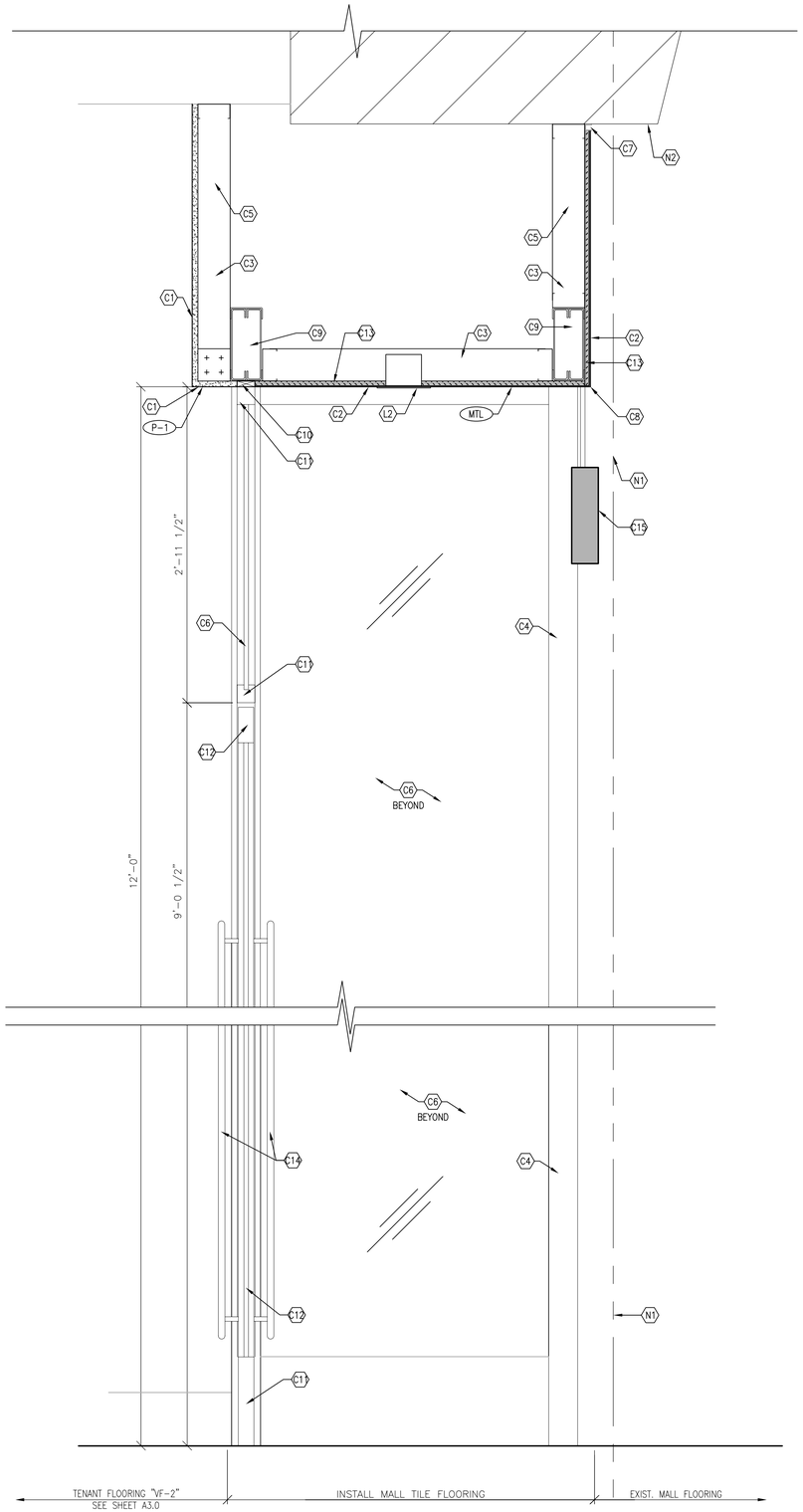
LANSDOWNE PLACE
645 LANSDOWNE ST. W
PETERBOROUGH, ON K9J 7Y5
SPACE #161 STORE #3541-B

REV	DATE:	DESCRIPTION	NAME
1	05/01/23	LANDLORD COMMENTS	MML
		FOR PERMIT - 05/18/23	

PROJECT NO: 230088
DRAWN BY: KEU
CHECKED BY: KEU
ISSUE DATE: 04/13/23

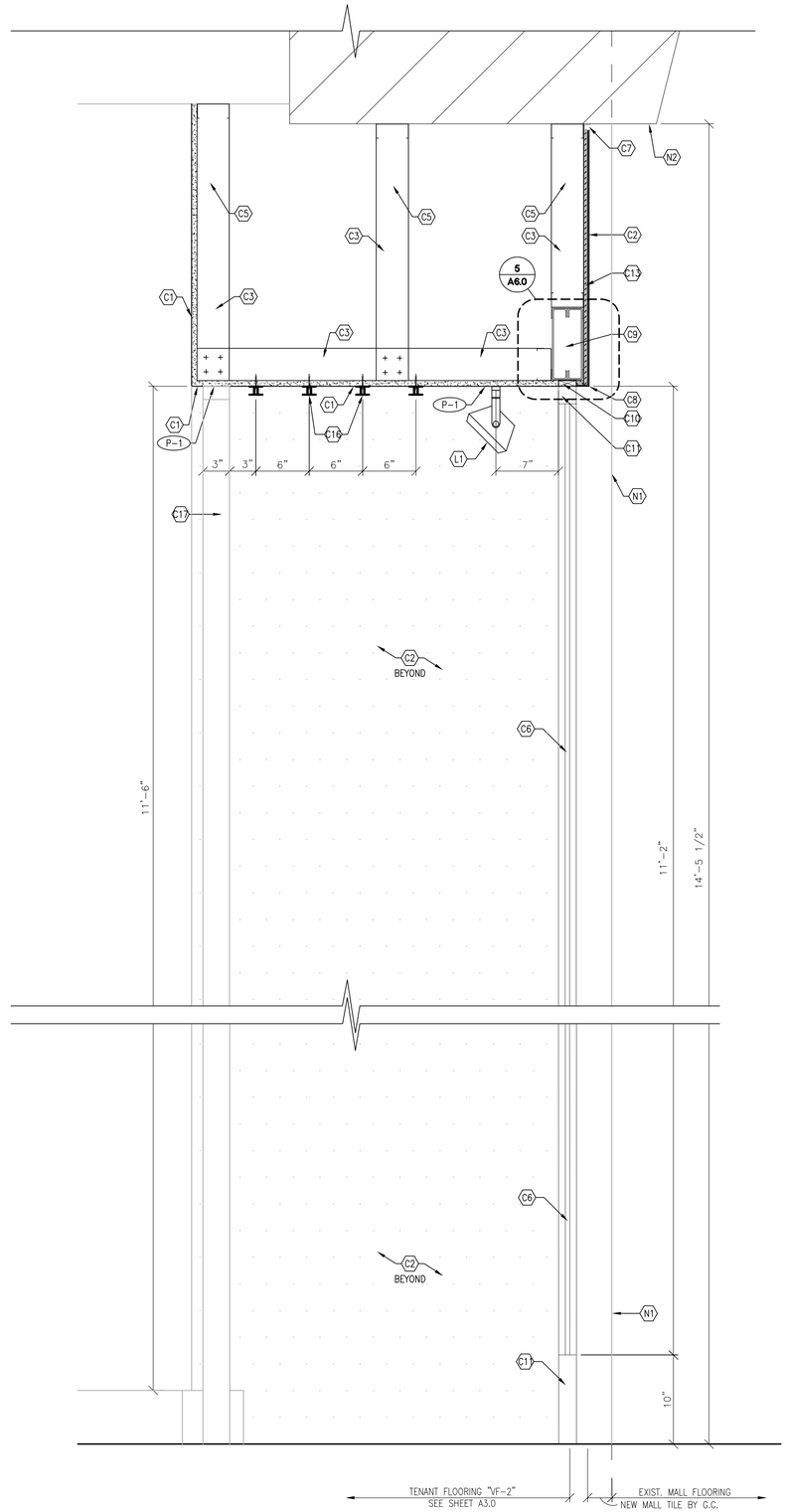
STOREFRONT PLAN + ELEVATION

A5.0



1 STOREFRONT ENTRY SECTION AT DOOR

SCALE: 1 1/2" = 1'-0"



2 STOREFRONT WINDOW SECTION

SCALE: 1 1/2" = 1'-0"

KEYED NOTES

NOTES (N)

- N1 LEASE LINE
- N2 EXISTING MALL BULKHEAD

LIGHTING NOTES (L)

- L1 RECESSED LIGHTING – SEE ELECTRICAL SHEETS
- L2 6" RECESSED CAN LIGHTING – SEE ELECTRICAL SHEETS

CONSTRUCTION NOTES (C)

- C1 5/8" GYP. BD. (TYPE 'X', WHERE REQUIRED)
- C2 PREFINISHED METAL CLADDING (MTL) APPLIED TO 1/2" F.R.T. MDF
- C3 3 5/8" MTL. STUDS @ 16" O.C.
- C4 NEW GLAZING SYSTME BEYOND
- C5 SECURE TO STRUCTURE ABOVE
- C6 1/2" TEMPERED GLASS
- C7 NEW 3/4" METAL REVEAL
- C8 G.C. TO BEND ALL OUTSIDE CORNERS
- C9 BOX BEAM AS REQUIRED FOR STOREFRONT SUPPORT.
- C10 SHIM SPACE AS REQUIRED
- C11 ALUMINUM STOREFRONT SYSTEM BY G.C. COLOR: POLISHED CHROME
- C12 NEW FRAMELESS GLASS STOREFRONT DOORS BY G.C. COLOR: POLISHED CHROME
- C13 1/2" F.R.T. MDF
- C14 POLISHED CHROME DOOR PULLS BY G.C.
- C15 STOREFRONT SIGN – SUPPLIED & INSTALLED BY SIGN MANUF.
- C16 "EASY GLIDE" TRACK DISPLAY SYSTEM
- C17 FREE-STANDING POST FIXTURE, SEE DETAIL 7 & 8/ A3.1.

CONTRACTOR'S NOTE:

1. WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF, TO TENANT REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS AND BEFORE START OF CONSTRUCTION. EXTRAS WILL NOT BE ALLOWED FOR JOB OR CODE COMPLIANCE CONDITIONS AFTER COMMENCEMENT OF CONSTRUCTION.

SEAM NOTE:

1. G.C. TO SUBMIT ALL SEAMS LOCATIONS TO BOX LUNCH P.M. FOR APPROVAL PRIOR TO INSTALLATION OF METAL AT STOREFRONT. PANEL SEAM LOCATIONS THAT ARE NOT APPROVED MAY BE REQUIRED TO BE REINSTALLED AT THE EXPENSE OF THE G.C.
2. ANY SEAMS IN STOREFRONT SYSTEM SILL OR HEAD SHALL LINE UP WITH EDGE OF GLASS PANELS, TYP.

STOREFRONT NOTE:

1. STOREFRONT BASE, GLAZING CHANNEL AND DOOR COMPONENTS TO BE POLISHED CHROME, TYP.

LANDLORD NOTES:

1. ANY DAMAGES TO BASE BUILDING FINISHES ARE TO BE MADE GOOD TO LIKE NEW CONDITION.
2. ENSURE NO LOADS ARE IMPOSED ON LANDLORD'S BULKHEAD.

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STOREFRONT SECTIONS

A5.1

SEAM NOTE:

1. G.C. TO SUBMIT ALL SEAMS LOCATIONS TO BOX LUNCH P.M. FOR APPROVAL PRIOR TO INSTALLATION OF METAL AT STOREFRONT. PANEL SEAM LOCATIONS THAT ARE NOT APPROVED MAY BE REQUIRED TO BE REINSTALLED AT THE EXPENSE OF THE G.C.
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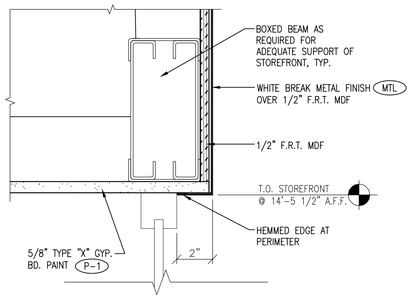
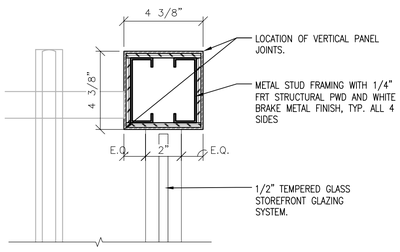
CONTRACTOR'S NOTE:

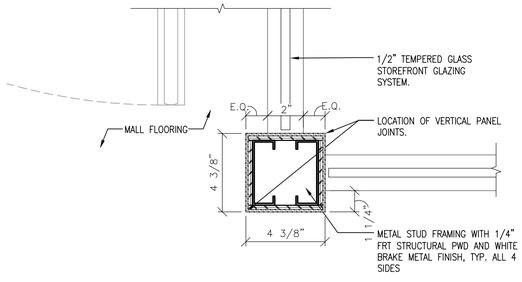
WRITTEN DIMENSIONS HOLD PREFERENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. CONTRACTORS MUST VISIT JOB SITE TO VERIFY ALL EXISTING CONDITIONS & DIMENSIONS BEFORE SUBMITTING BIDS. REPORT ANY DISCREPANCIES OF ANY CONDITIONS WHICH MAY INTERFERE WITH THE PROPER EXECUTION OF, TO TENANT REPRESENTATIVE. REPORT DISCREPANCIES DURING BIDDING PROCESS & BEFORE START OF CONSTRUCTION. EXTRAS WILL NOT BE ALLOWED FOR JOB OR CODE COMPLIANCE CONDITIONS AFTER COMMENCEMENT OF CONSTRUCTION.



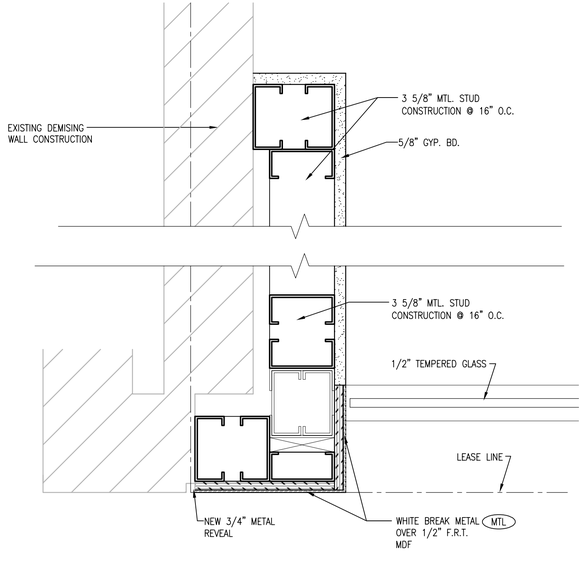
5 HEAD DETAIL @ STOREFRONT
SCALE: 3" = 1'-0"



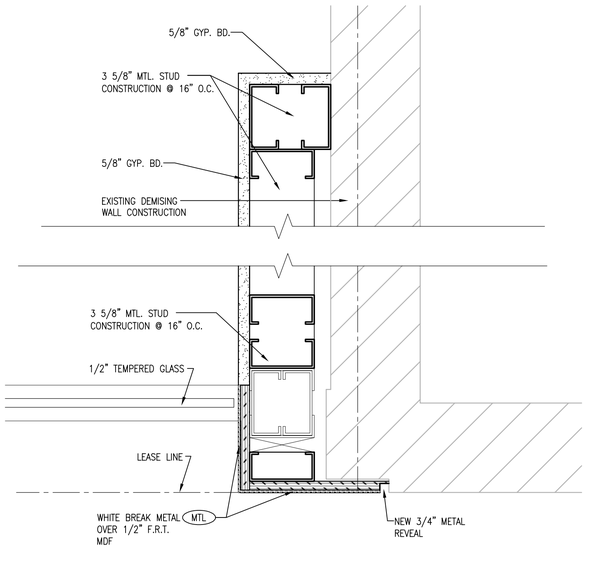
4 COLUMN AT STOREFRONT
SCALE: 3" = 1'-0"



3 COLUMN AT STOREFRONT
SCALE: 3" = 1'-0"



2 NEUTRAL PIER DETAIL
SCALE: 3" = 1'-0"



1 NEUTRAL PIER DETAIL
SCALE: 3" = 1'-0"

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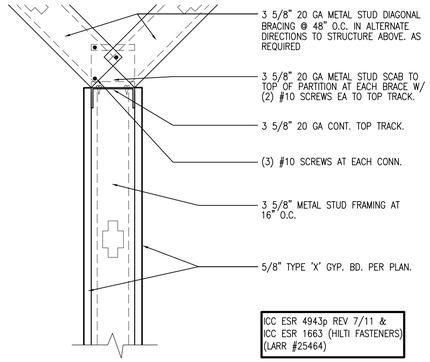
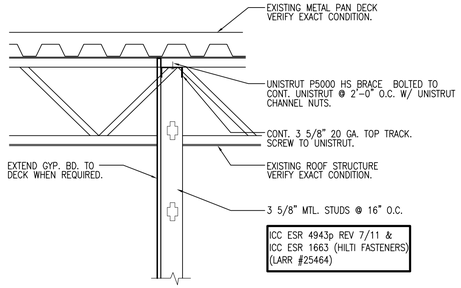
A6.0



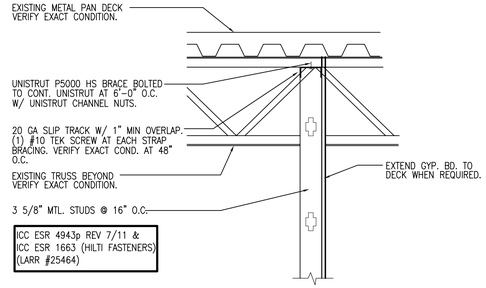
1 TYP. INTERIOR PARTITION AT TOP
SCALE: 1" = 1'-0"

VERIFY THAT THE SHOWN METHOD OF ATTACHMENT IS ACCEPTABLE WITH THE ON-SITE COORDINATOR. IF NOT, CONTACT ARCHITECT FOR ALTERNATE DETAIL.

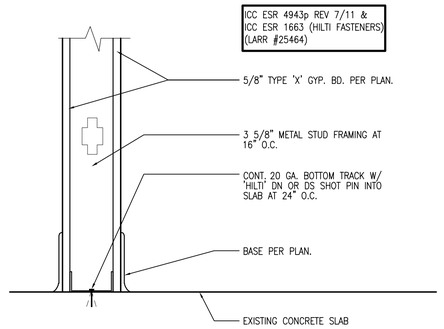
SEE STUD GA. LIMITING HT. SCHEDULE ON SHEET A1.0 FOR ADDITIONAL INFO.



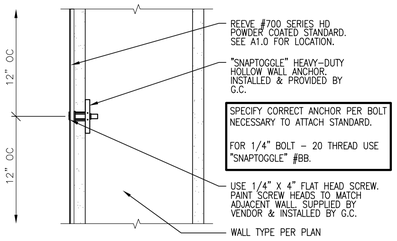
2 SOFFIT CONNECTION
SCALE: 1" = 1'-0"



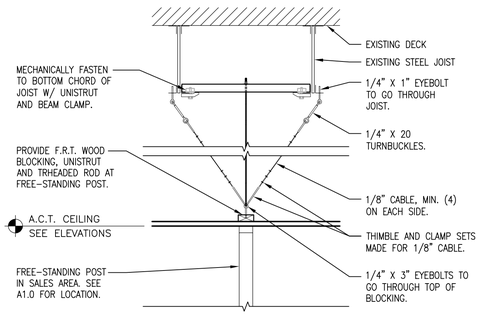
3 TOP OF FULL HEIGHT. INT. PARTITION
SCALE: 1" = 1'-0"



4 BOTTOM OF INTERIOR PARTITION
SCALE: 1 1/2" = 1'-0"



5 TOGGLE BOLT @ SALES STANDARD
SCALE: 3" = 1'-0"

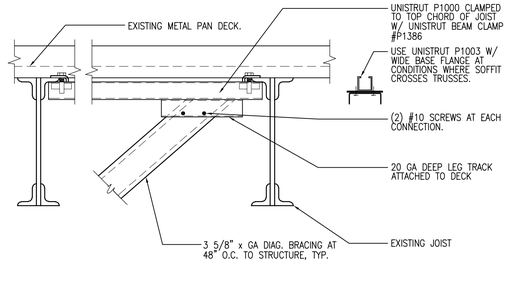


6 BLOCKING AT FREE-STANDING POST
SCALE: 3/4" = 1'-0"

VERIFY THAT THE SHOWN METHOD OF ATTACHMENT IS ACCEPTABLE WITH ON-SITE COORDINATOR. IF NOT, CONTACT ARCHITECT FOR ALTERNATE DETAIL.

ICC ESR 4943p REV 7/11 & ICC ESR 1663 (HILTI FASTENERS) (LARR #25464)

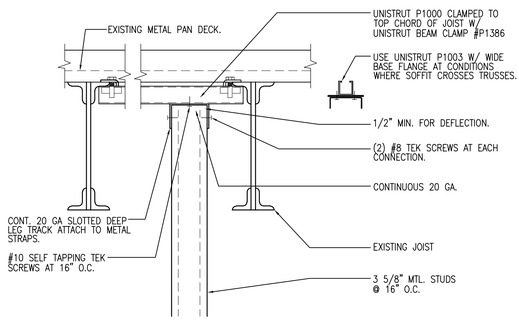
BRACING DETAIL FOR FLOOR SUPPORTED FRAMING ONLY



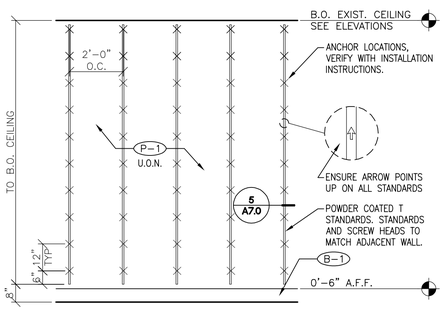
7 TYP. DIAG. BRACING CONN. TO DECK
SCALE: 1" = 1'-0"

VERIFY THAT THE SHOWN METHOD OF ATTACHMENT IS ACCEPTABLE WITH ON-SITE COORDINATOR. IF NOT, CONTACT ARCHITECT FOR ALTERNATE DETAIL.

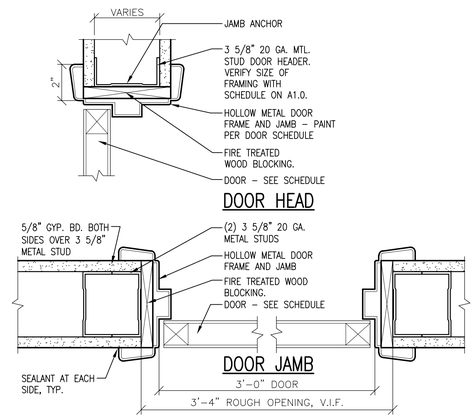
ICC ESR 4943p REV 7/11 & ICC ESR 1663 (HILTI FASTENERS) (LARR #25464)



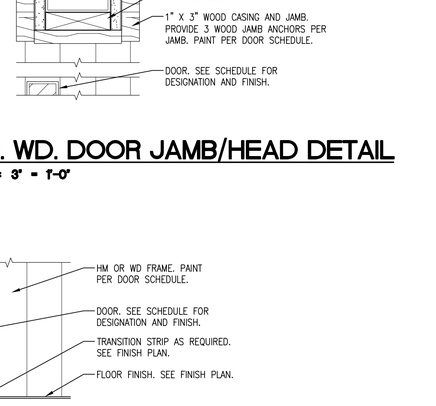
8 TOP OF INT. WALL TO STRUCTURE
SCALE: 1" = 1'-0"



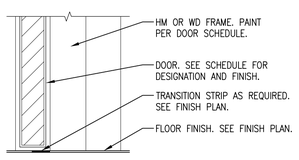
9 ELEVATION AT SALES STANDARDS
SCALE: 3/8" = 1'-0"



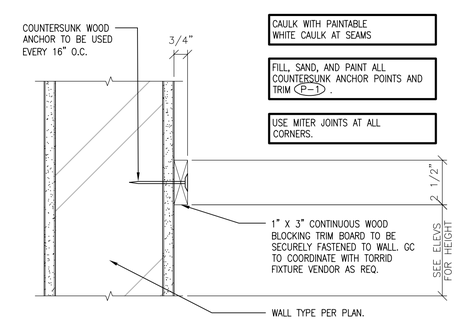
10 TYP. H.M. DOOR JAMB/HEAD DETAIL
SCALE: 3" = 1'-0"



11 TYP. WD. DOOR JAMB/HEAD DETAIL
SCALE: 3" = 1'-0"



12 TYP. DOOR SILL DETAIL
SCALE: 3" = 1'-0"



13 PERIMETER TRIM
SCALE: 3" = 1'-0"

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

City of Peterborough
Recieved
May 19, 2023
Building Services Division

REGISTRATION SEAL
ONTARIO ASSOCIATION OF ARCHITECTS
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5/2/23

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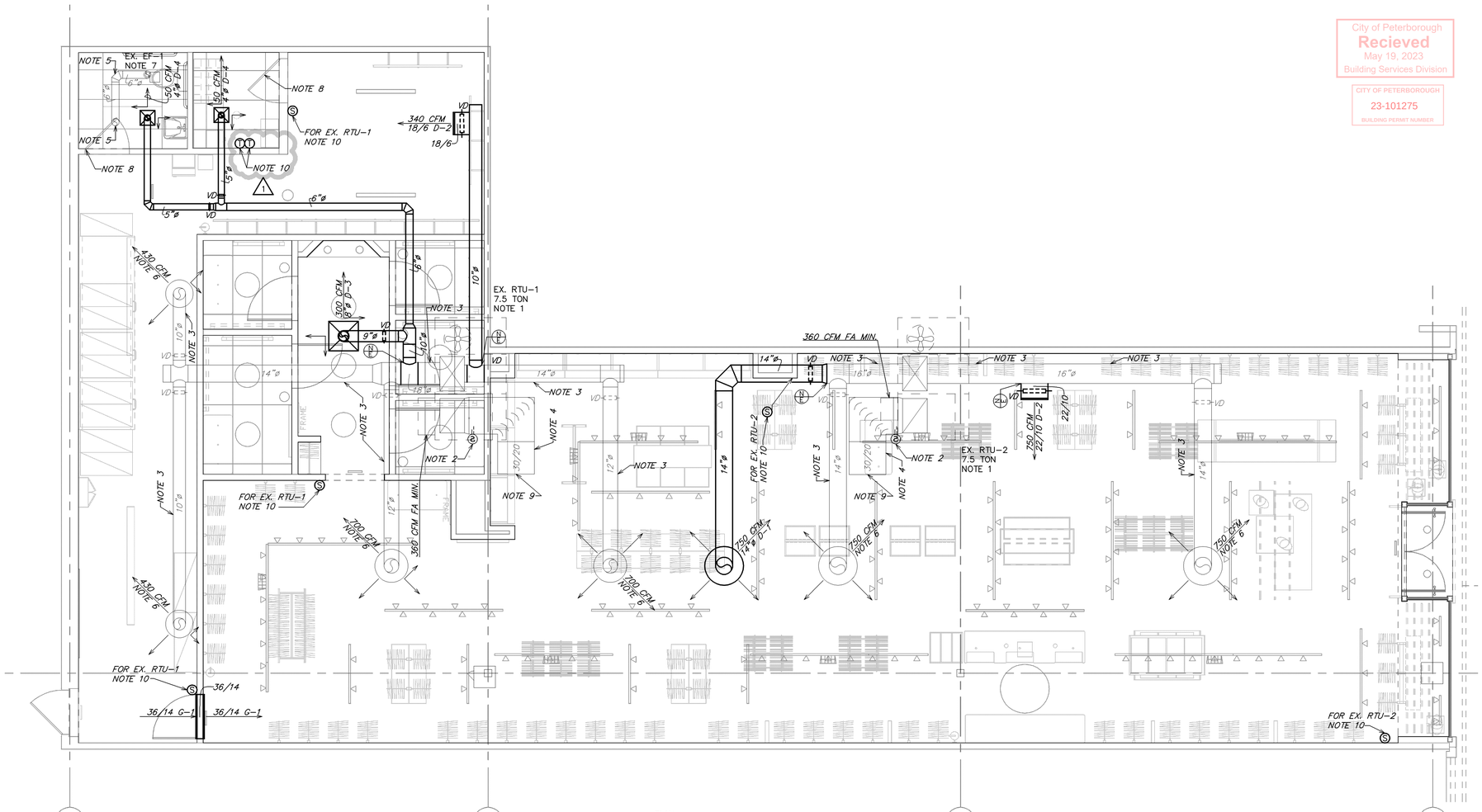
A7.0



1 2 3 4

PLAN NORTH

1 HVAC PLAN

SCALE: 1/4" = 1'-0"

PROVIDE TEMPORARY CONSTRUCTION FILTERS FOR HVAC UNIT.

PREMISES IS PROVIDED IN AN "AS IS" CONDITION.

1 ALL WORK IS BY TENANT AT TENANT'S EXPENSE.

ALL SPRINKLER HEADS IN RETAIL/FRONT OF HOUSE AREAS TO BE CONCEALED TYPE. EXPOSED SPRINKLERS NOT PERMITTED.

CLEAN ANY ITEMS INTENDED FOR REUSE – EXISTING DUCTWORK RETURN AND SUPPLY AIR GRILLES TO LIKE-NEW CONDITION, REPLACE WITH NEW AS REQUIRED.

ATTACHMENTS/PENETRATIONS OR SUSPENSION FROM ROOF DECK ARE NOT PERMITTED. ALL SUPPORT HANGERS/BRACING IS TO BE SECURED TO STEEL STRUCTURE ONLY.

UNION: THE FOLLOWING PROPERTY HAS UNION AFFILIATION REQUIREMENTS. REFER TO TENANT CONSTRUCTION SITE RULES AND REGULATIONS FOR ADDITIONAL INFORMATION.

ALL ROOF, SPRINKLER, FIRE ALARM WORK BY LANDLORD DESIGNATED BASE BUILDNG CONTRACTORS ONLY. TO BE ENGAGED BY TENANT AT TENANT'S COST.

PRIOR TO CONSTRUCTION COMMENCING, TENANT CONTRACTOR TO SCHEDULE A MEETING WITH ONSITE MALL MANAGEMENT TO REVIEW: MALL'S RULES AND REGULATIONS, ACTIVITIES IMPACTING THE CENTRE AND TO PROVIDE ALL APPLICABLE START UP DOCUMENTS.

GENERAL HVAC NOTES

A. EXISTING CONDITIONS ARE BASED ON RECORD DRAWINGS PROVIDED BY THE OWNER AND/OR LIMITED FIELD VERIFICATION BY OTHERS. CONTRACTOR SHALL ADJUST TO ACTUAL FIELD CONDITIONS AT NO ADDITIONAL EXPENSE TO THE PROJECT.
B. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO SUBMITTING THE BID. NO ADDITIONAL COMPENSATION WILL BE PROVIDED FOR ANY EXTRAS DUE TO THE CONTRACTOR'S FAILURE TO VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER FOR RESOLUTION.
C. ALL CONTRACTORS SHALL REVIEW A COMPLETE SET OF CONSTRUCTION DOCUMENTS.
D. CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH DEMOLITION WORK PRIOR TO BIDDING AND START OF WORK. CONTRACTOR IS RESPONSIBLE TO DEMOLISH ALL EXISTING AS REQUIRED FOR INSTALLATION/CONSTRUCTION OF NEW WORK.
E. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL APPLICABLE GOVERNMENT AND LOCAL CODES.
F. MECHANICAL CONTRACTOR SHALL FIELD COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL POWER REQUIREMENTS.
G. ALL CONTRACTORS SHALL REVIEW A COMPLETE SET OF CONSTRUCTION DOCUMENTS AND COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF ALL EQUIPMENT MAY BE PROPERLY COORDINATED.
H. ALL EQUIPMENT FURNISHED SHALL FIT THE SPACE AVAILABLE WITH CONNECTIONS IN THE REQUIRED LOCATIONS AND WITH ADEQUATE SPACE FOR OPERATING AND SERVICING. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE INTENT OF THE INSTALLATION WHILE THE SPECIFICATIONS AND EQUIPMENT LIST DENOTE THE TYPE AND QUALITY OF MATERIAL AND WORKMANSHIP TO BE USED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. WHERE A CONFLICT EXISTS BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE HIGHER AND/OR MORE COSTLY STANDARD WILL APPLY. THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER WHOSE DECISION SHALL BE FINAL. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THIS REGARD ON BEHALF OF THE CONTRACTOR AFTER AWARD OF THE CONTRACT.
I. COORDINATE DUCT ROUTING AND HEIGHTS WITH GENERAL CONTRACTOR. VERIFY ALL CLEARANCES BEFORE STARTING WORK.
J. THE CONTRACTOR SHALL INSTALL ALL PIPING, DUCTWORK AND EQUIPMENT AS REQUIRED TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE CEILING HEIGHTS AND HEADROOM AND MAKE ALL EQUIPMENT REQUIRING MAINTENANCE OR REPAIR ACCESSIBLE.
K. ALL DUCT CONNECTIONS TO HVAC EQUIPMENT MUST BE MADE WITH FLEXIBLE CONNECTORS.
L. DO NOT ATTACH ANYTHING TO DECK ABOVE. ATTACH TO STRUCTURE (i.e. BEAMS, JOISTS) ONLY. DUCT HANGERS SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE. ALL CONNECTIONS TO JOISTS SHALL BE MADE AT THE TOP CORD.
M. ALL DUCT DIMENSIONS INDICATED ARE CLEAR INSIDE DIMENSIONS. ALL SUPPLY AND UNTEMPERED OUTDOOR AIR DUCTWORK SHALL BE LINED WITH 1" ACOUSTICAL DUCT LINER OR WRAPPED WITH 1-1/2" THICK FIRE RETARDANT FIBERGLASS WITH A REINFORCED ALUMINUM FOIL JACKET AND SHALL BE APPROVED FOR USE BY SMACNA AND NAIMA. RETURN AIR TRANSFER DUCTS AND RETURN DUCTWORK WITHIN 10 FEET OF THE UNIT FAN SHALL BE LINED WITH 1" ACOUSTICAL DUCT LINER.
N. ALL SUPPLY AND UNTEMPERED OUTDOOR AIR DUCTWORK VISIBLE TO THE PUBLIC SHALL BE INTERNALLY LINED AND PAINTED TO MATCH THE SURROUNDING AREA. DUCT WRAP INSULATION IS NOT PERMITTED IN THESE AREAS.
O. EXPOSED SPIRAL DUCT TO BE GALVANIZED FINISH, FREE FROM SCRATCHES, DENTS OR BLEMISHES AND PAINTED TO MATCH THE SURROUNDING AREA. DUCT SHALL BE INTERNALLY LINED AND SEALED WITH DUCT SEALER COMPLETELY CONCEALED WITHIN THE DUCT JOINT. NO EXPOSED SEALER OR TAPE WILL BE ACCEPTED.
P. ALL EXPOSED DUCTWORK SHALL BE INSTALLED TIGHT TO THE BOTTOM OF THE STRUCTURE.
Q. AT THE START OF CONSTRUCTION, THE MECHANICAL CONTRACTOR SHALL INSPECT AND RUN TEST ALL EXISTING HVAC UNITS DESIGNATED FOR REUSE. CONTRACTOR SHALL INFORM THE ENGINEER OF ANY NECESSARY REPAIRS FOR APPROVAL IN A TIMELY MANNER, AS TO NOT DELAY THE PROJECT OPENING DATE.
R. PROVIDE REMOTE VOLUME DAMPER CONTROL MANUFACTURED BY YOUNG REGULATOR OR UNITED ENERTECH FOR DAMPERS LOCATED ABOVE INACCESSIBLE CEILINGS. LOCATE CONTROLLER ABOVE ACCESSIBLE CEILING LOCATION.
S. TENANT'S CONTRACTOR SHALL BE RESPONSIBLE FOR THE FIELD VERIFICATION OF ALL UTILITY RUNS AND/OR OTHER IMPROVEMENTS LOCATED ON THE PREMISES PRIOR TO BIDDING. TENANT'S CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ALL COSTS RELATING TO THE RELOCATION OF, DAMAGE TO, REPAIR OF ANY EXISTING UTILITY RUNS AND/OR IMPROVEMENTS WHICH ARE DAMAGED AS A RESULT OF TENANT'S WORK IN OR AROUND THE PREMISES.
T. MECHANICAL CONTRACTOR SHALL PROVIDE TENANT WITH A WRITTEN ONE (1) YEAR MANUFACTURER'S WARRANTY ON ALL HVAC EQUIPMENT PROVIDED AND / OR INSTALLED. THE WARRANTY SHALL INCLUDE ALL LABOR, MATERIALS AND THREE (3) ROUTINE SERVICES INCLUDING FILTER CHANGES DURING A ONE (1) YEAR PERIOD.
U. AT THE COMPLETION OF CONSTRUCTION AN NEBB, AABC OR TABB CERTIFIED AIR BALANCE REPORT SHALL BE SUBMITTED TO THE ENGINEER AND LANDLORD. THE BALANCING MUST BE COMPLETED BY AN INDEPENDENT, THIRD PARTY CONTRACTOR WITH NO TIES TO THE INSTALLING CONTRACTORS.
V. THE CONTRACTOR SHALL OBTAIN A COPY OF THE LANDLORD'S TENANT CRITERIA MANUAL. TENANT CRITERIA MANUAL IS AN INTEGRAL PART OF THIS CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH LANDLORD REQUIREMENTS AT NO ADDITIONAL COST TO THE TENANT.
W. PARTS OF THE BASE BUILDING SYSTEMS THAT FALL INTO LEASE LINE SHALL REMAIN UNDISTURBED UNLESS NOTED OTHERWISE.
X. PROVIDE ALL NECESSARY WIRING, RELAYS, DETECTORS, COMPONENTS, ETC., FOR FIRE ALARM OR CONTROL SYSTEM INTERLOCK IF APPLICABLE. VERIFY WITH MALL PERSONNEL BEFORE BID.

HVAC KEYED NOTES

1. EXISTING LENNOX, TGA090, 7.5 TON ROOFTOP UNIT TO REMAIN. CONTRACTOR SHALL BALANCE EXISTING UNIT TO PROVIDE 3000 CFM OF SUPPLY AIR AND 360 CFM OF OUTDOOR AIR. FIELD VERIFY EXACT LOCATION.
2. VERIFY EXISTING CONDITIONS. IF NOT PRESENT, DUCT SMOKE DETECTOR ON RETURN SIDE DUCT AND SHUTDOWN RELAY SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. ALL WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR.
3. EXISTING SUPPLY AIR DUCTWORK TO REMAIN.
4. EXISTING RETURN AIR DUCTWORK TO REMAIN.
5. EXISTING EXHAUST AIR DUCTWORK AND ASSOCIATED ROOF TERMINATION TO REMAIN.
6. EXISTING SUPPLY AIR DIFFUSER TO REMAIN. CONTRACTOR SHALL CLEAN AND REPAIR DIFFUSER TO A LIKE NEW CONDITION. IF THE DEVICE CANNOT BE REPAIRED TO A LIKE NEW CONDITION, IT SHALL BE REPLACED WITH A NEW DIFFUSER THAT MATCHES THE EXISTING DEVICE IN EVERY RESPECT. BALANCE TO THE INDICATED CFM.
7. EXISTING EXHAUST FAN TO REMAIN. CONTRACTOR SHALL CLEAN AND REPAIR FAN TO A LIKE NEW CONDITION. IF THE DEVICE CANNOT BE REPAIRED TO A LIKE NEW CONDITION, IT SHALL BE REPLACED WITH A NEW FAN THAT MATCHES THE EXISTING DEVICE IN EVERY RESPECT. BALANCE FAN TO 100 CFM OF EXHAUST AIR.
8. CONTRACTOR SHALL UNDERCUT DOOR 3/4".
9. EXISTING OPEN END RETURN AIR DUCT TO REMAIN. CONTRACTOR TO VERIFY EXISTING CONDITIONS IN FIELD. IF NOT PRESENT, PROVIDE OPENING WITH 1/4" MESH GALVANIZED SCREEN.
10. PROVIDE NEW FULLY DIGITAL 7 DAY PROGRAMMABLE AVERAGING TYPE THERMOSTAT WITH REMOTE SENSING CAPABILITIES, AUTO CHANGE OVER AND AUTO SET BACK. MOUNT THERMOSTAT AT 48" ABOVE FINISHED FLOOR. PROVIDE WITH CLEAR ACRYLIC LOCKING COVER. THERMOSTATS SERVING THE SAME TEMPERATURE ZONE SHALL BE INTERLOCKED TO PREVENT SIMULTANEOUS HEATING AND COOLING. COORDINATE LOCATION WITH WALL GRAPHICS LAYOUT. PROVIDE REMOTE TEMPERATURE SENSORS AS INDICATED ON PLAN.

LEGEND
EXISTING
NEW WORK
NEW TO EXISTING CONNECTION

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PROVINCE OF ONTARIO
Date: 05/03/2023
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SPACE #161 STORE #3541 - B

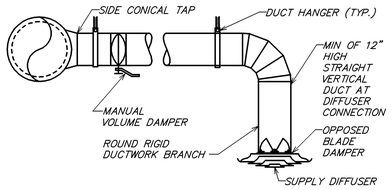
REV	DATE	DESCRIPTION
1	05.02.2023	LANDLORD COMMENTS
		FOR PERMIT - 05/18/23

PROJECT NO. 230308
DRAWN BY: SEI
CHECKED BY: GPS
ISSUE DATE: 04/13/23

HVAC PLAN

M1.0

RE JOB# 230308



7 DUCT MOUNTED DIFFUSER CONNECTION

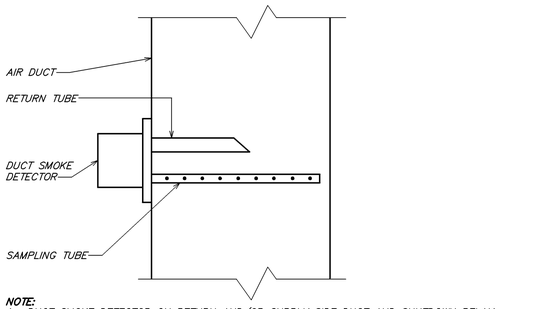
NOT TO SCALE

DIA.	WIRE DIA.	ROD	STRAP
10" DN	ONE 12 GA.	1/4"	1" x 22 GA.
11–18"	TWO 12 GA. OR ONE 8 GA.	1/4"	1" x 22 GA.
19–24"	TWO 10 GA.	1/4"	1" x 22 GA.
25–36"	TWO 8 GA.	3/8"	1" x 20 GA.
37–50"	–	TWO 3/8"	TWO 1" x 20 GA.
51–60"	–	TWO 3/8"	TWO 1" x 18 GA.
61–84"	–	TWO 3/8"	TWO 1" x 16 GA.
85–96"	–	TWO 1/2"	TWO 1 1/2" x 16 GA.

NOTES:
1. STRAPS ARE GALVANIZED STEEL; RODS ARE UNCOATED OR GALVANIZED STEEL; WIRE IS BLACK ANNEALED, BRIGHT BASIC OR GALVANIZED STEEL. ALL ARE ALTERNATIVES.
2. TABLE ALLOWS FOR CONVENTIONAL WALL THICKNESS, AND JOINT SYSTEMS PLUS ONE LB/SF OF INSULATION WEIGHT. IF HEAVIER DUCTS ARE TO BE INSTALLED, ADJUST HANGER SIZES TO BE WITHIN THEIR LOAD LIMITS.

6 ROUND DUCT HANGER TABLE

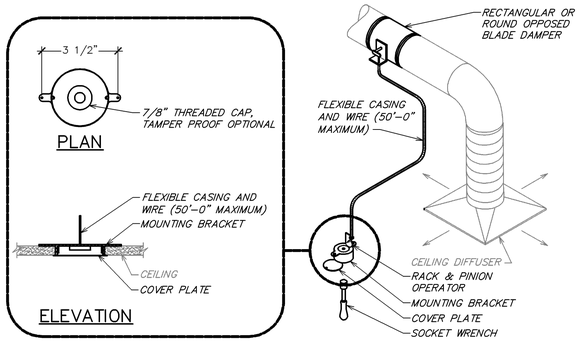
NOT TO SCALE



NOTE:
1. DUCT SMOKE DETECTOR ON RETURN AND/OR SUPPLY SIDE DUCT AND SHUTDOWN RELAY SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. ALL WIRING SHALL BE BY THE ELECTRICAL CONTRACTOR.

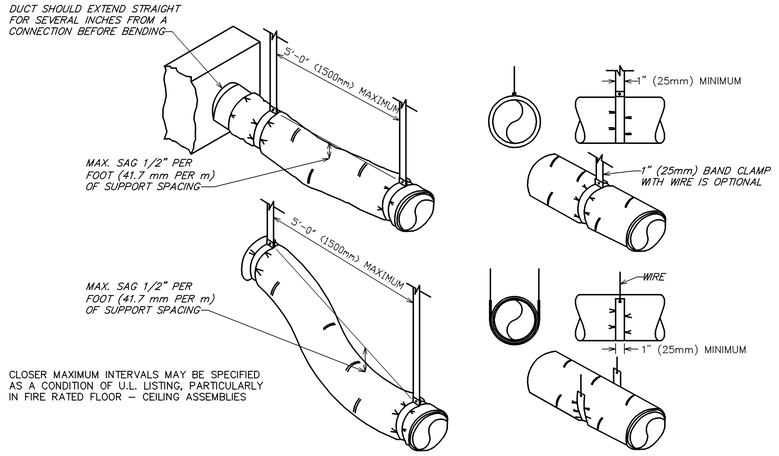
5 DUCT SMOKE DETECTOR DETAIL

NOT TO SCALE



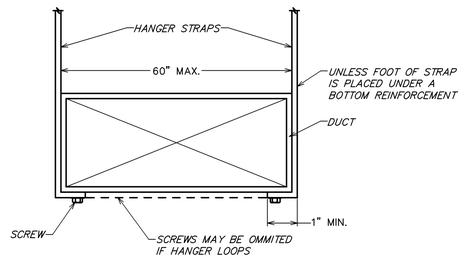
4 REMOTE VOLUME DAMPER CONTROLLER

NOT TO SCALE

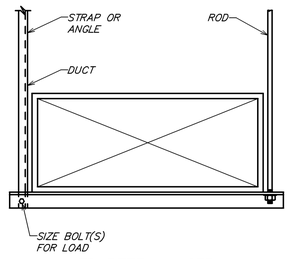


3 FLEXIBLE DUCT SUPPORTS

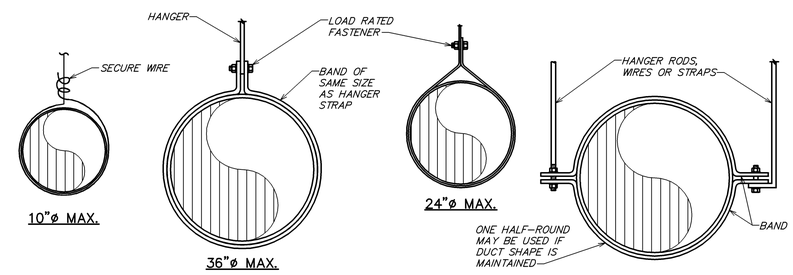
NOT TO SCALE



STRAP HANGER



TRAPEZE HANGER



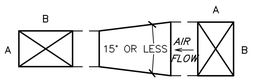
NOTE: HANGERS MUST NOT DEFORM DUCT SHAPE

2 DUCT HANGER DETAIL

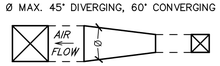
NOTE

DIFFUSERS, GRILLES AND REGISTERS							
MARK	SERVICE	LOCATION	CEILING TYPE	MOUNTING TYPE	MANUFACTURER	MODEL NUMBER	REMARKS
D–1	SUPPLY	DUCT	N/A	SURFACE	TITUS	TMRA X 26 D–75	(1–2)
D–2	SUPPLY	DUCT	N/A	SURFACE	TITUS	300 R L X X 1 26	(1–2)
D–3	SUPPLY	CEILING	GYP. BOARD	LAY–IN	TITUS	OMNI X 3 24x24 26 D–75	(1–3)
D–4	SUPPLY	CEILING	AC TILE	LAY–IN	TITUS	OMNI X 3 12x12 26 D–75	(1–3)
G–1	TRANSFER	WALL	N/A	SURFACE	TITUS	350 R L X X X 1 26	(1–2)

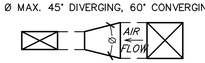
REMARKS:
1. TITUS IS THE BASE OF DESIGN. KRUEGER, PRICE, NAILOR, CARNES ARE EQUAL. NO EXCEPTIONS.
2. SEE PLAN FOR NECK SIZE.
3. PROVIDE WITH MODEL TRM FRAME.



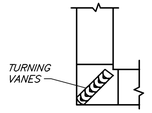
TRANSFORMATION



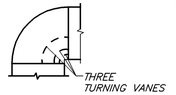
EXPANSION



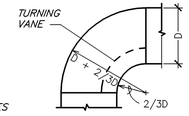
CONTRACTION



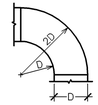
90° ELBOW
45° ELBOW SIMILAR



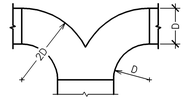
NO THROAT RADIUS



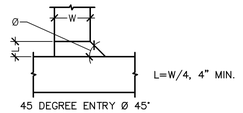
SHORT RADIUS



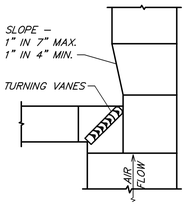
FULL RADIUS



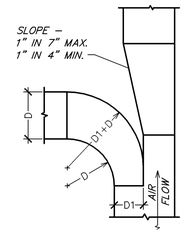
SUPPLY OR RETURN WYE (RECTANGULAR DUCT)



BRANCH TAKE–OFF FITTING



90° ELBOW TAKE–OFF USE ONLY IN AREAS WHERE SPACE IS LIMITED



FULL RADIUS ELBOW TAKE–OFF

1 DUCTWORK DETAILS

NOT TO SCALE

SYMBOLS

HEATING–VENTILATING–AIR CONDITIONING

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	STEAM (LOW PRESSURE) STEAM (MEDIUM PRESSURE) STEAM (HIGH PRESSURE)		AUTOMATIC CONTROL VALVE		SUPPLY OR FRESH AIR DUCT (SA OR FA)
	CONDENSATE (LOW PRESSURE) CONDENSATE (MEDIUM PRESSURE) CONDENSATE (HIGH PRESSURE)		PRESSURE REGULATING VALVE (PRV)		RETURN OR EXHAUST DUCT (RA OR EA)
HWS	HOT WATER SUPPLY (HEATING)	CP	SAFETY RELIEF VALVE	ST	SOUND TRAP
HWR	HOT WATER RETURN (HEATING)		BLOW OFF VALVE	CFM SIZE	SUPPLY REGISTER OR GRILLE (R OR G)
EG	ETHYLENE GLYCOL SUPPLY	FTAP	F AND T TRAP (CAP. #/HR)	CFM SIZE	RETURN REGISTER OR GRILLE (R OR G)
EGR	ETHYLENE GLYCOL RETURN		THERMOSTATIC TRAP	CFM SIZE	FRESH AIR INTAKE (FA)
CWS	CHILLED WATER SUPPLY	S.P.	STATIC PRESSURE		ROUND CEILING DIFFUSER (SUPPLY)
CWR	CHILLED WATER RETURN		CIRCUIT SETTER FLOW CONTROL VALVE		ROUND CEILING DIFFUSER (SUPPLY AND RETURN)
D	CONDENSATE OR VACUUM PUMP DISCHARGE		AIR BLEEDER VALVE (RADIANT PANEL)		SQUARE CEILING DIFFUSER (SUPPLY)
H	HUMIDIFICATION LINE		AIR ELIMINATOR		SQUARE CEILING DIFFUSER (SUPPLY AND RETURN)
FOS	FUEL OIL SUPPLY		AUTOMATIC BALANCING VALVE		SQUARE CEILING DIFFUSER THREE WAY THROW
FOR	FUEL OIL RETURN		SOLENOID VALVE (REFRIGERANT)		SQUARE CEILING DIFFUSER TWO WAY THROW
FOV	FUEL OIL VENT		THERMOSTATIC EXPANSION VALVE (REFR.)		GRAVITY DAMPER
G	GAS LINE		BACK PRESSURE VALVE	MD	MOTORIZED DAMPER
RL	REFRIGERANT LIQUID LINE		SIGHT GLASS	FD	FIRE DAMPER
RS	REFRIGERANT SUCTION LINE		ROUND DUCT RISER	SD	SMOKE DAMPER
RD	REFRIGERANT HOT GAS DISCHARGE LINE	UH–1	UNIT HEATER–PROPELLER TYPE & MARK	FDSD	FIRE AND SMOKE DAMPER
C	CONDENSER WATER	CUH–1	CABINET UNIT HEATER & MARK	BD	BASEBOARD DIFFUSER
CR	CONDENSER WATER RETURN	FTR–1 W24	FIN TUBE, MARK AND CAPACITY	1	HEATING RISER NUMBER
BBD	BOILER BLOW OFF		CONVECTOR AND MARK	1	EXHAUST FAN RISER NUMBER
ES	EXHAUST STEAM	UV–1	UNIT VENTILATOR AND MARK	BR	BASEBOARD RADIATION
	CONCENTRIC REDUCER	9/6	RECTANGULAR DUCT FIRST FIGURE IS SIDE SHOWN	RS	REMOTE SENSOR
	ECCENTRIC REDUCER	24" ø	ROUND DUCT	T	THERMOSTAT
	UNION		CANVAS CONNECTION		
	STRAINER	24"W x 12"H PLENUM	VOLUME DAMPER (ELEV AND PLAN)		
	EXPANSION JOINT		TURNING VANES		
	THERMOMETER		EXTRACTOR		
	PRESSURE GAGE				

NOTE:
1. NOT EVERY SYMBOL ON THIS SCHEDULE APPEARS ON THIS PROJECT.

REGISTRATION SEAL

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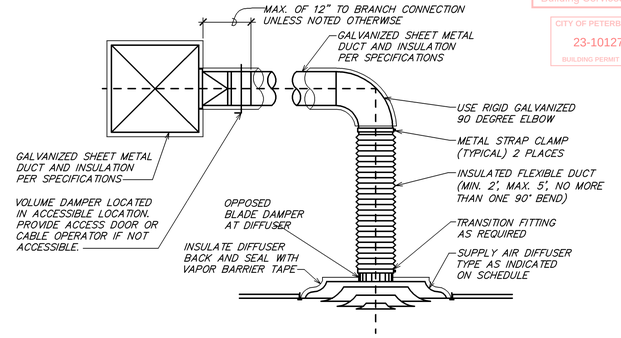
REV	DATE	DESCRIPTION	NAME
1	05.02.2023	FOR PERMIT - 05/18/23 LANDLORD COMMENTS	

PROJECT NO: 230308
DRAWN BY: SEI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

HVAC SCHEDULES AND DETAILS

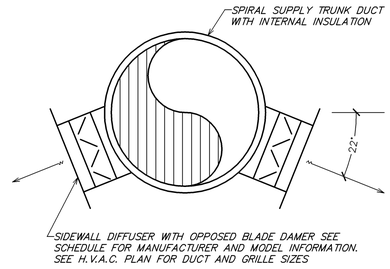
M2.0

SE JOB#: 230308



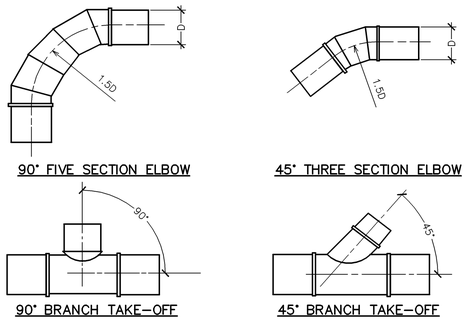
3 TYPICAL DIFFUSER CONNECTION

NOT TO SCALE



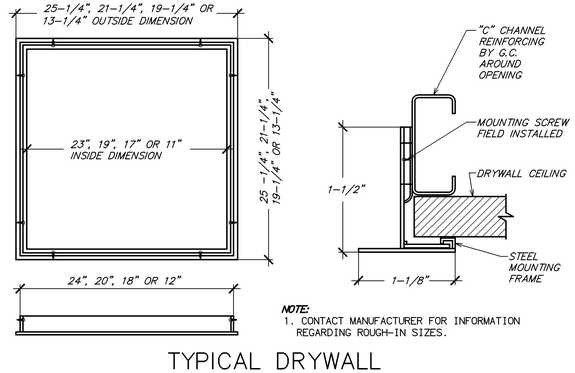
2 DUCT MOUNTED DIFFUSER DETAIL

NOT TO SCALE



5 TYPICAL ROUND DUCT FITTINGS

NOT TO SCALE



NOTE:
1. CONTACT MANUFACTURER FOR INFORMATION REGARDING ROUGH-IN SIZES.

4 TYPICAL DRYWALL MOUNTING FRAME DETAIL

NOT TO SCALE

MAXIMUM HALF OF DUCT PERIMETER	PAIR AT 10 FT. SPACING		PAIR AT 8 FT. SPACING		PAIR AT 5 FT. SPACING		PAIR AT 4 FT. SPACING	
	STRAP	WIRE/ ROD	STRAP	WIRE/ ROD	STRAP	WIRE/ ROD	STRAP	WIRE/ ROD
$\frac{P}{2}$ = 30"	1" x 22 GA.	10 GA. (.135")	1" x 22 GA.	10 GA. (.135")	1" x 22 GA.	12 GA. (.106")	1" x 22 GA.	12 GA. (.106")
$\frac{P}{2}$ = 72"	1" x 18 GA.	3/8"	1" x 20 GA.	1/4"	1" x 22 GA.	1/4"	1" x 22 GA.	1/4"
$\frac{P}{2}$ = 96"	1" x 16 GA.	3/8"	1" x 18 GA.	3/8"	1" x 20 GA.	3/8"	1" x 22 GA.	1/4"
$\frac{P}{2}$ = 120"	1 1/2" x 16 GA.	1/2"	1" x 16 GA.	3/8"	1" x 18 GA.	3/8"	1" x 20 GA.	1/4"
$\frac{P}{2}$ = 168"	1 1/2" x 16 GA.	1/2"	1 1/2" x 16 GA.	1/2"	1" x 16 GA.	3/8"	1" x 18 GA.	3/8"
$\frac{P}{2}$ = 192"	---	1/2"	1 1/2" x 16 GA.	1/2"	1" x 16 GA.	3/8"	1" x 16 GA.	3/8"
$\frac{P}{2}$ = 193" UP	SPECIAL ANALYSIS REQUIRED							

WHEN STRAPS ARE LAP JOINED USE THESE MINIMUM FASTENERS:	SINGLE HANGER MAXIMUM ALLOWABLE LOAD	
	STRAP	WIRE OR ROD (DIA.)
1" x 18, 20, 22 GA. – TWO #10 OR ONE 1/4" BOLT 1" x 16 GA. – TWO 1/4" DIA. 1" x 16 GA. – TWO 3/8" DIA. PLACE FASTENERS IN SERIES, NOT SIDE BY SIDE.	1" x 22 GA. – 260 LBS. 1" x 20 GA. – 320 LBS. 1" x 18 GA. – 420 LBS. 1" x 16 GA. – 700 LBS. 1 1/2" x 16 GA. – 1100 LBS.	0.106" – 80 LBS. 0.135" – 120 LBS. 0.162" – 160 LBS. 1/4" – 270 LBS. 3/8" – 680 LBS. 1/2" – 1250 LBS. 5/8" – 2000 LBS. 3/4" – 3000 LBS.

NOTES:
1. DIMENSIONS OTHER THAN GAUGE ARE IN INCHES.
2. TABLES ALLOW FOR DUCT WEIGHT, 1 LB./SF INSULATION WEIGHT AND NORMAL REINFORCEMENT AND TRAPEZE WEIGHT, BUT NO EXTERNAL LOADS.
3. STRAPS ARE GALVANIZED STEEL; OTHER MATERIALS ARE UNCOATED STEEL.
4. ALLOWABLE LOADS FOR P/2 ASSUME THAT DUCTS ARE 16 GA. MAXIMUM, EXCEPT THAT WHEN MAXIMUM DUCT DIMENSION (W) IS OVER 60" THEN P/2 MAXIMUM IS 1.25 W.
5. 12, 10 OR 8 GA. WIRE IS STEEL OF BLACK ANNEALED, BRIGHT BASIC OR GALVANIZED TYPE.
6. DUCTS SHALL BE SUPPORTED AT INTERVALS NOT EXCEEDING 10 FEET.

1 RECTANGULAR DUCT HANGER TABLE

NOT TO SCALE

REGISTRATION SEAL

LICENSED PROFESSIONAL ENGINEER
G. SCHNACKEL
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PROVINCE OF ONTARIO

Date: 05/03/2023
COA #: C1,055

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SPACE #161 STORE #3541 - B

REV	DATE	DESCRIPTION	NAME
1	05.01.2023	LANDLORD COMMENTS FOR PERMIT - 05/18/23	

PROJECT NO. 230088
DRAWN BY: SEI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

HVAC DETAILS

M3.0

SE-JOSH 230308

SECTION 230000 - HVAC GENERAL CONDITIONS

PART 1 GENERAL

1.01 APPLICABILITY
- A. This section supplements all sections of the Specifications for Division 23 and shall apply to all phases of work hereinafter specified, shown on the Drawings, or required to provide a complete installation of approved HVAC systems.

1.02 DEFINITIONS
- A. "Work" is hereby defined as, "The construction and services required by the Contract Documents whether completed or partially completed and includes all labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The work may constitute the whole or a part of the project."
- B. "Furnish" is hereby defined as, "To supply and deliver, unload, and inspect for damage."
- C. "Install" is hereby defined as, "To unpack, assemble, erect, apply, place, finish, cure, protect, clean, connect, and place into operation into the work."
- D. "Provide" is hereby defined as, "To furnish and install."
- E. "Connect" is hereby defined as, "To bring service to the equipment and make final attachment including necessary ductwork, piping, wiring, etc."
- F. "Concealed" is hereby defined as, "Hidden from sight in chases, furred spaces, shafts, hung ceilings, embedded in construction, in crawl spaces, or buried."
- G. "Exposed" is hereby defined as, "Not installed underground nor concealed as defined by the Specifications."
- H. "Drawings" is hereby defined as, "All plans, details, equipment schedules, diagrams, sketches, etc. issued for the construction of the work."

1.03 CODES AND STANDARDS
- A. Perform work in accordance with the provincial or territorial ministries applicable Building Code, Electrical Code, Fire Code, Mechanical Code, Plumbing Code, Energy Code, and all other applicable codes, amendments, and ordinances. Also perform all work in accordance with the Authority Having Jurisdiction (AHJ) including Fire Marshal(s).
- B. Perform work in accordance with Landlord requirements, including any Tenant Criteria Manuals and Lease Exhibits, where applicable.
- C. Perform work in accordance with the applicable utility companies serving the project. Make all arrangements with the utility companies for proper coordination of the work.
- D. Recognized Standards: Design, manufacture, testing and method of installation of all apparatus and materials furnished under the requirements of these Specifications shall conform to the latest publications or standard rules of Canadian Standards Association Group (CSA), Underwriters Laboratories of Canada, Inc. (U.L.C.), American Society for Testing and Materials (ASTM), American National Standards Institute (ANSI), and Canadian Electrical Code (CEC), National Fire Protection Association (NFPA), American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA).
- E. The Contract Documents shall take precedence where the Contract Documents exceed code, Landlord, utility, or recognized standards requirements.

1.04 PERMITS AND FEES
- A. Permits, licenses, fees, inspections and arrangements required for the work under this Contract shall be obtained by the Contractor at his expense, unless otherwise indicated.

1.05 CONTRACT DRAWINGS
- A. The Contractor is responsible to obtain, fully understand, and coordinate the work with the complete set of Contract Documents. Any required corrections, including all associated costs, arising from issues caused by the Contractor's failure to understand and/or coordinate the work with the complete set of Contract Documents are the Contractor's sole responsibility.
- B. Work under these sections is diagrammatic unless indicated otherwise and is intended to convey the scope of work and indicate the general arrangement of ductwork, piping, equipment, and accessories. Follow these drawings in laying out the work and verify spaces for the installation of these materials and equipment. Wherever a question exists as to the exact intended location of ductwork, piping, or equipment, obtain instructions from the Architect before proceeding with the work.
- C. Notify the Architect for resolution if a discrepancy is discovered within the Contract Documents. Failure of the Contractor to notify the Architect of discrepancies shall result in the resolution becoming the Contractor's responsibility and subject to the Architect's review and possible rejection. Should the Architect reject a discrepancy resolution of which they were not notified, the Contractor is fully responsible to correct the installation, including all associated costs, until approval of the installation is given by the Architect.

1.06 EXISTING CONDITIONS
- A. Verify all existing conditions prior to beginning work.
- B. Any existing conditions indicated in the Contract Documents are based on information drawings provided by others and possibly limited field verification. The Contractor shall adjust for actual field conditions at no additional expense to the Owner.
- C. The Contractor shall visit the project site, review existing conditions against the Contract Documents, and familiarize himself with the work prior to bidding and start of the work. By signing the Contract, the Contractor acknowledges the site visit has been completed and the existing conditions are accepted.
- D. The Contractor shall notify the Architect of major discrepancies in writing so the appropriate modifications to the design can be made without delay to the project. The Contractor assumes full responsibility of adjusting for discrepancies of which the Architect is not informed.

1.07 SUBMITTALS
- A. Shop Drawings:
  1. Furnish the Architect shop drawing portfolios containing names of manufacturer and cut sheets of equipment to be used on the project. Use manufacturer's specification sheets identified by number indicated on drawings or schedules. Indicate catalog number on the cut sheets. As applicable, provide construction data, weight and dimensional data, voltage ratings, performance data, listing data, pump curves, fan curves and sound data as part of the shop drawing submittal.
  2. Submittals are reviewed only for general compliance with the Contract Documents. Dimensions, quantities and details are not checked during submittal review. Review of the submittals does not relieve the Contractor of the responsibility for providing all materials, equipment and accessories necessary for a complete and operational system meeting the requirements of the project and the intent of the Contract Documents. The responsibility for coordination of substituted materials and equipment lies solely with the substituting Contractor.
  3. Electrical Characteristics: Verify that proper power supply is available prior to ordering equipment. Verify proper voltage, phase and current rating of power supply and inform Engineer of any deviations prior to order, connection of equipment or start-up. Responsibility for verification of proper power supply voltage and any product returns or damage resulting from incorrect connections shall rest with this Contractor.
- B. Project Record Documents: Provide as specified.
- C. Operation and Maintenance Data: Include manufacturer's descriptive literature, operating instructions, installation instructions, maintenance and repair data, and parts listing.
- D. Test Reports: Provide as specified.

1.08 QUALITY ASSURANCE
- A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum five years experience.
- B. Installer Qualifications: Company specializing in performing the work of this section, with minimum five years experience.
- C. Products:
  1. Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
- D. All equipment and components shall be free of all rust/corrosion or any visible damage. All items not complying with this requirement shall be replaced without any change in the Contract amount.
- E. Equipment performance and accessories shall be as scheduled on the Drawings and specified herein. Inclusion in both locations is not a prerequisite to inclusion in the Contract. Equipment and accessories specified in either location shall be included in the Contract. Provide all necessary accessories and connections as required for a complete, functional system, including all required components reasonably inferred to as necessary although such components may or may not be specifically indicated in the Contract Documents.
- F. Code or utility company requirements shall supersede any conflicting requirements of this section.

1.09 DELIVERY, STORAGE, AND HANDLING
- A. Rooftop Equipment: Protect units from physical damage by storing off site until roof mounting curbs are in place, ready for immediate installation of units.
- B. Protect insulation from weather and construction traffic, dirt, water, chemical, and mechanical damage, by storing in original wrapping.
- C. Protect dampers and accessories from damage to operating linkages, blades and finishes.
- D. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
- E. Protect motors stored on site from weather and moisture by maintaining factory covers and suitable weather-proof covering. For extended outdoor storage, remove motors from equipment and store separately.

1.10 WARRANTY AND GUARANTEE
- A. Submit manufacturer's warranty and ensure forms have been filled out in Owner's name and registered with manufacturer.
- B. Provide one year manufacturer warranty for pumps.
- C. Provide three year manufacturers warranty for solid state ignition modules.
- D. Provide five year manufacturers warranty for compressors, heat exchangers, condensing units, and electronic air cleaners.

PART 2 PRODUCTS

2.01 SUBSTITUTIONS
- A. The manufacturers listed are listed to set minimum standards for quality, design, and functionality. The products of other manufacturers may be submitted, at the Contractor's option, during shop drawing review unless indicated otherwise. The products of other manufacturers shall meet or exceed all requirements of the Contract Documents. The Contractor accepts all responsibility for costs and coordination issues arising out of the substitution of materials or equipment, and the coordination of such substitutions with all other contractors and subcontractors.
- B. The Contractor may use any of the following ductwork, piping or insulation materials at his option, provided the selected material meets with the approval of all Provincial or territorial ministries, local authorities and any utility company requirements. Verification of compliance of the selected material is the sole responsibility of the installing Contractor.

PART 3 EXECUTION

3.01 COORDINATION OF WORK
- A. Examine the Contract Documents as a whole for the work of other trades. Coordinate all work accordingly.
- B. Promptly report to the Architect any delay or difficulties encountered in the installation of the work, which might prevent prompt and proper installation, or make it unsuitable to connect with or receive the work of others. Failure to so report shall constitute an acceptance of the work of other trades as being fit and proper for the execution of this work.
- C. Plan, lay out, and coordinate the work with all trades well enough in advance so that it proceeds with a minimum of interference to work that has not been completed and work that is in progress. Inform all trades of openings required for the work and provide all special frames, sleeves, and anchor bolts required. The HVAC system layout may be altered to suit the conditions with engineer approval, prior to the installation of any work and without additional cost to the Owner. Conflicts arising from lack of coordination shall be this Contractor's responsibility.
- D. Perform all work in conformity with the Contract Documents and afford other trades reasonable opportunity for the execution of their work. Properly connect and coordinate this work with the work of other trades at such time and in such a manner as not to delay or interfere with their work.
- E. All roofing penetrations shall be flashed and weather sealed by the roofing manufacturer's authorized roofing contractor at this Contractor's expense. This Contractor shall contract with the factory authorized roofing contractor for the specific roofing system applicable to this Project. The use of an unauthorized roofing contractor may result in removal and replacement of the penetration systems at this Contractor's expense.
- F. All temperature control wiring, thermostat wiring, damper interlock wiring, control panel interlock wiring and miscellaneous low voltage wiring associated with the equipment furnished or installed under this contract shall be furnished and installed by the mechanical contractor or his sub-contractor. All wiring installed under this contract shall be in full compliance with the National Electrical Code, all Provincial or territorial ministries and local codes and requirements of the Electrical Specifications for this project.

3.02 EXAMINATION
- A. Verify field measurements are as indicated on the Drawings.
- B. Verify all equipment locations prior to rough-in. Maintain adequate equipment service clearance per manufacturer and code.
- C. Verify routing of all ductwork and piping in field prior to fabrication or installation. Verify adequate clearance with structure, light fixtures, and ceiling heights.
- D. Verify that proper fuel and power supply is available for connection.

3.03 INTERFACE WITH OTHER PRODUCTS
- A. Install all ductwork, pipe, equipment, and accessories to preserve fire resistance rating of partitions and other elements, using materials and methods specified.

3.04 FIELD QUALITY CONTROL
- A. Provide tests as necessary to establish the adequacy, quality, safety, completed status, and suitable operation of each system. Tests shall be conducted under the supervision of the Architect.

3.05 CLEANING AND REPAIR
- A. Clean fire suppression parts to remove harmful materials.
- B. Clean exposed surfaces of all ductwork pipe, equipment, and accessories of all dirt, debris, splatter, and other deleterious materials. Follow the manufacturer's recommendations for cleaning as applicable.
- C. Repair or replace damaged ductwork, pipe, equipment, and accessories, as directed by and to the satisfaction of the Architect, where marring or disfigurement has occurred. All pipe, equipment, and accessories shall be new.

3.06 PROJECT CLOSEOUT
- A. Project Record Documents: At project closeout, provide one printed copy and one electronic copy of project record drawings to the Owner. Information contained on project record drawings shall include, as a minimum:
  1. Actual locations of all equipment, ductwork, air inlets/outlets, accessories, etc.
  2. Actual routing of ductwork with sizes and elevations.
  3. Actual locations of control devices including valves and volume dampers.
- B. Operation and Maintenance Data: At project closeout, submit to the Architect two copies of descriptive literature, maintenance and operation data for all hvac equipment, control systems, accessories, and materials used. Include maintenance procedures, intervals, and parts list of each item installed under this contract. Include all manufacturer's guarantees and warranties.
- C. Maintenance Materials: At project closeout, furnish to the Owner the following:
  1. One set of replacement filters for all hvac equipment.
  2. The maintenance contract for the hvac system, if applicable.
- D. Test Reports: At project closeout, submit to the Architect two copies of the following:
  1. Testing, Adjusting and Balancing Report

END OF SECTION

SECTION 230501 - MECHANICAL DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. Mechanical demolition.

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT
- A. Materials and equipment for patching and extending work: As specified in individual sections of the architectural specifications.

PART 3 EXECUTION

3.01 EXAMINATION
- A. The demolition work indicated on the Drawings is intended to convey the scope of the demolition work involved. Remove all items shown hatched on the Drawings including all miscellaneous appurtenances and accessory items. Remove all incidental items not necessary for the completion of the new work and systems. Cap all remaining openings in existing systems.
- B. Verify field measurements and piping or duct arrangements are as shown on Drawings.
- C. Verify that abandoned piping and equipment serve only abandoned facilities.
- D. Demolition drawings are based on casual field observation and existing record documents when available.
- E. The existing buildings, structure and utility information indicated on the Drawings are based on as-built information and/or survey documents provided by the Owner. The Contractor shall adjust for minor field variations without additional expense to the project. If major discrepancies are found the Contractor shall advise the Engineer of such deviations in writing so that the appropriate modifications to the design can be made without delay to the Project.
- F. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION
- A. Disconnect mechanical systems in walls, floors, and ceilings to be removed.
- B. Coordinate utility service outages with utility company and the Owner.
- C. Provide temporary piping, duct and connections to maintain existing systems in service during construction as required for the sequencing of the work or the Owner's need for continued operations. When work must be performed on active equipment or systems, use personnel experienced in such operations.
- D. Existing Utility Services: Maintain existing system in service until new system is complete and ready for service. Disable system only to make switchovers and connections. Minimize outage duration.
  1. Obtain permission from Owner at least 48 hours before partially or completely disabling system.
  2. Make temporary connections to maintain service in areas adjacent to work area.

3.03 DEMOLITION AND EXTENSION OF EXISTING MECHANICAL WORK
- A. Remove, relocate, and extend existing installations to accommodate new construction.
- B. Remove abandoned systems to source of supply.
- C. Remove exposed abandoned pipe and ductwork, including abandoned items above accessible ceiling finishes. Cut pipes or ducts flush with walls and floors, and patch surfaces.
- D. Disconnect abandoned outlets and remove equipment. Remove abandoned equipment if systems servicing them is abandoned and removed.
- E. Disconnect and remove all abandoned mechanical equipment.
- F. Disconnect and remove mechanical devices and equipment serving utilization equipment that has been removed.
- G. Repair adjacent construction and finishes damaged during demolition and extension work.
- H. Maintain access to existing installations which remain active. Modify installation or provide access panel as appropriate.
- I. Extend existing installations using materials and methods compatible with the existing systems and materials as specified and required by code.

3.04 CLEANING AND REPAIR
- A. Clean and repair existing materials and equipment which remain or are to be reused. Provide new components or parts as required to restore operating conditions.

END OF SECTION

SECTION 230548 - VIBRATION AND SEISMIC CONTROLS FOR HVAC PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. Vibration isolators.
- B. C. Equipment:
  1. Fans, axial and centrifugal
  2. Packaged roof top equipment

1.02 SUBMITTALS
- A. Product Data: Provide schedule of vibration isolator type with location and load on each.

PART 2 PRODUCTS

2.01 MANUFACTURERS
- A. Isolation Technology, Inc.; Kinetics Noise Control, Inc.; Mason Industries.

2.02 VIBRATION ISOLATORS
- A. Restrained Open Spring Isolators:
  1. Springs: Minimum horizontal stiffness equal to 75 percent vertical stiffness, with working deflection between 0.3 and 0.6 of maximum deflection. Color code springs for load carrying capacity.
  2. Spring Mounts: Provide with leveling devices, minimum 0.25 inch (6 mm) thick neoprene sound pads, and zinc chromate plated hardware.
  3. Sound Pads: Size for minimum deflection of 0.05 inch (1.2 mm); meet requirements for neoprene pad isolators.
  4. Restraint: Provide heavy mounting frame and limit stops.
  5. For Exterior and Humid Areas: Hot dipped galvanized housings and neoprene coated springs.
- B. Spring Hanger:
  1. Springs: Minimum horizontal stiffness equal to 75 percent vertical stiffness, with working deflection between 0.3 and 0.6 of maximum deflection. Color code springs for load carrying capacity.
  2. Housings: Incorporate neoprene isolation pad meeting requirements for neoprene pad isolators or rubber hanger with threaded insert.
  3. Misalignment: Capable of 20 degree hanger rod misalignment.
  4. For Exterior and Humid Areas: Hot dipped galvanized housings and neoprene coated springs.
- C. Neoprene Pad Isolators:
  1. Rubber or neoprene waffle pads.
     - a. Hardness: 30 durometer.
     - b. Thickness: Minimum 1/2 inch (13 mm).
     - c. Maximum Loading: 50 psi (345 kPa).
     - d. Rib Height: Maximum 0.7 times width.
  2. Configuration: Single layer.
- D. Rubber Mount or Hanger: Molded rubber designed for 0.4 inch (10 mm) deflection with threaded insert.
- E. Glass Fiber Pads: Neoprene jacketed pre-compressed molded glass fiber.

PART 3 EXECUTION

3.01 INSTALLATION
- A. Install in accordance with manufacturer's instructions.
- B. On closed spring isolators, adjust so side stabilizers are clear under normal operating conditions.
- C. Prior to making piping connections to equipment with operating weights substantially different from installed weights, block up equipment with temporary shims to final height. When full load is applied, adjust isolators to load to allow shim removal.
- D. Support piping connections to equipment mounted on isolators using isolators or resilient hangers to nearest flexible pipe connector.
- E. Provide flexible connections on all piping and ductwork connections to equipment. Refer to other sections of this Specification for the acceptable types of flexible connectors to be used.
- F. Selection of type, thickness and deflection of vibration isolation shall be by the vibration control manufacturer based on the specific equipment type and size, as scheduled on the Drawings and indicated below.

3.02 SCHEDULES
- A. Equipment Isolation Schedule: (Minimum deflection as sized by the isolation equipment manufacturer.)
  1. Fans, axial and centrifugal.
     - a. Small fans up to 22" (550 mm) diameter wheel:
       - 1) Rubber Mount or Hanger
  2. Packaged roof top equipment.
     - a. Above grade roof structures:
       - 1) Base: Roof Curb.
       - 2) Isolation: Full perimeter Neoprene Pad between curb and units. Provide restrained spring vibration isolation curbs when indicated on the Drawings.

END OF SECTION

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. Testing, adjustment, and balancing of air systems.
  1. Air handling units; Packaged heating and/or cooling equipment; Fans. (Exhaust and supply); Coils; Terminal equipment; Air inlets and outlets. (Diffusers, grilles, louvers, etc.)
- B. Measurement of final operating condition of HVAC systems.
- C. Independent agency requirements.

1.02 SUBMITTALS
- A. Qualifications: Submit name of adjusting and balancing agency and TAB supervisor for approval within 30 days after award of Contract. Provide TAB Agency qualifications.
- B. Final Report: Indicate deficiencies in systems that would prevent proper testing, adjusting, and balancing of systems and equipment to achieve specified performance.
  1. Submit to the Construction Manager within two weeks after completion of testing, adjusting, and balancing.
  2. Provide reports in bound manuals, complete with index page and indexing tabs, with cover identification at front and side. Include set of reduced drawings with air outlets and equipment identified to correspond with data sheets, and indicating thermostat and equipment locations.
  3. Include actual instrument list, with manufacturer name, serial number, and date of calibration.
  4. Form of Test Reports: Where the TAB standard being followed recommends a report format use that; otherwise, follow ASHRAE Std 111.
  5. Include the following on the title page of each report:
     - a. Name, address and telephone number of Testing, Adjusting, and Balancing Agency.
     - b. Project: Name; location; Engineer; Contractor, Report date.

1.03 WARRANTY
- A. The Balancing Contractor shall be prepared to return to the site at no additional cost to re-adjust air quantities as required to provide uniform temperatures, eliminate drafts and objectionable noises during the first year of occupancy, including one full heating and one full cooling season, after the acceptance of the final balancing report.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS
- A. Perform total system balance in accordance with one of the following:
  1. AABC MN-1, AABC National Standards for Total System Balance.
  2. ASHRAE Std 111, Practices for Measurement, Testing, Adjusting and Balancing of Building Heating, Ventilation, Air-Conditioning, and Refrigeration Systems.
  3. NEBB Procedural Standards for Testing Adjusting Balancing of Environmental Systems.
  4. SMACNA HVAC Systems Testing, Adjusting, and Balancing.
- B. Begin work after completion of systems to be tested, adjusted, or balanced and complete work prior to Substantial Completion of the Project.
- C. Where HVAC systems and/or components interface with life safety systems, including fire and smoke detection, alarm, and control, coordinate scheduling and testing and inspection procedures with the authorities having jurisdiction.
- D. TAB Agency Qualifications:
  1. Company specializing in the testing, adjusting, and balancing of systems specified in this Section with a minimum of five years experience.
  2. Certified by one of the following:
     - a. AABC, Associated Air Balance Council; upon completion submit AABC National Performance Guaranty.
     - b. NEBB, National Environmental Balancing Bureau.
     - c. TABB, The Testing, Adjusting, and Balancing Bureau of National Energy Management Institute.
  3. The TAB Agency must be a completely independent, third party balancing contractor with no financial, common owners or other ties to the installing contractors.
- E. TAB Supervisor and Technician Qualifications: Certified by same organization as TAB agency.

3.02 ADJUSTMENT TOLERANCES
- A. Air Handling Systems; Air Outlets and Inlets; Hydronic Systems: Adjust to within plus or minus 15 percent of design.

3.03 RECORDING AND ADJUSTING
- A. Permanently mark settings of valves, dampers, and other adjustment devices allowing settings to be restored. Set and lock memory stops.
- B. Mark on the Drawings the locations where traverse and other critical measurements were taken and cross reference the location in the final report.

3.04 AIR SYSTEM PROCEDURE
- A. Adjust air handling and distribution systems to provide required or design supply, return, and exhaust air quantities.
- B. Make air quantity measurements in ducts by Pitot tube traverse of entire cross sectional area of duct.
- C. Measure air quantities at air inlets and outlets.
- D. Adjust distribution system to obtain uniform space temperatures free from objectionable drafts and noise.
- E. Use volume control devices to regulate air quantities only to extend that adjustments do not create objectionable air motion or sound levels. Effect volume control by duct internal devices such as dampers and splitters. Do not use diffuser, grille or register integral dampers for balancing adjustments unless the plans do not indicate duct mounted devices.
- F. Vary total system air quantities by adjustment of fan speeds. Provide drive changes required at no additional expense to the Owner. Vary branch air quantities by damper regulation.
- G. Measure static air pressure conditions on air supply units, including filter and coil pressure drops, and total pressure across the fan. Make allowances for 50 percent loading of filters.
- H. Adjust outside air automatic dampers, outside air, return air, and exhaust dampers for design conditions in all operating modes as indicated in the sequence of control.
- I. Measure temperature conditions across outside air, return air, and exhaust dampers to check leakage.
- J. Where modulating dampers are provided, take measurements and balance at extreme conditions and at all intermediate operating conditions specified in the sequence of control. Balance variable volume systems at maximum air flow rate, full cooling, and at minimum air flow rate, full heating.

3.05 SCOPE
- A. Equipment Requiring Testing, Adjusting, and Balancing (if present on the project):
  1. HVAC Pumps; Boilers; All Air Handling Equipment; All Packaged Heating and/or Cooling Equipment; All Coil; All Heat Exchangers; Terminal Heat Transfer Units; Air Terminal Units; Air Inlets and Outlets

3.06 MINIMUM DATA TO BE REPORTED
- A. Report (as applicable to the project):
  1. Summary Comments:
     - a. Design versus final performance
     - b. Notable characteristics of system
     - c. Summary of outdoor and exhaust flows to indicate amount of building pressurization
     - d. Nomenclature used throughout report and test conditions.
- B. Electric Motors and drives:
  1. Manufacturer; Model/Frame; HP/BHP; Phase, voltage, amperage; nameplate, actual, no load; RPM; Service factor; Sheave Make/Size/Bore.
  2. V-Belt Drives: Identification/location; Required driven RPM; Driven sheave, diameter and RPM; Belt, size and quantity;
- C. Cooling and Heating Coils:
  1. Identification/number; Manufacturer
  2. Air flow, design and actual
  3. Air pressure drop, design and actual
  4. Entering and leaving air DB and WB temperature, design and actual
  5. Water flow, design and actual (if applicable)
  6. Water pressure drop, design and actual (if applicable)
  7. Entering and leaving water temperature, design and actual (if applicable)
- D. Air Moving Equipment:
  1. Manufacturer; Model number; Serial number; Arrangement/Class/Discharge
  2. Air flow, specified and actual
  3. Inlet; Discharge; Total static pressure (total external), specified and actual
- E. Air Distribution Tests:
  1. Air terminal number
  2. Room number/location
  3. Terminal type
  4. Terminal size
  5. Area factor
  6. Design velocity
  7. Design air flow
  8. Test (final) velocity
  9. Test (final) air flow
  10. Percent of design air flow

END OF SECTION

SECTION 230713 - DUCT INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. Duct insulation.
- B. Duct liner.
- C. Insulation jackets.
- D. Supply, return or exhaust ducts in ceiling spaces.
- E. Supply, return or exhaust ducts in interior unconditioned areas.
- F. Supply, return or exhaust ducts in exposed locations.

1.02 FIELD CONDITIONS
- A. Maintain ambient temperatures and conditions required by manufacturers of adhesives, mastics, and insulation cements.
- B. Maintain temperature during and after installation for minimum period of 24 hours.

PART 2 PRODUCTS

2.01 REQUIREMENTS FOR ALL PRODUCTS OF THIS SECTION
- A. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/50, maximum, when tested in accordance with ASTM E 84, NFPA 255, or ULC-S129.
- B. Manufacturer: Knauf Fiber Glass; Johns Manville Corporation; Owens Corning Corp.; CertainTeed Corporation.

2.02 GLASS FIBER, FLEXIBLE
- A. Insulation: ASTM C 553; flexible, noncombustible blanket.
  1. 'K' value: 0.31 at 75 degrees F (0.045 at 24 degrees C), when tested in accordance with ASTM C 518.
  2. Maximum Service Temperature: 450 degrees F (232 degrees C).
  3. Maximum Water Vapor Sorption: 5.0 percent by weight.
- B. Vapor Barrier Jacket:
  1. Kraft paper with glass fiber yarn and bonded to aluminized film.
  2. Moisture Vapor Permeability: 0.029 ng/Pa s m (0.02 per inch), when tested in accordance with ASTM E 96/E 96M.
  3. Secure with pressure sensitive tape.
- C. Vapor Barrier Tape:
  1. Kraft paper reinforced with glass fiber yarn and bonded to aluminized film, with pressure sensitive rubber based adhesive.
- D. Outdoor Vapor Barrier Mastic:
  1. Vinyl emulsion type acrylic or mastic, compatible with insulation, black color.
- E. Tie Wire: Annealed steel, 16 gage (1.5 mm).

2.03 DUCT LINER
- A. Insulation: Incombustible glass fiber complying with ASTM C 1071; flexible blanket, rigid board, and preformed round liner board; impregnated surface and edges coated with acrylic polymer shown to be fungus and bacteria resistant by testing to ASTM G 21.
  1. Apparent Thermal Conductivity: Maximum of 0.31 at 75 degrees F (0.045 at 24 degrees C).
  2. Service Temperature: Up to 250 degrees F (121 degrees C).
  3. Rated Velocity on Coated Air Side for Air Erosion: 5,000 fpm (25.4 m/s), minimum.
  4. Minimum Noise Reduction Coefficients:
     - a. 1/2 inch (13 mm) Thickness: 0.30.
     - b. 1 inch (25 mm) Thickness: 0.45.
     - c. 1-1/2 inches (40 mm) Thickness: 0.60.
     - d. 2 inch (50 mm) Thickness: 0.70.
- B. Adhesive: Waterproof, fire-retardant type.
- C. Liner Fasteners: Galvanized steel, self-adhesive pad or impact applied with integral, or press-on head.

PART 3 EXECUTION

3.01 INSTALLATION
- A. Install in accordance with manufacturer's instructions and NAIMA National Insulation Standards.
- B. Insulated ducts conveying air below ambient temperature:
  1. Provide insulation with vapor barrier jackets.
  2. Finish with tape and vapor barrier jacket.
  3. Continue insulation through walls, sleeves, hangers, and other duct penetrations.
  4. Insulate entire system including fittings, joints, flanges, fire dampers, flexible connections, and expansion joints.
- C. Insulated ducts conveying air above ambient temperature:
  1. Provide with or without standard vapor barrier jacket.
  2. Insulate fittings and joints. Where service access is required, bevel and seal ends of insulation.
- D. External Duct Insulation Application:
  1. Secure insulation with vapor barrier with wires and seal jacket joints with vapor barrier adhesive or tape to match jacket.
  2. Secure insulation without vapor barrier with staples, tape, or wires.
  3. Install without sag on underside of duct. Use adhesive or mechanical fasteners where necessary to prevent sagging. Lift duct off trapeze hangers and insert spacers.
  4. Seal vapor barrier penetrations by mechanical fasteners with vapor barrier adhesive.
  5. Stop and point insulation around access doors and damper operators to allow operation without disturbing wrapping.
- E. Duct and Plenum Liner Application:
  1. Adhere insulation with adhesive for 90 percent coverage.
  2. Secure insulation with mechanical liner fasteners. Refer to SMACNA HVAC Duct Construction Standards - Metal and Flexible for spacing.
  3. Seal and smooth joints. Seal and coat transverse joints.
  4. Seal liner surface penetrations with adhesive.
  5. Duct dimensions indicated are net inside dimensions required for air flow. Increase duct size to allow for insulation thickness.

3.02 SCHEDULES
- A. The Contractor may use any of the following insulating materials, at his option, provided the selected material meets with the approval of all Provincial or territorial ministries, local authorities and utility company requirements. Verification of compliance of the selected insulating material and thickness with all Provincial or territorial ministries and local codes and utility company requirements is the sole responsibility of the installing Contractor.
- B. Supply air ducts in ceiling spaces:
  1. Flexible Glass Fiber Duct Insulation: 1-1/2 inches (40 mm) thick.
  2. Flexible Glass Fiber Duct Liner Insulation: 1 (25 mm) inches thick.
- C. Supply, return or exhaust air ducts in crawl spaces, attics or other unconditioned areas:
  1. Flexible Glass Fiber Duct Insulation: 3 inches (80 mm) thick.
- D. Supply air ducts exposed in finished areas:
  1. Flexible Glass Fiber Duct Liner Insulation: 1 inches (25 mm) thick.
- E. Return or exhaust air ducts exposed in finished areas: None.

END OF SECTION

SECTION 233100 - HVAC DUCTS AND CASINGS

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. Metal ductwork.
- B. Nonmetal ductwork.
- C. Round spiral ductwork
- D. Duct cleaning.

1.02 PERFORMANCE REQUIREMENTS
- A. No variation of duct configuration or sizes permitted except by written permission. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts, only after approval of the Engineer. Sizes shown on design drawings are air dimensions. Contractor may increase duct size without engineer approval, provided all ceiling and shaft clearances can be maintained. Additional charges for increased duct size will not be accepted by the owner.
- B. Report all conflicts with structure or other obstructions, prior to fabrication of any ductwork. Suitable adjustments in the sizes of ducts shall be accommodated without any additional expense to the Owner.

1.03 SUBMITTALS
- A. Shop Drawings: Indicate duct fittings, particulars such as gages, sizes, welds, and configuration prior to start of work for all systems. No ductwork shall be fabricated until engineer approved shop drawings have been received by the Contractor. Identify on ductwork shop drawings any deviations in sizes or shapes made necessary by the obstructions of other trades.
- B. Test Reports: Indicate pressure tests performed. Include date, section tested,

City of Peterborough
Recieved
May 19, 2023
Building Services Division

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

REGISTRATION SEAL
LICENSED PROFESSIONAL ENGINEER
G. SCHNACKEL
100134840
PROVINCE OF ONTARIO
Date: 05/03/2023
COA # C1389

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REV	DATE	DESCRIPTION	NAME
1	05.02.2023	LANDLORD COMMENTS	
		FOR PERMIT - 05/18/23	

PROJECT NO. 230088
DRAWN BY: SEI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

HVAC SPECIFICATIONS

M4.0

SE JOB#: 230088

test pressure, and leakage rate, following SMACNA (LEAK) - HVAC Air Duct Leakage Test Manual.

1.04 REGULATORY REQUIREMENTS
- A. Construct ductwork to NFPA 90A, NFPA 90B, and NFPA 96 standards.
- B. Code or utility company requirements shall supersede any conflicting requirements of this Section.

1.05 FIELD CONDITIONS
- A. Do not install duct sealants when temperatures are less than those recommended by sealant manufacturers.
- B. Maintain temperatures within acceptable range during and after installation of duct sealants.

PART 2 PRODUCTS

2.01 MATERIALS
- A. Galvanized Steel Ducts: Hot-dipped galvanized steel sheet, ASTM A 653/A 653M FS Type B, with G90/Z275 coating.
- B. Steel Ducts: ASTM A 1008/A 1008M, Designation CS, cold-rolled commercial steel.
- C. Aluminum Ducts: ASTM B 209 (ASTM B 209M); aluminum sheet, alloy 3003-H14. Aluminum Connectors and Bar Stock: Alloy 6061-T651 or of equivalent strength.
- D. Insulated Flexible Ducts:
  1. The Contractor may use any of the following ductwork materials, at his option, provided the selected material meets with the approval of all Provincial or territorial ministries, local authorities and utility company requirements. Verification of compliance of the selected ductwork material is the sole responsibility of the installing Contractor.
  2. Two ply vinyl film supported by helically wound spring steel wire; fiberglass insulation; aluminized vapor barrier film.
     a. Pressure Rating: 10 inches WG (2.50 kPa) positive and 1.0 inches WG (250 Pa) negative.
     b. Maximum Velocity: 4000 fpm (20 m/sec).
     c. Temperature Range: -10 degrees F to 160 degrees F (-23 to 71 degrees C).
     d. Minimum R-Value: 4.2 or greater as required by the applicable energy codes.
  3. Black polymer film supported by helically wound spring steel wire; fiberglass insulation; aluminized vapor barrier film.
     a. Pressure Rating: 4 inches WG (1000 Pa) positive and 0.5 inches WG (175 Pa) negative.
     b. Maximum Velocity: 4000 fpm (20 m/s).
     c. Temperature Range: -20 degrees F to 175 degrees F (-28 to 79 degrees C).
     d. Minimum R-Value: 4.2 or greater as required by the applicable energy codes.
  4. Multiple layers of aluminum laminate supported by helically wound spring steel wire; fiberglass insulation; aluminized vapor barrier film.
     a. Pressure Rating: 10 inches WG (2.50 kPa) positive and 1.0 inches WG (250 Pa) negative.
     b. Maximum Velocity: 4000 fpm (20 m/s).
     c. Temperature Range: -20 degrees F to 210 degrees F (-28 to 99 degrees C).
     d. Minimum R-Value: 4.2 or greater as required by the applicable energy codes.
  5. ULC-S110, Class 1, aluminum laminate and polyester film with latex adhesive supported by helically wound spring steel wire; fiberglass insulation; aluminized vapor barrier film.
     a. Pressure Rating: 10 inches WG (2.50 kPa) positive and 1.0 inches WG (250 Pa) negative.
     b. Maximum Velocity: 4000 fpm (20 m/s).
     c. Temperature Range: -20 degrees F to 210 degrees F (-28 to 99 degrees C).
     d. Minimum R-Value: 4.2 or greater as required by the applicable energy codes.
  6. ULC-S110, Class 0, interlocking spiral of aluminum foil; fiberglass insulation; aluminized vapor barrier film.
     a. Pressure Rating: 8 inches WG (2.0 kPa) positive or negative.
     b. Maximum Velocity: 5000 fpm (25 m/s).
     c. Temperature Range: -20 degrees F to 250 degrees F (-28 to 99 degrees C).
     d. Minimum R-Value: 4.2 or greater as required by the applicable energy codes.
- E. Joint Sealers and Sealants: Non-hardening, water resistant, mildew and mold resistant.
  1. Type: Heavy mastic or liquid used alone or with tape, suitable for joint configuration and compatible with substrates, and recommended by manufacturer for pressure class of ducts.
  2. VOC Content: Not more than 250 g/L, excluding water.
  3. Surface Burning Characteristics: Flame spread of zero, smoke developed of zero, when tested in accordance with ASTM E 84.
  4. For Use With Flexible Ducts: ULC labeled.
  5. Ductwork Exposed to the Weather: Hard cast VersaGrip 102, (VG-102), ULC-S110-AM compliant duct joint sealer, as manufactured by Carlisle, with fiberglass scrim tape reinforcement on all seams and joints, lateral and longitudinal.
- F. Hanger Rod: ASTM A 36/A 36M; steel; threaded both ends, threaded one end, or continuously threaded.

2.02 DUCTWORK FABRICATION
- A. Fabricate, support and seal in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- B. Construct T's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows must be used, provide turning vanes. Where acoustical lining is indicated, provide turning vanes of perforated metal with glass fiber insulation.
- C. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
- D. Fabricate continuously welded round and oval duct fittings two gages heavier than duct gages indicated in SMACNA Standard. Joints shall be minimum 4 inch cemented slip joint, brazed or electric welded. Prime coat welded joints.
- E. Provide standard 45 degree lateral wye takeoffs unless otherwise indicated where 90 degree conical tee connections may be used.
- F. Where ducts are connected to exterior wall louvers and duct outlet is smaller than louver frame, provide blank-out panels sealing louver area around duct. Use same material as duct, painted black on exterior side; seal to louver frame and duct.

2.03 DUCT MANUFACTURERS
- A. Metal-Fab, Inc.; SEMCO Incorporated; United McGill Corporation.

2.04 MANUFACTURED METAL DUCTWORK AND FITTINGS
- A. Manufacture in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- B. Round Spiral Ducts: Machine made from round spiral lockseam duct with light reinforcing corrugations; fittings manufactured of at least two gages heavier metal than duct.
- C. Double Wall Insulated Round Ducts: Round spiral lockseam duct with galvanized steel outer wall, 1 inch (25 mm) thick fiberglass insulation, perforated galvanized steel inner wall; fitting with solid inner wall.
- D. Transverse Duct Connection System: SMACNA "E" rated rigidly class connection, interlocking angle and duct edge connection system with sealant, gasket, cleats, and corner clips.

PART 3 EXECUTION

3.01 EXAMINATION
- A. Examine drawings for the Architectural, Structural, Electrical and all other trades prior to preparation of ductwork shop drawings and prior to the fabrication of any ductwork.
- B. Resolve any conflicts encountered with the Engineer prior to fabrication.
- C. Identify on ductwork shop drawings any deviations in sizes or shapes made necessary by the obstructions of other trades.

3.02 INSTALLATION
- A. Install in accordance with manufacturer's instructions.
- B. Duct sizes indicated are inside clear dimensions. For lined ducts, maintain sizes inside lining.
- C. Install and seal metal and flexible ducts in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.
- D. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pilot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.
- E. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.
- F. Use crimp joints with or without bead for joining round duct sizes 8 inch and smaller with crimp in direction of air flow.
- G. Use double nuts and lock washers on threaded rod supports.
- H. Connect flexible ducts to metal ducts with draw bands.
- I. Support flexible duct runs every five feet in the horizontal direction to avoid dips and sags.
- J. Connect terminal units to supply ducts with one foot maximum length of flexible duct. Do not use flexible duct to change direction.
- K. Connect diffusers to low pressure ducts directly or with 5 feet maximum length of flexible duct held in place with strap or clamp. Longer duct lengths are acceptable if depicted on the design drawings and allowed per local code. A maximum of one 90 degree bend, or equivalent, will be allowed in flexible duct runs.
- L. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.
- M. All exposed ducts in finished areas must be completely free from all dents or imperfections in the galvanized coating and shall be sealed CAREFULLY AND NEATLY with duct sealer completely contained within the joint. Duct wrap will not be permitted in exposed locations.

3.03 CLEANING
- A. Clean duct system and force air at high velocity through duct to remove accumulated dust or clean with high power vacuum machines. To obtain sufficient air, clean half the system at a time. Protect equipment which may be harmed by excessive dirt with temporary filters, or bypass during cleaning.

3.04 SCHEDULES
- A. Ductwork Material:
- B. The Contractor may use any of the following ductwork materials, at his option, provided the selected material meets with the approval of all Provincial or territorial ministries, local authorities and utility company requirements. Verification of compliance of the selected piping material is the sole responsibility of the installing Contractor.
  1. Low Velocity Supply (Heating Systems): Galvanized Steel, Aluminum.
  2. Low Velocity Supply (System with Cooling Coils): Galvanized Steel, Aluminum.
  3. Return and Relief: Galvanized Steel, Aluminum.
  4. General Exhaust: Galvanized Steel, Aluminum.
  5. Outside Air Intake: Galvanized Steel.
- C. Ductwork Pressure Class:
  1. Low Velocity Supply (Heating Systems): Scheduled System ESP+0.25" (65 Pa), round up to next higher pressure class.
  2. Low Velocity Supply (Systems with Cooling): Scheduled System ESP +0.5" (125 Pa), round up to next higher pressure class.
  3. Return and Relief: 1 inch (250 Pa).
  4. General Exhaust: Scheduled System ESP +1.0" (250 Pa), round up to next higher pressure class.
  5. Outside Air Intake: 1 inch (250 Pa).

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END OF SECTION

SECTION 233300 - AIR DUCT ACCESSORIES

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. Air turning devices/extractors.
- B. Volume control dampers.
- C. Flexible duct connections.
- D. Duct access doors.

PART 2 PRODUCTS

2.01 AIR TURNING DEVICES/EXTRACTORS
- A. Manufacturers: Krueger; Ruskin Company; Titus.
- B. Multi-blade device with blades aligned in short dimension; steel or aluminum construction; with individually adjustable blades, mounting straps.

2.02 VOLUME CONTROL DAMPERS
- A. Manufacturers: Louvers & Dampers, Inc.; Nailor Industries Inc.; Ruskin Company; Prefco Inc.
- B. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated.
- C. Single Blade Dampers: Fabricate for duct sizes up to 6 x 30 inch (150 x 750 mm).
- D. Multi-Blade Damper: Fabricate of opposed blade pattern with maximum blade sizes 8 x 72 inch (200 x 1825 mm). Assemble center and edge crimped blades in prime coated or galvanized channel frame with suitable hardware.
- E. End Bearings: Except in round ducts 12 inches (300 mm) and smaller, provide end bearings. On multiple blade dampers, provide oil-impregnated nylon or sintered bronze bearings.
- F. The contractor shall provide either a mechanical or electrical cable operated system wherever dampers are located in non-accessible areas.
  1. Mechanical cable operator system shall be similar and equal to Young Regulator Company, "Bowden Cable Control" system including damper, flexible cable with casing and concealed ceiling regulator control.
  2. Electrically operated damper control system shall be similar and equal to United Enertech Corporation, "Power Balance" system including motor operated damper, RJ-11 plenum rated cabling and flush ceiling or wall mounted RJ-11 jack in remote plate. Include one hand held battery pack operator pack to be delivered to the Owner upon completion of the balancing.

2.03 FLEXIBLE DUCT CONNECTIONS
- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated.
- B. Flexible Duct Connections: Fabric crimped into metal edging strip.
  1. Fabric: ULC listed fire-retardant neoprene coated woven glass fiber fabric to NFPA 90A, minimum density 30 oz per sq yd (1.0 kg/sq m).
     a. Net Fabric Width: Approximately 2 inches (50 mm) wide.
  2. Metal: 3 inches (75 mm) wide, 24 gage (0.6 mm) thick galvanized steel.

2.04 DUCT ACCESS DOORS
- A. Manufacturers: Acudor Products Inc.; Nailor Industries Inc.; Ruskin Company; SEMCO Incorporated.
- B. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated.
- C. Fabrication: Rigid and close-fitting of galvanized steel with sealing gaskets and quick fastening locking devices. For insulated ducts, install minimum 1 inch thick insulation with sheet metal cover.
  1. Less Than 12 inches (300 mm) Square: Secure with sash locks.
  2. Up to 18 inches (450 mm) Square: Provide two hinges and two sash locks.
- D. Access doors with sheet metal screw fasteners are not acceptable.

PART 3 EXECUTION

3.01 INSTALLATION
- A. Install accessories in accordance with manufacturer's instructions, NFPA 90A, and follow SMACNA HVAC Duct Construction Standards - Metal and Flexible. Duct construction and pressure class.
- B. Provide duct access doors for inspection and cleaning before and after filters, coils, fans, automatic dampers, at fire dampers, combination fire and smoke dampers, and elsewhere as indicated. Provide minimum 8 x 8 inch (200 x 200 mm) size for hand access, 18 x 18 inch (450 x 450 mm) size for shoulder access, and as indicated. Provide 4 x 4 inch (100 x 100 mm) for balancing dampers only. Review locations prior to fabrication.
- C. Locate all dampers and control elements in accessible areas wherever possible to avoid access doors. Provide ceiling access doors for access to all dampers and control elements located above inaccessible ceiling areas. Provide minimum 12 x 12 inch (300 x 300 mm) size for hand access, 18 x 18 inch (450 x 450 mm) size for shoulder access, and as indicated. Provide 4 x 4 inch (100 x 100 mm) for balancing dampers only. Review locations prior to fabrication.
- D. Provide balancing dampers at points on supply, return, and exhaust systems where branches are taken from larger ducts as required for air balancing. Install minimum 2 duct widths from duct take-off.
- E. Provide balancing dampers on duct take-off to diffusers, grilles, and registers, regardless of whether dampers are specified as part of the diffuser, grille, or register assembly. Do not locate dampers closer than 5 feet (1.5 meters) or 10 duct diameters from the air terminal device, whichever is greater.
- F. At fans and motorized equipment associated with ducts, provide flexible duct connections immediately adjacent to the equipment.
- G. At equipment supported by vibration isolators, provide flexible duct connections immediately adjacent to the equipment

END OF SECTION

SECTION 233423 - HVAC POWER VENTILATORS - FOR REFERENCE ONLY

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. Cabinet and ceiling fans.

PART 2 PRODUCTS

2.01 MANUFACTURERS
- A. Greenheck; Loren Cook Company; PennBarry; CaptiveAire.

2.02 POWER VENTILATORS - GENERAL
- A. Performance Ratings: Determined in accordance with AMCA 210 and bearing the AMCA Certified Rating Seal.
- B. Sound Ratings: AMCA 301, tested to AMCA 300, and bearing AMCA Certified Sound Rating Seal.
- C. Fabrication: Conform to AMCA 99.
- D. UL Compliance: ULC listed and labeled, designed, manufactured, and tested as suitable for the purpose specified and indicated.

2.03 CABINET AND CEILING FANS
- A. Centrifugal Fan Unit: V-belt or direct driven with galvanized steel housing lined with acoustic insulation, resilient mounted motor, gravity backdraft damper in discharge.
- B. Disconnect Switch: Cord and plug in housing for thermal overload protected motor.
- C. Grille: Aluminum with baked white enamel finish or molded white plastic as specified on the Drawings.
- D. Backdraft Damper: Gravity actuated, aluminum blade construction, felt edged with offset hinge pin, nylon bearings, blades linked.
- E. Sheaves: Cast iron or steel, dynamically balanced, bored to fit shafts and keyed; variable and adjustable pitch motor sheaves selected so required rpm is obtained with sheaves set at mid-position; fan shaft with self-aligning pre-lubricated ball bearings.

PART 3 EXECUTION

3.01 INSTALLATION
- A. Install in accordance with manufacturer's instructions.
- B. Provide sheaves required for final air balance at no additional expense to the project.
- C. Hung Cabinet Fans:
  1. Install fans with resilient mountings and flexible electrical leads.
  2. Install flexible connections specified between fan and ductwork. Ensure metal bands of connectors are parallel with minimum one inch flex between ductwork and fan while running.
- D. Provide gravity backdraft dampers on outlet from cabinet and ceiling fans and as indicated.

END OF SECTION

SECTION 233700 - AIR OUTLETS AND INLETS

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. Rectangular ceiling diffusers.
- B. Wall registers and grilles.

1.02 SUBMITTALS
- A. Product Data: Provide data for equipment required for this project. Review outlets and inlets as to size, finish, and type of mounting prior to submission. Submit schedule of outlets and inlets showing type, size, location, application, accessories, and noise level.

1.03 QUALITY ASSURANCE
- A. Test and rate air outlet and inlet performance in accordance with ASHRAE Std 70.
- B. Test and rate louver performance in accordance with AMCA 500-L.
- C. Code requirements shall supersede any conflicting requirements of this Section.

1.04 QUALIFICATIONS
- A. Manufacturer Qualifications: Company specializing in manufacturing the type of products specified in this Section, with minimum five years of documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS
- A. Titus; Krueger; Price Industries; Nailor Industries Inc.; Hart & Cooley; Ruskin, Greenheck.

2.02 RECTANGULAR CEILING DIFFUSERS
- A. Type: Square, adjustable pattern, stamped, multi-core, or architectural plaque diffuser to discharge air in 360 degree pattern with sectorizing baffles where indicated.
- B. Frame: Inverted T-bar type. In plaster ceilings, provide plaster frame and ceiling frame. (To allow lift-out removal of the diffuser without removal of the plaster frame.)
- C. Fabrication: Steel with baked enamel off-white finish.
- D. Accessories: Opposed blade damper and multi-louvered equalizing grid with damper adjustable from diffuser face.

2.03 WALL SUPPLY REGISTERS/GRILLES
- A. Type: Streamlined and individually adjustable blades, 3/4 inch (19 mm) minimum depth, 3/4 (19 mm) inch maximum spacing with spring or other device to set blades, horizontal face, double deflection.
- B. Frame: 1-1/4 inch (32 mm) margin with countersunk screw mounting and gasket.
- C. Fabrication: Steel with 20 gage (0.90 mm) minimum frames and 22 gage (0.80 mm) minimum blades, steel and aluminum with 20 gage (0.90 mm) minimum frame, or aluminum extrusions, with factory off-white enamel finish.
- D. Damper: Integral, gang-operated opposed blade type with removable key operator, operable from face.
- E. Rough Service: Provide front pivoted or welded in place blades, securely fastened to be immobile.

PART 3 EXECUTION

3.01 INSTALLATION
- A. Install in accordance with manufacturer's instructions.
- B. Check location of outlets and inlets and make necessary adjustments in position to conform with architectural features, symmetry, and lighting arrangement.
- C. Install diffusers to ductwork with air tight connection.
- D. Provide balancing dampers on duct take-off to diffusers, and grilles and registers, despite whether dampers are specified as part of the diffuser, or grille and register assembly.
- E. Paint ductwork visible behind air outlets and inlets matte black.

END OF SECTION

SECTION 237413 - PACKAGED OUTDOOR ROOF TOP UNITS - GAS FIRED - FOR REFERENCE

PART 1 GENERAL

1.01 SECTION INCLUDES
- A. Packaged roof top units.
- B. Thermostat controls.
- C. Roof mounting curb and base.
- D. Economizer.

PART 2 PRODUCTS

2.01 MANUFACTURERS
- A. Carrier Corporation; Trane Inc.; Lennox Industries; York; AAON Incorporated.

2.02 AIR CONDITIONING UNITS
- A. General: Roof mounted units having gas burner and electric refrigeration.
- B. Description: Self-contained, packaged, factory assembled and prewired, consisting of cabinet and frame, supply fan, heat exchanger and burner, controls, air filters, refrigerant cooling coil and compressor, dry bulb economizer and power exhaust fan where indicated on the Drawings, condenser coil and condenser fan.
- C. Electrical Characteristics: As scheduled on the Drawings.
- D. Disconnect Switch: Factory mount disconnect switch on equipment.

2.03 FABRICATION
- A. Cabinet: Steel with baked enamel finish, including access panels with screwdriver operated flush cam type fasteners or doors with piano hinges with locking handles. Structural members shall be minimum 18 gage (1.20 mm), with access doors or panels of minimum 20 gage (0.90 mm).
- B. Insulation: one inch thick (25 mm) neoprene coated glass fiber with edges protected from erosion.
- C. Heat Exchangers: Aluminized steel or stainless steel where indicated on the Drawings, of welded construction.
- D. Air Filters: 2 inch (50 mm) thick disposable media in metal frames.
- E. Roof Mounting Curb: Galvanized steel, channel frame, insulated, with gaskets, nailer strips. Provide roof curb of adequate height to provide a unit mounting height of 12" (300 mm) or greater above the top of the roof surface with the curb mounted to the building structure. Roof curb height must compensate for the roof insulation thickness to meet this requirement.
- G. Vibration Isolation Curb: Only when indicated on the Drawings.

2.04 BURNER
- A. Gas Burner: Induced draft or forced draft type burner with adjustable combustion air supply, pressure regulator, gas valves, manual shut-off, intermittent spark or glow coil ignition, flame sensing device, and automatic 100 percent shut-off pilot.
- B. Gas Burner Safety Controls: Energize ignition, limit time for establishment of flame, prevent opening of gas valve until pilot flame is proven, stop gas flow on ignition failure, energize blower motor, and after air flow proven and slight delay, allow gas valve to open.
- C. High Limit Control: Temperature sensor with fixed stop at maximum permissible setting, de-energize burner on excessive bonnet temperature and energize burner when temperature drops to lower safe value.
- D. Supply Fan Control: Temperature sensor sensing bonnet temperatures and independent of burner controls, with provisions for continuous fan operation.

2.05 EVAPORATOR COIL
- A. Provide copper tube aluminum fin coil assembly with galvanized drain pan and connection.
- B. Provide capillary tubes or thermostatic expansion valves for units of 6 tons (21 kW) capacity and less, and thermostatic expansion valves and alternate row circuiting for units 7.5 tons (26 kW) cooling capacity and larger.

2.06 COMPRESSOR
- A. Provide hermetic or semi-hermetic compressors, 3600 rpm maximum, resiliently mounted with positive lubrication, crankcase heater, high and low pressure safety controls, motor overload protection, suction and discharge service valves and gage ports, and filter drier.
- B. Five minute timed off circuit to delay compressor start.
- C. Outdoor thermostat to energize compressor above 35 degrees F (2 degrees C) ambient.

2.07 CONDENSER COIL
- A. Provide copper tube aluminum fin coil assembly with subcooling rows and coil guard.
- B. Provide direct drive propeller fans, resiliently mounted with fan guard, motor overload protection, wired to operate with compressor.

2.08 MIXED AIR CASING
- A. Dampers: Provide outside, return, and relief dampers with damper operator and control package to automatically vary outside air quantity. Outside air damper to fail to closed position. Relief dampers may be gravity balanced.
- B. Gaskets: Provide tight fitting dampers with edge gaskets maximum leakage 5 percent at 2 inches pressure differential.
- C. Damper Operator: 24 volt with gear train sealed in oil.
- D. Damper Operator, Units 7.5 Ton (26 kW) Cooling Capacity and Larger: 24 volt with gear train sealed in oil with spring return on.
- E. Mixed Air Controls: Maintain selected supply air temperature and return dampers to minimum position on call for heating and above 75 degrees F ambient, or when ambient air temperature exceeds return air temperature.

2.09 INTEGRATED ECONOMIZER:
- A. Economizer shall be furnished and installed complete with outside air and relief dampers and controls.
- B. Provide low-leakage, opposed blade dampers
- C. Economizer shall be capable of introducing up to 100% outdoor air for minimum ventilation as well as free cooling.
- D. Damper actuator shall be electronic, fully modulating design.
- E. Economizer outdoor hood shall be pre-painted and fully integrated with the unit.
- F. Dry Bulb Control: Provide dry bulb sensor capable of measuring temperature of outdoor air and controlling economizer cut-in point at the most economical level. High level cutoff shall be set per applicable energy code.

2.10 OPERATING CONTROLS
- A. Provide low voltage, adjustable thermostat to control heater stages in sequence with delay between stages, compressor and condenser fan, and supply fan to maintain temperature setting.
  1. Include system selector switch (off-heat-auto-cool) and fan control switch (auto-on).
  2. The Mechanical Contractor shall provide all control wiring between thermostat and unit control panel and any required remote sensors.
  3. Locate thermostat in room as shown.
  4. Electric solid state microcomputer based room thermostat, located as indicated. Provide remote sensors when indicated on the Drawings.
     a. Room thermostat shall incorporate:
        1) Automatic switching from heating to cooling.
        2) Preferential rate control to minimize overshoot and deviation from set point.
        3) Automatic Start Capabilities: Controls shall be capable of automatically adjusting the daily start time of the HVAC system in order to bring each space to the desired occupied temperature immediately prior to scheduled occupancy.
        4) Set-up for four separate temperatures per day.
        5) Instant override of set point for continuous or timed period from one hour to 31 days.
        6) Short cycle protection.
        7) Programming based on weekdays, Saturday and Sunday.
        8) Switch selection features including imperial or metric display, 12 or 24 hour clock, keyboard disable, remote sensor, fan on-auto.
     b. Room thermostat display shall include:
        1) Time of day.
        2) Actual room temperature.
        3) Programmed temperature.
        4) Day of week.
        5) System mode indication: heating, cooling, auto, off, fan auto, fan on.
        6) Stage (heating or cooling) operation.

PART 3 EXECUTION

3.01 INSTALLATION
- A. Install in accordance with manufacturer's instructions and NFPA 90A.
- B. Mount units on factory built roof mounting curb providing watertight enclosure to protect ductwork and utility services. Install roof mounting curb level. Install roof mounting curb so that it bears on the building structure, not on top of the roof deck or roofing materials. Provide restraints where required by local codes.
- C. Provide cooling condensate drain piping (and overflow piping if required) to approved location. Condensate piping shall be Schedule 40 galvanized steel pipe, Type L copper tube, or PVC. Contractor shall verify the selected material meets with the approval of all Provincial or territorial ministries, local authorities and utility company requirements. Verification of compliance of the selected piping material is the sole responsibility of the installing Contractor. Condensate piping located within the building shall be insulated with 1/2 inch (13 mm) thick glass fiber or flexible elastomeric cellular foam insulation. Only metallic piping systems will be allowed in return air plenum ceiling space.

END OF SECTION

REGISTRATION SEAL
LICENSED PROFESSIONAL ENGINEER
G. SCHNACKEL
100134840
PROVINCE OF ONTARIO
Date: 05/03/2023
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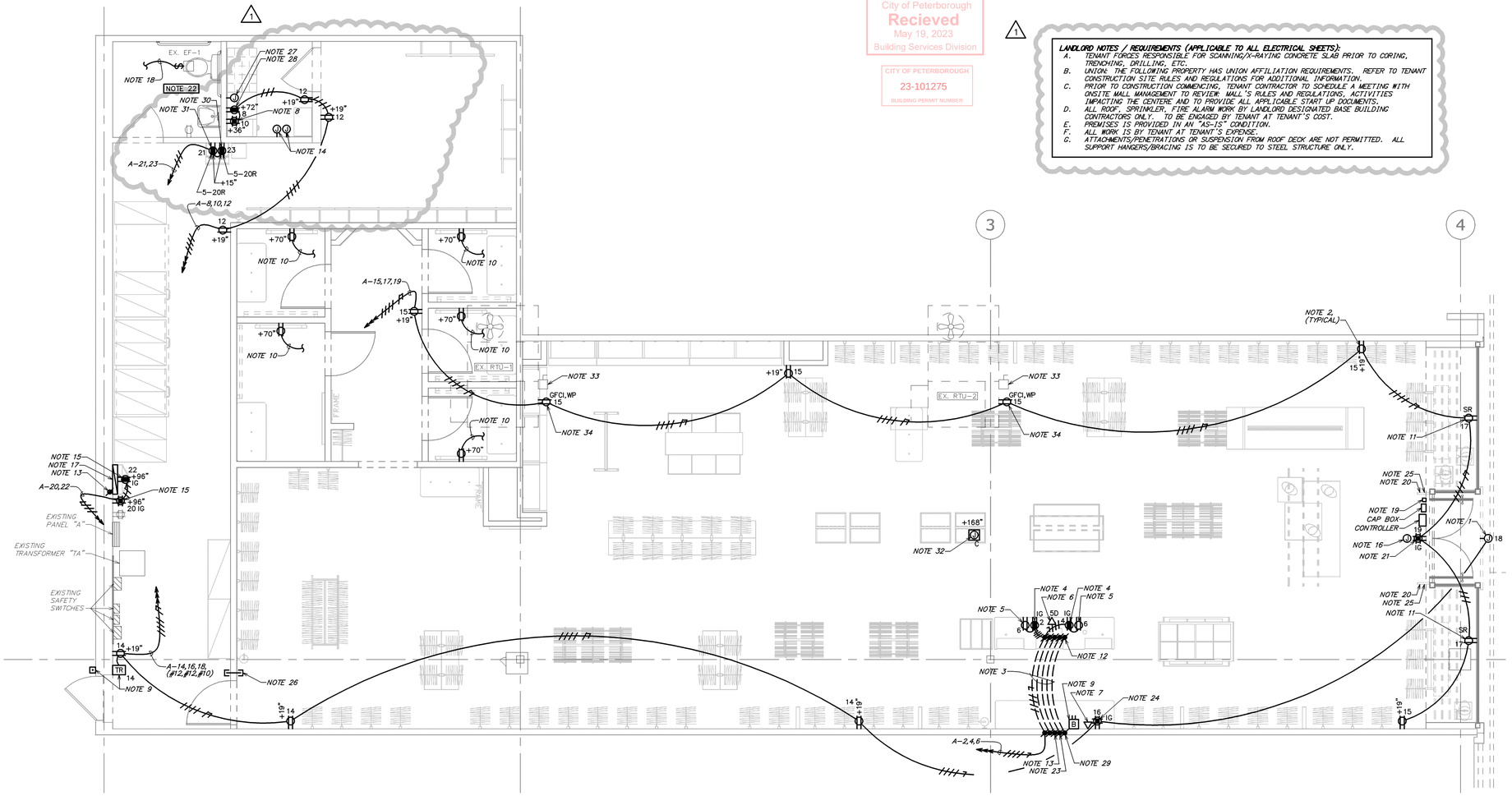
ISSUE DATE: 04/13/23

HVAC SPECIFICATIONS

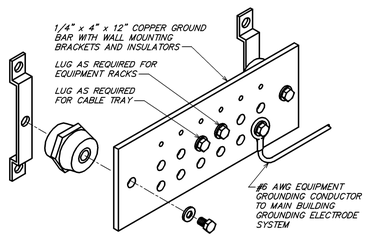
M5.0

SE JOB#: 230308



LANDLORD NOTES / REQUIREMENTS (APPLICABLE TO ALL ELECTRICAL SHEETS):

A. TENANT FORCES RESPONSIBLE FOR SCANNING/X-RAYING CONCRETE SLAB PRIOR TO CORING, TRENCHING, DRILLING, ETC.
B. UNION- THE FOLLOWING PROPERTY HAS UNION AFFILIATION REQUIREMENTS. REFER TO TENANT CONSTRUCTION SITE RULES AND REGULATIONS FOR ADDITIONAL INFORMATION.
C. PRIOR TO CONSTRUCTION COMMENCING, TENANT CONTRACTOR TO SCHEDULE A MEETING WITH ONSITE MALL MANAGEMENT TO REVIEW MALL'S RULES AND REGULATIONS, ACTIVITIES IMPACTING THE CENTERE AND TO PROVIDE ALL APPLICABLE START UP DOCUMENTS.
D. ALL ROOF, SPRINKLER, FIRE ALARM WORK BY LANDLORD DESIGNATED BASE BUILDING CONTRACTORS ONLY. TO BE ENGAGED BY TENANT AT TENANT'S COST.
E. PREMISES IS PROVIDED IN AN "AS-IS" CONDITION.
F. ALL WORK IS BY TENANT AT TENANT'S EXPENSE.
G. ATTACHMENTS/PENETRATIONS OR SUSPENSION FROM ROOF DECK ARE NOT PERMITTED. ALL SUPPORT HANGERS/BRACING IS TO BE SECURED TO STEEL STRUCTURE ONLY.



GENERAL NOTES APPLICABLE TO THIS DETAIL:

A. NOT ALL PARTS AND PART NUMBERS ARE SHOWN IN THE DETAIL. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR A COMPLETE WORKING INSTALLATION, INCLUDING MISCELLANEOUS APPURTENANCES REQUIRED BUT NOT SHOWN.

3 GROUND BAR DETAIL
NOT TO SCALE

Antenna Overview

Part of an Ultra*Max® EAS security system, Digital Door-Max antennas attach to the wall or doorframe surrounding an exit. Up to two Door-Max antennas (Figure 1) can be used as transmitters, receivers, or transceivers by connecting them to either a Digital 216 or Ultra*Post Plus controller.

- Wide exits can be covered when a FloorMax Plus antenna is added.
- Antenna configurations are listed in Table 1. Other antenna configurations or additional antennas require the use of a second controller.

Figure 1. Digital Door-Max antenna locations

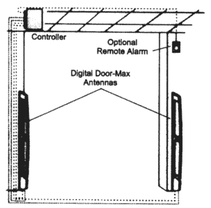


Table 1. Antenna configurations

Door-Max Antenna w/Digital 216 Controller

System	Components Supplied
1 Door-Max (ZADDM-1)	A, F, H, I
1 Door-Max w/Rangers (ZADDM-1-R)	A, C, F, H, I
1 Door-Max w/Satellite Receiver (ZADDM-1-SR)	A, D, F, H, I
2 Door-Max (ZADDM-2)	B, F, H, J

Door-Max Antenna w/Ultra*Post Plus Controller

System	Components Supplied
1 Door-Max Transceiver	A, G, H, K, L, M, N
1 Door-Max Transceiver with 1 Satellite Receiver	A, D, G, H, K, L, M, N
1 Door-Max Transceiver with 1 Ranger Receiver	A, C, G, H, K, L, M, N
2 Door-Max Transceivers	B, G, H, K, L, M, N
2 Door-Max Receivers with 1 FloorMax Plus Transmitter	B, E, G, H, K, L, M, N

A. 1 Digital Door-Max Antennas (ZSDDM)
B. 2 Digital Door-Max Antennas (ZSDDM)
C. 1 Pair Ranger Antennas (ZKRANGER-1)
D. 1 Satellite Receiver (ZKRXMULLMT)
E. 1 FloorMax Plus Antenna
F. 1 Digital 216 Controller (ZED216)
G. 1 Ultra*Post Plus Controller (ZEUPPLUS-E3) and 1 Enclosure Assembly (ZPDFM-E)
H. 1 Power Cord
- EMC USA 125 V Power Cord (0351-2179-01)
- "B" Schuko (EUR) 250V Power Cord (0351-0547-02)
- "D" UK 250V Power Cord (0351-0547-03)
- "J" Japan 125 V Power Cord (0351-0547-04)
- Australia to IEC 32 Power Cord (0351-0547-07)

I. 1 Mounting Kit (ZPDDM-M1 or ZPDDM-M2)
J. 2 Mounting Kits (ZPDDM-M1 or ZPDDM-M2)
K. 8 Contact Sockets (2109-0282-26)
L. 2 Connectors, HSG, 4-Pin (2109-0282-04)
M. 2 TM, QD, 14x.032, RCP, INS, 22-18 (2103-0098-01)
N. Filter, EMI, FR, 10MID, 2000 (2700-0034-01)

2 DIGITAL DOOR-MAX SYSTEM DETAIL
NOT TO SCALE

PLAN NORTH

1 POWER AND SYSTEMS PLAN
SCALE: 1/4" = 1'-0"

GENERAL ELECTRICAL NOTES

A. COORDINATE ALL DEVICE LOCATIONS AND CIRCUIT ROUTING WITHIN ANY MILLWORK WITH MILLWORK VENDOR PRIOR TO ROUGH-IN.
B. COORDINATE THE CONNECTIONS OF ALL EQUIPMENT PROVIDED BY OTHERS WITH THE CONTRACTOR PROVIDING THE EQUIPMENT PRIOR TO ROUGH-IN. THIS INCLUDES, BUT IS NOT LIMITED TO, MECHANICAL EQUIPMENT, KITCHEN EQUIPMENT, AUDIO/VISUAL EQUIPMENT, FIRE SUPPRESSION SYSTEM EQUIPMENT, FIRE ALARM EQUIPMENT, ETC. PROVIDE THE APPROPRIATE DISCONNECTING MEANS FOR, AND TO MAKE THE FINAL CONNECTION TO, ANY HARDWIRED EQUIPMENT. THE ELECTRICAL CONTRACTOR IS ALSO RESPONSIBLE TO PROVIDE AN APPROPRIATE CORD AND PLUG FOR ANY CORD-AND-PLUG CONNECTED EQUIPMENT THAT IS NOT EQUIPPED WITH AN INTEGRAL CORD AND PLUG.
C. SEE PANEL SCHEDULES FOR INFORMATION ON CIRCUITS THAT ARE TO BE ROUTED THROUGH CONTACTORS OR RELAYS FOR CONTROL.
D. ALL EQUIPMENT, DEVICES, AND LUMINAIRES SHALL BE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED. EQUIPMENT MOUNTED OUTDOORS SHALL BE NEMA 3R. DEVICES MOUNTED IN DAMP OR WET LOCATIONS SHALL BE WEATHERPROOF. RECEPTACLES RATED 15- OR 20-AMPS AND 120 VOLTS WHICH ARE LOCATED IN DAMP OR WET LOCATIONS SHALL BE GFCI PROTECTED AND EQUIPPED WITH A SUITABLE WEATHERPROOF COVERPLATE (WHILE-IN-USE IN WET LOCATIONS).
E. ALL LUGS, TERMINALS, ETC. IN ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE LISTED FOR A MINIMUM OF 75 DEGREE C CONDUCTORS. TERMINATIONS LISTED FOR ONLY 60 DEGREE C CONDUCTORS ARE NOT PERMITTED.
F. COORDINATE WITH ALL OTHER TRADES TO PROVIDE ALL CODE-REQUIRED CLEARANCES AROUND ELECTRICAL PANELS AND CONTROLS COMPARTMENTS IN ALL EQUIPMENT WHICH IS PROVIDED BY OTHERS AND CONNECTED BY THE ELECTRICAL CONTRACTOR SUCH AS, BUT NOT LIMITED TO, HVAC EQUIPMENT.

EXISTING CONDITION NOTES

A. ANY EXISTING CONDITIONS INDICATED IN THIS SET OF DRAWINGS ARE BASED ON INFORMATION PROVIDED BY OTHERS AND POSSIBLE LIMITED FIELD VERIFICATION. ADJUST FOR ACTUAL FIELD CONDITIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
B. VISIT THE PROJECT SITE, REVIEW EXISTING CONDITIONS AGAINST THE CONTRACT DOCUMENTS, AND BECOME FAMILIAR WITH THE WORK PRIOR TO BIDDING AND START OF THE WORK. SIGNING THE CONTRACT IS AN ACKNOWLEDGEMENT THAT THE SITE VISIT HAS BEEN COMPLETED AND THE EXISTING CONDITIONS ARE ACCEPTED.
C. DEMOLISH ANY EXISTING EQUIPMENT, DEVICES, AND LUMINAIRES AS INDICATED AND/OR AS REQUIRED TO ALLOW FOR INSTALLATION AND CONSTRUCTION OF THE NEW WORK. REMOVE ALL EQUIPMENT, DEVICES, LUMINAIRES, CONDUITS, SUPPORTS, HANGERS, ETC. THAT ARE NOT SHOWN AND ARE REQUIRED TO BE REMOVED IN ORDER TO COMPLETE THE NEW WORK.
D. ELECTRICAL CIRCUITS THAT ARE TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY. CONDUCTORS SHALL BE REMOVED FROM THE ITEM TO BE DEMOLISHED TO THE SOURCE OVERCURRENT DEVICE. RACEWAYS WHICH ARE INSTALLED IN OR BELOW FLOORS OR WITHIN WALLS MAY BE ABANDONED, BUT ALL OVERHEAD OR EXPOSED RACEWAYS SHALL BE REMOVED. RACEWAYS TO BE ABANDONED SHALL BE REMOVED AND SHALL BE CUT OR CHISELED AT LEAST 2" INTO THE WALL OR FLOOR AND THE OPENING GROUTED SMOOTH.
E. THE OWNER SHALL HAVE SALVAGE RIGHTS TO ANY ITEMS THAT ARE TO BE DEMOLISHED. THOSE ITEMS THAT THE OWNER WISHES TO SALVAGE SHALL BE CAREFULLY REMOVED AND STORED IN A LOCATION AS DIRECTED BY THE OWNER. ALL OTHER ITEMS OF DEMOLITION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
F. PROVIDE TEMPORARY CIRCUITS AND CONNECTIONS TO EQUIPMENT, LUMINAIRES, OR DEVICES IN AREAS OF THE FACILITY THAT ARE TO REMAIN IN OPERATION AS REQUIRED TO MAINTAIN THOSE AREAS IN COMPLETE OPERATION.
G. MAINTAIN CONTINUITY OF EXISTING CIRCUITS AS REQUIRED TO PROVIDE POWER TO REMAINING EQUIPMENT, DEVICES, AND LUMINAIRES THAT ARE NOT BEING REMOVED.
H. PROVIDE BLANK COVERPLATES FOR EXISTING EMPTY DEVICE BOXES OR JUNCTION BOXES THAT MUST REMAIN, SUCH AS FOR CIRCUITS THAT MUST BE MAINTAINED TO OTHER AREAS.
I. REMOVE ALL ABANDONED TELECOMMUNICATIONS CABLING.

KEYED NOTES

1. RUN ELECTRICAL IN 3/4" CONDUIT TO PORTAL AND UP TO SIGN. ROUTE CONDUITS AS SHOWN ON PLAN DOWN WALL AND THEN TO A J-BOX. RUN 1/2" MC CABLE THROUGH THE STOREFRONT SILL CHANNEL AND UP THE PORTAL TO SIGN RACEWAY. COORDINATE EXACT CONFIGURATION WITH TENANT REP. AND LOCATION WITH SIGNAGE VENDOR. E.C. SHALL INSTALL DISCONNECT SWITCH FOR SIGNAGE CIRCUIT(S) AS REQUIRED. REFER TO PLANS FOR NUMBER OF CIRCUITS REQUIRED. VERIFY EXACT LOCATION IN FIELD.
2. DUPLEX RECEPTACLE FLUSH MOUNTED IN WALL AT 19" A.F.F. TO BOTTOM OF PLUG FOR GENERAL USE.
3. RUN ELECTRICAL IN (1) 1" AND RUN PHONES IN (1) 2" CONDUIT TO CASHWRAP. ROUTE CONDUITS AS SHOWN ON PLAN DOWN WALL AND BY SAW CUTTING OR CORE DRILLING FLOOR AS REQUIRED BY LANDLORD. PATCH FLOOR AS REQUIRED. COORDINATE EXACT CONFIGURATION WITH TENANT REP. AND LOCATION WITH FIXTURE INSTALLER. ELECTRICAL CONDUIT AND WIRE AT CASHWRAP TO CONNECT TO PRE-INSTALLED J-BOX FOR FINAL CONNECTION.
4. DEDICATED DUPLEX OUTLET, (HUBBELL OR EQUAL) WITH DEDICATED GROUND, MTD. IN CASHWRAP COUNTER. FIELD VERIFY EXACT LOCATION WITH FIXTURE MANUFACTURER.
5. DUPLEX CONVENIENCE OUTLET MOUNTED IN CASHWRAP COUNTER. FIELD VERIFY EXACT LOCATION WITH FIXTURE MANUFACTURER.
6. (5) RJ-45 CONNECTIONS/ COMPUTER JACKS IN CASHWRAP. FIELD VERIFY EXACT LOCATION WITH FIXTURE MANUFACTURER AND TORRID PM. FURNISHED AND INSTALLED BY TORRID VENDOR.
7. RUN (1) 1/2" CONDUIT. ONE FOR PHONE JACK AT BACKWRAP. RUN (1) 1/2" CONDUITS FOR FIRE ALARM IF REQUIRED. LEAVE AN 18" WHIP IN FLEXIBLE CONDUIT STUBBED OUT AT 18" A.F.F. VERIFY EXACT LOCATION WITH FIXTURE MANUFACTURER AND TORRID PM. FURNISHED AND INSTALLED BY TORRID VENDOR.
8. DEDICATED QUADPLEX RECEPTACLE, (HUBBELL OR EQUAL) MOUNTED IN WALL AT 36" A.F.F. AT STOCK ROOM DESK.
9. IF NOT EXISTING, PROVIDE A DELIVERY BUZZER SYSTEM SIMILAR OR EQUAL TO THOMAS & BETTS WITH TRANSFORMER, PUSH BUTTON, AND CHIME IN STOCK AND SALES TO BE EDWARDS #339-05. CHIME IN CEILING IN CENTER OF SALES FLOOR IN FRONT OF CASHWRAP. E.C. SHALL PROVIDE ALL J-BOXES, CONDUITS & WIRES TO COMPLETELY INSTALL THE SYSTEM. FIELD VERIFY PRIOR TO BID.
10. RECESSED DUPLEX RECEPTACLE FOR MIRROR LIGHT MOUNTED IN WALL AT 70" A.F.F. WHITE W/ COVER PLATE TO MATCH ADJACENT WALL COLOR. CONNECT RECEPTACLE TO OCCUPANCY SENSOR CONTROLLED CIRCUIT SERVING THE LIGHTING WITHIN THIS ROOM.
11. DUPLEX RECEPTACLE FOR SHOW WINDOW FLUSH MOUNTED HORIZONTALLY ON CEILING OR ABOVE DISPLAY WINDOW. RECEPTACLE AND COVER TO BE BLACK.
12. EMT STUB-UP FOR ALL CASHWRAP SYSTEMS, (I.E., OUTLETS, LIGHTING, PHONES, AND LOW VOLTAGE SYSTEMS). EXTEND TO THE DEVICES AS REQUIRED. RUN ALL CONDUITS TOGETHER AND RUN TO THE DEVICES IN THE MOST INCONSPICUOUS MANNER POSSIBLE.
13. 2" CONDUIT BETWEEN IT CABINET/DATA RACK AND CASHWRAP WITH PULL STRING BY G.C. LOW VOLTAGE WIRING WILL BE DONE BY TORRID.
14. PROVIDE J-BOX & 3/4"C WITH PULL STRING FOR TEMPERATURE CONTROL. COORDINATE WITH MECHANICAL CONTRACTOR FOR OTHER DETAILS PRIOR TO ROUGH-IN. GC/SUB IS TO CONFIRM LOCATION WITH TORRID PM BEFORE INSTALLING SENSOR.
15. DUPLEX RECEPTACLE WITH ISOLATED GROUND MOUNTED IN WALL AT 96" A.F.F. IN IT CABINET/DATA RACK FOR PHONE SYSTEM, ALARM, OR OTHER RELATED EQUIPMENT. QUADPLEX WITH ISOLATED GROUND MOUNTED IN WALL AT 98" A.F.F. ABOVE IT CABINET/DATA RACK. COORDINATE HEIGHTS WITH P.M. OR LOCATION OF IT CABINET IN ARCHITECTURAL DRAWINGS.
16. LOCATION OF SHOPPER TRAK. SEE DETAIL 4/E2.0 FOR MORE DETAIL.
17. 2'-0" X 2'-0" FRT UNPAINTED PLYWOOD TELEPHONE TERMINAL BOARD (T.T.B.) MOUNT DIRECTLY BELOW THE IT CABINET. PROVIDE 1-1/4"C. TO TELCO POINT OF CONNECTION. PROVIDE GROUND BAR MOUNTED ON BACKBOARD WITH EQUIPMENT GROUNDING CONDUCTOR CONNECTED TO POWER SYSTEM'S GROUNDING ELECTRODE SYSTEM. SEE DETAIL 3/E1.0 FOR ADDITIONAL INFORMATION REGARDING GROUND BAR.
18. CONNECT EXHAUST FAN TO CIRCUIT SERVING THE LIGHTING WITHIN THIS ROOM.
19. SENSORMATIC SECURITY ALARM BOX MOUNTED ON SHELF AT 8'-1" A.F.F. IN PORTAL NEXT TO CONTROL BOX. VERIFY AND COORDINATE EXACT LOCATION AND OTHER RELATED ELECTRICAL EQUIPMENT WITH SECURITY VENDOR.
20. SENSORMATIC SECURITY SYSTEM, SEE DETAIL 2/E1.0 FOR MORE DETAIL.
21. 20A RATED QUADPLEX DEDICATED RECEPTACLE WITH ISOLATED GROUND FOR SECURITY SYSTEM. SPACE IS OPEN TO DECK NO CEILING. THE AC SOURCE MUST BE A 3-WIRE 24 HOUR UNSWITCHED OUTLET WITH LESS THAN 0.5 VAC BETWEEN NEUTRAL AND GROUND. UNSHARED NEUTRAL AND GROUND MUST BE FROM THE DEDICATED QUADPLEX TO THE CIRCUIT BREAKER PANEL IN THE BACK. PROVIDE "LOCK-ON" DEVICE ON BREAKER AT PANEL. RACEWAY FROM POWER PACK MOUNTED ABOVE ON BACK SIDE OF SOFFIT DOWN TO EACH ANTENNA. WIRE RUN CANNOT EXCEED 30 FEET AND MUST BE HIDDEN IN RACEWAY. VERIFY EXACT SPECS WITH SENSORMATIC SOLUTIONS C/O TINA M. BARANOUSKI @ 1-630-345-3045. SEE DETAIL 2/E1.0 FOR MORE DETAIL. RECEPTACLE AND COVER TO BE BLACK.
22. WATER HEATER IS EXISTING TO REMAIN, MAINTAIN EXISTING CIRCUITING.
23. FOR SPEAKER WIRING AND PHONES RUN 1" CONDUITS WITH PULL STRINGS FOR SPEAKER WIRING TO LOCATIONS AS DIRECTED BY THE TENANT'S MUSIC PROVIDER. TWO VOLUME CONTROLS (ONE FOR SALES AND ONE FOR FITTING ROOM) FOR MUSIC PLAYER TO BE LOCATED AT CASHWRAP.
24. RUN ELECTRICAL IN 3/4" CONDUIT TO DEDICATED QUADPLEX RECEPTACLE (HUBBELL OR EQUAL) WITH ISOLATED GROUND. MOUNTED IN BACKWRAP COUNTER AT 6" ABOVE FINISHED BASE. LEAVE AN 18" WHIP IN FLEXIBLE CONDUIT STUBBED OUT AT 18" A.F.F. FIELD VERIFY EXACT LOCATION WITH PM.
25. RUN ELECTRICAL IN 3/4" RIGID CONDUIT - ROUTE CONDUITS DOWN WALL AND THEN TO A J-BOX. RUN 1/2" MC CABLE THROUGH THE STOREFRONT SILL CHANNEL AND UP THE PORTAL TO SENSORMATIC SECURITY OUTLET. COORDINATE EXACT CONFIGURATION WITH TENANT REP. AND LOCATION WITH SENSORMATIC SECURITY VENDOR.
26. SLEEVE FOR CAT 5 CABLING TO BE INSTALLED IN SALES/STOCK WALL ABOVE CEILING OR IN THE CASE OF NO CEILING THE MINIMUM HEIGHT SHALL BE ABOVE THE HIGHEST MOUNTING HEIGHT OF LIGHTS WITHIN SALES AREA. C.C. TO VERIFY IF SLEEVE IS REQUIRED.
27. PROVIDE 4" SQUARE BOX FOR SPEAKER WIRING IN WALL AT 72" A.F.F. PROVIDE CONDUIT WITH PULL STRINGS TO SPEAKER LOCATIONS AS DIRECTED BY THE TENANTS MUSIC PROVIDER.
28. PROVIDE DUPLEX OUTLET MOUNTED IN WALL AT 72" A.F.F. FOR AMP/MUSIC PLAYER, CD PLAYER, ETC.
29. PROVIDE MINIMUM 3/4" CONDUIT WITH PULL STRING FROM CASHWRAP BACK TO IT CABINET/DATA RACK FOR SPEAKER WIRING. FIELD VERIFY REQUIREMENTS WITH TORRID PM AND TENANT'S MUSIC PROVIDER PRIOR TO ROUGH-IN.
30. 20A RATED @ +15" FOR MICROWAVE. COORDINATE EXACT LOCATION.
31. 20A RATED @ +15" FOR REFRIGERATOR. COORDINATE EXACT LOCATION.
32. J-BOX AT 14'A.F.F. FOR WIFI BOOSTER WITH CONDUIT TO PULL BOX MOUNTED ABOVE BACKWRAP. FIELD VERIFY AND COORDINATE WITH VENDOR AND TORRID PM.
33. DISCONNECT SWITCH IS EXISTING TO REMAIN, MAINTAIN EXISTING CIRCUITING.
34. VERIFY EXISTING CONDITIONS, IF NOT PRESENT WITHIN 25 FEET OF EXISTING RTU, PROVIDE WEATHERPROOF GFCI SERVICE RECEPTACLE AS SHOWN ON PLAN AND PROVIDE CIRCUIT AND FINAL CONNECTION TO SERVICE RECEPTACLE AS INDICATED.

LEGEND
——— EXISTING
——— NEW WORK
⊕ NEW TO EXISTING CONNECTION

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SPACE #161 STORE #3541 - B

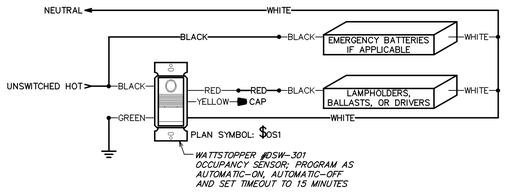
REV	DATE	DESCRIPTION
1	05.02.2023	LANDLORD COMMENTS
		FOR PERMIT 05/18/23

PROJECT NO: 230308
DRAWN BY: SEI
CHECKED BY: GPS
ISSUE DATE: 04/13/23

POWER AND SYSTEMS PLAN

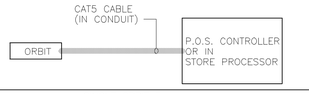
E1.0

SE JOB#: 230308



TYPICAL SINGLE-ZONE WALL SWITCH OCCUPANCY SENSOR WIRING DIAGRAMS

5 NOT TO SCALE



GENERAL CONTRACTOR NOTES:

THE ORBIT 5 UNIT WILL BE INSTALLED CENTERED ABOVE THE DOORWAY. THE DISTANCE IN FROM THE DOORWAY WILL VARY DEPENDING ON WHETHER OR NOT THERE IS A DOOR THAT IS USED DURING THE DAY, AND WHICH DIRECTION THE DOOR SWINGS:

SEE ARCHITECTURAL FOR MOUNTING LOCATION.

A. IF THERE IS NO DOOR AT THE DOORWAY, OR THE DOORS WILL BE PROPPED OPEN DURING THE DAY THE ORBIT 5 WILL BE MOUNTED 6"–12" INSIDE OF THE DOORWAY.
B. IF THERE IS A DOOR THAT SWINGS OUT, THE ORBIT 5 WILL BE MOUNTED 12"–18" INSIDE THE DOORWAY.
C. IF THERE IS A DOOR THAT SWINGS IN, THE ORBIT 5 WILL BE MOUNTED 4"–6" IN FROM THE FURTHEST IN–SWING OF THE DOOR.

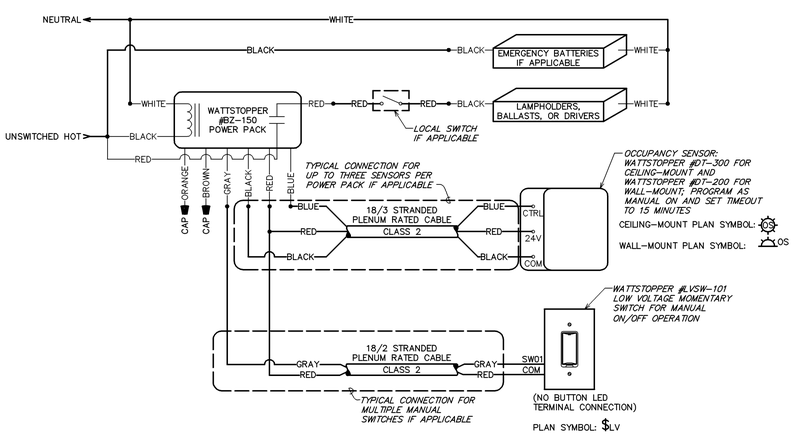
1. IF THE CEILING/SOFFIT IS 15' A.F.F. OR LESS AT THE MOUNTING LOCATION SPECIFIED ABOVE, ORBIT 5 WILL BE ATTACHED DIRECTLY TO THE CEILING. FOR CEILING/SOFFITS HIGHER THAN 15', SHOPPER TRAK WILL INSTALL A MOUNTING BRACKET THAT ATTACHES TO THE WALL ABOVE THE DOOR THAT WILL SUPPORT THE ORBIT AND POSITION THE UNIT 6"–18" INTO THE STORE. THE MOUNTING BRACKET WILL GENERALLY BE INSTALLED AT 12" A.F.F., UNLESS CONSTRUCTION CONDITIONS PREVENT THIS.
2. IF THE CEILING HEIGHT IS GREATER THAN 15' A.F.F., AND THE UNIT CANNOT BE MOUNTED BELOW 15' USING A BRACKET ATTACHED TO THE WALL ABOVE THE DOOR BECAUSE OF A CONTINUOUS, MULLION-FREE GLAZING, OR AN OPENING THAT EXTENDS TO THE CEILING, AN ORBIT WITH A SPECIAL TELEPHOTO LENS WILL BE INSTALLED AT THE CEILING LEVEL. THE TELEPHOTO LENS IS NOT EFFECTIVE ABOVE 30' A.F.F.
3. IF THE STORE HAS A VESTIBULE, THE ORBIT WILL BE MOUNTED INSIDE OF THE STORE ITSELF, RATHER THAN IN THE VESTIBULE.
4. IF THE STORE WILL HAVE A HARD (PLASTER OR SHEETROCK) CEILING, INSTALL A JUNCTION BOX 1"–2" AWAY FROM THE RECOMMENDED ORBIT LOCATION SPECIFIED ABOVE.
5. PROVIDE 1/2" CONDUIT W/PULL STRING FROM THE COMMUNICATIONS STRUCTURE TO A LOCATION ABOVE ENTRY SOFFIT. LOOP CONDUIT TO OTHER DOORS AS REQUIRED.

COMMUNICATION WORK:

1. FOR SINGLE ORBIT 5 INSTALLATIONS, A CATEGORY 5 CABLE MUST BE RUN FROM THE STORE CONTROLLER/SP TO THE FRONT DOOR (MAIN CUSTOMER ENTRANCE). IF A STORE HAS MULTIPLE CONTROLLERS, PLEASE CALL SHOPPER TRAK OR THE CLIENTS STORES SYSTEMS GROUP TO DETERMINE WHICH ONE WILL BE USED.
2. PROVIDE 15'–20' OF CABLE COILED UP AT EACH END OF THE RUN. AT THE FRONT DOOR LEAVE THE CABLE COIL IN A LOCATION THAT CAN BE REACHED USING AN 8' LADDER.

SHOPPER TRAK DETAIL

4 NOT TO SCALE



TYPICAL SINGLE-ZONE CEILING-MOUNT OCCUPANCY SENSOR WIRING DIAGRAM

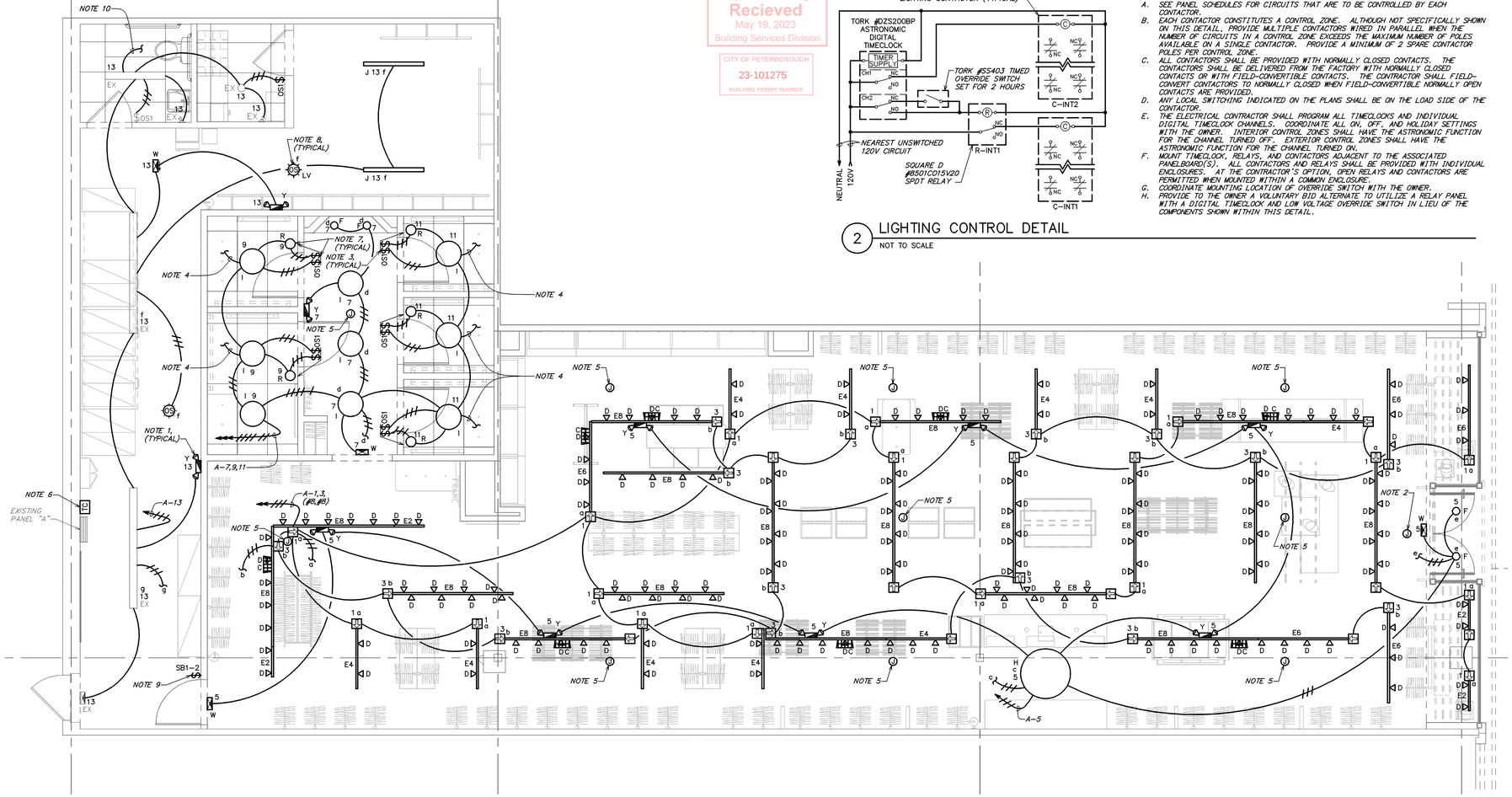
3 NOT TO SCALE

LIGHTING CONTROL DETAIL

2 NOT TO SCALE

GENERAL NOTES APPLICABLE TO THIS DETAIL:

A. SEE PANEL SCHEDULES FOR CIRCUITS THAT ARE TO BE CONTROLLED BY EACH CONTACTOR.
B. EACH CONTACTOR CONSTITUTES A CONTROL ZONE. ALTHOUGH NOT SPECIFICALLY SHOWN ON THIS DETAIL, PROVIDE MULTIPLE CONTACTORS WIRED IN PARALLEL WHEN THE NUMBER OF CIRCUITS IN A CONTROL ZONE EXCEEDS THE MAXIMUM NUMBER OF POLES AVAILABLE ON A SINGLE CONTACTOR. PROVIDE A MINIMUM OF 2 SPARE CONTACTOR POLES PER CONTROL ZONE.
C. ALL CONTACTORS SHALL BE PROVIDED WITH NORMALLY CLOSED CONTACTS. THE CONTACTORS SHALL BE DELIVERED FROM THE FACTORY WITH NORMALLY CLOSED CONTACTS OR WITH FIELD-CONVERTIBLE CONTACTS. THE CONTRACTOR SHALL FIELD-CONVERT CONTACTORS TO NORMALLY CLOSED WHEN FIELD-CONVERTIBLE NORMALLY OPEN CONTACTS ARE PROVIDED.
D. ANY LOCAL SWITCHING INDICATED ON THE PLANS SHALL BE ON THE LOAD SIDE OF THE CONTACTOR.
E. THE ELECTRICAL CONTRACTOR SHALL PROGRAM ALL TIMECLOCKS AND INDIVIDUAL DIGITAL TIMECLOCK CHANNELS. COORDINATE ALL ON, OFF, AND HOLIDAY SETTINGS WITH THE OWNER. INTERIOR CONTROL ZONES SHALL HAVE THE ASTRONOMIC FUNCTION FOR THE CHANNEL TURNED OFF. EXTERIOR CONTROL ZONES SHALL HAVE THE ASTRONOMIC FUNCTION FOR THE CHANNEL TURNED ON.
F. MOUNT TIMECLOCK, RELAYS, AND CONTACTORS ADJACENT TO THE ASSOCIATED PANELBOARD(S). ALL CONTACTORS AND RELAYS SHALL BE PROVIDED WITH INDIVIDUAL ENCLOSURES. AT THE CONTRACTOR'S OPTION, OPEN RELAYS AND CONTACTORS ARE PERMITTED WHEN MOUNTED WITHIN A COMMON ENCLOSURE.
G. COORDINATE MOUNTING LOCATION OF OVERRIDE SWITCH WITH THE OWNER.
H. PROVIDE TO THE OWNER A VOLUNTARY BID ALTERNATE TO UTILIZE A RELAY PANEL WITH A DIGITAL TIMECLOCK AND LOW VOLTAGE OVERRIDE SWITCH IN LIEU OF THE COMPONENTS SHOWN WITHIN THIS DETAIL.



PLAN NORTH

LIGHTING PLAN

1 SCALE: 1/4" = 1'-0"

GENERAL ELECTRICAL NOTES

A. COORDINATE ALL DEVICE LOCATIONS AND CIRCUIT ROUTING WITHIN ANY MILLWORK WITH MILLWORK VENDOR PRIOR TO ROUGH-IN.
B. COORDINATE THE CONNECTIONS OF ALL EQUIPMENT PROVIDED BY OTHERS WITH THE CONTRACTOR PROVIDING THE EQUIPMENT PRIOR TO ROUGH-IN. THIS INCLUDES, BUT IS NOT LIMITED TO, MECHANICAL EQUIPMENT, KITCHEN EQUIPMENT, AUDIO/VISUAL EQUIPMENT, FIRE SUPPRESSION SYSTEM EQUIPMENT, FIRE ALARM EQUIPMENT, ETC. PROVIDE THE APPROPRIATE DISCONNECTING MEANS FOR, AND TO MAKE THE FINAL CONNECTION TO, ANY HARDWIRED EQUIPMENT. THE ELECTRICAL CONTRACTOR IS ALSO RESPONSIBLE TO PROVIDE AN APPROPRIATE CORD AND PLUG FOR ANY CORD-AND-PLUG CONNECTED EQUIPMENT THAT IS NOT EQUIPPED WITH AN INTEGRAL CORD AND PLUG.
C. SEE PANEL SCHEDULES FOR INFORMATION ON CIRCUITS THAT ARE TO BE ROUTED THROUGH CONTACTORS OR RELAYS FOR CONTROL.
D. ALL EQUIPMENT, DEVICES, AND LUMINAIRES SHALL BE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED. EQUIPMENT MOUNTED OUTDOORS SHALL BE NEMA 3R. DEVICES MOUNTED IN DAMP OR WET LOCATIONS SHALL BE WEATHERPROOF. RECEPTACLES RATED 15- OR 20-AMPS AND 120 VOLTS WHICH ARE LOCATED IN DAMP OR WET LOCATIONS SHALL BE GFCI PROTECTED AND EQUIPPED WITH A SUITABLE WEATHERPROOF COVERPLATE (WHILE-IN-USE IN WET LOCATIONS).
E. ALL LUGS, TERMINALS, ETC. IN ELECTRICAL DISTRIBUTION EQUIPMENT SHALL BE LISTED FOR A MINIMUM OF 75 DEGREE C CONDUCTORS. TERMINATIONS LISTED FOR ONLY 60 DEGREE C CONDUCTORS ARE NOT PERMITTED.
F. CIRCUITS SERVING EMERGENCY LIGHTING EQUIPMENT SUCH AS EMERGENCY BATTERIES SHALL NOT SHARE A NEUTRAL (SHALL NOT BE PART OF A MULTIWIRE BRANCH CIRCUIT) WITH ANY OTHER CIRCUIT. PROVIDE A SEPARATE NEUTRAL FOR EVERY CIRCUIT THAT SERVES EMERGENCY LIGHTING EQUIPMENT.
G. ALTHOUGH NOT SPECIFICALLY SHOWN, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED LOW VOLTAGE WIRING AND DATA CABLING, PER THE MANUFACTURER'S RECOMMENDATIONS, FOR A COMPLETE, FUNCTIONAL LIGHTING CONTROL SYSTEM.
H. ALTHOUGH NOT SPECIFICALLY SHOWN, THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED WIRING AND DATA CABLING, INCLUDING ALL 0-10V CONTROL WIRING WHERE APPLICABLE, PER THE MANUFACTURER'S RECOMMENDATIONS FOR A COMPLETE, FUNCTIONAL DIMMING SYSTEM.

EXISTING CONDITION NOTES

A. ANY EXISTING CONDITIONS INDICATED IN THIS SET OF DRAWINGS ARE BASED ON INFORMATION PROVIDED BY OTHERS AND POSSIBLE LIMITED FIELD VERIFICATION. ADJUST FOR ACTUAL FIELD CONDITIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
B. VISIT THE PROJECT SITE, REVIEW EXISTING CONDITIONS AGAINST THE CONTRACT DOCUMENTS, AND BECOME FAMILIAR WITH THE WORK PRIOR TO BIDDING AND START OF THE WORK. SIGNING THE CONTRACT IS AN ACKNOWLEDGEMENT THAT THE SITE VISIT HAS BEEN COMPLETED AND THE EXISTING CONDITIONS ARE ACCEPTED.
C. DEMOLISH ANY EXISTING EQUIPMENT, DEVICES, AND LUMINAIRES AS INDICATED AND/OR AS REQUIRED TO ALLOW FOR INSTALLATION AND CONSTRUCTION OF THE NEW WORK. REMOVE ALL EQUIPMENT, DEVICES, LUMINAIRES, CONDUITS, SUPPORTS, HANGERS, ETC. THAT ARE NOT SHOWN AND ARE REQUIRED TO BE REMOVED IN ORDER TO COMPLETE THE NEW WORK.
D. ELECTRICAL CIRCUITS THAT ARE TO BE REMOVED SHALL BE REMOVED IN THEIR ENTIRETY. CONDUCTORS SHALL BE REMOVED FROM THE ITEM TO BE DEMOLISHED TO THE SOURCE OVERCURRENT DEVICE. RACEWAYS WHICH ARE INSTALLED IN OR BELOW FLOORS OR WITHIN WALLS MAY BE ABANDONED, BUT ALL OVERHEAD OR EXPOSED RACEWAYS SHALL BE REMOVED. EXPOSED RACEWAYS TO BE ABANDONED SHALL BE REMOVED AND SHALL BE CUT OR CHISELED AT LEAST 2" INTO THE WALL OR FLOOR AND THE OPENING GROUTED SMOOTH.
E. THE OWNER SHALL HAVE SALVAGE RIGHTS TO ANY ITEMS THAT ARE TO BE DEMOLISHED. THOSE ITEMS THAT THE OWNER WISHES TO SALVAGE SHALL BE CAREFULLY REMOVED AND STORED IN A LOCATION AS DIRECTED BY THE OWNER. ALL OTHER ITEMS OF DEMOLITION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
F. PROVIDE TEMPORARY CIRCUITS AND CONNECTIONS TO EQUIPMENT, LUMINAIRES, OR DEVICES IN AREAS OF THE FACILITY THAT ARE TO REMAIN IN OPERATION AS REQUIRED TO MAINTAIN THOSE AREAS IN COMPLETE OPERATION.
G. MAINTAIN CONTINUITY OF EXISTING CIRCUITS AS REQUIRED TO PROVIDE POWER TO REMAINING EQUIPMENT, DEVICES, AND LUMINAIRES THAT ARE NOT BEING REMOVED.
H. PROVIDE BLANK COVERPLATES FOR EXISTING EMPTY DEVICE BOXES OR JUNCTION BOXES THAT MUST REMAIN, SUCH AS FOR CIRCUITS THAT MUST BE MAINTAINED TO OTHER AREAS.
I. LUMINAIRES MARKED "EX" ARE EXISTING LUMINAIRES THAT ARE TO REMAIN IN PLACE. ALL EXISTING LUMINAIRES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REPAIRED TO A LIKE-NEW CONDITION, THOROUGHLY CLEANED, AND RELAMPED. ANY EXISTING LUMINAIRES THAT ARE DAMAGED BEYOND REPAIR SHALL BE REPLACED WITH AN IDENTICAL LUMINAIRE.

KEYED NOTES

1. CONNECT FIXTURE TO UNSWITCHED LEG OF CIRCUIT INDICATED TO RENDER OPERATIONAL 24HRS A DAY.
2. LOCATION OF SHOPPER TRAK. PROVIDE 1/2" CONDUIT W/PULL STRING FROM THE IT CABINET/DATA RACK TO A LOCATION ABOVE ENTRY SOFFIT. SEE DETAIL 4/E2.0 FOR MORE DETAIL.
3. OCCUPANCY WALL SWITCH WATTSTOPPER DSW-301B SUPPLIED BY VENDOR INSTALLED BY E.C.
4. CONNECT TO RECESSED DUPLEX RECEPTACLE FOR MIRROR LIGHT WITHIN THIS ROOM. REFER TO SHEET E1.0 FOR ADDITIONAL INFORMATION.
5. J-BOX FOR SPEAKER TO BE INSTALLED AT 13'-0" A.F.F. TO BOTTOM OF J-BOX. FIELD VERIFY LOCATION WITH PROJECT MANAGER.
6. VERIFY EXISTING CONDITIONS. IF NOT PRESENT, PROVIDE AUTOMATIC TIME CLOCK AND CONTACTORS FOR AUTOMATIC SHUT-OFF REQUIREMENTS. SEE LIGHTING CONTROL DETAIL 2/E2.0 FOR ADDITIONAL INFORMATION.
7. PROVIDE J-BOX AND WALL SWITCH FOR CEILING MOUNTED OSCILLATING FANS. FANS TO HAVE INDIVIDUAL CONTROLS IN FITTING ROOMS.
8. PROVIDE CEILING MOUNTED OCCUPANCY SENSOR(S) AND ASSOCIATED SWITCH(ES) FOR AUTOMATIC SHUT-OFF OF THE LIGHTING. SEE TYPICAL SINGLE-ZONE CEILING-MOUNT OCCUPANCY SENSOR WIRING DIAGRAM 3/E2.0 FOR ADDITIONAL INFORMATION.
9. PROVIDE LIGHTING CONTROL SWITCHBANK(S). SEE SWITCHBANK SCHEDULE(S) FOR ADDITIONAL INFORMATION. LOWERCASE LETTERS ADJACENT TO LUMINAIRES ON PLANS CORRESPOND TO THE ASSOCIATED SWITCH ON THE SWITCHBANK SCHEDULE. CONFIRM SWITCHBANK(S) WILL FIT WITHIN THIS DESIGNATED AREA AND STACK MULTIPLE SWITCHBANKS, WITH FEWER GANGS, AT THIS LOCATION IF A SINGLE SWITCHBANK WILL NOT FIT WITHIN THIS DESIGNATED AREA.
10. CONNECT TO EXHAUST FAN SERVING THIS ROOM. REFER TO SHEET E1.0 FOR ADDITIONAL INFORMATION.

SWITCHBANK "SB1" SCHEDULE

SWITCH TAG	ZONE DESCRIPTION	CONTROL TYPE
a	SALES AREA TRACK LIGHTING	SPST TOGGLE SWITCH
b	SALES AREA TRACK LIGHTING	SPST TOGGLE SWITCH
c	CASHWRAP ACCENT LIGHTING	SPST TOGGLE SWITCH
d	FITTING ROOM AREA LIGHTING	SPST TOGGLE SWITCH
e	ENTRY LIGHTING	SPST TOGGLE SWITCH
g	ELECTRICAL EQUIPMENT LIGHTING	SPST TOGGLE SWITCH

GENERAL NOTES:
A. PROVIDE BOX PARTITIONS BETWEEN CONTROLS OF DIFFERING VOLTAGES.

SWITCHBANK "SB1" SCHEDULE

SWITCH TAG	ZONE DESCRIPTION	CONTROL TYPE
f	STOCKROOM LIGHTING	LOW VOLTAGE SWITCH

GENERAL NOTES:
A. PROVIDE BOX PARTITIONS BETWEEN CONTROLS OF DIFFERING VOLTAGES.

LEGEND
EXISTING
NEW WORK
NEW TO EXISTING CONNECTION

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PETERBOROUGH, ON K9J 7YK
SPACE #161 STORE #3541 - B

REV	DATE	DESCRIPTION
1	05/02/2023	LANDLORD COMMENTS FOR PERMIT - 05/18/23

PROJECT NO: 230088
DRAWN BY: SDI
CHECKED BY: ORS
ISSUE DATE: 04/13/23

LIGHTING PLAN

E2.0

SE JOB#: 23038

LUMINAIRE SCHEDULE

MARK	MANUFACTURER	CATALOG NUMBER	VOLTAGE	WATTS	MOUNTING	LIGHT SOURCE	LAMP QTY.	LAMP DESCRIPTION	SUPPORTED DIMMING	SELECTED BY	REMARKS
C	JUNO	T259L–G2–30K–80CRI–PDIM–WH	120	41	TRACK	LED	N/A	N/A	ELV	OTHERS	
D	JUNO	T689–WH	120	15	TRACK	LED	1	15W MAX PAR30 LED	NON	OTHERS	
E2	JUNO	R–2FT–WH	120	N/A	TRACK	N/A	N/A	N/A	N/A	OTHERS	NOTE 1
E4	JUNO	R–4FT–WH	120	N/A	TRACK	N/A	N/A	N/A	N/A	OTHERS	NOTE 1
E6	JUNO	R–6FT–WH	120	N/A	TRACK	N/A	N/A	N/A	N/A	OTHERS	NOTE 1
E8	JUNO	R–8FT–WH	120	N/A	TRACK	N/A	N/A	N/A	N/A	OTHERS	NOTE 1
F	JUNO	CV8–126/32/42T–820C–WH	120	42	CEILING, RECESSED	CFL	1	42W TRIPLE, 4–PIN	NON	OTHERS	
H	TROY LIGHTING	CUSTOM, FK17414	120	450	CEILING, SUSPENDED	LED	30	15W MAX CANDELABRA	NON	OTHERS	
I	TROY LIGHTING	CUSTOM, FK17414–20–1	120	120	CEILING, SUSPENDED	LED	8	15W MAX CANDELABRA	NON	OTHERS	
J	LITHONIA	ZL1N–L48–5000LM–FST–MVOLT–30K–80CRI–WH	120	34	CEILING, SUSPENDED	LED	N/A	N/A	0–10V	OTHERS	
R	MATTHEWS FAN COMPANY	KAYE KC–CR	120	48	CEILING, SURFACE	N/A	N/A	N/A	N/A	OTHERS	
W	EMERGI–LITE	EAE–1–TA–UI	120	4	WALL, SURFACE	LED	N/A	N/A	NON	OTHERS	
Y	LITHONIA	ELM6L–UVOLT–LTP–SDRT	120	3	CEILING, SUSPENDED	LED	N/A	N/A	NON	OTHERS	

LIGHT SOURCE CODES
LED = LIGHT EMITTING DIODE
FL = LINEAR FLUORESCENT
CFL = COMPACT FLUORESCENT
IND = INCANDESCENT
MH = METAL HALIDE
HPS = HIGH PRESSURE SODIUM

SUPPORTED DIMMING CODES	
NON = NOT DIMMABLE	3–WIRE = FLUORESCENT 3–WIRE
0–10V = 0–10V	ECO = LUTRON ECOSYSTEM
IND = INCANDESCENT	DMX = DMX512
MLV = MAGNETIC LOW VOLTAGE / TRIAC / FORWARD PHASE / LEADING EDGE	
ELV = ELECTRONIC LOW VOLTAGE / REVERSE PHASE / TRAILING EDGE	
DALI = DIGITAL ADDRESSABLE LIGHTING INTERFACE	

LUMINAIRE SCHEDULE GENERAL NOTES:

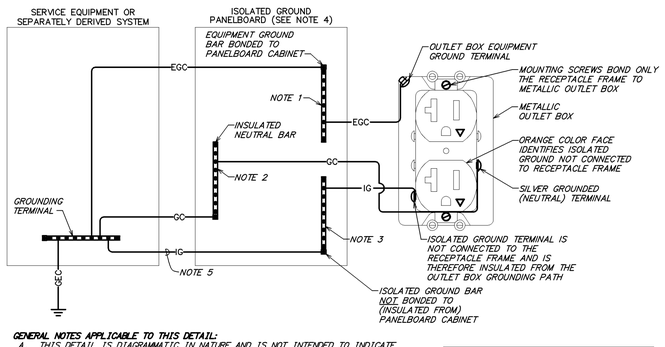
A. LUMINAIRE SYMBOLS THAT ARE SHOWN HALF–SHADED, OR LABELED "EM", ON THE PLAN(S) INDICATE LUMINAIRES THAT SERVE AS EMERGENCY LIGHTING. UNLESS SERVED BY A CIRCUIT ORIGINATING AT AN EMERGENCY PANELBOARD OR CENTRAL LIGHTING INVERTER, EMERGENCY LIGHTING LUMINAIRES SHALL BE PROVIDED WITH AN EMERGENCY BATTERY. SEE THE SPECIFICATIONS FOR MINIMUM EMERGENCY BATTERY PERFORMANCE REQUIREMENTS.

B. PROPOSED SUBSTITUTIONS FOR LUMINAIRES THAT ARE SELECTED BY OTHERS REQUIRE THE APPROVAL OF THE INDIVIDUAL THAT SELECTED THE LUMINAIRE.

C. LUMINAIRES AND LAMPS ARE FURNISHED BY TENANT'S VENDOR FOR INSTALLATION BY ELECTRICAL CONTRACTOR, UNLESS NOTED OTHERWISE.

LUMINAIRE SCHEDULE KEYED NOTES:

1. PROVIDE WITH ALL TRACK SECTIONS AND ACCESSORIES REQUIRED FOR A COMPLETE AND FUNCTIONAL LIGHTING SYSTEM.



GENERAL NOTES APPLICABLE TO THIS DETAIL:

A. THIS DETAIL IS DIAGRAMMATIC IN NATURE AND IS NOT INTENDED TO INDICATE PROPOSED CIRCUIT ROUTING. PHASE CONDUCTORS AND RACEWAYS ARE NOT SHOWN FOR CLARITY. ALL RACEWAYS SHALL BE SECURELY BONDED TO THE ENCLOSURES THE RACEWAYS CONNECT.

B. A GREEN EQUIPMENT GROUND CONDUCTOR IS REQUIRED FOR EVERY APPLIANCE BRANCH CIRCUIT, EVERY GENERAL–PURPOSE BRANCH CIRCUIT, EVERY INDIVIDUAL BRANCH CIRCUIT, AND EVERY MULTI–WIRE BRANCH CIRCUIT. UNDER NO CIRCUMSTANCES WILL A METALLIC RACEWAY SYSTEM BE ACCEPTED AS THE SOLE MEANS OF EQUIPMENT GROUNDING.

C. GROUNDED (NEUTRAL) CONDUCTORS ARE ONLY REQUIRED FOR 120V LOADS OR POLYPHASE LOADS THAT REQUIRE 120V POWER.

D. WHEN INSTALLED PER THE CURRENT NATIONAL ELECTRICAL CODE REQUIREMENTS, AT LEAST TWO GROUND CONDUCTOR PATHS ARE REQUIRED: ONE FOR THE RECEPTACLE GROUND AND ONE FOR THE RECEPTACLE.

NOTES APPLICABLE TO THIS DETAIL:

1. ONLY EQUIPMENT GROUNDING CONDUCTORS SHALL TERMINATE ON THIS EQUIPMENT GROUND BAR. UNDER NO CIRCUMSTANCES SHALL ANY ISOLATED GROUNDING OR GROUNDED CONDUCTOR (NEUTRAL) CONDUCTORS TERMINATE ON THIS BAR.

2. ONLY GROUNDED (NEUTRAL) CONDUCTORS SHALL TERMINATE ON THIS NEUTRAL BAR. UNDER NO CIRCUMSTANCES SHALL ANY ISOLATED GROUNDING OR EQUIPMENT GROUNDING CONDUCTORS TERMINATE ON THIS BAR.

3. ONLY ISOLATED GROUNDING CONDUCTORS SHALL TERMINATE ON THIS ISOLATED GROUND BAR. UNDER NO CIRCUMSTANCES SHALL ANY EQUIPMENT GROUNDING OR GROUNDED CONDUCTOR (NEUTRAL) CONDUCTORS TERMINATE ON THIS BAR.

4. UNLESS INDICATED OTHERWISE, CIRCUITS SERVED BY THIS PANEL SHALL BE ROUTED IN DEDICATED RACEWAYS AND SHALL NOT BE COMBINED IN THE SAME RACEWAY WITH NON–ISOLATED GROUND CIRCUITS.

5. ISOLATED GROUNDING CONDUCTOR IS PERMITTED TO PASS THROUGH PANELBOARDS BUT MUST TERMINATE AT THE SERVICE EQUIPMENT GROUNDING TERMINAL OR AT THE GROUNDING TERMINAL OF THE SEPARATELY DERIVED SYSTEM, IF APPLICABLE, UNLESS INDICATED OTHERWISE.

CONDUCTOR LEGEND
—GC— GROUNDED CONDUCTOR (NEUTRAL)
—EGC— EQUIPMENT GROUNDING CONDUCTOR
—IG— ISOLATED GROUNDING CONDUCTOR
—GEC— GROUNDING ELECTRODE CONDUCTOR

(2) ISOLATED GROUND SYSTEM DETAIL
NOT TO SCALE

SYMBOL MODIFIERS (INCLUDING COMBINATIONS), ACRONYMS, AND ABBREVIATONS

GENERAL SYMBOL MODIFIERS (APPLY TO ALL)	
+XX"	MOUNTING HEIGHT TO CENTER OF BOX (OVERRIDES DEFAULT MOUNTING HEIGHT)
ACH	6 INCHES ABOVE COUNTERTOP/BACKSPLASH TO CENTER OF BOX
EM	EMERGENCY
GFCI	GROUND–FAULT CIRCUIT INTERRUPTER (4 TO 6 MILLIAMP TRIP)
H	HORIZONTAL MOUNT
PT	POKE–THROUGH
WP	WEATHERPROOF
RECEPTACLE MODIFIERS	
CH	CLOCK HANGER
CR	CONTROLLED
HG	HOSPITAL GRADE
IG	ISOLATED GROUND
SP	SURGE PROTECTION
SR	SHOW WINDOW, MOUNTED WITHIN 18 INCHES OF TOP OF SHOW WINDOW
TR	TAMPER–RESISTANT
USB	DEVICE WITH USB PORT(S)

SWITCHES AND CONTROLS MODIFIERS	
2	DPST
3	THREE–WAY
4	FOUR–WAY
a,b,c...	CONTROL AND LOAD ASSOCIATION
D	DIMMER
DTC	SPDT, CENTER OFF, MAINTAINED CONTACT
DTM	SPDT, CENTER OFF, MOMENTARY CONTACT
F	BOX COVER UNIT, BUSSMANN SSU SERIES
G	GLOW HANDLE (HANDLE GLOWS WHEN SWITCH IS OFF)
K	KEY OPERATED
LV	LOW VOLTAGE
LVD	LOW VOLTAGE DIMMER
M	MANUAL MOTOR CONTROLLER WITH OVERLOAD HEATER
OR	OVERRIDE WITH TIMER
OS1	SINGLE–RELAY OCCUPANCY SENSOR
OS2	DUAL–RELAY OCCUPANCY SENSOR
OSD	DIMMING OCCUPANCY SENSOR
P	PILOT LIGHT (PILOT ON WHEN SWITCH IS ON)
SB	SWITCH BANK (GANGED SWITCHES)
T	TIMER

GENERAL ACRONYMS AND ABBREVIATIONS	
AHJ	AUTHORITY HAVING JURISDICTION
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
EGC	EQUIPMENT GROUNDING CONDUCTOR
EMMS	ARC ENERGY REDUCING MAINTENANCE SWITCH
FTL	FEED–THROUGH LUGS (SUBFEED LUGS ARE ALSO ACCEPTABLE)
GEC	GROUNDING ELECTRODE CONDUCTOR
GFPE	GROUND–FAULT PROTECTION OF EQUIPMENT
GND	GROUND
N.F.	NON–FUSED
NEC	NATIONAL ELECTRICAL CODE (NFPA 70)
NIC	NOT IN CONTRACT
NL	NIGHTLIGHT
ST	SHUNT TRIP
UNO	UNLESS NOTED OTHERWISE
SPST	SINGLE POLE, SINGLE THROW
DPST	DOUBLE POLE, SINGLE THROW
3PST	THREE POLE, SINGLE THROW
4PST	FOUR POLE, SINGLE THROW
SPDT	SINGLE POLE, DOUBLE THROW
DPDT	DOUBLE POLE, DOUBLE THROW
3PDT	THREE POLE, DOUBLE THROW
4PDT	FOUR POLE, DOUBLE THROW
NO	NORMALLY OPEN
NC	NORMALLY CLOSED

TENANT WIREWAY LOAD CALCS PER CEC SECTION 8

EQUIPMENT NAME:	TENANT WIREWAY	
OCCUPANCY TYPE:	STORE OR RESTAURANT	
AREA:	3006 SQ. FEET	(279.27 SQ. METRES)
BASIC LOAD POWER DENSITY:	30 WATTS/SQ. METRE	
VOLTAGE SYSTEM:	347/600V, 3 PHASE, 4 WIRE	
CIRCUIT TYPE:	FEEDER	

LOAD TYPE	LOAD DUTY	CONNECTED LOAD	DEMAND FACTOR	DEMAND LOAD
BASIC LOAD:	NONCONTINUOUS	8378 VA	100%	8378 VA
ELECTRIC SPACE HEATING:	NONCOINCIDENTAL	0 VA	0%	0 VA
AIR–CONDITIONING:	CONTINUOUS	33048 VA	100%	33048 VA
WATER HEATING:	NONCONTINUOUS	1500 VA	N/A	1500 VA
MOTORS:	NONCONTINUOUS	0 VA	N/A	0 VA
SIGNAGE:	CONTINUOUS	1200 VA	N/A	1200 VA
SHOW WINDOW LIGHTING:	CONTINUOUS	0 VA	N/A	0 VA
SPECIAL LIGHTING:	CONTINUOUS	0 VA	N/A	0 VA
DATA PROCESSING EQUIPMENT:	CONTINUOUS	0 VA	N/A	0 VA
APPLIANCES:	NONCONTINUOUS	0 VA	N/A	0 VA
OTHER NON–CONTINUOUS LOADS:	NONCONTINUOUS	2250 VA	N/A	2250 VA
OTHER CONTINUOUS LOADS:	CONTINUOUS	0 VA	N/A	0 VA
	TOTALS:	46376 VA		46376 VA
	TOTAL CONTINUOUS LOAD:	34248 VA		
	TOTAL NONCONTINUOUS LOAD:	12128 VA		
	LOAD FOR SIZING 80% RATED OCPD CIRCUIT:	54938 VA		
	EQUIVALENT AMPS:	52.9 AMPS		

ELECTRICAL SYMBOL LEGEND (SOME MAY NOT BE USED)

	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
RECEPTACLES AND PLUGS	⊖	WALL MOUNTED SINGLE RECEPTACLE, NEMA 5–20R	⊡	FLUSH FLOOR MOUNTED SINGLE RECEPTACLE, NEMA 5–20R
	⊜	WALL MOUNTED DUPLEX RECEPTACLE	⊡	FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE
	⊜	WALL MOUNTED DEDICATED DUPLEX RECEPTACLE	⊡	FLUSH FLOOR MOUNTED DEDICATED DUPLEX RECEPTACLE
	⊜	WALL MOUNTED DUPLEX RECEPTACLE, ONE RECEPTACLE SWITCHED OR SPLIT–WIRED	⊡	FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE, SPLIT–WIRED
	⊞	WALL MOUNTED QUADRUPLEX RECEPTACLE	⊡	FLUSH FLOOR MOUNTED QUADRUPLEX RECEPTACLE
	⊞	WALL MOUNTED DEDICATED QUADRUPLEX RECEPTACLE	⊡	FLUSH FLOOR MOUNTED DEDICATED QUADRUPLEX RECEPTACLE
	⊞	WALL MOUNTED QUADRUPLEX RECEPTACLE, SPLIT–WIRED	⊡	FLUSH FLOOR MOUNTED QUADRUPLEX RECEPTACLE, SPLIT–WIRED
	⊙	WALL MOUNTED SPECIAL RECEPTACLE, NEMA CONFIGURATION AS NOTED	⊡	FLUSH FLOOR MOUNTED SPECIAL RECEPTACLE, NEMA CONFIGURATION AS NOTED
	⊜	WALL MOUNTED RANGE RECEPTACLE, NEMA 14–50R UNLESS INDICATED OTHERWISE	⊡	ABOVE FLOOR SERVICE FITTING, HUBBELL #SC3098A OR EQUAL, NEMA CONFIGURATION AS NOTED
	⊜C	CEILING MOUNTED, SINGLE RECEPTACLE, NEMA 5–20R (C=FLUSH CEILING, DC=DROPCORD)	⊡C	CEILING MOUNTED QUADRUPLEX RECEPTACLE (C=FLUSH CEILING, DC=DROPCORD)
	⊜C	CEILING MOUNTED DUPLEX RECEPTACLE (C=FLUSH CEILING, DC=DROPCORD)	⊡C	CEILING MOUNTED DEDICATED QUADRUPLEX RECEPTACLE (C=FLUSH CEILING, DC=DROPCORD)
	⊜C	CEILING MOUNTED, DEDICATED DUPLEX RECEPTACLE (C=FLUSH CEILING, DC=DROPCORD)	⊡C	CEILING MOUNTED, QUADRUPLEX RECEPTACLE, SPLIT–WIRED (C=FLUSH CEILING, DC=DROPCORD)
	⊜C	CEILING MOUNTED, DUPLEX RECEPTACLE, SPLIT–WIRED (C=FLUSH CEILING, DC=DROPCORD)	⊙C	CEILING MOUNTED SPECIAL RECEPTACLE, NEMA CONFIGURATION AS NOTED (C=FLUSH CEILING, DC=DROPCORD)
	⏚	MULTI–OUTLET ASSEMBLY	⌇⊂	CORD AND PLUG
BOXES	⊙	WALL MOUNTED JUNCTION/OUTLET BOX	⊙C	CEILING MOUNTED JUNCTION/OUTLET BOX
	⊡	FLUSH FLOOR MOUNTED JUNCTION/OUTLET BOX	(J)	JUNCTION BOX MOUNTED ABOVE CEILING
SWITCHES AND CONTROLS	$	SWITCH, SPST UNLESS INDICATED OTHERWISE, HORSEPOWER RATED WHEN USED IN CONJUNCTION WITH MOTORS	⊡	PUSHBUTTON STATION, ONE BUTTON
	(OS)	CEILING MOUNTED OCCUPANCY SENSOR	⊡	PUSHBUTTON STATION, TWO BUTTON
	OS	WALL MOUNTED OCCUPANCY SENSOR	⊡	PUSHBUTTON STATION, THREE BUTTON
	(PS)	CEILING MOUNTED PHOTOSENSOR	⊏	SAFETY SWITCH, CHARACTERISTICS AS INDICATED
	(MS)	CEILING MOUNTED MOTION SENSOR	⊏I	DISCONNECT SWITCH PROVIDED BY EQUIPMENT MANUFACTURER INTEGRAL WITH EQUIPMENT
	TC	AUTOMATIC TIMECLOCK	⊏CB	ENCLOSED CIRCUIT BREAKER, CHARACTERISTICS AS INDICATED
	PC	PHOTOCELL	⊠	MAGNETIC MOTOR STARTER
	R	RELAY	⊏⊠	COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT SWITCH, CHARACTERISTICS AS INDICATED
	C	CONTACTOR	VFD	VARIABLE FREQUENCY DRIVE
	ALCR	UL 924 AUTOMATIC LOAD CONTROL RELAY; HUBBELL CONTROL SYSTEMS #ALCR1277 OR EQUAL	GTD	UL 1008 BRANCH CIRCUIT EMERGENCY LIGHTING TRANSFER SWITCH; BODINE #GTD20A OR EQUAL
SIGNAL	B	BELL	B	CHIME
	B	BUZZER	(⟳)	ROTATING BEACON
TELECOMMUNICATIONS	▼	WALL MOUNTED TELEPHONE OUTLET; *P DENOTES NUMBER OF TELEPHONE PORTS	▽	WALL MOUNTED DATA OUTLET; *D DENOTES NUMBER OF DATA PORTS
	▼	FLUSH FLOOR MOUNTED TELEPHONE OUTLET; *P DENOTES NUMBER OF TELEPHONE PORTS	▽	FLUSH FLOOR MOUNTED DATA OUTLET; *D DENOTES NUMBER OF DATA PORTS
	▼C	CEILING MOUNTED TELEPHONE OUTLET; *P DENOTES NUMBER OF TELEPHONE PORTS	▽C	CEILING MOUNTED DATA OUTLET; *D DENOTES NUMBER OF DATA PORTS
	▼	WALL MOUNTED COMBINATION TELEPHONE AND DATA OUTLET; *P/*D DENOTES NUMBER OF TELEPHONE/DATA PORTS	▽	FLUSH FLOOR MOUNTED COMBINATION TELEPHONE AND DATA OUTLET; *P/*D DENOTES NUMBER OF TELEPHONE/DATA PORTS
	(WAP)	WIRELESS ACCESS POINT	▽C	CEILING MOUNTED COMBINATION TELEPHONE AND DATA OUTLET; *P/*D DENOTES NUMBER OF TELEPHONE/DATA PORTS
RACEWAYS AND CIRCUITRY		CIRCUITRY, CONCEALED IN WALL OR CEILING	■P	POWER POLE
		CIRCUITRY, CONCEALED IN OR UNDER FLOOR	■T	TELECOMMUNICATIONS POLE
		CIRCUITRY, EXPOSED	■TP	TWO–CHANNEL TELECOMMUNCATIONS AND POWER POLE
		CIRCUIT HOMERUN. THE NUMBER OF ARROWS INDICATES THE NUMBER OF CIRCUITS. TWO WIRES UNLESS NOTED OTHERWISE; SLASHES INDICATE NUMBER OF WIRES. EQUIPMENT GROUND WIRE IS REQUIRED BUT NOT INDICATED. A 7 INDICATES ISOLATED GROUND CONDUCTOR.	—UCP—	UNDERCARPET FLAT CONDUCTOR CABLE WIRING SYSTEM, POWER
			—UCT—	UNDERCARPET FLAT CONDUCTOR CABLE WIRING SYSTEM, TELEPHONE
			—UCD—	UNDERCARPET FLAT CONDUCTOR CABLE WIRING SYSTEM, DATA
		CONDUIT STUB		WIRE LOOP FOR FUTURE CONNECTION, 10"–0" MINIMUM SLACK
		CONDUIT/CIRCUIT BREAK AND CONTINUED ELSEWHERE		VERTICAL CONDUIT/CIRCUIT
MISCELLANEOUS		METER AND SOCKET	(M)	MOTOR
		LIGHTING AND APPLIANCE PANELBOARD, SURFACE MOUNTED	XX RPS	REMOTE LIGHTING POWER SUPPLY/TRANSFORMER; (XX = WATT RATING)
		LIGHTING AND APPLIANCE PANELBOARD, FLUSH MOUNTED	XX ⊏S	TRACK LIGHTING END FEED; (XX = CURRENT LIMITER RATING, IF APPLICABLE)
		OTHER EQUIPMENT AS NOTED	TR	LOW VOLTAGE CONTROL TRANSFORMER

EXISTING PANEL "A"

FED FROM: TENANT DISCONNECT
VOLTAGE: 208Y/120V, 3 PHASE, 4 WIRE
BUS MATERIAL: EXISTING
BUS LOAD: 60 AMPS
BUS RATING: 225 AMPS
MAIN: MAIN LUG ONLY

MOUNTING: SURFACE MOUNTED
ENCLOSURE: NEMA 1
FAULT CURRENT: EXISTING
AIC/SCCR RATING: MATCH EXISTING
OPTIONS*: BONDED AND ISOLATED GROUND BARS

			LOAD (VA)					LOAD (VA)					
NOTES	CKT.	LOAD DESCRIPTION	A	B	C	BREAKER	BREAKER	A	B	C	LOAD DESCRIPTION	CKT.	NOTES
C–INT1	1	TRACK LIGHTING	1920			20/1	15/1	180			CASHWRAP IG RECEPT.	2	
C–INT1	3	TRACK LIGHTING		1920		20/1	15/1		180		CASHWRAP IG RECEPT.	4	
C–INT1	5	CASHWRAP LIGHTING			707	15/1	15/1			360	CASHWRAP RECEPT.	6	
C–INT1	7	FITTING LIGHTING	565			15/1	15/1	180			SOUND SYSTEM	8	
C–INT1	9	FITTING LIGHTING		930		15/1	15/1		360		DESK RECEPT.	10	
C–INT1	11	FITTING LIGHTING			1170	15/1	15/1			540	RECEPT.	12	
C–INT1	13	STOCKROOM LIGHTING	720			15/1	15/1	540			RECEPT.	14	
	15	RECEPT.		1080		15/1	15/1		360		BACKWRAP RECEPT.	16	
	17	SHOW WINDOW REC.			360	15/1	15/1			1200	STOREFRONT SIGNAGE	18	C–INT2
HLO	19	SECURITY SYSTEM	360			15/1	15/1	360			TELECOM BOARD	20	
	21	REFRIGERATOR		750		20/1	15/1		180		IT CABINET	22	
	23	MICROWAVE			1500	20/1	15/1			180	EX. RESTROOM RECEPT.	24	
	25	SPARE				15/1	15/1				SPARE	26	
	27	EX. PANEL RECEPT.		360		15/1	15/1				SPARE	28	
	29	SPARE				30/2	15/1				SPARE	30	
	31	———				———	20/1	1500			EX. WATER HEATER	32	
	33	SPACE ONLY									SPACE ONLY	34	
	35	SPACE ONLY									SPACE ONLY	36	
	37	SPACE ONLY									SPACE ONLY	38	
	39	SPACE ONLY									SPACE ONLY	40	
	41	SPACE ONLY									SPACE ONLY	42	

NOTES:
GENERAL 1: SEE SPECIFICATIONS FOR OTHER OPTIONS REQUIRED BUT NOT NECESSARILY NOTED ON THIS SCHEDULE.
GENERAL 2: PROVIDE A HANDLE TIE TO INTERLOCK ALL CIRCUIT BREAKERS WHICH COMPRISE A MULTIWIRE BRANCH CIRCUIT.
HLO PROVIDE HANDLE CLAMP/NON–PADLOCKABLE LOCK–ON/HANDLE BLOCKING ACCESSORY TO PREVENT MANUAL OPERATION.
C–# ROUTE CIRCUIT THROUGH CONTACTOR (# = CONTACTOR DESIGNATION).

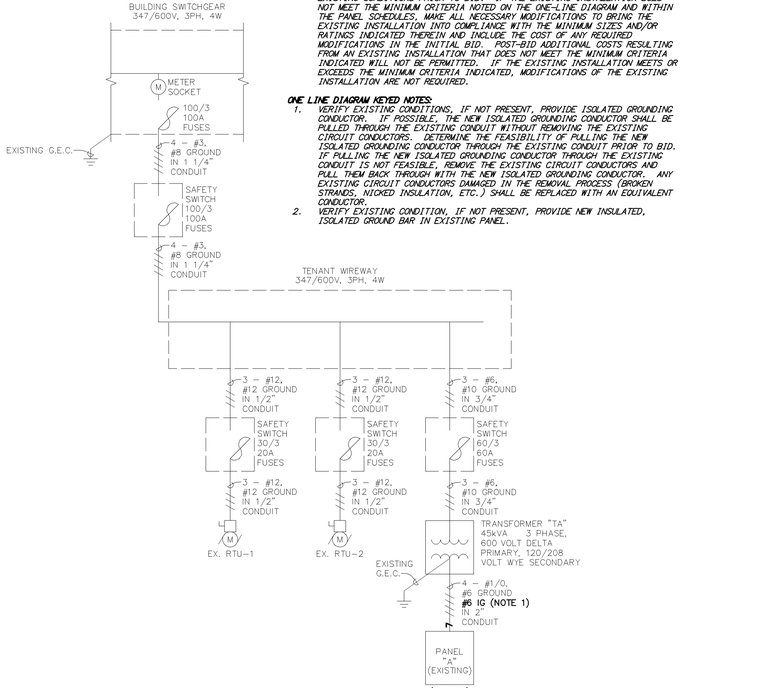
ONE LINE DIAGRAM GENERAL NOTES:

A. ALL EXISTING FEEDER SIZES, OVERCURRENT PROTECTION DEVICES, ETC. NOTED ON THE ONE–LINE DIAGRAM AND ALL EXISTING PANEL RATINGS INDICATED ON THE PANEL SCHEDULES ARE THE MINIMUM SIZES REQUIRED. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. IF THE EXISTING INSTALLATION DOES NOT MEET THE MINIMUM CRITERIA NOTED ON THE ONE–LINE DIAGRAM AND WITHIN THE PANEL SCHEDULES, MAKE ALL NECESSARY MODIFICATIONS TO BRING THE EXISTING INSTALLATION INTO COMPLIANCE WITH THE MINIMUM SIZES AND/OR RATINGS INDICATED THEREIN AND INCLUDE THE COST OF ANY REQUIRED MODIFICATIONS IN THE INITIAL BID. POST–BID ADDITIONAL COSTS RESULTING FROM AN EXISTING INSTALLATION THAT DOES NOT MEET THE MINIMUM CRITERIA INDICATED WILL NOT BE PERMITTED. IF THE EXISTING INSTALLATION MEETS OR EXCEEDS THE MINIMUM CRITERIA INDICATED, MODIFICATIONS OF THE EXISTING INSTALLATION ARE NOT REQUIRED.

ONE LINE DIAGRAM KEYED NOTES:

1. VERIFY EXISTING CONDITIONS, IF NOT PRESENT, PROVIDE ISOLATED GROUNDING CONDUCTOR. IF POSSIBLE, THE NEW ISOLATED GROUNDING CONDUCTOR SHALL BE PULLED THROUGH THE EXISTING CONDUIT WITHOUT REMOVING THE EXISTING CIRCUIT CONDUCTORS. DETERMINE THE FEASIBILITY OF PULLING THE NEW ISOLATED GROUNDING CONDUCTOR THROUGH THE EXISTING CONDUIT PRIOR TO BID. IF PULLING THE NEW ISOLATED GROUNDING CONDUCTOR THROUGH THE EXISTING CONDUIT IS NOT FEASIBLE, REMOVE THE EXISTING CIRCUIT CONDUCTORS AND PULL THEM BACK THROUGH WITH THE NEW ISOLATED GROUNDING CONDUCTOR. ANY EXISTING CIRCUIT CONDUCTORS DAMAGED IN THE REMOVAL PROCESS (BROKEN STRANDS, NICKED INSULATION, ETC.) SHALL BE REPLACED WITH AN EQUIVALENT CONDUCTOR.

2. VERIFY EXISTING CONDITION, IF NOT PRESENT, PROVIDE NEW INSULATED, ISOLATED GROUND BAR IN EXISTING PANEL.



(1) ONE–LINE DIAGRAM
NOT TO SCALE

LEGEND
—— EXISTING
—— NEW WORK
⊕ NEW TO EXISTING CONNECTION

REGISTRATION SEAL
LICENSED PROFESSIONAL ENGINEERS
G. SCHNACKEL
100134840
PROVINCE OF ONTARIO
Date: 05/03/2023
COA #: C1,055

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SPACE #161 STORE #3541 – B

REV	DATE	DESCRIPTION	NAME
1	05.02.2023	LANDLORD COMMENTS	
		FOR PERMIT – 05/18/23	

PROJECT NO: 230308
DRAWN BY: SEI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

ONE–LINE AND SCHEDULES

E3.0

SE JOB#: 230308

SECTION 260000 - ELECTRICAL GENERAL CONDITIONS

PART 1 GENERAL
1.01 SUMMARY
A. This Section supplements all Sections of the Specifications for Division 26, Division 27, and Division 28 and shall apply to all phases of work hereinafter specified, shown on the Drawings, or required to provide a complete installation of approved electrical systems.
B. The Drawings, General Conditions and General Provisions of the Contract apply to this Section and the other Sections of Division 26, Division 27, and Division 28 of the specifications. Where conflicts arise between these documents, the more stringent provision will be applicable, subject to the interpretation of the Engineer.
C. Furnish all labour, material, services, and skilled supervision necessary for the construction, erection, installation, connections, testing, and adjustment of all materials and electrical equipment specified herein, or shown noted on the Drawings, and its delivery to the Owner, complete in all respects and ready for use.
D. Where plans indicate fixtures or equipment will be furnished by this Contractor for installation by other Contractors, this Contractor shall furnish all such equipment, complete in all respects and ready for installation. Drawings, instructions, and manuals supplied with equipment shall be carefully preserved and turned over to the installing Contractor.
E. Where plans indicate fixtures or equipment will be furnished by others, this Contractor shall provide all rough-in and supplies and shall connect such equipment to the electrical system. Drawings, instructions, and manuals supplied with equipment shall be carefully preserved and turned over to the Architect.

1.02 DEFINITIONS
A. Work: The construction and services required by the Contract Documents whether completed or partially completed and includes all labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The work may constitute the whole or a part of the project.
B. Furnish: To supply and deliver, unload, and inspect for damage.
C. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, connect, and place into operation into the work.
D. Provide: To furnish and install.
E. Connect: To bring service to the equipment and make final attachment including necessary switches, outlets, boxes, terminations, etc.
F. Concealed: Hidden from sight in chases, furred spaces, shafts, hung ceilings, embedded in construction, in crawl spaces, or buried.
G. Exposed: Not installed underground nor concealed as defined.
H. Drawings: All plans, details, equipment schedules, diagrams, sketches, etc. issued for the construction of the work.
I. Conduit: Conduit, and all required fittings, pull boxes, hangers, and other supports and accessories related to such conduit.

1.03 CODES AND STANDARDS
A. Perform work in accordance with the applicable Building Code, Electrical Code, Fire Code, Mechanical Code, Plumbing Code, Energy Code, and all other applicable codes, amendments, and ordinances. Also perform all work in accordance with:
1. Canadian Centre for Occupational Health and Safety (CCOHS) Regulations.
2. The Authority Having Jurisdiction.
3. Landlord requirements including Tenant Criteria Manuals and Lease Exhibits.
4. Utility company requirements.
B. Recognized Standards: Design, manufacture, testing and method of installation of all apparatus and materials furnished under the requirements of these Specifications shall conform to the latest publications or standard rules of Institute of Electrical and Electronic Engineers (IEEE), National Electrical Manufacturers Association (NEMA), Underwriters Laboratories, Inc. (UL), National Fire Protection Association (NFPA), American Society for Testing and Materials (ASTM), American National Standards Institute (ANSI), Standards Council of Canada (SCC), Canadian Standards Association (CSA), National Electrical Contractors Association (NECA), and Canadian Electrical Contractors Association (CECA).
C. Code, Landlord, and utility company requirements supersede any requirements of the Drawings and/or Specifications. The Contract Documents take precedence where the Contract Documents exceed code, landlord, utility, or recognized standards requirements.

1.04 PERMITS AND FEES: Permits, licenses, fees, inspections and arrangements required for the work under this Contract shall be obtained by the Contractor at his expense.

1.05 TEMPORARY SERVICES FOR CONSTRUCTION
A. Provide a temporary electrical service, including all required equipment such as transformers, generators and fuel, panelboards, etc. as required by all trades. Coordinate power requirements for the temporary service with the General Contractor and the utility company prior to the start of construction. The Contractor is responsible to develop all temporary service plans and specifications as required by the Authority Having Jurisdiction, submit these and specifications as required by the Authority Having Jurisdiction, and to pay for all temporary service energy consumption.
B. Provide all temporary lighting necessary to provide lighting levels in compliance with CCOHS Regulations and as required by all trades.

1.06 CONTRACT DRAWINGS
A. Obtain, fully understand, and coordinate the work with the complete set of Contract Documents. Any required corrections, including all associated costs, arising from lack of coordination with the complete set of Contract Documents is the Contractor's sole responsibility.
B. Work under these Sections is diagrammatic and is intended to convey the scope of work and indicate the general arrangement of equipment, conduit, and outlets. Obtain instructions from the Architect/Engineer prior to rough-in wherever a question exists as to the exact intended location of outlets or equipment.
C. Promptly report and discrepancies discovered within the Contract Documents. Failure of the Contractor to report discrepancies shall result in the resolution becoming the Contractor's responsibility and subject to the Architect/Engineer's review and possible rejection. Should the Architect/Engineer reject a discrepancy resolution of which they were not notified, the Contractor is fully responsible to correct the installation, including all associated costs, until approval of the installation is given by the Architect/Engineer.

1.07 SUBMITTALS FOR ENGINEER REVIEW:
A. Furnish the following submittals to the Architect for review by the Engineer:
1. Product data for contactors and relays.
2. Product data and shop drawings for lighting control devices.
3. Shop drawings for low voltage transformers.
4. Shop drawings for panelboards.
5. Product data for interior lighting.
6. Product data and shop drawings for telephone and data systems.
B. Use manufacturer's specification sheets identified by number indicated on drawings or schedules.
C. Indicate catalog number on the cut sheets.
D. Submittals other than those listed above will not be reviewed and will be returned stating such.
E. Submittals are reviewed only for general compliance with the Contract Documents. Dimensions, quantities and details are not checked during submittal review. Review of the submittals does not relieve the Contractor of the responsibility for providing all materials, equipment and accessories necessary for a complete and operational system meeting the requirements of the project and the intent of the Contract Documents. The responsibility for coordination of substituted materials and equipment lies solely with the substituting Contractor.

1.08 QUALITY ASSURANCE
A. All components shall be listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose and free of all rust/corrosion or any visible damage. All items not complying with this requirement shall be replaced without any change in the Contract amount.
B. Unless otherwise specified, all equipment, devices, luminaires, and materials of the same type or classification and used for the same purpose shall be products of the same manufacturer. Use only new, un-weathered, and unused material, except as specifically noted.
C. Equipment performance and accessories shall be as indicated on the Drawings and/or specified herein. Inclusion in both locations is not a prerequisite to inclusion in the Contract; equipment and accessories specified in either location shall be included in the Contract. Provide all necessary accessories and connections as required for a complete, functional system, including all required components reasonably inferred to as necessary although such components may or may not be specifically indicated in the Contract Documents.

1.09 DELIVERY, STORAGE, AND HANDLING: Accept all materials on site and inspect for damage and protect from corrosion and entrance of debris. Handle all materials in accordance with manufacturer's instructions to avoid damage to internal components, enclosures, and finishes.

1.10 WARRANTY AND GUARANTEE: Provide a complete parts and labor warranty and guarantee on all systems for a period of one year from Owner acceptance of the completed facility. This warranty and guarantee shall cover all failures unless such failure is directly attributable to vandalism or causes other than defects in material or workmanship.

PART 2 PRODUCTS
2.01 CONDUCTOR TERMINATIONS: Provide conductor terminations rated at a minimum of 75 degrees C in all equipment.
2.02 SUBSTITUTIONS: The products specified in the Contract Documents constitute the Basis of Design for the Construction Documents and set minimum standards for quality, design, and functionality. Other products are permitted to be submitted, at the Contractor's option, during shop drawing review unless indicated otherwise. Any substitute products shall meet or exceed all requirements specified. Any costs and coordination issues arising out of any substitution, including coordination with all other contractors and subcontractors and any associated costs, is the substituting contractor's sole responsibility.

PART 3 EXECUTION
3.01 COORDINATION OF WORK
A. Work lines and established heights shall be in strict accordance with architectural drawings and specifications. Verify all dimensions shown and establish all elevations and detailed dimensions not shown prior to rough-in.
B. Promptly report any difficulties encountered in the installation of the work which might prevent prompt and proper installation. Failure to report shall constitute an acceptance of the work of other trades as being fit and proper for the execution of this work. Coordinate the work with all trades so that it proceeds without delay and minimizes interference to work that is in progress or has not been completed. Conflicts arising from lack of coordination shall be this Contractor's responsibility. The Electrical Contractor shall pay for all extra cutting and patching necessary by any lack of coordination.
D. Arrange all conduit runs in such a manner that it does not interfere with grilles, diffusers, outlet boxes, luminaires, or other items while providing for maximum headroom. Maintain access to equipment requiring service when selecting mounting elevations.
E. Afford other trades reasonable opportunity for the execution of their work and connect the work of other trades as to not delay or interfere with their work.
F. Explicitly follow all manufacturer's installation instructions and promptly report any conflicts between the manufacturer's installation instructions and the Contract Documents.
G. Provide all supplementary or miscellaneous items, appurtenances, and devices incidental to or necessary for a sound, secure and complete installation.
H. Verify and coordinate all requirements and installation details of all materials and equipment prior to rough-in. Obtain and review shop drawings, product data, manufacturer's wiring diagrams, and manufacturer's instructions for equipment furnished under other Sections. Determine connection locations and requirements, sequence rough-in of electrical connections to coordinate with installation of equipment, sequence electrical connections to coordinate with start-up of equipment, and verify that proper power supply is available prior to subcontractor's ordering equipment. Verify proper voltage, phase, and current rating of power supply and report any discrepancies prior to order, connection of equipment, or start-up. Responsibility for verification of proper power supply voltage and any damage resulting from incorrect connections shall rest with this Contractor and any conflicts arising from lack of coordination shall be this Contractor's responsibility.

3.02 ACCESS TO EQUIPMENT: Install all equipment, starters, switches, receptacles, and boxes so that all parts are easily accessible for inspection, operation, maintenance, and repair. Provide access doors, fire rated where required, for concealed equipment.

3.03 CUTTING, PATCHING, AND PIERCING
A. Cut all openings in a neat workmanlike manner, only as large as required for the installation, and leave surfaces around openings smooth and finished to match surrounding surface.
B. Patch existing finished surfaces and building components using new materials matching existing materials.
C. Fire and/or Smoke Rated Assemblies: Become familiar with all fire and/or smoke rated construction. Install work to maintain the integrity of those ratings.
D. Roof Penetrations: Coordinate with the Roofing Contractor to provide any required roof penetrations.

3.04 FIELD QUALITY CONTROL
A. Install all equipment, devices, luminaires, and materials plumb, level, securely, and in a neat and workmanlike manner in accordance with CSA C22.1 PART 1 and all applicable CECA, NECA, and NEMA standards.
B. Adjust all flush mounted equipment, boxes, cabinets, and enclosures such that they are flush with finished wall or flooring material.
C. Replace or refinish damaged equipment, devices, luminaires, materials, and surfaces where marring or disfigurement has occurred.
D. Clean electrical parts to remove harmful materials. Clean exposed surfaces of all equipment, devices, luminaires, and materials and the interior of all boxes, enclosures, and cabinets of all foreign materials.
E. Paint all electrical equipment and materials located on exterior walls, on the roof where exposed to public view, where visible from 6'-0" above grade from any property line, and all exposed conduit to match the surrounding surfaces. Coordinate paint color with the Architect.

3.05 TESTING AND INSPECTION
A. Testing: Test the entire system under operating conditions over a sufficient period of time to establish the adequacy, quality, safety, completed status, and suitable operation of all equipment, devices, systems, etc.
B. Inspection: Obtain all required certificates of inspection and approval.

3.06 PROJECT CLOSEOUT
A. Project Record Documents: Provide one printed copy and one electronic copy of project record drawings to the Owner. Project record drawings shall reflect the actual "as-built" conditions and shall include locations of all equipment, devices, and luminaires, circuiting arrangements, routing of all underfloor conduits, routing of conduits larger than 50 mm, locations and mounting heights of all outlet, pull, and junction boxes, locations of all items requiring maintenance and inspection, and locations of components and circuits and switching arrangements of lighting controls.
B. Operation and Maintenance Data: Provide one printed copy and one electronic copy of operation and maintenance data for all equipment, devices and luminaires to the Owner. Operation and maintenance data shall include manufacturer's cut sheets, maintenance procedures, recommended maintenance intervals, wiring diagrams, parts lists, manufacturers' warranties, certificates, and test reports of each item installed.
C. Maintenance Materials: Provide to the Owner two keys for each different enclosure and cabinet, including panelboards, two spare fuses of each type and size, and one fuse puller.
D. Test Reports: Provide one printed copy and one electronic copy of all completed test reports to the Owner.

END OF SECTION

SECTION 260501 - ELECTRICAL DEMOLITION

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 MATERIALS AND EQUIPMENT: Materials and equipment for patching and extending work as specified in individual Sections.

PART 3 EXECUTION
3.01 EXAMINATION
A. Visit the project site, review existing conditions against the Contract Documents, and familiarize himself with the conditions prior to bidding and start of the work. Verify existing conditions, field measurements, and circuiting arrangements are as indicated and that abandoned wiring and equipment serve only abandoned facilities. By signing the Contract, the Contractor acknowledges the site visit has been completed and the existing conditions are accepted.
B. Promptly report any field discrepancies. The Contractor assumes full responsibility for adjusting for discrepancies of which the design team is not informed.
C. Any demolition work indicated on the Drawings is intended to convey the scope of the demolition work involved. If demolition plans are not included with the Drawings, the Contractor is responsible to demolish existing as required to allow for installation and construction of the work.
D. Commencement of work means Contractor accepts existing conditions.

3.02 PREPARATION
A. Disconnect electrical systems in walls, floors, and ceilings that are removed.
B. Protect and safeguard any existing service lines and utility structures.
C. Coordinate all utility work and shutdowns with utility company and the Owner.
D. Provide temporary wiring and connections to maintain existing systems in service as required for the sequencing of the work or the Owner's need for continued operations.
E. Maintain all existing power, telephone, and fire alarm systems in service until new system is fully operational, tested, and ready for service. Notify all stakeholders (Owner, Authority Having Jurisdiction, utility company, Landlord, etc.) at least 48 hours before partially or completely disabling system, disable systems only to make switchovers and connections, and minimize all outage durations.

3.03 DEMOLITION OF EXISTING ELECTRICAL WORK
A. Maintain continuity of circuits as needed to provide power to remaining devices, fixtures, or equipment not being removed.
B. Remove, relocate, and extend existing installations as required to accommodate new construction. Extend existing installations using materials and methods compatible with existing electrical installations or as specified and required by Code.
C. Remove all abandoned wiring, including all abandoned telecommunications and other low voltage cabling, to source of supply.
D. Remove exposed abandoned conduit and abandoned conduit above accessible ceilings. Cut abandoned concealed conduit flush with walls and floors.
E. Disconnect and remove all devices, boxes, distribution equipment, luminaires, and all associated mounting hardware and appurtenances that are not required to remain.
F. Maintain access to existing electrical installations that remain active. Modify installation or provide access panel as appropriate.
G. Dispose of all equipment not reused as part of the work. The Owner shall have first salvage rights on all materials and equipment.

3.04 CLEANING AND REPAIR
A. Repair construction and finishes damaged during demolition and extension work.
B. Patch all openings resulting from the installation or removal of electrical equipment or materials.
C. Clean and repair existing materials and equipment that remain or that are to be reused.
D. Existing and Relocated Luminaires: Clean exposed surfaces; remove all foreign material from interiors, check tightness of electrical connections, replace damaged circuit breakers, and provide closure plates for vacant positions.
E. Existing and Relocated Luminaires: Clean luminaire reflectors and lenses per manufacturer's recommendations, replace all lamps with new, replace any expired ballasts, and repair any broken electrical parts. Replace any existing luminaires with identical luminaire for any existing luminaires that are damaged beyond repair.

END OF SECTION

SECTION 260519 - CONDUCTORS AND CABLES

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 BUILDING WIRE AND CABLES
A. Provide single conductor building wire installed in raceway unless indicated otherwise, otherwise permitted, or otherwise required.
B. All conductors shall be RW90 copper conductors.
C. Metal Clad Cable (Type MC): Permitted only for branch circuits in concealed locations and only when approved by applicable codes and amendments and the Authority Having Jurisdiction. Exposed MC Cable is not permitted; no exceptions.
1. All MC Cable sheaths shall be listed and identified for grounding.
2. All MC Cable shall be equipped with copper equipment grounding conductor. No exceptions.
D. Nonmetallic-Sheathed Cable (Type NM): Type NM-B permitted only for branch circuits in concealed locations within individual dwelling units and only when approved by applicable codes and amendments and the Authority Having Jurisdiction. Exposed NM Cable and NM Cable used outside of individual dwelling units is not permitted; no exceptions.
E. Use solid or stranded conductors for all conductors 10 AWG and smaller. Use stranded conductors for all conductors 8 AWG and larger.
F. Wire Sizes:
1. Use 12 AWG conductors, minimum, for all circuits unless indicated otherwise or as modified as follows:
a. 20A, 120V circuits longer than 75 feet: 10 AWG to offset voltage drop.
b. 20A, 120V circuits longer than 150 feet: 8 AWG to offset voltage drop.
c. 20A, 277V circuits longer than 150 feet: 10 AWG to offset voltage drop.
2. Wire Sizes indicated on the Drawings or indicated above shall be carried through the entire circuit to the furthest outlet box on the associated circuit unless indicated otherwise.
a. Where a circuit splits into multiple branches, the wire size shall be carried through the entirety of each branch to the furthest outlet box on each branch unless indicated otherwise.

2.02 CONTROL CABLES
A. All control cable conductor sizes, quantities, stranding, and shielding as recommended by the manufacturer and required for the installation but no smaller than 18 AWG.
B. Horizontal Applications in Conduit: Type CL2 unless otherwise required.
C. Horizontal Applications not in Conduit: Type CL2P unless otherwise required.
D. Riser Applications: Type CL2R unless otherwise required.

2.03 COMMUNICATIONS CABLES: See Section 271005.

2.04 WIRING CONNECTORS
A. Use twist-on insulated spring connectors, mechanical connectors, or compression connectors for conductor sizes 8 AWG and smaller. Do not use push-in wire connectors as a substitute for twist-on insulated spring connectors.
B. Use mechanical connectors or compression connectors for conductor sizes 6 AWG and larger.
C. Use crimped terminals for all control circuit conductor connections.

PART 3 EXECUTION
3.01 PREPARATION: Clean raceways thoroughly to remove foreign materials before installing conductors and cables.
3.02 COLOR CODING
A. Color code conductors as follows and maintain consistent color coding throughout project including branch circuit conductors.
1. 208Y/120 V, 3 phase, 4 Wire System
a. Phase A: Black
b. Phase B: Red
c. Phase C: Blue
d. Neutral/Grounded: White
2. 600Y/347 V, 3 Phase, 4 Wire System
a. Phase A: Orange
b. Phase B: Brown
c. Phase C: Yellow
d. Neutral/Grounded: White with black stripe
3. Equipment Ground: Green
4. Isolated Ground: Green with yellow stripe

3.03 INSTALLATION
A. Circuit routing indicated is diagrammatic. Arrange circuiting to minimize splices and include circuit lengths required to install connected devices within 3 meters of location shown.
B. Combining branch circuits in a single raceway is permitted under the following conditions:
1. Provide no more than six current-carrying conductors in a single raceway. Dedicated neutral conductors are considered current-carrying conductors.
2. Increase size of conductors as required to account for ampacity derating.
3. Size raceways, boxes, etc. to accommodate conductors.
C. Neutral Conductors:
1. Provide separate neutral conductors for:
a. Branch circuits protected by ground fault circuit interrupter (GFCI) circuit breakers.
b. Branch circuits protected by arc fault circuit interrupter (AFCI) circuit breakers.
c. Branch circuits protected by shunt trip circuit breakers.
d. Branch circuits fed from feed-through protection of GFCI receptacles.
e. Branch circuits with dimming controls.
f. Branch circuits that serve emergency lighting equipment such as emergency batteries or emergency lighting unit heads.
g. Where indicated by the wire counts shown on the Drawings.
2. Multiwire branch circuits (shared neutrals) are permitted where not otherwise indicated.
a. Locate all multiwire branch circuits in vertically adjacent panelboard pole spaces and provide circuit breaker handle ties to simultaneously disconnect all ungrounded circuit conductors.
D. Pull all conductors together into raceway at same time, do not damage conductors or exceed manufacturer's recommended maximum pulling tension or sidewall pressure, and use suitable wire pulling lubricant where recommended by the manufacturer.
E. Secure and support conductors and cables in accordance with CSA C22.1 PART 1 using supports and methods approved by the Authority Having Jurisdiction. Provide independent support from building structure, do not support from raceways, piping, ductwork, suspended ceiling support systems, or other systems and do not allow conductors or cables to lay on ceiling tiles.
F. Cut all cables per the manufacturer's recommendations and terminate using suitable fittings including anti-short, insulated bushings where applicable.
G. Provide a minimum of 305 mm of slack at each outlet. Provide a minimum of 1.5 meters of slack where conductors are installed in enclosures for future use by others.
H. Neatly train and bundle conductors inside boxes, wireways, panelboards and other equipment enclosures.
I. Make wiring connections using specified wiring connectors and make splices and taps only in accessible boxes. Do not pull splices into raceways or make splices in conduit bodies.
J. Do not remove conductor strands to facilitate insertion into connector. Provide connectors suitable for reducing to appropriate size, but not less than required for the rating of the overcurrent protective device, where conductors are larger than the equipment terminations can accommodate.
K. Insulate splices and taps that are made with uninsulated connectors using insulating covers specifically designed for the connectors, or electrical tape for dry or damp locations. Use heat shrink tubing for wet locations.
L. Provide final connections to all equipment and devices, including those furnished by others, as required for a complete operating system.
M. Provide all control wiring and communications cabling, whether or not shown on the Drawings, per manufacturer's recommendations and as required for a complete and operational system.

END OF SECTION

SECTION 260526 - GROUNDING AND BONDING

PART 1 GENERAL
1.01 MAXIMUM GROUNDING SYSTEM RESISTANCE: 5 ohms.

PART 2 PRODUCTS
2.01 ROD ELECTRODES: Copper, 20 mm diameter, 3 meter long solid rods. Sectional rods are not permitted.
2.02 CONCRETE ENCASED ELECTRODES: 4 AWG, 6 meter long bare copper wire.
2.03 WIRE: Copper wire sized to meet CSA C22.1 PART 1 requirements.
2.04 CONNECTORS AND ACCESSORIES: Copper, copper alloy, or bronze mechanical connectors.

PART 3 EXECUTION
3.01 INSTALLATION OF GROUNDING ELECTRODE SYSTEM
A. As applicable to the project, provide all components required for a complete grounding electrode system including bonding of metal underground water pipe, metal frame of the building, concrete-encased electrode, metal aboveground water piping system, metal aboveground gas piping system, and rod electrode(s) per CSA C22.1 PART 1 requirements.

3.02 INSTALLATION OF EQUIPMENT GROUNDING SYSTEM
A. Without exception, provide insulated equipment grounding conductor sized per CSA C22.1 PART 1 requirements within each feeder and branch circuit raceway and terminate each end on suitable lug, bus, or bushing.

3.03 INSTALLATION OF ISOLATED GROUNDING SYSTEM
A. Provide an additional isolated grounding conductor for circuits serving isolated ground receptacles. Isolated grounding conductor shall be insulated from the isolated grounding receptacle to the isolated ground bus in the upstream panelboard.

3.04 TESTING
A. Measure grounding resistance using Fall of Potential Method or Signal Injection Method. Provide additional rod electrodes as required to reduce grounding resistance to less than the specified maximum permitted value.

END OF SECTION

SECTION 260529 - HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 HANGERS AND SUPPORTS
A. Corrosion-resistant materials of size and type adequate to carry the supported weight, including the weight of wire in conduit; do not use perforated pipe straps as a means of support.

2.02 ANCHORS AND FASTENERS
A. Use precast inserts, preset inserts, expansion anchors, or self-drilling anchors as approved by the Structural Engineer for concrete elements.
B. Use beam clamps, steel spring clips, steel ramset fasteners, or welded fasteners for steel elements.
C. Use toggle bolts or hollow wall fasteners for hollow masonry, plaster, and gypsum board partitions.
D. Use expansion anchors or preset inserts for solid masonry walls.
E. Use sheet metal screws for sheet metal elements and wood screws for wood elements.

PART 3 EXECUTION
3.01 INSTALLATION
A. Provide all required blocking and supplemental framing required to securely support all materials.
B. Fasten supports to building structure and surfaces only. Do not fasten supports to pipes, ducts, mechanical equipment, conduit, or ceiling suspension wires.
C. Obtain permission from Structural Engineer before drilling or cutting structural members or before using powder-actuated anchors.
D. Rigidly weld support members or use hex-bolts to present neat appearance with adequate strength and rigidity. Provide lock washers under all nuts.
E. Install surface-mounted cabinets and panelboards with minimum of four anchors.
F. Provide steel channel supports behind all cabinets and panelboards located in damp or wet locations to stand enclosures 25 mm off wall.
G. Provide supports for all low voltage wiring not routed in conduit.

END OF SECTION

SECTION 260534 - CONDUIT AND WIREWAYS

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 CONDUIT
A. Size: As required by CSA C22.1 PART 1 for the conductors installed but no smaller than specified.
1. Sizes Indicated on the Drawings:
a. Any conduit sizes indicated to a utility transformer are based on Schedule 80 PVC conduit.
b. Any conduit sizes indicated to the primary or secondary of a dry-type transformer are based on Flexible Metal Conduit (FMC).
c. All other conduit sizes are based on Electrical Metallic Tubing (EMT).
d. The Contractor is responsible to adjust conduit sizes as required when a different conduit type is used.
B. Underground: 21 mm minimum rigid metal conduit, intermediate metal conduit, Schedule 80 PVC, or Schedule 40 PVC. Metal conduits shall be galvanized or PVC coated.
C. Outdoor Locations above Grade: 16 mm minimum rigid metal conduit or intermediate metal conduit. Nonmetallic conduit is not permitted above grade. Conduits shall be galvanized or PVC coated.
D. Within Slabs above Grade: 21 mm minimum rigid metal conduit, intermediate metal conduit, or Schedule 80 PVC. Metal conduits shall be galvanized or PVC coated. Coordinate with the Structural Engineer for restrictions and limitations on conduits installed in slabs above grade.
E. Exposed Wet and Damp Locations: 16 mm minimum rigid metal conduit or intermediate metal conduit. Conduits shall be galvanized or PVC coated.
F. Connections to Vibrating Equipment and Luminaires in Dry Locations: 16 mm minimum flexible metal conduit.
G. Connections to Vibrating Equipment and Luminaires in Damp and Wet Locations: 16 mm minimum liquidtight flexible metal conduit.
H. All Other Dry Locations: 16 mm minimum rigid metal conduit, intermediate metal conduit, or electrical metallic tubing.

2.02 FITTINGS: Provide listed fittings identified for use with the conduit.

2.03 WIREWAYS: Square D Class 5100 Type LDB for dry locations or Square D Class 5100 Type LDR for damp and wet locations unless indicated otherwise; size as required by CSA C22.1 PART 1 based on conductor fill and bending radius requirements.

PART 3 EXECUTION
3.01 INSTALLATION
A. Install all conduit in all interior and exterior areas, including exposed structure areas, unless the Architect provides specific approval permitting the use of exposed conduit.
B. Route any exposed conduit parallel and perpendicular to walls.
C. Subject to the Architect's approval, conduit located above ceilings is permitted to be routed point-to-point provided it is secured with supported per CSA C22.1 PART 1 requirements and complies with all applicable Codes and other requirements of the specifications.
D. Do not embed conduit in slabs-on-grade. Locate conduit a minimum of 50 mm below the bottom surface of the slab to avoid future damage from cutting of the floor slab.
E. Route conduit in slabs-above-grade from point-to-point. Do not cross conduits embedded in slabs.
F. Route underground conduit from point-to-point and at a burial depth in compliance with CSA C22.1 PART 1, local code, and utility company requirements.
G. Arrange conduit to maximize headroom and present neat appearance and arrange supports to prevent misalignment during wiring installation.
H. Secure and support all conduits in compliance with CSA C22.1 PART 1 requirements and group adjacent conduits on steel channel racks and trapezes.
I. Provide 305 mm of clearance between conduit and piping or surfaces with temperatures exceeding 40 degrees C.
J. Install no more than equivalent of three 90 degree bends between boxes.
K. Provide sleeves when penetrating footings, masonry walls and floors and seal all penetrations through footings and floors water tight.
L. Provide suitable fittings to accommodate expansion and deflection where conduit crosses seismic, control, and expansion joints.
M. Provide suitable pull string in each empty conduit except sleeves and nipples.
N. Provide caps to protect installed conduit against entrance of dirt and moisture.
O. Secure wireway to building surfaces and close ends of wireway and unused conduit openings.
P. Ground and bond conduit and wireways as required by CSA C22.1 PART 1.

END OF SECTION

SECTION 260537 - BOXES

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 ALL BOXES
A. Nonmetallic boxes are not permitted unless indicated otherwise or without specific written approval from the Architect.
B. Provide all required box hangers and supports, extension rings, mud rings, etc. for a complete and code compliant installation.
C. Use gang boxes where more than one device is mounted together; do not use sectional boxes.

2.02 OUTLET AND SMALL JUNCTION BOXES
A. Dry and Damp Locations: Galvanized NEMA OS 1 stamped steel box rated for the weight of the equipment supported and sized per CSA C22.1 PART 1 requirements for the device(s) and conductors installed within.
B. Wet Locations: Galvanized cast metal NEMA FB 1 Type FD box with gasketed cover and threaded hubs and sized per CSA C22.1 PART 1 requirements for the device(s) and conductors installed within.

2.03 PULL AND LARGE JUNCTION BOXES
A. Dry and Damp Locations: Galvanized NEMA OS 1 stamped steel box sized per CSA C22.1 PART 1 requirements for the conductors installed within.
B. Wet Locations: Galvanized NEMA 250 Type 4 cast iron or cast aluminum box with ground flange, neoprene gasket, and stainless steel cover screws and sized per CSA C22.1 PART 1 requirements for the conductors installed within.

PART 3 EXECUTION
3.01 INSTALLATION
A. Install in locations indicated and as required for splices, taps, wire pulling, equipment connections, and as required by CSA C22.1 PART 1.
B. Install pull boxes and junction boxes above accessible ceilings and in unfinished areas only.
C. Install outlet boxes for all wall-mounted wiring devices at heights indicated in Section 262726 unless indicated otherwise. Coordinate mounting heights and locations of outlets mounted above counters, benches, and backsplashes and provide adequate depth.
D. Use flush boxes in finished areas. Do not install flush boxes back-to-back in walls; provide minimum 153 mm and one stud separation.
E. Locate flush boxes in masonry walls to require cutting of masonry unit corner only. Coordinate masonry cutting to achieve neat opening.
F. Install all wall-mounted boxes plumb and level.
G. Install all ceiling-mounted boxes level and oriented parallel with building lines and ceiling grid tees where applicable.
H. Install all floor boxes level and oriented parallel with building lines and tile grout lines where applicable.
I. Vertically align adjacent wall mounted outlet boxes for switches, thermostats, similar devices.
J. Install concealed boxes within 153 mm from ceiling access panels, air distribution diffusers, or removable recessed luminaires.
K. Support boxes independently of conduit; do not support boxes from ceiling support wires.
L. Install knockout closures in unused box openings.
M. Install cover plates on boxes; see Section 262726 for cover plate specifications.
N. Ground and bond boxes as required by CSA C22.1 PART 1.

END OF SECTION

SECTION 260553 - IDENTIFICATION FOR ELECTRICAL SYSTEMS

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 NAMEPLATES: Engraved laminated plastic with 4 mm letters on contrasting background.
2.02 LABELS: As required by regulatory agencies.
2.03 WIRE MARKERS: Cloth, tape, split sleeve, or tubing type.

PART 3 EXECUTION
3.01 NAMEPLATES: Provide nameplates with the unique equipment designation at each electrical distribution and control equipment enclosure, communication cabinet, and control device station.
3.02 WARNING LABELS: Provide all regulatory required and industry standard warning labels on all electrical equipment, including high-voltage, tested series rated combination, and arc flash hazard labeling.
3.03 WIRE MARKERS: Provide wire and cable markers at panelboard gutters, pull boxes, outlet boxes, and junction boxes for each load connection. Indicate branch circuit or feeder number indicated on Drawings and control wire number indicated on shop drawings.
3.04 COLOR CODE LEGEND: Provide identification label identifying conductor color codes at each piece of feeder or branch-circuit distribution equipment.
3.05 INSTALLATION
A. Install nameplates and labels parallel to equipment lines.
B. Secure nameplates for distribution equipment visible to the public to the inside surface of door.
C. Secure nameplates for distribution equipment not visible to the public to the front of the enclosure using screws, rivets, or adhesive.

END OF SECTION

SECTION 260595 - FIRE STOPPING

PART 1 GENERAL
1.01 PREPARATION: Examine the complete set of Drawings and identify all fire rated partitions, floors and assemblies and identify appropriate firestopping method for the assembly.

PART 2 PRODUCTS
2.01 FIRESTOPPING ASSEMBLIES: Use only systems listed by UL or FM or tested in accordance with ASTM E 814 or ASTM E 119 that have F Rating equal to fire rating of penetrated assembly and minimum T Rating Equal to F Rating.
2.02 MATERIALS: Elastomeric silicone firestopping, foam firestopping, fibered compound firestopping, fiber packing material, mechanical firestop devices, intumescent putty, and firestop pillows are permitted.

PART 3 EXECUTION
3.01 INSTALLATION
A. Comply with firestopping manufacturer's recommendations for temperature and other environmental conditions before, during, and after installation. Provide ventilation in areas where solvent-cured materials are being installed.
B. Protect adjacent surfaces from damage by material installation.
C. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter which may affect bond of firestopping material. Remove incompatible materials which may affect bond. Install backing materials to arrest liquid material leakage.
D. Apply the appropriate fire stopping materials and systems to maintain the fire rating of the partition, floor, or ceiling assembly being penetrated.
E. Install materials in manner described in fire test report and in accordance with manufacturer's instructions, completely closing openings.
F. Do not cover installed firestopping until inspected by Authority Having Jurisdiction.
G. Install any labeling required by Code.
H. Clean adjacent surfaces of firestopping materials.

END OF SECTION

SECTION 260919 - CONTACTORS AND RELAYS

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 CONTACTORS
A. Description: Square D Class 8903, Type L or Type S unless indicated otherwise or otherwise required.
B. Contacts:
1. Provide with quantity of normally open and normally closed contacts as required and a minimum of two spare poles.
a. Provide two pole contactors connected in parallel with one another when the number of contacts required exceeds the maximum capability of a single contactor.
2. Coordinate contact rating to match branch circuit overcurrent protection, considering derating for continuous loads, but no less than 30 amps.
C. Coil: Coordinate with the voltage of the control circuits.
D. Enclosure: Manufacturer's standard enclosure suitable for the environment in which the contactor is installed.

2.02 RELAYS
A. Description: Square D Class 8501 Type C unless indicated otherwise or otherwise required.
B. Contacts: Form C contacts rated at 30 amperes unless indicated otherwise.
C. Coil: Coordinate with the voltage of the control circuit.
D. Enclosure: Manufacturer's standard enclosure suitable for the environment in which the relay is installed.

PART 3 EXECUTION
3.01 INSTALLATION
A. Install individual controls and relays in enclosures adjacent to panelboard serving controlled circuits and make electrical wiring interconnections.
B. Provide all relays, contactors, interposing relays, and controls that are required but may not be shown to switch the loads in the manner indicated on the Drawings.
C. Provide nameplate for contactors indicating contactor number.

END OF SECTION

REGISTRATION SEAL
LICENSED PROFESSIONAL ENGINEER
G. SCHNACKEL
100134840
PROVINCE OF ONTARIO
Date: 05/03/2023
COA # C-01389

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TORRID

REV	DATE	DESCRIPTION	NAME
1	05/02/2023	LANDLORD COMMENTS	
0	05/01/2023	FOR PERMIT	

LANSDOWNE PLACE
645 LANSDOWNE ST. W
PETERBOROUGH, ON K9J 7YK
SPACE #161 STORE #3541 - B

PROJECT NO: 230088
DRAWN BY: SSI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

ELECTRICAL SPECIFICATIONS

E4.0

SE-JOB#: 230308

SECTION 260923 - LIGHTING CONTROL DEVICES

PART 1 GENERAL
1.01 PREPARATION
A. Hold meeting with the Owner prior to commencing work.
1. Review zoning and make adjustments requested by the Owner.
2. Determine all timeclock settings such as ON and OFF times for each day of the week, holiday settings, latitude and longitude of the project site for astronomic features, etc.
3. Determine all control settings such as on and off triggers, blink warnings, sweep settings, switch programming, etc.

PART 2 PRODUCTS
2.01 ALL LIGHTING CONTROL DEVICES
A. Provide all required conduit, wiring, connectors, hardware, components, accessories, etc. as required for a complete operating system.
B. All sensors shall be suitable for the geometrical and environmental characteristics of the associated space and be suitable for the floor area to be covered. Provide multiple sensors when necessary to meet the required room coverage.
2.02 INDOOR OCCUPANCY SENSORS
A. Wall Switch:
1. Single-Relay: Wattstopper #DSW-301 unless indicated otherwise.
2. Dual-Relay: Wattstopper #DSW-302 unless indicated otherwise.
3. Finish: As selected by the Architect.
B. Combination Wall Switch / Dimmer:
1. 0-10V Dimming: Wattstopper #DW-311 unless indicated otherwise; finish as selected by the Architect.
C. Wall-Mounted:
1. Sensor: Wattstopper #DT-200 unless indicated otherwise.
2. Power Pack: Wattstopper #BZ-150 unless indicated otherwise.
3. Finish: White.
D. Ceiling-Mounted:
1. Sensor: Wattstopper #DT-300 unless indicated otherwise.
2. Power Pack: Wattstopper #BZ-150 unless indicated otherwise.
3. Finish: White.
E. Accessories: Provide heavy duty coated steel wire protective guards compatible with specified occupancy sensors where subject to impact.
2.03 TIMECLOCKS
A. Tork DZS series unless indicated otherwise.
B. Input Voltage: Coordinate with the voltage of the control circuit.
C. Enclosure: Manufacturer's standard enclosure suitable for the environment in which the timeclock is installed.
2.04 TIMER SWITCHES: Tork #SS403 unless indicated otherwise.

PART 3 EXECUTION
3.01 GENERAL INSTALLATION REQUIREMENTS
A. Provide all control wiring and communications cabling, whether or not shown on the Drawings, per manufacturer's recommendations and as required for a complete and operational system.
B. Program the entire system as established in meeting with the Owner.
3.02 INSTALLATION OF TIMECLOCKS
A. Install timeclocks adjacent to panelboard serving controlled circuits and make electrical wiring interconnections.
B. Provide all relays, contactors, interposing relays, and controls that are required but may not be shown to switch the loads in the manner indicated on the Drawings.
C. Provide nameplate for timeclocks indicating timeclock number.
3.03 INSTALLATION OF OCCUPANCY SENSORS AND MOTION SENSORS
A. Location Adjustments: Locations indicated are diagrammatic and only intended to indicate which rooms or areas require devices. Provide quantity and locations as required for complete coverage of respective room or area based on manufacturer's recommendations for installed devices.
B. Install ultrasonic and dual technology occupancy sensors a minimum of 1.2 meters from air supply ducts or other sources of heavy air flow and as per manufacturer's recommendations, in order to minimize false triggers.
C. Program occupancy sensors as MANUAL-ON, AUTOMATIC-OFF unless indicated otherwise.
D. Mask sensor lenses using the manufacturer's masking material as required to prevent false triggers.
E. Adjust position of directional occupancy sensors and outdoor motion sensors to achieve optimal coverage as required.
3.04 INSTALLATION OF POWER PACKS
A. Install power packs on junction box in accessible location above ceiling at the associated sensor.
B. Do not switch power serving power packs. All required switching shall occur on the load side of the power pack relay.
3.05 CLOSEOUT
A. Demonstrate proper operation of lighting control devices to the Owner and correct deficiencies or make adjustments as directed.
B. Train Owner's personnel on operation, adjustment, programming, and maintenance of lighting control devices.
C. Provide a written report of all program settings and photosensor settings to the Owner.

END OF SECTION

SECTION 262416 - PANELBOARDS

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 LIGHTING AND APPLIANCE PANELBOARDS
A. Circuit Breakers:
1. Bolt-on thermal-magnetic molded case circuit breakers with common trip handle for all poles.
a. Provide Type SWD for lighting circuits.
b. Provide Type HACR for heating, air-conditioning, and refrigeration equipment circuits.
c. Provide Class A ground-fault circuit interrupter (GFCI) where indicated or otherwise required.
d. Provide ground-fault protection of equipment (GFPE) where serving heat tracing or otherwise required.
e. Provide combination type arc-fault circuit interrupter (AFCI) where indicated or otherwise required.
f. Provide dual-rated combination type arc-fault circuit interrupter (AFCI) and Class A ground-fault circuit interrupter (GFCI) where indicated or otherwise required.
2. Accessories:
a. Provide handle ties for circuit breakers serving multiwire branch circuits.
b. Provide Square D #HL01 handle clamps for circuit breakers denoted as "HLO" and for all fire protection and fire alarm equipment and all circuits serving emergency lighting.
c. Provide Square D #QO*PAF fixed handle padlock attachment for circuit breakers denoted as "HPL" and for appliances without a local disconnecting means.
d. Provide shunt trip were denoted as "ST" or otherwise required.
3. Amp Interrupting Capacity (AIC) Rating: No less than the available fault current; fully rated or manufacturer tested series combination. The Contractor shall determine the available fault current where not indicated on the Drawings.
4. Do not use multi-pole circuit breakers that mount in a 1-pole circuit breaker space (i.e. half-size circuit breakers).
2.02 LOAD CENTERS
A. Circuit Breakers:
1. Plug-on thermal-magnetic molded case circuit breakers with common trip handle for all poles.
a. Provide Class A ground-fault circuit interrupter (GFCI) where indicated or otherwise required.
b. Provide combination type arc-fault circuit interrupter (AFCI) where indicated or otherwise required.
c. Provide dual-rated combination type arc-fault circuit interrupter (AFCI) and Class A ground-fault circuit interrupter (GFCI) where indicated or otherwise required.
2. Accessories:
a. Provide handle ties for circuit breakers serving multiwire branch circuits.
b. Provide Square D #HL01 handle clamps for circuit breakers denoted as "HLO" and for all fire protection and fire alarm equipment and all circuits serving emergency lighting.
c. Provide Square D #QO*PAF fixed handle padlock attachment for circuit breakers denoted as "HPL" and for appliances without a local disconnecting means.
d. Provide shunt trip were denoted as "ST" or otherwise required.
3. Amp Interrupting Capacity (AIC) Rating: No less than the available fault current; fully rated or manufacturer tested series combination. The Contractor shall determine the available fault current where not indicated on the Drawings.
4. Do not use multi-pole circuit breakers that mount in a 1-pole circuit breaker space (i.e. half-size circuit breakers).

PART 3 EXECUTION
3.01 INSTALLATION
A. Install panelboards 1.8 meters to top of panelboard but no less than 100 mm above floor.
B. Provide 100 mm thick concrete housekeeping pad for surface-mounted panelboards installed within 100 mm of the floor.
C. Provide filler plates for unused spaces in panelboards.
D. Provide typed circuit directory and nameplate for each panelboard. Revise directory to reflect circuiting changes required to balance phase loads.
E. Provide five 27 mm spare conduits out of each flush-mounted panelboard to an accessible location above ceiling. Identify each as SPARE.
F. Measure steady state load currents at each panelboard feeder and rearrange circuits as required to balance the phase loads to within 10 percent maximum imbalance. Maintain proper phasing for multiwire branch circuits.
G. Provide nameplate indicating panelboard equipment designation for each panelboard.

END OF SECTION

SECTION 262717 - EQUIPMENT WIRING

PART 1 GENERAL
1.01 COORDINATION WITH OTHER TRADES
A. Meet with all other trades before commencing any work and obtain and review shop drawings, product data, manufacturer's wiring diagrams, and manufacturer's instructions for equipment furnished under other Sections.
1. Determine all equipment connection locations and requirements and verify that proper power supply is available prior to subcontractor's ordering equipment.
2. Calculate the available fault current at any equipment required to carry a short-circuit current rating (SCCR) and communicate the minimum SCCR required to the contractor supplying the equipment prior to the equipment being ordered.
3. Sequence rough-in of electrical connections to coordinate with installation of equipment.
4. Sequence electrical connections to coordinate with start-up of equipment.
B. Verify and coordinate all requirements and installation details of all materials and equipment prior to rough-in.
C. Verify proper voltage, phase, and current rating of power supply and immediately report any discrepancies.
D. Responsibility for verification of proper power supply voltage and any damage resulting from incorrect connections shall rest with this Contractor.
E. Any conflicts arising from lack of coordination shall be this Contractor's responsibility.

PART 2 PRODUCTS
2.01 CORDS
A. Description: Multi-conductor flexible cord Type SO for dry and damp locations or Type SOW in wet locations.
B. Conductor Quantity: As required for the load served; include identified equipment grounding conductor.
C. Conductor Insulation Rating: As required for the voltage of the load served.
D. Conductor Ampacity: No less than the rating of the overcurrent protection device protecting the circuit.
2.02 CORD CAPS: Match cord cap to receptacle configuration at outlet provided for equipment.
2.03 OTHER MATERIALS: Provide all disconnect switches, wiring devices, conduit, wire and cable, and boxes required.

PART 3 EXECUTION
3.01 ELECTRICAL CONNECTIONS
A. Make electrical connections in accordance with equipment manufacturer's instructions.
B. Make conduit connections to equipment using flexible conduit. Use liquidtight flexible conduit with watertight connectors in damp or wet locations.
C. Connect heat producing equipment using wire and cable with insulation suitable for temperatures encountered.
D. Provide receptacle outlet to accommodate connection with attachment plug.
E. Provide cord and cap where field-supplied attachment plug is required.
F. Install suitable strain-relief clamps and fittings for cord connections at outlet boxes and equipment connection boxes.
G. Install disconnect switches, controllers, control stations, and control devices to complete equipment wiring requirements.
H. Install terminal block jumpers to complete equipment wiring requirements.
I. Install interconnecting conduit and wiring between devices and equipment to complete equipment wiring requirements.
J. Cut and seal conduit openings in freezer and cooler walls, floors, and ceilings where applicable.

END OF SECTION

SECTION 262726 - WIRING DEVICES

PART 1 GENERAL
1.01 PREPARATION: Contact the Architect to determine colors of all wiring devices, cover plates, and carpet and tile flanges, locations where stainless steel cover plates are required, and locations where carpet and tile flanges are required.

PART 2 PRODUCTS
2.01 RECEPTACLES
A. All Receptacles:
1. Color as selected by Architect.
2. Provide tamper-resistant receptacles where denoted "TR" on the Drawings and otherwise required.
3. Provide ground-fault circuit interrupter receptacles where denoted "GFCI" on the Drawings and otherwise required.
4. Provide receptacles with factory-applied permanent controlled receptacle marking where denoted "CR" on the Drawings and where controlled by automatic shutoff controls.
a. Field-applied controlled receptacle markings, such as those made by a label maker, are not acceptable.
5. Provide NEMA receptacle indicated with two integral Type A, 5 ampere, 5 volt USB ports where denoted "USB" on the Drawings.
6. Provide identified weather-resistant receptacles for receptacles installed outdoors.
7. NEMA 5-15R unless indicated otherwise.
B. Standard NEMA 5-15R Duplex: Hubbell #BR15 unless indicated otherwise.
C. Standard NEMA 5-20R Duplex: Hubbell #BR20 unless indicated otherwise.
D. Interior GFCI Duplex: Hubbell #GF20 unless indicated otherwise.
1. Provide GFCI receptacles with audible alarm when the receptacle serves a sump pump.
E. Exterior GFCI Duplex: Hubbell #GFTR20 unless indicated otherwise.
F. Isolated Ground Duplex: Hubbell #IG20CR unless indicated otherwise.
G. Surge Protection Receptacles: Hubbell #HBL5362SA unless indicated otherwise.
H. Clock Hanger Receptacles: Hubbell #HBL5235 unless indicated otherwise.
I. Other NEMA Configurations: As required by the load served.
2.02 FACELESS GFCI: Hubbell #GFBFST20; color as selected by Architect.
2.03 WALL SWITCHES
A. All Switches:
1. Color as selected by Architect.
2. Horsepower rated when used as motor disconnecting means.
B. Single Pole Toggle: Hubbell #1221 unless indicated otherwise.
C. Three-Way Toggle: Hubbell #1223 unless indicated otherwise.
D. Four-Way Toggle: Hubbell #1224 unless indicated otherwise.
E. Single Pole Toggle with Pilot Light: Hubbell #HBL1221PLC unless indicated otherwise.
F. Single Pole Keyed: Hubbell #HBL1221L unless indicated otherwise.
G. Three-Way Keyed: Hubbell #HBL1223L unless indicated otherwise.
H. Four-Way Keyed: Hubbell #HBL1224L unless indicated otherwise.
2.04 WALLBOX DIMMERS
A. All Wallbox Dimmers: Color as selected by Architect.
B. Incandescent Dimmers:
1. Up to 600 Watts: Lutron Maestro #MA-600 unless indicated otherwise.
2. Between 600 and 1000 Watts: Lutron Maestro #MA-1000 unless indicated otherwise.
3. Between 1000 and 1920 Watts: Lutron Maestro #MAF-6AM with Lutron #PHPM-WBX-120-WH power interface unless indicated otherwise.
C. Fluorescent 2-Wire Dimmers:
1. 120 Volts, Up to 5 Amps: Lutron Diva #DVFTU-5A3P unless indicated otherwise.
D. Fluorescent 3-Wire Dimmers:
1. 120 Volts, Up to 6 Amps: Lutron Maestro #MAF-6AM unless indicated otherwise.
2. 120 Volts, Between 6 and 16 Amps: Lutron Maestro #MAF-6AM with Lutron #PHPM-3F-120-WH power interface unless indicated otherwise.
3. 277 Volts, Up to 6 Amps: Lutron Maestro #MAF-6AM-277 unless indicated otherwise.
4. 277 Volts, Between 6 and 16 Amps: Lutron Maestro #MAF-6AM with Lutron #PHPM-3F-DV-WH power interface unless indicated otherwise.
E. Fluorescent 0-10 Volt Dimmers:
1. Up to 16 Amps: Lutron Maestro #MAF-6AM with Lutron #GRX-TVI power interface unless indicated otherwise.
F. Magnetic Low Voltage Dimmers:
1. Up to 450 Watts: Lutron Maestro #MALV-600 unless indicated otherwise.
2. Between 450 and 800 Watts: Lutron Maestro #MALV-1000 unless indicated otherwise.
3. Between 800 and 1920 Watts: Lutron Maestro #MAF-6AM with Lutron #PHPM-WBX-DV-WH power interface unless indicated otherwise.
G. Electronic Low Voltage Dimmers:
1. Up to 600 Watts: Lutron Maestro #MAELV-600 unless indicated otherwise.
2. Between 600 and 1920 Watts: Lutron Maestro #MAF-6AM with Lutron #PHPM-WBX-DV-WH power interface unless indicated otherwise.
H. LED Dimmers:
1. All LED Dimmers: Dimmer utilized shall be tested and listed by the LED manufacturer as a compatible dimmer.
2. 0-10 Volt Dimmers:
a. Up to 16 Amps: Lutron Maestro #MAF-6AM with Lutron #GRX-TVI power interface unless indicated otherwise.
3. Electronic Low Voltage Dimmers:
a. Up to 16 Amps: Lutron Maestro #MAF-6AM with Lutron #PHPM-WBX-DV-WH power interface unless indicated otherwise.
4. Magnetic Low Voltage Dimmers
a. Up to 16 Amps: Lutron Maestro #MAF-6AM with Lutron #PHPM-WBX-DV-WH power interface unless indicated otherwise.
2.05 ABOVE-FLOOR SERVICE FITTINGS: Hubbell #SC3098A housing with plates as required for the wiring device installed within unless indicated otherwise.
2.06 POKE-THROUGH FITTINGS: Wiremold Evolution 6AT series unless indicated otherwise with wiring devices indicated; color as selected by Architect.
2.07 POWERPOLES: Wiremold AMDTP series unless indicated otherwise with wiring devices indicated. Provide lengths, device covers, ceiling trim plates, and mounting foot as required for a complete installation.
2.08 COVER PLATES
A. All Cover Plates:
1. Color and material as selected by Architect.
2. Provide cover plates appropriate for the wiring devices installed within the box.
a. Use combination plates when wiring devices are ganged together.
B. Wall Plates:
1. Provide standard-size nylon wall plates unless indicated otherwise; mid-size or jumbo wall plates are not permitted.
2. Provide stainless steel coverplates where requested by the Architect.
3. Provide galvanized steel cover plates on outlet boxes and junction boxes located in unfinished areas, above accessible ceilings, and on surface mounted outlets.
4. Provide gasketed, cast metal, hinged cover plates for all exterior locations, where denoted "WP" on the Drawings, and where otherwise required.
5. Provide weatherproof while-in-use covers which are listed and identified as "extra-duty" for all receptacles installed in wet locations.

PART 3 EXECUTION
3.01 EXAMINATION: Verify that outlet boxes are installed at proper heights and that openings are neatly cut and will be completely covered by the coverplates or flanges.
3.02 PREPARATION
A. Provide extension rings to bring wall-mounted outlet boxes flush with finished surface.
B. Adjust floor boxes to bring floor boxes flush with finished floor.
3.03 MOUNTING HEIGHTS
A. General: All mounting heights are to the centerline of the outlet box.
B. Receptacles:
1. Install receptacles at 457 mm above finished floor unless indicated otherwise.
2. Install receptacles at countertops at the lesser of 1118 mm above finished floor or 75 mm above any sidesplashes or backsplashes unless indicated otherwise.
C. Wall Switches: Install wall switches including wallbox dimmers, wall switch occupancy sensors, and low voltage switches associated with programmable relay panels and room controllers at 1168 mm above finished floor unless indicated otherwise.
D. Telecommunications Outlets:
1. Install telecommunications outlets including telephone, data, and television outlets 457 mm above finished floor unless indicated otherwise.
2. Install telephone outlets for side-reach and forward-reach wall telephone 1168 mm above finished floor unless indicated otherwise.
E. Modify mounting heights in masonry walls as required to locate the outlet box at the joint in the masonry unit to avoid multiple or split-cut masonry units.
3.04 INSTALLATION
A. Install wall switches with OFF position down.
B. Install receptacles vertically with ground pin on bottom unless indicated otherwise.
C. Ground-Fault Circuit Interrupter (GFCI) Receptacles:
1. Provide a separate GFCI receptacle for every instance where denoted "GFCI" on the Drawings and otherwise required by Code; do not GFCI-protect receptacles from the load side of an upstream GFCI receptacle.
2. Install all GFCI receptacles in in a readily accessible location.
a. Provide faceless GFCI device in a readily accessible location when the receptacle will not be readily accessible and connect receptacle to load side of faceless GFCI.
D. Wallbox Dimmers:
1. Install wallbox dimmers to achieve full rating; do not break heatsink fins off.
2. Install power interfaces in concealed accessible location.
3. Provide a separate neutral conductor for each branch circuit serving wallbox dimmers; do not connect wallbox dimmers to multiwire branch circuits.
4. Provide all control wiring and communications cabling including all 0-10V control wiring, whether or not shown on the Drawings, per manufacturer's recommendations and as required for a complete and operational system.
E. Install wiring devices in outlet boxes and connect wiring device grounding terminal to branch circuit equipment grounding conductor.
F. Connect wiring devices by wrapping conductor around screw terminal; do not use back-wired push-in terminals.
G. Install cover plates on all outlet boxes including blank outlets.
H. Use flat-head screws, clips, and straps to fasten multi-outlet assembly channel to surfaces and use suitable insulating bushings and inserts at connections to outlets and corner fittings.

END OF SECTION

SECTION 262813 - FUSES

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 FUSES:
A. Up to 600 Amps: Dual-element time-delay Class RK1 unless indicated otherwise or otherwise required for the switch in which the fuse is installed.
B. Greater than 600 Amps: Dual-element time-delay Class L unless indicated otherwise indicated otherwise or otherwise required for the switch in which the fuse is installed.
C. Site Lighting: Class CC with in-line fuseholder.

PART 3 EXECUTION
3.01 INSTALLATION
A. Install fuses with label oriented such that manufacturer, type, and size are easily read.

END OF SECTION

SECTION 262818 - ENCLOSED SWITCHES

PART 1 GENERAL - NOT USED

PART 2 PRODUCTS
2.01 SAFETY SWITCHES
A. 240 Volt Class: Square D Class 3130 general duty unless indicated otherwise.
B. 600 Volt Class: Square D Class 3110 heavy duty unless indicated otherwise.
C. Voltage, Phase, and Current Ratings: As indicated or otherwise required.
D. Fuse Clips: Class R cartridge fuse clips where fuses are installed.
E. Enclosure: Manufacturer's standard enclosure suitable for the environment in which the switch is installed.
F. Accessories: Provide grounding kit for all enclosed switches.
2.02 BOX COVER UNITS: Bussmann #SSU unless indicated otherwise.

PART 3 EXECUTION
3.01 INSTALLATION
A. All Enclosed Switches:
1. Install in locations that provide all working space required by CSA C22.1 PART 1.
2. Install 1.5 meters to the operating handle.
3. Install fuses in fusible disconnect switches.
4. Provide nameplate indicating equipment designation, NEMA fuse class, and fuse size installed.

END OF SECTION

SECTION 265100 - INTERIOR LIGHTING

PART 1 GENERAL
1.01 QUALITY ASSURANCE
A. Verify all ceiling systems for proper coordination of luminaires and accessories including any drywall frames, bar hangers, flanges, trim rings, etc. required for a complete, finished installation.
B. Provide only luminaires that are listed for the environment in which they are installed.
1. Luminaires shall carry damp location and/or wet location ratings as required.
2. Luminaires shall be insulated ceiling (IC) rated when recessed into insulated ceilings; coordinate locations of all insulated ceilings with the Architectural plans.
C. Coordinate exact locations of all luminaires with the Architectural Reflected Ceiling Plan(s); luminaire locations on the Architectural Reflected Ceiling Plan(s) take precedence over locations indicated on the electrical lighting plans.
D. Coordinate mounting heights of all wall-mounted luminaires with the Architect prior to rough-in.
E. Confirm all luminaire and accessory finishes with the Architect prior to ordering.
F. Coordinate luminaire dimensions with the wall and/or ceiling thickness prior to ordering.
G. Coordinate mounting location, number of faces, and directional arrows of exit signs as required to mark paths of egress to the satisfaction of the Authority Having Jurisdiction.

PART 2 PRODUCTS
2.01 LUMINAIRES
A. Provide as indicated on the Drawings.
B. The acceptability of any substitute fixtures lies solely with the Architect and Engineer.
C. The specified luminaire shall be provided at no additional cost where a substitute fixture is not accepted by the Architect or Engineer.
2.02 NON-DIMMING BALLASTS, TRANSFORMERS, AND DRIVERS
A. LED Drivers: As required for and compatible with the associated LED module.
2.03 DIMMING BALLASTS AND DRIVERS
A. All Dimming Ballasts and Drivers:
1. Provide appropriate dimming ballasts/drivers in all fluorescent and LED luminaires controlled by wallbox dimmer switches or dimming systems whether or not specifically indicated within the specified luminaire's catalog number.
2. All dimming ballasts/drivers shall be compatible with associated wallbox dimmer switches or centralized dimming system control units.
3. Dimming Range: 100 percent to 5 percent.
4. Voltage: Universal (120 through 277 volts).
5. Power Factor: Greater than 0.95.
6. Total Harmonic Distortion: Less than 10 percent.
7. Sound Level Rating: Class A.
B. LED Dimming Drivers: Advance Xitanium series or equal.
2.04 EMERGENCY POWER SUPPLIES
A. Provide appropriate emergency battery in all fluorescent and LED luminaires indicated as emergency fixtures whether or not specifically indicated within the specified luminaire's catalog number.
1. Battery Type: Sealed nickel calcium (NiCad) with 7-year, minimum, life expectancy.
2. Illumination Time: 90 minutes minimum.
3. Voltage: Universal (120 through 277 volts).
4. Test Switch: Two-wire with LED indicator.
5. Lamp Operation: Two-lamp operation for luminaries equipped with more than one lamp.
6. Minimum Initial Illumination Rating:
a. Luminaires with LEDs:
1. Not less than 50 percent of the luminaire's lumen rating for luminaires rated 2000 lumens or less.
2. 20 watt minimum power rating for luminaires rated at greater than 2000 lumens.
2.05 LAMPS
A. LED: As indicated on the Drawings.
2.06 ACCESSORIES
A. Provide all supplementary items, appurtenances, and devices incidental to or necessary for a sound, secure, and complete installation including, but not limited to:
1. Dimming ballasts for fluorescent and LED luminaires that are served by wallbox dimmer switches or dimming systems.
2. Emergency power supplies for fluorescent and LED luminaires indicated as emergency fixtures.
3. Multiple ballasts for fluorescent luminaires where indicated to have multi-level switching.
4. All trim rings, extensions, stems, canopies, cords, pendant feeds, connectors, bar hangers, fittings, hold-down clips, alignment clips/joiners, etc. necessary to mount the luminaires in a proper and approved method.
5. All necessary low-voltage transformers, connectors, mounting hardware, etc. for a complete low-voltage lighting system.
6. All necessary connectors, feeds, end caps, pendants, mounting hardware, fittings, etc. for a complete track lighting system.
7. Chain hangers for all suspended luminaires in unfinished areas.
8. Drywall frames for all linear fluorescent luminaires that are recessed into drywall ceilings.
9. Wireguards for any wall-mounted luminaires, including emergency lighting unit equipment and exit signs, located in gymnasiums or where otherwise exposed to physical damage.
10. Fire-rated luminaire covers (tents) for luminaires installed in fire-rated ceiling assemblies; coordinate locations of fire-rated ceiling assemblies with the Architectural plans.
11. Any seismic bracing and/or restraints required by the Authority Having Jurisdiction.

PART 3 EXECUTION
3.01 INSTALLATION
A. Install luminaires in locations shown on the Architectural Reflected Ceiling Plan(s); luminaire locations on the Architectural Reflected Ceiling Plan(s) take precedence over locations indicated on the electrical lighting plans.
B. Install luminaires plumb and level and align with building lines and adjacent luminaires.
C. Support all luminaires completely independent of any suspended ceiling systems.
D. Connect luminaires to branch circuit.
1. Circuit all exit signs, emergency lights, and nightlights ahead of any switching.
2. Do not use multiwire branch circuits for circuits serving emergency lighting equipment such as emergency batteries or emergency lighting unit equipment.
E. Provide all additional emergency lighting and/or exit signs determined necessary by the Authority Having Jurisdiction during inspections.
F. Install all remote ballasts, low voltage transformers, and drivers in concealed accessible areas in close proximity to the associated luminaires and connect to the associated luminaires per the manufacturer's recommendations, including adjusting wire sizes for voltage drop if required.
G. Prevent insulation from being installed above or within 75 mm away from any luminaire that is recessed into an insulated ceiling but is not insulated ceiling (IC) rated.
H. Install fire-rated luminaire covers (tents) for luminaires installed in fire-rated ceiling assemblies; provide fire-rated boxes around luminaires when fire-rated luminaire covers (tents) are not available.
I. Burn-in all fluorescent lamps controlled by wallbox dimmers or dimming systems for a minimum of 100 hours prior to connecting to dimmer.
3.02 3.02 CLOSEOUT
A. Replace any lamps and ballasts that expire before the Owner's acceptance of the project.
B. Aim and adjust all luminaires to provide illumination levels, focusing, and distribution patterns to the Owner's satisfaction.

END OF SECTION

SECTION 271005 - TELEPHONE AND DATA SYSTEMS

PART 1 GENERAL
1.01 PREPARATION
A. Coordinate all demarcation locations with the serving utility and/or the Landlord.
B. Hold meeting with the Owner prior to commencing work.
1. Determine Scope of Work and Division of Responsibility.
2. Determine quantities of phone drops and data drops are required at each outlet box.
3. Confirm all cabling, termination, cross-connection equipment, enclosure, and jack requirements.

PART 2 PRODUCTS
2.01 ENCLOSURES
A. Backboards: Provide 19 mm thick UL-labeled, fire-retardant, interior grade plywood; size as indicated on the Drawings.
B. Equipment Racks: Only if required pursuant to meeting with the Owner:
1. Wall-Mounted Racks: Chatsworth Products Standard Swing Gate series; 483 mm wide, depth as required for installed components, and height as required for installed components plus 50 percent.
2. Floor-Mounted Racks: Chatsworth Products 50120 QuadraRack series with vertical and horizontal cable management, top and bottom cable troughs, and grounding lug; 483 mm wide, 737 mm deep, and height as required for installed components plus 50 percent.
2.02 OUTLET BOXES
A. Wall: 4-square by 54 mm deep outlet box with single gang mud ring and cover plate unless indicated otherwise or otherwise required.
B. Floor: As indicated on the Drawings or within Section 260537 unless indicated otherwise or otherwise required.
C. Wall Plates:
1. Provide standard-size nylon blank wall plates unless indicated otherwise; color as selected by the Architect. Mid-size or jumbo wall plates are not permitted.
2. When cabling is to be provided by this Contractor, provide standard-size nylon modular keystone jack cover plates compatible with the associated modular keystone jacks and with appropriate number of jacks unless indicated otherwise; color as selected by the Architect.
2.03 PATHWAYS
A. All Pathways:
1. See Section 260534 for permitted conduit types.
2. Provide pullstring in each conduit.
B. Service Entrance: Conduit with extended radius sweeps; size as indicated or otherwise required.
C. Branch Wiring: Provide 21 mm minimum conduit from all outlet boxes to accessible ceiling space unless indicated otherwise.
2.04 COPPER CABLES, PLUGS, AND JACKS: Only if required pursuant to meeting with the Owner:
A. Data:
1. All Data Cabling: Unshielded twisted pair (UTP) Category 6A unless indicated otherwise or otherwise required.
2. Backbone (Riser) Cabling: Type CMR when installed in conduit and Type CMP when not installed in conduit; gray jacket unless indicated otherwise or otherwise required.
3. Horizontal Cabling: Type CM when installed in conduit and Type CMP when not installed in conduit; blue jacket unless indicated otherwise or otherwise required.
4. Plugs: Category 6A UTP non-keyed 8-wire modular plugs unless indicated otherwise or otherwise required.
5. Jacks: Category 6A UTP non-keyed 8-wire RJ45 modular keystone jack unless indicated otherwise or otherwise required; color as selected by the Owner.
B. Telephone:
1. All Telephone Cabling: Unshielded twisted pair (UTP) Category 3 unless indicated otherwise or otherwise required.
2. Horizontal Cabling: Type CM when installed in conduit and Type CMP when not installed in conduit; blue jacket unless indicated otherwise or otherwise required.
3. Plugs: Category 3 UTP non-keyed 8-wire modular plugs unless indicated otherwise or otherwise required.
4. Jacks: Category 3 UTP non-keyed 8-wire RJ45 modular keystone jack unless indicated otherwise or otherwise required; color as selected by the Owner.
2.05 CROSS-CONNECTION EQUIPMENT: Only if required pursuant to meeting with the Owner:
A. Connector Blocks for Category 3 Cabling: Type 66 insulation displacement connectors unless indicated otherwise or otherwise required with capacity sufficient for cables to be terminated plus 25 percent spare.
B. Connector Blocks for Category 5e Cabling: Type 110 insulation displacement connectors unless indicated otherwise or otherwise required with capacity sufficient for cables to be terminated plus 25 percent spare.
C. Patch Panels for Copper Cabling: Panduit DP5e series UTP patch panel unless indicated otherwise or otherwise required with quantity of ports sufficient for cables to be terminated plus 25 percent spare.
D. Patch Cords: Provide one Category 5e patch cord for each pair of patch panel ports.

PART 3 EXECUTION
3.01 INSTALLATION OF ENCLOSURES
A. Backboards: Install at locations indicated on the Drawings.
B. If required pursuant to meeting with the Owner:
1. Wall-Mounted Racks: Install to plywood backboard at locations directed by the Owner.
2. Floor-Mounted Racks: Permanently anchor to floor in accordance with manufacturer's recommendations at locations directed by the Owner, connect adjacent racks together, and remove interior side panels.
3.02 INSTALLATION OF OUTLET BOXES
A. Install in compliance with Section 260537.
B. Mounting Heights: See Section 262726.
3.03 INSTALLATION OF PATHWAYS
A. All Pathways:
1. Install all pathways with the following minimum clearances:
a. 1.2 meters from motors, generators, frequency converters, transformers, x-ray equipment, and uninterruptible power systems.
b. 305 mm from power conduits and cables and panelboards.
c. 127 mm from fluorescent and high frequency lighting fixtures.
d. 153 mm from flues, hot water pipes, and steam pipes.
B. Conduit:
1. Install conduit in compliance with Section 260534 unless indicated otherwise.
a. Do not install more than two 90 degree bends in a single horizontal cable run.
b. Leave pull cords in place where cables are not initially installed.
c. Under floor slabs, locate conduit at 305 mm minimum below vapor retarder and seal penetrations of vapor retarder around conduit.
2. Underground Service Entrance: Install conduit at least 457 mm below finish grade and encase in at least 75 mm thick concrete for at least 1.5 meters out from the building line.
C. Grounding and Bonding: Perform in accordance with ANSI/J-STD-607 and CSA C22.1 PART 1.
3.04 INSTALLATION OF CABLES, PLUGS, AND JACKS
A. Only if required pursuant to meeting with the Owner:
1. Install cables from outlet to cross-connection equipment as directed by the Owner.
2. Do not exceed 91 meters from outlet to switch.
3. Do not bend cable tighter than the greater of the manufacturer's recommended bend radius or 4 times the cable diameter.
4. Do not exceed the greater of the manufacturer's recommended cable pull tension or 25 pounds.
5. Use only lubricants approved by cable manufacturer when installing cables in conduit and do not chafe or damage outer jacket.
6. Install plugs and jacks as required.
7. Provide the following minimum extra length of cable, looped neatly:
a. At Patch Panels: 3 meters.
b. At Outlets: 305 mm.
8. Install labels complying with TIA/EIA-606 using coded identifiers:
a. Cables: Color coded labels on each end.
b. Outlets: Label each jack on its cover plate with a unique numerical identifier as to its type and function.
c. Patch Panels: Label each jack with a unique numerical identifier as to its type and function.
d. Patch Cords: Label with jack identifier corresponding to initial installation.
3.05 INSTALLATION OF CROSS-CONNECTION EQUIPMENT
A. Only if required pursuant to meeting with the Owner:
1. Install connector blocks at backboards as directed by the Owner.
2. Install patch panels in equipment racks as directed by the Owner.
3. Install labels complying with TIA/EIA-606 using coded identifiers:
a. Patch Panels: Label each jack with a unique numerical identifier as to its type and function.
b. Patch Cords: Label with jack identifier corresponding to initial installation.
3.06 TESTING
A. General: Comply with inspection and testing requirements of specified installation standards.
B. Visual Inspection:
1. Inspect cable jackets for certification markings.
2. Inspect cable terminations for color coded labels of proper type.
3. Inspect outlet plates and patch panels for complete labels.
4. Inspect patch cords for complete labels.
C. Testing of Copper Cabling and Associated Equipment:
1. Test backbone cables after termination but before cross-connection.
2. Test backbone cables for DC loop resistance, shorts, opens, intermittent faults, and polarity between connectors and between conductors and shield, if cable has overall shield.
3. Test operation of shorting bars in connection blocks.
4. Category 3 Backbone: Perform attenuation test.
5. Category 3 Links: Test each pair for short circuit continuity, short to ground, crosses, reversed polarity, operational and ring-back, and dial tone.
6. Category 5e/6 Backbone: Perform near end cross talk (NEXT) and attenuation tests.
7. Category 5e/6 Links: Perform tests for wire map, length, attenuation, NEXT, and propagation delay.
D. Final Testing: After all work is complete, including installation of telecommunications outlets, and telephone dial tone service is active, test each voice jack for dial tone.

END OF SECTION

City of Peterborough
Received
May 19, 2023
Building Services Division

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

REGISTRATION SEAL
LICENSED PROFESSIONAL ENGINEER
G. SCHNACKEL
100134840
PROVINCE OF ONTARIO
Date: 05/03/2023
COA #: C1389

Schnackel engineers
New York ■ Miami ■ Omaha ■ Los Angeles ■ Seattle ■ Honolulu
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LANSDOWNE PLACE
645 LANSDOWNE ST. W
PETERBOROUGH, ON K9J 7YK
SPACE #161 STORE #3541 - B

REV	DATE	DESCRIPTION	NAME
1	05.02.2023	LANDLORD COMMENTS	
		FOR PERMIT - 05/18/23	

PROJECT NO: 230088
DRAWN BY: SEI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

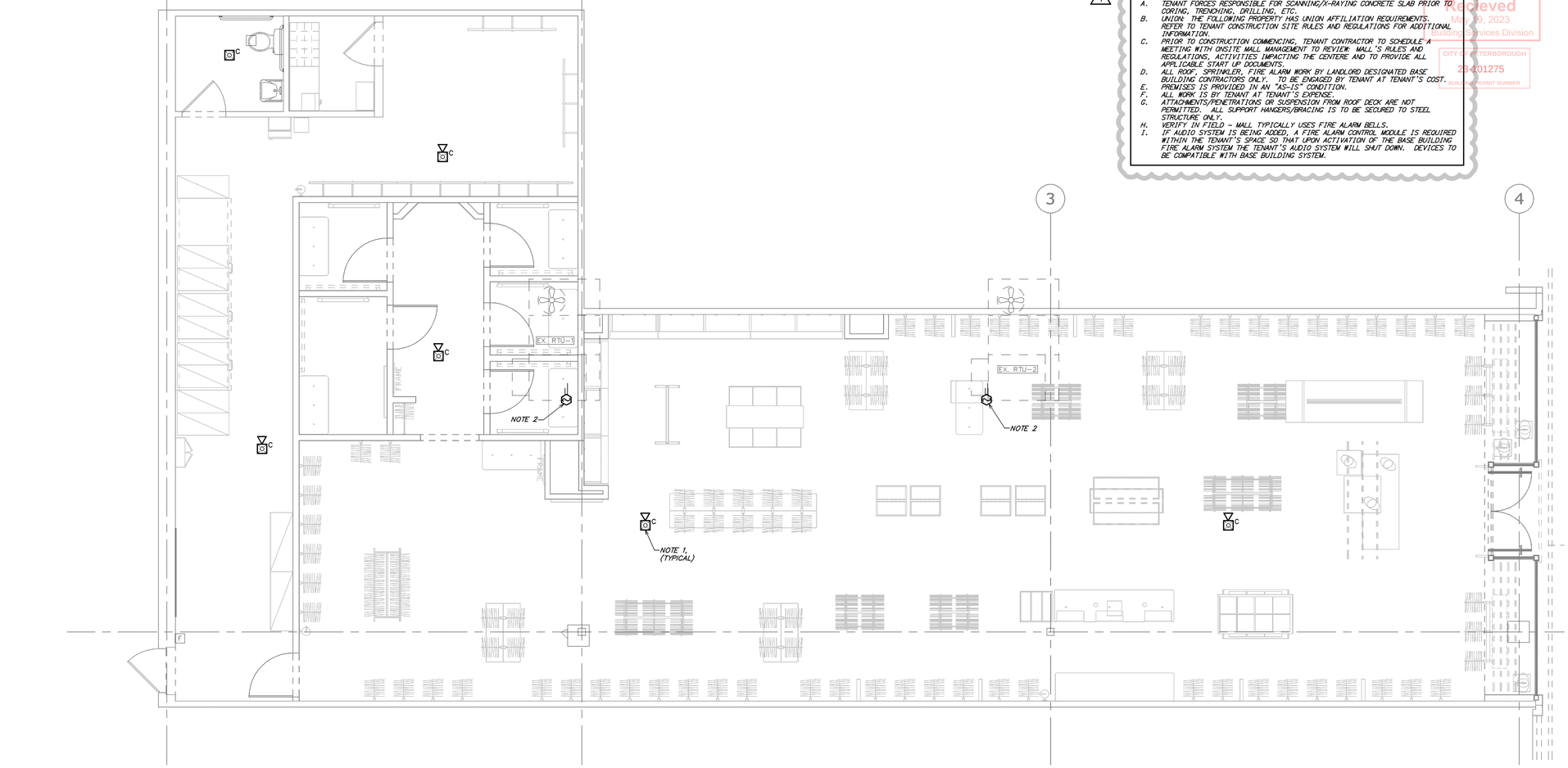
ELECTRICAL SPECIFICATIONS

E4.1

SE JOB#: 230088

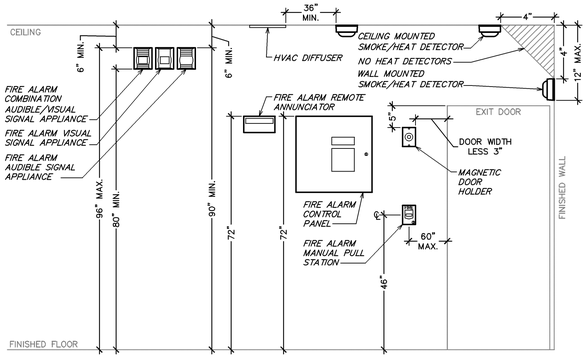
LANDLORD NOTES / REQUIREMENTS (APPLICABLE TO ALL FIRE ALARM SHEETS):

A. TENANT FORCES RESPONSIBLE FOR SCANNING/X-RAYING CONCRETE SLAB PRIOR TO CORING, TRENCHING, DRILLING, ETC.
B. UNION: THE FOLLOWING PROPERTY HAS UNION AFFILIATION REQUIREMENTS. REFER TO TENANT CONSTRUCTION SITE RULES AND REGULATIONS FOR ADDITIONAL INFORMATION.
C. PRIOR TO CONSTRUCTION COMMENCING, TENANT CONTRACTOR TO SCHEDULE A MEETING WITH ONSITE MALL MANAGEMENT TO REVIEW: MALL'S RULES AND REGULATIONS, ACTIVITIES IMPACTING THE CENTERE AND TO PROVIDE ALL APPLICABLE START UP DOCUMENTS.
D. ALL ROOF, SPRINKLER, FIRE ALARM WORK BY LANDLORD DESIGNATED BASE BUILDING CONTRACTORS ONLY. TO BE ENGAGED BY TENANT AT TENANT'S COST.
E. PREMISES IS PROVIDED IN AN "AS-IS" CONDITION.
F. ALL WORK IS BY TENANT AT TENANT'S EXPENSE.
G. ATTACHMENTS/PENETRATIONS OR SUSPENSION FROM ROOF DECK ARE NOT PERMITTED. ALL SUPPORT HANGERS/BRACING IS TO BE SECURED TO STEEL STRUCTURE ONLY.
H. VERIFY IN FIELD - MALL TYPICALLY USES FIRE ALARM BELLS.
I. IF AUDIO SYSTEM IS BEING ADDED, A FIRE ALARM CONTROL MODULE IS REQUIRED WITHIN THE TENANT'S SPACE SO THAT UPON ACTIVATION OF THE BASE BUILDING FIRE ALARM SYSTEM THE TENANT'S AUDIO SYSTEM WILL SHUT DOWN. DEVICES TO BE COMPATIBLE WITH BASE BUILDING SYSTEM.



PLAN NORTH

1 FIRE ALARM PLAN
SCALE: 1/4" = 1'-0"



2 TYPICAL DEVICE ELEVATION DETAIL
NOT TO SCALE

FIRE ALARM SYMBOL LEGEND (SOME MAY NOT BE USED)

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
FACU	FIRE ALARM CONTROL UNIT	F	FIRE ALARM BELL
EVAC	VOICE EVACUATION CONTROL UNIT		FIRE ALARM STROBE
FAA	FIRE ALARM ANNUNCIATOR	F	FIRE ALARM HORN
NAC	FIRE ALARM NOTIFICATION APPLIANCE POWER SUPPLY		FIRE ALARM COMBINATION HORN AND STROBE
FATC	FIRE ALARM TERMINAL CABINET	F	FIRE ALARM SPEAKER
F	FIRE ALARM MANUAL PULL STATION/FIRE ALARM BOX		FIRE ALARM COMBINATION SPEAKER AND STROBE
S XX	SMOKE DETECTOR, WALL MOUNTED, PHOTOELECTRIC UNLESS INDICATED OTHERWISE (XX = MODIFIER)	HFSS	HOOD FIRE SUPPRESSION SYSTEM
S XX	SMOKE DETECTOR, CEILING MOUNTED, PHOTOELECTRIC UNLESS INDICATED OTHERWISE (XX = MODIFIER)	M	HOOD FIRE SUPPRESSION SYSTEM MANUAL PULL STATION
S	DUCT SMOKE DETECTOR	MM	ADDRESSABLE MONITOR MODULE
RTS	DUCT SMOKE DETECTOR REMOTE ANNUNCIATOR/TEST STATION #RTS151KEY WHEN SUPERVISED BY CONTROL UNIT #RTS2-AOS WHEN STAND-ALONE	RM	ADDRESSABLE RELAY MODULE
		CM	ADDRESSABLE CONTROL MODULE
H XX	HEAT DETECTOR, WALL MOUNTED, FIXED TEMPERATURE UNLESS INDICATED OTHERWISE (XX = MODIFIER)	IM	ADDRESSABLE ISOLATION MODULE
H XX	HEAT DETECTOR, CEILING MOUNTED, FIXED TEMPERATURE UNLESS INDICATED OTHERWISE (XX = MODIFIER)	R	RELAY
A XX	FLAME DETECTOR (XX = TYPE)	EOL	END OF LINE RESISTOR
WF	FIRE SPRINKLER WATERFLOW SWITCH	K	FIRE ALARM KEY REPOSITORY (KNOX BOX)
VS	FIRE SPRINKLER VALVE SUPERVISORY SWITCH (TAMPER SWITCH)		MAGNETIC DOOR HOLDER
PIV	FIRE SPRINKLER POST INDICATOR VALVE WITH VALVE SUPERVISORY SWITCH (TAMPER SWITCH)		FIRE FIGHTER'S PHONE
M	AREA OF REFUGE TWO-WAY COMMUNICATIONS SYSTEM MASTER STATION	J	FIRE ALARM SYSTEM JUNCTION BOX
C	AREA OF REFUGE TWO-WAY COMMUNICATIONS SYSTEM CALL STATION		

FIRE ALARM ABBREVIATIONS AND MODIFIERS (SOME MAY NOT BE USED)

GENERAL
WP WEATHERPROOF

SMOKE DETECTORS
AC ABOVE CEILING
AS AIR SAMPLING
BR BEAM RECEIVER
BT BEAM TRANSMITTER
I IONIZATION
ID IN DUCT
SA SMOKE ALARM (120V WITH BATTERY)

HEAT DETECTORS
R RATE OF RISE
R/C RATE COMPENSATION
R/F COMBINATION FIXED TEMPERATURE AND RATE OF RISE

FLAME DETECTORS
IR INFRARED
UV ULTRAVIOLET
UV/IR COMBINATION INFRARED AND ULTRAVIOLET
VR VISIBLE RADIATION

NOTIFICATION APPLIANCES
C CEILING MOUNTED
LF LOW-FREQUENCY (520 HZ)
M MINI HORN

FIRE ALARM GENERAL NOTES

A. THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS (INSTALLATION DOCUMENTS) COMPLYING WITH NFPA 72 SECTION 7.4 BASED ON THE MANUFACTURER-SPECIFIC EQUIPMENT AND COMPONENTS INTENDED TO BE INSTALLED.
B. INFORMATION ON THE DRAWINGS SERVES AS DESIGN (LAYOUT) DOCUMENTATION PER NFPA 72 SECTION 7.3 FOR ONLY THE PURPOSE OF BIDDING, ESTABLISHING PERFORMANCE CRITERIA, AND CONVEYING INTENT. AS SUCH, THE DRAWINGS MAY NOT SHOW EVERY COMPONENT REQUIRED FOR A COMPLETE INSTALLATION. THE CONTRACTOR SHALL INCLUDE ALL COMPONENTS REQUIRED FOR A COMPLETE, CODE-COMPLIANT DESIGN AND INSTALLATION IN THE SHOP DRAWINGS (INSTALLATION DOCUMENTS).
C. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (INSTALLATION DOCUMENTS) TO THE AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL.
D. INCLUDE ALL COSTS ASSOCIATED WITH THE DEVELOPMENT OF THE SHOP DRAWINGS (INSTALLATION DOCUMENTS) AND ALL PERMIT FEES IN THE BID.
E. SEE THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
F. ALL NEW FIRE ALARM INITIATING DEVICES SHALL CONNECT TO EXISTING BUILDING FIRE ALARM CONTROL UNIT. COORDINATE WITH LANDLORD'S FIRE ALARM CONTRACTOR.
G. ALL NEW FIRE ALARM NOTIFICATION APPLIANCES SHALL EITHER CONNECT DIRECTLY TO THE EXISTING BUILDING FIRE ALARM CONTROL UNIT OR CONNECT TO A NEW NOTIFICATION APPLIANCE CIRCUIT POWER SUPPLY (NAC). THE NOTIFICATION APPLIANCE CIRCUIT POWER SUPPLY SHALL CONNECT TO THE EXISTING BUILDING FIRE ALARM CONTROL UNIT. COORDINATE WITH LANDLORD'S FIRE ALARM CONTRACTOR FOR REQUIREMENTS AND CONNECTIONS.

FIRE ALARM KEYED NOTES

1. CONNECT NEW FIRE ALARM DEVICE TO EXISTING FIRE ALARM CONTROL UNIT SERVING TENANT SPACE.
2. VERIFY EXISTING CONDITIONS. IF NOT PRESENT, FURNISH DUCT SMOKE DETECTOR AND RELAY FOR HVAC UNIT SUPPLY FAN SHUTDOWN, FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. PROVIDE A REMOTE KEYED TEST STATION WITH VISUAL STATUS ANNUNCIATOR, COORDINATE LOCATION WITH AUTHORITY HAVING JURISDICTION AND OWNER PRIOR TO ROUGH-IN. DUCT SMOKE DETECTORS ASSOCIATED WITH HVAC UNITS THAT SHARE A COMMON AIR PLENUM SHALL BE INTERLOCKED WITH ONE ANOTHER SUCH THAT ACTIVATION OF ANY ONE OF THE ASSOCIATED DUCT SMOKE DETECTORS WILL SHUT DOWN SUPPLY FANS OF ALL HVAC UNITS SHARING THE COMMON AIR PLENUM. PROVIDE ALL FINAL WIRING FOR A COMPLETE AND FUNCTIONAL SYSTEM.

LEGEND
EXISTING
NEW WORK
NEW TO EXISTING CONNECTION

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REV	DATE	DESCRIPTION	NAME
1	05.02.2023	LANDLORD COMMENTS	
		FOR PERMIT - 05/18/23	

PROJECT NO. 230308
DRAWN BY: SEI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

FIRE ALARM PLAN

FA1.0

SE JOB#: 230308

SECTION 280000 - FIRE ALARM GENERAL CONDITIONS

1.01 SUMMARY
- A. This section supplements Section 284600 and shall apply to all phases of work hereinafter specified, shown on the drawings, or required to provide a complete installation of approved electrical, communications, and electronic safety and security systems.
- B. All drawings and specifications, including drawings and specifications related to other divisions, apply to the work. Where conflicts arise between documents, the more stringent requirement will apply, subject to the interpretation of the Engineer.
- C. Furnish all labor, material, services, and skilled supervision necessary for the construction, erection, installation, connections, testing, and adjustment of all equipment, materials, and components specified herein, or shown or noted on the drawings, and its delivery to the Owner, complete in all respects and ready for use.
- D. Products furnished but not installed under this section:
  - 1. Where plans indicate equipment, materials, or components will be furnished by this Contractor for installation by other Contractors, this Contractor shall furnish all such equipment, materials, or components, complete in all respects and ready for installation.
  - 2. Drawings, instructions, and manuals supplied with equipment, materials, or components furnished under this division but installed under other divisions shall be carefully preserved and turned over to the installing Contractor.
- E. Products installed but not furnished under this section:
  - 1. Where plans indicate equipment, materials, or components will be furnished by others, this Contractor shall provide all rough-in and supplies and shall connect such equipment, materials, or components.
  - 2. Drawings, instructions, and manuals supplied with equipment, materials, or components furnished under separate divisions but installed under this division shall be carefully preserved and turned over to the Owner in the closeout documents.

1.02 DEFINITIONS
- A. The following definitions apply throughout the drawings and specifications associated with the work performed under Section 284600.
  - 1. Authority Having Jurisdiction: All regulatory agencies, including but not limited to, plans examiners, fire marshals, inspectors, insurance carriers, and utility companies.
  - 2. Concealed: Hidden from sight in chases, furred spaces, shafts, hung ceilings, embedded in construction, in crawl spaces, or underground.
  - 3. Conduit: Conduit or tubing and all required fittings, pull boxes, hangers, and other supports and accessories related to such.
  - 4. Code: All applicable codes, including but not limited to the administrative code, building code, electrical code, energy conservation code, existing building code, fire code, fuel gas code, mechanical code, plumbing code, and residential code.
  - 5. Code, Administrative: The administrative code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 6. Code, Building: The building code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 7. Code, Electrical: The electrical code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 8. Code, Energy Conservation Code: The energy conservation code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 9. Code, Existing Building: The existing building code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 10. Code, Fire: The fire code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 11. Code, Fuel Gas: The fuel gas code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 12. Code, Mechanical: The mechanical code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 13. Code, Plumbing: The plumbing code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 14. Code, Residential: The residential code, including all local amendments and reference standards, adopted and enforced by the Authority Having Jurisdiction.
  - 15. Connect: To bring service to the equipment and make final attachment including necessary switches, outlets, boxes, terminations, etc.
  - 16. Contract Documents: All drawings, specifications, specified reference standards, applicable codes, manufacturer's installation instructions, and executed legal documents related to the project.
  - 17. Contractor: The contractor(s) or subcontractor(s) responsible for performing the work associated with Section 284600, and ultimately the General Contractor.
  - 18. Drawings: All plans, details, schedules, diagrams, sketches, etc. issued for the construction of the work.
  - 19. Exposed: Not concealed.
  - 20. Furnish: To supply and deliver, unload, and inspect for damage.
  - 21. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, connect, and place into operation into the work.
  - 22. Owner: The entity, including authorized representatives, to which the work is being provided.
  - 23. Provide: To furnish and install.
  - 24. Work: The construction and services, including all labor, materials, and equipment, required by the contract documents to fulfill the Contractor's obligations. The work may constitute the whole or a part of the project.

1.03 CODES AND STANDARDS
- A. Perform work in accordance with code requirements.
- B. Perform work in accordance with:
  - 1. Occupational Safety and Health Administration (OSHA) Regulations.
  - 2. Americans with Disabilities Act (ADA).
  - 3. The Authority Having Jurisdiction (AHJ).
  - 4. All applicable NECA standards.
  - 5. Manufacturer's instructions.
  - 6. Instructions associated with the component's listing agency's requirements.
  - 7. Landlord requirements including Tenant Criteria Manuals and Lease Exhibits.
- C. All Referenced Standards identified in the specifications apply to the work as if they were incorporated into the specifications in their entirety. It shall not be necessary to specifically reference one of these Referenced Standards for the requirements of the Referenced Standards to apply to the work. If there is a conflict between the requirements of a Referenced Standard and the drawings or specifications, it is the responsibility of this Contractor to notify the Engineer of the discrepancy and obtain direction as to which standard applies prior to proceeding.
- D. Code and Landlord requirements supersede any requirements of the contract documents.
- E. The contract documents take precedence where the contract documents exceed code, Landlord, or referenced standards requirements.

1.04 PERMITS AND FEES
- A. Permits, licenses, fees, inspections and arrangements required for the work shall be obtained by the Contractor at his expense.

1.05 PREPARATION
- A. The Contractor is responsible to obtain, fully understand, and coordinate the work with the complete set of contract documents. Any required corrections, including all associated costs, arising from issues caused by the Contractor's failure to understand and/or coordinate the work with the complete set of contract documents are the Contractor's sole responsibility.
- B. Work under these sections is diagrammatic and is intended to convey the scope of work and indicate the general arrangement of equipment, conduit, and outlets. Obtain instructions from the Architect/Engineer prior to rough-in wherever a question exists as to the exact intended location of outlets or equipment.
- C. Promptly report any discrepancies discovered within the contract documents. Failure of the Contractor to report discrepancies shall result in the resolution becoming the Contractor's responsibility and subject to the Architect/Engineer's review and possible rejection. Should the Architect/Engineer reject a discrepancy resolution of which they were not notified, the Contractor is fully responsible to correct the installation, including all associated costs, until approval of the installation is given by the Architect/Engineer.

1.06 EXISTING CONDITIONS
- A. Verify all existing conditions prior to beginning work.
- B. Any existing conditions indicated are based on information provided by others and possible limited field verification.
- C. Visit the project site, review existing conditions against the contract documents, and become familiar with the work prior to bidding and start of the work.
  - 1. Adjust for actual field conditions at no additional expense to the Owner.
  - 2. If major discrepancies are found, the Contractor shall advise the Architect/Engineer of such deviations in writing so that the appropriate modifications to the design can be made without delay to the project.
    - a. The Contractor assumes full responsibility of adjusting for discrepancies of which the Architect/Engineer is not informed.
  - 3. Signing the contract is an acknowledgement that the site visit has been completed and the existing conditions are accepted.
- D. Verify field measurements and circuiting arrangements are as indicated.
- E. Verify that removed wiring and equipment serve only abandoned facilities.
- F. Where connections are made between new work and existing work, the connections shall be made by using materials and methods to suit the actual conditions.
- G. Where existing work is to be modified, it shall be done in conformance with these specifications. Materials used shall be same as existing except where specified otherwise.

1.07 SUBMITTALS
- A. Furnish the Architect/Engineer product data and/or shop drawings, as specified.
- B. Indicate all proposed catalog numbers. Product data and/or shop drawings submitted without catalog numbers will be returned without Engineer review.
- C. Product data shall consist of manufacturer's standard catalog pages and/or cut-sheets.
- D. Submittals shall be concise and to the point, demonstrating the key performance parameters indicated in the contract documents, major dimensions, and identifying the materials used to manufacture the products. Submittals shall directly address the specific requirements of the contract documents without unnecessary, superfluous information such as non-applicable catalog pages, non-applicable cut sheets, and/or sales brochures. Submittals that are deemed overly voluminous and/or non-specific to the requirements of the contract documents will be returned without Engineer review.
- E. The Architect/Engineer's review shall not relieve the Contractor from responsibility for errors within the submittals.

1.08 QUALITY ASSURANCE
- A. All Products:
  - 1. Listed, classified, and labeled by an organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to Authority Having Jurisdiction as suitable for the purpose specified and indicated.
  - 2. Listed and classified by the local Department of Buildings and furnished with an acceptance number, where applicable.
  - 3. Listed and classified by the Landlord's and/or Owner's insurance carrier (FM, IRI, etc.), where applicable.
- B. All equipment, materials, and components shall be free of all rust/corrosion or any visible damage. All items not complying with this requirement shall be replaced at no additional cost to the Owner.
- C. Unless otherwise indicated, all equipment, materials, and components of the same type or classification and used for the same purpose shall be products of the same manufacturer.
- D. Use only new, un-weathered, and unused equipment, materials, and components, unless indicated otherwise.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 COORDINATION OF WORK
- A. Examine the contract documents as a whole for the work of other trades and coordinate all work accordingly.
- B. Work lines and established heights shall be in strict accordance with the contract documents. Verify all dimensions shown and establish all elevations and detailed dimensions not shown.
- C. Promptly report to the Architect/Engineer any delay or difficulties encountered in the installation of the work which might prevent prompt and proper installation or make it unsuitable to connect with or receive the work of others. Failure to so report shall constitute an acceptance of the work of other trades as being fit and proper for the execution of this work.
- D. Plan, lay out, and coordinate the work with all trades well enough in advance so that it proceeds with a minimum of interference to work that has not been completed and work that is in progress.
  - 1. Inform all trades of openings required for the work and provide all special frames, sleeves, and anchor bolts required.
  - 2. Perform all work in compliance with the contract documents and afford other trades reasonable opportunity for the execution of their work.
  - 3. Properly connect and coordinate this work with the work of other trades at such time and in such a manner as not to delay or interfere with their work.
  - 4. Conflicts arising from lack of coordination shall be the Contractor's responsibility.
  - 5. The Contractor shall pay for all extra cutting and patching made necessary by his failure to properly direct such work at the correct time.
- E. Install equipment, materials, and components to provide for maximum headroom. Maintain access to equipment requiring service when selecting mounting elevations.
- F. Install equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations.
- G. Install equipment, materials, and components level and plumb, parallel and perpendicular to building lines when exposed to view, unless otherwise indicated.
- H. Verify and coordinate all requirements and installation details of all equipment, materials, and components that are to be furnished by other trades and installed or connected by the Contractor prior to rough-in. Conflicts arising from lack of coordination shall be the Contractor's responsibility. As such, the Contractor is responsible to:
  - 1. Obtain and review shop drawings, product data, manufacturer's wiring diagrams, and manufacturer's instructions for equipment, materials, and components furnished under other sections.
  - 2. Determine connection locations and requirements.
  - 3. Sequence rough-in of connections to coordinate with installation of equipment.
  - 4. Sequence connections to coordinate with start-up of equipment.
- I. Where crane rental or other erection is required, such costs shall be included in the Subcontractor's contract, unless specific arrangements are made with the General Contractor to cover these costs.

3.02 INTERFACES
- A. Fire and Smoke Rated Assemblies:
  - 1. The Contractor shall familiarize himself with all fire and smoke rated construction and install his work so as to maintain the integrity of the fire and smoke rating.
  - 2. Install all equipment, materials, and components to preserve fire resistance rating of partitions and other elements, using materials and methods specified.
  - 3. Seal annular space around conduits.
  - 4. Use UL listed material that maintains fire rated wall and floor integrity.

3.03 FIELD QUALITY CONTROL
- A. Explicitly follow manufacturer's instruction sheets for the installation of all equipment, materials, and components. Where manufacturer's instruction sheets conflict with requirements of the drawings or specifications, such conflicts shall be brought to the attention of the Architect/Engineer for clarification.
- B. Although all such work is not specifically indicated, provide all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
- C. Provide tests as necessary to establish the adequacy, quality, safety, completed status, and suitable operation of each system.
- D. Seal equipment, materials, and components exposed to the weather and make weather-tight and insect-proof.
- E. Surface Preparation:
  - 1. Prepare all conduit, fittings, supports, and equipment enclosures exposed to the weather for painting by removing therefrom all oil, grease and dirt. Employ the necessary precautionary methods to prevent scratching or defacing of all apparatus and equipment.
  - 2. Provide hot dip galvanized components for ferrous materials exposed to the weather. Provide a minimum of one coat of rust inhibiting primer paint for all materials after fabrication, color as selected by the Architect.
  - 3. Degrease and clean all surfaces of equipment, materials, and components that are to be painted or are to receive nameplates or labels.
- F. All equipment, materials, and components located on exterior walls or on the roof where exposed to view from the ground shall be finish painted to match the surrounding surfaces. Paint colors shall be as selected by the Architect. The above provisions shall apply to all exposed equipment and materials visible from 6'-0" above grade from any property line. The Architect may, at his sole option, elect to not paint any item deemed acceptable in appearance.
- G. All equipment, materials, and components shall be connected providing circuit continuity in accordance with applicable codes whether or not each component is shown between such items and the point of circuit origin.

3.04 ACCESS TO EQUIPMENT
- A. Install all equipment and boxes so that all parts are easily accessible for inspection, operation, maintenance and repair. If concealed, provide access doors. Provide fire rated access doors where required by the fire resistance rating of the wall or ceiling in which the door is installed.

3.05 EQUIPMENT CLEARANCES
- A. Working Spaces: Install all equipment which is likely to require examination, adjustment, servicing, or maintenance, such that all working spaces required by NFPA 70 are maintained.

3.06 CUTTING, PATCHING, AND PIERCING
- A. Cutting of openings and installation of sleeves or frames through walls and surfaces shall be done in a neat workmanlike manner. Openings shall be cut only as large as required for the installation; sleeves and/or frames installed flush with finished surfaces and grouted in place. Surfaces around openings shall be left smooth and finished to match surrounding surface.
- B. Obtain written permission of the Architect/Engineer before cutting or piercing structural members. Use craftsmen skilled in their respective trades for cutting, fitting, repairing, patching of plaster, and finishing of materials including carpentry work, metal work, or concrete work required for this work.
- C. Do not weaken walls, partitions, or floors with cutting. Holes required to be cut in floors must be drilled without breaking out around the holes. The Architect/Engineer will determine suitability of patching and/or refinishing requirements.
- D. Patch all openings resulting from the installation or removal of equipment, materials, and components.
- E. Provide and maintain temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to adjacent areas.
- F. Patch existing finished surfaces and building components using new materials matching existing materials and experienced subcontractors.

END OF SECTION

SECTION 284600 - FIRE ALARM SYSTEMS

PART 1 GENERAL

1.01 COORDINATION
- A. Coordinate with the architectural plans to determine occupancy classification, occupant loads, and fire-rated and smoke-rated construction locations and ratings.
- B. Coordinate locations of all smoke curtains, smoke shutters, fire curtains, fire shutters, magnetic door hold-opens, etc. with the architectural plans. Include all costs in the bid.
- C. Coordinate locations of all required duct smoke detectors, including duct smoke detectors which are required to control smoke dampers, with the Mechanical Contractor. Include all costs in the bid.
- D. Coordinate division of responsibility of duct smoke detector installation and all wiring with both the Electrical and Mechanical Contractors. Include all costs in the bid.
- E. Coordinate locations of all fire suppression system monitoring components including flow switches, valve supervisory switches, pressure switches, corrosion monitoring systems, fire pumps, etc. with the Fire Sprinkler Contractor. Include all costs in the bid.
- F. Coordinate all required elevator interface controls with the Elevator Contractor. Include all costs in the bid.
- G. Coordinate all required access control system interface controls with the Security Contractor. Include all costs in the bid.
- H. Coordinate with the Electrical Contractor to provide 120 VAC circuits for equipment at required locations and any raceways required for fire alarm circuitry. Include all costs in the bid.
- I. Coordinate with the Contractor(s) responsible for all other systems that may require fire alarm interfaces. Include all costs in the bid.
- J. Coordinate the locations of all wall-mounted notification appliances with the architectural plans to ensure notification appliances do not conflict with architectural features.
  - 1. Obtain the Architect's approval of all wall-mounted notification appliance locations.
- K. Change orders resulting from a lack of coordination will not be considered.

1.02 SYSTEM DESIGN
- A. Prepare shop drawings (installation documents) complying with NFPA 72 section 7.4 based on the manufacturer-specific equipment and components intended to be installed.
- B. Information on the drawings serves as design (layout) documentation per NFPA 72 section 7.3 for only the purpose of bidding, establishing performance criteria, and conveying intent. As such, the drawings may not show every component required for a complete installation. The Contractor shall include all components required for a complete, code-compliant design and installation in the shop drawings (installation documents).
- C. Submit shop drawings (installation documents) to the Authority Having Jurisdiction for review and approval.
- D. Include all costs associated with the development of the shop drawings (installation documents) and all permit fees in the bid.
- E. Coordinate with all associated disciplines/trades noted above to ensure a coordinated design.
- F. Ensure voice intelligibility per NFPA 72 requirements.

1.03 PREINSTALLATION MEETINGS
- A. Conduct meeting with the Electrical Contractor to determine rough-in locations for all equipment and devices, raceway and wire/cable requirements, and locations where 120 VAC circuits will be required.
- B. Conduct meeting with the Mechanical Contractor to determine required mechanical system interfaces and sequences of operation.
- C. Conduct meeting with the Fire Sprinkler Contractor to determine required fire sprinkler system interfaces and sequences of operation.
- D. Conduct meeting with the Elevator Contractor to determine required elevator system interfaces and sequences of operation.
- E. Conduct meeting with the Security Contractor to determine required access control interfaces and sequences of operation.
- F. Conduct meeting(s) with any other Contractors to determine required interfaces and sequences of operation for other systems that require fire alarm interfaces.

1.04 SUBMITTALS
- A. Provide the following for Architect/Engineer review, after obtaining approval from the Authority Having Jurisdiction:
  - 1. Shop Drawings (Installation Documents): Submit all information required by the Authority Having Jurisdiction for plan review and permitting, including circuited floor plans, riser diagrams which correspond to the circuiting indicated on the floor plans, input/output matrix, battery calculations, notification appliance circuit voltage drop calculations, and manufacturer's detailed data sheet for each component.
  - 2. Record of approval by the Authority Having Jurisdiction.
- B. Submittals are reviewed only for general compliance with the contract documents. Dimensions, quantities, and details are not reviewed during submittal review. Review of the submittals does not relieve the Contractor of the responsibility for providing all materials, equipment, and accessories necessary for a complete and operational system meeting the requirements of the project and the intent of the contract documents. The responsibility for coordination of substituted materials and equipment lies solely with the substituting Contractor.

1.05 QUALITY ASSURANCE
- A. Designer Qualifications: Experience designing fire alarm systems within the Authority Having Jurisdiction's area and be a NICET level III or IV (3 or 4) certified fire alarm technician, a registered professional fire protection or electrical engineer, an employee of the fire alarm control unit manufacturer, or a licensed fire alarm contractor.
- B. Code requirements supersede any requirements of this section.
- C. Equipment performance and accessories shall be as indicated on the drawings and specified herein. Inclusion in both locations is not a requisite to inclusion in the contract; equipment and accessories indicated in either location shall be included in the contract. Provide all necessary accessories and connections as required for a complete, functional system, including all required components reasonably inferred to as necessary although such components may or may not be specifically indicated in the contract documents.

1.06 WARRANTY
- A. Provide control panel manufacturer's warranty that system components other than wire and conduit are free from defects and will remain so for 1 year after date of Substantial Completion.
- B. Provide installer's warranty that the installation is free from defects and will remain so for 1 year after date of Substantial Completion.

PART 2 PRODUCTS

2.01 FIRE ALARM SYSTEM
- A. Provide all components and programming required for a complete, operational, code-compliant system, whether or not indicated in contract documents.
- B. Comply with the following; where requirements conflict, the most stringent requirement shall apply:
  - 1. ADA Standards.
  - 2. The requirements of the Fire Marshal.
  - 3. The requirements of the local Authority Having Jurisdiction.
  - 4. Applicable local codes.
  - 5. NFPA 72; consider any provision where the word "should" is used to be a mandatory requirement.
  - 6. The contract documents.
- C. Means of Transmission to Remote Supervising Station: Digital alarm communicator transmitter (DACT), 2 telephone lines.
  - 1. Cellular and/or internet protocol (IP) transmitters are permitted if accepted by the Authority Having Jurisdiction.
  - 2. Notification method and code signal per local requirements. Coordinate requirements with remote supervising station vendor.
- D. Circuits:
  - 1. Survivability of All Circuit Pathways: Level 0 unless indicated otherwise or otherwise required by the Authority Having Jurisdiction.
  - 2. Initiating Device Circuits (IDC): Class B unless otherwise required to achieve required survivability or otherwise required by the Authority Having Jurisdiction.
  - 3. Signaling Line Circuits (SLC) Within Single Building: Class B unless otherwise required to achieve required survivability or otherwise required by the Authority Having Jurisdiction.
  - 4. Signaling Line Circuits (SLC) Between Buildings: Class A unless otherwise required to achieve required survivability or otherwise required by the Authority Having Jurisdiction.
  - 5. Notification Appliance Circuits (NAC): Class B unless otherwise required to achieve required survivability or otherwise required by the Authority Having Jurisdiction.
  - 6. Smoke Control Circuits: Class C unless otherwise required to achieve required survivability or otherwise required by the Authority Having Jurisdiction.
  - 7. Releasing Device Circuits: Class D unless otherwise required to achieve required survivability or otherwise required by the Authority Having Jurisdiction.
  - 8. Fire Alarm Network Communication Cabling: Class X unless otherwise required to achieve required survivability or otherwise required by the Authority Having Jurisdiction.
- E. Spare Capacity:
  - 1. Initiating Device Circuits: Minimum 25 percent spare capacity.
  - 2. Notification Appliance Circuits: Minimum 25 percent spare capacity.
  - 3. Speaker Amplifiers: Minimum 25 percent spare capacity.
  - 4. Fire Alarm Control Units: Capable of handling all circuits utilized to capacity without requiring additional components other than plug-in control modules.
  - 5. Auxiliary Power Supplies: Minimum 25 percent spare capacity.
- F. Power Sources:
  - 1. Primary: Dedicated branch circuits of the facility power distribution system.
  - 2. Secondary: Storage batteries.
  - 3. Capacity: Sufficient to operate entire system for period specified by NFPA 72 plus 25 percent spare capacity.
- G. Interlocking with Existing Fire Alarm Control Units: Interlock all new fire alarm control units with the existing main fire alarm control unit such that all alarm, supervisory, and trouble signals reported at any new fire alarm control units are transmitted to and annunciated at the existing fire alarm control unit.

2.02 EXISTING COMPONENTS
- A. Existing Fire Alarm System: Remove existing components as required for the new work and incorporate remaining components into new system, under warranty as if they were new; do not take existing portions of system out of service until new portions are fully operational, tested, and connected to existing system.
- B. Provide all necessary panel, expansion card, power supply and annunciator updates required to support the new system.
- C. Coordinate new notification appliances with the existing notification appliances.
  - 1. Match finish color with existing notification appliances located within the same area.
  - 2. New Audible Notification Appliances: Match existing tones and sound pressure characteristics, provided those tones and sound pressure characteristics comply with current codes.
  - 3. New Visual Notification Appliances: Match existing type and synchronize with the existing visual devices.

2.03 FIRE SAFETY SYSTEMS INTERFACES
- A. Supervision: Provide supervisory signals in accordance with NFPA 72 and local requirements of the Authority Having Jurisdiction, including but not necessarily limited to each of the following, when present:
  - 1. Fire suppression system control valves, pressure switches, and corrosion monitoring probes per NFPA 13, 13R, and 72.
  - 2. Dry-pipe fire suppression system pressure.
  - 3. Fire pump(s).
  - 4. Elevator shut-down control circuits.
  - 5. Duct smoke detectors unless Authority Having Jurisdiction requires duct smoke detectors to provide an alarm signal.
- B. Alarm: Provide alarm initiation in accordance with NFPA 72 and local requirements of the Authority Having Jurisdiction, including but not necessarily limited to each of the following, when present:
  - 1. Fire suppression system flow.
  - 2. Kitchen hood suppression activation.
  - 3. Elevator lobby, elevator hoistway, and elevator machine room, machine space, control room, and control space smoke detectors.
  - 4. Duct smoke detectors when Authority Having Jurisdiction will not permit duct smoke detectors to provide a supervisory signal.
- C. Elevators: Provide elevator interfaces in accordance with code and local requirements of the Authority Having Jurisdiction, including but not necessarily limited to each of the following, when present:
  - 1. Smoke Detectors Located in Elevator Lobbies, Hoistways, Machine Rooms, Machine Spaces, Control Rooms, and Control Spaces: Initiate fire fighters' service Phase I Emergency Recall Operation.
  - 2. Heat Detectors Located in Hoistways, Pits, Machine Rooms, Machine Spaces, Control Rooms, and Control Spaces: Shut down elevator main line power prior to sprinkler activation, except for fire service access elevators (FSAEs) and occupant evacuation elevators (OEEs).
- D. Carbon Monoxide Detectors: Shut down fuel source to carbon monoxide-producing equipment when required by local codes or the Authority Having Jurisdiction.
- E. Heating, Ventilation, and Air-Conditioning (HVAC) Systems: Provide HVAC system interfaces in accordance with code and local requirements of the Authority Having Jurisdiction, including but not necessarily limited to each of the following, when present:
  - 1. Duct Smoke Detectors:
    - a. Close smoke damper(s).
    - b. Shut down supply fan of associated HVAC equipment when individual equipment is rated equal to or greater than 2,000 cubic feet per minute (0.9 cubic meters per second).
    - c. Shut down supply fans of all associated HVAC equipment serving an area when total aggregate capacity serving the area is equal to or greater than 2,000 cubic feet per minute (0.9 cubic meters per second).
    - d. Shut down supply fans of all HVAC equipment which shares a common return air plenum when the total circulation is equal to or greater than 2,000 cubic feet per minute (0.9 cubic meters per second).
  - 2. High Volume, Low Speed (HVLS) Ceiling Fans: Shut down all HVLS ceiling fans measuring 6 feet (1.8 m) or greater in diameter upon a fire suppression system water flow alarm.
- F. Kitchen Hood Fire Suppression Systems:
  - 1. Disconnect power to all appliances located under hood.
  - 2. Close gas valve(s) serving appliances located under hood.
  - 3. Shut down all supply air fan(s).
  - 4. Start hood exhaust fan(s) if not already running.
- G. Music Systems: Shut down music systems upon activation of audible notification appliances.
- H. Doors:
  - 1. Magnetic Door Holders: Release upon activation of smoke detectors in smoke zone on either side of door, upon alarm from manual pull station on same floor, and upon sprinkler activation on same floor.
  - 2. Electromagnetic Door Locks on Egress Doors: Unlock upon activation of any alarm initiating device or suppression system in smoke zone that doors serve as egress from.
- I. Smoke and Fire Curtains and Shutters: Release upon activation of smoke detectors in smoke zone on either side of door, upon alarm from manual pull station on same floor, and upon sprinkler activation on same floor.

2.04 COMPONENTS
- A. General:
  - 1. Provide flush mounted units where installed in finished areas; in unfinished areas, surface mounted unit are acceptable.
  - 2. Provide legible, permanent labels for each control device using identifiers used in control unit programming.
- B. Fire Alarm Control Units:
  - 1. General Requirements:
    - a. UL 864 microprocessor based control unit capable of monitoring, communicating with, and controlling all required initiating devices, notification appliances, and addressable modules required to accomplish the required fire safety systems interfaces.
    - b. Two, minimum, configurable on-board notification appliance circuits.
    - c. History buffer, 1800 event, minimum, with dedicated 600 event alarm event buffer.
  - 2. Central Microprocessor:
    - a. Communicate, control, and monitor all external devices.
    - b. Custom operating parameters for the system stored in non-volatile memory to prevent loss during power outages.
    - c. Equipped with real-time clock to denote actual time of occurrence of system events for the display, history buffers, and external reporting devices.
  - 3. Display:
    - a. Fifty character, minimum, LCD display to annunciate system conditions and program system operating parameters.
    - b. Eight status LEDs: AC Power, Fire Alarm, Pre-Alarm Warning, Supervisory, Trouble, Alarm Silence, Supervisory Silence, and Trouble Silence.
  - 4. Keypad:
    - a. All keys provided with tactile operational feedback.
    - b. Minimum of 12 alpha-numeric keys, four (4) cursor keys, and ENTER key.
    - c. Separate keys dedicated to System Reset, Step, Alarm Silence, Acknowledge, and Drill.
    - d. Used to provide all control and programming functions for the system.
  - 5. Signaling Line Circuits (SLC):
    - a. Provide power and communication with up to 127, minimum, analog or addressable devices on each SLC.
    - b. Polling scheme interrupted by a device in alarm.
    - c. Address of alarming device annunciated at the control system display.
  - 6. Enclosures:
    - a. Flush-mounted in finished or public areas, surface mounted in unfinished areas.
    - b. Finish:
      - 1. Corrosion protective, hardened finish.
      - 2. Red when installed in unfinished areas, gray or beige when installed in finished or public areas.
  - 7. Power Supplies:
    - a. Primary Power: 120 VAC, 60 Hertz.
    - b. Secondary Power: Storage battery and battery charger capable of operating entire system for period of time specified by NFPA 72 plus 25 percent spare capacity.
    - c. Provide a minimum of 5.0 amps at 24 VDC for use on notification appliance circuits or auxiliary power circuits.
    - d. Provide auxiliary power supplies where required to meet the requirements of the system design.
    - e. Provide battery charger capacity to sufficiently recharge a depleted set of batteries within 48 hours.
    - f. Provide auxiliary power output circuits for four wire detectors or addressable control modules.
    - g. Provide separate circuit to allow resetting the auxiliary power during a system reset.
    - h. All auxiliary power circuits shall be power limited.
  - 8. Remote Station Signal Transmitter: Electrically supervised digital alarm communicator transmitter, capable of transmitting alarm and trouble signals over telephone lines to central station receiver.
    - a. Cellular and/or internet protocol (IP) transmitters are permitted if accepted by the Authority Having Jurisdiction.
- C. Voice/Alarm Control Units: UL 864 microprocessor based control unit capable of distributing and controlling emergency voice messages to all associated speakers with the following minimum features:
  - 1. Capability to interface with Local Operator Console (LOC), distributed audio amplifiers, remote paging units, remote microphones, and fire fighters' telephone units.
  - 2. Expandable integral audio amplifier.
  - 3. Integral digital message generator capable of producing fourteen unique messages, up to 60 seconds per message.
  - 4. Custom message recording capability using the local microphone, USB port, or external audio input.
  - 5. Integral tone generator with field-selectable leading and trailing tones.
  - 6. Field-selectable repeat cycles.
  - 7. Integral supervised microphone.
  - 8. Push Button Controls for All Call, System Control, Speaker Zone Select, Message Select, Diagnostic Select, and Lamp Test.
  - 9. Color-coded system status LEDs to indicate Fire System Active, System Control, System In Use, Speaker Zone Active, Speaker Zone Fault, OK to Page, Microphone Trouble, Message Active, Remote Amplifier Fault, Main Console Fault, AC Power, Ground Fault, Charger Fault, Battery Fault, Data Bus Fault, NAC Fault, NAC Active, System Trouble, and Audio Riser Fault.
  - 10. One on-board notification appliance circuit (NAC).
  - 11. Primary Power: 120 VAC, 60 Hertz.
  - 12. Secondary Power: Storage battery and battery charger capable of operating entire system for period of time specified by NFPA 72 plus 25 percent spare capacity.
  - 13. Audio Amplifier Modules: As required for speakers served.
- D. Remote Annunciators:
  - 1. Remote annunciator including audible and visual indication of fire alarm by zone, and audible and visual indication of system trouble.
  - 2. Compatible with the control unit; coordinate finish color with the Architect.
  - 3. Provide at a location approved by the Authority Having Jurisdiction when indicated on the drawings or when control unit is installed at a location other than the First Responder's primary point of entry.
- E. Addressable Modules:
  - 1. Provide addressable modules suitable for connection to fire alarm control unit signaling line circuits.
  - 2. Use addressable modules only in clean, dry, indoor, nonhazardous locations.
  - 3. Monitor Modules: Unless devices are explicitly permitted to be connected together as zone, provide separate addressable monitor module for each conventional dry-contact input device in order to be individually identifiable by addressable fire alarm control unit.
  - 4. Control Modules: Provide as indicated or as required for selective control of notification appliances.
  - 5. Releasing Control Modules: Provide as indicated or as required for control of listed solenoids in releasing applications.
  - 6. Relay Modules: Provide as indicated or as required to perform necessary functions via dry-contact interface. Where load exceeds module contact rating, provide accessory power isolation relays suitable for load as required.
  - 7. Signaling Line Circuit (SLC) Isolating Modules: Provide as required to automatically isolate short circuits on connected sections of SLC loops and allow other sections to continue to function normally. Provide automatic reset upon correction of short circuit.
- F. Initiating Devices:
  - 1. General: All initiating devices shall be compliant with NFPA 72 requirements.
  - 2. Manual Stations: Dual-action; semi-flush mounted in all finished areas and surface mounted with appropriate backbox in unfinished areas.
  - 3. Spot Heat Detectors: Combination rate-of-rise and fixed temperature, rated 135 degrees F (57 degrees C) and temperature rate of rise of 15 degrees F (8.3 degrees C), with appropriate mounting base suitable for installation on 4-inch (100 mm) outlet box.
    - a. Provide relay base when heat detector is used to activate a shunt trip.
  - 4. Spot Smoke Detectors: Low-profile photoelectric smoke detector with adjustable sensitivity, unless indicated otherwise, with appropriate mounting base suitable for installation on 4-inch (100 mm) outlet box.
    - a. Provide relay base when smoke detector is used for releasing service.
    - b. Provide low frequency sounder bases for smoke detectors installed within sleeping units.
  - 5. Duct Smoke Detectors:
    - a. General:
      - 1. Provide for each HVAC unit rated equal to or greater than 2,000 cubic feet per minute (0.9 cubic meters per second).
      - 2. Provide for all HVAC units serving the same room or area where the total aggregate capacity of the units is equal to or greater than 2,000 cubic feet per minute (0.9 cubic meters per second).
      - 3. Provide for all HVAC units that share a common return air plenum where the total aggregate capacity of the units is equal to or greater than 2,000 cubic feet per minute (0.9 cubic meters per second).
      - 4. Provide as required for control of each smoke damper.
      - 5. All other locations required by code or the Authority Having Jurisdiction.
    - b. Detector: Photoelectric smoke detector suitable for duct air velocities from 100 to 4,000 feet per minute (0.5 to 20.32 meters per second) with visual indication of detector activation and capabilities for remote testing.
    - c. Housing: As required for the duct smoke detector.
    - d. Sampling Tube: As required for the duct.
    - e. Remote Test Stations: Keyed remote test station with green POWER and red ALARM status indicators. Provide for each duct smoke detector.
    - f. Multi-Signaling Accessories: Keyed remote test station with audible alarm signal, add-on strobe, green POWER status indicator, and red ALARM status indicator unless indicated otherwise. Provide for each duct smoke detector that is not connected to a fire alarm control unit.
  - 6. Carbon Monoxide Detectors:
    - a. UL 2075 carbon monoxide detector with appropriate mounting base suitable for installation on 4-inch (100 mm) outlet box.
      - 1. Provide with integral sounder base when required by local code or the Authority Having Jurisdiction.
    - b. Sensitivity: Per UL 2034 requirements.
- G. Notification Appliances:
  - 1. General:
    - a. All notification appliances shall be compliant with NFPA 72 requirements.
    - b. All notification appliances shall be from the same manufacturer.
    - c. All notification appliances shall be semi-flush mounted in all finished areas; notification appliances are permitted to be surface mounted in unfinished areas.
    - d. All notification appliances installed within damp or wet locations shall be weatherproof.
    - e. Color: As selected by the Architect.
  - 2. Strobes:
    - a. Description: Flash tube with clear lens and reflector, suitable for ceiling or wall-mounting as indicated on the drawings, and field-selectable candela settings.
    - b. Provide strobe synchronization modules when more than one strobe is located within a viewing area.
  - 3. Horns: Rated at 88 dBA at 16 volts, suitable for ceiling or wall-mounting as indicated on the drawings, field-selectable horn tones, and field-selectable volume settings.

City of Peterborough
Recieved
May 15, 2023
Building Services Division

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

REGISTRATION SEAL
LICENSED PROFESSIONAL ENGINEER
G. SCHNACKEL
100134840
PROVINCE OF ONTARIO
Date: 05/03/2023
COA #: C1389

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SPACE #161 STORE #3541 - B

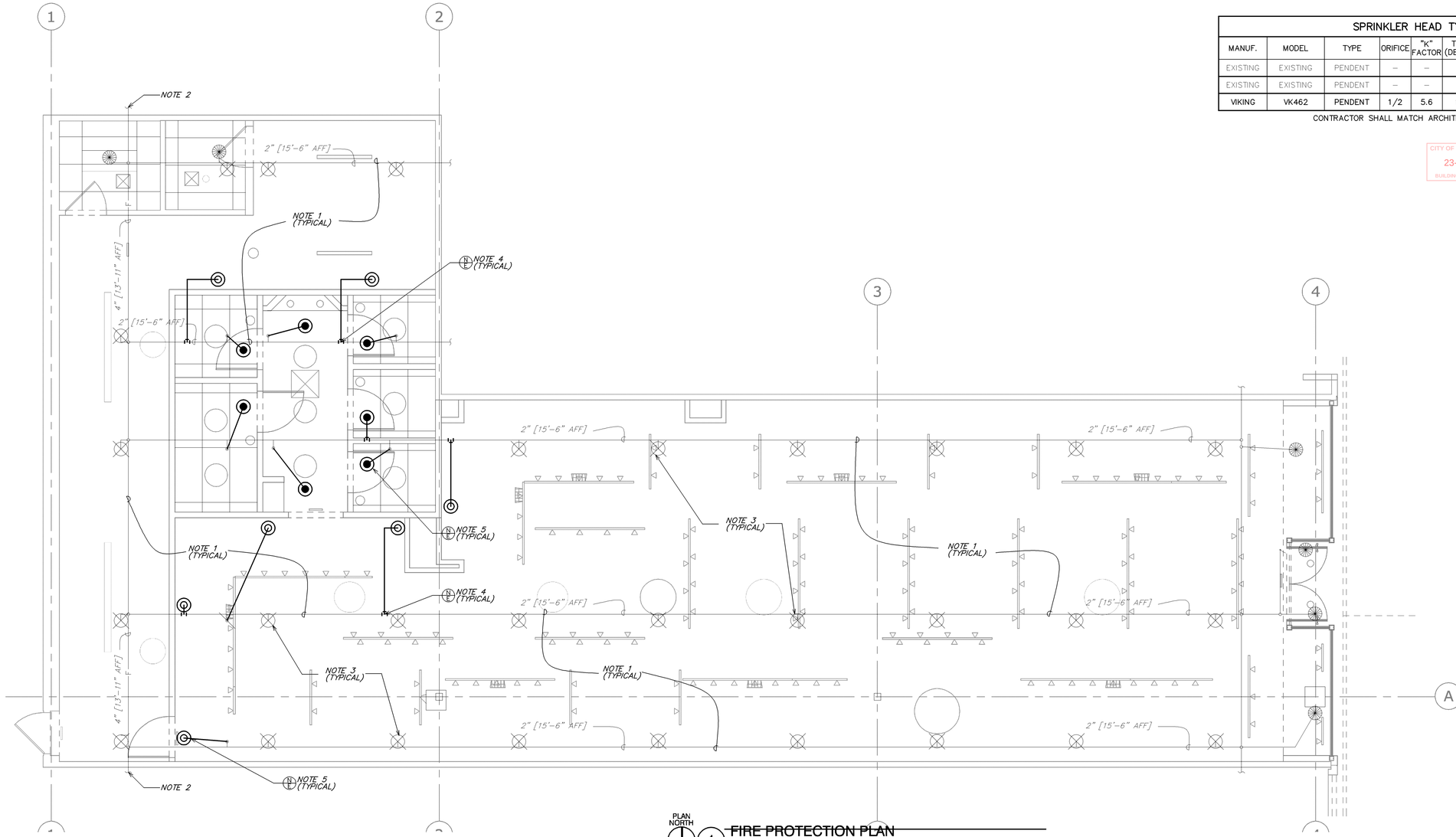
REV	DATE	DESCRIPTION	NAME
1	05.02.2023	LANDLORD COMMENTS	
		FOR PERMIT - 05/18/23	

PROJECT NO: 230088
DRAWN BY: SEI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

FIRE ALARM SPECIFICATIONS

FA2.0

SE JOB#: 230088



PLAN NORTH

1 FIRE PROTECTION PLAN

SCALE: 1/4" = 1'-0"

SPRINKLER HEAD TYPES

MANUF.	MODEL	TYPE	ORIFICE	"K" FACTOR	TEMP. (DEG. F.)	SYMBOL	FINISH	ESCUTCHEON
EXISTING	EXISTING	PENDENT	–	–	–	◉	CHROME	SEMI-RECESSED
EXISTING	EXISTING	PENDENT	–	–	–	●	WHITE	CONCEALED
VIKING	VK462	PENDENT	1/2	5.6	155	◉	WHITE	CONCEALED

CONTRACTOR SHALL MATCH ARCHITECTURAL REQUIREMENTS.

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

City of Peterborough
Recieved
May 19, 2023
Building Services Division

FIRE SPRINKLER GENERAL NOTES

GENERAL NOTES:

A. FIRE SPRINKLER CONTRACT DOCUMENTS FOUND HEREWITH ARE TO ESTABLISH THE SCOPE OF WORK AND PERFORMANCE SPECIFICATIONS OF THE SYSTEM ONLY. DETAILED FIRE SPRINKLER SHOP DRAWINGS AND HYDRAULIC CALCULATIONS SHALL BE PROVIDED BY THE INSTALLING CONTRACTOR UNDER A DEFERRED SUBMITTAL.
B. PERFORM WORK IN ACCORDANCE WITH LANDLORD CONSTRUCTION REQUIREMENTS, INCLUDING ANY TENANT CRITERIA MANUALS AND LEASE EXHIBITS, WHERE APPLICABLE. FIRE SPRINKLER CONTRACTOR SHALL OBTAIN ALL APPLICABLE MANUALS PRIOR TO BIDDING.
C. FIRE SPRINKLER SYSTEM SHALL BE INSTALLED IN STRICT CONFORMITY WITH ALL LATEST REQUIREMENTS OF THE STATE BUILDING CODE, THE LOCAL FIRE DEPARTMENT, ALL LOCAL RULES AND REGULATIONS AS DEFINED BY THE AUTHORITY HAVING JURISDICTION AND THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
D. TESTING OF SYSTEM SHALL BE IN ACCORDANCE WITH NFPA REQUIREMENTS. CONTRACTOR SHALL RUN AND PAY FOR ALL TESTS REQUIRED TO ENSURE THE SYSTEM HAS ADEQUATE FLOW AND PRESSURE.
E. PROVIDE ALL CODE REQUIRED SIGNAGE FOR FIRE SPRINKLER SYSTEM.
F. SPARE HEAD CABINETS SHALL BE PROVIDED WITH THE APPROPRIATE NUMBER OF SPRINKLERS AND WRENCHES IN ACCORDANCE WITH NFPA REQUIREMENTS.
G. PROVIDE ALL CODE REQUIRED CLEARANCE ABOVE AND AROUND ELECTRICAL EQUIPMENT.
H. COORDINATE SPRINKLER HEAD LOCATIONS WITH ALL TRADES PRIOR TO FABRICATION OR INSTALLATION. LOCATIONS OF FIRE SPRINKLER HEADS AND PIPES ARE SHOWN FOR GRAPHICAL REPRESENTATION ONLY. CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE FIRE SPRINKLER COVERAGE BASED ON ACTUAL CONDITIONS AT NO ADDITIONAL COST TO THE OWNER. SPRINKLER PIPING SHALL ROUTE AROUND, PROVIDE PROPER CLEARANCES FOR, AND AVOID CONFLICT WITH BUILDING EQUIPMENT AND SYSTEMS.
I. ENTIRE FIRE SPRINKLER SYSTEM SHALL BE INSTALLED LEVEL OR SLOPED TOWARD THE SERVICE ENTRANCE TO FACILITATE DRAIN DOWN UNLESS NOTED OTHERWISE. DRAINS SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH LOCAL AND NFPA CODES. ALL FLOATING MAINS SHALL BE PROVIDED WITH AN AUXILLARY DRAIN ROUTED TO THE EXTERIOR.
J. ALL SPRINKLER LINES 2" AND SMALLER SHALL BE SCHEDULE 40 WITH THREADED FITTINGS OR ROLL GROOVED CONNECTIONS. ALL SPRINKLER LINES AND MAINS 2-1/2" AND LARGER SHALL BE SCHEDULE 10 WITH ROLL GROOVE CONNECTIONS UNLESS NOTED OTHERWISE. THE USE OF WELD-O-LETS IS ACCEPTABLE.
K. SPRINKLER HEAD DEFLECTORS SHALL BE INSTALLED SO THAT THE DISTANCE MEASURED FROM THE DEFLECTOR TO TOP OF STRUCTURE IS IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION AND NFPA REQUIREMENTS.
L. AUTOMATIC SPRINKLERS SHALL BE OF THE OPERATING TEMPERATURE AS REQUIRED BY THE SPRINKLER LOCATION. FINAL HEAD TEMPERATURES SHALL BE IN ACCORDANCE WITH NFPA 13 TO COMPENSATE FOR FIELD CONDITIONS.
M. SPRINKLER DESIGN IS BASED ON LIMITED FIELD INFORMATION. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL FIELD CONDITIONS AND PROVIDING A FULLY COMPLIANT SPRINKLER SYSTEM AT NO ADDITIONAL EXPENSE TO THE OWNER.
N. THE CUMULATIVE HORIZONTAL LENGTH OF AN UNSUPPORTED ARMOVER TO A SPRINKLER, SPRINKLER DROP, OR SPRIG-UP, AND THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE, SHALL NOT EXCEED THE LIMITS AS ALLOWED FOR BY NFPA 13.
O. THE DISTANCE BETWEEN A HANGER AND THE CENTERLINE OF AN UPRIGHT SPRINKLER SHALL NOT BE LESS THAN 3 INCHES.
P. ALL ELEVATIONS ARE BASED ON CENTERLINE OF PIPE UNLESS NOTED OTHERWISE. ELEVATIONS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR FINAL PIPE LOCATION.
Q. PROVIDE LOW POINT DRAINS ON ALL TRAPPED SECTIONS OF PIPING.
R. ANY EXISTING SPRINKLER HEAD OUTLETS THAT ARE NO LONGER REQUIRED SHALL BE PLUGGED.
S. NO MORE THAN TWO SPRINKLER HEADS SHALL BE FED FROM ANY ONE EXISTING SPRINKLER OUTLET.
T. THE ENTIRE AREA UNDER CONSTRUCTION SHALL BE PROVIDED WITH A COMPLETE FIRE SPRINKLER SYSTEM IN ALL RESPECTS. RELOCATE/ADD NEW SPRINKLER DROPS TO EXISTING SYSTEMS WHERE REQUIRED TO PROVIDE COMPLETE COVERAGE THROUGH THE AREA OF CONSTRUCTION. COORDINATE FIRE SPRINKLER PIPING AND HEAD LOCATIONS WITH ALL TRADES PRIOR TO FABRICATION OR INSTALLATION. IF CONFLICTS OCCUR BETWEEN FIRE SPRINKLER PIPING/HEADS AND LIGHTS, DIFFUSERS, DUCTWORK, ETC., THE FIRE SPRINKLER PIPING/HEADS SHALL BE RELOCATED OR REROUTED AT NO ADDITIONAL EXPENSE TO THE PROJECT. AN ADEQUATE SUPPLY OF EXTRA PIPING AND FITTINGS SHALL BE MAINTAINED ON SITE TO ALLOW FOR FIELD MODIFICATIONS. APPROVED SHOP DRAWINGS DO NOT PRECLUDE REROUTING IF SO REQUIRED BY THE ARCHITECT/ENGINEER.
U. THE UNSUPPORTED LENGTH BETWEEN THE END SPRINKLER AND THE LAST HANGER ON THE LINE SHALL NOT BE GREATER THAN THE DISTANCES SPECIFIED IN NFPA 13.
V. ALL PIPE HANGER ASSEMBLIES AND SWAY BRACE ASSEMBLIES SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS LISTING, THE AUTHORITY HAVING JURISDICTION, AND NFPA REQUIREMENTS.

FIRE SPRINKLER PLAN NOTES

FIRE SPRINKLER NOTES:

1. EXISTING SPRINKLER PIPING TO REMAIN AS-IS. FIRE SPRINKLER CONTRACTOR SHALL FIELD VERIFY ALL EXISTING LOCATIONS AND SIZES AND SHALL MAKE ADJUSTMENTS AS REQUIRED FOR A CODE COMPLIANT SYSTEM.
2. EXISTING SPRINKLER PIPING CONTINUES INTO ADJACENT SPACE OUTSIDE SCOPE OF WORK.
3. EXISTING UPRIGHT SPRINKLER HEADS AT EXPOSED STRUCTURE TO REMAIN AS-IS. FIRE SPRINKLER CONTRACTOR SHALL FIELD VERIFY ALL EXISTING LOCATIONS, TYPES, AND TEMPERATURES AND MAKE ADJUSTMENTS AS REQUIRED FOR A CODE COMPLIANT SYSTEM.
4. USE NEW 1" PIPE AND FITTINGS TO CONNECT NEW SPRINKLER HEAD TO EXISTING PIPE FITTING ON BRANCHLINE OR WITH LISTED WRAP AROUND MECHANICAL TEE OR CUT IN NEW FITTING ON BRANCHLINE. COORDINATE HEAD LOCATIONS WITH CEILING PLAN AND THE DUCT DISTRIBUTION SYSTEM ABOVE AS NECESSARY.
5. NEW SPRINKLER HEAD LOCATION IN CEILING OR AT DECK. USE NEW 1" ARMOVER FROM EXISTING PIPE FITTING ON NEAREST BRANCHLINE TO NEW SPRINKLER HEAD LOCATION. COORDINATE HEAD LOCATIONS WITH CEILING PLAN AND THE DUCT DISTRIBUTION SYSTEM ABOVE AS NECESSARY.

LEGEND
EXISTING
NEW WORK
NEW TO EXISTING CONNECTION

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PROVINCE OF ONTARIO
Date: 05/03/2023
COA #: C1,055

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PETERBOROUGH, ON K9J 7YK
SPACE #161 STORE #3541 - B

REV.	DATE	DESCRIPTION	NAME
1	05.02.2023	LANDLORD COMMENTS	
		FOR PEERMIT - 05/18/23	

PROJECT NO: 230088
DRAWN BY: SEI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

FIRE SPRINKLER PLAN

SP1.0

SE-JOB# 230308

SYMBOLS

FIRE PROTECTION

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	ELEVATION CHANGE		BALL VALVE	FH	FIRE HYDRANT
	PIPE CAP		CHECK VALVE		VALVE IN RISE
	PIPE COUPLING		PRESSURE REGULATING VALVE (PRV)	C.I.	CAST IRON
	HYDRAULIC NODE POINT		POST INDICATOR VALVE	I.E.	INVERT ELEVATION
X'-Y" A.F.F.	FINISHED CEILING ELEVATION		RISER NIPPLE (RN)	PRV	FIRE DEPARTMENT CONNECTION
					FIRE HOSE VALVE

SPARE SPRINKLER CABINET CONTENTS

SIZE OF FACILITY	MIN HEAD QTY	MIN HEADS PER TYPE	WRENCH PER HEAD TYPE	LIST OF SPRINKLERS INSTALLED	SPRINKLER ESCUTCHEONS PER TYPE
0-300 SPRINKLERS	6	2	1	1	2
300-1000 SPRINKLERS	12	2	1	1	2
+1000 SPRINKLERS	24	2	1	1	2

NOTE: SPRINKLERS SHALL BE KEPT WHERE TEMPERATURE DOES NOTE EXCEED 100°F.

MAXIMUM PROTECTION AREAS AND MAXIMUM SPACING FOR STANDARD SPRAY UPRIGHT & PENDENT HEADS

CONSTRUCTION TYPE	SYSTEM TYPE	PROTECTION AREA MAX (SQ.FT.)	MAX SPACING	MAX DISTANCE TO WALL (FT)
LIGHT HAZARD:				
NONCOMBUSTIBLE OBSTRUCTED + UNOBSTRUCTED & COMBUSTIBLE UNOBSTRUCTED WITH MEMBERS 3FT OR MORE O.C.	PIPE SCHEDULE	200	15'-0"	7'-6"
	HYD. CALC.	225	15'-0"	7'-6"
COMBUSTIBLE OBSTRUCTED WITH MEMBERS 3FT OR MORE O.C.	ALL	168	15'-0"	7'-6"
COMBUSTIBLE OBSTRUCTED + UNOBSTRUCTED WITH MEMBERS LESS THAN 3FT O.C.	ALL	130	15'-0"	7'-6"
COMBUSTIBLE CONCEALED SPACE UNDER A PITCHED ROOF HAVING COMBUSTIBLE WOOD JOIST OR WOOD TRUSS CONSTRUCTION WITH MEMBERS LESS THAN 3FT O.C. WITH SLOPES HAVING A PITCH OF 4:12 OR GREATER	ALL	120	15'-0" PARALLEL TO SLOPE 10'-0" PERP. TO SLOPE	7'-6" PARALLEL TO SLOPE 5'-0" PERP. TO SLOPE
ORDINARY HAZARD:				
ALL	ALL	130	15'-0"	7'-6"
EXTRA HAZARD:				
ALL	PIPE SCHEDULE	90	12'-0"	6'-0"
	HYD. CALC. DENSITY=.25+	100	12'-0"	6'-0"
	HYD. CALC. DENSITY<.25	130	15'-0"	7'-6"

HANGER LOCATIONS (MAX PRESSURE < 100 PSI)

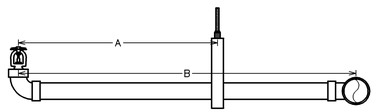
PIPE SIZE	A (MAX)	A (MIN)	B (MAX)
1"	36"	3"	24"
1 1/4"	48"	3"	24"
≥1 1/2"	60"	3"	24"

HANGER ROD SIZES

PIPE SIZE	DIAMETER
UP TO 4"	3/8"
5" TO 8"	1/2"
10" & 12"	5/8"

HANGER LOCATIONS (MAX PRESSURE > 100 PSI)

PIPE SIZE	A (MAX)	A (MIN)	B (MAX)
1"	12"	3"	12"
1 1/4"	12"	3"	12"
≥1 1/2"	12"	3"	12"

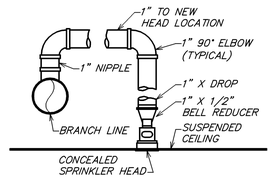


STEEL PIPE ONLY

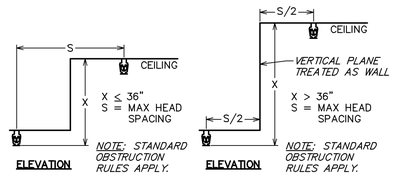
MAXIMUM DISTANCE BETWEEN HANGERS (FT. – IN.)

PIPE TYPE	NOMINAL PIPE SIZE (IN)											
	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	5	6	8
STEEL PIPE EXCEPT THREADED LIGHT-WALL	N/A	12-0	12-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0	15-0
THREADED LIGHT WALL STEEL PIPE	N/A	12-0	12-0	12-0	12-0	12-0	12-0	N/A	N/A	N/A	N/A	N/A

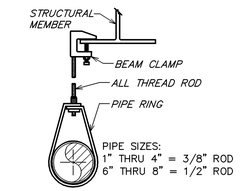
SE JOB#: 230308



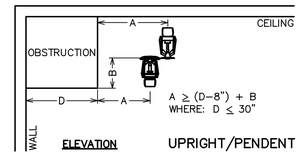
10 CONCEALED ARMOVER DETAIL
NOT TO SCALE



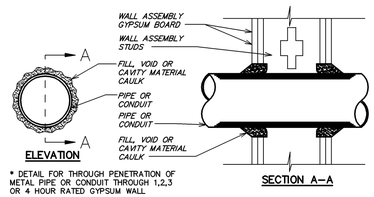
5 VERTICAL CEILING CHANGE RULE
NOT TO SCALE



9 PIPE HANGER BEAM CLAMP
NOT TO SCALE



4 SOFFIT OBSTRUCTION RULE
NOT TO SCALE

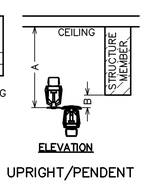


* DETAIL FOR THROUGH PENETRATION OF METAL PIPE OR CONDUIT THROUGH 1,2,3 OR 4 HOUR RATED GYPSUM WALL

8 RATED PENETRATION DETAIL
NOT TO SCALE

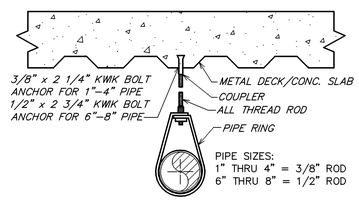
TYPE OF CONSTRUCTION	DISTANCE BELOW CEILING (A)	DISTANCE BELOW STRUCTURAL MEMBER (B)
UNOBSTRUCTED	1" – 12"	N/A
OBSTRUCTED	22" MAX.	1" – 6"

NOTE: OR IN ACCORDANCE WITH SPECIFIC SPRINKLER HEAD MANUFACTURER LISTING

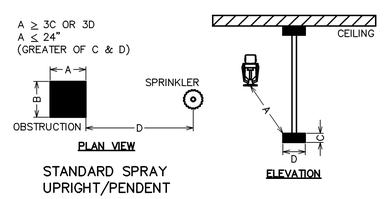


UPRIGHT/PENDENT

3 DEFLECTOR DISTANCE
NOT TO SCALE

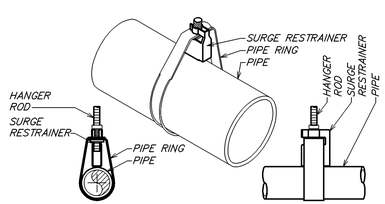


7 PIPE HANGER CONCRETE DECK
NOT TO SCALE



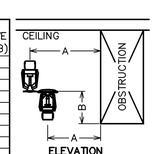
STANDARD SPRAY UPRIGHT/PENDENT

2 OBSTRUCTION DISTANCE
NOT TO SCALE



6 SURGE RESTRAINER
NOT TO SCALE

DISTANCE FROM SPRINKLER TO SIDE OF OBSTRUCTION (A)	MAXIMUM DISTANCE OF DEFLECTOR ABOVE OBSTRUCTION (in.) (B)
< 1'-0"	0
1'-0" < 1'-6"	2.5
1'-6" < 2'-0"	3.5
2'-0" < 2'-6"	5.5
2'-6" < 3'-0"	7.5
3'-0" < 3'-6"	9.5
3'-6" < 4'-0"	12
4'-0" < 4'-6"	14
4'-6" < 5'-0"	16.5
5'-0" < 5'-6"	18
5'-6" < 6'-0"	20
6'-0" < 6'-6"	24
6'-6" < 7'-0"	30
7'-0" < 7'-6"	35



STANDARD SPRAY UPRIGHT/PENDENT

1 OBSTRUCTION RULE
NOT TO SCALE

REGISTRATION SEAL

LICENSED PROFESSIONAL ENGINEERS
G. SCHNACKEL
100134840
PROVINCE OF ONTARIO

Date: 05/03/2023
COA # C1,059

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PETERBOROUGH, ON K9J 7YK
SPACE #161 STORE #3541 - B

REV	DATE	DESCRIPTION	NAME
1	05.02.2023	LANDLORD COMMENTS FOR PERMIT - 05/18/23	

PROJECT NO: 230308
DRAWN BY: SEI
CHECKED BY: GPS
ISSUE DATE: 04/13/23

FIRE SPRINKLER DETAILS

SP2.0

SECTION 21000 - FIRE SUPPRESSION GENERAL CONDITIONS

PART 1 GENERAL

1.01 APPLICABILITY
A. This section supplements all sections of the Specifications for Division 21 and shall apply to all phases of work hereinafter specified, shown on the Drawings, or required to provide a complete installation of approved fire suppression systems.
B. The Drawings, General Conditions and General Provisions of the Contract apply to this Section and the other Sections of Division 21 of the specifications. Where conflicts arise between these documents, the more stringent provision will be applicable, subject to the interpretation of the Engineer.
C. Furnish all labor, material, services, and skilled supervision necessary for the construction, erection, installation, connections, testing, and adjustment of all materials and electrical equipment specified herein, or shown or noted on the Drawings, and its delivery to the Owner, complete in all respects and ready for use.
D. Products furnished but not installed under this section:
1. Where plans indicate fixtures or equipment will be furnished by this Contractor for installation by other Contractors, this Contractor shall furnish all such equipment, complete in all respects and ready for installation.
2. Drawings, instructions, and manuals supplied with equipment furnished under Division 21, but installed under other Divisions shall be carefully preserved and turned over to the installing Contractor.
E. Products installed but not furnished under this section:
1. Where plans indicate fixtures or equipment will be furnished by others, this Contractor shall provide all rough-in and supplies and shall connect such equipment to the fire suppression systems.
2. Drawings, instructions, and manuals supplied with equipment furnished under separate Divisions but installed under Division 22 shall be carefully preserved and turned over to the Architect.

1.02 DEFINITIONS
A. "Work" is hereby defined as, "The construction and services required by the Contract Documents whether completed or partially completed and includes all labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The work may constitute the whole or a part of the project."
B. "Furnish" is hereby defined as, "To supply and deliver, unload, and inspect for damage."
C. "Install" is hereby defined as, "To unpack, assemble, erect, apply, place, finish, cure, protect, clean, connect, and place into operation into the work."
D. "Provide" is hereby defined as, "To furnish and install."
E. "Connect" is hereby defined as, "To bring service to the equipment and make final attachment including necessary switches, outlets, boxes, terminations, etc."
F. "Concealed" is hereby defined as, "Hidden from sight in chases, furred spaces, shafts, hung ceilings, embedded in construction, in crawl spaces, or buried."
G. "Exposed" is hereby defined as, "Not installed underground nor concealed as defined by the Specifications."
H. "Drawings" is hereby defined as, "All plans, details, equipment schedules, diagrams, sketches, etc. issued for the construction of the work."
I. Subgrade Elevations: 4 inches below finish grade elevations indicated on drawings, unless otherwise indicated.
J. Finish Grade Elevations: 4 inches above subgrade elevations indicated on drawings, unless otherwise indicated.

1.03 CODES AND STANDARDS
A. Perform work in accordance with the applicable Building Code, Electrical Code, Fire Code, Mechanical Code, Plumbing Code, Energy Code, and all other applicable codes, amendments, and ordinances; Also perform all work in accordance with the Americans with Disabilities Act (ADA) and the Authority Having Jurisdiction (AHJ) including Fire Marshal(s).
B. Perform work in accordance with Landlord requirements, including any Tenant Criteria Manuals and Lease Exhibits, where applicable.
C. Perform work in accordance with the applicable utility companies serving the project. Make all arrangements with the utility companies for proper coordination of the work.
D. Recognized Standards: Design, manufacture, testing and method of installation of all apparatus and materials furnished under the requirements of these Specifications shall conform to the latest publications or standard rules of National Fire Protection Association (NFPA), Factory Mutual Global, where applicable (FMG), Underwriters Laboratories, Inc. (U.L.), American Society for Testing and Materials (ASTM), American National Standards Institute (ANSI), National Electrical Code (NEC), and National Fire Safety Code (NFSC).
E. The Contract Documents shall take precedence where the Contract Documents exceed code, Landlord, utility, or recognized standards requirements.

1.04 PERMITS AND FEES
A. Permits, licenses, fees, inspections and arrangements required for the work under this Contract shall be obtained by the Contractor at his expense, unless otherwise indicated.
B. All fees and scheduling associated with obtaining an accurate water flow test shall be at the Contractor's expense.

1.05 CONTRACT DRAWINGS
A. The Contractor is responsible to obtain, fully understand, and coordinate the work with the complete set of Contract Documents. Any required corrections, including all associated costs, arising from issues caused by the Contractor's failure to understand and/or coordinate the work with the complete set of Contract Documents are the Contractor's sole responsibility.
B. Work under these sections is diagrammatic unless indicated otherwise and is intended to convey the scope of work and indicate the general arrangement of piping, equipment, and accessories. Follow these drawings in laying out the work and verify spaces for the installation of these materials and equipment. Wherever a question exists as to the exact intended location of pipe, sprinklers, or equipment, obtain instructions from the Architect before proceeding with the work.
C. Notify the Architect/Engineer for resolution if a discrepancy is discovered within the Contract Documents. Failure of the Contractor to notify the Architect/Engineer of discrepancies shall result in the resolution being the Contractor's responsibility and subject to the Architect/Engineer's review and possible rejection. Should the Architect/Engineer reject a discrepancy resolution of which they were not notified, the Contractor is fully responsible to correct the installation, including all associated costs, until approval of the installation is given by the Architect/Engineer.

1.06 EXISTING CONDITIONS
A. Verify all existing conditions prior to beginning work.
B. Any existing conditions indicated in the Contract Documents are based on information drawings provided by others and possibly limited field verification. The Contractor shall adjust for actual field conditions at no additional expense to the Owner.
C. The Contractor shall visit the project site, review existing conditions against the Contract Documents, and familiarize himself with the work prior to bidding and start of the work. By signing the Contract, the Contractor acknowledges the site visit has been completed and the existing conditions are accepted.
D. The Contractor shall notify the Architect of major discrepancies in writing so the appropriate modifications to the design can be made without delay to the project. The Contractor assumes full responsibility of adjusting for discrepancies of which the Architect is not informed.
F. The Owner shall have first salvage right on all demolished equipment and materials. The Contractor shall dispose of all demolished equipment and materials the Owner rejects.
G. The Contractor shall notify the Architect/Engineer of field discrepancies in writing so the appropriate modifications to the design can be made without delay to the project. The Contractor assumes full responsibility of adjusting for discrepancies of which the Architect/Engineer is not informed.
H. Where connections are made between new work and existing work, the connections shall be made by using materials and methods to suit the actual conditions.
I. Where existing conditions are shown to be removed, by means of a hatched pattern, on the Drawings, this Contractor shall perform all work required for removal. Existing pipe run-outs shall be removed all the way back to mains and capped using appropriate methods.
J. Where existing work is to be modified, it shall be done in conformance with these specifications. Materials used shall be same as existing except where specified otherwise.

1.07 SUBMITTALS
A. Shop Drawings:
1. Furnish the Architect/Engineer shop drawing portfolios containing names of manufacturer and cut sheets of equipment to be used on the project. Use manufacturer's specification sheets identified by number indicated on drawings or schedules. Indicate catalog number on the cut sheets. As applicable, provide construction data, weight and dimensional data, performance data and listing data as part of the shop drawing submittal. Provide shop drawings for:
a. Fire Protection fixtures and equipment.
b. Fire Protection materials and accessories.
c. Product Data: Provide manufacturers catalogue information. Indicate valve data and ratings.
2. Submittals are reviewed only for general compliance with the Contract Documents. Dimensions, quantities and details are not checked during submittal review. Review of the submittals does not relieve the Contractor of the responsibility for providing all materials, equipment and accessories necessary for a complete and operational system meeting the requirements of the project and the intent of the Contract Documents. The responsibility for coordination of substituted materials and equipment lies solely with the substituting Contractor.
3. Approval shall not relieve the Contractor from responsibility for errors on the shop drawings.
4. If the shop drawings deviate from the contract documents, the Contractor shall advise the Engineer of the deviations in writing accompanying the shop drawings, including the reasons for the deviations.
B. Project Record Documents: Record actual locations of components and tag numbering.
C. Operation and Maintenance Data: Include installation instructions and spare parts lists.
D. Maintenance Data: Include assembly drawings, bearing data including replacement sizes, and lubrication instructions.

1.08 QUALITY ASSURANCE
A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum five years experience.
B. Installer Qualifications: Company specializing in performing the work of this section with minimum five years experience, approved by manufacturer.
C. Products:
1. Listed and classified by Underwriters Laboratories Inc. as suitable for the purpose specified and indicated.
2. Listed and classified by the local Department of Buildings and furnished with an acceptance number, where applicable.
3. Listed and classified by the Landlord's and/or Owner's insurance carrier, where applicable.
D. All equipment and components shall be free of all rust/corrosion or any visible damage. All items not complying with this requirement shall be replaced without any change in the Contract amount.
E. Equipment performance and accessories shall be as scheduled on the Drawings and specified herein. Inclusion in both locations is not a prerequisite to inclusion in the Contract. Equipment and accessories specified in either location shall be included in the Contract. Provide all necessary accessories and connections as required for a complete, functional system, including all required components reasonably inferred to as necessary although such components may or may not be specifically indicated in the Contract Documents.
F. Code or utility company requirements shall supersede any conflicting requirements of this section.
G. Fill Composition Test Reports: Results of laboratory tests on actual materials used; Compaction Density Test Reports.

1.09 DELIVERY, STORAGE, AND HANDLING
A. Deliver and store valves in shipping containers, with labeling in place.
B. Provide temporary protective coating on cast iron and steel valves.
C. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.
D. Protect motors stored on site from weather and moisture by maintaining factory covers and suitable weather-proof covering. For extended outdoor storage, remove motors from equipment and store separately.
E. Equipment: Protect equipment from physical damage by storing off site until the project is ready for immediate installation. Provide temporary caps on all pipes to prevent debris from entering the pipe.

PART 2 PRODUCTS

2.01 SUBSTITUTIONS
A. The manufacturers listed are listed to set minimum standards for quality, design, and functionality. The products of other manufacturers may be submitted, at the Contractor's option, during shop drawing review unless indicated otherwise. The products of other manufacturers shall meet or exceed all requirements of the Contract Documents. The Contractor accepts all responsibility for costs and coordination issues arising out of the substitution of materials or equipment, and the coordination of such substitutions with all other contractors and subcontractors.
B. Sprinkler Systems: Conform work to NFPA 13 and all local requirements.
C. Standpipe and Hose Systems: Conform to NFPA 14 and all local requirements.
D. Welding Materials and Procedures: Conform to ASME Code.

PART 3 EXECUTION

3.01 COORDINATION OF WORK
A. Examine the Contract Documents as a whole for the work of other trades. Coordinate all work accordingly.
B. Work lines and established heights shall be in strict accordance with architectural drawings and specifications insofar as these drawings and specifications extend. Verify all dimensions shown and establish all elevations and detailed dimensions not shown.
C. Promptly report to the Architect any delay or difficulties encountered in the installation of the work, which might prevent prompt and proper installation, or make it unsuitable to connect with or receive the work of others. Failure to so report shall constitute an acceptance of the work of other trades as being fit and proper for the execution of this work.
D. Plan, lay out, and coordinate the work with all trades well enough in advance so that it proceeds with a minimum of interference to work that has not been completed and work that is in progress. Inform all trades of openings required for the work and provide all special frames, sleeves, and anchor bolts required. The fire suppression system layout may be altered to suit the conditions, prior to the installation of any work and without additional cost, to the Owner. Conflicts arising from lack of coordination shall be this Contractor's responsibility.
E. Wherever pipe runs in or above ceilings or walls, the Contractor shall arrange the run of pipe in such a manner that it does not interfere with grilles, diffusers, outlet boxes, luminaires, or other ceiling mounted items.
F. Install systems, materials and equipment to provide for maximum headroom, where no ceiling height is established or indicated on the Drawings. Maintain access to equipment requiring service when selecting mounting elevations.
G. Install systems, materials and equipment level and plumb, parallel and perpendicular to building lines where exposed to view, unless otherwise indicated.
H. Conflicts arising from lack of coordination shall be this Contractor's responsibility. The Fire Suppression Contractor shall pay for all extra cutting and patching made necessary by his failure to properly direct such work at the correct time.
I. Perform all work in conformity with the Contract Documents and afford other trades reasonable opportunity for the execution of their work. Properly connect and coordinate this work with the work of other trades at such time and in such a manner as not to delay or interfere with their work.
J. Manufacturer's instruction sheets shall be followed explicitly in the installation of all equipment. Where manufacturer's instruction sheets conflict with requirements of these specifications or the Drawings, such conflicts shall be brought to the attention of the Architect/Engineer for clarification.
K. All roofing penetrations shall be flashed and weather sealed by the roofing manufacturer's authorized roofing contractor at this Contractor's expense. This Contractor shall contract with the factory authorized roofing contractor for the specific roofing system applicable to this Project. The use of an unauthorized roofing contractor may result in removal and replacement of the penetration systems at this Contractor's expense.
L. Although all such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
M. Verify and coordinate all requirements and installation details of all materials and equipment that are to be furnished under other trades and installed or connected under Division 22 prior to rough-in. Conflicts arising from lack of coordination shall be this Contractor's responsibility. As such, the Contractor is responsible to:
1. Obtain and review shop drawings, product data, manufacturer's wiring diagrams, and manufacturer's instructions for equipment furnished under other sections.
2. Determine connection locations and requirements.
3. Sequence rough-in of fire suppression connections to coordinate with installation of equipment.

3.02 COORDINATION DRAWINGS
A. Prepare coordination drawings to a scale of 1/4"=1'-0" or larger; detailing major elements, components, and systems of fire suppression equipment and materials in relationship with other systems, installations, and building components. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are of importance to the efficient flow of the work, including (but not necessarily limited to) the following:
1. Indicate the proposed locations of conduits, equipment, and materials. Include the following:
a. Clearances required for maintaining Code required working space.
b. Equipment connections and support details.
c. Exterior wall and foundation penetrations.
d. Fire-rated wall and floor penetrations.
e. Sizes and location of required concrete pads and bases.
f. Indicate scheduling, sequencing, movement, and positioning of large equipment into the building during construction.
g. Prepare floor plans, elevations, and details to indicate penetrations in floors, walls, and ceilings and their relationship to other penetrations and installations.

3.03 EXAMINATION
A. Verify field measurements are as indicated on the Drawings.
B. Verify all pipe locations and sizes in field prior to fabrication or installation.
C. Verify all equipment locations in field prior to installation. Coordinate final locations with all trades.

3.04 INTERFACE WITH OTHER PRODUCTS
A. Install all pipe, equipment, and accessories to preserve fire resistance rating of partitions and other elements, using materials and methods specified.

3.05 FIELD QUALITY CONTROL
A. Provide tests as necessary to establish the adequacy, quality, safety, completed status, and suitable operation of each system. Tests shall be conducted under the supervision of the Architect.
B. Install all equipment, devices, pipe, and materials securely and in a neat and workmanlike manner in accordance with all applicable standards and codes.
C. Install all equipment, pipe, and materials plumb and level and align and adjust for satisfactory operation.
D. Install all equipment, pipe, and materials in accordance with the manufacturer's instructions and recommendations.
E. Inspect all equipment, pipe, and materials for defects.

3.06 ERECTION
A. Rigging:
1. The Fire Suppression Contractor shall arrange for all labor and equipment required for the proper installation of the fire Suppression equipment in the locations indicated on the Drawings. Where crane rental or other erection is required, such costs shall be included in the Fire Suppression Contract, unless specific arrangements are made with the General Contractor to cover these costs.
B. Supplemental Framing:
1. Provide the design, fabrication, and erection of supplementary structural framing required for attachment of hangers or other devices supporting fire Suppression equipment. Provide framing members of standard rolled steel shapes, A-36 steel. Provide members welded to structural members equal to the specification for the main structural member. Provide "simple beam" type framing with end connections welded or bolted for shear loads. Use cantilevers when detailed or specifically approved by the Architect/Engineer. The Architect/Engineer's approval is required for location of supplementary framing. Use only certified welders. Design framing members for their actual loads, with allowable stresses specified by AISC, without excessive deflection and with consideration for rigidity under vibration, in accordance with standard structural practices. Show on shop drawing supplementary framing, including design loads, member size and location.

3.07 CUTTING, PATCHING, AND PIERCING
A. Cutting of openings and installation of sleeves or frames through walls and surfaces shall be done in a neat workmanlike manner. Openings shall be cut only as large as required for the installation; sleeves and/or frames installed flush with finished surfaces and grouted in place. Surfaces around openings shall be left smooth and finished to match surrounding surface.
B. Obtain written permission of the Architect/Engineer before cutting or piercing structural members. Use craftsmen skilled in their respective trades for cutting, fitting, repairing, patching of plaster, and finishing of materials including carpentry work, metal work or concrete work required for this work.
C. Do not weaken walls, partitions, or floors with cutting. Holes required to be cut in floors must be drilled without breaking out around the holes. The Architect/Engineer will determine suitability of patching and/or refinishing requirements.
D. The Fire Suppression Contractor is responsible for patching of all openings resulting from the installation or removal of fire Suppression equipment or material for a chase.
E. Provide and maintain temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to adjacent areas.
F. Patch existing finished surfaces and building components using new materials matching existing materials and experienced Subcontractors.
G. Fire and Smoke Partition Penetrations: The Contractor shall familiarize himself with all fire rated construction and install his work so as to maintain the integrity of the fire code rating. Maintain rating of fire rated and smoke rated construction. Seal voids between space around conduits. For fire and smoke rated floors, walls and partitions, use UL listed material that maintains fire rated wall and floor integrity.

3.08 CLEANING AND REPAIR
A. Clean fire suppression parts to remove harmful materials.
B. Clean exposed surfaces of all pipe, equipment, and accessories of all dirt, debris, splatter, and other deleterious materials. Follow the manufacturer's recommendations for cleaning as applicable.
C. Repair or replace damaged pipe, equipment, and accessories, as directed by and to the satisfaction of the Architect, where marring or disfigurement has occurred. All pipe, equipment, and accessories shall be new.

3.09 TESTING AND INSPECTION
A. Upon completion, the entire system shall be tested under operating conditions.
1. All equipment shall be tested under service conditions and proven to operate properly and noiselessly.
2. All additional tests as required throughout this Specification shall be completed with results reported back to the Architect/Engineer for review.
B. Operate all equipment, after installation and connection. Inspect for improper connections and operation and correct deficiencies as required.
C. Inspection:
1. Upon completion of the work, the Contractor shall obtain certificates of inspection and approval from all City and State Authorities Having Jurisdiction.

3.10 PROJECT CLOSEOUT
A. Project Record Documents: At project closeout, provide one printed copy and one electronic copy of project record drawings to the Owner. Information contained on project record drawings shall include, as a minimum,:
1. Actual locations of all pipe, equipment, accessories, etc.
2. Actual pipe sizes and elevations.
3. Actual routing of all underfloor or below grade piping.
4. Hydraulic calculation remote area data and associated flow test information.
B. Operation and Maintenance Data: At project closeout, submit to the Architect two copies of descriptive literature, maintenance and operation data for all piping, equipment, accessories, and materials used. Include maintenance procedures, intervals, and parts list of each item installed under this contract. Include all manufacturer's guarantees and warranties. Also include:

END OF SECTION

SECTION 210500 - COMMON WORK RESULTS FOR FIRE SUPPRESSION

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Pipe, fittings, valves, and connections for systems as applicable to this project. Sprinkler systems: Wet systems; Dry pipe systems; Wet pipe systems; Standpipe/hose systems; Below ground piping; Above ground piping.

PART 2 PRODUCTS

2.01 FIRE PROTECTION SYSTEMS
A. Water Supply Testing for All Systems: Perform tests of all supply water sources to determine the potential for corrosion in the fire protection system including tests for microbes most commonly associated with Microbiologically Influenced Corrosion (MIC). Water samples shall be collected and delivered to the product literature of the testing organization. Samples shall be delivered to the approved testing laboratory within 72 hours of the time the water sample is obtained. Test results shall be forwarded to the Owner and Engineer along with a report summarizing the recommended corrective action to mitigate the potential for MIC or other types of corrosion.
B. The Contractor may use any of the following piping materials, at his option, provided the selected material meets with the approval of all State, local authorities and any utility company requirements. Verification of compliance of the selected piping material is the sole responsibility of the installing Contractor.

2.02 ABOVE GROUND PIPING
A. Steel Pipe: ASTM A 795 Schedule 10, ASTM A 53 Schedule 40, ASTM A 135 Schedule 10, ASTM A 135 UL listed light wall type, or ASTM A 795 Schedule 40, black: Steel Fittings: ASME B16.9, wrought steel, buttwelded, ASME B16.5, buttweld ends, ASTM A 234/A 234M, wrought carbon steel or alloy steel, ASME B16.5, steel flanges and fittings, or ASME B16.11, forged steel socket welded and threaded; Mechanical Grooved Couplings: Malleable iron housing clamps to engage and lock, "C" shaped elastomeric sealing gasket, steel bolts, nuts, and washers; galvanized for galvanized pipe; Mechanical Formed Fittings: Carbon steel housing with integral pipe stop and O-ring pocked and O-ring, uniformly compressed into permanent mechanical engagement onto pipe; Schedule 10 steel pipe will not be allowed on any dry pipe sprinkler systems, no exceptions; Threaded or cut groove fittings will not be allowed on any Schedule 10 systems, no exceptions.
B. Copper Tube: ASTM B 75 (ASTM B 75M) or ASTM B 88 (ASTM B 88M), H58 drawn temper: Type: Type M (C); Fittings: ASME B16.18, cast copper alloy or ASME B16.22, wrought copper and bronze solder joint, pressure type; Joints: ANSI/ASTM B 32, Classification B0uP-3 or B0uP-4 copper/silver braze or ASTM B 32, alloy Sn95 solder.
C. CPVC Pipe: ASTM F 442/F 442M, SDR 13.5. (Not permitted in plenum return air ceiling spaces.): Fittings: ASTM F 438 Schedule 40, or ASTM F 439 schedule 80, CPVC; Joints: Solvent welded, using ASTM F 493 cement.

2.03 PIPE HANGERS AND SUPPORTS
A. Hangers for Pipe Sizes 1/2 to 1-1/2 inch: Malleable iron, adjustable swivel, split ring.
B. Hangers for Pipe Sizes 2 inches and Over: Carbon steel, adjustable, clevis.
C. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods.
D. Wall Support for Pipe Sizes to 3 inches: Cast iron hook.
E. Wall Support for Pipe Sizes 4 inches and Over: Welded steel bracket and wrought steel clamp.
F. Vertical Support: Steel riser clamp.
G. Floor Support: Cast iron adjustable pipe saddle, lock nut, nipple, floor flange, and concrete pier or steel support.
H. Copper Pipe Support: Carbon steel ring, adjustable, copper plated.

2.04 GATE VALVES
A. Up to and including 2 inches: Bronze body, bronze trim, rising stem, handwheel, solid wedge or disc, threaded ends.
B. Over 2 inches: Iron body, bronze trim, rising stem pre-grooved for mounting tamper switch, handwheel, OS&Y, solid bronze or cast iron wedge, flanged or grooved ends.
C. Over 4 inches: Iron body, bronze trim, non-rising stem with bolted bonnet, solid bronze wedge, flanged ends, iron body indicator post assembly.

2.05 BUTTERFLY VALVES
A. Bronze Body: Stainless steel disc, resilient replaceable seat, threaded or grooved ends, extended neck, handwheel and gear drive and integral indicating device, and built-in tamper proof switch rated 10 amp at 115 volt AC.
B. Cast or Ductile Iron Body: Cast or ductile iron, chrome or nickel plated ductile iron or aluminum bronze disc, resilient replaceable EPDM seat, wafer, lug, or grooved ends, extended neck, handwheel and gear drive and integral indicating device, and internal tamper switch rated 10 amp at 115 volt AC.

2.06 CHECK VALVES
A. Up to and including 2 inches: Bronze body and swing disc, rubber seat, threaded ends.
B. Over 2 inches: Iron body, bronze trim, swing check with rubber disc, renewable disc and seat, flanged ends.
C. 4 inches and Over: Iron body, bronze disc, stainless steel spring, resilient seal, threaded, wafer, or flanged ends.

2.07 DRAIN VALVES
A. Compression Stop: Bronze with hose thread nipple and cap.
B. Ball Valve: Brass with cap and chain, 3/4 inch hose thread.

PART 3 EXECUTION

3.01 PREPARATION
A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe. Remove scale and foreign material, from inside and outside, before assembly. Prepare piping connections to equipment with flanges or unions.

3.02 INSTALLATION
A. Install sprinkler system and service main piping, hangers, and supports in accordance with NFPA 13.
B. Install standpipe piping, hangers, and supports in accordance with NFPA 14.
C. Comply with all materials, design and installation requirements of Factory Mutual.
D. Route piping in orderly manner, plumb and parallel to building structure. Maintain gradient.
E. Install piping to conserve building space, to not interfere with use of space and other work.
F. Group piping whenever practical at common elevations.
G. Sleeve pipes passing through partitions, walls, and floors.
H. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.
I. Inserts: Provide inserts for placement in concrete formwork; Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams; Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches; Where concrete slabs form finished ceiling, locate inserts flush with slab surface; Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.
J. Pipe Hangers and Supports: Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work; Place hangers within 12 inches of each horizontal elbow; Use hangers with 1-1/2 inch minimum vertical adjustment. Design hangers for pipe movement without disengagement of supported pipe; Support vertical piping at every other floor. Support riser piping independently of connected horizontal piping; Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers; Provide copper plated hangers and supports for copper piping.
K. Slope piping and arrange systems to drain at low points. Use eccentric reducers to maintain top of pipe level.
L. Where exposed to view in finished areas, prepare pipe, fittings, supports, and accessories for finish painting. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.
M. Do not penetrate building structural members unless indicated or where approval from the project Structural Engineer has been given in writing.
N. Provide sleeves when penetrating footings and floors. Seal and fire stop pipe and sleeve penetrations to achieve fire resistance equivalent to fire separation required.
O. When installing more than one piping system material, ensure system components are compatible and joined to ensure the integrity of the system. Provide necessary joining fittings. Ensure flanges, union, and couplings for servicing are consistently provided.
P. Install valves with stems upright or horizontal, not inverted. Remove protective coatings prior to installation.
Q. Provide drain valves at main shut-off valves, low points of piping and apparatus.

END OF SECTION

SECTION 210548 - VIBRATION AND SEISMIC CONTROLS FOR FIRE SUPPRESSION PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Concrete housekeeping pads; Inertia bases for fire pumps; Vibration isolators; Seismic restraints.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. Isolation Technology, Inc; Kinetics Noise Control, Inc; Mason Industries.

2.02 SEISMIC RESTRAINTS
A. Type: Non-directional and double acting unit consisting of interlocking steel members restrained by neoprene elements.
B. Elements: Replaceable neoprene, minimum of 0.75 inch thick with minimum 1/8 inch air gap.
C. Capacity: 4 times load assigned to mount groupings at 0.4 inch deflection.
D. Attachment Points and Fasteners: Capable of withstanding 3 times rated load capacity of seismic snubber.

PART 3 EXECUTION

3.01 INSTALLATION
A. Install in accordance with manufacturer's instructions.
B. On closed spring isolators, adjust so side stabilizers are clear under normal operating conditions.
C. Support piping connections to equipment mounted on isolators using isolators or resilient hangers for scheduled distance: Up to 4 Inches Pipe Size: First three points of support; 5 to 8 Inches Pipe Size: First four points of support; 10 inches Pipe Size and Over: First six points of support; Select three hangers closest to vibration source for minimum 1.0 inch static deflection or static deflection of isolated equipment. Select remaining isolators for minimum 1.0 inch static deflection or 1/2 static deflection of isolated equipment.

3.02 FIELD QUALITY CONTROL
A. Inspect isolated equipment after installation and submit report. Include static deflections.

3.03 SCHEDULES
A. Pipe Isolation Schedule.
1. 1 Inch Pipe Size: Isolate 120 diameters from equipment.
2. 2 Inch Pipe Size: Isolate 90 diameters from equipment.
3. 3 Inch Pipe Size: Isolate 80 diameters from equipment.
4. 4 Inch Pipe Size: Isolate 75 diameters from equipment.
5. 6 Inch Pipe Size: Isolate 60 diameters from equipment.
6. 8 Inch Pipe Size: Isolate 60 diameters from equipment.

END OF SECTION

SECTION 210553 - IDENTIFICATION FOR FIRE SUPPRESSION PIPING AND EQUIPMENT

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Nameplates; Tags; Stencils; Pipe Markers.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. Brady Corporation; Champion America, Inc; Seton Identification Products.

2.02 NAMEPLATES
A. Description: Laminated three-layer plastic with engraved letters: Letter Color: White; Letter Height: 1/4 inch; Background Color: Black.

2.03 TAGS
A. Plastic Tags: Laminated three-layer plastic with engraved black letters on light contrasting background color. Tag size minimum 1-1/2 inch diameter.
B. Metal Tags: Brass with stamped letters; tag size minimum 1-1/2 inch diameter with smooth edges.

2.04 STENCILS
A. Stencils: With clean cut symbols and letters of following size:
1. 1/4 to 1-1/4 inch Outside Diameter of Insulation or Pipe: 8 inch long color field, 1/2 inch high letters.
2. 1-1/2 to 2 inch Outside Diameter of Insulation or Pipe: 8 inch long color field, 3/4 inch high letters.
3. 2-1/2 to 6 inch Outside Diameter of Insulation or Pipe: 12 inch long color field, 1-1/4 inch high letters.
4. 8 to 10 inch Outside Diameter of Insulation or Pipe: 24 inch long color field, 2-1/2 inch high letters.
5. Equipment: 2-1/2 inch high letters.
B. Semi-gloss enamel, colors conforming to ASME A13.1.

2.05 PIPE MARKERS
A. Plastic Pipe Markers: Factory fabricated, flexible, semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and identification of fluid being conveyed.
B. Plastic Tape Pipe Markers: Flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings.

PART 3 EXECUTION

3.01 INSTALLATION
A. Install plastic and plastic tape pipe markers in accordance with manufacturer's instructions.
B. Identify pumps and valves with plastic nameplates. Small devices, such as in-line pumps, may be identified with tags.
C. Identify valves in main and branch piping with tags.

END OF SECTION

SECTION 210595 - FIRE STOPPING FOR FIRE SUPPRESSION SYSTEMS

PART 1 GENERAL

1.01 SECTION INCLUDES
A. Firestopping materials and Firestopping of all penetrations and interruptions to fire rated assemblies, whether indicated on the Drawings, and other openings indicated.

PART 2 PRODUCTS

2.01 FIRESTOPPING ASSEMBLIES
A. Firestopping: Any material meeting requirements: Fire Ratings: Use any system listed by UL or FM or tested in accordance with ASTM E 814 or ASTM E 119 that has F Rating and T Rating of fire rating of penetrated assembly and minimum T Rating Equal to F Rating and that meets all other specified requirements.

2.02 MATERIALS
A. Elastomeric Silicone Firestopping: Single or multiple component silicone elastomeric compound and compatible silicone sealant; conforming to the following: Durability and Longevity: Permanent; Color: Manufacturer's standard color; Manufacturers: A/D Fire Protection Systems Inc; 3M Fire Protection Products; Specified Technologies, Inc.
B. Foam Firestopping: Single or multiple component foam compound; conforming to the following: Durability and Longevity: Permanent; Color: Manufacturer's standard color; Manufacturers: A/D Fire Protection Systems Inc; 3M Fire Protection Products; Specified Technologies, Inc.
C. Fiber Packing Material: Mineral or ceramic fiber packing insulation; conforming to the following: Durability and Longevity: Permanent; Manufacturers: A/D Fire Protection Systems Inc; 3M Fire Protection Products; Pecora Corporation; Specified Technologies, Inc; USG.
D. Firestop Pillows: Formed mineral fiber pillows; conforming to the following: Durability and Longevity: Permanent; Manufacturers: A/D Fire Protection Systems Inc; Grace Construction Products; 3M Fire Protection Products; Nelson Firestop Products; Specified Technologies, Inc.

PART 3 EXECUTION

3.01 PREPARATION AND INSTALLATION
A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter which may affect bond of firestopping material.
B. Install materials in manner described in fire test report and in accordance with manufacturer's instructions.
C. Install labeling required by code.

3.02 CLEANING AND PROTECTION
A. Clean adjacent surfaces of firestopping materials.
B. Protect adjacent surfaces from damage by material installation.

END OF SECTION

CITY OF PETERBOROUGH
23-101275
BUILDING PERMIT NUMBER

REGISTRATION SEAL
LICENSED PROFESSIONAL ENGINEER
G. SCHNACKEL
100134840
PROVINCE OF ONTARIO
Date: 05/03/2023
COA # CA1089

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PETERBOROUGH, ON K9J 7YK
SPACE #161 STORE #3541 - B

REV	DATE	DESCRIPTION	NAME
1	05/02/2023	LANDLORD COMMENTS	
		FOR PERMIT - 05/18/23	

PROJECT NO: 230088
DRAWN BY: SSI
CHECKED BY: GRS
ISSUE DATE: 04/13/23

FIRE SPRINKLER SPECIFICATIONS

SP3.0

SE-JOB# 230088