HESS STREET ELEMENTARY SCHOOL
RENOVATION PROJECT

107 Hess STREET NORTH, HAMILTON, ON L8R 2T1

NGA ARCHITECTS

HAMILTON-WENTWORTH DISTRICT SCHOOL BOARD

ISSUED FOR TENDER
MARCH 2024

DRAWING LIST

ARCHITECTURAL

	COVER PAGE
A001	DRAWING LIST, GENERAL NOTES, STAGING AREA SITE PLAN AND DETAILS
A002	OVERALL FLOOR PLANS
A100	PARTIAL GROUND FLOOR PLANS - GENERAL - DEMOLITION & NEW
A101	PARTIAL GROUND FLOOR PLANS - GENERAL - DEMOLITION & NEW
A102	PARTIAL SECOND FLOOR PLANS - GENERAL - DEMOLITION & NEW
A200	PARTIAL GROUND FLOOR PLANS - REFLECTED CEILING PLAN - DEMOLITION & NEW
A201	PARTIAL GROUND FLOOR PLANS - REFLECTED CEILING PLAN - DEMOLITION & NEW
A202	PARTIAL SECOND FLOOR PLANS - REFLECTED CEILING PLAN - DEMOLITION & NEW
A300A	PARTIAL GROUND FLOOR PLANS - FLOOR FINISH PLAN - DEMOLITION & NEW
A300B	GYMNASIUM 105 - GAME LINES - NEW
A301	PARTIAL GROUND FLOOR PLANS - FLOOR FINISH PLAN - DEMOLITION & NEW
A302	PARTIAL SECOND FLOOR PLANS - FLOOR FINISH PLAN - DEMOLITION & NEW
A400	INTERIOR ELEVATIONS
A401	INTERIOR ELEVATIONS
A402	INTERIOR ELEVATIONS
A500	SCHEDULES

STRUCTURAL

*REFER TO MECHANICAL DRAWING PACKAGE FOR THE FULL STRUCTURAL DRAWING LIST

MECHANICAL

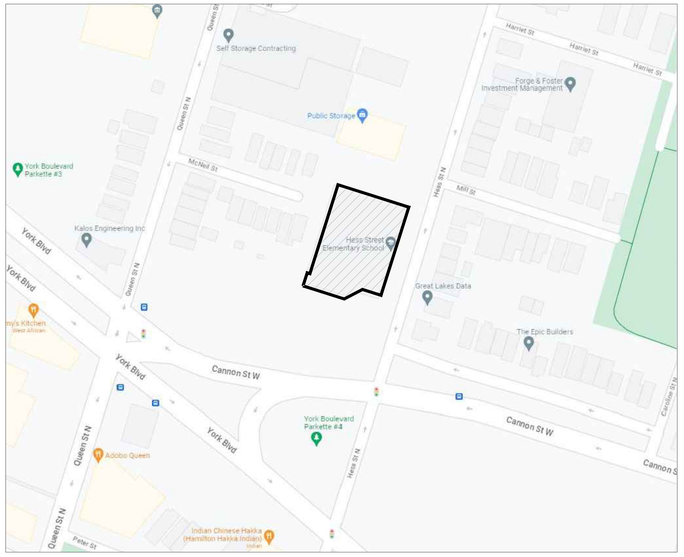
*REFER TO MECHANICAL DRAWING PACKAGE FOR THE FULL MECHANICAL DRAWING LIST

ELECTRICAL

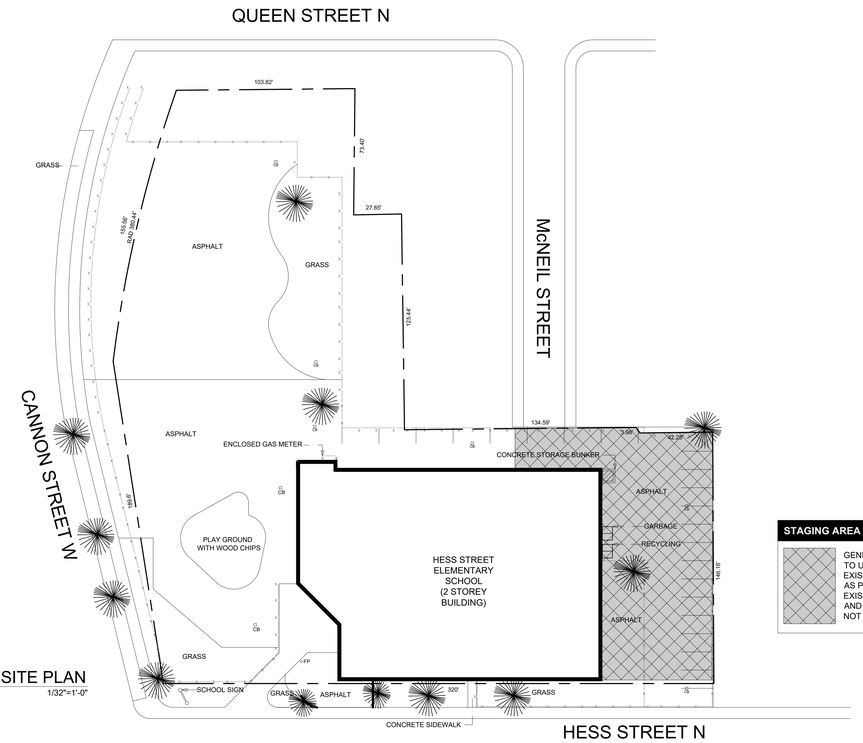
*REFER TO ELECTRICAL DRAWING PACKAGE FOR THE FULL ELECTRICAL DRAWING LIST

GENERAL NOTES & CONIDITIONS

1. GENERAL CONTRACTOR IS RESPONSIBLE TO CHECK AND VERIFY ALL DIMENSIONS ON SITE.
2. CHECK ALL MATERIALS USED IN CONSTRUCTION FOR DEFECTS. ONLY NEW, UNBLEMISHED MATERIALS TO BE USED.
3. THE WORK SHOWN ON THE DRAWINGS AND SPECIFICATIONS MAY OR MAY NOT BE ALL THE WORK REQUIRED. DO ALL DEMOLITION, MAKE GOOD ALL FINISHES AND EXECUTE ALL NECESSARY WORK INCLUDING INCIDENTALS TO MAKE A COMPLETE JOB OF THE ALTERATIONS.
4. WHERE NEW WORK, INCLUDING ALL ELECTRICAL AND MECHANICAL WORK, CONNECTS WITH EXISTING AND WHERE EXISTING WORK IS ALTERED, ALL NECESSARY CUTTING AND FITTING REQUIRED TO MAKE SATISFACTORY CONNECTIONS WITH THE EXISTING WORK SHALL BE PERFORMED UNDER THIS CONTRACT SO AS TO LEAVE THE ENTIRE WORK IN A FINISHED AND WORKMANLIKE CONDITION.
5. WHERE EXISTING WORK IS TO BE MADE GOOD THE NEW WORK SHALL MATCH EXACTLY THE OLD WORK IN MATERIAL, FORM, CONSTRUCTION AND FINISH UNLESS OTHERWISE NOTED OR SPECIFIED.
6. WORKING HOURS: CONFIRM WORK SCHEDULE WITH THE BOARD PRIOR TO THE COMMENCEMENT OF THE WORK. CONTRACT TO INCLUDE WORK TO BE PERFORMED AFTER SCHOOL HOURS AND ON WEEKENDS.
7. MAKE GOOD ALL SURFACES DISTURBED BY THE EXECUTION OF THIS CONTRACT WHETHER SUCH SURFACES ARE LOCATED WITHIN THE AREA OF WORK OR NOT. MAKE GOOD TO NEW CONDITION MATCHING SURROUNDING SURFACES.
8. GENERAL CONTRACTOR SHALL CORRELATE AND COORDINATE HIS WORK WITH THAT OF OTHER CONTRACTORS HAVING SEPARATE CONTRACTS WITH THE OWNER IN ORDER TO COMPLETE THE WORK AS EXPEDITIOUSLY AS POSSIBLE.
9. REFER TO DESIGNATED SUBSTANCE REPORT FOR THE EXTENT AND LEVEL OF ABATEMENT REQUIRED TO PERFORM CONTRACT.
10. SUBMIT ONE (1) ELECTRONIC COPY OF BUILT DRAWINGS (IN AUTOCAD AND PDF FORMATS) PRIOR TO SUBSTANTIAL COMPLETION OR WORK.



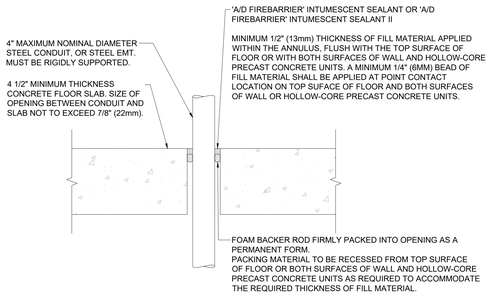
1 A001 KEY PLAN
SCALE: N.T.S



2 A001 STAGING AREA SITE PLAN
SCALE: 1/32"=1'-0"

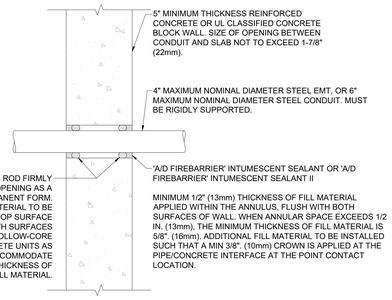
STAGING AREA LEGEND

GENERAL CONTRACTOR TO USE THE HATCHED EXIST. HEAVY DUTY ASPHALT AREA AS PROJECT'S STAGING AREA. EXIST. GARBAGE REMOVAL AREA AND CONCRETE STORAGE BUNKER NOT TO BE OBSTRUCTED AT ANY TIME.



TYPICAL DETAIL FOR THROUGH- PENETRATION FIRESTOP SYSTEM
cUL SYSTEM C-AJ-1557 Configuration C

3 A001 2 HOUR VERTICAL FIRESTOPPING DETAIL
SCALE: N.T.S



TYPICAL DETAIL FOR THROUGH- PENETRATION FIRESTOP SYSTEM
cUL SYSTEM W-J-1220

4 A001 1 HOUR HORIZONTAL FIRESTOPPING DETAIL
SCALE: N.T.S

NOTE:

A. GENERAL CONTRACTOR IS RESPONSIBLE FOR X-RAY STUDY OF EXISTING CONCRETE SLAB, WALL & BEAM BEFORE CUTTING / CORING TO ENSURE STRUCTURAL INTEGRITY OF THE FLOOR SLAB, WALLS, STRUCTURAL FRAMING AND NO EXISTING UNDERGROUND SERVICES TO BE AFFECTED, TYP.

B. GENERAL CONTRACTOR IS RESPONSIBLE TO CUT, REPAIR, PATCH, FIRESTOP AND INFILL EXISTING WALL AND FLOOR TO ACCOMMODATE NEW ELECTRICAL CONDUIT AND MECHANICAL PIPE OPENING,TYP.

C. GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ELECTRICAL, SECURITY, MECHANICAL CONTRACTOR FOR LOCATION AND NUMBER OF THE OPENINGS FOR THE WALL AND FLOOR PENETRATION ,TYP.

NO.	DESCRIPTION	DATE
5	ISSUED FOR TENDER	2024.MAR.
4	ISSUED FOR TENDER	2024.02.20
3	ISSUED FOR 90% CLIENT REVIEW	2024.02.15
2	ISSUED FOR BUILDING PERMIT	2024.02.02
1	ISSUED FOR CLIENT REVIEW	2023.11.20

REVISIONS

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20 Education Court, Hamilton, Ontario
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RENOVATION PROJECT
107 Hess Street North
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The contractor shall check and verify all dimensions, report all errors and inconsistencies to the architect and the design professional whose seal is affixed to this drawing. Do not scale the drawings.

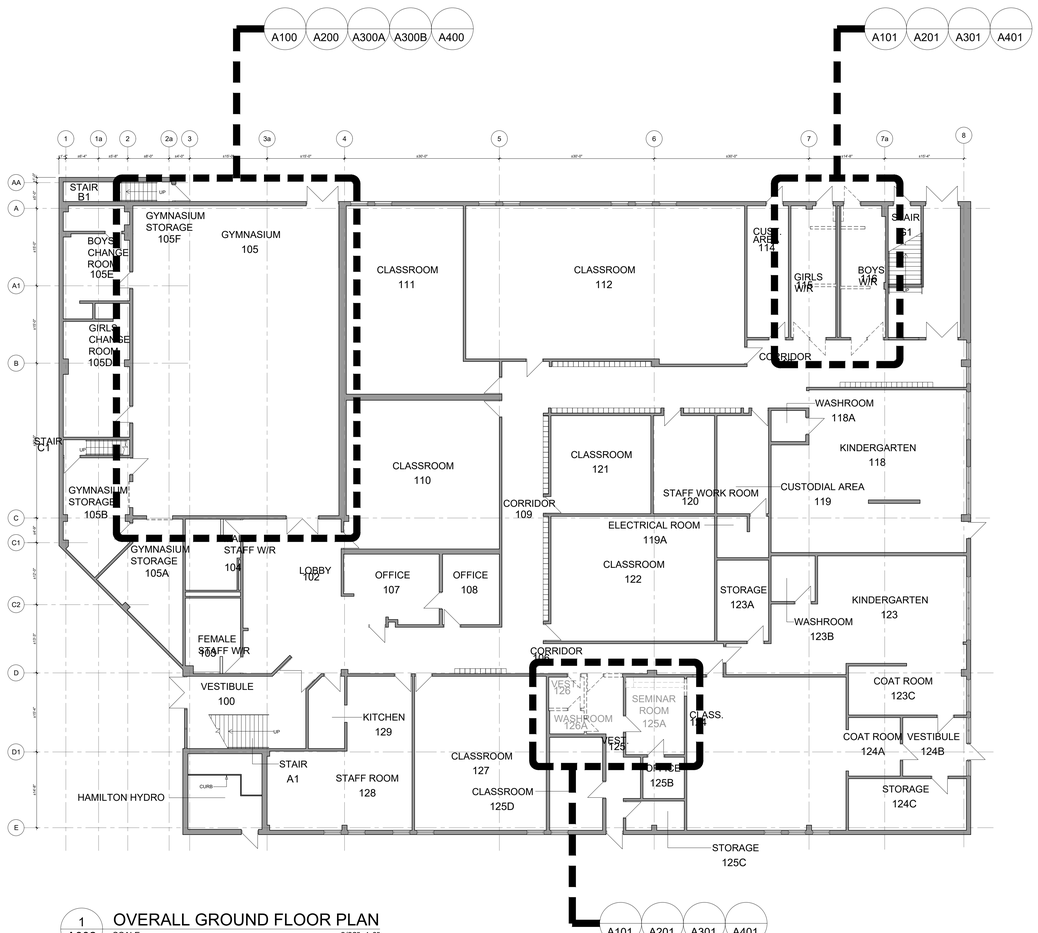
This drawing shall not be used for construction purposes unless signed and sealed by the design professional whose seal is affixed to this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION: DATE

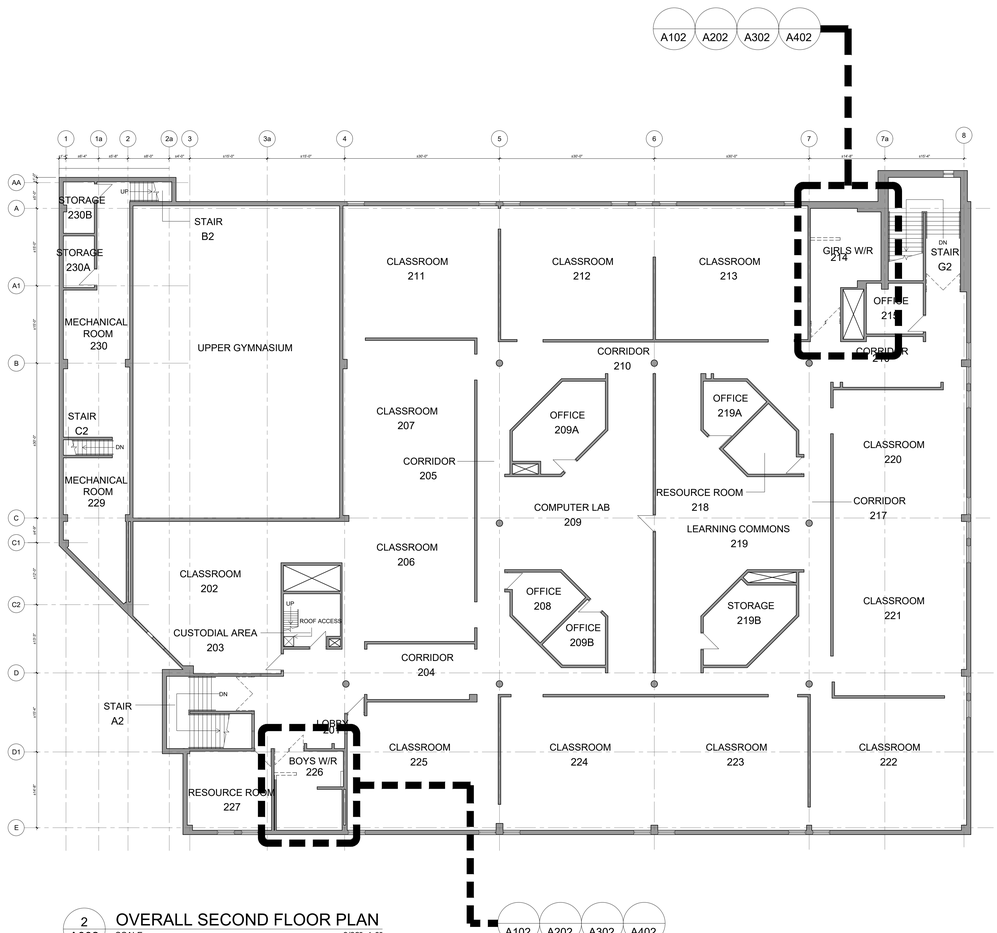
STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

SHEET TITLE
DRAWING LIST, GENERAL NOTES, STAGING AREA SITE PLAN AND DETAILS

SHEET NO. A001
DRAWN BY MM/IP
CHECKED RN
PROJECT NO. 2320769
SCALE AS NOTED



1 A002 OVERALL GROUND FLOOR PLAN
SCALE: 3/32"=1-0"



2 A002 OVERALL SECOND FLOOR PLAN
SCALE: 3/32"=1-0"

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5	ISSUED FOR TENDER	2024.MAR.
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1	ISSUED FOR CLIENT REVIEW	2023.11.20

REVISIONS

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The contractor shall check and verify all dimensions and report of errors and omissions to the architect and the design professional whose seal is affixed to this drawing. Do not scale drawing.

This drawing shall not be used for construction purposes until dated for construction by the design professional whose seal is affixed to this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION DATE

PROJECT NORTH
TRUE NORTH
GRID NORTH

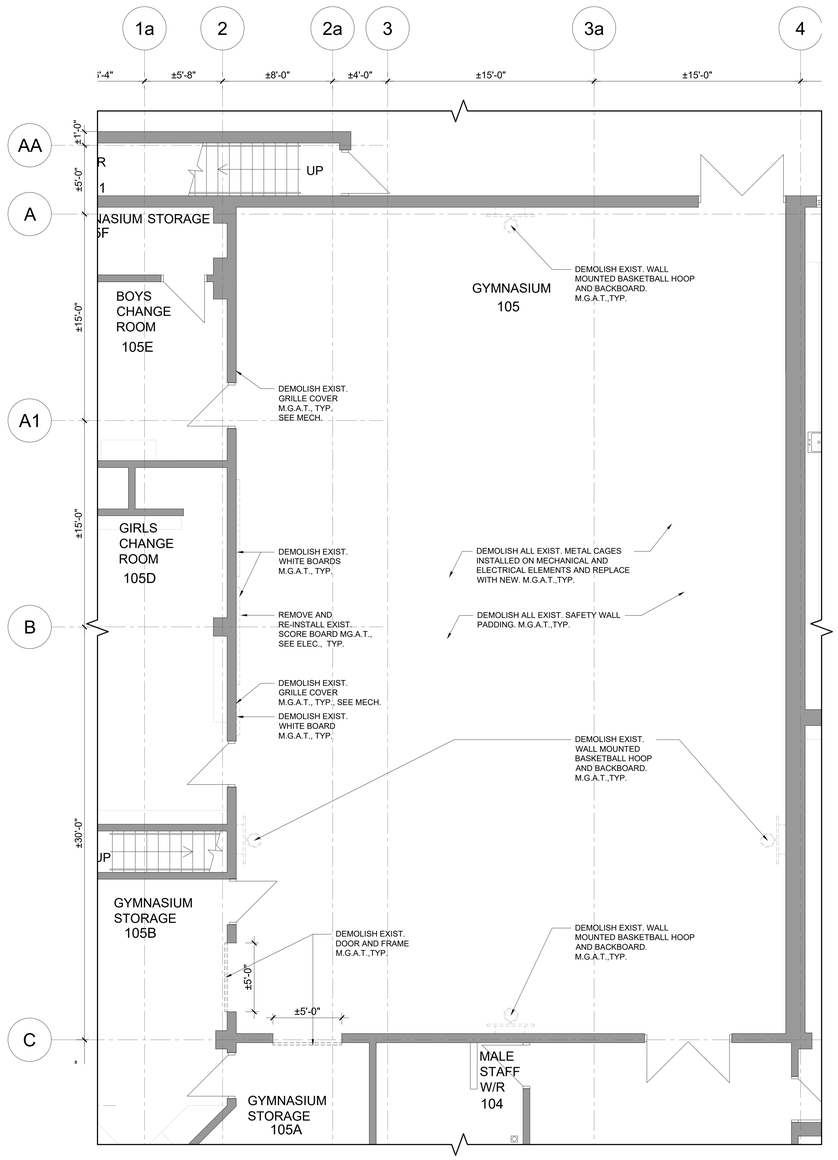
STRUCTURAL CONSULTANT
SALAS O'BRIEN

MECHANICAL CONSULTANT
CKE

ELECTRICAL CONSULTANT
CKE

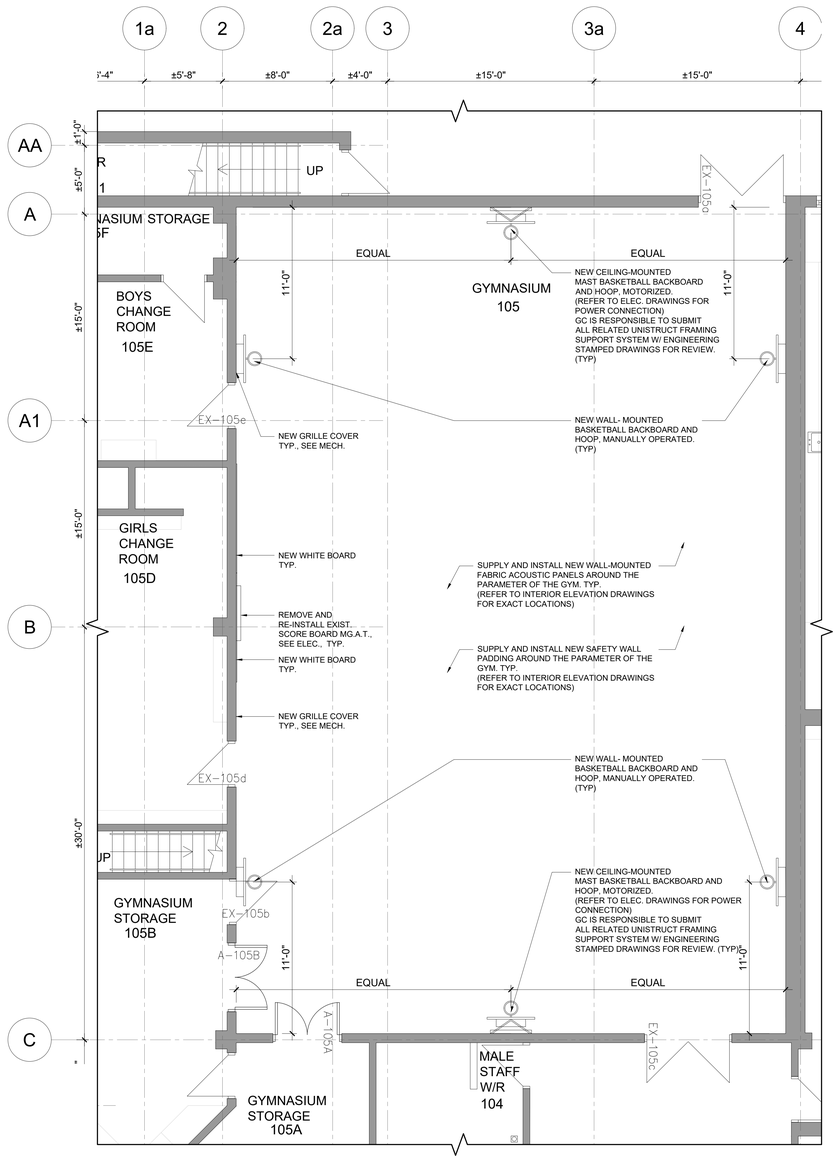
SHEET TITLE
OVERALL FLOOR PLANS

SHEET NO.	DRAWN BY	CHECKED
A002	MM/IP	RN
	PROJECT NO.	2320769
	SCALE	AS NOTED



1 / A100 PARTIAL GROUND FLOOR PLAN - DEMOLITION

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



2 / A100 PARTIAL GROUND FLOOR PLAN - NEW

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

GENERAL DEMOLITION NOTES:

1. ALL EXISTING MASONRY WALL DISTURBED AND DAMAGED DURING DEMOLITION TO BE REPAIRED, PATCHED & CEMENTED, READY FOR FINISH.
2. THIS DRAWING TO BE READ IN CONJUNCTION W/ STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISAGREEMENTS OR CONFLICTS BETWEEN CONSULTANT'S DRAWINGS TO THE ARCHITECT.
3. CUT OUT SCRATCHES, CRACKS AND ABRASIONS IN WALL SURFACES AND ADJOINING TRIMS AS REQUIRED AND FILL WITH AN APPROVED NON-SHRINKPATCHING COMPOUND FLUSH WITH ADJOINING SURFACE. WHEN DRY, SAND THE PATCH SMOOTH AND SEAL BEFORE THE APPLICATION OF THE PRIME COAT.
4. CONTRACTOR IS TO PROVIDE TEMPORARY PLASTIC COVER SHEETS TO EXISTING GRILLES, RADIATORS AND EQUIPMENTS PRIOR TO THE DEMOLITION WORKS.
5. BOARD IS RESPONSIBLE TO MOVE AND RELOCATE ALL EXISTING LOOSE FURNITURE INCLUDING THE ONES NOT SHOWN ON THE DRAWINGS BUT PRESENT IN WORK AREAS.
6. CONTRACTOR TO CHECK ALL MATERIALS USED IN CONSTRUCTION FOR DEFECTS. ONLY NEW, UNBLEMISHED MATERIALS ARE TO BE USED.
7. WHERE NEW WORK, INCLUDING ALL ELECTRICAL & MECHANICAL WORK CONNECTS WITH EXISTING & WHERE EXISTING WORK IS ALTERED, ALL NECESSARY CUTTING & FITTING REQUIRED TO MAKE SATISFACTORY CONNECTIONS WITH THE EXISTING WORK SHALL BE PERFORMED UNDER THIS CONTRACT, SO AS TO LEAVE THE ENTIRE WORK IN FINISHED AND WORKMANLIKE CONDITION.
8. ALL DIMENSIONS SHOWN ARE APPROXIMATE. DIMENSIONS MUST BE SITE VERIFIED BY CONTRACTOR.
9. GENERAL CONTRACTOR IS TO PROVIDE ALL NECESSARY FRAMING AND EQUIPMENT TO SUPPORT THE CUTTING OF OPENINGS IN A LOAD SUPPORTING WALL.
10. GENERAL CONTRACTOR IS RESPONSIBLE TO CO-ORDINATE W/ MECH & ELEC SUB-CONTRACTORS TO CONFIRM QUANTITY& LOCATION FOR THE DEMO OF ALL, INCLUDING BUT NOT LIMITED TO EXISTING DUCTWORK, PIPING, CONDUIT, ETC.
11. GENERAL CONTRACTOR TO REPAIR, PATCH, FIRESTOP & INFILL EXISTING WALLS & PARTITION OPENINGS FROM THE DEMO OF EXISTING MECH & ELEC SYSTEM (TYP.)(M.G.A.T.)
12. ANY CONFLICTS, OMISSIONS, DISCREPANCIES AND DISAGREEMENT IN ARCHITECTURAL DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED TO THE ARCHITECT PRIOR TO ANY PROCEEDING FOR ITS CLARIFICATIONS AND INSTRUCTIONS.
13. GC WILL BE RESPONSIBLE TO CONTACT THE ARCHITECT FOR REVIEW AND APPROVAL OF SETTING OUT LINES (CHALK LINES) PRIOR TO STUD AND/OR PARTITION CONSTRUCTION.
14. GC AND ALL SUB-CONTRACTOR SHALL VERIFY ALL JOB SITE DIMENSIONS WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH WORK.
15. GC IS TO PROVIDE ALL NECESSARY FRAMING AND EQUIPMENT TO SUPPORT THE CUTTING OF OPENINGS IN A LOAD SUPPORTING WALL.
16. UPON COMPLETION, CLEAN THE ENTIRE AREA OF DEMOLITION TO A TIDY UNIFORM CONDITION REMOVING ALL DEBRIS, DUST, PARTITIONS AND ASSOCIATED MATERIALS USED DURING THE DEMOLITION. CLEAN ALL AREAS IMPACTED BY THE DEMOLITION, INCLUDING BUT NOT LIMITED TO ADJACENT OCCUPIED AREAS AND AREAS NOT WITHIN THE SCOPE OF WORK.

TYPICAL LEGEND:

TYP.	TYPICAL
EXIST.	EXISTING
N/C	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS
AFF	ABOVE FINISHED FLOOR

GENERAL DEMOLITION LEGEND:

- EXIST. WALL TO REMAIN (TYP.)
- EXIST. WALL TO BE DEMOLISHED (TYP.)
- EXIST. DOOR AND FRAME TO BE REMOVED (M.G.A.T.) (TYP.)
- GC IS RESPONSIBLE TO: COORDINATE WITH MECHANICAL CONTRACTOR AND CUT EXISTING CONCRETE BLOCK WALL TO ±5'-0" AFF. TO ACCOMMODATE ALL PLUMBING REPLACEMENT AND CONNECTION WORK. PROVIDE ALL NECESSARY SHORING AND TEMPORARY SUPPORT TO THE DEMOLISHED CONCRETE BLOCK WALL. INFILL OPENING WITH NEW CONCRETE BLOCK - SIZE AND JOINT PATTERN TO MATCH EXIST. PAINT FINISH (SEE MECH.)(M.G.A.T.)(TYP.)
- EXIST. PLUMBING FIXTURES (SINK, TOILET, URINAL, ETC) TO BE DEMOLISHED. CUT AND CAP ALL RELATED PLUMBING AS NECESSARY. (SEE MECH.)(M.G.A.T.)(TYP.)
- EXIST. BRADLEY SINK TO BE REMOVED, RELOCATED & REINSTALLED. CUT AND CAP ALL RELATED PLUMBING AS NECESSARY. (SEE MECH.)(M.G.A.T.)(TYP.)
- PTD ND SND / TPD SD / GB / MR1 MR2 — ALL EXIST. WASHROOM ACCESSORIES TO BE DEMOLISHED. GC IS RESPONSIBLE TO KEEP THE REMOVED EXIST. ACCESSORIES ON SITE UNIT NEW ONES ARE DELIVERED. (M.G.A.T.)(TYP.)
- 1 HOUR RATED CONSTRUCTION HOARDING PARTITION ULC W407 5/8" SHEETROCK FIRECODE "C" PANELS TO EACH SIDE OF 3 5/8"-25 GA. STEEL STUDS. EXTEND TO U/S OF EXISTING CEILING.PROVIDE SMOKE AND FIRE SEALS AT JUNCTIONS.(TYP)PROVIDE TEMPORARY CONSTRUCTION DOORS WITH LOCKS. PATCH AND REPAIR EXISTING WALL, FLOOR AND CEILING AS MAY BE REQUIRED AFTER DISMANTLING HOARDING. (M.G.A.T.)(TYP.)

GENERAL NEW NOTES:

1. ALL DIMENSIONS TO BE SITE MEASURED AND VERIFIED.
2. ALL PARTITIONS AND CONC. BLK WALLS EXTEND TO U/S OF SLAB UNLESS NOTED OTHERWISE.
3. SUPPLY & INSTALL METRIC DIMENSION CONCRETE BLOCKS. ANY LOCATIONS WHERE CONCRETE BLOCKS ARE TO INFILL AN OPENING OR EXTEND AN EXISTING WALL, CONCRETE BLOCK DIMENSIONS AND PATTERN TO MATCH EXISTING (IMPERIAL OR METRIC AS APPLICABLE).
4. ALL CONCRETE BLOCK WALL, EXPOSED CORNERS AND EDGES TO BE FINISHED WITH BULLNOSE UNIT, TYP.
5. FIRE STOPPING SHALL BE PROVIDED ON TOP OF ALL WALLS FORMING FIRE SEPARATIONS AND AROUND ALL PIPE, CONDUIT AND DUCT PENETRATIONS AT FIRE SEPARATIONS.
6. GC IS RESPONSIBLE TO DEMOLISH EXISTING CONCRETE BLOCK WALL AND PROVIDE SHORING TO ACCOMMODATE INSTALLATION OF NEW WASHROOM FIXTURES. INFILL OPENING WITH SIMILAR SIZE MASONRY UNIT. M.G.A.T. TYP.

GENERAL NEW LEGEND:

- EXIST. WALL TO REMAIN (TYP.)
- NEW WALL OR PARTITION (TYP.) (REFER TO PARTITION TYPE LEGEND)
- EXIST. DOOR AND FRAME TO REMAIN (TYP.)
- NEW DOOR AND FRAME. (TYP.) (REFER TO DOOR SCHEDULE)
- NEW PUSH BUTTON (TYP.) (SEE ELEC.)
- FD NEW FLOOR DRAIN (TYP.) (SEE MECH.)
- EXIST. RELOCATED BRADLEY SINK, IF NOT OTHERWISE NOTED (SEE MECH.) (SEE ELEC.) (TYP.)
- NEW PLUMBING FIXTURES (SEE MECH.)(TYP.)

WASHROOM ACCESSORIES LEGEND:

EB	EMERGENCY CALL BUTTON/PULL STRING (SEE ELEC.)
CH	COAT HOOK
FDGB	FOLD-DOWN GRAB BAR
GB	STRAIGHT GRAB BAR
GBL	L-SHAPED GRAB BAR
HD	HAND DRYER (SEE ELEC.)
MR1	MIRROR (TILTED)
MR2	MIRROR (FLAT)
MS	METAL SHELF
PTD	PAPER TOWEL DISPENSER
SD	SOAP DISPENSER
SND	SANITARY NAPKIN DISPOSAL
TPD	TOILET PAPER DISPENSER

PARTITION TYPES LEGEND

TAG	GRAPHIC		DESCRIPTION
P1		V.I.F.	**CMU PARTITION** NEW CONCRETE MASONRY UNIT INFILL TO MATCH EXIST.TO BE FINISHED TO MATCH EXISTING SIZE AND PATTERN. M.G.A.T.,TYP.
P2		6 in.	**CMU PARTITION** CONCRETE MASONRY UNIT EXTEND 6'-4" AFF, CONCRETE MASONRY CAPS, TYP.
P3		6 in.	**CMU PARTITION** CONCRETE MASONRY UNIT, EXTEND TO 6" ABOVE CEILING OR AS OTHERWISE NOTED ON THE SECTIONS.

NEW PARTITION NOTES

ALL PARTITIONS EXTEND TO UNDERSIDE OF STRUCTURAL SLAB OR ROOF DECKING UNLESS OTHERWISE NOTED.

ALL FIRE SEPARATIONS, EXTERIOR WALL FIRE RESISTANCE RATINGS AND FIREWALL RATINGS SHALL CONFORM TO SUPPLEMENTARY STANDARDS SB-2 TO THE LATEST OBC, WITH RESPECT TO EQUIVALENT THICKNESS AND TYPE OF CONCRETE.

SUPPLY & INSTALL METRIC DIMENSION MASONRY UNIT. ANY LOCATIONS WHERE MASONRY UNITS ARE TO INFILL AN OPENING AT AN EXISTING WALL, MASONRY UNIT DIMENSIONS TO MATCH EXISTING (IMPERIAL OR METRIC AS APPLICABLE).

ALL CORNERS TO EXTERIOR AND INTERIOR MASONRY WALL TO BE ROUNDED BULLNOSE, TYP

GENERAL CONTRACTOR IS RESPONSIBLE TO SUPPLY AND INSTALL ALL REQUIRED UNISTRUT FRAMING, BLOCKING, AND REINFORCEMENT TO SUPPORT WALL HUNG TOILETS, LAVATORIES, GRAB BARS, CEILING HUNG TOILET PARTITIONS, WALL STOPS, NEW MOTORIZE GYM CURTAIN DIVIDER, NEW MOTORIZE GYM STAGE DRAPING CURTAIN, BASKET BALL HOOP, ETC. GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE LOCATIONS WITH SUB-CONTRACTORS.

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ISSUED FOR CONSTRUCTION DATE

STRUCTURAL CONSULTANT
SALAS O'BRIEN

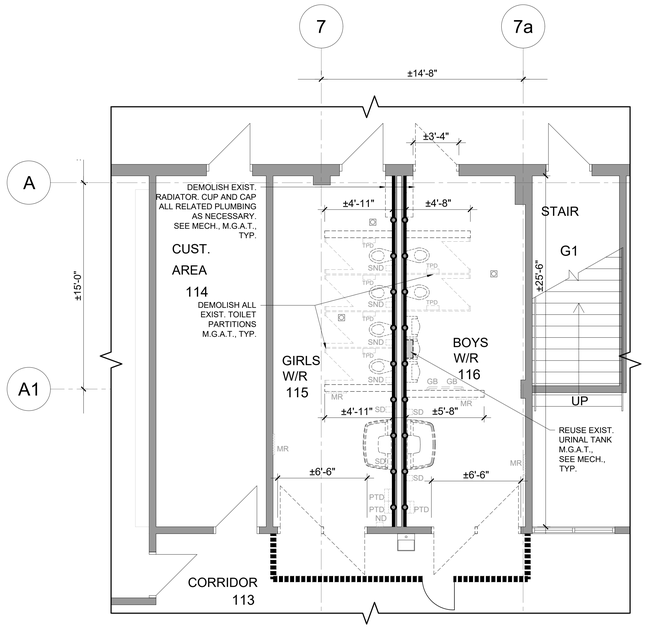
MECHANICAL CONSULTANT
CKE

ELECTRICAL CONSULTANT
CKE

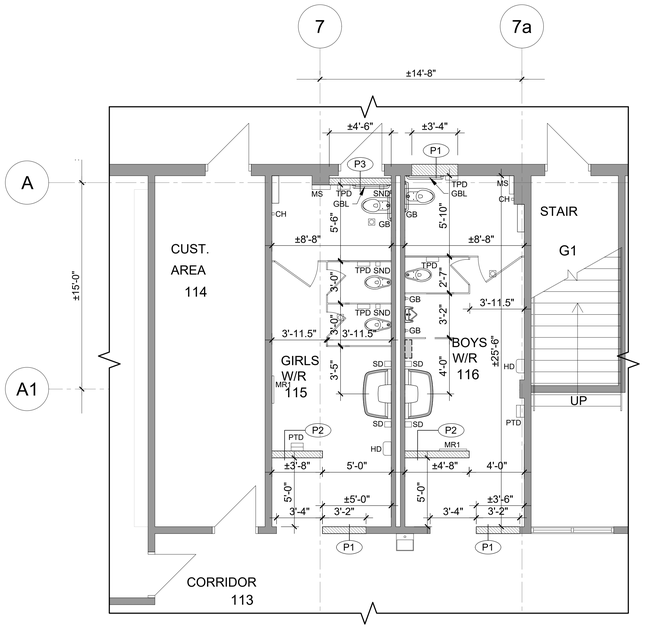
PROJECT NORTH

SHEET TITLE
PARTIAL GROUND FLOOR PLANS
- GENERAL
- DEMOLITION & NEW

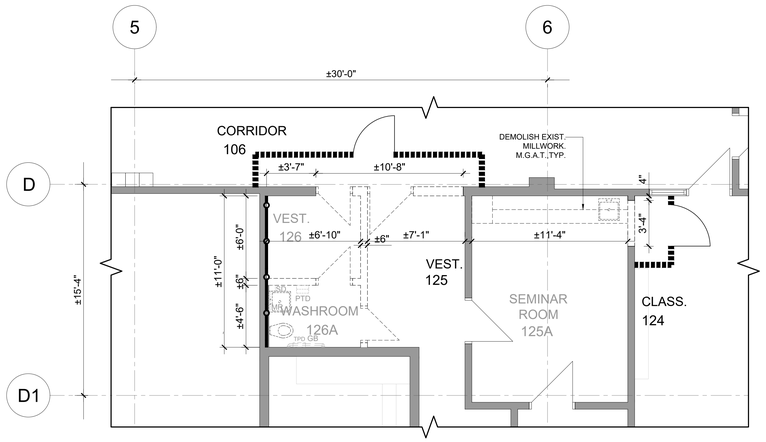
SHEET NO.	DRAWN BY	CHECKED
A100	MM/IP	RN
	PROJECT NO.	2320769
	SCALE	AS NOTED



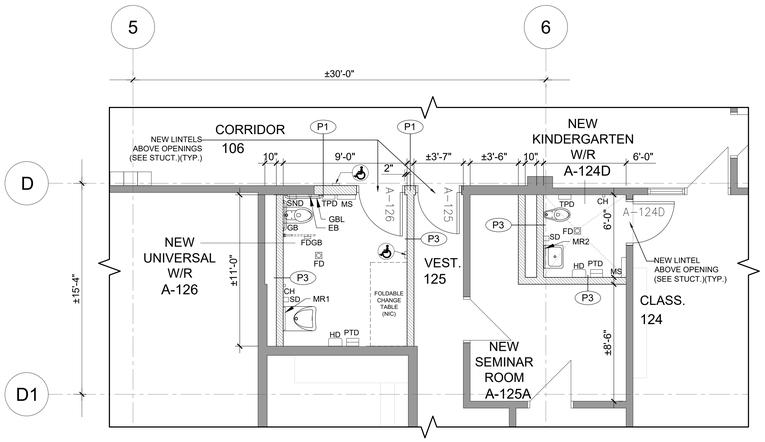
1 A101 PARTIAL GROUND FLOOR PLAN - DEMOLITION
SCALE: 1/4"=1'-0"



2 A101 PARTIAL GROUND FLOOR PLAN - NEW
SCALE: 1/4"=1'-0"



3 A102 PARTIAL GROUND FLOOR PLAN - DEMOLITION
SCALE: 1/4"=1'-0"



4 A102 PARTIAL GROUND FLOOR PLAN - NEW
SCALE: 1/4"=1'-0"

GENERAL DEMOLITION NOTES:

1. ALL EXISTING MASONRY WALL DISTURBED AND DAMAGED DURING DEMOLITION TO BE REPAIRED, PATCHED & CEMENTED, READY FOR FINISH.
2. THIS DRAWING TO BE READ IN CONJUNCTION W/ STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISAGREEMENTS OR CONFLICTS BETWEEN CONSULTANT'S DRAWINGS TO THE ARCHITECT.
3. CUT OUT SCRATCHES, CRACKS AND ABRASIONS IN WALL SURFACES AND ADJOINING TRIMS AS REQUIRED AND FILL WITH AN APPROVED NON-SHRINKPATCHING COMPOUND FLUSH WITH ADJOINING SURFACE. WHEN DRY, SAND THE PATCH SMOOTH AND SEAL BEFORE THE APPLICATION OF THE PRIME COAT.
4. CONTRACTOR IS TO PROVIDE TEMPORARY PLASTIC COVER SHEETS TO EXISTING GRILLES, RADIATORS AND EQUIPMENTS PRIOR TO THE DEMOLITION WORKS.
5. BOARD IS RESPONSIBLE TO MOVE AND RELOCATE ALL EXISTING LOOSE FURNITURE INCLUDING THE ONES NOT SHOWN ON THE DRAWINGS BUT PRESENT IN WORK AREAS.
6. CONTRACTOR TO CHECK ALL MATERIALS USED IN CONSTRUCTION FOR DEFECTS. ONLY NEW, UNBLEMISHED MATERIALS ARE TO BE USED.
7. WHERE NEW WORK, INCLUDING ALL ELECTRICAL & MECHANICAL WORK CONNECTS WITH EXISTING & WHERE EXISTING WORK IS ALTERED, ALL NECESSARY CUTTING & FITTING REQUIRED TO MAKE SATISFACTORY CONNECTIONS WITH THE EXISTING WORK SHALL BE PERFORMED UNDER THIS CONTRACT, SO AS TO LEAVE THE ENTIRE WORK IN FINISHED AND WORKMANLIKE CONDITION.
8. ALL DIMENSIONS SHOWN ARE APPROXIMATE. DIMENSIONS MUST BE SITE VERIFIED BY CONTRACTOR.
9. GENERAL CONTRACTOR IS TO PROVIDE ALL NECESSARY FRAMING AND EQUIPMENT TO SUPPORT THE CUTTING OF OPENINGS IN A LOAD SUPPORTING WALL.
10. GENERAL CONTRACTOR IS RESPONSIBLE TO CO-ORDINATE W/ MECH & ELEC SUB-CONTRACTORS TO CONFIRM QUANTITY& LOCATION FOR THE DEMO OF ALL; INCLUDING BUT NOT LIMITED TO EXISTING DUCTWORK, PIPING, CONDUIT, ETC.
11. GENERAL CONTRACTOR TO REPAIR, PATCH, FIRESTOP & INFILL EXISTING WALLS & PARTITION OPENINGS FROM THE DEMO OF EXISTING MECH & ELEC SYSTEM (TYP.)(M.G.A.T.)
12. ANY CONFLICTS, OMISSIONS, DISCREPANCIES AND DISAGREEMENT IN ARCHITECTURAL DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED TO THE ARCHITECT PRIOR TO ANY PROCEEDING FOR ITS CLARIFICATIONS AND INSTRUCTIONS.
13. GC WILL BE RESPONSIBLE TO CONTACT THE ARCHITECT FOR REVIEW AND APPROVAL OF SETTING OUT LINES (CHALK LINES) PRIOR TO STUD AND/OR PARTITION CONSTRUCTION.
14. GC AND ALL SUB-CONTRACTOR SHALL VERIFY ALL JOB SITE DIMENSIONS WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH WORK.
15. GC IS TO PROVIDE ALL NECESSARY FRAMING AND EQUIPMENT TO SUPPORT THE CUTTING OF OPENINGS IN A LOAD SUPPORTING WALL.
16. UPON COMPLETION, CLEAN THE ENTIRE AREA OF DEMOLITION TO A TIDY UNIFORM CONDITION REMOVING ALL DEBRIS, DUST, PARTITIONS AND ASSOCIATED MATERIALS USED DURING THE DEMOLITION. CLEAN ALL AREAS IMPACTED BY THE DEMOLITION, INCLUDING BUT NOT LIMITED TO ADJACENT OCCUPIED AREAS AND AREAS NOT WITHIN THE SCOPE OF WORK.

TYPICAL LEGEND:

TYP.	TYPICAL
EXIST.	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS
AFF	ABOVE FINISHED FLOOR

GENERAL DEMOLITION LEGEND:

- EXIST. WALL TO REMAIN (TYP.)
- EXIST. WALL TO BE DEMOLISHED (TYP.)
- EXIST. DOOR AND FRAME TO BE REMOVED (M.G.A.T.) (TYP.)
- GC IS RESPONSIBLE TO: COORDINATE WITH MECHANICAL CONTRACTOR AND CUT EXISTING CONCRETE BLOCK WALL TO ±5'-0" AFF. TO ACCOMMODATE ALL PLUMBING REPLACEMENT AND CONNECTION WORK. PROVIDE ALL NECESSARY SHORING AND TEMPORARY SUPPORT TO THE DEMOLISHED CONCRETE BLOCK WALL. INFILL OPENING WITH NEW CONCRETE BLOCK - SIZE AND JOINT PATTERN TO MATCH EXIST. PAINT FINISH (SEE MECH.)(M.G.A.T.)(TYP.)
- EXIST. PLUMBING FIXTURES (SINK, TOILET, URINAL, ETC) TO BE DEMOLISHED. CUT AND CAP ALL RELATED PLUMBING AS NECESSARY. (SEE MECH.)(M.G.A.T.)(TYP.)
- EXIST. BRADLEY SINK TO BE REMOVED, RELOCATED & REINSTALLED. CUT AND CAP ALL RELATED PLUMBING AS NECESSARY. (SEE MECH.)(M.G.A.T.)(TYP.)
- PTD ND SND — ALL EXIST. WASHROOM ACCESSORIES TO BE DEMOLISHED.
- TPD SD HD GB MR — GC IS RESPONSIBLE TO KEEP THE REMOVED EXIST. ACCESSORIES ON SITE UNIT NEW ONES ARE DELIVERED. (M.G.A.T.)(TYP.)
- 1 HOUR RATED CONSTRUCTION HOARDING PARTITION ULC W407 5/8" SHEETROCK FIRECODE "C" PANELS TO EACH SIDE OF 3 5/8"-25 GA. STEEL STUDS. EXTEND TO U/S OF EXISTING CEILING.PROVIDE SMOKE AND FIRE SEALS AT JUNCTIONS.(TYP)PROVIDE TEMPORARY CONSTRUCTION DOORS WITH LOCKS. PATCH AND REPAIR EXISTING WALL, FLOOR AND CEILING AS MAY BE REQUIRED AFTER DISMANTLING HOARDING. (M.G.A.T.)(TYP.)

GENERAL NEW NOTES:

1. ALL DIMENSIONS TO BE SITE MEASURED AND VERIFIED.
2. ALL PARTITIONS AND CONC. BLK WALLS EXTEND TO U/S OF SLAB UNLESS NOTED OTHERWISE.
3. SUPPLY & INSTALL METRIC DIMENSION CONCRETE BLOCKS. ANY LOCATIONS WHERE CONCRETE BLOCKS ARE TO INFILL AN OPENING OR EXTEND AN EXISTING WALL, CONCRETE BLOCK DIMENSIONS AND PATTERN TO MATCH EXISTING (IMPERIAL OR METRIC AS APPLICABLE).
4. ALL CONCRETE BLOCK WALL, EXPOSED CORNERS AND EDGES TO BE FINISHED WITH BULLNOSE UNIT, TYP.
5. FIRE STOPPING SHALL BE PROVIDED ON TOP OF ALL WALLS FORMING FIRE SEPARATIONS AND AROUND ALL PIPE, CONDUIT AND DUCT PENETRATIONS AT FIRE SEPARATIONS.
6. GC IS RESPONSIBLE TO DEMOLISH EXISTING CONCRETE BLOCK WALL AND PROVIDE SHORING TO ACCOMMODATE INSTALLATION OF NEW WASHROOM FIXTURES. INFILL OPENING WITH SIMILAR SIZE MASONRY UNIT. M.G.A.T. TYP.

WASHROOM ACCESSORIES LEGEND:

EB	EMERGENCY CALL BUTTON/PULL STRING (SEE ELEC.)
CH	COAT HOOK
FDGB	FOLD-DOWN GRAB BAR
GB	STRAIGHT GRAB BAR
GBL	L-SHAPED GRAB BAR
HD	HAND DRYER (SEE ELEC.)
MR1	MIRROR (TILTED)
MR2	MIRROR (FLAT)
MS	METAL SHELF
PTD	PAPER TOWEL DISPENSER
SD	SOAP DISPENSER
SND	SANITARY NAPKIN DISPOSAL
TPD	TOILET PAPER DISPENSER

GENERAL NEW LEGEND:

- EXIST. WALL TO REMAIN (TYP.)
- NEW WALL OR PARTITION (TYP.) (REFER TO PARTITION TYPE LEGEND)
- EXIST. DOOR AND FRAME TO REMAIN (TYP.)
- VIF — NEW DOOR AND FRAME (TYP.) (REFER TO DOOR SCHEDULE)
- NEW PUSH BUTTON (TYP.) (SEE ELEC.)
- FD — NEW FLOOR DRAIN (TYP.) (SEE MECH.)
- EXIST. RELOCATED BRADLEY SINK, IF NOT OTHERWISE NOTED (SEE MECH.) (SEE ELEC.) (TYP.)
- NEW PLUMBING FIXTURES (SEE MECH.)(TYP.)

PARTITION TYPES LEGEND

TAG	GRAPHIC		DESCRIPTION
P1		V.I.F.	**CMU PARTITION** NEW CONCRETE MASONRY UNIT INFILL TO MATCH EXIST.TO BE FINISHED TO MATCH EXISTING SIZE AND PATTERN. M.G.A.T.,TYP.
P2		6 in.	**CMU PARTITION** CONCRETE MASONRY UNIT EXTEND 6'-0" AFF. CONCRETE MASONRY CAPS, TYP.
P3		6 in.	**CMU PARTITION** CONCRETE MASONRY UNIT, EXTEND TO 6" ABOVE CEILING OR AS OTHERWISE NOTED ON THE SECTIONS.

NEW PARTITION NOTES

ALL PARTITIONS EXTEND TO UNDERSIDE OF STRUCTURAL SLAB OR ROOF DECKING UNLESS OTHERWISE NOTED.

ALL FIRE SEPARATIONS, EXTERIOR WALL FIRE RESISTANCE RATINGS AND FIREWALL RATINGS SHALL CONFORM TO SUPPLEMENTARY STANDARDS SB-2 TO THE LATEST OBC, WITH RESPECT TO EQUIVALENT THICKNESS AND TYPE OF CONCRETE.

SUPPLY & INSTALL METRIC DIMENSION MASONRY UNIT. ANY LOCATIONS WHERE MASONRY UNITS ARE TO INFILL AN OPENING AT AN EXISTING WALL, MASONRY UNIT DIMENSIONS TO MATCH EXISTING (IMPERIAL OR METRIC AS APPLICABLE).

ALL CORNERS TO EXTERIOR AND INTERIOR MASONRY WALL TO BE ROUNDED BULLNOSE, TYP

GENERAL CONTRACTOR IS RESPONSIBLE TO SUPPLY AND INSTALL ALL REQUIRED UNISTRUT FRAMING, BLOCKING, AND REINFORCEMENT TO SUPPORT WALL HUNG TOILETS, LAVATORIES, GRAB BARS, CEILING HUNG TOILET PARTITIONS, WALL STOPS, NEW MOTORIZE GYM CURTAIN DIVIDER, NEW MOTORIZE GYM STAGE DRAPING CURTAIN, BASKET BALL HOOP, ETC. GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE LOCATIONS WITH SUB-CONTRACTORS.

NO.	DESCRIPTION	DATE
5	ISSUED FOR TENDER	2024.MAR.
4	ISSUED FOR TENDER	2024.02.20
3	ISSUED FOR 90% CLIENT REVIEW	2024.02.15
2	ISSUED FOR BUILDING PERMIT	2024.02.02
1	ISSUED FOR CLIENT REVIEW	2023.11.20

REVISIONS

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Tel: (905)527-5092

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TORONTO, ONTARIO M3B 3J5
TEL: 416 367 8877
FAX: 416 367 9665
www.nga.com

The contractor shall check and verify all dimensions and report all errors and omissions to the Architect before commencing work on items affected by this drawing. Do not scale the drawings.

This drawing shall not be used for construction purposes until issued for construction by the Architect/Engineer. Refer to the cover sheet of this drawing and arrive signature is below.

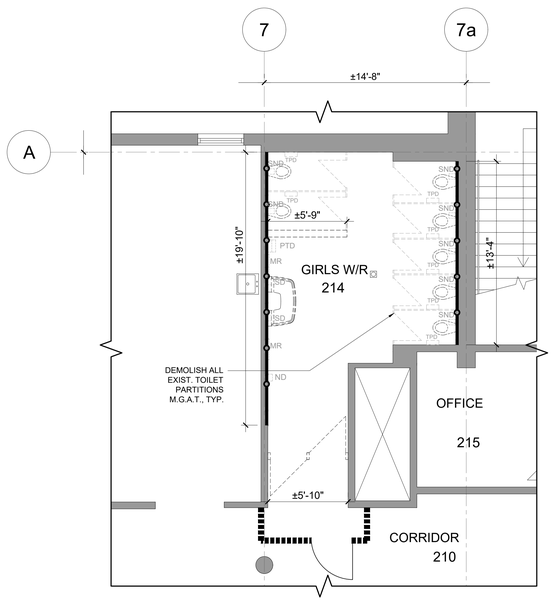
ISSUED FOR CONSTRUCTION DATE

PROJECT NORTH

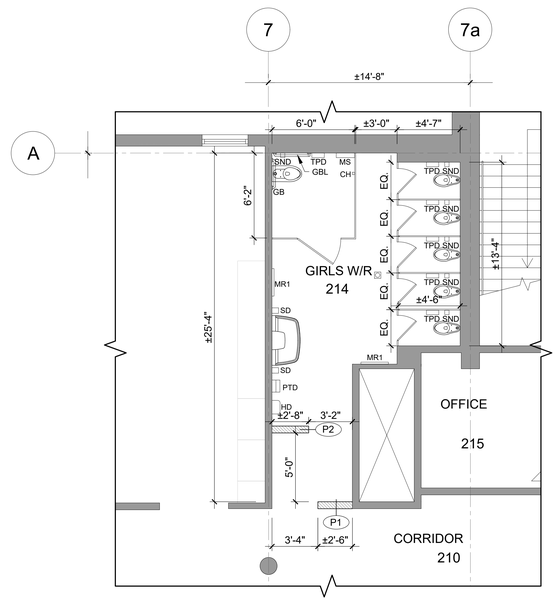
STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

SHEET TITLE
PARTIAL GROUND FLOOR PLANS
- GENERAL
- DEMOLITION & NEW

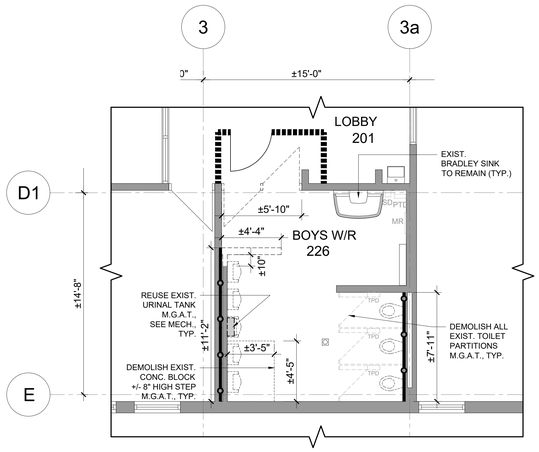
SHEET NO.	DRAWN BY	CHECKED
A101	MM/IP	RN
	PROJECT NO. 2320769	
	SCALE AS NOTED	



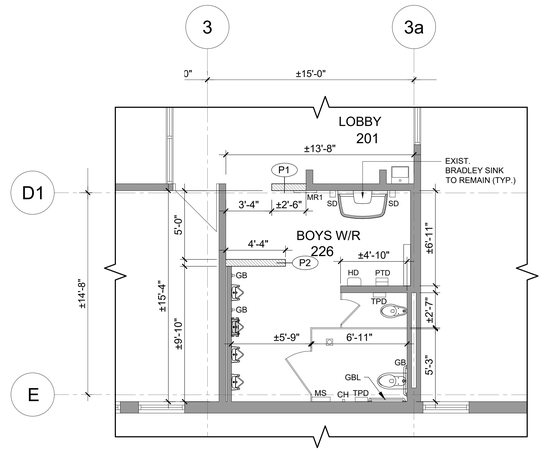
1 A102 PARTIAL SECOND FLOOR PLAN - DEMOLITION
SCALE: 1/4"=1'-0"



2 A102 PARTIAL SECOND FLOOR PLAN - NEW
SCALE: 1/4"=1'-0"



3 A102 PARTIAL SECOND FLOOR PLAN - DEMOLITION
SCALE: 1/4"=1'-0"



4 A102 PARTIAL SECOND FLOOR PLAN - NEW
SCALE: 1/4"=1'-0"

GENERAL DEMOLITION NOTES:

1. ALL EXISTING MASONRY WALL DISTURBED AND DAMAGED DURING DEMOLITION TO BE REPAIRED, PATCHED & CEMENTED, READY FOR FINISH.
2. THIS DRAWING TO BE READ IN CONJUNCTION W/ STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISAGREEMENTS OR CONFLICTS BETWEEN CONSULTANT'S DRAWINGS TO THE ARCHITECT.
3. CUT OUT SCRATCHES, CRACKS AND ABRASIONS IN WALL SURFACES AND ADJOINING TRIMS AS REQUIRED AND FILL WITH AN APPROVED NON-SHRINKPATCHING COMPOUND FLUSH WITH ADJOINING SURFACE. WHEN DRY, SAND THE PATCH SMOOTH AND SEAL BEFORE THE APPLICATION OF THE PRIME COAT.
4. CONTRACTOR IS TO PROVIDE TEMPORARY PLASTIC COVER SHEETS TO EXISTING GRILLES, RADIATORS AND EQUIPMENTS PRIOR TO THE DEMOLITION WORKS.
5. BOARD IS RESPONSIBLE TO MOVE AND RELOCATE ALL EXISTING LOOSE FURNITURE INCLUDING THE ONES NOT SHOWN ON THE DRAWINGS BUT PRESENT IN WORK AREAS.
6. CONTRACTOR TO CHECK ALL MATERIALS USED IN CONSTRUCTION FOR DEFECTS. ONLY NEW, UNBLEMISHED MATERIALS ARE TO BE USED.
7. WHERE NEW WORK, INCLUDING ALL ELECTRICAL & MECHANICAL WORK CONNECTS WITH EXISTING & WHERE EXISTING WORK IS ALTERED, ALL NECESSARY CUTTING & FITTING REQUIRED TO MAKE SATISFACTORY CONNECTIONS WITH THE EXISTING WORK SHALL BE PERFORMED UNDER THIS CONTRACT, SO AS TO LEAVE THE ENTIRE WORK IN FINISHED AND WORKMANLIKE CONDITION.
8. ALL DIMENSIONS SHOWN ARE APPROXIMATE. DIMENSIONS MUST BE SITE VERIFIED BY CONTRACTOR.
9. GENERAL CONTRACTOR IS TO PROVIDE ALL NECESSARY FRAMING AND EQUIPMENT TO SUPPORT THE CUTTING OF OPENINGS IN A LOAD SUPPORTING WALL.
10. GENERAL CONTRACTOR IS RESPONSIBLE TO CO-ORDINATE W/ MECH & ELEC SUB-CONTRACTORS TO CONFIRM QUANTITY& LOCATION FOR THE DEMO OF ALL, INCLUDING BUT NOT LIMITED TO EXISTING DUCTWORK, PIPING, CONDUIT, ETC.
11. GENERAL CONTRACTOR TO REPAIR, PATCH, FIRESTOP & INFILL EXISTING WALLS & PARTITION OPENINGS FROM THE DEMO OF EXISTING MECH & ELEC SYSTEM (TYP.)(M.G.A.T.)
12. ANY CONFLICTS, OMISSIONS, DISCREPANCIES AND DISAGREEMENT IN ARCHITECTURAL DRAWINGS AND SPECIFICATIONS SHALL BE REPORTED TO THE ARCHITECT PRIOR TO ANY PROCEEDING FOR ITS CLARIFICATIONS AND INSTRUCTIONS.
13. GC WILL BE RESPONSIBLE TO CONTACT THE ARCHITECT FOR REVIEW AND APPROVAL OF SETTING OUT LINES (CHALK LINES) PRIOR TO STUD AND/OR PARTITION CONSTRUCTION.
14. GC AND ALL SUB-CONTRACTOR SHALL VERIFY ALL JOB SITE DIMENSIONS WITH ALL DRAWINGS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH WORK.
15. GC IS TO PROVIDE ALL NECESSARY FRAMING AND EQUIPMENT TO SUPPORT THE CUTTING OF OPENINGS IN A LOAD SUPPORTING WALL.
16. UPON COMPLETION, CLEAN THE ENTIRE AREA OF DEMOLITION TO A TIDY UNIFORM CONDITION REMOVING ALL DEBRIS, DUST, PARTITIONS AND ASSOCIATED MATERIALS USED DURING THE DEMOLITION. CLEAN ALL AREAS IMPACTED BY THE DEMOLITION, INCLUDING BUT NOT LIMITED TO ADJACENT OCCUPIED AREAS AND AREAS NOT WITHIN THE SCOPE OF WORK.

TYPICAL LEGEND:

TYP.	TYPICAL
EXIST.	EXISTING
N/C	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS
AFF	ABOVE FINISHED FLOOR

GENERAL DEMOLITION LEGEND:

- EXIST. WALL TO REMAIN (TYP.)
- EXIST. WALL TO BE DEMOLISHED (TYP.)
- EXIST. DOOR AND FRAME TO BE REMOVED (M.G.A.T.) (TYP.)
- GC IS RESPONSIBLE TO: COORDINATE WITH MECHANICAL CONTRACTOR AND CUT EXISTING CONCRETE BLOCK WALL TO ±5'-0" AFF. TO ACCOMMODATE ALL PLUMBING REPLACEMENT AND CONNECTION WORK. PROVIDE ALL NECESSARY SHORING AND TEMPORARY SUPPORT TO THE DEMOLISHED CONCRETE BLOCK WALL. INFILL OPENING WITH NEW CONCRETE BLOCK - SIZE AND JOINT PATTERN TO MATCH EXIST. PAINT FINISH (SEE MECH.)(M.G.A.T.) (TYP.)
- EXIST. PLUMBING FIXTURES (SINK, TOILET, URINAL, ETC) TO BE DEMOLISHED. CUT AND CAP ALL RELATED PLUMBING AS NECESSARY. (SEE MECH.)(M.G.A.T.)(TYP.)
- EXIST. BRADLEY SINK TO BE REMOVED, RELOCATED & REINSTALLED. CUT AND CAP ALL RELATED PLUMBING AS NECESSARY. (SEE MECH.)(M.G.A.T.)(TYP.)
- PTD ND SND HD TPD SD GB GBL MS — ALL EXIST. WASHROOM ACCESSORIES TO BE DEMOLISHED. GC IS RESPONSIBLE TO KEEP THE REMOVED EXIST. ACCESSORIES ON SITE UNIT NEW ONES ARE DELIVERED. (M.G.A.T.)(TYP.)
- 1 HOUR RATED CONSTRUCTION HOARDING PARTITION ULC W407 5/8" SHEETROCK FIRECODE "C" PANELS TO EACH SIDE OF 3 5/8"-25 GA. STEEL STUDS. EXTEND TO U/S OF EXISTING CEILING.PROVIDE SMOKE AND FIRE SEALS AT JUNCTIONS.(TYP)PROVIDE TEMPORARY CONSTRUCTION DOORS WITH LOCKS. PATCH AND REPAIR EXISTING WALL, FLOOR AND CEILING AS MAY BE REQUIRED AFTER DISMANTLING HOARDING. (M.G.A.T.)(TYP.)

GENERAL NEW NOTES:

1. ALL DIMENSIONS TO BE SITE MEASURED AND VERIFIED.
2. ALL PARTITIONS AND CONC. BLK WALLS EXTEND TO U/S OF SLAB UNLESS NOTED OTHERWISE.
3. SUPPLY & INSTALL METRIC DIMENSION CONCRETE BLOCKS. ANY LOCATIONS WHERE CONCRETE BLOCKS ARE TO INFILL AN OPENING OR EXTEND AN EXISTING WALL, CONCRETE BLOCK DIMENSIONS AND PATTERN TO MATCH EXISTING (IMPERIAL OR METRIC AS APPLICABLE).
4. ALL CONCRETE BLOCK WALL, EXPOSED CORNERS AND EDGES TO BE FINISHED WITH BULLNOSE UNIT, TYP.
5. FIRE STOPPING SHALL BE PROVIDED ON TOP OF ALL WALLS FORMING FIRE SEPARATIONS AND AROUND ALL PIPE, CONDUIT AND DUCT PENETRATIONS AT FIRE SEPARATIONS.
6. GC IS RESPONSIBLE TO DEMOLISH EXISTING CONCRETE BLOCK WALL AND PROVIDE SHORING TO ACCOMMODATE INSTALLATION OF NEW WASHROOM FIXTURES. INFILL OPENING WITH SIMILAR SIZE MASONRY UNIT. M.G.A.T., TYP.

GENERAL NEW LEGEND:

- EXIST. WALL TO REMAIN (TYP.)
- NEW WALL OR PARTITION (TYP.) (REFER TO PARTITION TYPE LEGEND)
- EXIST. DOOR AND FRAME TO REMAIN (TYP.)
- NEW DOOR AND FRAME (TYP.) (REFER TO DOOR SCHEDULE)
- NEW PUSH BUTTON (TYP.) (SEE ELEC.)
- FD NEW FLOOR DRAIN (TYP.) (SEE MECH.)
- EXIST. RELOCATED BRADLEY SINK. IF NOT OTHERWISE NOTED (SEE MECH.) (SEE ELEC.) (TYP.)
- NEW PLUMBING FIXTURES (SEE MECH.)(TYP.)

WASHROOM ACCESSORIES LEGEND:

EB	EMERGENCY CALL BUTTON/PULL STRING (SEE ELEC.)
CH	COAT HOOK
FDGB	FOLD-DOWN GRAB BAR
GB	STRAIGHT GRAB BAR
GBL	L-SHAPED GRAB BAR
HD	HAND DRYER (SEE ELEC.)
MR1	MIRROR (TILTED)
MR2	MIRROR (FLAT)
MS	METAL SHELF
PTD	PAPER TOWEL DISPENSER
SD	SOAP DISPENSER
SND	SANITARY NAPKIN DISPOSAL
TPD	TOILET PAPER DISPENSER

PARTITION TYPES LEGEND

TAG	GRAPHIC		DESCRIPTION
P1		V.I.F.	**CMU PARTITION** NEW CONCRETE MASONRY UNIT INFILL TO MATCH EXIST.TO BE FINISHED TO MATCH EXISTING SIZE AND PATTERN. M.G.A.T.,TYP.
P2		6 in.	**CMU PARTITION** CONCRETE MASONRY UNIT EXTEND 6'-0" AFF., CONCRETE MASONRY CAPS, TYP.
P3		6 in.	**CMU PARTITION** CONCRETE MASONRY UNIT, EXTEND TO 6" ABOVE CEILING OR AS OTHERWISE NOTED ON THE SECTIONS.

NEW PARTITION NOTES

ALL PARTITIONS EXTEND TO UNDERSIDE OF STRUCTURAL SLAB OR ROOF DECKING UNLESS OTHERWISE NOTED.

ALL FIRE SEPARATIONS, EXTERIOR WALL FIRE RESISTANCE RATINGS AND FIREWALL RATINGS SHALL CONFORM TO SUPPLEMENTARY STANDARDS SB-2 TO THE LATEST OBC, WITH RESPECT TO EQUIVALENT THICKNESS AND TYPE OF CONCRETE .

SUPPLY & INSTALL METRIC DIMENSION MASONRY UNIT. ANY LOCATIONS WHERE MASONRY UNITS ARE TO INFILL AN OPENING AT AN EXISTING WALL, MASONRY UNIT DIMENSIONS TO MATCH EXISTING (IMPERIAL OR METRIC AS APPLICABLE).

ALL CORNERS TO EXTERIOR AND INTERIOR MASONRY WALL TO BE ROUNDED BULLNOSE, TYP

GENERAL CONTRACTOR IS RESPONSIBLE TO SUPPLY AND INSTALL ALL REQUIRED UNISTRUT FRAMING, BLOCKING, AND REINFORCEMENT TO SUPPORT WALL HUNG TOILETS, LAVATORIES, GRAB BARS, CEILING HUNG TOILET PARTITIONS, WALL STOPS, NEW MOTORIZE GYM CURTAIN DIVIDER, NEW MOTORIZE GYM STAGE DRAPING CURTAIN, BASKET BALL HOOP, ETC. GENERAL CONTRACTOR IS RESPONSIBLE TO COORDINATE LOCATIONS WITH SUB-CONTRACTORS.

NO.	DESCRIPTION	DATE
5	ISSUED FOR TENDER	2024.MAR.
4	ISSUED FOR TENDER	2024.02.20
3	ISSUED FOR 90% CLIENT REVIEW	2024.02.15
2	ISSUED FOR BUILDING PERMIT	2024.02.02.
1	ISSUED FOR CLIENT REVIEW	2023.11.20.

REVISIONS

HAMILTON-WENTWORTH DISTRICT SCHOOL BOARD
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www.nga.com

The contractor shall check and verify all dimensions and report all errors and ommissions to the architect before commencing work. Drawings whose rest is affixed to this drawing. Do not scale the drawings.

This drawing shall not be used for construction purposes until issued for construction by the architect. Reproduction of this drawing, in part or whole, is forbidden without the written consent of the drawing and whose signature is below.

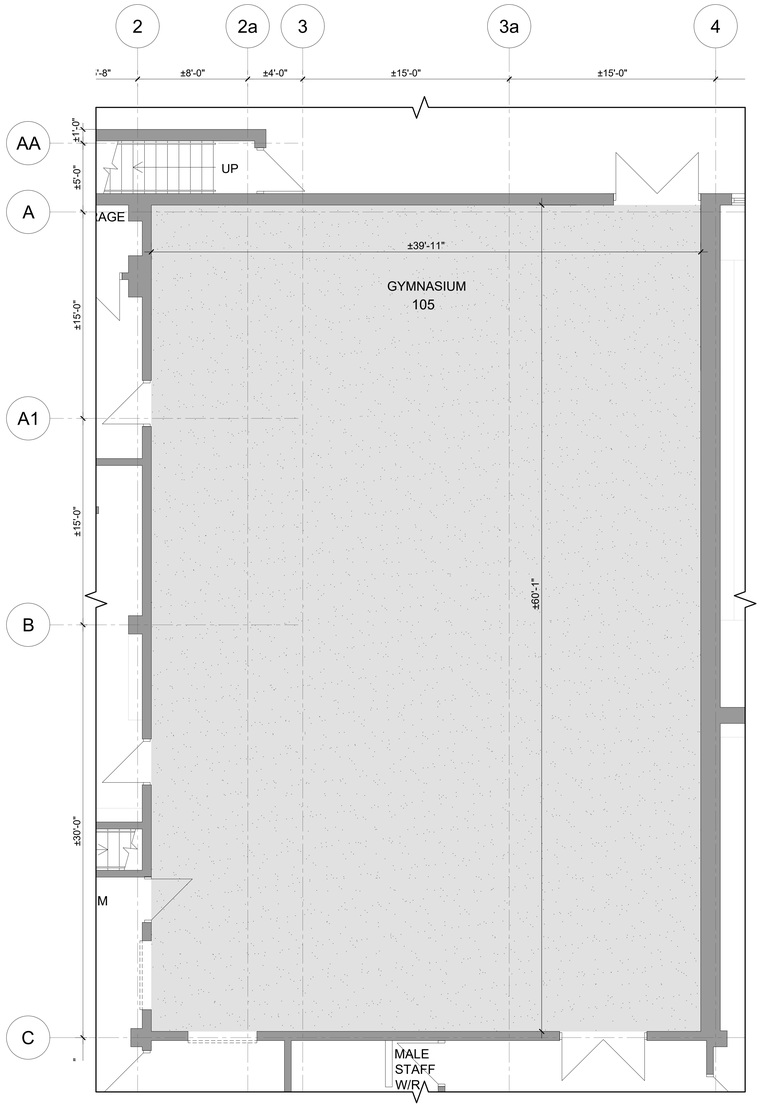
ISSUED FOR CONSTRUCTION DATE

PROJECT NORTH

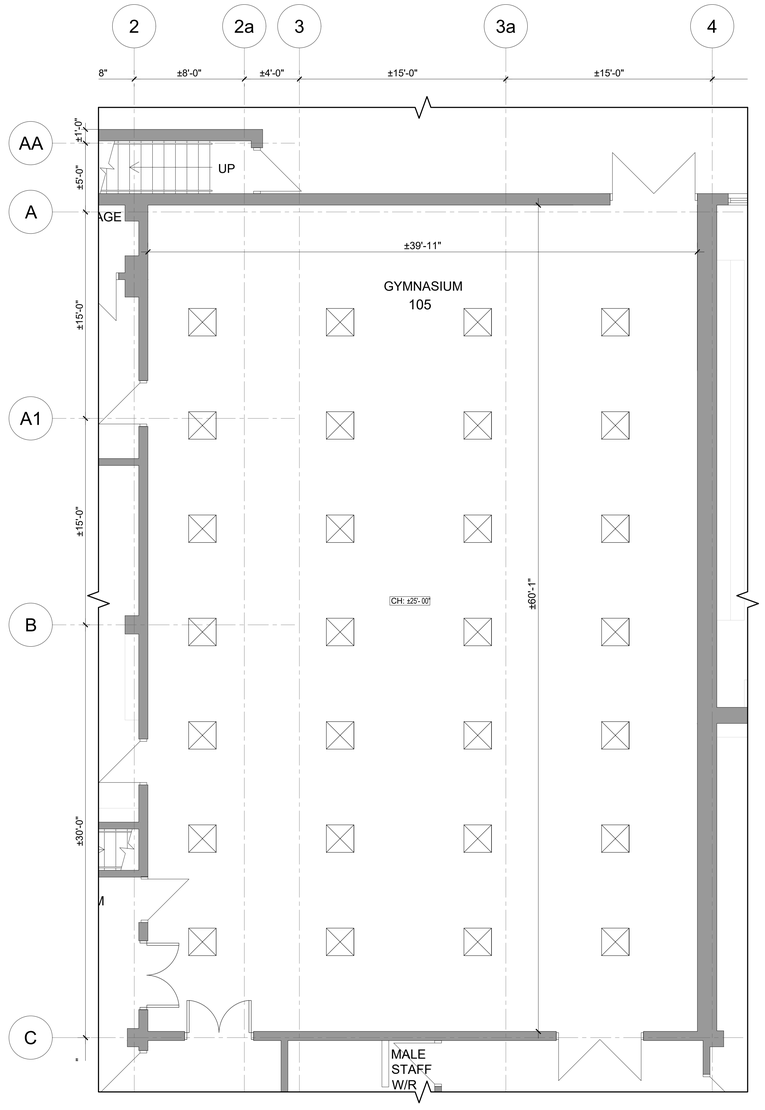
STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

SHEET TITLE
PARTIAL SECOND FLOOR PLANS
- GENERAL
- DEMOLITION & NEW

SHEET NO.	DRAWN BY	CHECKED
A102	MM/IP	RN
	PROJECT NO. 2320769	
	SCALE AS NOTED	



1 A200 PARTIAL GROUND FLOOR PLAN - CEILING DEMOLITION
SCALE: 1/4"=1'-0"



2 A200 PARTIAL GROUND FLOOR PLAN - CEILING NEW
SCALE: 1/4"=1'-0"

REFLECTED CEILING PLAN DEMOLITION LEGEND

	DEMOLISH EXIST. DRYWALL / T-BAR CEILING, FRAMES AND ALL MECH. & ELEC. COMPONENTS, - IF NOT OTHERWISE NOTED. (M.G.A.T.) (TYP.) (SEE MECH.) (SEE ELEC.)
	EXIST. EXPOSED STRUCTURE TO REMAIN. DEMOLISH EXIST. LIGHT FIXTURES. REMOVE AND REINSTALL EXIST. SPEAKERS, FIRE ALARMS, EXIT SIGNS, ETC. PAINT FINISH. (M.G.A.T.) (TYP.) (SEE MECH.) (SEE ELEC.)
TYP.	TYPICAL
EXIST. / EX	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS

REFLECTED CEILING PLAN DEMOLITION NOTES

1. THIS DRAWING IS TO BE COORDINATED WITH MECHANICAL & ELECTRICAL DRAWINGS. ANY DISCREPANCIES IN THE DRAWINGS TO BE REPORTED TO ARCHITECT/ENGINEER.

2. REFER TO REFLECTED CEILING PLAN TO MAKE NECESSARY CHANGES OR DEMOLITION TO MATCH NEW LAYOUT AND FRAMES.

3. REFER TO ELECTRICAL DRAWINGS FOR DEMOLITION OF EXISTING RECEPTACLES, CONDUITS, SWITCHES, ETC.

4. REFER TO MECHANICAL DRAWINGS FOR DEMOLITION OF EXISTING MECHANICAL EQUIPMENTS, CONTROLS, DUCTS, PIPING, PLUMBING FIXTURES, ETC.

5. WHERE EXISTING SUSPENDED ACOUSTIC CEILING TILES ARE DISTURBED TO PERFORM NECESSARY ALTERATIONS, THEY MUST BE RETURNED TO A CONDITION EQUIVALENT TO BEFORE THEY WERE DISTURBED. ACOUSTIC CEILING TILES DAMAGED DURING THE ALTERATIONS MUST BE REPLACED.

6. WHERE EXISTING DUCTWORK IS ALTERED, ALL NECESSARY CUTTING & PATCHING OF EXISTING BULKHEADS, WALLS & CEILINGS REQUIRED SHALL BE PERFORMED UNDER THIS CONTRACT, SO AS TO LEAVE THE ENTIRE WORK IN A FINISHED AND WORKMANLIKE CONDITION.

7. REPAIR, PATCH, AND MAKE GOOD AT JUNCTIONS TO ALL RELATED EXISTING AREAS WHERE NEW STRUCTURAL FRAMES CONNECT

8. REPAIR, PATCH, AND MAKE GOOD AT JUNCTIONS ALL RELATED EXISTING AREAS TO ACCOMMODATE NEW MECHANICAL AND ELECTRICAL MODIFICATIONS AND NEW CONNECTIONS.

9. CUT AND MAKE GOOD EXIST. CEILING WHERE TO RECEIVE NEW PARTITION. MODIFY AND PROVIDE ALL REQUIRED CEILING COMPONENTS TO INCLUDE BUT NOT LIMITED TO: HANGERS, EXPOSED MAIN TEE, EXPOSED CROSS TEE, WALL MOULDING, LAY-IN PANELS AND HOLD DOWN CLIPS WHERE REQUIRED.

10. GENERAL CONTRACTOR IS RESPONSIBLE TO SUPPLY AND INSTALL ALL REQUIRED TEES, FRAMING SUPPORT, BRACING, MAIN TEES,CARRYING CHANNELS, ACCESSORIES AND ALL RELATED COMPONENTS, TYP.

REFLECTED CEILING PLAN NEW LEGEND

MATERIALS / FINISHES

	NEW WATER-RESISTANT GYPSUM BOARD CEILING, TYP. HANGER SPACING 1200mm O.C. MAX WIRE TIED OR CLIPPED TO 38mm x 38mm FURRING CHANNELS @ 1200mm O.C. MAX USING METAL FURRING CHANNEL CLIPS TO ATTACH TO METAL FURRING CHANNELS SPACED AT 600mm O.C. MAX.
	NEW 2" x 4" ACOUSTIC CEILING TILE IN NEW SUSPENDED T-BAR, SUPPORTED TO OWSJ, TYP.
CH: xxxx	HEIGHT TO UNDERSIDE OF CEILING FROM FINISH FLOOR

LIGHTING / ACCESS PANELS

	NEW 2'x4' RECESSED LIGHT FIXTURE, SEE ELEC., TYP.
	NEW 2'x2' SURFACE MOUNTED LIGHT FIXTURE, SEE ELEC., TYP.
	NEW 2'x2' ACCESS PANEL, TYP. CC TO CO-ORDINATE WITH ELEC. CONTRACTOR EXACT LOCATION.

REFLECTED CEILING PLAN NEW NOTES

1. ALL DIMENSIONS TO BE SITE MEASURED AND VERIFIED.

2. THIS DRAWING TO BE READ IN CONJUNCTION W/ STRUCTURAL, MECHANICAL, ELECTRICAL, REFLECTED CEILING PLAN DEMOLITION + ROOM, FINISH SCHEDULE DRAWINGS. REPORT ANY DISAGREEMENTS OR CONFLICTS BETWEEN CONSULTANT'S DRAWINGS TO THE ARCHITECT.

3. CUT AND MAKE GOOD EXISTING CEILING TO RECEIVE NEW PARTITION. MODIFY AND PROVIDE ALL REQUIRED CEILING SYSTEM COMPONENTS INCLUDE BUT NOT LIMITED TO HANGERS, EXPOSED MAIN TEE, EXPOSED CROSS TEE, WALL MOLDING LAY IN PANELS AND HOLD DOWN CLIPS WHERE REQUIRED.

4. ALL ACOUSTIC TILE CEILINGS WILL BE AN ADDITIONAL FINISH LAYER TO THE RATED FLOOR ASSEMBLY AND ROOF ASSEMBLIES EXCEPT AS SHOWN OTHERWISE.

5. IN ALL AREAS OF WORK, SMOKE AND FIRE SEAL ALL CONNECTIONS AND WALL PENETRATIONS.

NO.	DESCRIPTION	DATE
5	ISSUED FOR TENDER	2024.MAR.
4	ISSUED FOR TENDER	2024.02.20
3	ISSUED FOR 90% CLIENT REVIEW	2024.02.15
2	ISSUED FOR BUILDING PERMIT	2024.02.02
1	ISSUED FOR CLIENT REVIEW	2023.11.20

REVISIONS

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20 Education Court, Hamilton, Ontario
L8N 3Z9 Canada
TEL (905) 527-5558

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RENOVATION PROJECT

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www.npca.com

The contractor shall check and verify all dimensions and report all errors and omissions to the architect and the design professional whose seal is affixed to this drawing. Do not scale the drawing.

This drawing shall not be used for construction purposes until issued for construction by the design professional whose seal is affixed to this drawing and whose signature is below.

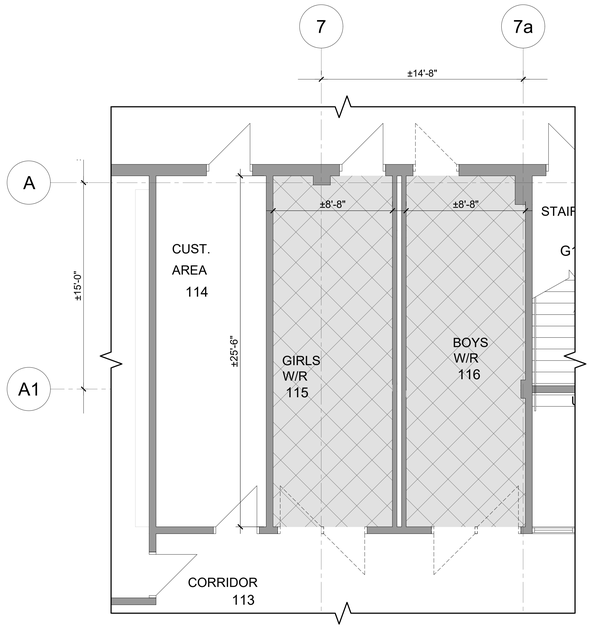
ISSUED FOR CONSTRUCTION DATE

PROJECT NORTH
TRUE NORTH

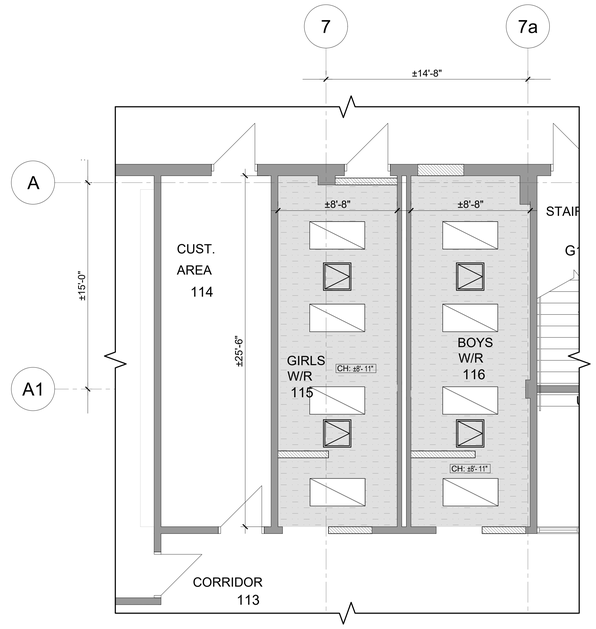
STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

SHEET TITLE
PARTIAL GROUND FLOOR PLANS
- REFLECTED CEILING PLAN
- DEMOLITION & NEW

SHEET NO:	DRAWN BY:	CHECKED:
A200	MM/IP	RN
	PROJECT NO:	2320769
	SCALE:	AS NOTED



1 A201 PARTIAL GROUND FLOOR PLAN - CEILING DEMOLITION
SCALE: 1/4"=1'-0"



2 A201 PARTIAL GROUND FLOOR PLAN - CEILING NEW
SCALE: 1/4"=1'-0"

REFLECTED CEILING PLAN DEMOLITION LEGEND

	DEMOLISH EXIST. DRYWALL / T-BAR CEILING FRAMES AND ALL MECH. & ELEC. COMPONENTS, - IF NOT OTHERWISE NOTED. (M.G.A.T.) (TYP.) (SEE MECH.) (SEE ELEC.)
	EXIST. EXPOSED STRUCTURE TO REMAIN. DEMOLISH EXIST. LIGHT FIXTURES. REMOVE AND REINSTALL EXIST. SPEAKERS, FIRE ALARMS, EXIT SIGNS, ETC. PAINT FINISH. (M.G.A.T.) (TYP.) (SEE MECH.) (SEE ELEC.)
TYP.	TYPICAL
EXIST. / EX	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS

REFLECTED CEILING PLAN DEMOLITION NOTES

1. THIS DRAWING IS TO BE COORDINATED WITH MECHANICAL & ELECTRICAL DRAWINGS. ANY DISCREPANCIES IN THE DRAWINGS TO BE REPORTED TO ARCHITECT/ENGINEER.

2. REFER TO REFLECTED CEILING PLAN TO MAKE NECESSARY CHANGES OR DEMOLITION TO MATCH NEW LAYOUT AND FRAMES.

3. REFER TO ELECTRICAL DRAWINGS FOR DEMOLITION OF EXISTING RECEPTACLES, CONDUITS, SWITCHES, ETC.

4. REFER TO MECHANICAL DRAWINGS FOR DEMOLITION OF EXISTING MECHANICAL EQUIPMENTS, CONTROLS, DUCTS, PIPING, PLUMBING FIXTURES, ETC.

5. WHERE EXISTING SUSPENDED ACOUSTIC CEILING TILES ARE DISTURBED TO PERFORM NECESSARY ALTERATIONS, THEY MUST BE RETURNED TO A CONDITION EQUIVALENT TO BEFORE THEY WERE DISTURBED. ACOUSTIC CEILING TILES DAMAGED DURING THE ALTERATIONS MUST BE REPLACED.

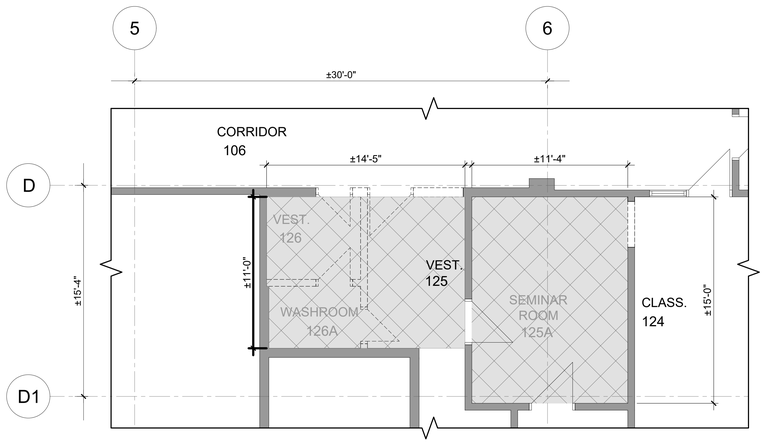
6. WHERE EXISTING DUCTWORK IS ALTERED, ALL NECESSARY CUTTING & PATCHING OF EXISTING BULKHEADS, WALLS & CEILINGS REQUIRED SHALL BE PERFORMED UNDER THIS CONTRACT, SO AS TO LEAVE THE ENTIRE WORK IN A FINISHED AND WORKMANLIKE CONDITION.

7. REPAIR, PATCH, AND MAKE GOOD AT JUNCTIONS TO ALL RELATED EXISTING AREAS WHERE NEW STRUCTURAL FRAMES CONNECT

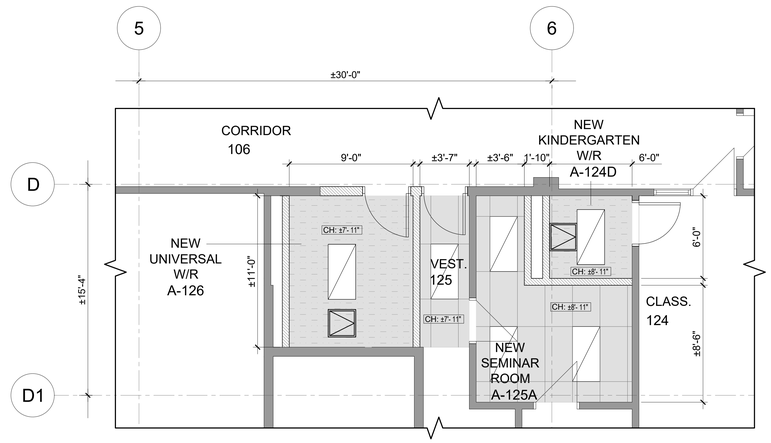
8. REPAIR, PATCH, AND MAKE GOOD AT JUNCTIONS ALL RELATED EXISTING AREAS TO ACCOMMODATE NEW MECHANICAL AND ELECTRICAL MODIFICATIONS AND NEW CONNECTIONS.

9. CUT AND MAKE GOOD EXIST. CEILING WHERE TO RECEIVE NEW PARTITION. MODIFY AND PROVIDE ALL REQUIRED CEILING COMPONENTS TO INCLUDE BUT NOT LIMITED TO: HANGERS, EXPOSED MAIN TEE, EXPOSED CROSS TEE, WALL MOULDING LAY-IN PANELS AND HOLD DOWN CLIPS WHERE REQUIRED.

10. GENERAL CONTRACTOR IS RESPONSIBLE TO SUPPLY AND INSTALL ALL REQUIRED TEES, FRAMING SUPPORT, BRACING, MAIN TEES,CARRYING CHANNELS, ACCESSORIES AND ALL RELATED COMPONENTS, TYP.



3 A201 PARTIAL GROUND FLOOR PLAN - CEILING DEMOLITION
SCALE: 1/4"=1'-0"



4 A201 PARTIAL GROUND FLOOR PLAN - CEILING NEW
SCALE: 1/4"=1'-0"

REFLECTED CEILING PLAN NEW LEGEND

MATERIALS / FINISHES

	NEW WATER-RESISTANT GYPSUM BOARD CEILING, TYP. HANGER SPACING 1200mm O.C. MAX. 38mm METAL FURRING CHANNELS 38mm METAL CARRYING CHANNELS @ 1200mm O.C. MAX USING METAL FURRING CHANNEL CLIPS TO ATTACH TO METAL FURRING CHANNELS SPACED AT 600mm O.C. MAX.
	NEW 2' x 4' ACOUSTIC CEILING TILE IN NEW SUSPENDED T-BAR, SUPPORTED TO OWSJ, TYP.
CH: XXXX	HEIGHT TO UNDERSIDE OF CEILING FROM FINISH FLOOR

LIGHTING / ACCESS PANELS

	NEW 2'x4' RECESSED LIGHT FIXTURE, SEE ELEC.,TYP.
	NEW 2'x2' SURFACE MOUNTED LIGHT FIXTURE, SEE ELEC.,TYP.
	NEW 2'x2' ACCESS PANEL, TYP. TO BE COORDINATE WITH ELEC. CONTRACTOR EXACT LOCATION.

REFLECTED CEILING PLAN NEW NOTES

1. ALL DIMENSIONS TO BE SITE MEASURED AND VERIFIED.

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3. CUT AND MAKE GOOD EXISTING CEILING TO RECEIVE NEW PARTITION. MODIFY AND PROVIDE ALL REQUIRED CEILING SYSTEM COMPONENTS INCLUDE BUT NOT LIMITED TO HANGERS, EXPOSED MAIN TEE, EXPOSED CROSS TEE, WALL MOLDING LAY IN PANELS AND HOLD DOWN CLIPS WHERE REQUIRED.

4. ALL ACOUSTIC TILE CEILINGS WILL BE AN ADDITIONAL FINISH LAYER TO THE RATED FLOOR ASSEMBLY AND ROOF ASSEMBLIES EXCEPT AS SHOWN OTHERWISE.

5. IN ALL AREAS OF WORK, SMOKE AND FIRE SEAL ALL CONNECTIONS AND WALL PENETRATIONS.

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This drawing shall not be used for construction purposes until issued for construction by the architect. Contractor shall sign and date this drawing and affix signature to below.

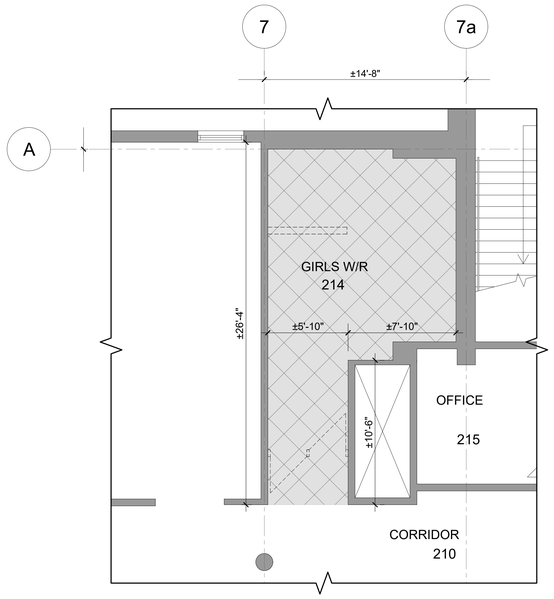
ISSUED FOR CONSTRUCTION DATE

PROJECT NORTH

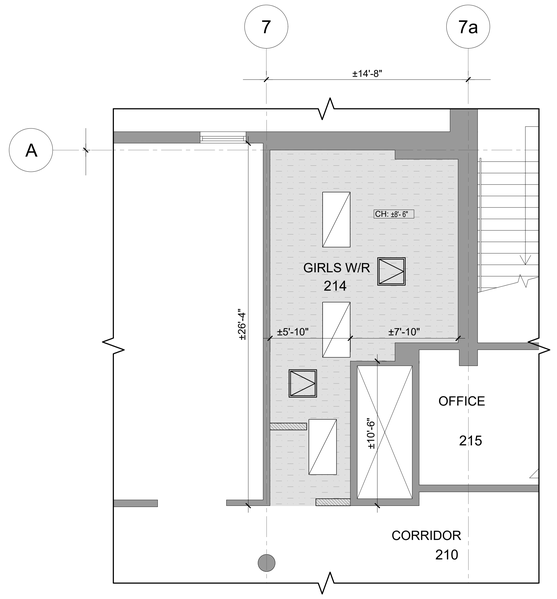
STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

SHEET TITLE
PARTIAL GROUND FLOOR PLANS
- REFLECTED CEILING PLAN
- DEMOLITION & NEW

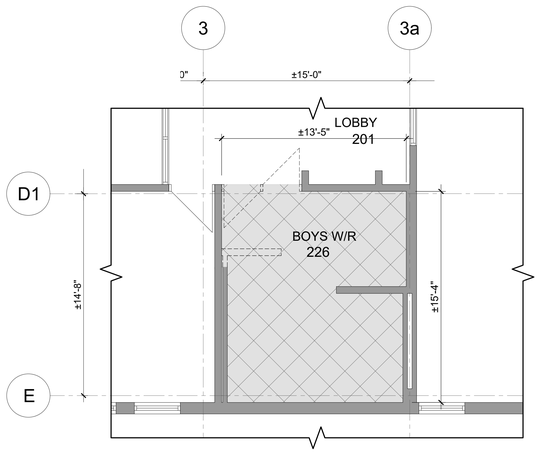
SHEET NO.	DRAWN BY	CHECKED
A201	MM/IP	RN
	PROJECT NO. 2320769	
	SCALE AS NOTED	



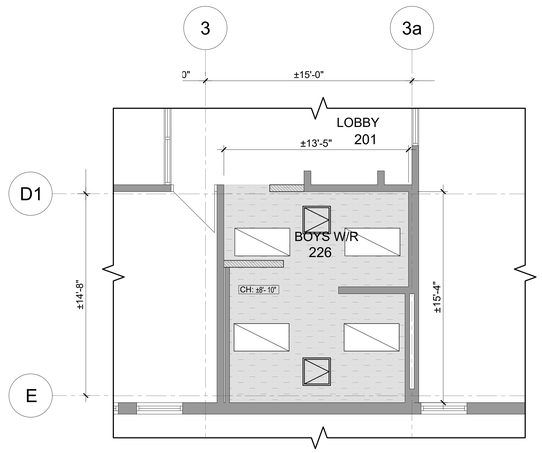
1 A202 PARTIAL SECOND FLOOR PLAN - CEILING DEMOLITION
SCALE: 1/4"=1'-0"



2 A202 PARTIAL SECOND FLOOR PLAN - CEILING NEW
SCALE: 1/4"=1'-0"



3 A202 PARTIAL SECOND FLOOR PLAN - CEILING DEMOLITION
SCALE: 1/4"=1'-0"



4 A202 PARTIAL SECOND FLOOR PLAN - CEILING NEW
SCALE: 1/4"=1'-0"

REFLECTED CEILING PLAN DEMOLITION LEGEND

	DEMOLISH EXIST. DRYWALL / T-BAR CEILING FRAMES AND ALL MECH. & ELEC. COMPONENTS, - IF NOT OTHERWISE NOTED. (M.G.A.T.) (TYP.) (SEE MECH.) (SEE ELEC.)
	EXIST. EXPOSED STRUCTURE TO REMAIN. DEMOLISH EXIST. LIGHT FIXTURES. REMOVE AND REINSTALL EXIST. SPEAKERS, FIRE ALARMS, EXIT SIGNS, ETC. PAINT FINISH. (M.G.A.T.) (TYP.) (SEE MECH.) (SEE ELEC.)
TYP.	TYPICAL
EXIST. / EX	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS

REFLECTED CEILING PLAN DEMOLITION NOTES

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2. REFER TO REFLECTED CEILING PLAN TO MAKE NECESSARY CHANGES OR DEMOLITION TO MATCH NEW LAYOUT AND FRAMES.

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REFLECTED CEILING PLAN NEW LEGEND

MATERIALS / FINISHES

	NEW WATER-RESISTANT GYPSUM BOARD CEILING, TYP. HANGER SPACING 1200mm O.C. MAX USING 38mm METAL CARRYING CHANNELS @ 1200mm O.C. MAX USING METAL FURRING CHANNEL CLIPS TO ATTACH TO METAL FURRING CHANNELS SPACED AT 600mm O.C. MAX.
	NEW 2' x 4' ACOUSTIC CEILING TILE IN NEW SUSPENDED T-BAR, SUPPORTED TO OWSJ, TYP.
CH: XXXX	HEIGHT TO UNDERSIDE OF CEILING FROM FINISH FLOOR

LIGHTING / ACCESS PANELS

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	NEW 2'x2' SURFACE MOUNTED LIGHT FIXTURE, SEE ELEC.,TYP.
	NEW 2'x2' ACCESS PANEL, TYP. LOCATE AND COORDINATE WITH ELEC. CONTRACTOR EXACT LOCATION.

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TRUE NORTH

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SALAS O'BRIEN
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CKE

SHEET TITLE
PARTIAL SECOND FLOOR PLANS
- REFLECTED CEILING PLAN
- DEMOLITION & NEW

SHEET NO.	DRAWN BY	CHECKED
A202	MM/IP	RN
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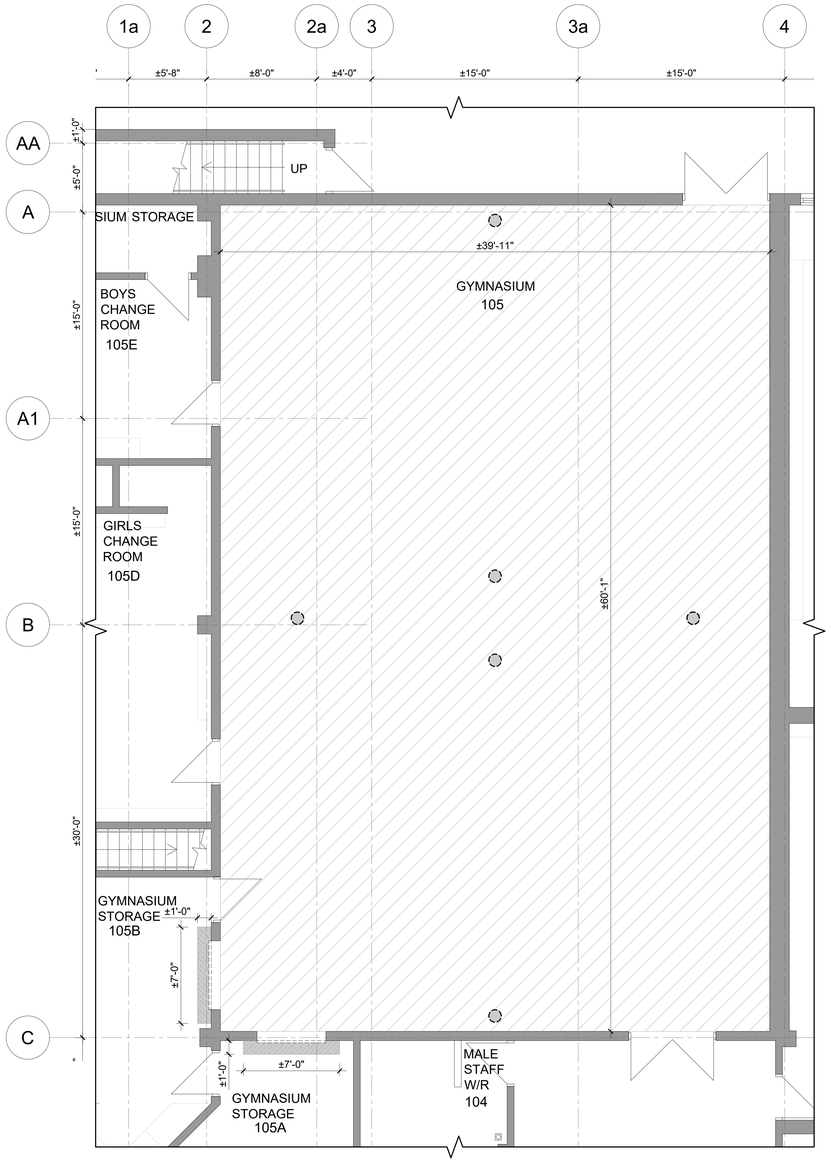
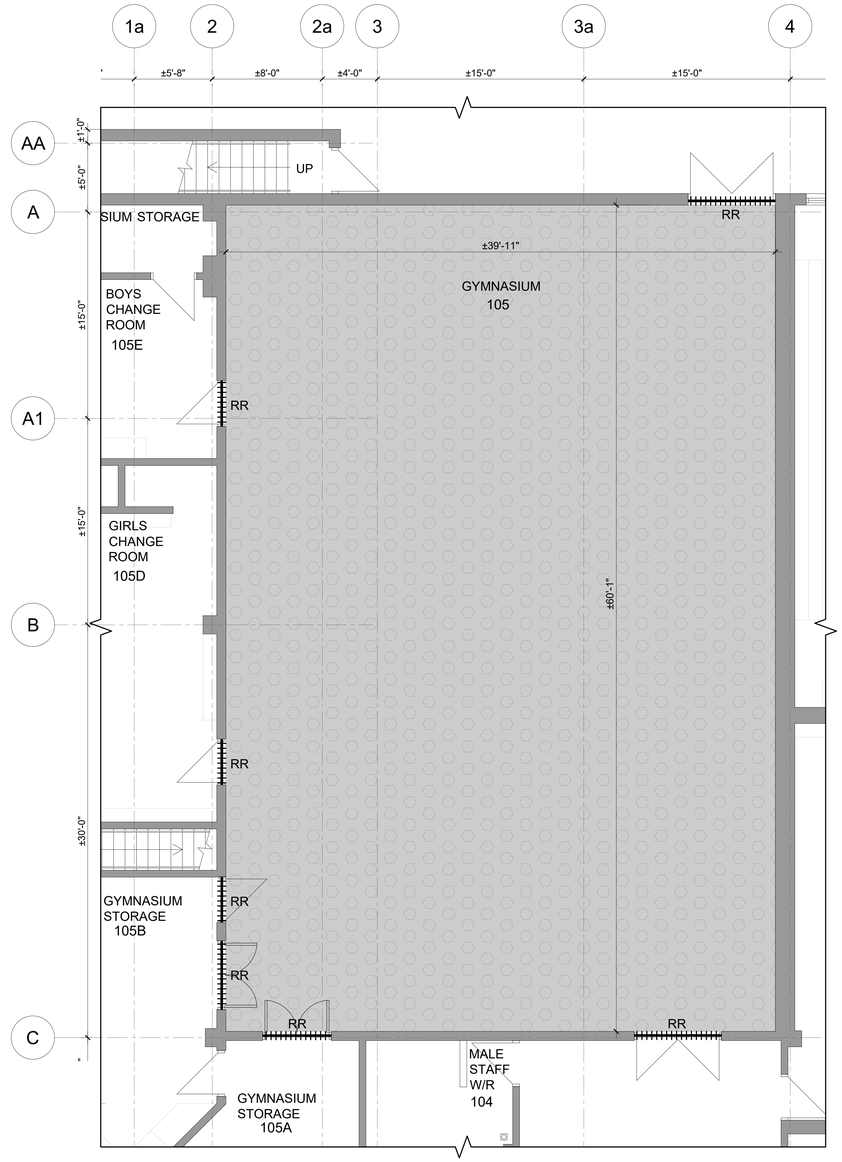


1 A300A PARTIAL GROUND FLOOR PLAN - FLOOR FINISH DEMOLITION

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



2 A300A PARTIAL GROUND FLOOR PLAN - FLOOR FINISH NEW

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

FLOOR FINISH DEMOLITION LEGEND

	DEMOLISH EXIST. FLOOR FINISH AND WALL BASE. (M.G.A.T.) (TYP.) IN GYMNASIUM ONLY. DEMOLISH ALL EXIST. FLOOR SOCKETS, RINGS & PLUGS AND FILL EXIST HOLES W/ GROUT. (M.G.A.T.) (TYP.)
	DEMOLISH EXIST. CONC. FLOOR TO INSTALL NEW FLOOR SOCKETS (M.G.A.T.) (TYP.) GC TO CO-ORDINATE EXACT LOCATION W/ FLOOR / FLOOR SOCKET AND GAME LINE INSTALLER.
	± 2'-0" x ± 2-0" MIN. WIDE TRENCH (TYP.) EXIST. FLOOR SLAB TO BE CUT TO ACCOMMODATE INSTALLATION OF NEW SANITARY PIPE. CUT, PATCH AND FIRE STOP AT EXIST. FLOOR SLAB / CEILING BELOW (AS NECESSARY) PATCH AND REPAIR EXIST. FLOOR FINISH TO MATCH EXIST. G.C. TO PROVIDE TEMPORARY SHORING FOR EXISTING PARTITION DURING TRENCHING. HAND-DIGGING MUST BE CONDUCTED IN THIS AREA.(SEE MECH (M.G.A.T.) (TYP.)
	PATCH AND REPAIR FLOOR FINISH TO MATCH EXIST. (M.G.A.T.) (TYP.)
TYP.	TYPICAL
EXIST. / EX	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS

FLOOR FINISH DEMOLITION NOTES

1. ALL DIMENSIONS TO BE SITE MEASURED AND VERIFIED.
2. THIS DRAWING TO BE READ IN CONJUNCTION W/ FLOOR FINISH NEW + ROOM FINISH SCHEDULE DRAWINGS. REPORT ANY DISAGREEMENTS OR CONFLICTS BETWEEN CONSULTANT'S DRAWINGS TO THE ARCHITECT.
3. CONTRACTOR TO SUPPLY AND INSTALL TEMPORARY PLYWOOD SHEETING TO PROTECT NEW FLOORING BEING INSTALLED IN ALL AREAS WHERE PUBLIC ACCESS MUST BE MAINTAINED DURING CONSTRUCTION.
4. GENERAL CONTRACTOR IS RESPONSIBLE FOR X-RAY STUDY OF EXIST. CONCRETE FLOOR SLAB BEFORE CUTTING TO ENSURE STRUCTURAL INTEGRITY OF THE / FLOOR SLAB AND NO EXIST. UNDERGROUND SERVICES TO BE AFFECTED.
5. ALL FLOOR AREAS WHERE EXISTING FLOOR FINISH HAS BEEN REMOVED TO ACCOMMODATE NEW FINISHES TO BE PROPERLY PREPARED WITH LEVELLING COMPOUND UP TO ±3" THICK, SMOOTH & CLEAN TO RECEIVE NEW FLOORING.
6. REPAIR, PATCH, MAKE GOOD AT WALL AND FLOOR JUNCTIONS AND PAINT FINISH TO ALL RELATED EXISTING AREAS TO ACCOMMODATE NEW MECHANICAL & ELECTRICAL MODIFICATIONS, FIXTURES AND NEW CONNECTIONS.
7. REMOVE AND RE-INSTALL ALL EXIST. LOOSE MILLWORK / FURNITURE (M.G.A.T.)(TYP.).
8. EXIST. FIXED MILLWORK / FURNITURE TO REMAIN (TYP.)
9. DEMOLISH EXIST. RUBBER BASE TRIM AT ALL EXIST. FIXED MILLWORK / FURNITURE AND PREP FOR NEW (M.G.A.T.) (TYP.)
10. GENERAL CONTRACTOR TO PROTECT EXISTING EQUIPMENT AND FURNITURE FROM DEBRIS AND DUST BY PROVIDING PLASTIC SHEET COVERS DURING THE WORKS.

FLOOR FINISH NEW LEGEND

	CLEAN, GRIND SMOOTH AND MACHINE POLISH EXIST. TERRAZZO FLOOR FINISH; AND SUPPLY & INSTALL NEW RUBBER WALL BASE (M.G.A.T.)(TYP.)
	NEW RESILIENT ATHLETIC SURFACING FLOORING (RASF) 6.5 MM THICK FOR GYMNASIUM W/ : NEW GAME LINES, NEW FLOOR SOCKETS, RINGS + PLUGS, ON TARKOLAY VAPOUR BARRIER AND ±2-1/2" CEMENT SKIM COAT TO LEVEL FLOOR (TYP.) NEW RUBBER WALL BASE. REFER TO DRAWING A3008 FOR LOCATION OF NEW GAME LINES AND FLOOR SOCKETS.
	NEW VCT FLOOR FINISH AND RUBBER WALL BASE (TYP.)
	NEW NONE-SLIP PORCELAIN TILE FLOOR FINISH AND PORCELAIN WALL BASE (TYP.)
	NEW FLOOR TRANSITION STRIP (TYP.) (REFER TO DETAIL 3/A300A)
RR	NEW RUBBER REDUCER, JOHNSONITE (TYP.)
TYP.	TYPICAL
EXIST. / EX	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS

FLOOR FINISH NEW NOTES

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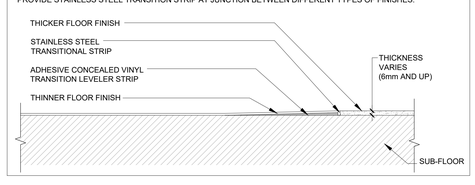
2. THIS DRAWING TO BE READ IN CONJUNCTION W/ STRUCTURAL, MECHANICAL, ELECTRICAL, FLOOR FINISH DEMOLITION + ROOM FINISH SCHEDULE DRAWINGS. REPORT ANY DISAGREEMENTS OR CONFLICTS BETWEEN CONSULTANT'S DRAWINGS TO THE ARCHITECT.
3. SUPPLY AND INSTALL NEW RUBBER BASE TRIM AT ALL EXIST. FIXED MILLWORK / FURNITURE, AS NECESSARY. (TYP.)

NOTE:
THIS DETAIL TO BE USED AT ALL JUNCTIONS BETWEEN NEW NON-SLIP PORCELAIN TILE AND EXISTING VINYL FLOORING, ETC.
PROVIDE STAINLESS STEEL TRANSITION STRIP AT JUNCTION BETWEEN DIFFERENT TYPES OF FINISHES.



3 A300A NEW FLOOR TRANSITION STRIP DETAIL (TYP.)

SCALE: N.T.S

NO.	DESCRIPTION	DATE
5	ISSUED FOR TENDER	2024.MAR.
4	ISSUED FOR TENDER	2024.02.20
3	ISSUED FOR 90% CLIENT REVIEW	2024.02.15
2	ISSUED FOR BUILDING PERMIT	2024.02.02
1	ISSUED FOR CLIENT REVIEW	2023.11.20

REVISIONS

HAMILTON-WENTWORTH DISTRICT SCHOOL BOARD
20 Education Court, Hamilton, Ontario
L8A 9R9 Canada
Tel. (905)527-5092

HESS STREET ELEMENTARY SCHOOL

RENOVATION PROJECT

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Hamilton, ON L8R 2T1

NCA ARCHITECTS
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TORONTO, ONTARIO
M3B 3J5
TEL: 416 367 9077
FAX: 416 367 9655
www.nca-inc.com

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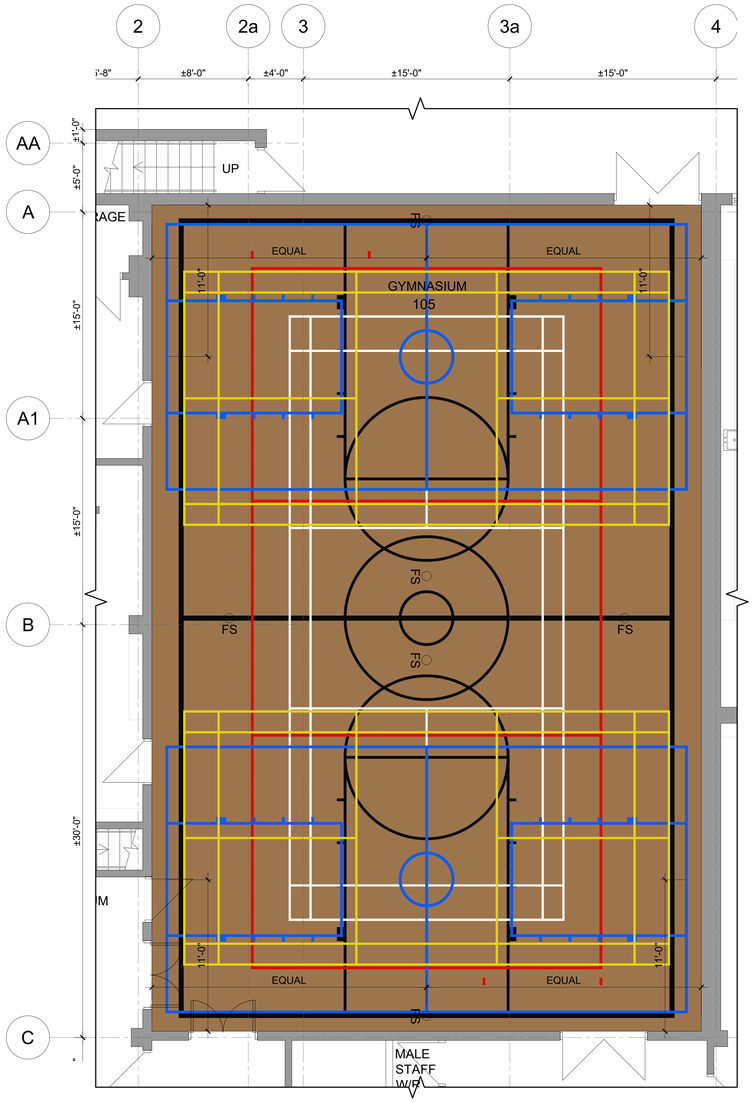
ISSUED FOR CONSTRUCTION DATE

PROJECT NORTH
TRUE NORTH

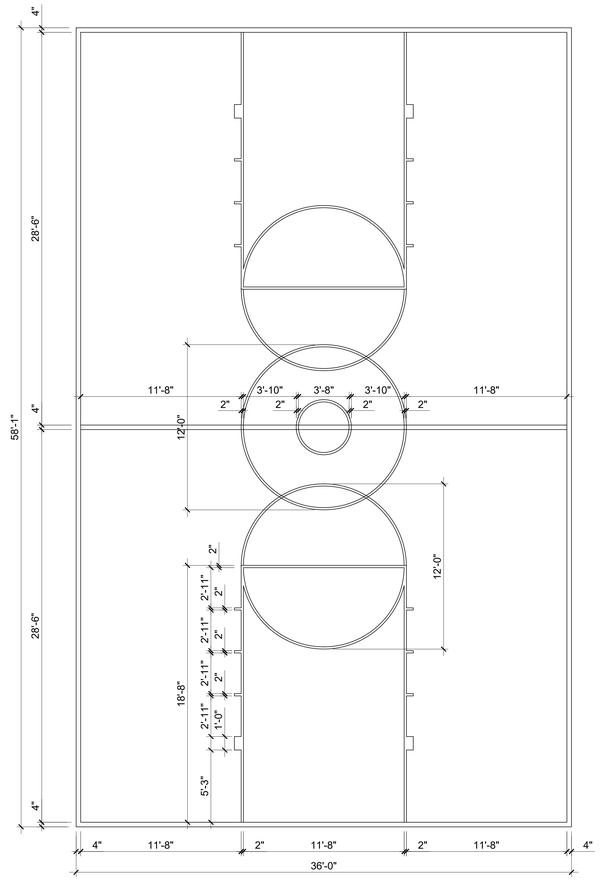
STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

SHEET TITLE
PARTIAL GROUND FLOOR PLANS
- FLOOR FINISH PLAN
- DEMOLITION & NEW

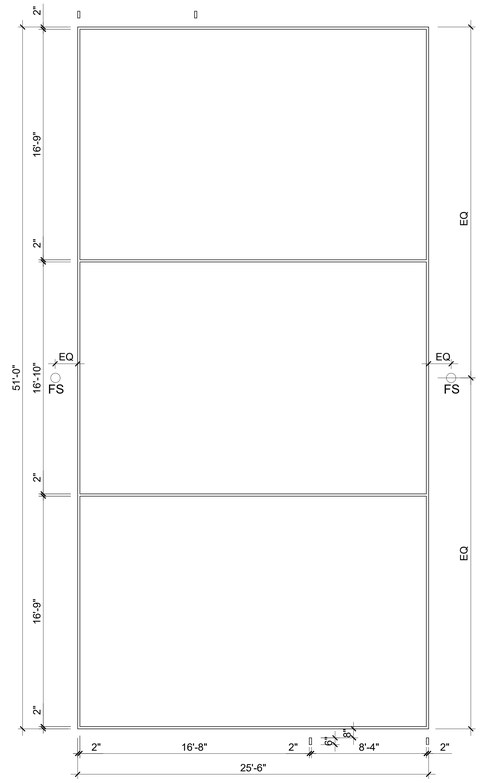
SHEET NO.	DRAWN BY	CHECKED
A300A	MM/IP	RN
	PROJECT NO. 2320769	
	SCALE AS NOTED	



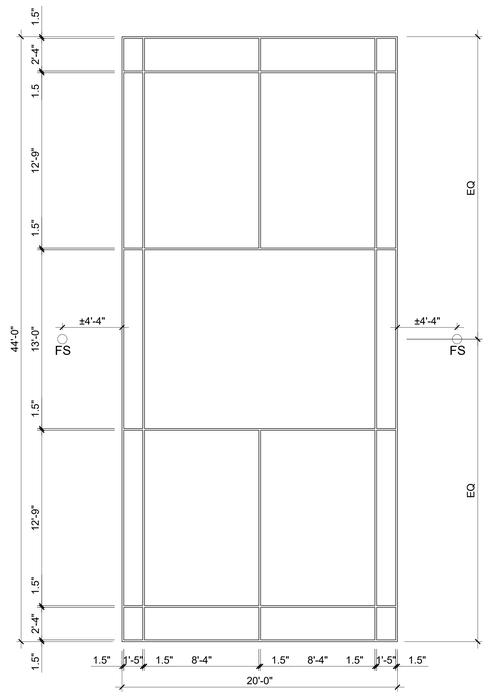
1 A300B GYMNASIUM 105 - GAME LINES - NEW
SCALE: 1/4"=1'-0"



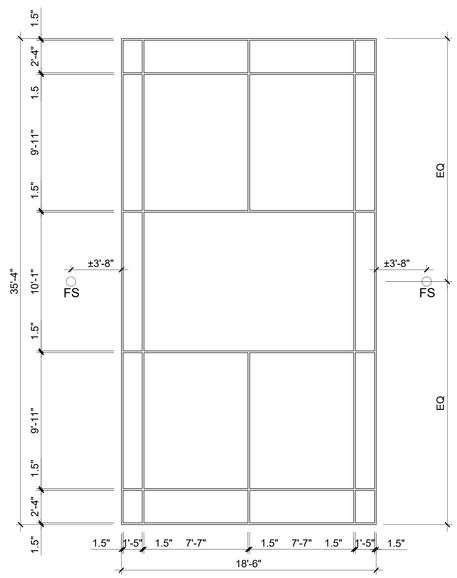
BASKETBALL COURT (MAIN)
COLOR: **BLACK**
4" PERIMETER + MID-COURT LINES
2" ALL OTHER LINES



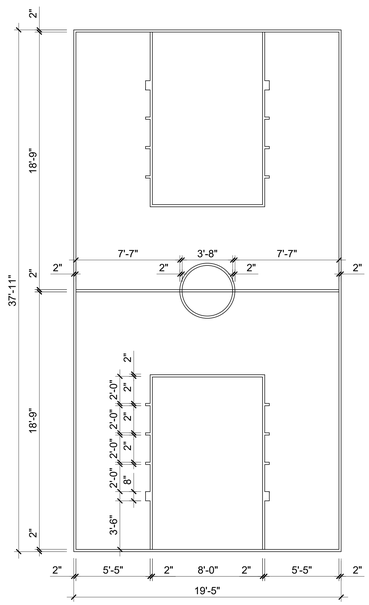
VOLLEYBALL COURT (MAIN)
COLOR: **RED**
2" ALL LINES



BADMINTON COURT (MAIN)
COLOR: **WHITE**
1.5" ALL LINES



BADMINTON COURT (PRATICE)
COLOR: **YELLOW**
1.5" ALL LINES



BASKETBALL COURT (PRACTICE)
COLOR: **BLUE**
2" ALL LINES

GYMNASIUM LEGEND

FS	NEW FLOOR SOCKET, RING AND PLUG (TYP.)

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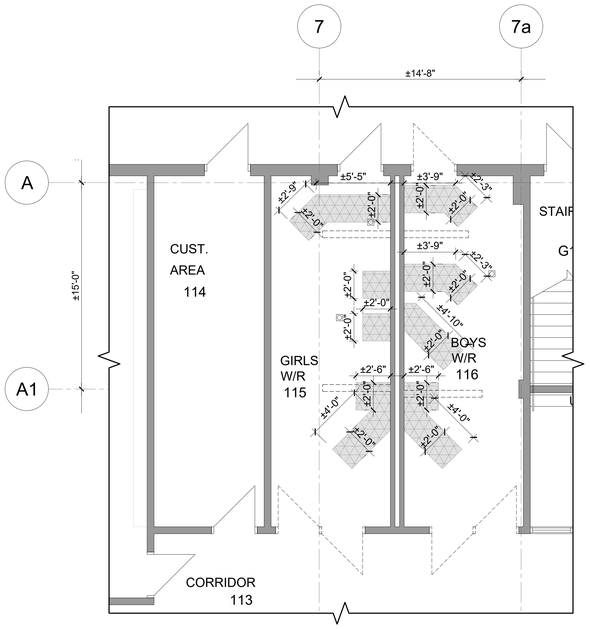
DATE

PROJECT NORTH
GRID NORTH

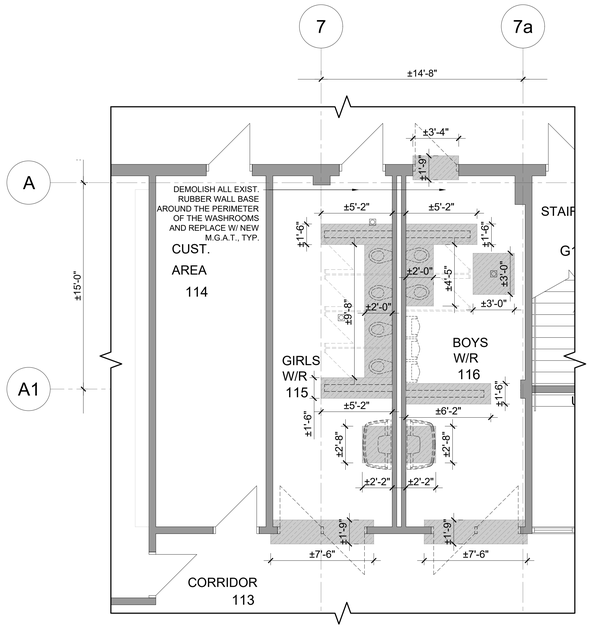
STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

SHEET TITLE
GYMNASIUM 105
- GAME LINES
- NEW

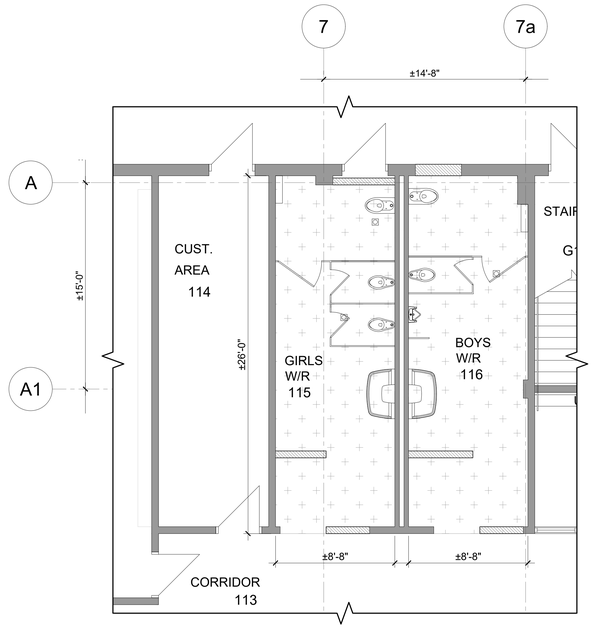
SHEET NO: A300B
DRAWN BY: MM/IP
CHECKED: RN
PROJECT NO: 2320769
SCALE: AS NOTED



1 A301 PARTIAL GROUND FLOOR PLAN - TRENCH DEMOLITION
SCALE: 1/4"=1'-0"



2 A301 PARTIAL GROUND FLOOR PLAN - FLOOR FINISH DEMOLITION
SCALE: 1/4"=1'-0"



3 A301 PARTIAL GROUND FLOOR PLAN - FLOOR FINISH NEW
SCALE: 1/4"=1'-0"

FLOOR FINISH DEMOLITION LEGEND

	DEMOLISH EXIST. FLOOR FINISH AND WALL BASE. (M.G.A.T.) (TYP.) IN GYMNASIUM ONLY. DEMOLISH ALL EXIST. FLOOR SOCKETS, RINGS & PLUGS AND FILL EXIST HOLES W/ GROUT. (M.G.A.T.) (TYP.)
	DEMOLISH EXIST. CONC. FLOOR TO INSTALL NEW FLOOR SOCKETS (M.G.A.T.) (TYP.) GC TO CO-ORDINATE EXACT LOCATION W/ FLOOR / FLOOR SOCKET AND GAME LINE INSTALLER.
	± 2'-0" x ± 2-0" MIN. WIDE TRENCH (TYP.) EXIST. FLOOR SLAB TO BE CUT TO ACCOMMODATE INSTALLATION OF NEW SANITARY PIPE. CUT, PATCH AND FIRE STOP AT EXIST. FLOOR SLAB / CEILING BELOW (AS NECESSARY) PATCH AND REPAIR EXIST. FLOOR FINISH TO MATCH EXIST. G.C. TO PROVIDE TEMPORARY SHORING FOR EXISTING PARTITION DURING TRENCHING. HAND-DIGGING MUST BE CONDUCTED IN THIS AREA.(SEE MECH (M.G.A.T.) (TYP.)
	PATCH AND REPAIR FLOOR FINISH TO MATCH EXIST. (M.G.A.T.) (TYP.)
TYP.	TYPICAL
EXIST. / EX	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS

FLOOR FINISH DEMOLITION NOTES

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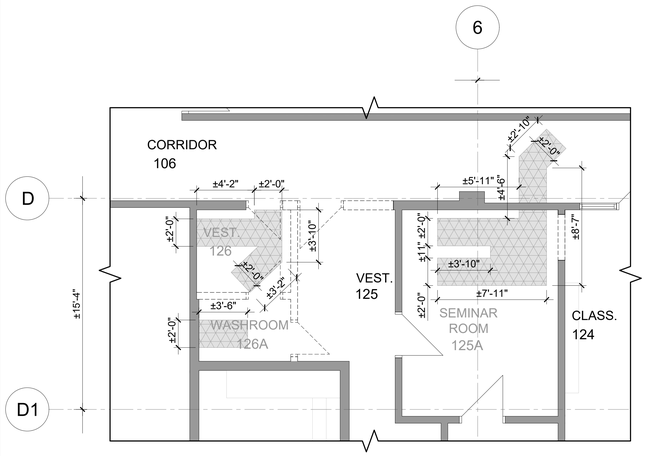
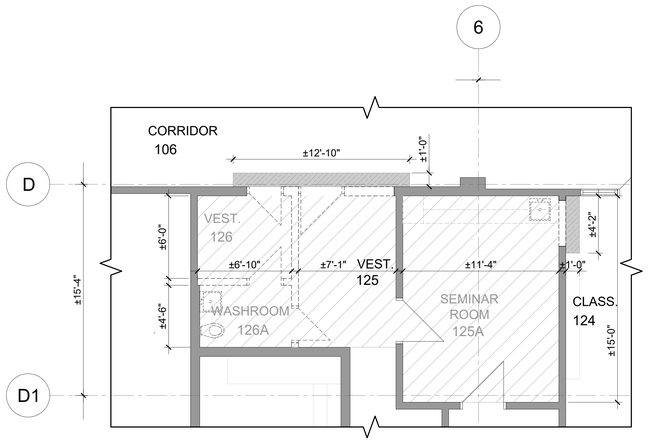
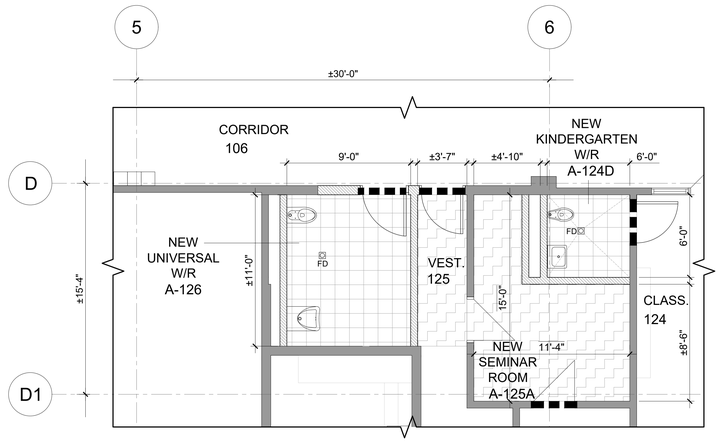
3. CONTRACTOR TO SUPPLY AND INSTALL TEMPORARY PLYWOOD SHEETING TO PROTECT NEW FLOORING BEING INSTALLED IN ALL AREAS WHERE PUBLIC ACCESS MUST BE MAINTAINED DURING CONSTRUCTION.
4. GENERAL CONTRACTOR IS RESPONSIBLE FOR X-RAY STUDY OF EXIST. CONCRETE FLOOR SLAB BEFORE CUTTING TO ENSURE STRUCTURAL INTEGRITY OF THE / FLOOR SLAB AND NO EXIST. UNDERGROUND SERVICES TO BE AFFECTED.
5. ALL FLOOR AREAS WHERE EXISTING FLOOR FINISH HAS BEEN REMOVED TO ACCOMMODATE NEW FINISHES TO BE PROPERLY PREPARED WITH LEVELLING COMPOUND UP TO ±3" THICK, SMOOTH & CLEAN TO RECEIVE NEW FLOORING.
6. REPAIR, PATCH, MAKE GOOD AT WALL AND FLOOR JUNCTIONS AND PAINT FINISH TO ALL RELATED EXISTING AREAS TO ACCOMMODATE NEW MECHANICAL & ELECTRICAL MODIFICATIONS, FIXTURES AND NEW CONNECTIONS.
7. REMOVE AND RE-INSTALL ALL EXIST. LOOSE MILLWORK / FURNITURE (M.G.A.T.)(TYP.).
8. EXIST. FIXED MILLWORK / FURNITURE TO REMAIN (TYP.)
9. DEMOLISH EXIST. RUBBER BASE TRIM AT ALL EXIST. FIXED MILLWORK / FURNITURE AND PREP FOR NEW (M.G.A.T.) (TYP.)
10. GENERAL CONTRACTOR TO PROTECT EXISTING EQUIPMENT AND FURNITURE FROM DEBRIS AND DUST BY PROVIDING PLASTIC SHEET COVERS DURING THE WORKS.



4 A301 PARTIAL GROUND FLOOR PLAN - TRENCH DEMOLITION
SCALE: 1/4"=1'-0"



5 A301 PARTIAL GROUND FLOOR PLAN - FLOOR FINISH DEMOLITION
SCALE: 1/4"=1'-0"



6 A301 PARTIAL GROUND FLOOR PLAN - FLOOR FINISH NEW
SCALE: 1/4"=1'-0"

FLOOR FINISH NEW LEGEND

	CLEAN, GRIND SMOOTH AND MACHINE POLISH EXIST. TERRAZZO FLOOR FINISH. AND SUPPLY & INSTALL NEW RUBBER WALL BASE (M.G.A.T.)(TYP.)
	NEW RESILIENT ATHLETIC SURFACING FLOORING (RASF): 6.5 MM THICK FOR GYMNASIUM W/ : NEW GAME LINES. NEW FLOOR SOCKETS, RINGS + PLUGS, ON TARKOLAY VAPOUR BARRIER ADJUST 12" CEMENT SKIM COAT TO ACCOMMODATE NEW NEW RUBBER WALL BASE. REFER TO DRAWING A300B FOR LOCATION OF NEW GAME LINES AND FLOOR SOCKETS.
	NEW VCT FLOOR FINISH AND RUBBER WALL BASE (TYP.)
	NEW NONE-SLIP PORCELAIN TILE FLOOR FINISH AND PORCELAIN WALL BASE (TYP.)
	NEW FLOOR TRANSITION STRIP (TYP.) (REFER TO DETAIL 3/A300A)
RR	NEW RUBBER REDUCER, JOHNSONITE (TYP.)
TYP.	TYPICAL
EXIST. / EX	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS

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3. SUPPLY AND INSTALL NEW RUBBER BASE TRIM AT ALL EXIST. FIXED MILLWORK / FURNITURE, AS NECESSARY. (TYP.)

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PROJECT NORTH
GRID NORTH

STRUCTURAL CONSULTANT: SALAS O'BRIEN
MECHANICAL CONSULTANT: CKE
ELECTRICAL CONSULTANT: CKE

SHEET TITLE
PARTIAL GROUND FLOOR PLANS
- FLOOR FINISH PLAN
- DEMOLITION & NEW

SHEET NO.	DRAWN BY	CHECKED
A301	MM/IP	RN
	PROJECT NO. 2320769	
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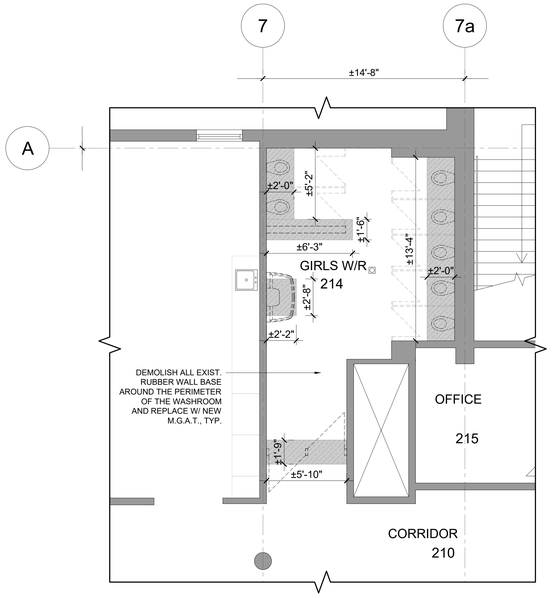
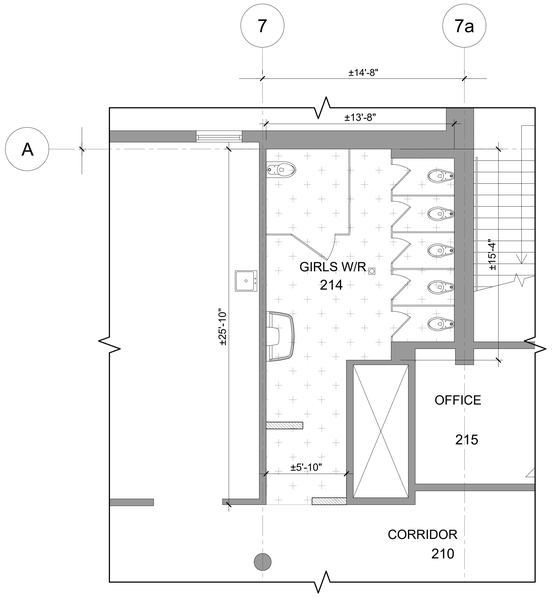
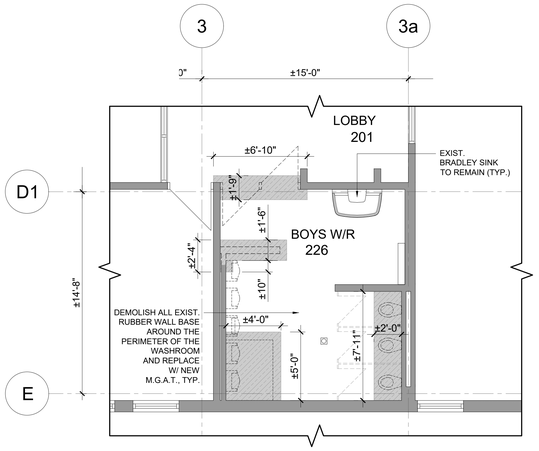


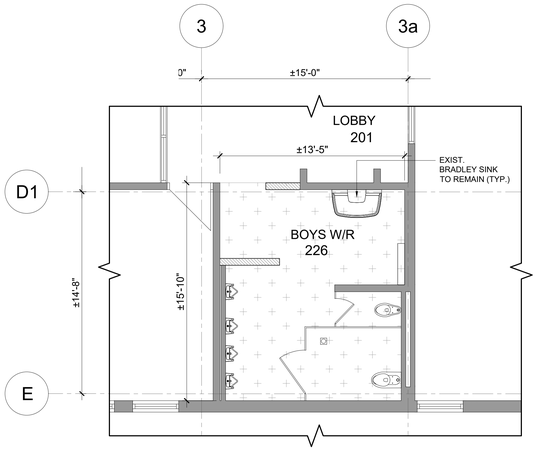
1 A302 PARTIAL SECOND FLOOR PLAN - FLOOR FINISH DEMOLITION
SCALE: 1/4"=1'-0"



2 A302 PARTIAL SECOND FLOOR PLAN - FLOOR FINISH NEW
SCALE: 1/4"=1'-0"



3 A302 PARTIAL SECOND FLOOR PLAN - FLOOR FINISH DEMOLITION
SCALE: 1/4"=1'-0"



4 A302 PARTIAL SECOND FLOOR PLAN - FLOOR FINISH NEW
SCALE: 1/4"=1'-0"

FLOOR FINISH DEMOLITION LEGEND

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	PATCH AND REPAIR FLOOR FINISH TO MATCH EXIST. (M.G.A.T.) (TYP.)
TYP.	TYPICAL
EXIST. / EX	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS

FLOOR FINISH DEMOLITION NOTES

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FLOOR FINISH NEW LEGEND

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	NEW RESILIENT ATHLETIC SURFACING FLOORING (RASF): 6.5 MM THICK FOR GYMNASIUM W/ : NEW GAME LINES. NEW FLOOR SOCKETS, RINGS + PLUGS, ON TARKOLAY VAPOUR BARRIER AND 2-1/2" CEMENT SKIM COAT FOR NEW SOCKETS. NEW RUBBER WALL BASE. REFER TO DRAWING A300B FOR LOCATION OF NEW GAME LINES AND FLOOR SOCKETS.
	NEW VCT FLOOR FINISH AND RUBBER WALL BASE (TYP.)
	NEW NONE-SLIP PORCELAIN TILE FLOOR FINISH AND PORCELAIN WALL BASE (TYP.)
	NEW FLOOR TRANSITION STRIP (TYP.) (REFER TO DETAIL 3/A300A)
RR	NEW RUBBER REDUCER, JOHNSONITE (TYP.)
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- FLOOR FINISH PLAN
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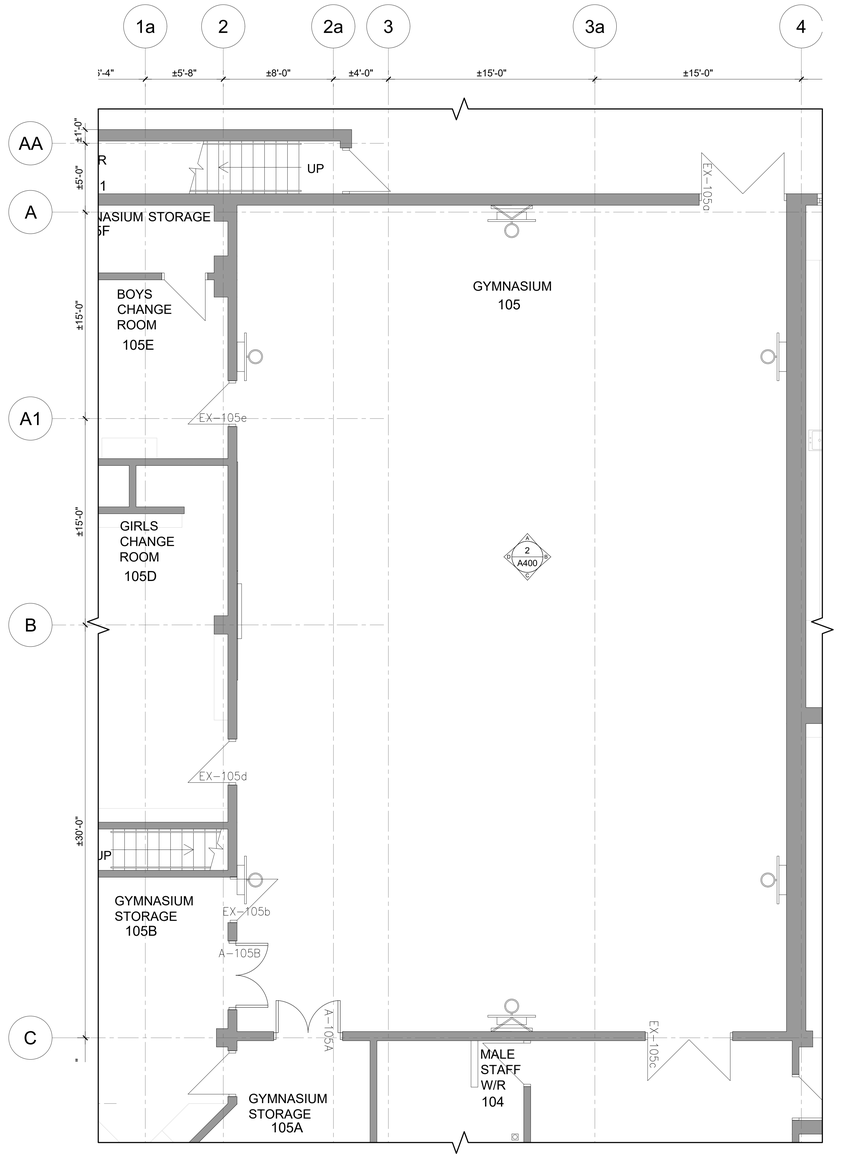
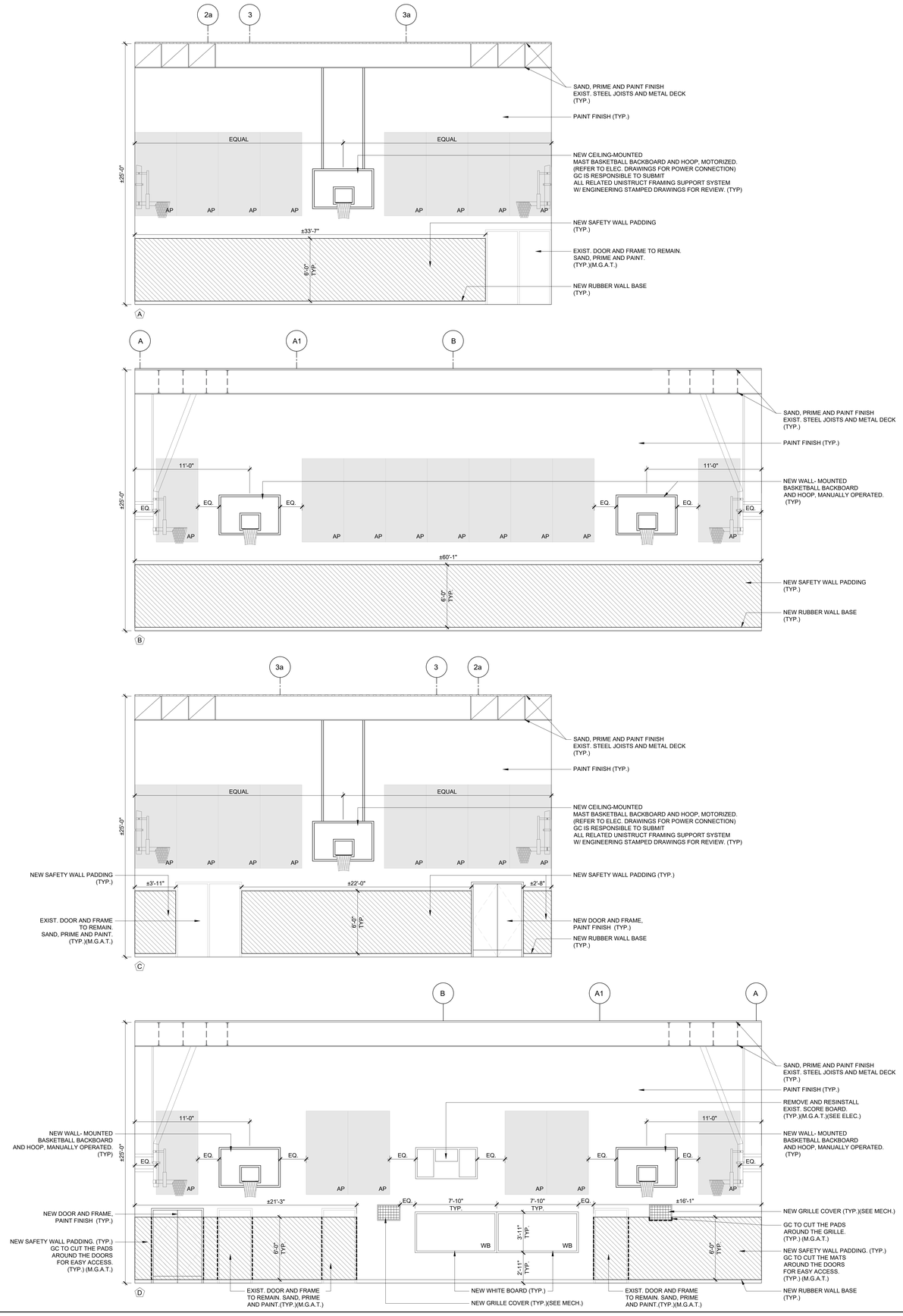
	PROJECT NO. 2320769	
	SCALE AS NOTED	



1 A400 PARTIAL GROUND FLOOR PLAN - GYMNASIUM 105
SCALE: 1/4"=1'-0"



2 A400 INTERIOR ELEVATIONS - GYMNASIUM 105
SCALE: 1/4"=1'-0"

TYPICAL LEGEND:

TYP.	TYPICAL
EXIST.	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS
AFF	ABOVE FINISHED FLOOR

GYM INTERIOR ELEVATIONS LEGEND:

AP — NEW FABRIC ACOUSTIC PANEL
8'-0" HEIGHT
4'-0" WIDTH
(TYP.)

NO.	DESCRIPTION	DATE
4	ISSUED FOR TENDER	2024.MAR.
3	ISSUED FOR TENDER	2024.02.20
2	ISSUED FOR 90% CLIENT REVIEW	2024.02.15
1	ISSUED FOR CLIENT REVIEW	2023.11.20

REVISIONS

HAMILTON-WENTWORTH DISTRICT SCHOOL BOARD
20 Education Court, Hamilton, Ontario
(905) 527-5092
Fax (905)527-4360

HESS STREET ELEMENTARY SCHOOL

RENOVATION PROJECT

107 Hess Street North
Hamilton, ON L8R 2T1

NGA ARCHITECTS
220 DUNCAN MILL RD.
SUITE 403
TORONTO, ONTARIO
M3B 3J5
TEL 416 367 8977
FAX 416 367 9003
www.nga.com

The contractor shall check and verify all dimensions and report all errors and omissions to the architect and engineer before commencing work. Do not scale the drawing.

This drawing shall not be used for construction purposes unless signed and sealed by the appropriate professional whose seal is affixed to this drawing and whose signature is below.

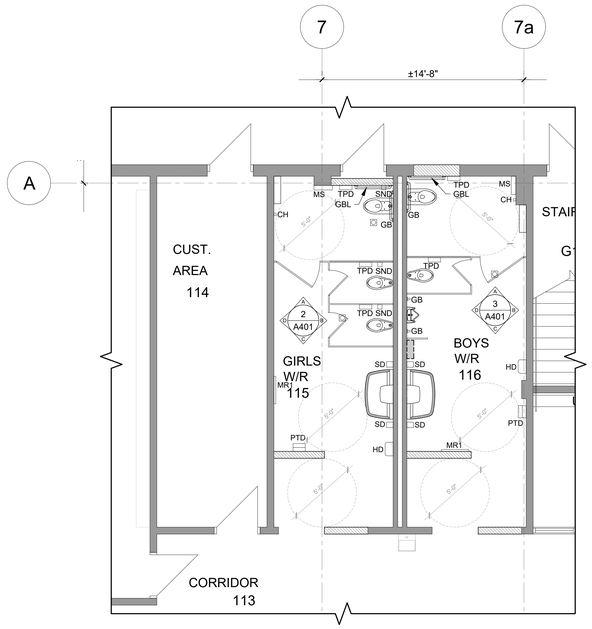
ISSUED FOR CONSTRUCTION | DATE

PROJECT NORTH
TRUE NORTH

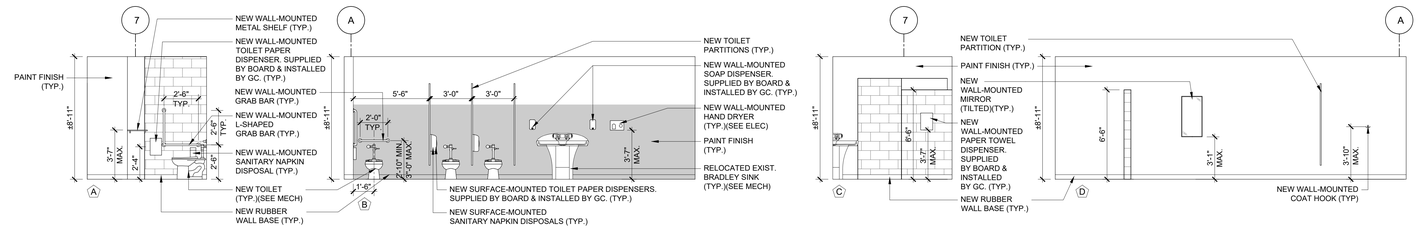
STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

SHEET TITLE
INTERIOR ELEVATIONS

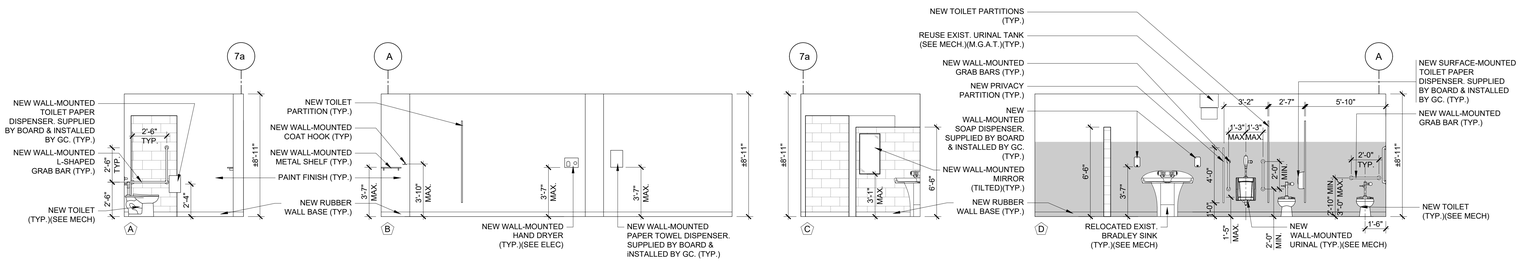
SHEET NO.	DRAWN BY	CHECKED
A400	MM/IP	RN
	PROJECT NO. 2320769	
	SCALE AS NOTED	



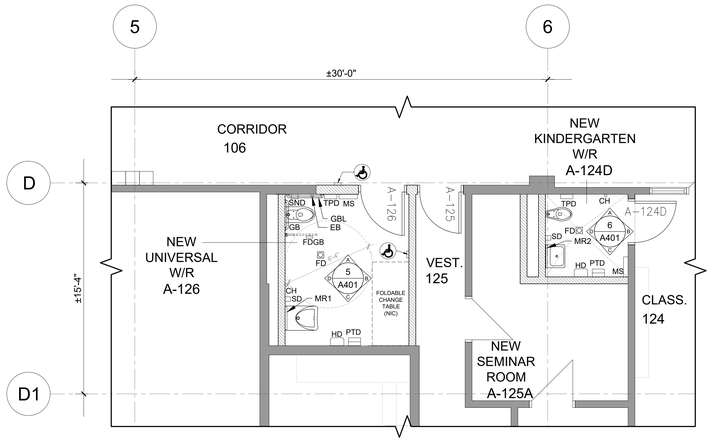
1 A401 PARTIAL GROUND FLOOR PLAN - WASHROOMS
SCALE: 1/4"=1'-0"



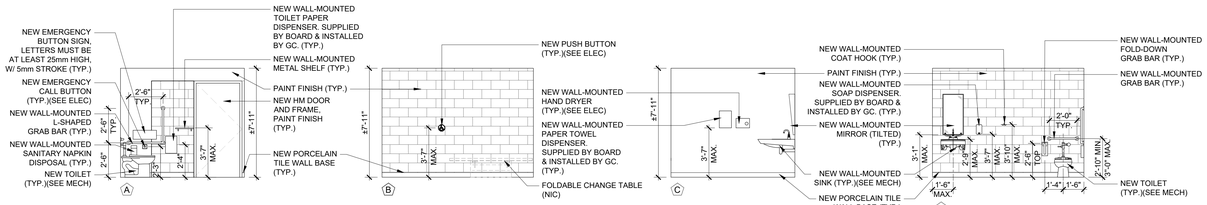
2 A401 GIRLS WASHROOM 115 - INTERIOR ELEVATIONS
SCALE: 1/4"=1'-0"



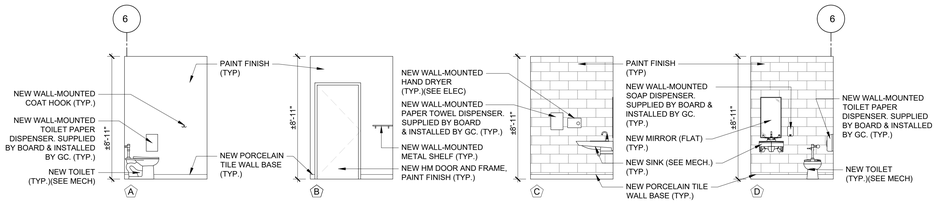
3 A401 BOYS WASHROOM 116 - INTERIOR ELEVATIONS
SCALE: 1/4"=1'-0"



4 A401 PARTIAL GROUND FLOOR PLAN - WASHROOMS
SCALE: 1/4"=1'-0"



5 A401 NEW UNIVERSAL WASHROOM A-126 - INTERIOR ELEVATIONS
SCALE: 1/4"=1'-0"



6 A401 NEW KINDERGATEN WASHROOM A-124D - INTERIOR ELEVATIONS
SCALE: 1/4"=1'-0"

TYPICAL LEGEND:

TYP.	TYPICAL
EXIST.	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS
AFF	ABOVE FINISHED FLOOR

WASHROOM ACCESSORIES LEGEND:

EB	EMERGENCY CALL BUTTON/PULL STRING (SEE ELEC.)
CH	COAT HOOK
FDGB	FOLD-DOWN GRAB BAR
GB	STRAIGHT GRAB BAR
GBL	L-SHAPED GRAB BAR
HD	HAND DRYER (SEE ELEC.)
MR1	MIRROR (TILTED)
MR2	MIRROR (FLAT)
MS	METAL SHELF
PTD	PAPER TOWEL DISPENSER
SD	SOAP DISPENSER
SND	SANITARY NAPKIN DISPOSAL
TPD	TOILET PAPER DISPENSER

W/R INTERIOR ELEVATIONS LEGEND:

CUT EXIST. CONC. BLOCK WALL TO 45"-0" AFF. TO ACCOMMODATE ALL PLUMBING REPLACEMENT AND CONSTRUCTION WORK. - REFER TO DRAWINGS A101 AND A102. (SEE MECH.)(M.G.A.T.)(TYP.)

NO.	DESCRIPTION	DATE
4	ISSUED FOR TENDER	2024.MAR.
3	ISSUED FOR TENDER	2024.02.20
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www.ncarc.com

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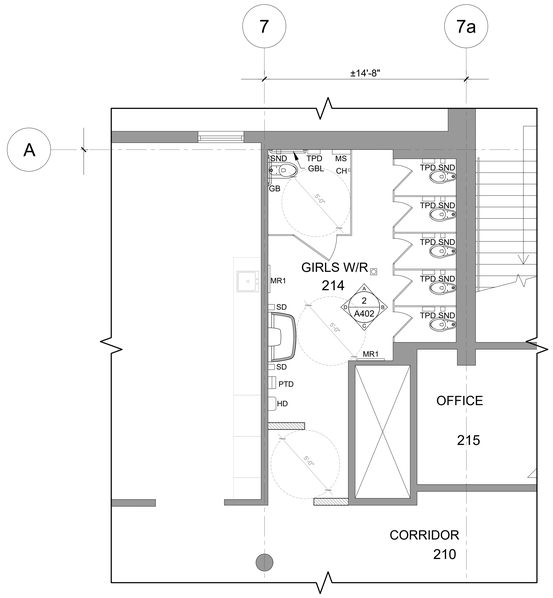
ISSUED FOR CONSTRUCTION
DATE

PROJECT NORTH

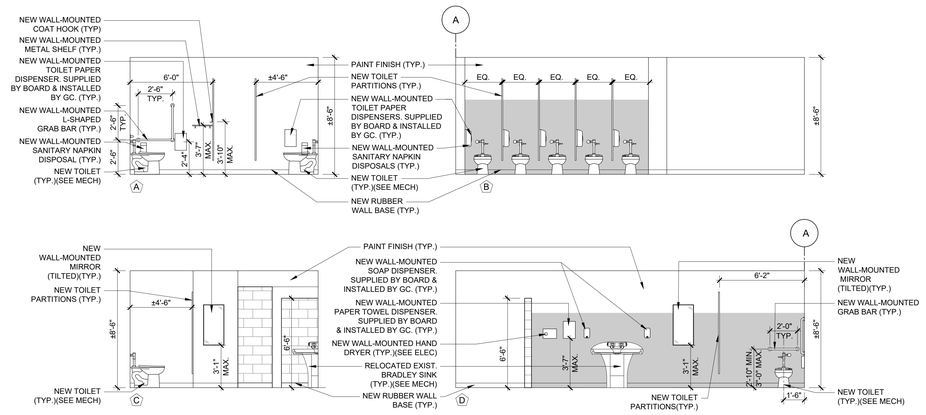
STRUCTURAL CONSULTANT: SALAS O'BRIEN
MECHANICAL CONSULTANT: CKE
ELECTRICAL CONSULTANT: CKE

SHEET TITLE: INTERIOR ELEVATIONS

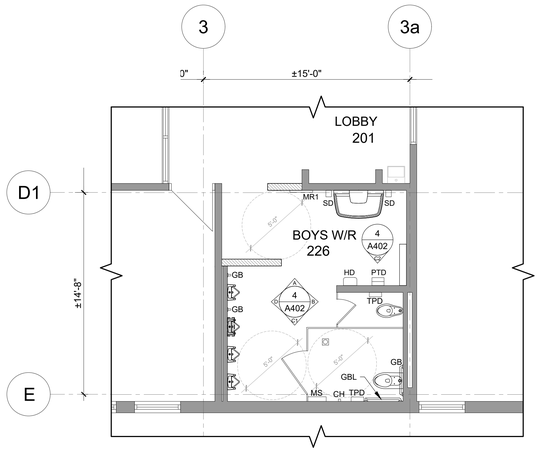
SHEET NO.	DRAWN BY	CHECKED
A401	MM/IP	RN
	PROJECT NO. 2320769	
	SCALE AS NOTED	



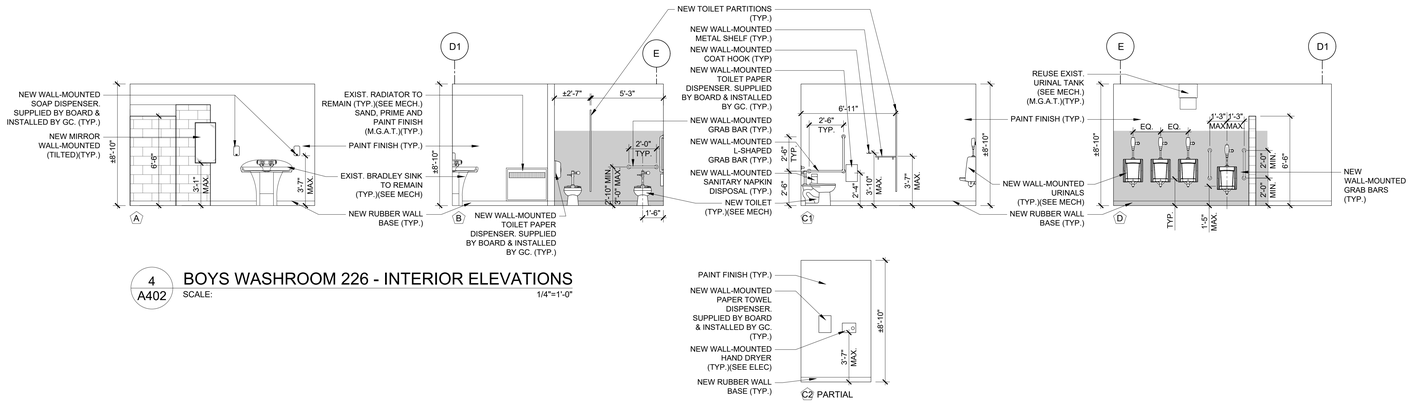
1 A402 PARTIAL SECOND FLOOR PLAN - GIRLS WASHROOM 214
SCALE: 1/4"=1'-0"



2 A402 GIRLS WASHROOM 214 - INTERIOR ELEVATIONS
SCALE: 1/4"=1'-0"



3 A402 PARTIAL SECOND FLOOR PLAN - BOYS WASHROOM 226
SCALE: 1/4"=1'-0"



4 A402 BOYS WASHROOM 226 - INTERIOR ELEVATIONS
SCALE: 1/4"=1'-0"

TYPICAL LEGEND:

TYP.	TYPICAL
EXIST.	EXISTING
NIC	NOT IN CONTRACT
M.G.A.T.	MAKE GOOD ON ALL TRADES AT JUNCTIONS
AFF	ABOVE FINISHED FLOOR

WASHROOM ACCESSORIES LEGEND:

EB	EMERGENCY CALL BUTTON/PULL STRING (SEE ELEC.)
CH	COAT HOOK
FDGB	FOLD-DOWN GRAB BAR
GB	STRAIGHT GRAB BAR
GBL	L-SHAPED GRAB BAR
HD	HAND DRYER (SEE ELEC.)
MR1	MIRROR (TILTED)
MR2	MIRROR (FLAT)
MS	METAL SHELF
PTD	PAPER TOWEL DISPENSER
SD	SOAP DISPENSER
SND	SANITARY NAPKIN DISPOSAL
TPD	TOILET PAPER DISPENSER

W/R INTERIOR ELEVATIONS LEGEND:

CUT EXIST. CONC. BLOCK WALL TO 4'-0"-7' AFF TO ACCOMMODATE ALL PLUMBING REPLACEMENT AND CONNECTION WORK - REFER TO DRAWINGS A101 AND A102. (SEE MECH.)(M.G.A.T.)(TYP.)

NO.	DESCRIPTION	DATE
4	ISSUED FOR TENDER	2024.MAR.
3	ISSUED FOR TENDER	2024.02.20
2	ISSUED FOR 90% CLIENT REVIEW	2024.02.15
1	ISSUED FOR CLIENT REVIEW	2023.11.20

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ISSUED FOR CONSTRUCTION
DATE

PROJECT NORTH

STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

SHEET TITLE
INTERIOR ELEVATIONS

SHEET NO. A402
DRAWN BY MM/IP
CHECKED RN
PROJECT NO. 2320769
SCALE AS NOTED

ROOM		FLOOR		BASE		NORTH WALL		EAST WALL		SOUTH WALL		WEST WALL		CEILING				
NO.	NAME	MATERIAL	FINISH	MATERIAL	FIN./COL.	MATERIAL	FIN./COL.	MATERIAL	FIN./COL.	MATERIAL	FIN./COL.	MATERIAL	FIN./COL.	MATERIAL	FINISH	COLOR	HEIGHT	REMARKS
GROUND FLOOR																		
105	GYMNASIUM	ARF	-	RB	-	EX	PT	EX	PT	EX	PT	EX	PT	EX	PT	-	EX	-
105A	GYMNASIUM STORAGE	EX*	-	EX*	-	EX	-	EX	-	EX	-	EX	-	EX	-	-	-	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.)
105B	GYMNASIUM STORAGE	EX*	-	EX*	-	EX	-	EX	-	EX	-	EX	-	EX	-	-	-	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.)
106	CORRIDOR	EX*	-	EX*	-	EX	-	EX	-	EX / CBL	PT	EX	-	EX	-	-	-	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.)
113	CORRIDOR	EX*	-	EX*	-	EX / CBL	PT	EX	-	EX	-	EX	-	EX	-	-	-	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.)
115	GIRLS WASHROOM	EX*	-	RB	-	EX / CBL	PT	EX	PT	EX / CBL	PT	EX / CBL	PT	WGB	-	-	+/- 8'-11" **	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.) * CLEAN, GRIND SMOOTH AND MACHINE POLISH EXISTING TERRAZZO FLOOR FINISH (M.G.AT.)(TYP.) ** MATCH EXISTING CEILING HEIGHT
116	BOYS WASHROOM	EX*	-	RB	-	EX / CBL	PT	EX	PT	EX / CBL	PT	EX / CBL	PT	WGB	-	-	+/- 8'-11" **	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.) * CLEAN, GRIND SMOOTH AND MACHINE POLISH EXISTING TERRAZZO FLOOR FINISH (M.G.AT.)(TYP.) ** MATCH EXISTING CEILING HEIGHT
124	CLASSROOM	EX*	-	EX*	-	EX	-	EX	-	EX	-	EX	-	EX	-	-	-	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.)
A-124D	NEW KINDERGARTEN WASHROOM	POR	-	PORB	-	EX	PT	EX	PT	CBL	PT	CBL	PT	WGB	-	-	+/- 8'-11" **	** MATCH EXISTING CEILING HEIGHT
125	VESTIBULE	VCT	-	RB	-	EX / CBL	PT	EX	PT	EX	PT	CBL	PT	AT	-	-	+/- 7'-11" **	** MATCH EXISTING CEILING HEIGHT
A-125A	NEW SEMINAR ROOM	VCT	-	RB	-	EX / CBL	PT	EX / CBL	PT	EX	PT	EX	PT	AT	-	-	+/- 8'-11" **	** MATCH EXISTING CEILING HEIGHT
A-126	NEW UNIVERSAL WASHROOM	POR	-	PORB	-	EX / CBL	PT	CBL	PT	EX	PT	CBL	PT	WGB	-	-	+/- 7'-11" **	** MATCH EXISTING CEILING HEIGHT
SECOND FLOOR																		
201	LOBBY	EX*	-	EX*	-	EX	-	EX	-	EX / CBL	PT	EX	-	EX	-	-	-	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.)
210	CORRIDOR	EX*	-	EX*	-	EX / CBL	PT	EX	-	EX	-	EX	-	EX	-	-	-	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.)
214	GIRLS WASHROOM	EX*	-	RB	-	EX / CBL	PT	EX / CBL	PT	EX / CBL	PT	EX / CBL	PT	WGB	-	-	+/- 8'-6" **	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.) * CLEAN, GRIND SMOOTH AND MACHINE POLISH EXISTING TERRAZZO FLOOR FINISH (M.G.AT.)(TYP.) ** MATCH EXISTING CEILING HEIGHT
226	BOYS WASHROOM	EX*	-	RB	-	EX / CBL	PT	EX / CBL	PT	EX / CBL	PT	EX / CBL	PT	WGB	-	-	+/- 8'-10" **	* PATCH AND REPAIR EXISTING FLOOR TO MATCH EXISTING (M.G.A.T.)(TYP.) * CLEAN, GRIND SMOOTH AND MACHINE POLISH EXISTING TERRAZZO FLOOR FINISH (M.G.AT.)(TYP.) ** MATCH EXISTING CEILING HEIGHT

1 A500 ROOM FINISHES SCHEDULE
SCALE: NTS

LEGEND

ARF	ATHLETIC RESILIENT FLOORING
AT	ACOUSTIC CEILING TILE
CBL	CONCRETE BLOCK
POR	NON-SLIP PORCELAIN TILE
PORB	PORCELAIN TILE WALL BASE
PT	PAINT
RB	RUBBER WALL BASE
WGB	WATER RESISTANT GYPSUM BOARD
VCT	VINYL COMPOSITION TILE
EX	EXISTING
TYP.	TYPICAL
M.G.A.T.	MAKE GOOD ON AT ALL TRADES AT JUNCTIONS

DOOR SCHEDULE

DOOR	NOMINAL DOOR SIZE (TO BE VERIFIED ON SITE)	DOOR			FRAME			FIRE RATING	THRESH'D	GRILLE	REMARKS
		TYPE	MAT.	FIN.	TYPE	MAT.	FIN.				
A-105A	2 - +/-2'-4" x +/-6'-10"	B	HM	PT	2	HM	PT	-	-	-	-
A-105B	2 - +/-2'-4" x +/-6'-10"	B	HM	PT	2	HM	PT	-	-	-	-
EX-105a	EX	EX	EX	PT*	EX	EX	PT*	-	-	-	*EXISTING DOOR AND FRAME TO REMAIN. SAND, PRIME AND PAINT. M.G.A.T.,TYP.
EX-105b	EX	EX	EX	PT*	EX	EX	PT*	-	-	-	*EXISTING DOOR AND FRAME TO REMAIN. SAND, PRIME AND PAINT. M.G.A.T.,TYP.
EX-105c	EX	EX	EX	PT*	EX	EX	PT*	-	-	-	*EXISTING DOOR AND FRAME TO REMAIN. SAND, PRIME AND PAINT. M.G.A.T.,TYP.
EX-105d	EX	EX	EX	PT*	EX	EX	PT*	-	-	-	*EXISTING DOOR AND FRAME TO REMAIN. SAND, PRIME AND PAINT. M.G.A.T.,TYP.
EX-105e	EX	EX	EX	PT*	EX	EX	PT*	-	-	-	*EXISTING DOOR AND FRAME TO REMAIN. SAND, PRIME AND PAINT. M.G.A.T.,TYP.
A-124D	3'-0" x +/-7'-0"	A	HM	PT	1	HM	PT	-	-	-	GC TO CONFIRM ON SITE W/ MECHANICAL IF DOORS REQUIRE TO BE UNDERCUT.
A-125	3'-0" x +/-7'-0"	A	HM	PT	1	HM	PT	-	-	-	GC TO CONFIRM ON SITE W/ MECHANICAL IF DOORS REQUIRE TO BE UNDERCUT.
A-126	3'-2" x 6'-10"	A	HM	PT	1	HM	PT	-	-	-	ADO (B/F PUSH BUTTON)

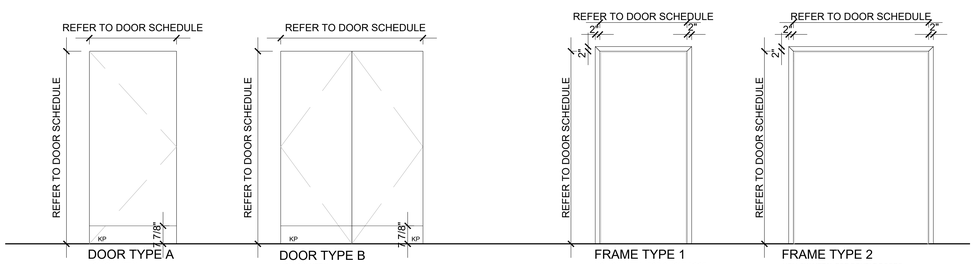
2 A500 DOOR SCHEDULE
SCALE: NTS

LEGEND

ADO	AUTOMATIC DOOR OPENER
B/F	BARRIER-FREE
EX	EXISTING
HM	HOLLOW METAL
KP	KICK PLATE
PT	PAINT FINISH
TG	TEMPERED GLASS
VIF	VERIFY IN FIELD

TYPICAL NOTES:

1. ALL DIMENSIONS TO BE SITE MEASURED AND VERIFIED.
2. ALL DOOR GLAZING TO BE DOUBLE PANE INSULATED GLAZING UNITS.
3. ALL NEW KICK PLATES TO BE INSTALLED ON THE PUSH SIDE OF THE NEW DOORS, IF NOT OTHERWISE NOTED.



DOOR TYPE A
HOLLOW METAL

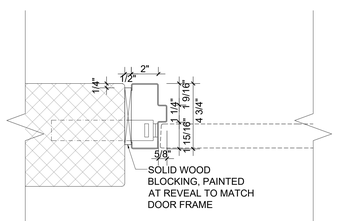
DOOR TYPE B
HOLLOW METAL
DOUBLE DOORS

FRAME TYPE 1
HOLLOW METAL FOR SINGLE DOOR

FRAME TYPE 2
HOLLOW METAL FOR DOUBLE DOORS

3 A500 DOOR TYPE
SCALE: N.T.S.

4 A500 DOOR FRAME
SCALE: N.T.S.



TYPICAL JAMB / HEAD/ SILL

5 A500 DOOR DETAILS
SCALE: 3"=1'0"

NO.	DESCRIPTION	DATE
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REVISIONS

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ISSUED FOR CONSTRUCTION:
DATE

STRUCTURAL CONSULTANT
SALAS O'BRIEN
MECHANICAL CONSULTANT
CKE
ELECTRICAL CONSULTANT
CKE

PROJECT NORTH
GRID NORTH

SHEET TITLE
SCHEDULES

SHEET NO. A500
DRAWN BY MM/IP
CHECKED RN
PROJECT NO. 2320769
SCALE AS NOTED

A. GENERAL

1. READ STRUCTURAL DOCUMENTS IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND OTHER CONTRACT DOCUMENTS.

2. BEFORE PROCEEDING WITH THE WORK, CHECK ALL DIMENSIONS SHOWN ON THE STRUCTURAL DOCUMENTS WITH SITE CONDITIONS AND THOSE SHOWN ON ARCHITECTURAL, MECHANICAL AND ELECTRICAL DOCUMENTS AND REPORT DISCREPANCIES TO THE CONSULTANT. STRUCTURAL DRAWINGS MUST NOT BE SCALED.

3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF OPENINGS, TRENCHES, PITS, SUMPS, EQUIPMENT, SLEEVES, DEPRESSIONS, GROOVES AND CHAMFERS NOT INDICATED ON THE STRUCTURAL DRAWINGS. UNLESS SPECIFICALLY NOTED, THE ABOVE ITEMS WHERE SHOWN ON THE STRUCTURAL DRAWINGS ARE INDICATED ONLY APPROXIMATELY AS TO SIZE AND LOCATION.

4. PROVIDE LABOUR, MATERIALS, PLANT AND EQUIPMENT TO COMPLETE ALL STRUCTURAL WORK INDICATED ON THE CONTRACT DOCUMENTS.

5. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, NO PROVISION HAS BEEN MADE IN THE DESIGN FOR CONDITIONS OCCURING DURING CONSTRUCTION. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY BRACING, SHORING, SHEET PILING OR OTHER TEMPORARY SUPPORTS REQUIRED FOR SAFETY AND PROTECTION OF NEW CONSTRUCTION, AS WELL AS TO SAFEGUARD ALL EXISTING OR ADJACENT STRUCTURES AFFECTED BY THIS WORK. CARRY OUT CONSTRUCTION OPERATIONS, INCLUDING THE INSTALLATION OF TEMPORARY GUYING AND SHORING REQUIRED, ENSURING THAT THE EXISTING STRUCTURE OR MEMBERS ALREADY ERECTED ARE NOT LOADED IN EXCESS OF THEIR SAFE LOAD CARRYING CAPACITY.

B. REFERENCE STANDARDS/CODES AND ACTS

1 DESIGN AND CONSTRUCTION IS TO CONFORM TO THE REQUIREMENTS OF THE CURRENT ONTARIO BUILDING CODE, AND ANY APPLICABLE REQUIREMENTS OR BY-LAWS OF THE AUTHORITY HAVING JURISDICTION. ALL CODES, MANUALS, STANDARDS AND SPECIFICATIONS REFERRED TO SHALL BE THE CURRENT EDITIONS, INCLUDING ALL LATEST REVISIONS, ADDENDA AND SUPPLEMENTS, UNLESS NOTED OTHERWISE IN BUILDING CODE. CONFORM ALSO TO THE FOLLOWING:

1.1 CSA A23.1 CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION.
1.2 CSA A23.2 METHODS OF TEST FOR CONCRETE.
1.3 CSA A23.3 DESIGN OF CONCRETE STRUCTURES.
1.4 CSA-S16 DESIGN OF STEEL STRUCTURES.
1.5 RSIC REINFORCING STEEL INSTITUTE OF CANADA (RSIC), MANUAL OF STANDARD PRACTICE.
1.6 CAN/CSA G40.20/G40.21 GENERAL REQUIREMENTS FOR ROLLED OR WELDED STRUCTURAL QUALITY STEEL/STRUCTURAL QUALITY STEEL.
1.7 CSA W47.1 CERTIFICATION OF COMPANIES FOR FUSION WELDING OF STEEL STRUCTURES
1.8 CSA W59 WELDED STEEL CONSTRUCTION (METAL ARC WELDING)
1.9 CSA-A371MASONRY CONSTRUCTION FOR BUILDINGS.

2 ALL STANDARDS AND PUBLICATIONS REFERENCED BY THE STANDARDS NOTED ABOVE ARE TO APPLY.

3 WHERE THERE ARE DIFFERENCES BETWEEN THE DOCUMENTS AND THE STANDARDS, CODES, AND ACTS, THE MOST STRINGENT SHALL GOVERN.

C. QUALIFICATIONS

1 ANY ORGANIZATION UNDERTAKING TO WELD UNDER THIS CONTRACT SHALL BE CERTIFIED BY THE CANADIAN WELDING BUREAU UNDER REQUIREMENTS OF DIVISION 1 OR DIVISION 2 OF CSA W47.1.

2 THE STRUCTURAL STEEL FABRICATOR AND ERECTOR SHALL BE MEMBERS IN GOOD STANDING OF THE CANADIAN INSTITUTE OF STEEL CONSTRUCTION.

3 THE STRUCTURAL STEEL FABRICATOR AND ERECTOR SHALL HAVE A MINIMUM OF FIVE (5) YEARS OF EXPERIENCE ON PROJECTS OF SIMILAR SIZE AND SCOPE. IF REQUESTED, THE FABRICATOR AND ERECTOR SHALL PROVIDE DOCUMENTATION WITH REFERENCES INCLUDING CONTACT NAMES AND PHONE NUMBERS.

4 FOR POST-INSTALLED CONCRETE OR MASONRY ANCHORS, THE CONTRACTOR SHALL ARRANGE FOR A MANUFACTURER'S FIELD REPRESENTATIVE TO PROVIDE INSTALLATION TRAINING FOR ALL PRODUCTS TO BE USED, PRIOR TO COMMENCEMENT OF WORK. ONLY TRAINED INSTALLERS SHALL PERFORM POST INSTALLED ANCHOR INSTALLATION. A RECORD OF TRAINING SHALL BE KEPT ON SITE AND BE MADE AVAILABLE TO THE STRUCTURAL CONSULTANT OR INDEPENDENT INSPECTION AND TESTING COMPANY REPRESENTATIVE AS REQUESTED.

5 ADHESIVE ANCHORS SUPPORTING SUSTAINED TENSION LOADS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI/CRSI PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF INSTALLATION.

D. SUBMITTALS

1 SHOP DRAWINGS

1.1 SUBMIT FOR REVIEW BY THE CONSULTANT COMPLETE SHOP DRAWINGS FOR ALL TEMPORARY AND PERMANENT STRUCTURAL WORK INCLUDING, BUT NOT LIMITED TO: STRUCTURAL STEEL.
1.2 THE SCALE OF THE DRAWINGS SHALL BE SUCH THAT THE DETAILS OF THE STRUCTURAL WORK ARE CLEARLY SHOWN, AND IN NO CASE SMALLER THAN 1:50 (1/4" = 1'0").
1.3 THE STRUCTURAL DRAWINGS SHALL NOT BE REPRODUCED, IN WHOLE OR IN PART, FOR USE AS SHOP DRAWINGS, UNLESS AUTHORIZED BY THE CONSULTANT.
1.4 EACH DRAWING SUBMITTED FOR STRUCTURAL STEEL SHALL BEAR THE SEAL AND SIGNATURE OF A QUALIFIED PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
1.5 CONTRACTOR SHALL ALLOW FOR A 5 WORKING DAY TURN AROUND TIME FOR STRUCTURAL CONSULTANT TO REVIEW THE SHOP DRAWINGS.
1.6 STRUCTURE ERECTED PRIOR TO SUBMITTAL AND SATISFACTORY REVIEW OF SHOP DRAWINGS WILL BE CONSIDERED DEFICIENT.
1.7 REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL CONSULTANT IS ONLY TO ASSESS THAT THE SUBMITTED SHOP DRAWINGS REFLECT THE INTENT OF THE STRUCTURAL DESIGN. THIS REVIEW SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR SEEING THAT THE WORK IS COMPLETE, ACCURATE AND IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

2 CALCULATIONS

2.1 SUBMIT CALCULATIONS, BEARING THE SEAL AND SIGNATURE OF PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, FOR STRUCTURAL WORK, IF REQUESTED BY THE CONSULTANT.

3 MILL TEST REPORTS

3.1 MAKE AVAILABLE TO THE CONSULTANT COPIES OF ALL MILL TEST REPORTS COVERING CHEMICAL AND PHYSICAL PROPERTIES OF MATERIALS USED.

4 CONCRETE MIX DESIGNS

4.1 SUBMIT CONCRETE MIX DESIGNS ALONG WITH A BRIEF DESCRIPTION OF WHERE EACH MIX WILL BE USED, FOR REVIEW BY THE CONSULTANT.

5 AS-BUILT DRAWINGS

5.1 MARK ON A COMPLETE SET OF REPRODUCIBLE AS-BUILT DRAWINGS ANY CHANGES, ADDITIONS, OR DELETIONS THAT OCCUR DURING CONSTRUCTION AS A RESULT OF THE CONTRACTOR'S WORK, CHANGE OF ORDERS OR FOR ANY OTHER REASON.

E. MATERIALS

1 PROVIDE ONLY NEW STRUCTURAL MATERIALS IN ACCORDANCE WITH THE REFERENCE STANDARDS AND THE FOLLOWING, UNLESS OTHERWISE NOTED.

1.1 REINFORCING STEEL: CONFORM TO CSA G30 SERIES, GRADE 400.
1.2 POST-INSTALLED CONCRETE ANCHORS
1.2.1 MECHANICAL ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE APPLICATIONS, UNLESS NOTED OTHERWISE.
1.2.2 ADHESIVE ANCHORS SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED, UNCRACKED AND SEISMIC CONCRETE APPLICATIONS, UNLESS NOTED OTHERWISE.
1.3 PRIME PAINT (FOR INTERIOR APPLICATIONS NOT EXPOSED TO HIGH HUMIDITY OR CHEMICALS): CONFORM TO CISC/CPMA STANDARD 2-75, UNLESS NOTED OTHERWISE.
1.4 HOT DIP GALVANIZING (FOR EXTERIOR APPLICATIONS): TO ASTM A123/A123M, MINIMUM ZINC COATING OF $600gm^2$, UNLESS NOTED OTHERWISE.
1.5 STRUCTURAL BOLTS, NUTS AND WASHERS: CONFORM TO ASTM F3125/F3125M, GRADE A325M

F. EXECUTION

1. POST-INSTALLED CONCRETE AND MASONRY ANCHORS

1.1. POST INSTALLED ANCHORS SHALL BE USED ONLY WHERE SPECIFIED ON STRUCTURAL DRAWINGS.
1.2. THE INSTALLATION OF POST INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST IN-PLACE ANCHORS IS NOT ALLOWED UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.
1.3. ANCHOR CAPACITY USED IN THE DESIGN HAS BEEN BASED ON THE TECHNICAL DATA PUBLISHED BY THE MANUFACTURER. SUBSTITUTION REQUESTS FOR ALTERNATE ANCHORS MUST BE APPROVED IN WRITING BY THE STRUCTURAL CONSULTANT PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS STAMPED BY LICENSED ENGINEER DEMONSTRATING THAT THE ALTERNATIVE ANCHOR IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED FOR COMPLIANCE WITH THE RELEVANT BUILDING CODE AND CSA A23.3 STANDARD. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
1.4. THE EXISTING REINFORCEMENT IN THE CONCRETE STRUCTURE MAY CONFLICT WITH THE SPECIFIED ANCHOR LOCATIONS. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE SHALL NOT BE CUT UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. THE CONTRACTOR SHALL LOCATE THE EXISTING REINFORCEMENT AND CONDUITS AT THE PROPOSED LOCATIONS OF THE ANCHORS BY NON-DESTRUCTIVE METHODS SUCH AS HILTI PS 250 FERROSCAN, HILTI PS 1000 X-SCAN, GROUND PENETRATING RADAR (GPR), X-RAYS OR OTHER APPROVED MEANS. MODIFY THE STRUCTURAL ANCHOR DETAILS AS REQUIRED TO AVOID CUTTING REBAR OR CONDUITS, AND SUBMIT THE REVISED DETAILS FOR REVIEW BY STRUCTURAL CONSULTANT PRIOR TO PROCEEDING WITH THE WORK.
1.5. ALL ANCHORS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) IN CONJUNCTION WITH EDGE DISTANCE, SPACING AND EMBEDMENT DEPTH AS INDICATED ON THE DRAWINGS.
1.6. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS.

2. STRUCTURAL STEEL

2.1. DETAILS AND CONNECTIONS OF STEEL MEMBERS SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER EXPERIENCED IN THIS TYPE OF WORK, TO THE REQUIREMENTS OF CSA-16 TO RESIST FORCES, MOMENTS AND SHEARS INDICATED OR IMPLIED BY THE DRAWINGS.
2.2. DESIGN OF STEEL JOISTS AND BRIDGING SHALL BE DONE BY A LICENSED PROFESSIONAL ENGINEER EXPERIENCED IN THIS TYPE OF WORK, TO CARRY THE LOADS INDICATED OR IMPLIED BY THE DRAWINGS IN ACCORDANCE WITH CSA S16 OR CSA S136. DESIGN JOISTS AND ANCHORAGES FOR UPLIFT FORCES AS INDICATED.
2.3. SHOP DRAWINGS AND CALCULATIONS BEARING THE STAMP AND SIGNATURE OF A LICENSED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN OF CONNECTIONS OR STEEL JOISTS SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION AND ERECTION OF STRUCTURAL STEEL.
2.4. UNLESS OTHERWISE NOTED, BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF VERTICAL SHEAR OF 100 kN. WHERE BOLTED CONNECTIONS ARE EMPLOYED, A MINIMUM OF TWO BOLTS PER CONNECTION ARE TO BE USED.
2.5. THE FOLLOWING TYPES OF CONNECTIONS ARE TO BE DESIGNED AS SLIP-CRITICAL CONNECTIONS:
2.5.1. MOMENT CONNECTIONS (UNLESS END PLATE TYPE MOMENT-CONNECTIONS ARE USED).
2.5.2. CONNECTIONS WHERE WELDS AND BOLTS SHARE IN TRANSMITTING SHEAR FORCES AT A COMMON FAYING SURFACE.
2.5.3. CONNECTIONS THAT UTILISE OVERSIZED HOLES.
2.5.4. CONNECTIONS SUBJECT TO FATIGUE OR FREQUENT LOAD REVERSALS.
2.6. CONFORM TO THE FIRE RATED ASSEMBLY DESIGN SPECIFIED TO THE PROJECT.
2.7. NO ITEMS ARE TO BE HUNG FROM OPEN WEB STEEL JOISTS WITHOUT PRIOR REVIEW BY THE STRUCTURAL CONSULTANT.
2.8. FOR INTERIOR APPLICATIONS NOT EXPOSED TO HIGH HUMIDITY OR CHEMICALS, PREPARE ALL STRUCTURAL STEEL PER SSPC-SP7 BRUSH-OFF BLAST CLEANING STANDARD AND PAINT TO REQUIREMENTS OF CISC/CPMA 2-75. TOUCH UP ALL FIELD WELDS.
2.9. ALL STRUCTURAL STEEL EXPOSED TO WEATHER SHALL GALVANIZED IN ACCORDANCE WITH ASTM A123/A123M. PREPARE SURFACE PER SSPC-SP7 BRUSH-OFF BLAST CLEANING AND SSPC-SP8 PICKLING PRIOR TO GALVANIZING.
2.1. ALL WELDS SHALL CONFORM TO CSA STANDARD W59.
2.11. ALL WELDS EXPOSED TO VIEW SHALL BE GROUND SMOOTH.
2.12. UNLESS A REINFORCED MASONRY OR CONCRETE LINTEL IS SHOWN, PROVIDE LOOSE STEEL LINTELS IN ACCORDANCE WITH REQUIREMENTS OF DOCUMENTS OVER DOORWAYS, OTHER OPENINGS AND RECESSES, INCLUDING THOSE FOR MECHANICAL OR ELECTRICAL SERVICES, IN MASONRY WALLS OR PARTITIONS.
2.13. DO NOT SPLICE STRUCTURAL STEEL SECTIONS WITHOUT PRIOR APPROVAL OF THE CONSULTANT. ALL SPLICES SHALL DEVELOP THE FULL CAPACITY OF THE SECTION AND ARE TO BE TESTED BY NON DESTRUCTIVE METHODS, BY AN INDEPENDENT INSPECTION AND TESTING COMPANY, AT THE CONTRACTOR'S EXPENSE.
2.14. SEE ARCHITECTURAL DRAWINGS FOR FIREPROOFING REQUIREMENTS. CONFIRM COMPATIBILITY OF FIREPROOFING MATERIAL WITH STEEL PAINT. [LEAVE UNPAINTED STRUCTURAL STEEL TO BE COVERED IN NON-CORROSIVE CONTACT TYPE FIRE PROOFING.]
2.15. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO INSPECT STRUCTURAL STEEL IN THE SHOP AND IN THE FIELD FOR WELDING, CONNECTIONS, BOLT TORQUES AND GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS.

3. ALTERATIONS AND/OR CONNECTIONS TO EXISTING STRUCTURE

3.1. PROPOSED SCHEDULE OF WORK TO BE COORDINATED WITH ALL SUBTRADES.
3.2. INSPECT THE EXISTING BUILDING AND BECOME THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS.
3.3. PRIOR TO PROCEEDING WITH THE WORK, DETERMINE THE EXACT FOUNDING ELEVATIONS OF EXISTING FOOTINGS ADJACENT TO THE NEW WORK. REPORT THESE FINDINGS TO THE CONSULTANT.
3.4. PRIOR TO FABRICATION OF STRUCTURAL STEEL, OPEN UP ALL AREAS WHERE CONNECTIONS ARE TO BE MADE TO EXISTING WORK AND TAKE FIELD MEASUREMENTS. MODIFY METHODS FOR CONNECTING TO SUIT SITE CONDITIONS FOUND AND TO THE APPROVAL OF THE CONSULTANT. CARRY OUT LOCAL REPAIRS TO THE EXISTING WORK AS NECESSARY AND AS DIRECTED BY THE CONSULTANT.
3.5. SHORE EXISTING WORK AS REQUIRED UNTIL ALL NEW WORK HAS BEEN COMPLETED AND REVIEWED BY THE CONSULTANT.
3.6. SHORE FLOORS AS REQUIRED TO SUPPORT CRANES, HOISTS AND OTHER CONSTRUCTION EQUIPMENT.
3.7. DO NOT CUT CONCRETE REINFORCEMENT UNLESS REVIEWED AND APPROVED BY THE CONSULTANT.
3.8. WHERE REQUIRED TO AVOID CUTTING EXISTING REINFORCEMENT, MODIFY THE LAYOUT OF NEW THROUGH BOLTS, EXPANSION ANCHORS AND OTHER ANCHORING DEVICES.
3.9. MAKE GOOD THE EXISTING WORK.

4. CUTTING AND CORING OF EXISTING STRUCTURE

4.1. PRIOR TO CUTTING AND CORING ANY OPENINGS IN THE EXISTING BUILDING, PROVIDE THE CONSULTANT WITH A SLEEVING DRAWING INDICATING THE SIZE AND LOCATION OF OPENING RELATIVE TO BUILDING GRID LINES. EXISTING OPENINGS IN THE VICINITY OF THE NEW OPENING MUST ALSO BE SHOWN.
4.2. ALL DIMENSIONS PROVIDED TO THE CONSULTANT ARE TO BE CONFIRMED WITH THE APPROPRIATE CONTRACTOR (MECHANICAL OR ELECTRICAL) PRIOR TO CUTTING/CORING.
4.3. ANY REVISIONS TO THE DIMENSIONS BY THE CONSULTANT MUST BE REVIEWED BY THE APPROPRIATE CONTRACTOR PRIOR TO CUTTING/CORING.
4.4. EXISTING REINFORCEMENT AND EMBEDDED SERVICES ARE TO BE LOCATED BY A POSITIVE MEANS, (i.e. X-RAYING, EM SCAN, COVER METER) PRIOR TO DRILLING/CUTTING/CORING.
4.5. AFTER REINFORCEMENT AND EMBEDDED SERVICES HAS BEEN LOCATED IN THESE AREAS, NOTIFY STRUCTURAL CONSULTANT WHO WILL REVIEW AND APPROVE OF LOCATION PRIOR TO CUTTING/CORING. MAKE ANY NECESSARY ADJUSTMENTS TO THE HOLE LOCATION AS DIRECTED BY THE CONSULTANT.
4.6. FOR ANY OPENINGS WHICH ARE TO BE SAWCUT INTO THE EXISTING STRUCTURE, PRE-DRILL THE CORNERS USING A 100 mm DIAMETER CORE DRILL. DO NOT OVERCUT CORNERS OF OPENING.
4.7. ALL PRICES FOR CUTTING/CORING ARE TO INCLUDE ANY COSTS ASSOCIATED WITH X-RAYING, CHIPPING, ETC.
4.8. FOR ANY AREAS WHERE REINFORCEMENT IS CUT, THE CONTRACTOR IS TO INDICATE THE DIRECTION AND LAYER OF REINFORCEMENT ON THE AS-BUILT SLEEVING DRAWINGS.
4.9. FOR LARGE OPENINGS THROUGH A FLOOR AREA, ADDITIONAL REINFORCEMENT OF THE SLAB MAY BE REQUIRED. THE STRUCTURAL CONSULTANT WILL ISSUE ADDITIONAL DETAILS AS REQUIRED.

G. QUALITY CONTROL

1 GENERAL

1.1 IMPLEMENT A SYSTEM OF QUALITY CONTROL TO ENSURE THAT THE MINIMUM STANDARDS SPECIFIED HEREIN ARE ATTAINED.
1.2 BRING TO THE ATTENTION OF THE CONSULTANT ANY DEFECTS IN THE WORK OR DEPARTURES FROM THE CONTRACT DOCUMENTS, WHICH MAY OCCUR DURING CONSTRUCTION. THE CONSULTANT WILL DECIDE UPON CORRECTIVE ACTION AND GIVE RECOMMENDATIONS IN WRITING.
1.3 EXTRA SITE VISITS OR DESIGN WORK BY THE CONSULTANT THAT RESULT FROM THE CONTRACTOR'S CONSTRUCTION DEFICIENCIES, EXTRA REQUESTS FOR SITE MEETINGS, REVIEW OF EXISTING CONDITIONS, OR COORDINATION ISSUES WILL BE PAID IN FULL BY THE CONTRACTOR TO THE CONSULTANT UNLESS OTHERWISE AGREED UPON IN WRITING PRIOR TO THE CONSULTANT ENGAGING IN THE WORK. PAYMENT WILL BE STANDARDIZED AT THE CONSULTANT'S CURRENT PER DIEM RATE UNLESS OTHERWISE AGREED UPON.
1.4 THE CONSULTANT'S GENERAL REVIEW DURING CONSTRUCTION AND INSPECTION AND TESTING BY INDEPENDENT INSPECTION AND TESTING AGENCIES REPORTING TO THE CONSULTANT ARE BOTH UNDERTAKEN TO INFORM THE OWNER/CLIENT OF THE CONTRACTOR'S PERFORMANCE AND SHALL IN NO WAY AUGMENT THE CONTRACTOR'S QUALITY CONTROL OR RELIEVE THE CONTRACTOR OF CONTRACTUAL RESPONSIBILITY.
1.5 EXTRA SITE VISITS PERFORMED BY THE CONSULTANT AS A RESULT OF DEFICIENT OR DEFECTIVE WORK PERFORMED BY THE CONTRACTOR WILL BE INVOICED TO THE CONTRACTOR AT THE CONSULTANT'S HOURLY COST (MINIMUM $700 + HST).
1.6 ANY DESIGN CHANGES / ALTERNATIVES TO THE BASE DESIGN BY CONTRACTOR ARE TO BE PROPOSED FOR THE CONSULTANT'S REVIEW THROUGH A FORMAL P.ENG. STAMPED SUBMITTAL. CREDITS MAY BE APPLICABLE DEPENDING ON THE PROPOSED DESIGN CHANGE.

2 NOTIFICATION

2.1 PRIOR TO COMMENCING SIGNIFICANT SEGMENTS OF THE WORK, GIVE THE CONSULTANT AND INDEPENDENT INSPECTION AND TESTING COMPANIES APPROPRIATE NOTIFICATION (MINIMUM 24 HOURS) SO AS TO AFFORD THEM REASONABLE OPPORTUNITY TO REVIEW THE WORK. FAILURE TO MEET THIS REQUIREMENT MAY BE CAUSE FOR THE CONSULTANT TO CLASSIFY THE WORK AS DEFECTIVE.
2.1.1 IT IS THE RESPONSIBILITY OF BOTH THE OWNER AND THE CONTRACTOR TO NOTIFY THE ENGINEER OF CONSTRUCTION PROGRESS SO THE ENGINEER CAN COMPLETE GENERAL REVIEWS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A CONSTRUCTION SCHEDULE PRIOR TO STARTING THE WORK. GENERALLY, REVIEWS BY THE ENGINEER WILL BE REQUIRED FOR REBAR PRIOR TO CONCRETE PLACEMENT, FOOTING, AND FOUNDATIONS PRIOR TO BACKFILLING. THE ENGINEER WILL ALSO NEED TO INSPECT ALL ABOVE GRADE FRAMING PRIOR TO INSTALLATION OF INTERIOR FINISHES.
2.1.2 CONTRACTOR TO SITE VERIFY THAT THE CEILING SPACE IS CLEAR OF OBSTRUCTIONS PRIOR TO PRICING OR FABRICATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE AND REINSTATE/RELOCATE EXISTING SERVICES WITHIN THE CEILING SPACE IN ORDER TO FACILITATE STRUCTURAL INSTALLATION. NO EXTRAS ARE ACCEPTABLE FOR COORDINATION TIME WITH ANY CONSULTANTS (M&E OR OUR OFFICE). SITE VISITS OR MEETINGS ON SITE WILL BE CONSIDERED AN EXTRA TO BE PAID BY THE CONTRACTOR.

3 INSPECTION AND TESTING

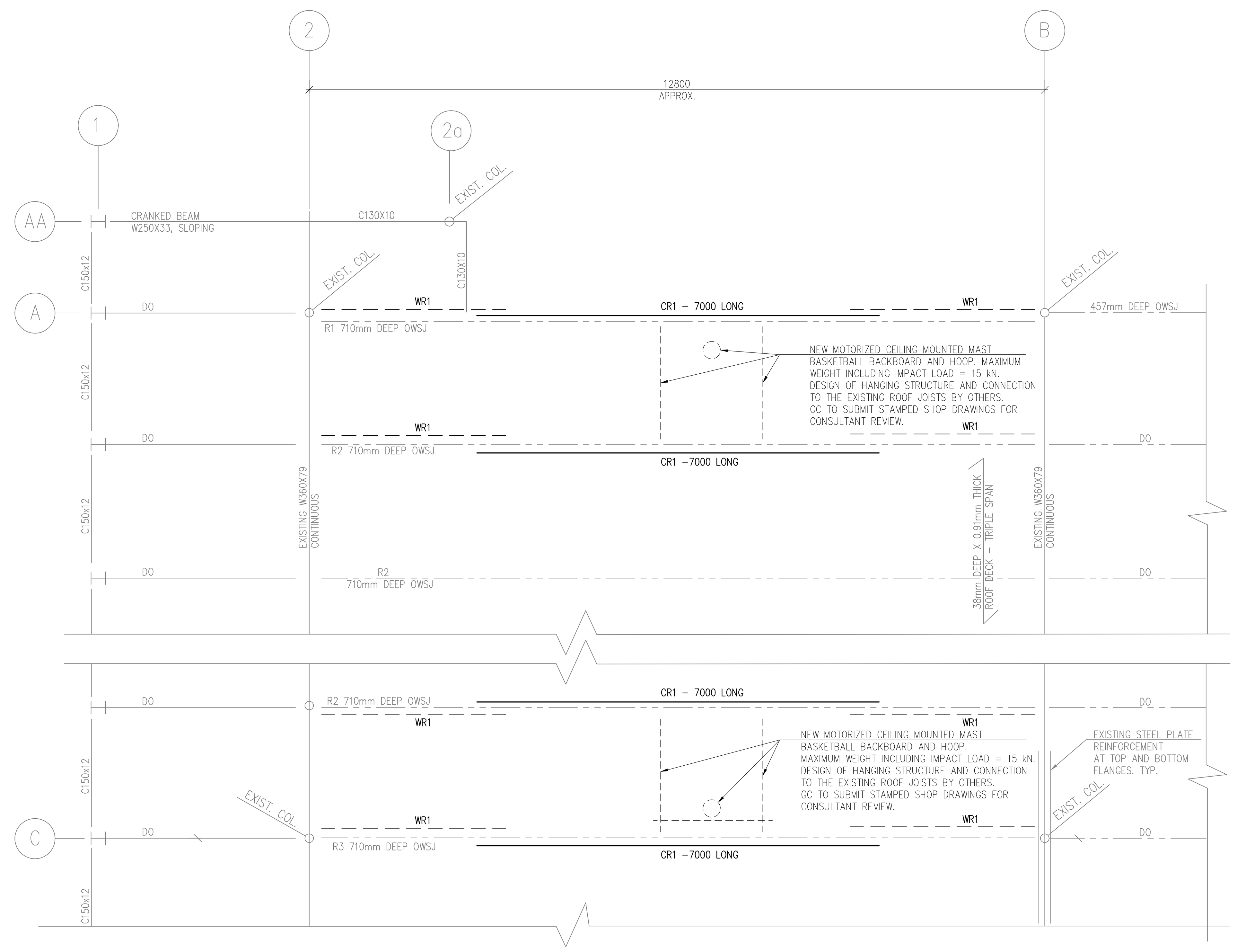
3.1 THE CONTRACTOR WILL APPOINT AN INDEPENDENT INSPECTION AND TESTING COMPANY TO MAKE INSPECTIONS OR PERFORM TESTS AS OUTLINED IN THIS DOCUMENT. THE INDEPENDENT INSPECTION AND TESTING COMPANIES SHALL BE RESPONSIBLE ONLY TO THE CONSULTANT AND SHALL MAKE ONLY SUCH INSPECTIONS OR TESTS AS THE CONSULTANT MAY DIRECT.
3.2 INCLUDE FOR AN INDEPDENT THIRD PARTY WELDING INSPECTION AND TESTING COMPANY TO REVIEW ALL CONNECTIONS AND PROVIDE A WRITTEN REPORT WITH COMMENTS. THE WORK WILL BE CONSIDERED DEFICIENT UNTIL THE INSPECTION COMPANY HAS CONFIRMED IN WRITING THAT ALL NEWLY INSTALLED CONNECTIONS ARE ACCEPTABLE.

4 DEFECTIVE MATERIALS AND WORK

4.1 WHERE EVIDENCE EXISTS THAT DEFECTIVE WORK HAS OCCURRED OR THAT WORK HAS BEEN CARRIED OUT INCORPORATING DEFECTIVE MATERIALS, THE CONSULTANT MAY HAVE TESTS, INSPECTIONS OR SURVEYS PERFORMED, ANALYTICAL CALCULATIONS OF STRUCTURAL STRENGTH MADE, AND THE LIKE, IN ORDER TO HELP DETERMINE WHETHER THE WORK MUST BE CORRECTED OR REPLACED. TESTS, INSPECTIONS OR SURVEYS OR CALCULATIONS CARRIED OUT UNDER THESE CIRCUMSTANCES WILL BE MADE AT THE CONTRACTOR'S EXPENSE, REGARDLESS OF THEIR RESULTS, WHICH MAY BE SUCH THAT, IN THE CONSULTANT'S OPINION, THE WORK MAY BE ACCEPTABLE.
4.2 ALL TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, EXCEPT WHERE THIS WOULD, IN THE CONSULTANT'S OPINION, CAUSE UNDUE DELAY OR GIVE RESULTS NOT REPRESENTATIVE OF THE REJECTED MATERIAL IN PLACE. IN THIS CASE, THE TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH THE STANDARDS GIVEN BY THE CONSULTANT.
4.3 MATERIALS OR WORK, WHICH FAIL TO MEET SPECIFIED REQUIREMENTS, MAY BE REJECTED BY THE CONSULTANT WHENEVER FOUND AT ANY TIME PRIOR TO FINAL ACCEPTANCE OF THE WORK REGARDLESS OF PREVIOUS INSPECTION. IF REJECTED, DEFECTIVE MATERIALS OR WORK SHALL BE PROMPTLY REMOVED AND REPLACED OR REPAIRED TO THE SATISFACTION OF THE CONSULTANT, AT NO EXPENSE TO THE OWNER.

ROOF JOIST REINFORCEMENT NOTES:

1. READ THIS DRAWING IN CONJUNCTION WITH S1 (GENERAL NOTES) AND ALL OTHER CONTRACT DOCUMENTS.
2. REFER TO MECHANICAL DRAWINGS FOR SIZE AND EXACT LOCATION OF NEW UNIT AND DIMENSIONS NOT SHOWN. CONTRACTOR IS RESPONSIBLE TO SITE VERIFY ALL DIMENSIONS AND EXISTING ROOF STRUCTURE CONDITIONS. CONTRACTOR TO NOTIFY OUR OFFICE OF ANY DISCREPANCY NOTED BETWEEN THE AS-BUILT CONDITION AND WHAT IS SHOWN ON THESE DRAWINGS.
3. DESIGN LOAD OBC 2012 (LATEST EDITION):
   a. IMPORTANCE FACTOR FOR SCHOOL = 1.15
   b. SNOW LOAD FOR HAMILTON, ONTARIO (BELOW ESCARPMENT – EAST OF HIGHWAY 403) :
   – Ss =1.1 kPa Sr = 0.4 kPa
   – SPECIFIED SNOW LOAD $S_{(ULS)}$ = 1.44 kPa
   b. DEAD LOAD FOR ROOF STRUCTURE AND ROOFING SYSTEM PER BASE BUILDING DRAWING: 1.1 kPa
4. SECTION MARKS:
   a. CR1: NEW CHORD REINFORCEMENT TO EXISTING OPEN WEB STEEL JOIST. USE 2x20mmø (3/4"ø) STEEL ROD (Fy = 300 MPa MIN), WELDED TO EACH TOP AND BOTTOM CHORD, IE 4 RODS REQUIRED PER JOIST. SEE PLAN FOR CR1 LENGTH. CENTRE CR1 ON JOIST MID SPAN. STITCH WELD ROD TO EXISTING JOIST CHORDS TO DEVELOP FULL TENSILE CAPACITY OF ROD, MINIMUM 150mm CONTINUOUS WELD AT EACH END.
   REFER TO TYPICAL SECTION ON S2.
   b. WR1: NEW WEB REINFORCEMENT TO EXISTING OPEN WEB STEEL JOIST. USE 2- L51x51x6.4 (ONE EACH SIDE OF WEB) FOR A LENGTH OF 3500mm FROM THE END OF THE OWSJ. CONNECT FOR Tf = Cf = 50kN. REFER TO REFER TO TYPICAL SECTION ON S2.
   REMOVE ONE BLOCK OF THE EXISTING MASONRY BLOCK WALL FOR WR1 INSTALLATION, IF REQUIRED. REINSTATE BLOCK UNIT TO MATCH EXISTING AFTER COMPLETION OF WORK.
5. WE UNDERSTAND THAT SOME MECHANICAL AND ELECTRICAL INTERFERENCES ARE TO BE REMOVED/RELOCATED/REINSTATED TO ALLOW THE STRUCTURAL STEEL FRAMING INSTALLATION. GC TO COORDINATE WITH MECHANICAL AND ELECTRICAL CONSULTANT PRIOR TO ANY REMOVALS. CONTRACTOR IS RESPONSIBLE TO SURVEY THE SITE PRIOR TO PRICING FOR STEEL FABRICATION.
6. CONTRACTOR RESPONSIBLE TO PROVIDE SUFFICIENT NOTICE FOR OUR FINAL SITE REVIEW PRIOR TO CLOSING THE WORK AREA WITH FINISHES AND DUCTS.
7. UNLESS NOTED OTHERWISE, CONNECT ALL NEW STEEL SHOWN ON PLAN TO SUSTAIN A FACTORED VERTICAL SHEAR OF 50 kN. WHERE BOLTED CONNECTIONS ARE CHOSEN, USE A MINIMUM OF 2 BOLTS PER CONNECTION.
8. REFER TO GENERAL NOTES FOR THIRD PARTY STEEL INSPECTION AND STAMPED SHOP DRAWING REQUIREMENTS.
9. ALL REINFORCEMENT TO THE EXISTING ROOF STRUCTURE SHOULD BE INSTALLED AND INSPECTED BY A THIRD PARTY COMPANY RETAINED BY THE CONTRACTOR BEFORE INSTALLING NEW BASKETBALL BACKBOARD.



PART ROOF FRAMING PLAN AT GYM
STRUCTURAL STEEL TO BE INSTALLED ON THE UNDERSIDE OF THE ROOF DECK. 1:50

NOTE TO GC:

1– TOP OF ALL NEW PARTITION MASONRY WALLS SHOULD BE LATERALLY SUPPORTED PER TYPICAL DETAIL M14A. FOR LOCATIONS AND LENGTH OF NEW MASONRY PARTITION WALLS SEE ARCHITECTURAL DRAWINGS.
2– GC TO PROVIDE STRUCTURAL LINTEL FOR THE NEW DOORS IN NEW MASONRY PARTITION WALLS PER TABLE M01A AND TYPICAL DETAIL M01B. FOR LOCATIONS OF NEW MASONRY PARTITION WALLS AND DOOR OPENING SIZES SEE ARCHITECTURAL DRAWINGS.
3– GC TO FOLLOW BELOW STEPS WHERE EXISTING DOOR OPENING IN AN EXISTING MASONRY WALL NEEDS TO BE WIDEN. FOR LOCATIONS AND DOOR OPENING SIZES SEE ARCHITECTURAL DRAWINGS.
3.1. NEEDLE SHORE THE EXISTING MASONRY WALL ABOVE THE EXISTING LINTEL. GC TO SUBMIT STAMPED SHORING SHOP DRAWINGS FOR CONSULTANT'S REVIEW.
3.2. REMOVE EXISTING LINTEL.
3.3. INSTALL NEW LINTEL PER TABLE M01A AND TYPICAL DETAIL M01B.

NON-LOAD BEARING BLOCK WALL LINTELS — M01A

STRUCTURAL STEEL LINTELS

WALL OPENING CLEAR SPAN	MASONRY BLOCK THICKNESS				
	90 (4")	140 (6")	190 (8")	240 (10")	290 (12")
300mm TO 500mm (12" TO 22")	75mm X 8mm PL (3"x5/16" PL)	125mm X 8mm PL (5"x5/16" PL)	175mm X 8mm PL (7"x5/16" PL)	225mm X 8mm PL (9"x5/16" PL)	275mm X 8mm PL (11"x5/16" PL)
550mm TO 1200mm (22" TO 4'-0")	1-L89x89x6.4 OR 2-L44x44x4.8	1-L127x89x6.4 (LLH) OR 2-L64x44x6.4	2-L89x89x6.4	L102x89x6.4 (LLH) + L127x89x6.4 (LLH)	3-L89x89x6.4
1200mm TO 1830mm (4'-0" TO 6'-0")	1-L127x89x7.9 (LLV) OR 2-L51x38x6.4(LLV)	1-L127x127x7.9 OR 2-L89x64x6.4 (LLV)	2-L89x89x6.4	L102x89x6.4 (LLH) + L127x89x6.4 (LLH)	3-L89x89x6.4
1830mm TO 2440mm (6'-0" TO 8'-0")	1-L127x89x7.9 (LLV)	1-L127x127x7.9 OR 2-L89x64x7.9 (LLV)	2-L127x89x6.4 (LLV)	L102x102x7.9 + L127x102x7.9 (LLH)	3-L127x89x6.4 (LLV)
2440mm TO 3080mm (8'-0" TO 10'-0")	1-L127x89x9.5 (LLV)	1-L127x127x7.9	2-L127x89x7.9 (LLV)	L152x102x7.9 (LLV)+ L127x127x7.9	3-L127x89x7.9 (LLV)
3080mm TO 3660mm (10'-0" TO 12'-0")	N/A	N/A	W200x27 + 175x6.4 PL. BOTTOM	W200x27 + 225x6.4 PL. BOTTOM	N/A

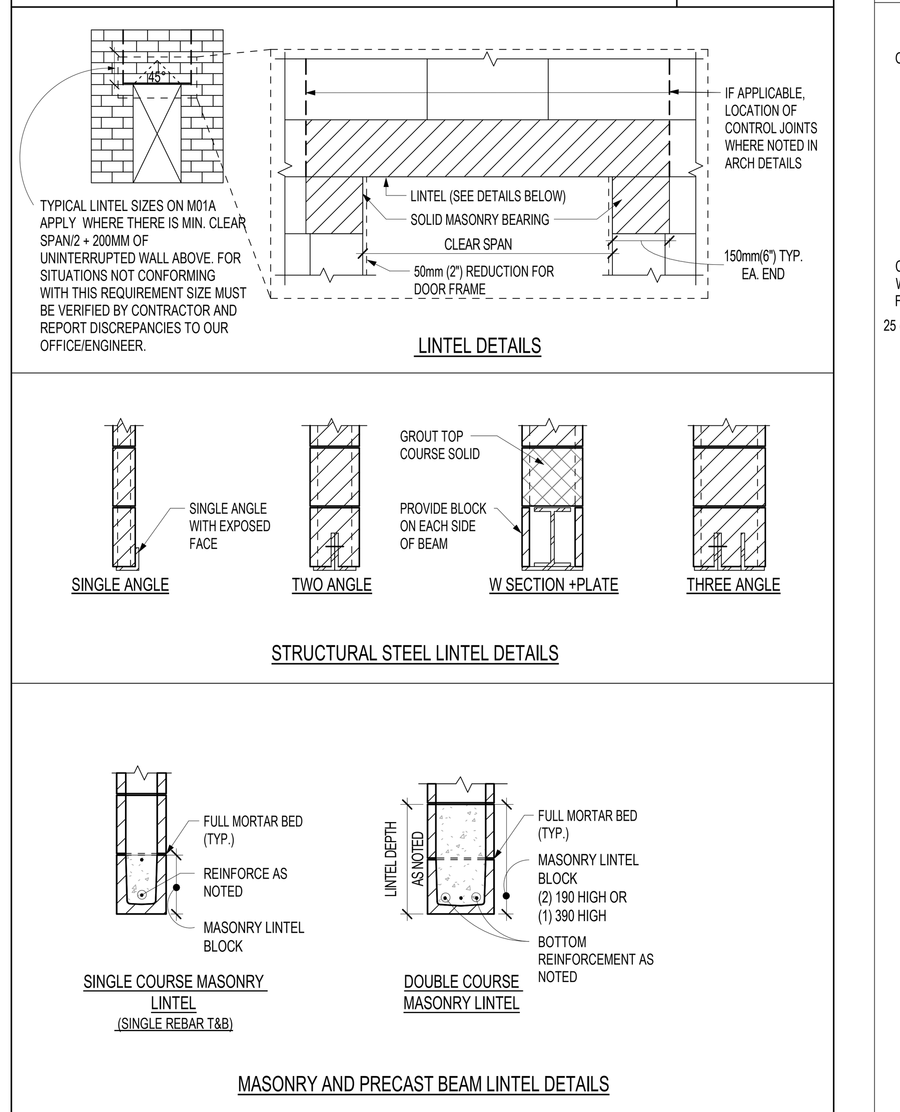
STRUCTURAL STEEL LINTEL NOTES:
1. WHEN PROVIDING MULTIPLE ANGLES SEE DIAGRAMS FOR ORIENTATION. BOLT DOUBLE ANGLES BACK TO BACK USING 16mmØ BOLTS OR PROVIDE 6mmX50mm (1/4"x2") LONG WELDS @450mm (18") O/C STARTING AT 100mm (4") MAX FROM THE EACH END OF THE LINTEL.
2. SAWCUT WEBS OF BLOCK IN COURSE OF BLOCK OVER OPENING AS NECESSARY TO INSTALL ANGLES.
3. ALTERNATIVES PROVIDED FOR CASES WHERE EXPOSED FACE OF SINGLE ANGLE IS NOT ACCEPTABLE.

MASONRY BEAM LINTELS

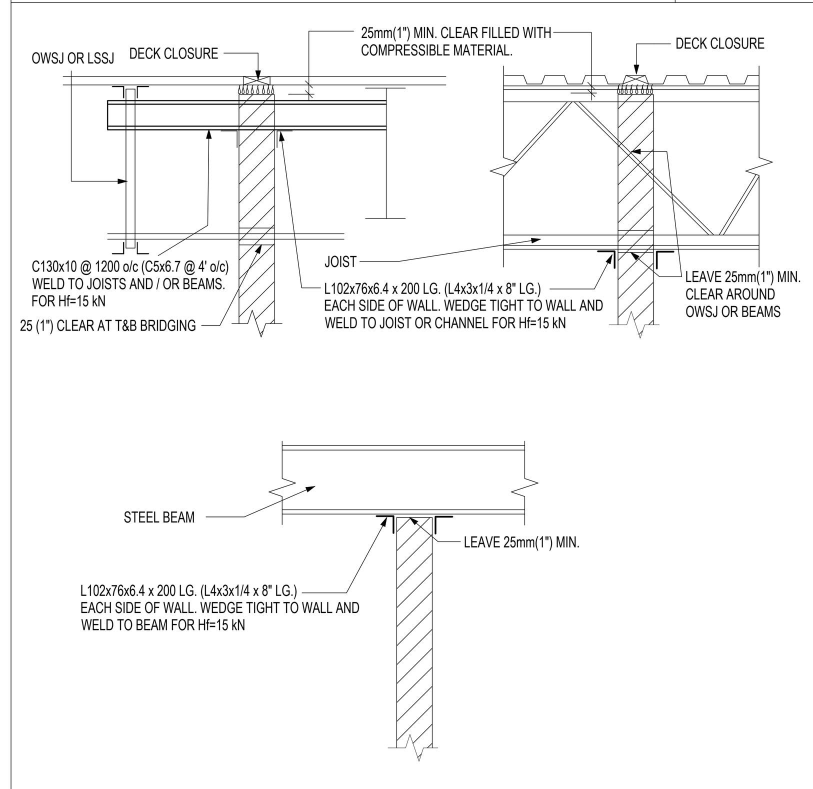
WALL OPENING CLEAR SPAN	MASONRY BLOCK THICKNESS				
		140 (6")	190 (8")	240 (10")	290 (12")
0mm TO 1200mm (0" TO 4'-0")		390 (16") DEEP 1-10M B	390 (16") DEEP 1-10M B	190 (8") DEEP 1-10M B	190 (8") DEEP 1-10M B
1200mm TO 1830mm (4'-0" TO 6'-0")		390 (16") DEEP 1-10M B	390 (16") DEEP 1-10M B	390 (16") DEEP 1-10M B	390 (16") DEEP 1-15M B
1830mm TO 2440mm (6'-0" TO 8'-0")		390 (16") DEEP 1-10M B	390 (16") DEEP 1-15M B	390 (16") DEEP 1-15M B	390 (16") DEEP 1-15M B
2440mm TO 3080mm (8'-0" TO 10'-0")		390 (16") DEEP 1-10M B	390 (16") DEEP 1-15M B	390 (16") DEEP 1-15M B	390 (16") DEEP 3-10M B

MASONRY BEAM LINTEL NOTES:
1. BEAM MUST BE FILLED WITH MASONRY GROUT (MORTAR IS NOT ACCEPTABLE). REFER TO M03 FOR DETAILS.
2. TEMPORARILY SHORE LINTEL UNTIL GROUT HAS REACHED FULL DESIGN STRENGTH.

NON-LOAD BEARING BLOCK WALL LINTEL DETAILS — M01B



TYPICAL LATERAL SUPPORT AT PARTITIONS — M14A



NOTES:
1. PROVIDE 25mm MIN COMPRESSIBLE MATERIAL TOP OF PARTITION AND UNDERSIDE OF STRUCTURAL. TYPICAL UNLESS NOTED OTHERWISE.
2. MAXIMUM DISTANCE FROM END OF ANY WALL TO THE CENTERLINE OF THE FIRST LATERAL SUPPORT IS 600mm(2'-0")
3. AT WALL CORNERS, PROVIDE LATERAL SUPPORT FOR EACH WALL END.
4. GC TO INCLUDE WALL LATERAL SUPORT IN STAMPED STEEL SHOP DARWINGS FOR CONSULTANT REVIEW.

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT AND TENDER	MARCH 2024

REVISIONS

HAMILTON-WENTWORTH DISTRICT SCHOOL BOARD
20 Education Court, Hamilton, Ontario L9A 0B9 Canada Tel: (905)527-5092

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The contractor shall check and verify all dimensions and report all errors and ommisions to the architect and the design professional whose seal is affixed to this drawing. Do not scale the drawings.
This drawing shall not be used for construction purposes until issued for construction by the design professional whose seal is affixed to this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION DATE
STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT
ELECTRICAL CONSULTANT
PROJECT NORTH

SHEET TITLE
ROOF REINFORCEMENT FOR BASKET BALL BACKBOARDS IN GYM AND LINTEL FOR NEW/EXISTING MASONRY WALLS PLAN, GENERAL NOTES, AND TYPICAL DETAILS

SHEET NO.	DRAWN BY	CHECKED
S1	RA	RA
	PROJECT NO. 20231545	
	SCALE AS NOTED	

MECHANICAL SPECIFICATIONS

MECHANICAL CONTRACTOR SHALL SUBMIT PRICE FOR THE COST OF SUPPLY AND INSTALLATION OF EQUIPMENT AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND OPERATING MECHANICAL PACKAGE. MECHANICAL PACKAGE TO CONSIST OF EQUIPMENT AND MATERIALS AS DESCRIBED IN THIS OUTLINE SPECIFICATION. REFER TO MECHANICAL PLANS FOR ACTUAL REQUIREMENTS OF EQUIPMENT.

A. GENERAL CONDITIONS

1. PROVIDE ALL LABOUR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN ON ALL MECHANICAL DRAWINGS INCLUSIVE AND AS SPECIFIED HEREIN.
2. ALL NECESSARY PERMITS SHALL BE OBTAINED AND ALL FEES SHALL BE PAID TO CARRY OUT THE SPECIFIED WORK. PROVIDE ALL REQUIRED LOCAL PROVINCIAL ENGINEERING SEALS FOR DRAWINGS AND DESIGNS TO OBTAIN BUILDING CONSTRUCTION PERMITS, ETC.
3. ALL WORK SHALL BE GUARANTEED FOR ONE YEAR FROM DATE OF COMPLETED WORK ACCEPTANCE BY THE ARCHITECT. SUBMIT DOCUMENTATION IDENTIFYING ADDITIONAL EQUIPMENT WARRANTY COVERAGE AND TIME FRAMES.
4. ALL WORK SHALL COMPLY IN EVERY RESPECT WITH ALL NATIONAL, PROVINCIAL, AND LOCAL BY-LAWS AND CODES, WHICH SHALL BE CONSIDERED PART OF THIS SPECIFICATION.
5. ALL CUTTING, PATCHING, FLASHING FOR WORK AS REQUIRED HEREIN SHALL BE BY THE GENERAL CONTRACTOR.
6. THE MECHANICAL CONTRACTOR SHALL INSTALL HEATING, AIR CONDITIONING, AND PLUMBING SYSTEMS IN COMPLETE ACCORDANCE WITH THE RECOMMENDATIONS OF THE ASHRAE, NATIONAL WARM AIR STANDARDS, SMACNA LATEST EDITION DUCT STANDARDS, AND LOCAL PLUMBING CODES.
7. CO-ORDINATE WORK WITH WORK OF OTHER TRADES TO AVOID CONFLICT.
8. ALTER THE LOCATION OF DUCTS OR PIPES AT THE DIRECTION OF THE ENGINEER WITHOUT CHARGE TO THE OWNER, PROVIDED THE CHANGE IS MADE BEFORE INSTALLATION AND DOES NOT NECESSITATE ADDITIONAL MATERIALS.
9. TENDER QUOTATIONS SHALL BE BASED ON THE USE OF SPECIFIED MANUFACTURERS, UNLESS APPROVAL FOR THE USE OF EQUAL MANUFACTURERS IS OBTAINED FROM THE ENGINEER PRIOR TO SUBMISSION OF TENDERS. ALTERNATE MANUFACTURERS MAY BE QUOTED AS AN INCREASE OR DECREASE AMOUNT TO THE TENDER PRICE, WITHOUT PRIOR APPROVAL OF THE ENGINEER. THE USE OF AN EQUAL OR ALTERNATE MANUFACTURER SHALL IN NO WAY RELIEVE THE MECHANICAL CONTRACTOR FROM THE RESPONSIBILITY OF PROVIDING ALL WORK THAT MAY BE REQUIRED BY REASON OF DIFFERENT SPACE, WEIGHT, ELECTRICAL, OR OTHER REQUIREMENTS FROM THAT OF THE SPECIFIED MANUFACTURER.
10. FURNISH TO THE ENGINEER THREE (3) HARD-COVERED LOOSE-LEAF BINDERS CONTAINING THEREIN ONE (1) COMPLETE SET OF MANUFACTURERS' OPERATING AND MAINTENANCE INSTRUCTIONS SHOWING ALL MAJOR EQUIPMENT, AND APPARATUS REQUIRING MAINTENANCE. INSTRUCTIONS SHALL BE COMPLETE FOR INSTALLATION, OPERATION AND MAINTENANCE AND SHALL INCLUDE PERTINENT INFORMATION SUCH AS DETAILED DRAWINGS AND OPERATION CURVES. SPARE PARTS, SUPPLIER LISTS AND ADDRESSES SHALL BE SUPPLIED. INSTRUCTIONS SHALL BE REQUIRED WITH THE OWNERS' REPRESENTATIVE TO ENSURE A THOROUGH UNDERSTANDING OF THE EQUIPMENT AND ITS OPERATION.
11. ALL WIRING AND SUPPLY AND INSTALLATION OF DISCONNECT SWITCHES FOR EQUIPMENT SPECIFIED HEREIN SHALL BE PERFORMED BY THE ELECTRICAL CONTRACTOR, UNLESS OTHERWISE NOTED.
12. CONTRACTOR SHALL EXAMINE THE SITE AND CONDITIONS AFFECTING WORK, METHODS OF CONNECTION AND LOCATION OF ALL SERVICES INVOLVED UNDER THIS CONTRACT. FAILURE TO DO THIS IN NO WAY ALLEVIATES THE MECHANICAL CONTRACTOR FROM RESPONSIBILITY FOR COMPLETING THE MECHANICAL WORK OF THIS CONTRACT IN A WORKMANLIKE MANNER. NO ALLOWANCE WILL BE MADE FOR ANY EXPENSE INCURRED THROUGH A FAILURE TO MAKE THIS EXAMINATION AND INVESTIGATION.
13. SCHEDULING OF ALL WORK SHALL BE ARRANGED WITH THE OWNER, AND THE OWNER SHALL BE NOTIFIED AND HIS APPROVAL OBTAINED PRIOR TO SHUTTING OFF EXISTING SERVICES FOR PURPOSES OF CONNECTING NEW WORK.
14. PROVIDE AN AUTOCAD DISK COPY OF THE CONTRACT DRAWINGS FOR RECORD 'AS-BUILT' DRAWINGS, REVISED AS REQUIRED TO SHOW ANY DEVIATIONS OF LAYOUTS FROM THAT ORIGINALLY SHOWN.
15. PROVIDE ONE SET OF SPECIAL TOOLS REQUIRED TO SERVICE EQUIPMENT AS RECOMMENDED BY MANUFACTURERS.
16. PROVIDE DIELECTRIC COUPLINGS WHEREVER PIPES OF DISSIMILAR METALS ARE JOINED.
17. THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, PROVIDE TEMPORARY HEATING AS REQUIRED FOR THE PROPER AND PROGRESS OF THE WORK.
18. THE MECHANICAL CONTRACTOR SHALL PROVIDE SIX (6) SETS OF SHOP DRAWINGS FOR ALL EQUIPMENT FOR REVIEW AND APPROVAL BY ENGINEERS.
19. PIPE HANGERS WHERE REQUIRED SHALL BE GRINNELL FIG. 65 FOR STEEL PIPE AND FIG. CP65 FOR COPPER PIPE, ALL WITH FIG. 140 THREADED ROD ATTACHED TO FIG. 117 EXPANSION CASE SET IN HOLES DRILLED IN CONCRETE, OR ATTACHED TO FIG. 225 OR 227 CLAMP ATTACHED TO FLOOR JOIST AND ROOF JOIST. FOR INSULATED PIPING, PROVIDE PROTECTION SADDLES SIZE HANGER TO ACCOMMODATE INSULATION WHERE APPLIED. (NO PERFORATED STRAP HANGERS WILL BE ACCEPTED FOR SUPPORT METHOD.

B. SHOP DRAWINGS

1. SHOP DRAWINGS AND DATA SHEETS FOR EQUIPMENT INTENDED FOR INSTALLATION UNDER THIS CONTRACT SHALL BE REVIEWED, DATED AND STAMPED BY MECHANICAL CONTRACTOR FIRST AND THEN SUBMITTED FOR CONSULTANT'S REVIEW. AFTER CONSULTANT'S REVIEW, SHOP DRAWINGS WILL BE RETURNED TO THE MECHANICAL CONTRACTOR. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING:
   - 1.1. PLUMBING FIXTURES & ACCESSORIES
   - 1.2. GRILLES, DIFFUSERS
   - 1.3. FIRESTOPPING MATERIALS
   - 1.4. DUCT AND PIPE INSULATION MATERIALS
   - 1.5. HOT WATER RADIATORS, PIPING ACCESSORIES, CONTROL VALVES, T-STAT

C. GUARANTEE

1. THE CONTRACTOR SHALL EXECUTE AND DELIVER TO THE OWNER, BEFORE FINAL PAYMENT, A WRITTEN GUARANTEE IN FORM SATISFACTORY TO THE OWNER THAT ALL LABOUR AND MATERIALS FURNISHED AND WORK PERFORMED BY THE CONTRACTOR ARE IN ACCORDANCE WITH THE CONTRACT. CONTRACT DRAWINGS, SPECIFICATIONS AND AUTHORIZED ALTERATIONS AND ADDITIONS THERETO AND, SHOULD ANY DEFECT DEVELOP DURING THE CONTRACT GUARANTEE PERIOD, AS HEREINAFTER DEFINED DUE TO IMPROPER MATERIALS, WORKMANSHIP OR ARRANGEMENT, THE SAME TOGETHER WITH ANY OTHER WORK AFFECTED IN CORRECTING SUCH DEFECT SHALL, UPON WRITTEN NOTICE BE MADE GOOD BY THE CONTRACTOR WITHOUT EXPENSE TO THE OWNER.
2. THE CONTRACTOR'S AFORESAID GUARANTEE SHALL COVER ALL WORK UNDER THE CONTRACT, WHETHER OR NOT ANY PORTION OR TRADE HAS BEEN ASSIGNED OR SUBLET. IN THE EVENT ANY PORTION OF THE WORK IS PERFORMED BY ASSIGNEES AND SUBCONTRACTORS THEIR WRITTEN GUARANTEE TO THE OWNER COVERING THEIR RESPECTIVE PORTIONS OF THE WORK FOR THE PERIODS SPECIFIED AND SHALL DELIVER SAME, TOGETHER WITH HIS OWN GUARANTEE, TO THE OWNER. ASSIGNEES AND SUBCONTRACTORS' GUARANTEES SHALL EXPRESSLY PROVIDE THAT THE SAME SHALL BE ENFORCEABLE DIRECTLY BY THE OWNER AND SHALL RUN CONCURRENTLY WITH THE CONTRACTOR'S GUARANTEE.

D. CLOSE-OUT DOCUMENTS AND INSTRUCTIONS

- AS-BUILT DRAWINGS
- ALL TEST REPORTS
- WARRANTIES
- ALL APPROVAL AND VERIFICATION CERTIFICATES
- THREE (3) COPIES OF MAINTENANCE MANUALS
- INSTRUCT OWNER IN THE OPERATION OF ALL EQUIPMENT AND MAKE FAMILIAR WITH SYSTEM
- AIR AND WATER TESTING AND BALANCING REPORT

E. COMMISSIONING AND DEMONSTRATION

1. THE COMMISSIONING PROCESS REQUIRES THE COMPLETE PROCESS TO TEST, ADJUST AND BALANCE SYSTEMS TO PERFORM IN ACCORDANCE WITH REQUIREMENTS OF CONTRACT DOCUMENTS AND TO DO ALL OTHER WORK AS SPECIFIED IN THIS SECTION.
2. THE MECHANICAL CONTRACTOR SHALL ACT AS THE COMMISSIONING AGENT FOR THIS PROJECT.
3. TO ADJUST AND REGULATE EQUIPMENT AND SYSTEMS SO AS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS AND TO ACHIEVE SPECIFIED INTERACTION WITH ALL OTHER RELATED SYSTEMS UNDER ALL NORMAL AND EMERGENCY LOADS AND OPERATING CONDITIONS.
4. BALANCE SYSTEMS AND EQUIPMENT TO REGULATE FLOW RATES TO MATCH LOAD REQUIREMENTS OVER FULL OPERATING RANGES.

F. PLUMBING

1. PROVIDE COMPLETE FUNCTIONAL PLUMBING SYSTEM COMPRISED OF DOMESTIC WATER PIPING, NATURAL GAS PIPING, VENT PIPING, SANITARY DRAINAGE PIPING, ETC.
2. SANITARY DRAINAGE AND VENT PIPING MATERIAL ABOVE GROUND SHALL BE CAST IRON CERTIFIED TO CAN/CSA-B70 .PVC & ABS PIPING ARE NOT ACCEPTABLE IN ORDER TO MATCH EXISTING MATERIALS.
3. BURIED SANITARY DRAINAGE AND VENT PIPING MATERIAL SHALL BE PVC CERTIFIED TO CAN/CSA-B181.2.
4. STORMWATER DRAINAGE PIPING MATERIAL SHALL BE CAST IRON CERTIFIED TO CSA-B70. PVC & ABS PIPING ARE NOT ACCEPTABLE IN ORDER TO MATCH EXISTING MATERIALS.
5. DOMESTIC HOT AND COLD WATER PIPING SHALL BE TYPE "L" HARD COPPER TUBING WITH SOLDERED FITTINGS. PEX PIPING ARE NOTE ACCEPTABLE.
6. DRAINS AND VENT PIPING ABOVE GROUND INSIDE BUILDING SHALL BE DWV COPPER, CAST IRON CLASS 4000. JOINTS SHALL BE SOLDERED FOR COPPER, MECHANICAL JOINT FOR CAST IRON PIPE.
7. MECHANICAL CONTRACTOR SHALL VERIFY ON SITE ALL CONNECTION POINTS TO EXISTING SERVICES. EXTEND ALL SERVICES INSIDE BUILDING AS SHOWN ON DRAWINGS. CONNECT SEWER AND WATER SERVICES TO EXTERIOR BUILDING SERVICES. CONFIRM AND VERIFY EXACT LOCATIONS AND INVERTS OF BUILDING SERVICES WITH SITE CONDITIONS. ALL CONNECTIONS TO BE MADE IN ACCORDANCE WITH LOCAL PROVINCIAL CODE REQUIREMENTS.
8. USE 95.5 TIN ANTIMONY BRAZING SOLDER ON ALL HOT AND COLD WATER PIPING. USE NON-CORROSIVE NON-LEADED FLUX.
9. ALL VALVES TO BE BY ONE MANUFACTURER.
10. MECHANICAL CONTRACTOR SHALL ALLOW FOR IN TENDER QUOTATION ANY ADDITIONAL LABOUR, MATERIALS, ETC. DEEMED NECESSARY DUE TO EXACT SITE CONDITIONS WHICH HAVE NOT BEEN REFLECTED ON MECHANICAL DRAWING OR IN MECHANICAL SPECIFICATION.
11. MECHANICAL CONTRACTOR SHALL CONNECT DOMESTIC WATER LINES, VENT LINES, SANITARY DRAIN SERVICES AS SHOWN FOR ALL PLUMBING FIXTURE INSTALLATIONS.
12. PROVIDE ACCESS DOORS, CLEANOUT COVERS, ETC FOR ALL EQUIPMENT REQUIRING ACCESS FOR SERVICING OR OPERATING PURPOSES. ACCESS DOORS TO BE PROVIDED BY DIVISION 15 FOR INSTALLATION BY SUB-TRADE PROVIDING WALL, CEILING, FLOORING, ETC.
13. PROVIDE SHUT-OFF VALVES ON BOTH DOMESTIC WATER LINES SERVING EACH PIECE OF EQUIPMENT, PLUMBING FIXTURE, ETC.
14. PROVIDE ESCUTCHEON PLATE COVERS OVER ANY DOMESTIC WATER LINES, DRAIN LINES, ETC PENETRATING WALLS.
15. PROVIDE TRAP PRIMERS AS PER LOCAL CODE REQUIREMENTS.

G. PIPING AND EQUIPMENT IDENTIFICATION

1. IDENTIFY ALL PIPING SYSTEMS. INDICATE PIPE SIZE, SERVICE AND DIRECTION OF FLOW.
2. THE LETTERING SHALL BE PROPORTIONAL TO THE OUTSIDE DIAMETER OF THE PIPE OR COVERING RANGING FROM 13MM HIGH TO 20MM O.D., PIPE OR COVERING UP TO 100MM HIGH ON 300MM O.D. PIPE OR COVERING. BRADEY PIPE TAG SHALL BE THE STANDARD OF LABELS. PIPES SMALLER THAN 20MM O.D. PIPE OR COVERING MAY BE BANDED WITH COLOURED PLASTIC TAPE IN LIEU OF PAINT AND THE CONTENTS IDENTIFIED BY MEANS OF "DYMO" EMBOSSED PLASTIC LABELS. STENCIL A DIRECTION-OF-FLOW ARROW ON EACH COLOUR BAND. PIPE IDENTIFICATION SHALL BE APPLIED AT EACH HORIZONTAL OR VERTICAL CHANGE IN DIRECTION AND A MAXIMUM OF 12 METER APART.

H. PIPING INSULATION

1. ALL WATER LINES LISTED BELOW SHALL BE INSULATED WITH 25MM THICK DUAL TEMPERATURE GLASS FIBRE PIPE INSULATION. INSULATION SHALL BE MANUFACTURED BY FIBREGLASS OF CANADA.
2. THIS INSULATION SHALL BE SUPPLIED COMPLETE WITH FLAME RETARDANT VAPOUR BARRIER JACKET CONSISTING OF GLASS FIBRE, REINFORCED LAMINATE OF ALUMINUM FOIL AND KRAFT PAPER. LONGITUDINAL SEAMS OF THE VAPOUR BARRIER JACKET SHALL BE SEALED WITH VAPOUR-PROOF ADHESIVE, FLINTKOTE TYPE 32. INSULATE AND TAPE ALL VALVES AND FITTINGS. EXPOSED PIPING INSULATION TO BE FINISHED WITH 8 OZ. FATTAL U.L.C. LISTED CANVAS AND CHILDERS LAGGING. NON-U.L.C. LISTED CANVAS WILL NOT BE ACCEPTED.
3. PROVIDE POLYVINYL JACKETING FOR ALL PIPING INSIDE MECHANICAL ROOM AND IN AREAS EXPOSED TO VIEW.
4. INSULATE THE FOLLOWING PIPING, FITTINGS AND COMPONENTS:
   - DOMESTIC COLD WATER
   - DOMESTIC HOT WATER AND RECIRCULATION
   - INTERNAL RAIN WATER LEADERS ABOVE GRADE
   - SANITARY VENTS
   - CONDENSATE DRAINS
5. UNBURIED DOMESTIC COLD WATER PIPING: HEAVY DENSITY GLASS FIBRE PREFORMED PIPE INSULATION WITH MAXIMUM OF 0.033 W/M·K CONDUCTIVITY AT 24°C MEAN WITH FACTORY APPLIED VINYL FOIL KRAFT LAMINATED GLASS FIBRE REINFORCED FIRE RESISTIVE VAPOUR BARRIER JACKET WITH NOT MORE THAN 1.15 PERM RATING (ASJ) WITH SEALED LAPPED JOINTS. USE 1" (25 MM) THICKNESS ON PIPING UP TO 1-1/2" (38 MM) SIZE, AND 2" (50 MM) THICKNESS ON PIPING 1-1/2" (38 MM) AND ABOVE.
6. UNBURIED DOMESTIC HOT WATER RECIRCULATING PIPING: HEAVY DENSITY GLASS FIBRE PREFORMED PIPE INSULATION WITH MAXIMUM 0.035 W/MK CONDUCTIVITY AT 38°C MEAN WITH FACTORY APPLIED FIRE RESISTIVE VAPOUR BARRIER JACKET OF NOT MORE THAN 1.15 PERM RATING. USE 2" (50 MM) THICKNESS ON ALL DOMESTIC HOT WATER RECIRCULATION PIPING.
7. UNBURIED DOMESTIC HOT WATER PIPING: HEAVY DENSITY GLASS FIBRE PREFORMED PIPE INSULATION WITH A MAXIMUM 0.035 W/M·K CONDUCTIVITY AT A MEAN TEMPERATURE OF 38°C WITH FACTORY APPLIED FIRE RESISTIVE VAPOUR BARRIER JACKET OF NOT MORE THAN 1.15 PERM RATING. INSULATE ALL PIPES BETWEEN THE HOT WATER SOURCE OR RECIRCULATION LOOP AND THE FIXTURE USING THE FOLLOWING MINIMUM THICKNESSES: USE 1" (25 MM) THICKNESS ON PIPING UP TO 1-1/2" (38 MM) SIZE, AND 2" (50 MM) THICKNESS ON PIPING 1-1/2" (38 MM) AND ABOVE.
8. EXPOSED HORIZONTAL & VERTICAL RUNS OF SANITARY DRAINS EXCEPT AS NOTED ABOVE: 1" FIBERGLASS INSULATION WITH POLYVINYL COVERING C/W PVC JACKETS.
9. VENT PIPING: INSULATE THE FIRST 3.0M OF ALL VENT PIPING INSIDE THE BUILDING BETWEEN THE POINTS THEY EXIT AT THE ROOF LEVEL AND THROUGH THE SLAB ON GRADE INSULATION. USE 2" HEAVY DENSITY GLASS FIBRE PREFORMED PIPE INSULATION WITH A POLYVINYL COVERING AND A MAXIMUM 0.035 W/M·K CONDUCTIVITY AT A MEAN TEMPERATURE OF 38°C.
10. VALVES AND FITTINGS: 2" (50 MM) GLASS FIBRE BLANKET CONFORMING TO CGSB #51_BF11 COMPRESSED TO SAME THICKNESS AS ADJOINING INSULATION AND SECURED WITH JUTE TWINE. OVER THIS APPLY SMOOTH COAT OF INSULATING CEMENT AND RECOVER WITH 4 OZ (135.6 G/M^2) CANVAS. ON COLD WATER PIPING WRAP BLANKET WITH FOIL FACED FRICTION TAPE OVERLAPPED TO FORM VAPOUR BARRIER BEFORE APPLYING INSULATION CEMENT. SEAL ALL VAPOUR BARRIERS.
11. END JOINTS SHALL BE COVERED WITH A 4" (100 MM) WIDE FACTORY SUPPLIED STRIP OF THE SAME MATERIAL AS THE INSULATION JACKET AND SEALED WITH ADHESIVE.
12. AT ALL FITTINGS AND VALVES, INSULATION ENDS SHALL BE MITRED AND FITTINGS, ETC., SHALL BE TIGHTLY WRAPPED WITH GLASS FIBRE BLANKET BUILT UP TO AN EQUIVALENT THICKNESS. ALUMINUM FOIL 2 MIL THICKNESS SHALL BE WRAPPED OVER THE BLANKET INSULATION TO PROVIDE A VAPOUR BARRIER AND THE WHOLE WRAPPED WITH GLASS FABRIC MEMBRANES SATURATED WITH BRUSH COAT OF VAPOUR PROOF MASTIC.
13. CONDENSATE PIPING: 0.5" (13 MM) THICK GLASS FIBER PIPE INSULATION. ENSURE CONTINUOUS VAPOUR BARRIER.

I. FIRESTOPPING

1. THIS CONTRACTOR SHALL WORK WITH ALL OTHER CONTRACTORS ON THE PROJECT IN PROVIDING ONE COMMON METHOD OF FIRE STOPPING ALL PENETRATIONS MADE IN FIRE RATED ASSEMBLIES.
2. APPROVED FIRE STOPPING AND SMOKE SEAL MATERIAL IN ALL FIRE SEPARATIONS AND FIRE RATINGS WITHIN ANNULAR SPACE BETWEEN PIPES, DUCTS, INSULATION AND ADJACENT FIRE SEPARATION AND/OR FIRE RATING.
3. DO NOT USE CEMENTIOUS OR RIGID SEALS AROUND PENETRATIONS FOR PIPE, DUCTWORK, OR OTHER MECHANICAL ITEMS.
4. INSULATED PIPES AND DUCTS: ENSURE INTEGRITY OF INSULATION AND VAPOUR BARRIER AT FIRE SEPARATION.
5. PROVIDE MATERIALS AND SYSTEMS CAPABLE OF MAINTAINING EFFECTIVE BARRIER AGAINST FLAME, SMOKE AND GASES. ENSURE CONTINUITY AND INTEGRITY OF FIRE SEPARATION.
6. COMPLY WITH THE REQUIREMENTS ON CAN4-S115-M35, AND DO NOT EXCEED OPENING SIZED FOR WHICH THEY HAVE BEEN TESTED.
7. SYSTEMS TO HAVE AN F OR FT RATING (AS APPLICABLE) NOT LESS THAN THE FIRE PROTECTION RATING REQUIRED FOR CLOSURES IN FIRE SEPARATION. PROVIDE "FIRE WRAP" BLANKET AROUND SERVICES PENETRATING FIRE WALLS. EXTENT OF BLANKET MUST CORRESPOND TO ULC RECOMMENDATIONS.
8. THE FIRE STOPPING MATERIALS ARE NOT TO SHRINK, SLUMP OR SAG AND TO BE FREE OF ASBESTOS, HALOGENS AND VOLATILE SOLVENTS.
9. FIRESTOPPING MATERIALS ARE TO CONSIST OF A COMPONENT SEALANT APPLIED WITH A CONVENTIONAL CAULKING GUN AND TROWEL.
10. FIRE STOP MATERIALS ARE TO BE CAPABLE OF RECEIVING FINISH MATERIALS IN THOSE AREAS WHICH ARE EXPOSED AND SCHEDULED TO RECEIVE FINISHES. EXPOSED SURFACES ARE TO BE ACCEPTABLE TO CONSULTANT PRIOR TO APPLICATION OF FINISH.
11. FIRESTOPPING SHALL BE INSPECTED AND APPROVED BY LOCAL AUTHORITY PRIOR TO CONCEALMENT OR ENCLOSURE.
12. INSTALL MATERIALS AND COMPONENTS IN ACCORDANCE WITH ULC CERTIFICATION, MANUFACTURER'S INSTRUCTIONS AND LOCAL AUTHORITY.
13. SUBMIT PRODUCT LITERATURE AND INSTALLATION MATERIAL ON FIRE STOPPING IN SHOP DRAWING AND PRODUCT DATA MANUAL. MAINTAIN COPIES OF THESE ON SITE FOR VIEWING BY INSTALLERS AND CONSULTANT.
14. MANUFACTURER OF PRODUCT SHALL PROVIDE CERTIFICATION OF INSTALLATION. SUBMIT LETTER TO THE CONSULTANT.
15. ACCEPTABLE MANUFACTURER: 3M, HILTI OR APPROVED EQUIVALENT.

J. HEATING, VENTILATION & AIR CONDITIONING

1. ALL DUCTWORK INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH SMACNA LATEST EDITION DUCT STANDARDS.
2. THIS CONTRACTOR SHALL SUPPLY AND INSTALL ALL DUCTWORK INCLUDING APPURTENANCES, HANGERS, DAMPERS, ETC.

   ALL EXPOSED ROUND DUCTWORK SHALL BE ROUND SPIRAL CONDUIT CONSTRUCTED OF ZINC COATED STEEL: ACCEPTABLE PRODUCT: UNITED SHEET METAL CO. SHOP FABRICATED DUCTWORK AND FITTINGS CONSTRUCTED IN A MANNER SIMILAR TO THE FACTORY TYPE SPECIFIED WILL BE ACCEPTED.

CONDUIT SIZE	GAUGE OF METAL
8" AND SMALLER	26
9" TO 22"	24
24" TO 36"	22

   RECTANGULAR DUCTWORK SHALL BE CONSTRUCTED FROM GALVANIZED SHEET METAL OF THE FOLLOWING U.S. STANDARD GAUGES:

   DUCTS UP TO 12" ON LONGEST DIMENSION 26 GA.
   DUCTS 13" TO 28" ON LONGEST DIMENSION 24 GA.
   DUCTS 29" TO 48" ON LONGEST DIMENSION 22 GA.

3. BALANCING DAMPERS SHALL BE CONSTRUCTED FROM GALVANIZED STEEL 2 GAUGES HEAVIER THAN THE DUCTWORK IN WHICH THEY ARE INSTALLED C/W LOCKING QUADRANT AND INDICATING DEVICE.
4. PROVIDE FIRE DAMPERS WHICH CONFORM TO NFPA REGULATIONS, BEAR ULC LABEL, AND HAVE APPROVAL OF DFC. DAMPERS TO BE TYPE 'B' AND INSTALLED IN DUCTWORK AT FIRE SEPARATIONS WHETHER SHOWN OR NOT.
5. ALL DUCTWORK SHALL BE SEALED USING DURO-DYNE S-2 DUCT SEALER THROUGHOUT ALL SEAMS AND JOINTS.
6. PROVIDE ACCESS DOORS WHERE REQUIRED FOR SERVICING OR OPERATING OF MECHANICAL EQUIPMENT.
7. PROVIDE 4" FLEXIBLE DUCT CONNECTIONS ON BOTH INLET AND OUTLET DISCHARGE SIDES OF EACH FAN, AIR HANDLING ROOFTOP UNIT, ETC. PROVIDE VIBRATION ISOLATORS.
8. INSULATION, JACKETS AND ADHESIVES SHALL BE INCOMBUSTIBLE AND IN COMPLIANCE WITH ONTARIO BUILDING CODE. PRODUCTS CONTAINING ASBESTOS SHALL NOT BE USED.
9. ALL INSULATION PRODUCTS USED SHALL BE FULLY TESTED AND APPROVED AS FIRE RETARDANT BY UNDERWRITERS LABORATORIES OF CANADA LIMITED.
10. MATERIALS SHALL BE OF CANADIAN MANUFACTURE WHERE AVAILABLE, OF BEST QUALITY OF THEIR RESPECTIVE KINDS AND OF UNIFORM PATTERN THROUGHOUT.
11. ALL INSULATING MATERIALS SHALL BE FIRE RETARDANT. ADHESIVES SHALL BE WATERPROOF AND INCOMBUSTIBLE FLAME RESISTANT. COMBUSTIBLE WRAPPINGS OR VAPOUR BARRIERS USED IN CONJUNCTION WITH THERMAL INSULATING MATERIALS SHALL BE TREATED TO REDUCE THEIR COMBUSTIBILITY SO THAT FLAME SPREAD CLASSIFICATION OF ENTIRE ASSEMBLY, AS DETERMINED ACCORDING TO METHOD OF FIRE HAZARD CLASSIFICATION FOR BUILDING MATERIALS A.S.T.M. #84_68, SHALL NOT EXCEED 25 AND SMOKE DEVELOPED NUMBER SHALL NOT EXCEED 50. SUBMIT REPORT FROM AN APPROVED TESTING LABORATORY CONFIRMING FOREGOING RATINGS.
12. WHEAT PASTES SHALL NOT BE USED.
13. THE CONSULTANT RESERVES RIGHT TO DEMAND TEST SAMPLES TO COMPOSITE INSULATION SYSTEMS FOR FIRE HAZARD TEST RATING.
14. BANDS AND CLIPS TO SECURE INSULATION AROUND DUCTS SHALL BE ½" ALUMINIUM BANDS.
15. DUCTWORK SHOWN CROSS HATCHED SHALL BE ACOUSTICALLY LINED WITH 1" THICK RIGID FIBERGLASS COVERED WITH BLACK PLASTIC COATED MAT FACING. SEAL ENDS. STANDARD OF ACCEPTANCE JOHNS-MANVILLE LINACOUSTIC OR APPROVED EQUAL. ALL DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR DIMENSIONS OF DUCTS NOT INCLUDING LINING & INSULATION. CONTRACTOR TO UPSIZE THE DUCT DIMENSIONS BASED ON REQUIRED ACOUSTICAL INTERNAL LINING.
16. INSULATE THE FOLLOWING DUCTWORK, PIPING, FITTINGS AND COMPONENTS:
    - BRANCH DUCTS AND TAKE OFFS INCLUDING FLEXIBLE DUCTS
    - HEATING HOT WATER / GLYCOL SUPPLY AND RETURN
18. ALL CONCEALED SUPPLY AND RETURN AIR DUCTS: 1" (25 MM) THICK GLASS FIBRE 12 KG/M^3 DENSITY (FOR RECTANGULAR DUCTS) OR 24 KG/M^3 DENSITY (FOR ROUND DUCTS) DUCT INSULATION WITH REINFORCED FOIL FACED FLAME RESISTANT KRAFT VAPOUR BARRIER. INSULATION SHALL HAVE MAXIMUM VAPOR TRANSMISSION RATE OF 0.02 PERMS AND MINIMUM THERMAL RESISTANCE OF 0.75 M^{2}K/W (FOR 1" THICKNESS). DUCT INSULATION VALUE OF R-6 (IN UNCONDITIONED SPACES) OR R-2 (INSIDE RETURN AIR PLENUMS).
19. HOT WATER HEATING PIPING: HEAVY DENSITY GLASS FIBRE PREFORMED PIPE INSULATION WITH MAXIMUM OF 0.033 W/M·K CONDUCTIVITY AT 24°C MEAN WITH FACTORY APPLIED VINYL FOIL KRAFT LAMINATED GLASS FIBRE REINFORCED FIRE RESISTIVE VAPOUR BARRIER JACKET WITH NOT MORE THAN 1.15 PERM RATING (ASJ) WITH SEALED LAPPED JOINTS. USE 1" (25 MM) THICKNESS ON PIPING UP TO 1-1/2" (38 MM) SIZE, AND 2" (50 MM) THICKNESS ON PIPING 1-1/2" (38 MM) AND ABOVE.

K. AIR TESTING AND BALANCING

1. BALANCE AND ADJUST EACH FAN. SYSTEM VOLUMES SHALL BE WITHIN 5% OF REQUIREMENTS SHOWN. ADJUST AND SET BALANCE DAMPERS, FANS AND DRIVES TO GIVE THE SPECIFIED VOLUMES AT ALL OUTLETS. THE BALANCING OF AIR SYSTEMS IS TO BE DONE BY A BALANCING FIRM SPECIALIZING IN THIS WORK. CLEAN DUCT SYSTEMS, FILTERS, ETC., BEFORE TESTING IS DONE.
2. PROVIDE TWO BOUND COPIES OF THE AIR BALANCING REPORT. AIR QUANTITIES AT EACH OUTLET SHALL BE AS INDICATED IN THE DRAWINGS. THIS REPORT SHALL SHOW THE QUANTITIES, VELOCITIES AND AREA OF EACH OUTLET, TYPE AND MODEL. NUMBER OF FANS AND MOTOR INSTALLED, ACTUAL AIR DELIVERED BY THE FAN WITH TOTAL STATIC PRESSURE AND AMPS DRAWN BY THE MOTORS. ADJUST AND RETEST TO THE SATISFACTION OF THE PROJECT COORDINATOR. PROVIDE ADDITIONAL COPY OF THE AIR BALANCE REPORT TO THE MECHANICAL CONSULTANT.
3. UPON COMPLETION OF THE AIR BALANCE TEST, SUBMIT THE AIR BALANCE REPORT TO THE OWNER. THIS CONTRACTOR SHALL PROVIDE, IF CALLED FOR, A SPOT CHECK ON THE SYSTEM WITH THE CONSULTANT. IF ACTUAL AIR QUANTITIES DO NOT AGREE WITH THE AIR BALANCE REPORT DATA, THIS CONTRACTOR MAY BE CALLED UPON TO COMPLETELY REBALANCE THE SYSTEM UNTIL REQUIREMENTS ARE ACHIEVED AND ACCEPTED BY THE CONSULTANT.

L. PRESSURE PIPING TEST

- 1.1. SPECIALTY FITTINGS, EQUIPMENT, SIMILAR ITEMS AND INTERNAL PARTS THEREOF WHICH ARE COMPONENTS OF THE LINE OR LINES TO BE TESTED AND WHICH ARE NOT DESIGNED TO WITHSTAND THE SPECIFIED TEST PRESSURE SHALL BE REMOVED, DISCONNECTED OR BYPASSED AS APPLICABLE DURING THE TEST. DURING THE TEST PERIOD THE WATER PRESSURE PUMP OR OTHER SOURCE OF TEST PRESSURE SHALL BE DISCONNECTED FROM THE PIPING SYSTEM.
- 1.2. PRESSURE TESTS SHALL BE MADE WITH COLD WATER, AND, IN ADDITION TO THE FOREGOING, SHALL BE MADE IN ACCORDANCE WITH THE FOLLOWING INSTRUCTIONS.
- 1.3. WHERE IT IS NOT PRACTICAL TO TEST EACH SYSTEM AS A WHOLE, IT MAY BE TESTED IN SECTIONS. LEAKS SHALL BE MADE TIGHT WHILE EACH SYSTEM IS UNDER PRESSURE IF POSSIBLE. WHERE THIS IS NOT PRACTICABLE, PIPING AND FITTINGS SHALL BE REMOVED AND REFITTED AND THAT PORTION OF THE SYSTEM RETESTED.
- 1.4. WATER SYSTEMS SHALL BE TESTED AT 125 PSIG FOR 24 HOURS.

M. SETTING OF EQUIPMENT AND PIPING

- 1.1. SETTING AND ALIGNMENT OF ALL EQUIPMENT WITH ROTATING ELEMENTS MUST BE CARRIED OUT BY CERTIFIED TRADESMEN OR BY MILLWRIGHTS.
- 1.2. INSTALL PIPING SO AS TO BE FREE FROM STRAIN AND DISTORTION DUE TO EXPANSION AND CONTRACTION.

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

REVISIONS

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The contractor shall check and verify all dimensions and report all errors and ommisions to the architect and the design professional whose seal is affixed to this drawing. Do not scale the drawings.

This drawing shall not be used for construction purposes until issued for construction by the design professional whose seal is affixed to this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION DATE

STRUCTURAL CONSULTANT

MECHANICAL CONSULTANT CK

ELECTRICAL CONSULTANT CK

SHEET TITLE: **MECHANICAL SPECIFICATIONS I**

SHEET NO.	DRAWN BY	CHECKED
M 0.01	VA	BM
	PROJECT NO. 23035	
	SCALE AS NOTED	

MECHANICAL SPECIFICATIONS

N. HYDRONIC SYSTEMS

1. GENERAL
1.1. ALL MECHANICAL WORK SHALL BE GOVERNED BY AND SUBJECT TO THE PROVISIONS OF THIS SECTION, AND ALL SECTIONS OF THE PROJECT SPECIFICATION.
1.2. THIS SPECIFICATION DESCRIBES THE MINIMUM PERFORMANCE AND BASIC REQUIREMENTS.

2. PIPING– THREADED/WELDED

HOT WATER

2.1. PIPING SHALL BE ELECTRIC RESISTANCE OR SEAMLESS TUBING, SCHEDULE 40, CONFORMING TO ASTM DESIGNATION A–53.
2.1. PIPING AND FITTINGS UP TO AND INCLUDING 2" (50MM) SHALL HAVE SCREWED ENDS WITH COUPLING.PIPING AND FITTINGS 2–1/2" (65MM) AND LARGER SHALL HAVE WELDED JOINTS AND SHALL BE SUPPLIED WITH ENDS BEVELED AT AN ANGLE.

3. PIPING– GROOVED

HOT WATER HEATING

3.1. GROOVED PIPING 2–½" AND LARGER AND FITTINGS MAY BE USED IN LIEU OF WELDING OR FLANGED METHODS FOR HOT WATER PIPING IN MECHANICAL ROOMS AND AS SPECIFIED BY THE ENGINEER.
3.2. ALL GROOVED COUPLINGS SHALL BE DESIGNED WITH ANGLE BOLT PADS TO PROVIDE A RIGID JOINT, UNLESS OTHERWISE NOTED. VICTAULIC STYLE 07 ZERO–FLEX OR EQUIVALENT.
3.3. FLANGES DUCTILE IRON ASTM A–536 FOR SIZES 2" (50MM) TO 24" (600MM). VICTAULIC STYLE 741 OR EQUIVALENT.
3.4. GASKETS SHALL BE THE APPROPRIATE GRADE FOR THE TYPE AND TEMPERATURE OF FLUID FLOWING THROUGH THE PIPE.
3.5. GROOVED PRODUCTS SHALL BE MANUFACTURED BY VICTAULIC OR GRUVLOC. ALL PRODUCTS SHALL BE BY ONE MANUFACTURER.
3.6. SHOP DRAWING SUBMITTAL TO INCLUDE GASKETS AND COUPLINGS.

4. WALL FIN RADIATION (P10)

4.1. CONTINUOUS CONVECTOR TYPE RADIATION SHALL HAVE HEATING ELEMENTS CONSISTING OF 2–1/2" X 3–1/4" ALUMINUM FINS WITH FLANGED COLLARS, MECHANICALLY BONDED TO 3/4" COPPER TUBING. FINS SHALL PROVIDE FOR SPACING AS WELL AS BOND. TUBE ENDS SHALL BE SIZED TO FIT STANDARD SOLDER CONNECTIONS.
4.2. ENCLOSURES SHALL BE FABRICATED FROM 18 GAUGE STEEL WITH INTEGRAL GRILLES. THE UNITS SHALL BE COMPLETE WITH TRIM PIECES, END PLATES, TRIM PANELS, AND ACCESS DOORS.
4.3. ELEMENT AND ENCLOSURE BRACKETS SHALL BE PROVIDED ON MAXIMUM 3'–0" CENTERS TO SUPPORT THE CABINET AND/OR ELEMENT. ELEMENT SHALL BE FREE TO EXPAND WITHIN ENCLOSURE WITHOUT DAMAGE TO SYSTEM OR COMPONENTS. ENCLOSURE SHALL BE FINISHED IN PRIME COAT FINISH AND/OR PAINTED AS REQUESTED BY ARCHITECT AND TO BE SITE MEASURED FOR WALL TO WALL INSTALLATION ALLOWING SPACE FOR VALVES.
4.4. MANUFACTURERS: ENGINEERED AIR, ROSEMEX, SIGMA

5. CONVECTOR RADIATOR (C1W)

5.1. HEATING CABINET SHALL BE CONSTRUCTED OF 18 GAUGE COLD ROLLED STEEL WITH EPOXY POWDER COAT PRIME FINISH.
5.2. HEATING ELEMENT SHALL BE ALUMINUM FIN MECHANICALLY BONDED TO COPPER TUBES.
5.3. CABINETS SHALL BE COMPLETE WITH DAMPER CONTROL.
5.4. ACCEPTABLE MANUFACTURERS: ENGINEERED AIR, ROSEMEX, SIGMA, TRANE

6. ISOLATION VALVES (WATER SYSTEMS)

6.1. VALVES SHALL BE INSTALLED WHERE SHOWN ON THE DRAWINGS OR WHERE REQUIRED TO ENSURE SPECIFIED ISOLATION, CONTROL, BALANCING, DRAINING OF THE SYSTEM AND PERFECT WORKING OF THE SYSTEM.
6.2. BALL VALVES FOR LINES 2" AND UNDER SHALL BE FULL PORT BRONZE BODY 150 LB W.O.G. CRANE NO. 9302 OR EQUAL.
6.3. BUTTERFLY VALVES FOR LINES 2–½" AND OVER SHALL BE CLASS 150 FULL LUG TYPE CAST IRON BODY, BRONZE DISC, ALLOY OR STAINLESS STEEL SHAFT, EDPM SEAT, WITH NOTCHED TOP PLATE AND LEVER LOCKED HANDLE FOR VALVES UP TO 6", AND WORM GEAR OPERATOR WITH HAND WHEEL FOR VALVES 8" AND LARGER. LUGS TO BE TAPPED. MANUFACTURERS: CRANE, JENKINS, CENTERLINE, BRAY OR ANVIL.

7. BALANCING VALVES (CS/CBV)

7.1. PROVIDE ON EACH CHILLED WATER COIL, HOT WATER COIL AND AS SHOWN ON DRAWINGS, A CALIBRATED BRONZE BALANCE VALVE WITH PROVISIONS FOR CONNECTING A PORTABLE DIFFERENTIAL PRESSURE METER. METER CONNECTIONS TO HAVE BUILT IN CHECK VALVES. AN INTEGRAL POINTER SHALL REGISTER DEGREE OF VALVE OPENING. EACH BALANCE VALVE TO BE CONSTRUCTED WITH INTERNAL SEALS TO PREVENT LEAKAGE AROUND ROTATING ELEMENT. A CALIBRATED CURVE SHALL ACCOMPANY THE BALANCE VALVE AND MAY BE USED TO DETERMINE THE FLOW RATE BY MEANS OF PRESSURE DROP AND VALVE SETTING. EACH BALANCE VALVE SHALL BE CONSTRUCTED FOR 125 PSIG WORKING PRESSURE AT 250°F AND SUPPLIED WITH PREFORMED POLYURETHANE INSULATION, SUITABLE FOR USE ON HEATING AND COOLING SYSTEMS.
7.2. ACCEPTABLE PRODUCT: ARMSTRONG CBV SERIES, BELL & GOSSETT CB, WATTS TDV AND CSM SERIES..

8. CHECK VALVE

8.1. CHECK VALVES SHALL BE 150 LB SWING CHECK, NON–SLAM SPRING LOADED DISC RATED FOR THE SYSTEM AND/OR 200 PSI. CRANE NO. 34, OR 373, JENKINS OR ANVIL OR BRAY.

9. STRAINERS (WATER SYSTEMS)

9.1. FOR EACH PUMP SUPPLIED, SUPPLY AND INSTALL A STRAINER IN THE SUCTION LINE AS LOCATED ON THE DRAWINGS.
9.2. STRAINER ½" TO 2" SIZE: SPIRAX SARCO MODEL BT, BRONZE STRAINER WITH TYPE 304 S.S. SCREEN.
9.3. ACCEPTABLE PRODUCT: SPIRAX SARCO, CRANE, ARMSTRONG.

10. AIR VENTS

10.1. SUPPLY AND INSTALL AT ALL HIGH POINTS OF THE SYSTEM WHERE AIR MAY ACCUMULATE.
10.2. INSTALL AUTOMATIC AIR VENTS IN EXPOSED AREAS WHERE THEY CAN BE SEEN. INSTALL MANUAL AIR VENTS IN AREAS THAT ARE CONCEALED. INSTALL ACCESS DOOR WHERE REQUIRED.
10.3. ON PIPING 3" AND LARGER, INSTALL FLOAT OPERATED TYPE AUTOMATIC AIR VENTS. ACCEPTABLE PRODUCT: SARCO NO. 13W WITH OPERATING PRESSURE OF 150 PSIG AND OPERATING TEMPERATURE OF 350°F COMPLETE WITH ISOLATING BALL VALVE BETWEEN MAIN AND VENT TO ALLOW SERVICING OF VENT WITHOUT EMPTYING SYSTEM.
10.4. VENT DRAINS SHALL BE PIPED WITH RIGID COPPER TO 6" ABOVE FINISHED FLOOR (AFF).
10.5. ON PIPING 2–1/2" AND SMALLER, ALL RADIATION, FAN COIL UNITS, AND UNIT HEATERS SHALL INCLUDE AUTOMATIC AIR VENTS INSTALLED AT EACH HIGH POINT. ACCEPTABLE PRODUCT: HONEYWELL BRAUKMAN EA122A AUTOMATIC AIR VENT WITH MAXIMUM OPERATING PRESSURE OF 150 PSI, MAXIMUM OPERATING TEMPERATURE OF 230°F COMPLETE WITH REMOVABLE FLOAT/VALVE AND MATERIALS FOR USE WITH WATER, GLYCOL, MINERAL OIL OR PETROLEUM OILS.

11. HOT WATER HEATING PIPING

11.1. THOROUGHLY REAM ALL CUT PIPE ENDS. ANY PIPING WHICH IS FOUND TO BE INSTALLED WITHOUT BEING FULLY REAMED SHALL BE SUFFICIENT REASON FOR COMPLETE REMOVAL OF ALL JOINTS FOR INSPECTION AT THE SUBCONTRACTOR'S EXPENSE.
11.2. TAKE OFF UP FEED RUN OUTS OFF THE TOP OF THE MAIN AT AN ANGLE OF 90° OR 45° TO THE HORIZONTAL; DOWN FEEDS SHALL BE TAKEN OFF THE SIDE IN A SIMILAR MANNER. SEE DETAIL ON DRAWINGS.
11.3. INSTALL ECCENTRIC REDUCERS AT CHANGES IN PIPE DIAMETER SO THAT AIR CANNOT COLLECT AT HIGH POCKETS IN THE PIPING.

O. HYDRONIC SYSTEMS TESTING AND BALANCING

1. TEST SYSTEMS IN ACCORDANCE WITH APPLICABLE PLUMBING CODES.

2. SYSTEMS NOT COVERED BY CODES NOTED ABOVE SHALL BE TESTED AND PROVEN TIGHT OVER A PERIOD OF 24 HOURS BY A HYDROSTATIC TEST. REMOVE VENTS AND GAUGES AND TEMPORARILY PLUG CONNECTIONS.

3. TEST PRESSURE FOR WATER SYSTEMS SHALL BE: 1½ TIMES THE SYSTEM WORKING PRESSURE BUT NOT LESS THAN 125 PSIG OR THE MAXIMUM WORKING PRESSURE OF EXPANSION JOINTS, VIBRATION ISOLATORS OR OTHER LIMITING SYSTEM COMPONENTS.

4. REPAIR ANY LEAKS OR DEFECTS AND THE TESTS SHALL BE REPEATED TO THE SATISFACTION OF THE ENGINEER.

5. BALANCE AND ADJUST EACH H.V.A.C. EQUIPMENT WITH WATER OR GLYCOL SUPPLY AND RETURN. SYSTEM VOLUMES SHALL BE WITHIN 5% OF REQUIREMENTS SHOWN. ADJUST AND SET CONTROL & BALANCING VALVES TO GIVE THE SPECIFIED FLOWRATES AT ALL OUTLETS. THE BALANCING OF WATER SYSTEMS IS TO BE DONE BY A BALANCING FIRM SPECIALIZING IN THIS WORK. CLEANING AND FLUSHING OF WATER SYSTEMS PIPING SHALL BE PERFORMED PRIOR TO THIS WORK USING HOT WATER.

6. PROVIDE TWO BOUND COPIES OF THE WATER BALANCING REPORT. WATER QUANTITIES AT EACH OUTLET SHALL BE AS INDICATED IN THE DRAWINGS. THIS REPORT SHALL SHOW THE FLOWRATE AND TEMPERATURE OF EACH OUTLET, TYPE AND MODEL. NUMBER OF BALANCING VALVES INSTALLED, ACTUAL FLOWRATE AND TEMPERATURE DELIVERED WITH PUMPS HEAD AND AMPS DRAWN BY THE MOTORS. ADJUST AND RETEST TO THE SATISFACTION OF THE PROJECT COORDINATOR. PROVIDE ADDITIONAL COPY OF THE WATER BALANCE REPORT TO THE MECHANICAL CONSULTANT.

7. UPON COMPLETION OF THE WATER BALANCE TEST, SUBMIT THE REPORT TO THE OWNER. THIS CONTRACTOR SHALL PROVIDE, IF CALLED FOR, A SPOT CHECK ON THE SYSTEM WITH THE CONSULTANT. IF ACTUAL QUANTITIES DO NOT AGREE WITH THE BALANCE REPORT DATA, THIS CONTRACTOR MAY BE CALLED UPON TO COMPLETELY REBALANCE THE SYSTEM UNTIL REQUIREMENTS ARE ACHIEVED AND ACCEPTED BY THE CONSULTANT.

P. CHEMICAL TREATMENT

1. GENERAL CONDITIONS AND SCOPE

1.1. ALL MECHANICAL WORK SHALL BE GOVERNED BY AND SUBJECT TO THE PROVISIONS OF THIS SECTION, AND ALL SECTIONS OF THE PROJECT SPECIFICATION.
1.2. THE MECHANICAL CONTRACTOR SHALL REUSE EXISTING WATER TREATMENT SYSTEMS.
1.3. THE MECHANICAL CONTRACTOR SHALL CLEAN AND FLUSH THE ENTIRE EXISTING AND NEW HYDRONIC HEATING SYSTEM TO REMOVE FOULANTS.

2. PRODUCT

2.1. WATER TREATMENT SERVICES SHALL BE PROVIDED BY ONE OF THE FOLLOWING COMPANIES: AQUARIAN CHEMICALS PROCEDURE.
2.2. FOR HOT WATER HEATING LOOP REUSE THE COMPLETE SYSTEM FOR CORROSION PROTECTION AND SIDE STREAM FILTRATION.
2.3. SUPPLY WATER TREATMENT EQUIPMENT FOR HOT WATER HEATING SYSTEM TO INCLUDE:
2.3.1. ONE (1) 2–20 BYPASS MICRON FILTER
2.3.2. ONE BOX OF 30 CARTRIDGE FILTERS (20 MICRON)
2.3.3. CLEANER MUST BE CITRIC ACID BASED (HCL IS UNACCEPTABLE).
2.3.4. PROVIDE SUFFICIENT CORROSION INHIBITOR TO TREAT ENTIRE NEW AND EXISTING SYSTEM. CORROSION INHIBITOR SHALL BE MOLY BASE.

3.1. EQUIPMENT INSTALLATION
3.1.1. INSTALL THE FILTER IN A BY–PASS ARRANGEMENT ACROSS THE HEADERS OF THE PRIMARY PUMP SET. ISOLATION, VENTING AND DRAIN VALVES TO BE INSTALLED AS PER INSTALLATION DRAWINGS AND ON–SITE INSTRUCTION BY WATER TREATMENT REPRESENTATIVE.

3.2. SYSTEM CLEANING AND FLUSHING
3.2.1. THOROUGHLY FLUSH NEW AND EXISTING CLOSED SYSTEM WITH RAW WATER TO REMOVE LOOSE DEBRIS. REMOVE AND CLEAN ALL STRAINERS AND FLUSH LOW POINTS.
3.2.2. CLEAN NEW SYSTEM.
3.2.3. ADD SYSTEM CLEANER AS PRESCRIBED BY WATER TREATMENT SUPPLIER. ALLOW CIRCULATION ENSURING FULL CIRCULATION INVOLVING ALL SYSTEM PIPING. THE HEATING SYSTEM SHALL BE HEATED TO A TEMPERATURE OF 180°F AND CIRCULATED WITH ALL CONTROL VALVES OPEN FOR 4 TO 6 HOURS TO ENSURE EFFECTIVE CLEANING.
3.2.4. THE SYSTEM SHALL BE DRAINED AND REFILLED WITH FRESH WATER AS OFTEN AS NECESSARY TO REMOVE ALL TRACES OF CLEANING CHEMICAL.
3.2.5. THE WATER TREATMENT REPRESENTATIVE WILL TEST FOR RESIDUE OF CLEANER TO DETERMINE WHEN SYSTEM IS READY FOR CHEMICAL TREATMENT.

3.3. ACCEPTABILITY OF WATER CONDITION TO BE DETERMINED THROUGH TESTING AND VISUAL EXAMINATION OF REPRESENTATIVE WATER SAMPLES BY THE WATER TREATMENT SUPPLIER. COPIES OF TEST REPORTS TO BE SUBMITTED BY THE WATER TREATMENT SUPPLIER.

3.4. OBTAIN FROM THE WATER TREATMENT REPRESENTATIVE THE CHEMICALS REQUIRED FOR THE WATER TREATMENT AT A RATE OF 2–3 GALLONS PER 1000 GALLONS OF WATER. ADD CORROSION INHIBITOR TO NEW AND EXISTING LOOP AS PRESCRIBED BY WATER TREATMENT SUPPLIER.

3.5. INSERT CARTRIDGES IN FILTER.

3.6. CERTIFICATION

3.6.1. THE MECHANICAL CONTRACTOR SHALL SUPPLY THE OWNER WITH CERTIFIED DOCUMENTATION FROM THE WATER TREATMENT SUPPLIER THAT THE SYSTEMS HAVE BEEN PROPERLY EQUIPPED, CHEMICALLY CLEANED AND THAT THEY ARE MAINTAINING SUFFICIENT LEVELS OF CORROSION INHIBITOR. THE CONTRACTOR SHALL REQUEST SUCH DOCUMENTATION FROM THE WATER TREATMENT SUPPLIER WITHIN ONE WEEK FOR PRESENTATION TO THE OWNER.

Q. MECHANICAL DEMOLITION

1. PROVIDE LABOUR, MATERIALS, PRODUCTS, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE THE DEMOLITION WORK SPECIFIED HEREIN.

2. REFER TO DRAWINGS FOR EXTENT OF DEMOLITION WORK. THE DRAWINGS INDICATE THE APPROXIMATE LOCATIONS OF SERVICES AS FAR AS THESE ARE KNOWN.

3. DISPOSE, OFF SITE, OF ALL DEBRIS IN ACCORDANCE WITH THE JURISDICTIONAL AUTHORITIES.

4. REMOVAL AND STORAGE OF SALVAGEABLE ITEMS AS DIRECTED BY THIS SPECIFICATION SECTION AND THE OWNER OF THEIR REPRESENTATIVE.

5. MEET THE REQUIREMENTS AND RECOMMENDATIONS OF ALL MUNICIPAL, PROVINCIAL AND FEDERAL BYLAWS AND ORDINANCES.

6. EXECUTE THIS WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING CODES AND STANDARDS.
CAN/CSA–S350–M1980 – CODE OF PRACTICE FOR SAFETY IN DEMOLITION OF STRUCTURES.
ONTARIO BUILDING CODE.
OCCUPATIONAL HEALTH AND SAFETY ACT.
REGULATIONS FOR CONSTRUCTION PROJECTS.
ONTARIO FIRE CODE.
REGULATIONS UNDER FIRE MARSHALS ACT.

7. REMOVAL FROM SITE AND DISPOSAL OF DEBRIS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL JURISDICTIONAL AUTHORITIES.

8. ARRANGE AND PAY FOR ALL PERMITS, NOTICES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE DEMOLITION WORK.

9. ALL MATERIALS WHICH HAVE NOT BEEN DESIGNATED FOR SALVAGE FROM THE DEMOLITION SHALL BECOME THE PROPERTY OF THE CONTRACTOR. REMOVE ALL MATERIAL AND DEBRIS FROM THE SITE AS QUICKLY AS POSSIBLE AND DISPOSE OF LEGALLY. BURNING OF DEBRIS OR SELLING OF MATERIALS ON THE SITE WILL NOT BE PERMITTED.

10. CONFORM TO REQUIREMENTS OF MUNICIPALITY'S WORKS DEPARTMENT REGARDING DISPOSAL OF WASTE MATERIALS.

11. MATERIALS PROHIBITED FROM MUNICIPALITY WASTE MANAGEMENT FACILITIES SHALL BE REMOVED FROM SITE AND DISPOSED OF THROUGH RECYCLING COMPANIES SPECIALIZING IN RECYCLABLE MATERIALS.

12. AT THE END OF EACH WORK SHIFT, LEAVE WORK IN A SAFE CONDITION.

13. DEMOLISH WORK INTO SECTIONS OF PRACTICAL SIZE FOR REMOVAL WITHOUT ALTERATION OR DAMAGE TO EXISTING BUILDING.

14. STORE MATERIALS ONLY IN AREAS DESIGNATED BY THE OWNER AND AS PERMITTED BY THE LOCAL JURISDICTIONAL AUTHORITIES.

15. MATERIALS AND DEBRIS SHALL NOT BE STACKED IN BUILDING TO THE EXTENT THAT OVERLOADING OF ANY PART OF THE STRUCTURE WILL OCCUR.

16. CONFER WITH THE OWNER CONCERNING SCHEDULE, DUST AND NOISE CONTROL PRIOR TO COMMENCING WORK IN OR ADJACENT TO EXISTING FACILITIES WHERE SUCH WORK MIGHT AFFECT EITHER THOSE FACILITIES OR THEIR OCCUPANTS.

17. EXECUTE WORK WITH LEAST POSSIBLE INTERFERENCE OR DISTURBANCE TO OCCUPANTS, PUBLIC AND NORMAL USE OF PREMISES.

18. PROVIDE TEMPORARY MEANS TO MAINTAIN SECURITY WHEN SECURITY HAS BEEN REDUCED BY DIVISION 15.

19. ONLY ELEVATORS, DUMBWAITERS, CONVEYORS OR ESCALATORS ASSIGNED FOR CONTRACTOR'S USE MAY BE USED FOR MOVING MEN AND MATERIAL WITHIN BUILDING. PROTECT WALLS OF PASSENGER ELEVATORS, TO APPROVAL OF OWNER PRIOR TO USE. ACCEPT LIABILITY FOR DAMAGE, SAFETY OF EQUIPMENT AND OVERLOADING OF EXISTING EQUIPMENT.

20. PROVIDE TEMPORARY DUST SCREENS, BARRIERS, WARNING SIGNS IN LOCATIONS WHERE RENOVATIONS AND ALTERNATION WORK IS ADJACENT TO AREAS WHICH WILL BE OPERATIVE DURING WORK.

21. PROTECT ALL MECHANICAL SYSTEMS, INDICATED TO REMAIN, FROM DAMAGE.

22. PROVIDE AND MAINTAIN READY ACCESS TO FIRE FIGHTING EQUIPMENT AT ALL TIMES.

23. PROVIDE AND MAINTAIN PROPER AND SUITABLE FIRE EXTINGUISHERS THROUGHOUT THE DURATION OF THE WORK.

24. THE DRAWINGS INDICATE THE APPROXIMATE LOCATIONS OF SERVICES AS FAR AS THESE ARE KNOWN. SHOULD ANY MECHANICAL OR ELECTRICAL SERVICE LINE BE BROKEN, OR DISRUPTED BY OPERATIONS SPECIFIED UNDER THIS CONTRACT, REPAIR SERVICE LINES, AND MAKE GOOD ALL DAMAGE DUE TO THE DISRUPTION OR BREAK, AT NO EXPENSE TO THE OWNER. NOTIFY THE OWNER IMMEDIATELY WHENEVER ANY SERVICE LINE IS BROKEN OR DAMAGED.

25. ACCEPT LIABILITY FOR COSTS INCURRED BY THE OWNER IN REPAIRING AND CLEANING EQUIPMENT, ETC., RESULTING FROM FAILURE TO COMPLY WITH THE ABOVE REQUIREMENTS.

26. USE ONLY THOSE EXISTING ENTRANCES AND STAIRS DESIGNATED BY THE OWNER FOR ACCESS TO AND EGRESS FROM THE EXISTING BUILDINGS AND VARIOUS FLOORS WHERE WORK OF THIS CONTRACT IS TO BE CARRIED OUT. NO TRAFFIC THROUGH OTHER AREAS OF THE BUILDING WILL BE PERMITTED WITHOUT THE PRIOR CONSENT OF THE OWNER.

27. ARRANGE, SCHEDULE AND PERFORM WORK WITH MINIMUM DISTURBANCE TO EXISTING FACILITIES AND SERVICES.

28. SUBMIT A COMPLETE SCHEDULE OF SERVICE INTERRUPTIONS AND CHANGEOVERS WITH APPROXIMATE DATES, REQUIRED DURATIONS AND TIMES OF DAY, FOR APPROVAL BEFORE PROCEEDING.

29. NOTIFY OWNER IN WRITING AT LEAST 72 HOURS IN ADVANCE OF PLANNED INTERRUPTION TO EXISTING SERVICES.

30. INTERRUPTION OF SERVICE MUST OCCUR AT THE TIMES AND FOR THE DURATION STIPULATED BY THE OWNER.

31. KEEP SERVICE INTERRUPTION DURATION TO AN ABSOLUTE MINIMUM. CARRY OUT ALL PREPARATORY WORK, MEASUREMENTS, ETC., WITHOUT INTERRUPTION OF EXISTING SERVICES.

32. IF SERVICE INTERRUPTIONS ARE REQUIRED BY THE OWNER DURING THE NIGHT OR ON WEEKENDS, ETC., PREMIUM TIME SHALL BE INCLUDED AT THE CONTRACT PRICE. NO EXTRA CHARGES WILL BE ALLOWED AT A LATER DATE FOR FAILURE TO INCLUDE SAME.

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

REVISIONS

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Hamilton, ON L8R 2T1

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This drawing shall not be used for construction purposes until issued for construction by the architect/consultant. Contractor to sign this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION | DATE

STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT CK
ELECTRICAL CONSULTANT CK

SHEET TITLE
MECHANICAL SPECIFICATIONS II

SHEET NO.	DRAWN BY	CHECKED
M 0.02	VA	BM
	PROJECT NO. 23035	
	SCALE AS NOTED	

MECHANICAL LEGEND

SITE PLAN

	EXISTING BUILDING
	NEW BUILDING
	SITE BOUNDARY
ST ST	STORM PIPING
W	WATERMAIN
	FIRE WATERMAIN
SAN SAN	SANITARY SEWER (ABOVE GROUND)
SAN SAN	SANITARY SEWER (BURIED)
G G	GAS LINE
M	WATER METER
	CATCH BASIN
	MANHOLE
	GAS METER

PIPING/PLUMBING

	SANITARY LINE
G G	NATURAL GAS LINE
C	DOMESTIC COLD WATER (DCW)
H	DOMESTIC HOT WATER (DHW)
H	DOMESTIC HOT WATER RECIRCULATION (DHWR)
ST	RAIN WATER PIPING
V	VENT PIPE
	PIPE UP
	PIPE DOWN
CO	CLEAN OUT
F	FIRE LINE
S	SPRINKLER PIPING
HWS	HOT WATER SUPPLY (HWS)
HWR	HOT WATER RETURN (HWR)
	PIPE HEAT TRACING
KS-1	PLUMBING FIXTURE TAG

HVAC

	DUCTWORK
BD	BALANCING DAMPER
R.A.	RETURN AIR DUCT
S.A.	SUPPLY AIR DUCT
	THERMOSTAT
	TEMPERATURE SENSOR
FD	FIRE DAMPER
SD	SMOKE DAMPER
CO2	CO2 SENSOR
	SUPPLY DUCT UP
	RETURN OR EXHAUST UP
	SUPPLY TURNING DOWN
	RETURN OR EXHAUST DOWN
	FLEXIBLE DUCT
EF	HVAC EQUIPMENT TAG
	DIFFUSER
	RETURN AIR GRILLE
A 200 300	A-DIFFUSER TYPE 200-AIRFLOW IN CFM 300-SIZE (mm)
VAV 200 300	VAV-VAV BOX SIZE 200-MIN.AIRFLOW IN CFM 300-MAX.AIRFLOW IN CFM
RAD LENGTH MBH	RAD-RADIATOR TYPE LENGTH IN mm MBH-HEAT CAPACITY
BS	BOOSTER SWITCH
	DUCT WITH ACOUSTICAL LINING
	DUCT WITH THERMAL INSULATION
	DUCT WITH ACOUSTICAL LINING AND THERMAL INSULATION

ANNOTATION LEGEND

CTE	CONNECT TO EXISTING
FFD	FUNNEL FLOOR DRAIN
T/B	TO BELOW
T/A	TO ABOVE
F/B	FROM BELOW
F/A	FROM ABOVE
U/C	UNDERCUT DOOR
CBV	CIRCUIT BALANCING VALVE
A.P.	ACCESS PANEL
VTR	VENT THRU ROOF
BDD	BACK DRAFT DAMPER
ABD	AUTOMATIC BALANCING DAMPER
FC	FLEX CONNECTOR

MECHANICAL DRAWING LIST

M0.01	MECHANICAL SPECIFICATIONS I
M0.02	MECHANICAL SPECIFICATIONS II
M0.03	MECHANICAL LEGEND AND SCHEDULE
M0.04	MECHANICAL DETAILS
P1.01	PARTIAL GROUND FLOOR PLUMBING DEMOLITION AND NEW LAYOUT
P1.02	PARTIAL SECOND FLOOR PLUMBING DEMOLITION AND NEW LAYOUT
M1.01	PARTIAL GROUND FLOOR H.V.A.C. DEMOLITION AND NEW LAYOUT
M1.02	PARTIAL SECOND FLOOR H.V.A.C. DEMOLITION AND NEW LAYOUT

DIFFUSE & GRILLE SCHEDULE

TAG	MANUFACTURER	MODEL NO.	TYPE	SIZE (IN X IN)	NECK SIZE (IN)	FINISH	MOUNTING	DAMPER	REMARKS
SA1	PRICE	510	SUPPLY	AS NOTED	–	B12	T-BAR/ DRYWALL	YES	NOTE 1, 2
RA1	PRICE	535	EXHAUST	AS NOTED	–	B12	T-BAR/ DRYWALL	YES	NOTE 1, 2
TA1	PRICE	ATG1	TRANSFER	AS NOTED	–	B12	WALL		SIGHTPROOF

NOTES:
1. ACCEPTABLE EQUIVALENT: KRUEGER, NAILOR, METALAIRE.
2. DOUBLE DEFLECTION

ACCESS TO EQUIPMENTS AND ACCESSORIES

ALL MECHANICAL EQUIPMENTS, PIPING AND ACCESSORIES MUST BE ACCESSIBLE FOR OTHER TRADES. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO REVIEW AND PROVIDE ACCESS PANELS. DIVISION 09 SHALL ASSIST MECHANICAL CONTRACTOR TO INSTALL ACCESS PANELS. THE MECHANICAL PLAN DRAWINGS ATTEMPTS TO SHOW AS MUCH AS ACCESS PANELS. HOWEVER, THE QUANTITIES AND SIZE OF ACCESS PANEL SHALL VARY AS REQUIRED FOR INSTALLATION AS PER SITE CONDITION. ALL ACCESS PANELS MUST BE AIR TIGHT. PROVIDE NEOPRENE GASKETS EXCEPT FIRE DAMPERS. CONTRACTOR SHALL ALLOW FOR 4 ADDITIONAL ACCESS PANELS APART FROM THE ONE SHOWN ON THE DRAWINGS.

PLUMBING FIXTURE SCHEDULE

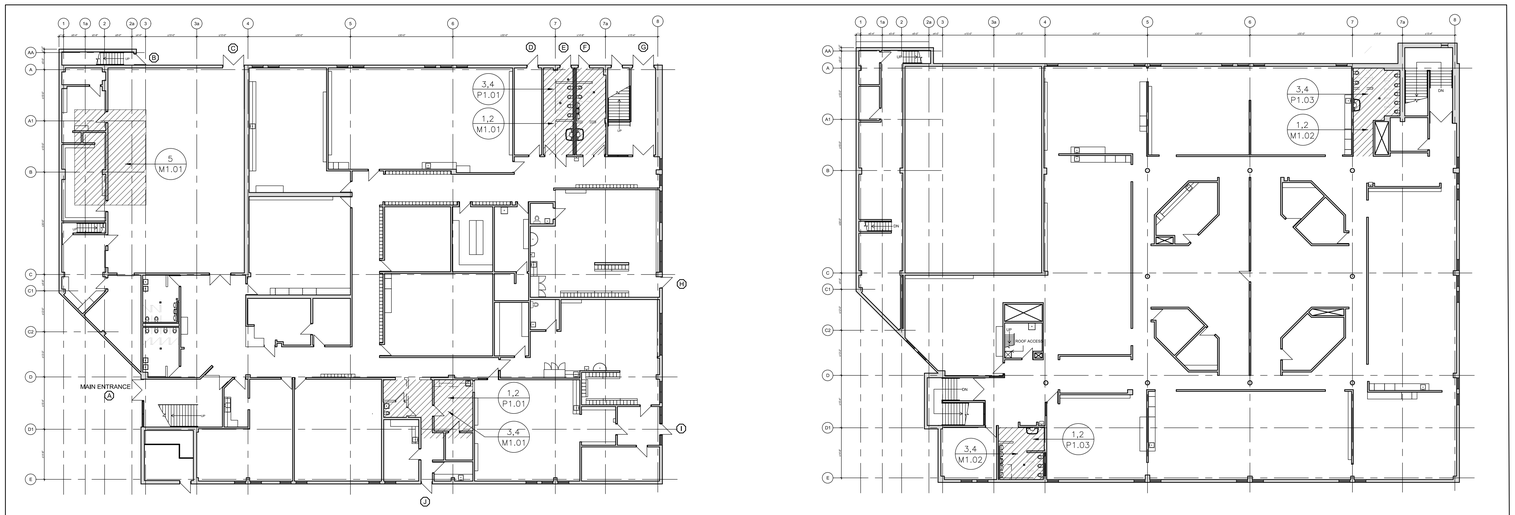
TYPE	SPECIFICATION	ACCESSORIES	POWER	CW	HW	WASTE	VENT	REMARKS
WC-1	WATER CLOSET AMERICAN STANDARD MADERA FLOWISE 15" RIM HEIGHT ELONGATED FLUSHOMETER TOILET, TOP SPUD MODEL No. 3451001, FLOOR MOUNTED VITREOUS CHINA, BOLT CAPS WITH RETAINERS. FLUSH LEVER ON OPPOSITE SIDE OF GRAB BAR (CONTRACTOR TO VERIFY).	DELTA MODEL 81T201 EXPOSED FLUSH VALVE WITH MANUAL HANDLE FOR 1-1/2" WATER CLOSET FIXTURE, 1" INLET, VACUUM BREAKER	-	25MM (1")	-	75stMM (3")	50MM (2")	TOILET SEAT SHALL BE OPEN ELONGATED FRONT TYPE.
WC-2	WATER CLOSET (BARRIER FREE) AMERICAN STANDARD RIGHT WIDTH FLOWISE 17" RIM HEIGHT ELONGATED FLUSHOMETER TOILET, TOP SPUD MODEL No. 3451001, FLOOR MOUNTED VITREOUS CHINA, BOLT CAPS WITH RETAINERS. FLUSH LEVER ON OPPOSITE SIDE OF GRAB BAR (CONTRACTOR TO VERIFY).	DELTA MODEL 81T201 EXPOSED FLUSH VALVE WITH MANUAL HANDLE FOR 1-1/2" WATER CLOSET FIXTURE, 1" INLET, VACUUM BREAKER	-	25MM (1")	-	75stMM (3")	50MM (2")	TOILET SEAT SHALL BE OPEN ELONGATED FRONT TYPE.
LAV-1	WALL-HUNG LAVATORY AMERICAN STANDARD LUCERNE MODEL NO. 0355.012, 4" CENTER SET FAUCET HOLES, WALL HANGER.	DELTA METERING CENTRESET TWO HANDLE FAUCET MODEL 86T1093. c/w METRING, SELF CLOSING LEVER, VANDAL RESISTANT	-	13MM (1/2")	13MM (1/2")	38MM (1-1/2")	32MM (1-1/4")	
LAV-2	WALL-HUNG BARRIER-FREE LAVATORY AMERICAN STANDARD LUCERNE MODEL NO. 0355.012, 4" CENTER SET FAUCET HOLES, WALL HANGER.	DELTA CENTRESET TWO HANDLE FAUCET MODEL 21C132. c/w VANDAL RESISTANT HANDLES, RED/BLUE INDICATORS, CER-TECK CARTIDGES, AERATOR, KNEE CONTACT GUARD	-	13MM (1/2")	13MM (1/2")	38MM (1-1/2")	32MM (1-1/4")	
UR-1	URINAL AMERICAN STANDARD WASHBROOK FLOWISE BARRIER FREE UNIVERSAL TOP SPUD MODEL No. 6590.001 WITH LOW CONSUMPTION 1.0 GPF, FLUSHING RIM, ELONGATED RIM, EXTENDED SIDES, WALL HANGERS, STRAINER	CONNECT TO EXISTING URINAL TANK C/W NEW WATER MATRIX FLUSH CONTROLLER AND DISTRIBUTION PIPING. SEE DETAILS M0.04	-	19MM (3/4")	–	50MM (2")	38MM (1-1/2")	
TP	TRAP PRIMER P.P.P. INC. MODEL PR-500 AUTOMATIC TRAP SEAL PRIMER VALVE, CAST BRASS BODY SERVING INDIVIDUAL OR REMOTE AREA DRAINS WITH 1/2" CONNECTIONS WITH STRAINER AND INTEGRAL BACKFLOW PREVENTER AND VACUUM BREAKER.	EXACT LOCATION NOT SHOWN IN DRAWING. CONTRACTOR SHALL CHOOSE A LOCATION AND INSTALL AT BASEMENT MECHANICAL ROOM.	-	13MM (1/2")	-	-	-	
FD	FLOOR DRAIN ZURN ZN-211-B-P, CAST IRON FLOOR DRAIN WITH 5" ROUND NICKEL BRONZE STRAINER, AND 1/2" TRAP PRIMER CONNECTION OR EQUAL.		-	–	-	75MM (3")	38MM (1-1/2")	
CO	CLEANOUT FOR ABOVE GROUND PIPING ZURN MODEL: C02413 FOR DWV PIPING.							
FCO	FLOOR CLEANOUT ZURN ZN-1602 CAST IRON CLEAN OUT WITH 5" NICKEL BRONZE COVER.							

NOTES:
1. CONTRACTOR IS RESPONSIBILITIES TO VERIFY ALL EQUIPMENTS AND ITEM QUANTITY.
2. COORDINATE WITH GENERAL CONTRACTOR BEFORE INSTALLATION.
3. CONTRACTOR TO CONFIRM ALL EQUIPMENT SPECS PRIOR TO CONSTRUCTION.
4. CONTRACTOR TO VERIFY ALL OUTLET LOCATIONS.
5. PROVIDE ISOLATING VALVE ON, HOT AND COLD WATER LINES TO EACH PIECE OF PLUMBING FIXTURE. ALL ANGLE STOPS TO BE DAHL 1/4 TURN MINI BALL VALVE. NO ALTERNATE WILL BE ACCEPTABLE. (TYPICAL UNLESS NOTED OTHERWISE)
6. WRAP ALL EXPOSED HOT WATER AND DRAIN PIPING AT HANDICAPPED LAVATORY WITH INSULATION. PROVIDE INSULATION AND COVERING FOR ALL BARRIER FREE KITCHEN SINK AND LAVATORY PIPING.
7. EACH PLUMBING FIXTURE SHALL BE LOW WATER CONSUMPTION IN ACCORDANCE TO ONTARIO BUILDING CODE.
8. PROVIDE ALL REQUIRED FITTINGS, TRAPS, VALVES, FAUCETS AND ESCUTCHEONS TO COMPLETE EACH FIXTURE INSTALLATION.
9. SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL BEFORE ORDERING ANY FIXTURE.

HYDRONIC WALL FIN HEATER SCHEDULE

TAG	MANUFACTURER	MODEL NO.	PRODUCT CODE	WORKING FLUID	HEIGHT (INCH)	DEPTH (INCH)	HEATING ELEMENT LENGTH (INCH)	ENCLOSURE LENGTH (FT)	NO. OF ROWS	HEATING (BTU/HR/ft)	FLOW (USGPM)	PRESSURE DROP (FT)	REMARKS
H-1 H-2	SIGMA	WALLFIN	SWE-S 24C075	WATER	24	5.25	–	3'-8"	2	1,100	0.33	–	SEE NOTES BELOW

NOTES:
1. C/W 16 GAUGE SLANT TOP ENCLOSURE, LOW VOLTAGE TRANSFORMER, BASIC THERMOSTAT WITH LOCKABLE CAGE, ELECTRIC CONTROL VALVE, BALL VALVES & STRAINER WITH BLOWDOWN. MECHANICAL CONTRACTOR TO PROVIDE CONTROLS WIRING.
2. CONTRACTOR SHALL ENSURE TO INCLUDE ALL REQUIRED ACCESSORIES AND FITTING FOR A FULLY FUNCTIONAL SYSTEM.
3. ASSUMED HOT WATER SUPPLY/ RETURN TEMPERATURE: 140F/120F; CONTRACTOR TO SITE VERIFY EXISTING HYDRONIC SYSTEM TEMPERATURES.
4. CONTRACTOR TO COORDINATE, INLET & OUTLET ORIENTATION ON SITE WITH EXISTING SYSTEM. COORDINATE COLOR WITH ARCH.
5. COORDINATE UNIT DIMENSIONS WITH EXISTING SPACE PRIOR TO SHOP DRAWING SUBMISSION.



GROUND FLOOR

SECOND FLOOR

KEY PLAN
SCALE: N.T.S.

HATCHED AREA DENOTES SCOPE OF WORK

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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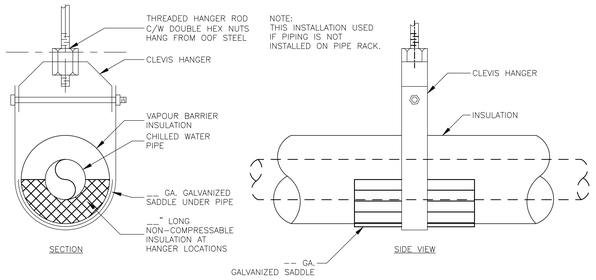
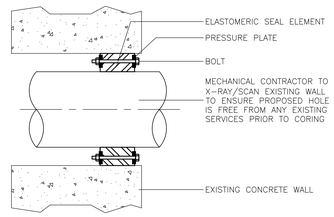
ISSUED FOR CONSTRUCTION	DATE
STRUCTURAL CONSULTANT	
MECHANICAL CONSULTANT	CK
ELECTRICAL CONSULTANT	CK

SHEET TITLE
MECHANICAL LEGEND AND SCHEDULE

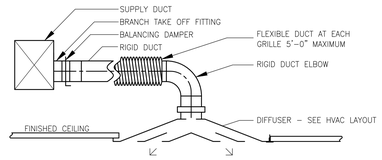
SHEET NO.	DRAWN BY	CHECKED
M 0.03	VA	BM
	PROJECT NO.	23035
	SCALE	AS NOTED



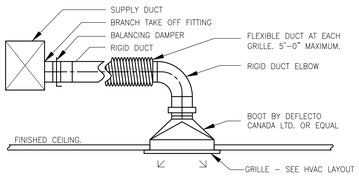
TYPICAL WATER PIPING SUPPORT DETAIL
SCALE: N.T.S.



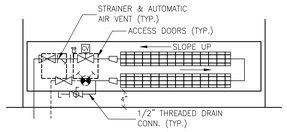
TYPICAL WATER PIPING PENETRATION SEAL DETAIL
SCALE: N.T.S.



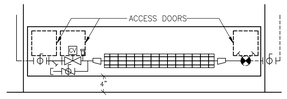
TYPICAL DIFFUSER CONNECTION DETAIL
SCALE: N.T.S.



TYPICAL GRILLE CONNECTION DETAIL
SCALE: N.T.S.



SCALE: N.T.S.



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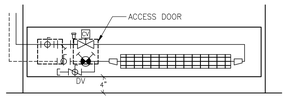

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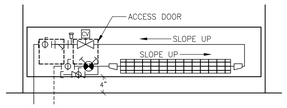

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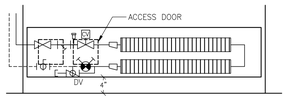
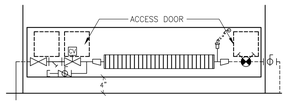


DV : DRAIN VALVE - 1/2" BALL VALVE
THREADED HOSE CONNECTION END CAP.

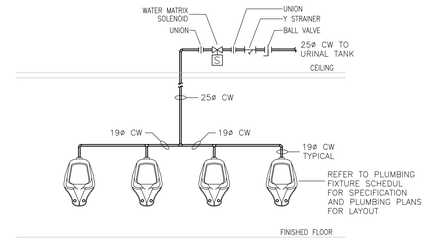
SCALE: N.T.S.



SCALE: N.T.S.

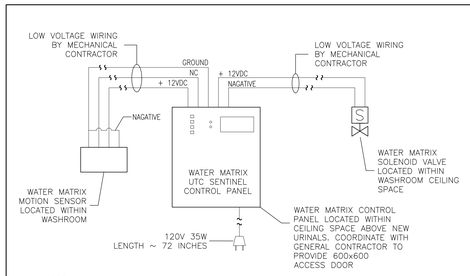
NOTE: MINIMUM CONNECTION SIZE 3/4"ø UNLESS OTHERWISE NOTED.

HYDRONIC RADIATOR PIPING DETAILS
N.T.S.



NOTE:
MAXIMUM OF FOUR URINALS PER SOLENOID VALVE AND CONTROL PANEL

TYPICAL URINAL PIPING SCHEMATIC
N.T.S.



NOTE:
1. MAXIMUM OF FOUR URINALS PER SOLENOID VALVE AND CONTROL PANEL.
2. PLUMBING CONTRACTOR TO CARRY WATER MATRIX AS A SUB CONTRACTOR.
3. WATER MATRIX CONTACT INFO:
   PHONE: (905) 850-8080 OR 1-1800-668-4420

WATER MATRIX FLUSH SYSTEM WIRING DIAGRAM
N.T.S.

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

REVISIONS

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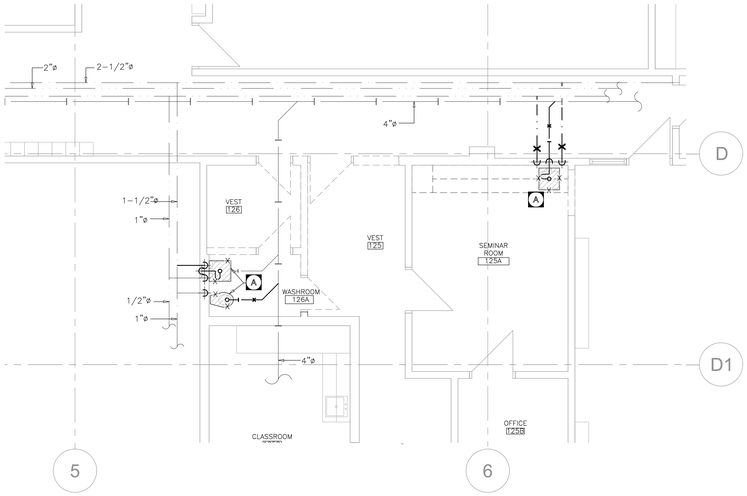
ISSUED FOR CONSTRUCTION | DATE

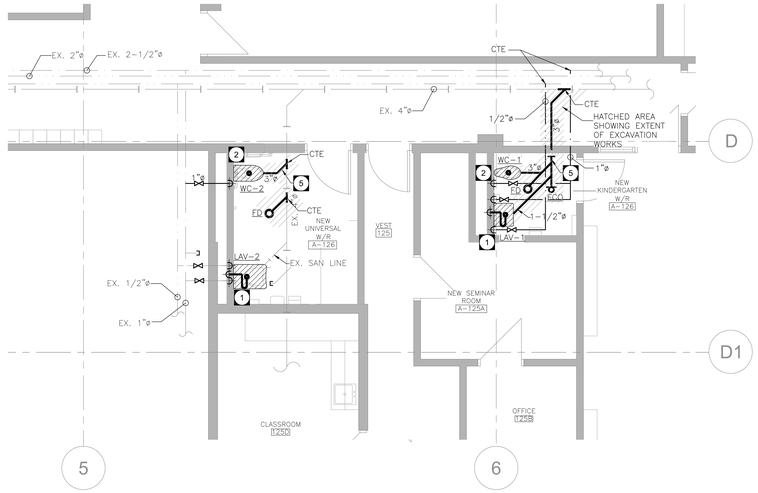
STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT: CK
ELECTRICAL CONSULTANT: CK

SHEET TITLE
MECHANICAL DETAILS I

SHEET NO.	DRAWN BY	CHECKED
M 0.04	VA	BM
	PROJECT NO. 23035	
	SCALE AS NOTED	



1 PARTIAL GROUND FLOOR W/R 126A & SEMINAR ROOM PLUMBING DEMOLITION
SCALE: 1/4"=1'-0"



2 PARTIAL GROUND FLOOR W/R 126A & SEMINAR ROOM PLUMBING NEW LAYOUT
SCALE: 1/4"=1'-0"

GENERAL DEMOLITION NOTES:

1. REVIEW DRAWINGS BEFORE COMMENCING WITH DEMOLITION WORK
2. REMOVE ALL EQUIPMENT, PIPING, STEEL SUPPORTS, CONTROLS, PLUMBING MATERIAL, HOUSE KEEPING PAD, SHOWN APPROXIMATELY WITH 'X' THROUGHOUT (UNLESS OTHERWISE INDICATED)
3. THIS DRAWING DOES NOT SHOW ALL HIDDEN OR CONCEALED PIPING, DUCTS, PLUMBING AND EQUIPMENT TO BE REMOVED.
4. REFER TO ARCHITECTURAL DRAWINGS FOR WALL REPAIR DETAIL UNLESS NOTED OTHERWISE.
5. THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM THE SITE INVESTIGATION. THIS INFORMATION MUST NOT BE ASSUMED TO BE COMPLETE OR UP-TO-DATE. THE MECHANICAL CONTRACTOR SHALL CARRY OUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES, BEFORE THE COMMENCEMENT OF ANY WORK.

DEMOLITION DRAWING NOTES:

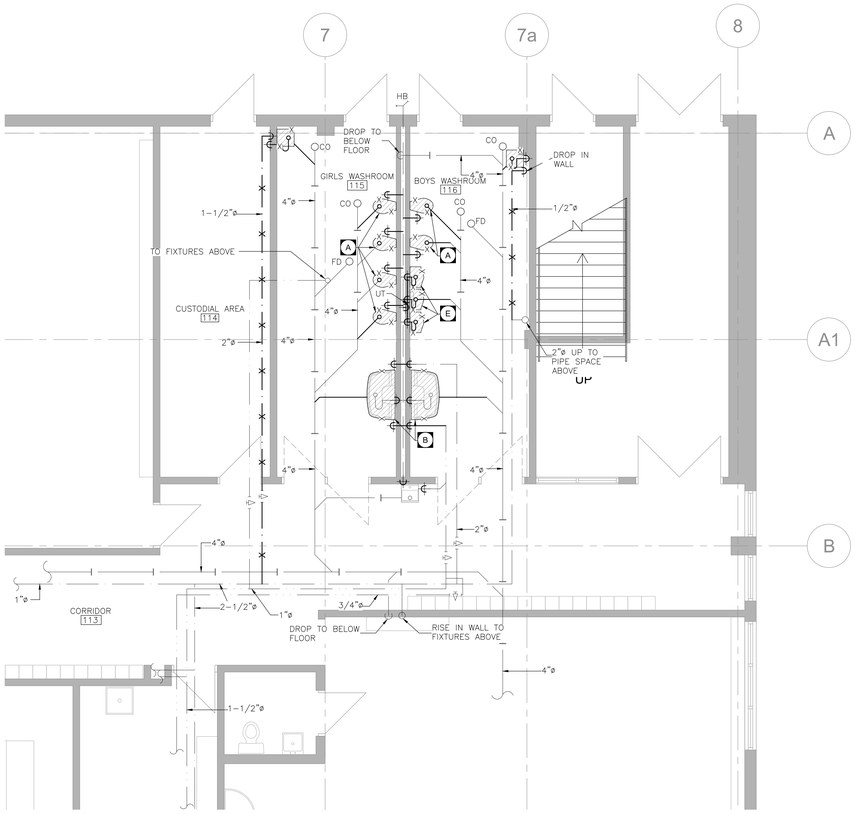
A. REMOVE PLUMBING FIXTURE C/W ACCESSORIES LIKE P-TRAP, VALVES, FLEX. HOSES, TANK AND PIPE CONNECTIONS. REMOVE DCW, DHW, SANITARY & VENT LINES BACK TO SOURCE AND CAP. (TYP.)

B. REMOVE AND RELOCATE BRADLEY WASHFOUNTAIN. REMOVE DCW, DHW, SANITARY & VENT LINES. (TYP.)

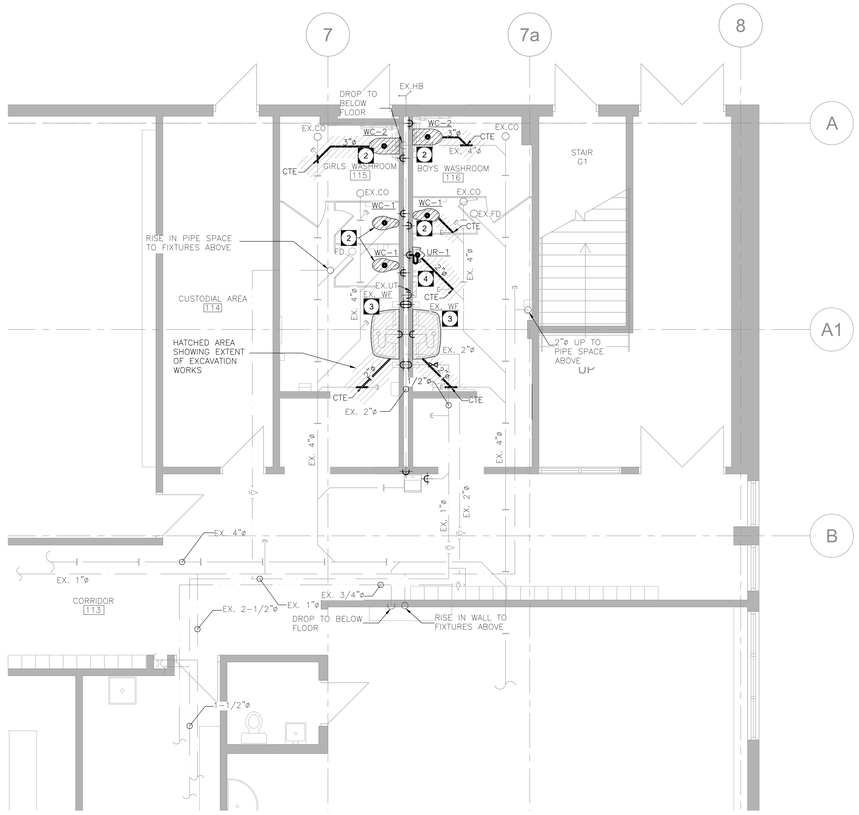
C. CONTRACTOR TO PRICE IN TENDER FOR INVESTIGATION TO FIND LOCATION AND SIZE OF EX. DCW, DHW AND DHWR RISERS AT THIS LOCATION.

D. CONTRACTOR TO SITE VERIFY LOCATION AND SIZE OF EX. SANITARY LINE IN SLAB OR BASEMENT CEILING AND RISER TO SLAB AT THIS LOCATION.

E. REMOVE URINALS C/W SUPPORT, WATER MATRIX CONTROLLER AND COLD WATER LINES FROM URINAL TANK. KEEP URINAL FLUSH TANK AND CONNECTED INCOMING DCW PIPING.



3 PARTIAL GROUND FLOOR GIRLS & BOYS W/R PLUMBING DEMOLITION
SCALE: 1/4"=1'-0"



4 PARTIAL GROUND FLOOR GIRLS & BOYS W/R PLUMBING NEW LAYOUT
SCALE: 1/4"=1'-0"

NEW GENERAL NOTES:

A. ALL PLUMBING WORK TO CONFORM TO ONTARIO BUILDING CODE, PROVIDE COMPLETE VENT SYSTEM TO MEET SECTION 7 OF ONTARIO BUILDING CODE.
B. REFER TO MECHANICAL SPECIFICATIONS FOR ACCEPTABLE PIPING MATERIALS. PLASTIC PIPING (PVC & ABS) ABOVE GROUND ARE NOT ACCEPTABLE, IN ORDER TO MATCH EXISTING MATERIALS.
C. PROVIDE ISOLATION VALVES FOR EACH PLUMBING FIXTURE.
D. CONTRACTOR TO FIELD VERIFY WORK SITE CONDITIONS.
E. COORDINATE PIPES WITH DUCTS, ELECTRICAL AND STRUCTURAL, OFFSET IF REQUIRED.
F. INSULATE ALL DCW, DHW AND DHWR PIPES WITH PIPE INSULATION. COVER EXPOSED PIPES WITH PVC JACKETS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING LAYOUT. REFER TO MECHANICAL SPECIFICATIONS 15080.
G. INSULATE ALL EXPOSED SANITARY PIPING WITH FIBERGLASS INSULATION WITH POLYVINYL COVERING. VENT PIPING TO BE INSULATED UP TO 3.0METRES FROM THE POINT OF ROOF PENETRATION WITH INSULATION.
H. ALL RUNNING TRAPS TO BE COMPLETE WITH TRAP SEAL PRIMER CONNECTION AND MIFAB MI-GARD.
I. ALL DOMESTIC WATER PIPING WITHIN FIRE RATED SHAFTS SHALL BE COPPER. IPEX AQUARISE PIPES AND FITTINGS ARE NOT ALLOWED IN FIRE RATED SHAFTS.
J. INSTALL FIRE STOPS TO APPROVED STANDARD IN ALL PIPING PENETRATIONS THROUGH RATED WALLS.
K. PROVIDE ACCESS DOORS FOR CLEANOUTS INSIDE VERTICAL CHASES OR WALLS.
L. ANY EXPOSED REFRIGERANT & CONDENSATE PIPING TO BE CONCEALED WITHIN LINE-SET COVERS.
M. ALL MECHANICAL PENETRATIONS (PIPES, DUCTS) THROUGH SUITE WALLS AND BUILDING ENVELOPE (BASEMENT FLOORS, WALLS, ROOF DECK, ETC) SHALL BE AIR TIGHT SEALED, EXCLUDING FIRE DAMPERS.

NEW DRAWING NOTES:

1. 13ø DCW & DHW LINES DOWN TO LAVATORY, 38ø SANITARY LINE DOWN FROM THE LAVATORY AND 32ø VENT UP FROM THE LAVATORY. FOR KINDEGARTEN W/R #126 PROVIDE POINT OF USE MIXING VALVE BRADLEY MODEL S59-4000, 300X300 ACCESS DOOR.
2. 25ø DCW LINE DOWN TO WATER CLOSET, 75ø SANITARY LINE DOWN FROM THE WATER CLOSET AND 50ø VENT UP FROM THE WATER CLOSET. CONTRACTOR TO PERFORM EXCAVATION WORK TO EXTEND NEW WATER CLOSET SANITARY LINES TO EXISTING MAINS.
3. 19ø DCW & DHW LINES DOWN TO RELOCATED BRADLEY WASH FOUNTAIN, 50ø SANITARY LINE DOWN AND 32ø VENT UP. EXTEND CONNECTIONS FROM FIXTURE UPTO EXISTING DCW, DHW, SANITARY AND VENT LINES.
4. SUPPLY AND INSTALL NEW URINALS AND CONNECT TO EXISTING URINAL FLUSH TANK C/W NEW WATER MATRIX CONTROLLER. NEW DCW LINES FROM URINAL TANK TO NEW URINALS TO MATCH LOCATION. 19ø DCW LINE DOWN TO URINAL, 50ø SANITARY LINE DOWN FROM URINAL AND 38ø VENT LINE UP.
5. EXTEND SANITARY LINES IN CEILING OF FLOOR BELOW OR IN SLAB UPTO EXISTING SANITARY MAINS AS REQUIRED.

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

REVISIONS

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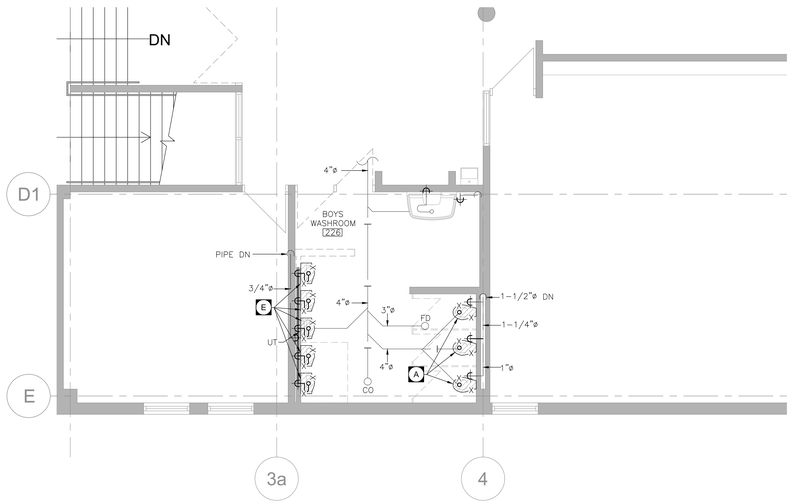
This drawing is issued for construction progress until issued for construction by the design professional whose seal is affixed to this drawing and whose signature is below.

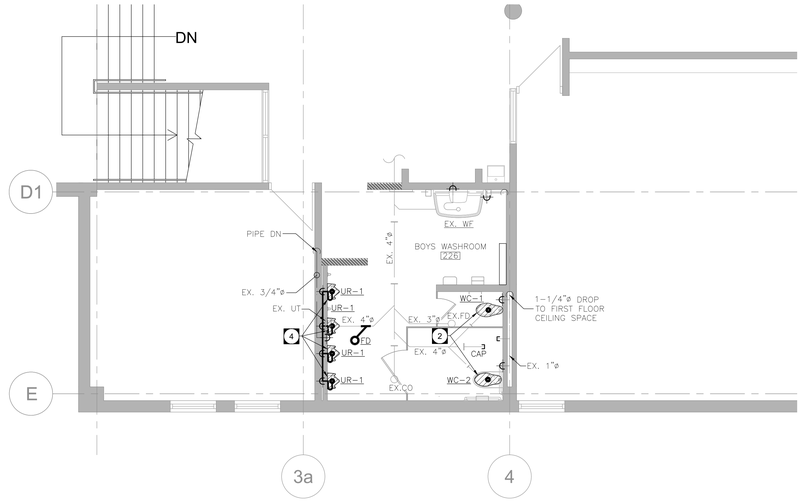
ISSUED FOR CONSTRUCTION DATE
STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT CK
ELECTRICAL CONSULTANT CK

SHEET TITLE
PARTIAL GROUND FLOOR PLUMBING DEMOLITION AND NEW LAYOUT

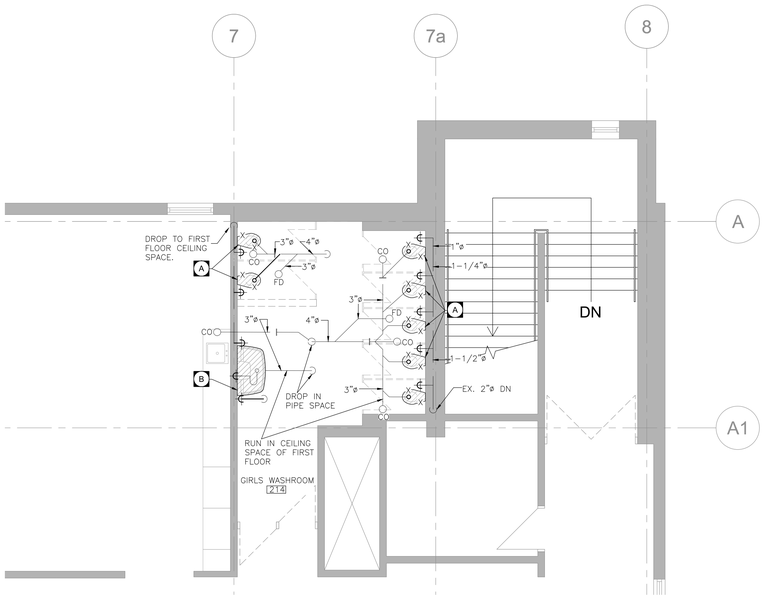
SHEET NO.	DRAWN BY	CHECKED
P 1.01	VA	BM
	PROJECT NO.	23035
	SCALE	AS NOTED



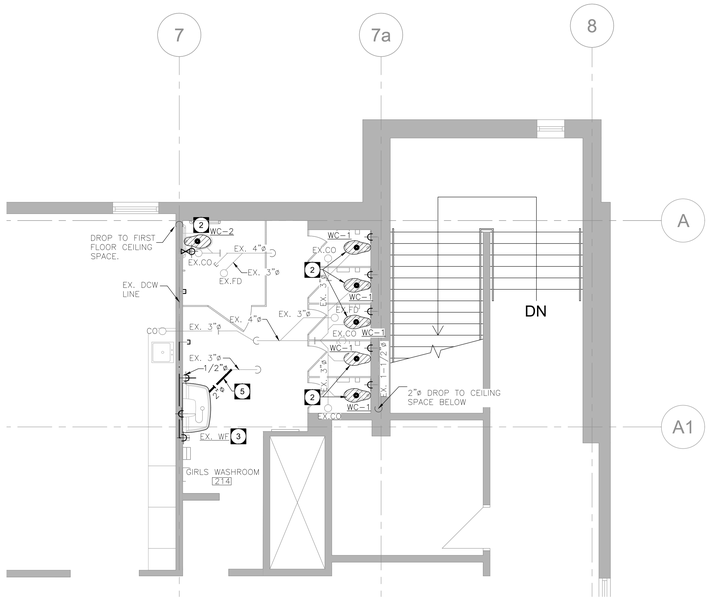
1 PARTIAL SECOND FLOOR BOYS W/R PLUMBING DEMOLITION
SCALE: 1/4"=1'-0"



2 PARTIAL SECOND FLOOR BOYS W/R PLUMBING NEW LAYOUT
SCALE: 1/4"=1'-0"



3 PARTIAL SECOND FLOOR GIRLS W/R PLUMBING DEMOLITION
SCALE: 1/4"=1'-0"



4 PARTIAL SECOND FLOOR GIRLS W/R PLUMBING NEW LAYOUT
SCALE: 1/4"=1'-0"

GENERAL DEMOLITION NOTES:

1. REVIEW DRAWINGS BEFORE COMMENCING WITH DEMOLITION WORK
2. REMOVE ALL EQUIPMENT, PIPING, STEEL SUPPORTS, CONTROLS, PLUMBING MATERIAL, HOUSE KEEPING PAD, SHOWN APPROXIMATELY WITH 'X' THROUGHOUT (UNLESS OTHERWISE INDICATED)
3. THIS DRAWING DOES NOT SHOW ALL HIDDEN OR CONCEALED PIPING, DUCTS, PLUMBING AND EQUIPMENT TO BE REMOVED.
4. REFER TO ARCHITECTURAL DRAWINGS FOR WALL REPAIR DETAIL UNLESS NOTED OTHERWISE.
5. THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM THE SITE INVESTIGATION. THIS INFORMATION MUST NOT BE ASSUMED TO BE COMPLETE OR UP-TO-DATE. THE MECHANICAL CONTRACTOR SHALL CARRY OUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES, BEFORE THE COMMENCEMENT OF ANY WORK.

DEMOLITION DRAWING NOTES:

A. REMOVE PLUMBING FIXTURE C/W ACCESSORIES LIKE P-TRAP, VALVES, FLEX. HOSES, TANK AND PIPE CONNECTIONS. REMOVE DCW, DHW, SANITARY & VENT LINES BACK TO SOURCE AND CAP. (TYP.)

B. REMOVE AND RELOCATE BRADLEY WASHFOUNTAIN. REMOVE DCW, DHW, SANITARY & VENT LINES. (TYP.)

C. CONTRACTOR TO PRICE IN TENDER FOR INVESTIGATION TO FIND LOCATION AND SIZE OF EX. DCW, DHW AND DHWR RISERS AT THIS LOCATION.

D. CONTRACTOR TO SITE VERIFY LOCATION AND SIZE OF EX. SANITARY LINE IN SLAB OR BASEMENT CEILING AND RISER TO SLAB AT THIS LOCATION.

E. REMOVE URINALS C/W SUPPORT, WATER MATRIX CONTROLLER AND COLD WATER LINES FROM URINAL TANK. KEEP URINAL FLUSH TANK AND CONNECTED INCOMING DCW PIPING.

NEW GENERAL NOTES:

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C. PROVIDE ISOLATION VALVES FOR EACH PLUMBING FIXTURE.
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E. COORDINATE PIPES WITH DUCTS, ELECTRICAL AND STRUCTURAL, OFFSET IF REQUIRED.
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J. INSTALL FIRE STOPS TO APPROVED STANDARD IN ALL PIPING PENETRATIONS THROUGH RATED WALLS.
K. PROVIDE ACCESS DOORS FOR CLEANOUTS INSIDE VERTICAL CHASES OR WALLS.
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4. SUPPLY AND INSTALL NEW URINALS AND CONNECT TO EXISTING URINAL FLUSH TANK C/W NEW WATER MATRIX CONTROLLER. NEW DCW LINES FROM URINAL TANK TO NEW URINALS TO MATCH LOCATION. 19ø DCW LINE DOWN TO URINAL, 50ø SANITARY LINE DOWN FROM URINAL AND 38ø VENT LINE UP.
5. EXTEND SANITARY LINES IN CEILING OF FLOOR BELOW OR IN SLAB UPTO EXISTING SANITARY MAINS AS REQUIRED.

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

REVISIONS

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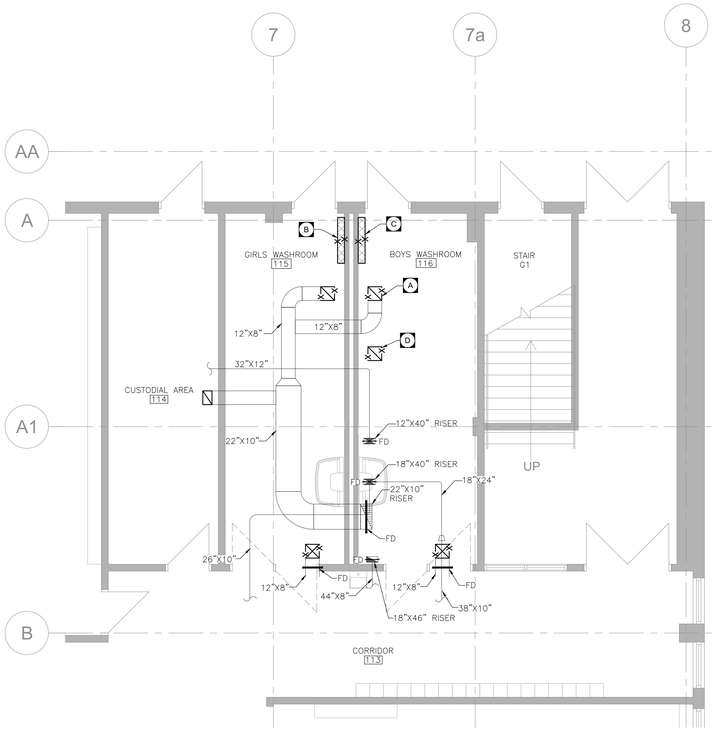
This drawing shall not be used for construction purposes until issued for construction by the design professional. Affix your seal to this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION | DATE

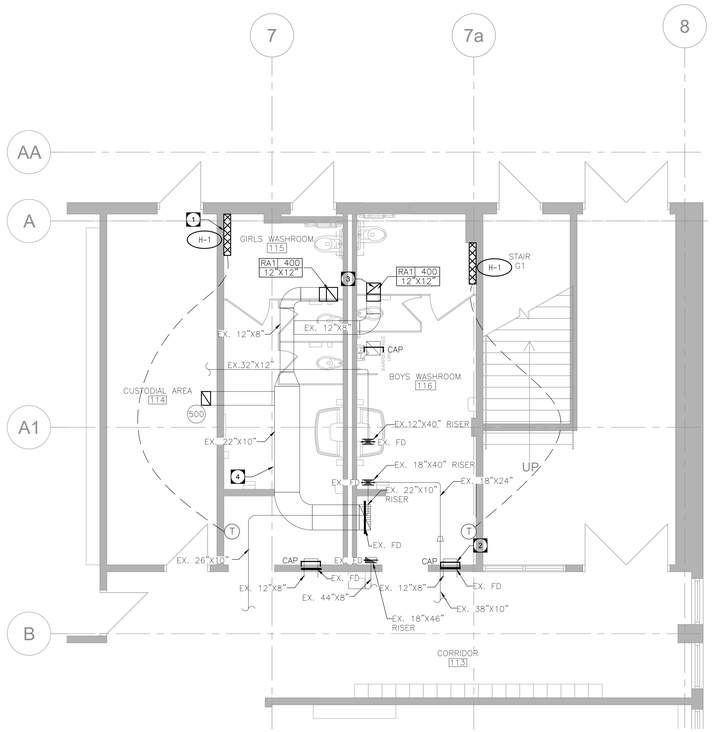
STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT: CK
ELECTRICAL CONSULTANT: CK

SHEET TITLE
PARTIAL SECOND FLOOR PLUMBING DEMOLITION AND NEW LAYOUT

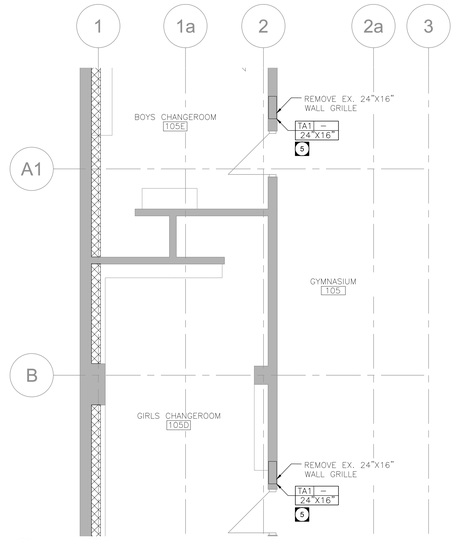
SHEET NO.	DRAWN BY	CHECKED
P 1.02	VA	BM
	PROJECT NO. 23035	
	SCALE AS NOTED	



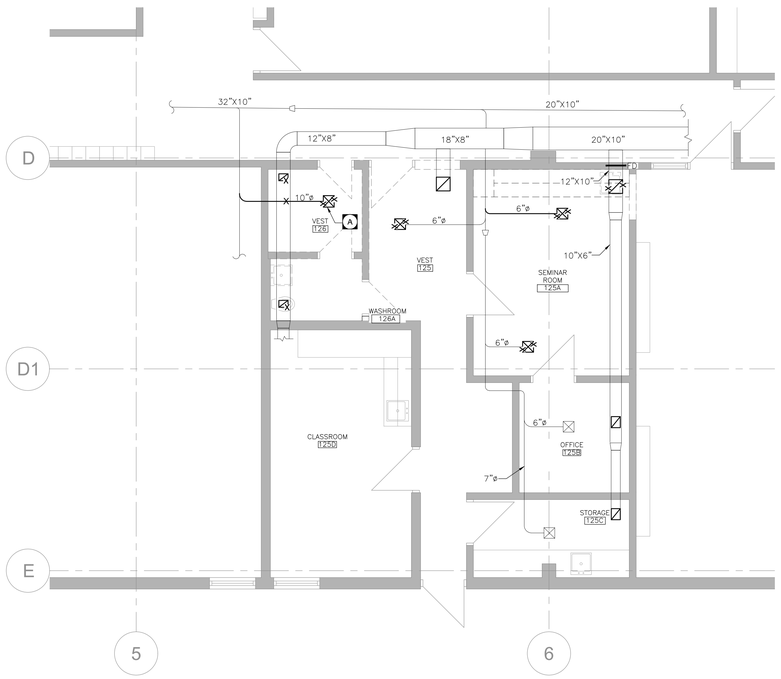
1 PARTIAL GROUND FLOOR GIRLS & BOYS W/R H.V.A.C. DEMOLITION
SCALE: 1/4"=1'-0"



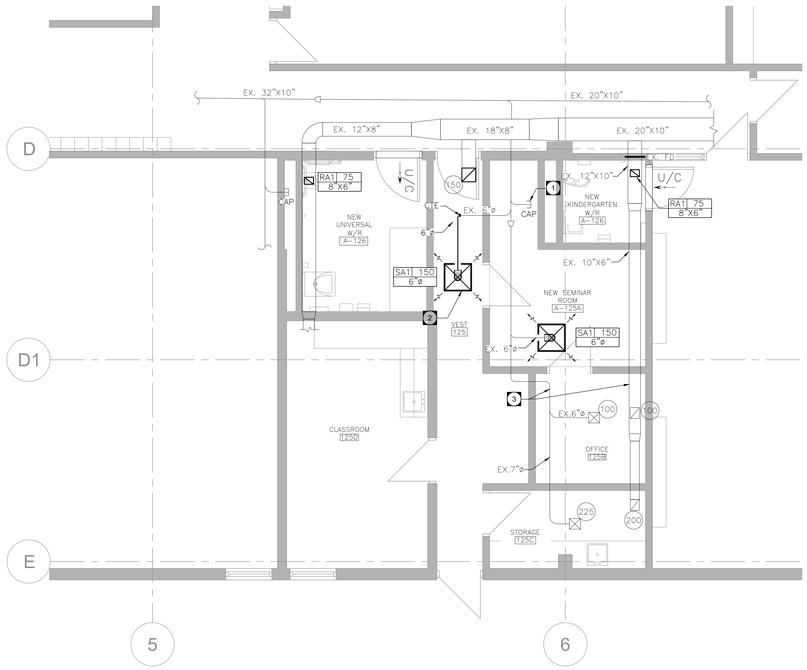
2 PARTIAL GROUND FLOOR GIRLS & BOYS W/R NEW H.V.A.C. LAYOUT
SCALE: 1/4"=1'-0"



5 GYM DEMO & NEW H.V.A.C. LAYOUT
SCALE: 1/4"=1'-0"



3 PARTIAL GROUND FLOOR NEW UNIVERSAL W/R & NEW SEMINAR ROOM H.V.A.C. DEMOLITION
SCALE: 1/4"=1'-0"



4 PARTIAL GROUND FLOOR NEW UNIVERSAL W/R & NEW SEMINAR ROOM NEW H.V.A.C. LAYOUT
SCALE: 1/4"=1'-0"

GENERAL DEMOLITION NOTES:

1. REVIEW DRAWINGS BEFORE COMMENCING WITH DEMOLITION WORK
2. REMOVE ALL EQUIPMENT, PIPING, STEEL SUPPORTS, CONTROLS, PLUMBING MATERIAL, HOUSE KEEPING PAD, SHOWN APPROXIMATELY WITH 'X' THROUGHOUT (UNLESS OTHERWISE INDICATED)
3. THIS DRAWING DOES NOT SHOW ALL HIDDEN OR CONCEALED PIPING, DUCTS, PLUMBING AND EQUIPMENT TO BE REMOVED.
4. REFER TO ARCHITECTURAL DRAWINGS FOR WALL REPAIR DETAIL UNLESS NOTED OTHERWISE.
5. THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM THE SITE INVESTIGATION. THIS INFORMATION MUST NOT BE ASSUMED TO BE COMPLETE OR UP–TO–DATE. THE MECHANICAL CONTRACTOR SHALL CARRY OUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES, BEFORE THE COMMENCEMENT OF ANY WORK.

DEMOLITION DRAWING NOTES:

A REMOVE AIR SUPPLY OR EXHAUST GRILLES AND REMOVE THE DUCT CONNECTIONS. (TYP.)

B REMOVE PERIMETER RADIATORS C/W HYDRONIC PIPING, THERMOSTAT. (TYP.)

C REMOVE AND RELOCATE THE HYDRONIC HEATERS AND EXTEND THE 3/4" HOT WATER SUPPLY AND RETURN LINES UP TO THE MAINS. (TYP.)

D REMOVE EXISTING GRILLE AND CAP THE CONNECTED DUCT.

NEW GENERAL NOTES:

1. THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM EXISTING DRAWINGS AND SITE SURVEY. THIS INFORMATION MUST NOT ASSUMED TO BE COMPLETE OR UP–TO–DATE. THIS MECHANICAL CONTRACTOR SHALL CARRYOUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES, BEFORE THE COMMENCEMENT OF ANY WORK.
2. THIS DRAWING DOES NOT SHOW ALL CONCEALED PIPING, DUCT AND EQUIPMENT. CONTRACTOR TO COORDINATE WITH LIGHTING FIXTURES AND OTHER ELECTRICAL EQUIPMENT. CONTRACTOR TO VERIFY ALL EXISTING SITE CONDITIONS INCLUDING DUCTWORK SIZES AND EQUIPMENT.
3. CONTRACTOR TO ALLOW FOR RELOCATION OF EXISTING SERVICES AS REQUIRED TO ACCOMMODATE THIS WORK.
4. FIRESTOP AND SEAL ALL DUCTWORK AND PIPING WALL/CEILING/FLOOR PENETRATIONS THROUGH FIRE RATED ASSEMBLIES.
5. REPAIR ANY DAMAGE CAUSED BY THIS WORK AND MAKE GOOD.
6. REMOVE ALL DEBRIS AND CLEAN FROM SITE DAILY.
7. CONTRACTOR SHALL ADJUST THE NEW DUCTWORK ELEVATION AS REQUIRED TO MAINTAIN THE CODE PRESCRIBED MINIMUM HEAD CLEARANCE, SATISFYING THE DESIGN INTENT.
8. CONTRACTOR TO UPSIZE DUCTWORK WITH INTERNALLY LINED ACOUSTIC INSULATION TO MAINTAIN CLEAR INSIDE DIMENSION AS INDICATED.
9. INSULATE FIRST 10 FEET OF ALL DUCTS CONNECTING TO EXTERIOR WALL.
10. ALL NEW DUCT MOUNTED GRILLES MUST BE ANGLED AS PER DETAIL. NO EXCEPTION SHALL BE ALLOWED.
11. G.C. TO UNDERCUT ALL NEW DOOR OF WASHROOM BY 20MM FOR TRANSFER AIR WHERE SPECIFIED.
12. MECHANICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE ACCESS PANEL FOR ALL EQUIPMENTS THAT REQUIRES ACCESS FOR MAINTENANCE.
13. PROVIDE AIR TESTING & BALANCING FOR NEW DIFFUSERS AS WELL AS EXISTING DIFFUSERS WHERE FLOWRATES ARE INDICATED. PROVIDE WATER BALANCING FOR NEW OR RELOCATED HYDRONIC RADIATORS.

NEW DRAWING NOTES:

1 INSTALL NEW HYDRONIC WALLFIN HEATERS C/W NEW WALL SUPPORTS AND EXTEND NEW HOT WATER SUPPLY AND RETURN LINES UP TO THE NEW LOCATIONS. PROVIDE NEW AIR RELIEF VALVES. CONNECT CONTROL VALVE AND ROOM TEMP. SENSOR TO BAS.

2 CAP AND MAKE AIRTIGHT ALL UNUSED BRANCH CONNECTIONS AT SUPPLY DUCTS. (TYP.)

3 PROVIDE NEW EXHAUST AND SUPPLY GRILLES AND DUCTWORK AT THE SPECIFIED LOCATIONS.

4 EXISTING DUCT BRANCH TO BE RE–BALANCED.

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

REVISIONS

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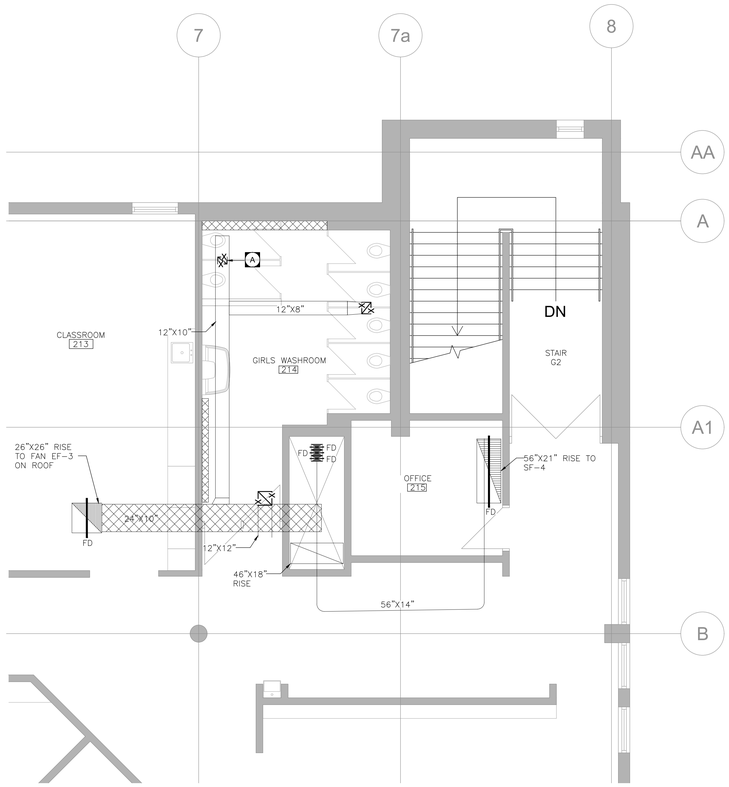
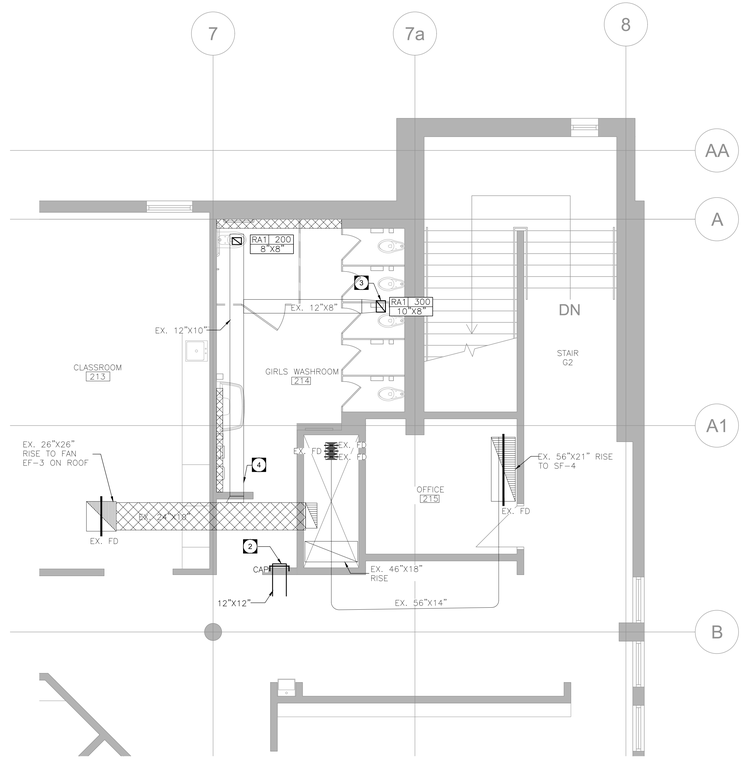
STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT
CK
ELECTRICAL CONSULTANT
CK

SHEET TITLE
PARTIAL GROUND FLOOR H.V.A.C. DEMOLITION & NEW LAYOUT

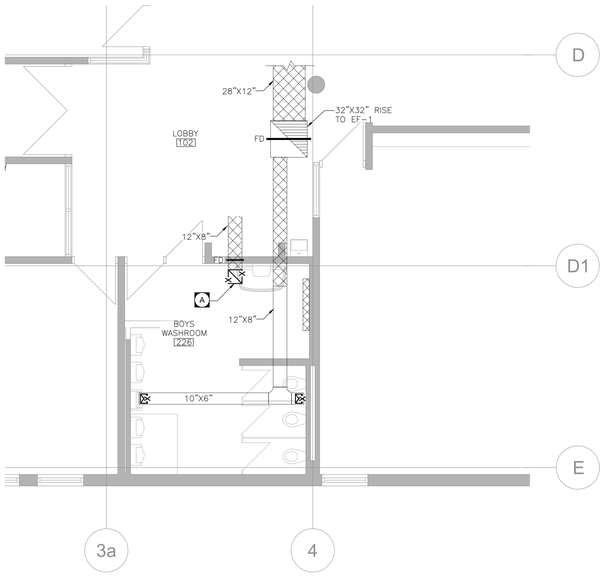
SHEET NO.	DRAWN BY	CHECKED
M 1.01	VA	BM
	PROJECT NO.	23035
	SCALE	AS NOTED



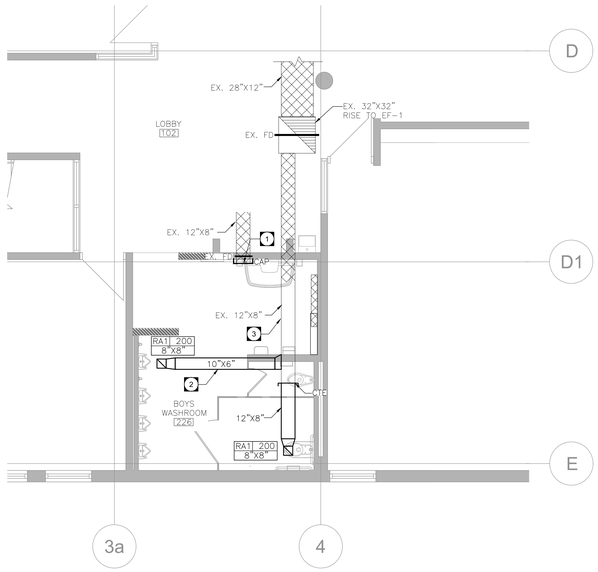
1 PARTIAL SECOND FLOOR GIRLS W/R H.V.A.C. DEMOLITION
SCALE: 1/4"=1'-0"



2 PARTIAL SECOND FLOOR GIRLS W/R NEW HVAC LAYOUT
SCALE: 1/4"=1'-0"



3 PARTIAL SECOND FLOOR BOYS W/R H.V.A.C. DEMOLITION
SCALE: 1/4"=1'-0"



4 PARTIAL SECOND FLOOR BOYS W/R NEW HVAC LAYOUT
SCALE: 1/4"=1'-0"

GENERAL DEMOLITION NOTES:

1. REVIEW DRAWINGS BEFORE COMMENCING WITH DEMOLITION WORK
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DEMOLITION DRAWING NOTES:

A REMOVE AIR SUPPLY OR EXHAUST GRILLES AND REMOVE THE DUCT CONNECTIONS. (TYP.)

B REMOVE PERIMETER RADIATORS C/W HYDRONIC PIPING, THERMOSTAT. (TYP.)

C REMOVE AND RELOCATE THE HYDRONIC HEATERS AND EXTEND THE 3/4" HOT WATER SUPPLY AND RETURN LINES UP TO THE MAINS. (TYP.)

D REMOVE EXISTING GRILLE AND CAP THE CONNECTED DUCT.

NEW GENERAL NOTES:

1. THE EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN TAKEN FROM EXISTING DRAWINGS AND SITE SURVEY. THIS INFORMATION MUST NOT ASSUMED TO BE COMPLETE OR UP-TO-DATE. THIS MECHANICAL CONTRACTOR SHALL CARRYOUT A FULL SURVEY OF ALL EXISTING SERVICES AND STRUCTURE TO CONFIRM THE SIZE AND LOCATION OF THESE SERVICES, BEFORE THE COMMENCEMENT OF ANY WORK.
2. THIS DRAWING DOES NOT SHOW ALL CONCEALED PIPING, DUCT AND EQUIPMENT. CONTRACTOR TO COORDINATE WITH LIGHTING FIXTURES AND OTHER ELECTRICAL EQUIPMENT. CONTRACTOR TO VERIFY ALL EXISTING SITE CONDITIONS INCLUDING DUCTWORK SIZES AND EQUIPMENT.
3. CONTRACTOR TO ALLOW FOR RELOCATION OF EXISTING SERVICES AS REQUIRED TO ACCOMMODATE THIS WORK.
4. FIRESTOP AND SEAL ALL DUCTWORK AND PIPING WALL/CEILING/FLOOR PENETRATIONS THROUGH FIRE RATED ASSEMBLIES.
5. REPAIR ANY DAMAGE CAUSED BY THIS WORK AND MAKE GOOD.
6. REMOVE ALL DEBRIS AND CLEAN FROM SITE DAILY.
7. CONTRACTOR SHALL ADJUST THE NEW DUCTWORK ELEVATION AS REQUIRED TO MAINTAIN THE CODE PRESCRIBED MINIMUM HEAD CLEARANCE, SATISFYING THE DESIGN INTENT.
8. CONTRACTOR TO UPSIZE DUCTWORK WITH INTERNALLY LINED ACOUSTIC INSULATION TO MAINTAIN CLEAR INSIDE DIMENSION AS INDICATED.
9. INSULATE FIRST 10 FEET OF ALL DUCTS CONNECTING TO EXTERIOR WALL.
10. ALL NEW DUCT MOUNTED GRILLES MUST BE ANGLED AS PER DETAIL. NO EXCEPTION SHALL BE ALLOWED.
11. G.C. TO UNDERCUT ALL NEW DOOR OF WASHROOM BY 20MM FOR TRANSFER AIR WHERE SPECIFIED.
12. MECHANICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR TO PROVIDE ACCESS PANEL FOR ALL EQUIPMENTS THAT REQUIRES ACCESS FOR MAINTENANCE.
13. PROVIDE AIR TESTING & BALANCING FOR NEW DIFFUSERS AS WELL AS EXISTING DIFFUSERS WHERE FLOWRATES ARE INDICATED. PROVIDE WATER BALANCING FOR NEW OR RELOCATED HYDRONIC RADIATORS.

NEW DRAWING NOTES:

1 CAP AND MAKE AIRTIGHT ALL UNUSED BRANCH CONNECTIONS AT SUPPLY DUCTS. (TYP.)

2 PROVIDE NEW EXHAUST AND SUPPLY GRILLES AND DUCTWORK AT THE SPECIFIED LOCATIONS.

3 EXISTING DUCT BRANCH TO BE RE-BALANCED.

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

REVISIONS

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The contractor shall check and verify all dimensions, report all errors and omissions to the architect and the design professional whose seal is affixed to this drawing. Do not scale drawings.

This drawing shall not be used for construction purposes until issued for construction by the design professional whose seal is affixed to this drawing and whose signature is valid.

ISSUED FOR CONSTRUCTION | DATE

STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT: CK
ELECTRICAL CONSULTANT: CK

SHEET TITLE
PARTIAL SECOND FLOOR H.V.A.C. DEMOLITION & NEW LAYOUT

SHEET NO.	DRAWN BY	CHECKED
M 1.02	VA	BM
	PROJECT NO.	23035
	SCALE	AS NOTED

ELECTRICAL SPECIFICATIONS

A. GENERAL CONDITIONS

1. CONFORM WITH LATEST EDITION OF THE ONTARIO BUILDING CODE (OBC), ONTARIO ELECTRICAL SAFETY CODE (OESC), CANADIAN STANDARDS ASSOCIATION (CSA), UNDERWRITERS LABORATORIES OF CANADA (ULC) AND LOCAL BY-LAWS AND AUTHORITIES HAVING JURISDICTION.
2. MATERIALS & EQUIPMENT SHALL CARRY APPROVAL AND CONFORM WITH CSA OR ULC STANDARDS. INSTALLATION SHALL COMPLY WITH ALL RULES AND REGULATIONS REGARDING MATERIALS AND WORKMANSHIP CONFORMING TO CSA, OESC, OBC AND LOCAL AUTHORITIES HAVING JURISDICTION.
3. BIDDERS ARE RECOMMENDED TO ATTEND SITE VISIT, AS INDICATED IN THE RFT DOCUMENT, PRIOR TO SUBMIT TENDER AND TO EXAMINE ALL EXISTING CONDITIONS WHICH AFFECT THE WORK. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO DO SO.
4. SUPPLY AND INSTALL COMPLETE ELECTRICAL SYSTEMS AS SHOWN AND/OR SPECIFIED HEREIN. DRAWINGS SHALL BE USED FOR ROUTING PURPOSES ONLY, DO NOT SCALE DRAWINGS. PROVIDE ALL NECESSARY MATERIAL AND LABOUR ETC. TO PROVIDE COMPLETE SYSTEMS.
5. FURNISH ALL REQUIRED LABOUR AND MATERIALS, MACHINERY, AND TOOLS, WITH ALL PROPER AND REQUIRED FACILITIES FOR MOVING AND TRANSPORTING SAME, SO THAT THE CONTRACT AND ALL WORK TO BE DONE UNDER IT, CAN AND WILL BE CARRIED OUT IN A PROFESSIONAL MANNER, PROPERLY, SATISFACTORILY, CONTINUOUSLY, AND EXPEDITIOUSLY, TO COMPLETION, IN ALL RESPECTS, TO THE SATISFACTION OF THE OWNER.
6. MOUNTING HEIGHT OF EQUIPMENT IS FROM FINISHED FLOOR TO CENTER LINE OF EQUIPMENT, UNLESS SPECIFIED OR INDICATED OTHERWISE. IF MOUNTING HEIGHT OF EQUIPMENT IS NOT INDICATED, VERIFY BEFORE PROCEEDING WITH INSTALLATION. THE FOLLOWING IS GENERAL MOUNTING HEIGHTS:
   - 6.1. GENERAL SWITCHES, DIMMERS, CARD READERS: 1100mm (43")
   - 6.2. WALL RECEPTACLES (GENERAL): 450mm (18")
   - 6.3. OUTLET ABOVE COUNTER: 150mm (6")
   - 6.4. LOW VOLTAGE THERMOSTAT FOR CEILING MOUNTED HEATER: 1200mm (47")
   - 6.5. POWER DOOR OPERATORS: 1050mm (41")
   - 6.6. EMERGENCY REMOTE DC HEAD(S): 2440mm (96") A.F.F. WHERE CEILING HEIGHT IS LESS THAN 3660mm (12ft), WHERE CEILING HEIGHT IS 3660mm (12ft) OR GREATER, MOUNT DEVICE AT 3050mm (10ft) A.F.F.
   - 6.7. RUNNING MAN SIGN/EMERGENCY COMBO UNIT: 305mm (12") ABOVE DOOR FRAME TO THE UNDERSIDE OF THE DEVICE. WHERE CEILING HEIGHT IS EQUAL OR LESS THAN 2300mm (90"), MOUNT DEVICE AS CLOSE TO THE TOP OF THE CEILING AS POSSIBLE AND NOT DIRECTLY ABOVE ANY DOOR. SIGN ADJACENT TO EGRESS DOOR SHALL BE WALL MOUNTED BESIDE DOOR AND AS CLOSE TO THE TOP OF THE CEILING AS POSSIBLE.
   - 6.8. FIRE PULL STATION: 1150mm (45")
   - 6.9. FIRE ALARM VISUAL, AUDIBLE OR COMBINATION OF BOTH DEVICES" 150mm (6") BELOW CEILING TO THE TOP OF THE DEVICE WHERE THE CEILING HEIGHT IS LESS THAN 2450mm (96") A.F.F., WHERE CEILING HEIGHT IS 2450mm (96") OR GREATER, MOUNT DEVICE AT 2300mm (90.5") A.F.F. TO THE TOP OF THE DEVICE.
7. CO-ORDINATE ON SITE THE LOCATION OF EQUIPMENT, CONTROL DEVICES, SERVICE DISTRIBUTION SYSTEMS, ETC. COORDINATE WORK AND SCHEDULE WITH OTHER TRADES.
8. AT ALL TIMES KEEP THE OWNER'S PROPERTY CLEAN AND IN TIDY CONDITION. CLEAN AFFECTED WORK AREA AND REMOVE ALL DEBRIS FROM EQUIPMENT. FOLLOW MANUFACTURERS' INSTALLATION AND STARTUP INSTRUCTIONS.
9. PROVIDE WARNING SIGNS AND BARRIERS AS REQUIRED TO MEET INSPECTION DEPARTMENT'S REQUIREMENTS.
10. DRAWINGS SHOW GENERAL INTENT OF WORK AND NOT THE DETAILS OF THE INSTALLATION.
11. GUARANTEE IN WRITING ALL MATERIAL AND WORKMANSHIP INCLUDING THE MANUFACTURER'S GUARANTEE FOR THE MINIMUM PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE UNLESS NOTED OTHERWISE IN MAIN FRONT END CONTRACT DOCUMENTS.
12. NO EXTRA CHARGES SHALL BE HONOURED EXCEPT WHERE THE CONTRACTOR RECEIVES A WRITTEN ORDER COUNTER-SIGNED OR OTHERWISE APPROVED BY THE OWNER.
13. AFTER THE APPROVAL OF DRAWINGS, THE RIGHT IS RESERVED TO MAKE REASONABLE CHANGES IN THE DESIGN OF THE WORK OR TO OMIT ANY SUCH PARTS AS THE OWNER MAY REQUIRE. IN THE CASE WHERE WORK OR MATERIAL IS ADDED TO OR DEDUCTED FOR THE WORK HEREIN SPECIFIED, A FAIR AND REASONABLE VALUATION OF THE SAME SHALL BE ADDED TO OR DEDUCTED FROM THE AMOUNT OF THIS CONTRACT.
14. THE CONSULTANT RESERVES THE RIGHT TO SELECT THE FINAL PRODUCT AND OR OPTIONS/ACCESSORIES DURING SHOP DRAWING REVIEW AT NO ADDITIONAL COST TO THE OWNER IN THE CASE OF ANY DISCREPANCIES LISTED BETWEEN CATALOGUE NUMBERS, WRITTEN PRODUCT DESCRIPTIONS AND/OR DETAILS SHOWN ON THE DRAWINGS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE CONSULTANT IN WRITING BEFORE TENDER CLOSES OF ANY DISCREPANCIES THAT MAY BE SHOWN ON THE DRAWINGS REGARDING LISTED PRODUCT SPECIFICATIONS AND CATALOGUE NUMBERS THAT MAY AFFECT PRICING AND GET CLARIFICATION ON THESE ITEMS BEFORE SUBMITTING FINAL TENDER PRICE. FAILURE OF THE ELECTRICAL CONTRACTOR TO REQUEST CLARIFICATIONS ON SUCH ITEMS DURING TENDER MAKES NULL AND VOID ANY FUTURE CLAIMS RELATING TO FINAL PRODUCT SELECTION BY THE CONSULTANT.
15. ALL ELECTRICAL EQUIPMENT TO BE SPRINKLER PROOF.

B. SUBMITTALS

1. BEFORE FABRICATION OF ANY MATERIALS OR EQUIPMENT, SUBMIT ONE (1) COPY OF DETAILED MANUFACTURER'S SHOP DRAWINGS OF EQUIPMENT AND APPARATUS FOR REVIEW. DO NOT ORDER MATERIALS UNTIL CONSULTANT HAS REVIEWED THE SHOP DRAWINGS. IF CORRECTIONS ARE REQUIRED, COPIES WILL BE RETURNED WITH CORRECTIONS NOTED. CORRECTED COPIES SHALL BE RESUBMITTED FOR REVIEW AND DISTRIBUTION. SUBMISSIONS SHALL BE MADE IN AMPLE TIME TO AVOID DELAYS IN THE WORK. THE REVIEW OF THE SHOP DRAWINGS SHALL BE, AND IS MUTUALLY UNDERSTOOD TO BE, IN REFERENCE TO GENERAL DESIGN ONLY. IF ERRORS IN THE DETAILED DIMENSIONS OR INTERFERENCE WITH THE WORKS ARE NOTICED, THE ATTENTION OF THE CONTRACTOR WILL BE CALLED TO SUCH ERRORS OR INTERFERENCE, BUT REVIEW OF THE DRAWINGS SHALL NOT IN ANY WAY RELIEVE THIS CONTRACTOR OF RESPONSIBILITY FOR ERRORS OR INTERFERENCE, OR FROM THE NECESSITY OF FURNISHING SUCH WORKS AND MATERIALS AS MAY BE REQUIRED FOR THE COMPLETION OF THE WORK AT ANY TIME UNTIL FORMAL ACCEPTANCE.
2. THE ELECTRICAL CONTRACTOR IS TO REVIEW, DATE AND SIGN ALL ELECTRICAL SHOP DRAWINGS PRIOR TO SUBMITTING TO THE CONSULTANT FOR REVIEW.
3. THE ELECTRICAL CONTRACTOR TO PREPARE RECORD DRAWINGS (IN AUTOCAD AND PDF FORMATS) INCLUDING ALL CHANGES AND DEVIATIONS IN COLOUR RED FROM CONSTRUCTION SET AND SUBMIT THEM TO THE CONSULTANT AND THE OWNER UPON THE COMPLETION OF THE PROJECT. AUTOCAD FILES CAN BE SUPPLIED BY THE CONSULTANT UPON REQUEST. THE CONSULTANT CAN PREPARE AS BUILT AUTOCAD DRAWINGS FOR THE ELECTRICAL CONTRACTOR FOR A NOMINAL FEE.
4. THE FOLLOWING ITEMS ARE TO BE SUBMITTED TO THE CONSULTANT AND THE OWNER AT THE END OF THE PROJECT IN A HARD COVER, THREE-RING BINDER WITH TABS INDICATING EACH SECTION:
   - 4.1. FINAL INSPECTION/VERIFICATION REPORTS FROM THE INSPECTION AUTHORITIES AND TESTING AGENCIES
   - 4.2. MANUFACTURER'S SPECIFICATION SHEETS AND PHOTOMETRIC DATA FOR LIGHT FIXTURES
   - 4.3. A COPY OF ALL FINAL REVIEWED SHOP DRAWINGS
   - 4.4. AUTOCAD AND PDF RECORD DRAWINGS
   - 4.5. OPERATING INSTRUCTIONS FOR EACH SYSTEM INCLUDING CONTROL AND WIRING DIAGRAMS
   - 4.6. MANUFACTURER RECOMMENCED MAINTENANCE PROCEDURES AND SCHEDULES
   - 4.7. WARRANTY LETTER FOR ALL MATERIAL AND WORKMANSHIP
   - 4.8. ALL PANELBOARD TYPEWRITTEN DIRECTORIES
   - 4.9. USB DRIVE WITH ELECTRONIC COPY OF ITEMS 4.1 TO 4.8

C. PERMITS, TEST, REGULATIONS, ETC.

1. CARRY OUT ALL CHANGES AND ALTERATIONS REQUIRED BY THE AUTHORIZED INSPECTOR OF ANY AUTHORITY HAVING JURISDICTION WITHOUT DELAY TO THE PROGRESS OF THE WORK AND WITHOUT EXTRA COST.
2. PROVIDE WARNING SIGNS AND ARC FLASH LABELS AS SPECIFIED OR TO MEET REQUIREMENTS OF O.E.S.C, INSPECTION DEPARTMENT AND THE CONSULTANT.
3. UPON COMPLETION OF THE CONTRACT, ISSUE TO THE OWNER A FORMAL CERTIFICATION OF COMPLETION OF WORK BEFORE FINAL PAYMENT FOR WORK MAY BE CONSIDERED DUE.
4. PAYMENTS FOR ALL PERMITS, DEPOSITS, INSPECTION, SERVICES, AND OTHER FEES NECESSARY FOR THE WORK SHALL BE INCLUDED IN THE TENDER.

D. MATERIALS

1. ALL MATERIALS AND EQUIPMENT (PRODUCTS) TO BE NEW AND FREE OF DEFECTS, CSA, ULC OR CANADIAN RECOGNIZED CERTIFICATION.
2. THIS IS A BASE BID SPECIFICATION. ITEMS ON THE DRAWINGS AND SUBSEQUENT DIVISIONS OF THESE SPECIFIACTIONS ARE LISTED WITH THE NAMES OF A SPECIFIC MANUFACTURER, THE FIRST OF WHICH IS BASE BID AND HAS BEEN USED IN THE DESIGN AND IS THE EQUIPMENT SHOWN ON THE DRAWINGS. THE PRICE SUBMITTED FOR THIS CONTRACT SHALL BE BASED ON THE USE OF MATERIALS AND EQUIPMENT SPECIFIED AS THE BASE BID.
3. WHERE MORE THAN ONE MANUFACTURER IS LISTED FOR A PARTICULAR ITEM OR GROUPS OF ITEMS, THE CONTRACTOR SHALL STATE IN HIS TENDER FORM COST SAVINGS (IF ANY) FOR THE USE OF ALTERNATE PRODUCTS, AND SHALL NAME THE ALTERNATE MANUFACTURERS. HOWEVER, THESE PROPOSED MATERIALS MUST NOT BE USED IN CALCULATING THE BASE TENDER PRICE. THE CONSULTANT AND/OR OWNER SHALL HAVE THE FINAL OPTION OF ACCEPTING OR REJECTING ALTERNATE EQUIPMENT.
4. WHERE OTHER THAN A FIRST-NAMED PRODUCT IS PROPOSED, THE BIDDER WILL BE DEEMED TO REPRESENT THAT NAMED PRODUCT CONFORMS TO THE PERFORMANCE, QUALITY, SPACE AND WEIGHT CHARACTERISTICS OF THE BASE BID PRODUCT. THIS CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL DESIGN OR CONSTRUCTION COSTS GENERATED BY THE USE OF THE NON-FIRST NAMED BID MATERIAL. ACCEPTANCE OF NON-BASE MANUFACTURERS WITH RESPECT TO THEIR EQUIVALENCY SHALL BE SUBJECT TO THE CONSULTANT'S REVIEW OF SHOP DRAWINGS.

E. WIRES AND CABLES

1. ALL WIRING SHALL BE MINIMUM COPPER NO. 12 AWG WITH 600V INSULATION FOR 120/208V WIRING AND 1000V FOR 600V WIRING OF CHEMICALLY CROSS-LINKED THERMOSETTING POLYETHYLENE (XLPE) MATERIAL SUITABLE FOR 90° OPERATION. CONDUCTORS NO. 10 AWG AND LARGER SHALL BE STRANDED. CONDUCTOR SIZES SHALL BE IN ACCORDANCE WITH THE OESC AND AS INDICATED ON THE DRAWINGS.
2. ALUMINUM WIRING IS NOT ACCEPTABLE UNLESS NOTED OTHERWISE.
3. NMD90 (PVC JACKETED) WIRING SHALL NOT BE USED AND IS NOT ACCEPTABLE.
4. ALL LOW VOLTAGE 6-24VDC EMERGENCY LIGHTING WIRING SHALL BE MINIMUM COPPER NO.10 AWG.
5. AC90 CABLE MAY ONLY BE USED FOR SHORT RUNS WITH MAXIMUM DISTANCE OF 3660mm (12ft) TO LIGHT FIXTURES AND RECEPTACLES IN CONCEALED AREAS ONLY UNLESS NOTED OTHERWISE ON DRAWINGS. AC90 CABLE (INCLUDING FIRE ALARM) IS NOT TO BE USED IN OPEN CEILING AREAS, ELEVATOR SHAFT AND STAIRWELL.
6. WHERE CONDUCTOR SIZES ARE NOT INDICATED THEY SHALL BE SIZED TO ENSURE THE VOLTAGE DROP DOES NOT EXCEED 2% FOR BRANCH CIRCUIT AND 3% FOR MAIN FEEDER AND THE REQUIREMENTS OF THE OESC.
7. ALL WIRING TO BE INSTALLED IN CONDUIT OR RACEWAY AND SHALL BE EQUIPPED WITH A GREEN INSULATED BOND CONDUCTOR SIZED TO MEET THE REQUIREMENTS OF THE OESC.

F. CONDUIT

1. EMT AND RIGID GALVANIZED STEEL (RGS) CONDUIT TO BE CONCEALED IN FINISHED AREAS OF THE BUILDING.
2. MINIMUM CONDUIT SIZE SHALL BE 20mm (3/4") UNLESS NOTED OTHERWISE ON THE DRAWINGS.
3. WHERE SLEEVES OR OPENINGS ARE INSTALLED IN WALLS, FLOORS, ROOF OR PARTITIONS TO ACCOMMODATE RACEWAYS OR CABLES, PROVIDE ALL NECESSARY SEALS, FITTINGS, BARRIERS AND FIRE-RESISTANT MATERIALS TO RESTORE THE INSTALLATION TO ITS ORIGINAL FIRE RATING TO THE SATISFACTION OF THE GOVERNING AUTHORITIES.
4. WHERE CONDUIT MUST BE SURFACE MOUNTED TO EXPOSED CEILING/WALL SURFACES, PROVIDE EMT CONDUIT PAINTED TO MATCH CEILING/WALL SURFACES UNLESS NOTED OTHERWISE.
5. ALL CONDUITS THAT PENETRATE EXTERIOR WALLS/ROOF ARE TO BE SEALED AIR/LIQUID TIGHT AFTER INSTALLATION AT BOTH ENDS OF THE CONDUIT.
6. ALL LOW VOLTAGE WIRING IS TO BE INSTALLED IN CONDUIT UNLESS NOTED OTHERWISE ON DRAWINGS

G. OUTLETS AND JUNCTION BOXES

1. PROVIDE STICK ON LABELS (BLACK LETTERING ON WHITE BACKGROUND) INDICATING THE PANEL AND CIRCUIT NUMBER FOR ALL RECEPTACLES AND CONTROL DEVICES. LABELS SHALL BE NEATLY PLUMB AND LEVEL ON THE COVER PLATE. POORLY POSITIONED LABELS WILL NOT BE ACCEPTED.
2. THE OWNER/CONSULTANT RESERVES THE RIGHT TO CHANGE LOCATIONS OF OUTLETS TO WITHIN 3660mm (12ft) OF LOCATION INDICATED ON THE DRAWINGS WITHOUT EXTRA CHARGE, PROVIDING CONTRACTOR IS ADVISED PRIOR TO INSTALLATION.
3. ALL PULL/JUNCTION BOXES MUST BE ACCESSIBLE AFTER THE BUILDING IS COMPLETE. INSTALL PULL ROPE IN ALL EMPTY CONDUITS.
4. ALL JUNCTION BOXES AND CONDUIT SUPPORT SYSTEM SHALL BE SECURED TIGHT TO THE UNDERSIDE OF THE BUILDING STRUCTURE. SUSPENDED JUNCTION BOXES AND CONDUITS WILL NOT BE ACCEPTED.
5. ALL DEVICE BOXES TO BE RECESSED WHEREVER POSSIBLE. ALL JUNCTION BOXES SHALL BE SIZED TO ACCOMMODATE THE NUMBER OF RACEWAYS AND CONDUCTORS AND BE EASILY ACCESSIBLE AFTER INSTALLATION.
6. WHERE BOXES MUST BE SURFACE MOUNTED TO EXPOSED CEILING/WALL SURFACES, PROVIDE SURFACE MOUNTED DIE-CAST ALUMINUM BOXES PAINTED TO MATCH CEILING/WALL SURFACES UNLESS NOTED OTHERWISE.

H. WIRING DEVICES

1. SWITCHES, RECEPTACLES AND OUTLETS TO BE DECORA STYLE, WHITE COLOR WITH STAINLESS STEEL COVER PLATES.
2. RECEPTACLES TO BE TAMPER RESISTANT AND MARKED "TR" IN THE FOLLOWING SPACES:
   - 2.1. CHILD CARE FACILITIES
   - 2.2. PRESCHOOLS AND ELEMENTARY EDUCATION FACILITIES
   - 2.3. PUBLIC SPACES I.E. AMENITY, WASHROOMS, STAIRWELLS, STORAGE SPACES, EXTERIOR GRADE RECEPTACLES
3. DUPLEX RECEPTACLES
   - 3.1. 15 OR 20 AMP, 120 VOLT SPECIFICATION GRADE COMPLETE WITH BACK BOX
4. TOGGLE SWITCHES TO BE 15 OR 20 AMP, 120 OR 347 VOLT AS REQUIRED COMPLETE WITH BACK BOX.
5. LOW VOLTAGE SWITCHES, SENSORS OR DEVICES TO BE INSTALLED COMPLETE WITH DEVICE BACK BOX. ALL BOXES FOR CEILING MOUNTED DEVICES TO BE OCTAGON TYPE.

I. GROUNDING

1. GROUND THE SERVICE AND ALL NON-CURRENT CARRYING METAL PARTS IN ACCORDANCE WITH OESC.
2. PROVIDE COMPLETE GROUNDING AND BONDING SYSTEM AS REQUIRED BY OESC.
3. PROVIDE GROUND CONNECTION TO TELEPHONE PANEL, WATER MAIN AND ALL METALLIC PIPING.

J. FIRE STOPPING

1. SEALS FOR CABLES AND CONDUIT:
   - PROVIDE FIRE RATED SEALS FOR CONDUITS AND WIRING AT ALL FIRE RATED WALL/FLOOR PENETRATIONS.
   - APPLY FIRE SEALANT 3M CP 25WB+ , 4 HR FIRE BARRIER, L RATED, STC 54 TO SEAL ALL PENETRATIONS THROUGH ANY FIRE RATED ASSEMBLIES. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS FOR ALL FIRE RATED ASSEMBLIES.

K. LIGHTING

1. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL LIGHT FIXTURES AS SPECIFIED ON PLANS. ALTERNATE LIGHT FIXTURES SHALL NOT BE USED IN CALCULATING BASE TENDER PRICE. THE ELECTRICAL CONTRACTOR MAY SUBMIT AN ALTERNATE LIGHTING PACKAGE WITH TENDER PRICE IF THERE IS A COST SAVING OVER THE BASE SPECIFIED LIGHT FIXTURES. THE CONTRACTOR SHALL STATE THE COST SAVING FOR THE ALTERNATE FIXTURES WITH TENDER AND THE OWNER RESERVES THE RIGHT TO ACCEPT OR REJECT THE ALTERNATE FIXTURES PACKAGE COST SAVING.
2. SUPPLY AND INSTALL ALL MOUNTING HARDWARE AND ACCESSORIES TO SUIT THE CEILING AND INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND PROVIDE REQUIRED MOUNTING ACCESSORIES AS REQUIRED. ALL FIXTURES TO BE CSA OR ULC LISTED.
3. ALL LIGHT FIXTURES THAT ARE NOT SUPPORTED DIRECTLY BY AN OUTLET BOX AS PER OESC 30-302, ARE TO BE SECURED TO BUILDING STRUCTURE INDEPENDENTLY BY JACK CHAINS OR AIRCRAFT CABLES.
4. EMERGENCY LIGHTING SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3.2.7.3 OF THE LATEST EDITION OF ONTARIO BUILDING CODE. EMERGENCY LIGHTING SHALL BE PROVIDED TO AN AVERAGE LEVEL OF ILLUMINATION NOT LESS THAN 10 LUX AT FLOOR OR TREAD LEVEL AS REQUIRED BY OBC.
5. LOCATE EACH EMERGENCY LIGHT ON SITE TO SUIT EXIT ROUTING AND LINE OF SIGHT. ELECTRICAL CONTRACTOR SHALL ARRANGE FOR TESTING OF EMERGENCY LIGHTS AND SUBMIT SEALED CERTIFICATE ALONG WITH TEST REPORT TO THE CONSULTANT BEFORE FINAL PAYMENT.
6. EACH EMERGENCY POWER BATTERY UNIT SHALL PROVIDE SUFFICIENT WATTAGE TO LIGHT ALL REMOTE EMERGENCY EXIT LIGHT HEADS WIRED TO IT FOR A MINIMUM PERIOD DESCRIBED IN SECTION 3.2.7.4 OF OBC.
7. ALL LOW VOLTAGE LIGHTING CONTROL DEVICES TO BE CSA OR ULC LISTED.

L. LIGHTING CONTROLS

1. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL LIGHTING CONTROL DEVICES AS SPECIFIED ON PLANS. ALTERNATE LIGHTING CONTROL DEVICES SHALL NOT BE USED IN CALCULATING BASE TENDER PRICE. THE ELECTRICAL CONTRACTOR MAY SUBMIT AN ALTERNATE LIGHTING CONTROL PACKAGE WITH TENDER PRICE IF THERE IS A COST SAVING OVER THE BASE SPECIFIED LIGHTING CONTROL PACKAGE. THE CONTRACTOR SHALL STATE THE COST SAVING FOR THE ALTERNATE LIGHTING CONTROL DEVICES WITH TENDER AND THE OWNER RESERVE THE RIGHTS TO ACCEPT OR REJECT THE ALTERNATE LIGHTING CONTROL PACKAGE COST SAVING.
2. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL LOW VOLTAGE LIGHTING CONTROL DEVICES INCLUDING WIRING, ACCESSORIES, COVER PLATES, ETC. ALL LOW VOLTAGE WIRING DETAILS TO BE CONFIRMED BY LIGHTING CONTROL MANUFACTURER AND ALL LIGHTING CONTROL WIRING TO BE INSTALL IN CONDUIT/BOXES.
3. ALL LOW VOLTAGE LIGHTING CONTROL WIRING TO BE INSTALLED IN CONDUIT WHERE INSTALLED IN EXPOSED AREAS. LOW VOLTAGE WIRING INSTALLED ABOVE ACCESSIBLE CEILING SPACES TO BE PROPERLY SUPPORTED SECURED TO STRUCTURE.
4. ELECTRICAL CONTRACTOR TO SUBMIT DETAILED OCCUPANCY SENSOR, LOW VOLTAGE SWITCHING AND POWER PACK WIRING DIAGRAMS SPECIFIC TO THIS PROJECT DURING SHOP DRAWING SUBMISSION STAGE FOR REVIEW BY THE CONSULTANT.
5. ELECTRICAL CONTRACTOR TO FIELD ADJUST AIMING, SENSITIVITY AND TIME DELAY AS REQUIRED.
6. LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH DRAWINGS AND MANUFACTURES INSTALLATION INSTRUCTIONS. WHERE OCCUPANT SENSORS, TIME SWITCHES, PROGRAMMABLE SCHEDULE CONTROLS, OR PHOTOSENSORS ARE INSTALLED, AT A MINIMUM, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
   - 6.1. CERTIFY THAT OCCUPANT SENSORS HAVE BEEN LOCATED AND AIMED IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
   - 6.2. OCCUPANCY SENSORS AND EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY.
     - 6.2.1. STATUS INDICATOR OPERATES PROPERLY
     - 6.2.2. CONTROLLED LIGHTS TURN OFF OR DOWN TO THE PERMITTED LEVEL WITHIN REQUIRED TIME
     - 6.2.3. FOR AUTO-ON OCCUPANT SENSORS, THE LIGHTS TURN ON TO THE PERMITTED LEVEL WITH THE TIME REQUIRED
     - 6.2.4. FOR MANUAL-ON SENSORS, THE LIGHTS TURN ON ONLY WHEN MANUALLY ACTIVATED
     - 6.2.5. THE LIGHTS ARE NOT INCORRECTLY TURNED ON BY MOVEMENT IN NEARBY AREAS OR BY HVAC OPERATION
   - 6.3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO HIRE THE LIGHTING CONTROL MANUFACTURER'S INDIVIDUAL TO CARRY OUT AN INSPECTION AND PROVIDE DOCUMENTATION CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET OR EXCEED ALL DOCUMENTED PERFORMANCE CRITERIA. THE INDIVIDUALS RESPONSIBLE FOR THE TESTING SHALL NOT BE DIRECTLY INVOLVED IN EITHER THE DESIGN OR CONSTRUCTION OF THE PROJECT.

L. FIRE ALARM SYSTEM RENOVATIONS

1. THE ELECTRICAL CONTRACTOR SHALL HIRE A FIRE ALARM SYSTEM COMPANY TO TEST AND VERIFY ANY NEW OR RELOCATED FIRE ALARM DEVICES AND PROVIDE WRITTEN VERIFICATION REPORT INDICATING THE DEVICES HAVE BEEN TESTED AND VERIFIED TO THE LATEST APPLICABLE CODES AND STANDARDS.
2. THE ELECTRICAL CONTRACTOR SHALL CARRY ALL COSTS ASSOCIATED WITH TESTING AND VERIFICATION AS REQUIRED BY THE FIRE ALARM WORK INDICATED ON THE ELECTRICAL DRAWINGS.
3. ALL STROBE CANDELAS TO BE 15cd UNLESS OTHERWISE STATED.
4. FIRE ALARM PASSIVE GRAPHIC(S) TO BE UPDATED AND REPRINTED WITH NEW FIRE ALARM ZONES AND FLOOR PLAN LAYOUT.

M. UNIVERSAL WASHROOM DOOR CONTROLS/EMERGENCY CALL SYSTEM

1. ALL DEVICES AND WIRING TO BE SUPPLIED AND INSTALLED BY DOOR HARDWARE CONTRACTOR. REFER TO ARCHITECTURAL DRAWINGS AND DOOR HARDWARE SCHEDULE FOR FURTHER DETAILS.
2. SUPPLY AND INSTALL COMPLETE RACEWAY (CONDUIT) SYSTEM c/w PULL ROPES AND BACK BOXES AS REQUIRED FOR THE SYSTEM. COORDINATE ALL WORK WITH DOOR HARDWARE CONTRACTOR AS REQUIRED.

ELECTRICAL DRAWING LIST

E0.00	SPECIFICATIONS AND DRAWING LIST
E0.01	LEGENDS, SCHEDULES & KEYPLANS
E1.00	GYM DEMOLITION/NEW POWER & SYSTEMS PLAN
E1.01	ROOMS 115, 116, 125, 126 DEMOLITION/NEW POWER & SYSTEMS PLAN
E1.02	ROOMS 214, 226 DEMOLITION/NEW POWER & SYSTEMS PLAN
E2.00	GYM DEMOLITION/NEW LIGHTING & EMERG. LIGHT. PLAN
E2.01	ROOM 115,116,125,126 DEMOLITION/NEW LIGHT. & EMERG. LIGHT. PLAN
E2.02	ROOM 214, 226 DEMOLITION/NEW LIGHT. & EMERG. LIGHT. PLAN
E4.00	ELECTRICAL SCHEDULES
E5.00	ELECTRICAL DETAILS
E5.01	ELECTRICAL DETAILS

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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ISSUED FOR CONSTRUCTION: DATE

STRUCTURAL CONSULTANT

MECHANICAL CONSULTANT
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ELECTRICAL CONSULTANT
CK

SHEET TITLE
SPECIFICATIONS & DRAWING LIST

SHEET NO.	DRAWN BY	CHECKED
E0.00	AS	PI
	PROJECT NO.	23035
	SCALE	AS NOTED

GENERAL LIGHTING

SYMBOL	DESCRIPTION
LX	2'X4' (610mmX1220mm) LIGHT FIXTURE. "X" DENOTES TYPE
LX	24"X16" (610mmX406mm) LIGHT FIXTURE. "X" DENOTES TYPE
LX	1'X4' (305mmX1220mm) LIGHT FIXTURE. "X" DENOTES TYPE

GENERAL NOTE: 1. REFER TO GENERAL LIGHTING SCHEDULE FOR DETAILED SPECIFICATIONS.

EMERGENCY LIGHTING

SYMBOL	DESCRIPTION
CUX	EMERGENCY BATTERY UNIT AND RUNNING MAN OR EXIT SIGN COMBO WITH TWO DC HEADS. "X" DENOTES TYPE
BUX	EMERGENCY BATTERY UNIT WITH TWO DC HEADS. "X" DENOTES TYPE
RX YUX.C	WALL MOUNTED EMERGENCY LIGHTING DOUBLE REMOTE DC HEADS. "X" DENOTES TYPE
EMX YUX.C	EMERGENCY WALL MOUNTED RUNNING MAN OR EXIT SIGN. ARROW DENOTES DIRECTION OF EXIT. HATCHED AREA DENOTES ILLUMINATED FACE(ES). "X" DENOTES TYPE
RX YUX.C	WALL MOUNTED EMERGENCY LIGHTING SINGLE REMOTE DC HEAD. "X" DENOTES TYPE
YUX.C	"Y" INDICATES BATTERY OR COMBO UNIT. "X" INDICATES TYPE OF BATTERY OR COMBO UNIT. "C" INDICATES DEDICATED BRANCH WIRING CIRCUIT FROM BATTERY OR COMBO UNIT. WIRE TO BE SIZED TO ENSURE NO MORE THAN 5% VOLTAGE DROP PER BRANCH

GENERAL NOTE: 1. REFER TO EMERGENCY LIGHTING SCHEDULE FOR DETAILED SPECIFICATION.

POWER AND SYSTEMS

SYMBOL	DESCRIPTION
	120VAC, 15 AMP DUPLEX RECEPTACLE
	120VAC, 15 AMP DUPLEX GROUND FAULT CIRCUIT INTERRUPT RECEPTACLE
	HARD WIRED POWER CONNECTION RATED PER EQUIPMENT SPECIFICATION
	FAN OR MOTOR
	WALL MOUNTED PROGRAM BELL
HDX	HAND DRYER. "X" DENOTES TYPE
WAP	WIRELESS ACCESS POINT
S	WALL MOUNTED AUDIO SPEAKER

GENERAL NOTE: 1. REFER TO POWER AND SYSTEMS SCHEDULE FOR DETAILED SPECIFICATION.

CONTROL DEVICE

SYMBOL	DESCRIPTION
$X	120V OR 347V SINGLE GANG, SINGLE POLE SWITCH, UNLESS NOTED WITH CONTROL DEVICE TYPE DESIGNATION LETTER. "X" DENOTES CONTROL DEVICE TYPE
X$X	120V OR 347V DOUBLE GANG, TWO SINGLE SWITCHES, UNLESS NOTED WITH CONTROL DEVICE TYPE DESIGNATION LETTER. "X" DENOTES CONTROL DEVICE TYPE
X$X X	120V OR 347V THREE GANG, THREE SINGLE POLE SWITCHES, UNLESS NOTED WITH CONTROL DEVICE TYPE DESIGNATION LETTER. "X" DENOTES CONTROL DEVICE TYPE
OS	CEILING MOUNTED VACANCY/OCCUPANCY SENSOR. "X" DENOTES CONTROL DEVICE TYPE
RCX	ROOM CONTROLLER. "X" DENOTES CONTROL DEVICE TYPE
	POWER DOOR OPERATOR PUSH TO OPEN BUTTON
L	POWER DOOR OPERATOR PUSH TO LOCK BUTTON
	POWER DOOR OPERATOR OCCUPIED ANNUNCIATOR
	POWER DOOR OPERATOR LOCKED ANNUNCIATOR

GENERAL NOTE: 1. REFER TO CONTROL DEVICE SCHEDULE FOR DETAILED SPECIFICATION.

BARRIER FREE EMERGENCY CALL SYSTEM

SYMBOL	DESCRIPTION
E	EMERGENCY CALL PUSH BUTTON
A	LOCAL LED ANNUNCIATOR AND SIREN COMBO
B	LOCAL DOME LIGHT AND SIREN STROBE COMBO

GENERAL NOTE: 1. REFER TO "UNIVERSAL POWER DOOR OPERATOR/EMERGENCY CALL SYSTEM" IN ELECTRICAL SPECIFICATION FOR MORE DETAILS.

FIRE ALARM AND CARBON MONOXIDE SYSTEMS

SYMBOL	DESCRIPTION
c Y	FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR. "Y" DENOTES INTELLIGENT RELAY BASE WITH DRY CONTACTS. "C" DENOTES FIRE ALARM ADVANCED COMBINATION FIRE DETECTOR WITH SMOKE, CO, LIGHT/FLAME AND HEAT AND LOCAL SOUNDER BASE.
F D	FIRE ALARM PULL STATION. "*" DENOTES c/w WEATHERPROOF COVER. "D" DENOTES c/w TWO (2) FORM "C" CONTACTS.
F	WALL MOUNTED FIRE ALARM HORN STROBE COMBO. "*" DENOTES c/w WEATHERPROOF COVER. "X" DENOTES CANDELA OUTPUT.

GENERAL NOTE: 1. REFER TO "NEW FIRE ALARM SYSTEM" OR "FIRE ALARM SYSTEM RENOVATIONS" IN ELECTRICAL SPECIFICATION FOR MORE DETAILS.

SECURITY SYSTEMS

SYMBOL	DESCRIPTION
MS	WALL MOUNTED SECURITY MOTION SENSOR

GENERAL NOTE: 1. REFER TO SECURITY SYSTEMS SCHEDULE FOR DETAILED SPECIFICATION.

GENERAL LIGHTING SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE (V)	WATTS (W)	LUMENS	EFFICACY (LUMENS/W)	0-10V DIMMING	DLC	LISTING REQUIRED	DISTR. TYPE	COLOUR TEMP(K)	CRI	MOUNTING	EQUIVALENT ACCEPTED	COMMENTS
L1	ACUITY (LITHONIA LIGHTING)	IBG 8000LM SEF ACL GND HVOLT GZ10 40K 80CRI DWH	LED HIGH BEAM FIXTURE (24"X12") SURFACE MOUNTED.	347	48	8000	165	YES				40	80	SURFACE		GYM ROOM 105. ORDER WITH WIRE GUARD OPTION; CODE: WGBG22. DESCRIPTION AND SYMBOL DIMENSIONS: 24"X24". MANUFACTURER'S CATALOG SIZE SHOWS 25"X12".
L2	LEDALITE	422401ST L94040Q13E	LED, 2' X 4' RECESSED	347	33	4000	120	YES				40	90	RECESSED		WASHROOMS 1ST AND 2ND FLOOR.
LA			EXISTING SURFACE MOUNTED LIGHTING FIXTURE													FIXED ON THE CEILING JOIST – GYM ROOM 105
LB			EXISTING RECESSED LIGHTING FIXTURE													LOCATED ON THE WASHROOMS

EMERGENCY LIGHTING SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE AC (VAC)	VOLTAGE DC (VDC)	LAMP BASE	LAMP TYPE	LAMP WATTS	EQUIVALENT ACCEPTED	COMMENTS
CU1, 2	EMERGI-LITE	ESC1280W2LG	STEEL COMBO UNIT 120/347V, 12V/80W, 2X 12V/6W HEAD WITH RUNNING MAN SIGN	347	12	MR16	LED	2X 6W		ORDER OPT. WALL MOUNT WIRE GUARD
BU1, 2	EMERGI-LITE	12ESLT2/2LJ	COMBO BATTERY & DOUBLE HEAD 120/347V, 12V/72W, 2X 12V/6W	347	12	MR16	LED	2X 6W		ORDER OPT. WALL MOUNT WIRE GUARD
BU3, 4	EMERGI-LITE	12ESLJ6/2LJ	COMBO BATTERY & DOUBLE HEAD 120/347V, 12V/36W, 2X 12V/6W	347	12	MR16	LED	2X 6W		ORDER OPT. WALL MOUNT WIRE GUARD
R2	EMERGI-LITE	EF150D-LJC	REMOTE HEAD 2X 12V/5W		12	MR16	LED	2X 5W		ORDER OPT. WALL MOUNT WIRE GUARD
R2A	EMERGI-LITE	EF150-LJC	REMOTE HEAD 1X 12V/6W		12	MR16	LED	2X 6W		ORDER OPT. WALL MOUNT WIRE GUARD
R1	EMERGI-LITE	EF150-LJC	REMOTE HEAD 1X 12V/6W		12	MR16	LED	6W		ORDER OPT. WALL MOUNT WIRE GUARD

CONTROL DEVICE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE AC (V)	VOLTAGE DC (VDC)	NO. OF RELAYS	DIMMING	MOUNTING	EQUIVALENT ACCEPTED	COMMENTS
RC1	LEGRAND	LMRC-211-347	ROOM CONTROLLER 347V – WATTSTOPPER ON/OFF/0-10 DIMMING	347	24	1		WALL		LIGHTING CONTROL GYM ROOM 105. WIRE GUARD REQUIRED.
O1	LEGRAND	CX-100	WALL MOUNT OCCUPANCY SENSOR – WATTSTOPPER		24			WALL		LIGHTING CONTROL GYM ROOM 105. WIRE GUARD REQUIRED.
O2	LEGRAND	LMDC-100	CEILING MOUNT OCCUPANCY SENSOR		24			CEILING		LIGHTING CONTROL SEMINAR ROOM 125A
O3	LEGRAND	DT-355-U	LINE VOLTAGE CEILING SENSOR	347				CEILING		LIGHTING CONTROL W/R 115, 116, 214, 226. SEE DETAIL 3 DRAWING E5
O4	LEGRAND	PW-310-347-W	INFRARED WALL SWITCH OCCUPANCY SENSOR	347				WALL		LIGHTING CONTROL UNIVERSAL WASHROOM (ROOM 126-A)
$3D	LEGRAND	LMDM-101-W	DIMMING WALL SWITCH (DLM)		24			WALL		LIGHTING CONTROL GYM ROOM 105
	LEGRAND	LMRJ & LM-MSTP	PRE-TERMINATED CABLES AND SEGMENT NETWORK WIRE							LIGHTING CONTROL WIRING/CABLING

ELECTRICAL EQUIPMENT SCHEDULE

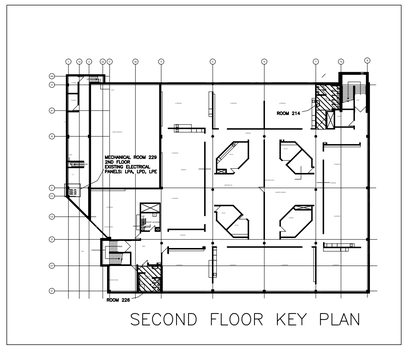
TYPE	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	VOLTAGE (V)	AMPS (A)	WATTS (W)	PHASE	COMMENTS
HD1	WORLD DRYER	L-972	WORLD DRYER SLIMDRI SURFACE MOUNTED, BARRIER FREE COMPLIANCE, AUTOMATIC SENSOR, BUIT IN ON/OFF HEATING CONTROL SWITCH	120	8.3	950	1	HAND DRYER FOR WASHROOMS ON 1ST & 2ND FLOOR
	GYMHEALTH	TW2000	ELECTRICAL WINCH FOR BASKETBALL BACKSTOP	110	10	750	1	BASKETBALL BACKSTOP WINCH MOTOR

ABBREVIATIONS

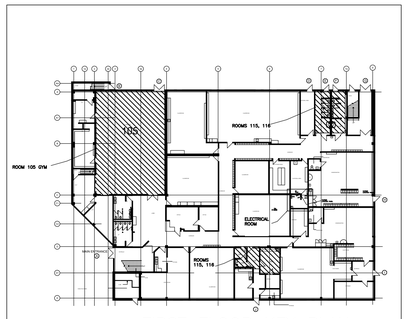
AFF	DENOTES ABOVE FINISHED FLOOR
AFG	DENOTES ABOVE FINISHED GRADE
c/w	DENOTES COMPLETE WITH
ED	DENOTES EXISTING DEVICE TO BE DEMOLISHED INCLUDING WIRING/CONDUIT(S) STRIPPED BACK TO SOURCE
ER	DENOTES EXISTING DEVICE TO BE RELOCATED
EX	DENOTES EXISTING DEVICE TO REMAIN
GFCI	DENOTES GROUND FAULT CIRCUIT INTERRUPTER
REL	DENOTES EXISTING DEVICE AT RELOCATED LOCATION
TR	DENOTES TAMPER RESISTANT
TYP	DENOTES TYPICAL
WG	DENOTES WIRE GUARD SUITABLE FOR DEVICE SHOWN
WP	DENOTES WEATHERPROOF

LINE TYPES

LINE TYPE	DESCRIPTION
	DENOTES LINE VOLTAGE WIRE
	DENOTES 0-10V DIMMING WIRE
	DENOTES LOW VOLTAGE WIRE
	DENOTES LINE VOLTAGE AND 0-10V DIMMING WIRE
	DENOTES DEVICE TO BE DEMOLISHED OR RELOCATED
	DENOTES NEW OR RELOCATED DEVICE
	DENOTES EXISTING DEVICE TO REMAIN



SECOND FLOOR KEY PLAN



FIRST FLOOR KEY PLAN

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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MECHANICAL CONSULTANT
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ELECTRICAL CONSULTANT
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SHEET TITLE

LEGENDS, SCHEDULES & KEY PLANS

SHEET NO.	DRAWN BY	CHECKED
E0.01	AS	PI
	PROJECT NO.	23035
	SCALE	AS NOTED

DEMOLITION KEYNOTES:

(A) DEMOLISH RECEPTACLE. MAKE THE BRANCH CIRCUIT CONNECTION SAFE FOR RENOVATION WORK BY OTHER TRADES. REUSE THE EXISTING CIRCUIT FOR INSTALLATION OF NEW ELECTRICAL RECEPTACLE.

(B) REMOVE DEVICES (SCOREBOARD, WIRELESS ACCESS POINT, ELECTRICAL BELL, MOTION SENSOR) AND ALL ITS ASSOCIATED ELECTRICAL CONNECTIONS, KEEP THEM ON SITE FOR REINSTALLATION AFTER RENOVATION WORK. MAKE THE ELECTRICAL CONNECTIONS SAFE FOR WORK BY OTHER TRADES.
SCOREBOARD, WIRELESS ACCESS DEVICE, AND ELECTRICAL BELL SHALL BE PROTECTED FROM ANY DAMAGE DURING THE RENOVATION WORK.

(C) REMOVE MOTION SENSOR DEVICES AND ALL ITS ASSOCIATED ELECTRICAL CONNECTIONS, KEEP THEM ON SITE FOR REINSTALLATION AFTER RENOVATION WORK. MAKE THE ELECTRICAL CONNECTIONS SAFE FOR WORK BY OTHER TRADES.
THE DEVICES SHALL BE PROTECTED FROM ANY DAMAGE DURING THE RENOVATION WORK.
SENSOR FOR AIR HANDLING UNIT SENSOR.
SENSOR FOR AUTOMATIC FLUSHING SYSTEM FOR WASHROOM BEHIND THE GYM.

(D) REMOVE FIRE ALARM DEVICES, WIRING/CONDUITS, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWINGS. KEEP THEM ON SITE FOR REINSTALLATION AFTER RENOVATION WORK. DEVICES SHALL BE PROTECT FROM ANY DAMAGE DURING RENOVATION WORK.

(E) REMOVE AND KEEP ON SITE THE SPEAKER FOR REINSTALLATION. MAKE THE ELECTRICAL CONNECTIONS SAFE FOR WORKING BY OTHER TRADES.
DEVICE SHALL BE PROTECT FROM ANY DAMAGE DURING THE RENOVATION WORK.

NEW KEYNOTES:

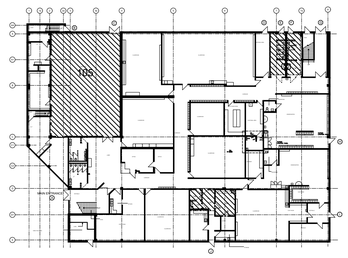
(1) PROVIDE NEW TAMPER RESISTANT ELECTRICAL RECEPTACLE AFTER RENOVATION WORK. USE EXISTING BRANCH CIRCUIT FOR THE RELOCATION.

(2) SCOREBOARD, WIRELESS ACCESS DEVICE, ELECTRICAL BELL, SPEAKERS, AND MOTION SENSORS SHALL BE REINSTALLED AFTER RENOVATION.

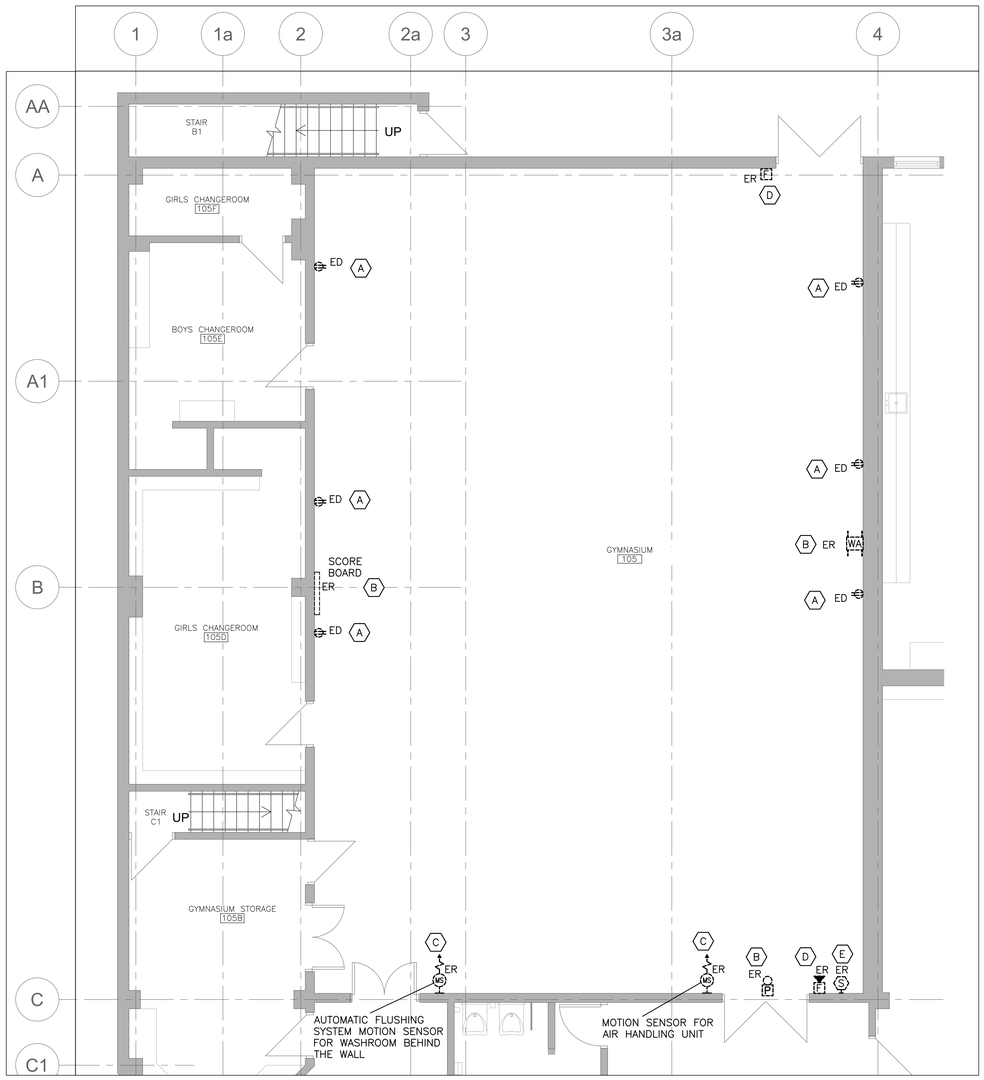
(3) ELECTRICAL CONTRACTOR SHALL PROVIDE DIRECT CONNECTION, WIRING/CONDUITS, JUNCTION BOXES, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS, FOR MOTORIZED BASKETBALL NET.

(4) REINSTALL FIRE ALARM DEVICES. MAKE THE PROPER CONNECTIONS TO THE LOCAL FIRE ALARM LOOP.
REINSTALL THE SPEAKER DEVICE.
REUSE THE EXISTING FIRE ALARM IF SUITABLE FOR WORK.

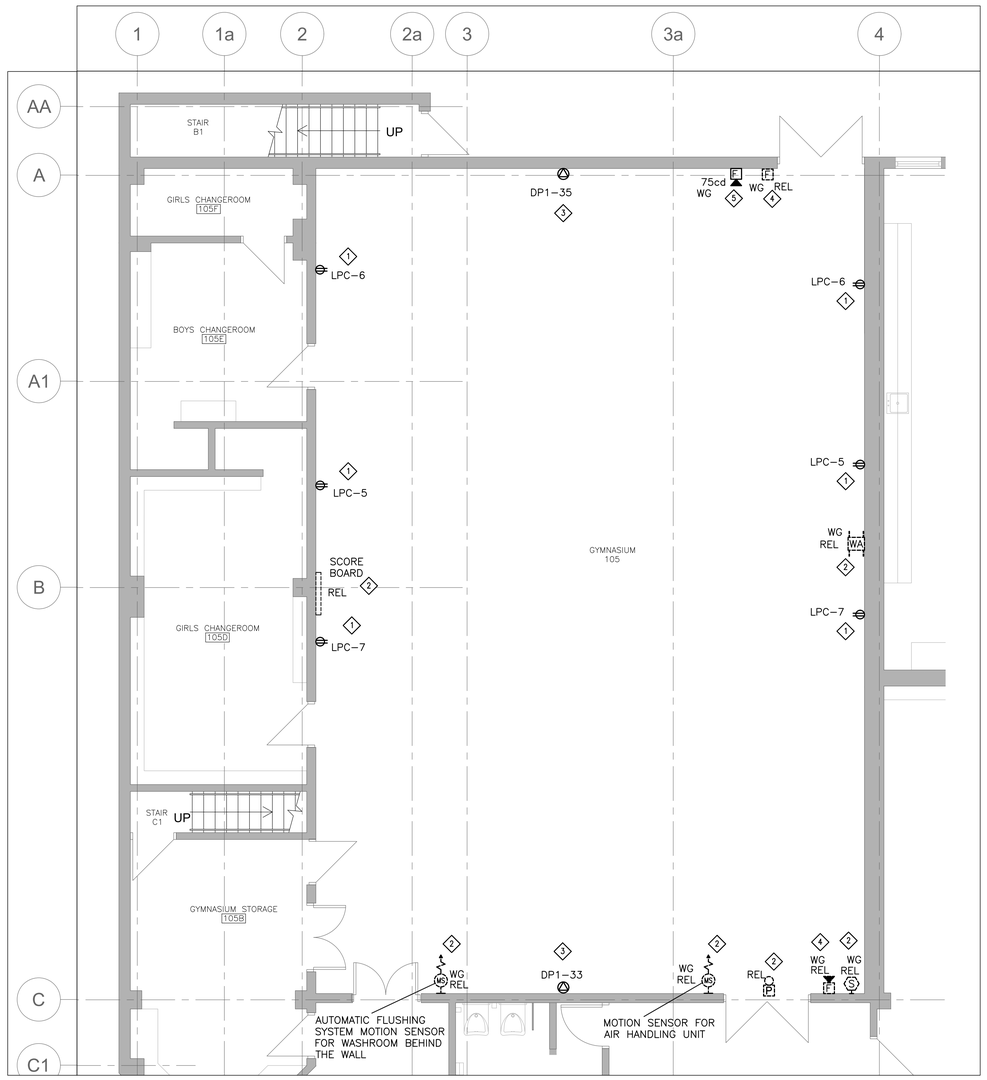
(5) PROVIDE NEW FIRE ALARM COMBO HORN/STROBE DEVICE, WIRING/CONDUITS, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWING.
CONNECT NEW DEVICE TO THE EXISTING FIRE ALARM LOCAL LOOP.



FIRST FLOOR KEY PLAN



1 E1.00 ROOM 105 - GYM - DEMOLITION POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"



2 E1.00 ROOM 105 - GYM - NEW POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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SHEET TITLE
GYM DEMOLITION / NEW POWER & SYSTEMS PLAN

SHEET NO.	DRAWN BY	CHECKED
E1.00	AS	PI
	PROJECT NO.	23035
	SCALE	AS NOTED

DEMOLITION KEYNOTES:

(A) DEMOLISH ELECTRICAL RECEPTACLE. MAKE THE BRANCH CIRCUIT CONNECTION SAFE FOR RENOVATION WORK BY OTHER TRADES. REUSE THE EXISTING CIRCUIT FOR INSTALLATION OF NEW ELECTRICAL RECEPTACLE.

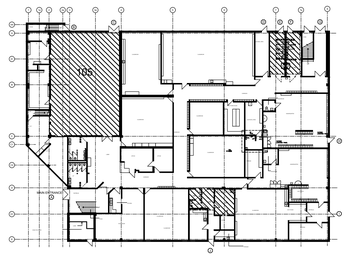
(B) REMOVE FIRE ALARM DEVICES, WIRING/CONDUITS, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWINGS. KEEP THEM ON SITE FOR REINSTALLATION AFTER RENOVATION WORK. DEVICES SHALL BE PROTECT FROM ANY DAMAGE DURING RENOVATION WORK. REUSE THE EXISTING CIRCUIT FROM THE LOCAL FIRE ALARM LOOP IF SUITABLE FOR THE NEW WORK.

(C) REMOVE AND DEMOLISH SMOKE DETECTOR, WIRING/CONDUITS, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWINGS. WIRE THE CIRCUIT BACK TO THE POWER SOURCE AND MAKE IT SAFE FOR WORKING BY OTHER TRADES. REUSE THE EXISTING CIRCUIT FROM THE LOCAL FIRE ALARM LOOP IF SUITABLE FOR THE NEW WORK.

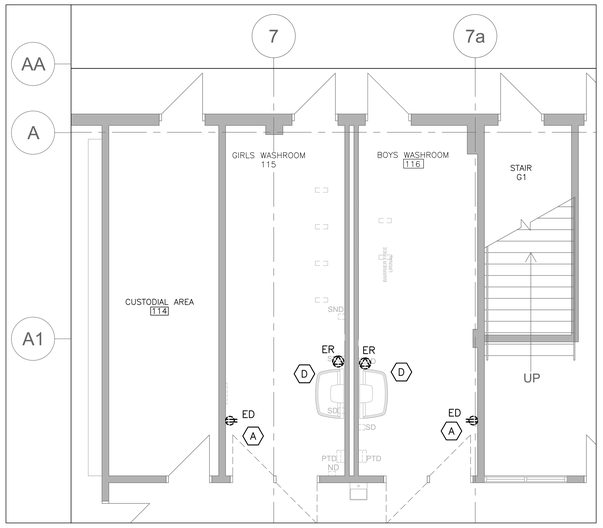
(D) RELOCATE ELECTRICAL CONNECTIONS FOR EXISTING BRADLEY SINK. COORDINATE WITH MECHANICAL TRADE FOR THE RIGHT LOCATION AND CONDITIONS.

DRAWING KEYNOTES:

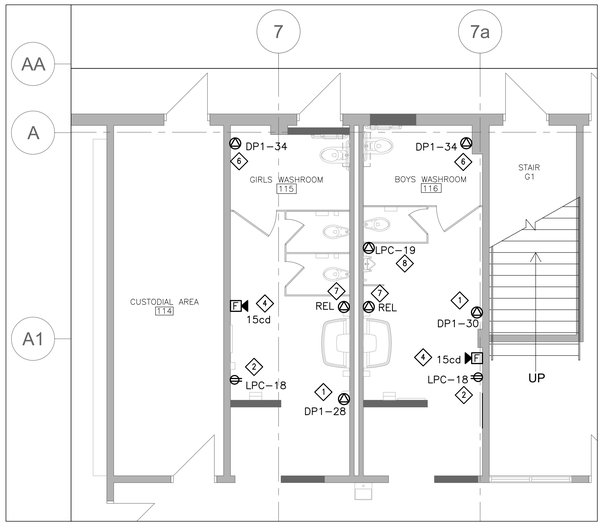
1. PROVIDE DIRECT CONNECTION, WIRING/CONDUITS, JUNCTION BOXES, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS FOR NEW HAND DRYER.
2. PROVIDE NEW ELECTRICAL RECEPTACLE AS INDICATED IN THIS DRAWING. USE EXISTING BRANCH CIRCUIT FOR THE INSTALLATION IF SUITABLE FOR WORK.
3. PROVIDE ELECTRICAL CONNECTION , WIRING/CONDUITS, JUNCTION BOXES, AND ALL ASSOCIATED ELECTRICAL COMPONENTS FOR POWER DOOR OPERATOR IN THE UNIVERSAL WASHROOM (126). FIRE ALARM CONTROL MODULE SHALL BE WIRED TO THE DOOR OPERATOR MOTOR TO DISCONNECT THE 120V POWER IN CASE OF FIRE EVENT.
4. PROVIDE NEW FIRE ALARM DEVICES, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWING. CONNECT NEW DEVICE TO THE EXISTING FIRE ALARM LOCAL LOOP.
5. REINSTALL FIRE ALARM DEVICES. MAKE THE PROPER CONNECTIONS TO THE LOCAL FIRE ALARM LOOP. REUSE THE EXISTING FIRE ALARM CIRCUIT IF SUITABLE FOR WORK.
6. PROVIDE DIRECT CONNECTION (120V, 15A) TO RADIATOR CONTROL VALVE. COORDINATE WORK WITH MECHANICAL TRADE.
7. REINSTALL THE ELECTRICAL CONNECTIONS FOR THE EXISTING BRADLEY SINKS. COORDINATE WITH MECHANICAL TRADE.
8. PROVIDE NEW ELECTRICAL CONNECTION FOR URINAL. COORDINATE WITH MECHANICAL TRADE DETAILS AND CONDITIONS.



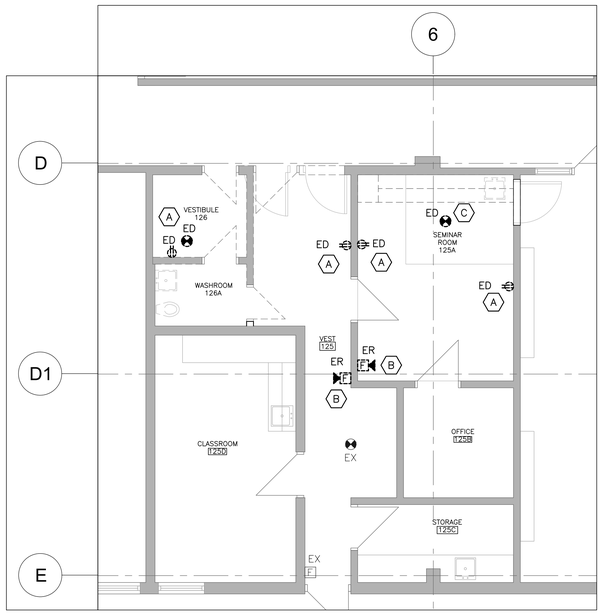
FIRST FLOOR KEY PLAN



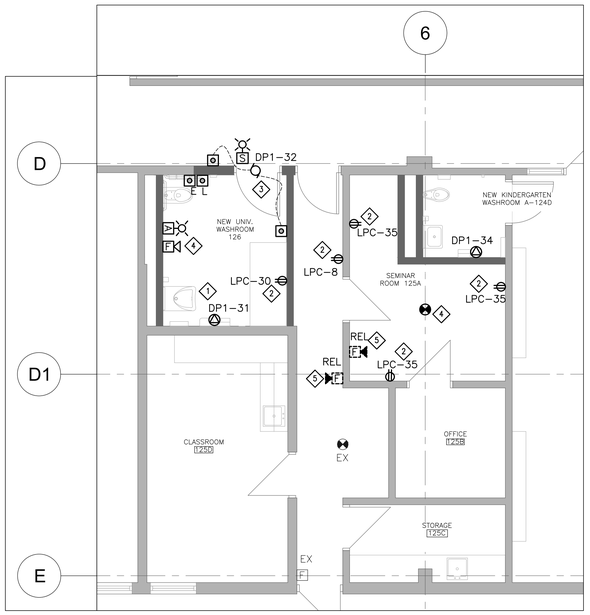
1 E1.01 ROOMS 115, 116 DEMOLITION POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"



2 E1.01 ROOMS 115, 116 NEW POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"



3 E1.01 ROOMS 125, 126 DEMOLITION POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"



4 E1.01 ROOMS 125, 126 NEW POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT CK
ELECTRICAL CONSULTANT CK

SHEET TITLE
ROOMS 115, 116, 125, 126 DEMOLITION / NEW POWER & SYSTEMS PLAN

SHEET NO.	DRAWN BY	CHECKED
E1.01	AS	PI
	PROJECT NO. 23035	
	SCALE AS NOTED	

DEMOLTION KEYNOTES:

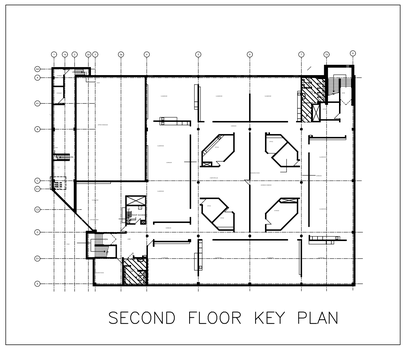
(A) DEMOLISH ELECTRICAL RECEPTACLE. MAKE THE BRANCH CIRCUIT CONNECTION SAFE FOR RENOVATION WORK BY OTHER TRADES. REUSE THE EXISTING CIRCUIT FOR INSTALLATION OF NEW ELECTRICAL RECEPTACLE.

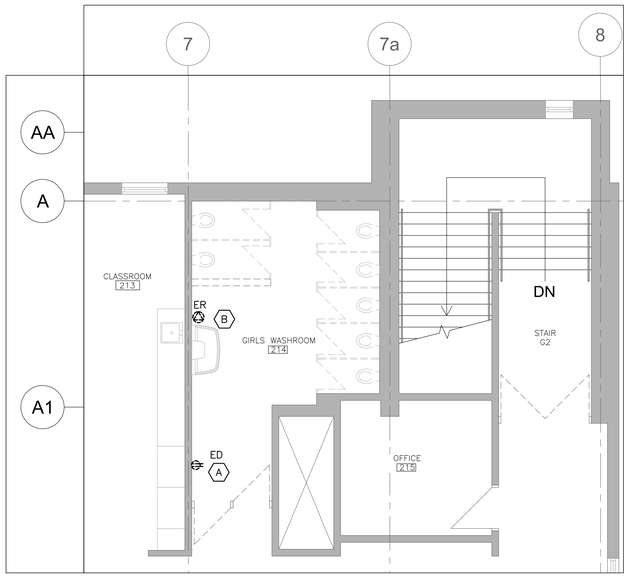
(B) RELOCATE ELECTRICAL CONNECTION FOR EXISTING BRADLEY SINK. COORDINATE WITH MECHANICAL TRADE FOR FINAL LOCATION AND CONDITIONS.

NEW KEYNOTES:

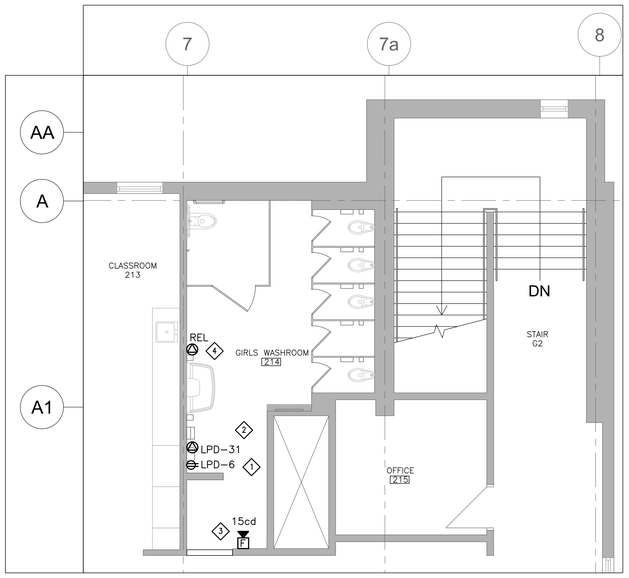
NEW KEYNOTES:

1. PROVIDE NEW ELECTRICAL RECEPTACLE AS INDICATED IN THIS DRAWING. USE EXISTING BRANCH CIRCUIT FOR THE RELOCATION IF IT IS SUITABLE FOR WORK.
2. PROVIDE DIRECT CONNECTION, WIRING/CONDUITS, JUNCTION BOXES, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS FOR NEW HAND DRYER.
3. PROVIDE NEW FIRE ALARM DEVICE (HORN/STROBE COMBO), WIRING/CONDUITS, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWING. CONNECT NEW DEVICE TO THE EXISTENT FIRE ALARM LOCAL LOOP.
4. REINSTALL THE ELECTRICAL CONNECTION FOR THE EXISTING BRADLEY SINK. COORDINATE WITH MECHANICAL TRADE.
5. PROVIDE NEW ELECTRICAL CONNECTIONS FOR URINALS. COORDINATE WITH MECHANICAL TRADE DETAILS AND CONDITIONS.

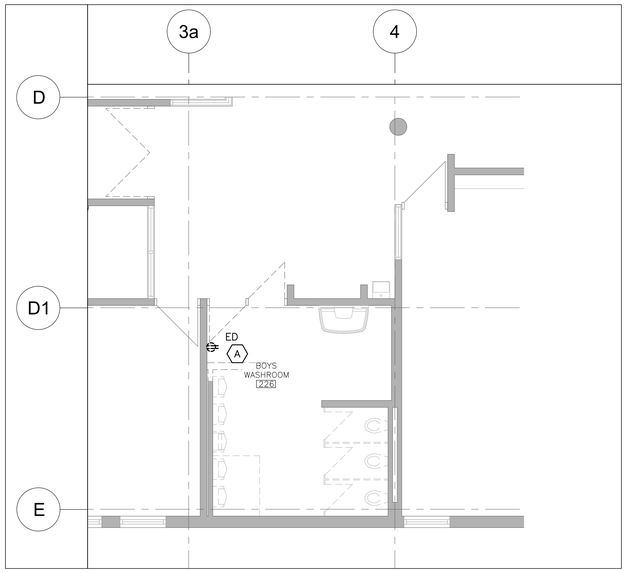




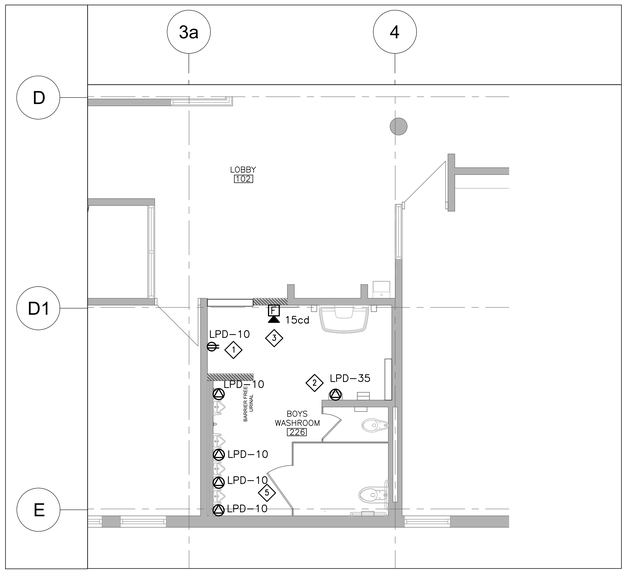
1 E1.02 ROOM 214 GIRLS W/R DEMOLITION POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"



2 E1.02 ROOM 214 GIRLS W/R NEW POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"



3 E1.02 ROOM 226 BOYS W/R DEMOLITION POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"



4 E1.02 ROOM 226 BOYS W/R NEW POWER AND SYSTEMS PLAN
SCALE: 1/4"=1'-0"

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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20 Education Court, Hamilton, Ontario
L9A 5B9 Canada
Tel: 2905257-5092

HESS STREET ELEMENTARY SCHOOL
RENOVATION PROJECT

107 Hess Street North
Hamilton, ON L8R 2T1

The contractor shall check and verify all dimensions and report all errors and omissions to the Prime Consultant before commencing work where work is affected by this drawing. Do not scale the drawings.

This drawing shall not be used for construction purposes until issued for construction by the architect/consultant and signed and sealed this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION DATE

STRUCTURAL CONSULTANT

MECHANICAL CONSULTANT
CK

ELECTRICAL CONSULTANT
CK

SHEET TITLE
ROOMS 214, 226 DEMOLITION / NEW POWER & SYSTEMS PLAN

SHEET NO.	DRAWN BY	CHECKED
E1.02	AS	PI
	PROJECT NO. 23035	
	SCALE AS NOTED	

DEMOLITION KEYNOTES:

(A) DEMOLISH AND REMOVE LIGHTING FIXTURES, WIRING/CONDUITS, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS. WIRE BACK THE BRANCH CIRCUIT TO THE POWER SOURCE AND MAKE IT SAFE FOR WORKING BY OTHER TRADES.
REUSE THE BREAKER AND POSITION, IF SUITABLE FOR THE NEW INSTALLATIONS.

(B) DEMOLISH AND REMOVE EMERGENCY LIGHTS, EXIT SIGNS WIRING/CONDUITS AND ALL ASSOCIATED ELECTRICAL CONNECTIONS. WIRE BACK THE BRANCH CIRCUIT TO THE POWER SOURCE AND MAKE IT SAFE FOR WORKING BY OTHER TRADES.
REUSE THE BREAKER AND POSITION, IF SUITABLE FOR THE NEW INSTALLATIONS.

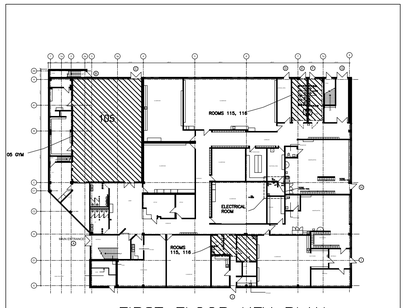
(C) DEMOLISH AND REMOVE LIGHT SWITCHES. WIRE BACK THE BRANCH CIRCUIT TO THE POWER SOURCE AND MAKE IT SAFE FOR WORKING BY OTHER TRADES.
REUSE THE BREAKER AND POSITION, IF SUITABLE FOR THE NEW INSTALLATIONS.

NEW KEYNOTES:

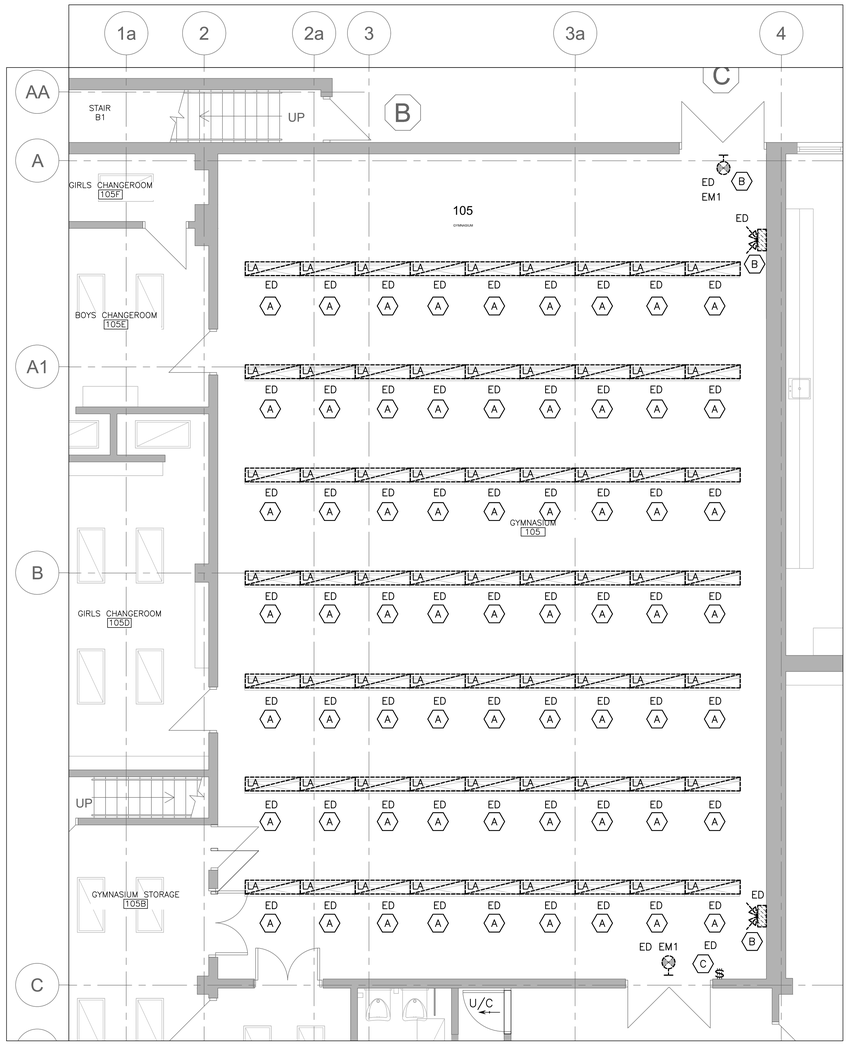
(1) PROVIDE NEW LIGHTING FIXTURES, WIRING/CONDUITS, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWING. REUSE, IF APPLICABLE FOR WORK, THE SAME BREAKER AND POSITION IN THE ELECTRICAL PANEL.

(2) PROVIDE NEW LIGHTING CONTROL DEVICES (SWITCHES, POWER PACK, MOTION, OCCUPANCY SENSORS, ETC.) WIRING/CONDUITS AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWING. REUSE, IF APPLICABLE FOR WORK, SAME BREAKER AND POSITION IN THE ELECTRICAL PANEL.

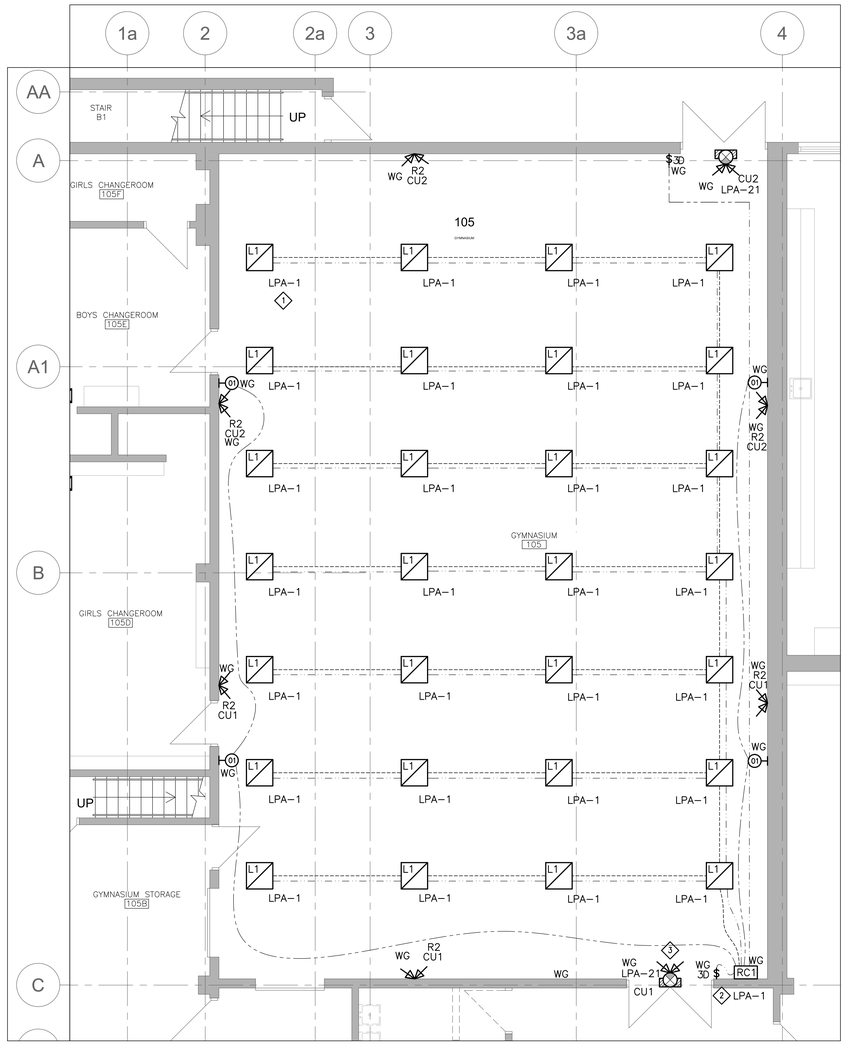
(3) PROVIDE NEW EMERGENCY LIGHTING DEVICES AND EXIT SIGNS, WIRING/CONDUITS, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWING.
REUSE, IF APPLICABLE FOR WORK, THE SAME BREAKER AND POSITION IN THE ELECTRICAL PANEL.



FIRST FLOOR KEY PLAN



1 E2.00 ROOM 105 - GYM - DEMOLITION LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"



2 E2.00 ROOM 105 - GYM - NEW LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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L8N 3B6 Canada
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HESS STREET ELEMENTARY SCHOOL
RENOVATION PROJECT

107 Hess Street North
Hamilton, ON L8R 2T1

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This drawing shall not be used for construction purposes until issued for construction by the design professional whose seal is affixed to this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION DATE

STRUCTURAL CONSULTANT

MECHANICAL CONSULTANT
CK

ELECTRICAL CONSULTANT
CK

SHEET TITLE
GYM DEMOLITION / NEW LIGHTING & EMERG. LIGHT. PLAN

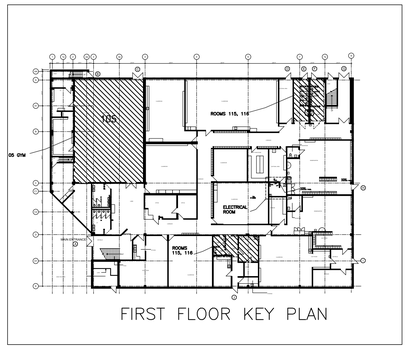
SHEET NO.	DRAWN BY	CHECKED
E2.00	AS	PI
	PROJECT NO.	23035
	SCALE	AS NOTED

DEMOLITION KEYNOTES:

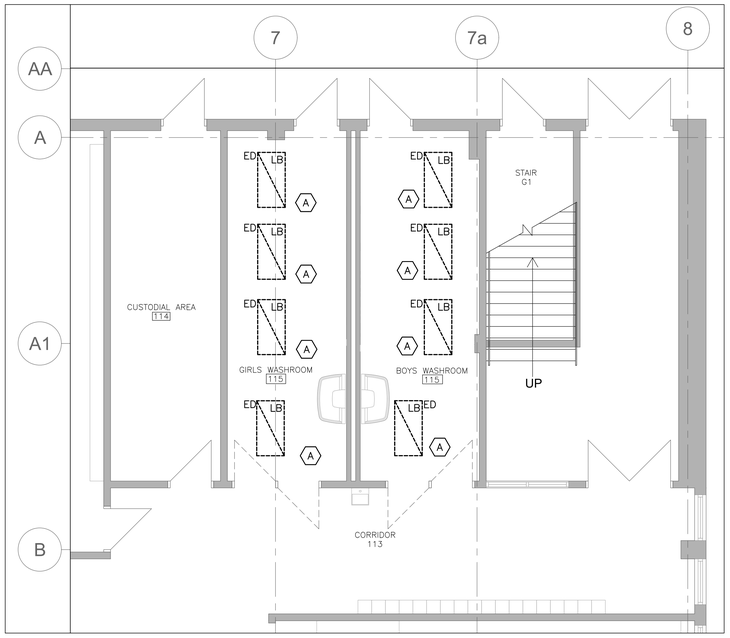
(A) DEMOLISH AND REMOVE LIGHTING FIXTURES, WIRING/CONDUITS, LIGHT SWITCHES, WIRING/CONTROL DEVICES (IF APPLICABLE) AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWINGS. MAKE IT SAFE FOR WORKING BY OTHER TRADES. REUSE THE EXISTING BRANCH CIRCUIT, BREAKER AND POSITION, IF SUITABLE FOR THE NEW WORK.

NEW KEYNOTES:

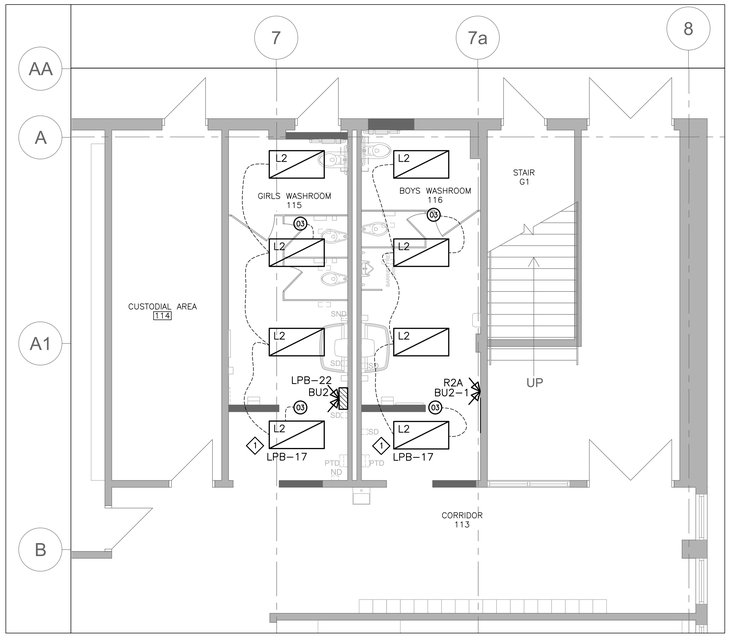
(1) PROVIDE NEW LIGHTING FIXTURES, AND EMERGENCY LIGHTS, WIRING/CONDUITS, LIGHTING SWITCHES, LIGHTING CONTROL DEVICES, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWING. REUSE, IF APPLICABLE FOR WORK, THE EXISTING WIRING, BREAKER AND POSITIONS IN THE ELECTRICAL PANELS.



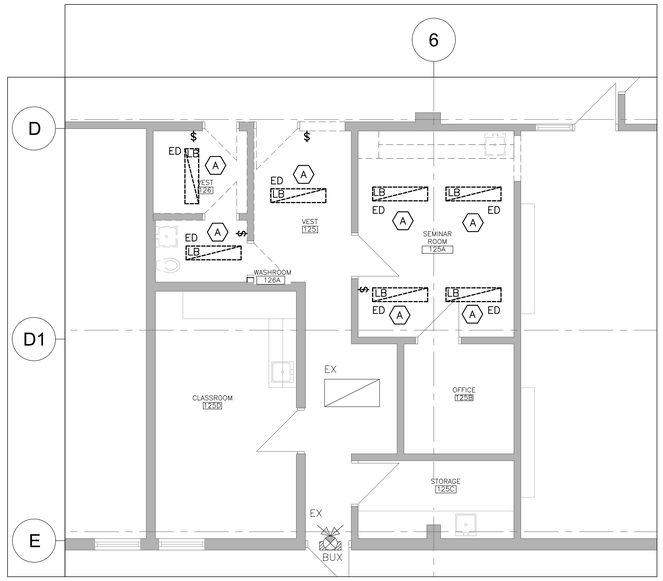
FIRST FLOOR KEY PLAN



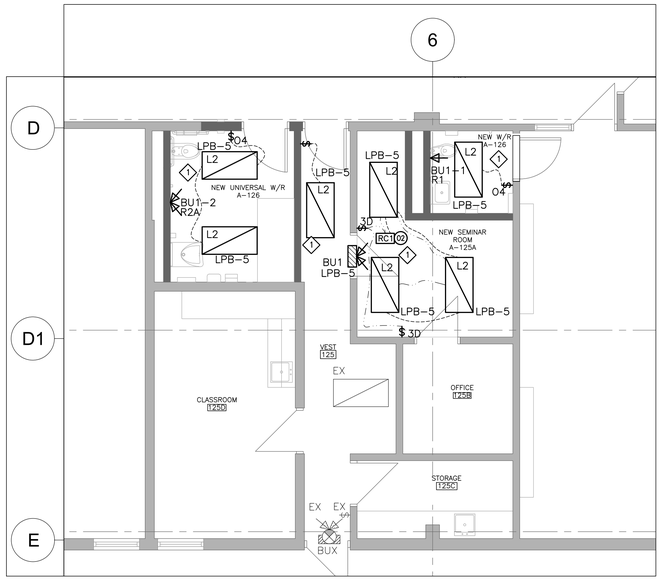
1 E2.01 ROOMS 115,116 DEMOLITION LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"



2 E2.01 ROOMS 115,116 NEW LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"



3 E2.01 ROOMS 125,126 DEMOLITION LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"



4 E2.01 ROOMS 125,126 NEW LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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HESS STREET ELEMENTARY SCHOOL
RENOVATION PROJECT

107 Hess Street North
Hamilton, ON L8R 2T1

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This drawing shall not be used for construction purposes until issued for construction by the Consultant. Contractor shall sign off on this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION	DATE
STRUCTURAL CONSULTANT	
MECHANICAL CONSULTANT	CK
ELECTRICAL CONSULTANT	CK

SHEET TITLE
ROOMS 115, 116, 125, 126 DEMOLITION / NEW LIGHT. & EMERG. LIGHT. PLAN

SHEET NO.	DRAWN BY	CHECKED
E2.01	AS	PI
	PROJECT NO. 23035	
	SCALE AS NOTED	

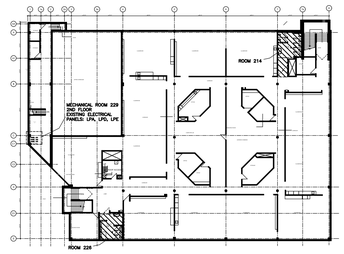
DRAWING KEYNOTES:

(A) DEMOLISH AND REMOVE LIGHTING FIXTURES, WIRING/CONDUITS, LIGHT SWITCHES, WIRING/CONTROL DEVICES (IF APPLICABLE) AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWINGS. MAKE IT SAFE FOR WORKING BY OTHER TRADES.
REUSE THE EXISTENT BRANCH CIRCUIT, BREAKER AND POSITION, IF SUITABLE FOR THE NEW WORK.
IF NOT, WIRE THE CIRCUIT BACK TO THE POWER SOURCE AND MAKE IT SAFE FOR WORKING BY OTHER TRADES.

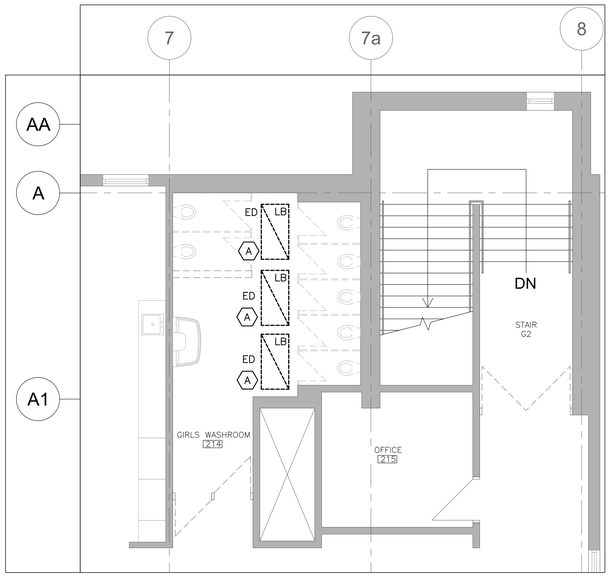
DRAWING KEYNOTES:

(1) PROVIDE NEW LIGHTING FIXTURES, WIRING/CONDUITS, LIGHTING SWITCHES AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWING. REUSE, IF APPLICABLE FOR WORK, THE EXISTENT WIRING, BREAKER AND POSITION IN THE ELECTRICAL PANEL.
IF NOT, PROVIDE NEW WIRING/CONDUITS, BREAKERS AND ALL ELECTRICAL CONNECTIONS ASSOCIATED WITH THE NEW LIGHTING FIXTURES.
UPDATE THE DIRECTORY SCHEDULE ON THE ELECTRICAL PANEL.

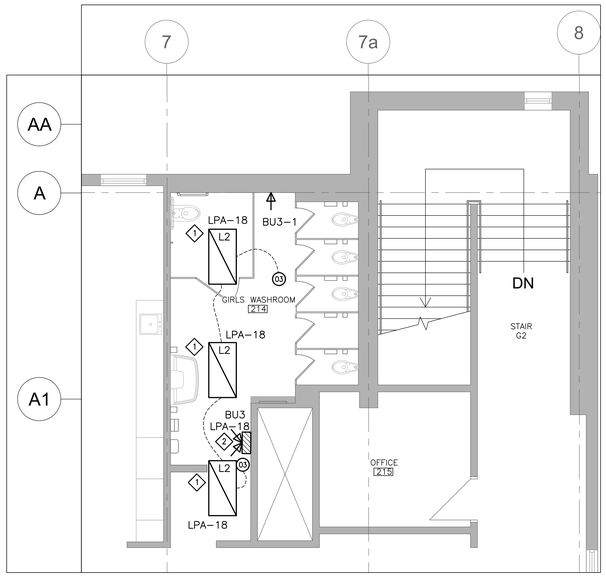
(2) PROVIDE NEW EMERGENCY LIGHTING DEVICES AND EXIT SIGNS, WIRING/CONDUITS, AND ALL ASSOCIATED ELECTRICAL CONNECTIONS AS INDICATED IN THE DRAWING.
REUSE, IF APPLICABLE FOR WORK, THE SAME BREAKER AND POSITION IN THE ELECTRICAL PANEL.
UPDATE DIRECTORY SCHEDULE ON THE ELECTRICAL PANEL.



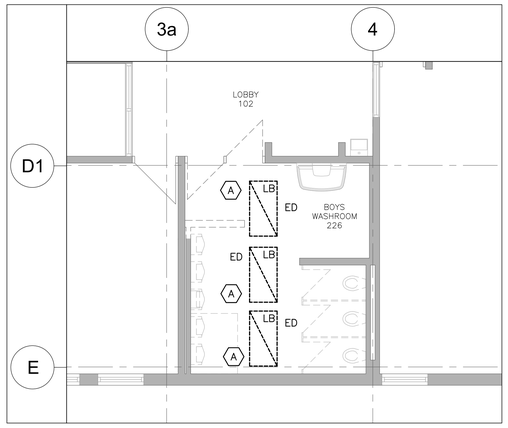
SECOND FLOOR KEY PLAN



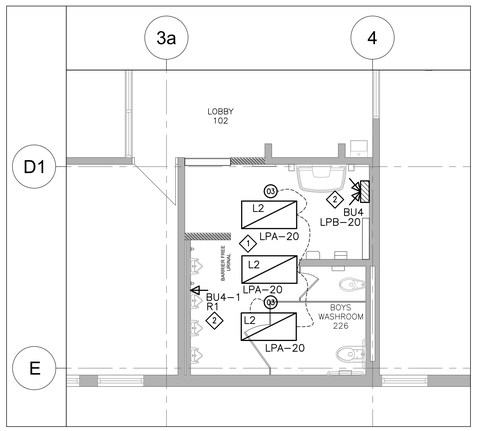
1 E2.02 ROOM 214 DEMOLITION LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"



2 E2.02 ROOM 214 NEW LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"



3 E2.02 ROOM 226 DEMOLITION LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"



4 E2.02 ROOM 226 NEW LIGHTING AND EMERG. LIGHTING PLAN
SCALE: 1/4"=1'-0"

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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ISSUED FOR CONSTRUCTION	DATE

STRUCTURAL CONSULTANT

MECHANICAL CONSULTANT
CK

ELECTRICAL CONSULTANT
CK

SHEET TITLE
ROOMS 214, 226 DEMOLITION / NEW LIGHT. & EMERG. LIGHT. PLAN

SHEET NO.	DRAWN BY	CHECKED
E2.02	AS	PI
	PROJECT NO. 23035	
	SCALE AS NOTED	

NEW KEYNOTES:

1. PROVIDE NEW BREAKER/BRANCH CIRCUIT TO ROOM CONTROLLER FOR LIGHTING CONTROL FUNCTION IN THE GYM. EXISTING CIRCUIT MAY BE REUSED IF SUITABLE FOR WORK.
2. MAKE THE BRANCH CIRCUIT AND BREAKER SAFE FOR DISCONNECTION.
3. PROVIDE NEW CIRCUIT BREAKER, WIRING AND ALL ASSOCIATED ELECTRICAL CONNECTIONS FOR THE NEW LOADS AS REQUIRED.
4. PROVIDE ELECTRICAL CONNECTION TO THE NEW URINALS IN THE WASHROOMS. COORDINATE WITH MECHANICAL TRADE FOR DETAILS.

EXISTING

PANEL ID: LIGHTING PANEL A — MOUNTING: SURFACE — PANEL MAINS: 100 A
VOLTAGE: 600/347V — LOCATION: 2ND FLOOR MECH. ROOM 229 — MAIN BREAKER: X A
PHASE/WIRE: 3PH/4W — FED FROM: X — KAIC RATING: 10 KAIC

DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION
(NEW) GYM LGHTS ROOM CONTROLLER					1	A	2					SPARE
RESOURCE CENTRE LGHT (RM212)					3	B	4					RESOURCE CENTRE LGHT (212)
202-217-218 LGHT					5	C	6					OPPORTUNITY RM (204) LGHT
SPECIAL EDUC. RM (207) LGHTS					7	A	8					SPEC. EDUCA. RM (207) LGHT
ROOM 208 LGHT					9	B	10					ROOM 209 LGHT
ROOM 209 LGHT					11	C	12					ROOM 216 LGHT
ROOM 216 LGHT					13	A	14					ROOM 223 LGHT
ROOM 224 LGHT					15	B	16					ROOM 224 LGHT
211,213,214,226,227,228,230 LGHTS					17	C	18					WRM 229, HALL 23, STAIR 2
BOILER ROOM LGHT					19	A	20					WRM 203, HALL 20, FOYER 201, STAIR
EMG LGHT GYM					21	B	22					EXISTING LOAD
EXISTING LOAD					23	C	24					EXISTING LOAD

BRK TYPE: * GFCI BREAKER — LOAD PHASE A (W): ###
** COMBINATION AFCI — LOAD PHASE B (W): ### — TOTAL LOAD (W): ####
*** LOCK ON BREAKER — LOAD PHASE C (W): ### — TOTAL AMPS (A): #

EXISTING

PANEL ID: LPB — MOUNTING: SURFACE – 24 CCTs — PANEL MAINS: 100 A
VOLTAGE: 600/347V — LOCATION: 1ST FLOOR – ELECT. ROOM 119A — MAIN BREAKER: X A
PHASE/WIRE: 3PH/4W — FED FROM: X — KAIC RATING: 10 KAIC

DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION
RM 123 LIGHTS					1	A	2					RM 123 LGHT
RM 119,120,122,126 LGHT					3	B	4					RM 116 LGHT
RM 116, DENTAL AREA LGHT					5	C	6					RM 128, 129, 130 LGHT
ROOM 131 LGHT					7	A	8					RM 106, 133, 134 LGHT
ROOM 106 LGHT					9	B	10					RM 103 LGHT
ROOM 149 LGHT					11	C	12					RM 147 LGHT
ROOM 147 LGHT					13	A	14					RM 145 LGHT
ROOM 146 LGHT					15	B	16					BEHIND GYM & WHRM 136, 137 LIGHT
HALL & WASHROOM 150, 151 LIGHT					17	C	18					EXISTING LOAD
EXISTING LOAD					19	A	20					EXISTING LOAD
EXISTING LOAD					21	B	22					SPACE
SPACE					23	C	24					SPACE

BRK TYPE: * GFCI BREAKER — LOAD PHASE A (W): ####
** COMBINATION AFCI — LOAD PHASE B (W): ### — TOTAL LOAD (W): ####
*** LOCK ON BREAKER — LOAD PHASE C (W): ### — TOTAL AMPS (A): #

EXISTING

PANEL ID: LIGHTING PANEL C — MOUNTING: SURFACE – 42 CCTs — PANEL MAINS: 225 A
VOLTAGE: 120/240V — LOCATION: 1ST FLOOR – ELECT. ROOM 119A — MAIN BREAKER: XXX A
PHASE/WIRE: 1PH/4W — FED FROM: X — KAIC RATING: 10 KAIC

DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION
RM 145 PLUGS	15				1	A	2				15	RM 129, 130 PLUGS
RM 147 PLUGS	15				3	B	4				15	GYM STRG & CHANGE ROOM PLUGS
GYM PLUGS	15				5	A	6				15	GYM PLUGS
GYM PLUGS	15				7	B	8				15	KITCHEN SPLIT RECEPT.
HALL, TRANSF., VAULT, RM 126,136 PLUGS	15				9	A	10					
RM 103, 106 PLUGS	15				11	B	12				15	FRIDGE RECEPTACLE
RM 133, 134 PLUGS	20				13	A	14				15	RM 5 GFCI PLUGS
RM 146 PLUGS	15				15	B	16				15	RM 146 PLUGS
RM 146 PLUGS	15				17	A	18				15	HALL & RM 128,149,150,151,152,153 PLUGS
RM 116, 119, 120 PLUGS	15				19	B	20				20	RM 131 PLUGS
RM 123 PLUGS	15				21	A	22				15	RM 147 PLUGS
BASEBOARD HEATERS, RM 116, 122	20				23	B	24				20	BASEBOARD HEATERS, RM 109, 111
RM 123 GFCI RECEPT.	20				25	A	26				15	STAIRWELL HEATER
MASTER CLOCK	15				27	B	28				15	STAIRWELL HEATER
INTERCOM RACK	20				29	A	30				30	RM 109 PLUGS
FREEZER					31	B	32				15	FLOOR PLUG RM 109
FRIDGE	15				33	A	34				15	RM 109 PLUG
RM 137, 111 PLUGS	15				35	B	36				15	RM 122, 123 PLUGS
WATER MATRIX	20				37	A	38				15	TIME CLOCK FOR SUPPLY FANS 1 – 5
HEATER RM 120	20				39	B	40				50	KITCHEN STOVE
					41	A	42					

BRK TYPE: * GFCI BREAKER
** COMBINATION AFCI — LOAD PHASE A (W): ## — TOTAL LOAD (W): ##
*** LOCK ON BREAKER — LOAD PHASE B (W): ### — TOTAL AMPS (A): ######

EXISTING

PANEL ID: DISTRIBUTION PANEL 1 — MOUNTING: SURFACE – 36 CCTs — PANEL MAINS: 225 A
VOLTAGE: 120/240v — LOCATION: 1ST FLOOR – ELECT. ROOM 119A — MAIN BREAKER: XXX A
PHASE/WIRE: 1PH/4W — FED FROM: X — KAIC RATING: 10 KAIC

DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION
LPC FEED LIGHTING PANEL C	100				1	A	2				30	LIGHTING PANEL LPF
					3	B	4					
					5	A	6					
OUTSIDE LIGHTING PANEL (LPOD)	20				7	B	8				15	DISHWASHER 7A
					9	A	10					OFFICE FRIDGE PLUG
STAFF RM PERIMETER RECEPT.	15				11	B	12				15	2ND FLOOR COMPUTER PLUG
BELL PHONE OUTLET SUPPLY RM	15				13	A	14				15	SECURITY/FIRE
FIBRE OPTIC CONVERSOR PLUG STAFF RM BY METER	15				15	B	16				50	PANEL ROOM 4
IBM PLUG SERVER STORAGE	15				17	A	18					
PLUG 8-A-B NORTH WALL	15				19	B	20				50	LIBRARY OFFICE
DRYER PLUG	30				21	A	22					
					23	B	24				15	KINDERGARTEN STORAGE UNIT HEATER
STAFF RM RECEPTACLE	15				25	A	26					
STAFF RFM RECEPTACLE	15				27	B	28				15	(NEW) RM 115 W/R HAND DRYER
STAFF RM RECEPTACLE	15				29	A	30				15	(NEW) RM 116 W/R HAND DRYER
(NEW) RM 126 W/R HAND DRYER	15				31	B	32				15	(NEW) RM 126 EM. DOOR OPEN
(NEW) BASKET. NET 1 MOTOR	20				33	A	34				15	(NEW) RM 115,116 RADIATOR CTRL VALVES
(NEW) BASKET. NET 2 MOTOR	20				35	B	36					

BRK TYPE: * GFCI BREAKER
** COMBINATION AFCI — LOAD PHASE A (W): ## — TOTAL LOAD (W): ##
*** LOCK ON BREAKER — LOAD PHASE B (W): ### — TOTAL AMPS (A): ######

EXISTING

PANEL ID: LIGHTING PANEL D — MOUNTING: SURFACE – 36 CCTs — PANEL MAINS: 225 A
VOLTAGE: 120/240V — LOCATION: 2ND FLOOR – MECH. ROOM 229 — MAIN BREAKER: XXX A
PHASE/WIRE: /4W — FED FROM: X — KAIC RATING: 10 KAIC

DESCRIPTION	BRK SIZE	BRK TYPE	WIRE SIZE	LOAD	CCT	BUS	CCT	LOAD	WIRE SIZE	BRK TYPE	BRK SIZE	DESCRIPTION
RM 223, 215 PLUGS	15				1	A	2				15	RM 215, 216 PLUGS
RM 206, 207 PLUGS	15				3	B	4				15	RM 208, 209 PLUGS
RM 209, 230 PLUGS	15				5	A	6				15	RM 229, 230, STAIRS PLUGS
RM 224 PLUGS	15				7	B	8				15	RM 212 (RES. CENTRE) PLUGS
211,213, 214, 226, 227, 228 PLUGS	15				9	A	10				15	RM 201,203,205,217 PLUGS
RM 202, 218 PLUGS	15				11	B	12				20	120/208V SPLITTER FEED
EMERG. POWER INVERTER	30				13	A	14					
					15	B	16					
					17	A	18				15	VALVE FOR SF-5
BOILER ROOM PLUGS	15				19	B	20				20	EAVES THROUGH HEATERS
RM 216, 226 PLUGS	15				21	A	22				15	RM 204 PLUGS, WATER MATRIX
RM 207 PLUGS	15				23	B	24					BOILER RM UNIT HEATER
RM 211 PLUGS (OUTSIDE WEST WALL)	15				25	A	26				15	RM 224 PLUGS
READING ROOM	20				27	B	28				15	BAS SIEMENS
BASEBOARD HEATERS	20				29	A	30				15	BASEBOARD HEATERS
(NEW) RM 214 W/R HAND DRYER	15				31	B	32					
FIRE ALARM PANEL	15				33	A	34				60	WATER HEATER
(NEW) RM 226 W/R HAND DRYER	15				35	B	36					

BRK TYPE: * GFCI BREAKER
** COMBINATION AFCI — LOAD PHASE A (W): ## — TOTAL LOAD (W): ##
*** LOCK ON BREAKER — LOAD PHASE B (W): ### — TOTAL AMPS (A): ######

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

REVISIONS

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Hamilton, ON L8R 2T1

The contractor shall check and verify all dimensions and report all errors and ommissions to the Architect before commencing work. Drawings whose seal is affixed to this drawing. Do not scale the drawings.

This drawing shall not be used for construction purposes until issued for construction by the architect/engineer. Contractor to sign this drawing and whose signature is below.

ISSUED FOR CONSTRUCTION — DATE

STRUCTURAL CONSULTANT

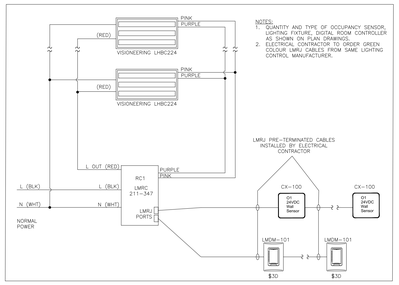
MECHANICAL CONSULTANT
CK

ELECTRICAL CONSULTANT
CK

SHEET TITLE
ELECTRICAL SCHEDULES

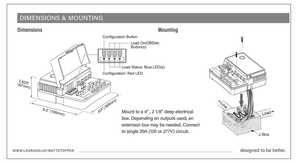
SHEET NO.	DRAWN BY	CHECKED
E4.00	AS	PI
	PROJECT NO. 23035	
	SCALE AS NOTED	

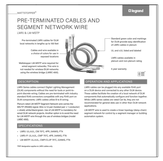
GYM ROOM 105



NOTES:
1. QUANTITY AND TYPE OF OCCUPANCY SENSOR, LIGHTING FIXTURE, DIGITAL ROOM CONTROLLER AS SHOWN ON PLAN DRAWINGS.
2. ELECTRICAL CONTRACTOR TO ORDER GREEN COLOUR LMRJ CABLES FROM SAME LIGHTING CONTROL MANUFACTURER.

WIRING DIAGRAM FOR OCCUPANCY SENSOR, ON/OFF LOW VOLTAGE SWITCHING AND DIMMING WITH ONE RELAY ROOM CONTROLLER "RC1"



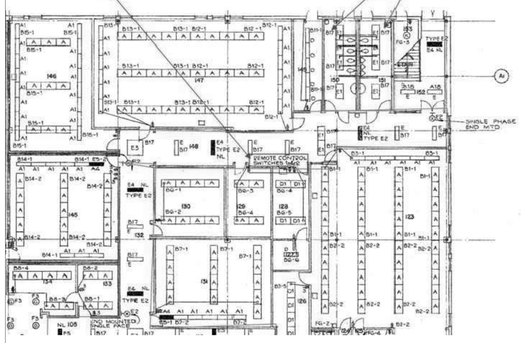

wattstopper
D'signed
PRE-TERMINATED CABLES AND SEGMENT NETWORK WIRE
INSTALLATION INSTRUCTIONS
Pre-terminated LMRU cables for low voltage connection to Legrand's wire-free devices.
Cables and wire available in various lengths to suit most standard applications.
Wattstopper's WI-SPDT wire required for connecting wireless switches and other non-wireless devices.
Standard green cable and terminals are used for low voltage wiring.
LMRU cable is suitable for Class 2 low voltage wiring.
5 year warranty.
WIRE SPECIFICATIONS
LMRU cables are Legrand's "Green" lighting Network Cable (LMRU) and are specified for use in Class 2 low voltage wiring. Cables are pre-terminated with industry standard connectors and are available in various lengths to suit most standard applications. LMRU cables adhere to the specifications for Class 2 low voltage wiring as defined by the NEC® (NFPA) Article 725 in Chapter 9 Handbook. A consistent and reliable connection is made between the cable and the wireless devices. Wattstopper's WI-SPDT wire is required for connecting wireless switches and other non-wireless devices.
LMRU WIRE
LMRU Wire Specifications
- LMRU 22 AWG, 300 VDC, 600 V RMS, CMR
- LMRU 22 AWG, 300V VDC, 600V RMS, CMR/CMG, FT4
- LMRU 22 AWG, 300V VDC, 600V RMS, CMR/CMG, FT4
Wire Specifications
LMRU cable can be plugged into an available WattStopper Digital Lighting Management (DLM) network port. This feature facilitates the creation of a local network of DLM devices without requiring additional wiring or network switches. Many LMRU wireless sensors can share a DLM port, allowing for the creation of a local network of DLM devices without requiring additional wiring or network switches.
LMRU Wire Specifications
Legrand's LMRU cable is suitable for Class 2 low voltage wiring. Cables are available in various lengths to suit most standard applications.
LMRU Wire Specifications
- LMRU 22 AWG, 300 VDC, 600 V RMS, CMR/CMG, FT4
- LMRU 22 AWG, 300V VDC, 600V RMS, CMR/CMG, FT4
- LMRU 22 AWG, 300V VDC, 600V RMS, CMR/CMG, FT4
Pre-terminated LMRU cable sizes
- LMRU 10 ft. (3.0 m)
- LMRU 25 ft. (7.6 m)
- LMRU 50 ft. (15.2 m)
- LMRU 100 ft. (30.5 m)
- LMRU 200 ft. (60.9 m)
- LMRU 300 ft. (91.4 m)
- LMRU 500 ft. (152.4 m)
- LMRU 1000 ft. (304.8 m)
- LMRU 2000 ft. (609.6 m)
- LMRU 3000 ft. (914.4 m)
- LMRU 5000 ft. (1524 m)
- LMRU 10000 ft. (3048 m)
- LMRU 20000 ft. (6096 m)
- LMRU 30000 ft. (9144 m)
- LMRU 50000 ft. (15240 m)
- LMRU 100000 ft. (30480 m)

WASHROOMS 1ST FLOOR – ROOM 115, 116

Electrical Drawing from 1973 shows:
- Rooms 150 and 151 which are currently rooms 115 and 116
- Those rooms are connect to the electrical circuit: Panel B-17 (located in the 1st floor)

Electrical contractor shall confirm circuits on Panel B before installing Occupancy sensors and lighting fixtures.

Remote control Switches for that circuit is located in the Caretaker Office, shown as room 128 in this drawing, but currently numbered as 119.



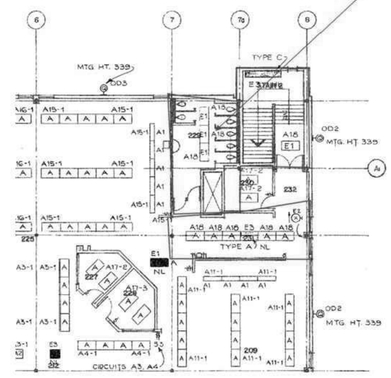
1 E5.01 NOTES FOR REMOTE CONTROL SWITCHES AND OCCUP. SENSORS IN ROOMS 115, 116

WASHROOM 2nd FLOOR – ROOM 214

Electrical Drawing from 1973 shows:
- Room 229 which is currently 214
- This room is connect to the electrical circuit: Panel A-18 (located in the 2nd floor)

Electrical contractor shall confirm circuits on Panel A before installing Occupancy sensors and lighting fixtures.

Remote control Switches for that circuit is located in the Caretaker Office.



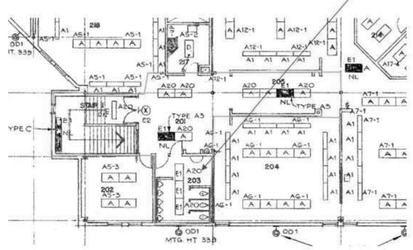
2 E5.01 NOTES FOR REMOTE CONTROL SWITCHES AND OCCUP. SENSORS IN ROOM 214

WASHROOM 2nd FLOOR – ROOM 226

Electrical Drawing from 1973 shows:
- Room 203 which is currently 226
- This room is connect to the electrical circuit: Panel A-20 (located in the 2nd floor)

Electrical contractor shall confirm circuits on Panel A before installing Occupancy sensors and lighting fixtures.

Remote control Switches for that circuit is located in the Caretaker Office.



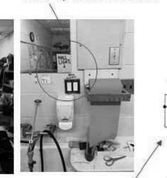
3 E5.01 NOTES FOR REMOTE CONTROL SWITCHES AND OCCUP. SENSORS IN ROOM 226

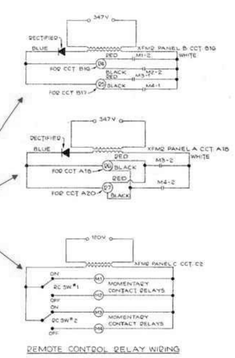
NOTES FOR CONNECTING OCCUPANCY SENSORS TO LIGHTING CIRCUITS FO WASHROOMS IN THE 1ST AND 2nd FLOORS

Circuits from electrical panels A and B are connected to the Remote Control Switches located at the caretaker office (room 119)
Confirm and install occupancy sensors for each washroom to the correct control switch

Remote Control Switches in the Caretaker office

Close-up of the switches.





Lighting control circuit wiring diagram (extracted from 1973 electrical drawings) for washrooms in the 1st floor (Panel B) and 2nd floor (Panel A).

4 E5.01 NOTES FOR REMOTE CONTROL SWITCHES AND LIGHTING CIRCUITS

NO.	DESCRIPTION	DATE
B	ISSUED FOR TENDER	MARCH 2024
A	ISSUED FOR PERMIT	2024.02.02

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ISSUED FOR CONSTRUCTION DATE

STRUCTURAL CONSULTANT

MECHANICAL CONSULTANT
CK

ELECTRICAL CONSULTANT
CK

SHEET TITLE

ELECTRICAL DETAILS

SHEET NO.	DRAWN BY	CHECKED
E5.01	AS	PI
	PROJECT NO.	23035
	SCALE	AS NOTED