

R FIRE SEPERATION

AR	ARCHITECTURAL	MECHANICAL	ELECTRICAL	ISSUED FOR TENDE
A000	COVER PAGE	M1 MECHANICAL DRAWING LIST, LEGENDS,	E1 DRAWING LIST, SYMBOL LEGEND AND	
	DRAWING INDEX	GENERAL NOTES & SPECIFICATION	ELECTRICAL SPECIFICATIONS	
A210	GROUND LEVEL	M2 FIRE PROTECTION & HVAC DEMOLITION &	E2 LIGHTING AND FIRE ALARM DEMOLITION AND	
	NEW CONSTRUCTION FLOOR PLAN	NEW WORK	NEW WORK	
A400	WALL & DOOR DETAILS		E3 POWER AND SYSTEMS DEMOLITION AND NEW	
	SCHEDULES		WORK	
A800	INTERIOR ELEVATION			

Environment Canada
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Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

Ν 100% CLIENT REVIEW
50% CLIENT REVIEW ISSUED FOR TENDER 13/11/08 13/10/28 13/10/09

description

A detail no.
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VETEV- ACCUMULATION CELLS 2 HOUR FIRE SEPERATION

335 RIVER RD. OTTAWA, ONTARIO

COVER PAGE DRAWING INDEX

Date Drawn By Designed By M. CARRIER 2013/11/08 D. TESSIER / M. CARRIER 2013/11/08 (yyyy/mm/dd) Examiné par (yyyy/mm/dd) Dessiné par Conçu par

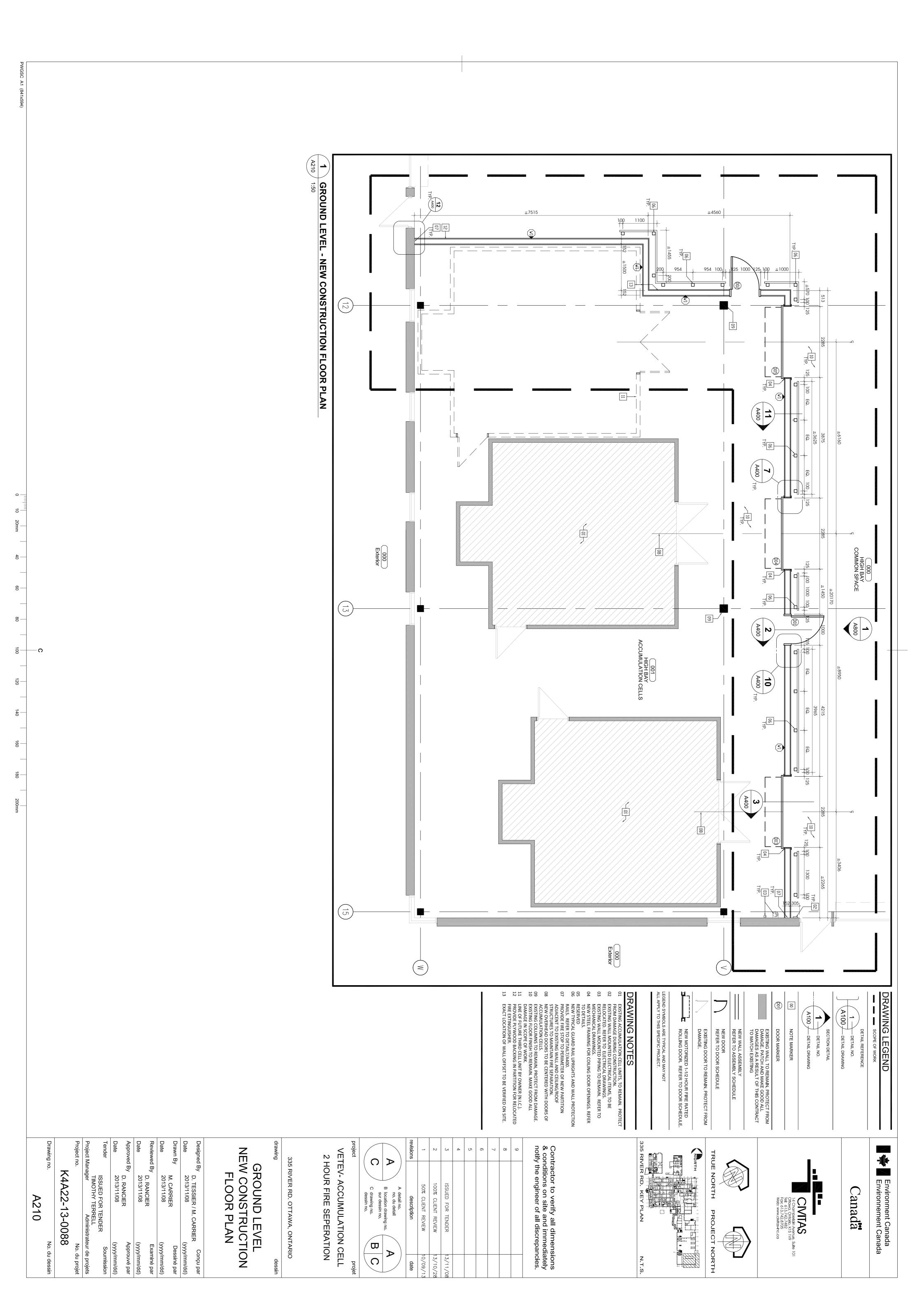
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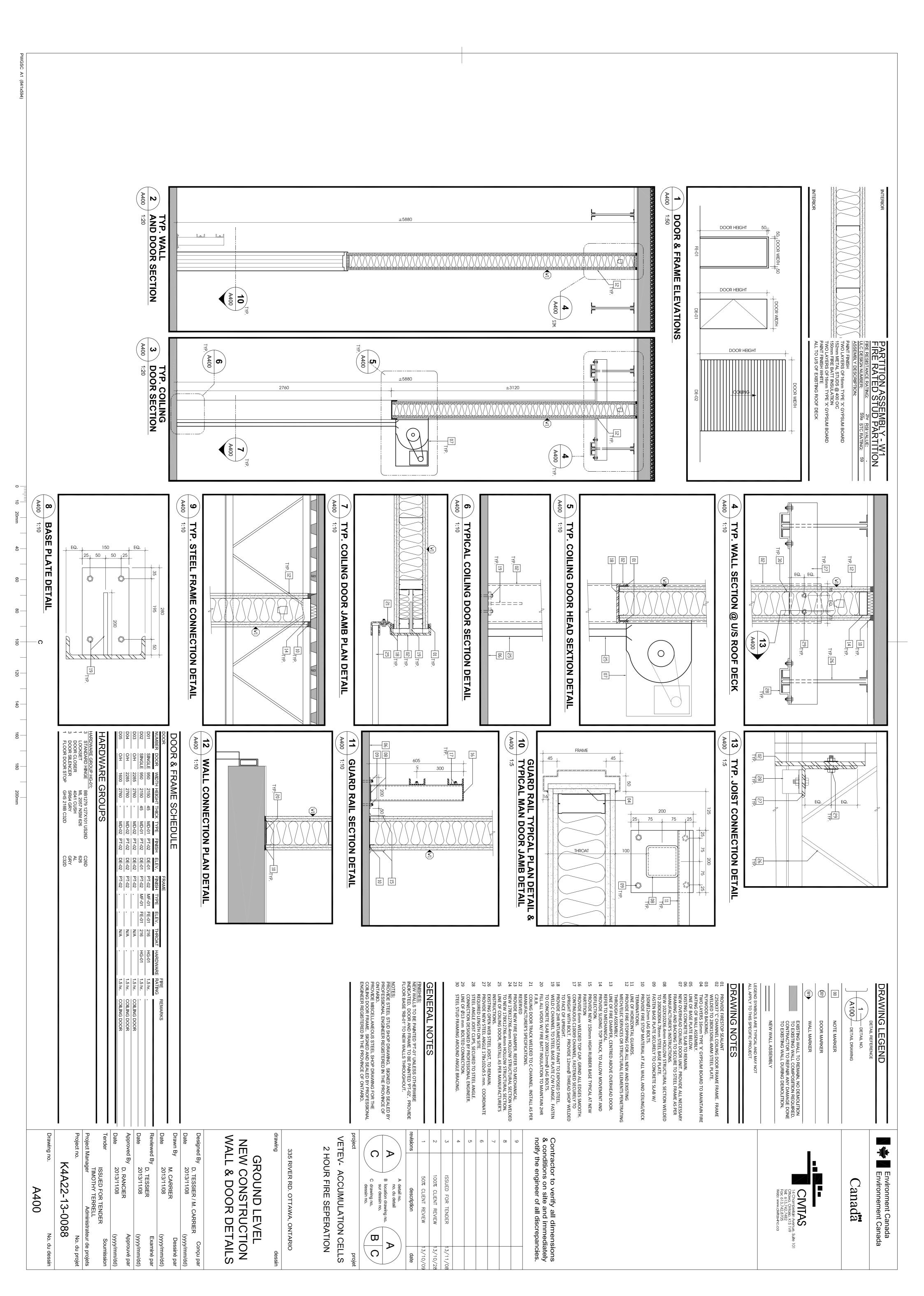
Reviewed By
D. TESSIER
2013/11/08 Approved By D. RANCIER 2013/11/08 Tender ISSUED FOR TENDER
TIMOTHY TERRELL
Project Manager Administrateur de projets
Project no. No. du projet (yyyy/mm/dd) Soumission (yyyy/mm/dd) Approuvé par

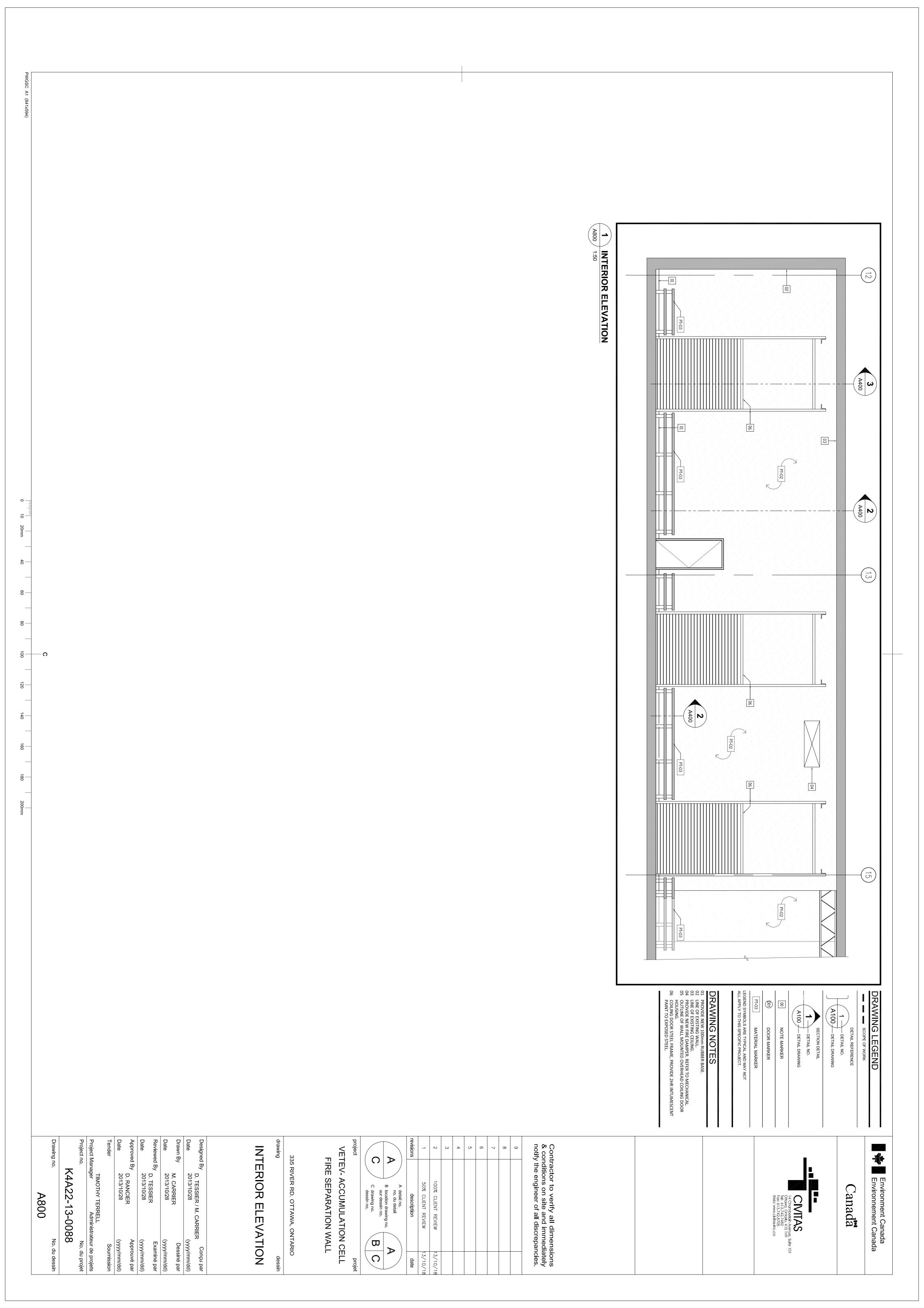
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Drawing no.







ENVIRONMENT CANADA

RIVER ROAD, OTTAWA, MECHANICAL **ONTARIO**

M2 FIRE PROTECTION & HVAC DEMOLITION & NEW WORK	M1 MECHANICAL DRAWING LIST, LEGENDS, GENERAL NOTES & SPECIFICATIONS	SYMBOL DESCRIPTION	DRAWING LIST
N & NEW WORK	, GENERAL NOTES & SPECIFICATIONS		ÎT .

FIRE EXTINGUISHER C/W MOUNTING BRACKET	• FE1
UPRIGHT SPRINKLER	8
SEMI-RECESSED SPRINKLER	0
DESCRIPTION	SYMBOL
FIRE PROTECTION LEGEND	

EXHAUST FAN (EF)	
UNIT HEATER (UH)	
MOTORIZED DAMPER	MD
FIRE DAMPER (FD)	I FD
TRANSFER OPENING (TO)	01 [
DUCTWORK DOWN	⊠ ⊕
DUCTWORK UP	₩
RECTANGULAR DUCTWORK	
DESCRIPTION	SYMBOL
HVAC LEGEND	

	GENERAL NOTES:
	ALL WORK SHOWN OR IMPLIED ON THESE DRAWINGS SHALL BE CARRIED OUT IN ACCORDANCE WITH:
	 A. ALL CODES AND LAWS APPLICABLE (OBC)
	B. INSTRUCTIONS TO BIDDERS
	C. IN ACCORDANCE WITH SMACNA-LATEST EDITION (DUCTWORK)
	D. IN ACCORDANCE WITH FM & NFPA (FIRE PROTECTION)
	T IN ACCORDANCE WITH III O STANDARDS

- PRIOR TO SUBMITTING TENDERS, EACH TRADE SHALL EXAMINE THE SITE TO DETERMINE THE CONDITIONS WHICH MAY AFFECT THE PROPOSED WORK. NO CLAIM FOR EXTRA PAYMENT WILL BE CONSIDERED BECAUSE OF FAILURE TO FULFILL THIS CONDITION. START OF WORK WILL BE DEEMED EVIDENCE OF ACCEPTANCE OF, AND SATISFACTION WITH, EXISTING CONDITIONS.
- THE DRAWINGS SHALL BE CONSIDERED TO SHOW THE GENERAL CHARACTER AND SCOPE OF THE WORK AND NOT THE EXACT DETAILS OF THE INSTALLATION. SHALL BE COMPLETE WITH ALL ACCESSORIES REQUIRED FOR A COMPLETE AND OPERATIVE INSTALLATION.
- MECHANICAL CONTRACTOR IS RESPONSIBLE TO FIELD MEASURE LOCATION OF NEW OR RELOCATED EQUIPMENT TO VERIFY CLEARANCES WITH THE MANUFACTURE PRIOR TO ORDERING.

- CONTRACTOR TO PROVIDE FOR THE USE OF HIS WORK FORCE A FIRST ND KIT ACCEPTABLE TO WSIB AND MOL.
- PAY ALL REQUIRED FEES AND PERMITS
- THE CONTRACTOR SHALL AT ALL TIMES KEEP PREMISES FREE FROM THE ACCUMULATION OF WASTE MATERIAL TO THE SATISFACTION OF THE PROJECT MANAGER. THE CLEANING OF THE AFFECTED AREA SHALL BE CONTINUOUS. PLACE DUST PROTECTION IN THE FORM OF COVER SHEETS OVER EQUIPMENT AND FURNITURE TO ENSURE NO DUST INFILTRATION.

.6 RATING: 1½ HR. .7 ACCEPTABLE MATERIAL: AMI, NCA, NAILOR, RUSKIN, VENTEX.

- INSPECT ALL NEW AND/OR RELOCATED EQUIPMENT UPON DELIVERY AND/OR RELOCATION AND NOTIFY PROJECT ENGINEER OF ANY DAMAGE OR DEFICIENCIES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DEACTIVATION, DRAINING, REFILLING AND REACTIVATING OF WET PIPE SPRINKLER SYSTEM OR STANDPIPE ON A DAILY BASIS. COORDINATE WITH OWNER.
- ROTECT EXISTING AIR HANDLING SYSTEM FROM CONSTRUCTION DUST.
 ROVIDE FILTER MEDIA ON RETURN OPENINGS; FASTEN SECURELY TO THE
 ETURN DUCT INLET; REPLACE DURING CONSTRUCTION AS REQUIRED.
 PPROVED MATERIAL: AIRGUARD TR200 OR APPROVED EQUAL.

- THE WORD "PROVIDE" SHALL DENOTE "SUPPLY AND INSTALL". THE WORD "TAB" SHALL DENOTE "TESTING, ADJUSTING, AND BALANCING". THESE MECHANICAL DRAWINGS MUST BE READ IN CONJUNCTION WITH THE ARCHITECTURAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS.
- CONTRACTOR SHALL FOLLOW THE BIDDING DOCUMENT PROJECT SCHEDULE. UPON AWARD, CONTRACTOR SHALL SUBMIT WORK SCHEDULE TO PROJECT MANAGER & ENGINEER FOR APPROVAL
- THE MECHANICAL CONTRACTOR SHALL COORDINATE THE WORK WITH ALL OTHER TRADES AND THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR COMMUNICATING SAFETY REQUIREMENTS TO ITS EMPLOYEES AND COMPLY WITH OCCUPATIONAL HEALTH AND SAFETY ACT.
- CONTRACTOR TO PROVIDE, PRIOR TO COMMENCEMENT OF WORK, ONTARIO MINISTRY OF LABOUR CONTRACTOR REGISTRATION FORM AS WELL AS A CURRENT SIGNED AND DATED CORPORATE HEALTH AND SAFETY POLICY.
- ALL WORK TO BE CONDUCTED DURING HOURS SPECIFIED BY THE PROJECT MANAGER. WORKMANSHIP AND MATERIALS SHALL MATCH OR EXCEED THAT OF THE EXISTING AS PRESENTED BY THE PROJECT MANAGER.
- ALL CHANGES AND CONNECTIONS TO EXISTING SERVICES, REQUIRING THE SHUTDOWN OF THAT SERVICE SHALL BE DONE AT THE TIME DESIGNATED BY THE PROJECT MANAGER, UNLESS OTHERWISE STATED.
- EQUIPMENT REQUIRING CONNECTION TO AN ELECTRICAL POWER SOURCE SHALL BE CSA OR ULC APPROVED FOR USE AT LOCATION OF INSTALLATION.
- COORDINATE MATERIAL STORAGE WITH THE SITE SUPERINTENDENT AND OTHER TRADES.
- MANUFACTURER'S INSTRUCTIONS REGARDING THE HANDLING, INSTALLATION AND TESTING OF EQUIPMENT SPECIFIED HEREIN SHALL BE CONSIDERED PART OF THIS SPECIFICATION.
- ALL EQUIPMENT, PIPING, DUCTWORK AND WIRING SHALL BE SUSPENDED FROM THE BUILDING STRUCTURE.
- PROVIDE BLACK WITH WHITE WRITING LAMACOID PLATE ON ALL NEW EQUIPMENT. LABEL UNIT AS SHOWN ON DRAWINGS. LETTERING SIZE TO BE MINIMUM 25MM HIGH. MOUNT NEAR CONTROL SECTION OF THE UNIT.
- DUCT SIZES INDICATED ON DRAWINGS WHERE ACOUSTICALLY LINED ARE FREE AREA SIZES AND NOT SHEET METAL SIZES.
- 5. SUBMITALS:

 1 SUBMIT ONE(1) COPY OF SHOP DRAWINGS AND PRODUCT DATA IN ELECTRONIC PDF FORMAT FOR ENGINEER'S REVIEW PRIOR TO PURCHASING AND ORDERING. HARD COPY SHOP DRAWINGS WILL NOT BE ACCEPTED. REVIEWED ELECTRONIC SHOP DRAWINGS WILL BE RE-DISTRIBUTED AS PER PROJECT MANAGER'S INSTRUCTIONS. SHOP DRAWINGS SHALL INCLUDE ALL SPECIFIED EQUIPMENT & SYSTEMS.

 2 PROVIDE SUBMITALS IN ACCORDANCE WITH APPLICABLE CODES REQUIRED FOR OCCUPANCY INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

 1.1 FIRE PROTECTION:

 1.1 NFPA-13 CERTIFICATION LETTER (WARRANTY LETTER IS SUFFICIENT IF THE LETTER NOTES IN ITS CONTENT THAT THE INSTALLATION MEETS NFPA-13).

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Goodkey Weedmark
Consulting Engineers

Environment Canada Environnement Canada

Canada

- FIRE PROTECTION PIPING:

 1 ALL COMPONENTS WITHIN THE SYSTEM TO BE FM & ULC LISTED, WORKING PRESSURE NOT LESS THAN 175 PSI.

 2 PIPING: PER NFPA 13.

 3 FITTINGS AND JOINTS TO FM & ANSI/NFPA 13-2002:

 1 FERROUS: SCREWED, WELDED, FLANGED OR ROLL GROOVED.

 4 PIPE HANGERS:

 1 FM & ULC LISTED FOR FIRE PROTECTION SERVICES.

 5 SPRINKLER SYSTEM SHALL BE RATED AT 1380 KPA (200 PSI).
- FIRE EXTINGUISHERS:

 .1 (FE1) STORED PRESSURE DRY CHEMICAL TYPE WITH HEAVY DUTY STEEL CYLINDER, POSITIVE ON/OFF OPERATION, WATERPROOF STAINLESS STEEL GAUGE, SHUT-OFF NOZZLE, ULC LABELLED FOR A, B AND C CLASS PROTECTION C/W WALL MOUNTING BRACKET. SIZE 2.25 KG, 3A-10BC RATING. ACCEPTABLE MATERIAL: NATIONAL FIRE, CANADIAN FIRE EQUIPMENT OR EQUAL.
- WET PIPE SPRINKLERS:

 .1 UPRIGHT: BRONZE, QUICK RESPONSE FOR HAZARD COVERAGE AS INDICATED, 5.6 K FACTOR, FM APPROVED, CHROME FINISH, GLASS BULB TYPE; 68°C (155°F) RATED, 13 MM (½") ORIFICE. PROVIDE WIRE GUARDS.
- GENERAL:

 1 DETAILS, CONSTRUCTION AND MATERIALS HEREIN SHALL BE AS PER SMACNA STANDARDS.

 2 ALL MATERIALS SHALL CONFORM TO SMOKE AND FLAME SPREAD RATING LIMITATIONS STIPULATED IN THE PROVINCIAL BUILDING CODE OR AS SPECIFIED HEREIN.

 3 ALL GALVANIZED DUCTWORK INDICATED TO BE FABRICATE FROM 0.2% COPPER CONTENT GALVANIZED SHEET STEEL WITH 1-1/4 CLASS ZINC COATING.

 4 RECTANGULAR AND FITTINGS: GALVANIZED SHEET STEEL NOT LESS THAN THE FOLLOWING THICKNESS: 24 GA. 750MM (30") WIDE SMALLER.

 5 ROUND & OVAL DUCT AND FITTINGS SHALL BE SPIRAL GALVANIZED STEEL MEETING THE ASTM A-527-71 & NOT LESS THAN THE FOLLOWING THICKNESS: 26 GA. 75MM TO 350MM (3" TO 14")DIA. 24 GA. 350MM (14") DIA. & LARGER.

Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

N ISSUED FOR TENDER 99% REVIEW 30/09/13

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VETEV - ACCUMULATION CELLS

2 HOUR FIRE SEPERATION

drawing 335 RIVER RD. OTTAWA, ONTARIO

MECHANICAL

DRAWING LIST,

LEGENDS, GENERAL NOTES &

Date Drawn By Reviewed By **SPECIFICATIONS** S.HAMILTON DATE_DES S.HAMILTON DATE_REV C.LALONDE DATE_DRA (yyyy/mm/dd) Approuvé par (yyyy/mm/dd) Examiné par (yyyy/mm/dd) Dessiné par Conçu par

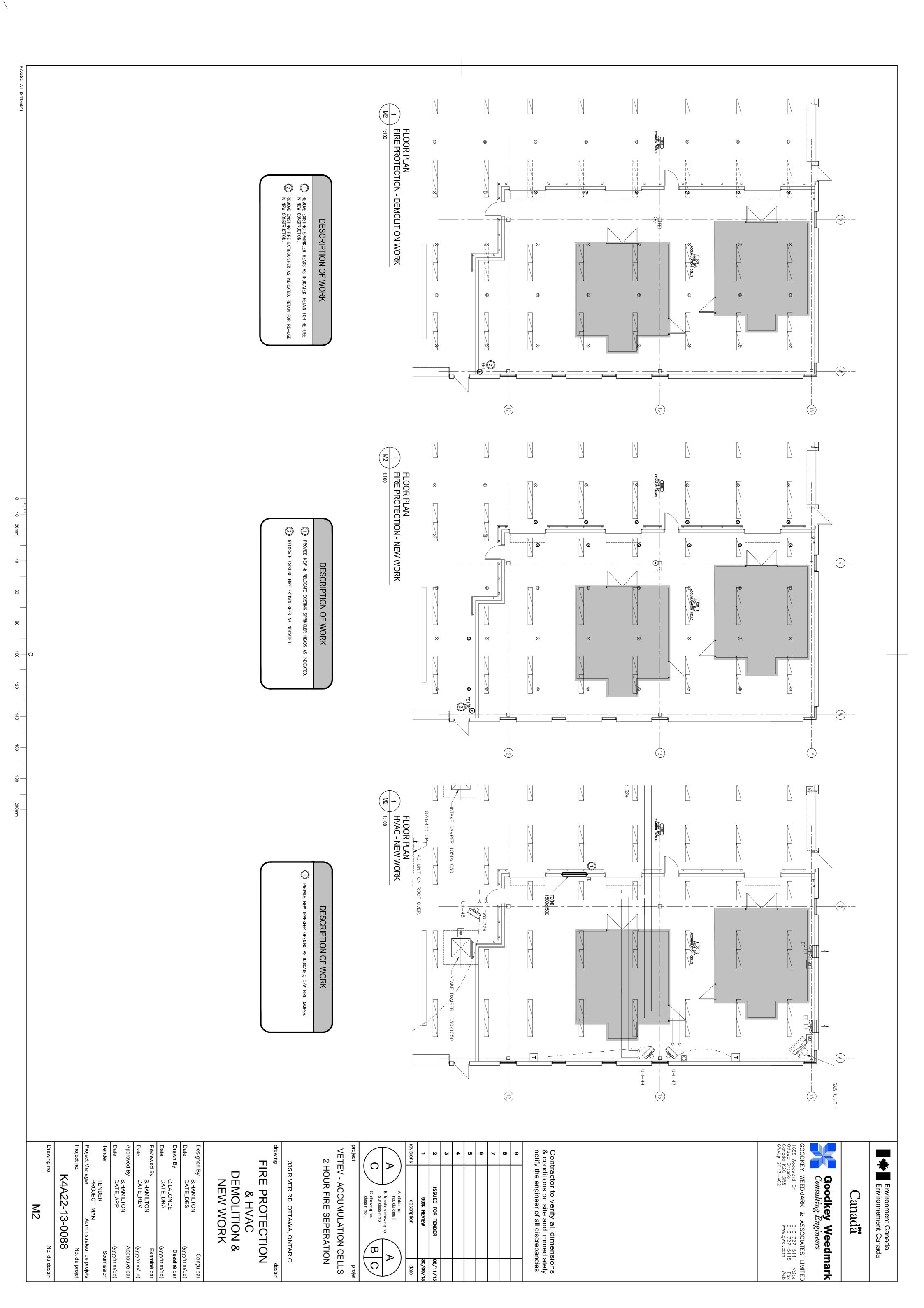
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ENVIRONMENT CANAL

335 RIVER ROAD, OTTAWA, ELECTRICAL ONTARIO

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5 ANY CONFLICT OR DIJECTIONS .	ית		
BE INSTALLED BY LICENSED WO		POWER AND SYSTEMS DEMOLITION AND NEW WORK	ᄄ
ALL INSTALLATIONS SHALL BE I	4.	LIGHTING AND FIRE ALARM DEMOLITION AND NEW WORK	E2
ALL WORK TO BE CONDUCTED	.3	DRAWING LIST, SIMBUL LEGEND AND ELECTRICAL SPECIFICATIONS	<u>-</u>
MANAGER & ENGINEER FOR RE		DRAWING LIST SYMBOL LESEND AND ELECTRICAL SPECIEDATIONS	7
CONTRACTOR SHALL FOLLOW THE CONTRACTOR SHALL SUBMIT WO	?	DESCRIPTION	SYMBOL
OF THE CONTRACT AND THE SU		DRAWING LIST	
1. COMPLY WITH THE REQUIREMEN	.→E		
OTDIONI COFOIFIONTIONIS.	2		

	SYMBOL LEGEND
SYMBOL	DESCRIPTION
	FLUORESCENT LIGHT FIXTURE - TYPE AS SHOWN
	LIGHT FIXTURES ON EMERGENCY POWER - DO NOT SWITCH
⊗	WALL MOUNTED EXIT LIGHT, SINGLE OR DOUBLE-FACE AS SHOWN
F	FIRE ALARM PULL STATION
	FIRE ALARM HORN
\oplus	15A, 120V WALL MOUNTED DUPLEX RECEPTACLE
	RECEPTACLE INSTALLED OVER COUNTER
	ROLLING BAY DOOR OPERATOR
®	PUBLIC ADDRESS (P/A) SPEAKER, WALL MOUNTED
Θ	THERMOSTAT PROVIDED BY DIV. 15
0	SINGLE PHASE ELECTRIC MOTOR
OM)	MOTORIZED DAMPER
Q	DISCONNECT SWITCH

	LINE TYPE LEGEND
LINE TYPE	DESCRIPTION
	DEMOLITION
	NEW WORK
	EXISTING

	REVIEW AND APPROVAL.	WORK SCHEDULE AND EQUIPMENT DELIVERY SCHEDULE TO PROJECT	1			E SUPPLEMENTARY GENERAL CONDITIONS INCLUDED IN THE TENDER	IMENTS OF THE INSTRUCTIONS TO BIDDERS, THE GENERAL CONDITIONS	
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CONFORMANCE LETTER EROM	CLOSE OUT SUBMITTALS TO II	CONTROL, VIBRON.	ACCEPTABLE MATERIALS: KORF	C/W INSTALLATION REQUIREMI	DIVISION 26, 27 AND 28 INST	PROVINCE OF ONTARIO. INCLL	DESIGN TO BE BY PROFESSIC	NATIONAL BUILDING CODE 200

- ALL INSTALLATIONS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES AND BY-LAWS AND BE INSTALLED BY LICENSED WORKMEN SKILLED IN THAT PARTICULAR PORTION OF THE CONTRACT ALL WORK TO BE CONDUCTED DURING
- ANY CONFLICT OR QUESTIONS THAT ARISE IN RELATION TO THE DESIGN DOCUMENTS DURING THE TENDER PERIOD SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. IF THIS PROCEDURE S NOT FOLLOWED, REROUTING AND MODIFICATION AS REQUIRED TO COMPLETE THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- GIVE ALL NOTICES, OBTAIN ALL NECESSARY PERMITS AND PAY INSPECTION COSTS AND DELIVER TO ENGINEER ALL NECESSAR INSPECTION AND APPROVAL WHICH MAY BE REQUIRED BY AUTWORK, AS EVIDENCE THAT WORK INSTALLED CONFORMS WITH GOVERNING AUTHORITIES, BEFORE FINAL CERTIFICATE OF PAYM FURNISH COPIES OF ALL DRAWINGS AS MAY BE REQUIRED TO INSPECTION AUTHORITIES IN SUFFICIENT TIME FOR THEM TO IN AY ALL APPLICABLE FEES AND ARY FINAL CERTIFICATES OF JUTHORITIES HAVING JURISDICTION OVER H LAWS AND REGULATIONS OF ALL YMENT MAY BE CONSIDERED DUE. TO COMPLY WITH ABOVE. NOTIFY INSPECT WORK.
- EXAMINE SITE AND LOCAL CONDITIONS AFFECTING WORK UNDER THIS DIVISION TO ENSURE THAT WORK UNDER THIS DIVISION CAN BE SATISFACTORILY CARRIED OUT WITHOUT CHANGES TO WORK UNDER THIS DIVISION CAN BE MADE LATER FOR ANY EXPENSE INCURRED THROUGH FAILURE TO MAKE THIS EXAMINATION. START OF WORK WILL BE DEEMED EVIDENCE OF ACCEPTANCE OF, AND SATISFACTION WITH, EXISTING CONDITIONS.
- ENSURE THAT ALL PRECAUTIONS ARE TAKEN TO PROTECT ALL DURING THE WORK. PROTECT ALL EQUIPMENT FROM DAMAGE WEATHER. ALL WORK FOR 12 MON PERSONNEL FROM HAZARDS FROM ANY CAUSE INCLUDING
- USE ONLY NEW, FULLY CSA AND ULC APPROVED FOR USE AS INSTALLED MATERIALS, AND MEET THIS SPECIFICATION IN ALL RESPECTS.
- COORDINATE MATERIAL STORAGE WITH THE SITE INSPECT ALL EQUIPMENT UPON DELIVERY AND NOTIFY PROJECT ENGINEER OF ANY DAMAGE OR DEFICIENCIES. SUPERINTENDENT AND OTHER TRADES.
- 14. 13. DURING THE COURSE OF CONSTRUCTION AND UPON COMPLETION, REMOVE ALL RUBBISH AND WASTE RESULTING FROM THIS WORK, TO THE SATISFACTION OF THE ENGINEER. CHECK, CLEAN AND REPAINT WHERE NECESSARY, ALL ELECTRICAL EQUIPMENT AND LEAVE IN A FIRST CLASS CONDITION. CONTRACTOR TO NOTIFY PROJECT MANAGER IN WRITING MINIMUM OF THREE (3) WORKING DAYS BEFORE SCHEDULED SUBSTANTIAL COMPLETION TO ARRANGE INTERIM INSPECTION AND EQUIPMENT COMMISSIONING. NOTIFY PROJECT MANAGER IN WRITING OF ANY CHANGES IN SCHEDULE.
- 15. THE WORK AS COVERED BY THESE SPECIFICATIONS AND PLANS IS INTENDED TO COMPLY EXACTLY WITH THE LATEST RULES AND REGULATIONS OF THE INSPECTION AUTHORITIES, AND THESE RULES ARE TO BE CONSIDERED AN INTEGRAL PART OF THESE SPECIFICATIONS. IN CASE OF CONFLICT, ANY RULING BY THE INSPECTION AUTHORITY SHALL BE FINAL. ALL CHANGES AND ALTERATIONS TO THE CONTRACTOR'S WORK REQUIRED BY AN AUTHORIZED INSPECTOR OR ANY AUTHORITY HAVING JURISDICTION DUE TO THE CONTRACTORS WORK SHALL BE CARRIED OUT AT NO EXPENSE TO THE OWNER.
- MANUFACTURER'S INSTRUCTIONS REGARDING THE HANDLING, INSTALLATION AND TESTING OF EQUIPMENT SPECIFIED HEREIN SHALL BE CONSIDERED PART OF THIS SPECIFICATION.
- PROVIDE ELECTRONIC COPY (PDF FORMAT) OF SHOP DRAWINGS FOR ALL SYSTEMS AND EQUIPMENT FOR REVIEW. SHOP DRAWINGS SHALL INCLUDE BUT NOT BE LIMITED TO, THE FOLLOWING INFORMATION:
 FLOOR ANCHORING METHOD AND FOUNDATION TEMPLATE.
 DIMENSIONED CABLE ENIRY AND EXIT LOCATIONS.
 DIMENSIONED POSITION AND SIZE OF BUS.
 OVERALL WEIGHT, LENGTH, HEIGHT AND DEPTH, GAUGE AND TYPE OF MATERIALS.
 DIMENSIONED LAYOUT OF INTERNAL AND FRONT PANEL.
 MOUNTED COMPONENTS.
 ELECTRICAL CHARACTERISTICS AND PERFORMANCE DATA.
 WIRING DIAGRAMS.
- SUBMIT ELECTRONIC (PDF FORMAT) COPY OF OPERATION & MAINTENANCE (O& APPROVAL, PROVIDE A COPY OF THE FOLLOWING IN THE MANUALS:
 LETTER OF WARRANTY
 ELECTRICAL SAFETY AUTHORITY (ESA) INSPECTION CERTIFICATE.
 CITY INSPECTION REPORT
 FIRE ALARM VERIFICATION REPORT
 UPDATED PANEL SCHEDULES, C/W ELECTRICAL COMPANY'S NAME AND DATED SHOP DRAWINGS
 AS BUILTS
 LOAD BALANCING REPORT.
 MECHANICAL EQUIPMENT START UP REPORTS.
 LIST OF SUPPLIERS C/W ADDRESS AND PHONE NUMBERS.
 SEISMIC REVIEW LETTER. E OF CONTRACTOR C/W SIGNED REVIEW STAMP. E OF COMPONENT, SERVICE OR SYSTEM. BER OF PAGES FOR EACH TYPED PAGE (IE. PG 1 OF
- SUPPLY ALL NECESSARY TOOLS, EQUIPMENT AND PERSONNEL IRAINING TO OPERATING AND MAINTENANCE PERSONNEL IN OF IROUBLESHOOTING AND SERVICING OF ALL SYSTEMS AND EQUIPMENT, PRIOR TO ACCEPTANCE.
- 21. FTER AWARD OF CONTRACT, SUBMIT A DETAILED COST BREAKDOWN INDICATING MATERIAL AND ABOUR COSTS FOR EACH PORTION OF THE WORK, INCLUDING DEMOLITION, LIGHTING, POWER INSTRIBUTION, COMMUNICATIONS, FIRE ALARM, ETC. TO BE APPROVED BY THE ENGINEER. (ISTING ELECTRICAL SYSTEMS HAVE BEEN ONLY PARTIALLY INDICATED. REGARD INFORMATION ILATED TO EXISTING INSTALLATION AS A GUIDE ONLY. DETERMINE STATUS, QUANTITIES AND DICATION OF EQUIPMENT AND SYSTEMS, ON SITE, PRIOR TO COMMENCEMENT OF REMOVAL 1D/OR EXTENSION OF SAME.
- HE DRAWINGS SHALL BE CONSIDERED TO SHOW THE GENERAL CHARACTER AND SCOPE OF THE VORK AND NOT THE EXACT DETAILS OF THE INSTALLATION. THE INSTALLATION SHALL BE COMPLETE WITH ALL ACCESSORIES REQUIRED FOR A COMPLETE AND OPERATIVE INSTALLATION.
- THE WORD "PROVIDE" SHALL DENOTE "SUPPLY, INSTALL, THESE ELECTRICAL DRAWINGS AND SPECIFICATIONS MUST BE READ IN CONJUNCTION WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS. CONNECT AND TEST".
- FOR ALL NEW, RELOCATED AND EXISTING—TO—REMAIN ELECTRICAL DEVICES WITHIN THE CONTRACT AREA, PROVIDE CLEAR "BROTHER P—TOUCH" LABELS INDICATING CIRCUIT AND PANEL AT ALL EQUIPMENT, DEVICES, RECEPTACLES AND JUNCTION BOXES. FOR DEDICATED RECEPTACLE, INCLUDE THE WORD "DED" C/W CIRCUIT NUMBER. FOR EXIT LIGHTS, PROVIDE BLACK LETTERING ON RED BACKGROUND.

 PROVIDE LAMACOID LABELS ON DISCONNECT SWITCHES, MOTOR STARTERS, TRANSFORMERS AND PANELS. CLEARLY INDICATE EQUIPMENT CONTROLLED OR AREA SERVICED AS WELL AS FEEDER SOURCE. INDICATE FUSE SIZE AND TYPE ON FUSED DISCONNECTS SWITCHES. LETTERING TO BE BLACK ON WHITE BACKGROUND, MINIMUM 25mm HIGH.

 TRACE EXISTING CIRCUITS AND UPDATE PANEL SCHEDULES.
- INGS AND OTHER SURFACES
 UILDING MANAGEMENT PRIOR TO
 ILDING REQUIREMENTS AND
 HE SLAB AND COORDINATE DRILLING
 ALL NEW FIRE RATED
 RRICE ALL WORK ASSOCIATED WITH
 PRIOR TO DRILLING, CUTTING
 LL HOLES THROUGH SLAB WITH
 TO BE PRIME FINISHED, READY FOR

VIDE DESIGN, SUPPLY AND INSTALL SIFIED FOR INSTALLATION ON THIS

RS FOR ALL SYSTEMS, EQUIPMENT RIO BUILDING CODE (2006),

- 005, CSA 032-06.
 IONAL ENGINEER SPECIALIZING IN DESIGN OF SRS AND REGISTERED IN LUDE ALL COSTS ASSOCIATED WITH THIS WORK AS IT RELATES TO STALLATIONS. INCLUDE DESIGN SKETCHES C/W PROFESSIONAL STAMP, MENTS, IN O & M MANUALS.

 RFUND-SAMPSON, MASON INDUSTRIES, TELCOUSTICS, VIBRA-SONIC
- STAMP:

 STAMP:

 INSTALL VIBRATION ISOLATION EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS INSTALL VIBRATION ISOLATION EQUIPMENT. ENSURE PIPE, DUCT AND ELECTRICAL AND ADJUST MOUNTINGS TO LEVEL EQUIPMENT DO NOT REDUCE SYSTEM FLEXIBILITY. ENSURE THAT PIPE, CONNECTIONS TO ISOLATED EQUIPMENT DO NOT REDUCE SYSTEM FLEXIBILITY. ENSURE THAT PIPE, CONDUIT AND DUCT PASSING THROUGH WALLS AND FLOORS DO NOT TRANSMIT VIBRATIONS. OVIDE GROUNDING AND BONDING OF ALL EQUIPMENT WITH APPROVED FITTINGS AND NDUCTORS OF AMPLE CAPACITY IN ACCORDANCE WITH ONTARIO ELECTRICAL SAFETY CODE.

 NDUCTORS SHALL HAVE GREEN INSULATION OR BE COLOUR CODED WITH PERMANENTLY TACHED GREEN TAPE 21mm WIDE AT EACH END. PROVIDE INSULATED GROUND/BONDING NDUCTOR IN EACH CONDUIT.
- NOTIFICATION.

 NOTIFICATION MAY RE-USE EXISTING CONDUIT AND/OR GRID PULL BOXES WHERE SUITABLE FOR E-USE WITH NEW OR RELOCATED RUNS.

 EMOVE AND DISPOSE OF ANY REDUNDANT EXISTING WIRING.

 20V CIRCUITS OF LENGTH GREATER THAN 25m TO BE #10 AWG MINIMUM OR AS REQUIRED TO MIT VOLTAGE DROP WITHIN CODE SPECIFIED VALUE.

 NIMUM SIZE CONDUIT TO BE 21mm UNLESS SPECIFIED OTHERWISE.
- <u>DEVICES</u>; SWITCHES AND RECEPTACLES TO BE SPECIFICATION CODES AND STANDARDS.
- STANDARD RECEPTACLE
- PROVIDE LIGHTING FIXTURES, COMPLETE WITH LAMPS, AS INDICATED IN LIGHT FIXTURE SCHEDULE. FLUORESCENT FIXTURE BALLAST TO BE INSTANT ELECTRONIC TYPE, LESS THAN 10% T.H.D., MINIMUM OPERATING AT GREATER THAN 20 kHZ UNLESS NOTED OTHERWISE. EACH 347V FLUORESCENT LUMINAIRE SHALL HAVE INTEGRAL DISCONNECTING MEANS AS PER THE CANADIAN ELECTRICAL CODE.
- EXTURE INSTALLATION: DO NOT MOUNT FIXTURES ABOVE PIPES, DUCTS OR EQUIPMENT. CHECK LAYOUTS OF WORK BY OTHER TRADES ON PROJECTS AND PLAN COOPERATIVELY WITH OTHERS TO AVOID CONFLICT. PROVIDE LONGER HANGERS TO CLEAR OBSTRUCTIONS, IN EVENT OF UNAVOIDABLY TIGHT LOCATIONS.

- FIELD QUALITY CONTROL
- CONDUCT AND PAY FOR THE FOLLOWING TESTS:

 1. POWER GENERATION, 600V AND 120V POWER DISTRIBUTION INCLUDING PHASING, VOLTAGE, GROUNDING AND LOAD BALANCING.

 2. LIGHTING AND CONTROLS

 3. LIGHTING AND ASSOCIATED CONTROL EQUIPMENT

 4. HOT SPOT TESTING BY INFRARED SCANNER

 5. SYSTEMS: FIRE ALARM, PUBLIC ADDRESS.

 5. SYSTEMS: FIRE ALARM, PUBLIC ADDRESS.

 5. SUBMIT TEST PROCEDURES AND INFORM ENGINEER AT LEAST 7 DAYS BEFORE SCHEDULED TESTS. ENGINEER TO WITNESS TESTS AT HIS DISCRETION.

- INCLUDE FULL DETAILS OF DESIGN CRITERIA AND FINAL SEISMIC ENGINEER, SIGNED, AND COMPLETE WITH PROFESSIONAL
- WIRING AND RACEWAYS:
- AC-90 (BX) MAY BE USED FOR LIGHT FIXTURE DROPS TO A MAXIMUM LENGTH OF 3 METERS.

 ALL NEW RACEWAYS SHALL BE THIN WALL ELECTRICAL METALLIC TUBING (EMT) UNLESS OTHERWISE INDICATED. CONDUITS TO BE COMPLETE WITH STEEL SET-SCREW COUPLINGS AND CONNECTORS AND NYLON BUSHING.

 USE LIQUID TIGHT FLEXIBLE METAL CONDUIT FOR CONNECTION TO MOTORS.

 USE LIQUID TIGHT FLEXIBLE METAL CONDUIT FOR CONNECTION TO EQUIPMENT IN DAMP, WET OR CORROSIVE LOCATIONS.

 SURFACE CONDUIT TO RUN PARALLEL OR PERPENDICULAR TO BUILDING LINES.

 ALL CONDUITS AND JUNCTION BOXES TO BE ANCHORED TO THE BUILDING STRUCTURE.

 PROVIDE A POLYPROPYLENE PULL STRING IN ALL EMPTY CONDUITS.

 EXISTING FEEDERS RELOCATED UNDER THIS CONTRACT TO BE REWIRED: SPLICE NEW WIRE TO EXISTING WIRE FROM JUNCTION BOX TO JUNCTION BOX, OR FROM JUNCTION BOX TO EXISTING EQUIPMENT.

- UNLESS NOTED OTHERWISE, MOUNTING HEIGHT FOR ALL ELECTRICAL BARRIER-FREE' CODE REQUIREMENTS: 400mm A.F.F. FOR RECEPTACLES
 2100mm A.F.F. FOR WALL MOUNTED SPEAKERS
- FLUORESCENT LAMPS: ALL NEW FLUORESCENT LAMPS SHALL HAVE LOW MERCURY CONTENT AND BE T.C.L.P. COMPLIANT. COLOUR TEMPERATURE 4100K UNLESS SPECIFIED OTHERWISE.
- EXIT LIGHTS: DIE CAST ALUMINUM HOUSING WHITE, DIE CAST ALUMINUM WHITE STENCILED FACE PLATE c/w red fiberglass back plate, invisible directional arrow knockouts. Lettering 150mm H x 19mm w and 12mm stroke reading "exit—sortie". Die cast aluminum mounting bracket, with end mounted l.e.d.'s. suitable for dual 120/347V normal supply. Nrcan registered CSA C860 compliant, obc, NBCC compliant. New exit lights are to match existing (style, voltage, etc.)
- ILI NEW FIRE ALARM SYSTEM IS EDWARDS EST 3.

 ITH EXISTING.

 RE ALARM HORNS: ALL NEW MIINI-HORN TO BE 91dB WITH PIERCING SOUND CAPABLE OF ENETRATING WALLS AND EASILY HEARD ABOVE MODERATE AMBIENT NOISE LEVELS. NEW INI-HORNS TO HAVE LOW CURRENT DRAW, CAPABLE OF 24Vdc POLARIZED SIGNAL CIRCUITS ITH EITHER STEADY OR PULSED CURRENTS AND MATCH AESTHETICS OF EXISTING SYSTEM (RED). RE ALARM MAINTENANCE CONTRACTOR IS VIKING FIRE INC./REGULVAR LABELED WITH CORRECT IDENTIFICATION, IN ACCORDANCE WITH BUILDING TANDARD.
- MAINTENANCE.

 MAINTENANCE OF THE SYSTEM.

 IF THE CONTRACTOR DOING WORK ON THE FIRE ALARM SYSTEM IS NOT THE "MAINTENANCE" CONTRACTOR, THE MAINTENANCE CONTRACTOR MUST BE ADVISED IN ADVANCE AND BE PRESENT AT ALL OR PART OF THE VERIFICATION FOR THE PURPOSES OF ACCEPTING THE WORK THAT WAS CARRIED OUT BY THE PROJECT CONTRACTOR. A MINIMUM OF FOUR (4) HOURS SHALL BE CARRIED FOR THE MAINTENANCE CONTRACTOR.

 NOTIFY AND DEMONSTRATE THE COMPLETE SYSTEM TO OWNER'S AND BUILDING INSPECTION'S REPRESENTATIVES. ONLY AFTER TESTING AND VERIFICATION PERFORMANCES HAVE BEEN COMPLETED AND ALL DEFICIENCIES RECTIFIED. IN THEIR PRESENCE, DEMONSTRATE THE PROPER FUNCTIONING OF THE SYSTEM. HAVE SYSTEM MANUFACTURER'S CERTIFIED TECHNICIAN PRESENT.
- HEAVY DUTY FUSIBLE AND NON-FUSIBLE DISCONNECT SWITCH IN CSA ENCLOSURE 2 (SPRINKLER PROOF), SIZED AS INDICATED. CSA 3 ENCLOSURE IN OUTDOOR OR DAMP LOCATIONS. ARC QUENCHER AND VISIBLE BLADE, QUICK MAKE, QUICK BREAK TYPE.

 PROVISION FOR PADLOCKING IN OFF SWITCH POSITION.

 MECHANICALLY INTERLOCKED DOOR TO PREVENT OPENING WHEN HANDLE IN ON POSITION.

DEMOLITION NOTES: 1. UNLESS OTHERWISE NOTED, MATERIALS FOR REMOVAL BECOME THE CONTRACTOR'S PROPERTY AND FROM SITE AND DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE CODES, STANDARDS AND REC

SHALL BE TAKEN GULATIONS.

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- MAINTAIN EXISTING REMAINING CIRCUITS, SYSTEMS, ETC., WHICH PASS THROUGH AREA OF CONSTRUCTION AND IN CLOSE PROXIMITY. PROVIDE NECESSARY COMPONENTS TO MAINTAIN SYSTEMS. ENSURE COMPONENTS WILL BE CONCEALED WHEN CONSTRUCTION IS COMPLETE. DISCONNECT AND MAKE SAFE ALL SYSTEMS TO BE DEMOLISHED INCLUDING PANELS, FEEDERS, BRANCH CIRCUITS AND EQUIPMENT BY OTHER DIVISIONS. COORDINATE WITH OTHER DIVISIONS.
- THE DRAWINGS INDICATE KNOWN CONDITIONS AND MAY NOT INDICATE ALL DEMOLITION REQUIREMENTS, ELECTRICAL CONTRACTOR SHALL VISIT THE SITE PRIOR TO TENDER SUBMISSION AND VERIFY REQUIREMENTS AND INCLUDE ALL COSTS IN TENDER.
- REMOVE REDUNDANT CONDUIT AND WIRING BACK TO SOURCE UNLESS OTHERWISE NOTED, AND MAKE DEVICES FROM DEMOLITION ARE NOT TO BE REUSED UNLESS NOTED OTHERWISE. NEW DEVICES SHALL WHERE NECESSARY. ALL BE SUPPLIED
- OSURE DURING
- ALL FIRE ALARM DEVICES TO REMAIN IN OPERATION. PROTECT SMOKE DETECTORS FROM DUST EXPCONSTRUCTION.
- 10. AFTER DEMOLITION WORK IS COMPLETE AND MINIMUM THREE (3) WORKING WORK, NOTIFY ENGINEER FOR INSPECTION. ENSURE FIRE ALARM SYSTEM IS OPERATIONAL AT THE END OF EACH SHIFT. WITH NEW
- GENERAL NOTES:

 1. ELECTRICAL WORK TO BE DONE IN ACCORDANCE WITH THE ELECTRICAL SAFETY CODE OF ONTARIO, ARCHITECTURAL LAYOUT (LOCATION/MOUNTING HEIGHTS). CONTRACTOR TO OBTAIN ALL NECESSARY PAPPLICABLE FEES AND INSPECTION COSTS. AND WITH NEW PERMITS, PAY ALL
- COORDINATE WORK WITH ALL OTHER TRADES TO AVOID INTERFERENCE.
- ENSURE ELECTRICAL COMPONENTS (IE. WIRING, CONDUIT, ETC.) RELATING TO THE AREA OF WORK ARE INDEPENDENTLY SECURED TO COMPLY WITH CODE REQUIREMENTS. IT IS NOT ACCEPTABLE TO SECURE THE COMPONENTS TO DUCTWORK DUCT WORK TO CONDUIT, OR ANY OTHER SYSTEMS.
- ENSURE ALL EXISTING CEILING MOUNTED BOXES ARE CLOSED PRIOR TO COMPLETION OF PROJECT. AND COLOUR CODED COVER PLATES (IE. PANEL NAME AND CIRCUIT NUMBER) AS REQUIRED. PROVIDE LABELLED
- LIGHTING NOTES:

 1. CLEAN LAMPS, LENSES, INTERIOR AND VISIBLE SURFACES OF LUMINAIRES. REPLACE DEFECTIVE LAM DAMAGED LENSES. MINIMUM THREE (3) WORKING DAYS PRIOR TO CLOSING CEILING, NOTIFY THE ENGINEER FOR CEILING INSPECTION.
- LUMINAIRES IN CONSTRUCTION AREA ARE TO BE INDEPENDENTLY SUPPORTED, INCLUDING EXISTING RELOCATED AND NEW, TO COMPLY WITH CODE REQUIREMENTS. TO REMAIN, PS, BALLAST AND
- ADD, RELOCATE AND CONNECT LIGHT FIXTURES TO SUIT INDICATED LAYOUT, EXTEND CONDUIT AND NECESSARY AND CONNECT LUMINAIRES TO EXISTING CIRCUITS. TURN OVER SURPLUS FIXTURES TO

WIRING AS OWNER.

- EXIT LIGHTS:

 1. CONNECT EXIT LIGHTS TO AC SUPPLIES.
 2. ADD/REMOVE DIRECTIONAL ARROWS TO SUIT FLOOR PLAN LAYOUT.
 3. IN OPEN AREA ENSURE THE DEVICE HAS 610mm CLEARANCE FROM ANY SPRINKLER

FIRE ALARM NOTES: 1. PROVIDE NEW CIRCUITS AS REQUIRED FOR AUDIBLE AND ALARM

TEST FINAL INSTALLATION AND PROVIDE VERIFICATION OF FIRE ALARM SYSTEMS LATEST EDITION. VERIFICATION REPORT SHALL INCLUDE MEASURED dB LEVELS.

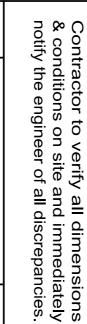
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- POWER NOTES:

 1. ENSURE EXISTING REMAINING OUTLETS IN AFFECTED AREA ARE FUNCTION
- DO NOT MOUNT WALL OUTLETS BACK TO BACK. LEAVE MINIMUM $300 \mathrm{mm}$ SPACE BETWEEN OUTLETS. WITHIN ALTERNATE STUD CAVITIES. DO NOT ANCHOR BACK TO BACK OUTLETS TO THE SAME STUD. STAGGER OUTLETS

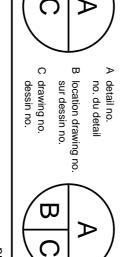
COLOR CODING: APPLICABLE TO NEW OR RELOCATED WORK UNLESS OTHERWISE NOTED. 1. TO CONFORM TO CLIENT'S BUILDING CODING SYSTEM.

- COLOUR CODE CONDUITS AND BOXES.
- 4. COLOURS: 25mm WIDE PRIME COLOUR AND CODE WITH PLASTIC TAPE OR PAINT WHERE CONDUITS
- AUXILIARY COLOUR



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VETEV - ACCUMULATION CELLS

2 HOUR FIRE SEPERATION

335 RIVER RD. OTTAWA, ONTARIO

DRAWING LIST

SYMBOL LEGEND AND ELECTRICAL SPECIFICATIONS

	Date	(hymm/yayay)
	Drawn Bv	Dessiné par
_	Date	(yyyy/mm/aa)
	Reviewed By	Examiné par
	Date	(yyyy/mm/dd)
	Approved By	Approuvé par
	Date	(yyyy/mm/dd)
	Tender	Soumission
	Floject Mallagei	Adillilistrated de projets
	Project no.	No. du projet

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