



ARCHITECTURAL:
WARD99 ARCHITECTS INC.

- A0.0 PROJECT TITLE, DRAWING LIST, PROJECT KEY PLAN AND PROJECT INFORMATION**
- A1.1 EXISTING SITE MOBILIZATION AND CONSTRUCTION PLAN AND NOTES**
- A2.1 EXISTING GROUND FLOOR KEY PLAN AND DETAIL**
- A2.2 DEMOLITION PLAN AND REFLECTED CEILING DEMOLITION PLAN AND LEGEND AND NOTES**
- A2.3 ENLARGED CLASSROOMS PROPOSED FLOOR PLAN AND REFLECTED CEILING PLAN AND LEGEND AND NOTES**
- A3.1 SECTION DETAILS - DEMOLITION AND PROPOSED, AND ROOM FINISH SCHEDULE**

MECHANICAL: DEI & ASSOCIATES

- | | |
|------|--------------------------------------|
| M1.1 | KEYPLAN & LEGEND |
| M2.1 | GROUND FLOOR PART PLANS - DEMOLITION |
| M3.1 | GROUND FLOOR PART PLANS - RENOVATION |
| M4.1 | MECHANICAL SPECIFICATION |

ELECTRICAL: DEI & ASSOCIATES

- E1.1 OVERALL PLAN & LEGEND
E2.1 ENLARGED DEMOLITION PLAN
E3.1 ENLARGED RENOVATION PLAN
E4.1 ELECTRICAL SPECIFICATIONS

PROJECT INFORMATION

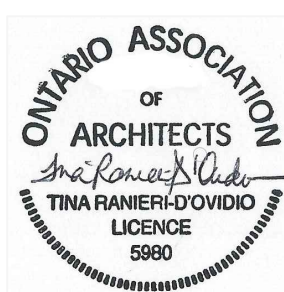
DRAWING TAGS LEGEND NOTES

Ⓒ# CEILING CONSTRUCTION TAG. REFER TO CONSTRUCTION LEGEND ON DRAWING A2.3.

Name of Practice:
ward99 architects inc.
7611 Pine Valley Drive, Unit 11, Vaughan, ON, L4L 0A2
Telephone: 416-613-5880

Name of Project:
GRAND RIVER COLLEGIATE INSTITUTE
#Z4-7692-RFT - ASBESTOS REMOVAL FOR FAMILY STUDIES RENOVATION
Waterloo Region District School Board

Location:
175 Indian Road, Kitchener ON, N2B 2S7



Ontario 2012 Building Code Data Matrix Part 11 - Renovation of Existing Building				Building Code Reference
11.0	Building Code Version:	O. Reg. 332/12	Last Amendment: O. Reg. 191/14	
11.01	Project Type:	<input type="checkbox"/> Addition <input checked="" type="checkbox"/> Renovation <input type="checkbox"/> Addition and Renovation <input type="checkbox"/> Change of use Description: Renovation to ground floor classrooms to accommodate the removal of asbestos-containing materials. Area of renovation is 275.28 m ² .		[A]1.1.2.
11.02	Major Occupancy Classification:	Group A, Division 2 Use Secondary School *Closest Classification: O.B.C. 3.2.2.25. Group A, Division 2, up to 2 storeys		3.1.2.1.(1)
11.03	Superimposed Major Occupancies:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Description:		3.2.2.7
11.04	Building Area (m2)	Description: Existing New Total Building Area (m ²): 12,913.44 m ² n/a m ² 12,913.44 m ²		[A]1.4.1.2.
11.05	Building Height	2 Storey Above Grade 10.77 (m) Above Grade 1 Storey Below Grade *Note: existing no change to height of building.		[A]1.4.1.2. & 3.2.1.1.
11.06	Number of Streets/Firefighter Access	2 Street(s)		3.2.2.10. & 3.2.5.
11.07	Building Size	<input type="checkbox"/> Small <input type="checkbox"/> Medium <input checked="" type="checkbox"/> Large <input type="checkbox"/> >Large		T.11.2.1.1.B.-N.
11.08	Existing Building Classification:	Change in Major Occupancy: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> Not Applicable (no change of major occupancy) Construction Index: - Hazard Index: - Importance Category: <input type="checkbox"/> Low <input type="checkbox"/> Normal *Building is a secondary school. <input checked="" type="checkbox"/> High <input type="checkbox"/> Post-disaster		11.2.1.1. T 11.2.1.1.A. T 11.2.1.1B TO N 4.2.1.(3). 5.2.2.1.(2)
11.09	Renovation Type:	<input checked="" type="checkbox"/> Basic Renovation <input type="checkbox"/> Extensive Renovation		11.3.3.1. 11.3.3.2.
11.10	Occupant Load:	*No change to occupant load.		3.1.17.1
11.11	Plumbing Fixture Requirement:	Ratio: M/F = 1/1 Except as otherwise noted *No changes to existing washroom plumbing fixtures.		
11.12	Barrier-free Design:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Explanation: New renovation areas comply with OBC 3.8.		11.3.3.2 (2)
11.13	Reduction in Performance Level:	Structural: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes By Increase in Occupant Load: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain) By Change of Major Occupancy: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain) Plumbing: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain) Sewage-System: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain) Extension of combustible construction: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		11.4.2.1 11.4.2.2 11.4.2.3 11.4.2.4 11.4.2.5 11.4.2.6
11.14	Compensating Construction:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Structural: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain) Increase in Occupant Load: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain) Change of Major Occupancy: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain) Plumbing: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain) Sewage-System: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain) Extension of Combustible Construction: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explain)		11.4.3.1 11.4.3.2 11.4.3.3 11.4.3.4 11.4.2.5 11.4.3.6 11.4.3.7.
11.15	Compliance Alternatives Proposed:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (list numbers and describe)		11.5.1
11.16	Notes:	Renovations to the existing non-sprinklered school building; closest classification is as follows: O.B.C. Classification: 3.2.2.25. Group A, Division 2, up to 2 Storeys. - The building is permitted to be of non-combustible construction or combustible construction. - Floor assemblies shall have fire separations and if of combustible construction shall have a fire-resistance rating not less than 45 minutes and - Mezzanines if of combustible construction shall have a fire-resistance rating not less than 45 minutes and - Roof assemblies if of combustible construction shall have a fire-resistance rating not less than 45 minutes except that a building not more than 1 storey in height, the fire rating may be waived provided the roof assembly is constructed as a fire-retardant treated wood roof system with exceptions as noted in O.B.C. 3.2.2.25. - All load-bearing walls, columns and arches shall have a fire-resistance rating not less than 45 minutes or be of non-combustible construction. *Note: 1. The existing two storey building is comprised of fire-rated building components. 1) Public Library = 1202.18 m ² in building area. 2) Two storey non-sprinklered school = 11638.25 m ² in building area. (divided into fire-rated compartments) The renovation scope of work for this project is located in this portion of the building. The area of renovation is in two ground floor classrooms in the two storey non-sprinklered portion of the building. The classrooms do provide for individual perimeter sprinklers due to the adjacent of the existing exterior courtyard. 3) Sprinklered two storey school = 1274.94m ² . 2. The existing building area of the two storey school exceeds the maximum allowable building area for a two storey school facing 2 streets. 3.3.2.5.(3) Corridors: 1- The 1 hour fire resistance rating, for the fire separation required at a corridor, in an assembly occupancy, is permitted to be waived if the floor area in which the corridor is located is sprinklered. *Note: the existing school is not sprinklered in the area of renovation and in such a 1 hour F.R.R. is required at corridor walls. Scope of Work: 1- Removal of all visible/accessible asbestos containing fire spray/overspray, where applicable. Reapplication of sprayed fireproofing where applicable, while protecting any electrical work/wiring, conduits, etc. 2- Interior renovation to existing classroom 1-117,1-119, work room 1-117A and corridor 1 on the ground floor to provide new ceiling assemblies, light fixtures and devices .	11.5.1	

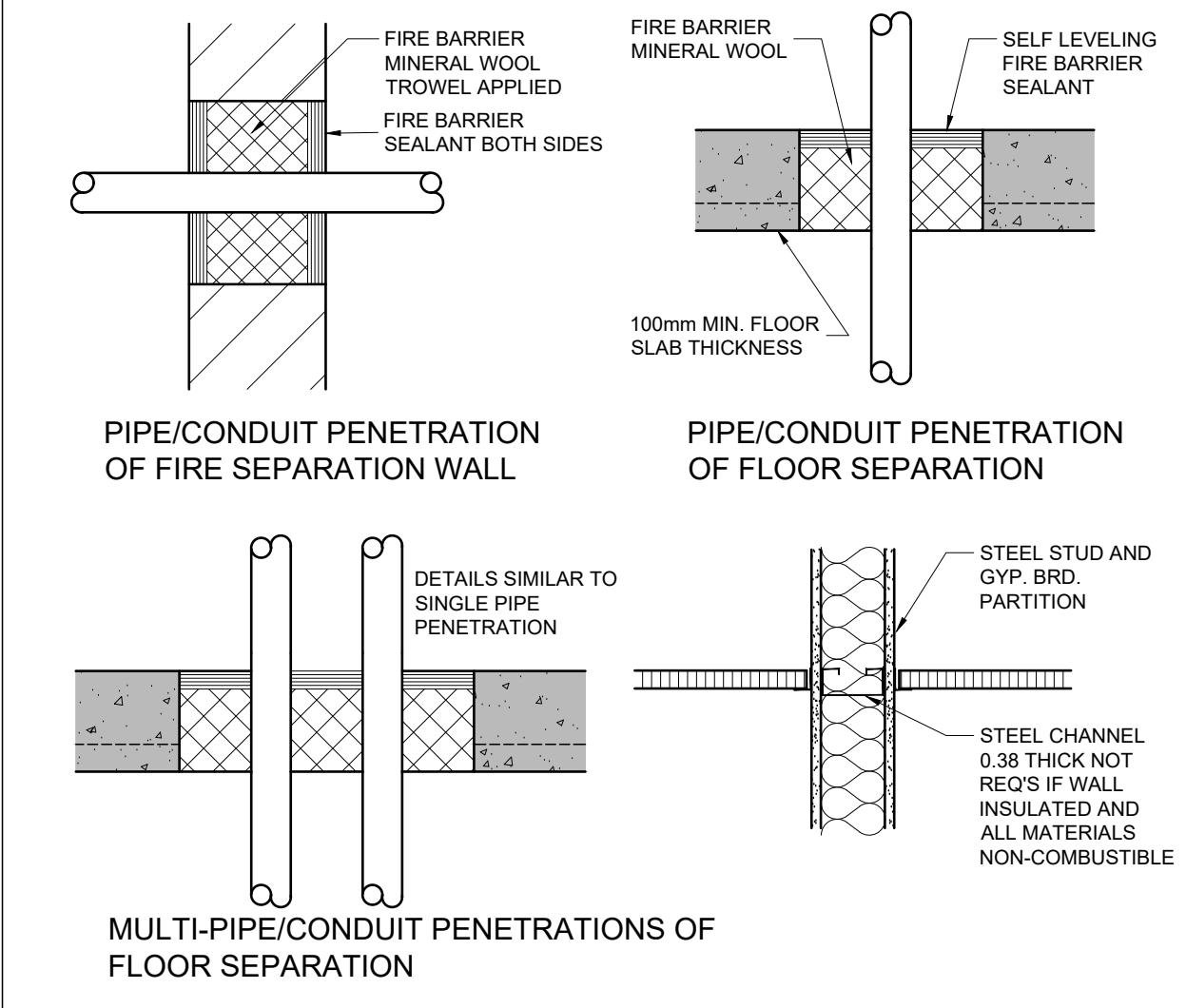


ONTARIO ASSOCIATION
OF
ARCHITECTS
Tina Ranieri-D'Odio
TINA RANIERI-D'ODIO
LICENCE
5990

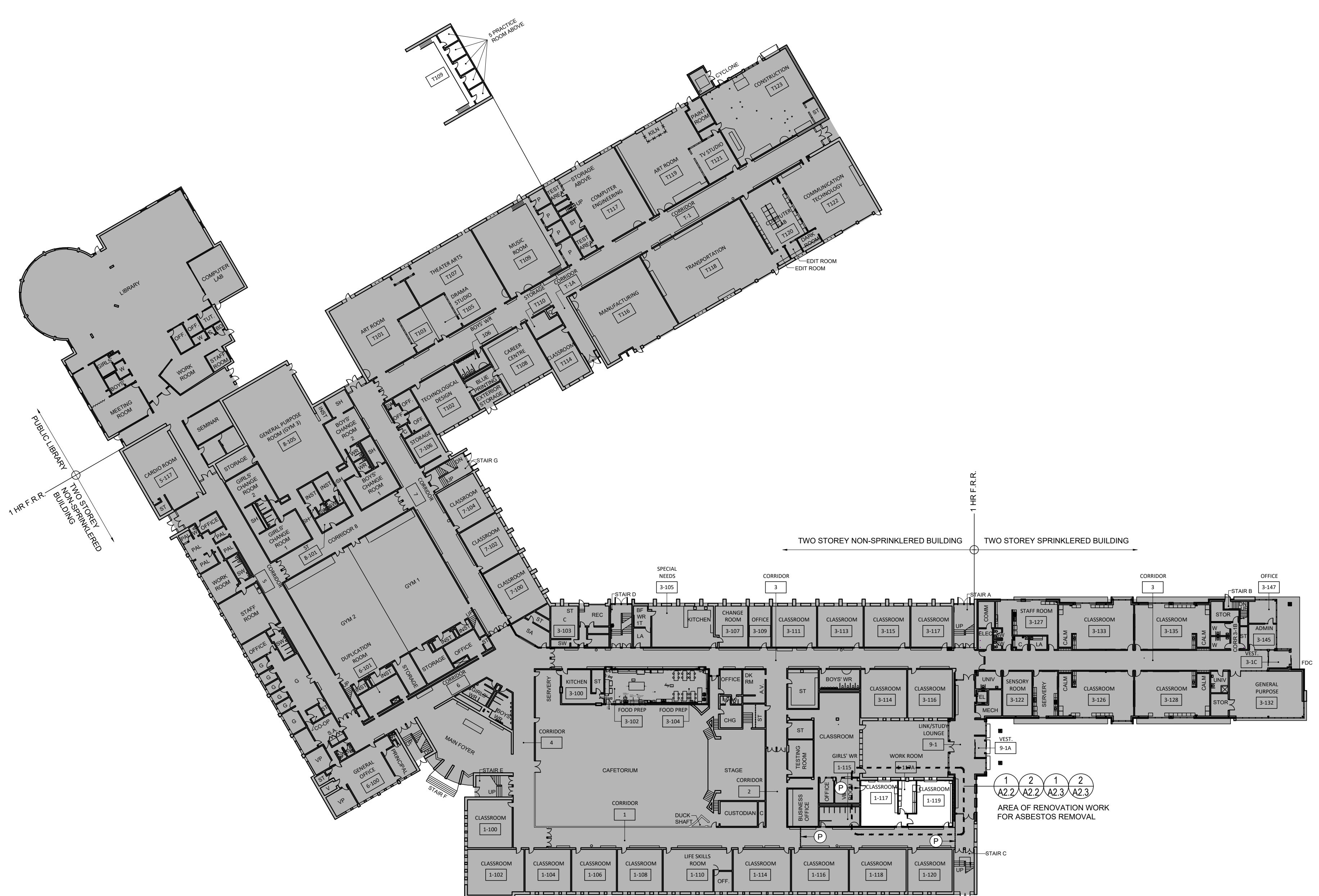
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no.	issue	date
1	Issued for Permit and Tender	March 04, 2025

A0.0



2 FIRE STOPPING TYPICAL CONDITIONS
A2.1 1:10



1 EXISTING GROUND FLOOR KEY PLAN
A2.1 1:500

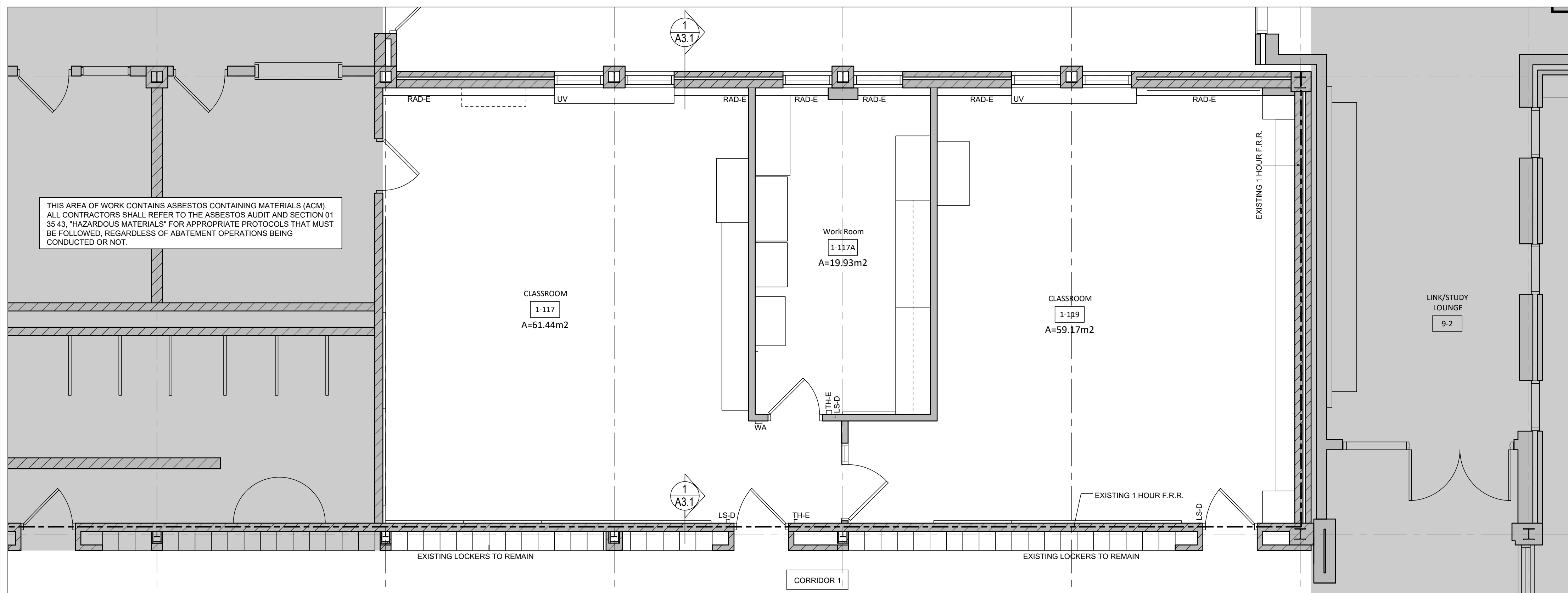
NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

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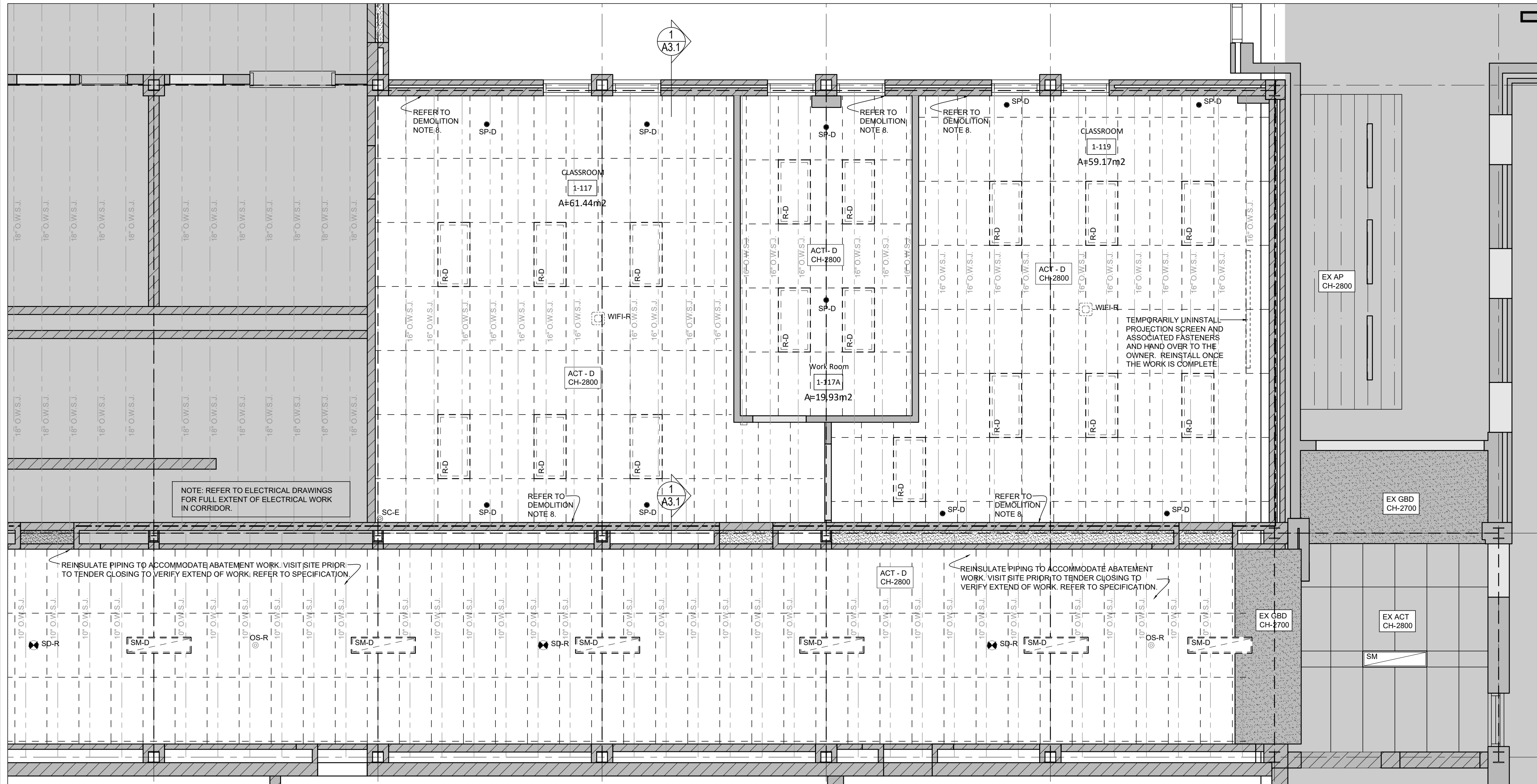
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A2.1



1
A2.2
PARTIAL GROUND FLOOR PLAN - DEMOLITION
1:50



2
A2.2
PARTIL REFLECTED CEILING PLAN - DEMOLITION
1:50

GENERAL DEMOLITION NOTES

- REFER TO DRAWING A0.0 FOR DRAWINGS NOTES AND TAGS.
- EXISTING DEMOLITION AND PROPOSED REFLECTED CEILING PLAN DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
- WHERE POSSIBLE, DEVICES, SPRINKLERS AND GRILLES ARE TO BE CENTRED ON ACOUSTIC CEILING TILES.
- IN CLASSROOM 1-117 AND 1-119; WORK ROOM 1-117A AND CORRIDOR 1, ALL EXISTING MILLWORK, LOCKERS AND WALL MOUNTED BOARDS AND FITMENTS ARE TO REMAIN IN PLACE. PROVIDE PLASTIC MEMBRANE COVERINGS ON ALL WALLS AND FLOORS TO PROTECT ALL WALL MOUNTED BOARDS, FITMENTS, LOCKERS AND MILLWORK AND ALL FLOORING.
- MOVE AND RELOCATE ALL EXISTING LOOSE FURNITURE TO OTHER AREA OF THE BUILDING AS DIRECTED BY THE OWNER.
- CLASSROOM 1-117 PROVIDES ASBESTOS-CONTAINING 9"X9" VINYL FLOOR TILES. THIS FLOORING IS TO REMAIN IN PLACE. PROTECT AND DO NOT DISTURB AS REQUIRED TO COMPLETE THE WORK. REFER TO DESIGNATED SUBSTANCE AND HAZARDOUS MATERIAL ASSESSMENT REPORT AND ASBESTOS AUDIT IN THE PROJECT REMOVAL SPECIFICATION.
- CORRIDOR 1 CONTAINS ASBESTOS-CONTAINING PIPING INSULATION AND FRIBLE DEBRIS. ABATEMENT OF PIPING AND FRIBLE DEBRIS IS TO INCLUDED IN THE CONTRACT. REFER ALSO TO MECHANICAL DRAWINGS. TEMPORARILY REMOVE MECHANICAL DUCTWORK AS REQUIRED TO COMPLETE ABATEMENT WORK AND TO DEMOLISH AND PROVIDE NEW CEILING ASSEMBLIES IN CORRIDOR 1 FOR THE AREA SHOWN.
- REMOVE EXISTING ASBESTOS-CONTAINING CEMENTITIOUS SPRAY FIREPROOFING AT EXISTING BEAM AND ALL OVERSPRAY AT FULL EXTENT OF CORRIDOR 1 (FOR EXTENT SHOWN), CLASSROOM 1-117 AND 1-119 AND WORK ROOM 1-117A. REPLACE WITH NEW CEMENTITIOUS SPRAY FIREPROOFING (WITH BLUE COLOUR). NEW CEMENTITIOUS SPRAY FIREPROOFING IS TO COMPLY WITH UL DESIGN NO. D708. PROVIDE MINIMUM 1 HOUR FIRE-RESISTANCE RATING.

FIRE SEPARATION LEGEND

VERTICAL FIRE SEPARATION

- 1 HOUR FIRE SEPARATION
- 0 HOUR FIRE SEPARATION

DEMOLITION PLAN LEGEND

- LS-D = REMOVE AND DISPOSE OF EXISTING LIGHT SWITCH.
WA = WALL ACTUATOR TO REMAIN.
*REFER TO ELECTRICAL DRAWINGS FOR EXTENT OF WORK.
- RAD-E = RETAIN EXISTING WALL MOUNTED HEATER.
TH-E = EXISTING THERMOSTAT TO REMAIN.
UV = EXISTING UNIT VENTILATOR TO REMAIN.

REFLECTED CEILING PLAN DEMOLITION LEGEND

- R-D = REMOVE AND DISPOSE OF EXISTING RECESSED LIGHT FIXTURE.
SM-D = REMOVE AND DISPOSED OF EXISTING SURFACE MOUNTED LIGHT FIXTURE.
SM = EXISTING SURFACE MOUNTED LIGHT FIXTURE TO REMAIN.
REFER TO ELECTRICAL DRAWINGS.
- ACT-D = REMOVE AND DISPOSE OF EXISTING SUSPENDED ACOUSTIC CEILING TILE (1200mm X 610mm) AND ASSOCIATED FRAMING ASSEMBLY AND REMOVE AND DISPOSE OF EXISTING SUSPENDED CONCEALED CEILING ASSEMBLY ABOVE, COMPRISED OF 305mm X 305mm X 19mm THICK ACOUSTIC CEILING TILE ON 16mm THICK TYPE X GYPSUM BOARD.
REMOVE EXISTING ELECTRICAL AND MECHANICAL FIXTURES AND FITMENTS FROM EXISTING CEILING ASSEMBLY. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR RELOCATION OF EXISTING FIXTURES AND PROVISION FOR NEW FIXTURES. PROVIDE NEW CEILING ASSEMBLY AS INDICATED ON PROPOSED REFLECTED CEILING PLAN LAYOUT.
CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING CEILING.

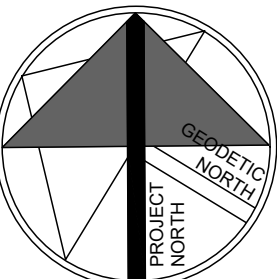
- EX GBD = EXISTING GYPSUM BOARD FINISHED CEILING AND/OR BULKHEAD AND ASSOCIATED FRAMING TO REMAIN.
EX AP = EXISTING ACOUSTIC PANEL CEILING AND/OR BULKHEAD AND ASSOCIATED FRAMING TO REMAIN.
EX ACT = EXISTING SUSPENDED ACOUSTIC CEILING TILE AND ASSOCIATED FRAMING ASSEMBLY TO REMAIN.
CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING FINISHED CEILING.
- EXISTING INTERIOR CONCRETE BLOCK WALL HEADER ABOVE EXISTING WALL OPENING.
- WIFI-R = REMOVE AND RELOCATE EXISTING WIRELESS ACCESS DEVICE.
REFER TO ELECTRICAL DRAWINGS.
- SP-D = REMOVE AND DISPOSE EXISTING SPRINKLER.REFER TO MECHANICAL DRAWINGS.
- SC-E = EXISTING WALL MOUNTED SECURITY DETECTOR TO REMAIN. REFER TO ELECTRICAL DRAWINGS.
- SD-R = REMOVE AND RELOCATE EXISTING SMOKE DETECTOR. REFER TO ELECTRICAL DRAWINGS.
- OS-R = REMOVE AND REINSTALL EXISTING MOTION SENSOR. REFER TO ELECTRICAL DRAWINGS.

NOTE:
TEMPORARILY STORE AND PROTECT EXISTING REMOVED DEVICE UNTIL REINSTALLATION ONTO NEW CEILING ASSEMBLIES. REFER ALSO TO ELECTRICAL DRAWINGS.

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.



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project:
WRDSB GRAND RIVER COLLEGIATE INSTITUTE
#24-7692-RFT - ASBESTOS REMOVAL FOR FAMILY STUDIES RENOVATION

WATERLOO REGION DISTRICT SCHOOL BOARD
175 INDIAN RD, KITCHENER, ON N2B 2S7

DEMOLITION PLAN AND REFLECTED
CEILING DEMOLITION PLAN AND LEGEND AND NOTES

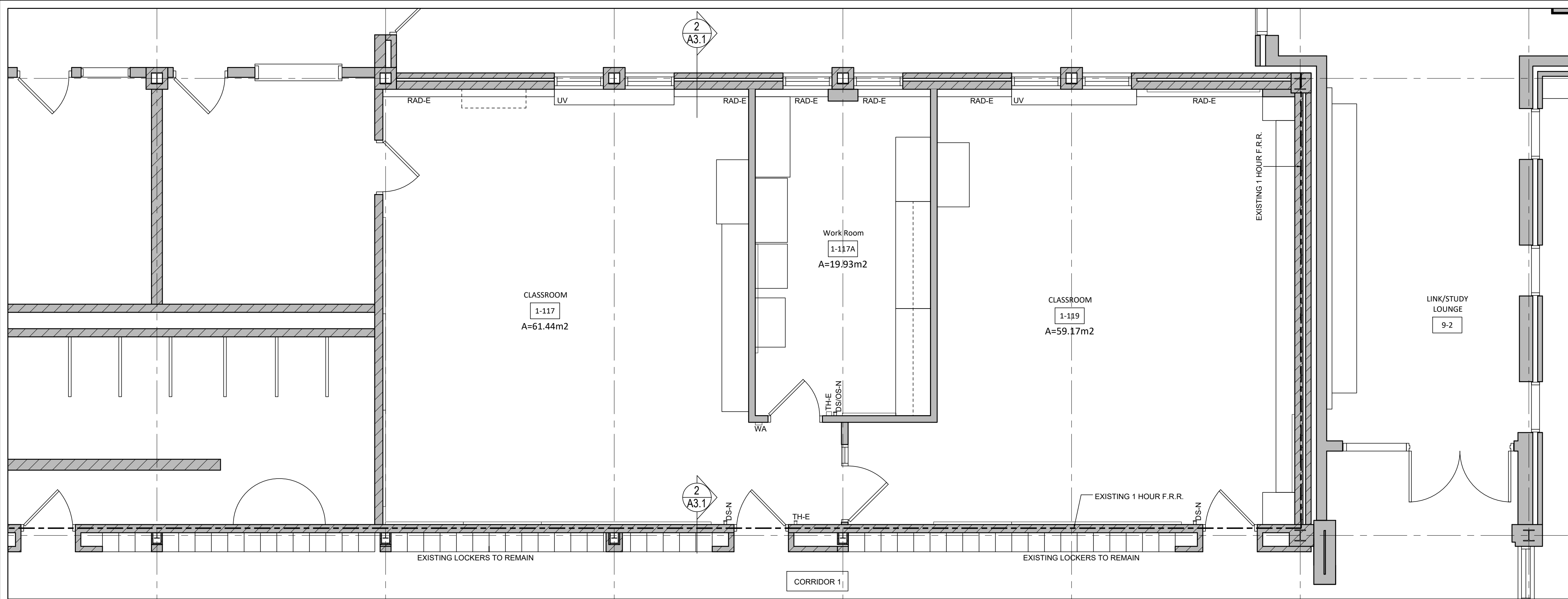
AS NOTED
ward99 project number
23011 - WRDSB GRAND RIVER FAMILY STUDIES

ward99
architects

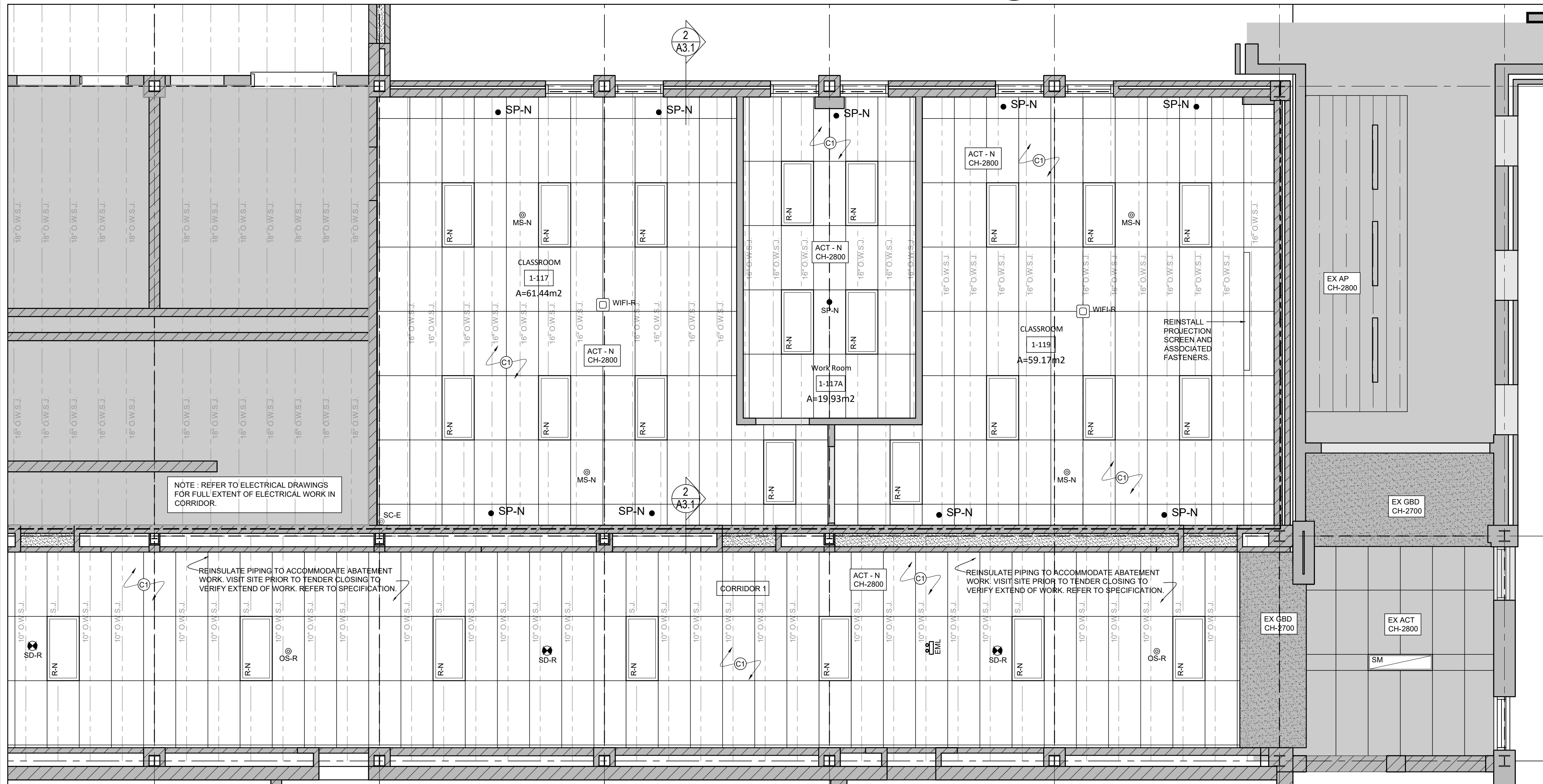
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A2.2



1
A2.3
PARTIAL GROUND FLOOR PLAN - PROPOSED
1:50



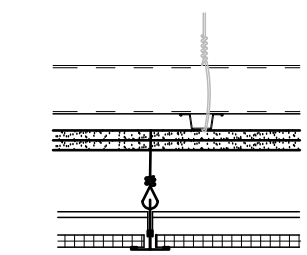
2
A2.3
PROPOSED PARTIAL GROUND FLOOR REFLECTED CEILING PLAN
1:50

GENERAL FLOOR PLAN NOTES

1. PROPOSED DRAWINGS ON A2.3 SHALL BE READ IN CONJUNCTION WITH ALL DEMOLITION DRAWINGS AND ALL OTHER ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION, DETAILS, NOTES AND DIMENSIONS.
2. REFER TO DRAWING A0 FOR DRAWING TAGS LEGEND AND NOTES.
3. REFER TO DRAWING A2.3 FOR CONSTRUCTION CEILING ASSEMBLY TYPE.
4. REFER TO DRAWING A3.1 FOR ROOM FINISH SCHEDULE.
5. REFER TO ELECTRICAL DRAWINGS FOR:
DS-N = NEW DIGITAL WALL DIMMER STATION.
DS/OS-N = NEW OCCUPANCY SENSOR AND DIMMER STATION.

CONSTRUCTION CEILING ASSEMBLY

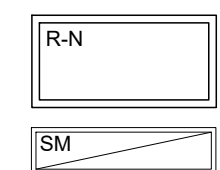
C1



EXISTING FLOOR AND NEW ACT CEILING ASSEMBLY 1 HR FIRE-RESISTANCE RATING:

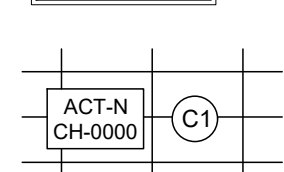
- EXISTING FLOOR ASSEMBLY:**
- 64mm (2-1/2\") REINFORCED CONCRETE SLAB ON
 - O.W.S.J. (SIZE AND SPACING VARIES. SITE VERIFY).
- NEW CEILING ASSEMBLY:**
- 2 LAYERS OF 16mm TYPE 'X' FIRE-RESISTANT GYPSUM BOARD SUSPENDED ON
 - 22mm METAL FURRING CHANNELS AT 400mm O.C. ON
 - 41mm STEEL CHANNEL FURRING AT 600mm O.C. SECURE TO UNDERSIDE OF EXISTING OWSJ FLOOR STRUCTURE.
 - PROVIDES 1 HOUR F.R.R. AS PER O.B.C. SB-2, TABLE 2.3.12.
 - VOID SPACE
 - SUSPENDED T-BAR AND ACOUSTICAL TILE CEILING (ACT-N). PROVIDE COLD-FORMED STEEL CHANNELS WHERE REQUIRED FOR INTERMEDIATE SUPPORT OF CEILING.
 - NOTE: REFER TO DETAIL 2/A2.1 FOR TYPICAL FIRE STOPPING CONDITIONS AT PIPE AND CONDUIT PENETRATIONS.

PROPOSED REFLECTED CEILING PLAN AND LEGEND



R-N = NEW RECESSED LIGHT FIXTURE.
REFER TO ELECTRICAL DRAWINGS.

SM = EXISTING SURFACE MOUNTED LIGHT FIXTURE TO REMAIN.



ACT-N = PROVIDE NEW SUSPENDED ACOUSTIC CEILING TILE (1220mm X 610mm) AND ASSOCIATED FRAMING ASSEMBLY AND PROVIDE NEW SUSPENDED CONCEALED CEILING ASSEMBLY ABOVE. COMPRISED OF 2 LAYERS OF 16mm THICK TYPE X GYPSUM BOARDS. REFER TO CONSTRUCTION CEILING ASSEMBLY TYPE C1 ON DRAWING A2.3. REMOVE EXISTING ELECTRICAL AND MECHANICAL FIXTURES AND FITMENTS FROM EXISTING CEILING ASSEMBLY. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR RELOCATION OF EXISTING FIXTURES AND PROVISION FOR NEW FIXTURES. PROVIDE NEW ACOUSTIC CEILING ASSEMBLY AS INDICATED ON PROPOSED REFLECTED CEILING PLAN LAYOUT.

CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING CEILING.

EX GBD = EXISTING GYPSUM BOARD FINISHED CEILING AND/OR BULKHEAD AND ASSOCIATED FRAMING TO REMAIN.

CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING FINISHED CEILING.

EX AP = EXISTING ACOUSTIC PANEL CEILING AND/OR BULKHEAD AND ASSOCIATED FRAMING TO REMAIN.

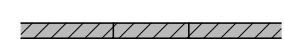
CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING FINISHED CEILING.

EX ACT = EXISTING SUSPENDED ACOUSTIC CEILING TILE AND T-BAR GRID SYSTEM TO REMAIN.

ACT-N = NEW SUSPENDED ACOUSTIC CEILING TILE AND T-BAR GRID SYSTEM ASSEMBLY AND CONCEALED FIRE-RATED GYPSUM BOARD FINISHED CEILING ABOVE. REFER TO CEILING CONSTRUCTION ASSEMBLY TYPE C1 ON DRAWING A2.3.

CH = HEIGHT FROM FINISHED FLOOR TO UNDERSIDE OF EXISTING FINISHED CEILING.

EML = CEILING BATTERY UNIT WITH INTEGRAL EMERGENCY FIXTURE. REFER TO ELECTRICAL DRAWINGS.



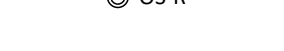
WIF-R = RELOCATED EXISTING WIRELESS ACCESS DEVICE. REFER TO ELECTRICAL DRAWINGS.



SP-N = NEW SPRINKLER HEAD AND ASSOCIATED PIPING SYSTEM. REFER TO MECHANICAL DRAWINGS.



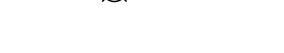
OS-R = RELOCATED EXISTING OCCUPANCY SENSOR. REFER TO ELECTRICAL DRAWINGS.



MS-N = NEW MOTION SENSOR. REFER TO ELECTRICAL DRAWINGS.



SD-R = RELOCATED EXISTING SMOKE DETECTOR/FIRE ALARM DEVICE. REFER TO ELECTRICAL DRAWINGS.

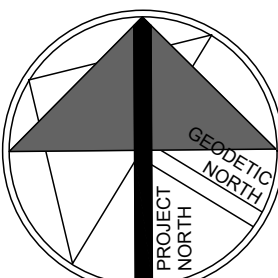


SC-E = EXISTING WALL MOUNTED SECURITY DETECTOR. REFER TO ELECTRICAL DRAWINGS.

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.



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ENLARGED CLASSROOMS PROPOSED FLOOR PLAN AND
REFLECTED CEILING PLAN AND LEGEND AND NOTES

drawing scale

AS NOTED

ward99 project number

23011 - WRDSB GRAND RIVER FAMILY STUDIES

ward99 architects

drawing no.

Wa
RD₉₉

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info@ward99architects.com
416 613 5880 www.ward99architects.com

A2.3

No.	NAME	FLOOR		BASE	WALLS								CEILING			REMARKS	
		MAT.	FIN.		MAT.	NORTH		EAST		SOUTH		WEST		MAT.	FIN.		HEIGHT
						MAT.	FIN.	MAT.	FIN.	MAT.	FIN.	MAT.	FIN.				
1-117	CLASSROOM	EX CONC	EX	EX	EX CMU/ EX GB	-	EX GB	-	EX CMU	-	EX CMU	-	ACT-N	-	2800	PROVIDE NEW ACOUSTIC CEILING ASSEMBLY WITH NEW CONCEALED FIRE-RATED GYPSUM BOARD FINISHED CEILING ABOVE. REFER TO CEILING ASSEMBLY TYPE C1 ON DRAWING A2.3	
1-117A	WORK ROOM	EX CONC	EX	EX	EX CMU	-	EX GB	-	EX GB	-	EX GB	-	ACT-N	-	2800	PROVIDE NEW ACOUSTIC CEILING ASSEMBLY WITH NEW CONCEALED FIRE-RATED GYPSUM BOARD FINISHED CEILING ABOVE. REFER TO CEILING ASSEMBLY TYPE C1 ON DRAWING A2.3	
1-119	CLASSROOM	EX CONC	EX	EX	EX CMU/ EX GB	-	EX CMU	-	EX CMU	-	EX GB	-	ACT-N	-	2800	PROVIDE NEW ACOUSTIC CEILING ASSEMBLY WITH NEW CONCEALED FIRE-RATED GYPSUM BOARD FINISHED CEILING ABOVE. REFER TO CEILING ASSEMBLY TYPE C1 ON DRAWING A2.3	
1	CORRIDOR	EX CONC	EX	EX	EX CMU	-	EX CMU	-	EX CMU	-	-	-	ACT-N/ EX GBD	-	2800	PROVIDE NEW ACOUSTIC CEILING ASSEMBLY WITH NEW CONCEALED FIRE-RATED GYPSUM BOARD FINISHED CEILING ABOVE. REFER TO CEILING ASSEMBLY TYPE C1 ON DRAWING A2.3	

1. REFER TO ELECTRICAL DRAWINGS FOR CEILING MOUNTED FIXTURES AND FITMENTS.
2. REFER TO REFLECTED CEILING PLAN ON DRAWING A2.3 FOR LOCATIONS OF ACOUSTIC CEILING TILE ASSEMBLIES.



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OF
ARCHITECTS
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LICENCE
5980

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no.	issue	date
1	Issued for Permit and Tender	March 04, 2025

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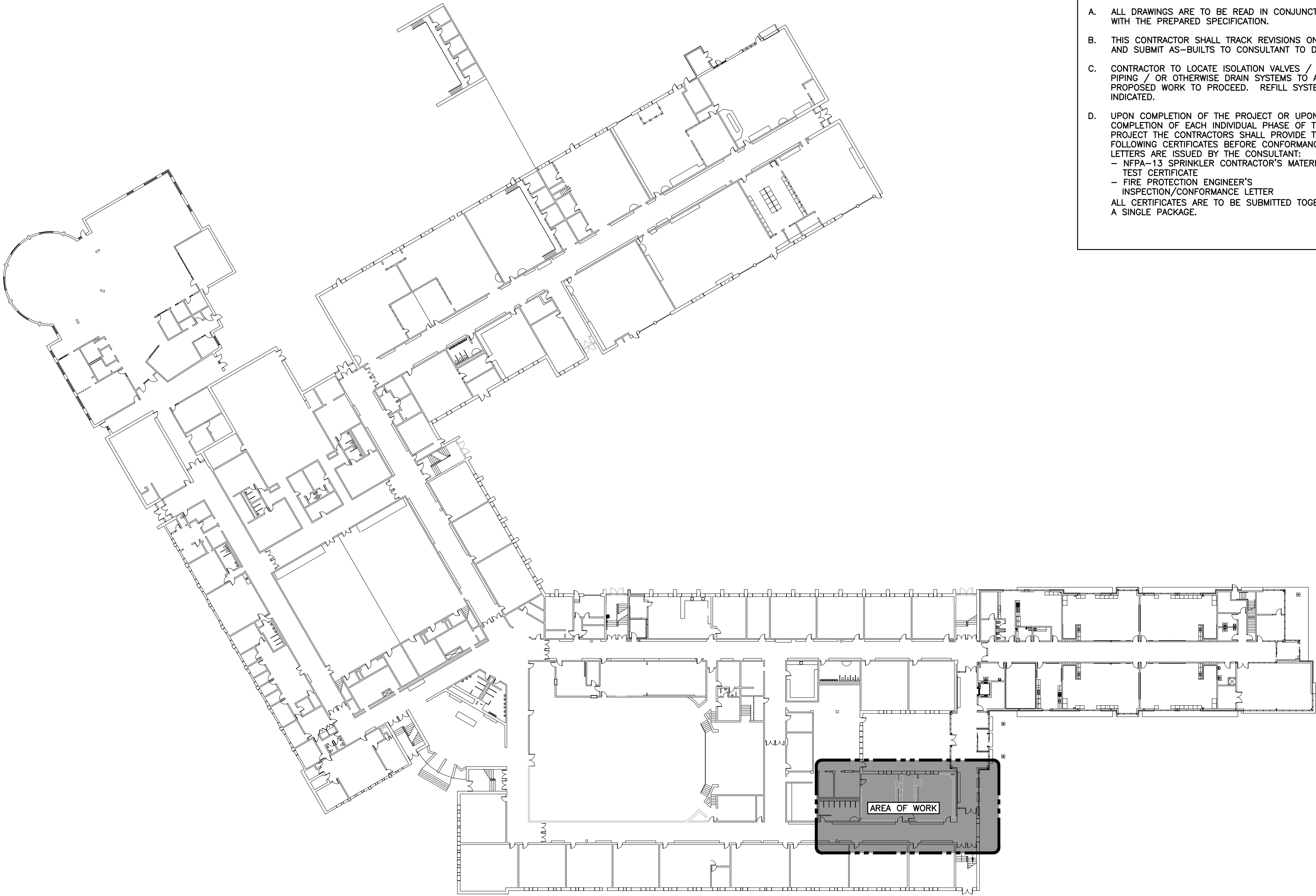
A3.1

GENERAL NOTES

- A. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE PREPARED SPECIFICATION.
- B. THIS CONTRACTOR SHALL TRACK REVISIONS ON SITE AND SUBMIT AS-BUILTS TO CONSULTANT TO DIGITIZE.
- C. CONTRACTOR TO LOCATE ISOLATION VALVES / FREEZE PIPING / OR OTHERWISE DRAIN SYSTEMS TO ALLOW PROPOSED WORK TO PROCEED. REFILL SYSTEMS AS INDICATED.
- D. UPON COMPLETION OF THE PROJECT OR UPON COMPLETION OF EACH INDIVIDUAL PHASE OF THE PROJECT THE CONTRACTORS SHALL PROVIDE THE FOLLOWING CERTIFICATES BEFORE CONFORMANCE LETTERS ARE ISSUED BY THE CONSULTANT:
- NFPA-13 SPRINKLER CONTRACTOR'S MATERIAL & TEST CERTIFICATE
 - FIRE PROTECTION ENGINEER'S INSPECTION/CONFORMANCE LETTER
- ALL CERTIFICATES ARE TO BE SUBMITTED TOGETHER IN A SINGLE PACKAGE.

MECHANICAL LEGEND

Item	Description	Item	Description	Item	Description
—EX— . —	EXISTING POTABLE COLD WATER	—EX—HWS—	EXISTING HEATING WATER SUPPLY	◆	PENDENT HEAD
—EX— . . .	EXISTING POTABLE HOT WATER	—EX—HWR—	EXISTING HEATING WATER RETURN	○	UPRIGHT PENDENT HEAD
—EX—	EXISTING POTABLE HOT WATER RECIRC.	—	TEE CONNECTION	◆	CONCEALED PENDENT HEAD
—EX—G—	EXISTING GAS PIPING	—C—	PIPE DOWN	▷	SIDEWALL HEAD
—EX—S— . —	EXISTING POTABLE SOFT COLD WATER	—O—	PIPE UP	▷	NON-FREEZE SIDEWALL HEAD
				●	WINDOW SPRINKLER HEAD



GROUND FLOOR

KEY PLAN
SCALE: N.T.S.

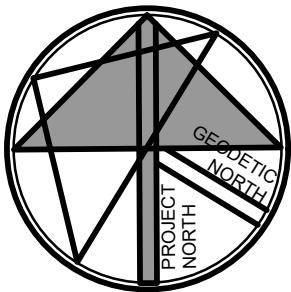
The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work. The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work. The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions. Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant. Do not scale this drawing. © 2025 DEI Consulting Engineers Inc.



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PROJECT
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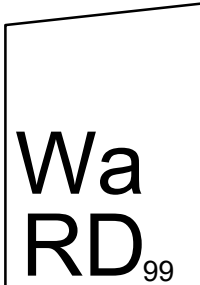
WATERLOO REGION DISTRICT SCHOOL BOARD
175 INDIAN RD, KITCHENER, ON N2B 2S7

drawing
KEYPLAN & LEGEND

drawing scale
AS NOTED

ward99 project number

23011 - WRDSB GRAND RIVER FAMILY STUDIES



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drawing no.

M1.1



- EXISTING MECHANICAL ITEMS NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.
- EXISTING MECHANICAL ITEMS SHOWN BUT NOT NOTED AS BEING REMOVED OR RENOVATED SHALL REMAIN AS PRESENTLY INSTALLED AND OPERATING.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ON SITE ALL LOCATIONS AND SIZES OF ALL SERVICES & EQUIPMENT PRIOR TO THE COMMENCEMENT OF WORK.
- ALL OPENINGS THAT RESULT FROM THE REMOVAL OF EQUIPMENT OR SERVICES SHALL BE NEATLY PATCHED WITH PRESENTLY INSTALLED NEW MATERIALS TO SUIT EXISTING CONSTRUCTION.
- PLUMBING VENTS ARE NOT INDICATED OR IDENTIFIED. REMOVE ALL REDUNDANT VENTS WHILE MAINTAINING INTEGRITY OF EXISTING SYSTEMS TO REMAIN.
- REMOVAL OF EXISTING PIPING, OR DUCT SYSTEMS INCLUDES REMOVAL OF ALL HANGERS, INSULATION, FITTINGS, ETC.
- MAINTAIN INTEGRITY OF EXISTING SYSTEMS THAT ARE TO REMAIN OR BE MODIFIED.
- INSTALL NEW SYSTEM OR SERVICES WHERE REQUIRED TO MAINTAIN SYSTEM OPERATION PRIOR TO DEMOLITION OF EXISTING SERVICES.
- THIS CONTRACTOR IS TO REMOVE & REPLACE CEILING AS REQUIRED FOR REMOVAL/REPLACEMENT OF SERVICES.

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work. The Contractor shall make all arrangements of services. Follow-up work closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

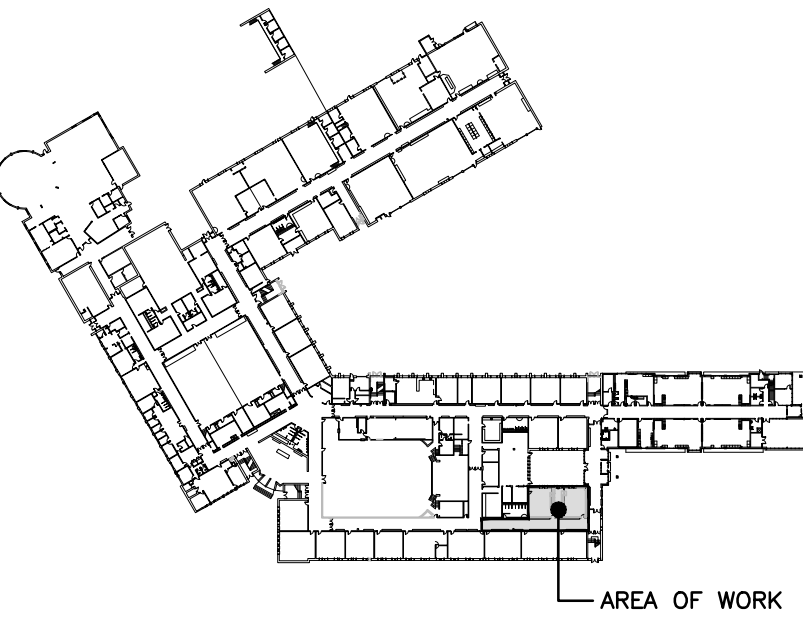
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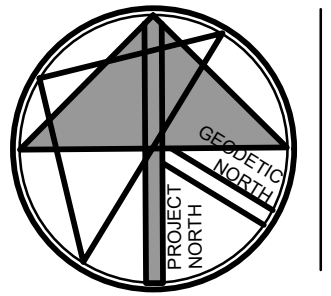
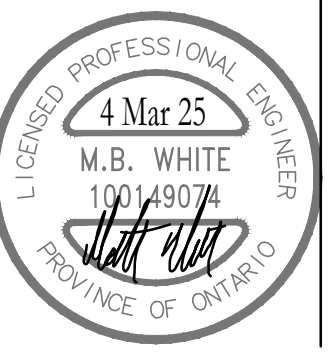
KEYPLAN



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No.	Issue	Date
1	Issued for Tender & Permit	Mar 4, 2025

project
WRDSB GRAND RIVER COLLEGIATE INSTITUTE
#24-7692-RFT - ASBESTOS REMOVAL FOR FAMILY STUDIES RENOVATION

WATERLOO REGION DISTRICT SCHOOL BOARD
175 INDIAN RD, KITCHENER, ON N2B 2S7

drawing
GROUND FLOOR PART PLANS - DEMOLITIONdrawing scale
AS NOTED

ward99 project number

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- PIPE AND DUCT INSULATION IS TO BE INSTALLED AT ALL EXISTING DUCTS, PIPES, ELBOWS, FITTINGS, ETC. WHERE ABATEMENT REMOVED THE INSULATION AND WHERE EXISTING DUCTS, PIPE ELBOWS, FITTINGS, ETC. ARE REMAINING AS PRESENTLY INSTALLED. CONTRACTOR TO REVIEW ON SITE FOR QUANTITY & SIZES.
- CONTRACTOR TO LOCATE ISOLATION VALVES AND DRAIN SYSTEMS TO ALLOW PROPOSED WORK TO PROCEED. REFILL SYSTEMS AS INDICATED. FLUSHING, CLEANING, & REFILLING WITH CLEAN WATER & CHEMICAL TO WATER TREATMENT CONTRACTOR REQUIREMENTS.
- FREEZE OR DRAIN EXISTING PIPING AS REQUIRED TO FACILITATE CONTRACT WORK.

1. SUBMIT PRELIMINARY DESIGN & HYDRAULIC CALCULATIONS STAMPED BY A PROFESSIONAL ENGINEER, AND MANUFACTURERS' PRODUCT SHEETS FOR SHOP DRAWING SUBMISSION AS SPECIFIED PRIOR TO COMMENCING WORK.
 2. ENSURE DESIGN MEETS OR EXCEEDS PRESENT NFPA 13 STANDARDS. ENSURE SPRINKLER SYSTEMS ARE INSTALLED TO NFPA 13 STANDARDS. UPON COMPLETION, SPRINKLER CONTRACTOR TO PROVIDE REPRODUCIBLE DRAWING (AT 1/8"=1'-0" SCALE) AND HYDRAULIC CALCULATIONS OF AS-BUILT CONDITION.
 3. SPRINKLER CONTRACTOR'S "PROFESSIONAL ENGINEER" TO PROVIDE O.B.C. AND NFPA REQUIRED INSPECTION AND CERTIFICATION.
 4. REFER TO ARCHITECTURAL DRAWINGS FOR REFLECTED CEILING PLAN.
 5. PROVIDE SPRINKLER HEAD TYPES AS FOLLOWS:
 - 5.1. PROVIDE UPRIGHT HEADS WITHIN 12" OF EXPOSED DECK THROUGHOUT EXPOSED STRUCTURE AREAS. PROVIDE HEAD GUARDS IN AREAS WHERE HEADS ARE BELOW 8'-0" & STORAGE ROOMS.
 - 5.2. PROVIDE CONCEALED PENDENT HEADS IN CEILINGS OF UNSUPERVISED AREAS (CORRIDORS). COVER PLATE FINISH SELECTED BY CONSULTANT.
 - 5.3. PROVIDE SEMI-RECESSED HEADS IN ALL OTHER CEILING AREAS (CLASSROOMS, OFFICES, SEMINAR RMs, etc.). HEAD & ESCUTCHEON FINISH SELECTED BY CONSULTANT.
 6. SPRINKLER HEADS TO BE IN CENTRELINE OF CEILING TILE. MINIMUM 150mm (6") FROM EDGE.
 7. FINAL NUMBER AND LOCATION OF SPRINKLER HEADS TO BE DETERMINED BY CONTRACTOR'S HYDRAULIC CALCULATIONS AND APPROVED DRAWINGS.
 8. SPRINKLER PIPING TO BE COORDINATED WITH OTHER SERVICES PRIOR TO INSTALLATION.
 9. SPRINKLER CONTRACTOR TO VISIT SITE AND EVALUATE EXISTING CONDITIONS PRIOR TO TENDER CLOSING. INCLUDE ALL MODIFICATIONS IN TENDER PRICE.
 10. EXISTING SPRINKLER SYSTEM TO BE RENOVATED/MODIFIED TO SUIT NEW LAYOUT. CONTRACTOR IS RESPONSIBLE TO SURVEY EXISTING SYSTEMS FOR CREATION OF SHOP DWGS.
 11. PROVIDE SPRINKLER HEADS UNDER ALL DUCTWORK AND EQUIPMENT OVER 1200mm WIDE.
 12. COMMISSIONING OF INTEGRATED TESTING OF FIRE PROTECTION AND LIFE SAFETY SYSTEM.
 - 12.1. SPRINKLER CONTRACTOR TO PROVIDE SERVICES WITH THE FIRE COMMISSIONING AGENT (FCA) TO MEET THEIR REQUIREMENTS OF ADMINISTRATION, VERIFICATION, AND FINAL SIGNOFF TO THE LOCAL AUTHORITIES AND CONSULTANT. THE FCA IS BEING RETAINED BY THE ELECTRICAL CONTRACTOR. HOWEVER, THIS CONTRACTOR'S WORK TO SATISFY THE FCA REQUIREMENTS SHALL BE INCLUDED IN THE TENDER PRICE.
 - 12.2. PERFORM ALL WORK IN ACCORDANCE WITH NFPA 13.
 - 12.3. RETURN SPRINKLER/STANDPIPE SYSTEM TO NORMAL OPERATION ON COMPLETION OF TESTING



The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work. The drawings show general arrangement of services. Follow as shown as actual building construction will prevail. Obtain approval for relocation of service from Consultant before commencement of the work.

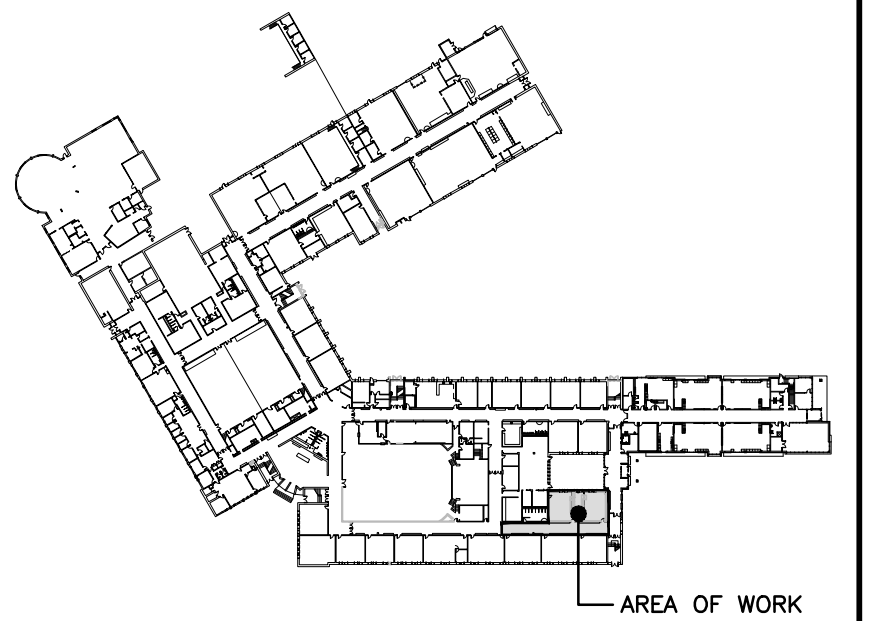
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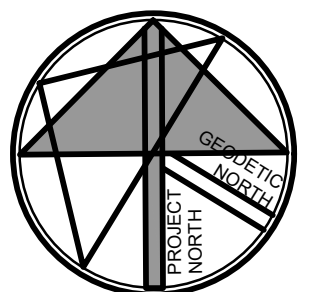
KEYPLAN




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	1	Issued for Tender & Permit	Mar 4, 2025

project
WRDSB GRAND RIVER COLLEGIATE INSTITUTE
#24-7692-RFT - ASBESTOS REMOVAL FOR FAMILY STUDIES RENOVATION

WATERLOO REGION DISTRICT SCHOOL BOARD
175 INDIAN RD. KITCHENER, ON N2B 2S7

drawing
GROUND FLOOR PART PLANS - RENOVATION

drawing scale

AS NOTED

ward99 project number

23011 - WRDSB GRAND RIVER FAMILY STUDIES

word00

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M3.1

MECHANICAL SPECIFICATION

PART A GENERAL NOTES

3. PROVIDE LABOUR, MATERIAL, MATERIAL AND EQUIPMENT REQUIRED TO PROVIDE A COMPLETE INSTALLATION WITH QUALITY WORKMANSHIP ACCEPTABLE TO OWNER AND CONSULTANT.
4. OBTAIN ALL PERMITS AND PAY ALL TAXES, FEES, AND OTHER COSTS INCURRED WITH THIS WORK. FILE ALL PLANS, OBTAIN ALL NECESSARY APPROVALS, CERTIFICATES, SUBMIT ALL FINAL CERTIFICATES TO THE CONSULTANT, COMPLY WITH RULES AND RECOMMENDATIONS OF THE BOARD OF FIRE UNDERWRITERS, THE CANADIAN GAS ASSOCIATION, THE LOCAL BUILDING CODE, AND ALL REQUIREMENTS OF THE LOCAL UTILITY COMPANY AND BY-LAWS. POST BUILDING PERMIT AT SITE IN ACCORDANCE WITH O.B.C. REQUIREMENTS.
5. VISIT THE SITE BEFORE SUBMITTING TENDERS TO EVALUATE ANY SITE CONDITIONS THAT MIGHT ARISE. INCLUDE ALL SITE CONDITIONS IN TENDER, EXTRAS WILL NOT BE ACCEPTED UNLESS BELIEVED TO BE REASONABLE BY THE OWNER AND CONSULTANT.
6. COORDINATE WITH OTHER CONTRACTORS INSTALLING EQUIPMENT OR MATERIAL AND ARRANGE EQUIPMENT IN PROPER RELATION WITH ALL OTHER TRADES. ENSURE SYSTEMS ARE SERVICEABLE.
7. CUTTING AND PATCHING SHALL BE BY THE CONTRACTOR REQUIRED TO INSTALL THE SERVICE.
8. THE DRAWINGS ARE DIAGRAMMATIC. THE SERVICES SHALL BE INSTALLED TO CONSERVE HEADROOM AND INTERFERE AS LITTLE AS POSSIBLE WITH THE FREE USE OF THE SPACES THROUGH WHICH THEY PASS.
9. PROVIDE TWO MARKED COPIES OF "AS-BUILT DRAWINGS" SHOWING THE SYSTEM AS INSTALLED, PROVIDE UPDATED DIGITAL CAD FILES IN ADDITION TO THE MARKED COPIES. THE DIGITAL AND HARD COPY RECORD DRAWINGS SHALL BE PROVIDED TO THE OWNER AS PART OF THE MAINTENANCE MANUALS.
10. THE MECHANICAL SYSTEMS OF THIS BUILDING MUST ACHIEVE THE ENERGY EFFICIENCY LEVELS BY CONFORMING TO ANSI/ASHRAE/IESNA 90.1 "ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RESIDENTIAL BUILDINGS" AND CHAPTER 2 OF DIVISION 3 OF SB-10 PRESCRIPTIVE METHOD FROM THE ONTARIO BUILDING CODE.
11. ALL EQUIPMENT AND MATERIAL SHALL BE NEW. REPLACE ALL DAMAGED EQUIPMENT.
12. MATERIAL AND EQUIPMENT ARE NAMED IN THE SPECIFICATION TO ESTABLISH AN ACCEPTABLE STANDARD OF MATERIALS AND THE QUALITY OF WORKMANSHIP BY WHICH TO ADHERE.
13. SUBMIT SHOP DRAWINGS ELECTRONICALLY FOR ALL EQUIPMENT. THESE WILL BE REVIEWED BY THE CONSULTANT. RESUBMIT AS OFTEN AS MAY BE FOUND NECESSARY. SUBMIT ONE COMPLETE SUBMISSION INDEXED AND LABELED FOR THIS PROJECT.
14. PROVIDE ALL NECESSARY PROTECTION FOR FINISHED OR UNFINISHED WORK. ALL OPENINGS IN PIPES, DUCTS AND EQUIPMENT SHALL BE CAPPED TO ENSURE SERVICES ARE KEPT CLEAN WHEN NOT IN USE.
15. MAINTAIN INSURANCE TO FULLY PROTECT THE CONTRACTOR, OWNER AND CONSULTANT FROM ANY AND ALL CLAIMS SUCH AS UNDER THE WORKERS COMPENSATION ACT, ETC. POST PROJECT NOTIFICATION AT THE SITE IN ACCORDANCE WITH THE MINISTRY OF LABOUR REQUIREMENTS.
16. PROVIDE STRUCTURAL SUPPORTS, PLATFORMS, SUPPORTING RODS, HANGERS, INSERTS AND BRACKETS FOR EQUIPMENT AND SERVICES. DO NOT SUPPORT SERVICES FROM STEEL DECK.
17. INSTRUCT THE OWNER'S STAFF IN THE CARE, MAINTENANCE AND OPERATION OF THE SYSTEMS.
18. SUBMIT THREE (3) COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS IN A 3 RING BINDER LABELED FOR THE PROJECT.
19. ALL SURPLUS AND WASTE MATERIALS SHALL BE PROMPTLY REMOVED FROM THE PREMISES.
20. ALL AREAS NOT AFFECTED BY RENOVATION OR DEMOLITION SHALL REMAIN AS PRESENTLY INSTALLED UNLESS NOTED OTHERWISE.
21. THE OWNER WILL DECIDE WHICH ITEMS OR EQUIPMENT SLATED FOR REMOVAL THAT THEY WISH TO RETAIN AS THEIR PROPERTY AND THIS CONTRACTOR SHALL REMOVE ALL OTHER MATERIALS FROM THE PREMISES.
22. PROVIDE LAMICOD TAGS FOR IDENTIFICATION OF NEW EQUIPMENT ADDED.
23. ALL ELECTRICAL LINE AND LOW VOLTAGE WIRING WHICH IS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR AS SPECIFIED ELSEWHERE HEREIN SHALL BE RUN IN EMT CONDUIT TO STANDARDS OF THE ELECTRICAL DIVISION.
24. WARRANTY ALL MATERIAL AND EQUIPMENT FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF SYSTEM.
25. PIPE SLEEVES
PROVIDE SCHEDULE 40 STEEL PIPE SLEEVES AT POINTS WHERE PIPES PASS THROUGH MASONRY, CONCRETE OR FIRE RATED ASSEMBLIES AND AS INDICATED. GROUT SLEEVES IN PLACE. MINIMUM 6 MM (1/4") CLEARANCE ALL AROUND, BETWEEN SLEEVE AND UNINSULATED PIPE OR BETWEEN SLEEVE AND INSULATION. CAULK BETWEEN SLEEVE AND PIPE IN FOUNDATION WALLS AND BELOW GRADE FLOORS WITH WATERPROOF FIRE RETARDANT NON-HARDENING MASTIC, WHERE SLEEVES PASS THROUGH WALLS OR FLOORS. PROVIDE SPACE FOR FIRESTOPPING, WHERE PIPES PASS THROUGH FIRE RATED WALLS, FLOORS, PARTITIONS, AND CEILING. MAINTAIN FIRE RATING INTEGRITY. ENSURE NO CONTACT BETWEEN COPPER TUBE OR PIPE AND FERROUS SLEEVE. FILL FUTURE-USE SLEEVES WITH LINE PLASTER OR OTHER EASILY REMOVABLE FILLER, COAT EXPOSED EXTERIOR SURFACES OF FERROUS SLEEVES WITH HEAVY APPLICATION OF ZINC RICH PAINT TO CGSB 1-GP-181M+AMOT-MAR-78.

PART B DEMOLITION NOTES

1. THIS PROJECT IS ONE OF A RETROFIT NATURE IN PART, AND WILL REQUIRE SOME DEMOLITION. ALLOW FOR ALL REMEDIAL WORK IN AREAS INDICATED ON THE DRAWINGS AND AS GENERALLY DEFINED IN THE RELEVANT SECTIONS OF THE SPECIFICATIONS.
2. THE SCOPE OF WORK IS ESSENTIALLY THE SELECTED DISCONNECTION AND/OR REMOVAL OF SERVICES AND/OR EQUIPMENT, PIPING, DUCTWORK ETC. AS INDICATED OR REQUIRED TO COMPLETE THE WORK.
3. THIS DIVISION IS TO LAISE WITH THE OWNERS OR CONSULTANT FOR EQUIPMENT BEING REMOVED THAT MAY BE SUITABLE FOR REUSE TO THAT SPECIFIED OR HANDED OVER TO THE OWNER.
4. THIS DIVISION TO TAKE FULL RESPONSIBILITY FOR ANY SPECIAL TOOLS OR EQUIPMENT REQUIRED TO DISASSEMBLE OR REMOVE MATERIAL FROM BUILDING.
5. THE GENERAL EXECUTION OF THE DEMOLITION IS TO BE CARRIED OUT IN A CLEAN AND EFFICIENT MANNER.
6. DEMOLITION OF EXISTING CEILING, WALLS ETC., TO FACILITATE REMOVAL OF EXISTING SERVICES OR EQUIPMENT OR INSTALLATION OF NEW TO BE KEPT TO A MINIMUM AND THEN RESTORED TO MATCH EXISTING.
7. ALL OPENINGS OR HOLES CREASED BY REMOVAL OF EXISTING MECHANICAL SYSTEMS WHICH ARE NOT BEING REUSED ARE TO BE PATCHED WITH THE SAME MATERIAL SURROUNDING SURFACES.
8. PROTECT ALL EXISTING FURNISHINGS MATERIALS AND EQUIPMENT. ANY DAMAGE OCCURRING AS A RESULT OF THE WORK OF THIS DIVISION SHALL BE REPAIRED OR REPLACED AT THE EXPENSE OF THIS DIVISION.
9. WHERE WORK INVOLVES BREAKING INTO OR CONNECTING TO EXISTING SERVICES, CARRY OUT WORK AT TIMES DIRECTED BY THE OWNERS IN AN EXPEDIENT MANNER WITH MINIMUM DISRUPTION TO THE FACILITY AND SYSTEMS DOWNTIME.
10. WHERE UNKNOWN SERVICES ARE ENCOUNTERED, IMMEDIATELY ADVISE CONSULTANT AND CONFIRM FINDINGS IN WRITING.
11. WHERE THE LOCATION OF ANY SERVICES HAS BEEN SHOWN ON THE PLANS, SUCH INFORMATION IS NOT GUARANTEED. IT IS THIS DIVISION'S RESPONSIBILITY TO VERIFY LOCATIONS, INVERT ELEVATIONS, AND THE DEPTH OF ANY TRENCHING OF ALL PARTS OF THE WORK MUST BE COMPLETED WITHIN THE CONFINES OF THE WORK AREA AND IN SUCH A WAY AS THE DUST PRODUCED AND RISK TO INJURY OF WILL NOT ADVERSELY AFFECT THE BUILDING USERS.
12. DISCONNECT AND/OR REMOVE EQUIPMENT PIPING, DUCTWORK, ETC. AS INDICATED.
13. CAP AND CONCEAL ALL REDUNDANT AND OBSOLETE CONNECTIONS.
14. PROVIDE A LIST OF EQUIPMENT TO BE REMOVED TO THE OWNER, FOR HIS ACCEPTANCE OF SAME. REMOVE ALL EQUIPMENT FROM SITE WHICH THE OWNER DOES NOT RETAIN.
15. MAINTAIN EQUIPMENT TO BE RETAINED BY OWNER ON SITE WHERE DIRECTED BY CONSULTANT.
16. REMOVAL OF ALL PARTS OF THE WORK MUST BE COMPLETED WITHIN THE CONFINES OF THE WORK AREA AND IN SUCH A WAY AS THE DUST PRODUCED AND RISK TO INJURY OF WILL NOT ADVERSELY AFFECT THE BUILDING USERS.
17. DEMOLISHED AREAS OF THE EXISTING BUILDING WILL REMAIN IN THEIR CURRENT USE IN SOME CASES. DEMOLITION IN THESE AREAS MUST BE KEPT TO THE MINIMUM REQUIRED TO COMPLETE THE WORK.
18. DEMOLITION SHALL TAKE PLACE WITHIN AREAS ISOLATED FROM ALL OTHER AREAS WITH APPROPRIATE HOARDING, SCAFFOLDING, NETTING, FENCING OR OTHER MEANS OF SECURITY BETWEEN BUILDING USERS AND THE WORK.
19. CO-ORDINATE MAKING SAFE ELECTRICAL DEVICES, CAPPING PLUMBING AND REMOVAL OF FIXTURES PRIOR TO COMMENCEMENT OF DEMOLITION.
20. ALL PIPING AND EQUIPMENT TO BE REMOVED AND/OR ABANDONED SHALL BE DRAINED PRIOR TO CAPPING AND/OR ABANDONING. DISPOSAL OF ALL LIQUIDS SHALL BE TO THE APPROVAL OF AUTHORITY OF HAVING JURISDICTION AND/OR PROVINCIAL REGULATIONS.
21. DRAIN ALL EXISTING PIPING AND DRAINAGE SYSTEMS INCLUDING ALL RELATED EQUIPMENT AS REQUIRED TO FACILITATE SYSTEM RENOVATIONS.
22. DISPOSAL OF EXISTING SYSTEM SHALL BE TO THE REQUIREMENTS OF THE LOCAL AND/OR PROVINCIAL REGULATIONS.

PART C PLUMBING NOTES

1. CODES AND REGULATIONS
SANITARY, SOIL WASTE, VENT, AND ALL WATER PIPING SHALL CONFORM AND BE INSTALLED TO THE ONTARIO PLUMBING CODE AND THE CANADIAN PLUMBING CODE, LATEST EDITION. ALL GAS PIPING SHALL CONFORM TO THE CANADIAN GAS CODE AND THE LOCAL GAS DISTRIBUTORS REQUIREMENTS.
2. TESTING
WATER PIPING: ALL WATER PIPING SHALL BE TESTED TO 150 PSI. PRESSURE FOR NOT LESS THAN FOUR HOURS WITHOUT A LOSS IN PRESSURE.
3. VALVES
ISOLATION VALVES: HOT AND COLD WATER BRONZE BODY, CLASS 150, STAINLESS STEEL BALL, FULL PORT, PTFE SEAT AND PACKING, STEEL LEVER HANDLE. MILWAUKEE BA-455, CRANE, TOYO CHECK VALVE, HOT AND COLD WATER SIZES 1/2" DIAMETER TO 2" DIAMETER CRANE FIG. 1342, OR EQUAL JENKINS, BRONZE SWING CHECK, SOLDER ENDS. CRANE FIG. 29 OR EQUAL JENKINS VERTICAL LIFT CHECK VALVE, SCREWED ENDS ON VERTICAL PIPING.
4. DRAIN VALVES
DRIP COCKS: SUPPLY AND INSTALL 1/2" DIAMETER MUELLER OR EQUAL DRAIN VALVES AT EQUAL OR LOW POINTS IN THE WATER SYSTEMS TO COMPLETELY DRAIN THE SYSTEMS. ALL DRAIN COCKS SHALL BE INSTALLED IN ACCESSIBLE LOCATIONS.
5. PIPE INSULATION
INSULATE ALL DOMESTIC HOT AND COLD WATER PIPING AND STORM PIPING ABOVE GRADE. WITH 1" (FOR PIPING UNDER 1 1/2" DIAMETER) OR 1 1/2" (FOR PIPING 1 1/2" DIAMETER AND HIGHER) FIBERGLASS INSULATION WITH VAPOUR BARRIER. INSTALL AS PER MANUFACTURERS RECOMMENDATIONS. RECOVER EXPOSED PIPING WITH 6 OZ. CANVAS JACKET AND TWO COATS LAGGING ADHESIVE.

PART D SPRINKLER NOTES

1. CODES AND REGULATIONS:
ALL SPRINKLER PIPING, SPACING AND EQUIPMENT SHALL CONFORM TO THE ONTARIO BUILDING CODE, NFPA-13 AND THE AUTHORITIES HAVING JURISDICTION.
2. TESTING
PIPING SHALL BE TESTED TO NFPA-13 REQUIREMENTS.
3. PRODUCTS
PIPE AND FITTINGS:
50 MM (2") AND SMALLER: SCHEDULE 40 STEEL PIPE WITH SCREWED FITTINGS.
65 MM (2 1/2") AND LARGER: SCHEDULE 10 STEEL PIPE WITH VICTAULIC FITTINGS.
PIPE HANGERS:
ULC LISTED FOR FIRE PROTECTION SERVICES.
4. SPRINKLER HEADS:
GENERAL: TO NFPA-13 AND ULC LISTED FOR FIRE SERVICES.
5. ENGINEERING DESIGN CRITERIA
DESIGN SYSTEM IN ACCORDANCE WITH ONTARIO FIRE MARSHALL, LOCAL AUTHORITY HAVING JURISDICTION, OWNERS, UNDERWRITERS AS REQUIRED, AND NFPA 13, USING FOLLOWING PARAMETERS:
HAZARD TO SUIT OCCUPANCY.
PIPE SIZE AND LAYOUT:
HYDRAULIC DESIGN OR PIPE SCHEDULE SIZING DESIGN.
SPRINKLER HEAD LAYOUT: TO NFPA 13 OR AS DIRECTED BY AUTHORITIES HAVING JURISDICTION, AND/OR AS INDICATED.
6. WATER SUPPLY:
CONDUCT FLOW AND PRESSURE TEST OF WATER SUPPLY IN VICINITY OF PROJECT TO OBTAIN CRITERIA FOR BASES OF DESIGN IN ACCORDANCE WITH NFPA 13. INDICATE LOCATION AND FLOW ON SHOP DRAWINGS.
7. ZONING:
SYSTEM ZONING AS INDICATED IN ACCORDANCE WITH NFPA 13.
8. PROVIDE COMPLETE DRAWINGS AND CALCULATIONS STAMPED BY A QUALIFIED PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO.
9. PROFESSIONAL ENGINEER SHALL PROVIDE ON SITE REVIEW AND CERTIFICATION FOR LOCAL BUILDING CODE REVIEW.
10. INSTALLATION: INSTALL, INSPECT AND TEST TO ACCEPTANCE IN ACCORDANCE WITH ANSI/NFPA-13. TESTING TO BE WITNESSED BY AUTHORITY HAVING JURISDICTION. SPACE HANGERS AND SUPPORT OF SPRINKLER PIPING IN ACCORDANCE WITH NFPA REGULATIONS. PROTECT EXPOSED WORK: DO NOT COVER OR CONCEAL PIPING ACCESSORIES OR WORK PRIOR TO INSPECTION AND APPROVAL BY AUTHORITIES HAVING JURISDICTION. ADJUST EQUIPMENT TO SATISFACTION OF AUTHORITY HAVING JURISDICTION AND CONSULTANT. PROTECT EQUIPMENT DURING PAINTING. REPLACE DAMAGED AND PAINTED OR CORRODIONATE THE SPRINKLER PIPING AND EQUIPMENT WITH THAT OF OTHER TRADES ON THE JOB. MAINS AND BRANCHES SHALL BE RUN SO AS NOT TO INTERFERE WITH BUILDING'S STRUCTURE, MECHANICAL OR ELECTRICAL INSTALLATIONS. GUARANTEE THAT THE SYSTEMS AND EQUIPMENT BE INSTALLED IN ACCORDANCE WITH ALL LOCAL AND PROVINCIAL BY-LAWS AND THE RULES AND REGULATIONS OF THE INSURANCE UNDERWRITERS AND THE BUILDING CODE OF ONTARIO.

PART E HYDRONIC HEATING

1. HEATING WATER PIPING:
SCHEDULE 40 STEEL PIPE TO ASTM 53, GRADE B
PIPING NPS 1" AND UNDER SHALL BE MALLEABLE IRON 150 LB SCREWED FITTINGS WITH PULVERIZED LEAD PASTE.
PIPING NPS 1½" AND OVER SHALL BE VICTALUIC
2. PIPE INSULATION:
INSULATE ALL HEATING WATER PIPING WITH 1½" FIBERGLASS INSULATION WITH VAPOUR BARRIER. INSTALL AS PER MANUFACTURERS RECOMMENDATIONS. RECOVER EXPOSED PIPING WITH PVC JACKET.
3. FILLING OF SYSTEM
REFILL SYSTEM WITH CLEAN WATER ADDING WATER TREATMENT AS SPECIFIED.
THIS CONTRACTOR SHALL CONTACT WATER TREATMENT SUPPLIER AND CO-ORDINATE WATER TREATMENT OF NEW SYSTEM.
4. EXISTING SYSTEM DRAINAGE
DRAIN EXISTING HOT HYDRONIC SYSTEM AS REQUIRED TO FACILITATE SYSTEM RENOVATIONS.
DISPOSAL OF EXISTING SYSTEM SHALL BE TO THE REQUIREMENTS OF THE LOCAL AND/OR PROVINCIAL REGULATIONS.

PART G HEATING, AIR CONDITIONING, AND VENTILATION NOTES

1. DUCTWORK TO BE CONSTRUCTED TO SMACNA STANDARDS, MEDIUM STATIC PRESSURE WITH LEAKAGE RATE OF 5% MAXIMUM, FABRICATED IN ACCORDANCE WITH RECOMMENDATIONS OF SMACNA AND ASHRAE. SEAL ALL TRANSVERSE AND LONGITUDINAL JOINTS WITH DUCT SEALER.
2. ROUND AND OVAL DUCTS: FACTORY FABRICATED, SPIRAL WOUND, WITH MATCHING FITTINGS AND SPECIALS TO SMACNA. TRANSVERSE JOINTS UP TO 900 MM (36"): SLIP TYPE WITH TAPE AND SEALANTS.
3. SQUARE AND RECTANGULAR DUCTS: TO SMACNA. TRANSVERSE JOINTS, LONGEST SIDE UP TO AND INCLUDING 750 MM (30"): SMACNA PROPRIETARY DUCT JOINTS.
4. DAMPERS
ALL DAMPERS TO BE TO SMACNA RECOMMENDATIONS AS MINIMUM ACCEPTABLE STANDARD. SPLITTER DAMPERS OF SAME MATERIAL AS DUCT BUT ONE SHEET METAL THICKNESS HEAVIER WITH APPROPRIATE STIFFENING, CUT AIRFLOW SHAPE, PIANO HINGE PIVOT, WITH CONTROL ROD WITH LOCKING DEVICE AND POSITION INDICATOR ON EXTERIOR OF DUCT. SINGLE BLADE BALANCING ROUND AND RECTANGULAR, MAXIMUM 100MM (4") HIGH, OR SAME MATERIAL AS DUCT BUT ONE SHEET METAL THICKNESS HEAVIER (MINIMUM 16 GAUGE), V-GROOVE STIFFENED WITH LOCKING QUADRANT. MULTI-LEAF OPPOSED BLADE DAMPERS DESIGNED TO SMACNA DETAILS, SELF-LUBRICATING NYLON BEARINGS, SHAFT EXTENSION TO ACCOMMODATE INSULATION THICKNESS, WITH LOCKING QUADRANT. MANUFACTURED ADJUSTABLE EXTRACTORS TO BE WITH ADJUSTMENT ROD. ACCEPTABLE PRODUCTS: TITUS, NAILOR OR EQUAL.
5. TURNING VANES
SMALL ARC AIRFOIL HOLLOW VANES IN SUPPLY DUCT ELBOW WHERE CENTERLINE RADIUS IS LESS THAN 1 1/4 TIMES TURNING DIMENSION OF DUCT.
6. FLEXIBLE DUCTWORK
METALLIC ALUMINUM FLEXIBLE DUCTWORK MANUFACTURED BY FLEXMASTER LTD., OR EQUAL BETWEEN BRANCH DUCTS AND GRILLES, REGISTERS AND DIFFUSERS. MAXIMUM LENGTH SHALL BE 6'-0".
7. REFRIGERANT PIPING
STREAMLINE ARC COPPER TUBING HARD TEMPER AS MANUFACTURED BY MUELLER BRASS OR EQUAL.
ELBOW AND FITTINGS SHALL BE STREAMLINE WROUGHT COPPER SOLDER TYPE. ALL JOINTS SHALL BE MADE WITH SIL-FOS SILVER BRAZING. PURGE SYSTEM WITH NITROGEN DURING SOLDERING AFTER COMPLETION THE ENTIRE PIPING SYSTEM SHALL BE PRESSURE TESTED AND CLEARED.
8. ACOUSTIC DUCT LINER
RIGID DUCT LINER 1" THICK 36 KG/M WITH NEOPRENE LINER GLUED AND PINNED TO INSIDE SURFACE OF DUCTWORK. MINIMUM 3.0M (10') FROM ALL AIR HANDLERS AND WHERE SHOWN ON DRAWINGS. SEAL ALL EXPOSED EDGES. DUCT SIZING REPRESENTS CLEAR INSIDE DIMENSIONS.
9. DUCTWORK INSULATION
ON THE LAST 5'-0" OF ALL EXHAUST DUCTS, INCLUDING PLENUM AND ALL AIR INTAKE DUCTWORK, FIBERGLASS FOIL FACED RIGID DUCT INSULATION 1" THICK TYPE PF-335-3/4 LB. DENSITY WITH RFFRK FACING, GLUE AND PIN AS PER MANUFACTURERS RECOMMENDATIONS.
ON ALL OUTDOOR AIR DUCTWORK, FIBERGLASS FOIL FORCED RIGID DUCT INSULATION 3" THICK TYPE PF-335-3/4 LB DENSITY WITH RFFRK FACING, GLUE AND PIN.
RECOVER ALL EXTERIOR DUCTWORK WITH TWO COATS OF MASTIC SEALER AND 28 GAUGE PREFINISHED METAL FLASHING WITH CROSSBREAKS AND STANDING SEAMS AND BUTTONHOOK JOINTS. COLOUR TO MATCH BUILDING FLASHINGS.
10. SYSTEM BALANCING
BALANCE AIR AND WATER SYSTEMS USING NEBB CERTIFIED FIRM AND AS PER NEBB REQUIREMENTS TO WITHIN 5% OF TOTAL SYSTEM CAPACITY. PROVIDE 3 COPIES OF BALANCING REPORTS C/W SYSTEM SCHEMATICS. BALANCE AFFECTED SYSTEMS ONLY. PROVIDE PRE-BALANCING VALUES UPON AWARD OF CONTRACT (AND BEFORE COMMENCEMENT OF ANY DEMOLITION). PROVIDE REPORT FOR CONSULTANT REVIEW. RE-BALANCING SHALL TAKE PLACE AFTER APPROVAL FROM CONSULTANT (AND PRIOR TO COMMENCEMENT OF DEMOLITION).

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work. The Contractor shall make all arrangements of services. Follow-up work closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work.

Drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions.

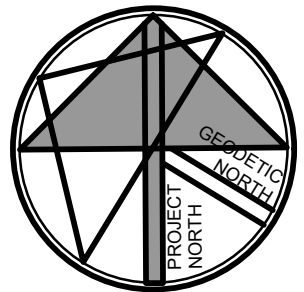
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No.	Issue	Date
1	Issued for Tender & Permit	Mar 4, 2023

project
WRDSB GRAND RIVER COLLEGIATE INSTITUTE
#24-7692-RFT - ASBESTOS REMOVAL FOR FAMILY STUDIES RENOVATION

WATERLOO REGION DISTRICT SCHOOL BOARD
175 INDIAN RD. KITCHENER, ON N2B 2S7

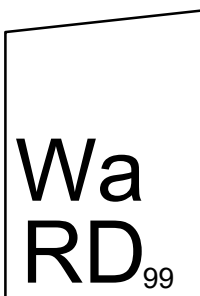
MECHANICAL SPECIFICATION

drawing scale

AS NOTED

ward99 project numbe

23011 - WRDSB GRAND RIVER FAMILY STUDIES

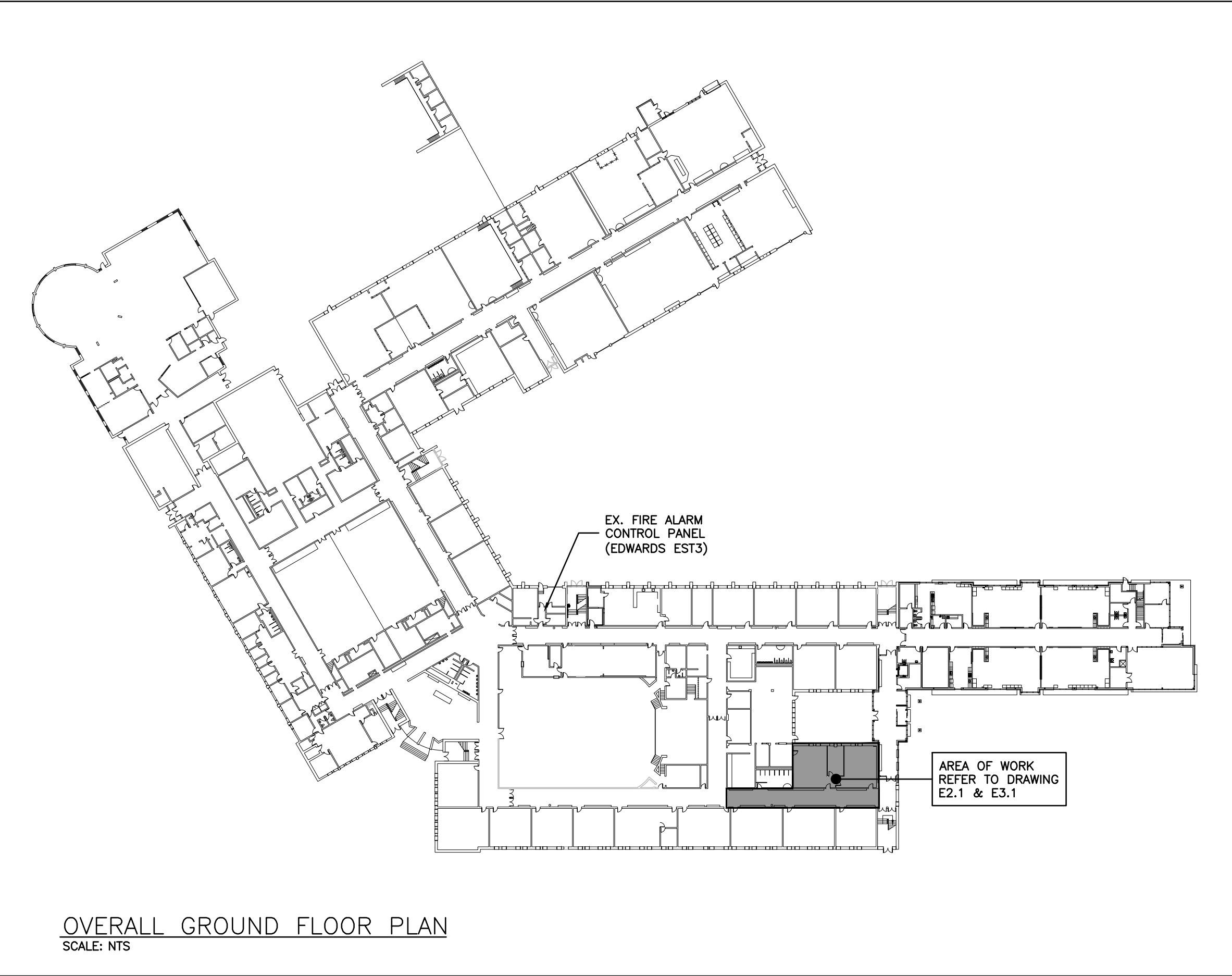
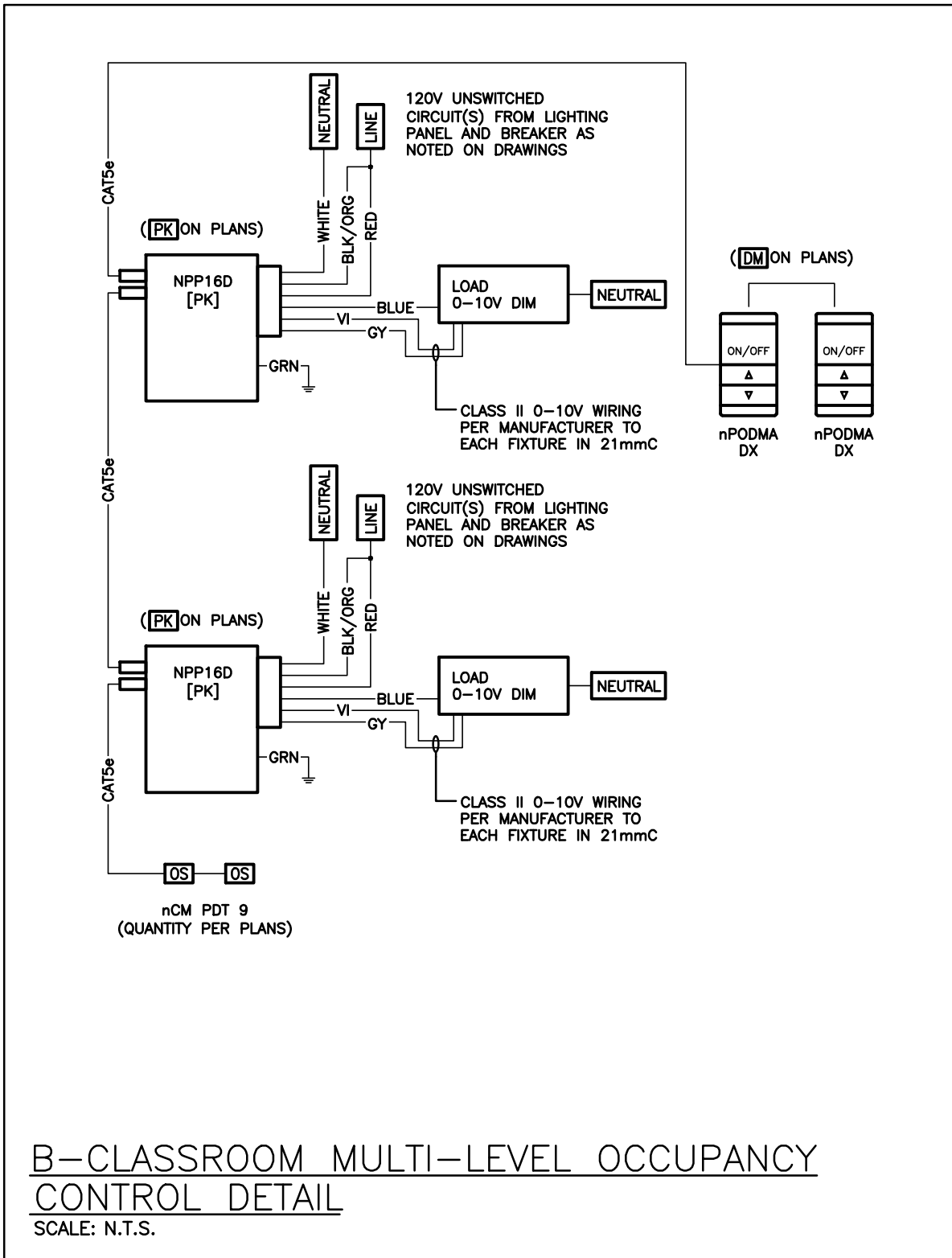
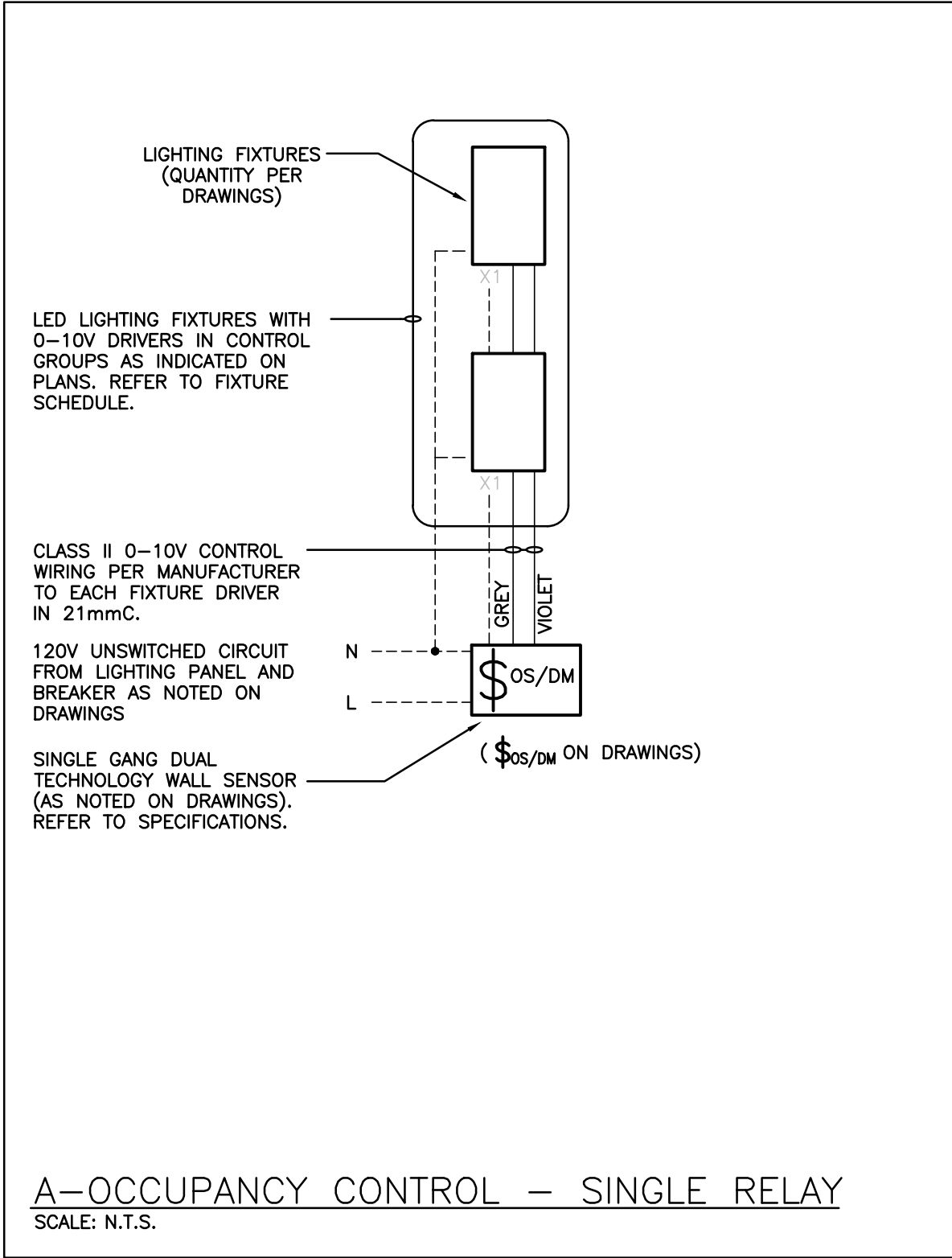


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drawing no













M4.1



Item	Manufacturer/Catalog Number	Voltage	Lamp	Mounting	CRI	Listings	Description
L1	COOPER CAT. #24CZ2-LD5-40-UNV-L840-CD-1 LITHONIA CAT. #2BLT4 40L AD5M MVOLT G21 LP840 SIGNIFY CAT. #2FGXG42B840-4-RS-UNV-DIM	120V	LED 4257 LUMENS 4000K 30.4W	RECESSED	80	DLC	2'x4' (610mmX1220mm) VOLUMETRIC LED TROFFER C/W SMOOTH FROSTED ACRYLIC CENTRE LENS, 1% 0-10V DIMMING DRIVER, AND WHITE FINISH.
L2	COOPER CAT. #24FPL2SCT3 LITHONIA CAT. #CPANL-2X4-AL06-SW7-M2 ELITE CAT. #24-FPL1-LED-3000/4000/5000L-DIM10-MVOLT-35K/40K/50K-85	120V	LED 4795 LUMENS 4000K 41.5W	RECESSED	80	DLC	2'x4' (610mmX1220mm) EDGE-LIT LED FLAT PANEL C/W FROSTED ACRYLIC LENS, SWITCHABLE COLOUR TEMPERATURE AND LUMEN OUTPUT, 10% 0-10V DIMMING DRIVER, AND WHITE FINISH. NOTE: FIXTURE IS TO BE SET TO 4000K AND MEDIUM OUTPUT.
EMERG. BATT. C/W INTE-GRAL HEADS (T-BAR)	AIMLITE #EBWL SERIES: EM-1 #EBWL-EMWHT-TB-2-ATD/VDR C/W KIT BKT497 STANPRO CAT. #SWL SERIES EM-1 #SWL-EMWH-TB-W-AT/TP C/W KIT BKT497 LUMACELL #LBL SERIES EM-1 #LBL-EM C/W KIT-SR-L	120V	LED 14W	RECESSED	N/A	N/A	LONG LIFE, SEALED RECHARGABLE VANDAL RESISTANT BATTERY C/W ADJUSTABLE 14W LED MODULES, POLYCARBONATE BODY, 90 MINUTE BATTERY DURATION, RECESSED T-BAR MOUNTING, T-BAR KIT AND AUTOTEST FEATURE.

NOTES: ① FOR INFORMATION REGARDING DRIVER AND LENS INFORMATION REFER TO SPECIFICATION. ② LED LUMEN VALUES QUOTED FOR FIXTURES ARE TO BE CONSIDERED MINIMUM, AND AS ABSOLUTE OR DELIVERED LUMENS. LUMEN VALUES SHOULD NOT EXCEED MORE THAN 10% OF SPECIFIED OUTPUT. ③ IF THERE ARE ANY DISCREPANCIES BETWEEN THE FIXTURE PART NUMBER AND DESCRIPTION, IT IS THE RESPONSIBILITY OF THIS CONTRACTOR TO BRING THIS TO THE ELECTRICAL CONSULTANTS ATTENTION PRIOR TO SHOP DRAWING REVIEW.

Space Type	Control Sequence / Control Device(s):	Control System	Detail Reference
Classrooms	Sequence: ON: Lights will turn on to 50% automatically when occupancy is detected. OFF: 20 minutes after the area tied to a given room controller has been vacated, the lights will automatically turn off. MANUAL: The occupant can adjust lighting to desired level via wall station dimmer.	DIGITAL ROOM CONTROL SYSTEM	B/E1.1
Workroom	Sequence: ON: Lights turned on automatically when occupancy is detected. OFF: 10 minutes after the room has been vacated, the lights will automatically turn off. OVERRIDE: User manually adjusts on/off and that state shall remain without reverting to previous state unless sensors do not detect occupancy for extended period, whereby normal sensor operation is to resume.	DIMMING WALL SWITCH OCCUPANCY CONTROL	A/E1.1

ELECTRICAL SYMBOLS		NOTE: ALL SYMBOLS MAY NOT BE USED	
LIGHTING		SECURITY	
	LIGHT FIXTURE TYPE AS INDICATED		SECURITY DETECTOR (SURFACE MOUNTED)
	CEILING RECESSED BATTERY UNIT C/W INTEGRAL EMERGENCY FIXTURE	COMMUNICATIONS	
	SINGLE POLE SWITCH (3=3 WAY, 4=4 WAY, P=PILOT LIGHT, K=KEYED, DM=DIMMER, M=MOTOR RATED)		WIRELESS ACCESS POINT. PROVIDE 3/4" (21mm) C TO CABLE MANAGEMENT SYSTEM
	OCCUPANCY SENSOR (PASSIVE)	GENERAL	
	CEILING MOUNTED MOTION SENSOR	ER	INDICATES EXISTING ITEM TO REMAIN
	DIGITAL WALL DIMMER STATION	D	INDICATES EXISTING ITEM TO BE DELETED
	DIGITAL ROOM CONTROLLER	R	INDICATES EXISTING ITEM TO BE RELOCATED/IN RELOCATED POSITION
FIRE ALARM			NOTE INDICATOR
	SMOKE DETECTOR (RL=RELAY BASE)		ZONE INDICATOR

The contractor shall verify all dimensions and report all errors and discrepancies to the Consultant before commencement of the work. The drawings show general arrangement of services. Follow as closely as actual building construction will permit. Obtain approval for relocation of service from Consultant before commencement of the work. The drawings do not indicate all offsets fitting and accessories which may be required. Provide the same to meet the required conditions. Drawings and specifications, etc., prepared and issued by the consultant are the property of the consultant and must be returned at the completion of the project. These documents are not to be duplicated or copied without the consent of the Consultant. Do not scale this drawing. © 2025 DEI Consulting Engineers Inc.

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MECHANICAL | ELECTRICAL | AQUATIC

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Project Number: 24405

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No.	Revision	Date

No.	Issue	Date
1	Issued for Tender & Permit	Mar 4, 2025

PROJECT
WRDSB GRAND RIVER COLLEGIATE INSTITUTE
#24-7692-RFT - ASBESTOS REMOVAL FOR FAMILY STUDIES RENOVATION

WATERLOO REGION DISTRICT SCHOOL BOARD
175 INDIAN RD. KITCHENER, ON N2B 2S7

drawing
OVERALL PLAN & LEGEND

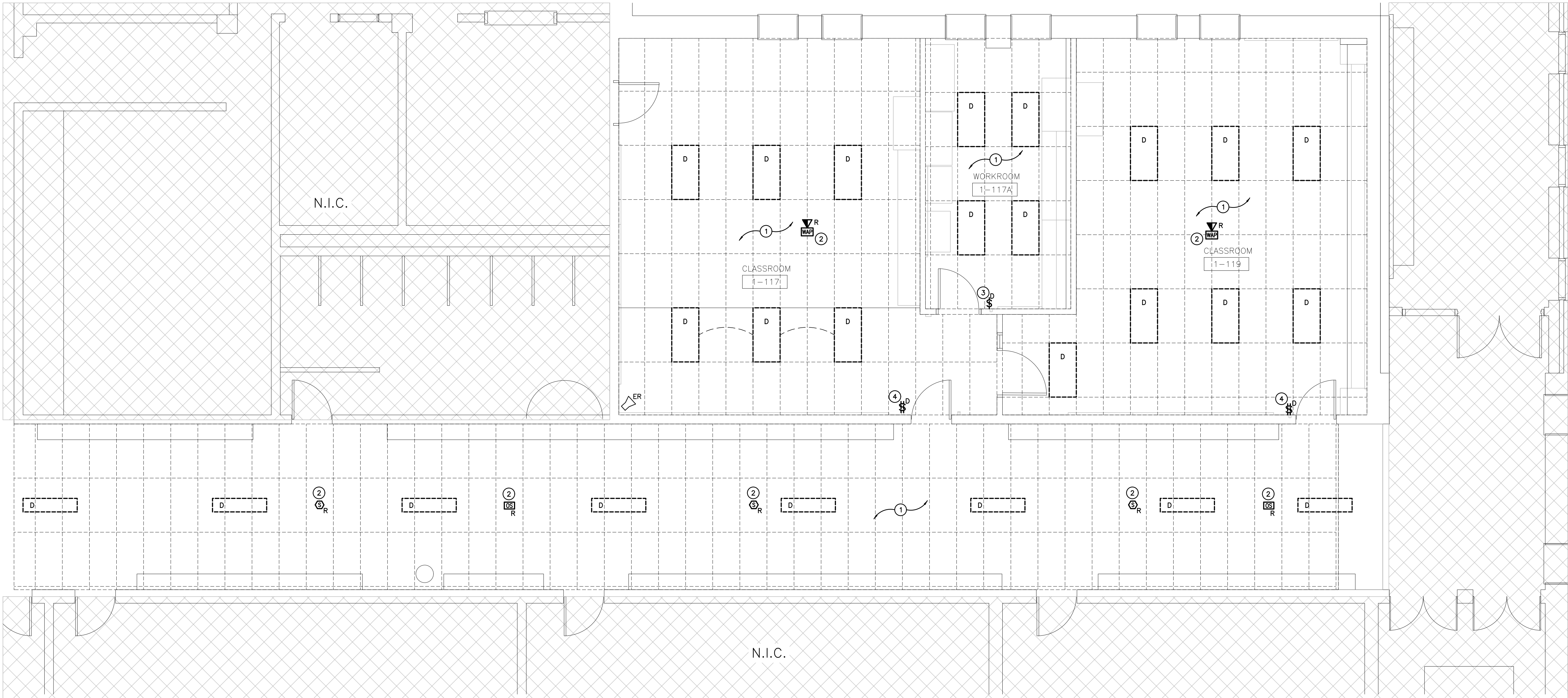
drawing scale
AS NOTED

ward99 project number
23011 - WRDSB GRAND RIVER FAMILY STUDIES

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drawing no.

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E1.1



CLASSROOM 1-117 & 1-119 DEMOLITION PLAN
SCALE: 1:50

GENERAL DEMOLITION NOTES

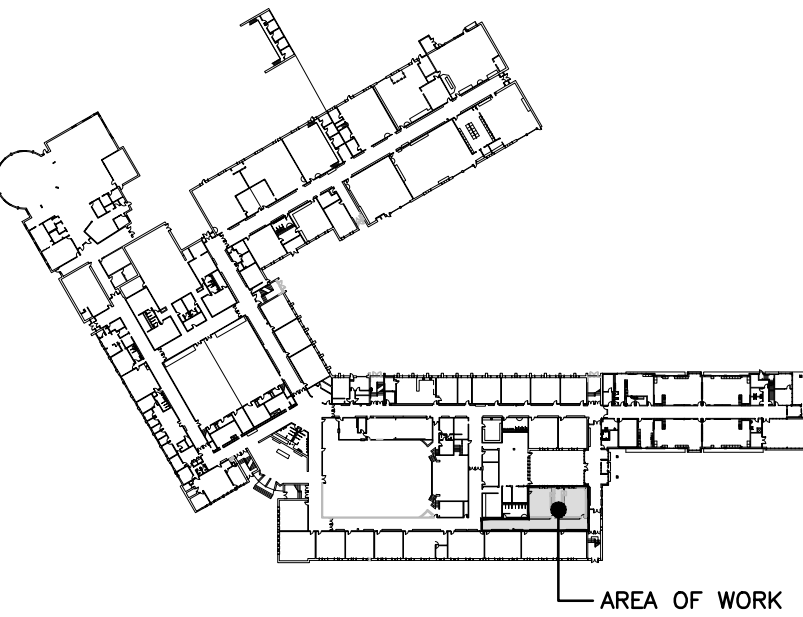
- 'ER' DENOTES EXISTING ITEM TO REMAIN.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS NOTED OTHERWISE.
- 'R' INDICATES EXISTING ITEM TO BE RELOCATED. REFER TO RENOVATION DRAWINGS AND RELOCATE DEVICE AND WIRING TO SUIT. UNLESS OTHERWISE NOTED.
- 'D' INDICATES EXISTING ITEM TO BE DEMOLISHED. UNLESS OTHERWISE NOTED DISCONNECT AND REMOVE NOTED DEVICE AND WIRING BACK TO SOURCE.

SPECIFIC DEMOLITION NOTES

- 1 MAINTAIN EXISTING LOCAL LIGHTING BRANCH CIRCUIT FOR RE-USE WITH NEW FIXTURES AND NEW/RELOCATED LIGHTING CONTROLS PER RENOVATION PLANS.
- 2 MAINTAIN EXISTING DEVICE FOR REINSTALLATION PER RENOVATION PLAN.
- 3 REMOVE EXISTING DEVICE. MAINTAIN EXISTING WIRING AND BACKBOX FOR REPLACEMENT DEVICE. REFER TO RENOVATION DRAWINGS FOR CONTINUATION.
- 4 EXISTING SWITCH IS TO BE REMOVED COMPLETE. PULL LINE AND LOAD SIDE WIRING UP TO ACCESSIBLE CEILING SPACE FOR CONNECTION TO NEW POWER PACK. MAINTAIN EXISTING BACKBOX FOR NEW DEVICE.

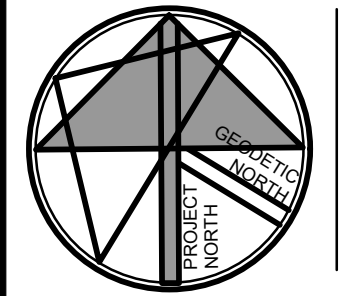
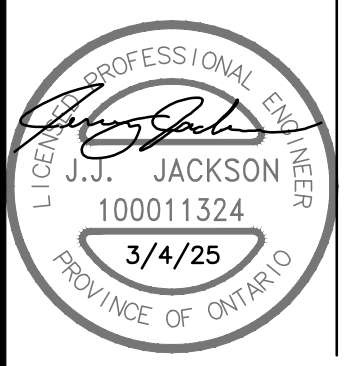
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KEYPLAN



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Project: WRDSB GRAND RIVER COLLEGIATE INSTITUTE
#24-7692-RFT - ASBESTOS REMOVAL FOR FAMILY STUDIES RENOVATION

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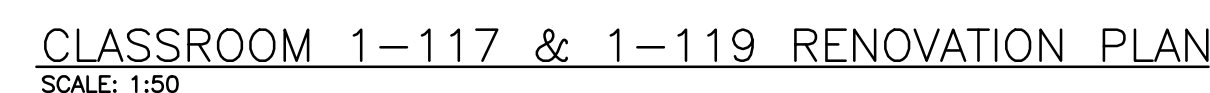
drawing: ENLARGED DEMOLITION PLAN

drawing scale: AS NOTED

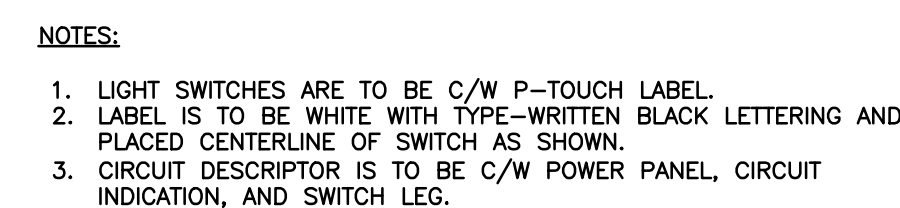
ward99 project number: 23011 - WRDSB GRAND RIVER FAMILY STUDIES

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drawing no. **E2.1**



PROVIDE P-TOUCH LABELS INDICATING PANEL AND CIRCUIT LABEL ON ALL LIGHT SWITCH AND LIGHTING CONTROL DEVICE FACEPLATES. INCLUDE SWITCH LEG INDICATION FOR LIGHTING CONTROLS AND SWITCHES. REFER TO SPECIFICATIONS AND DETAILS.



A-RECEPTACLE LABELLING DETAIL
SCALE: 1:50

- 'ER' INDICATES EXISTING ITEM TO REMAIN.
- 'R' INDICATES EXISTING ITEM IN RELOCATED POSITION.
- ALL DEVICES SHOWN ARE NEW UNLESS OTHERWISE NOTED.
- EXISTING ELECTRICAL EQUIPMENT NOT SHOWN SHALL REMAIN UNLESS OTHERWISE NOTED.
- MAINTAIN SERVICE TO ALL EXISTING DEVICES TO REMAIN.
- REVISE PANEL DIRECTORIES TO SUIT CHANGES (TYPED).

- 1 FIXTURES IN INDICATED AREA ARE TO BE CONNECTED TO EXISTING CIRCUIT AND NEW/RELOCATED CONTROLS AS SHOWN.
- 2 REWORK EXISTING LINE AND LOAD SIDE WIRING THROUGH POWER PACE TO SUIT. REFER TO B/E1-1. POWER PACE TO BE INSTALLED ABOVE ACCESSIBLE CEILING SPACE IN FINISHED AREAS.
- 3 INDICATES CONTROL ZONE GROUPS OF LIGHT FIXTURES WITHIN EACH AREA. REFER TO LIGHTING CONTROL DETAILS AND SEQUENCE OF OPERATION.
- 4 INDICATES EXISTING RE-USED DEVICE AND DATA DROP IN RELOCATED POSITION.
- 5 RELOCATE EXISTING FIRE ALARM INITIATING DEVICE AND RECONNECT TO EXISTING LOCAL INITIATING CIRCUIT. RE-VERIFY PORTIONS OF ALARM SYSTEM TO CAN/ULC-5537. REFER TO SPECIFICATIONS FOR FURTHER DETAILS AND REQUIREMENTS.
- 6 RECONNECT RELOCATED OCCUPANCY SENSOR TO EXISTING CORRIDOR LIGHTING CONTROL. EXTEND WIRING AS NECESSARY.
- 7 PROVIDE NEW DEVICE. CONNECT TO EXISTING WIRING MADE AVAILABLE DURING DEMOLITION. MOUNT TO EXISTING BACKBOX.
- 8 MOUNT DEVICE IN BACKBOX MADE AVAILABLE DURING DEMOLITION. PROVIDE NEW STAINLESS STEEL COVERPLATE TO SUIT NEW DEVICE.

NOTE: THIS DRAWING IS NOT TO BE SCALED. THE CONTRACTOR IS RESPONSIBLE FOR THE VERIFICATION OF ALL SITE DIMENSIONS AND FOR NOTIFYING THE ARCHITECT OF ANY SITE CONDITIONS AND SITE MEASUREMENTS THAT ARE NOT CONSISTENT WITH THE DRAWINGS.

E3.1

GENERAL NOTES

- ## BASIC MATERIALS

- .10 THIS CONTRACTOR MUST PAINT ALL SYSTEM JUNCTION BOXES AND COVERS IN CONFORMANCE WITH THE ABOVE SCHEDULE.

DRAW BREAKDOWN

- .1 THIS CONTRACTOR MUST SUBMIT A BREAKDOWN OF THE TENDER PRICE INTO CLASSIFICATIONS TO THE SATISFACTION OF THE CONSULTANT, WITH THE AGGREGATE OF THE BREAKDOWN TOTALING THE TOTAL CONTRACT AMOUNT. EACH ITEM MUST BE BROKEN OUT INTO MATERIAL, LABOUR COSTS, PROGRESS CLAIMS, WHEN SUBMITTED ARE TO BE ITEMIZED AGAINST EACH ITEM OF THE DRAW BREAKDOWN. THIS SHALL BE DONE IN TABLE FORM SHOWING CONTRACT AMOUNT, AMOUNT THIS DRAW, TOTAL TO DATE, % COMPLETE AND BALANCE.
- .2 BREAKDOWN SHALL BE AS FOLLOWS:
 - .1 PERMITS AND FEES
 - .2 MOBILIZATION (MAXIMUM 1%)
 - .3 DEMOLITION
 - .4 BRANCH CONDUITS
 - .5 BRANCH WIRING
 - .6 LIGHTING FIXTURES
 - .7 FIRE ALARM SYSTEM
 - .8 COMMISSIONING (MINIMUM 3% BUT NOT LESS THAN \$750.00)
- .3 THE BREAKDOWN MUST BE APPROVED BY THE CONSULTANT PRIOR TO SUBMISSION OF THE FIRST DRAW.
- .4 BREAKDOWNS NOT COMPLYING TO THE ABOVE WILL NOT BE APPROVED.
- .5 BREAKDOWN MUST INDICATE TOTAL CONTRACT AMOUNT.
- .6 MOBILIZATION AMOUNT MAY ONLY BE DRAWN WHEN ALL REQUIRED SHOP DRAWINGS HAVE BEEN REVIEWED BY THE CONSULTANT.

.1 FURNISH COMPLETE CATALOG DATA FOR MANUFACTURED ITEMS OF EQUIPMENT TO BE USED IN THE WORK TO CONSULTANT FOR REVIEW

- ## FIRESTOPPING

- NOTE: FIRE STOP MATERIAL MUST CONFORM TO REQUIREMENTS OF LOCAL AUTHORITIES HAVING JURISDICTION. CONTRACTOR TO CONFIRM PRIOR TO APPLICATION AND ENSURE MATERIAL USED IS COMPATIBLE WITH THAT USED BY OTHER TRADES ON SITE.

11. ENSURE FIRESTOP MANUFACTURER REPRESENTATIVE PERFORMS ON SITE INSPECTIONS AND CERTIFIES INSTALLATION. SUBMIT INSPECTION REPORTS/CERTIFICATION AT TIME OF SUBSTANTIAL COMPLETION.

OCCUPANCY REQUIREMENTS

- .1 FINAL CERTIFICATES
 - .1 ELECTRICAL SAFETY AUTHORITY
 - .2 FIRE ALARM VERIFICATION CERTIFICATE

READY FOR TAKEOVER

- .1 COMPLETE THE FOLLOWING TO THE SATISFACTION OF THE CONSULTANT PRIOR TO REQUEST FOR READY FOR TAKEOVER
- .1 AS-BUILT DRAWINGS.
 - .2 MAINTENANCE MANUALS.
 - .3 SYSTEM START UP.
 - .4 INSTRUCTIONS TO OWNERS.
 - .5 LIGHTING CONTROL SYSTEM.
 - .6 OUTLET COVER CIRCUIT LABELS.

WIRING DEVICES

- .1 WALL MOUNTED OCCUPANCY SENSORS (PASSIVE TECHNOLOGY) WITH 0-10V DIMMING CAPABILITY, OCCUPANCY SENSORS USED IN STALLROOMS SHALL BE EITHER:
 - .1 WATTSOPPER CAT. #PW-311-X (COLOUR BY ARCHITECT)
 - .2 LEVITON CAT. #ODD0-IDX (COLOUR BY ARCHITECT)
 - .3 SENSOR SWITCH CAT. #WSX-D-X (COLOUR BY ARCHITECT)
- .2 PROVIDE OTHER OCCUPANCY SENSORS TO SUIT THE DETAIL(S) ON THE DRAWINGS.
- .3 ALL SENSORS SHALL BE SET TO 5 MINUTES "DELAY TO OFF" UNLESS OTHERWISE DIRECTED.
- .4 INSTALL DEVICES IN GANG TYPE OUTLET BOX WHEN MORE THAN ONE DEVICE IS REQUIRED IN ONE LOCATION.
- .5 STAINLESS STEEL, VERTICALLY BRUSHED, 1mm THICK, COVER PLATES FOR WIRING DEVICES MOUNTED IN FLUSH-MOUNTED OUTLET BOXES
- .6 PROTECT STAINLESS STEEL COVER PLATE FINISH WITH PAPER OR PLASTIC FILM UNTIL PAINTING AND OTHER WORK IS FINISHED.
- .7 INSTALL SUITABLE COMMON COVER PLATES WHERE WIRING DEVICES ARE GROUPED.

FIRE ALARM SYSTEMS

1. INSTALLATION OF FIRE ALARM DEVICES MUST CONFORM TO ULC-S524 (LATEST EDITION).
2. ALL WIRING MUST BE COLOUR CODED, SIZED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND CONFORM TO THE LATEST EDITION OF THE ELECTRICAL SAFETY CODE.
3. ALL RELOCATED FIRE ALARM DETECTION AND SIGNALING DEVICES ADDED DUE TO RENOVATIONS SHALL BE CONNECTED TO EXISTING LOCAL ZONES.
4. ONCE INSTALLATION IS COMPLETE THE MANUFACTURER'S REPRESENTATIVE MUST MAKE AN INSPECTION OF THE DEVICES INSTALLED.
5. THIS TEST MUST CONFORM TO THE ONTARIO BUILDING CODE AND THE LATEST EDITION OF ULC CAN4-S537.
6. ALL COSTS ASSOCIATED WITH THIS INSPECTION BY THE CONTRACTOR AND MANUFACTURER MUST BE CARRIED IN THE TENDER PRICE.
7. UPON SUCCESSFUL COMPLETION OF TESTING THE MANUFACTURER MUST SUBMIT TO THE CONTRACTOR AND CONSULTANT:
 - A CERTIFICATE OF VERIFICATION
 - FIELD TECHNICIAN VERIFICATION SHEETS FOR EACH DEVICE VERIFIED (INCLUDE COPIES OF SAME IN MAINTENANCE MANUALS)
8. THE TEST RESULTS ARE TO BE SUBMITTED TO THE CONSULTANT FOR REVIEW PRIOR TO ISSUING TO OWNER'S REPRESENTATIVES AND/OR AUTHORITIES HAVING JURISDICTION.
9. EQUIPMENT:

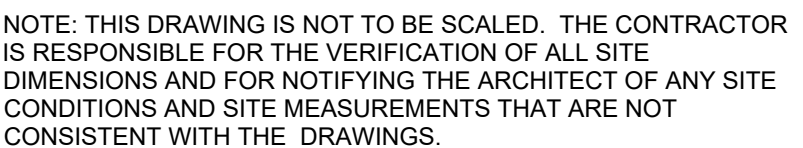
	DEVICE	EDWARDS
	EXISTING CONTROL PANEL: (ADDRESSABLE)	
1		EST3

FIXTURES ARE TO BE PROVIDED AS NOTED IN THE LIGHT FIXTURE SCHEDULE C/W THE FOLLOWING FEATURES.

- .1 FIXTURE LED'S MUST BE TESTED IN CONFORMANCE WITH IESNA LM80 STANDARD.
- .2 LED'S MUST BE SELECTED USING A BINNING ALGORITHM TO ENSURE COLOUR AND LUMEN OUTPUT OF A GIVEN FIXTURE ARE CONSISTENT, AS WELL AS MEET OR SURPASS ANSI C78.377 SPECIFICATION FOR THE RATED LIFETIME OF THE FIXTURE. COLOUR ACCURACY BETWEEN PRODUCTS MUST BE WITHIN A C78.377 MACADAM ELLIPSE.
- .3 LUMINAIRES MUST BE TESTED TO IESNA LM79 BY AN INDEPENDENT APPROVED LABORATORY.
- .4 LUMINAIRES MUST BE TESTED PRIOR TO SHIPPING.
- .5 LUMINAIRES MUST BE ULC CERTIFIED AND APPROVED FOR USE IN CANADA.
- .6 FIXTURES MUST MAINTAIN A MINIMUM OF 90% OF THEIR INITIAL LIGHT OUTPUT FOR 60,000 HOURS. SUBMIT TEST RESULTS UPON REQUEST.
- .7 LUMEN VALUES INDICATED FOR FIXTURES IN THE PROJECT DOCUMENTS ARE TO BE CONSIDERED AS 'ABSOLUTE' OR 'DELIVERED' VALUES.
- .2 FIXTURE INSTALLATION
 - .1 LOCATE AND INSTALL LUMINAIRES AS INDICATED.
 - .2 FIXTURE SURFACE MOUNTED TO SUSPENDED CEILINGS MUST BE SECURED THROUGH CEILING ASSEMBLY TO CROSS MEMBER SUPPORTS. THESE SUPPORTS ARE TO BE STEEL CHANNELS OR ANGLES INDEPENDENTLY SECURED TO STRUCTURE USING #12 "JACK" CHAIN. EACH CHAIN MUST BE SECURED SO NO FIXTURE WEIGHT IS ADDED TO THE CEILING ASSEMBLY.
 - .3 PLASTER FRAMES/FLANGE KITS MUST BE PROVIDED BY THIS DIVISION FOR FIXTURES RECESSED IN PLASTER AND/OR DRYWALL CEILINGS.
 - .4 WHERE SPECIFIED, FIXTURES TO BE CHAIN HUNG SHALL BE HUNG USING "JACK" CHAIN WITH A CAPACITY TO SUIT THE FIXTURE WEIGHT. BRANCH CIRCUIT WIRING FEEDING THESE FIXTURES SHALL BE AC90 CABLE "TY-WRAPPED" AT 36" (900mm) INTERVALS ALONG LENGTH OF DROP. FINAL APPEARANCE MUST BE NEAT AND PROFESSIONAL.
 - .5 CONNECT LUMINAIRES TO LIGHTING CIRCUITS AS INDICATED.
 - .6 ALIGN LUMINAIRES MOUNTED IN CONTINUOUS ROWS TO FORM STRAIGHT UNINTERRUPTED LINES.
 - .7 ALIGN LUMINAIRES MOUNTED INDIVIDUALLY PARALLEL OR PERPENDICULAR TO BUILDING GRID LINES.
 - .8 ALL LIGHTING BRANCH CIRCUITS ARE TO BE PROVIDED WITH SEPARATE NEUTRALS.
- .7 GUARANTEE
 - .1 ALL LED FIXTURES AND DRIVERS ARE TO BE COMPLETE WITH A 5 YEAR GUARANTEE.
 - .2 THE LABOUR REQUIRED TO REPLACE THESE DRIVERS MUST BE INCLUDED IN THE ABOVE GUARANTEE.

EQUIPMENT

1. PROVIDE ROOM BASED LIGHTING CONTROL SYSTEM.
2. BASIS OF DESIGN: SENSORSWITCH nLIGHT.
 1. ACCEPTABLE ALTERNATES:
 1. COOPER WAVELUX CAT.
 2. WAITSTOPPER DLM.
3. ELECTRICAL DESIGN DRAWING LIGHTING SCHEMATICS ARE GENERIC AND MEANT TO SHOW INTENT OF CONTROLS APPROACH ONLY. CONTACT MANUFACTURER'S SALES AGENCY FOR LIGHTING CONTROL SYSTEM SCHEMATICS, WIRING DIAGRAMS, CONTROLS RISERS, AND INSTALLATION INSTRUCTIONS PRIOR TO BID.
4. ALL DEVICES HAVE RJ-45 FEMALE PORTS. MAKING NETWORK CONTROL CABLES ON SITE IS REQUIRED.
5. CABLING FOR SYSTEM SHALL BE CATEGORY 5E AS PER MANUFACTURER'S RECOMMENDATIONS.
 1. CABLE SHALL BE 4 PAIR, 24 AWG SOLID BARE ANNEALED COPPER CONDUCTORS, ANSI/TIA/EIA-568-B.2 AND ISO/IEC 1180 CATEGORY 5E COMPLIANT.
 2. THE JACKET SHALL BE PRINTED WITH TRU-MARK 1000' TO 0' MARKING SYSTEM, CMP (FT-6) RATED WITH OUTER SHEATH COLOUR FOR EACH LEVEL IN THE SYSTEM TO BE ACCORDING TO ADVICE BY SCHOOL BOARD REPRESENTATIVE.
 3. SHALL BE SUITABLE FOR USE INDOOR, RISER OR PLENUM, AND HORIZONTAL APPLICATIONS.
6. INSTALL THE WORK OF THIS SECTION IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS UNLESS OTHERWISE INDICATED.
7. CALIBRATE ALL SENSOR TIME DELAYS AND SENSITIVITY TO GUARANTEE PROPER DETECTION OF OCCUPANTS AND ENERGY SAVINGS.
 1. ADJUST TIME DELAY SO THAT CONTROLLED AREA REMAINS LIGHTED FOR 5 MINUTES AFTER OCCUPANT LEAVES AREA.
8. INSTALL POWER PACKS IN ACCESSIBLE MAINTENANCE AREAS UNLESS NOTED OTHERWISE. PROVIDE ACCESS DOORS IF POWER PACKS ARE INSTALLED ABOVE DRYWALL CEILINGS.
9. INSTALL SENSORS IN GYM WHERE NOTED ON PLAN AT MID-HEIGHT OF WALL.
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE AND AIM SENSORS IN THE CORRECT LOCATION REQUIRED FOR COMPLETE AND PROPER COVERAGE WITHIN THE RANGE OF COVERAGE AS PER THE MANUFACTURER'S RECOMMENDATIONS. THE LOCATIONS AND QUANTITIES OF SENSORS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE ONLY THE ROOMS WHICH ARE TO BE PROVIDED WITH SENSORS. THE CONTRACTOR SHALL PROVIDE ADDITIONAL SENSORS IF REQUIRED TO PROPERLY AND COMPLETELY COVER THE RESPECTIVE ROOMS.
11. PROVIDE WRITTEN OR COMPUTER-GENERATED DOCUMENTATION ON THE COMMISSIONING OF THE SYSTEM INCLUDING ROOM BY ROOM DESCRIPTION INCLUDING:
 1. SENSOR PARAMETERS, TIME DELAYS, SENSITIVITIES, AND DAYLIGHTING SETPOINTS.
 2. SEQUENCE OF OPERATION, (E.G. MANUAL ON, AUTO OFF, ETC.)
 3. LOAD PARAMETERS (E.G. BLINK WARNING, ETC.)
12. RE-COMMISSIONING - AFTER 30 DAYS FROM OCCUPANCY RE-CALIBRATE ALL SENSOR TIME DELAYS AND SENSITIVITIES TO MEET THE OWNER'S PROJECT REQUIREMENTS. PROVIDE A DETAILED REPORT TO THE ARCHITECT / OWNER OF RE-COMMISSIONING ACTIVITY.
13. INCLUDE THE FOLLOWING SUPPORT SERVICE VISITS TO SITE:
 1. PRE-WIRING VISIT.
 2. ASHRAE FUNCTIONAL TESTING COORDINATION VISIT.
 3. FINAL SYSTEM COMMISSIONING VISIT.
14. CONTACT OWNER REPRESENTATIVES A MINIMUM OF 30 DAYS PRIOR TO COMMISSIONING OF LIGHTING CONTROLS:
 1. DALE WIDEMAN, PROJECT COORDINATOR, DALE_WIDEMAN@WRDSS.CA
15. FACTORY COMMISSIONING
 1. UPON COMPLETION OF THE INSTALLATION, THE SYSTEM SHALL BE COMMISSIONED BY THE MANUFACTURER'S FACTORY AUTHORIZED REPRESENTATIVE WHO WILL VERIFY COMPLETELY FULLY FUNCTIONAL SYSTEM.
 2. THE ELECTRICAL CONTRACTOR SHALL PROVIDE BOTH THE MANUFACTURER AND THE ELECTRICAL ENGINEER WITH TEN WORKING DAYS WRITTEN NOTICE OF THE SYSTEM STARTUP AND ADJUSTMENT DATE.
 3. UPON COMPLETION OF THE SYSTEM COMMISSIONING THE FACTORY-AUTHORIZED TECHNICIAN SHALL PROVIDE THE PROPER TRAINING TO THE OWNER'S PERSONNEL ON THE ADJUSTMENT AND MAINTENANCE OF THE SYSTEM.
 4. FACTORY COMMISSIONING SHALL INCLUDE FUNCTIONAL TESTING AND DOCUMENTATION OF THE CONTROL SYSTEM CONFORMING TO THE FUNCTIONAL TESTING REQUIREMENTS INCLUDED IN THE CURRENT ASHRAE STANDARD. THIS COST SHALL BE INCLUDED IN THE TENDER PRICE.
16. CABLING INSTALLATION
 1. CABLING OF CONTRACTOR IS TO ADHERE TO ALL STANDARDS, REGULATIONS AND DOCUMENTS LISTED FOLLOWING.
 2. ALL PRODUCTS INSTALLED MUST MEET OR EXCEED ALL LOCAL, PROVINCIAL, AND FEDERAL BUILDING, FIRE, HEALTH, SAFETY AND ELECTRICAL CODES.
 3. THE RESPONSIBILITY OF THIS SUB-CONTRACTOR IS TO LOCATE BUT NOT BE LIMITED TO:
 4. SUPPLY AND INSTALLATION OF DATA CABLING TO EVERY DIGITAL LIGHTING CONTROL DEVICE AS PER MANUFACTURER'S RECOMMENDATIONS.
 5. TERMINATION OF DATA CABLING AS PER MANUFACTURER'S RECOMMENDATIONS.
 6. GENERAL INSTALLATION PRACTICES SHALL BE AS FOLLOWS:
 1. SUPPLY AND INSTALL CABLING TO LOCATIONS AS DETAILED ON FLOOR PLAN(S). THE CABLING CONTRACTOR SHALL USE THE CABLING SUPPORT SYSTEM (SUPPLIED BY OTHERS) TO DISTRIBUTE THE CABLES THROUGHOUT THE FACILITY. WHERE THE CABLES LEAVE THE CABLE SUPPORT SYSTEM AND EXTEND TO THE TERMINATION POINT THEY SHALL USE THE CONDUIT PROVIDED OR CABLE MANAGEMENT SYSTEM. ANY HORIZONTAL EXPOSED CABLE MUST BE INSTALLED IN SURFACE RACEWAYS EQUAL TO WIREMOLD SERIES 500/700.
 2. ALL CABLES AND COMPONENTS TO BE INSTALLED AND TERMINATED IN ACCORDANCE WITH CSA, ANSI/EIA/TIA-568 AND ITS AMENDMENTS AS WELL AS UL GUIDELINES. PARTICULAR ATTENTION MUST BE GIVEN TO MAINTAINING THE INTEGRITY OF THE PAIR TWISTS, BEND RADIUS AND ENSURING PROPER DISTANCE IS KEPT FROM FLUORESCENT LIGHT FIXTURES, ELECTRICAL CABLES, OR ANY OTHER SOURCE OF EMI.
 3. THE MAXIMUM HORIZONTAL RUN LENGTH IS NOT TO EXCEED 457 M (1,500').
 4. AVOID SCRAPING, DENTING, OR OTHERWISE DAMAGING CABLES, BEFORE, DURING OR AFTER INSTALLATION. THE CABLING CONTRACTOR WITHOUT ANY ADDITIONAL COMPENSATION SHALL REPLACE DAMAGED CABLES.
 5. ENSURE THAT ALL CABLE LENGTHS ARE SUFFICIENT TO ALLOW FOR SLACK, VERTICAL RUNS, WASTAGE, CONNECTORIZATION AND FUTURE MOVES.
 6. BUSH, BEAM AND REMOVE ANY SHARP PROJECTIONS ON ALL CONDUITS PRIOR TO INSTALLATION OF COMMUNICATIONS CABLES.
 7. WHEN TERMINATING COPPER CABLES REMOVE ONLY ENOUGH CABLE JACKET TO PERFORM TERMINATION, UNTWIST PAIRS A MAXIMUM OF 13 MM (1/2") FOR, ENHANCED CATEGORY 5.

[illegible]

No.	Issue	Date
1	Issued for Tender & Permit	Mar 4, 2023

project
WRDSB GRAND RIVER COLLEGIATE INSTITUTE
#24-7692-RFT - ASBESTOS REMOVAL FOR FAMILY STUDIES RENOVATION

WATERLOO REGION DISTRICT SCHOOL BOARD
175 INDIAN RD. KITCHENER, ON N2B 2S7

ELECTRICAL SPECIFICATIONS

drawing scale

AS NOTED

ward99 project numbe

23011 - WRDSB GRAND RIVER FAMILY STUDIES

E4.1