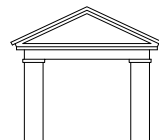
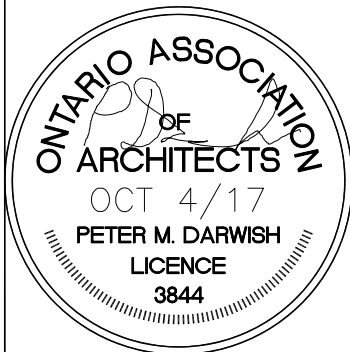
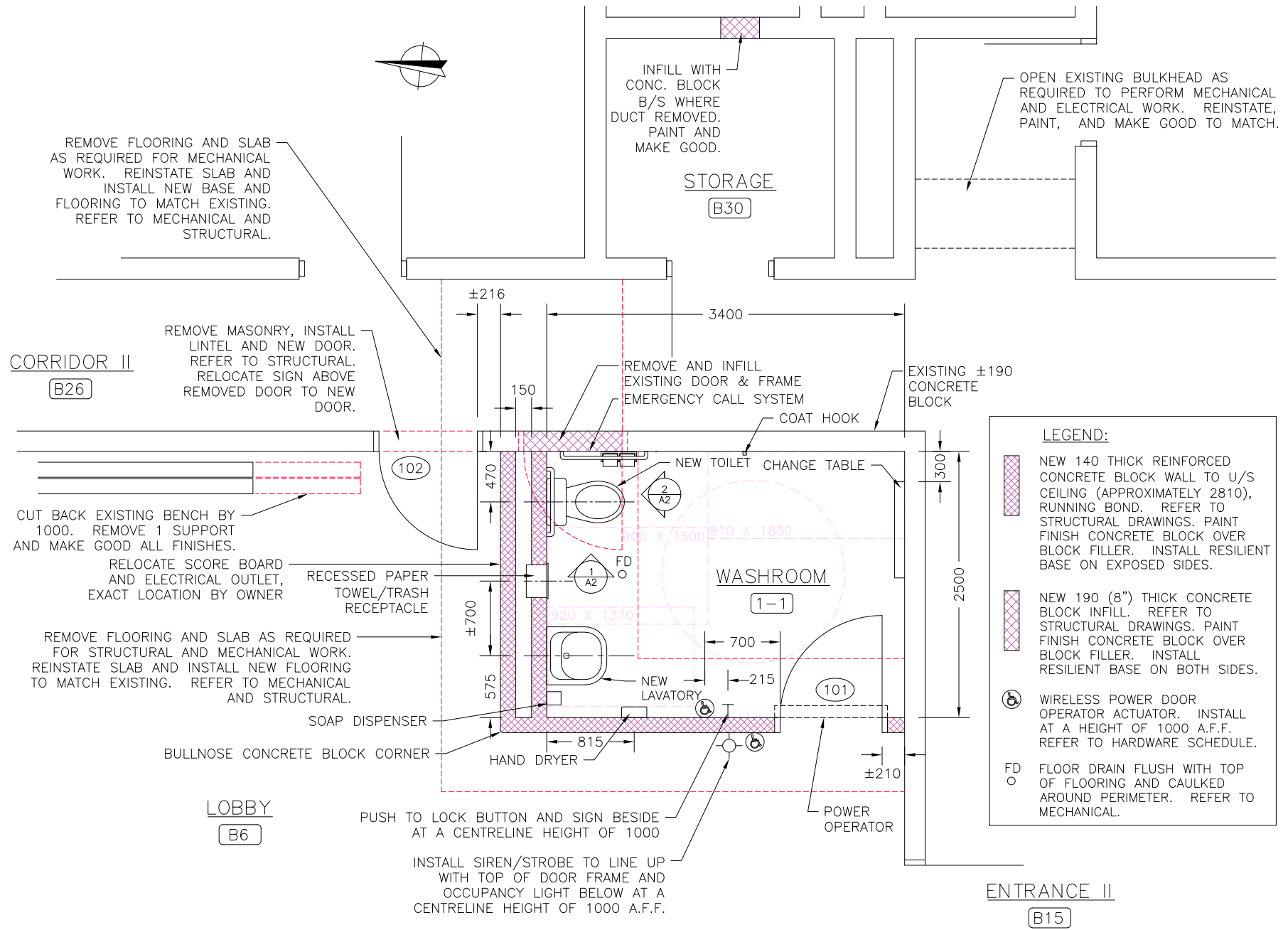


GENERAL NOTES:

- 1) REMOVE FLOORING IN WORK AREAS. REFER TO STRUCTURAL DRAWINGS FOR EXTENT OF SLAB REMOVAL. INSTALL NEW MATCHING RESILIENT FLOORING AND RUBBER BASE IN NEW WASHROOM. INSTALL NEW MATCHING RESILIENT FLOORING AND RUBBER BASE IN LOBBY AND CORRIDOR WHERE REMOVED. PROTECT EXISTING FLOORING TO REMAIN. FLOORING IS 36" X 36" X 10 MM THICK RAMFLEX BY MONDO. GLUE FLOORING TO CONCRETE FLOOR SLAB IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CAULK ENTIRE PERIMETER OF FLOORING AND ALLOW FOR TWO COLOURS TO MATCH EXISTING.
- 2) INFILL, PATCH, AND MAKE GOOD CONCRETE BLOCK AND FLOOR SLAB IN ALL AREAS WHERE WORK PERFORMED. MAKE GOOD ALL PAINTED SURFACES WHERE WORK PERFORMED IN ACCORDANCE WITH SPECIFICATIONS.
- 3) INSTALL EMERGENCY CALL SYSTEM BESIDE TOILET IN WASHROOM 1-1 AS SPECIFIED IN THE DOOR HARDWARE SPECIFICATION. INSTALL SIREN/STROBE LIGHT FOR WASHROOM WHERE INDICATED. REFER TO DETAIL 1/A2 FOR THE PUSH BUTTON LOCATION. PROVIDE SHOP DRAWINGS FOR REVIEW IN ACCORDANCE WITH THE SPECIFICATIONS.
- 4) INSTALL POWER DOOR WIRELESS ACTUATORS AND PUSH TO LOCK BUTTON WHERE SHOWN AT A CENTRELINE HEIGHT FROM FINISHED FLOOR OF 1000. REFER TO HARDWARE SCHEDULE.
- 5) RUN ALL NEW WIRING CONCEALED, IN PAINTED 13 MM CONDUIT. REFER TO ELECTRICAL. ANY EXPOSED CONDUIT REQUIRES PRIOR APPROVAL FROM ARCHITECT.
- 6) SUPPLY AND INSTALL 4 NEW TACTILE/ BRAILLE SIGNS. REFER TO DOOR HARDWARE SPECIFICATION.
- 7) REFER TO THE DESIGNATED SUBSTANCE REPORT PROVIDED BY THE CITY. EXECUTE ALL WORK INDICATED ON THE DRAWINGS AND SPECIFICATIONS IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE REPORT.
- 8) REMOVE PARTS OF WALLS, FLOOR, CEILINGS, ETC. AS REQUIRED FOR PERFORMANCE OF WORK. REINSTATE AND MAKE GOOD. REFER TO SPECIFICATION SECTION 017303, PARAGRAPH 1.6.12.
- 9) PATCH AND MAKE GOOD ALL FINISHES WHERE WORK PERFORMED.
- 10) PAINT CEILING AND ALL WALLS IN WASHROOM. PAINT ALL NEW WALLS IN LOBBY AND CORRIDOR. PAINT DUCTWORK AND EXPOSED CONDUIT (NEW AND EXISTING) AND ALL OTHER PREVIOUSLY PAINTED SURFACES IN WASHROOM. PAINT EXPOSED STRUCTURAL STEEL. PAINT COLOURS TO MATCH EXISTING.
- 11) ALL WORK TO BE IN ACCORDANCE WITH CURRENT ONTARIO BUILDING CODE AND CITY OF OTTAWA ACCESSIBILITY DESIGN STANDARDS.
- 12) INSTALL NEW LAVATORY AND TOILET. LAVATORY RIM HEIGHT TO BE 830 A.F.F. REFER TO MECHANICAL.
- 13) RELOCATE BULLETIN BOARD ABOVE PORTION OF BENCH BEING REMOVED AND REINSTALL WHERE DIRECTED BY OWNER.
- 14) RELOCATE 3 VENDING MACHINES WHERE DIRECTED BY OWNER.



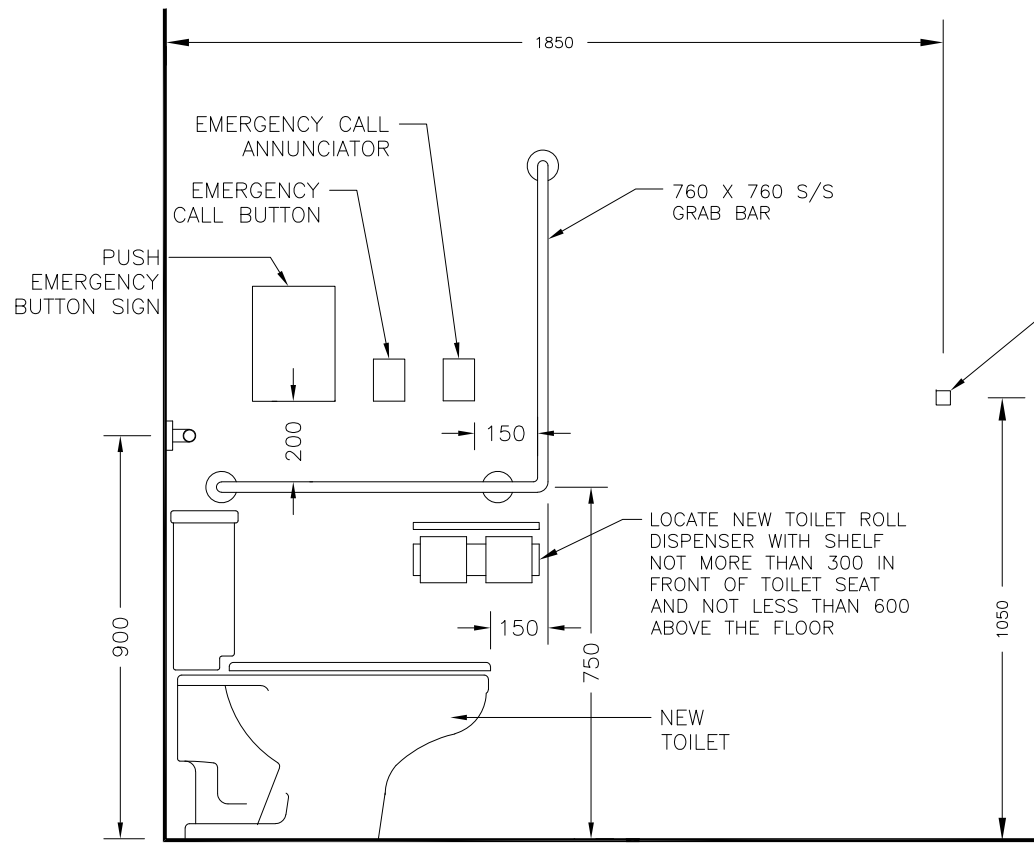
PETER DARWISH ARCHITECT
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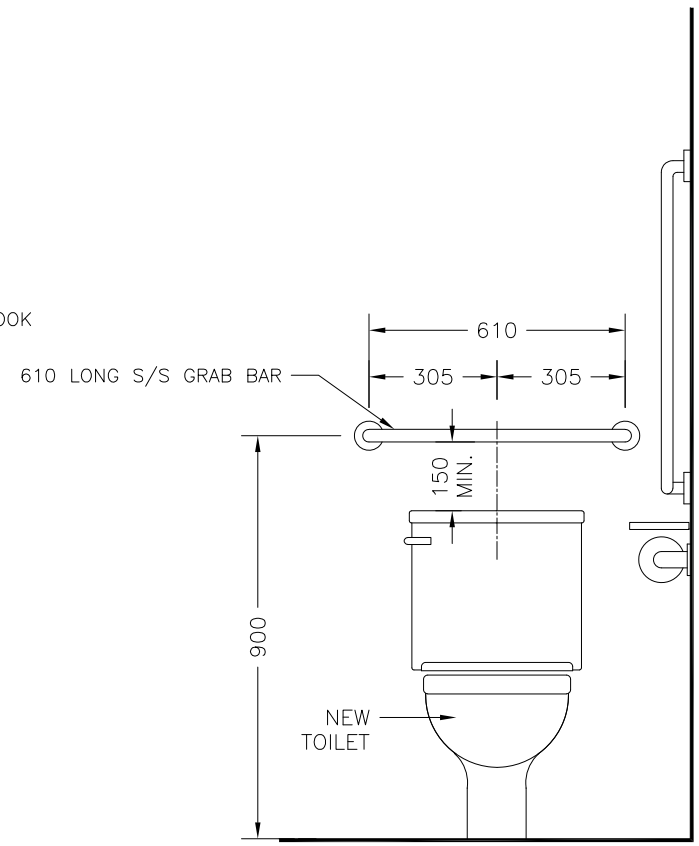
CONTRACTOR TO CHECK AND VERIFY ALL PROJECT DIMENSIONS, CONDITIONS, AND QUANTITIES.
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 DO NOT SCALE THIS DRAWING.

Project
 UNIVERSAL ACCESSIBLE WASHROOM
 NAVAN MEMORIAL CENTRE
 1295 COLONIAL ROAD
 NAVAN, ONTARIO
 CITY PROJECT NO.: CR011692

Date		Scale		Drawn By		Checked By	
OCT 4/17		1:50		PMD		PMD	
Filename				Drawing #			
17037A1				A1			



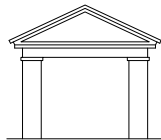
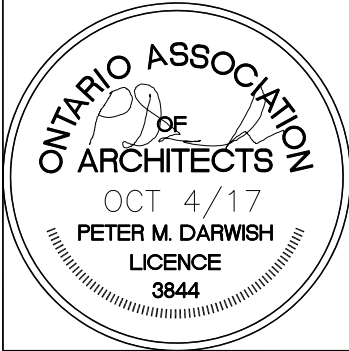
1
A2 **ELEVATION**



2
A2 **ELEVATION**

NOTES:

- INSTALL EMERGENCY CALL SYSTEM. REFER TO DOOR HARDWARE SPECIFICATIONS.
- MAKE GOOD ALL FINISHES WHERE WORK PERFORMED.



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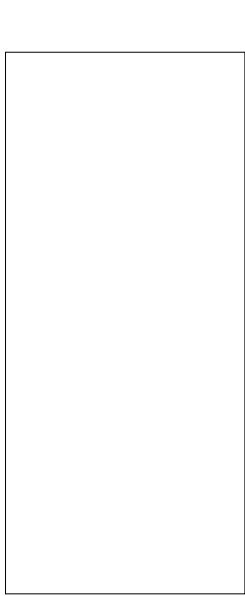


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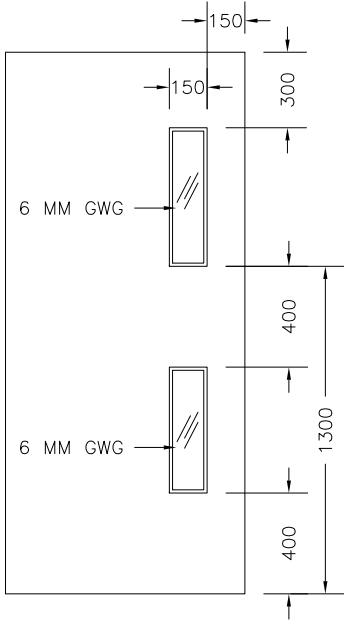
Project
UNIVERSAL ACCESSIBLE WASHROOM
NAVAN MEMORIAL CENTRE
1295 COLONIAL ROAD
NAVAN, ONTARIO
CITY PROJECT NO.: CR011692

Date		Scale		Drawn By		Checked By	
OCT 4/17		1:18		PMD		PMD	
Filename 17037A2				Drawing # A2			

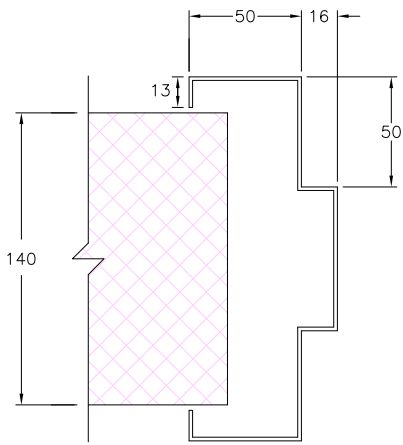
DOOR/SCREEN							FRAME			ULC LABEL (hr.)	NOTES
NUMBER	FROM	TO	TYPE	DIMENSIONS	MATERIAL	FINISH	TYPE	MATERIAL	FINISH		
101	B6	1-1	A	950 x 2150 x 45	HM	PT	1	PS	PT	-	1.
102	B26	B6	B	950 x 2150 x 45	HM	PT	2	PS	PT	-	1.



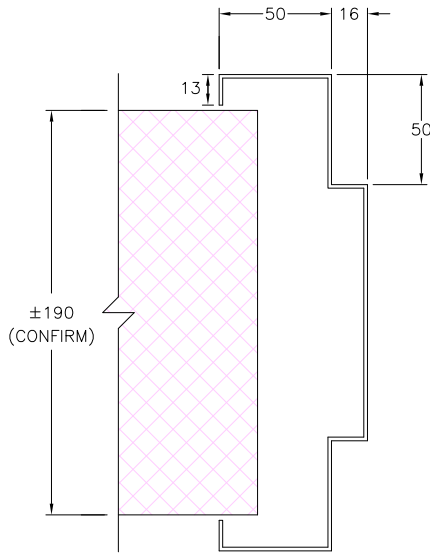
A



B

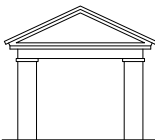


TYPE 1



TYPE 2

NOTES: REFER TO SCHEDULE IN DOOR HARDWARE SPECIFICATION.
 1. CONFIRM THAT DOOR HEIGHT SUITS MASONRY COURSING.



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Abbreviations			
HM	HOLLOW METAL	PT	PAINT
PS	PRESSED STEEL	ST	STAIN
WD	WOOD	EX	EXISTING
ALUM	ALUMINUM	SC	SCREEN
ANOD	ANODIZED	FL	FLUSH
PLAM	PLASTIC LAMINATE		
KDPS	KNOCK-DOWN PRESSED STEEL		

Project
 UNIVERSAL ACCESSIBLE WASHROOM
 NAVAN MEMORIAL CENTRE
 1295 COLONIAL ROAD
 NAVAN, ONTARIO
 CITY PROJECT #CR011692

Subject			
DOOR & FRAME SCHEDULE ISSUED FOR PERMIT AND TENDER			
Date	Scale	Drawn By	Checked By
OCT 4/17	N.T.S.	PMD	PMD
Filename		Drawing #	
17037/DRSCH		A3	

GENERAL NOTES

1. STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE 2012 ONTARIO BUILDING CODE (OBC), SUPPLEMENTED BY THE 2010 NATIONAL BUILDING CODE OF CANADA STRUCTURAL COMMENTARY.
2. REVIEW STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER CONTRACT DOCUMENTS. REPORT DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.
3. VERIFY EXISTING DIMENSIONS AND CONDITIONS ON SITE PRIOR TO CONSTRUCTION.
4. EXISTING STRUCTURAL INFORMATION IS ASSUMED.
5. DO NOT SCALE THESE DRAWINGS.
6. THESE DRAWINGS SHOW THE COMPLETED STRUCTURE ONLY. TEMPORARY WORKS FOR WHICH THE CONTRACTOR IS RESPONSIBLE AND WHICH MAY BE REQUIRED FOR EXECUTION OF THE PROJECT ARE NOT SHOWN. ALL TEMPORARY WORKS SHALL BE DESIGNED AND REVIEWED BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR, LICENSED IN ONTARIO. SUBMIT CONSTRUCTION REVIEW REPORTS TO JP2G FOR REVIEW.
7. PROVIDE REASONABLE NOTICE (NOT LESS THAN 24 HOURS) PRIOR TO CONCEALING ANY WORK THAT REQUIRES INSPECTION, REVIEW, OR TESTING. SCHEDULE THIS WORK TO OCCUR DURING NORMAL BUSINESS HOURS. .
8. PERIODIC FIELD REVIEW OF A REPRESENTATIVE SAMPLE OF THE STRUCTURAL WORK DESIGNED BY JP2G WILL BE UNDERTAKEN TO ASCERTAIN GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS. THESE REVIEWS DO NOT REPLACE THE CONTRACTOR'S RESPONSIBILITY FOR QUALITY CONTROL AND QUALITY ASSURANCE.
9. DESIGN OF TEMPORARY WORKS SUCH AS SHORING, EXCAVATION SHORING, FALSEWORK, ELEVATED OR ACCESS PLATFORMS, VERIFICATION OF THE ABILITY OF EXISTING STRUCTURES TO SUPPORT CONSTRUCTION EQUIPMENT SUPPORT AND SHORING OF STRUCTURES BELOW SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND THEIR ENGINEER. DETAILS AND METHODOLOGY FOR ALL OF THESE WORKS SHALL BE SIGNED AND STAMPED

BY A PROFESSIONAL ENGINEER AND SUBMITTED FOR OUR RECORDS.

10. CONTRACTOR TO RETAIN THE WORK OF THE FOLLOWING INDEPENDENT INSPECTION AND TESTING COMPANIES FOR THE WORK DESCRIBED:
 - 10.1. CONCRETE TESTING AND INSPECTION AGENCY CERTIFIED UNDER CSA A283 TO COMPLETE SAMPLING AND TESTING IN ACCORDANCE WITH CSA A23.1/A23.2. SUBMIT REPORTS TO OWNER'S REPRESENTATIVE WITHIN 5 WORKING DAYS, INCLUDING LOCATION OF TESTS, COMMENTS ON ABNORMAL RESULTS OR CONDITIONS, AND SUPPLIER'S MIX DESIGN NUMBERS. MAKE ONE STANDARD TEST FOR CONCRETE IN ACCORDANCE WITH A23.1 FOR EACH CLASS OF CONCRETE PLACED ON ANY GIVEN DAY.
 - 10.2. MASONRY TESTING AND INSPECTION AGENCY TO COMPLETE MASONRY STRENGTH TESTS AND TO TEST MORTAR AND GROUT IN ACCORDANCE WITH A179.

SHOP DRAWINGS

1. SUBMIT FOR REVIEW ALL SHOP DRAWINGS REQUIRED.
2. REVIEW OF SHOP DRAWINGS IS ON A SAMPLING BASIS, FOR GENERAL CONFORMITY WITH STRUCTURAL CONTRACT DOCUMENTS. IT IS NOT A DETAILED CHECK AND MUST NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR OF RESPONSIBILITY FOR MAKING THE WORK ACCURATE AND IN CONFORMITY WITH THE CONTRACT DOCUMENTS. REVIEW OF SHOP DRAWINGS DOES NOT IMPLY ANY CHANGE IN ANY OTHER CONSULTANTS' OR PROFESSIONALS' RESPONSIBILITIES RELATED TO DESIGN OF SPECIFIC ITEMS AS OUTLINED BY THE SPECIFICATIONS.
3. ALLOW A MINIMUM OF 5 WORKING DAYS FOR REVIEW OF EACH SUBMISSION OF SHOP DRAWINGS.
4. MAKE CORRECTIONS REQUIRED BY PREVIOUS REVIEW BEFORE RESUBMITTING DRAWINGS. CLEARLY INDICATE ALL CHANGES AND ADDITIONS TO PREVIOUS SUBMISSION. DO NOT ADD NEW DETAILS TO DRAWINGS WHICH HAVE BEEN STAMPED AS REVIEWED OR NOTED.

5. AFTER REVIEW, THE DRAWINGS WILL BE STAMPED AND RETURNED TO SHOW ONE OF THE FOLLOWING:

NOT REVIEWED SHOWS WORK WHICH IS NOT WITHIN THE SCOPE OF STRUCTURAL CONSULTING SERVICES.

REVIEWED CONTRACTOR APPEARS TO HAVE INTERPRETED THE CONTRACT DOCUMENTS CORRECTLY AND THE CONSULTANT HAS NO SPECIFIC COMMENT OR NOTES.

NOTED THE CONTRACTOR SHALL ADDRESS THE NOTES FROM THE CONSULTANT PRIOR TO CONSTRUCTION. SUBMIT FINAL RECORD PRINT.

REVISE AND RESUBMIT ADDRESS COMMENTS AND RESUBMIT FOR REVIEW PRIOR TO FABRICATION.

6. SHOP DRAWINGS TO BE DESIGNED BY A PROFESSIONAL ENGINEER THAT ARE NOT STAMPED, SIGNED, AND DATED WILL BE MARKED "RESUBMIT" AND RETURNED WITHOUT BEING REVIEWED.

7. SUBMIT FOR REVIEW BEFORE START OF WORK, THE FOLLOWING SHOP DRAWINGS AND SUBMITTALS FOR:

- a. CONCRETE MIX DESIGNS
- b. CONCRETE REINFORCEMENT



Jp2g Consultants Inc.
ENGINEERS • PLANNERS • PROJECT MANAGERS

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Phone: (613)828-7800, Fax: (613)828-2600
Jp2g Project #: 2160523A



ISSUED FOR PERMIT/TENDER

CONTRACTOR TO CHECK AND VERIFY ALL PROJECT DIMENSIONS, CONDITIONS, AND QUANTITIES.

ALL DISCREPANCIES ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.

DO NOT SCALE THIS DRAWING.

Project

UNIVERSAL ACCESSIBLE WASHROOM
NAVAN MEMORIAL CENTRE
1295 COLONIAL ROAD
OTTAWA, ONTARIO

CITY PROJECT NO.: CR011692

STRUCTURAL SPECIFICATIONS

Date	Scale	Drawn By	Checked By
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CONCRETE

1. CONCRETE IS SPECIFIED PER ALTERNATIVE 1 - PERFORMANCE SPECIFICATION AS OUTLINED IN CAN/CSA A23.1. THE CONTRACTOR AND THE CONCRETE SUPPLIER TO MEET ALL CERTIFICATION, DOCUMENTATION, AND QUALITY CONTROL REQUIREMENTS.
2. THE CONTRACTOR AND THE CONCRETE SUPPLIER ARE TO ENSURE THAT THE MIX PROPERTIES MEET THE SPECIFIED PERFORMANCE REQUIREMENTS.
3. THE CONCRETE SUPPLIER MUST BE CERTIFIED BY THE READY MIXED CONCRETE ASSOCIATION OF ONTARIO.
4. UNLESS NOTED OTHERWISE:
 - a. CEMENT TO BE PORTLAND CEMENT TYPE GU UNLESS OR REQUIRED BY EXPOSURE CLASS.
 - b. CONCRETE TO BE NORMAL DENSITY 35MPa C1- EXPOSURE CLASS.
 - c. NOMINAL SIZE OF COURSE AGGREGATE TO BE 20 (3/4").
5. PROVIDE A MINIMUM OF 24 HOURS NOTICE TO THE STRUCTURAL ENGINEER PRIOR TO CLOSING FORMS OR CASTING CONCRETE TO ALLOW FOR REINFORCING STEEL REVIEW.
6. IMPLEMENT COLD WEATHER CONCRETING METHODS IN ACCORDANCE WITH CAN/CSA-A23.1. PROTECT CONCRETE FROM FREEZING. DO NOT PLACE CONCRETE AGAINST FROZEN GROUND.
7. IMPLEMENT HOT WEATHER CONCRETING METHODS IN ACCORDANCE WITH CAN/CSA-A23.1. PROTECT CONCRETE FROM EXCESSIVE HEAT AND DRYING.
8. CONSTRUCTION JOINTS, CONTROL JOINTS AND SAWCUT JOINT
 - 8.1. SLABS ON GRADE: PROVIDE CONSTRUCTION JOINTS AT A MAXIMUM 30m (100ft) IN BOTH DIRECTIONS. IN ADDITION TO CONSTRUCTION JOINTS

PROVIDE SAWCUT JOINTS AT 25 TIMES THE SLAB THICKNESS, BUT NOT MORE THAN A MAXIMUM OF 5m (15ft).

CONCRETE REINFORCEMENT

1. REINFORCEMENT TO CONFORM TO THE FOLLOWING STANDARDS:
2. DEFORMED BARS - CAN/CSA G30.18, GRADE 400R, -. WHERE REBAR IS SHOWN TO BE WELDED USE GRADE 400W.
3. WELDED WIRE FABRIC - ASTM A185/A185M.
4. BARS MARKED CONTINUOUS TO BE TERMINATED IN STANDARD HOOKS AT ENDS WHICH EXTEND TO FAR FACE OF ELEMENT AND SPLICED USING CLASS B LAPS.
5. ALL REBAR HOOKS TO BE STANDARD LENGTH 90° HOOKS. REBAR LENGTHS LISTED ON DRAWINGS DO NOT INCLUDE THE HOOK LENGTH. REFER TO RISC MANUAL OF STANDARD PRACTICE FOR STANDARD HOOKS.
6. PROVIDE SUFFICIENT SUPPORT TO MAINTAIN SPECIFIED CONCRETE COVER.
7. MINIMUM CLEAR CONCRETE COVER TO REINFORCEMENT CLOSEST TO THE SURFACE TO BE AS TABULATED BELOW UNLESS NOTED OTHERWISE ON THE DRAWINGS:

STRUCTURAL ELEMENT	EXPOSED
FOOTINGS CAST AGAINST EARTH (WITHOUT FORMWORK)	75 (3")
FORMED SIDES OF FOOTINGS (NOT CAST AGAINST EARTH)	40 (1 5/8") 1.5 x BAR DIA. MIN.

POST-INSTALLED ANCHORS AND DOWELS

1. WHERE GALVANIZED ANCHORS ARE SPECIFIED, PROVIDE HOT DIPPED GALVANIZED (RATHER THAN ZINC PLATED) ANCHORS.
2. CONCRETE TO BE MINIMUM 28 DAYS OLD AT THE TIME OF ANCHOR INSTALLATION.
3. USE DRILLING AND INSTALLATION TOOLS AND PROCEDURES PER MANUFACTURERS' RECOMMENDATIONS. HOLE DIAMETERS NOT TO EXCEED

THOSE REQUIRED BY MANUFACTURER.

4. DO NOT CUT REINFORCEMENT TO ACCOMMODATE DRILLED ANCHORS AND DOWELS. SCAN THE STRUCTURE TO LOCATE REINFORCEMENT PRIOR TO FABRICATING STRUCTURAL STEEL FASTENED BY DRILLED ANCHORS.
5. WHEN OBSTRUCTIONS PREVENT DRILLING HOLES IN SPECIFIED LOCATIONS TO THE REQUIRED DEPTH, RELOCATE AT NO EXTRA COST TO THE CONTRACT. OBTAIN CONSULTANT'S APPROVAL OF NEW LOCATIONS BEFORE DRILLING HOLES. FILL ALL ABANDONED HOLES WITH MIN. 30MPa GROUT. DO NOT TIGHTEN ANCHORS UNTIL GROUT IN ADJACENT ABANDONED HOLES REACHES 75% fc'.
6. PROVIDE STANDARD EMBEDMENT LENGTHS FOR ALL POST-INSTALLED ANCHORS, AS SHOWN BELOW, UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWINGS:

ANCHOR SIZE	EXPANSION ANCHORS (HILTI KB-TZ AND KB-3)	ADHESIVE ANCHORS (HILTI HIT HY-200)	ADHESIVE ANCHORS INTO HOLLOW CONCRETE MASONRY (HILTI HIT HY-70)	ADHESIVE ANCHORS INTO HOLLOW BRICK MASONRY (HILTI HIT HY-70)
12 (1/2")	89 (3-1/4")	114 (4-1/2")	50 (2")	80 (3-1/8")
16 (5/8")	102 (4")	143 (5-5/8")		
19 (3/4")	121 (4-3/4")	171 (6-3/4")		

A. ALL EMBEDMENT LENGTHS SHOWN ARE EFFECTIVE EMBEDMENT LENGTHS.

B. SEE DRAWINGS FOR EMBEDMENT LENGTHS OF REBAR DOWELS.

7. DO NOT BEND POST INSTALLED DOWELS AND RODS AFTER INSTALLATION.



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STRUCTURAL SPECIFICATIONS CONT.

Date	Scale	Drawn By	Checked By
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17037A1		S-2	

MASONRY

1. CONFORM TO CSA A371 AND CSA S304.1.
2. UNLESS OTHERWISE NOTED ON PLANS, MATERIALS TO BE:

 HOLLOW BLOCK: CSA A165.1 - H/15/A/M
 SOLID BLOCK: CSA A165.1 - SF/15/A/M
 MORTAR: CSA A179 - TYPE S
 MASONRY GROUT: CSA A179M - COARSE GROUT, 1:3:2 - CEMENT: SAND: PEA-STONE BY VOLUME, WITH 200 SLUMP, OR APPROVED PRE-BAGGED MATERIAL
3. UNLESS NOTED OTHERWISE, LAY UNITS IN RUNNING BOND. ALL FACE SHELLS TO BE FULLY BEDDED.
4. UNLESS OTHERWISE NOTED, PROVIDE LADDER TYPE HORIZONTAL JOINT REINFORCING (TO SUIT THE WALL THICKNESS) PER ARCHITECTURAL SPECIFICATIONS. PROVIDE GALVANIZED JOINT REINFORCING IN ALL EXTERIOR WALLS OR WALLS SEPERATING TWO DIFFERENT USE AND OCCUPANCIES.
5. USE CORNER TYPE LADDER REINFORCING AT ALL MASONRY WALL CORNERS AND INTERSECTIONS.
6. PROVIDE VERTICAL MOVEMENT JOINTS (MJ) IN NON-LOAD BEARING WALLS AS INDICATED ON ARCHITECTURAL DRAWINGS AND SPECIFICATIONS.
7. PROVIDE STANDARD LINTELS OVER ALL OPENINGS IN NON-LOAD BEARING MASONRY WALLS AS SHOWN ON TYPICAL DETAILS.
8. REINFORCED MASONRY:
 - 8.1. SEE PLANS AND DETAILS FOR STRUCTURAL MASONRY REINFORCING. USE DEFORMED WIRE JOINT REINFORCEMENT.

8.2. SPLICES FOR MASONRY WALL REINFORCING TO BE:

WIRE REINFORCING	200 (8")
10M BARS	450 (18")
15M BARS	650 (26")
20M BARS	900 (36")
25M BARS	1300 (51")

8.3. ADD 1-15 VERTICAL AT WALL ENDS, AND AT EACH SIDE OF MOVEMENT JOINTS.

9. GROUTING MASONRY:

- 9.1. UNLESS MASONRY WALLS ARE NOTED AS "GROUTED SOLID" ON PLAN, GROUT ONLY CELLS CONTAINING VERTICAL OR HORIZONTAL REINFORCEMENT.
- 9.2. FULLY GROUT ALL WALL POCKETS AFTER INSTALLATION OF STEEL BEAMS OR JOISTS.

EXISTING STRUCTURES

1. INSTALL AND REMOVE ALL TEMPORARY SHORING AND BRACING REQUIRED TO PROTECT EXISTING STRUCTURES DURING CONSTRUCTION.
2. ALL TEMPORARY WORKS TO BE DESIGNED BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR, LICENSED IN ONTARIO. PREPARE DRAWINGS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER.
3. RETAIN A PROFESSIONAL ENGINEER TO REVIEW CONSTRUCTION LOADS APPLIED TO THE EXISTING STRUCTURE AND PROVIDE TEMPORARY SUPPORT AS REQUIRED.
4. EXISTING CONDITIONS ARE ASSUMED. REPORT ANY VARIATIONS BEFORE PROCEEDING WITH THE WORK.
5. MAKE GOOD ALL EXISTING WORK DISTURBED BY CONSTRUCTION PROCEDURES.

DEMOLITION/DECONSTRUCTION OF STRUCTURES

1. PRIOR TO START OF DEMOLITION/DECONSTRUCTION WORK SUBMIT:
 - a. DEMOLITION/DECONSTRUCTION PLAN IDENTIFYING MEANS AND METHODS OF DECONSTRUCTION WORK AND SPECIFICALLY ADDRESSING THE STRUCTURAL INTEGRITY AND STABILITY OF THE BUILDING COMPONENTS TO REMAIN. THIS PLAN MUST BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN ONTARIO.
2. DEMOLITION/DECONSTRUCTION OF STRUCTURAL ELEMENTS TO BE UNDERTAKEN BY A QUALIFIED CONTRACTOR IN ACCORDANCE WITH ALL PREVAILING LEGISLATION, CODES AND STANDARDS.
3. IF MATERIALS RESEMBLING HAZARDOUS SUBSTANCES ARE ENCOUNTERED, STOP WORK, TAKE PREVENTATIVE MEASURES AND NOTIFY THE CONSULTANT. DO NOT PROCEED UNTIL WRITTEN INSTRUCTIONS HAVE BEEN RECEIVED.
4. PROVIDE TEMPORARY WORKS REQUIRED IN ORDER TO MAINTAIN THE STABILITY OF THE BUILDING ELEMENTS AND STRUCTURES DESIGNATED TO REMAIN.
5. PREVENT DEBRIS AND MATER FROM BLOCKING MEANS OF EGRESS.
6. STOCKPILING OF THE MATERIAL ON SITE IS NOT PERMITTED.
7. DISPOSE OF MATERIAL IN ACCORDANCE WITH PREVAILING CODES AT LICENSED FACILITIES.
8. DEMOLITION MAY UTILIZE ANY LEGAL MEANS OR METHODS PERMITTED INCLUDING HYDRAULIC OR MECHANICAL TECHNIQUES, HOWEVER IMPLOSION USING EXPLOSIVES IS NOT PERMITTED.

9. UPON COMPLETION OF THE PROJECT LEAVE THE WORK SITE CLEAN AND FREE OF DEBRIS.

10. MAKE GOOD ALL EXISTING WORK DISTURBED BY DEMOLITION OR DECONSTRUCTION PROCEDURES.

CUTTING AND CORING

1. CONTRACTOR SHALL CARRY THE PRICE TO RETAIN AN INDEPENDENT TESTING COMPANY TO LOCATE EXISTING REINFORCEMENT AND CONDUIT IN THE AREAS OF PROPOSED OPENINGS AND TO MARK LOCATIONS ON THE SURFACES OF SLABS AND WALLS ON WHICH THE CORES AND CUTS ARE TO BE STARTED.
2. USE GROUND PENETRATING RADAR OR EQUIVALENT INDUSTRY ACCEPTED METHOD CAPABLE OF ACCURATELY LOCATING EMBEDDED ELEMENTS WITHIN 50 MM FROM CENTRE LINE OF ELEMENT.
3. CORING: DO NOT CUT EXISTING REINFORCEMENT AND CONDUIT WHEN CORING UNLESS APPROVED BY CONSULTANT.
4. CUTTING: DO NOT CUT EXISTING REINFORCEMENT AND CONDUIT WHEN CUTTING UNLESS APPROVED BY THE CONSULTANT. DO NOT OVERCUT OPENINGS. CORE CORNERS AND ENDS OF INTERMEDIATE SAWCUT LINES OF ALL OPENINGS PRIOR TO CUTTING. SAWCUT SIDES AND INTERMEDIATE LINES. CHIP CORNERS SQUARE IF NECESSARY. IF NEW REINFORCEMENT IS REQUIRED AT AN OPENING, INSTALL REINFORCEMENT BEFORE CUTTING OPENING OR SHORE STRUCTURE UNTIL NEW REINFORCEMENT IS INSTALLED.

STRUCTURAL STEEL

1. STEEL ANGLES: 300W
2. ALL STRUCTURAL STEEL . SHALL BE COATED WITH ZINC RICH PRIMER.



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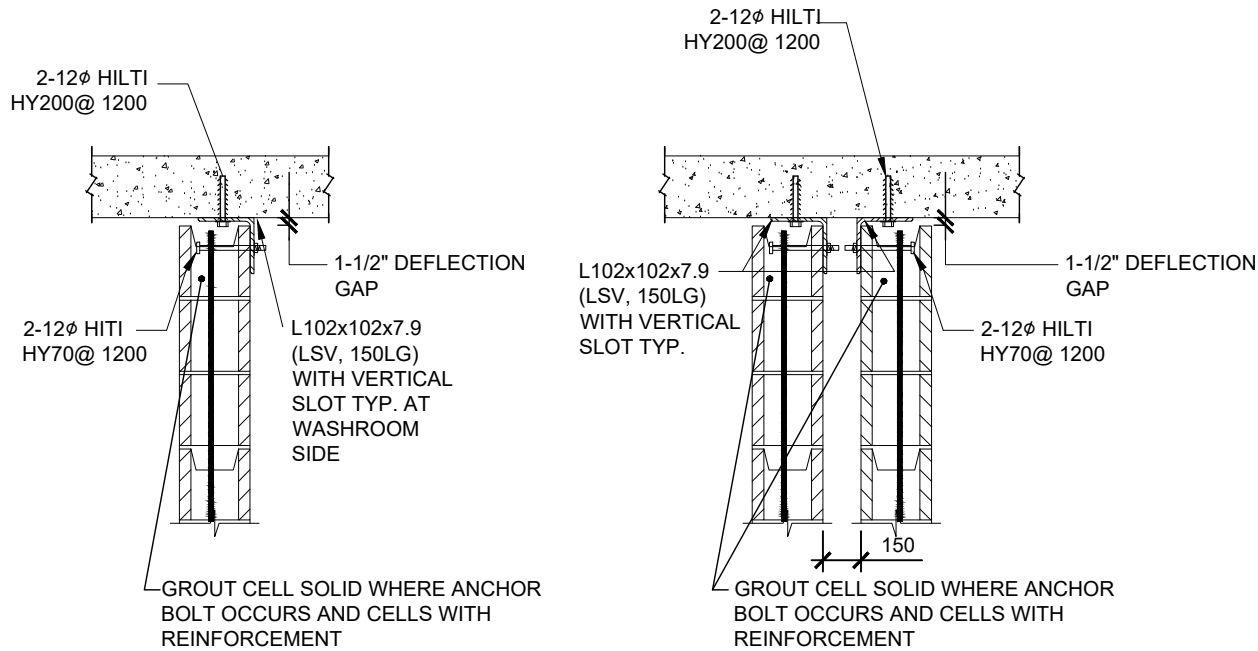
Project

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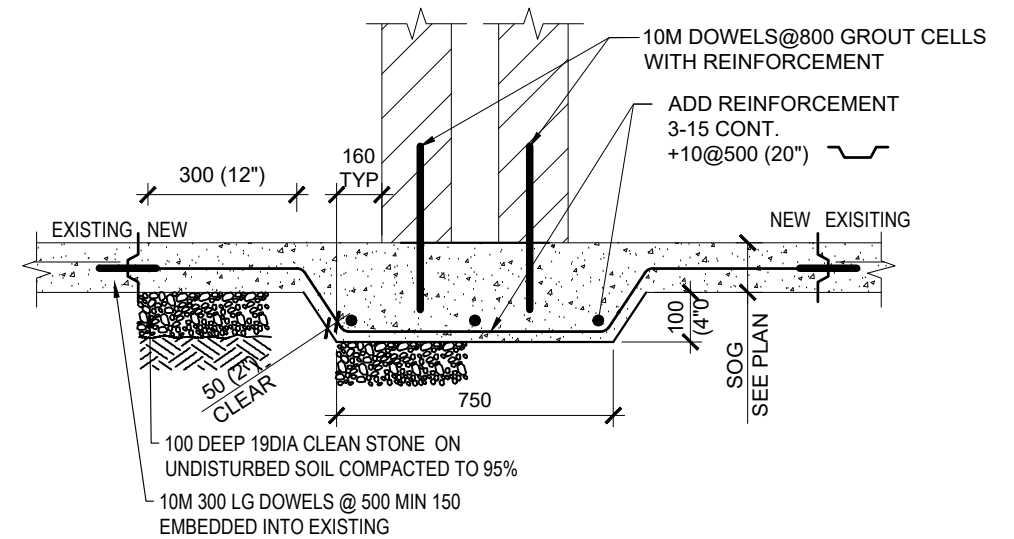
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STRUCTURAL SPECIFICATIONS CONT.

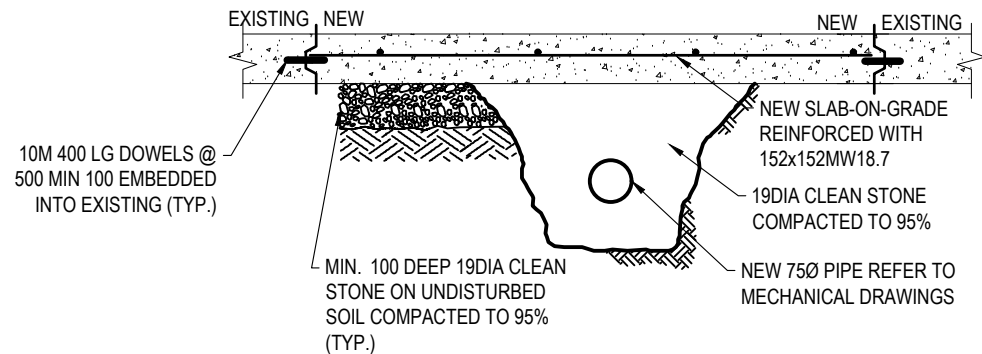
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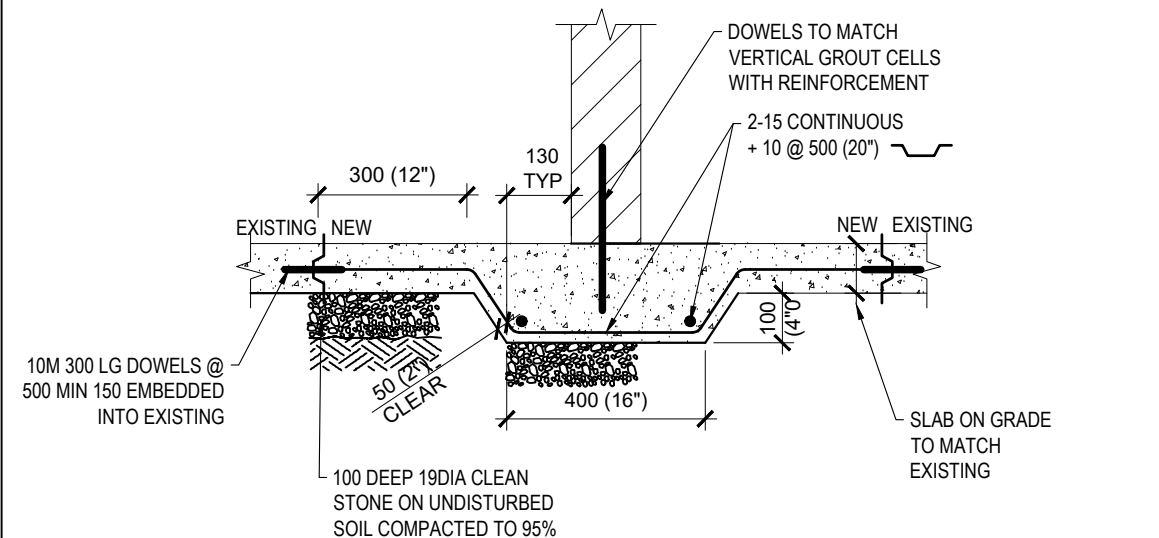
1 S-4 LATERAL SUPPORT OF NON-BEARING INTERIOR MASONRY PARTITIONS
SCALE: NTS



2 S-4 TYPICAL SLAB ON GRADE THICKENING UNDER MASONRY PARTITIONS
SCALE: NTS



4 S-4 RE-INSTATE SLAB-ON-GRADE DETAILS
SCALE: NTS



3 S-4 TYPICAL NON-LOAD BEARING/MASONRY WALL FOUNDATION DETAIL
SCALE: NTS



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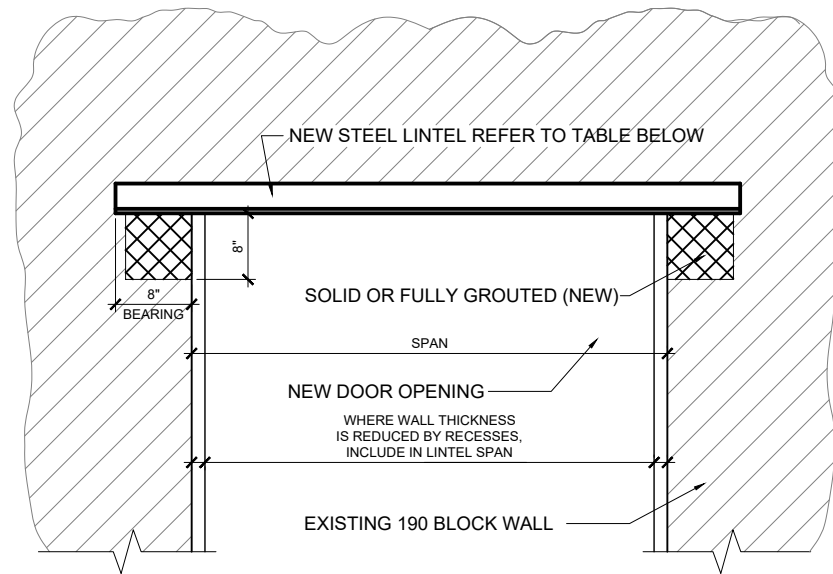
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WALL THICKNESS	SPAN	ANGLE SIZE	
8"	UP TO 4'-0"	2-152 x 89 x 7.9 (Long Side Vertical)	

NOTES:

1. CONNECT BACK TO BACK DOUBLE ANGLES USING MIN 16(5/8") ϕ BOLTS @ MAX. 450 (1'6"), OR BY WELDING @ TOP & BOTTOM USING 6mm (1/4") WELDS x 50 (2") LG @ MAX 450 (1'-6"). LOCATE FIRST CONNECTION MAX 75(3") FROM END OF LINTEL.
2. PROVIDE STEEL PACKING AS REQUIRED TO ENSURE EVEN BEARING OF STEEL LINTELS
3. STANDARDS LINTELS ARE NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS, REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENINGS LOCATIONS.

1 STEEL LINTEL FOR NEW OPENING IN WALL
 S-5 SCALE: NTS



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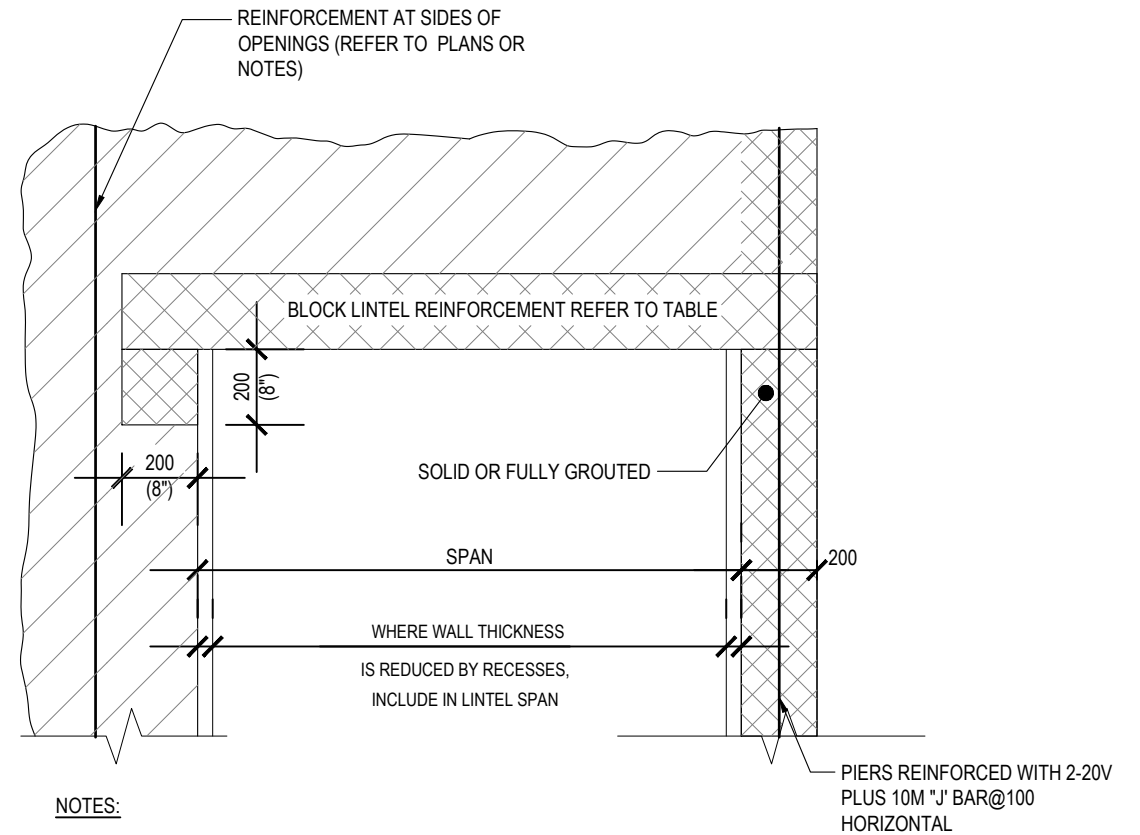
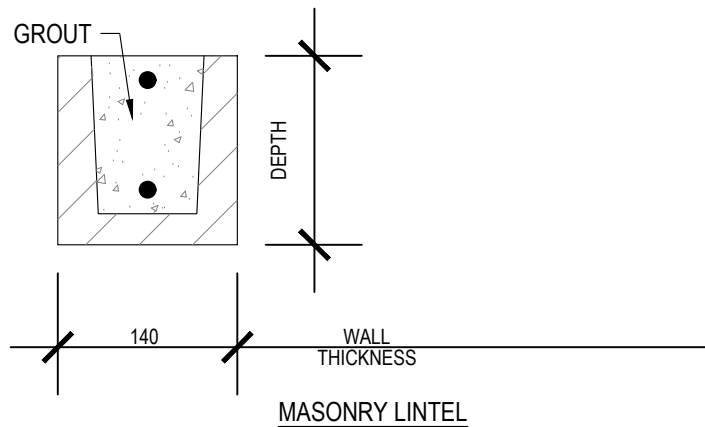
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WALL THICKNESS	SPAN	BLOCK LINTEL DEPTH	REINF: T&B
140 (6")	UP TO 1200 (4'-0)	190	1-10



NOTES:

1. LINTELS ARE NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS, REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENING LOCATIONS.
2. FILL LINTEL BLOCKS WITH 20MPa GROUT. DO NOT TO FILL LINTELS WITH MORTAR.
3. FULLY GROUT BLOCKS WITH REINFORCEMENT.

1 MASONRY LINTEL IN NEW MASONRY WALLS
S-6 SCALE: NTS



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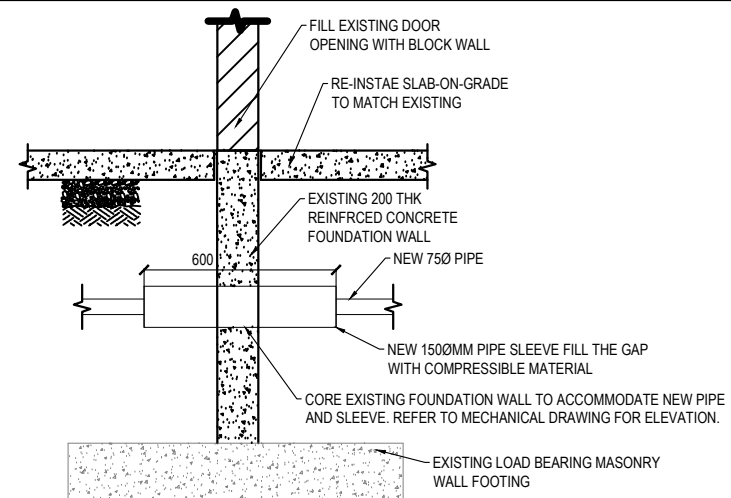
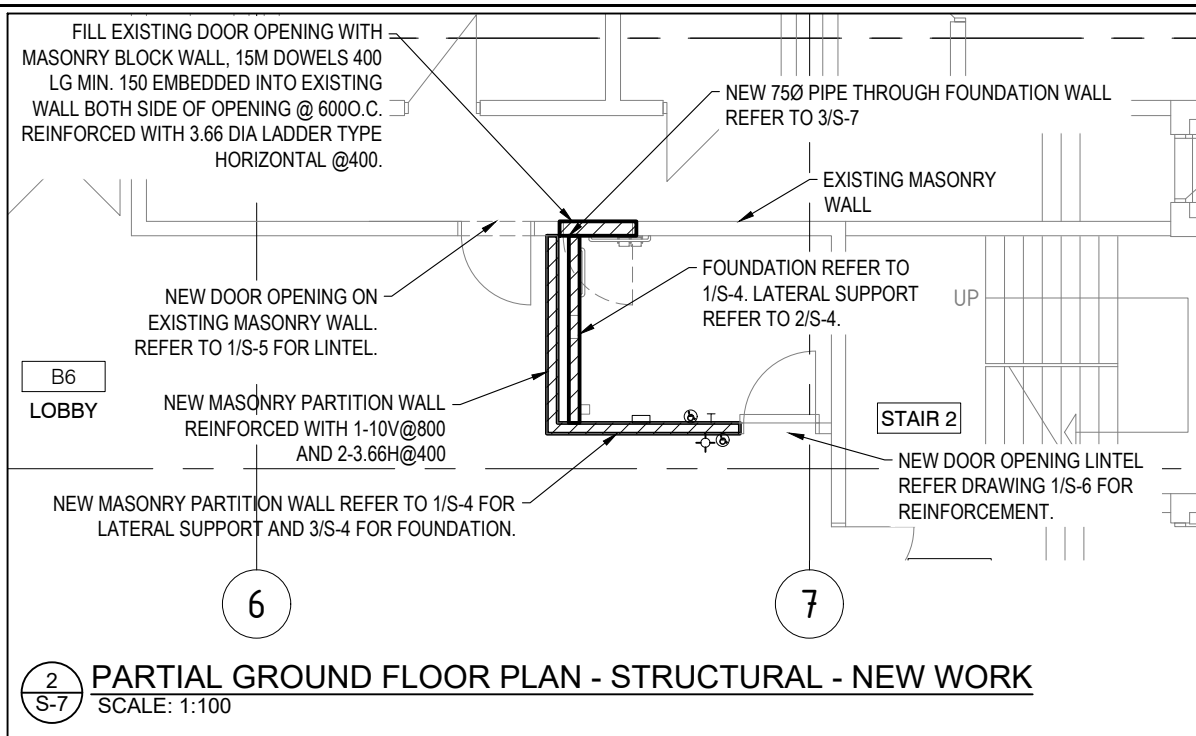
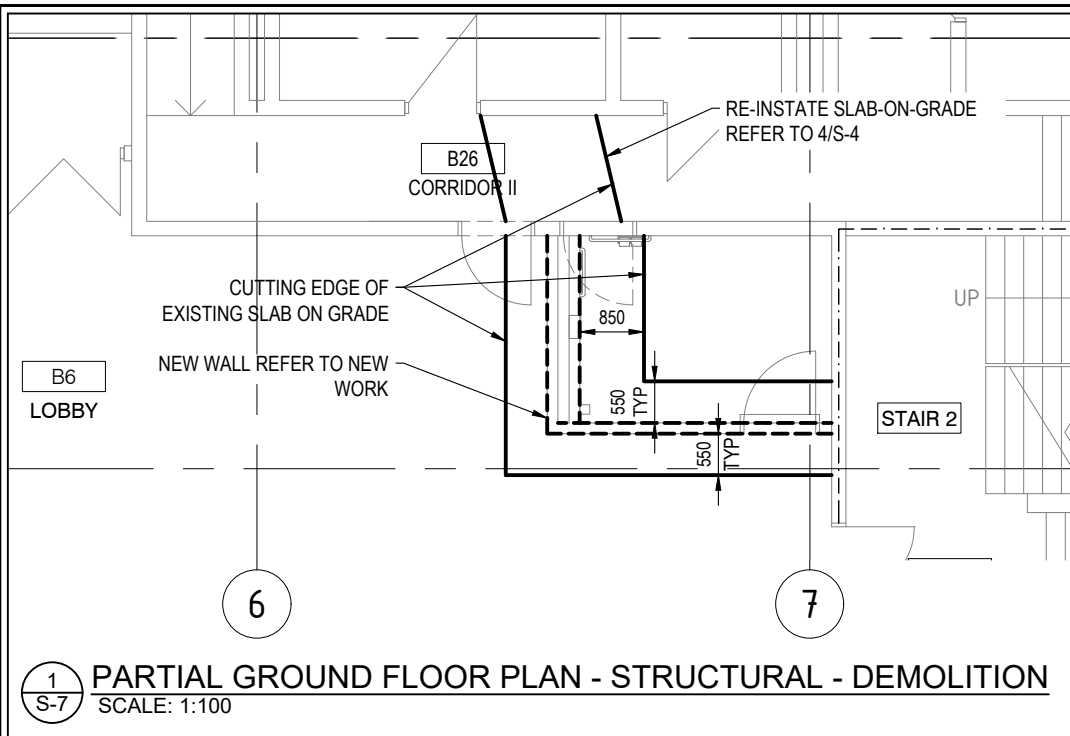
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LEGEND - GENERAL

SYMBOL	DESCRIPTION
	ITEMS TO BE DEMOLISHED
	EXISTING ITEMS TO REMAIN
	NEW ITEMS TO BE PROVIDED AND INSTALLED
(X)	DENOTES EXISTING ITEM TO BE REMOVED
(E)	DENOTES EXISTING ITEM INDICATED TO REMAIN
(R)	DENOTES ITEM TO BE RELOCATED
	SECTION A ON DRAWING M1
	DETAIL 1 ON DRAWING M1

LEGEND - AIR DISTRIBUTION

SYMBOL	DESCRIPTION
	DUCT SIZE, WHERE FIRST DIMENSION IS VISIBLE
	SUPPLY AIR RECTANGULAR DUCT DOWN
	SUPPLY AIR RECTANGULAR DUCT UP
	RETURN/EXHAUST AIR RECTANGULAR DUCT DOWN
	RETURN/EXHAUST AIR RECTANGULAR DUCT UP
	CHANGE OF ELEVATION: RISE (R) AND DROP (D)
	ACCESS DOOR ON BOTTOM
	FLEXIBLE CONNECTION
	BALANCING DAMPER
	RETURN/EXHAUST GRILLE
	SIDEWALL RETURN/EXHAUST GRILLE
	DIFFUSER/GRILLE IDENTIFICATION TAG TAG: TYPE OF DIFFUSER/GRILLE (SEE SPECIFICATION SECTION) ix: NUMBER OF DIFFUSER/GRILLE HAVING THE SAME SPECIFICATIONS DIM: NECK SIZE IN mmØ

LEGEND - PLUMBING

SYMBOL	DESCRIPTION
	SANITARY DRAIN ABOVE GROUND
	SANITARY DRAIN BELOW GROUND
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DRAIN PIPE WITH CLEANOUT
	DRAIN PIPE WITH CLEANOUT UP TO FLOOR
	DRAINAGE TRAP
	FLOOR DRAIN

LEGEND - HEATING

SYMBOL	DESCRIPTION
	HEATING HOT WATER SUPPLY
	HEATING HOT WATER RETURN

LEGEND - VALVES

SYMBOL	DESCRIPTION
	BALL VALVE

DRAWING LIST

M-1	LEGENDS AND DRAWING LIST
M-2	GENERAL NOTES
M-3	GENERAL NOTES CONTINUED AND SPECIFICATIONS
M-4	SPECIFICATIONS CONTINUED AND ABBREVIATIONS
M-5	PARTIAL GROUND FLOOR PLAN - PLUMBING LAYOUT - NEW WORK
M-6	PARTIAL GROUND FLOOR PLAN - VENTILATION LAYOUT - DEMOLITION
M-7	PARTIAL GROUND FLOOR PLAN - VENTILATION LAYOUT - NEW WORK
M-8	FIXTURE AND EQUIPMENT SCHEDULES



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LEGENDS AND DRAWING LIST

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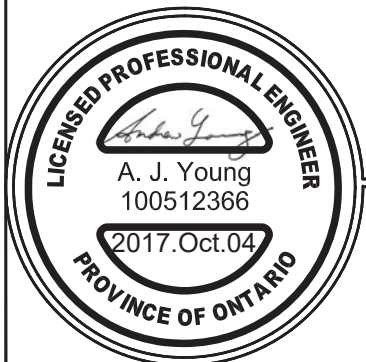
MECHANICAL GENERAL NOTES

1. ALL WORK SHALL CONFORM TO APPLICABLE CODES SUCH AS:
 - 1.1. LATEST EDITION OF THE ONTARIO BUILDING CODE (OBC)
 - 1.2. SMACNA (DUCTWORK)
 - 1.3. ULC & CSA/CAN INSTRUCTIONS & REQUIREMENTS
 - 1.4. INSTRUCTIONS TO BIDDERS
2. CONTRACTORS MUST COMPLY WITH LOCAL BY-LAWS, CANADIAN CONSTRUCTION SAFETY CODE, AND ALL REGULATIONS SET BY AUTHORITIES HAVING JURISDICTION. IN CASE OF A CONFLICT OR DISCREPANCY, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
3. CONTRACTORS SHALL BE RESPONSIBLE FOR ALL APPLICABLE FEES, PERMITS, INSPECTIONS BY JURISDICTION HAVING AUTHORITY, AND TAXES RELATING TO THE MECHANICAL SCOPE OF WORK.
4. TENDER PRICES TO BE BASED ON EQUIPMENT AS SPECIFIED. REFER TO CITY OF OTTAWA FRONT END DOCUMENTS REGARDING REQUESTS FOR ALTERNATE EQUIPMENT. ACCEPTANCE OF ALTERNATE EQUIPMENT WILL BE MADE BY WRITTEN ADDENDUM. REQUESTS FOR ALTERNATE EQUIPMENT WILL NOT BE CONSIDERED AFTER TENDER CLOSE. ENGINEER RESERVES THE RIGHT TO REJECT ANY SHOP DRAWINGS FOR EQUIPMENT NOT ACCEPTED DURING TENDER PROCESS. ACCEPTANCE OF ALTERNATIVES DOES NOT ABSOLVE THIS CONTRACTOR FROM MAKING ALL NECESSARY ADJUSTMENTS TO THE WORK OF OTHER TRADES INCURRED BY SELECTION OF ALTERNATIVE EQUIPMENT OR MATERIALS. SUCH ADJUSTMENTS ARE TO BE MADE AT NO ADDITIONAL COST.
5. CONTRACTORS SHALL PROVIDE ONE COPY OF CLEARLY IDENTIFIED, PROJECT SPECIFIC, SHOP DRAWINGS IN PDF FORMAT FOR ALL FIXTURES, EQUIPMENT, AND SYSTEMS FOR REVIEW BEFORE ORDERING. EQUIPMENT, DEVICES, AND FIXTURES SHALL BE SUPPLIED WITH ALL ACCESSORIES REQUIRED FOR A COMPLETE WORKING INSTALLATION. CONTRACTORS WILL REVIEW SHOP DRAWINGS PRIOR TO SUBMISSION, THUS INDICATING THEY HAVE DETERMINED AND VERIFIED THAT ALL MATERIALS, CATALOG NUMBERS, ETC., PERFORMANCE, SIZES, AVAILABLE SPACE, AND FIELD CONDITIONS MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. SHOP DRAWINGS MUST CLEARLY INDICATE ANY DEVIATION FROM DESIGN "BASE" SPECIFICATIONS. ALL MATERIALS USED MUST BE NEW, CLEAN, AND FREE FROM DEFECTS.
6. SUBMIT ONE (1) SET OF DRAWING PRINTS SHOWING ACCURATE AS-BUILTS CONDITION OF THE MECHANICAL INSTALLATIONS INCLUDED WITH THE SUBMISSION OF THE OPERATION AND MAINTENANCE MANUAL FOR ENGINEER'S REVIEW AND MAKE CORRECTIONS AS DIRECTED. CONTRACTORS SHALL MARK WALL CHANGES AS WORK PROGRESSES AND AS CHANGES OCCUR ON A AS-BUILTS SET OF CONTRACT DOCUMENTS. DRAWING SET SHALL BE AVAILABLE FOR REFERENCE PURPOSES AND INSPECTION AT ALL TIMES. EACH DRAWING SHALL BE IDENTIFIED IN TITLE BLOCK ON RIGHT HAND SIDE "AS-BUILTS DRAWINGS" AND SHOULD INCLUDE SIGNATURE OF CONTRACTOR, CONTRACTOR'S COMPANY NAME AND DATE.

7. SUBMIT A DRAFT ELECTRONIC FORMAT (PDF) COPY OF OPERATION AND MAINTENANCE MANUAL TO CITY OF OTTAWA REPRESENTATIVE FOR REVIEW O&M MANUAL SHALL INCLUDE, BUT NOT LIMITED TO:
 - 7.1. TITLE PAGE
 - 7.2. LETTERS OF WARRANTIES FROM DATE OF SUBSTANTIAL COMPLETION
 - 7.3. SHOP DRAWINGS C/W STAMPED CONSULTANTS ACCEPTED 'REVIEWED'
 - 7.4. OPERATION AND MAINTENANCE DATA SHALL FOR ALL MECHANICAL SYSTEMS AND OR DEVICES SUFFICIENTLY DETAILED WITH RESPECT TO DESIGN ELEMENTS, OPERATIONAL PROCEDURES, TECHNICAL DATA, CONSTRUCTION FEATURES, COMPONENT FUNCTIONS AND MAINTENANCE REQUIREMENTS TO PERMIT EFFECTIVE START UP, OPERATION, MAINTENANCE, REPAIR, MODIFICATION, EXTENSION AND EXPANSION OF ANY PORTION OF THE SYSTEM.
 - 7.5. ALL TESTING AND COMMISSIONING RESULTS AND START-UP FOR EQUIPMENT INSTALLED AND CERTIFICATE OF ACCEPTANCE BY AUTHORITIES HAVING JURISDICTION.
 - 7.6. CERTIFICATE OF ACCEPTANCE BY AUTHORITIES HAVING JURISDICTION FOR SPECIAL INSTALLATION REQUIREMENTS SUCH AS, BUT NOT LIMITED TO, SEISMIC INSTALLATION OF EQUIPMENT AND SPRINKLER INSTALLATION TO BE AS PER NFPA 13.
 - 7.7. APPROPRIATE DIAGRAM, OPERATING INSTRUCTIONS AND ALL OTHER REQUIRED INFORMATION REGARDING CONTROLS FOR PROPER OPERATION AND MAINTENANCE OF THE SYSTEMS.
 - 7.8. COLORED HARD COPY OF AS-BUILTS DRAWINGS (FOLLOWING ENGINEER APPROVAL)
 - 7.9. FAILURE TO SUBMIT MANUALS SPECIFIED, WILL INCUR ADDITIONAL 10% HOLDBACK AGAINST PROGRESS PAYMENTS. SUBMIT THREE (3) HARD COPIES WITHIN FOUR (4) WEEKS OF ACCEPTANCE OF DRAFT MANUALS TO OWNER.
8. CONTRACTORS SHALL WARRANTY THEIR WORK, PARTS, AND LABOUR FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE BY THE OWNER OR SUBSTANTIAL COMPLETION, WHICHEVER IS GREATEST.
9. DRAWINGS ONLY SHOW GENERAL INTENT AND SCOPE OF WORK, NOT EXACT DETAILS OF INSTALLATION. CONTRACTOR SHALL PROVIDE ALL MATERIALS AND ACCESSORIES NECESSARY FOR COMPLETE AND FULLY OPERATIONAL MECHANICAL SYSTEMS SHOWN. CONTRACTORS SHALL REVIEW ALL PERTINENT DRAWINGS AND ANY RELEVANT ON-SITE CONDITIONS TO VERIFY THAT WORK CAN BE CARRIED OUT AS SHOWN ON DRAWINGS. NO CLAIMS FOR EXTRA PAYMENTS WILL BE CONSIDERED FOR FAILURE TO DO SO. CONTRACTORS WILL ALSO MAKE ALLOWANCE IN TENDERING FOR SPACE LIMITATIONS, SECURITY ISSUES, AND THE SIMULTANEOUS WORKING OF DIFFERENT TRADES.
10. LOCATING EQUIPMENT:
 - 10.1. ARRANGE PIPES AND EQUIPMENT TO PERMIT READY ACCESS TO VALVES, COCKS, UNIONS, TRAPS, AND TO CLEAR OPENINGS OF DOORS AND ACCESS PANELS.
 - 10.2. ADJUST LOCATIONS OF PIPES, EQUIPMENT, AND FIXTURES TO ACCOMMODATE WORK TO INTERFERENCES ANTICIPATED AND ENCOUNTERED.
 - 10.3. INSTALL PLUMBING WORK TO PERMIT REMOVAL OF EQUIPMENT AND PARTS OF EQUIPMENT REQUIRING PERIODIC REPLACEMENT OR MAINTENANCE WITHOUT DAMAGE TO OR INTERFERENCE WITH OTHER PARTS OF EQUIPMENT OR STRUCTURE.
 - 10.4. DETERMINE EXACT ROUTE AND LOCATION OF EACH PIPE BEFORE FABRICATION.

- 10.4.1. RIGHT-OF-WAY:
 - 10.4.1.1. LINES THAT PITCH SHALL HAVE RIGHT-OF-WAY OVER THOSE THAT DO NOT PITCH. FOR EXAMPLE, PLUMBING DRAINS SHALL NORMALLY HAVE RIGHT-OF-WAY.
 - 10.4.1.2. LINES WHOSE ELEVATIONS CANNOT BE CHANGED SHALL HAVE RIGHT-OF-WAY OVER LINES WHOSE ELEVATIONS CAN BE CHANGED.
- 10.4.2. OFFSETS, TRANSITIONS, AND CHANGES IN DIRECTION:
 - 10.4.2.1. MAKE OFFSETS, TRANSITIONS, AND CHANGES IN DIRECTION IN PIPES AS REQUIRED TO MAINTAIN PROPER HEAD ROOM AND PITCH OF SLOPING LINES WHETHER OR NOT INDICATED ON DRAWINGS.
 - 10.4.2.2. FURNISH AND INSTALL ALL TRAPS, AIR VENTS, SANITARY VENTS, AND DEVICES AS REQUIRED TO EFFECT THESE OFFSETS, TRANSITIONS, AND CHANGES IN DIRECTION.

11. THE WORD "PROVIDE" SHALL MEAN "SUPPLY AND INSTALL". CONTRACTORS SHALL PROVIDE ALL REQUIRED EQUIPMENT AND PARTS FOR THE FINAL CONNECTION OF EQUIPMENT "BY OTHERS".
12. CONTRACTORS SHALL INSPECT THE SITE PRIOR TO SUBMITTING A BID. NO EXTRA SHALL BE ACCEPTED FOR FAILURE TO VISIT SITE PRIOR TO TENDER CLOSE.
13. CONTRACTORS ARE TO SUPPLY TOOLS, EQUIPMENT, AND PERSONNEL TO DEMONSTRATE AND INSTRUCT OPERATING AND MAINTENANCE PERSONNEL IN THE OPERATING, CONTROLLING, ADJUSTING, TROUBLE-SHOOTING, AND SERVICING OF ALL SYSTEMS AND EQUIPMENT DURING REGULAR WORK HOURS, PRIOR TO ACCEPTANCE.
14. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, ELECTRICAL AND STRUCTURAL DRAWINGS.
15. DRAWINGS INDICATE GENERAL ROUTING OF PIPING, EQUIPMENT, AND DUCTWORK. COORDINATE ON SITE PRIOR TO DUCT FABRICATION.
16. PROVIDE ACCESS DOORS IN DRYWALL CEILING AND WALLS FOR ACCESS TO ALL VALVES, DAMPERS AND DEVICES REQUIRING PERIODIC MAINTENANCE. DOOR TO BE STEEL WITH QUARTER-TURN FASTENER, PAINTED TO MATCH.
17. PROVIDE FACTORY FABRICATED IDENTIFICATION, INCLUDING DIRECTION ARROWS, FOR ALL PIPING, EQUIPMENT, AND DUCTWORK. IDENTIFICATIONS ARE TO BE INSTALLED AT EACH CHANGE IN DIRECTION, ON BOTH SIDES OF WALLS OR OBSTRUCTIONS, AND EVERY 15 METRES OF STRAIGHT RUN.
18. PROVIDE CUTTING, PATCHING, AND CORING OF ALL WALLS, CEILINGS, CONCRETE SLABS, AND OTHER SURFACES AS REQUIRED FOR MECHANICAL WORK. COORDINATE WITH CITY OF OTTAWA REPRESENTATIVE PRIOR TO CORE DRILLING AND CUTTING OF STRUCTURE REGARDING BUILDING REQUIREMENTS AND POLICIES. ALL PROPOSED OPENINGS TO BE SCANNED, TRACED, AND REVIEWED BY STRUCTURAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO AND RETAINED BY GC PRIOR TO CORING. CUT, DAMAGED, OR DISTURBED SURFACES MUST BE PATCHED AND REPAIRED TO ENGINEER'S APPROVAL. MATCH EXISTING MATERIAL, COLOUR, FINISH, AND TEXTURE OR AS INDICATED OTHERWISE.



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GENERAL NOTES			
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MECHANICAL GENERAL NOTES CONTINUED

- 19. THESE DRAWINGS SHOW THE COMPLETED WORK ONLY. INSTALL AND REMOVE ALL TEMPORARY WORKS (SHORING, BRACING, ETC) REQUIRED TO PROTECT THE EXISTING STRUCTURE AND ARCHITECTURAL FINISHES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY WORKS WHICH MAY BE REQUIRED FOR EXECUTION OF THE PROJECT ARE NOT SHOWN.
- 20. COORDINATION
 - 20.1. MECHANICAL TRADES TO CONVENE REGULAR COORDINATION MEETINGS ON SITE AT MINIMUM BIWEEKLY INTERVALS TO REVIEW UPCOMING INSTALLATIONS WITH GENERAL CONTRACTOR AND OTHER TRADES. NO EQUIPMENT SERVICES, ACCESSORIES, SUBSTRATE OR PREPARATIONS FOR INSTALLATION ARE TO PROCEED WITHOUT COORDINATION WITH GENERAL CONTRACTOR AND OTHER TRADES TO ENSURE THAT NO INTERFERENCES OCCUR WITH WORK OR INSTALLATIONS OF OTHER TRADES.
 - 20.2. IN THE EVENT OF INTERFERENCES IDENTIFIED DURING COORDINATION, PREPARE INTERFERENCE DRAWINGS TO SCALE AND SUBMIT TO CONSULTANT FOR REVIEW OR CLARIFICATION IN WRITING BEFORE PROCEEDING.
 - 20.3. IF SEEKING APPROVAL FOR ALTERNATE ROUTING OF SERVICES OR LOCATIONS OF EQUIPMENT, PREPARE SCALED SKETCHES AND SUBMIT TO CONSULTANT FOR APPROVAL IN WRITING BEFORE PROCEEDING.
 - 20.4. DUE TO THE DIAGRAMMATIC NATURE OF THE DRAWINGS, INTERFERENCES RESULTING FROM SERVICES THAT ARE INSTALLED WITHOUT COORDINATION WITH THE GENERAL CONTRACTOR AND OTHER TRADES WILL BE RELOCATED AT THE CONTRACTOR'S EXPENSE, REGARDLESS OF THE LAYOUTS DEPICTED ON THE DRAWINGS.
- 21. ALL TEMPORARY WORKS SHALL BE DESIGNED AND REVIEWED BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR AND LICENSED IN THE PROVINCE OF ONTARIO.
- 22. CONSTRUCTION LOADS ON THE PERMANENT STRUCTURE ALONG THE PATH OF TRAVEL SHALL BE ASSESSED BY A PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR AND LICENSED IN THE PROVINCE OF ONTARIO.
- 23. COORDINATE ANY BASE BUILDING SYSTEM(S) SHUTDOWN WITH CITY OF OTTAWA REPRESENTATIVE. SHUTDOWN OF BASE BUILDING SYSTEM(S) SHALL BE AT THE DISCRETION OF CITY OF OTTAWA REPRESENTATIVE TO MINIMIZE INTERRUPTION OF TENANTS OCCUPYING THE BUILDING.
- 24. THE DRAWINGS ARE COMPLEMENTARY AND WHAT IS CALLED FOR BY ONE IS CALLED FOR BY ALL.
- 25. COORDINATE WITH CITY OF OTTAWA INSPECTOR FOR CLOSEOUT OF PREVIOUSLY SUBMITTED APPLICATION REGARDING ADDITIONAL FIXTURES TO THE EXISTING SEPTIC SYSTEM.
- 26. OBTAIN CITY OF OTTAWA HOT WORKS PERMIT FOR ANY WORK THAT MAY INCLUDE A SPARK. FIRE WATCH REQUIRED DURING SPARK RELATED WORK.

MECHANICAL SPECIFICATIONS

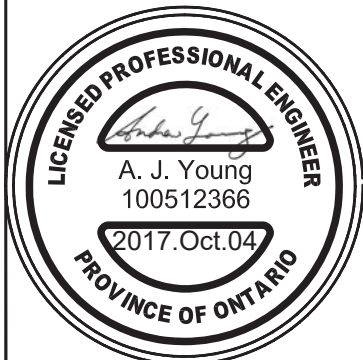
GENERAL:

- 1. SEISMIC RESTRAINT SYSTEM (SRS):
 - 1.1. DESIGN TO BE BY PROFESSIONAL ENGINEER SPECIALIZING IN DESIGN OF SRS AND REGISTERED IN THE PROVINCE OF ONTARIO. SRS CALCULATIONS AND DRAWINGS SHALL BEAR THE SRS DESIGN ENGINEER'S SEAL AND SIGNATURE.
 - 1.2. FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR RESPECTIVE DISCIPLINE AS IT RELATES TO THE SRS. CONTRACTOR TO COMPLY WITH BOTH OBC & NFPA.
 - 1.3. EACH CONTRACTOR SHALL USE ONE SUPPLIER TO PROVIDE SEISMIC DESIGN, ISOLATION & RESTRAINT.
 - 1.4. SEISMIC RESTRAINTS ARE TO BE PROVIDED FOR ALL OPERATIONAL AND FUNCTIONAL COMPONENTS OF BUILDING SERVICES IN ACCORDANCE WITH THE CURRENT OBC, ASHRAE STANDARD "A PRACTICAL GUIDE TO SEISMIC RESTRAINT", NFPA, SMACNA "SEISMIC RESTRAINT MANUAL" AND GOOD ENGINEERING PRACTICE.
 - 1.5. ACCEPTABLE MANUFACTURERS: KINETICS/VIBRON, MASON.

PLUMBING:

- 1. SANITARY & VENT PIPING:
 - .1 ALL EXPOSED ABOVE-GRADE SANITARY DRAINAGE AND VENT PIPING SHALL BE CAST IRON, TYPE DWV HARD DRAWN COPPER TUBE WITH CAST BRASS SOLDER FITTINGS (USE 100% LEAD FREE SOLDER), OR XFR PVC TYPE PIPING. PIPE MATERIALS TO MEET THE REQUIREMENTS OF AUTHORITY HAVING JURISDICTION.
 - .2 NO COMBUSTIBLE PIPING TO BE USED IN RETURN AIR PLENUMS.
 - .3 BELOW GRADE SANITARY & VENT PIPING & FITTINGS TO CSA-B181.2 LATEST EDITION.
 - .1 NPS 2 TO 3: CERTIFIED SOLVENT WELD PVC TYPE 1 GRADE 1, DWV, SCHEDULE 40, ONE STEP SOLVENT CEMENT WELD FOR PVC.
 - .2 NPS 4 AND LARGER: PVC DR 35 GASKETED RING-TITE SYSTEM TO CSA-B182.2-M95.
- 2. CONTRACTOR TO PROVIDE ALL PLATES, HANGERS, BRACKETS, WALL CARRIERS, CLEATS AND INTERIOR WALL SUPPORTS FOR RIGIDLY SUPPORTING PLUMBING PIPING SYSTEMS.
- 3. CONTRACTOR TO PROVIDE ALL ACCESS DOORS/PANELS NECESSARY FOR DEVICES REQUIRING SERVICING (I.E. CLEANOUTS, SHUTOFFS, ETC) THAT MAY BE INSTALLED BEHIND DRYWALL CEILINGS OR WALLS. THE EXACT LOCATION OF SUCH WALLS SHALL BE VERIFIED FROM THE ARCHITECTURAL DRAWINGS PRIOR TO TENDERING. CONTRACTOR IS ALSO EXPECTED TO NOTE WHETHER THESE ACCESS DOORS/PANELS ARE REQUIRED TO BE FIRE-RATED OR RECESSED TYPE TO ACCEPT TILE OR OTHER SUCH FINISH.
- 4. DOMESTIC WATER PIPING (POTABLE):
 - .1 PIPING
 - .1 ABOVE GROUND: PEX PIPING, CROSS LINKED POLYETHYLENE AND ASSOCIATED FITTINGS: TO CAN/CSA-B137.5 AND UL/ULC LISTED.
 - .2 SHALL BE ASTM F876 TESTED AND APPROVED FOR EXCESSIVE TEMPERATURE AND PRESSURE FOR 725 HOURS AT 99°C @ 1035KPa.
 - .2 THERMAL INSULATION FOR PIPING:
 - .1 FIRE AND SMOKE RATING: IN ACCORDANCE WITH CAN/ULC-S102.
 - .1 MAXIMUM FLAME SPREAD RATING: 25

- .2 MAXIMUM SMOKE DEVELOPED RATING: 50
- .2 MINERAL FIBRE SPECIFIED INCLUDES GLASS FIBRE, ROCK WOOL, AND SLAG WOOL.
- .3 THERMAL CONDUCTIVITY ("K" FACTOR) NOT TO EXCEED SPECIFIED VALUES AT 24°C MEAN TEMPERATURE WHEN TESTED IN ACCORDANCE WITH ASTM C 335.
- .4 TIAC CODE A-1 FOR DHW: RIGID MOULDED MINERAL FIBRE WITHOUT FACTORY APPLIED VAPOUR RETARDER JACKET.
 - .1 MINERAL FIBRE: TO CAN/ULC-S702.
 - .2 MAXIMUM "K" FACTOR: CAN/ULC-S702.
 - .3 25mm THICK.
- .5 TIAC CODE A-3 FOR DCW: RIGID MOULDED MINERAL FIBRE WITH FACTORY APPLIED VAPOUR RETARDER JACKET.
 - .1 MINERAL FIBRE: TO CAN/ULC-S702.
 - .2 25mm THICK.
- 3. FITTINGS
 - .1 BRASS INSERT FITTINGS AND ASSOCIATED CRIMP RINGS TO CAN/CSA-B137.5.
 - .2 FITTINGS SHALL BE INSTALLED WITH MANUFACTURER'S RECOMMENDED CRIMPING TOOL DESIGNED SPECIFICALLY FOR THAT PURPOSE.
- 4. JOINTS
 - .1 RUBBER GASKETS, LATEX-FREE 1.6mm THICK: TO AWWA C111.
 - .2 BOLTS, NUTS, HEX HEAD AND WASHERS: TO ASTM A 307, HEAVY SERIES.
 - .3 SOLDER: 95/5 TIN COPPER ALLOY LEAD FREE.
 - .4 TEFLON TAPE: FOR THREADED JOINTS.
 - .5 DIELECTRIC CONNECTIONS BETWEEN DISSIMILAR METALS: DIELECTRIC FITTING, COMPLETE WITH THERMOPLASTIC LINER.
- .5 BALL VALVES: CRIMP STYLE CONNECTIONS SUITABLE FOR PEX PIPING AT LESS THAN 65mm, CLASS 150, BRASS BODY, FULL-THROAT STAINLESS STEEL BALL, PTFE TEFLON ADJUSTABLE PACKING, BRASS GLAND AND PTFE TEFLON SEAT, STEEL LEVER HANDLE. CERTIFIED TO CAN/CSA-B137.5
- 6. ALL DOMESTIC COLD WATER PIPING TO BE INSULATED WITH 25mm THICK RIGID MOULDED MINERAL FIBRE WITH FACTORY APPLIED VAPOUR RETARDER JACKET.
 - .1 MINERAL FIBRE: TO CAN/ULC-S702 AND ASTM C 547.
 - .2 MAXIMUM "K" FACTOR: TO CAN/ULC-S702.
 - .3 ALL MATERIALS TO MEET 25/50 FIRE/SMOKE RATING.
- 5. PLUMBING FIXTURES/TRIM:
 - 5.1. REFER TO SCHEDULE.
 - 5.2. ACCEPTABLE MATERIAL: AT ENGINEER'S DISCRETION. REFER TO CITY OF OTTAWA'S FRONT END DOCUMENTS REGARDING REQUEST FOR ALTERNATES.



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 NAVAN MEMORIAL CENTRE
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GENERAL NOTES CONTINUED AND SPECIFICATIONS			
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MECHANICAL SPECIFICATIONS CONTINUED

6. PLUMBING SPECIALTIES & ACCESSORIES:

6.1. TRAP SEAL PRIMER:

- 6.1.1. ALL BRASS, "O" RING SEALS. ADJUSTABLE PRESSURE OPERATING RANGE.
- 6.1.2. ACCEPTABLE MATERIAL: PRECISION PLUMBING PRODUCTS INC. TRAP PRIMER VALVE.

6.2. FIXTURE THERMOSTATIC MIXING VALVE:

- 6.2.2. CAST BRASS, CERTIFIED TO ASSE 1070 AND SUITABLE FOR LOW FLOW APPLICATIONS.
- 6.2.3. ACCEPTABLE MATERIAL: REFER TO SCHEDULE.

6.3. FLOOR DRAINS:

- 6.3.1. FD: HEAVY DUTY FLOOR DRAIN WITH FLASHING CLAMP STRAINER SUITABLE FOR FLOORING SYSTEM; CAST IRON BODY, ADJUSTABLE HEAD, STAINLESS STEEL STRAINER, TRAP PRIMER CONNECTION & CLAMPING COLLAR.
- 6.3.2. ACCEPTABLE MATERIAL: WATTS FD-200 SERIES OR APPROVED ALTERNATE AS ACCEPTED BY ENGINEER PRIOR TO TENDER CLOSINGS.

6.4. CLEANOUTS:

- 6.4.1. CLEANOUT PLUGS: HEAVY CAST IRON MALE FERRULE WITH BRASS SCREWS AND THREADED BRASS OR BRONZE PLUG. SEALING-CAULKED LEAD SEAT OR NEOPRENE GASKET.
- 6.4.2. ACCESS COVERS:
 - 6.4.2.1. WALL ACCESS: FACE OR WALL TYPE, POLISHED NICKEL BRONZE ROUND COVER WITH FLUSH HEAD SECURING SCREWS, BEVELLED EDGE FRAME COMPLETE WITH ANCHORING LUGS. PAINTED TO MATCH WALL FINISH.

HVAC:

1. DUCTWORK:

1.1. MATERIAL:

- 1.1.1. GALVANIZED STEEL WITH Z90 DESIGNATION ZINC COATING, LOCK FORMING QUALITY: TO ASTM A525M-91b.
- 1.1.2. THICKNESS TO MATCH SMACNA UNLESS OTHERWISE NOTED.

1.2. DUCTS TO BE FACTORY FABRICATED, SPIRAL WOUND WITH MATCHING FITTINGS AND SPECIALS TO SMACNA.

1.3. SEAL CLASSIFICATION: CLASS A: LONGITUDINAL SEAMS, TRANSVERSE JOINTS, DUCT WALL PENETRATIONS AND CONNECTIONS SHALL BE MADE AIRTIGHT WITH SEALANT AND REINFORCING TAPE.

1.3.1. SEALANT: SYNTHETIC LATEX BASED FIBER-REINFORCED DUCT SEALANT TO UL-181A-M, LOW VOC, 0 FLAME AND SMOKE SPREAD, MEETS SEAL CLASS A.

1.3.1.1. ACCEPTABLE MATERIAL: DURO DYNE S-2.

1.3.2. TAPE: POLYVINYL TREATED, OPEN WEAVE FIBRE GLASS, 2" WIDE.

1.3.2.1. ACCEPTABLE MATERIAL: DURO DYNE FT-2

2. GRILLES:

- 2.1. "STANDARD" GRILLES TO BE FROM SINGLE MANUFACTURER.
- 2.2. REFER TO SCHEDULE.
- 2.3. ACCEPTABLE MATERIAL: NAILOR, E.H. PRICE, TITUS, KRUEGER, METAL-AIR AND AS INDICATED IN SCHEDULE.

3. TESTING, ADJUSTING AND BALANCING (TAB):

3.1. GENERAL REQUIREMENTS

- 3.1.1. DURING TAB ALL RELATED SYSTEM COMPONENTS SHALL BE IN FULL OPERATION. FAN AND PUMP ROTATION, MOTOR LOADS AND EQUIPMENT VIBRATION SHALL BE CHECKED AND CORRECTED AS NECESSARY BEFORE PROCEEDING WITH TAB. SET CONTROLS AND / OR BLOCK OFF PARTS OF DISTRIBUTION SYSTEM TO SIMULATE DESIGN OPERATION OF VARIABLE VOLUME AIR OR WATER SYSTEMS FOR TEST AND BALANCE WORK.
- 3.1.2. COORDINATE TAB PROCEDURES WITH ANY PHASED CONSTRUCTION COMPLETION REQUIREMENTS FOR THE PROJECT. PROVIDE TAB REPORTS FOR EACH PHASE OF THE PROJECT PRIOR TO PARTIAL FINAL INSPECTION OF EACH PHASE OF THE PROJECT.

3.2. PURPOSE

- 3.2.1. TO VERIFY PROPER AND SAFE OPERATION, DETERMINE ACTUAL POINTS OF PERFORMANCE, AND VERIFY SYSTEMS AND CONTROLS OF DESIGN DURING AVERAGE AND LOW LOADS USING ACTUAL OR SIMULATED LOADS.
- 3.2.2. 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.
- 3.2.3. TEST EQUIPMENT CRITERIA: THE INSTRUMENTATION SHALL MEET THE ACCURACY/CALIBRATION REQUIREMENTS ESTABLISHED BY AABC NATIONAL STANDARDS OR BY NEBB PROCEDURAL STANDARDS FOR TESTING, ADJUSTING AND BALANCING OF ENVIRONMENTAL SYSTEMS AND INSTRUMENT MANUFACTURER. PROVIDE CALIBRATION HISTORY OF THE INSTRUMENTS TO BE USED FOR TEST AND BALANCE PURPOSE.
- 3.2.4. BALANCE SYSTEMS AND EQUIPMENT TO REGULATE FLOW RATES TO MATCH LOAD REQUIREMENTS OVER FULL OPERATING RANGES.

3.3. CRITERIA

- 3.3.1. ONE OR MORE OF THE APPLICABLE AABC PUBLICATION, SUPPLEMENTED BY ASHRAE HANDBOOK "HVAC APPLICATIONS"

CHAPTER 36, AND REQUIREMENTS STATED HEREIN SHALL BE THE BASIS FOR PLANNING, PROCEDURES AND REPORTS. II. FLOW RATE TOLERANCES: THE FOLLOWING TOLERANCES ARE ALLOWED. FOR TOLERANCES NOT MENTIONED HEREIN FOLLOW ASHRAE HANDBOOK "HVAC APPLICATIONS", CHAPTER 36, AS A GUIDELINE. AIR FILTER RESISTANCE DURING TESTS, ARTIFICIALLY IMPOSED IF NECESSARY, SHALL BE AT LEAST 90% OF FINAL VALUES FOR PRE-FILTERS AND AFTER-FILTERS.

3.4. SYSTEMS

- 3.4.1. GRILLES: MINUS 2% TO PLUS 10%.

3.5. SUBMITTALS

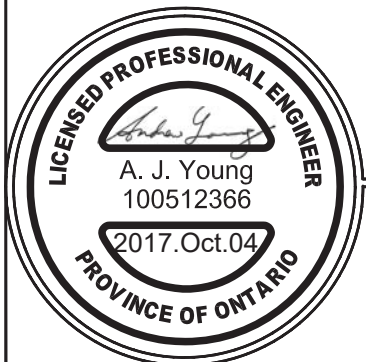
- 3.5.1. PROVIDE REPORT IN AABC FORMAT FOR ENGINEER'S REVIEW AND APPROVAL.
- 3.5.2. INTERMEDIATE AND FINAL TAB REPORTS COVERING FLOW BALANCES AND ADJUSTMENTS, PERFORMANCE TESTS, VIBRATION TESTS AND SOUND TESTS.
- 3.5.3. INCLUDE IN FINAL REPORTS UNCORRECTED INSTALLATION DEFICIENCIES NOTED DURING TAB AND APPLICABLE EXPLANATORY COMMENTS ON TEST RESULTS THAT DIFFER FROM DESIGN REQUIREMENTS
- 3.5.4. PRIOR TO REQUEST FOR FINAL OR PARTIAL FINAL INSPECTION, SUBMIT COMPLETED TEST AND BALANCE REPORT FOR THE AREA.

3.6. EQUIPMENT

- 3.6.1. PLUGS:
 - 8.6.1.1. PROVIDE PROPER PITOT TUBE OPENING (DURO-DYNE TYPE IP-4) TO SEAL HOLES DRILLED IN DUCTWORK FOR TEST PURPOSE.
- 8.6.2. INSULATION REPAIR MATERIAL:
 - 8.6.2.1. PROVIDE FOR REPAIR OF INSULATION REMOVED OR DAMAGED DURING TAB WORK.

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AD	ACCESS DOOR
CTE	CONNECT TO EXISTING
DHWT	DOMESTIC HOT WATER TANK
EF	EXHAUST FAN
EL	EXTERIOR LOUVRE
FA	FIRE ALARM DEVICE
TF	TRANSFER FAN
TG	TRANSFER GRILLE



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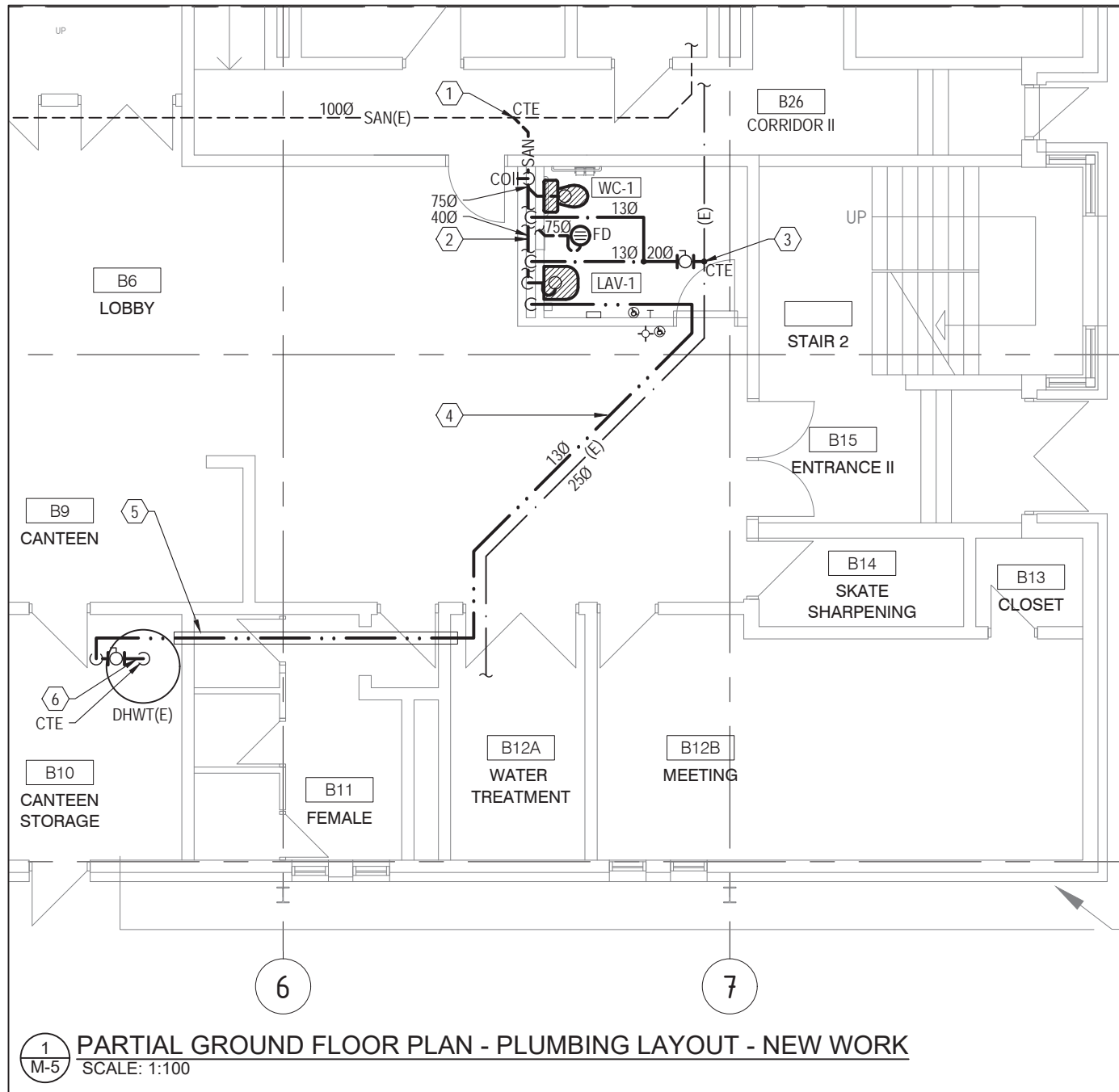
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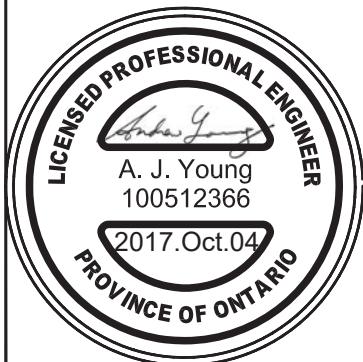
1 PARTIAL GROUND FLOOR PLAN - PLUMBING LAYOUT - NEW WORK
 M-5 SCALE: 1:100

GENERAL NOTE

1. PROVIDE VENTING IN ACCORDANCE WITH OBC.
2. PROVIDE PRIMING IN ACCORDANCE WITH OBC.

DRAWING NOTES

- ① CONNECT TO EXISTING 1000 SANITARY DRAIN. SANITARY DRAIN APPROX. 450mm BELOW TOP OF FLOOR SLAB. VERIFY ON SITE. REFER TO STRUCTURAL/ARCHITECTURAL DRAWINGS FOR FLOOR REMOVAL AND REINSTATEMENT.
- ② APPROX 80mm CLEARANCE BEHIND TOWEL DISPENSER. COORDINATE WITH GC ON SITE FOR LAV-1 SANITARY DRAIN CLEARANCE IN PLUMBING CHASE.
- ③ CONNECT TO EXISTING 250 PEX PIPING.
- ④ ROUTE DOMESTIC HOT WATER SUPPLY WITH OTHER DOMESTIC WATER SERVICES.
- ⑤ ROUTE DOMESTIC HOT WATER SUPPLY THROUGH EXISTING PIPE SLEEVE. VERIFY ON SITE.
- ⑥ CONNECT TO EXISTING DOMESTIC HOT WATER TANK. VERIFY CONNECTION POINT ON SITE.



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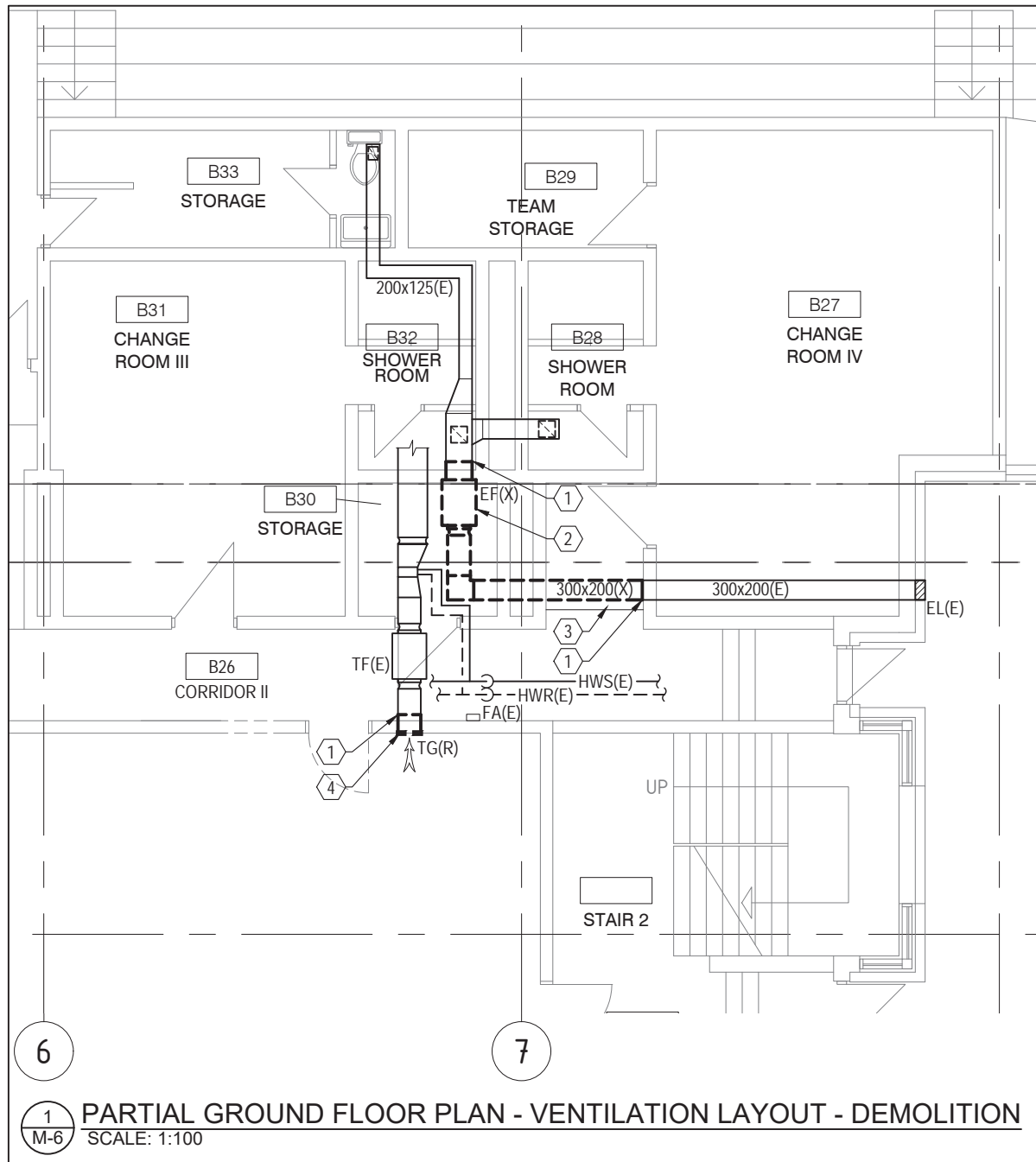
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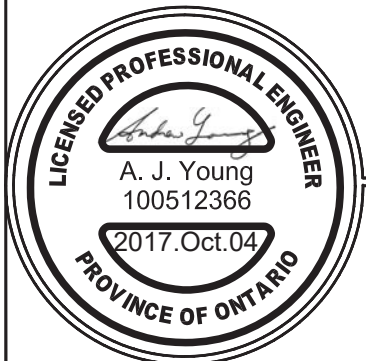
PARTIAL GROUND FLOOR PLAN PLUMBING LAYOUT NEW WORK			
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DRAWING NOTES

- ① CUT DUCTWORK AT APPROXIMATELY THIS LOCATION. VERIFY ON SITE.
- ② REMOVE EXISTING EXHAUST FAN. COORDINATE WITH ELECTRICAL TRADE.
- ③ COORDINATE WITH GC FOR PLYWOOD BULKHEAD REMOVAL.
- ④ REMOVE TRANSFER GRILLE AND STORE ON SITE FOR REINSTALLATION. REFER TO DETAIL 1 ON DWG. M-7



① PARTIAL GROUND FLOOR PLAN - VENTILATION LAYOUT - DEMOLITION
M-6 SCALE: 1:100



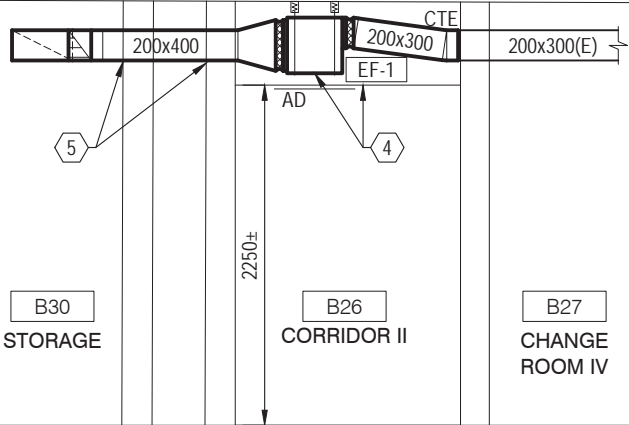
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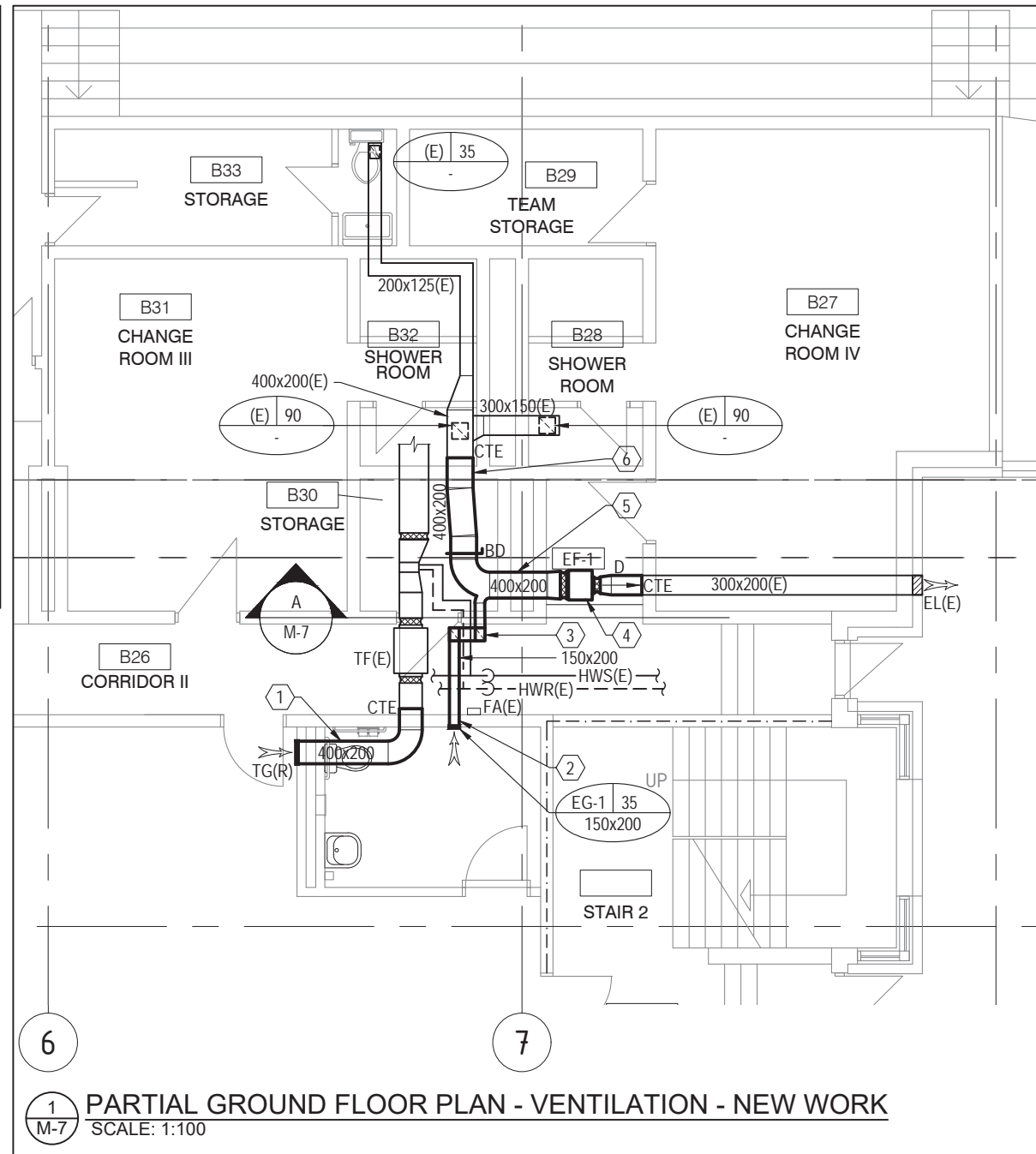
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PARTIAL GROUND FLOOR PLAN VENTILATION LAYOUT DEMOLITION			
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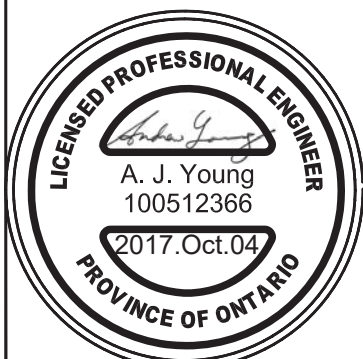
A
M-7 SECTION
SCALE: 1:50



1
M-7 PARTIAL GROUND FLOOR PLAN - VENTILATION - NEW WORK
SCALE: 1:100

DRAWING NOTES

- 1 EXTEND TRANSFER AIR DUCTWORK TO NEW WALL AS INDICATED. REINSTALL TRANSFER AIR GRILLE PREVIOUSLY REMOVED DURING DEMOLITION.
- 2 PROVIDE NEW 150x200 EXHAUST DUCT AT APPROXIMATELY 2440mm AFF TO BOTTOM OF DUCT. VERIFY ON SITE.
- 3 TRANSITION EXHAUST DUCTWORK UNDER EXISTING HWS/R PIPING AND RISE BACK UP TO APPROXIMATELY 2440mm AFF TO BOTTOM OF DUCT. VERIFY ON SITE.
- 4 PROVIDE EXHAUST FAN. COORDINATE WITH GC FOR BULKHEAD REINSTATEMENT. PROVIDE ACCESS DOOR FOR SERVICING AS PER MANUFACTURER'S RECOMMENDATION. EXHAUST FAN TO REUSE EXISTING CONTROLS MADE SPARE FORM DEMOLITION.
- 5 MODIFY EXISTING BLOCK WALL TO SUIT NEW DUCT SIZE. VERIFY ON SITE.
- 6 GC TO PATCH AND REPAIR VOID CREATED AROUND NEW EXHAUST DUCTWORK FROM REMOVAL OF EXHAUST FAN.



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PARTIAL GROUND FLOOR PLAN VENTILATION LAYOUT NEW WORK			
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PLUMBING FIXTURE SCHEDULE

TAG	SERVICES			MODEL	TRIM	DESCRIPTION
	DCW	DHW	SAN			
WC-1	130	N/A	750	AMERICAN STANDARD - 2467 016 CADET RIGHT HEIGHT ELONGATED PRESSURE-ASSISTED 6L TOILET, C/W 1500STSCC TOILET SEAT.	N/A	VITREOUS CHINA, LOW-CONSUMPTION, ELONGATED 419mm HIGH BOWL RIM, OPEN FRONT SEAT LESS COVER, FOR BARRIER FREE APPLICATIONS. C/W TRIP LEVER ON LEFT SIDE AND TANK COVER LOCKING DEVICE. C/W EXTRA HEAVY-DUTY TOILET SEAT, OPEN FRONT, STAINLESS STEEL CHECK HINGE WITH GASKET, METAL FLAT WASHER, LOCK WASHERS AND STAINLESS STEEL NUTS. TOTAL HEIGHT INCLUDING SEAT TO BE 436MM.
LAV-1	130	130	400	AMERICAN STANDARD - 0954 994EC MURRO UNIVERSAL DESIGN WALL-HUNG SINK WITH EVERCLEAN	SLOAN OPTIMA EBF-650 C/W BDT MIXING VALVE	VITREOUS CHINA WITH EVERCLEAN, CONCEALED ARM SUPPORT, KNEE CONTACT GUARD. OPTIMA BATTERY POWERED, DECK MOUNTED, IR FAUCET, C/W BELOW DECK THERMOSTATIC MIXING VALVE. ALL FOR BARRIER FREE APPLICATIONS. C/W MODEL 0059 020EC SHROUD/KNEE CONTACT GUARD. SHROUD TO CONCEAL CONTROL MODULE AND FAUCET ELECTRONICS. REFER TO ARCHITECTURAL PLAN FOR MOUNTING HEIGHT AND LOCATION.

NOTES:
 1. VENT IN ACCORDANCE WITH OBC.
 2. C/W WHEELHANDLE SHUT-OFF VALVES WITH FLEXIBLE SUPPLIES.
 3. INSTALL IN ACCORDANCE WITH OBC BARRIER FREE REQUIREMENTS.
 4. WALL MOUNTED FIXTURES TO BE PROVIDED WITH WATTS DRAINAGE LAVATORY CARRIER.

FAN SCHEDULE

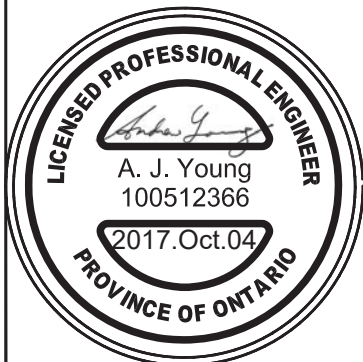
TAG	AIRFLOW (L/s)	E.S.P. (Pa)	ELECTRICAL DATA			BASIS OF DESIGN
			WATTS	V/Ø/Hz	AMPS	
EF-1	250	93	332	120/1/60	4.4	GREENHECK CSP-A710

NOTES:
 1. C/W EXTERNALLY MOUNTED SPEED SWITCH.
 2. C/W VIBRATION ISOLATION.
 3. C/W ACCESS DOOR IN BULKHEAD FOR SERVICING.
 4. C/W FLEXIBLE CONNECTIONS.

GRILLE SCHEDULE

TAG	SERVICE	FACE SIZE	MOUNT TYPE	BASIS OF DESIGN
EG-1	EXHAUST	REFER TO DWGS	SURFACE	E.H. PRICE 80 SERIES

NOTES:
 1. C/W OPPOSED BLADE DAMPER



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ELECTRICAL SPECIFICATIONS

1. GENERAL

CONFORM TO REQUIREMENTS OF THE GENERAL CONDITIONS. PROVIDE ALL LABOUR, MATERIALS, PRODUCTS, EQUIPMENT, SERVICES AND ALL INCIDENTALS REQUIRED TO COMPLETE, TEST AND COMMISSION ALL ELECTRICAL WORK SHOWN ON THE DRAWINGS AND/OR NOTED HEREUNDER. ELECTRICAL WORK SHALL BE CARRIED OUT BY A CONTRACTOR HOLDING A VALID CONTRACTOR'S LICENSE AND QUALIFIED ELECTRICIANS WHO HOLD VALID ONTARIO CERTIFICATES OF QUALIFICATION.

2. CODES AND STANDARDS

COMPLETE INSTALLATION IN ACCORDANCE WITH APPLICABLE CODES, INCLUDING BUT NOT NECESSARILY LIMITED TO: CURRENT ONTARIO ELECTRICAL SAFETY CODE CSA C22.1, PERTINENT ESA (ELECTRICAL SAFETY AUTHORITY) BULLETINS AND THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION.

3. PERMITS AND FEES

OBTAIN ALL NECESSARY PERMITS FOR THE EXECUTION OF THE ELECTRICAL WORK. ON COMPLETION OF THE WORK FURNISH COPIES OF THE CERTIFICATES OF ACCEPTANCE FROM THE INSPECTION AUTHORITY AND PERTINENT AUTHORITIES HAVING JURISDICTION. PAY ALL ASSOCIATED COSTS AND FEES, INCLUDING ANY PREMIUMS APPLICABLE DUE TO REQUIREMENTS FOR "AFTER OFFICE HOURS" INSPECTIONS. CONTRACTOR SHALL PAY ALL ASSOCIATED COSTS AND FEES FOR ESA INSPECTIONS, ESA INSPECTIONS REPORTS TO BE PROVIDED TO OWNER AND CONSULTANT.

REFER TO CITY OF OTTAWA FRONT END SPECIFICATIONS FOR HOT WORKS PERMIT PROCESS.

4. SITE VISIT

ACQUIRE FULL WORKING KNOWLEDGE OF BUILDING SITE AND ANY EXISTING CONDITIONS, WHICH MAY AFFECT THE WORK. VISIT SITE PRIOR TO TENDER SUBMISSION.

5. CONTRACT DRAWINGS

CONTRACT DRAWINGS FOR ELECTRICAL WORK, ARE IN PART DIAGRAMMATIC, INTENDED TO CONVEY THE SCOPE OF WORK AND GENERAL ARRANGEMENT OF EQUIPMENT, CONDUIT AND OUTLETS. BEFORE INSTALLATION, VERIFY THE PHYSICAL LOCATION OF ALL ELECTRICAL EQUIPMENT WITH ALL OTHER INSTALLATIONS AND REPORT ANY OBSTRUCTIONS OR INTERFERENCES. NO EXTRA PAYMENTS ARISING FROM FAILURE TO MAKE THIS VERIFICATION WILL BE CONSIDERED. DRAWINGS INDICATE THE GENERAL LAYOUT OF THE COMPLETE ELECTRICAL SYSTEM, ARRANGEMENT OF FEEDERS, CIRCUITS, OUTLETS, SWITCHES, CONTROLS, PANELBOARDS, FIXTURES AND OTHER WORK. THE DRAWINGS INDICATE THE GENERAL LOCATION AND ROUTES TO BE FOLLOWED, BUT DO NOT SHOW ALL CONDUIT AND/OR WIRING OR ALL THE

STRUCTURAL, MECHANICAL AND ARCHITECTURAL DETAILS. PLAN AND INSTALL CONDUIT RUNS RESPECTING ALL APPLICABLE CONDITIONS INCLUDING STRUCTURAL, ARCHITECTURAL AND MECHANICAL DETAILS. BRING OBVIOUS DISCREPANCIES OR OMISSIONS TO THE ATTENTION OF THE CONSULTANT DURING THE TENDER PERIOD, AT LEAST FIVE WORKING DAYS PRIOR TO TENDER CLOSING.

6. EXISTING SERVICES

GIVE THE OWNER AMPLE NOTICE OF EACH NECESSARY INTERRUPTION OF ELECTRICAL SERVICE DURING THE COURSE OF THE WORK. UNAVOIDABLE INTERRUPTIONS TO EXISTING SYSTEMS/ INSTALLATIONS, IF ANY, SHALL BE OF THE SHORTEST POSSIBLE DURATION AND EACH SUCH INTERRUPTION SHALL REQUIRE THE SPECIFIC APPROVAL OF THE OWNER. SUBMIT A SCHEDULE OF ALL ANTICIPATED INTERRUPTIONS, IDENTIFYING EXACTLY WHAT THE INTERRUPTION IS, HOW LONG IT WILL BE, WHEN IT IS PLANNED TO OCCUR AND WHICH AREA(S) WILL BE AFFECTED. GIVE THE OWNER A MINIMUM OF TWO WEEKS NOTICE RELATED TO EACH NECESSARY INTERRUPTION. THE OWNER RESERVES THE RIGHT TO DENY APPROVAL FOR AN INTERRUPTION ON ANY SPECIFIC DATE OR TIME. IN THIS CASE AN ALTERNATIVE TIME SHALL BE MUTUALLY SELECTED.

7. DEMOLITION

REFER TO DEMOLITION NOTES ON DRAWINGS. RENDER SAFE THE INSTALLATIONS AT LOCATIONS FROM WHICH THE EXISTING INSTALLATIONS AND EQUIPMENT HAS BEEN REMOVED AS PART OF THIS WORK. REMOVE FROM THE SITE ALL EXISTING EQUIPMENT AND MATERIALS, WHICH BECOMES OBSOLETE AS A RESULT OF THIS WORK EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.

8. SHOP DRAWINGS

SUBMIT ONE (1) COPY OF SHOP DRAWINGS IN PDF FORMAT TO THE CONSULTANT FOR REVIEW. REVIEW OF SHOP DRAWINGS INDICATES ONLY THAT THE QUALITY AND GENERAL DESIGN OF THE EQUIPMENT IS ACCEPTABLE. VERIFICATION OF DETAILED DESIGN COMPLIANCE, DIMENSIONS AND QUANTITIES, OR THE LOCATION OF CONNECTIONS TO EQUIPMENT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SHOW DETAILS OF CONSTRUCTION, DIMENSIONS, CAPACITIES, WEIGHTS, ALL ELECTRICAL DATA AND PERFORMANCE CHARACTERISTICS, ON SHOP DRAWINGS. ALL WIRING DIAGRAMS, CONTROL SCHEMATICS AND DESCRIPTIONS OF OPERATION MUST ALSO BE INCLUDED. SUBMIT SHOP DRAWINGS FOR: POWER DISTRIBUTION EQUIPMENT, INCLUDING PANELBOARDS, BREAKERS, RECEPTACLES, SWITCHES, ETC. LIGHTING FIXTURES WITH COMPLETE INFORMATION ON DIMENSIONS, WEIGHTS, ETC. PHOTOMETRIC DATA, LAMPS, BALLASTS, VOLTAGE, SOUND RATINGS AND INTERNAL WIRING DIAGRAMS.

9. APPROVAL OF ALTERNATIVES

- REFER TO THE CITY OF OTTAWA FRONT END SPECIFICATIONS FOR REQUIREMENTS.
- MANUFACTURER'S NAMES AND MODEL NUMBERS OF EQUIPMENT INCLUDED IN THE SPECIFICATIONS ARE CONSIDERED ACCEPTABLE.
- ACCEPTANCE OF ALTERNATIVES DOES NOT ABSOLVE THIS CONTRACTOR FROM MAKING ALL NECESSARY ADJUSTMENTS TO THE WORK OF OTHER TRADES INCURRED BY SELECTION OF ALTERNATIVE EQUIPMENT OR MATERIALS. SUCH ADJUSTMENTS ARE TO BE MADE AT NO ADDITIONAL COST.

10. OPERATION AND MAINTENANCE MANUAL

SUBMIT A DRAFT ELECTRONIC FORMAT (PDF) COPY OF OPERATION AND MAINTENANCE MANUAL TO ENGINEER FOR APPROVAL. O&M MANUAL SHALL INCLUDE BUT NOT LIMITED TO:

- TITLE PAGE
- LETTER OF WARRANTY FROM DATE OF SUBSTANTIAL COMPLETION
- SHOP DRAWINGS C/W STAMPED CONSULTANTS ACCEPTED 'REVIEWED'
- ALL TESTING AND COMMISSIONING RESULTS, START-UP, SHUT DOWN AND EMERGENCY PROCEDURES FOR EQUIPMENT INSTALLED AND CERTIFICATE OF ACCEPTANCE BY AUTHORITIES HAVING JURISDICTION
- APPROPRIATE WIRING DIAGRAMS, SCHEMATICS, ELEVATIONS, MOUNTING REQUIREMENTS, AS IT PERTAINS TO EACH SYSTEM AND/OR DEVICE
- EQUIPMENT OPERATION. INCLUDE NAMEPLATE INFORMATION MAKE, SIZE, CAPACITY AND SERIAL NUMBER
- ESA INSPECTION REPORTS
- FAILURE TO SUBMIT MANUALS SPECIFIED, WILL INCUR ADDITIONAL 10% HOLDBACK AGAINST PROGRESS PAYMENTS. SUBMIT THREE (3) HARD COPIES WITHIN FOUR (4) WEEKS OF ACCEPTANCE OF DRAFT MANUALS TO OWNER.
- FIRE ALARM TEST AND VERIFICATION REPORT, INCLUDING AUDIBILITY TESTING AS PER FIRE ALARM SPECIFICATION

11. AS-BUILT DRAWINGS

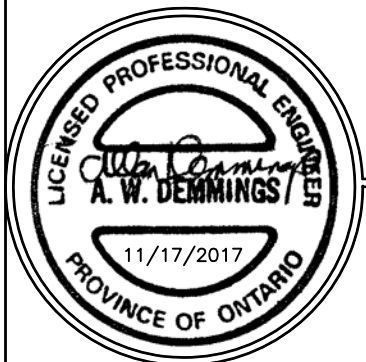
ELECTRICAL CONTRACTOR SHALL MARK ALL CHANGES AS WORK PROGRESSES AND AS CHANGES OCCUR ON A RECORD SET OF CONTRACT DOCUMENTS. CHANGES SHALL REPRESENT WORK AS ACTUALLY INSTALLED. USE DIFFERENT COLOUR WATERPROOF INK FOR EACH SERVICE. DRAWING SET SHALL BE AVAILABLE FOR REFERENCE PURPOSES AND INSPECTION AT ALL TIMES. EACH DRAWING SHALL BE IDENTIFIED IN TITLE BLOCK ON RIGHT HAND SIDE "AS-BUILTS DRAWINGS: THIS DRAWING HAS BEEN REVISED TO SHOW ELECTRICAL SYSTEMS INSTALLED". INCLUDE SIGNATURE OF CONTRACTOR AND DATE. SUBMIT HARD COPY TO ENGINEER FOR APPROVAL AND MAKE CORRECTIONS AS DIRECTED. FOLLOWING APPROVAL SUBMIT COMPLETED HARD COPY AS-BUILT DRAWINGS TO ENGINEER. INCLUDE A COLOURED HARD COPY OF AS-BUILTS WITH OPERATING AND MAINTENANCE MANUALS.

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	SURFACE MOUNTED LINEAR LUMINAIRE
	WALL MOUNTED EXIT SIGN
	EMERGENCY LIGHTING BATTERY PACK C/W TWO REMOTE HEADS
	EMERGENCY LIGHTING REMOTE HEADS
	LINE VOLTAGE WALL MOUNTED OCCUPANCY SENSOR SWITCH - DUAL RELAY
	DUPLEX RECEPTACLE 120V, 15A, 'U' GROUND
	DUPLEX RECEPTACLE 120V, 15A, 'U' GROUND; 'H' DENOTES 305mm BELOW CEILING
	DUPLEX RECEPTACLE WITH INTEGRAL GFI PROTECTION, 120V, 15A, 'U' GROUND; 'OC' DENOTES 6" OVER COUNTER
	120V SINGLE PHASE DIRECT CONNECTION
	PANELBOARD, SURFACE MOUNTED
	PANELBOARD, FLUSH MOUNTED
	SINGLE PHASE MOTOR
	CONTACTOR
	DEFINITE PURPOSE MOTOR STARTER
	FORCE FLOW HEATER
	UNIVERSAL WASHROOM EMERGENCY NOTIFICATION PUSH-BUTTON
	UNIVERSAL WASHROOM LED ANNUNCIATOR C/W ADJUSTABLE SOUNDER
	UNIVERSAL WASHROOM LED DOME LIGHT C/W ADJUSTABLE SOUNDER
	PUSH-TO-LOCK BUTTON
	THERMOSTAT
	WALL MOUNTED PUBLIC ADDRESS SPEAKER
	MOTION DETECTOR
	FIRE ALARM BELL TO MATCH BASE BUILDING STANDARD
XX-YY-ZZ	'XX' DENOTES PANEL; 'YY' DENOTES CIRCUIT NUMBER; 'ZZ' DENOTES SWITCH NUMBER
(E)	EXITING ITEM INCLUDED IN BASE BUILDING. INDICATED TO REMAIN.
(EC)	EXISTING ITEM TO REMAIN. RE-WIRE TO ACCOMMODATE CIRCUITS/SWITCHING SHOWN. DISCONNECT EXISTING ITEM INDICATED AND MAKE SAFE.
(ER)	RELOCATE/REUSE ITEM AS INDICATED.
(N)	INDICATES NEW DEVICE
(RC)	RELOCATED ITEM INDICATED. PROVIDE NEW WIRING/SWITCHING AS SHOWN.
(X)	DISCONNECT AND DISPOSE OF ITEM. REMOVE ALL ASSOCIATED WIRING AND CONDUIT BACK TO SOURCE AND MAKE SAFE.

DRAWING LIST

E-1	SPECIFICATIONS, DRAWINGS LIST & LEGEND
E-2	SPECIFICATIONS CONTINUED
E-3	KEY PLAN AND SCHEDULES
E-4	LIGHTING, POWER AND SYSTEMS - DEMOLITION
E-5	LIGHTING, POWER AND SYSTEMS - NEW WORK



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jp2g Project #: 2160523A



ISSUED FOR PERMIT/TENDER

CONTRACTOR TO CHECK AND VERIFY ALL PROJECT DIMENSIONS, CONDITIONS, AND QUANTITIES.

ALL DISCREPANCIES ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.

DO NOT SCALE THIS DRAWING.

Project

UNIVERSAL ACCESSIBLE WASHROOM
NAVAN MEMORIAL CENTRE
1295 COLONIAL ROAD
OTTAWA, ONTARIO

CITY PROJECT NO.: CR011692

Subject

SPECIFICATIONS, DRAWING LIST &
LEGEND

Date	Scale	Drawn By	Checked By
NOV 17/17	AS NOTED	NL	AD
Filename 17037A1		Drawing # E-1	

ELECTRICAL SPECIFICATIONS CONTINUED

12. GUARANTEES AND WARRANTIES

PRIOR TO SUBSTANTIAL COMPLETION OF WORK COLLECT ALL MANUFACTURER'S GUARANTEES AND WARRANTIES AND SUBMIT TO ENGINEER. ELECTRICAL CONTRACTOR TO SUBMIT SIGNED GUARANTEE STATING THAT ALL SYSTEMS AND COMPONENTS HAVE BEEN INSTALLED TO MANUFACTURERS RECOMMENDATIONS AND THAT SYSTEMS ARE OPERATING SATISFACTORILY AND MEET THE DESIGN REQUIREMENTS, AND ALL MATERIAL AND LABOUR DEFICIENCIES WILL BE CORRECTED, AT NO COST, FOR A PERIOD OF ONE YEAR AFTER SUBSTANTIAL COMPLETION.

13. PROTECTION

TAKE PRECAUTIONS TO PROTECT THE OCCUPANTS AND PERSONNEL FROM INJURY DUE TO LIVE CIRCUITS. PROTECT ALL FINISHED AND UNFINISHED WORK FROM DAMAGE DUE TO CARRYING OUT OF THIS WORK. ALSO PROVIDE FULL DUST PROTECTION DURING CONSTRUCTION. KEEP EQUIPMENT DRY AND CLEAN AT ALL TIMES. PROTECT ALSO ALL EXISTING SERVICES TO REMAIN IN AND AROUND THE AREAS OF RENOVATION.

14. CUTTING AND PATCHING

ARRANGE FOR THE GENERAL CONTRACTOR TO DO ALL CUTTING/CORE DRILLING AND PATCHING REQUIRED FOR THE ELECTRICAL INSTALLATIONS. BEFORE CARRYING OUT ANY CUTTING, OBTAIN WRITTEN APPROVAL FROM THE OWNER.

15. CLEAN UP AND REPAIR

CARRY OUT THE REQUIRED CLEANUP AT THE END OF EACH DAY IN WORK AREAS. REMOVE ALL TOOLS, EQUIPMENT, LADDERS AND EMPTY CARDBOARD BOXES ETC. AND LEAVE THE PREMISES BROOM CLEAN. THE ELECTRICAL CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAKING GOOD ANY DAMAGE TO WALLS, FLOORS, CEILINGS, WOODWORK, FINISHES, ETC. CAUSED DIRECTLY OR INDIRECTLY AS A RESULT OF HIS WORK.

16. CONDUIT

WIRING SHALL BE IN CONDUIT UNLESS SPECIFICALLY INDICATED OTHERWISE. INSTALL EMT THROUGHOUT EXCEPT WHERE SPECIFIED OTHERWISE. CONCEAL CONDUITS/RACEWAYS IN ALL AREAS EXCEPT IN MECHANICAL AND ELECTRICAL ROOMS OR WHERE SPECIFICALLY INDICATED OTHERWISE. WHERE WIRING AND CONDUIT CAN NOT BE CONCEALED IN A FINISHED AREA PROPOSED INSTALLATION TO BE APPROVED BY CLIENT/ENGINEER PRIOR TO WORK COMMENCING, RUN WIRING IN SURFACE METAL RACEWAY SYSTEM, SIZE TO SUIT WIRING FILL. INSTALL CONDUITS PARALLEL TO BUILDING LINES. INSTALL POLYPROPYLENE, MINIMUM 180 KG. PULL STRENGTH PULL CORDS IN EMPTY RACEWAYS AND FASTEN CORDS AT EACH END. INSTALL MINIMUM 600MM AND MAXIMUM 1000MM LENGTH OF FLEXIBLE GALVANIZED STEEL CONDUIT FOR

CONNECTIONS TO EQUIPMENT THAT MAY VIBRATE (SUCH AS EQUIPMENT WITH MOTORS), AND TO EQUIPMENT NOT PERMANENTLY FIXED OR WHICH MUST BE MOVED FOR SERVICING. LOCATE CONDUIT AND BOXES OFF STRUCTURAL STEEL TO ALLOW FOR SPRAY FIRE PROOFING APPLICATION.

17. WIRING

TYPE RW 90 COPPER, 600V, XLPE INSULATION. SOLID CONDUCTORS TO #10 AWG, STRANDED CONDUCTORS #8 AWG AND LARGER. TYPE RW 90 COPPER, 1000V, XLPE INSULATION FOR FEEDERS AT 600V OPERATING VOLTAGE. MINIMUM BRANCH CIRCUIT CONDUCTORS SHALL BE #12 AWG EXCEPT FOR 120 VOLT CONTROL CIRCUITS, MINIMUM SIZE OF WIRE SHALL BE #14 AWG. WIRING FOR BRANCH CIRCUITS SHALL BE SIZED TO LIMIT THE VOLTAGE DROP FROM THE PANELBOARD TO THE FARTHEST OUTLET TO 3% WHEN CARRYING 80% OF THE BRANCH CIRCUIT BREAKER RATED CURRENT. TWIST ON PRESSURE TYPE WIRE CONNECTORS FOR #10 AND SMALLER AND SPLIT BOLT TYPE FOR #8 AND LARGER. TYPE AC 90 WIRING WILL BE PERMITTED FROM CONDUIT SYSTEM JUNCTION BOXES TO RECESSED LIGHTING FIXTURES IN SUSPENDED ACCESSIBLE CEILINGS AND DRYWALL CEILINGS, AND TO WIRING DEVICES IN STUD PARTITIONS, MAXIMUM 10M LENGTH. LOOPING FROM FIXTURE TO FIXTURE IS ACCEPTABLE. TYPE AC 90 WIRING SHALL NOT BE USED FOR ANY OTHER APPLICATION. IN PATIENT CARE AREAS, IF ARMORED CABLES ARE USED, ONLY AC90 CABLES WITH INSULATED BONDING CONDUCTORS OR TECK90 CABLES ARE PERMITTED.

18. GROUNDING

GROUND ALL EQUIPMENT WITH APPROVED FITTINGS AND GROUND CONDUCTORS OF AMPLE CAPACITY AS REQUIRED BY GROUNDING TO ONTARIO ELECTRICAL SAFETY CODE, CSA STANDARD C22.1. INSTALL COMPLETE PERMANENT, CONTINUOUS, SYSTEM AND CIRCUIT, EQUIPMENT, GROUNDING SYSTEMS INCLUDING ELECTRODES, CONDUCTORS, CONNECTORS, ACCESSORIES, AS INDICATED, TO CONFORM TO REQUIREMENTS OF CONSULTANT, AND LOCAL AUTHORITY HAVING JURISDICTION OVER INSTALLATION. GROUND WIRES SHALL BE INSTALLED FOR ALL BRANCH CIRCUITS AND MOTOR CIRCUITS BY RUNNING THE GROUND WIRES IN THE SAME CONDUIT AS FOLLOWS:
FOR BRANCH CIRCUITS USING SHARED NEUTRALS, INSTALL ONE GROUND WIRE PER NEUTRAL.
FOR CIRCUITS USING INDIVIDUAL NEUTRALS FOR EACH CIRCUIT, USE ONE GROUND WIRE PER CIRCUIT.
MINIMUM SIZE OF GROUND WIRE TO BE #12 AWG COPPER. INSTALL CONTINUOUS GROUNDING CONDUCTORS THROUGH ALL CONDUITS/RACEWAYS FOR SYSTEMS OPERATING ABOVE 50 VOLTS (DO NOT USE CONDUIT AS GROUND), BOND AT EACH BOX AND DEVICE. GROUND ALL METALLIC RACEWAYS FOR SYSTEMS, I.E. FIRE ALARM, ETC.

19. FASTENING AND SUPPORTS

USE LEAD ANCHORS TO SECURE EQUIPMENT TO SOLID MASONRY, TILE AND PLASTER SURFACES. USE EXPANDABLE INSERTS TO SECURE EQUIPMENT TO POURED CONCRETE. USE TOGGLE BOLTS TO SECURE EQUIPMENT TO HOLLOW MASONRY WALLS OR SUSPENDED CEILINGS.

SUPPORT GROUPS OF CONDUITS AND CABLES, AND EQUIPMENT ON 41MM X 41MM X 2.5MM THICK GALVANIZED CHANNELS EQUAL TO UNISTRUT P SERIES, USING CLIPS, SPRING LOADED BOLT, CABLE CLAMPS AND THE LIKE, DESIGNED AS ACCESSORIES TO BASIC CHANNEL EMBERS. FOR SURFACE MOUNTING OF TWO OR MORE CONDUITS USE CHANNELS AT 1.5M OR LESS OC SPACING.

20. FIREPROOF PATCHING

WHERE CONDUITS OR SINGLE CONDUCTOR CABLES OR CABLE TRAYS PASS THROUGH FIRE RATED FLOOR SLABS, FIRE RATED CEILINGS OR FIRE RATED WALLS, SEAL OPENING AROUND SAME TO MAINTAIN FIRE SEPARATION USING 3M "FIRE BARRIER SEALANT CP 25WB+" OR APPROVED ULC RATED EQUIVALENT.

21. WIRING IDENTIFICATION

IDENTIFY WIRING WITH PERMANENT INDELIBLE IDENTIFYING MARKINGS EITHER NUMBERED OR COLOURED PLASTIC TAPES, ON BOTH ENDS OF PHASE CONNECTORS OF FEEDERS AND BRANCH CIRCUIT WIRING. COLOUR CODE: TO CSA C22.1.

22. CONDUIT AND CABLE IDENTIFICATION

COLOUR CODE CONDUITS, BOXES AND METALLIC SHEATHED CABLES. FOR BOXES, IDENTIFY THE COVER AS WELL AS INSIDE EACH BOX. FOLLOW BASE BUILDING SYSTEM OF IDENTIFICATION, OTHERWISE AGREE ON IDENTIFICATION SYSTEM WITH THE CONSULTANT.

23. MOUNTING HEIGHTS

MOUNTING HEIGHT OF EQUIPMENT IS FROM FINISHED FLOOR TO CENTRELINE OF EQUIPMENT UNLESS OTHERWISE SPECIFIED OR INDICATED. ALL DEVICES SHALL BE MOUNTED IN ACCORDANCE WITH THE CITY OF OTTAWA ACCESSIBILITY STANDARD AND ARCHITECTURAL DRAWINGS. INSTALL ELECTRICAL EQUIPMENT AT THE FOLLOWING HEIGHTS UNLESS INDICATED OTHERWISE:

- .1 IF MOUNTING HEIGHT OF EQUIPMENT IS NOT INDICATED, VERIFY WITH THE ENGINEER BEFORE PROCEEDING WITH INSTALLATION.
- .2 INSTALL ELECTRICAL EQUIPMENT AT THE FOLLOWING HEIGHTS ABOVE FINISHED FLOOR (AFF), OVER COUNTER (OC) OR UNDER COUNTER (UC) UNLESS INDICATED OTHERWISE:
 - .1 WALL SWITCHES FOR LIGHTING CONTROLS 1000 MM A.F.F.
 - .2 WALL RECEPTACLES: 400MM A.F.F. AND FOR OVER COUNTER LOCATIONS 175MM ABOVE TOP OF COUNTERS OR BACKSPLASH.
 - .3 THERMOSTAT: 1200MM A.F.F.

24. MOULDED CASE BREAKERS

BOLT ON MOULDED CASE CIRCUIT BREAKERS: QUICK MAKE, QUICK BREAK TYPE, FOR MANUAL AND AUTOMATIC OPERATION WITH TEMPERATURE COMPENSATION FOR 40°C AMBIENT. COMMON TRIP BREAKERS: WITH SINGLE HANDLE FOR MULTI POLE APPLICATIONS. MOULDED CASE CIRCUIT BREAKER TO OPERATE AUTOMATICALLY BY MEANS OF THERMAL AND MAGNETIC TRIPPING DEVICES TO PROVIDE INVERSE TIME CURRENT TRIPPING AND INSTANTANEOUS TRIPPING FOR SHORT CIRCUIT PROTECTION.

25. RECEPTACLES

COMMERCIAL SPECIFICATION GRADE. STANDARD OF ACCEPTANCE HUBBELL "CR5262I", AND EQUIVALENT PRODUCTS OF HUBBELL IN OTHER CONFIGURATIONS. RECEPTACLE COLOURS TO BE IVORY EXCEPT THAT THE "HOUSEKEEPING" RECEPTACLES SHALL BE GREY. ALL RECEPTACLES TO BE TAMPERPROOF UNLESS OTHERWISE INDICATED ON PLANS.

26. MATERIALS AND EQUIPMENT

EQUIPMENT AND MATERIAL SUPPLIED AS PART OF THE ELECTRICAL WORK SHALL BE NEW AND CERTIFIED TO APPLICABLE CSA STANDARDS FOR THE APPLICATION.

27. TESTING AND COMMISSIONING GENERAL ELECTRICAL INSTALLATIONS:

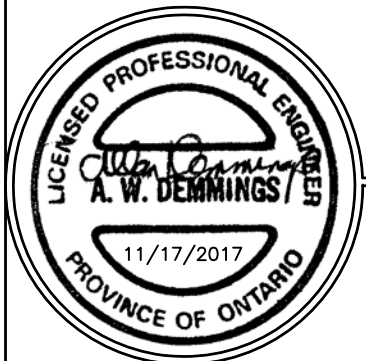
INSPECT, TEST AND COMMISSION ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT TO DEMONSTRATE AND VERIFY CORRECT OPERATION. RECTIFY AND REPLACE, AT NO COST TO THE OWNER, ANY FAULTY EQUIPMENT AND RECTIFY ANY FAULTY OPERATION. PRIOR TO ENERGIZING, MEGGER ALL FEEDERS USING A 500V INSTRUMENT FOR UP TO 347V SYSTEMS, AND RECORD RESULTS ON APPROVED VERIFICATION FORMS. CHECK INSULATION RESISTANCE TO GROUND BEFORE ENERGIZING. PERFORM GROUND CONTINUITY AND RESISTANCE TESTS USING METHOD APPROPRIATE TO SITE CONDITIONS AND TO APPROVAL OF CONSULTANT AND LOCAL AUTHORITY HAVING JURISDICTION OVER INSTALLATION. INSPECT, TEST AND COMMISSION ALL LIGHTING FIXTURES, LIGHTING COMPONENTS E.G. BALLASTS, LAMPS, ETC., RELATED SWITCHING AND OPERATION OF EMERGENCY AND EXIT LIGHTS.

28. FIRE ALARM

VERIFY THAT THE INSTALLATION OF THE FIRE ALARM SYSTEMS (IN THE RENOVATED AREA AND IMMEDIATE ADJOINING AREAS AFFECTED BY THE RENOVATION) COMPLIES WITH CAN/ULC-S524, STANDARD FOR THE INSTALLATION OF FIRE ALARM SYSTEMS. CHECK WIRING IS PROPERLY TERMINATED AND IDENTIFIED.

IN CONJUNCTION WITH THE MANUFACTURER TEST AND VERIFY THE FIRE ALARM SYSTEM IN ACCORDANCE WITH CAN/ULC-S537, STANDARD FOR VERIFICATION OF FIRE ALARM SYSTEM INSTALLATIONS AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION. ARRANGE FOR AUTHORITIES HAVING JURISDICTION TO WITNESS AND APPROVE TESTING OF THE FIRE ALARM SYSTEM. PREPARE, COMPLETE, SIGN AND SUBMIT A DETAILED VERIFICATION REPORT.

AUDIBILITY TESTING SHALL BE PERFORMED (IN THE RENOVATED AREA AND IMMEDIATE ADJOINING AREAS AFFECTED BY THE RENOVATION) TO ENSURE THAT ALL AREAS COMPLY WITH THE AUDIBILITY REQUIREMENTS DEFINED BY THE ONTARIO BUILDING CODE AND/OR AUTHORITIES HAVING JURISDICTION. ALL AREAS THAT DO NOT MEET THE AUDIBILITY REQUIREMENTS SHALL BE IDENTIFIED TO THE ARCHITECT, ENGINEER AND/OR OWNER.



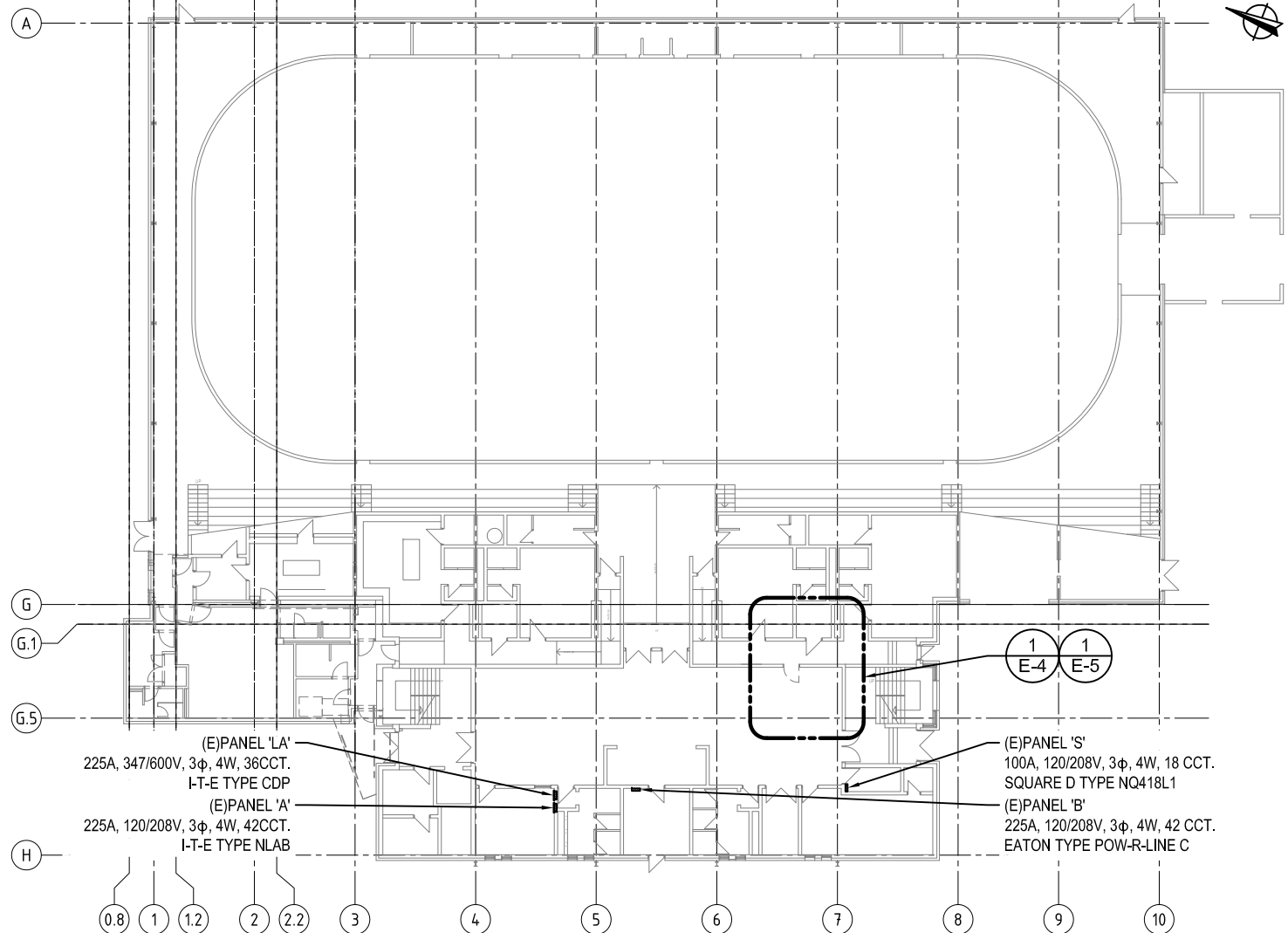
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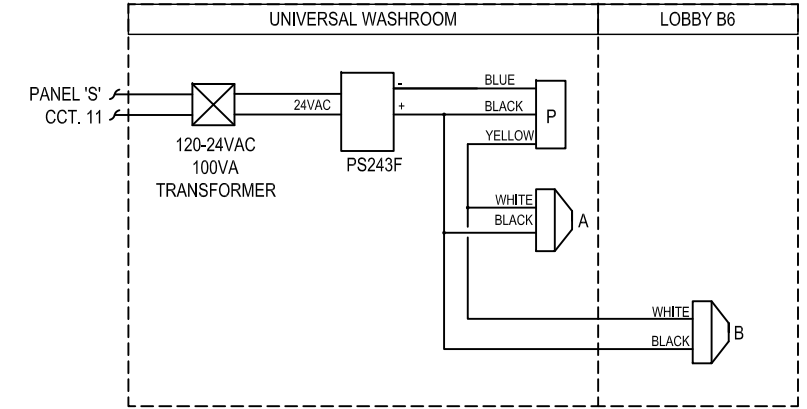
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 ALL DISCREPANCIES ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
 DO NOT SCALE THIS DRAWING.

Project
 UNIVERSAL ACCESSIBLE WASHROOM
 NAVAN MEMORIAL CENTRE
 1295 COLONIAL ROAD
 OTTAWA, ONTARIO
 CITY PROJECT NO.: CR011692

Subject			
SPECIFICATIONS CONTINUED			
Date	Scale	Drawn By	Checked By
NOV 17/17	AS NOTED	NL	AD
Filename		Drawing #	
17037A1		E-2	



1
E-3 **GROUND FLOOR KEY PLAN**
SCALE: 1:400



NOTES:

1. LOCATE TRANSFORMER AND POWER SUPPLY ON CEILING NEARBY EMERGENCY PUSH BUTTON STATION. PROVIDE 150mm X 150mm X 150mm X 150mm SURFACE MOUNTED NEMA 1 BOX FOR TRANSFORMER AND POWER SUPPLY AND SHOP PAINT TO MATCH WALL/CEILING. THIS CONTRACTOR TO SUPPLY TRANSFORMER AND POWER SUPPLY FOR EMERGENCY NOTIFICATION SYSTEM. EMERGENCY NOTIFICATION SYSTEM PROVIDED BY DOOR HARDWARE INSTALLER, INSTALLED AND ELECTRICALLY CONNECTED BY THIS CONTRACTOR. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FURTHER DETAILS.
2. INSTALL EMERGENCY NOTIFICATION SYSTEM AS PER MANUFACTURERS REQUIREMENTS, PROVIDE ALL ACCESSORIES AS REQUIRED TO MAKE CONNECTIONS.
3. REFER TO ARCHITECTURAL PLANS FOR EXACT MOUNTING HEIGHTS AND LOCATIONS FOR UNIVERSAL WASHROOM EMERGENCY NOTIFICATION SYSTEM.

2
E-3 **UNIVERSAL WASHROOM EMERGENCY NOTIFICATION SYSTEM**
SCALE: N.T.S.

EMERGENCY NOTIFICATION EQUIPMENT ROUGH-IN SCHEDULE

TYPE	DESCRIPTION	REMARKS
P	EMERGENCY NOTIFICATION PUSH-BUTTON	PROVIDE SINGLE GANG OUTLET BOX WITH 16mm EMT CONDUIT C/W PULLSTRING IN PLACE FROM DEVICE BACK TO POWER SUPPLY.
A	LED ANNUNCIATOR	PROVIDE SINGLE GANG OUTLET BOX WITH 16mm EMT CONDUIT C/W PULLSTRING IN PLACE FROM DEVICE BACK TO POWER SUPPLY.
B	LED DOME LIGHT	PROVIDE SINGLE GANG OUTLET BOX WITH 16mm EMT CONDUIT C/W PULLSTRING IN PLACE FROM DEVICE BACK TO POWER SUPPLY.
⊙	PUSH-TO-LOCK BUTTON	PROVIDE OUTLET BOX AND 16mm CONDUIT C/W PULLSTRING FOR INTERCONNECTION WITH DOOR OPERATOR AND PUSH-BUTTONS. BOX TO BE MOUNTED 900-1100MM A.F.F. AND SET FLUSH TO FINISHED WALL SURFACES. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL PLANS.

NOTE: DEVICES SHALL BE RECESS MOUNTED UNLESS INDICATED OTHERWISE. IF SURFACE MOUNT IS REQUIRED, CONTRACTOR SHALL PROVIDE SURFACE MOUNT OUTLET BOX.



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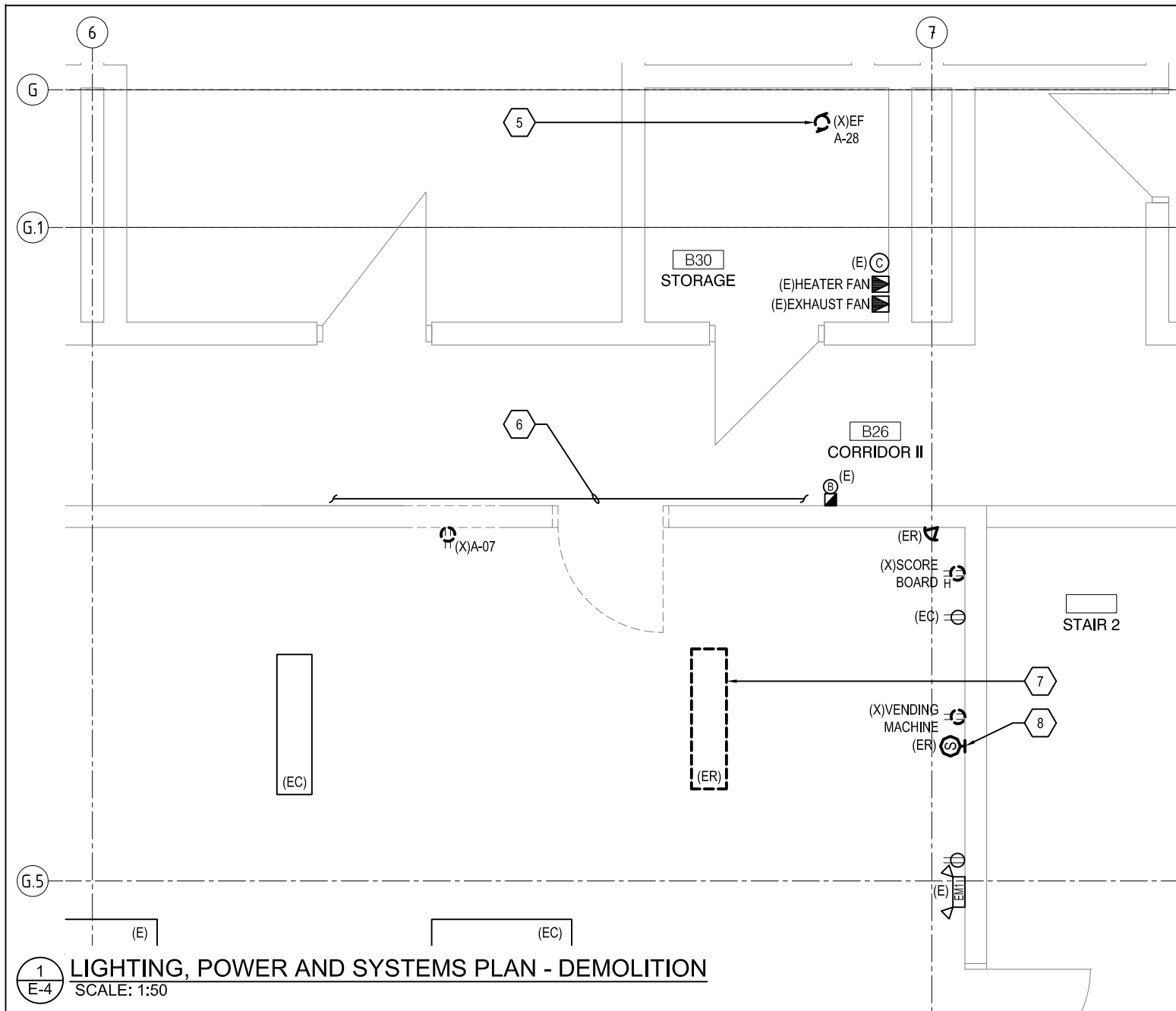


ISSUED FOR PERMIT/TENDER
CONTRACTOR TO CHECK AND VERIFY ALL PROJECT DIMENSIONS, CONDITIONS, AND QUANTITIES.
ALL DISCREPANCIES ARE TO BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
DO NOT SCALE THIS DRAWING.

Project
UNIVERSAL ACCESSIBLE WASHROOM
NAVAN MEMORIAL CENTRE
1295 COLONIAL ROAD
OTTAWA, ONTARIO
CITY PROJECT NO.: CR011692

Subject
KEY PLAN AND SCHEDULES

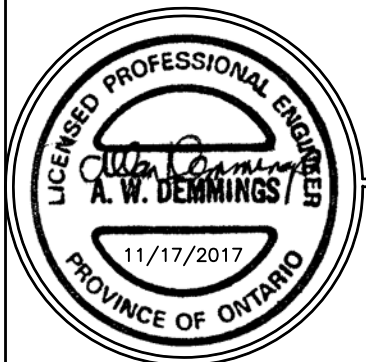
Date	Scale	Drawn By	Checked By
NOV 17/17	AS NOTED	NL	AD
Filename		Drawing #	
17037A1		E-3	



1
E-4 LIGHTING, POWER AND SYSTEMS PLAN - DEMOLITION
SCALE: 1:50

DEMOLITION NOTES

1. NOT ALL ITEMS TO BE REMOVED OR RELOCATED ARE SHOWN FOR CLARITY. THIS CONTRACTOR SHALL VERIFY ON SITE ALL ITEMS AFFECTED BY THIS WORK.
 2. TRACE LIGHTING, RECEPTACLE, TELEPHONE/DATA OUTLETS AND EQUIPMENT CIRCUITS AFFECTED BY THE DEMOLITION. REVISE LIGHTING CONTROL AND CIRCUITING TO RENOVATED AREAS AS INDICATED. MAINTAIN CIRCUIT PATH FOR UNAFFECTED PORTION OF CIRCUITS BY ADDING CONCEALED WIRE, CONDUIT AND CONTROLS AS REQUIRED.
 3. REMOVE AND SAFELY DISPOSE OF ALL ABANDONED WIRING AND CONDUIT ALL THE WAY BACK TO SOURCE OR PANEL.
 4. REMOVE AND SAFELY DISPOSE OF ALL ABANDONED ELECTRICAL EQUIPMENT AND DEVICES IN SPACE.
- 5 ELECTRICALLY DISCONNECT EXISTING WASHROOM EXHAUST FAN. REMOVE WIRING BACK TO PANEL. RETAIN EXISTING CONTROLS AND CONDUIT WHERE POSSIBLE FOR REUSE.
- 6 EXISTING CONDUIT ROUTED ALONG WALL JUST ABOVE DOOR TO BE RELOCATED HIGHER ON WALL TO ACCOMMODATE NEW WORK.
- 7 CAREFULLY REMOVE EXISTING 347V LUMINAIRE. REFER TO NEW WORK DRAWING E-5 FOR RE-INSTALLATION OF LUMINAIRE.
- 8 WALL MOUNTED SPEAKER TO BE RELOCATED. PROVIDE NEW JUNCTION BOXES, CONDUIT AND WIRING AS REQUIRED TO MAKE CONNECTION. WIRING SIZE TO MATCH EXISTING. REFER TO DRAWING E-5 FOR RE-INSTALLATION OF SPEAKER.



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Jp2g Project #: 2160523A



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