ISSUED DATE:.

Aug.18.22

City of Peterborough

FIRE STATION NO. 2

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E302	NEW LIGHTING LAYOUT - MEZZANINE LEVEL
E801	LEGENDS
E802	SEISMIC SPECIFICATIONS
E901	SCHEDULES
E902	DETAILS



A & @ AB AC ACC ACOUST ACT	AND AT ANCHOR BOLT AIR CONDITIONING ACCESSIBLE ACOUSTICAL ACOUSTIC CEILING TILE
AD ADJ AFF AGGR ALT ALUM ANOD	AREA DRAIN ADJACENT ABOVE FINISHED FLOOR ABOVE FINISHED GRADE AGGREGATE ALTERNATE ALUMINUM ANODIZED
ARCH ASPH ATTN AUTO AV B	ACOUSTICAL PANEL CEILING APPROXIMATE ARCHITECTURAL ASPHALT ATTENTION AUTOMATIC AUDIOVISUAL
BD	BOARD
BIT	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BO	BOTTOM OF
BOT	BOTTOM
BRG BRK BRKT BSMNT C C	BEARING BRICK BRACKET BASEMENT CHANNEL
CAB	CABINET
CAT	CATEGORY
CB	CATCH BASIN
CBU	CEMENT BOARD
CC	CEMENTITIOUS BACKER UNIT
CC	CENTER TO CENTER
CCTV	CLOSED CIRCUIT TELEVISION
CEM	CEMENT
CER	CERAMIC
CG	CORNER GUARD
CH	CHILLER
CI	CAST IRON
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CNTR	COUNTER
CO	CLEANOUT
COL	COLUMN
CONC	CONCRETE
COND	CONDITION
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET
CT	CERAMIC TILE
CTR CTSK CW D D DBL DBL DEG	CENTER COUNTERSUNK COLD WATER DEEP, DEPTH DOUBLE DEGREE
DEMO	DEMOLISH OR DEMOLITION
DEMO	DEMOLITION
DEPT	DEPARTMENT
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DIMS	DIMENSION
DISP	DISPENSER
DIV	DIVISION
DMPF	DAMP PROOFING
DN	DOWN
DO	DOOR OPENING
DR	DOOR
DRN	DRAIN
DS	DOWNSPOUT
DS	DOWN SPOUT
DTL	DETAIL
DW	DISHWASHER
DWG	DRAWING
DWR	DRAWER
E CMU E EA EB EJ EL	CONCRETE MASONRY UNIT EAST EACH EXPANSION BOLT EXPANSION JOINT ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSURE
ENG	ENGINEER
EP	ELECTRICAL PANEL
EPDM	ETHYLENE PROPYLENE DIENE
EQ	M-CLASS
EQUIP	EQUAL
EXH	EQUIPMENT
EXIST	EXHAUST
EXP	EXISTING
EXT	EXPANSION
F	EXTERIOR
F FA FB FD FD FDC	FIRE ALARM FACE BRICK FLOOR DRAIN FLOOR DRAIN OR FIRE DEPARTMENT FIRE DEPARTMENT CONNECTION
FE FEC FF&E FFB FFEL FH	FIRE EXTINGUISHER FIRE EXTINGUISHER CABINET FURNITURE, FIXTURES AND EQUIPMENT FLUSH FLOOR BOX FINISH FLOOR ELEVATION FLAT HEAD
FHC	FIRE HOSE CABINET
FIN	FINISH
FIXT	FIXTURE
FLASH	FLASHING

FLR FLUOR	FLOOR
	FLUORESCENT
FND FO	FOUNDATION FACE OF
FP	FIRE PROTECTION
FPG FR	FIREPROOFING FIRE RESISTANT
FRC	FIBER REINFORCED
FRT	CONCRETE FIRE RETARDANT TREATED
FT	FEET/FOOT
FTG	FOOTING
FURN FURR	FURNITURE FURRING
FURR FWC	FORRING FABRIC WALL COVERING
FWP	FABRIC WRAPPED PANEL
G GA	CALLOE
GA GALV	GAUGE GALVANIZED
GB	GRAB BAR
GC GEN	GENERAL CONTRACT(OR) GENERAL
GEN	GLASS FIBER REINFORCED
	CONCRETE
GL GLAZ	GLASS GLAZING
GRAN	GRANULAR
GRD	GROUND
GRFG	GLASS FIBER REINFORCED GYPSUM
GSM	GALVANIZED SHEET METAL
GV	GAS VALVE
GWB GYP	GYPSUM WALL BOARD GYPSUM
H	
H	HIGH/HEIGHT
HB HB	HOSE BIB HOSE BIBB
HC	HANDICAPPED
HDWD HDWR	HARDWOOD HARDWARE
HOWR	HEIGHT
HM	HOLLOW METAL
HO HORIZ	HOLD OPEN HORIZONTAL
HR	HOUR
HRC	HOSE REEL CABINET
HTG HVAC	HEATING HEATING VENTILATION AND
IIVAC	AIR CONDITIONING
HW	HOT WATER
I ID	INSIDE DIAMETER
IN	INCH/INCHES
INCAND	
INCL INFO	INCLUDED/INCLUDING
-	INSULATION
	INSULATED OR INSULATION
INT INTERM	INTERIOR INTERMEDIATE
INV	INVERT
J	
JAN JC	JANITOR JANITOR'S CLOSET
JST	JOIST
JT	JOINT
K KIT	KITCHEN
KO	KNOCK OUT
L LAM	LAMINATE
LAV	LAVATORY
LB	POUNDS
LLH	LONG LEG HORIZONTAL
LLH LLV LT M	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT
LLH LLV LT M MAS	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY
LLH LLV LT M	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT
LLH LLV M MAS MAX MECH MED	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM
LLH LLV M MAS MAX MECH MED MEMBR	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE
LLH LLV M MAS MAX MECH MED	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN MISC	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED
LLH LLV M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTD MTG MTL MULL	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTD MTD MTL MULL N	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTD MTG MTL MULL N N	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTD MTG MTL MULL N N N NA NC	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NORTH NOT APPLICABLE NOISE CRITERIA
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTD MTD MTD MTL MULL N N NA NC NIC	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT
LLH LLV LT MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTD MTG MTL MULL N N N NA NC	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NORTH NOT APPLICABLE NOISE CRITERIA
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N N N N N N N N N N N N N N N N N N	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTD MTD MTD MTD MTD MTD MTD NTC NO NO NO NO NO NO NO NO NO NO NO NO NO	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N N N N N N N N N N N N N N N N N N	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL
LLH LLV LT M MAS MAX MECH MED MED MFR MH MIN MISC MO MR MTD MTG MTL MULL N N NA NC NIC NO NOM NON COMB NTS O OA	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR
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LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTD MTD MTD MTD MTD MTD MTD MTD NC NO NO NO NO NO NO NO NO NO NO NO NO NO	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N N NA NC NIC NO NOM NON COMB NTS O OA OC OD	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN OWNER FURNISHED,
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N N NA NC NIC NO NOM NON COMB NTS O OA OC OD	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN
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LLH LLV LT M MAS MAX MECH MED MFR MH MIN MISC MO MR MTD MTG MTL MULL N N NA NC NIC NO NOM NON COMB NTS O OA OC OD OD OFCI	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN OWNER FURNISHED, CONTRACTOR INSTALLED OFFICE
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N N NA NC NIC NO NOM NON COMB NTS O OA OC OD OC OD OFCI OFF OFOI OH OPNG	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR OV CENTER OUTSIDE DIAMETER OVERFLOW DRAIN OWNER FURNISHED, CONTRACTOR INSTALLED OFFICE OWNER FURNISHED, OWNER INSTALLED
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N NA NC NIC NO NOM NON COMB NTS O OA OC OD OFCI OFF OFOI OH OPNG OPP	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN OWNER FURNISHED, CONTRACTOR INSTALLED OFFICE OWNER FURNISHED, OWNEF INSTALLED OVERHEAD OPENING OPPOSITE
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N N NA NC NIC NO NOM NON COMB NTS O OA OC OD OC OD OFCI OFF OFOI OH OPNG	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN OWNER FURNISHED, CONTRACTOR INSTALLED OFFICE OWNER FURNISHED, OWNER INSTALLED OVERHEAD OPENING
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N NA NC NIC NO NOM NON COMB NTS O OA OC OD OFCI OFF OFOI OH OPP ORD	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN OWNER FURNISHED, CONTRACTOR INSTALLED OFFICE OWNER FURNISHED, OWNEF INSTALLED OVERHEAD OPENING OPPOSITE
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N N NA NC NIC NO NOM NON COMB NTS O OA OC OD OFCI OFF OFOI OFF OFOI OFP ORD P P PAV	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN OWNER FURNISHED, CONTRACTOR INSTALLED OFFICE OWNER FURNISHED, OWNEF INSTALLED OVERHEAD OPENING OPPOSITE OVERFLOW ROOF DRAIN
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MTD MTG MTL MULL N NA NC NIC NO NOM NON COMB NTS O OA OC OD OD OFCI OFF OFOI OFF OFOI OH OPP ORD P P	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN OWNER FURNISHED, CONTRACTOR INSTALLED OFFICE OWNER FURNISHED, OWNER INSTALLED OVERHEAD OPENING OPPOSITE OVERFLOW ROOF DRAIN
LLH LLV LT M MAS MAX MECH MED MEMBR MFR MH MIN MISC MO MR MTD MTG MTL MULL N N NA NC NIC NO NOM NON COMB NTS O OA OC OD OFCI OFF OFOI OFF OFOI OFP ORD P P PAV PBD	LONG LEG HORIZONTAL LONG LEG VERTICAL LIGHT MASONRY MAXIMUM MECHANICAL MEDIUM MEMBRANE MANUFACTURER MAN HOLE MINIMUM MISCELLANEOUS MASONRY OPENING MOISTURE RESISTANT MOUNTED MOUNTING METAL MULLION NORTH NOT APPLICABLE NOISE CRITERIA NOT IN CONTRACT NUMBER NOMINAL NON COMBUSTIBLE NOT TO SCALE OUTSIDE AIR ON CENTER OUTSIDE DIAMETER OVERFLOW DRAIN OWNER FURNISHED, CONTRACTOR INSTALLED OFFICE OWNER FURNISHED, OWNEF INSTALLED OVERHEAD OPENING OPPOSITE OVERFLOW ROOF DRAIN
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PNT

POL

POLISHED

PAINT OR PAINTED

PR	
PREFAB	PAIR PREFABRICATED
PROJ PSF	PROJECT POUNDS PER SQUARE FOOT
PT PT	POINT PRESSURE TREATED
PTD	PAINTED
PTN PVC	PARTITION POLYVINYL CHLORIDE
Q QT QTY	QUARRY TILE QUANTITY
R R	RADIUS/RISER
RA RAD	RETURN AIR RADIUS
RB RBR	RESILIENT BASE RUBBER
RCP RD	REFLECTED CEILING PLAN
REC	RECESSED
RECPT REF	RECEPTACLE REFERENCE
REFR REG	REFRIGERATOR REGISTER
REINF REINF	REINFORCED REINFORCING REINFORCED
REL REM	RELOCATE REMOVABLE
REOOM REQ	RECOMMENDED REQUIRE/REQUIRED
REQD RESIL	REQUIRED RESILIENT
REV	REVISION/REVISED
RO RTD	ROUGH OPENING RATED
RTG	RATING
RWL S	
S SA	SOUTH SUPPLY AIR
SAF SC	SELF ADHERED FLASHING SOLID CORE
SCHED SD	SCHEDULE STORM DRAIN
SECT SF	SECTION SQUARE FEET/FOOT
SH SHR	SPRINKLER HEAD SHOWER
SHT SIM	SHEET SIMILAR
SM SM	SHEET METAL SURFACE MOUNTED
SP	STANDPIPE
SPEC SPEC	SPECIFICATION SPECIFIED OR SPECIFICATION
SPK SPKR	SPRINKLER OR SPEAKER SPEAKER
SQ SS	SQUARE STAINLESS STEEL
SSK STA	SERVICE SINK STATION
STC	SOUND TRANSMISSION COEFFICIENT
STL STOR	STEEL STORAGE
STRG STRUCT	STRINGER STRUCTURAL
	STRUCTURE OR STRUCTURAL SUBCATEGORY
SUSP SYM	SUSPENDED SYMMETRICAL
SYS T	SYSTEM
T T&B	TREAD TOP AND BOTTOM
T&G TB	TONGUE AND GROOVE TOWEL BAR
TEL	TELEPHONE/TELECOM TELEPHONE
TEMP	TEMPERATURE
TEMP THK	TEMPORARY
THRU TKBD	THICKNESS
	THROUGH TACK BOARD
TLT TMPD	THROUGH TACK BOARD TOILET TEMPERED
TLT	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM
TLT TMPD TO	THROUGH TACK BOARD TOILET TEMPERED TOP OF
TLT TMPD TO TOB TOC	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE
TLT TMPD TO TOB TOC TOS TS	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL
TLT TMPD TO TOB TOC TOS TS TV TV TYP	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL
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TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UNO UON UNNL	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UNFIN UNO UON URNL V VAC	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON UNFIN UNO UON URNL V VAC VAR VCT VERT VEST	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERTICAL VESTIBULE
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON UON UON UON UON UON VAC VAR VCT VEST VIF VP	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERTICAL VESTIBULE VERIFY IN FIELD VISION PANEL
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON UNFIN UNO UON URNL V VAC VAR VCT VERT VEST VIF VP VR VT	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERTICAL VESTIBULE VERIFY IN FIELD VISION PANEL VAPOR RETARDER VINYL TILE
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON UNFIN UNO UON URNL V VAC VAR VCT VEST VIF VP VR VT VR VT VWC W	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERTICAL VESTIBULE VERIFY IN FIELD VISION PANEL VAPOR RETARDER VINYL TILE VINYL WALL COVERING
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON UNFIN UNO UON UON UON UON UON UON UON UON UO	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERIFY IN FIELD VISION PANEL VAPOR RETARDER VINYL TILE VINYL WALL COVERING
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON UNFIN UNO UON URNL V VAC VAR VCT VERT VEST VIF VP VR VT VEST VIF VP VR VT VWC W W/ W/O WC	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERTICAL VESTIBULE VERIFY IN FIELD VISION PANEL VAPOR RETARDER VINYL TILE VINYL WALL COVERING WIDE/WEST WITH WITHOUT WATER CLOSET
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON URNL V VAC VAR VCT VERT VEST VIF VP VR VT VR VT VR VT VWC W W W/ W/O WC WD WIN	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERTICAL VESTIBULE VERIFY IN FIELD VISION PANEL VAPOR RETARDER VINYL TILE VINYL TILE VINYL WALL COVERING WIDE/WEST WITH WITHOUT WATER CLOSET WOOD WINDOW
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON URNL V VAC VAR VCT VERT VEST VIF VP VR VT VEST VIF VP VR VT VR VT VWC W W/ W/O WC WD	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERTICAL VESTIBULE VERIFY IN FIELD VISION PANEL VAPOR RETARDER VINYL TILE VINYL TILE VINYL WALL COVERING WIDE/WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WIRE MESH WATERPROOF/WATERPROOFI
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON URNL V VAC VAR VCT VERT VEST VIF VP VR VT VEST VIF VP VR VT VWC W W W/ W/O WC WD WIN WM WP	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERIFY IN FIELD VISION PANEL VERIFY IN FIELD VISION PANEL VAPOR RETARDER VINYL TILE VINYL WALL COVERING WIDE/WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WIRE MESH WATERPROOF MEMBRANE
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TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON URNL V VAC VAR VCT VERT VEST VIF VP VR VT VEST VIF VP VR VT VR VT VWC W W W/O WC WD WIN WM WP WPM WS WSCT WT WV	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERTICAL VESTIBULE VERTICAL VESTIBULE VERIFY IN FIELD VISION PANEL VAPOR RETARDER VINYL TILE VINYL TILE VINYL WALL COVERING WIDE/WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WIRE MESH WATERPROOF MEMBRANE WEATHER-STRIPPING WATER VALVE
TLT TMPD TO TOB TOC TOS TS TV TYP U UNFIN UNO UON URNL V VAC VAR VCT VERT VEST VIF VP VR VT VEST VIF VP VR VT VEST VIF VP VR VT VEST VIF VP VR VT VR VR VT VT VR VT VR VT VT VR VT VT VR VT VT VT VT VT VT VT VT VT VT VT VT VT	THROUGH TACK BOARD TOILET TEMPERED TOP OF TOP OF BEAM TOP OF CONCRETE TOP OF STEEL TUBE STEEL TELEVISION TYPICAL UNFINISHED UNLESS NOTED OTHERWISE UNLESS NOTED OTHERWISE UNLESS OTHERWISE NOTED URINAL VENTILATION AND AIR CONDITIONING VARIES VINYL COMPOSITION TILE VERTICAL VESTIBULE VERIFY IN FIELD VISION PANEL VAPOR RETARDER VINYL TILE VINYL WALL COVERING WIDE/WEST WITH WITHOUT WATER CLOSET WOOD WINDOW WIRE MESH WATERPROOF MEMBRANE WEATHER-STRIPPING WAINSCOT WEIGHT

GENERAL NOTES: (1)

GENERAL:

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS.

ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE, NATIONAL BUILDING CODE AND STRUCTURAL COMMENTARIES (PART 4).

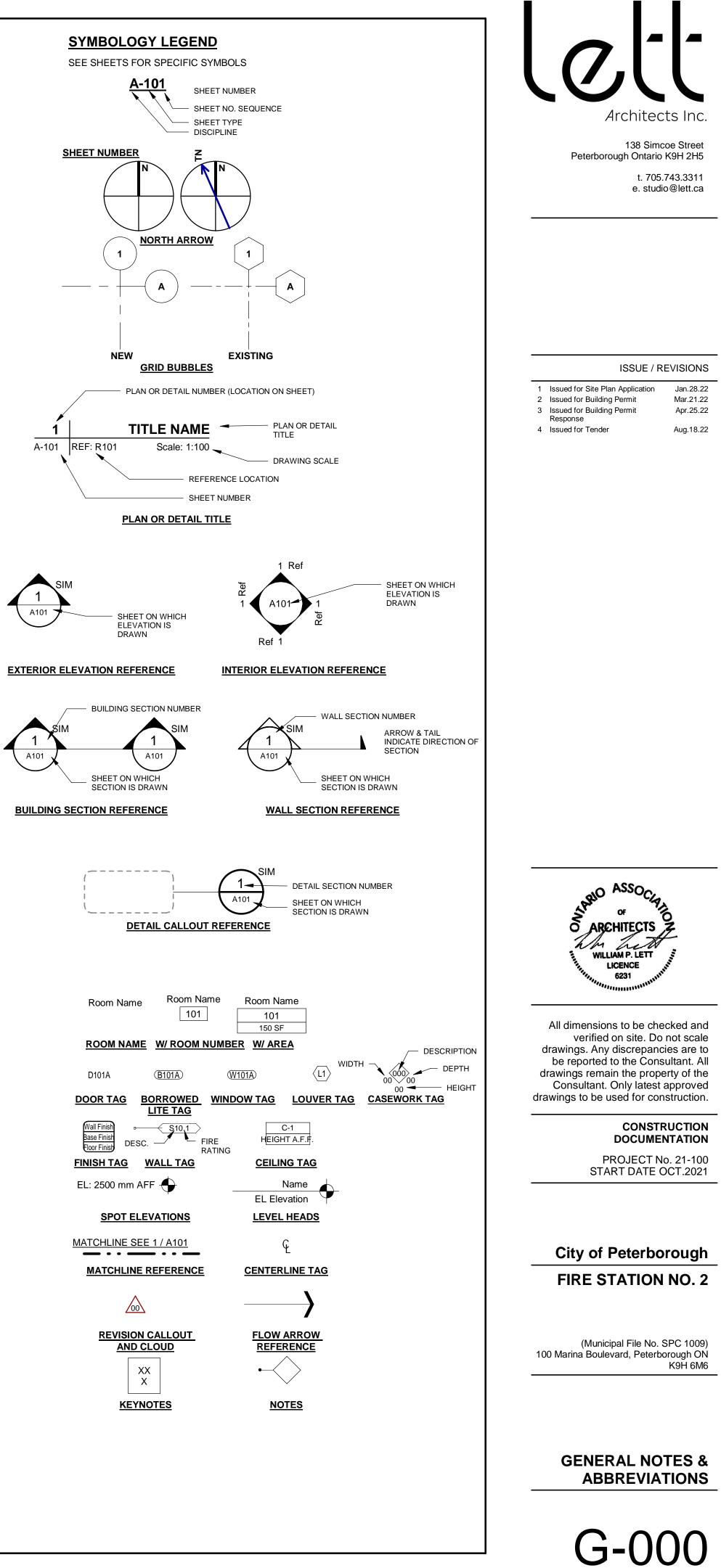
ABIDE BY LOCAL MUNICIPAL BY-LAWS AND OTHER REGULATORY AGENCIES THAT MAY AFFECT THE WORK.

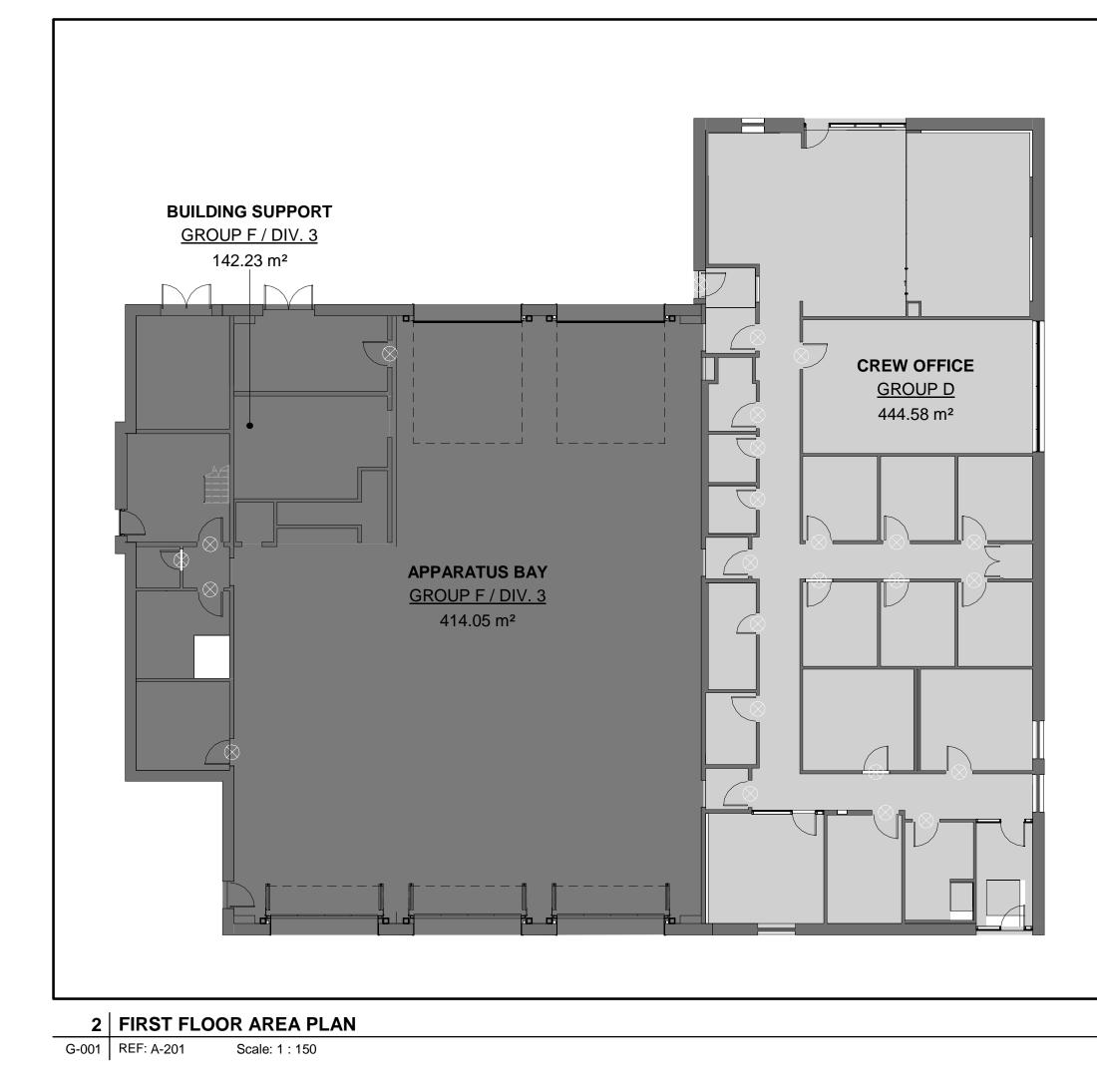
ALL DIMENSIONS, ELEVATIONS, OPENINGS FOR PIPES, SLEEVES, EQUIPMENT LOCATIONS AND THE LIKE SHALL BE CHECKED WITH THE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE OWNER BEFORE PROCEEDING WITH THE WORK. DO NOT SCALE THESE DRAWINGS.

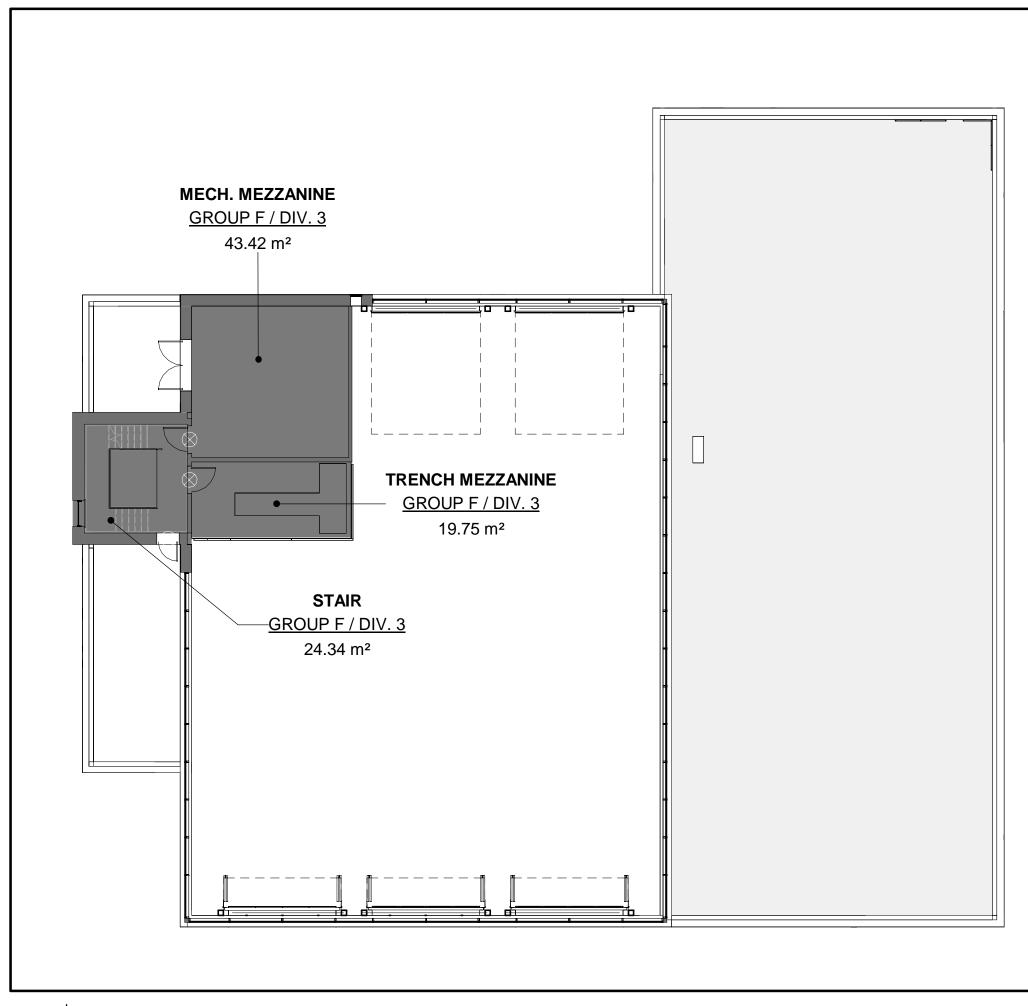
CLT PANEL COORDINATION:

GC TO ENSURE CLT & MECH. TRADES COORDINATE PENETRATIONS AND FINAL DUCT SIZING/RUNS THROUGH CLT

CLT OPENINGS TO BE RATIONALIZED IN PANELS AND COORDINATE WITH OTHER TRADES







1 MEZZANINE FLOOR AREA PLAN G-001 REF: A-301 Scale: 1 : 150

REF #	ITEM	DESCRIPTION	ITEM	
(01)	PROJECT DESCRIPTION:	This is a 1-storey, post-disaster, fire station, proposed to relocate the existing City of	01	PROJECT DESCRIPTION:
		Peterborough Fire Station No. 2. It is comprised of an office component at the east side with office, kitchen, dining, lounge, exercise, washroom facilities, storage, janitorial, and rest areas for crews, and an apparatus bay at the west side conforming to the definition of a storage	01	Refer to Building Code Mat
		garage. The structure of the building is heavy timber, including glulam columns and beams, with CLT shear walls and roof decks. The mezzanine is constructed of a steel column and	02	MAJOR OCCUPANCY(S):
		beam grid with steel decking and concrete topping. The mezzanine provides for a training area		GROUP D
		open to the apparatus bay and protected by a railing, along with a mechanical room enclosed		GROUP F, DIVISION 3
		from the adjacent and lower spaces. The hose tower at the west of the building is also constructed of a steel structure, providing access and exit from the mezzanine and roof levels,		
		while also accommodating the drying of hoses, and some training exercises. While the building		
		area does not require that the building is sprinklered, the Fire Department is opting for full	03	BUILDING AREA (m ²):
		sprinklering of the building. The building is registered to achieve Net-Zero Carbon and Net-Zero	04	GROSS FLOOR AREA (m ²):
		Energy Certification through the CaGBC, and as such, the performance of the envelope (walls, roofs and openings) will perform to higher levels than the building code requires. In addition, to	05	MEZZANINE(S) AREA (m ²):
		meet the Net-Zero Energy certification requirements the building must provide for its full energy		MEZZANINE 10% OR LESS E
		demand in on-site energy production. Therefore, a full solar array will be accommodated on		MEZZANINE 40% OR MORE
		both the high roof of the apparatus bay and the low roof of the office side.	06	NUMBER OF STOREYS:
			07	BUILDING HEIGHT (m):
(05)	MEZZANINE AREA:	Mech. Mezz. and Trench Mezz. not considered a storey per OBC 3.2.1.1.(6), (7) & (9).	08	NUMBER OF STREETS / FIRI
		Exception to special protection per OBC 3.2.8.2(1)(c) is true because mezzanine conforms to 3.2.1.1.(8). Per OBC 3.6.2.1.(6) the service room shall be separated from the remainder of the building by a fire separation having a FRR not less than 1 hr.	09	BUILDING CLASSIFICATION:
(19)	FIRE RESISTANCE RATINGS:	Floor assemblies shall be fire separations and if of combustible construction, shall have a fire- resistance rating not less than 45 min, and load-bearing walls, columns and arches supporting an assembly required to have a fire-resistance rating shall, 1. have a fire-resistance rating not less than 45 min, or 2. be of non-combustible construction.	10	SPRINKLER SYSTEM PROPO
(20)		According to OPC 2.6.2.1.(6) regarding the mechanical room on the metropical	11	STANDPIPE SYSTEM REQUI
(20)	REQUIRED SEPARATION FIRE RESISTANCE RATINGS:	According to OBC 3.6.2.1 (6) regarding the mechanical room on the mezzanine, The service room shall be separated from the remainder of the building by a fire separation		HOSE CABINET LOC
		having a FRR not less than 1 hr.	12	FIRE ALARM REQUIRED:
		According TO OBC 3.3.1.20. (3) No fire resistance rating is required at janitor room as full	13	WATER SERVICE/SUPPLY IS
		building is sprinklered.	14	HIGH BUILDING:
(24)	WASHROOM REQUIREMENTS:	For group D occupancy area/person is allowed to be 14m2 per OBC 3.7.4.2 (1) UWRS are	15	CONSTRUCTION RESTRICTI
		counted as two fixtures per OBC 3.7.4.2.(7)		REQUIRED:
				PROVIDED:
			16	HAZARDOUS SUBSTANCES:
			17	BARRIER-FREE DESIGN:

O.B.C. MATRIX

02	GROUP D
	GROUP F, DIVISION 3
03	BUILDING AREA (m ²):
04	GROSS FLOOR AREA (m ²
05	MEZZANINE(S) AREA (m ²)
	MEZZANINE 10% OR LES
	MEZZANINE 40% OR MOR
06	NUMBER OF STOREYS:
07 08	BUILDING HEIGHT (m): NUMBER OF STREETS / F
08	BUILDING CLASSIFICATIO
10	SPRINKLER SYSTEM PRO
11	STANDPIPE SYSTEM REC HOSE CABINET LC
12	FIRE ALARM REQUIRED:
13	WATER SERVICE/SUPPLY
14	HIGH BUILDING:
15	CONSTRUCTION RESTRIC
	REQUIRED:
16	PROVIDED: HAZARDOUS SUBSTANCI
16	BARRIER-FREE DESIGN:
17	BARRIER-FREE ENTRANO
	No. OF ENTRANCE
	POWER DOOR OP
19	REQUIRED FIRE
	RESISTANCE RATINGS:
20	REQUIRED
	SEPARATION FIRE RESISTANCE
	RATINGS:
21	EXITS:
22	EXPOSED BUILDING FAC
	WALL AREA OF FACE E.B.F.
	(m ²)
	NORTH 161.64 m ²
	NORTH 161.64 m² EAST 117.12 m²
	SOUTH 199.88 m ²
	WEST 105.21 m ²
23	OCCUPANT LOAD:
	OCCUPANT LOAD BAS
	LEVEL 01: OFFIC
	LEVEL 01: REST
	LEVEL 01: DININ
	LEVEL 01: STOR
24	WASHROOM REQUIREME
	GROUP D 1 PEF
	GROUP F3 1 PEF
25	OTHER:

* REFER TO SPECIFIC ITEM OF BUILDING CODE MATRIX EXPLANATIONS ON THIS SHEET

IMPORTANCE CATEGORY: POST-DISASTER

	GROSS FLOOR AREA SCHEDULE					
CCUPANCY	NAME	CLASSIFICATION	AREA	AREA ft2		
	CREW OFFICE	GROUP D	444.58 m ²	4,785.39 SF		
	APPARATUS BAY	GROUP F / DIV. 3	414.05 m ²	4,456.79 SF		
GROUP D	BUILDING SUPPORT	GROUP F / DIV. 3	142.23 m ²	1,530.99 SF		
	FIRST FLOOR		1,000.86 m ²	10,773.17 SF		
GROUP F / DIV. 3	MECH. MEZZANINE	GROUP F / DIV. 3	43.42 m ²	467.39 SF		
	TRENCH MEZZANINE	GROUP F / DIV. 3	19.75 m²	212.59 SF		
	STAIR	GROUP F / DIV. 3	24.34 m ²	261.97 SF		
	MEZZANINE	· · ·	87.51 m ²	941.95 SF		
			1,088.37 m²	11,715.12 SF		

0

Λ							
2012 ONTARIO E		CODE			OB		CE
DATA MATRIX - F					REFERENCES ARE FOR DIVISIO	TO DIVISION B ON A OR [C] FOR	
	EW DDITION LTERATION	CHANGE OF USE	□ PART 1 11.1 TO 11.4	1	PART 3 1.1.2.[A]		PART 9
3					3.1.2.1.(1) APPENDIX "A'		
EXISTING: 0 m ² NE	N: 1,000.	36 m² TOTAL:	1,000.8	36 m²	1.4.1.2.[A]		
²): EXISTING: 0 m ² NE	N: 1,088.3	37 m ² TOTAL:	1,088.3	37 m²	1.4.1.2.[A]		
:): EXISTING: 0 m ² NE	N: 87.	51 m ² TOTAL:	87.5	51 m²	3.2.1.1.(3) thru	u (9)	
S ENCLOSED AREA (m ²):		12 m²			3.2.1.1.(9)		
RE UNCLOSED AREA (m²): ABOVE GRADE: 1 BEI	19.3 OW GRADE: 0	75 m²			3.2.1.1.(6), (7), 1.4.1.2.[A], 3.2		
11 40 m MEA	SURED BETWEEN A	/ERAGE GRADE AND		OR	1.4.1.2.[A], 3.2		
FIRE FIGHTER ACCESS: 1	L, EXCLUDING SER	/ICE SPACE LEVELS	AS PER 3.2.1.1.(1)		3.2.2.10. & 3.2	2.5.	
ON: GROUP D, UP TO 2 STORE 2 STOREYS, SPRINKLERE		RED; GROUP F	, DIVISION 3, U	ІР ТО	3.2.2.56. & 79.		
OPOSED:	NTIRE BUILDIN	G			3.2.2.56. & 79.		
□ S	ELECTED COM	PARTMENTS			3.2.1.5.		
	ELECTED FLO				3.2.2.17.		
	ASEMENT ONL				INDEX INDEX		
	OT REQUIRED	NATING			INDEX		
QUIRED:		NO			3.2.9.		
OCATION: 30.0M MAX.	+ 3.0M HOSE S	TREAM			3.2.9.4.(1) 3.4.9.4.(5)(a)		
□ YES					3.2.4.		
Y IS ADEQUATE: YES			TO		3.2.5.7.		
		NO IF YES, REFER HIGH BUILDING	REQUIREMENTS C	CHART	3.2.6.		
ICTIONS: COMBUSTIBLE PERMITTED	NON-COMBUS	STIBLF	■ BOTH		3.2.2.56. & 79.	·	
	NON-COMBUS		■ BOTH				
ES: DYES		NO					
■ YES		NO (EXPLAIN):			3.8.		
CES:							
ES REQ'D TO BE BARRIER FREE: 1					3.8.1.2.		
PERATORS REQ'D: YES		-			3.8.3.3. 3.2.2.56. & 79.		
HORIZONTAL ASSEMBLIES FIRE RESISTANCE RATINGS (F.R.R.)		LISTED DESIGN SSEMBLY DESC		2)	J.2.2.JU. & 73.		
FLOOR: N/A (SLAB ON GRAD	E) FLOOR	: N/A					
ROOF: NOT RATED	ROOF:	N/A					
MEZZANINE: 1 HR (MECH. MEZZ) *	MEZZA	NINE: SB-2 TA	ABLE 2.3.12.				
FIRE RESISTANCE RATINGS OF SUPPORTING MEMBERS (F.R.R.)		LISTED DESIGN		·2)			
BEAMS: 1 HR *	BEAMS		MEMBRANE PER SB	-2			
COLUMNS: 1 HR *	COLUN	TABLE 2.3	.12. IUMESCENT PAINT))			
ARCHES: N/A	ARCHE	S: N/A					
SPACE NAME:	REQUI	RED RATING:					
APPARATUS BAY	1.5 HR				3.3.5.6		
GROUND STORAGE / GARBAGE	1 HR				3.6.2.5.(1)(a)		
MECH. / SPKLR. / ELEC.	1 HR*				3.6.2.1.(6)		
JANITOR	0 HR*				3.3.1.20.(3)		
MAX. TRAVEL DISTANCE:	45 m				3.4.2.5		
CE & SPATIAL SEPARATION:					3.2.3.1.		
AREA OF U.P.O. (m ²) LIMITING DISTANCE (m) L/H OR H/L (1 + x)	PERMITTED MAX. % OF OPENINGS	PROPOSED MAX. % OF OPENINGS	REQUIRED F.R.R. OF WALL			ON-COMB. CONS'TN REQ'D	NON-COMB. CLADDING REQ'D
(1 : x) 77.04 m ² >255.53 m <3/1	100 %	47.66147 %	45 MIN	CAN	/ULC-S134-13 NON	N-COMB./COMB.	NO
15 m ² >3 m 3/1 - 10/ ²	13 %	12.807377 %	45 MIN	CAN	/ULC-S134-13 NON	N-COMB./COMB.	NO
116.95 m ² >41.95 m 3/1 - 10/ ²		58.510106 %	45 MIN			N-COMB./COMB.	NO
10.31 m ² >11.53 m <3/1	97 %	9.799449 %	45 MIN	CAN	/ULC-S134-13 NON	N-COMB./COMB.	NO
(REFEI	R TO OCCUPAN	IT LOAD CHART	FOR SPECIFI	CS)	3.1.17.		
SED ON: Gr.m./PEF	RSON	DESIGN OF BUI	LDING				
UPANCY: LOAD:		PERSONS:					
	(
r/study rooms		3 16					
RAGE GARAGES)					
	JPANT LOAD:						
ENTS:					3.7.4.		
	WASHROOM R		ASHROOM PROVID		074040		
RSON/14m ² = 32 PEOPLE (16M, 16F) RSON/46m ² = 14 PEOPLE (7M, 7F)		4		5 1	3.7.4.2.(1) 3.7.4.2.(7)		

4.1.2.1

Architects Inc.

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ISSUE / REVISIONS

Jan.28.22 Mar.21.22 Apr.25.22

Aug.18.22

1	Issued for Site Plan Application
2	Issued for Building Permit
3	Issued for Building Permit
	Response
4	Issued for Tender



All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

CONSTRUCTION DOCUMENTATION

PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough **FIRE STATION NO. 2**

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

BUILDING INFORMATION SHEET

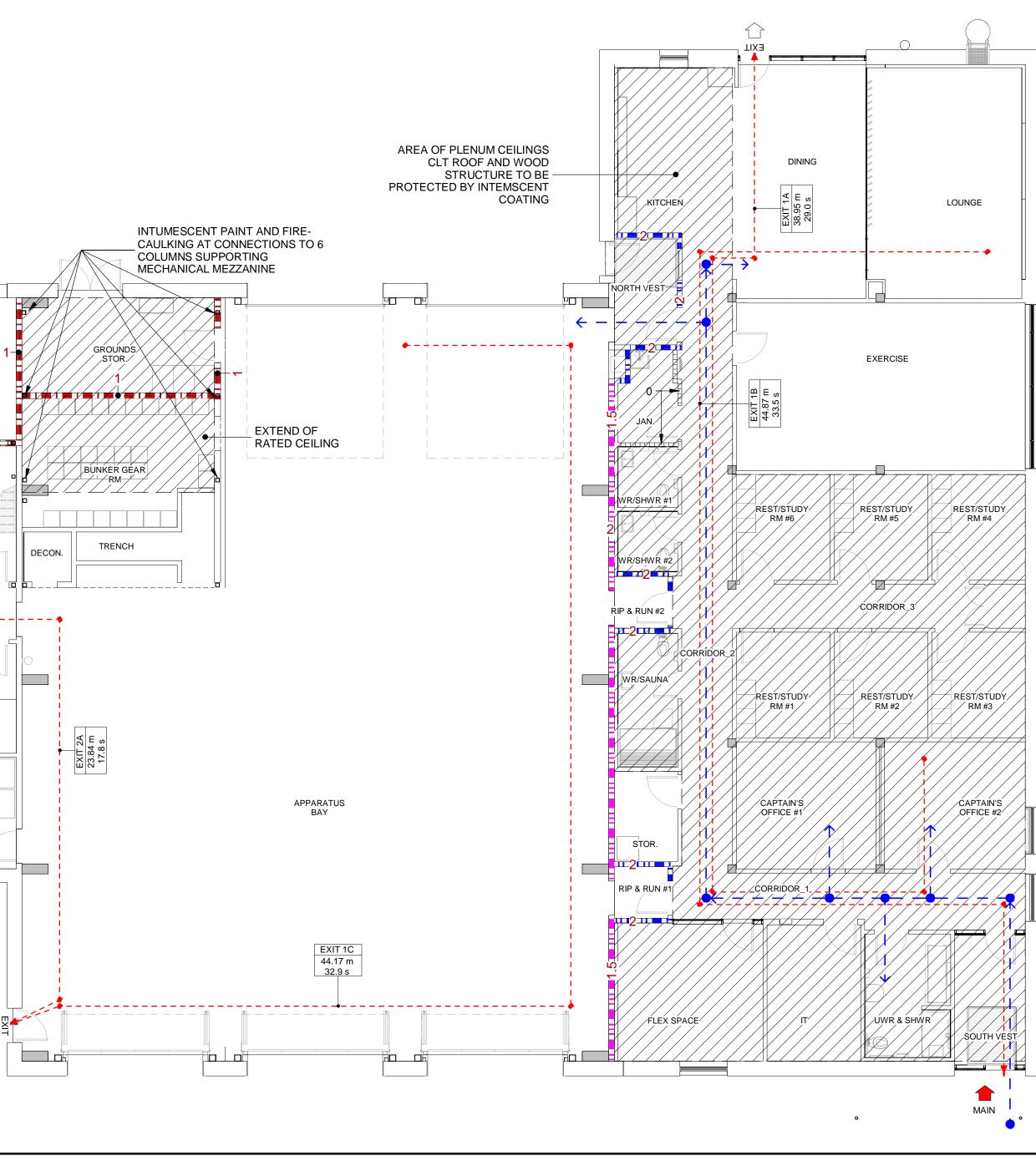
G-001

			HOSE TO	RY & RACT	
G-(ST FLC A-201	DOR LIF Scale:		
		EL 7800 MEZZAN EL 3900 ROOF LC	ROOF TUS BAY INE	UNDER	LING M OBC SIDE C ENT O
	Y	EL 3300			

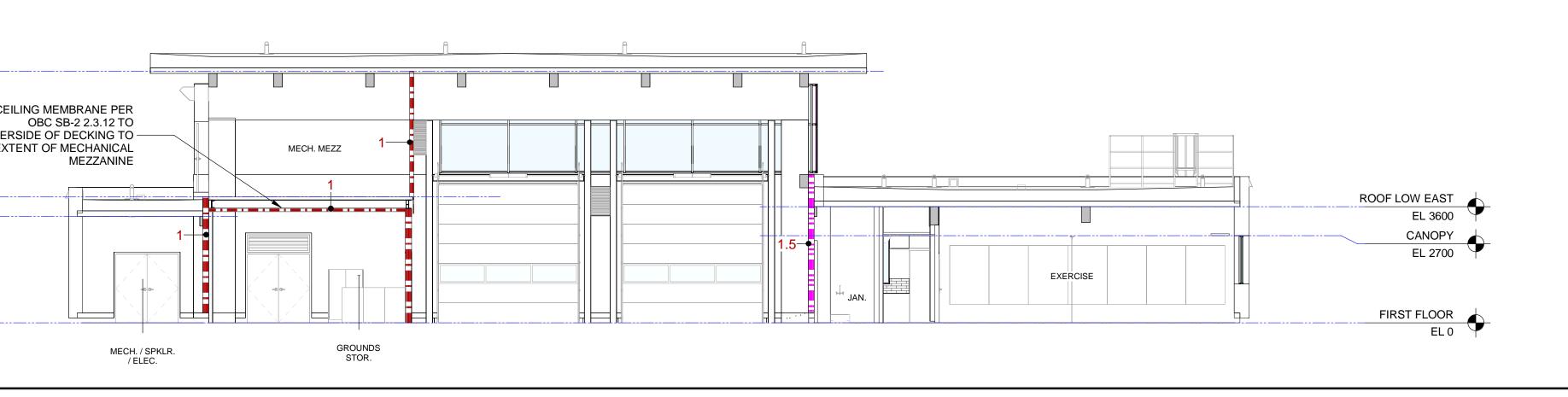
MECH. / SPKLR.

/ ELEC.

1 | BUILDING SECTION - LIFE SAFETY G-002 REF: A-301 Scale: 1 : 100





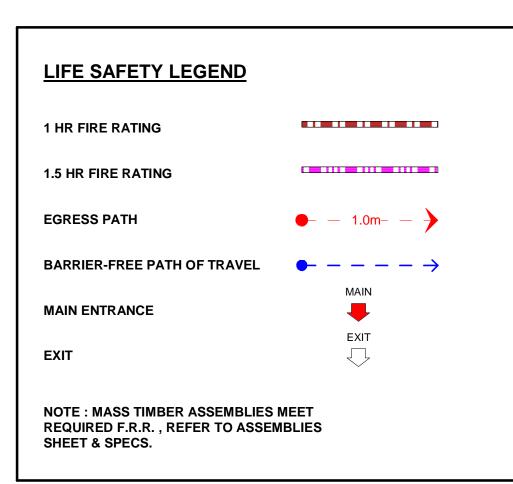


EGRESS PATH OF TRAVEL					
Level	Mark	From Room	Length		
FIRST FLOOR	EXIT 1A	CAPTAIN'S OFFICE #2 102	38.95 m		
FIRST FLOOR	EXIT 1B	LOUNGE 112C	44.87 m		
FIRST FLOOR	EXIT 1C	APPARATUS BAY 131	44.17 m		
FIRST FLOOR	EXIT 2A	HOSE TOWER 136	23.84 m		
MEZZANINE	EXIT 2B	MECH. MEZZ 202	10.22 m		

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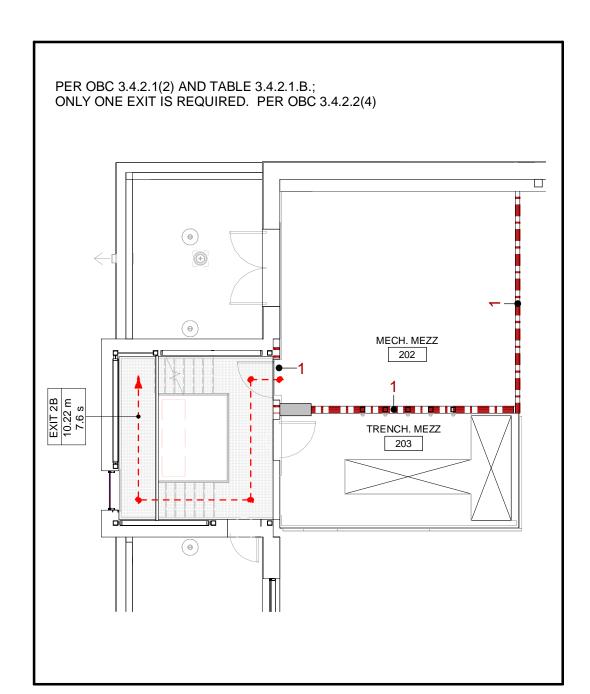


ISSUE	/ REVISION	S

Aug.18.22

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2 MEZZANINE FLOOR LIFE SAFETY PLAN

Scale: 1:100

G-002 REF: A-301

WILLIAM P. LETT LICENCE hm

NO ASSOC

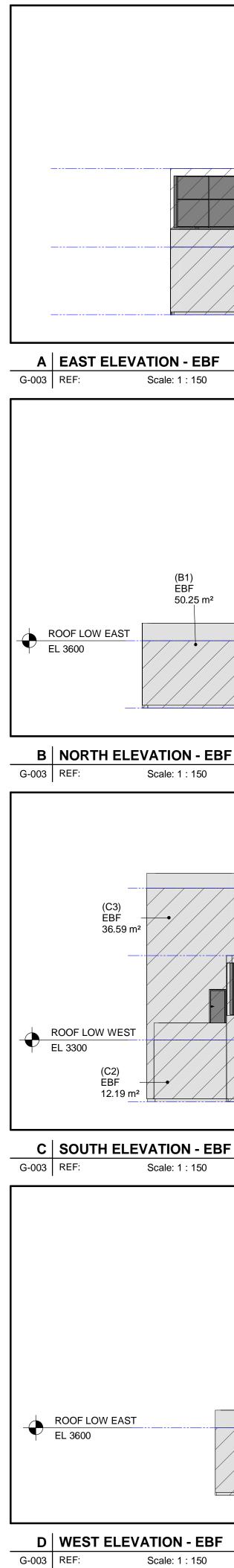
ARCHITECT

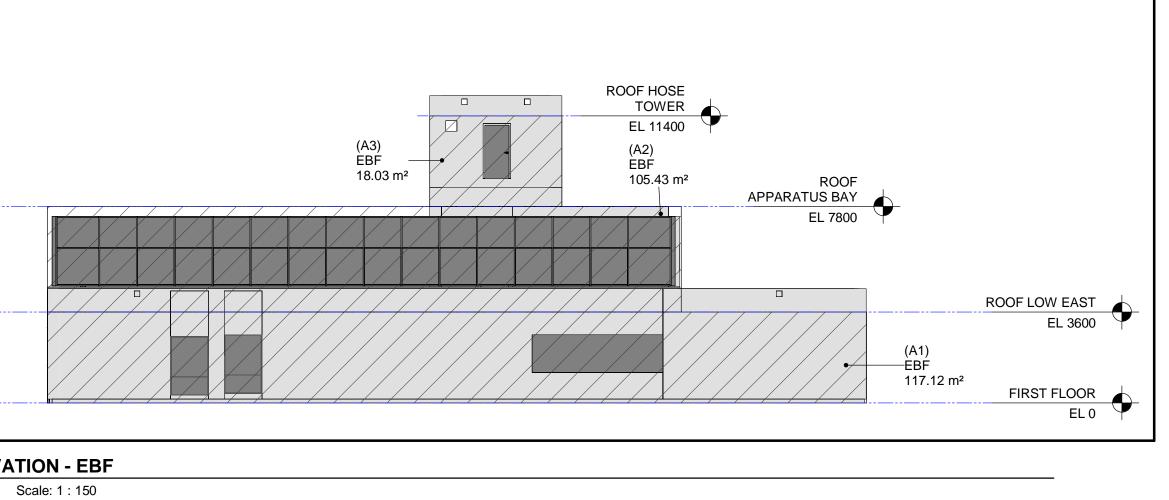
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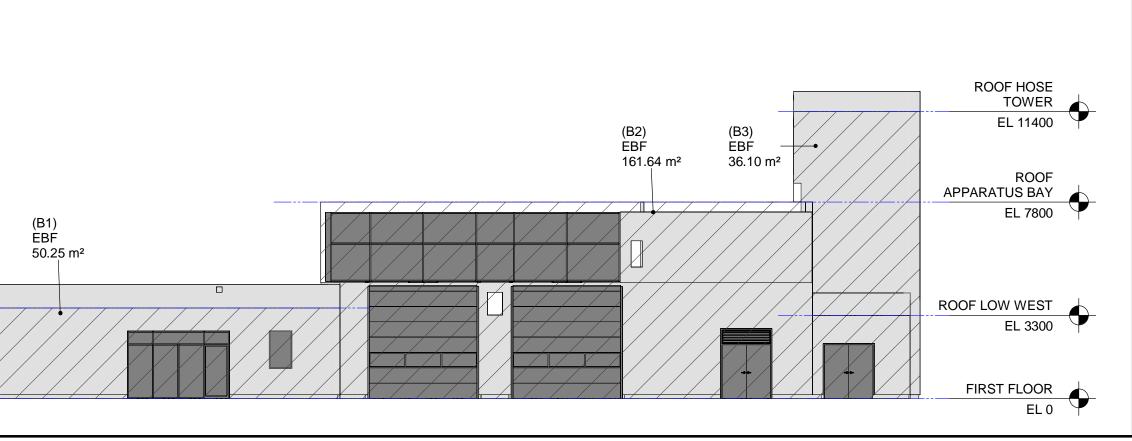
> CONSTRUCTION DOCUMENTATION PROJECT No. 21-100 START DATE OCT.2021

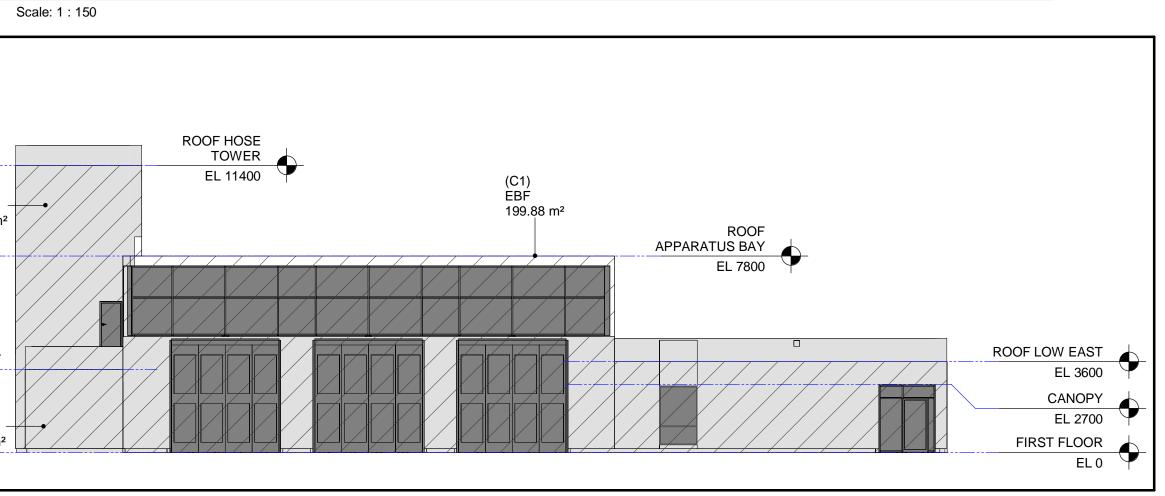
City of Peterborough **FIRE STATION NO. 2** (Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6 LIFE SAFETY PLANS

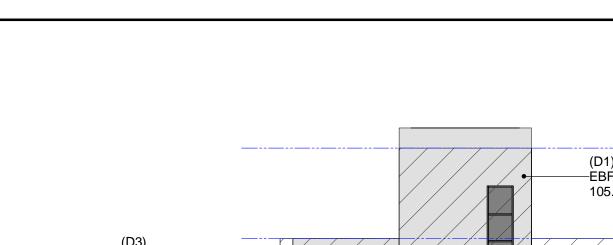
G-002

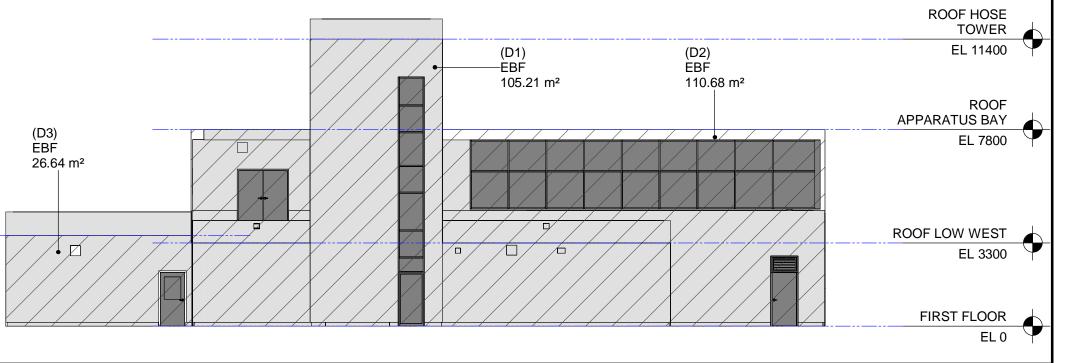












Scale: 1 : 150

EXPOSED BUILDING FACE CALCULATIONS (EBF)

*Fenestration Area: Sum of unprotected opening

			Ar	eas	Percent		Allowable			
					(openings to	Limiting	Percent			
ID	FACADE	Туре	Wall	Fenestration	wall)	Distance	(OBC 3.2.3.1)			
A1	EAST	WALL AREA - EBF	117.12 m ²	15.00 m ²	12.81%	3.00 m	22.0%			
	EAST	WALL AREA - EBF	105.43 m ²	67.68 m ²	64.19%	16.20 m	100.0%			
A3	EAST	WALL AREA - EBF	18.03 m ²	1.96 m ²	10.87%	34.96 m	100.0%			
	NORTH	WALL AREA - EBF	50.25 m ²	13.05 m ²	25.97%	234.07 m	100.0%			
B2	NORTH	WALL AREA - EBF	161.64 m²	77.04 m ²	47.66%	255.53 m	100.0%			
B3 I	NORTH	WALL AREA - EBF	36.10 m ²	0.00 m ²	0.00%	283.12 m	100.0%			
	SOUTH	WALL AREA - EBF	199.88 m²	116.95 m ²	58.51%	41.95 m	100.0%			
C2	SOUTH	WALL AREA - EBF	12.19 m ²	0.00 m ²	0.00%	57.65 m	100.0%			
C3	SOUTH	WALL AREA - EBF	36.59 m²	1.43 m ²	3.91%	66.70 m	100.0%			
D1 \	WEST	WALL AREA - EBF	105.21 m²	10.31 m ²	9.80%	11.53 m	97.0%			
D2 \	WEST	WALL AREA - EBF	110.68 m ²	44.69 m ²	40.38%	13.84 m	100.0%			
D3 \	WEST	WALL AREA - EBF	26.64 m ²	3.87 m ²	14.53%	36.72 m	100.0%			



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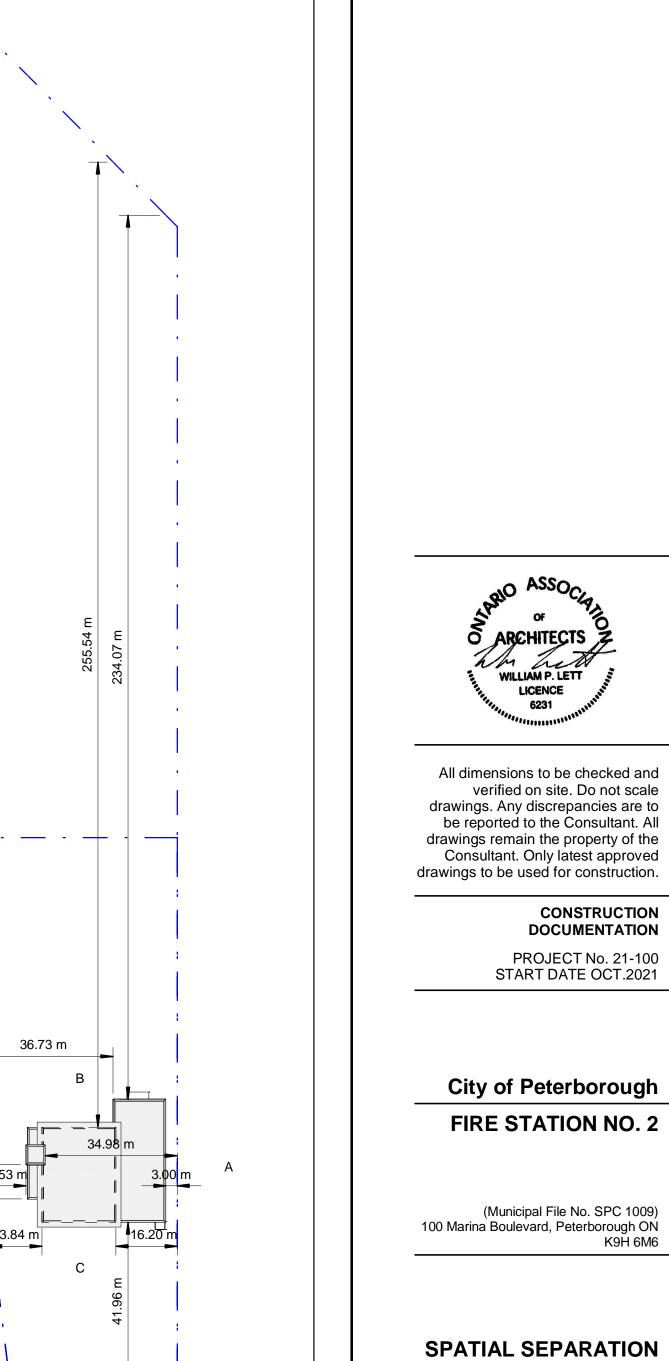
ISSUE / REVISIONS

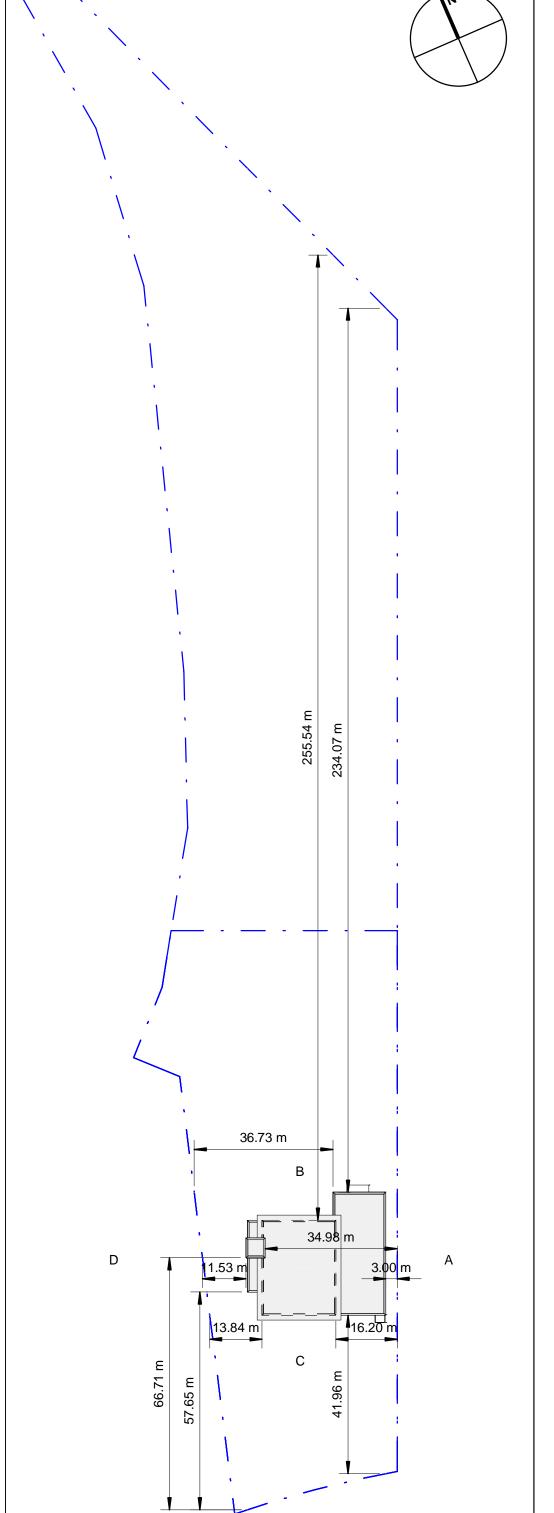
CONSTRUCTION DOCUMENTATION

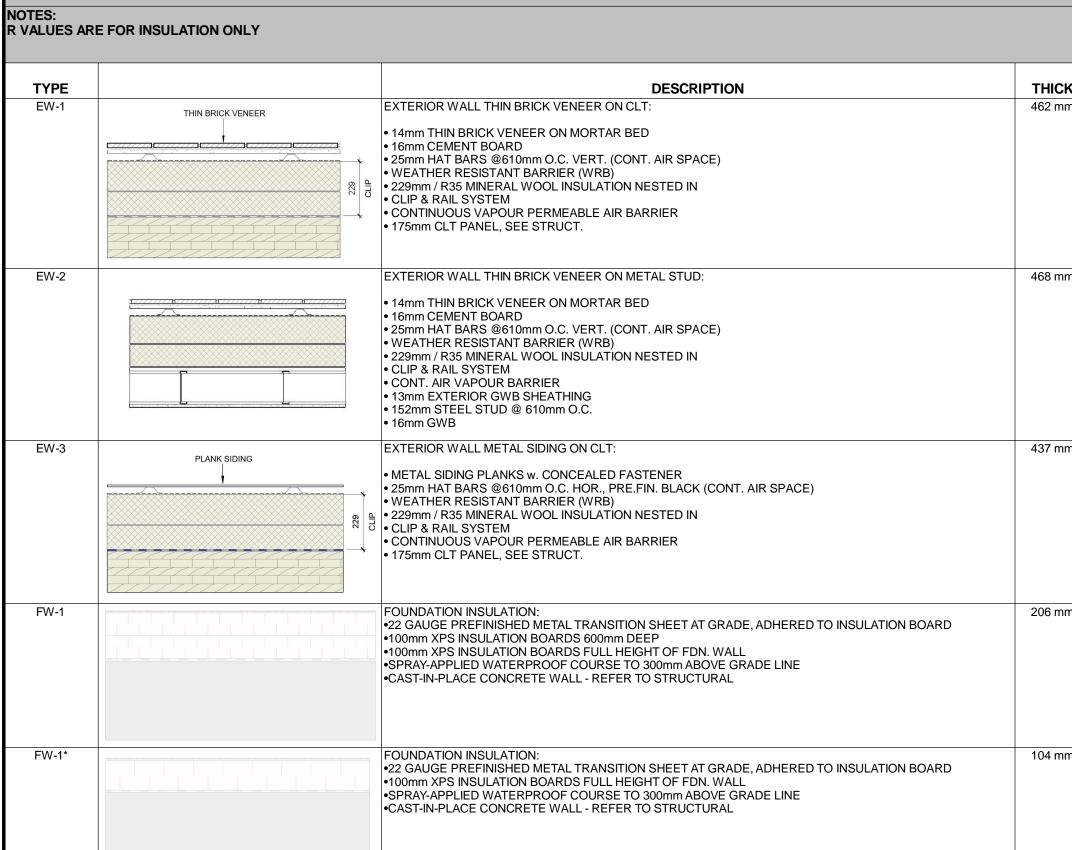
& EXPOSURE PROTECTION

G-003

1	Issued for Site Plan Application	Jan.28.22
2	Issued for Building Permit	Mar.21.22
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4	Issued for Tender	Aug.18.22







INTERIOR WALL & BUILKHEAD SCHEDULE

FOUNDATION & EXTERIOR WALL ASSEMBLIES

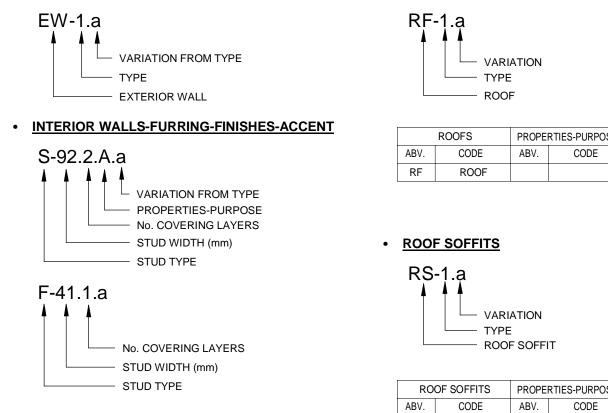
		AT ALL VOIDS AT FIRE-RESISTANT RATED PARTITIONS AND EVATION DRAWINGS FOR INTERIOR WALL FINISHES AND AG		NS.				
EFER TO LII	FE SAFETY PLANS, SECTIONS & LEGENDS F SSEMBLIES TYPE CODIFICATION FOR COMP	OR F.R.R.						
ТҮРЕ		DESCRIPTION	тніск	PURPOSE	STC Rating	U.L.C. No.	FRR (HOUR)	Comments
CLT-175.R		• 175mm CLT (5-PLY) GRADE SPF-V2 PANEL, SEE STRUCT.	175 mm	PARTITION			1.5	MFRS. SPEC. MEETS THE MINIMUM 1.5H FIRE RESISTANCE RATING, AL
		REFER TO DRAWINGS FOR FINISHED FACES						EXPOSED CLT EDGES AT OPENINGS SHOULD HAVE 45 DEGREE CHAMFER OF BEVELLED EDGE
CMU-140		INTERIOR CMU PARTITION: •140mm CONCRETE BLOCK •FULL HEIGHT TO U/S STRUCTURE, U.N.O.	140 mm	PARTITION	40		1	INTUMESCENT PAINT ON HSS COLUMNS, ALL EXPOSED CMU CORNERS TO BE BULLNOSE
CMU-190	777777777777777777777777777777777777777	INTERIOR CMU PARTITION:	190 mm	PARTITION				INTUMESCENT PAINT ON
		•190mm CONCRETE BLOCK •FULL HEIGHT TO U/S STRUCTURE, U.N.O.						HSS COLUMNS, ALL EXPOSED CMU CORNERS TO BE BULLNOSE
S-92.1		INTERIOR PARTITION:	108 mm	PARTITION				
		•16mm GYPSUM WALL BOARD •92mm METAL STUD @ 610mm O.C. TO 6" ABOVE CEILING, WHERE NO CEILING TO U/S STRUCTURE						
S-92.2.A		INTERIOR ACOUSTIC PARTITION:	124 mm	PARTITION	50			
		 •16mm GYPSUM WALL BOARD •92mm METAL STUD @ 610mm O.C. •92mm ACOUSTIC BATT INSULATION •16mm GYPSUM WALL BOARD FULL HEIGHT TO U/S STRUCTURE, U.N.O. 						
S-92.2.AR		INTERIOR ACOUSTIC PARTITION:	124 mm	PARTITION	50	W453	1	
		 •16mm TYPE-X GYPSUM WALL BOARD •92mm METAL STUD @ 610mm O.C. •92mm ACOUSTIC BATT INSULATION •16mm TYPE-X GYPSUM WALL BOARD FULL HEIGHT TO U/S STRUCTURE, U.N.O. 						
S-92.3		INTERIOR PARTITION:	140 mm	PARTITION	40			
		 16mm GYPSUM WALL BOARD 92mm METAL STUD @ 610mm O.C. TWO LAYER 16mm GYPSUM WALL BOARD FULL HEIGHT TO U/S STRUCTURE, U.N.O. 						
S-92.4.AR		INTERIOR PARTITION (2HR):	156 mm	PARTITION	56	W453	2	
		 TWO LAYER 16mm TYPE-X GYPSUM WALL BOARD 92mm METAL STUD @ 610mm O.C. 92mm ACOUSTIC BATT INSULATION TWO LAYER 16mm TYPE-X GYPSUM WALL BOARD FULL HEIGHT TO U/S STRUCTURE, U.N.O. 						
S-152.2.A		INTERIOR ACOUSTIC PARTITION:	184 mm	PARTITION	59			
		 16mm GYPSUM WALL BOARD 152mm METAL STUD @ 610mm O.C. 152mm ACOUSTIC BATT INSULATION 16mm GYPSUM WALL BOARD FULL HEIGHT TO U/S STRUCTURE, U.N.O. 						
S-152.2.AR		INTERIOR ACOUSTIC PARTITION:	184 mm	PARTITION	59	W453	1	
		 16mm TYPE-X GYPSUM WALL BOARD 152mm METAL STUD @ 610mm O.C. 152mm ACOUSTIC BATT INSULATION 16mm TYPE-X GYPSUM WALL BOARD FULL HEIGHT TO U/S STRUCTURE, U.N.O. 						

Total R Value	Comments
35	
35	
35	
40	SEE DETAILS
20	<varies></varies>
	Value 35 35 35 35 40

	ROOF ASSEMBLIES		
TYPE	DESCRIPTION	REMA	RKS
RF-1	BALLASTED 2 PLY MOD-BIT ROOF (INSULATED):	MAIN ROOF	
	 PEA GRAVEL BALLAST SEBS FLOOD COAT 2 PLIES SEBS MEMBRANE 125mm STONE WOOL INSULATION 88mm POLYISO TAPERED POLYISO TO ACHIEVE SLOPE MOPPED VAPOUR BARRIER 13mm GWB UNDERLAYMENT CLT OR METAL ROOF DECK 		
RF-2	2 PLY MOD-BIT ROOF (UN-INSULATED): • BASE AND CAP SHEET ON • 13mm FIBREBOARD ON • TAPERED POLYISO TO ACHIEVE SLOPE ON • PLYWOOD	CANOPY ROOF	-
	· · · · · ·		
	FLOOR ASSEMBLIES		
TYPE	DESCRIPTION	R Value	THI
Fl_1	CONC. SLAB ON 300mm COMPACTED FOAM GLASS GRANULAR INSULATION	20	-varios

TYPE	DESCRIPTION	R Value	l l
FL-1	CONC. SLAB ON 300mm COMPACTED FOAM GLASS GRANULAR INSULATION	20	<١
FL-2	CONC. SLAB ON 300mm COMPACTED FOAM GLASS GRANULAR INSULATION	20	13
FL-3	COMPOSITE SLAB (CONC. ON METAL DECK)		90

	CEILING ASSEMBLIES				
TYPE	Type Image	DESCRIPTION	FRR (HOUR)	REMARKS	
C-1		SUSPENDED GYPSUM CEILING		SUSPENDED	
C-1.R		2 LAYER TYPE 'X' GYPSUM WALL BOARD CEILING AS PER OBC SB-2 2.3.12	1	SUSPENDED	
C-2		ACOUSTIC TILE CEILING, 610x610		SUSPENDED	
C-3		SALVAGED WOOD PLANK		SUSPENDED	



PROPERTIES-PURPOSE

THERMAL

ASSEMBLIES TYPE CODIFICATION

• EXTERIOR WALLS-ENVELOPE

WT-1

L_____ TYPE ----- TILE

S ST. STUD T

F FURRING

CMU MASONRY UNIT

CIP CAST IN PLACE CLT CROSS LAM TIMBER

WT WALL TILE RW RET. WALL LW LSCAPE WALL

ABV. CODE ABV. CODE

EW EXT. WALL A ACOUSTIC

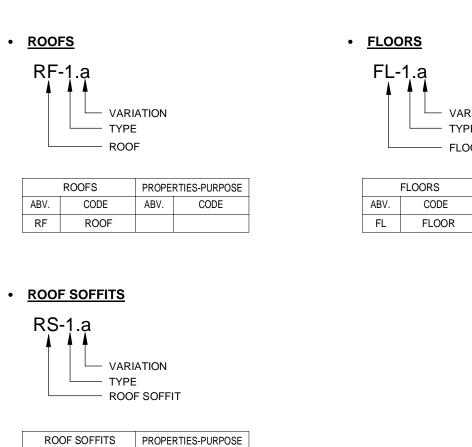
CW CURTAINWALL R RATED

FW FNDN WALL D DEMISING

UP UPSTAND S SPECIALTY

W WD. STUD SM SMOKE

WALLS



NOTES - DEFINITIONS:

RS ROOF SOFIT

1. TYPE - SEQUENTIAL NUMBER FOR ASSEMBLY TYPE 2. STUD WIDTH - STANDARD STUD DIMENSIONS OF SPECIFIED

- COMPONENT
- 3. VARIATION SIMILAR ASSEMBLIES TYPE / COMPONENTS EXCEPT CHANGE IN COLOUR OR FINISHES. SUCH AS; (a, b, c)
- MATERIAL COLOUR OR PROFILES • FACE BRICK COLOUR OR UNIT MODULE
- GRADE OF COMPONENT.
- WALL HEIGHT
- 4. No. OF COVERING LAYERS DEFINES LAYERS OF SAME COMPONENT OR FINISH
- 5. FULL DESCRIPTIONS OF ASSEMBLIES OUTLINED IN ASSEMBLIES SHEET IN DRAWING SET.

THICK. <varies> 130 mm 90 mm

ARKS

– VARIATION L____ TYPE FLOOR

FLOORS PROPERTIES-PURPOSE ABV. CODE ABV. CODE

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ISSUE / REVISIONS

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	Response	
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NO ASSOC

ARCHITECTS

Why here

WILLIAM P. LETT

LICENCE

6231

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> CONSTRUCTION DOCUMENTATION PROJECT No. 21-100

START DATE OCT.2021

City of Peterborough **FIRE STATION NO. 2**

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

> BUILDING ASSEMBLIES



UNDERGROUND SERVICES

SEWERS:

PROP 90.0m-200mm Ø SAN @ 1.00% -	MH
100.5m-200mm Ø SAN @ 2.12% — — — —	МН
PROP 90.0m-300mm Ø STM @ 0.50%	
65.3m-300mmØSTM@4.27%	
	СВМН
	СВ
	свмн
	DCBMH
	СВ
	DCB
	DI

PROPOSED SANITARY SEWER MAIN AND MANHOLE
EXISTING SANITARY SEWER MAIN AND MANHOLE
PROPOSED STORM SEWER MAIN AND MANHOLE
EXISTING STORM SEWER MAIN AND MANHOLE
PROPOSED CATCH BASIN MANHOLE
PROPOSED DOUBLE CATCH BASIN MANHOLE
PROPOSED CATCH BASIN
PROPOSED DOUBLE CATCH BASIN
EXISTING CATCH BASIN MANHOLE
EXISTING DOUBLE CATCH BASIN MANHOLE

EXISTING CATCH BASIN

EXISTING DOUBLE CATCH BASIN

EXISTING DITCH INLET CATCH BASIN

WATER:

 PROPOSED WATER MAIN AND VALVE CHAMBER
 EXISTING WATER MAIN AND VALVE CHAMBER
PROPOSED HYDRANT SET
EXISTING HYDRANT SET
PROPOSED WATER VALVE
EXISTING WATER VALVE
CURB STOP VALVE

300mm Ø WM		VC.
		wv _
	HYD 	
		wv ⊕
		\mathbb{W}^{WV}
		\otimes
		* ^{MW} ⊗
		$\overset{MW}{\otimes}$

NATURAL GAS:

LAWN SPRINKLER HEAD

MONITORING WELL

G G	EXISTING GAS MAIN
Φ	EXISTING GAS VALVE
VP O	EXISTING VENT PIPE

RET. WALL	EXISTING RETAININ EXISTING FENCE
CONC. SWLK	CONCRETE SIDEWA
	CONCRETE BARRIE
	CONCRETE CURB A
	RESIDENTIAL DRIVE
	COMMERCIAL / IND
	PROPOSED CONCR
	PROPOSED HEAVY
	PROPOSED LIGHT

LEGAL AND CONTROL SYMBOLS:

B∎	IRON BAR
RIB	ROUND IRON BAR
IP _o	IRON PIPE
cc *	CUT CROSS
нсм	HORIZONTAL CONTROL MONUMENT
VCM	VERTICAL CONTROL MONUMENT
твм	TEMPORARY BENCHMARK
вм	BENCHMARK
1+000	STATION CHAINAGE

UTILITIES:

ELECTRICAL:

HP	HYDRO POLE
HPLS	HYDRO POLE LIGH
	HYDRO POLE LIGH
ls ♠—☆	LIGHT STANDARD
TS 👩	TRAFFIC SIGNAL P
HWO	HANDWELL
(GUY ANCHOR
· · ·	DIRECT BURIED EL
	CONCRETE ENCAS

TELECOMMUNICATIONS:

BHP	BELL HYDRO POLE
B₽	BELL POLE
BRP	BELL ROGERS POL
PED	PEDESTAL
::	DIRECT BURIED TE
<u></u>	DIRECT BURIED TE

SIGNAGE:

ING RETAINING WALL

CRETE SIDEWALK

CRETE BARRIER CURB (OPSD 600.110)

CRETE CURB AND GUTTER (OPSD 600.040) ENTIAL DRIVEWAY ENTRANCES / DROP CURB

IERCIAL / INDUSTRIAL REINFORCED DROP CURB

OSED CONCRETE

OSED HEAVY DUTY ASPHALT

OSED LIGHT DUTY ASPHALT

PROPOSED GRAVEL

HT STANDARD

HT STANDARD WITH TRANSFORMER

POLE

LECTRICAL DUCT/CABLE

ASED ELECTRICAL DUCT

DLE

ELECOMM DUCT/CABLE ELECOMM DUCT

rrs 🔀	RAIL ROAD SIGN
MK o	МК

- ROAD SIGN
- SIGN DISPLAY BOARD SIGN
- WAYFINDING SIGN

VEGETATION:

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	HEDGE
K	TREE CONIFEROUS
5~3	SHRUB CONIFEROUS
	TREE DECIDUOUS
\bigcirc	SHRUB DECIDUOUS

STUMP

MISCELLANEOUS:

вн	BOREHOLE
	TEST PIT
<u> </u>	WATER DATUM LINE
PST	POST
PM	PARKING METER
MB •••	MAILBOX
^{RK} O	BOULDER / ROCK
•	BOLLARD
	PILLAR
POLE	POLE
	TRASH CAN
	OVERHEAD DOOR
	MAN DOOR
Δ	ACCESSIBLE MAN DOOR
	OVERLAND FLOW ROUTE

100-YEAR PONDING LIMIT

GENERAL:

- 1. ALL CONSTRUCTION AND MATERIALS TO BE IN ACCORDANCE WITH:
- CITY OF PETERBOROUGH DESIGN STANDARDS ONTARIO PROVINCIAL STANDARD DRAWINGS & SPECIFICATIONS APPLICABLE CONTRACT DOCUMENTS AND ALL SPECIFICATIONS REFERENCED HEREIN.
- 2. THE CONTRACTOR SHALL CONSTRUCT ALL WORK IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT, HEALTH AND SAFETY REGULATIONS FOR CONSTRUCTION PROJECTS.
- 3. THE CONTRACTOR SHALL RESTORE OR REPLACE DAMAGED SERVICES TO EXISTING OR BETTER CONDITION.
- 4. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EXISTING OR BETTER CONDITION, OR PER THE ENGINEERING AND LANDSCAPE SPECIFICATIONS REFERENCED HEREIN.
- 5. THE CONTRACTOR SHALL COORDINATE AND PAY FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL, BOOK 7, TEMPORARY CONDITIONS.
- 6. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIALS IN ACCORDANCE WITH THE MINISTRY OF THE ENVIRONMENT GUIDELINES AND LOCAL MUNICIPAL BYLAWS.
- 7. WHERE UTILITIES, SEWERS, WATERMAIN AND OTHER UNDERGROUND INFRASTRUCTURE ARE SHOWN ON THE CONTRACT DRAWINGS, THEIR LOCATION IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING UTILITIES AND SERVICES PRIOR TO CONSTRUCTION.
- 8. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS TO COMPLETE THE WORK INCLUDING ROAD OCCUPANCY PERMITS, ROAD CUT PERMITS, OCCUPANCY PERMITS, ENCROACHMENT AGREEMENTS.
- 9. ANY UTILITY POLES THAT MAY BE UNDERMINED BY THE CONSTRUCTION ACTIVITY ARE TO BE BRACED. THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS TO HAVE THE POLES BRACED IN ACCORDANCE WITH THE APPROPRIATE UTILITY REQUIREMENTS; THE COST FOR THIS WORK IS INCLUDED IN THE UNIT PRICES FOR THE WORK ITEMS AFFECTED.
- 10. ALL EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED ON THE CONTRACT DRAWINGS ARE TO BE IN PLACE PRIOR TO THE START OF CONSTRUCTION.
- 11. ACCESS TO ADJACENT PRIVATE PROPERTIES SURROUNDING THE CONSTRUCTION SITE SHALL BE MAINTAINED AT ALL TIMES. TEMPORARY ACCESS RESTRICTIONS WILL ONLY BE PERMITTED WHERE REQUIRED TO FACILITATE UNDERGROUND SERVICING, ASPHALT AND CONCRETE PLACEMENT. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE TOWN AND THE AFFECTED PROPERTY OWNERS PRIOR TO ACCESS INTERRUPTION.
- 12. ALL PROPERTY BARS DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT THE CONCLUSION OF THE CONTRACT, AT THEIR EXPENSE.
- 13. ALL MANHOLE AND CATCHBASIN FRAMES AND GRATES WITHIN THE TRAVELED PORTION OF THE ROAD SHALL BE SET TO BASE ASPHALT ELEVATION AND RAISED PRIOR TO PLACEMENT OF SURFACE ASPHALT.
- 14. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.
- 15. EXISTING SIGNAGE WITHIN THE PROJECT LIMITS SHALL BE REMOVED AND SALVAGED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND REINSTALLED UPON COMPLETION. REGULATORY SIGNAGE SHALL REMAIN IN PLACE AT ALL TIMES.
- 16. ALL COSTS IN RELATION TO THE RESTORATION OF THE RIGHT OF WAY SHALL BE THAT OF THE GENERAL CONTRACTOR.
- 17. RESPECTING ALL WORK IN THE MUNICIPAL RIGHT OF WAY, THE CONTRACTOR IS TO CONTACT THE MANAGER OF ROADS 48 HOURS PRIOR TO COMMENCEMENT OF ANY WORKS.
- 18. ALL AREAS WITHIN THE MUNICIPAL RIGHT OF WAY DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE CITY.

SEWER:

- 1. THE CONTRACTOR SHALL INSTALL CONCRETE CATCHBASIN MANHOLES COMPLETE WITH FRAME, GRATE AS PER OPSD 701.010 AND 401.081 RESPECTIVELY UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
- 2. THE CONTRACTOR SHALL INSTALL CONCRETE MANHOLES COMPLETE WITH FRAME, GRATE AS PER OPSD 701.010, AND 401.010 UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
- 3. THE CONTRACTOR SHALL INSTALL CONCRETE CATCHBASINS COMPLETE WITH FRAME, GRATE AS PER OPSD 705.010 AND 401.081 RESPECTIVELY UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
- 4. THE CONTRACTOR SHALL INSTALL CONCRETE DOUBLE CATCHBASIN MANHOLES COMPLETE WITH FRAME, GRATE AS PER OPSD 701.020 AND 401.081 RESPECTIVELY UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
- 5. THE CONTRACTOR SHALL PERFORM LEAK AND DEFLECTION TESTING ON ALL STORM AND SANITARY SEWERS IN ACCORDANCE WITH CONTRACT DOCUMENTS AND OPSS 410 RESPECTIVELY.
- 6. THE CONTRACTOR SHALL CLEAN AND PERFORM CCTV INSPECTION ON ALL STORM AND SANITARY SEWERS IN ACCORDANCE WITH CONTRACT DOCUMENTS AND OPSS 409 RESPECTIVELY.
- 7. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE ENGINEER PRIOR TO CONDUCTING PIPE LEAK AND DEFLECTION TESTING, CCTV INSPECTIONS AND/OR CLEANING OF THE STORM SEWER.
- 8. PIPE BEDDING, COVER AND BACKFILL SHALL BE IN ACCORDANCE WITH THE OPSD 802.010 FOR FLEXIBLE PIPE AND OPSD 802.030 FOR CONCRETE PIPE. BEDDING AND COVER SHALL BE GRANULAR "A" COMPACTED TO 100 % SPDD; BACKFILL SHALL BE APPROVED NATIVE MATERIAL OR GRANULAR "B", COMPACTED TO 100 % SPDD.
- 9. ALL STORM AND SANITARY MANHOLES SHALL BE BENCHED IN ACCORDANCE WITH OPSD 701.021.
- 10. ALL CATCH BASIN MANHOLES AND STORM MANHOLES TO HAVE 0.3m SUMP
- 11. THE CONTRACTOR SHALL INSTALL STORM SERVICE CONNECTIONS IN ACCORDANCE WITH OPSD 1006.010.

ASPHALT, SIDEWALKS, AND CURB

- 1. ALL CONCRETE SIDEWALKS SHALL BE CONSTRUCTED AS PER CP351.02 AND CPD 351.01.
- 2. ALL CONCRETE CURB SHALL BE RESTORED AS PER CP353.01 AND CPD 405.01.
- 3. ROAD SUBGRADE AND PARKING AREAS SHALL BE COMPACTED TO 98% SPMDD. SUBGRADE SHALL BE PROOF-ROLLED PRIOR TO PLACEMENT OF GRANULAR MATERIAL.
- 4. PAVEMENT STRUCTURE SHALL CONSIST OF THE FOLLOWING: ROAD RESTORATION

THE PAVEMENT STRUCTURE WITHIN MARINA BOULEVARD SHALL CONFORM TO TABLE C.1 OF CITY OF PETERBOROUGH ENGINEERING DESIGN STANDARDS 2022. HEAVY DUTY PARKING LOT

40mm HL3 OR HL4 90mm HL8 (2 LIFTS) 150mm GRAN 'A' 350mm GRAN 'B'

LIGHT DUTY PARKING LOT 40mm HL3 OR HL4 50mm HL8 150mm GRAN 'A' 350mm GRAN 'B'

WATERMAIN:

- 1. THE CONTRACTOR SHALL PROVIDE 48HR NOTICE TO THE CONTRACT ADMINISTRATOR PRIOR TO COMMENCING WATERMAIN CONSTRUCTION.
- 2. THE CONTRACTOR SHALL INSTALL TRACER WIRE ON ALL NEW PVC WATERMAIN.
- 3. THE CONTRACTOR SHALL INSTALL CATHODIC PROTECTION AS PER OPSD 1109.0110.
- 4. THE CONTRACTOR SHALL INSTALL RETAINING GLAND RINGS ON ALL WATERMAIN FITTINGS AND CONNECTIONS WHERE THRUST BLOCKS CANNOT BE CONSTRUCTED ON SOLID GROUND.
- 5. THE CONTRACTOR SHALL INSTALL BEDDING AND BACKFILL AS PER OPSD 802.010.
- 6. THE CONTRACTOR SHALL INSTALL ALL WATERMAIN AND SERVICES AT A MINIMUM DEPTH OF 1.85 METRES FROM THE PROPOSED FINISH GRADE TO THE TOP OF PIPE.
- 7. THE CONTRACTOR SHALL MAINTAIN A MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER OF 0.50 METRES BELOW OR 0.15 METRES ABOVE.
- 8. THE CONTRACTOR SHALL INSTALL WATER SERVICES AS PER OPSD 1104.0100, AND AT RIGHT ANGLES TO THE WATERMAIN WHERE POSSIBLE.
- 9. THE CONTRACTOR SHALL INSTALL THRUST BLOCKS FOR VERTICAL BENDS AS PER OPSD 1103.020. THE CONTRACTOR SHALL INSTALL THRUST BLOCKS FOR HORIZONTAL BENDS AS PER OPSD 1103.010.
- 10. THE CONTRACTOR SHALL PROVIDE 48 HOURS NOTICE TO THE CONTRACT ADMINISTRATOR PRIOR TO CONDUCTING WATERMAIN TESTING.
- 11. THE CONTRACTOR SHALL PROVIDE ALL WATERMAIN TESTING RESULTS (INCLUDING CHLORINATION. BACTERIOLOGICAL. PRESSURE AND FLOW) IN ACCORDANCE WITH REGION SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE 2 COPIES OF ALL TEST RESULTS.
- 12. ONLY REPRESENTATIVES FROM THE PUC ARE AUTHORIZED TO OPERATE WATER VALVES WITHIN THE CITY OF PETERBOROUGH

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ISSUE / REVISIONS

1	Issued for Site Plan Application	Jan.28.22
2	Issued for Building Permit Response	Apr. 25.22
3	Issued for Tender	Jul.07.22

NOT FOR CONSTRUCTION

All dimensions to be checked and

drawings. Any discrepancies are to

be reported to the Consultant. All

Consultant. Only latest approved

drawings remain the property of the

drawings to be used for construction.

verified on site. Do not scale

CONSTRUCTION DOCUMENTATION

CITY OF

PROJECT No. 21-100

START DATE OCT.27.2021

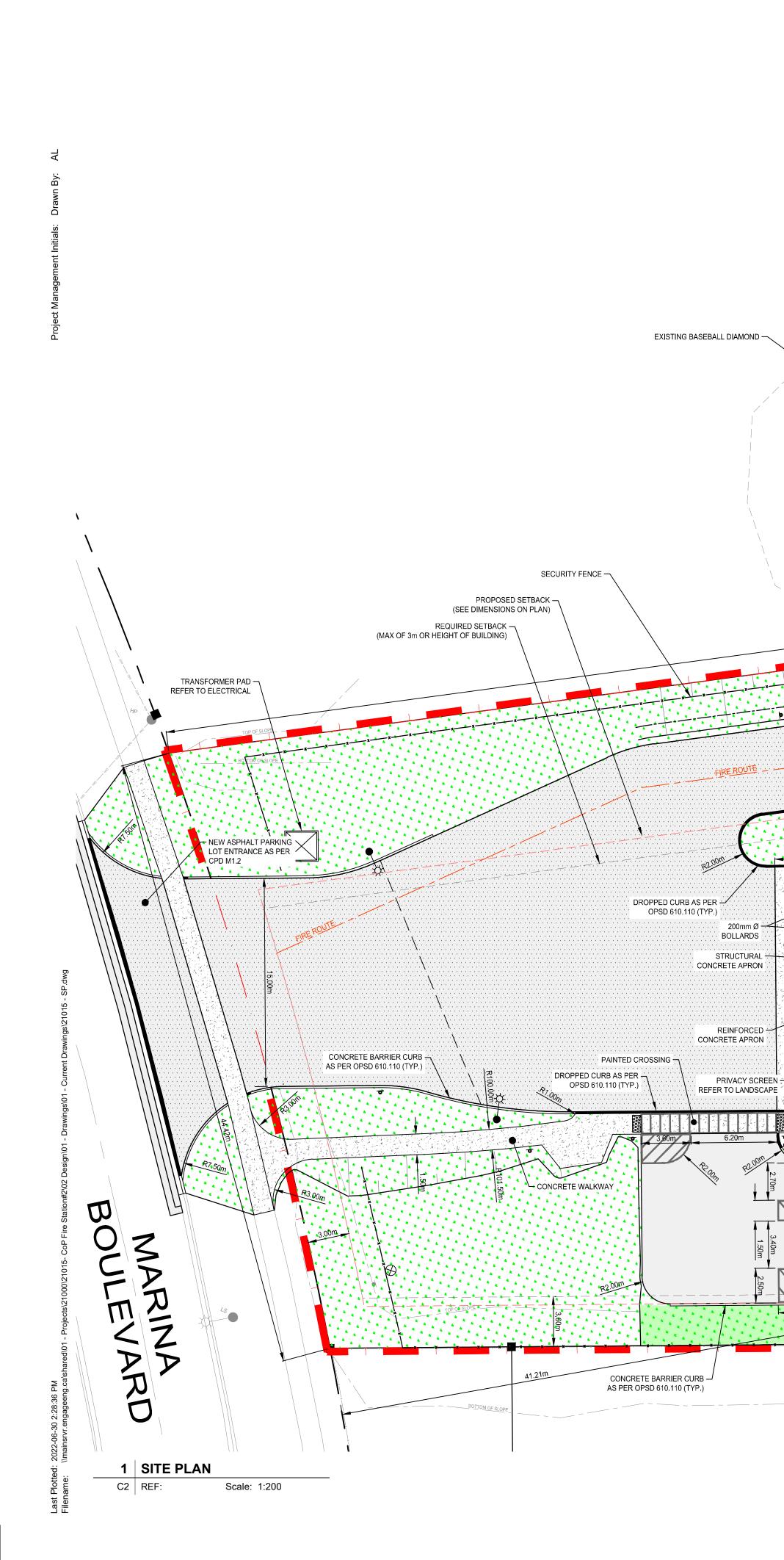
PETERBOROUGH

(Municipal File No. SPC 1009)

100 Marina Boulevard, Peterborough ON

FIRE STATION NO. 2

STANDARD NOTES AND LEGEND



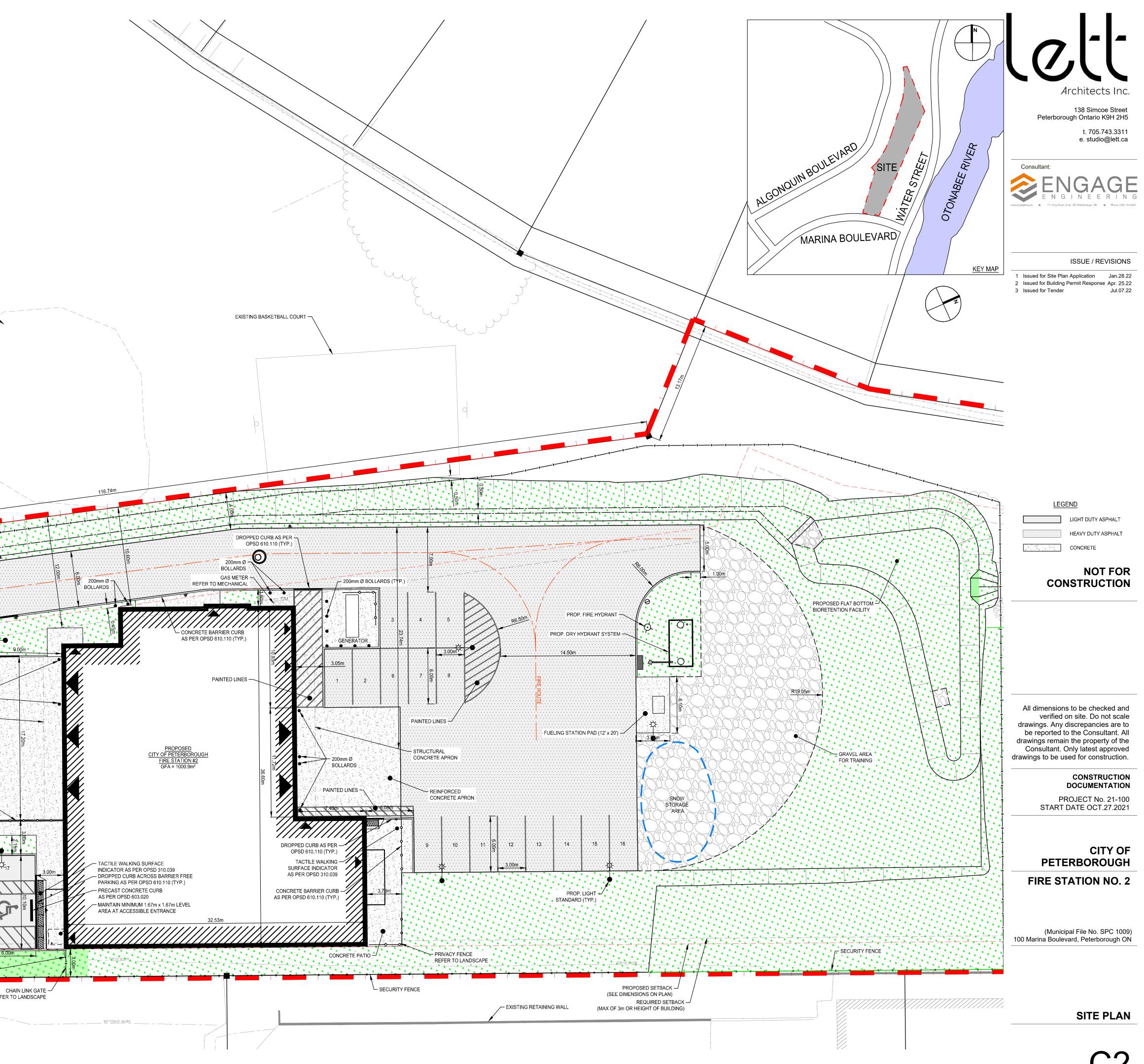
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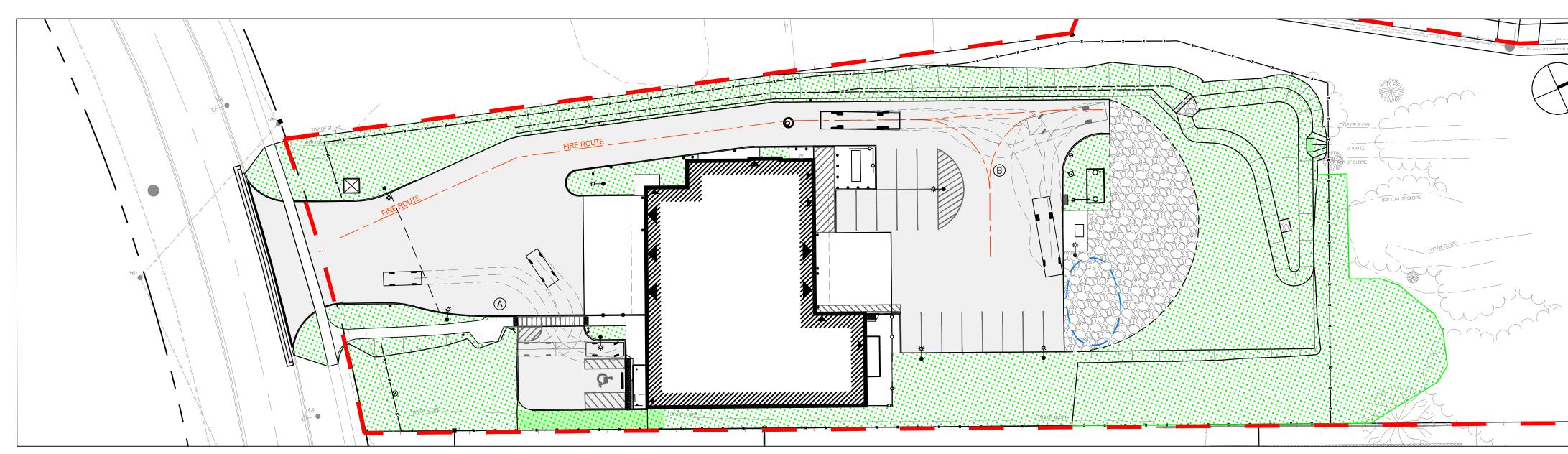
REFER TO LANDSCAPE

SITE D 24"

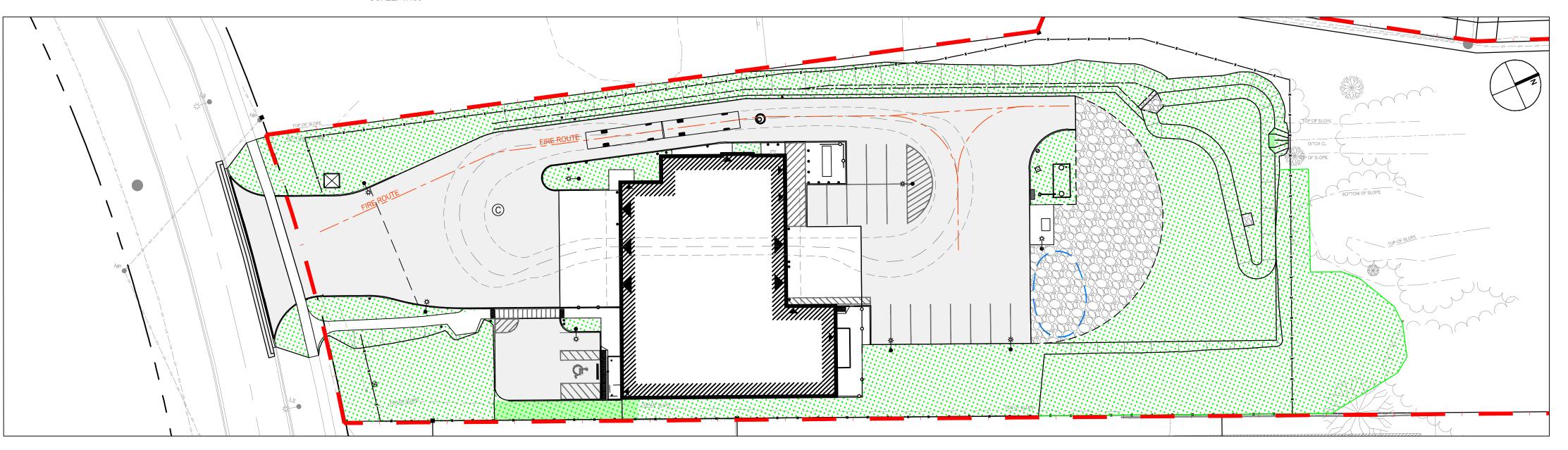
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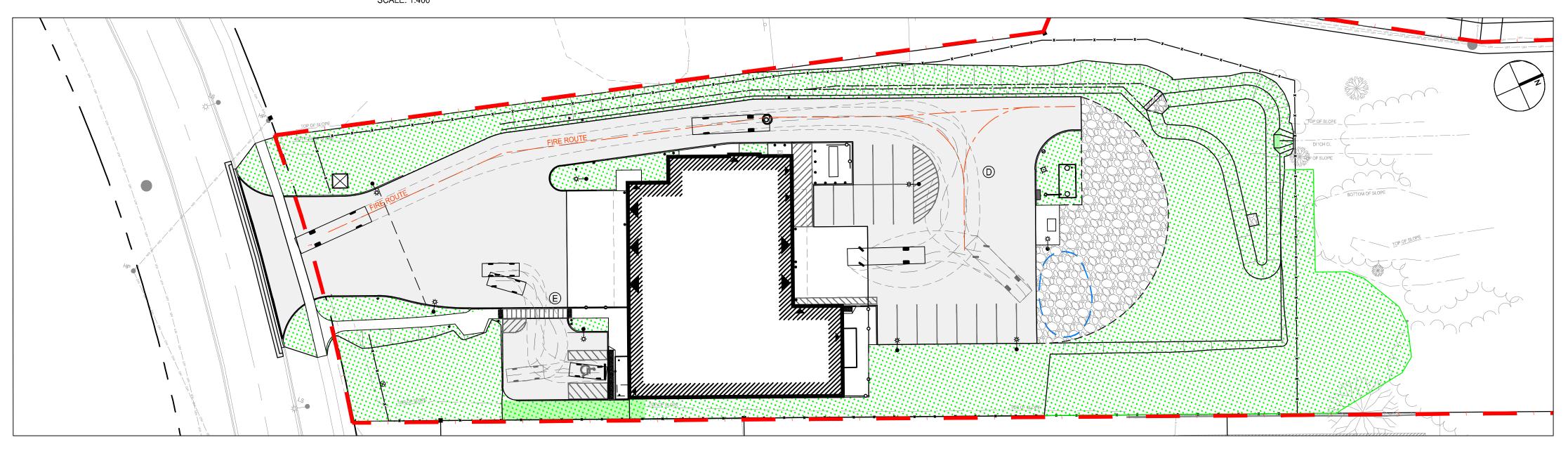




VISITOR PARKING TURNING PATH AND FIRE APPARATUS FUEL PAD ACCESS SCALE: 1:400



FIRE APPARATUS CIRCULATION SCALE: 1:400



FIRE ACCESS ROUTE DESIGN AND ACCESSIBLE VISITOR PARKING TURNING PATH



VEHICLE **TURNING PATHS**

CITY OF PETERBOROUGH

FIRE STATION NO. 2

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

PROJECT No. 21-100 START DATE OCT.27.2021

drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction. CONSTRUCTION DOCUMENTATION

All dimensions to be checked and verified on site. Do not scale

CONSTRUCTION

NOT FOR

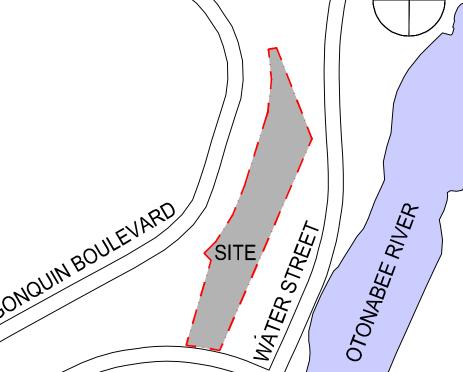
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Issued for Site Plan Application Jan.28.22 2 Issued for Building Permit Response Apr. 25.22

VEHICLE PATHS PATH NOTE VISITOR PARKING SPACE IS PROVIDED WITH ADEQUATE TURNAROUND FACILITIES А 11.7m APPARATUS IS PROVIDED WITH ACCESS TO FUEL PAD AND ADEQUATE TURNAROUND FACILITIES В 11.7m APPARATUS IS PROVIDED WITH ADEQUATE SPACE TO CIRCULATE THROUGH FIRE STATION ACCESS ROUTE EXCEEDS 90m; ADEQUATE TURNAROUND FACILITIES HAVE BEEN PROVIDED FOR 11.7m APPARATUS ACCESSIBLE VISITOR PARKING SPACE IS PROVIDED WITH

ADEQUATE TURNAROUND FACILITIES

KEY MAP





Consultant:

3 Issued for Tender

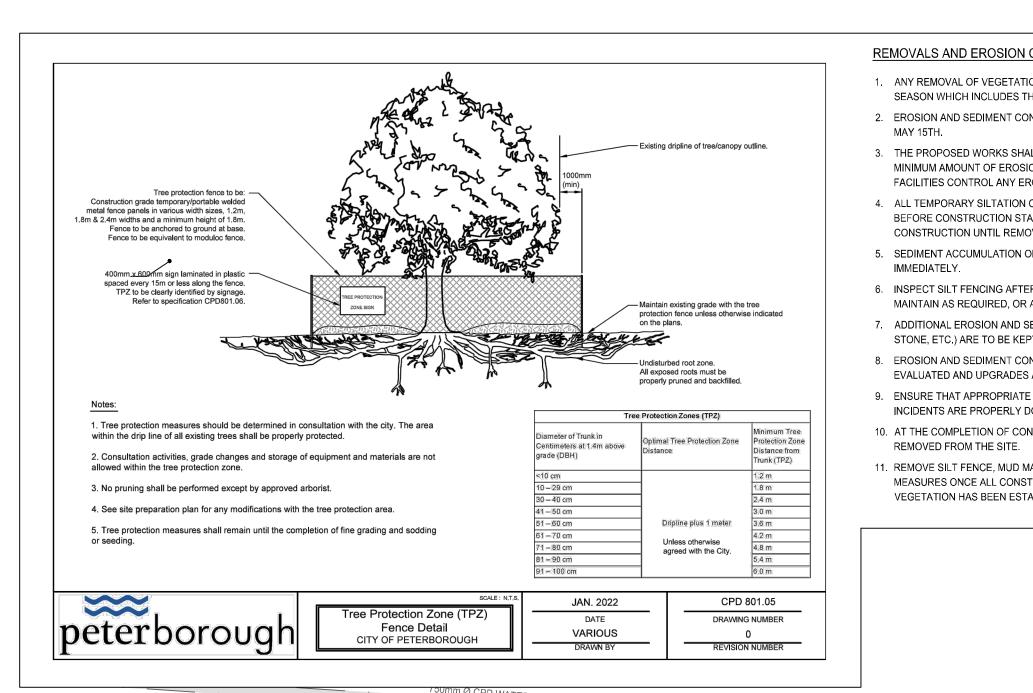
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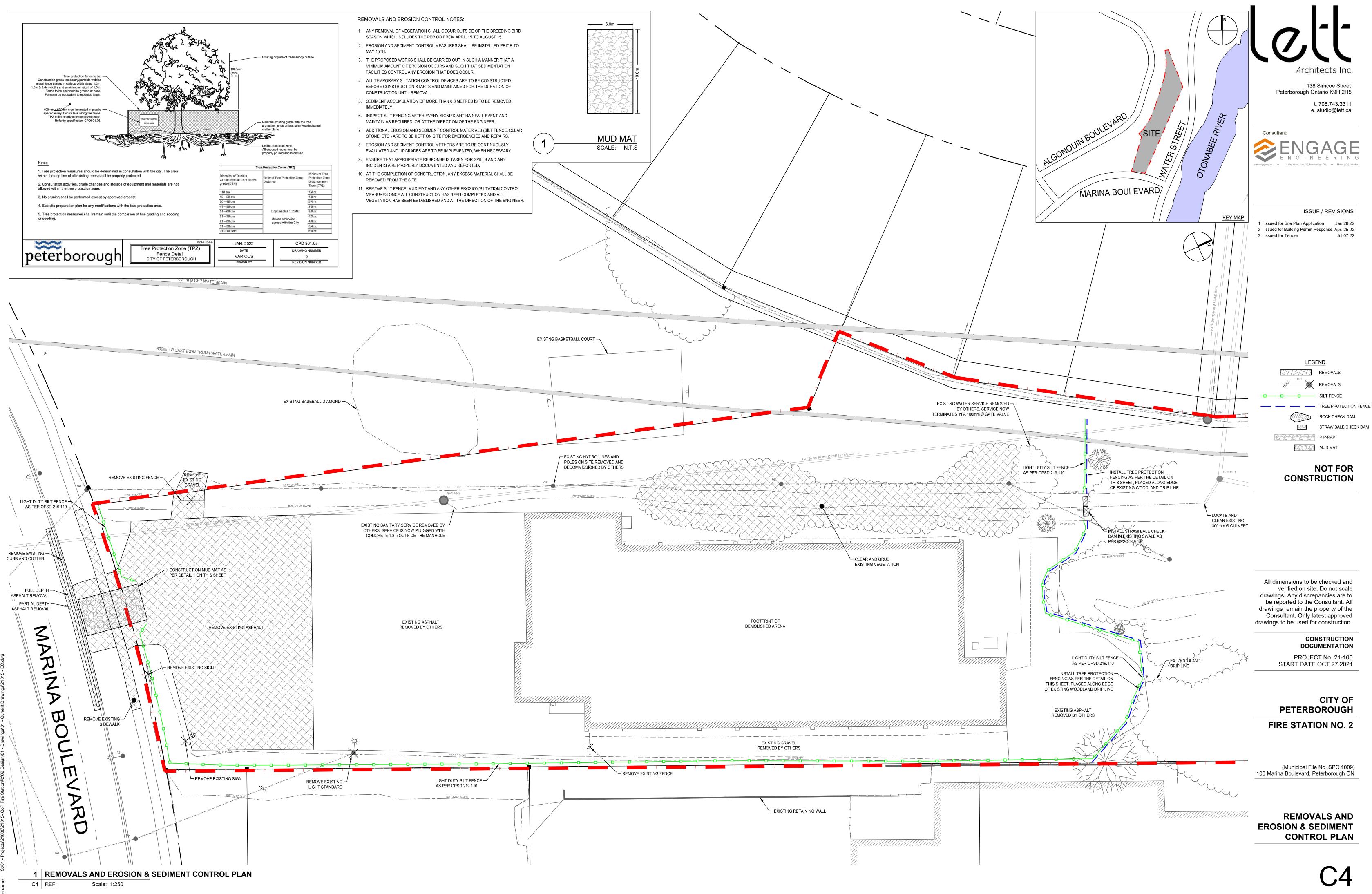
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ISSUE / REVISIONS

Jul.07.22

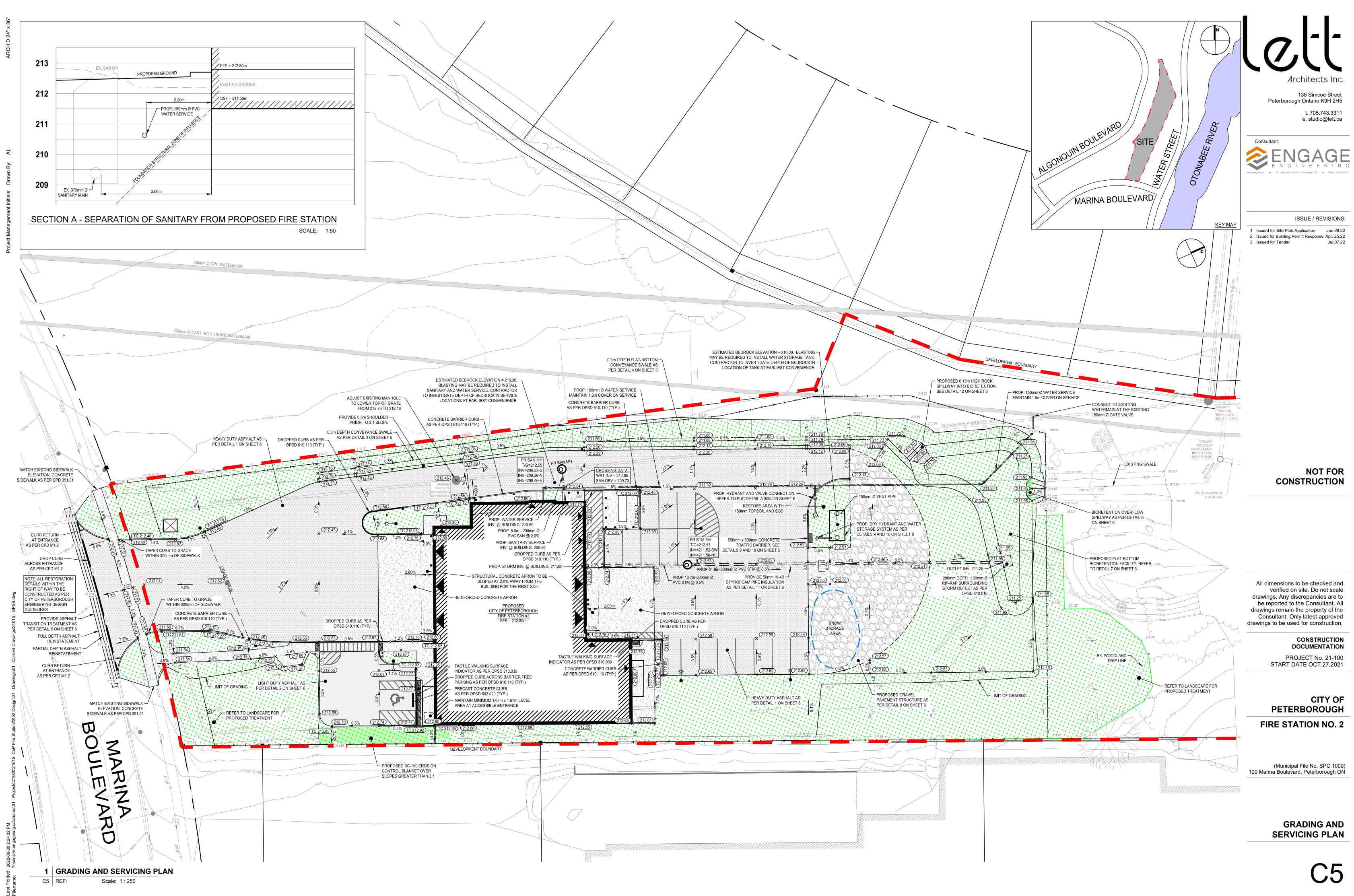


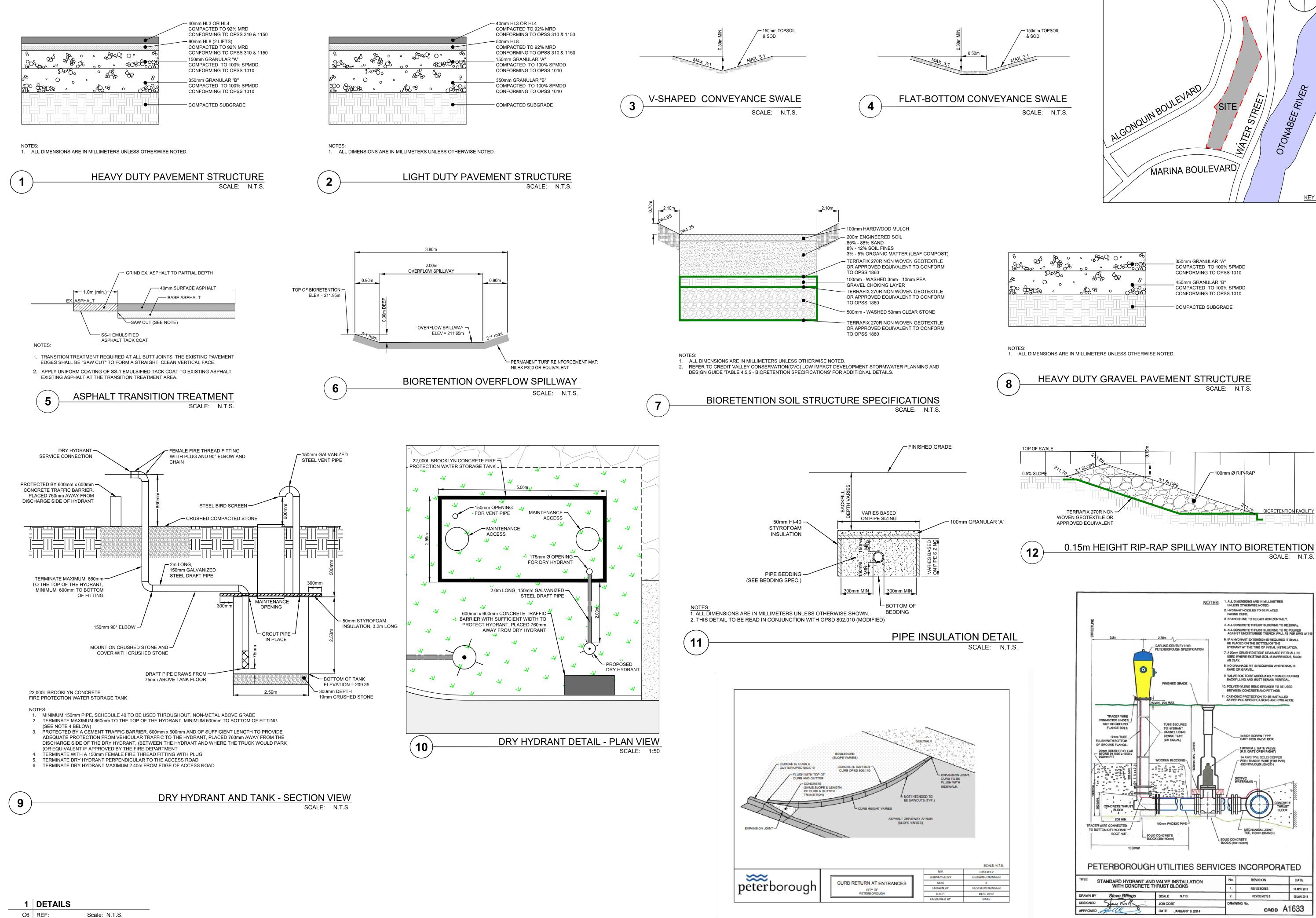


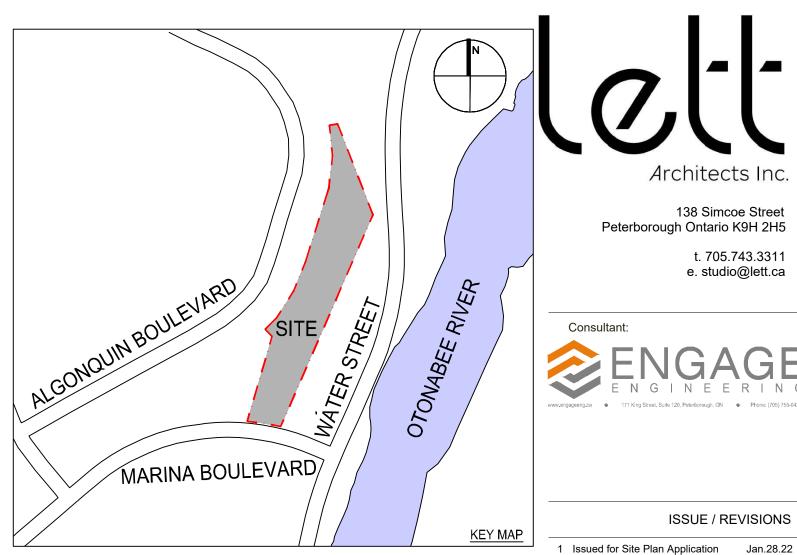












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2 Issued for Building Permit Response Apr. 25.22

Jul.07.22

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CONSTRUCTION DOCUMENTATION

PROJECT No. 21-100 START DATE OCT.27.2021

CITY OF PETERBOROUGH

FIRE STATION NO. 2

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

DETAILS

NOTES

GENERAL NOTES:

- 1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND SITE CONDITIONS BEFORE PROCEEDING WITH THE WORK, AND REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT BEFORE PROCEEDING. NO ALLOWANCE SHALL BE MADE ON BEHALF OF THE CONTRACTOR FOR FAILURE TO DO SO.
- 2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND STAKING OUT THE LOCATION OF ALL EXISTING UTILITIES AND SERVICES. CONTRACTOR SHALL GIVE UTILITIES ADVANCE NOTICE PRIOR TO DIGGING.
- 3. LANDSCAPE ARCHITECT IS NOT RESPONSIBLE FOR ACCURACY OF SURVEY OR ENGINEERING DRAWINGS. REFER TO APPROPRIATE DRAWINGS BEFORE PROCEEDING WITH THE WORK.
- 4. CONTRACTOR SHALL ESTABLISH ALL PROPERTY BOUNDARIES AND CORNER STAKES, AND SHALL BE RESPONSIBLE FOR ALL COSTS OF **RE-ESTABLISHING THEM SHOULD THEY BE** DISTURBED.
- 5. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT MINIMUM 48 HOURS PRIOR TO COMMENCEMENT OF WORK TO COORDINATE INSPECTION SCHEDULES.
- 6. CONTRACTOR TO CONFIRM PHYSICAL LAYOUT OF ALL LANDSCAPE AND PLANTINGS WITH LANDSCAPE ARCHITECT BEFORE PROCEEDING.
- 7. CONSTRUCTION MUST CONFORM TO ALL APPLICABLE CODES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION.
- 8. REFUELING, LUBRICATION AND/OR MAINTENANCE OF CONSTRUCTION VEHICLES IS NOT PERMITTED ON SITE UNLESS APPROVED BY THE OWNER IN WRITING.
- 9. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING STREETS, SIDEWALKS, STRUCTURES, AND MATURE TREES TO REMAIN DURING CONSTRUCTION OF THIS PROJECT AND

SHALL REPAIR SUCH DAMAGE AND CLEAN UP CONSTRUCTION DEBRIS TO THE SATISFACTION OF THE OWNER AND THE MUNICIPALITY AT NO ADDITIONAL COST.

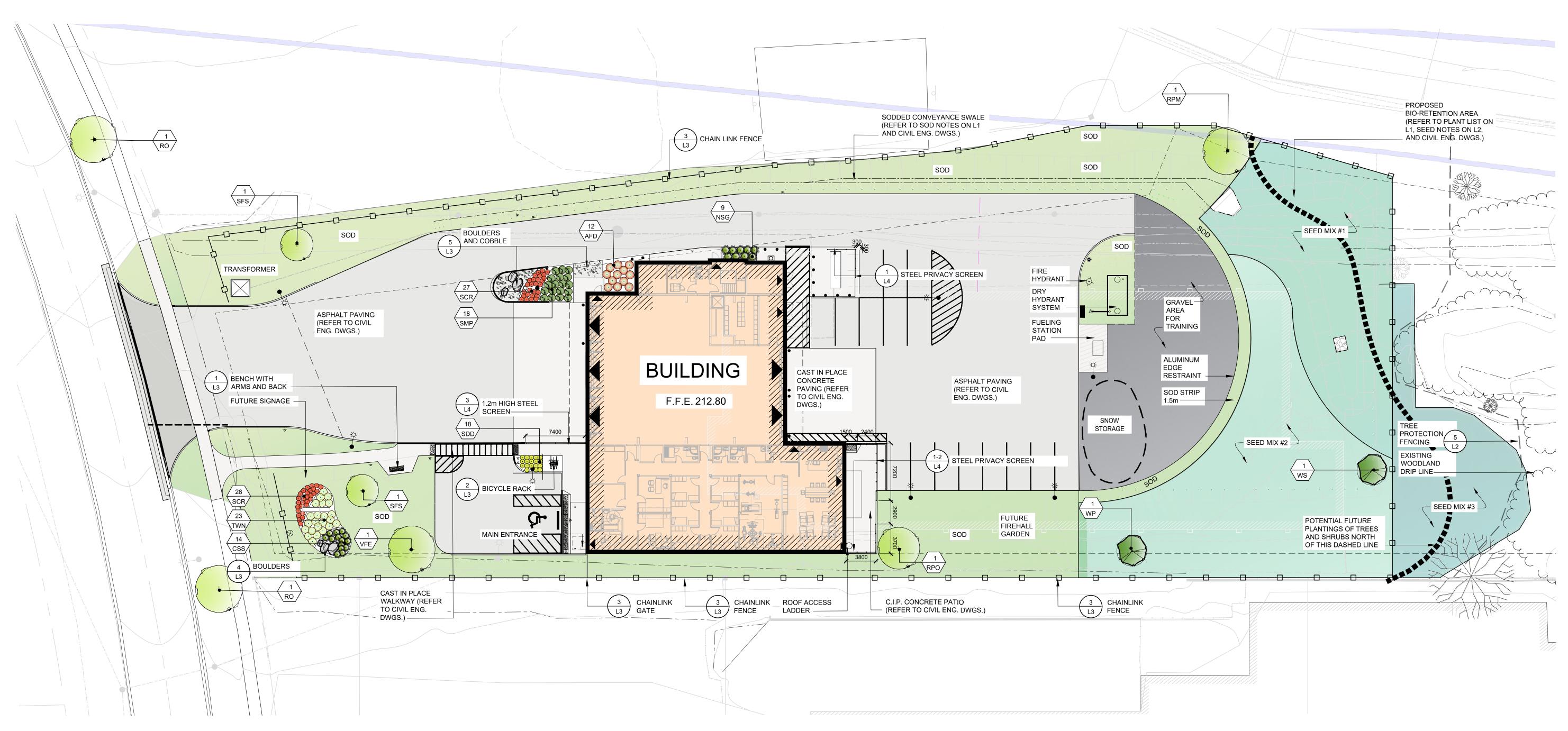
- 10. THE CONTRACTOR, UPON ACCEPTANCE OF THE CONTRACT, ASSUMES COMPLETE RESPONSIBILITY AND LIABILITY FOR THE JOB SITE DURING THE COURSE OF CONSTRUCTION, AND WILL ENSURE PUBLIC SAFETY AND CLEANLINESS OF MUNICIPAL ROADS NEAR THE SITE.
- 11. ALL DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS ARE THE COPYRIGHT OF THE LANDSCAPE ARCHITECT AND MUST BE RETURNED UPON REQUEST. REPRODUCTION OF DRAWINGS, SPECIFICATIONS AND RELATED DOCUMENTS IN WHOLE OR IN PART IS FORBIDDEN WITHOUT THE LANDSCAPE ARCHITECT'S PERMISSION. DRAWINGS ARE NOT TO BE SCALED.

APPLICATION OF TOPSOIL

- 1. EXISTING TOPSOIL IS TO BE STOCKPILED IN LOCATION APPROVED BY OWNER. SCREEN ROCKS AND DEBRIS PRIOR TO USE.
- 2. EXISTING TOPSOIL IS TO BE STOCKPILED AND USED AS APPROPRIATE FOR PROPOSED WORK. IMPORT TOPSOIL AS REQUIRED.
- CONTRACTOR IS TO PROVIDE NUTRIENT ANALYSIS AND GRAIN SIZE ANALYSIS FOR ALL NEW OR EXISTING TOPSOIL TO BE USED ON SITE AND TO OBTAIN APPROVAL OF LANDSCAPE ARCHITECT PRIOR TO APPLICATION.
- 4. SCARIFY EXISITING SUBGRADE AND APPLY A MINIMUM OF 300mm OF TOPSOIL OVER DISTURBED AREA.
- REMOVE DEBRIS, ROOTS, BRANCHES, STONES IN EXCESS OF 50mm DIA. AND OTHER DELETERIOUS MATERIALS.
- 6. SPREAD TOPSOIL IN UNIFORM AREA, EACH LAYER NOT EXCEEDING 150mm
- 7. ALL DISTURBED LAWN AREAS ARE TO BE SEEDED OR SODDED.

SODDING:

- 1. OBTAIN APPROVAL OF FINISHED GRADE PRIOR TO INSTALLATION OF SOD.
- 2. SUPPLY AND PLACE SCREENED TOPSOIL COMPACTED DEPTH @ 85% S.P.D. OVER SUBGRADE WHICH HAS BEEN SCARIFIED TO 150mm DEPTH PRIOR TO PLACEMENT OF TOPSOIL.
- 3. SUPPLY AND PLACE NO.1 TURFGRASS NURSERY SOD, SOD THAT HAS BEEN ESPECIALLY SOWN AND CULTIVATED IN NURSERY FIELDS AS TURFGRASS CROP.
- 4. FINE GRADE TOPSOIL SURFACE FREE OF HUMPS AND HOLLOWS TO SMOOTH, EVEN GRADE, TO TOLERANCE OF +/- 15MM FOR TURFGRASS NURSERY SOD, SURFACE TO DRAIN POSITIVELY.
- 5. LAY SOD WITHIN 24 HOURS OF BEING LIFTED IF AIR TEMPERATURE EXCEEDS 20 DEGREES CELSIUS.
- 6. LAY SOD IN ROWS, JOINTS STAGGERED. BUTT SECTIONS CLOSELY WITHOUT OVERLAPPING OR LEAVING GAPS BETWEEN SECTIONS. CUT OUT IRREGULAR, DISCOLOURED OR THIN SECTIONS WITH SHARP IMPLEMENTS.
- 7. LAY SOD PERPENDICULAR TO DIRECTION OF SLOPE.
- 8. STAKE SOD ON ALL SLOPES GREATER THAN 3:1. PROVIDE WOOD STAKES, MIN. 2 PER SQ.M. OF SOD, 50mm X 50mm X 200mm, DRIVEN INTO GROUND TO LEVEL OF TOP OF SOD.
- 9. ROLL SOD AFTER INSTALLATION, TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT. PROVIDE CLOSE CONTACT BETWEEN SOD AND SOIL BY LIGHT ROLLING. USE OF HEAVY ROLLER TO CORRECT IRREGULARITIES IN GRADE IS NOT PERMITTED.
- 10. PERFORM THE FOLLOWING OPERATIONS FROM TIME OF INSTALLATION UNTIL ACCEPTANCE .



- a. WATER SODDED AREAS IN SUFFICIENT QUANTITIES AND AT FREQUENCY REQUIRED TO MAINTAIN OPTIMUM SOIL MOISTURE CONDITION TO DEPTH OF 75 - 100MM, CONTINUOUS, OVER ENTIRE SODDED AREA.
- b. THE SOD MUST BE CUT A MINIMUM OF TWO TIMES PRIOR TO ACCEPTANCE. CUT GRASS TO 50MM WHEN OR PRIOR TO, REACHING HEIGHT OF 75MM. EVENLY SPREAD CLIPPINGS BUT REMOVE ANY CLIPPINGS WHICH WILL SMOTHER GRASS.
- c. MAINTAIN SODDED AREAS 95% WEED FREE.
- 11. AFTER ACCEPTANCE OF SODDED AREAS, MAINTENANCE INCLUDING WATERING BECOMES THE RESPONSIBILITY OF THE OWNER.
- 12. CLEAN THOROUGHLY TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT, AND REMOVE ALL EXCESS MATERIALS FROM THE SITE.

SEEDING:

- 1. SEED WITH SEED MIX AS NOTED IN PLANT LIST AND ON L1
- 2. OBTAIN APPROVAL OF FINISHED GRADE PRIOR TO APPLICATION OF SEED. 3. APPLY SEED BETWEEN AUGUST 15 AND
- OCTOBER 15, OR WITHIN THE FIRST 3 WEEKS OF MAY, WEATHER PERMITTING. REFER TO MANUFACTURER'S SPECIFICATIONS FOR APPLICATION.
- 4. WATER SEEDED AREAS AS REQUIRED TO ENSURE GERMINATION AND CONTINUOUS GROWTH.
- 5. AREAS WILL BE ACCEPTED PROVIDED THAT SEEDED AREAS ARE UNIFORMLY ESTABLISHED AND FREE OF RUTTED, ERODED, BARE, OR DEAD SPOTS.
- 6. CONTRACTOR TO FOLLOW OPSS 572: CONSTRUCTION SPECIFICATION FOR SEED AND COVER CROP
- 7. ALL SEED TO BE HYDROSEEDED **PRIOR** TO PLANTING SHRUBS AND TREES
- 8. COVER CROP: REFER TO COVER CROP IN PLANT LIST ON L1

PLANT LIST

PLAN			1				
Sym		Botanical Name	Common Name	Size	Condition	Spacing	Comments
Decidu					,	F	
RPM	1	Acer rubrum 'Frank Jr.'	Redpointe Maple	60 mm cal.		as shown	Specimen
SFS	2	Amelanchier laevis 'Spring Flurry'	Spring Flurry Serviceberry	45mm cal.	WB	as shown	Specimen
RPM	1	Acer rubrum 'Frank Jr.'	Redpointe Maple	60 mm cal.	Service and the service of the servi	as shown	Specimen
RPO	1	Quercus 'Regal Prince'	Regal Prince English Oak	60 mm cal.	WB	as shown	Specimen
RO	2	Quercus rubra	Red Oak	60 mm cal.	WB	as shown	Specimen
VFE	1	Ulmus americana 'Valley Forge'	Valley Forge Elm	60 mm cal.	WB	as shown	Specimen
Conifer	ous Ti	rees					
WS	1	Picea glauca	White Spruce	180 cm	WB	as shown	Specimen
WP	1	Pinus strobus	Eastern White Pine	180 cm	WB	as shown	Specimen
Decidu	ous SI	hrubs		ł	•	1	
AFD	12	Cornus stolonifera 'Farrow'	Arctic Fire Red Twig Dogwood	50 cm	container	as shown	
TWN	23	Physocarpus opulifolius 'Tiny Wine Gold'	Tiny Wine Gold Ninebark	50 cm	container	as shown	
Evergre	en Sh	nrubs	·	Le contra de la co	•		
SMP	18	Pinus mugo 'Slowmound'	Slowmound Mugo Pine	40 cm	container	as shown	
Ornam	ental C	Grasses/Sedges	•				
CSS	14	Panicum virgatum 'Cheyenne Sky'	Cheyenne Sky Switch Grass	2 gal.	container	as shown	
NSG	9	Panicum virgatum 'Northwind'	Northwind Switch Grass	2 gal.	container	as shown	
Perenn	als	1	•	L			
SDD	18	Hemerocallis Stella D'Oro	Stella D'Oro Daylily	1 gal	container	as shown	
SCR	55	Echinacea 'Sombrero Salsa Red'	Salsa Red Sombrero Coneflower	1 gal	container	as shown	
Seed M	ixes	•	•				•
Seed M	ix Cov	er Crop: OSC Seasonally Flooded Mix 8240	Seed at supplier's recommended ra	ate	Approxima	te area 550	sq.m.
Seed M	ix #1:	OSC Seasonally Flooded Mix 8240	Seed at supplier's recommended ra	ate	Approximate area 550 sq.m.		sq.m.
Seed M	ix #2:	OSC Simcoe County Mix 6850	Seed at supplier's recommended rate		Approximate area 850 sq.m.		sq.m.
Seed M	ix #3:	OSC Woodland Native Seed Mix 8275	Seed at supplier's recommended ra	ate	Approximate area 350 sq.m.		
* ALL SE	ED MI	X SUPPLY AND INSTALLATION INSTRUCTIONS AS	S PER OSC Seeds				
		7 seeds@oscseeds.com KITCHENER, ONTARIO					
		JTIONS UNLESS APPROVED BY LANDSCAPE ARC					
* SPACI	IG AS	NOTED ON THIS LIST IS APPROXIMATE ONLY - A	LL PLANT LAYOUT TO BE AS PER PLA	N			



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> t. 705.743.3311 e. studio@lett.ca





ISSUE / REVISIONS

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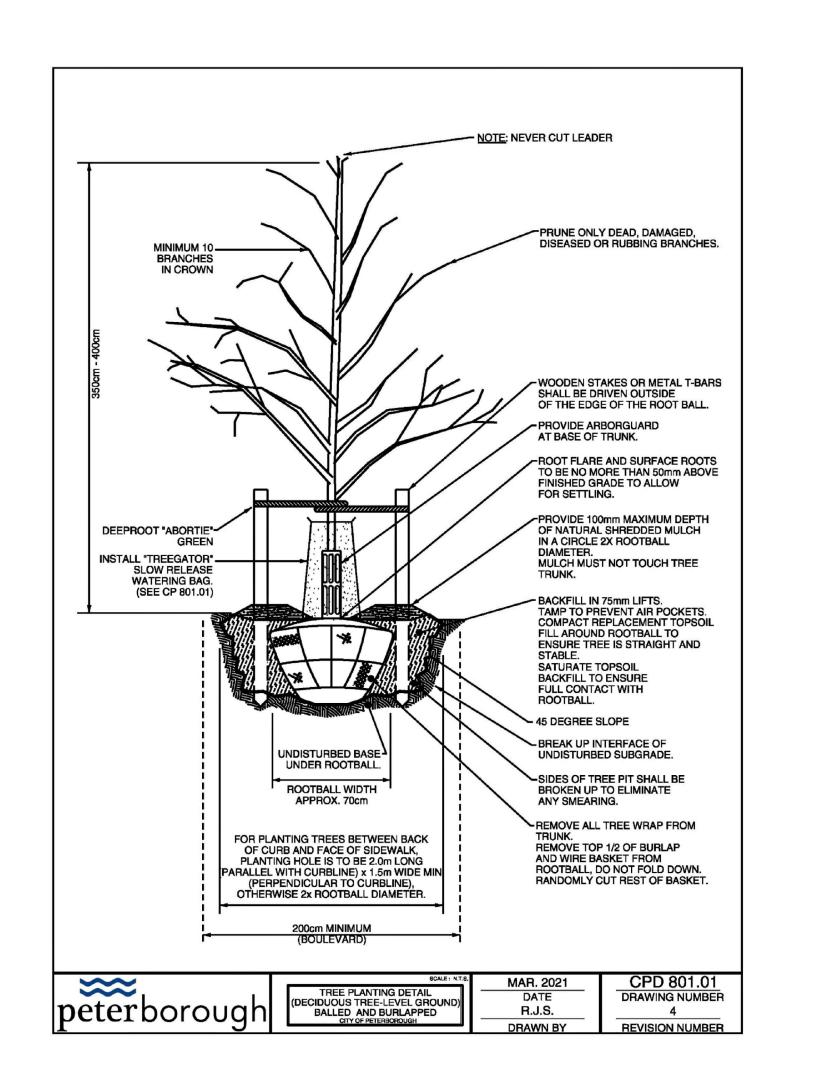
> CONSTRUCTION DOCUMENTATION PROJECT No. 21-100 START DATE OCT.27.2021

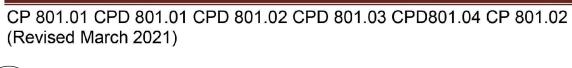
CITY OF PETERBOROUGH **FIRE STATION NO. 2**

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

LANDSCAPE PLAN

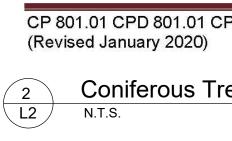






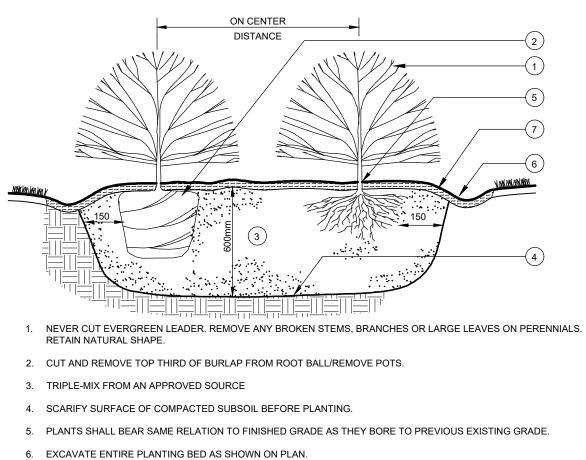


Deciduous Tree Planting Detail N.T.S.



L2 N.T.S.

 \sim

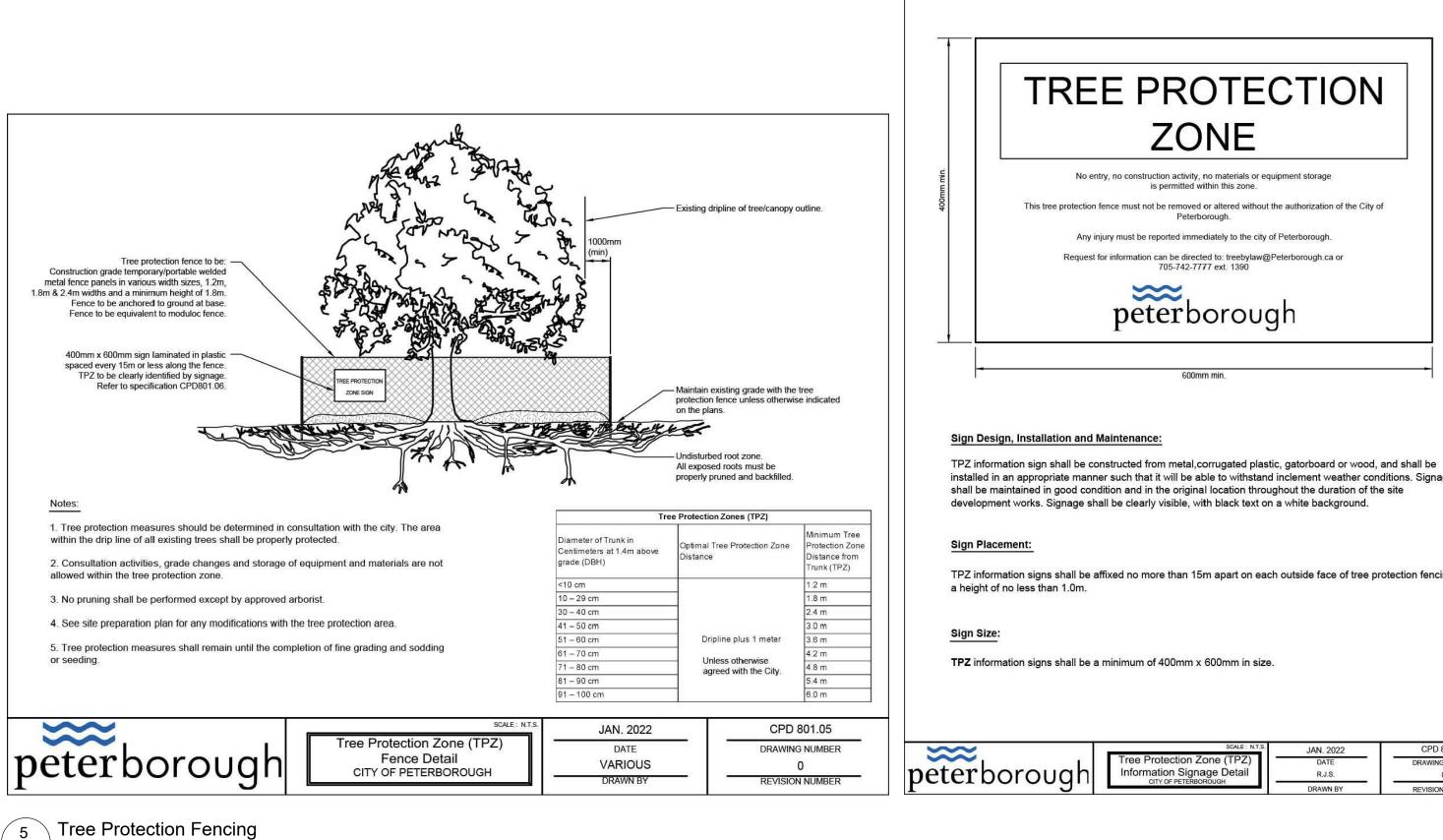


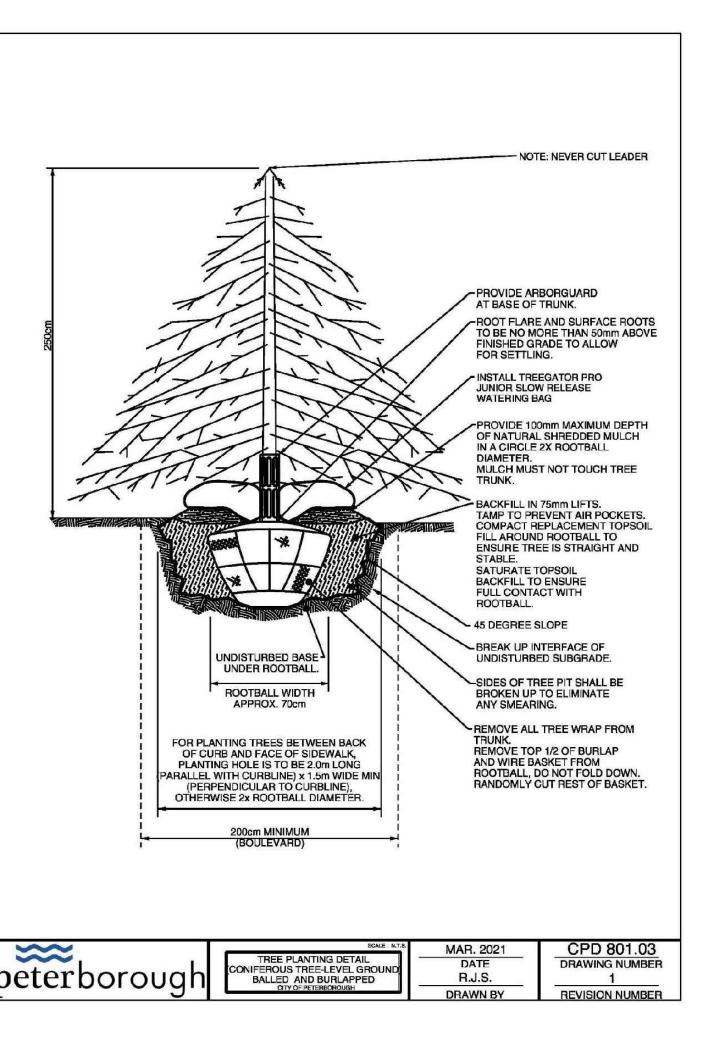
7. 75 mm THICK LAYER OF APPROVED MULCH. PROVIDE SAMPLE FOR REVIEW AND APPROVAL. KEEP MULCH OFF OF

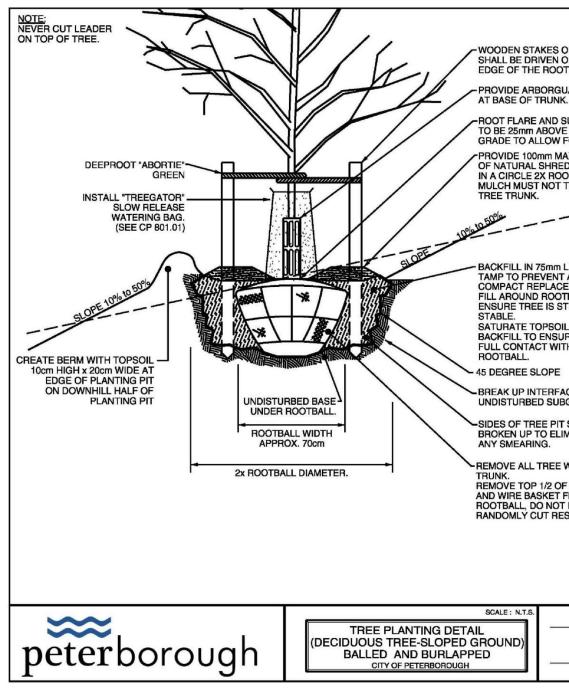
STEMS.

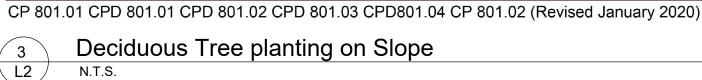
8. DEPTH TO BE AS SHOWN, UNLESS ALTERNATE DEPTH IS APPROVED BY LANDSCAPE ARCHITECT.











CP 801.01 CPD 801.01 CPD 801.02 CPD 801.03 CPD801.04 CP 801.02

Coniferous Tree Planting Detail

installed in an appropriate manner such that it will be able to withstand inclement weather conditions. Signage

TPZ information signs shall be affixed no more than 15m apart on each outside face of tree protection fencing, at

~~	SCALE : N.T.S.	JAN. 2022	CPD 801.06
\sim	Tree Protection Zone (TPZ)	DATE	DRAWING NUMBER
peterborough	Information Signage Detail	R.J.S.	0
perezione e e gi	CITTOFFETERBOROUGH	DRAWN BY	REVISION NUMBER

OR METAL T-BARS DUTSIDE OF THE T BALL.	
JARD	
Surface roots E finished For Settling. Aximum Depth DDed Mulch DTBALL Diameter. Touch	
LIFTS. AIR POCKETS. EMENT TOPSOIL IBALL TO TRAIGHT AND	
L RE TH	
CE OF GRADE.	
SHALL BE MINATE	
WRAP FROM	
F BURLAP FROM FOLD DOWN. ST OF BASKET.	
MAR. 2021	CPD 801.02
DATE R.J.S.	DRAWING NUMBER 2

REVISION NUMBER DRAWN BY

PLANTING NOTES, GENERAL:

REFER TO PLANTING DETAILS FOR INSTALLATION NOTES.

- 1. IN THE EVENT OF A DISCREPANCY BETWEEN PLANT LIST AND PLAN, QUANTITIES SHOWN ON PLAN SHALL TAKE PRECEDENCE OVER THE PLANT LIST
- 2. PLANTS SHOWN ON THE PLAN BUT NOT INCLUDED ON THE LIST ARE THE CONTRACTOR'S RESPONSIBILITY TO SUPPLY AND INSTALL, REGARDLESS OF THE PLANT LIST. PLEASE REPORT ANY DISCREPANCIES BETWEEN THE PLAN AND THE LIST IMMEDIATELY TO THE LANDSCAPE ARCHITECT.
- 3. WATER TEST EXCAVATED TREE PITS FOR WATER POROSITY PRIOR TO PLANTING AND REPORT TO LANDSCAPE ARCHITECT.

PLANTING INSPECTION NOTES:

- 1. MAKE PLANT MATERIAL AVAILABLE FOR INSPECTION BY THE CONSULTANT PRIOR TO INSTALLATION.
- 2. APPROVAL OF PLANT MATERIAL AT THE SITE WILL NOT IMPAIR THE RIGHT OF THE OWNER OR CONSULTANT TO INSPECT PLANTS DURING THE COURSE OF CONSTRUCTION AND TO REJECT ANY MATERIAL WHICH HAS BEEN DAMAGED OR WHICH, IN ANY WAY, DOES NOT CONFORM TO THE SPECIFICATIONS.
- 3. PARTIAL ACCEPTANCE WILL BE GIVEN WHEN PLANTING WORK HAS BEEN DELAYED DUE TO CIRCUMSTANCES BEYOND THE CONTROL OF THE CONTRACTOR OR WHERE PLANTING WOULD BE IN DISCORDANCE WITH GOOD HORTICULTURAL PRACTICES AND WOULD JEOPARDIZE THE PERFORMANCE OF THE WORK AND PLANTS.
- 4. FINAL INSPECTION OF ALL PLANT MATERIAL WILL BE MADE WHEN THE CONSTRUCTION IS COMPLETED. AT THE TIME OF INSPECTION ALL PLANT MATERIAL MUST BE IN A HEALTHY GROWING CONDITION OR THEY WILL BE REJECTED. THE TREE PITS MUST BE FRESHLY CULTIVATED AND FREE OF WEEDS, RUBBISH OR DEBRIS.
- 5. INSPECTION OF ALL PLANT MATERIAL WILL BE COMPLETED BY THE CONSULTANT AT THE END OF THE SPECIFIED WARRANTY PERIOD. AT THE TIME OF INSPECTION ALL PLANT MATERIAL MUST BE IN A HEALTHY GROWING CONDITION OR THEY WILL BE REJECTED. THE TREE PITS MUST BE FRESHLY CULTIVATED AND FREE OF WEEDS, RUBBISH OR DEBRIS.

PLANTING WARRANTY PERIOD NOTES

- 1. THE CONTRACTOR WARRANTS THAT ALL PLANT MATERIAL, AS ITEMIZED ON THE PLANT LIST, REMAINS FREE OF DEFECTS FOR A PERIOD OF 2 YEARS FROM THE TIME OF SUBSTANTIAL COMPLETION.
- 2. IF PLANT MATERIAL IS NOT IN A VIGOROUS GROWING CONDITION OR CHARACTERISTIC FOR SPECIES DURING THE WARRANTY PERIOD, THE OWNER OR CONSULTANT MAY REQUEST AN ADDITIONAL YEAR OF WARRANTY.
- 3. ANY PLANTS REPLACED DURING THE WARRANTY PERIOD SHALL BE COVERED BY THE INITIAL 2-YEAR WARRANTY AND THE EXTENSION, IF NECESSARY.

PLANTING REPLACEMENT NOTES:

- 1. ALL PLANT MATERIAL FOUND DEAD, OR NOT IN A HEALTHY, SATISFACTORY GROWING CONDITION OR WHICH, IN ANY OTHER WAY, DO NOT MEET THE REQUIREMENTS OF THE SPECIFICATIONS, AS DETERMINED BY THE CONSULTANT, SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- 2. ALL REQUIRED REPLACEMENTS SHALL BE BY PLANTS OF THE SAME SIZE AND SPECIES AS SPECIFIED ON THE PLANT LIST AND SHALL BE SUPPLIED AND PLANTED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

HANDLING OF PLANTS

- 1. THROUGHOUT THE DURATION OF THE INSTALLATION, ROOT BALLS, TRUNKS AND BRANCHES SHALL BE PROTECTED FROM SUN AND WIND DESICCATION.
- 2. ROOTS SHALL BE EVENLY CUT AT THE EDGES OF THE ROOT BALL OR AT THE EXTENSION OF UNDAMAGED ROOTS FOR BARE ROOT TREES. TREES WITH SPLIT ROOTS SHALL BE REJECTED.
- TREES SHALL BE TRANSPORTED WITH CARE TAKEN TO AVOID DAMAGE. BRANCHES SHALL BE CAREFULLY TIED IN SUCH MANNER SO AS NOT TO BREAK OR DAMAGE TRUNKS. POINTS OF CONTACT WITH EQUIPMENT SHALL BE PADDED.

Architects Inc

138 Simcoe Street Peterborough Ontario K9H 2H5

> t. 705.743.3311 e. studio@lett.ca



ANDSCAPE ARCHITECTURE Chambers St., Peterborough, ON K9H 3V1 705.745.3623 www.basterfield.ca

ISSUE / REVISIONS

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CONSTRUCTION DOCUMENTATION PROJECT No. 21-100 START DATE OCT.27.2021

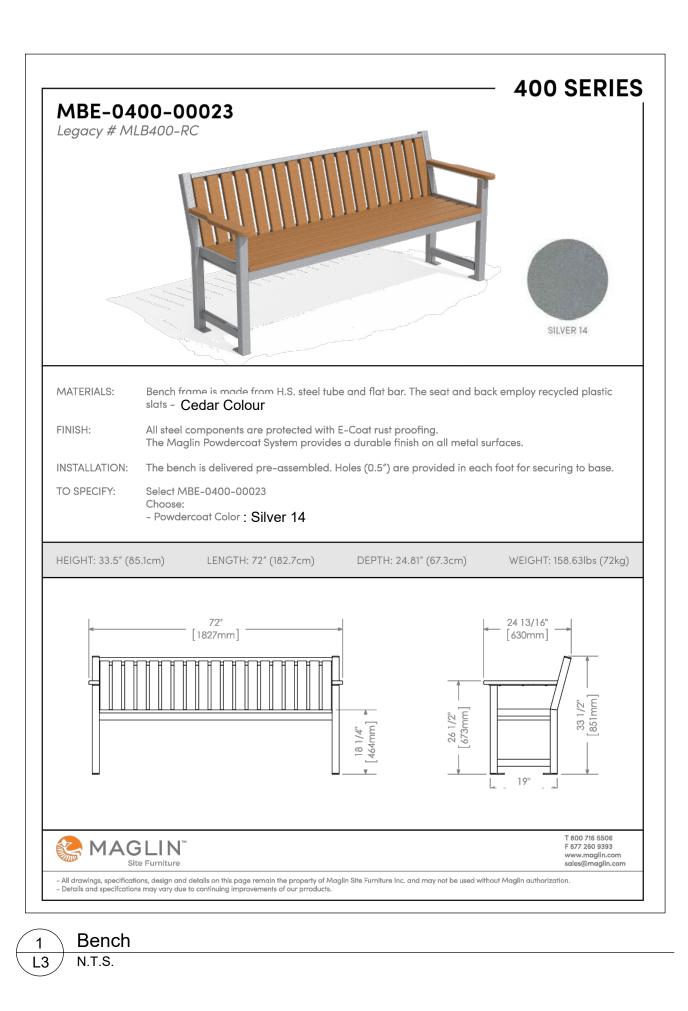
CITY OF PETERBOROUGH

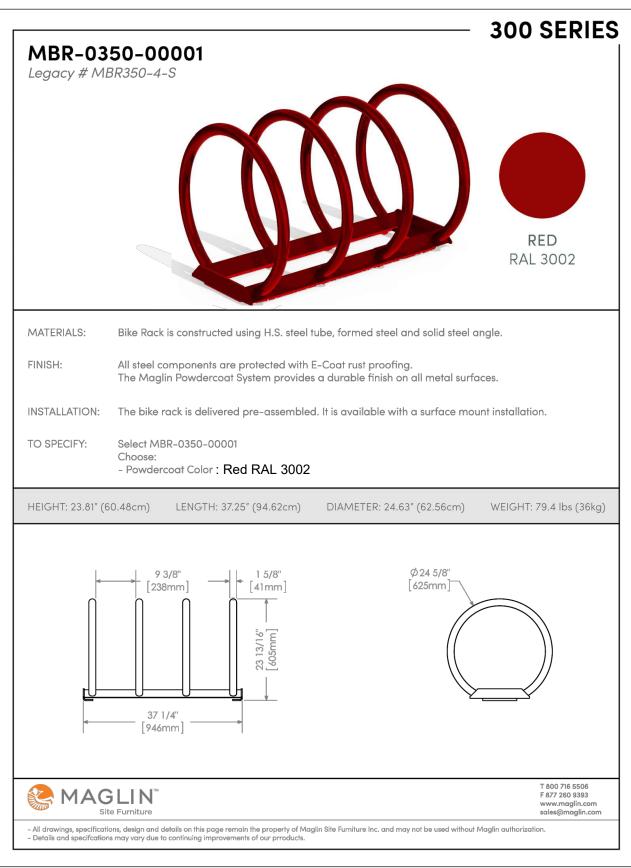
FIRE STATION NO. 2

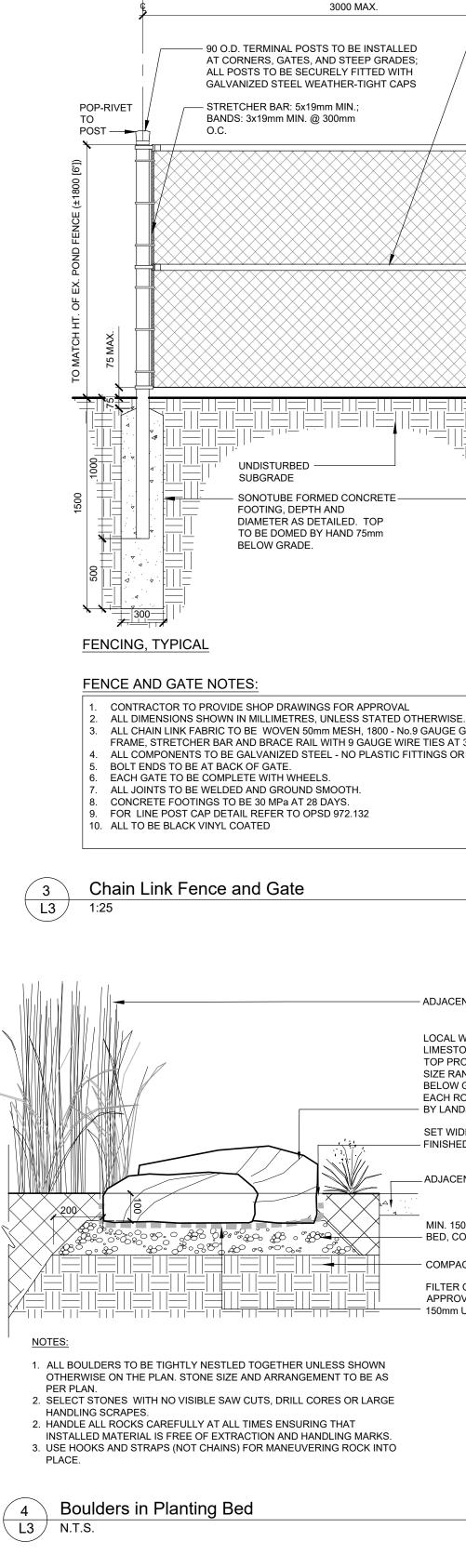
(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

LANDSCAPE DETAILS

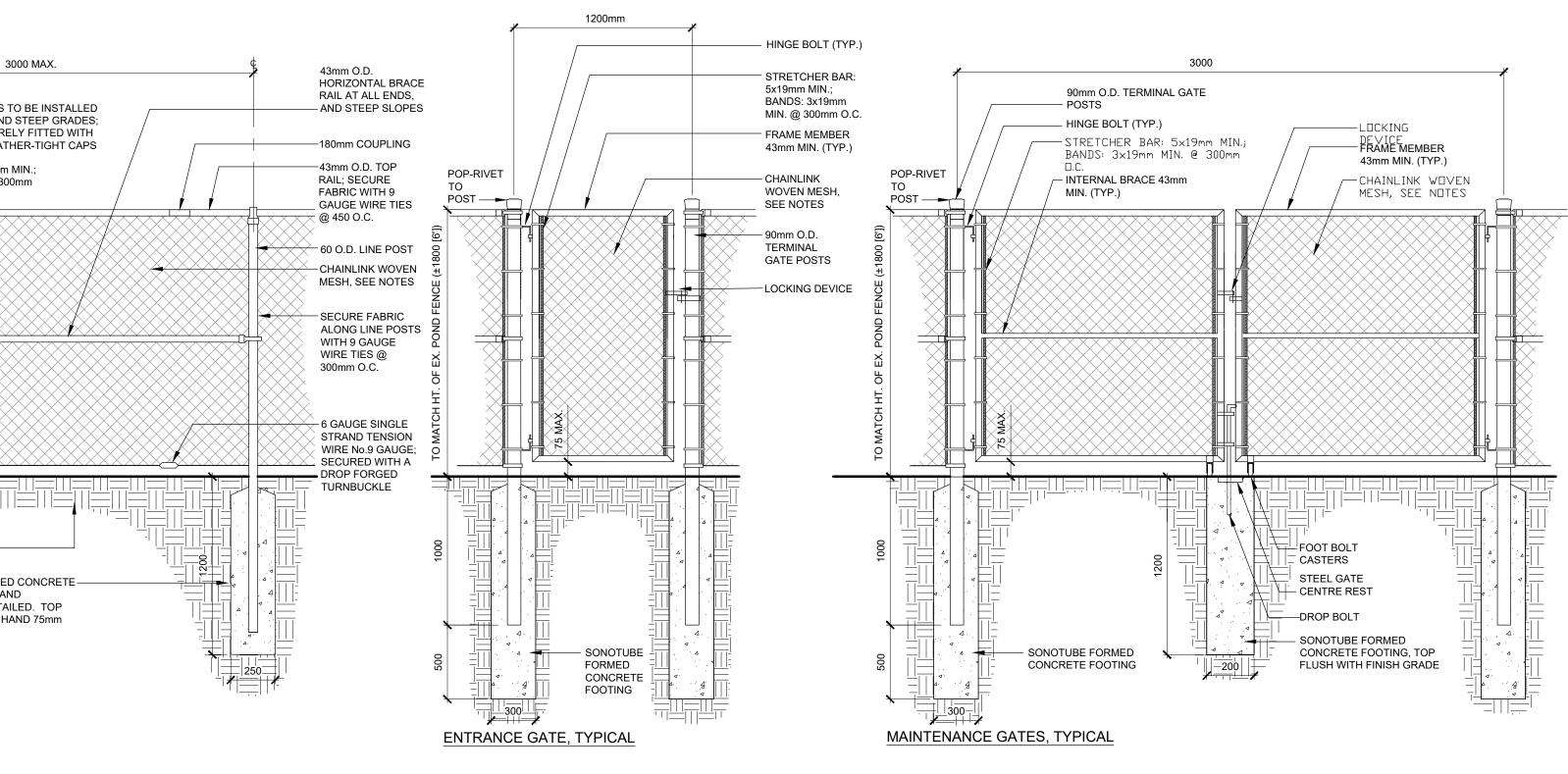








2 Bicyc L3 N.T.S. Bicycle Rack



ALL CHAIN LINK FABRIC TO BE WOVEN 50mm MESH, 1800 - No.9 GAUGE GALVANIZED STEEL CORE; SECURE TO FRAME, STRETCHER BAR AND BRACE RAIL WITH 9 GAUGE WIRE TIES AT 300mm O.C., KNUCKLED. ALL COMPONENTS TO BE GALVANIZED STEEL - NO PLASTIC FITTINGS OR COMPONENTS TO BE USED

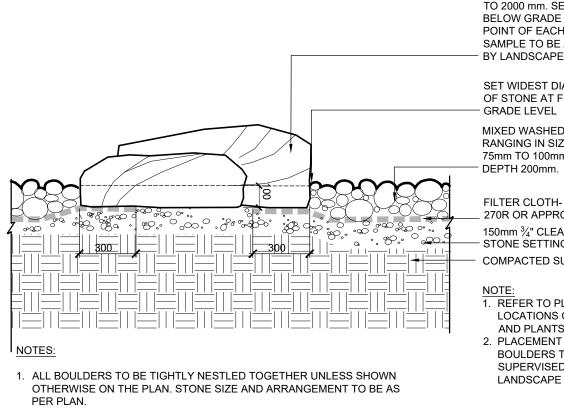
> – ADJACENT PLANTING BED; SEE PLAN LOCAL WEATHERED GRANITE OR LIMESTONE BOULDERS WITH SQUARED TOP PROFILE LAYOUT AS PER PLAN;

SIZE RANGE 600 TO 2000 mm. SET ROCK BELOW GRADE TO WIDEST POINT OF EACH ROCK. SAMPLE TO BE APPROVED – BY LANDSCAPE ARCHITECT. SET WIDEST DIAMETER OF STONE AT - FINISHED GRADE LEVEL

__ADJACENT SURFACE AS PER PLAN

MIN. 150mm GRANULAR 'A' SETTING BED, COMPACTED TO 98% S.P.D.

COMPACTED SUBGRADE FILTER CLOTH- TERRAFIX 270R OR APPROVED EQUAL, EXTENDED MIN. 150mm UNDER BOULDER EDGES



2. SELECT STONES WITH NO VISIBLE SAW CUTS, DRILL CORES OR LARGE

HANDLING SCRAPES. 2. HANDLE ALL ROCKS CAREFULLY AT ALL TIMES ENSURING THAT INSTALLED MATERIAL IS FREE OF EXTRACTION AND HANDLING MARKS.

3. USE HOOKS AND STRAPS (NOT CHAINS) FOR MANEUVERING ROCK INTO PLACE.

Boulders and Cobbles

L3 / N.T.S.

LOCAL WEATHERED GRANITE OR LIMESTONE BOULDERS WITH SQUARED TOP PROFILE LAYOUT AS PER PLAN; SIZE RANGE 600 TO 2000 mm. SET ROCK BELOW GRADE TO WIDEST POINT OF EACH ROCK. SAMPLE TO BE APPROVED - BY LANDSCAPE ARCHITECT.

SET WIDEST DIAMETER OF STONE AT FINISHED

MIXED WASHED COBBLES RANGING IN SIZE FROM 75mm TO 100mm. MIN. DEPTH 200mm.

FILTER CLOTH- TERRAFIX 270R OR APPROVED EQUAL

150mm ³⁄4" CLEAR - STONE SETTING BED - COMPACTED SUBGRADE

NOTE: 1. REFER TO PLANS FOR

LOCATIONS OF BOULDERS AND PLANTS 2. PLACEMENT OF ALL BOULDERS TO BE

SUPERVISED BY LANDSCAPE ARCHITECT



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e. studio@lett.ca



Chambers St., Peterborough, ON K9H 3V1 . 705.745.3623 www.basterfield.ca

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CITY OF PETERBOROUGH

FIRE STATION NO. 2

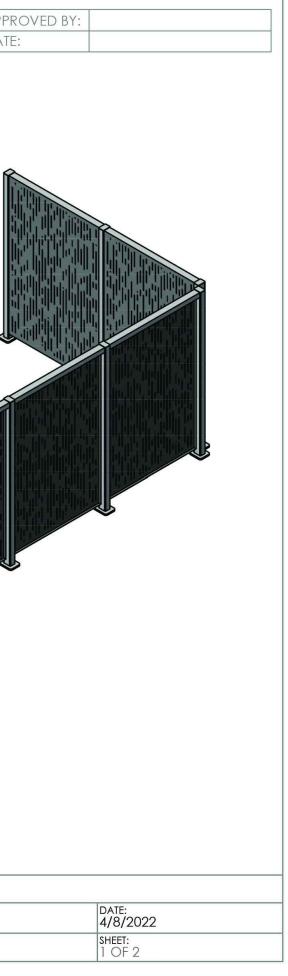
(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

LANDSCAPE DETAILS

		8 FLEXX PANEL, 4' W X 2 FLEXX POST, 6' H, AL 6 FLEXX POST, 6' H, AL 1 FLEXX POST, 6' H, 90°	<u>EXT, DRILLE</u> EXT, DRILLE	ED 1 SIDE, SM	
	MAGLIN FLEXX QUOTE #MPA2600-43236		Red RA	AL 3002	
MAGLIN Washingt and the systematical concernment of the systematical washingt a system washingt a systematical washingt			to be Ap	pproved	
	PLEASE NOTE			TITLE:	
MASLIN FLEXX BMPA2600-43236 MODELNIMMER A MODELNIMMER A MODELNIMMER A MODELNIMARIA A MARKAR STELL D2- PUSON A MODELNIMARIA A MODELNIMARIA A MODELNIKA A MODELNIKA A MODELNIKA A MOD	1AGLIN SITE FURNITURE /WW.MAGLIN.COM EL.: 800-716-5506 AX: 877-260-9393	ANY REPRODUCTION IN PART OR AS WITHOUT THE WRITTEN PERMISSION C SITE FURNITURE IS PROHIBITED.	A WHOLE OF MAGLIN	MPA2600-43236 WEIGHT: 1068.48 LBS	
MAGLIN FLEXS (MPA2000-43236) Powdercoat: 'Silver 14' Perforation Type be Approved Performation Type to be Approved	ITEM (ИРА-2600-00012 ИРА-2600-00021 ИРА-2600-00023	4 FLEXX PANEL, 6' W X 4' 2 FLEXX POST, 4' H, AL EX	KT, DRILLED	D 1 SIDE, SM	
MAGLIN FLEXX (UPTE grandational states) Powdercoat: 'Silver 14' Perforation Type to be Approved PLEASE NOTE COLORS IN THIS DRAWING DO NOT REFLECT YOUR ORDER					
MAGLIN FLEXX QUATE #MPA2600-43236 MAGLIN M			<		
MAGLIN FLEXX QUOTE #MPA2600-43236 Perforation Type to be Approved PLEASE NOTE COLORS IN THIS DRAWING DO NOT REFLECT YOUR ORDER					
MAGLIN FLEXX QUOTE #MPA2600-43236 Perforation Type to be Approved PLEASE NOTE COLORS IN THIS DRAWING DO NOT REFLECT YOUR ORDER					
QUOTE #MPA2600-43236 'Silver 14' Perforation Type to be Approved PLEASE NOTE COLORS IN THIS DRAWING DO NOT REFLECT YOUR ORDER MAGLIN THE INFORMATION CONTAINED IN THIS DRAWING					
to be Approved PLEASE NOTE COLORS IN THIS DRAWING DO NOT REFLECT YOUR ORDER MAGLIN THE INFORMATION CONTAINED IN THIS DRAWING					
THE INFORMATION CONTAINED IN THIS DRAWING FLEXX LAYOUT, 48658	MAGLIN FLEXX QUOTE #MPA2600-43236	;	'Silver ´	rcoat: 14'	
	QUOTE #MPA2600-43236		'Silver ´ Perforat to be Ap	rcoat: 14' tion Type pproved	

WEIGHT: 497.46 LBS

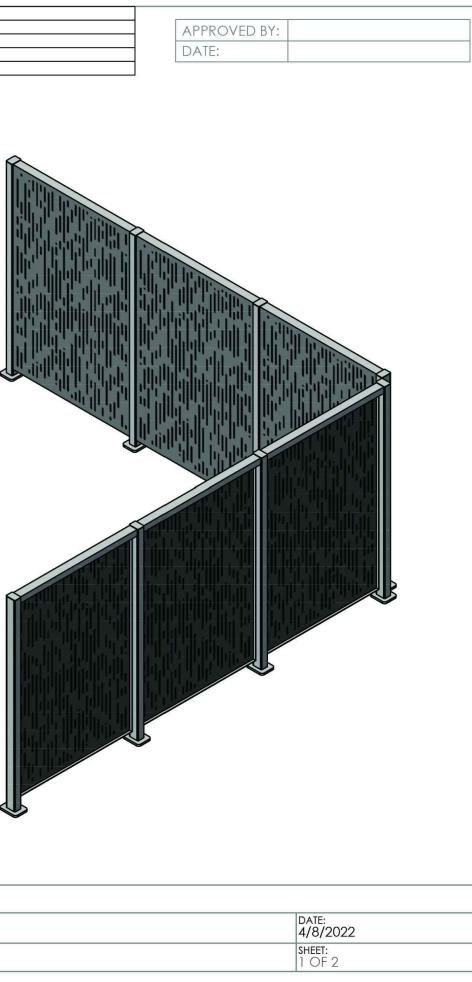
3 Steel Screen L4 N.T.S.



ITEM MPA-2600-00006	QTY MODELNUMBER 6 FLEXX PANEL, 4' W	X A' H STEEL	D1 - MATRIX
MPA-2600-00022	2 FLEXX POST, 6' H, A	L EXT, DRILLED	D 1 SIDE, SM
MPA-2600-00024	4 FLEXX POST, 6' H, A	L EXT, DRILLED	D 2 SIDES, SM
MPA-2600-00026	1 FLEXX POST, 6' H, 90	0° COR., AL E	XT, DRILLED 2 SIDES, SM
MAGLIN FLEXX QUOTE #MPA2600-43239	9	Powder Red RA Perforat be Appr	L 3002 tion Type to
* PLEASE NOTE	COLORS IN THIS E	DRAWING	DO NOT REFLECT YOUR ORDER
MAGLIN	THE INFORMATION CONTAINED IN IS THE SOLE PROPERTY OF MAGLIN	SITE FURNITURE	TITLE: FLEXX LAYOUT, 43239 LAYOUT #:
MAGLIN SITE FURNITURE WWW.MAGLIN.COM TEL.: 800-716-5506	ANY REPRODUCTION IN PART OR A WITHOUT THE WRITTEN PERMISSION SITE FURNITURE IS PROHIBITED.	AS A WHOLE I OF MAGLIN	MPA2600-43239 WEIGHT:
FAX: 877-260-9393			818.3 LBS

4 Steel Privacy Screen L4 N.T.S.







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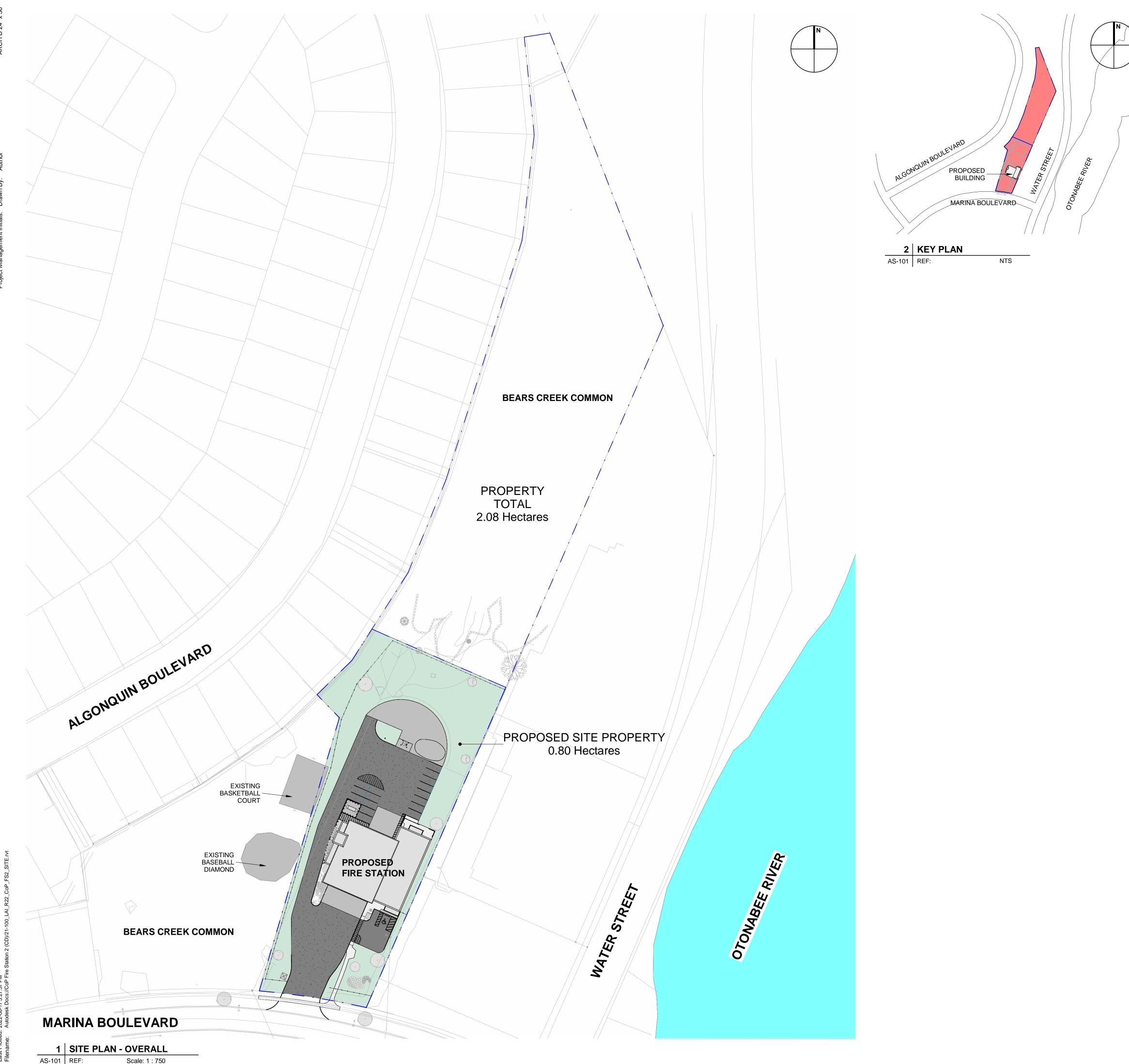
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CITY OF PETERBOROUGH FIRE STATION NO. 2

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

LANDSCAPE DETAILS



LEGAL DESCRIPTION & SITE STATISTICS

SCOPE OF PROJECT:

THE SITE IS LOCATED NEAR THE INTERSECTION OF MARINA BOULEVARD AND WATER STREET, TO THE EAST OF EDMISON HEIGHTS AND WEST OF RIVERVIEW MANOR. THE LONG, NARROW SITE IS ABOUT 2 HECTARES IN SIZE AND FRONTS ONTO MARINA BOULEVARD. VEHICULAR ACCESS WILL BE FROM THIS STREET VIA A TWO-WAY DRIVE AISLE. THE DRIVEWAY AND PARKING AREAS HAVE BEEN SIZED TO FACILITATE THE ACTIVITIES OF THE FIRE TRUCKS ON SITE, INCLUDING ACCESS TO THE DRIVE-THROUGH BAYS, SPACE FOR TRUCKS TO BE PARKED OUT FRONT, AND TO ALLOW FOR FIRE TRUCKS TO PARTICIPATE IN TRAINING EXERCISES.

A SMALL PARKING LOT HAS BEEN PROVIDED IN THE FRONT OF THE BUILDING FOR VISITORS, WHICH INCLUDES ONE REGULAR AND ONE ACCESSIBLE PARKING SPACE. THE REGULAR PARKING SPACE IS ADJACENT TO AN ACCESS AISLE, AND SO IS ABLE TO FUNCTION THE SAME AS A TYPE B ACCESSIBLE PARKING SPACE IF THE MARKED TYPE A SPACE IS ALREADY TAKEN. THE VISITOR PARKING LOT WILL BE IDENTIFIED WITH SIGNAGE. THE REAR PARKING LOT IS FOR STAFF, AND CONTAINS 16 SPACES IN ORDER TO BE ABLE TO ACCOMMODATE THE LARGER VOLUME OF VEHICLES AT SHIFT CHANGE TIMES.

THE SITE ALSO INCLUDES A DRAFTING PIT FOR TRAINING, AND A FUELING STATION.

LOCATION: ADDRESS:

100 MARINA BLVD PART OF BLOCK B, CITY OF PETERBOROUGH LOT: CONCESSION: N/A 28128-0049 (LT) P.I.N.: NEAREST INTERSECTION: MARINA BLVD AND WATER STREET EXISTING EASEMENTS: 1.52-WIDE BELL CANADA EASEMENT AS IN INST. NO. R182153 REGISTERED PLAN NO. 227

SURVEY PREPARED BY ELLIOTT AND PARR (PETERBOROUGH) LTD. AUGUST 23, 2021 211 SHERBROOKE STREET, PETERBOROUGH, ONTARIO, K9J 7H4 P: (705)-745-8444

ZONING STATISTICS:

ZONING: PS.2 PUBLIC SERVICE DISTRICT

MINIMUM LOT WIDTH:

PROVIDED:	44.4m
REQUIRED:	18m
MINIMUM LOT DEPTH:	
PROVIDED:	356.3m
REQUIRED:	30m
MAXIMUM BUILDING COVERAGE	
(BUILDING FLOOR AREA):	
PROVIDED:	4.8% OF TOTAL PROPERTY AREA
PROVIDED:	12.5% OF PROPOSED SITE PROPERTY AREA

PROVIDED: REQUIRED: PAVED AREA COVERAGE:

PROVIDED: PROVIDED:

LANDSCAPE AREA COVERAGE: PROVIDED: PROVIDED:

MINIMUM BUILDING SETBACK FROM SIDE OR REAR LOT LINES: PROVIDED: REQUIRED:

MINIMUM WIDTH OF LANDSCAPED OPEN SPACE TO BE ESTABLISHED AND MAINTAINED ALONG ALL LOT LINES (EXCEPT WHERE INTERRUPTED BY DRIVEWAYS): PROVIDED: REQUIRED:

VARIES (3m MIN.)

VARIES (3m MIN.)

40% OF TOTAL LOT AREA

13.9% OF TOTAL PROPERTY AREA

81.3% OF TOTAL PROPERTY AREA

36.2% OF PROPOSED SITE PROPERTY AREA

51.3% OF PROPOSED SITE PROPERTY AREA

3m

3m

BUILDING HEIGHT: 11.40m (37.4 FT.) TOP OF HOSE TOWER ROOF

	SITE AREA	
Name	Area	Area ha
PROPERTY	20,823.43 m ²	2.08 hectare
PROPOSED SITE PROPERTY	8,021.46 m ²	0.80 hectare
G	ROSS BUILDING AREA	
G	ROSS BUILDING AREA	Area ft2

SITE HARDSCAPES AREA			
Description Area			
CONC. APRON	71.30 m		
CONC. SLAB ON GRADE	247.02 m		
ASPHALT - HEAVY DUTY	2,136.73 m		
ASPHALT - LIGHT DUTY	196.84 m		
CONCRETE PAD	70.31 m		

PARKING STATISTICS:

NOTWITHSTANDING THE PROVISIONS OF SECTION 4.2, MINIMUM NUMBER OF MOTOR VEHICLE PARKING SPACES TO BE PROVIDED AND MAINTAINED:

- 1.5 PER STAFF. EMPLOYEES = 8 PERSONS REQUIRED: 12 PROVIDED: 18
- ACCESSIBLE PARKING SPACES REQUIRED: 1 TYPE B
- PROVIDED: 1 TYPE A (VAN ACCESSIBLE PARKING SPACE)

NOTE: THE SECOND VISITOR PARKING SPACE IS NOT A DESIGNATED ACCESSIBLE PARKING SPACE HOWEVER IT IS THE SIZE OF A TYPE B ACCESSIBLE PARKING SPACE AND IS ADJACENT TO AN ACCESS AISLE.

Architects Inc

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ISSUE / REVISIONS

1 Issued for Site Plan Application Jan.28.22 2 Issued for Building Permit 6 Issued for Tender

Mar.21.22 Aug.18.22

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CONSTRUCTION DOCUMENTATION

PROJECT No. 21-100

START DATE OCT.27.2021

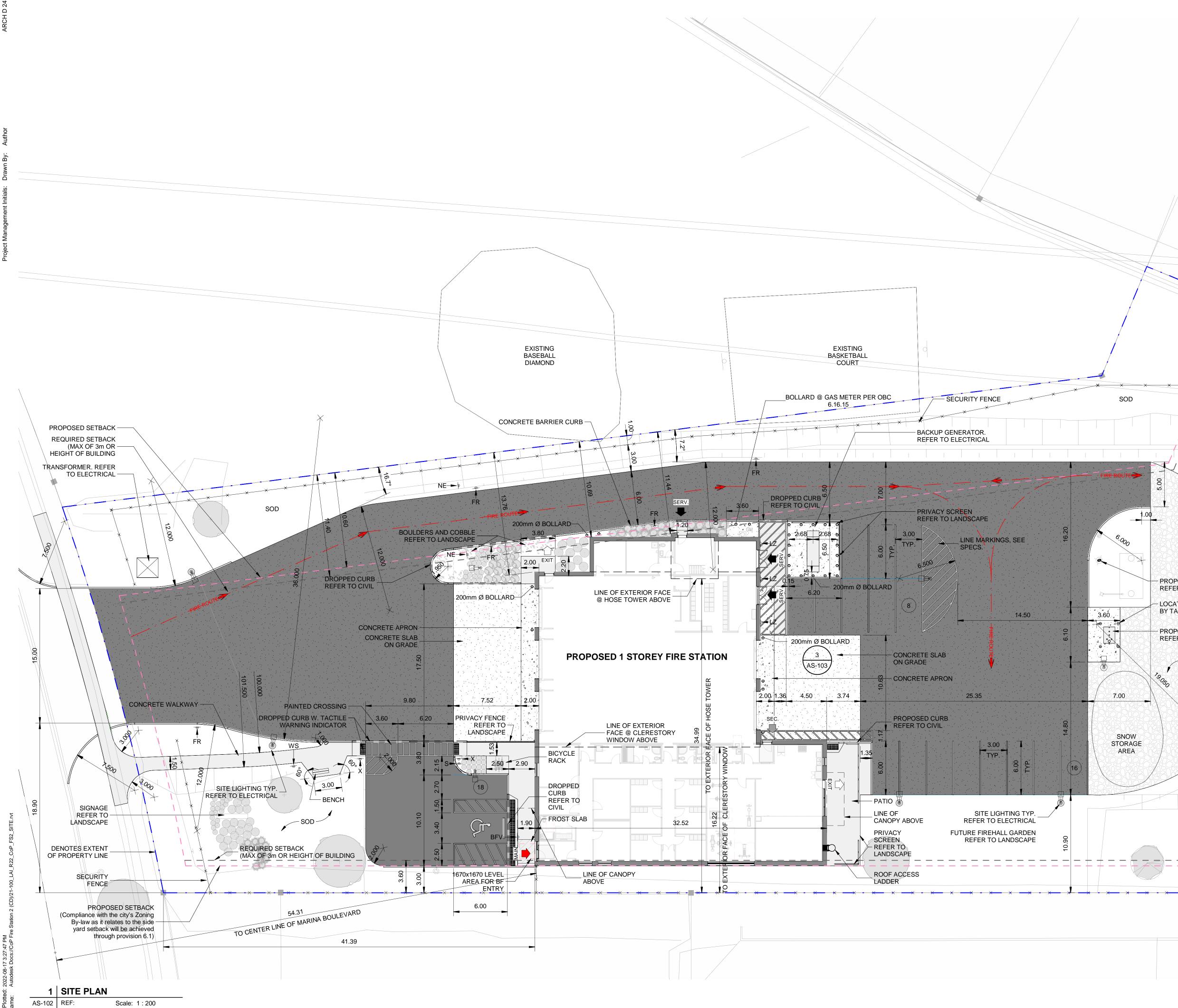
City of Peterborough

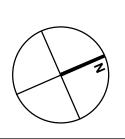
FIRE STATION NO. 2

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

OVERALL SITE PLAN AND LEGEND

AS-101





DESCRIPTION

MAIN

EXIT

 $\overline{\mathbf{P}}$

SITE SIGNAGE

BARRIER FREE SIGN

LOADING ZONE SIGN

WS SITE WAYFINDING SIGN POST X PEDESTRIAN CROSSING

BUILDING ENTRANCE LEGEND

NE NO ENTRY SIGN POST STOP SIGN

FIRE ROUTE SIGN POST

ID

BFV

FR

LΖ

S

MAIN ENTRANCE

SECONDARY ENTRANCE

GRAPHICAL LEGEND

ASPHALT - HEAVY DUTY

ASPHALT - LIGHT DUTY

CONCRETE SIDEWALK

CONCRETE APRON / PAD

SERVICE ENTRANCE

EXIT ONLY

Architects Inc

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	ISSUE / R	EVISIONS
1	Issued for Site Plan Application	Jan.28.22
2	Issued for Building Permit	Mar.21.22
4	Issued for Building Permit Response	Apr.25.22
6	Issued for Tender	Aug.18.22

PROPOSED BIO-RETENTION AREA (REFER TO CIVIL) SOD **PROPOSED SETBACK** – SEED MIX – 1.00 PROPOSED FIRE HYDRANT. REFER TO CIVIL - LOCATE BOLLARDS AS REQ'D BY TANK SUPPLIER - PROPOSED FUELING STATION. SECURITY FENCE REFER TO CIVIL - GRAVEL 7.00 SEED MIX -SNOW SEED MIX -STORAGE AREA

- SECURITY FENCE

<u>→</u> • × → × • × → × →

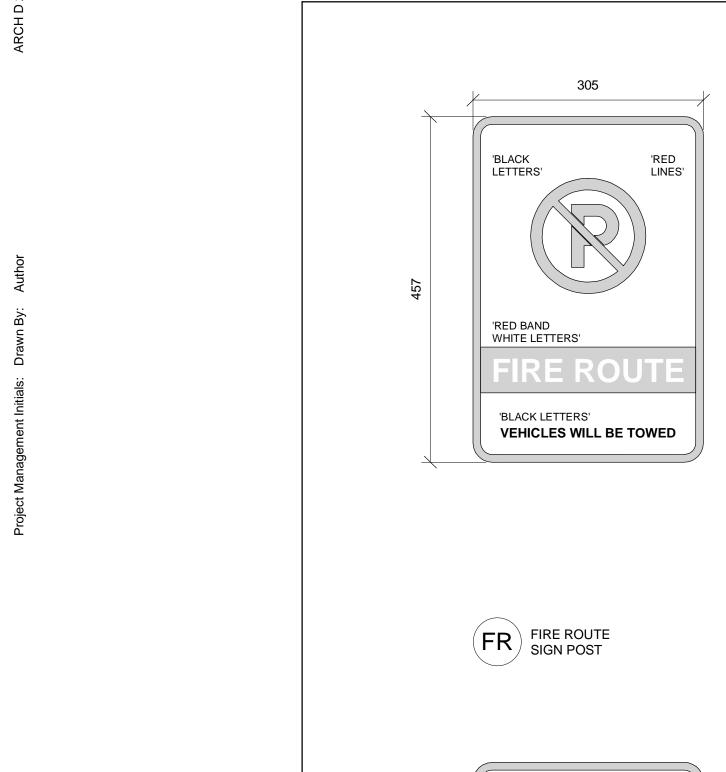
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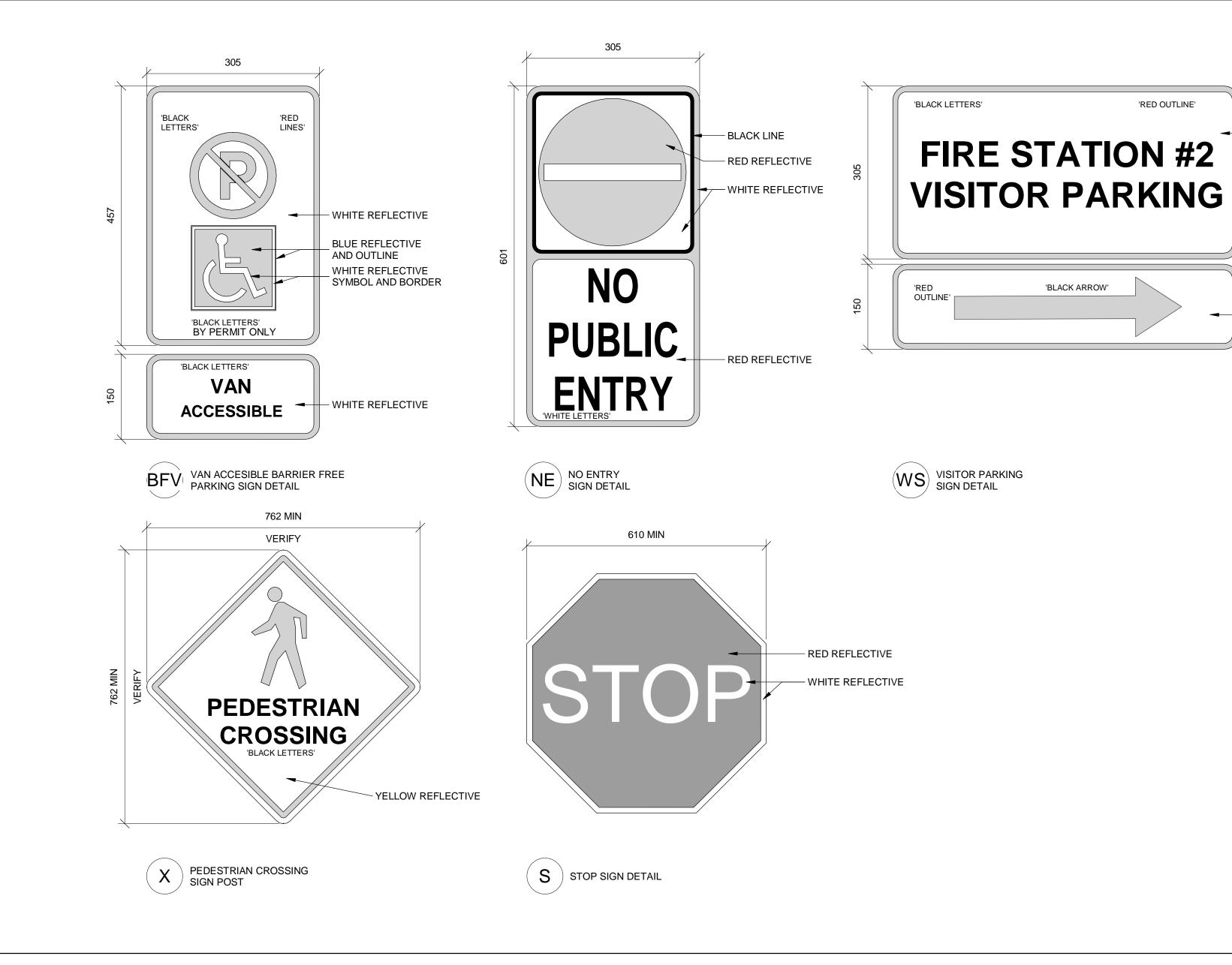
City of Peterborough **FIRE STATION NO. 2**

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

SITE PLAN

AS-102







'BLACK

LETTERS'

'BLACK LETTERS'

'BLACK LETTERS'

(LZ) LOADING ZONE SIGN POST

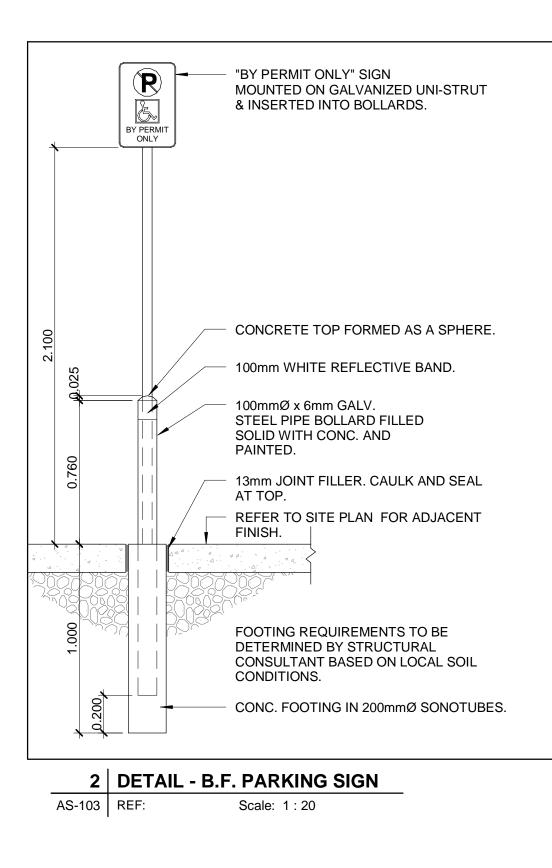
LOADING

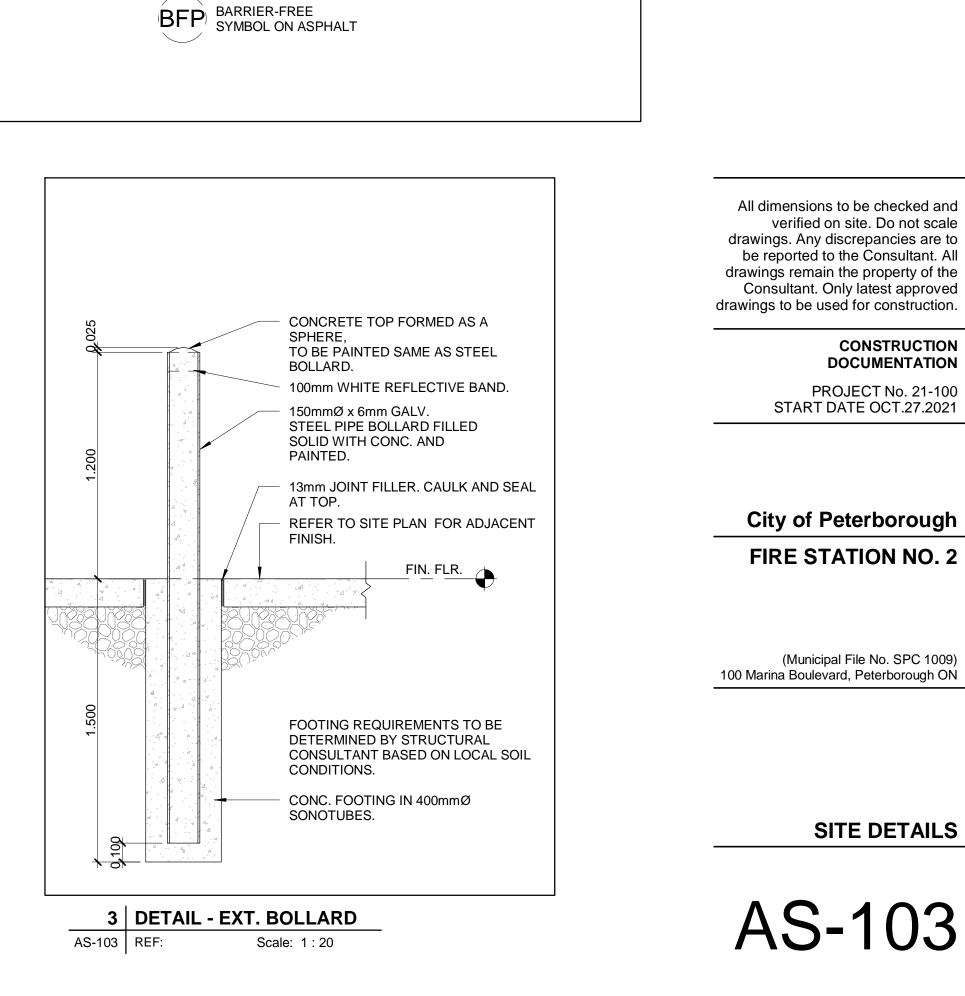
ZONE

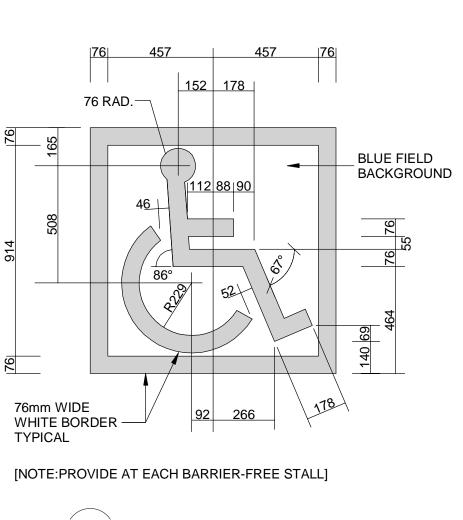
VEHICLES WILL BE TOWED

'RED

LINES'







— WHITE REFLECTIVE 3. ALL SIGNS TO WHITE REFLECT UNLESS OTHER REQUIREMENTS 4. REFER TO DR QUANTITIES.

- WHITE REFLECTIVE

NOTE: 1. ALL DIMENSIONS ARE IN MILLEMETERS. 2. SIGNS TO BE PER LOCAL JURISDICTION REQUIREMENTS. GC IS RESPONSIBLE FOR VERIFYING SIZE, SHAPE, AND WORDING. 3. ALL SIGNS TO BE HEAVY GAUGE ALUMINUM C/W WHITE REFLECTIVE BACKGROUND. UNLESS OTHERWISE NOTED IN THE L.J. REQUIREMENTS. 4. REFER TO DRAWINGS FOR LOCATIONS AND QUANTITIES. Loll Architects Inc

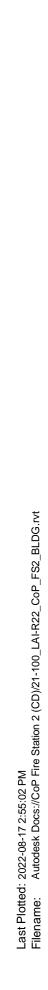
138 Simcoe Street Peterborough Ontario K9H 2H5

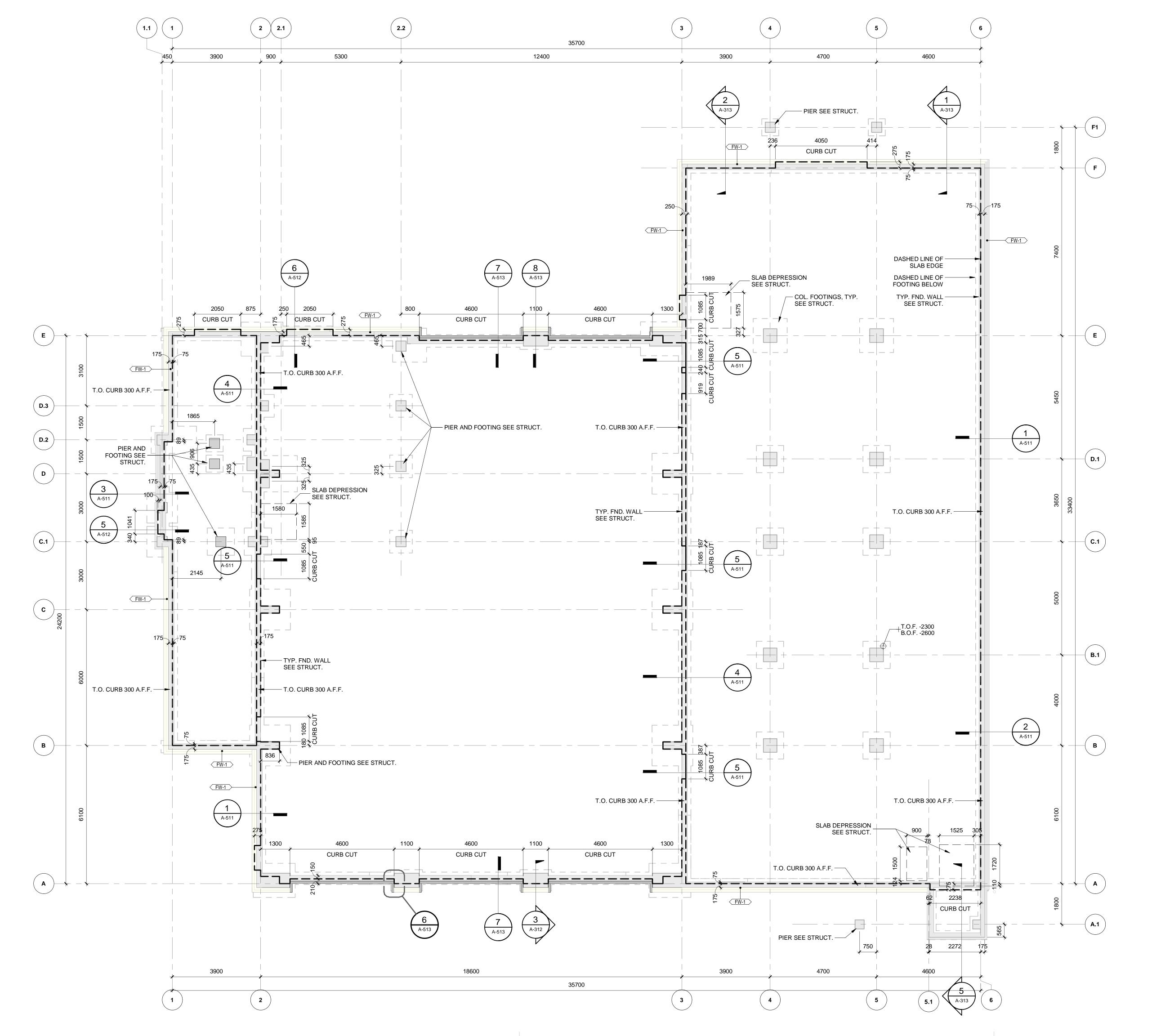
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ISSUE / REVISIONS

Issued for Site Plan Application
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 Issued for Tender

Jan.28.22 Mar.21.22 Aug.18.22







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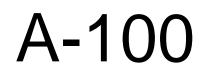
CONSTRUCTION DOCUMENTATION

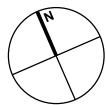
PROJECT No. 21-100 START DATE OCT.2021

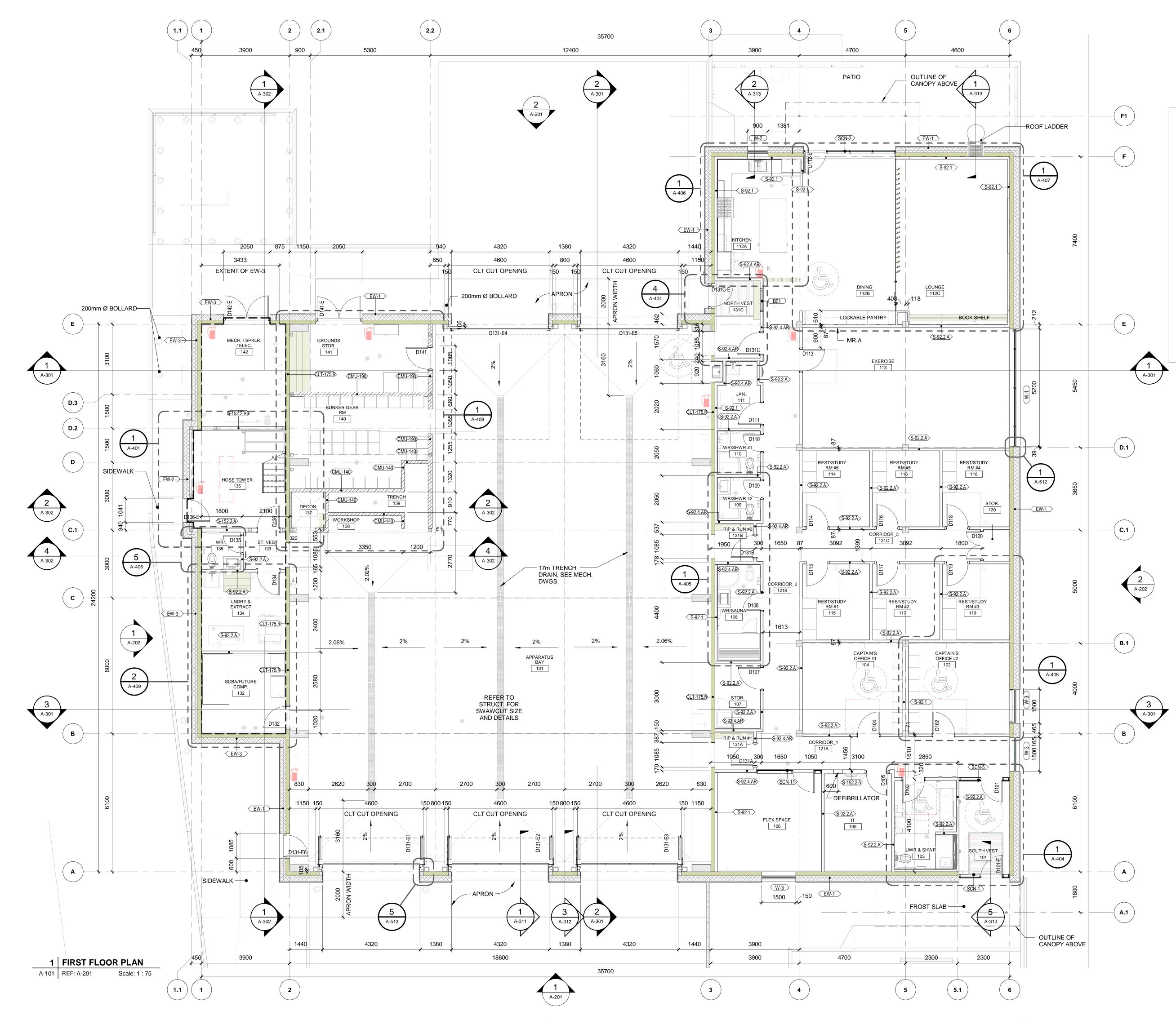
City of Peterborough FIRE STATION NO. 2

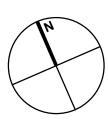
(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

FOUNDATION PLAN









GENERAL NOTES

1. ROOF ANCHORS TO BE LOCATED ALONG BEAM LINES AND SPACED SO THAT THE MINUMUM NUMBER OF ANCHORS REQUIRED ARE INCLUDED.

2. ANCHOR LAYOUT FOR FALL RESTRAINT SYSTEM IN THESE DRAWINGS IS FOR DEMONSTRATION AND IS TO BE ADJUSTED TO THE SPECIFIC SYSTEM REQUIREMENTS

3. GC TO ENSURE CLT & MECH. TRADES COORDINATE PENETRATIONS AND FINAL DUCT SIZING/RUNS THROUGH CLT

4. CLT OPENINGS TO BE RATIONALIZED IN PANELS AND COORDINATED WITH OTHER TRADES

5. BULLNOSE CORNERS TO BE ON ALL EXPOSED CONCRETE BLOCK OPENINGS (TYP.)

6. EXTERIOR STEEL COLUMN TO BE GALVANIZED WITH PREMIUM GRADE PAINT FINISH

7. CLT PANELS FACING APPARATUS BAY AND CLT PANELS AT BUILDING PERIMETER FACING INTERIOR SHALL BE ARCHITECTURE FINISH.

Lock Architects Inc

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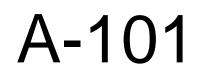
CONSTRUCTION DOCUMENTATION

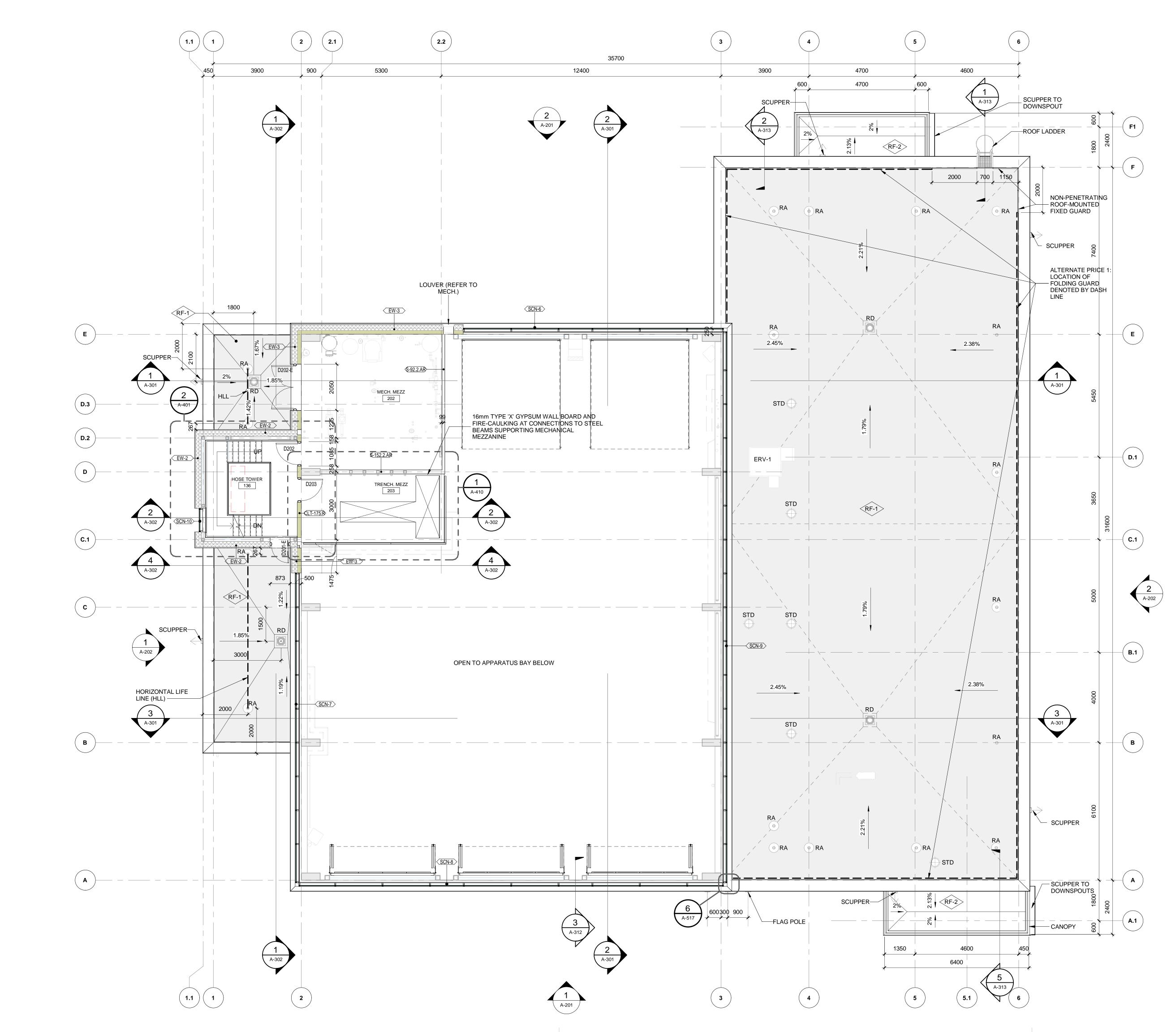
PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough FIRE STATION NO. 2

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

FIRST FLOOR PLAN

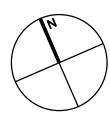




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ast Plotted: 2022-08-17 2:55:18 PM lename: Autodesk Docs://CoP Fire Station 2 (CD)/21-100_LAI-R22_CoP_FS2_BLDG.rvt

ARCH D 24" x 36"



GENERAL NOTES

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CONSTRUCTION DOCUMENTATION

PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough FIRE STATION NO. 2

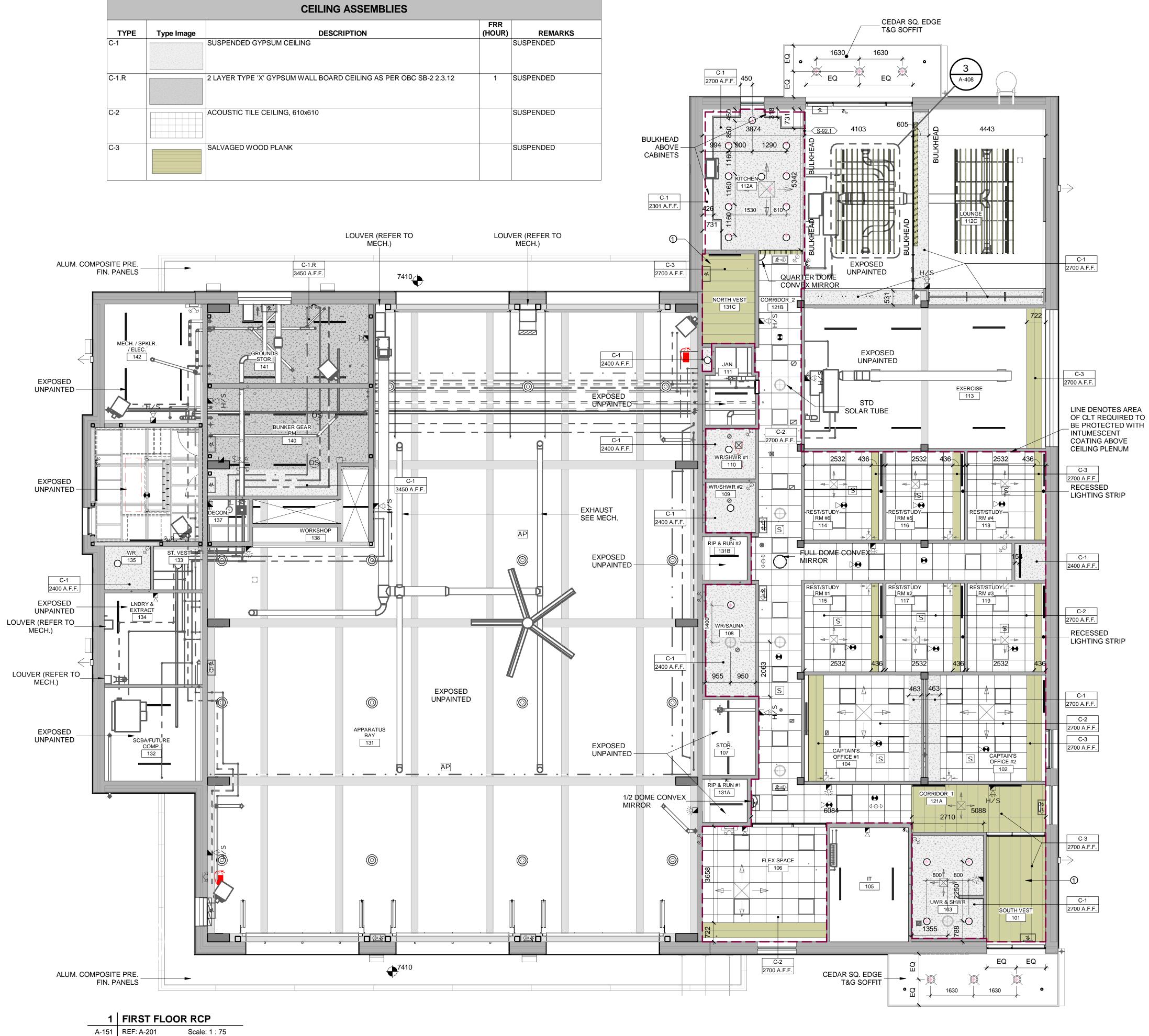
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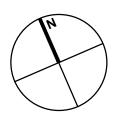
MEZZANINE PLAN



TYPE Type Image C-1.R C-2

Scale: 1 : 75





SPECIFIC NOTES

WOOD PLANK CEILING EXEMPTION TO FLAME SPREAD RATING ALLOWS 150 AS THIS AREA IS LESS THAN 10% OF THE TOTAL CEILING AREA PER OBC 3.1.13.2 (4).

GENERAL NOTES

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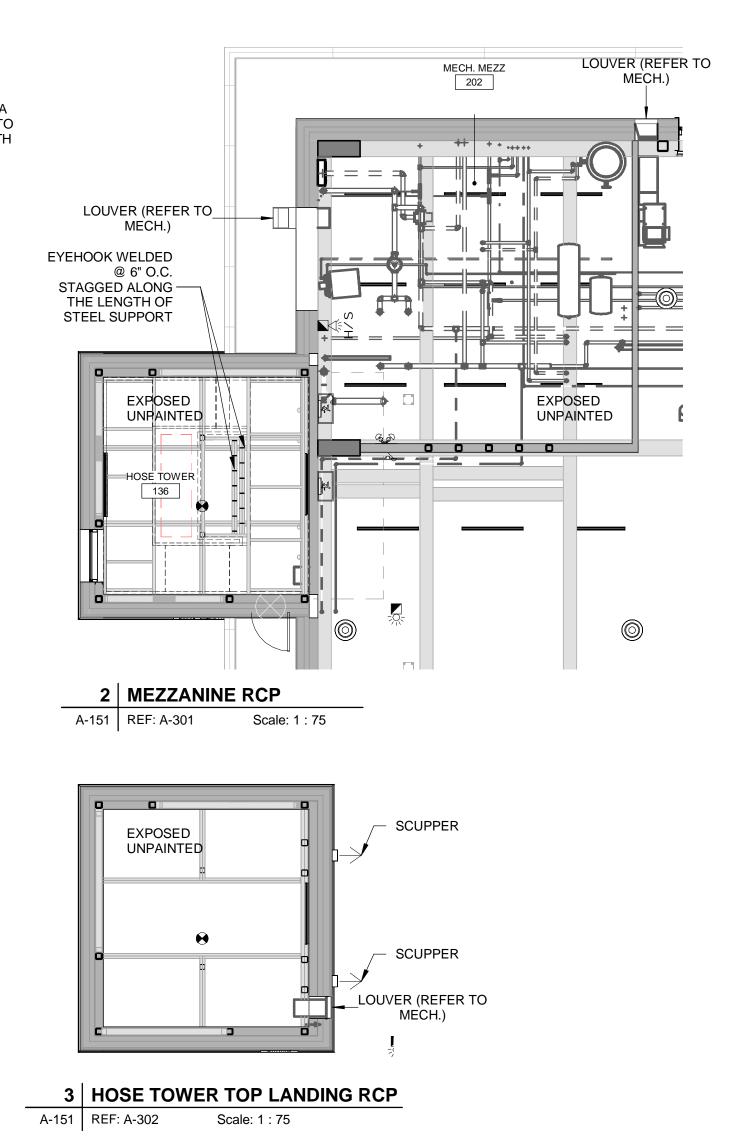
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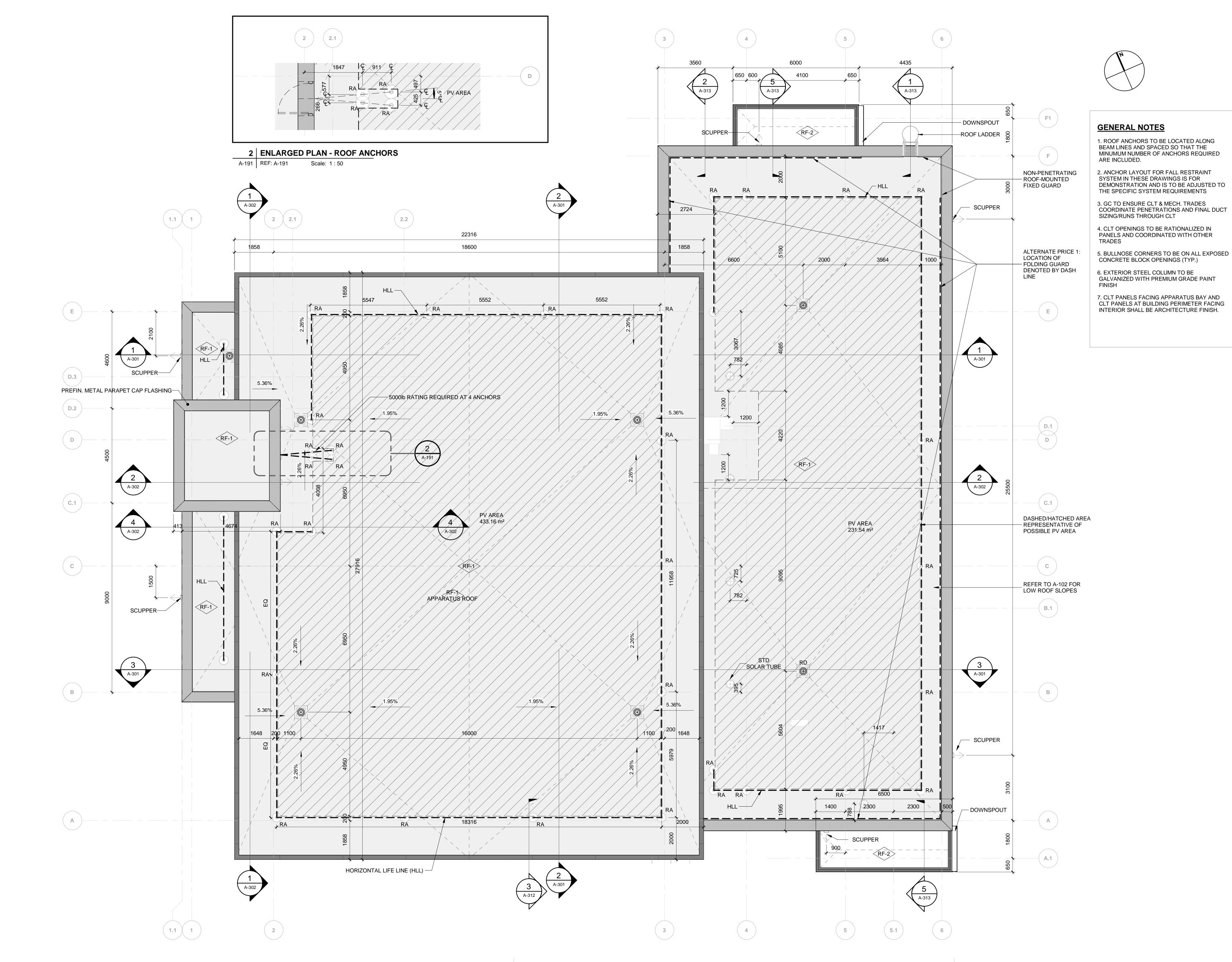
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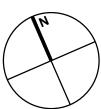
City of Peterborough **FIRE STATION NO. 2**

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> FIRST FLOOR & **MEZZANINE - RCP**

A-151





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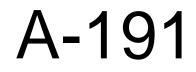
CONSTRUCTION DOCUMENTATION

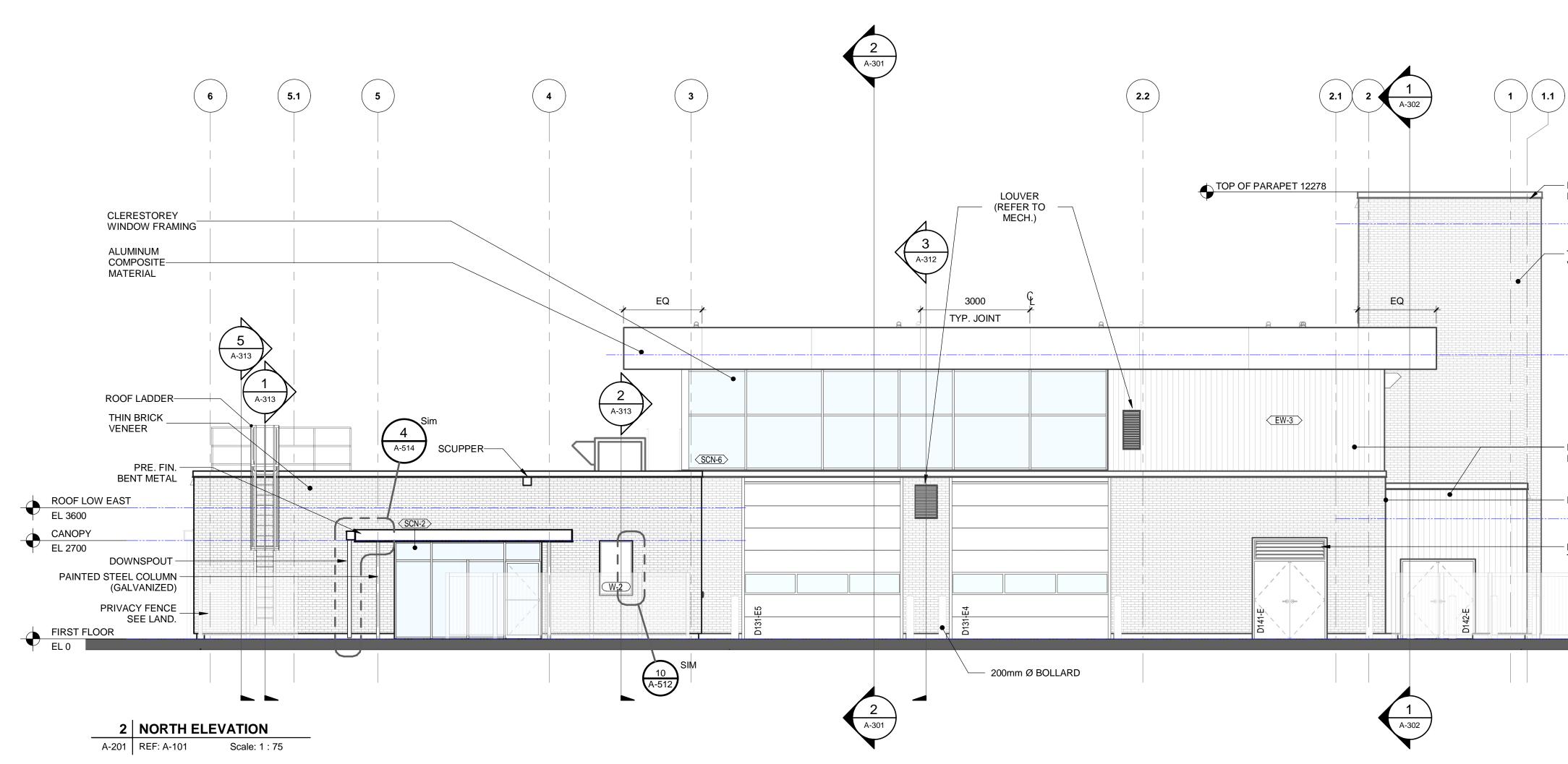
PROJECT No. 21-100 START DATE OCT.2021

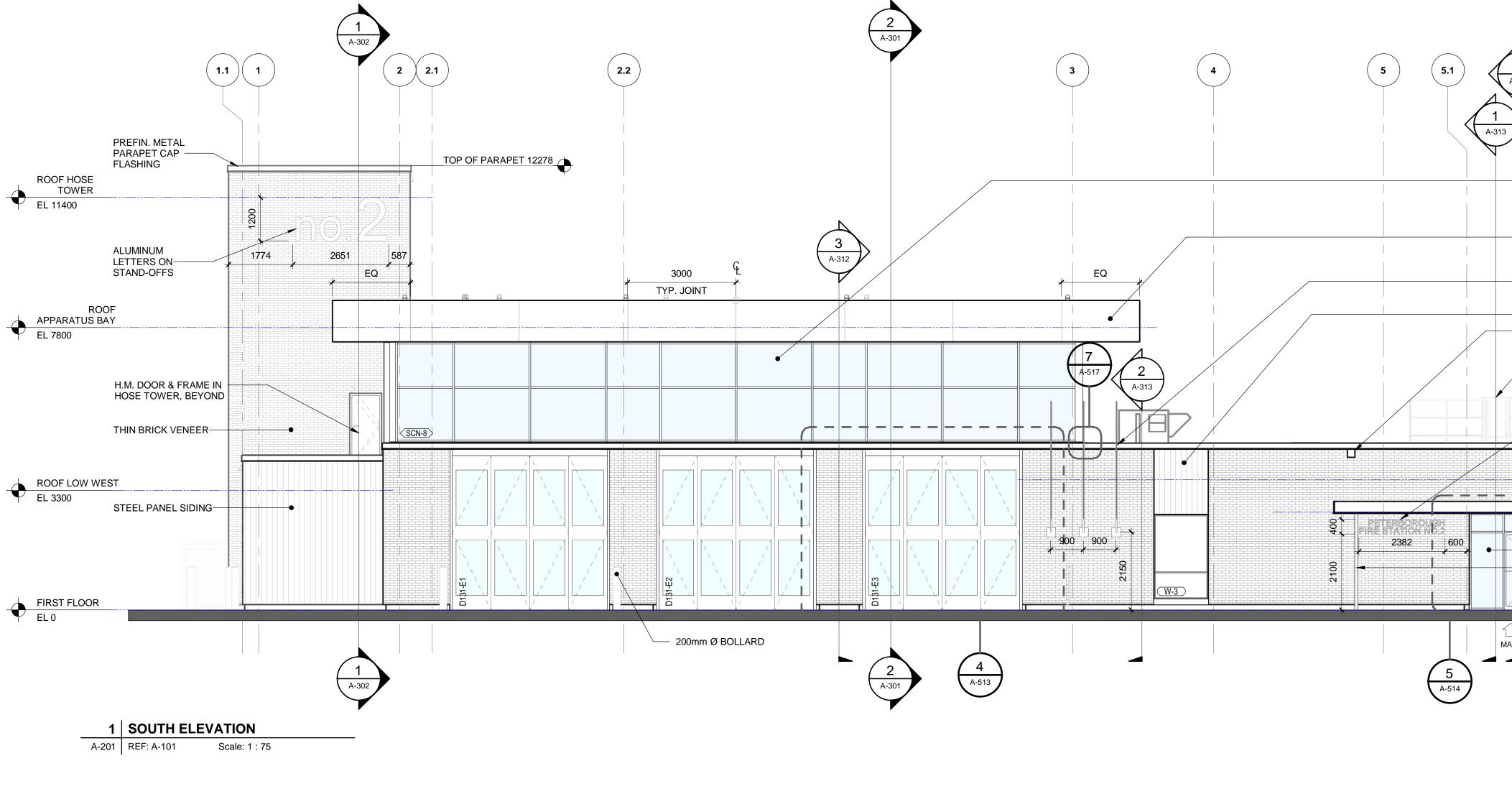
City of Peterborough **FIRE STATION NO. 2**

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

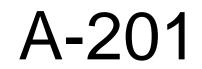
ROOF PLAN











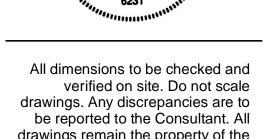


(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

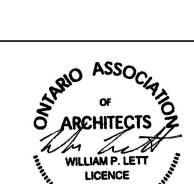
FIRE STATION NO. 2

PROJECT No. 21-100 START DATE OCT.2021 City of Peterborough

drawings remain the property of the Consultant. Only latest approved drawings to be used for construction. CONSTRUCTION DOCUMENTATION







	CLERESTOREY WINDOW FRAMING	BRICK PA	ATTERN DETAIL
	- ALUMINUM COMPOSITE MATERIAL - 3 WALL-MOUNTED FLAG POLES (SEE SPEC) -STEEL PANEL SIDING SCUPPER -ROOF LADDER	3	
	WALL MOUNTED SIGNAGE -THIN BRICK VENEER - PRE. FIN. BENT METAL	ROOF LOW EAST EL 3600	- \$ -
	- DOWNSPOUT - CURTAINWALL FRAMING - PAINTED STEEL COLUM - THERMALLY BROKEN FRAMED EXT. DOOR	CANOPY EL 2700	_ ←
MAIN		EL 0	

- PREFIN. METAL PARAPET CAP

- THIN BRICK

VENEER

— PHENOLIC PANEL

- FLUSH CONDITION

— LOUVER (REFER TO MECH.)

ROOF HOSE TOWER EL 11400

ROOF APPARATUS BAY

EL 3300

FIRST FLOOR EL 0

EL 7800

A-313

10 498 TYP. -1/3 BRICK LENGTH

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ISSUE / REVISIONS

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Apr.25.22

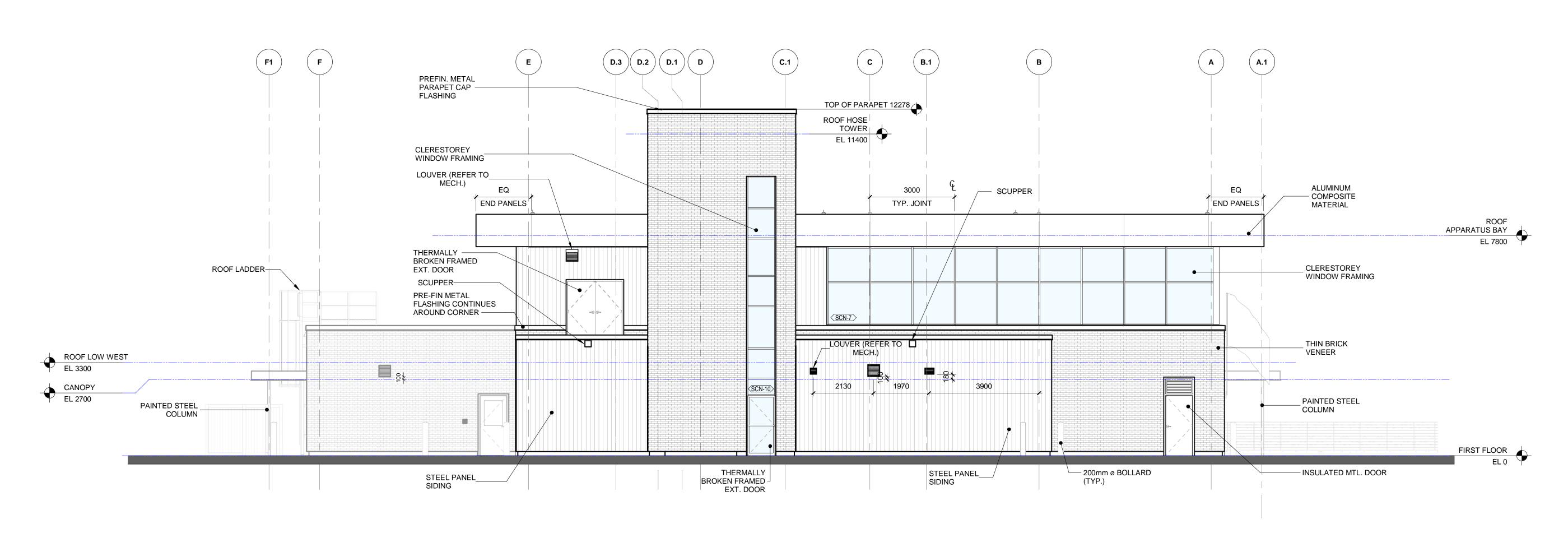
Aug.18.22

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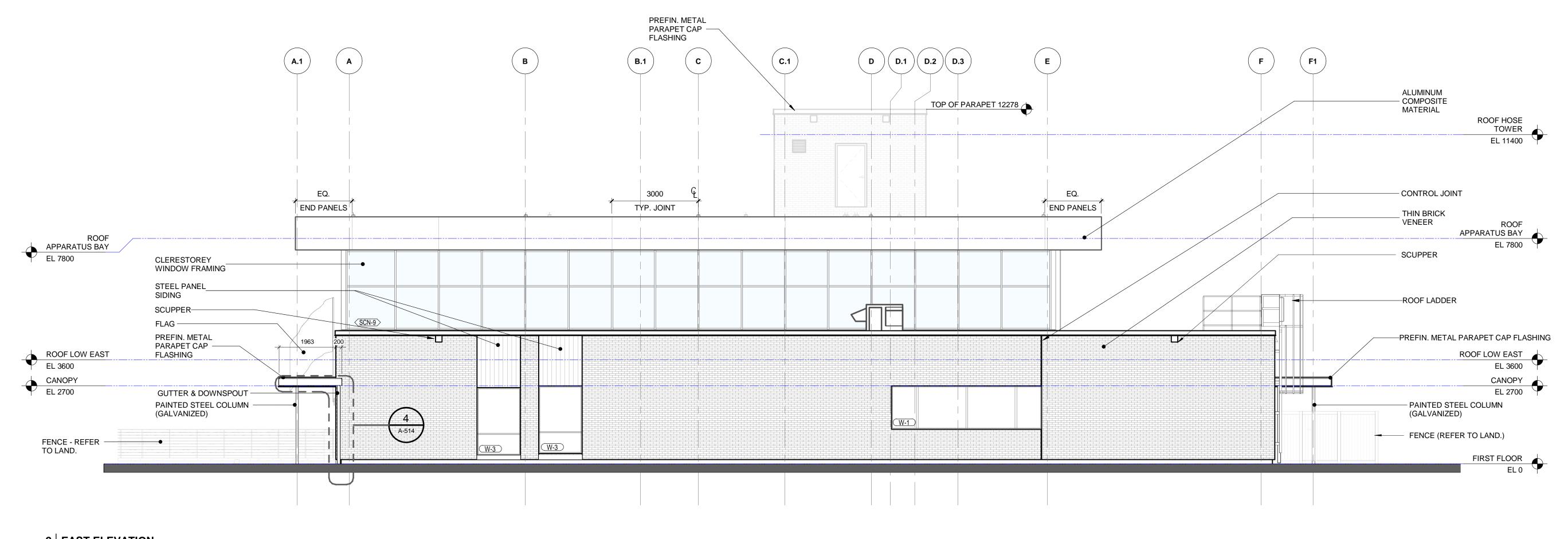
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 2
 EAST ELEVATION

 A-202
 REF: A-101
 Scale: 1 : 75

Project Management Initials: Drawn By: Author

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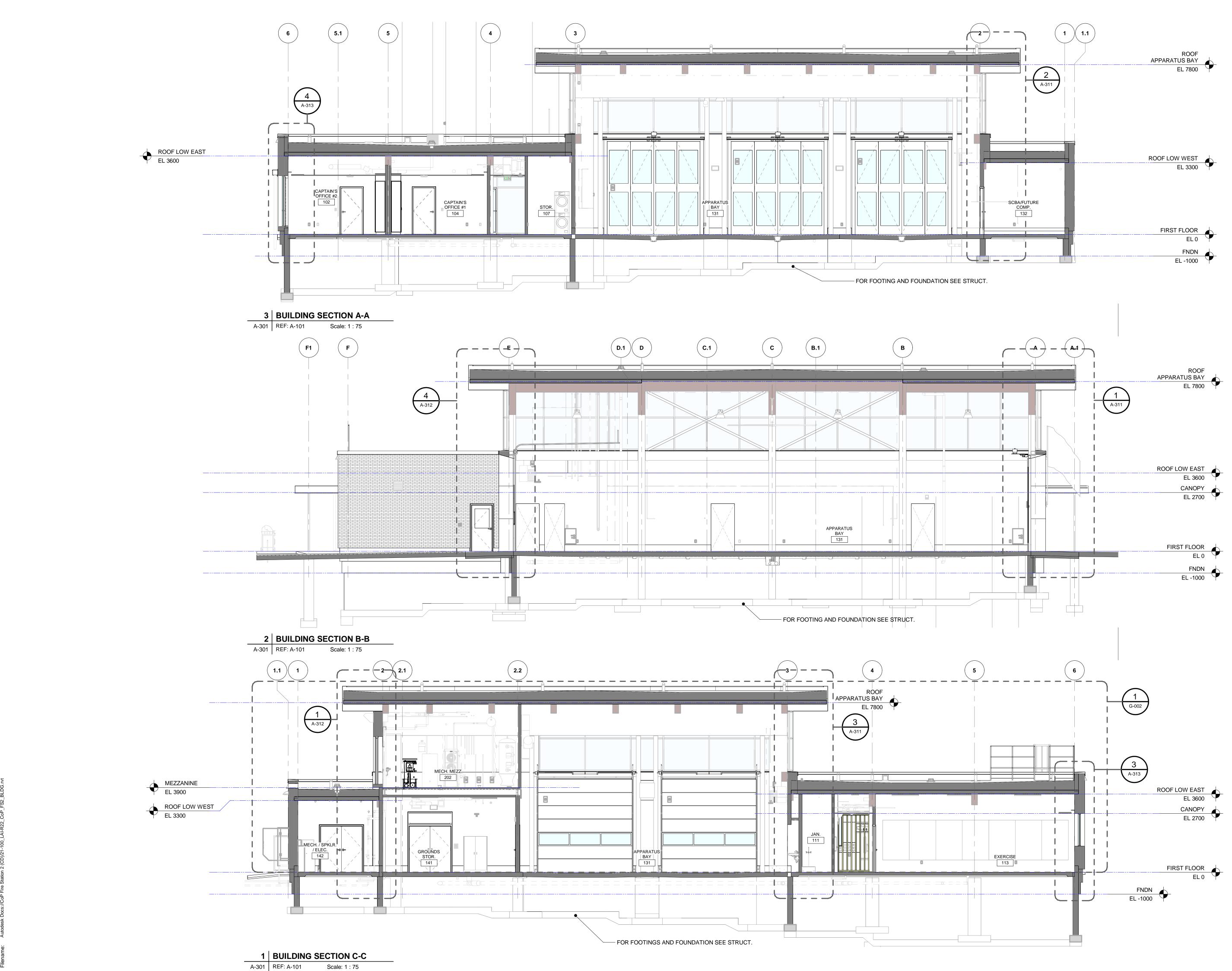
PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough FIRE STATION NO. 2

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

BUILDING ELEVATIONS







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NO ASSOC WILLIAM P. LETT LICENCE

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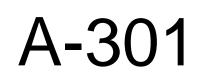
CONSTRUCTION DOCUMENTATION

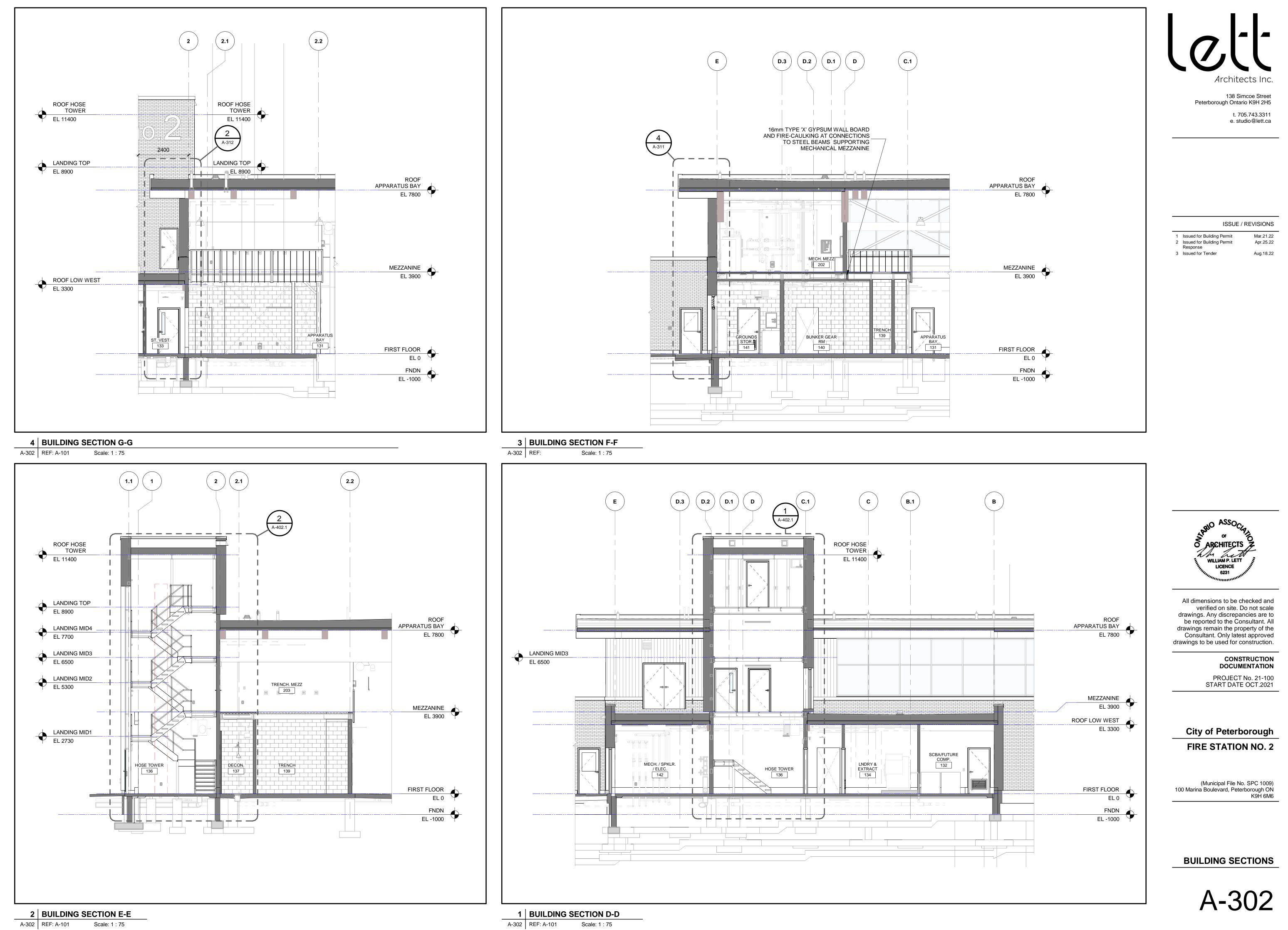
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City of Peterborough **FIRE STATION NO. 2**

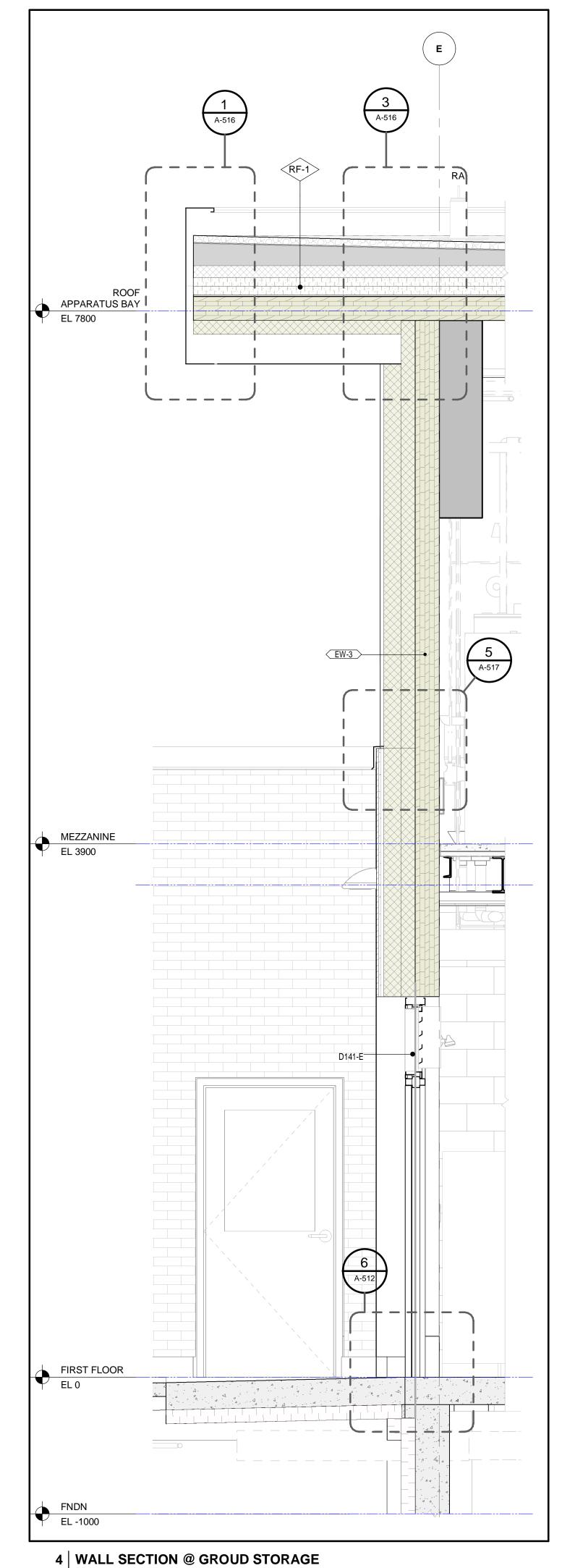
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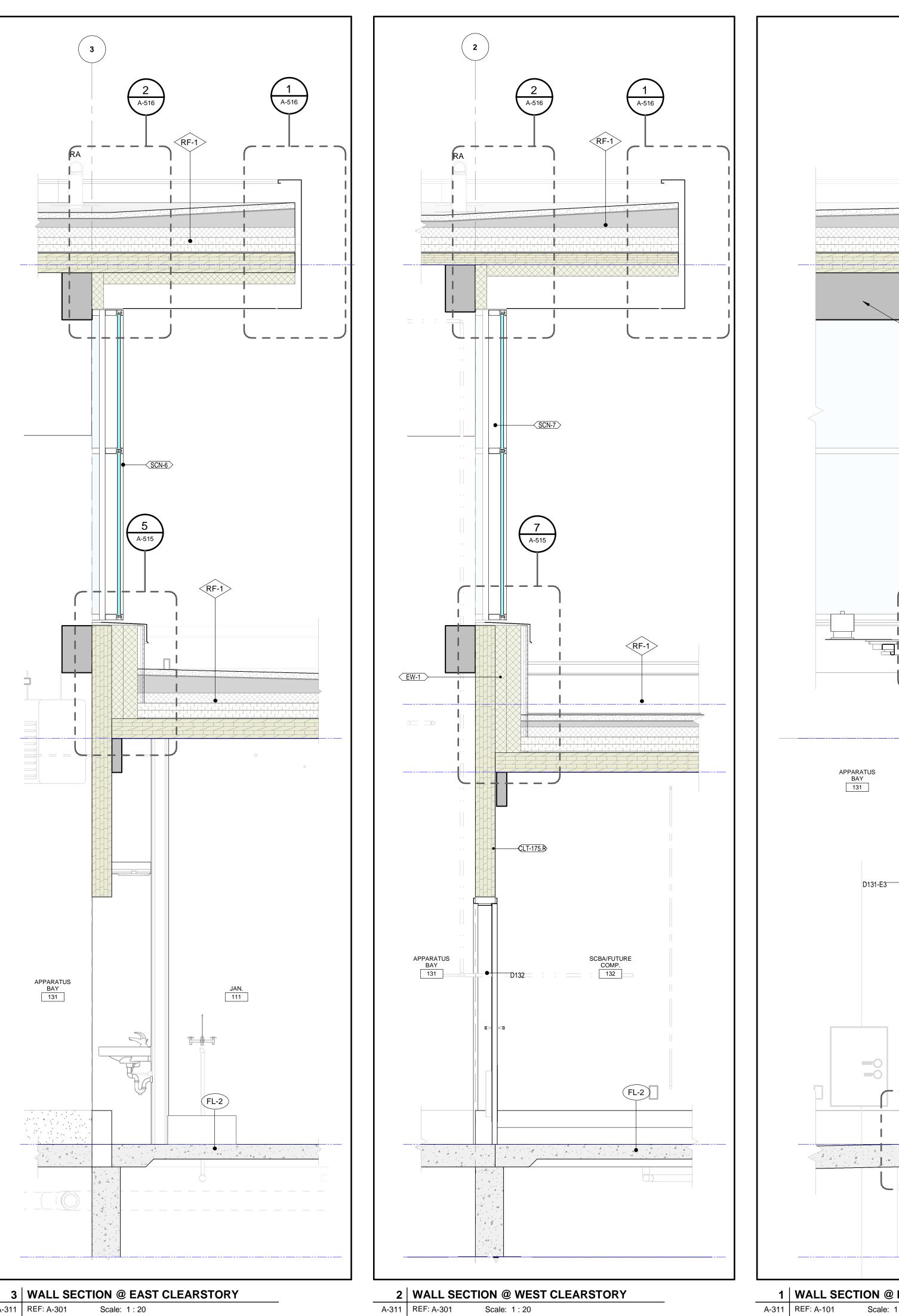
BUILDING SECTIONS





2 BUILDING SECTION E-E A-302 REF: A-101 Scale: 1 : 75

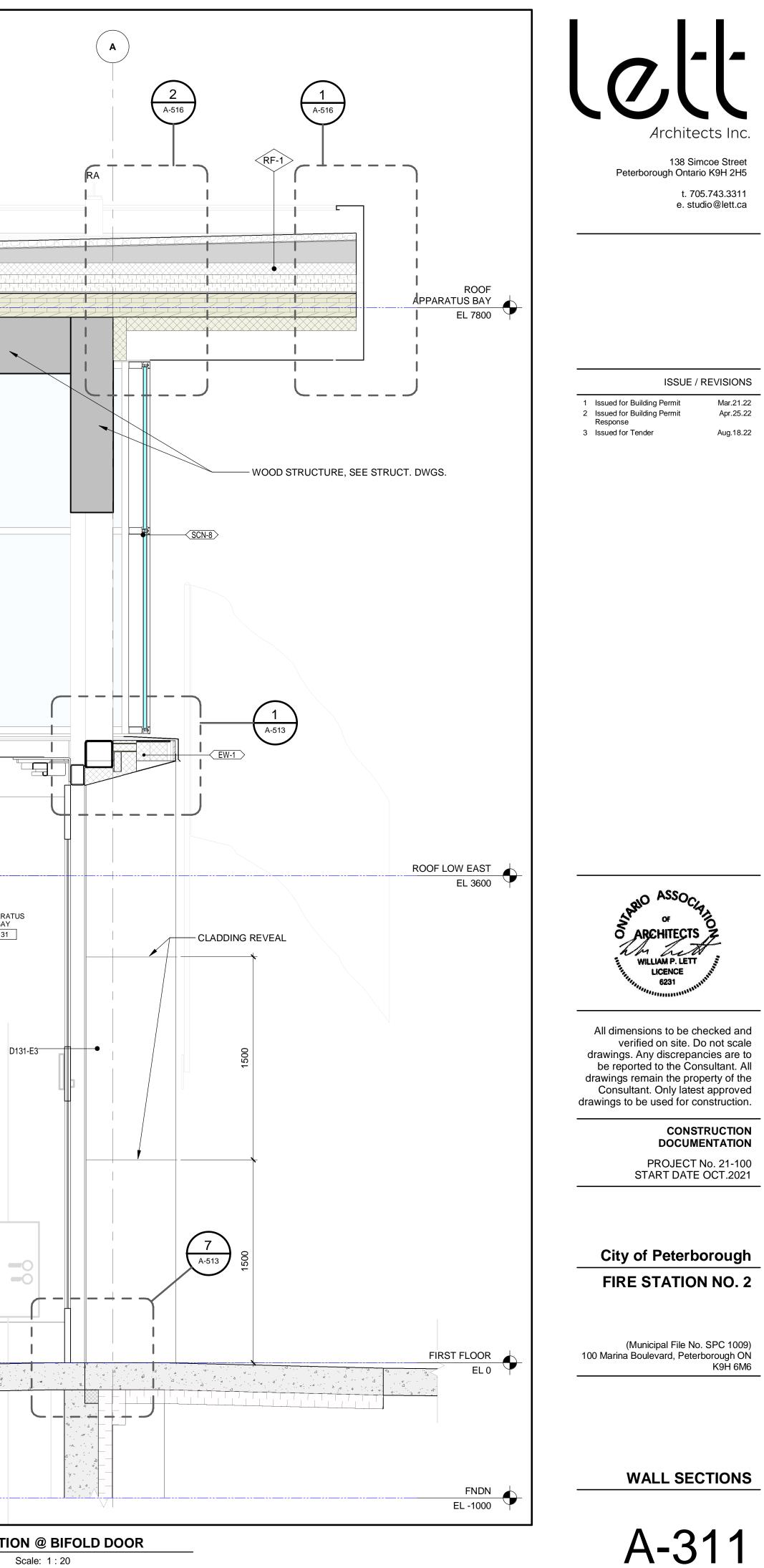


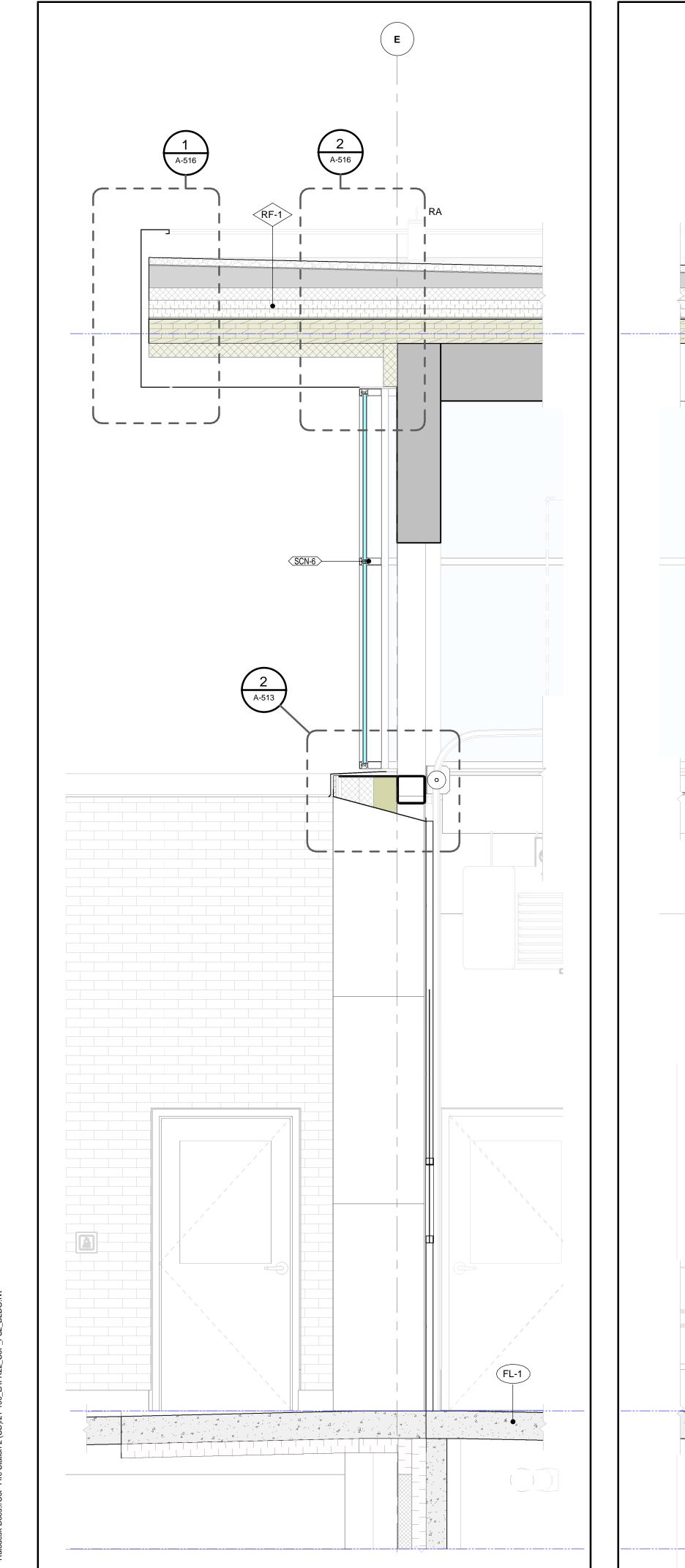


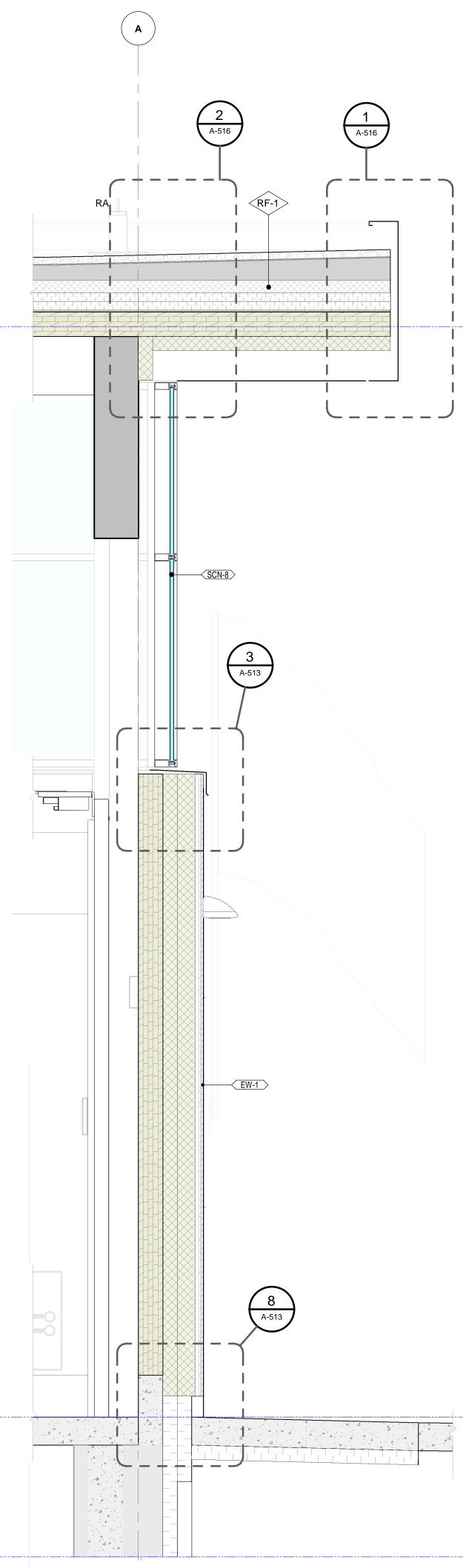
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A-311 REF: A-302 Scale: 1 : 20

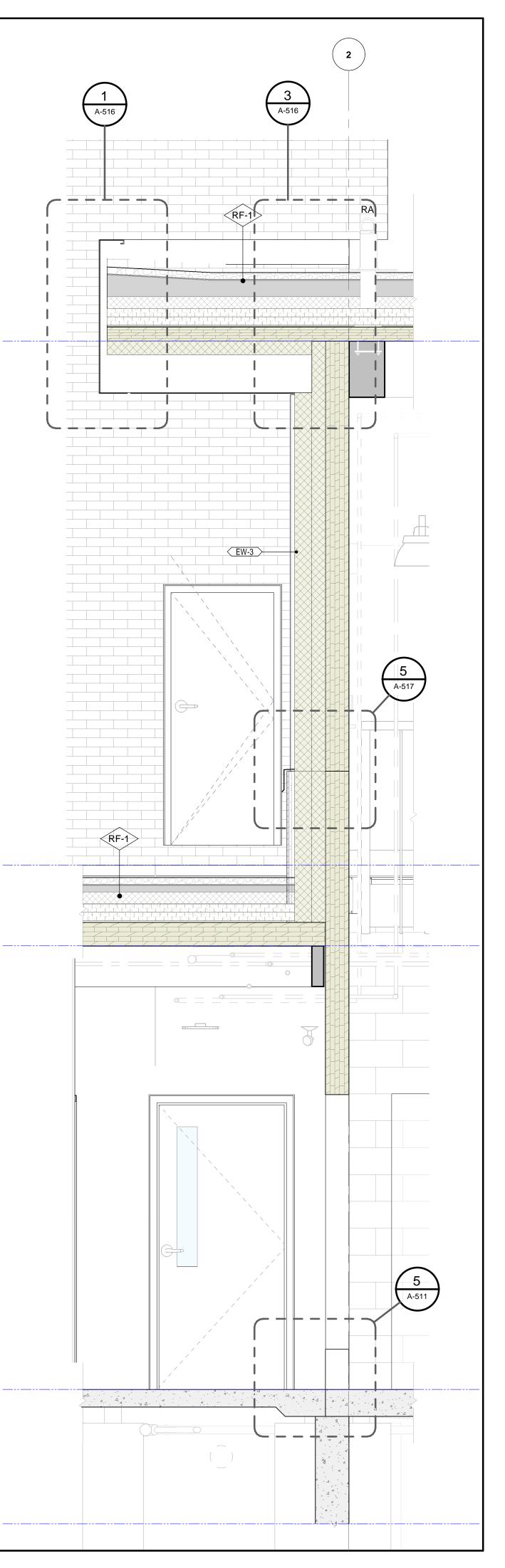
1 WALL SECTION @ BIFOLD DOOR Scale: 1 : 20





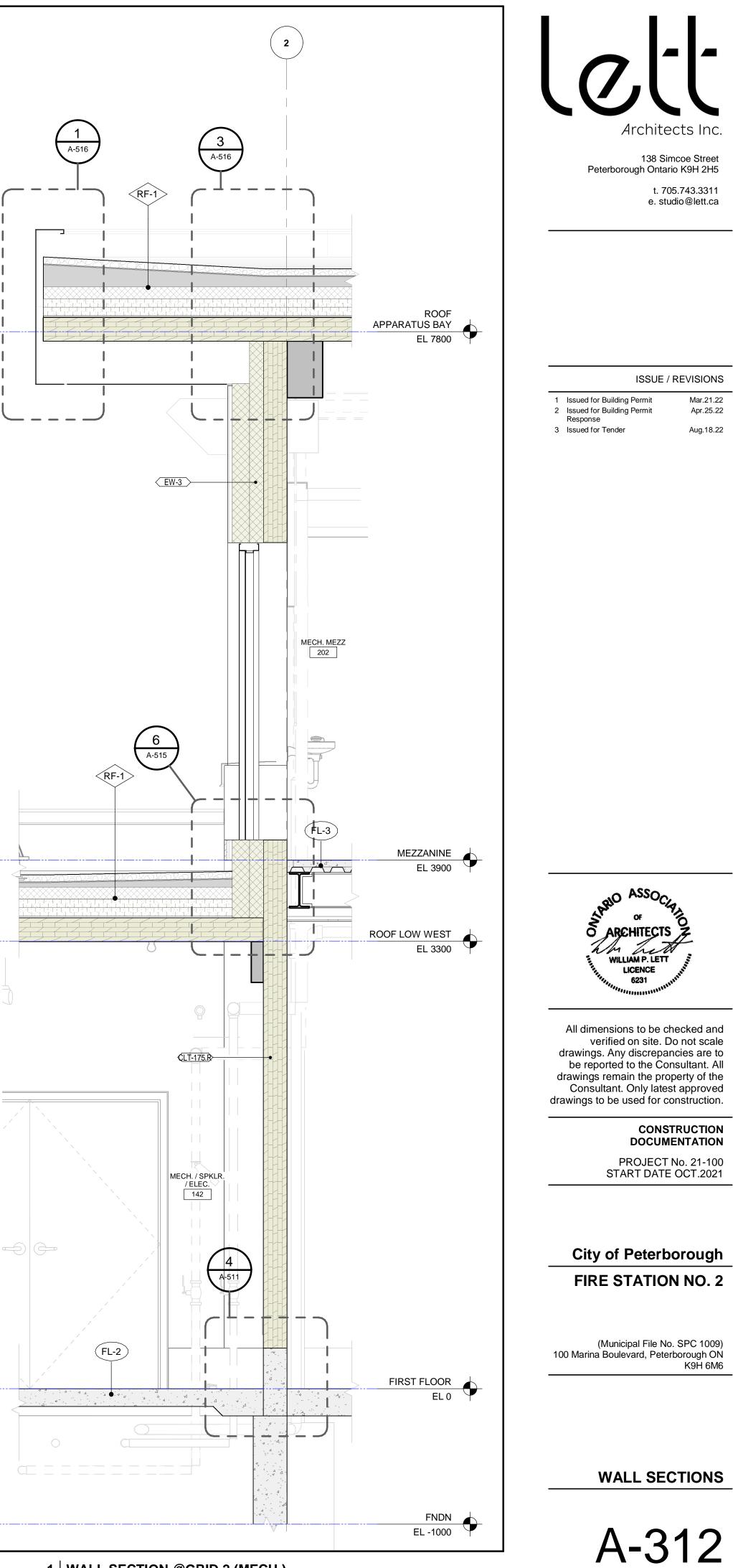


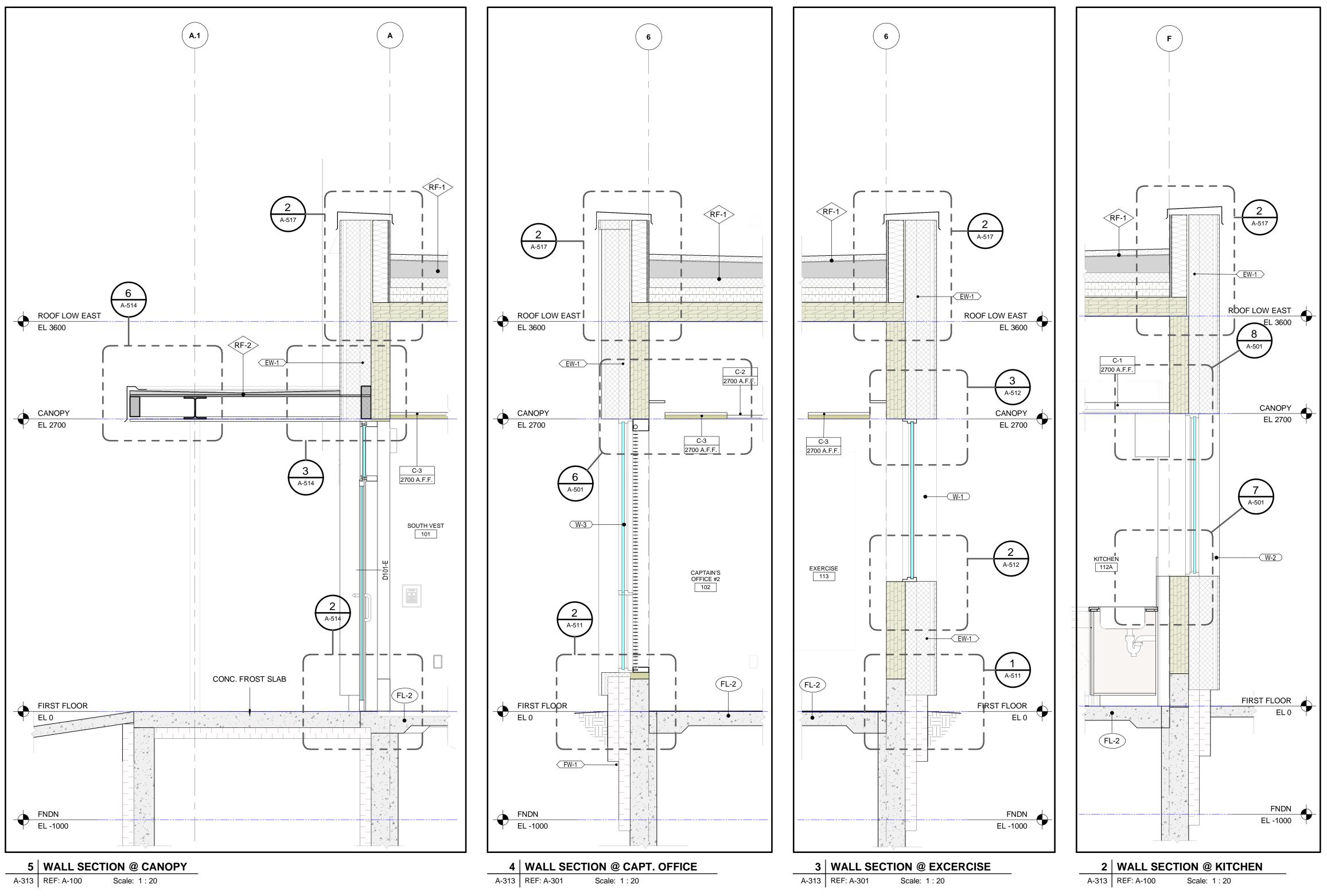
A-312 REF: A-100 Scale: 1 : 20



3 WALL SECTION @ CLEAR STOREY WINDOW

2 WALL SECTION @ HOSE TOWER VEST. A-312 REF: A-302 Scale: 1 : 20





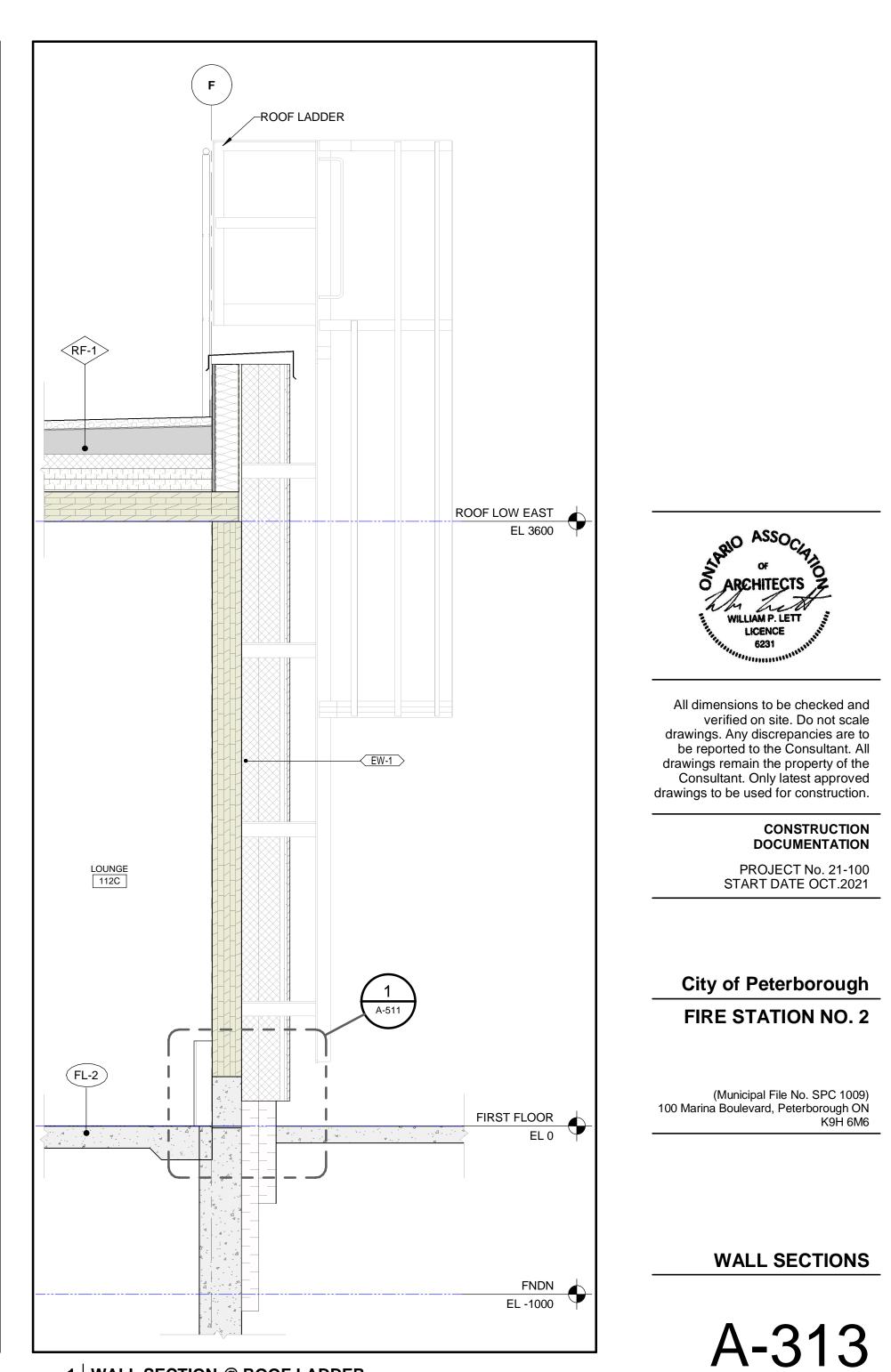
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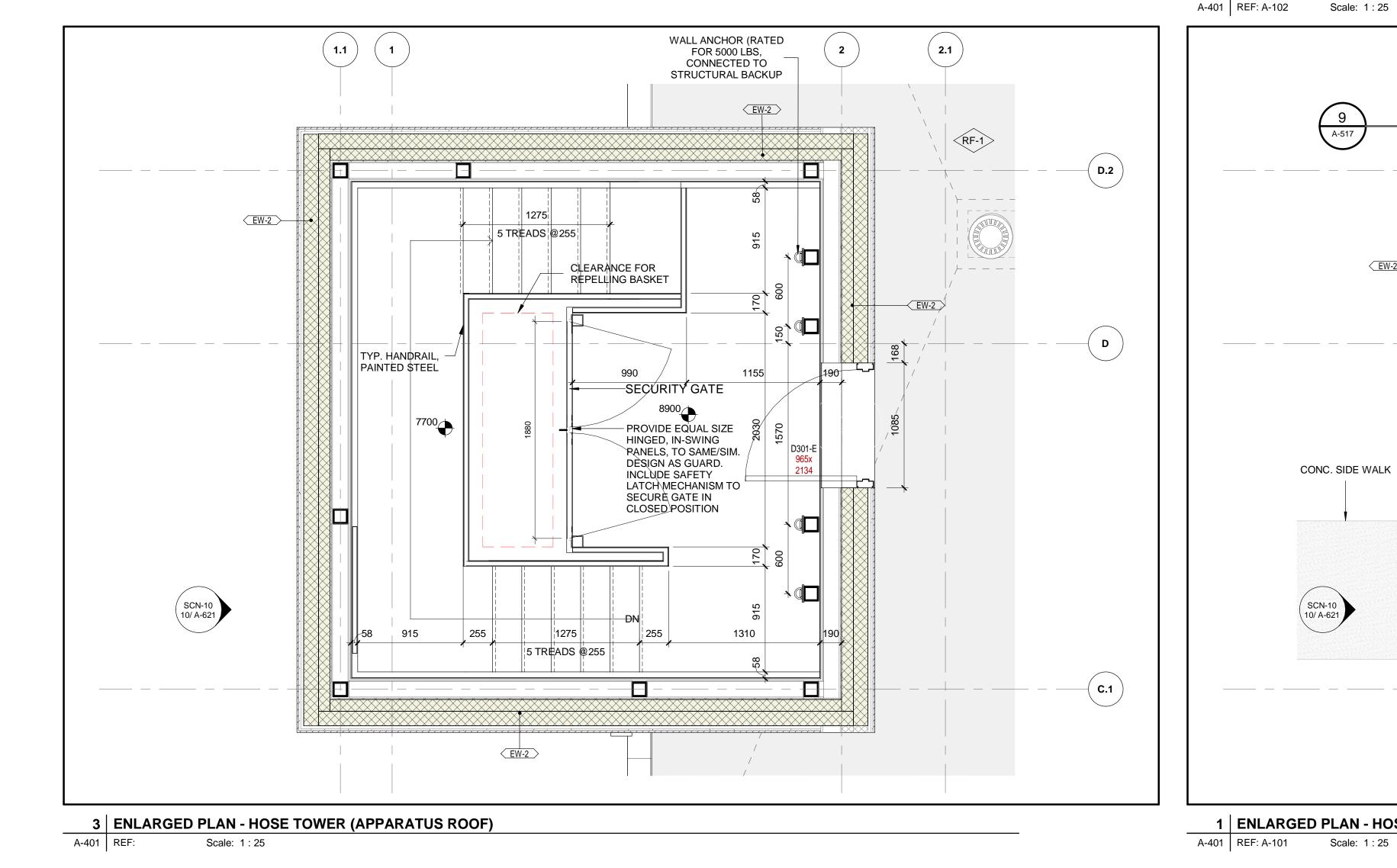


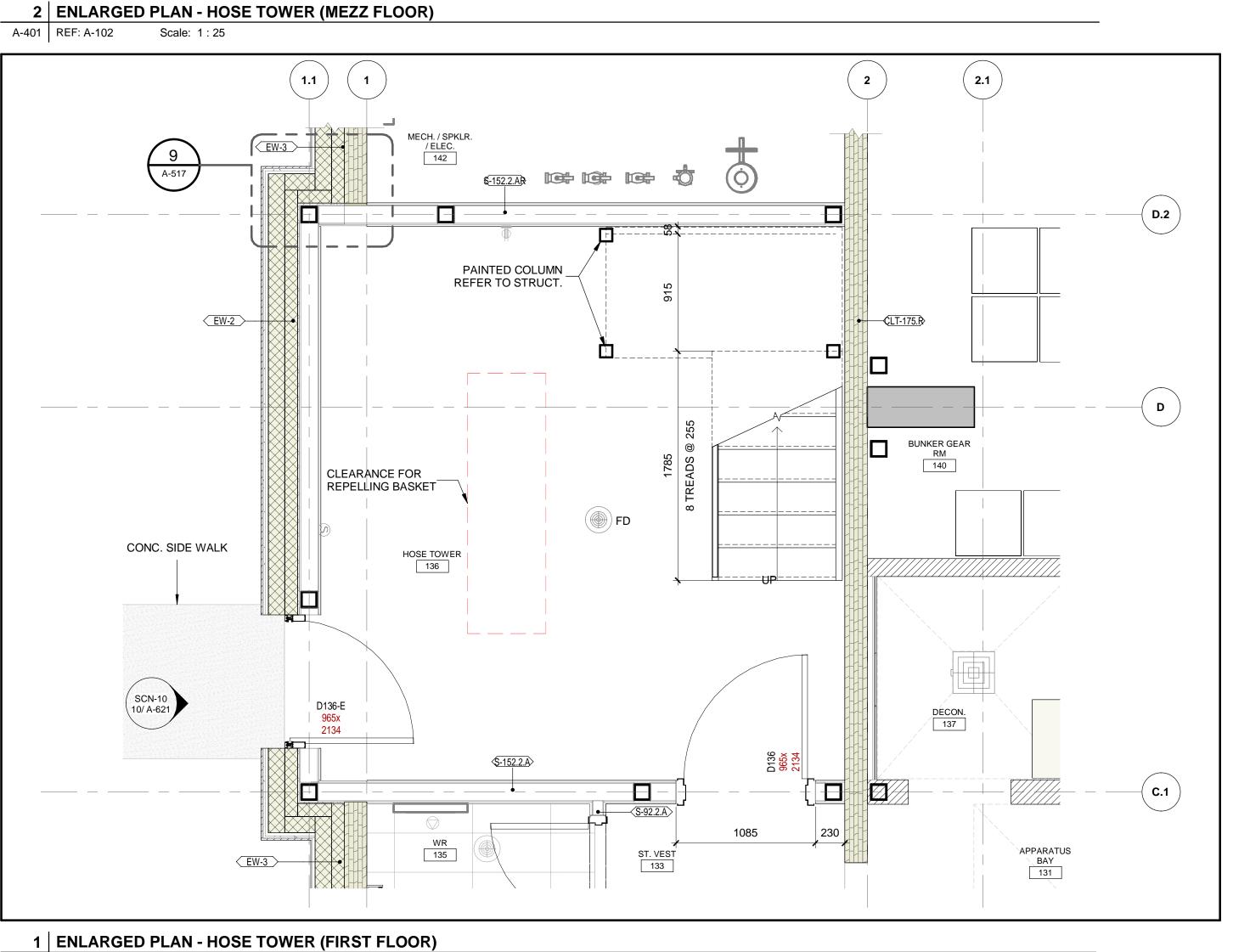
CLT PANEL COORDINATION NOTES:

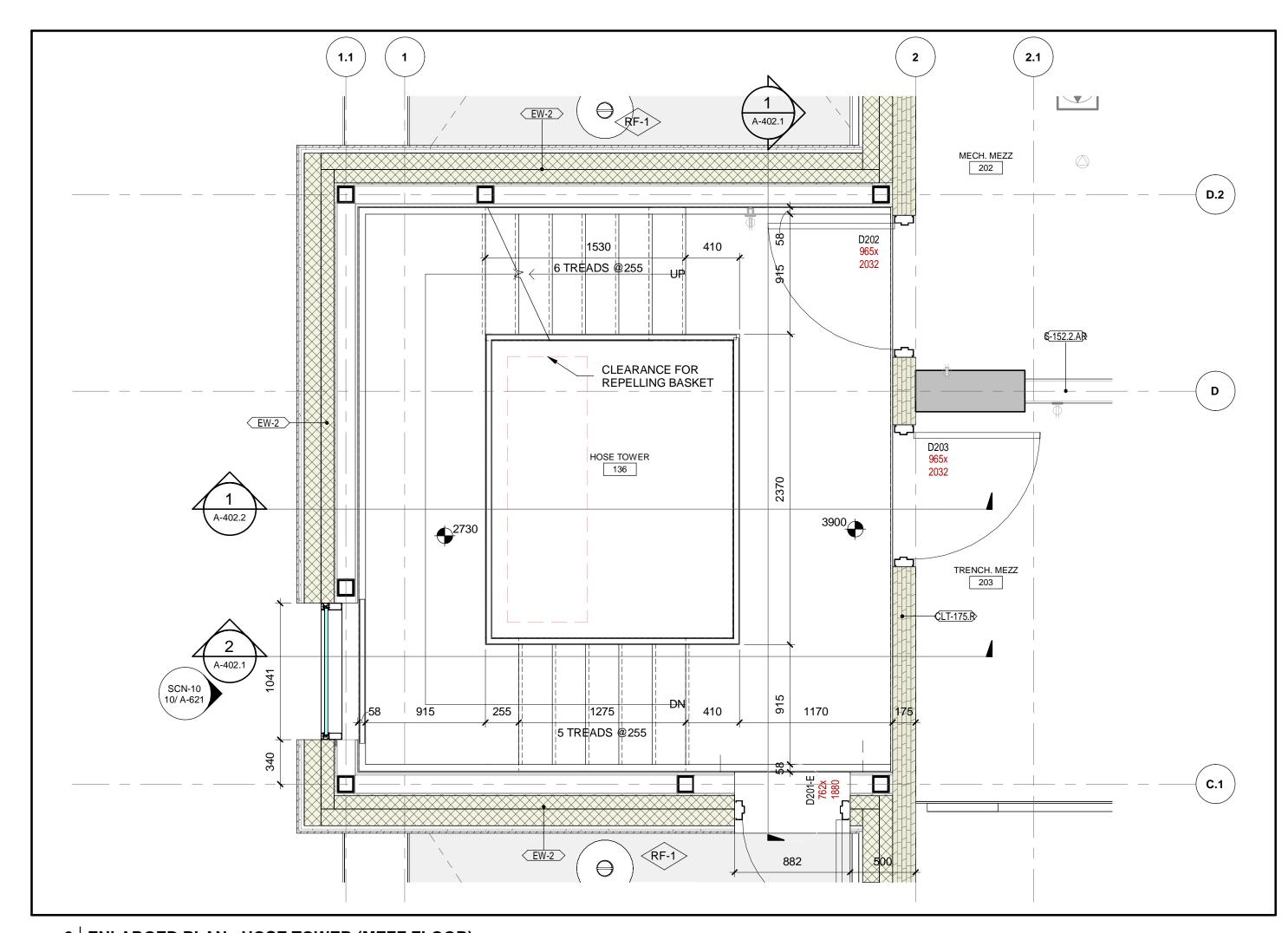
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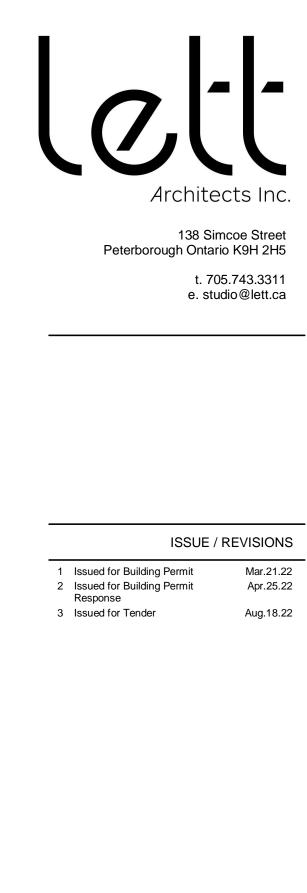
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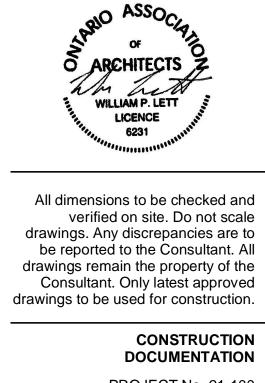
Project Management Initials: Drawn By: Author



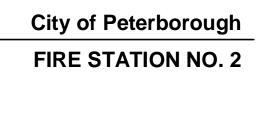








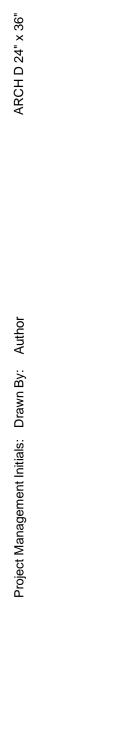
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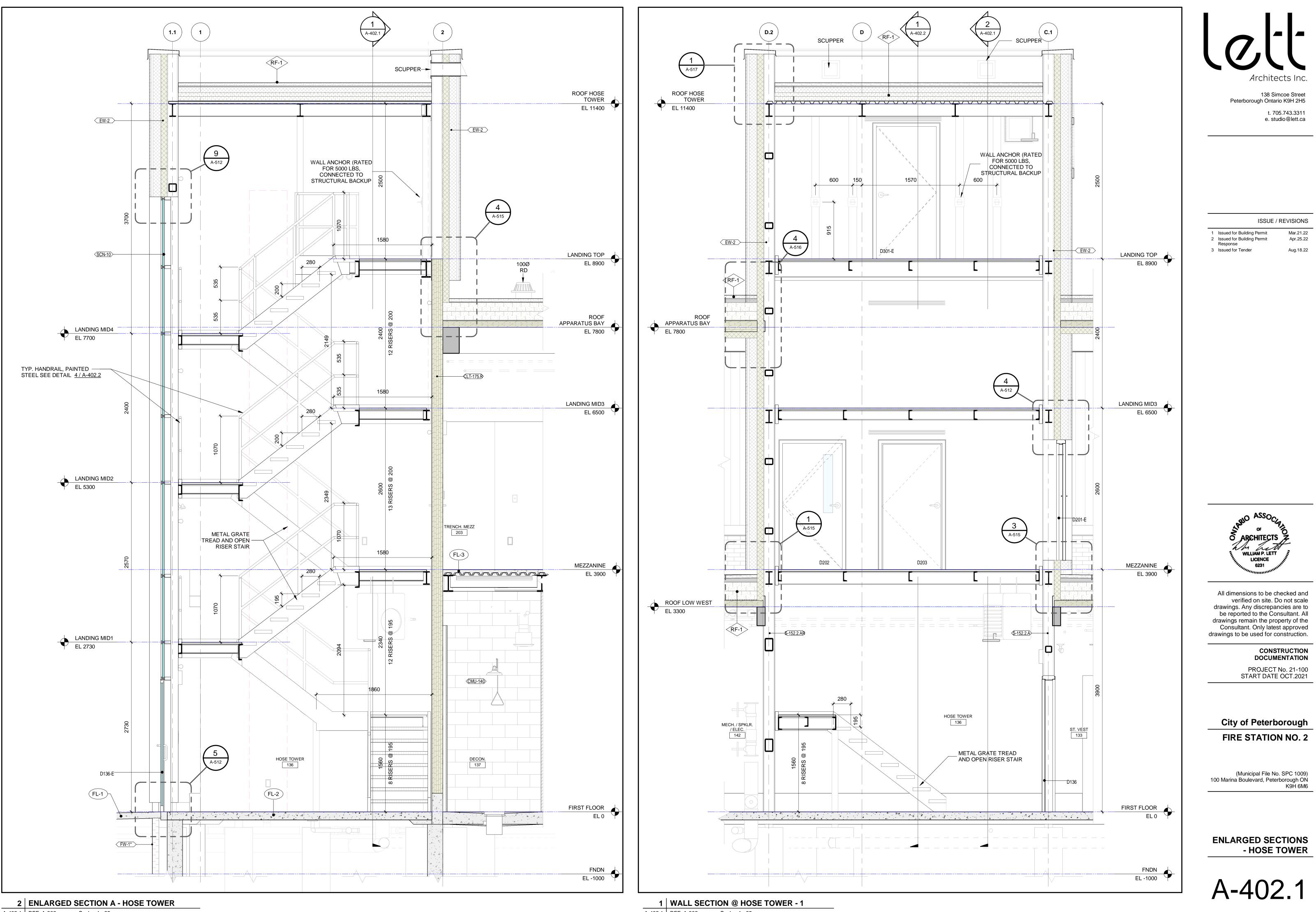


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ENLARGED PLANS -HOSE TOWER

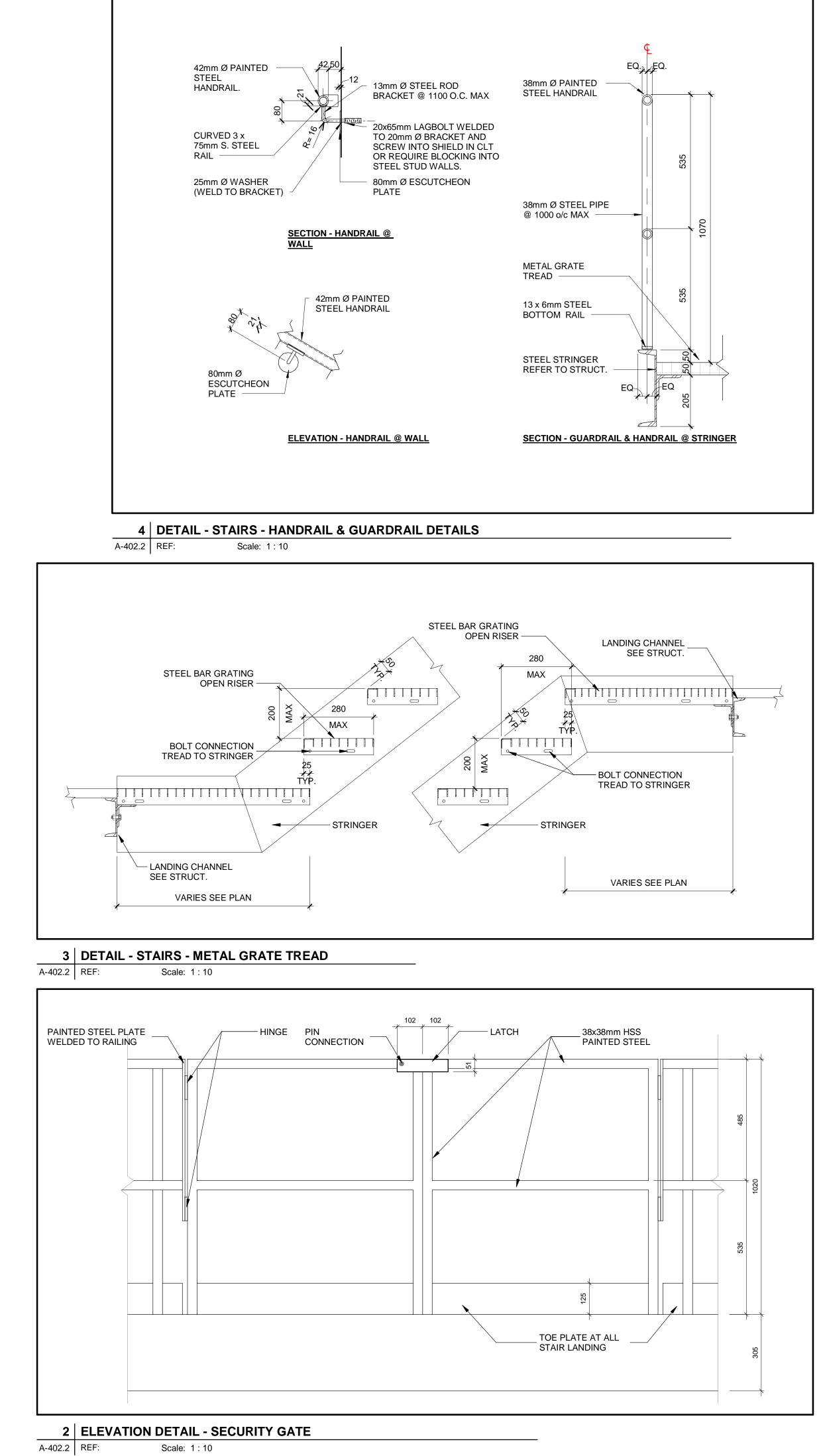


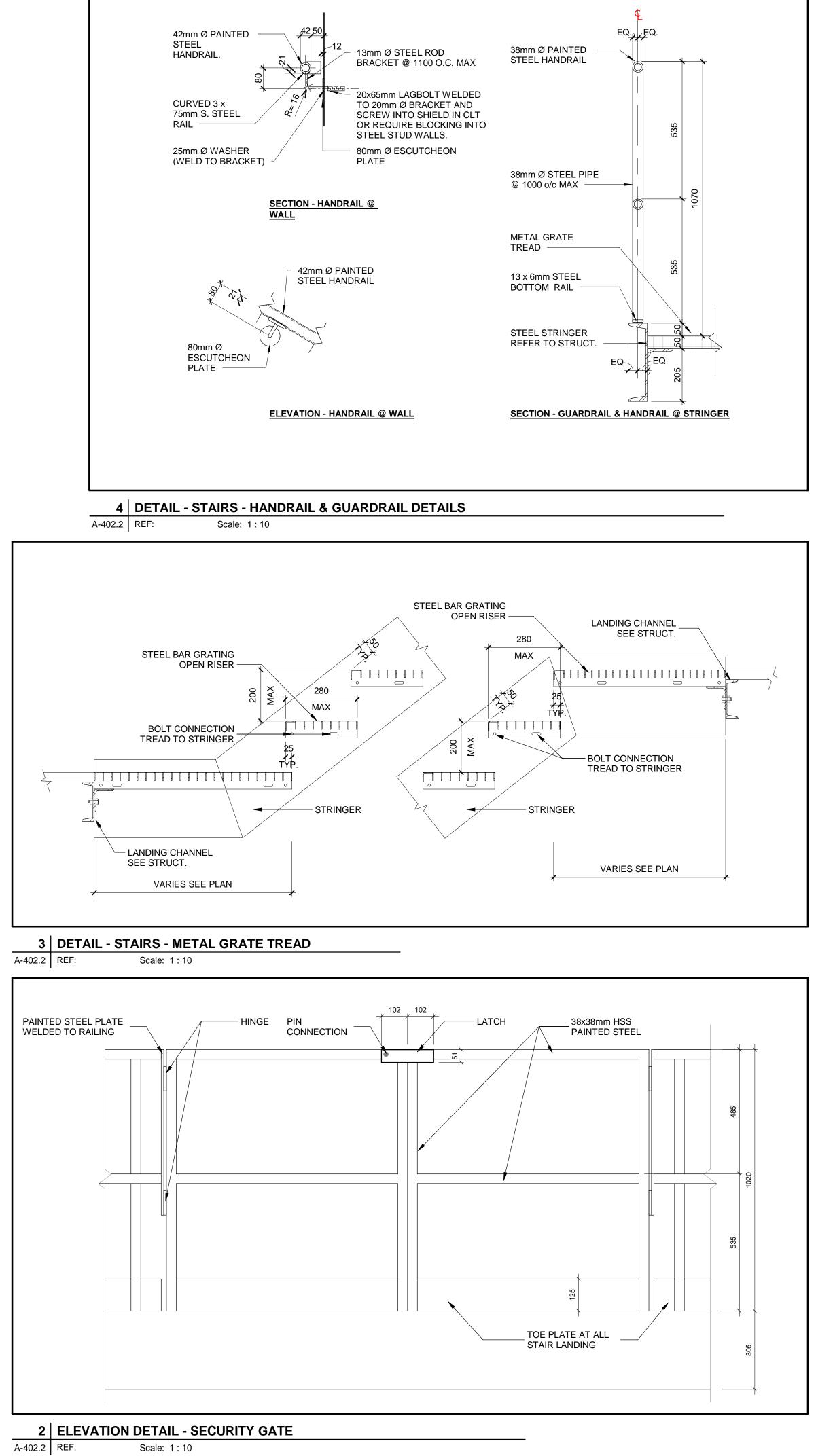


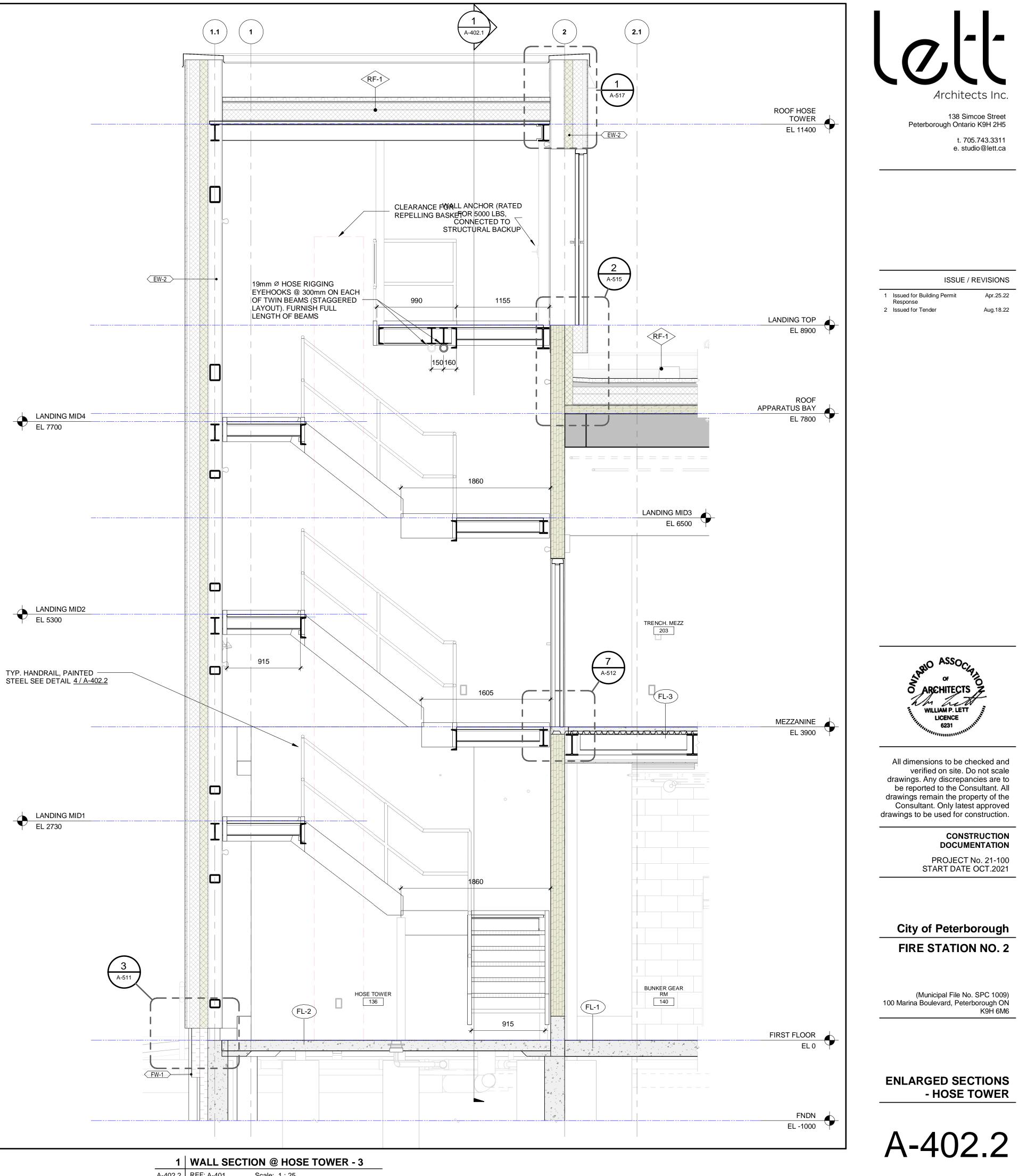


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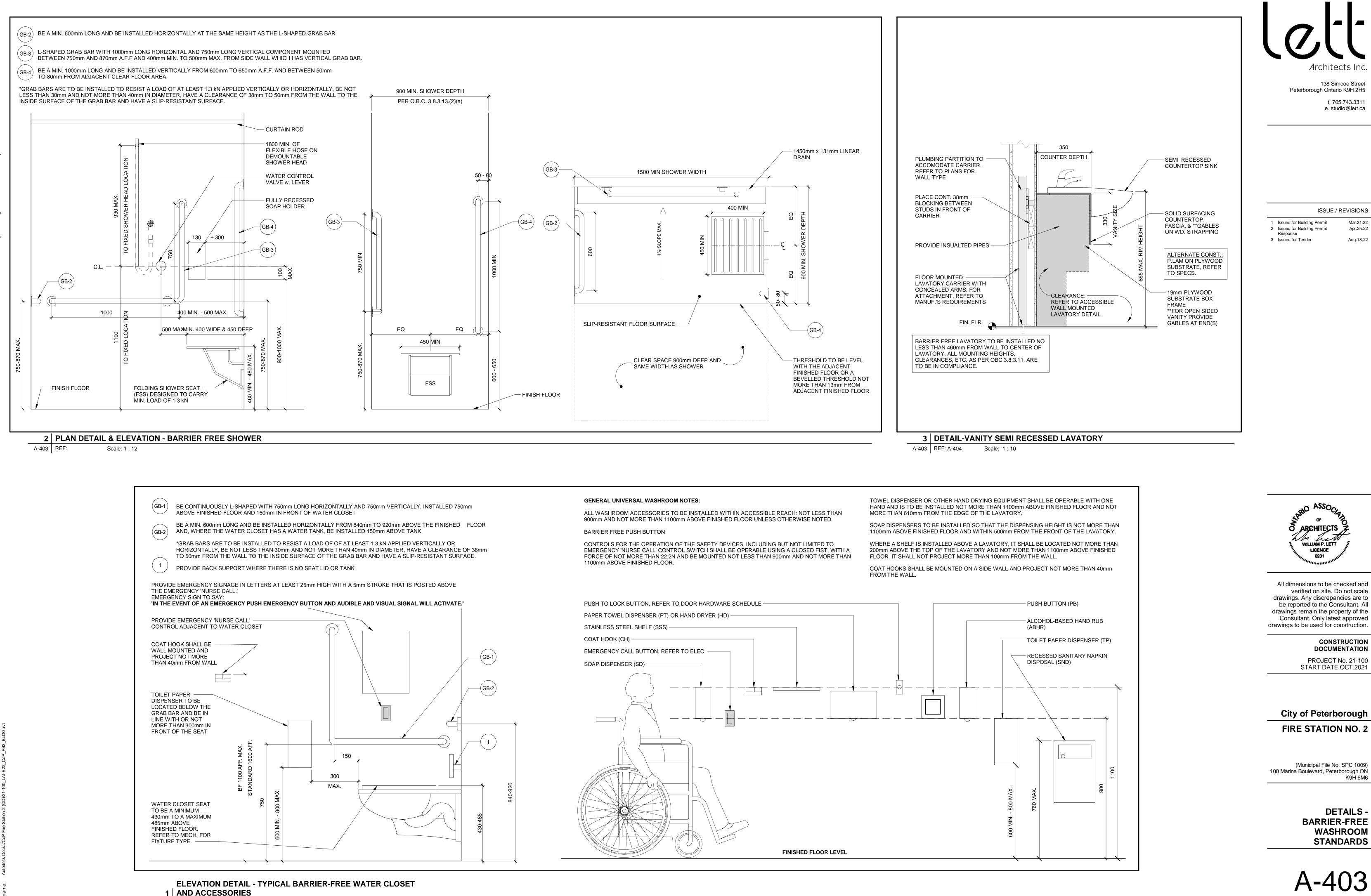
A-402.1 REF: A-302 Scale: 1 : 25







A-402.2 REF: A-401 Scale: 1 : 25



A-403 REF:

Scale: 1:10

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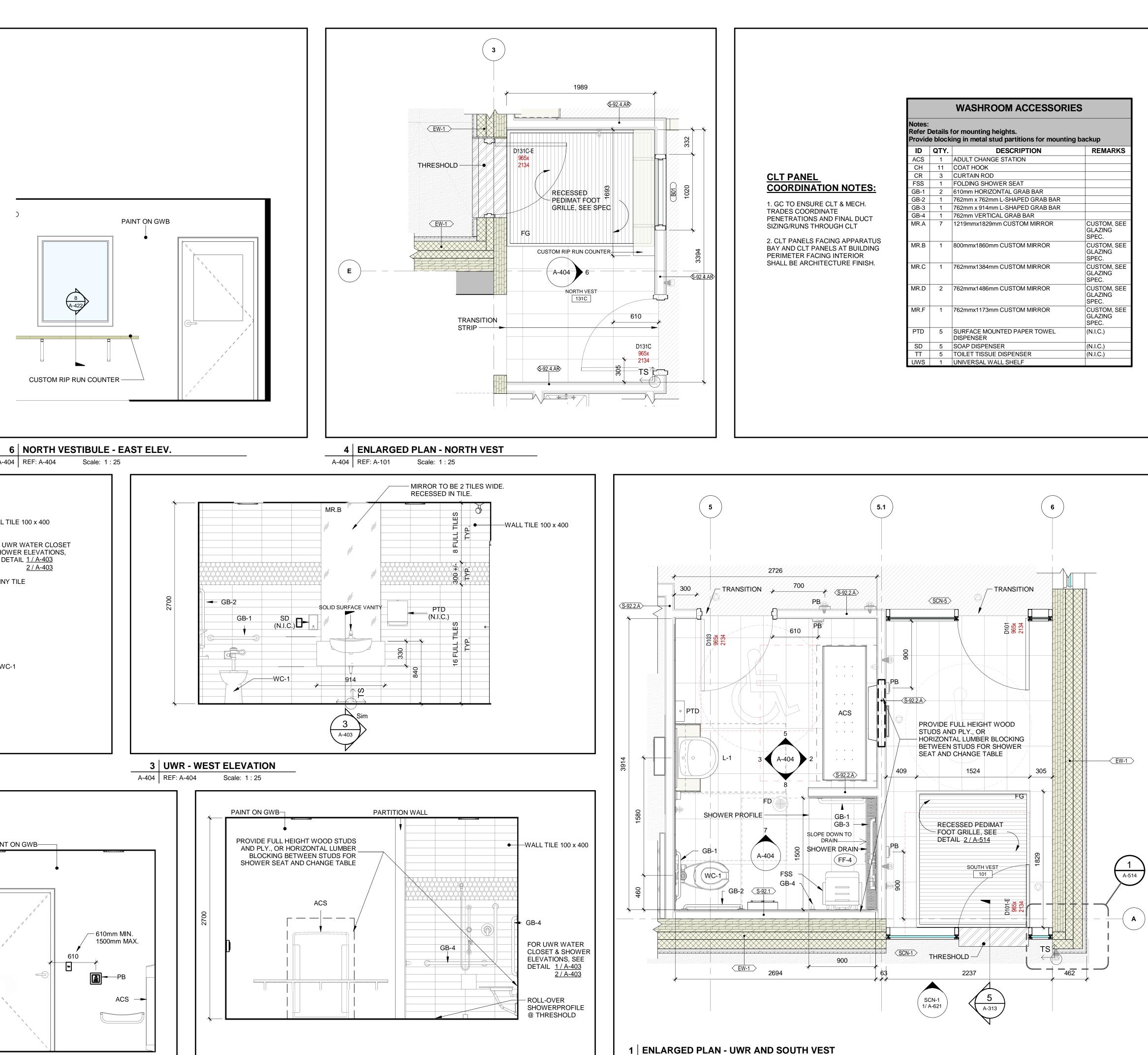
CONSTRUCTION DOCUMENTATION

PROJECT No. 21-100

City of Peterborough **FIRE STATION NO. 2**

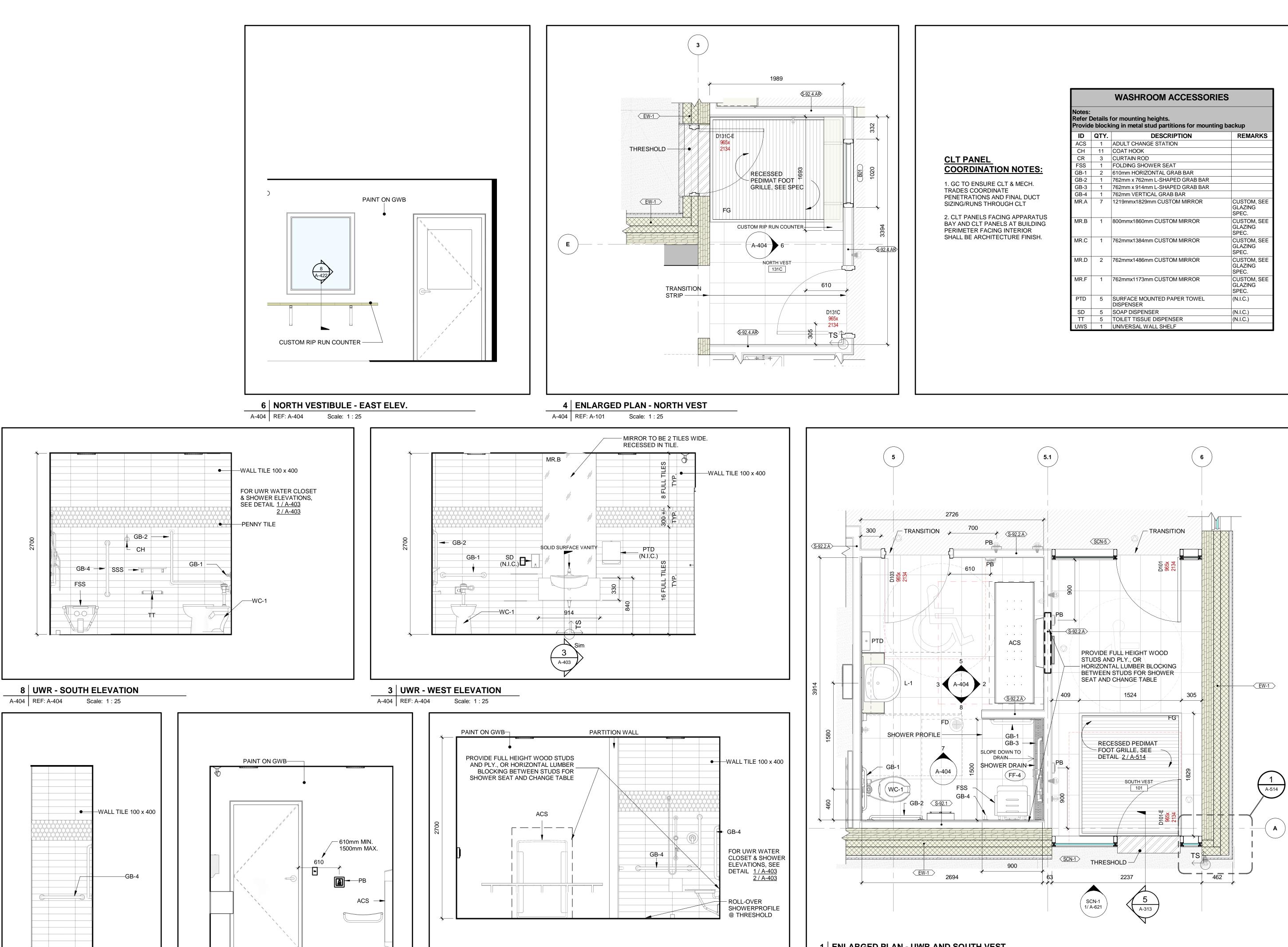
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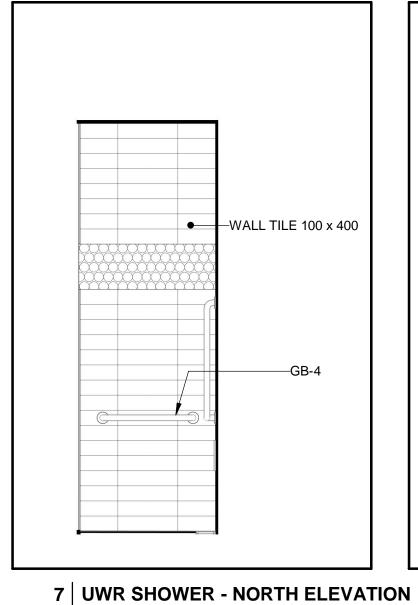
> **DETAILS** -**BARRIER-FREE** WASHROOM **STANDARDS**



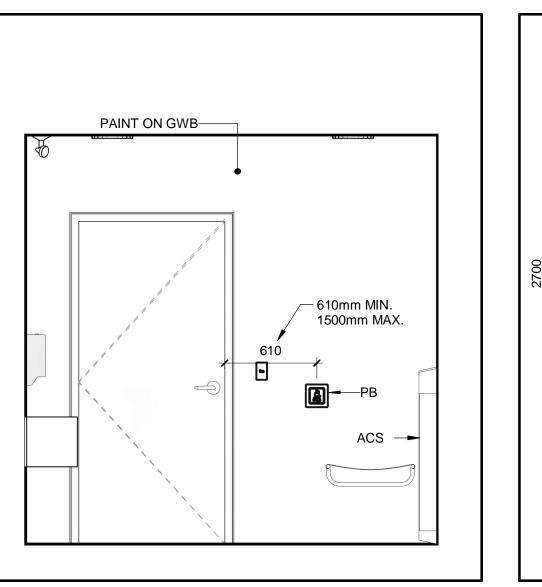
A-404 REF: A-101

Scale: 1 : 25





A-404 REF: A-404 Scale: 1 : 25



5 UWR - NORTH ELEVATION A-404 REF: A-404 Scale: 1 : 25

2 UWR - EAST ELEVATION A-404 REF: A-404 Scale: 1 : 25

Notes: Refer Details for mounting heights. Provide blocking in metal stud partitions for mounting backup						
ID QTY. DESCRI		DESCRIPTION	REMARKS			
ACS	1	ADULT CHANGE STATION				
СН	11	COAT HOOK				
CR	3	CURTAIN ROD				
FSS	1	FOLDING SHOWER SEAT				
GB-1	2	610mm HORIZONTAL GRAB BAR				
GB-2	1	762mm x 762mm L-SHAPED GRAB BAR				
GB-3	1	762mm x 914mm L-SHAPED GRAB BAR				
GB-4	1	762mm VERTICAL GRAB BAR				
MR.A	7	1219mmx1829mm CUSTOM MIRROR	CUSTOM, SEE GLAZING SPEC.			
MR.B	1	800mmx1860mm CUSTOM MIRROR	CUSTOM, SEE GLAZING SPEC.			
MR.C	1	762mmx1384mm CUSTOM MIRROR	CUSTOM, SEE GLAZING SPEC.			
MR.D	2	762mmx1486mm CUSTOM MIRROR	CUSTOM, SEE GLAZING SPEC.			
MR.F	1	762mmx1173mm CUSTOM MIRROR	CUSTOM, SEE GLAZING SPEC.			
PTD	5	SURFACE MOUNTED PAPER TOWEL DISPENSER	(N.I.C.)			
SD	5	SOAP DISPENSER	(N.I.C.)			
TT	5	TOILET TISSUE DISPENSER	(N.I.C.)			
UWS	1	UNIVERSAL WALL SHELF				



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NO ASSOC ARCHITECT 4/m WILLIAM P. LETT LICENCE

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CONSTRUCTION DOCUMENTATION

PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough **FIRE STATION NO. 2**

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6









	WASHROOM ACCESSORIES Notes: Refer Details for mounting heights. Provide blocking in metal stud partitions for mounting backup								
ID	QTY.	DESCRIPTION	REMARKS						
MR.C	1	762mmx1384mm CUSTOM MIRROR	CUSTOM, SEE GLAZING SPEC.						
MR.D	2	762mmx1486mm CUSTOM MIRROR	CUSTOM, SEE GLAZING SPEC.						
MR.F	1	762mmx1173mm CUSTOM MIRROR	CUSTOM, SEE GLAZING SPEC.						
PTD	5	SURFACE MOUNTED PAPER TOWEL DISPENSER	(N.I.C.)						
SD	5	SOAP DISPENSER	(N.I.C.)						
TT	5	TOILET TISSUE DISPENSER	(N.I.C.)						
UWS	1	UNIVERSAL WALL SHELF							

Architects Inc

138 Simcoe Street Peterborough Ontario K9H 2H5

> t. 705.743.3311 e. studio@lett.ca

ISSUE / REVISIONS

- 1 Issued for Building Permit Apr.25.22 Response
- Aug.18.22 2 Issued for Tender

NO ASSOC

ARCHITECTS

hom

WILLIAM P. LETT LICENCE 6231

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CONSTRUCTION DOCUMENTATION

PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough

FIRE STATION NO. 2

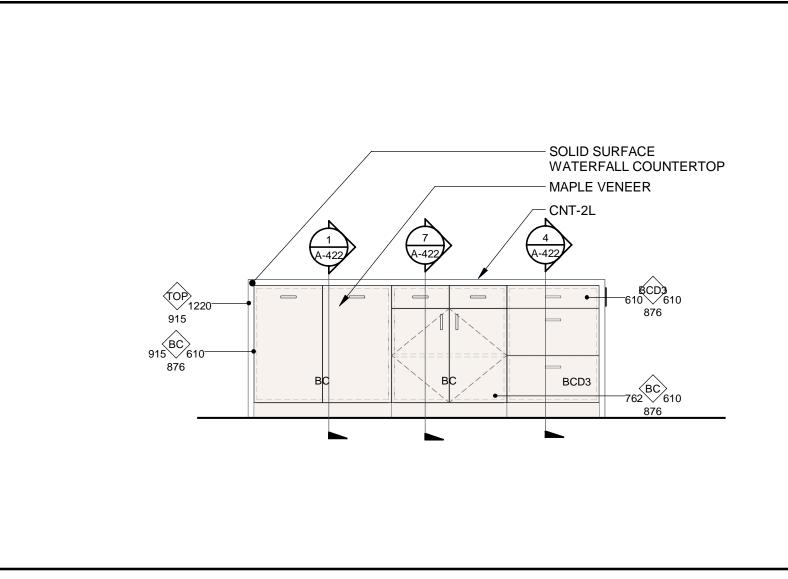
(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

ENLARGED PLANS &

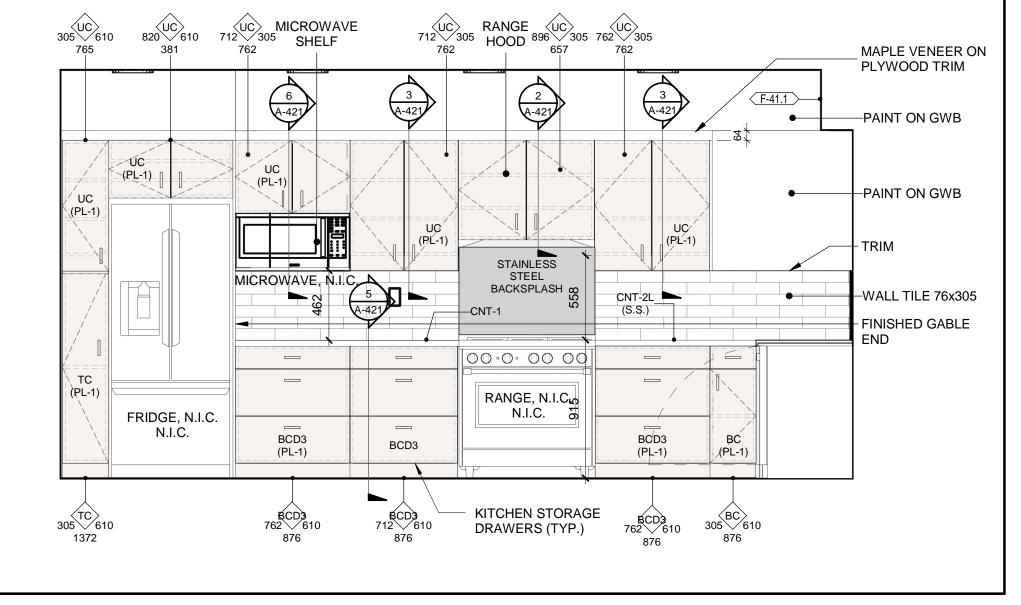
WASHROOM, SAUNA &

RIP RUN A-405

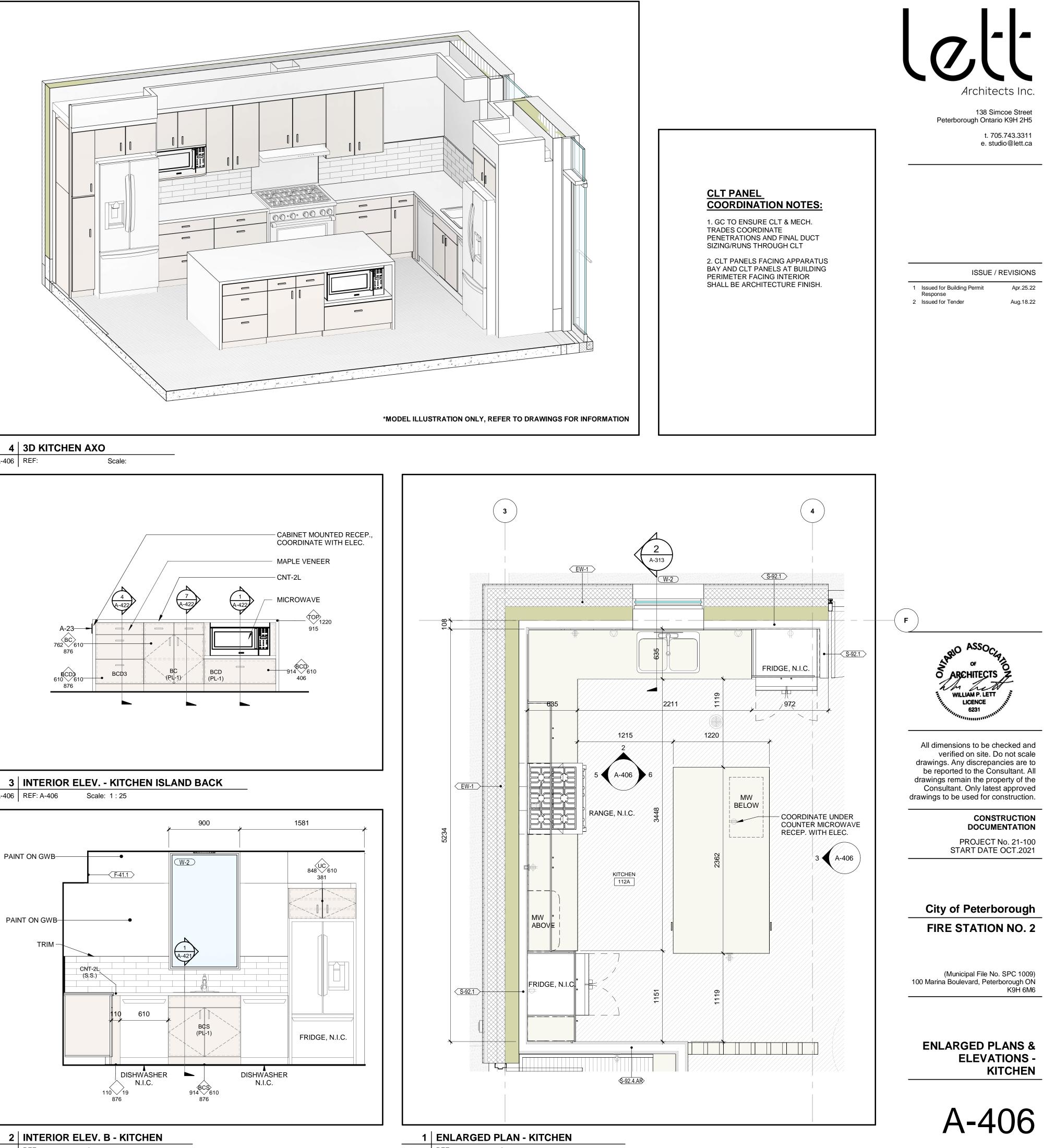
ELEVATIONS -

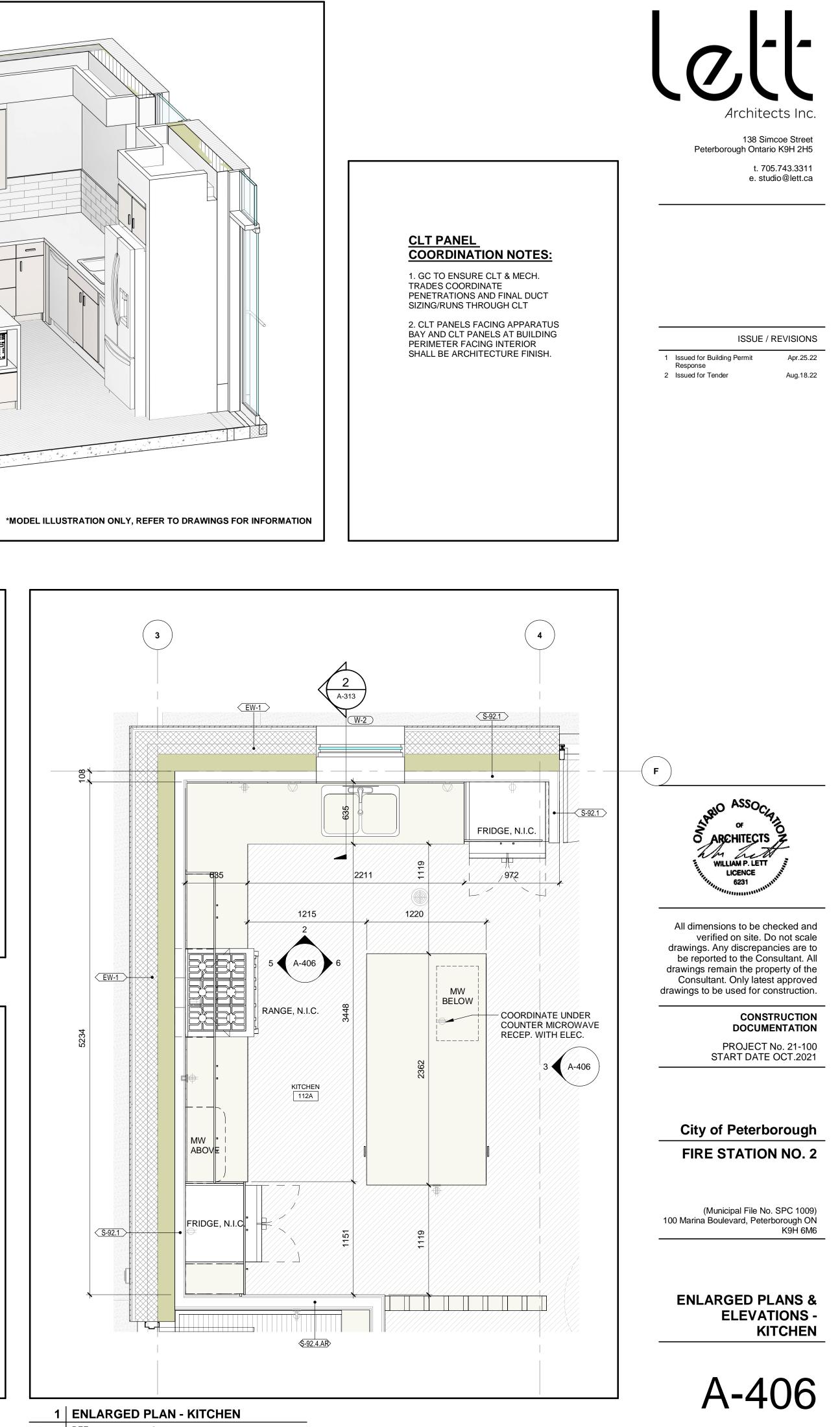




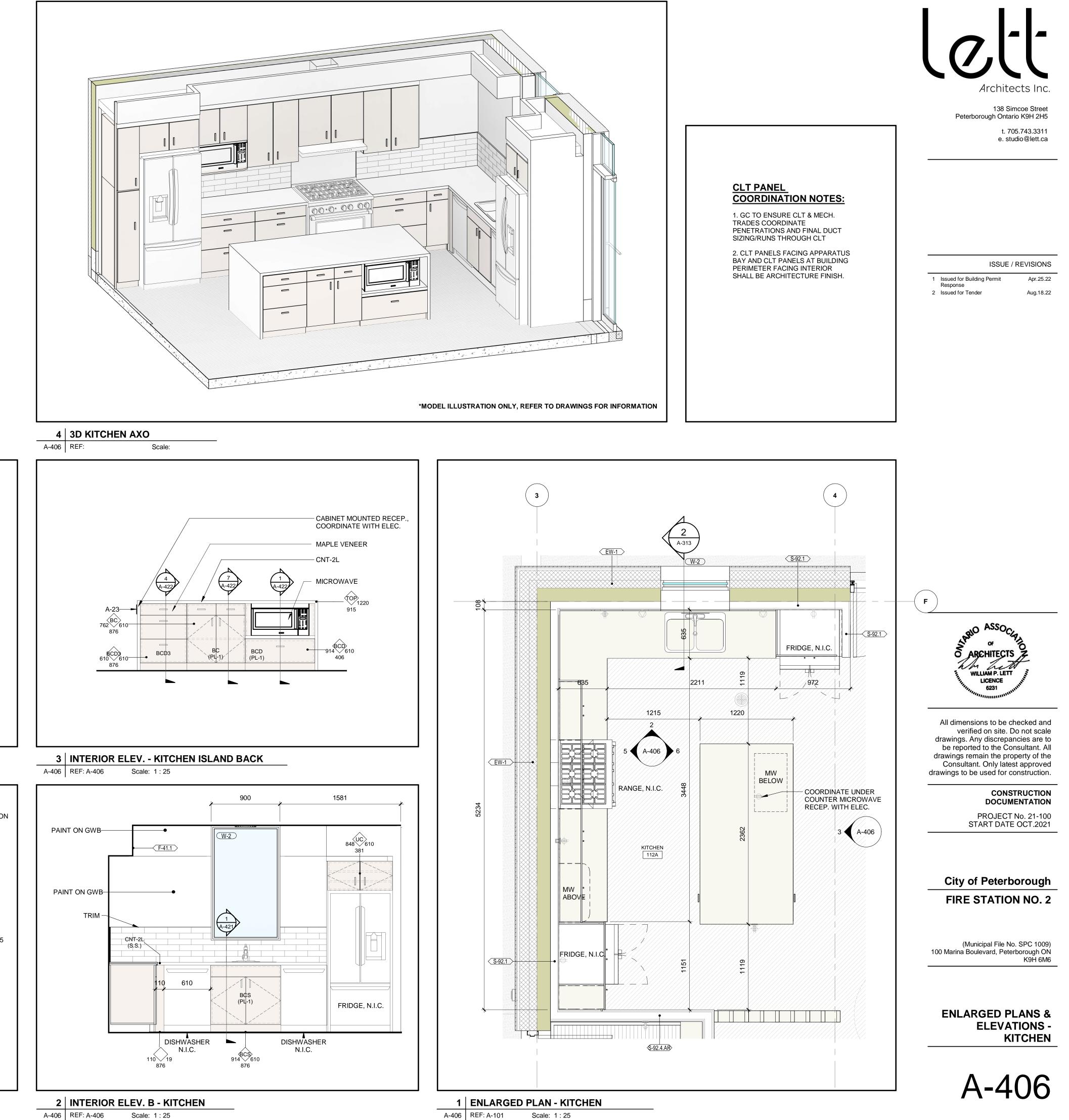


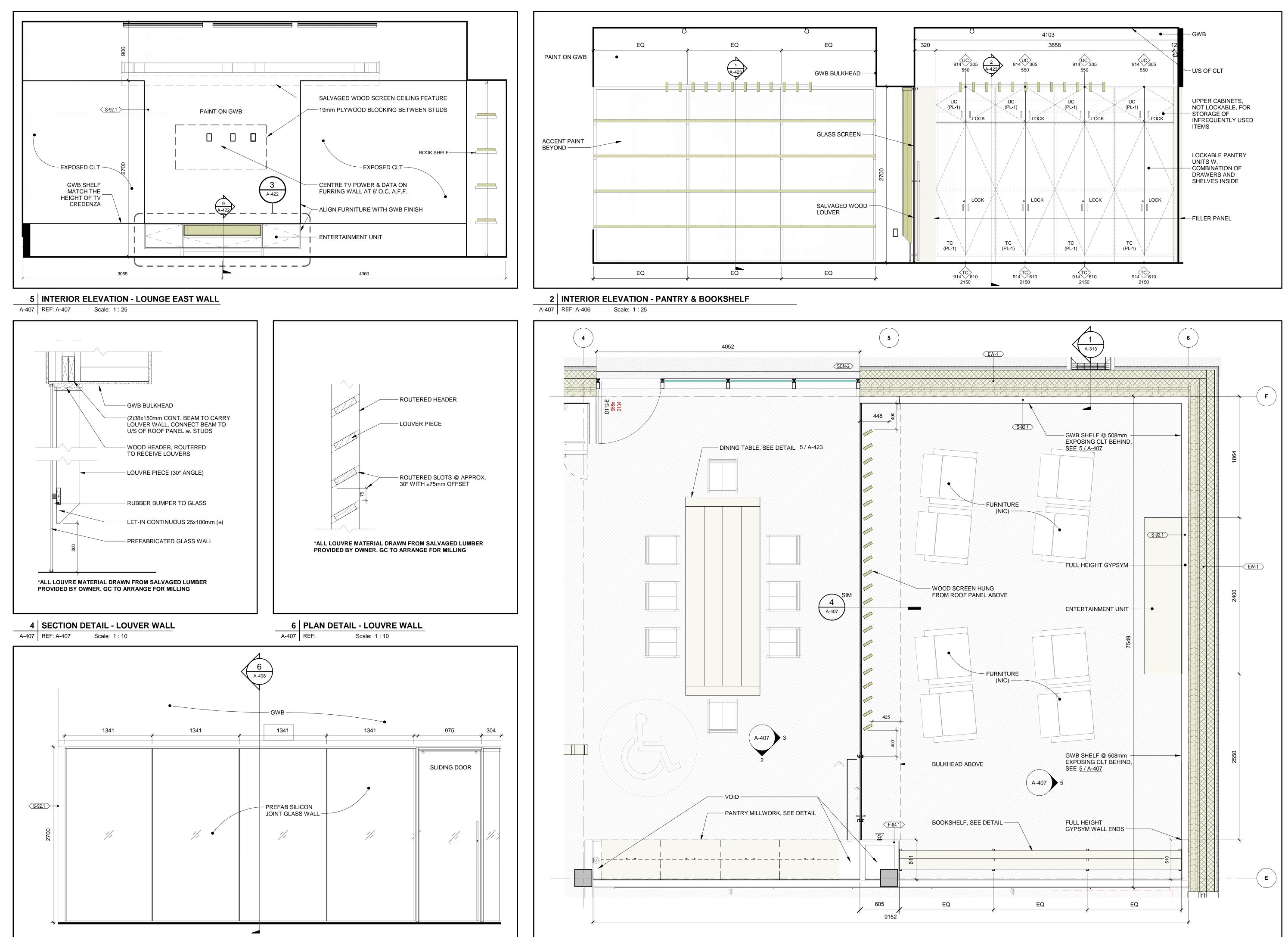












3 SECTION DETAIL - TYP. ACOUSTIC PARTITION A-407 REF: A-407 Scale: 1 : 25

1 ENLARGED PLAN - DINING ROOM & LOUNGE A-407 REF: A-101

Scale: 1 : 25



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CONSTRUCTION DOCUMENTATION

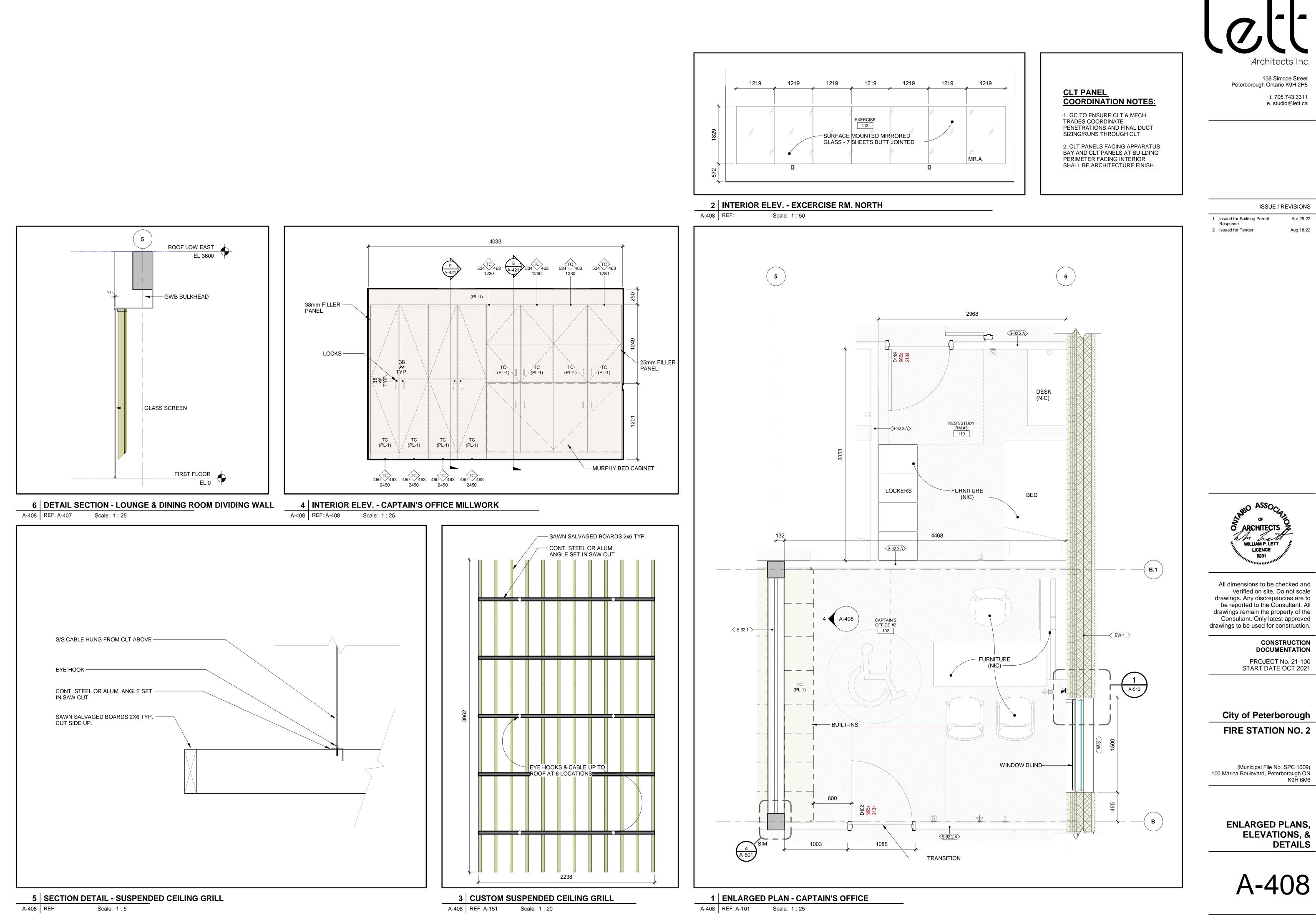
PROJECT No. 21-100 START DATE OCT.2021

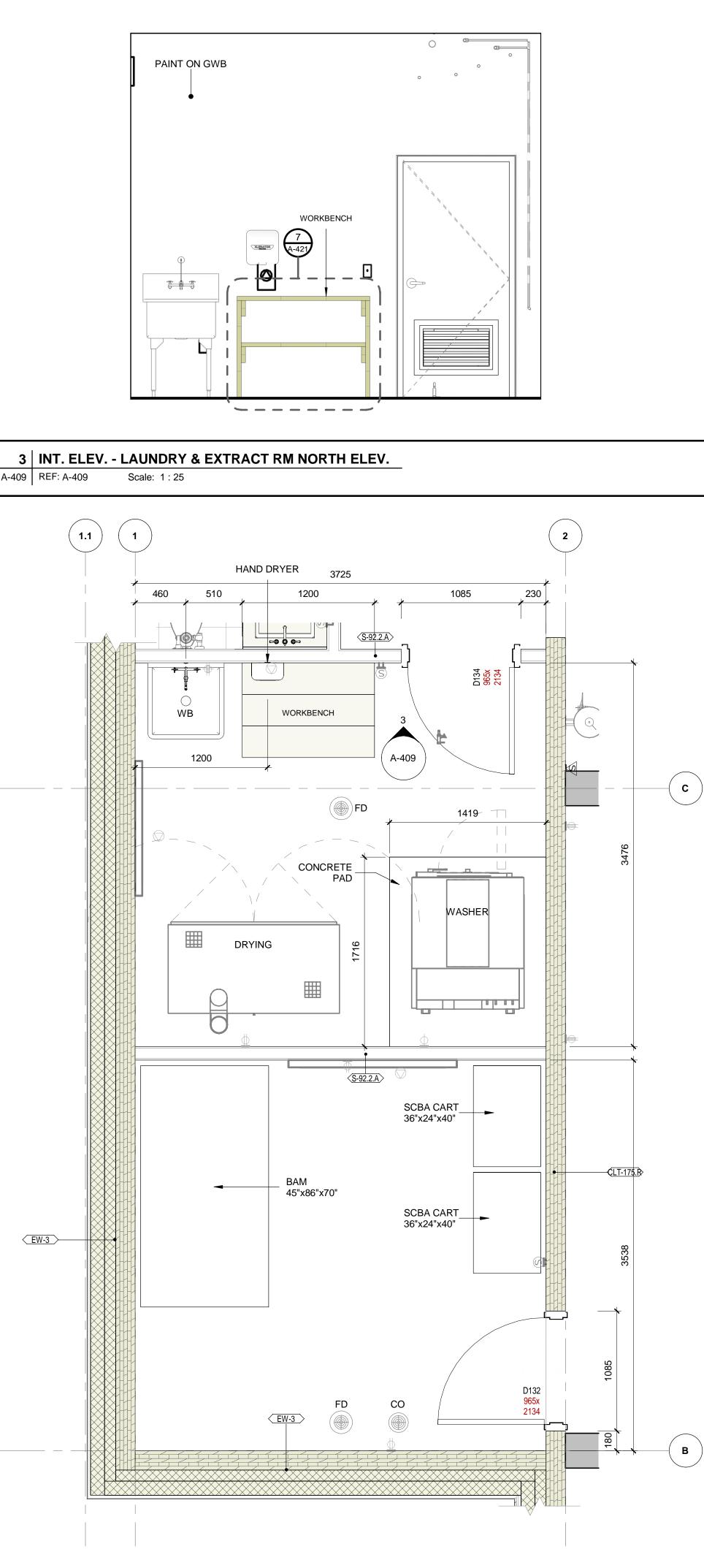
City of Peterborough **FIRE STATION NO. 2**

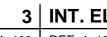
(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6



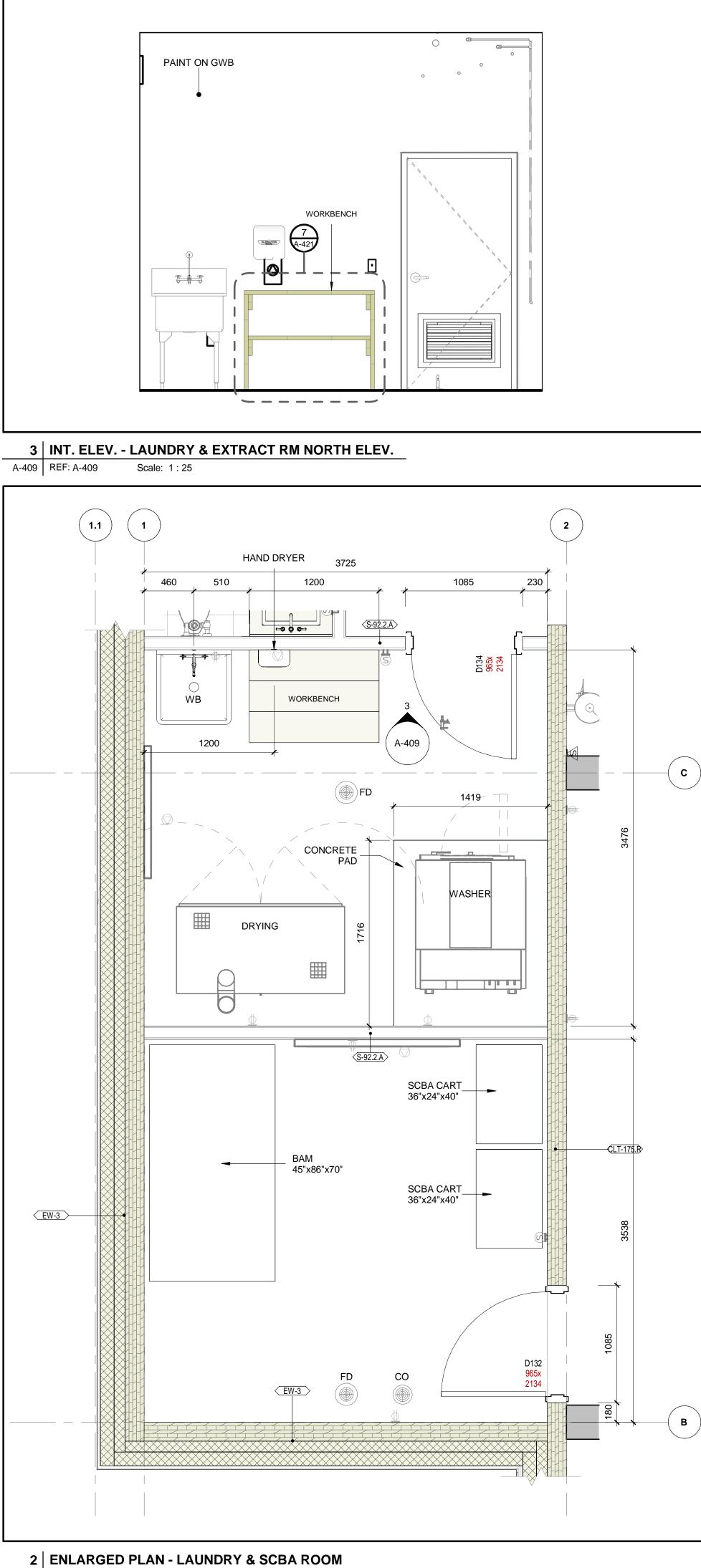


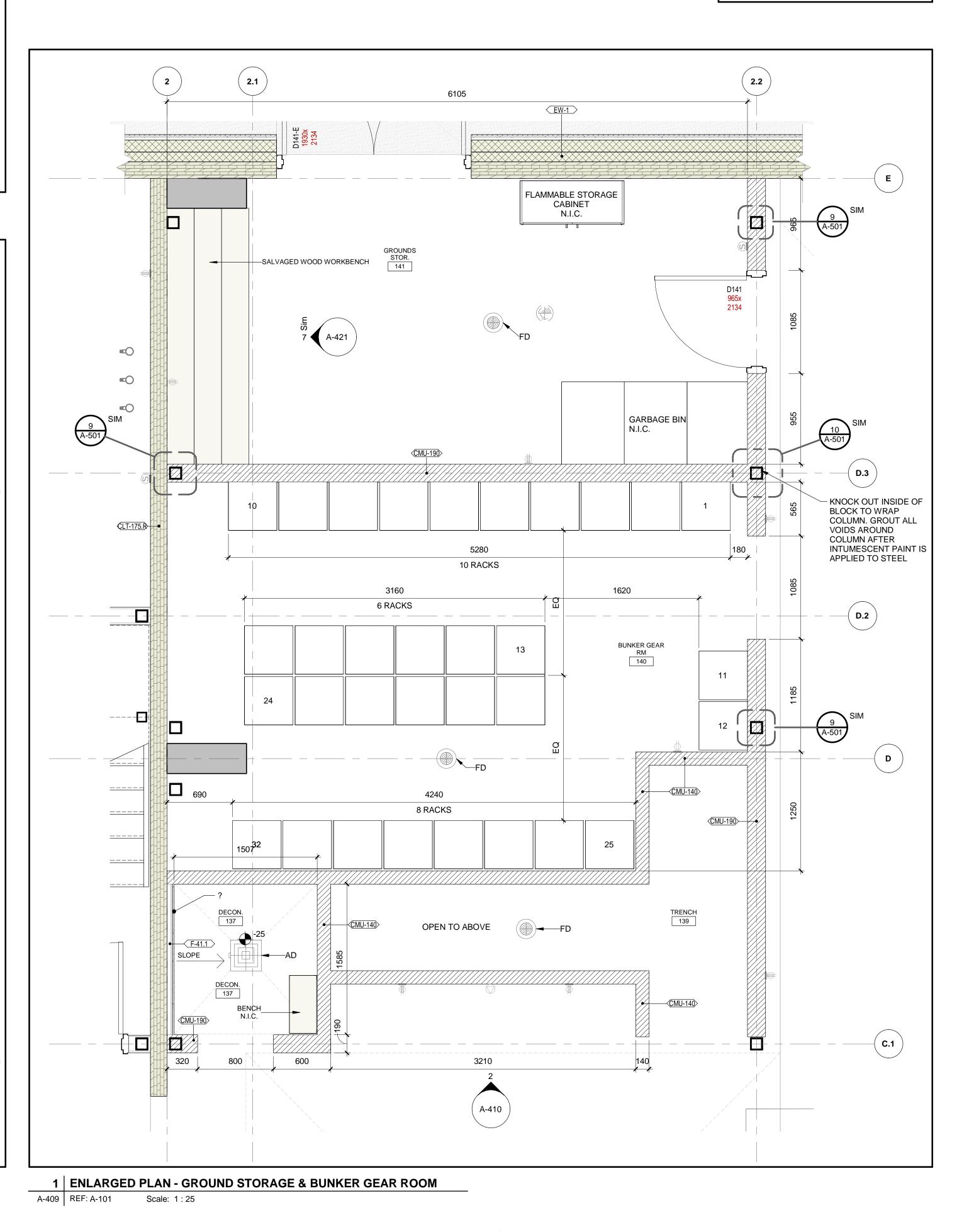






A-409 REF: A-101 Scale: 1 : 25





CLT PANEL COORDINATION NOTES:

1. GC TO ENSURE CLT & MECH. TRADES COORDINATE PENETRATIONS AND FINAL DUCT SIZING/RUNS THROUGH CLT

2. CLT PANELS FACING APPARATUS BAY AND CLT PANELS AT BUILDING PERIMETER FACING INTERIOR SHALL BE ARCHITECTURE FINISH.



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ASSOC

ARCHITECT

4/m

WILLIAM P. LETT LICENCE 1, 6231

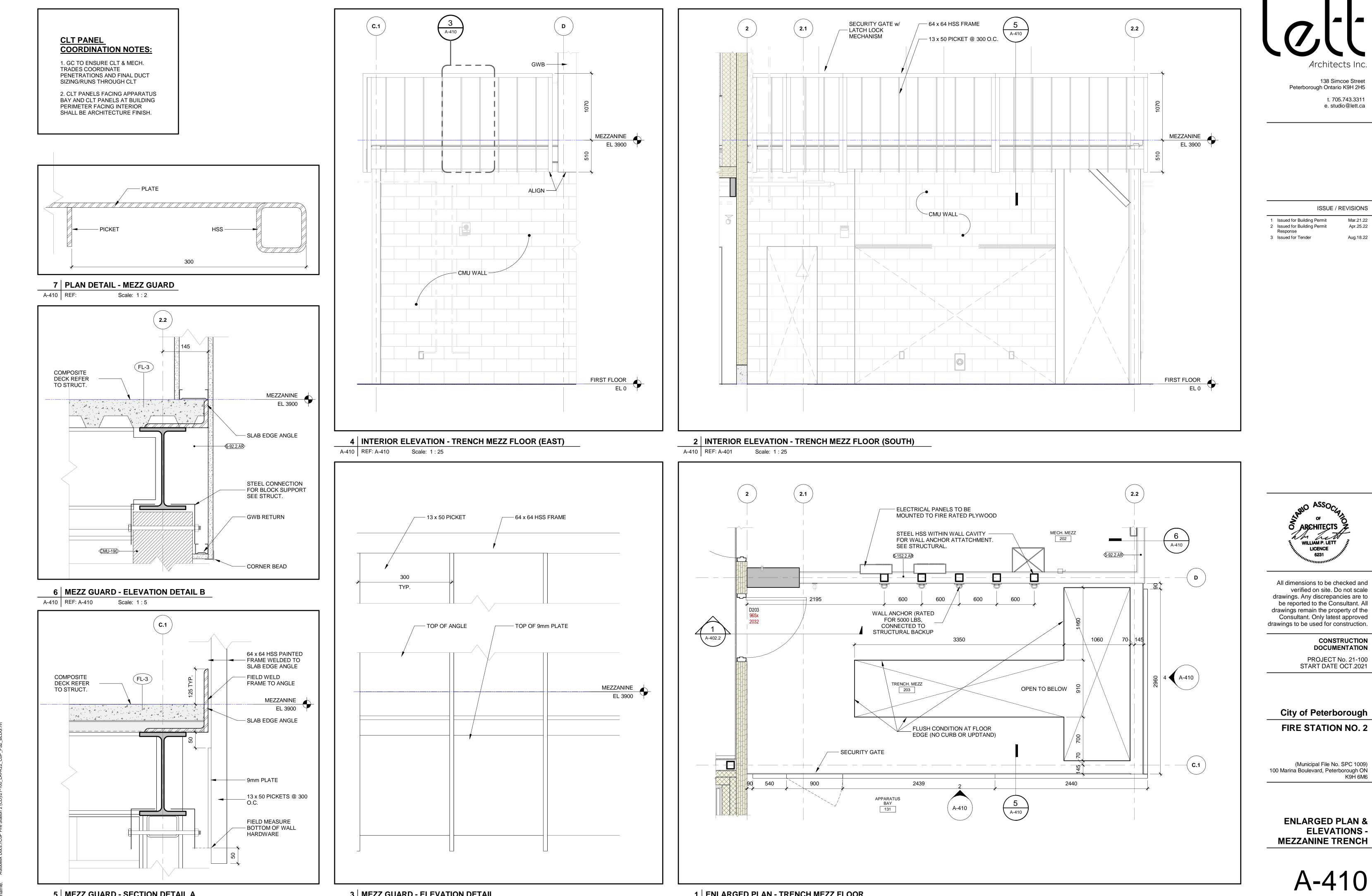
CONSTRUCTION DOCUMENTATION PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough **FIRE STATION NO. 2**

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

ENLARGED PLANS & **ELEVATIONS -**GROUNDS, BUNKER GEAR, LAUNDRY AND SCBA ROOM





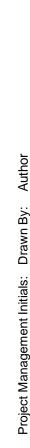
5 | MEZZ GUARD - SECTION DETAIL A A-410 REF: A-410 Scale: 1:5

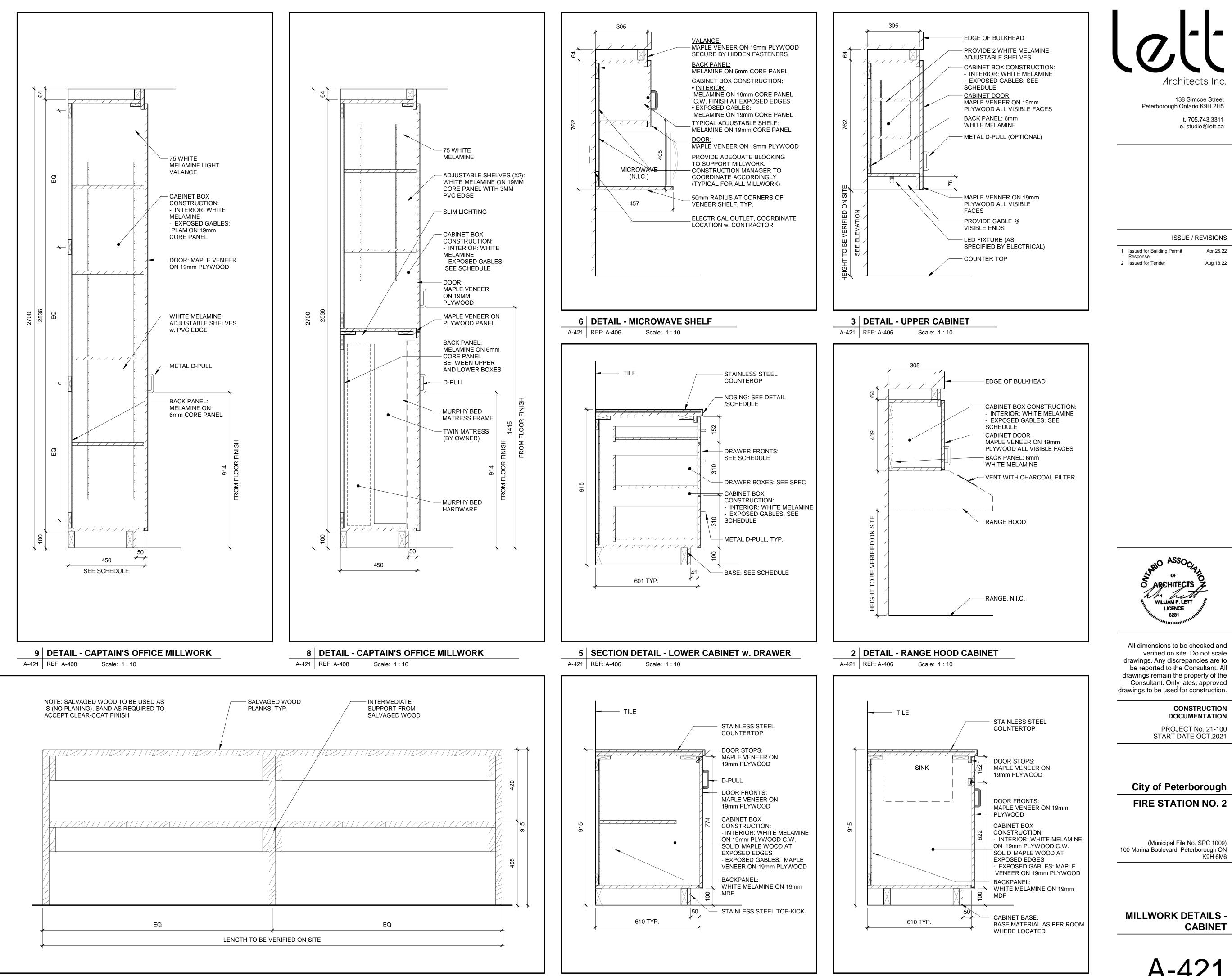
3 MEZZ GUARD - ELEVATION DETAIL A-410 REF: A-410 Scale: 1:5

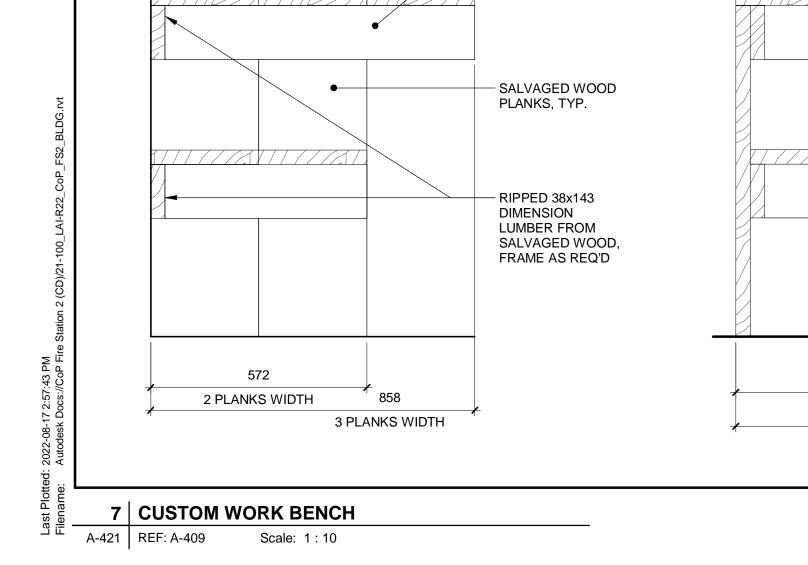
1 | ENLARGED PLAN - TRENCH MEZZ FLOOR A-410 REF: A-102 Scale: 1 : 25

City of Peterborough **FIRE STATION NO. 2**

ENLARGED PLAN &







WOOD JOINT

LINE

- SALVAGED WOOD

38 x 143mm WOOD

PLANKS, TYP.

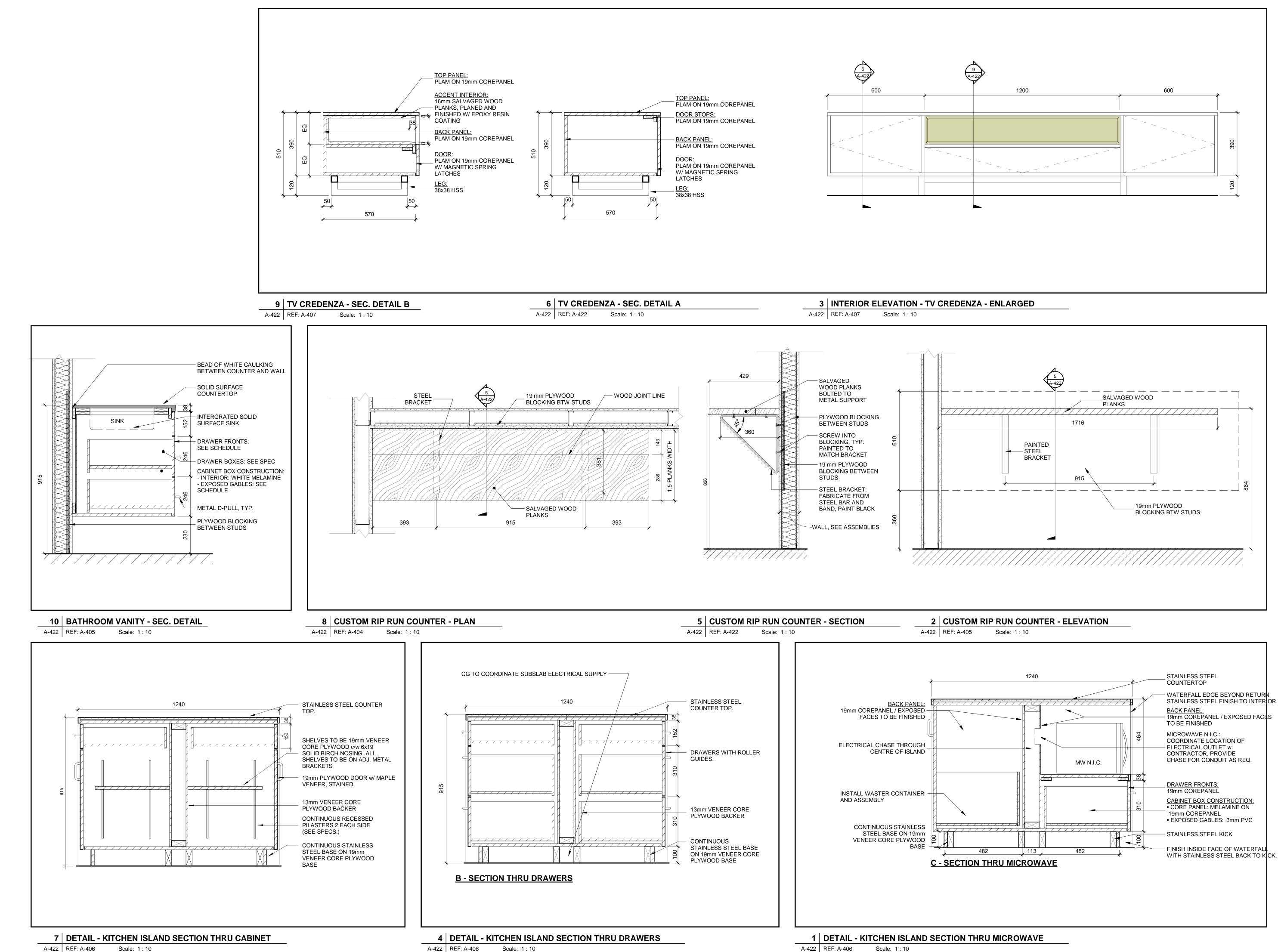
LUMBER

 4
 DETAIL - LOWER CABINET W. DOOR

 A-421
 REF:
 Scale: 1:10

 1
 DETAIL - LOWER CABINET W. DOOR AND SINK

 A-421
 REF: A-406
 Scale: 1:10





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NO ASSOC

ARCHITECT

WILLIAM P. LETT LICENCE 6231

him

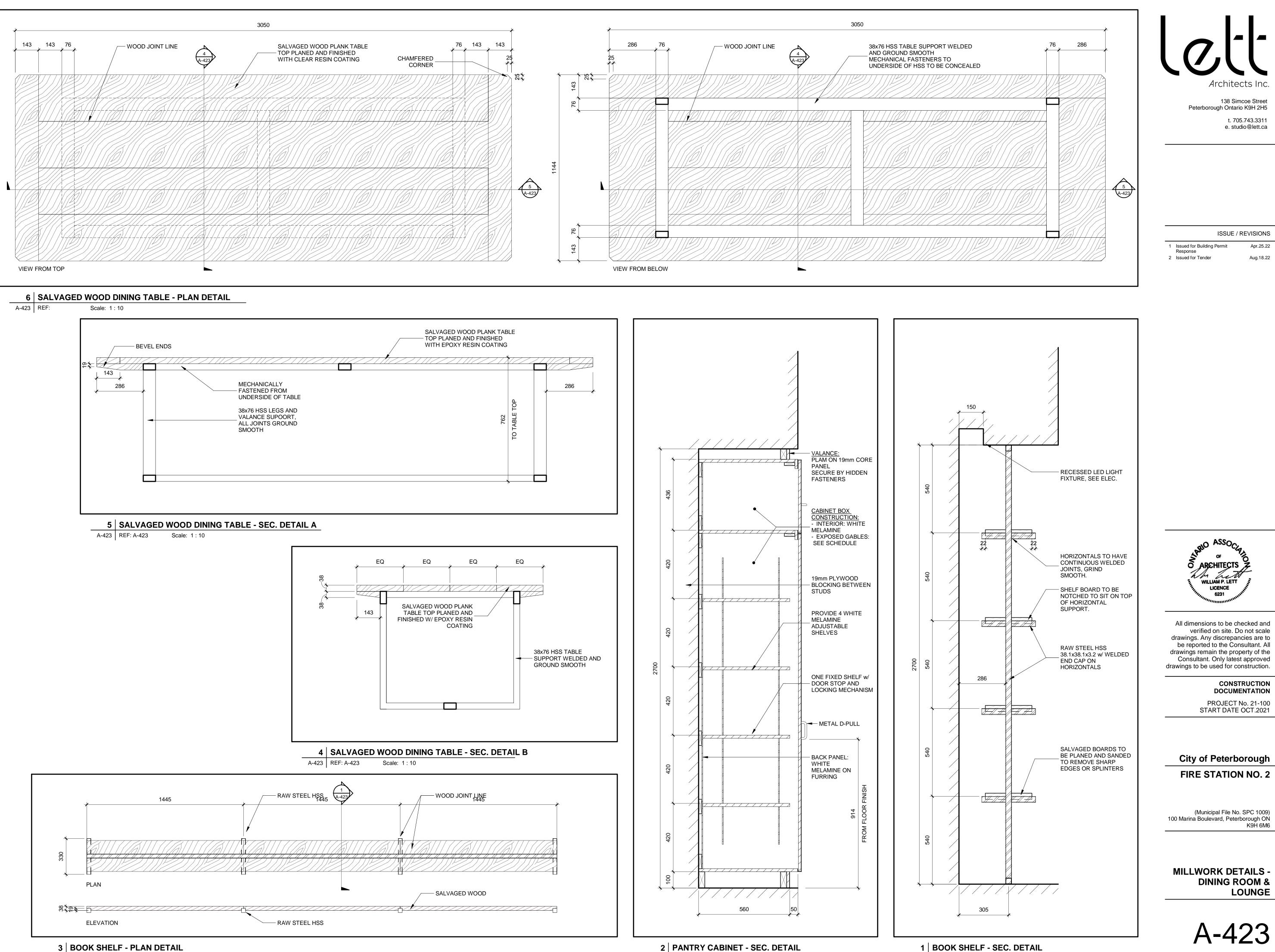
drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

CONSTRUCTION DOCUMENTATION PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough FIRE STATION NO. 2

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

MILLWORK DETAILS -KITCHEN ISLAND, **BENCH & TV** CREDENZA



A-423 REF:

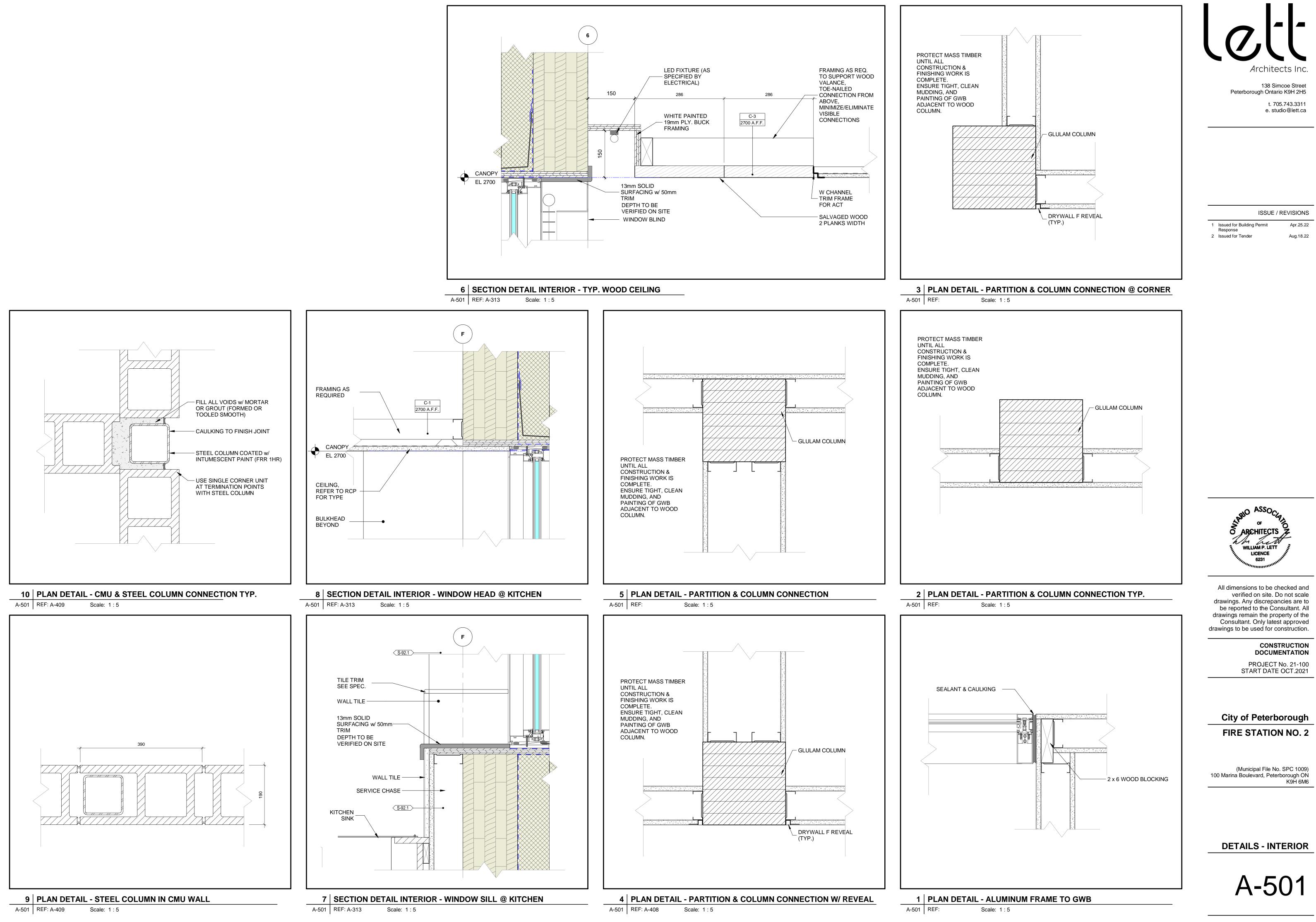
Scale: 1 : 15

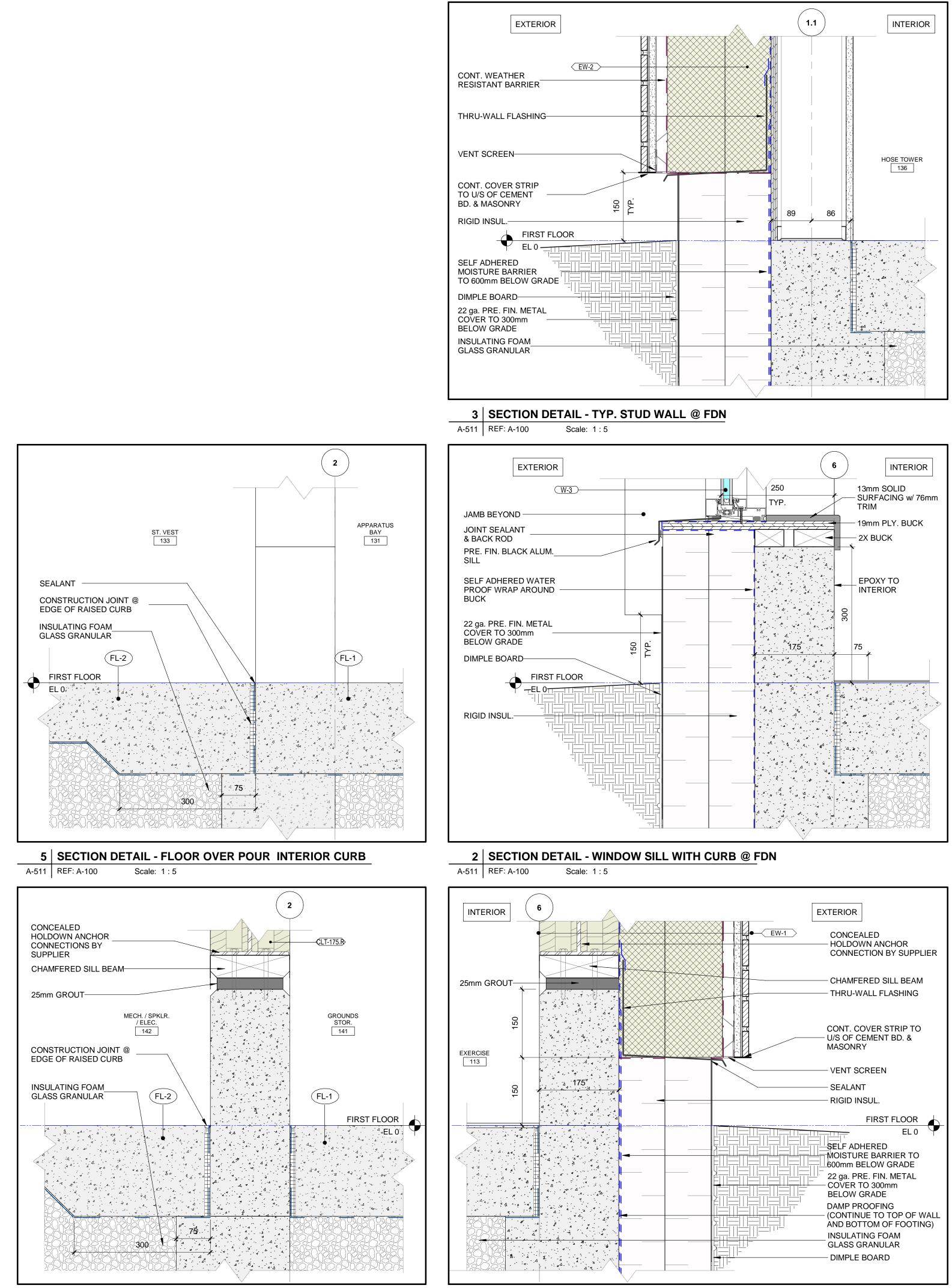
 2
 PANTRY CABINET - SEC. DETAIL

 A-423
 REF: A-407
 Scale: 1:10

 1
 BOOK SHELF - SEC. DETAIL

 A-423
 REF: A-407
 Scale: 1:10





A-511 REF: A-100

4 SECTION DETAIL - TYP. INTERIOR CLT CURB WALL @ FDN A-511 REF: A-100 Scale: 1:5

1 SECTION DETAIL - TYP. EXTERIOR CLT CURB WALL @ FDN Scale: 1:5



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- Apr.25.22 Aug.18.22

Mar.21.22



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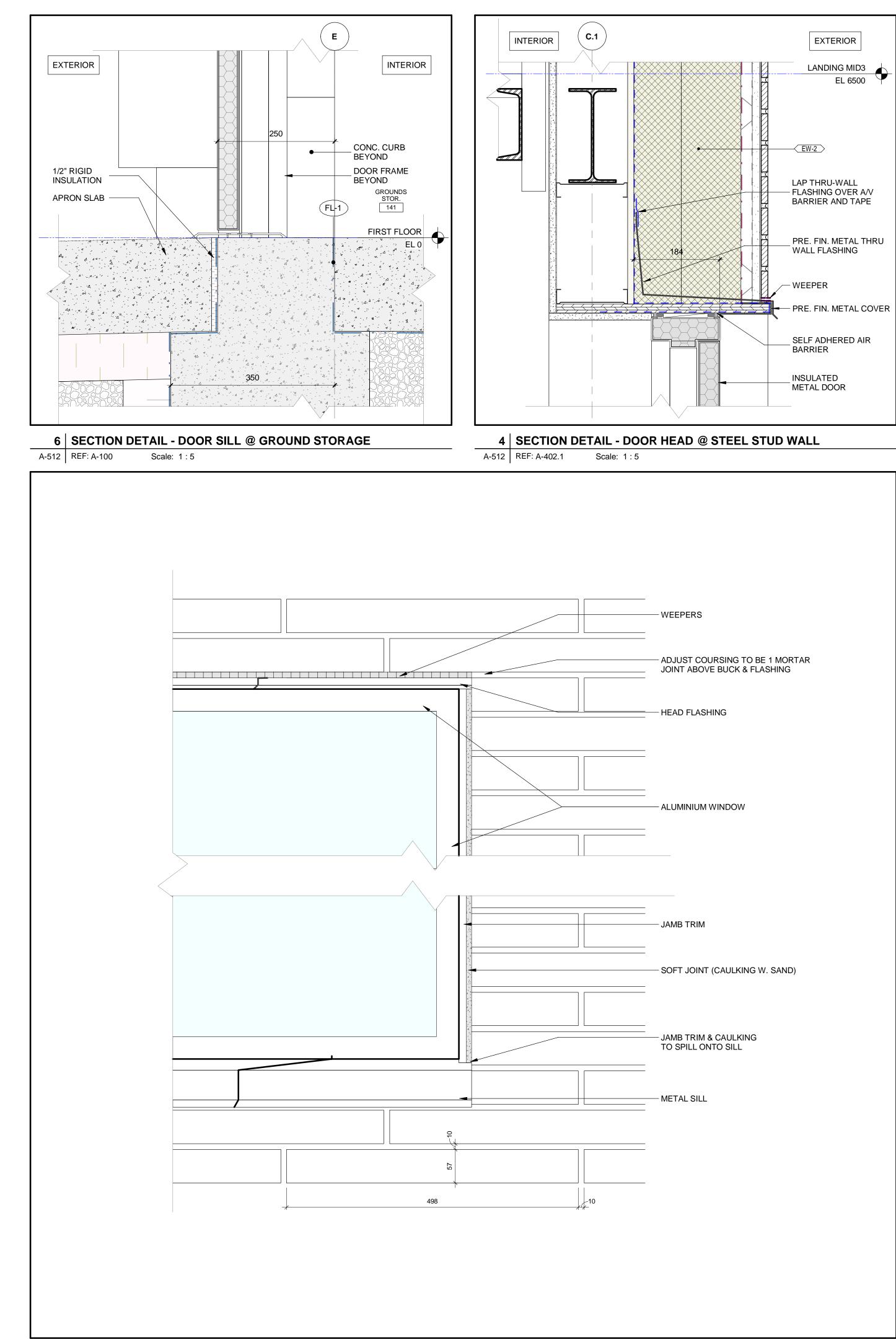
CONSTRUCTION DOCUMENTATION PROJECT No. 21-100 START DATE OCT.2021

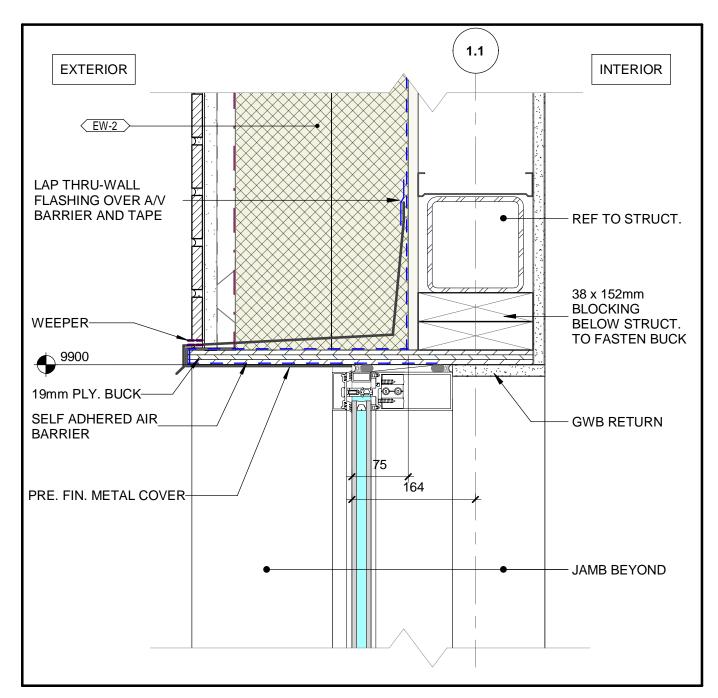
City of Peterborough **FIRE STATION NO. 2**

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

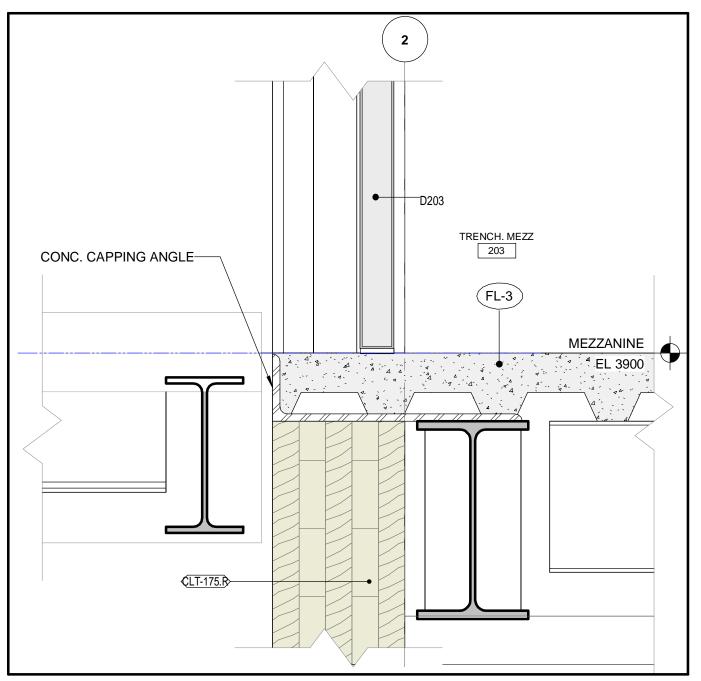
SECTION DETAILS -FOUNDATION AND SLAB

A-511

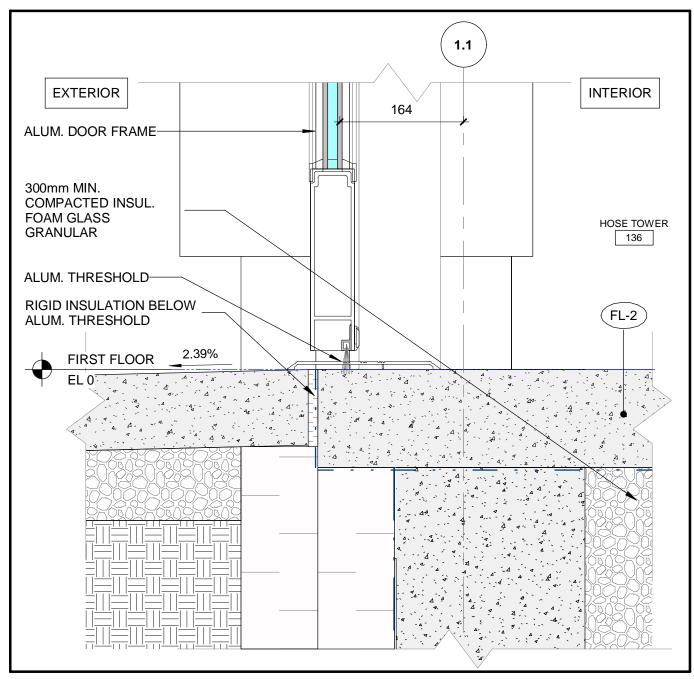




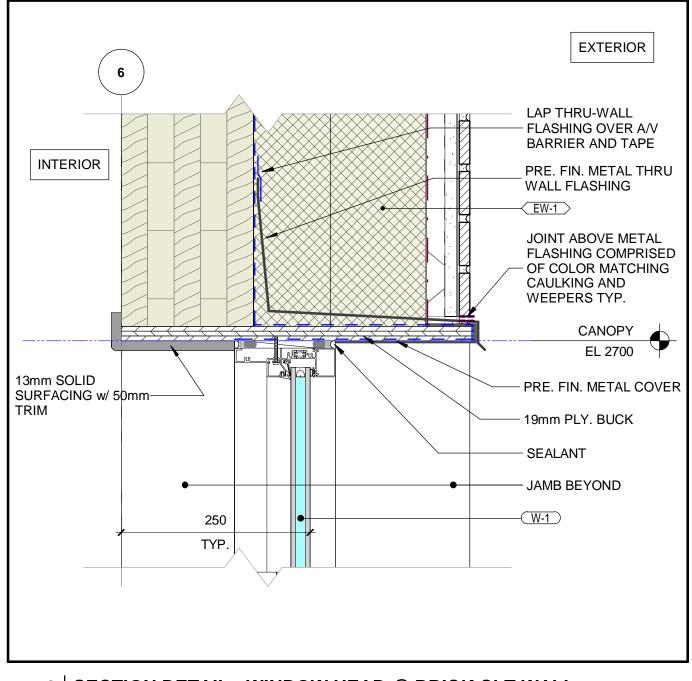
9 SECTION DETAIL - CURTAIN WALL HEAD @ STEEL STUD WAL A-512 REF: A-402.1 Scale: 1 : 5



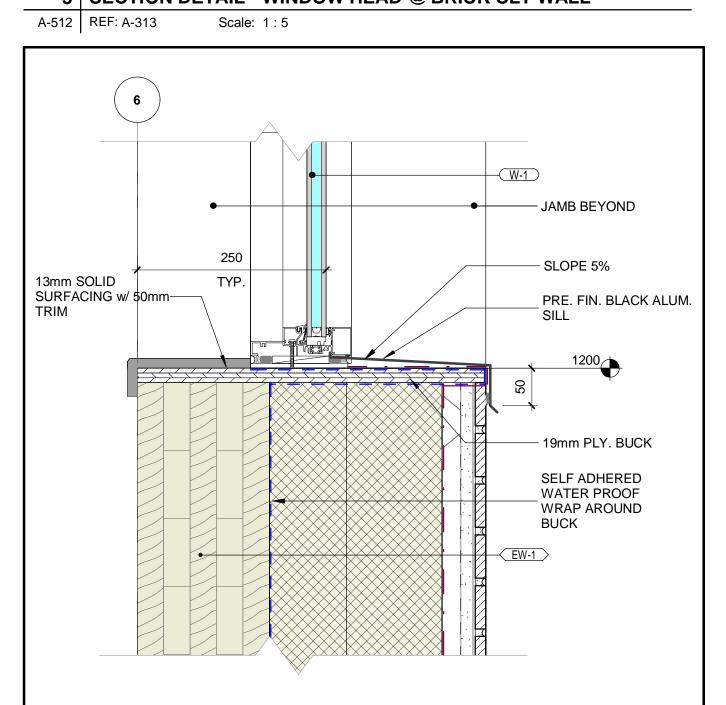
7 SECTION DETAIL - DOOR SILL @ METAL DECK FLOOR A-512 REF: A-402.2 Scale: 1 : 5

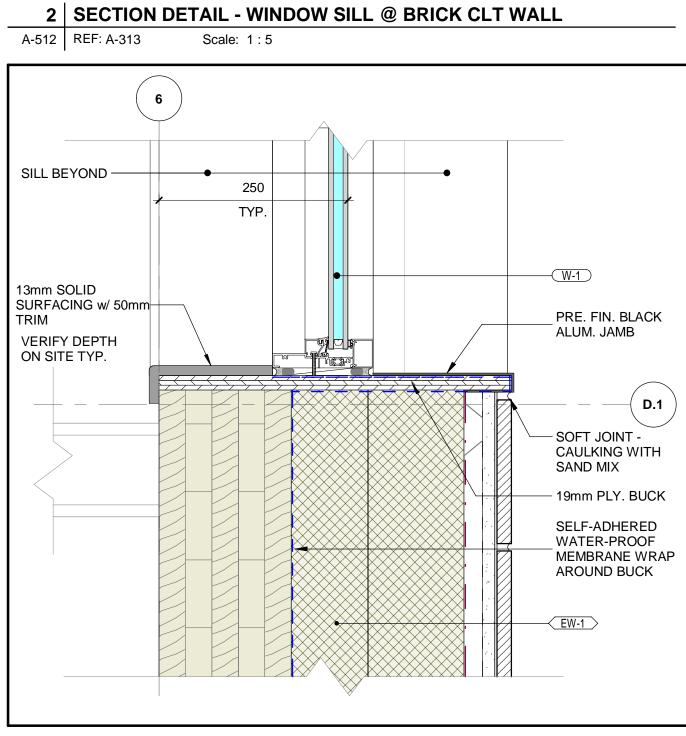


5 SECTION DETAIL - DOOR SILL @ HOSE TOWER EXIT A-512 REF: A-100 Scale: 1 : 5



3 SECTION DETAIL - WINDOW HEAD @ BRICK CLT WALL







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WILLIAM P. LETT LICENCE All dimensions to be checked and verified on site. Do not scale

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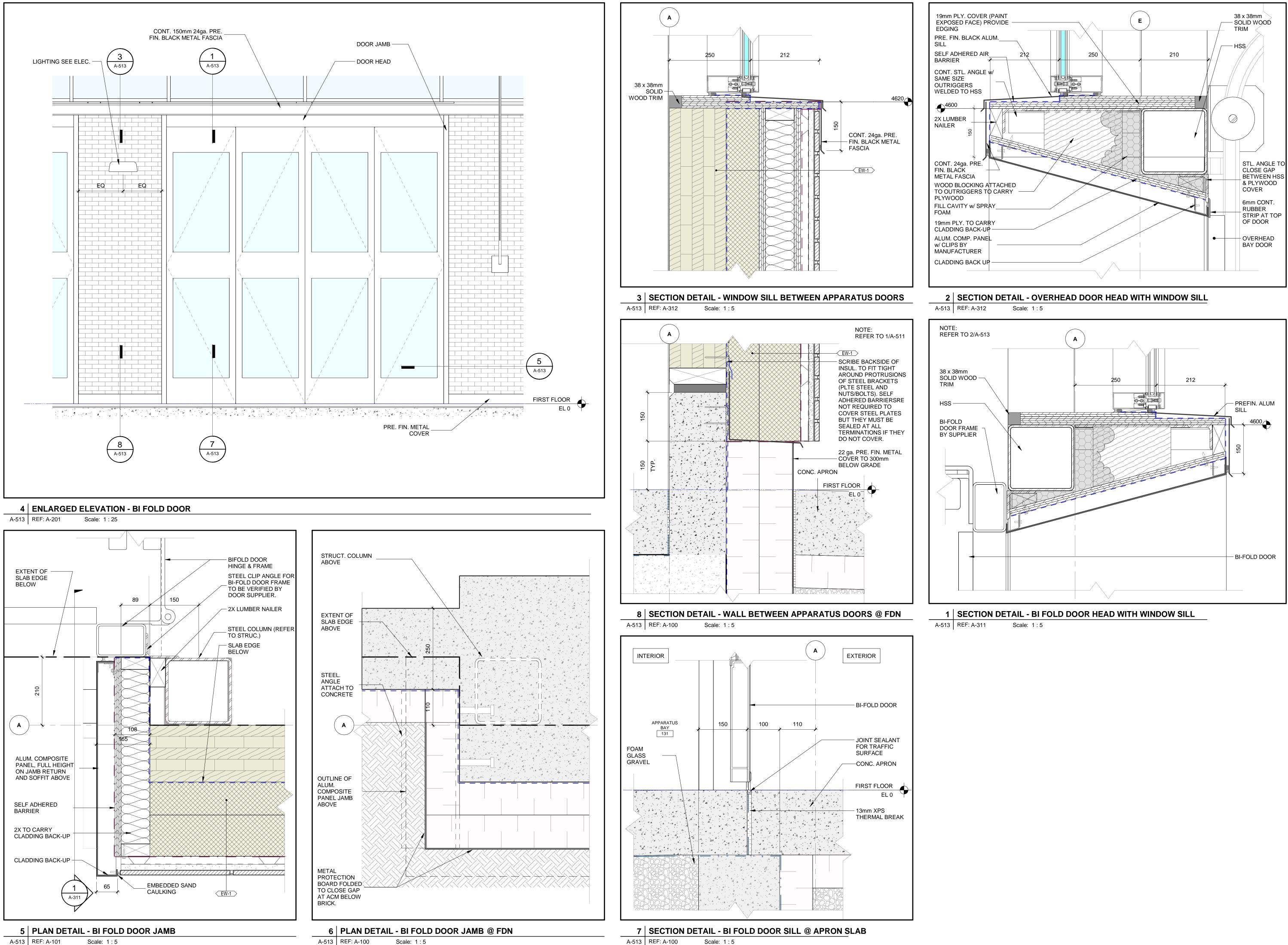
> CONSTRUCTION DOCUMENTATION PROJECT No. 21-100 START DATE OCT.2021

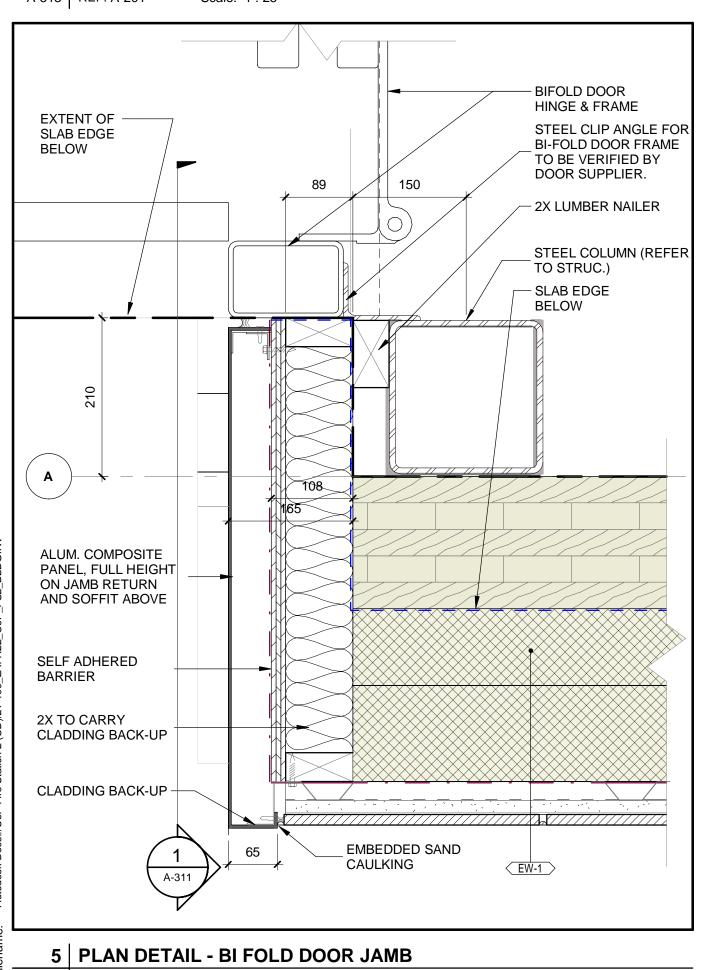


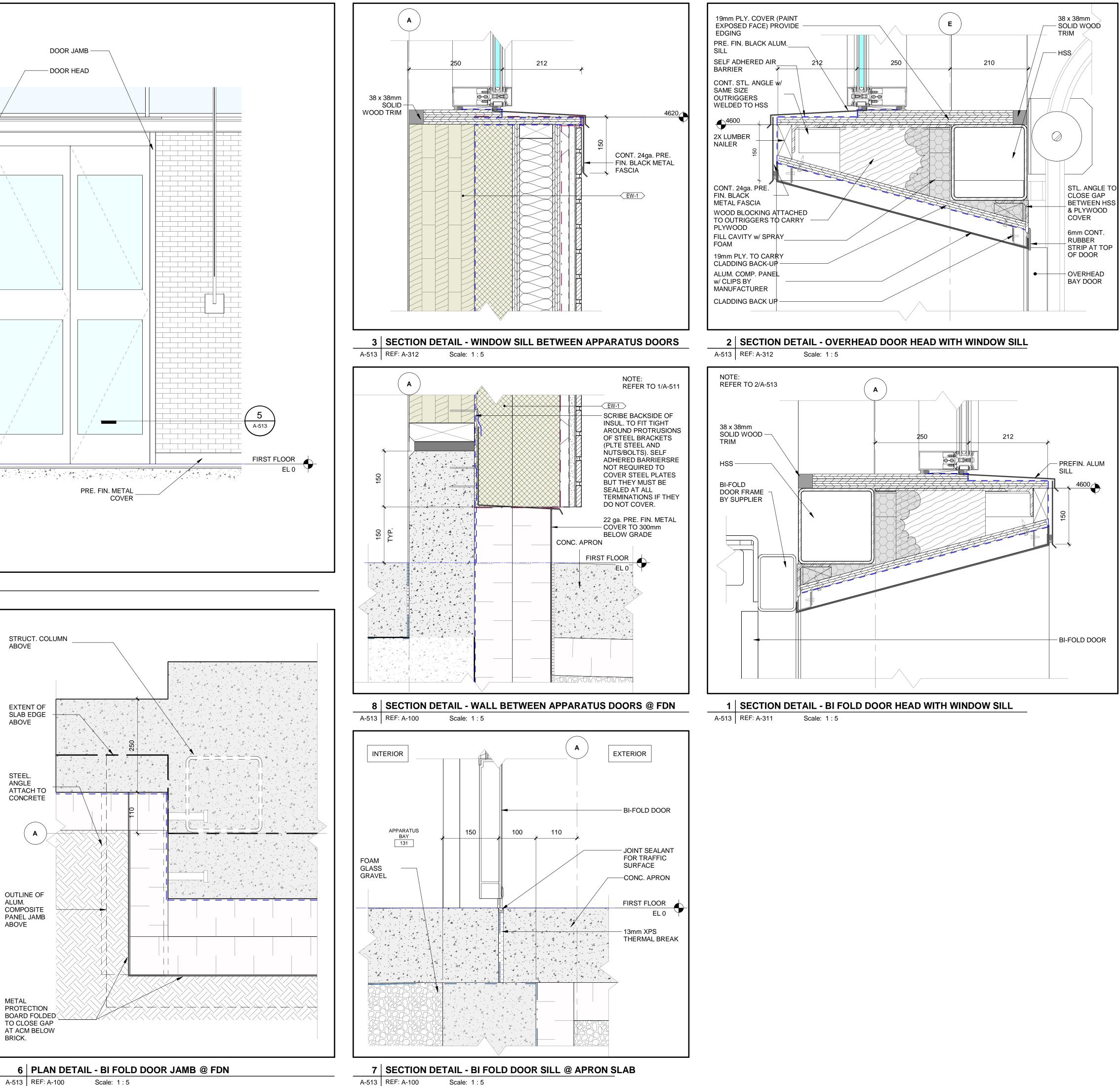
(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

DETAILS - OPENINGS









A-513 REF: A-101

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ISSUE / REVISIONS

1 Issued for Building Permit 2 Issued for Building Permit Response

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> CONSTRUCTION DOCUMENTATION PROJECT No. 21-100

START DATE OCT.2021

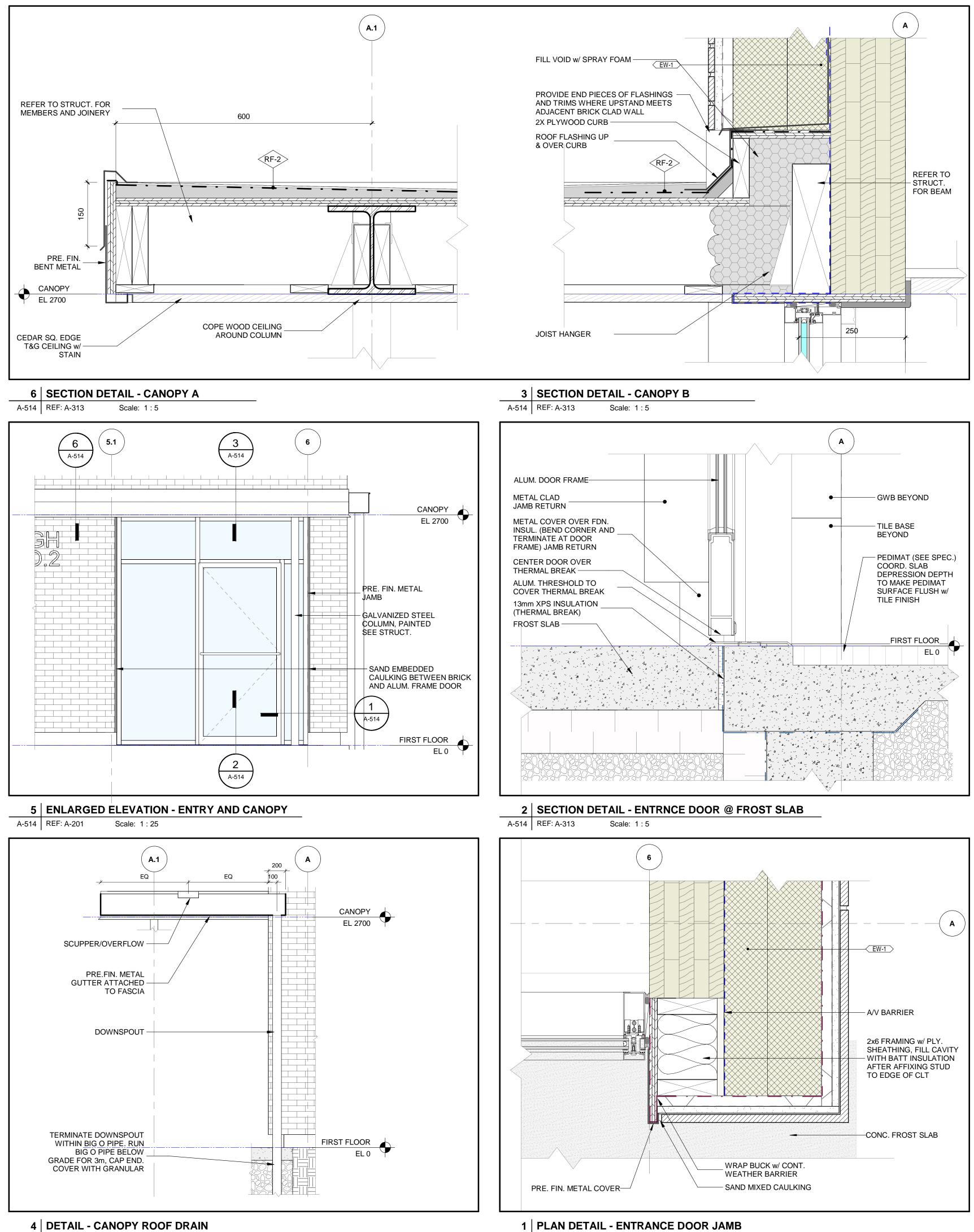
City of Peterborough

FIRE STATION NO. 2

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

> **DETAILS** -**BIFOLD/OVERHEAD** DOORS







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ISSUE / REVISIONS

1 Issued for Building Permit 2 Issued for Building Permit Response 3 Issued for Tender

Apr.25.22 Aug.18.22

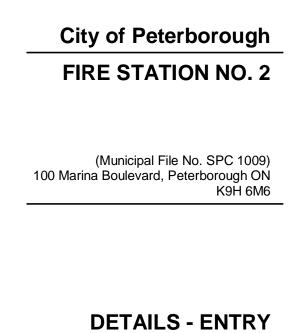
Mar.21.22

ARCHITECT WILLIAM P. LETT LICENCE hm

NO ASSOC

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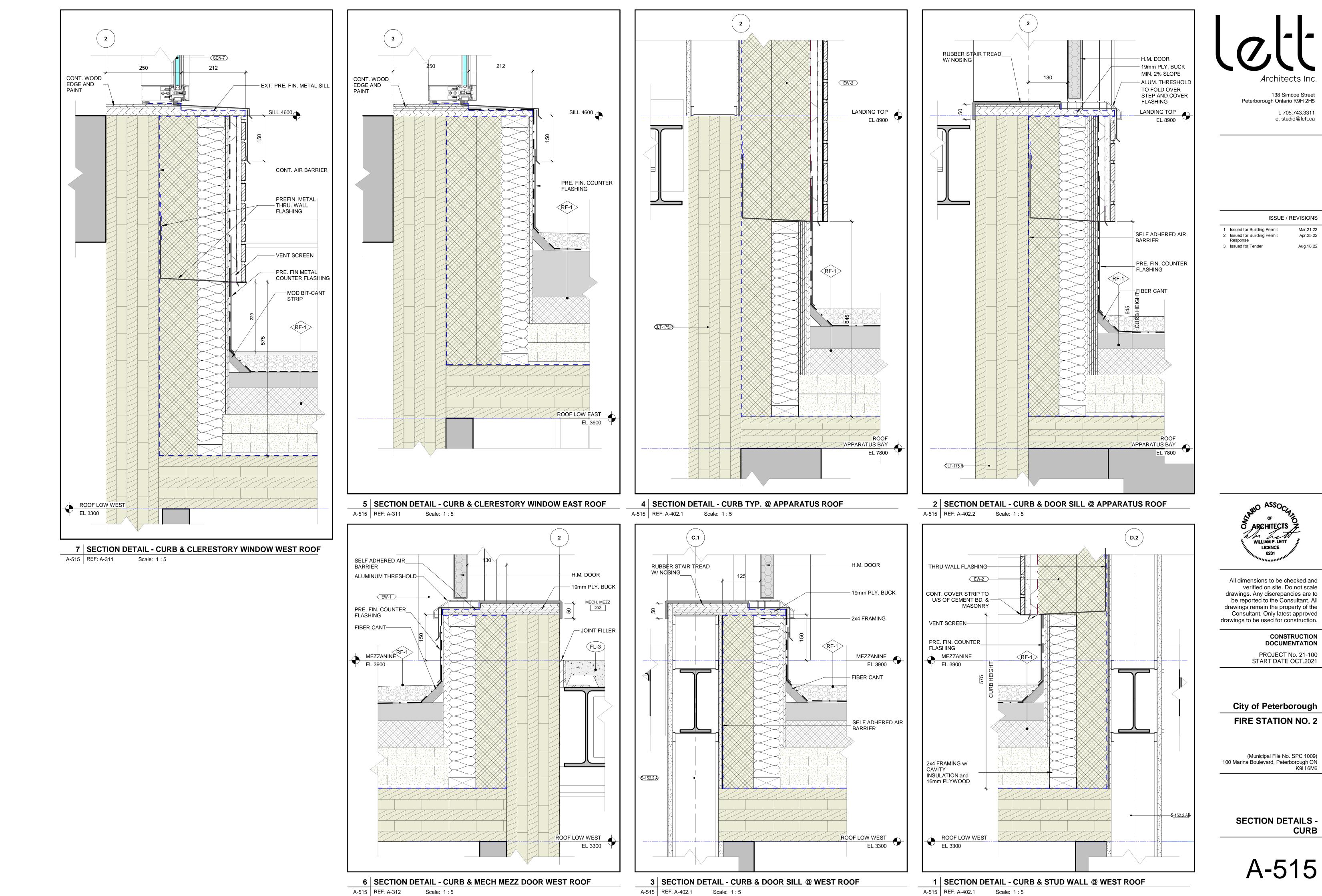
> CONSTRUCTION DOCUMENTATION PROJECT No. 21-100 START DATE OCT.2021



A-514

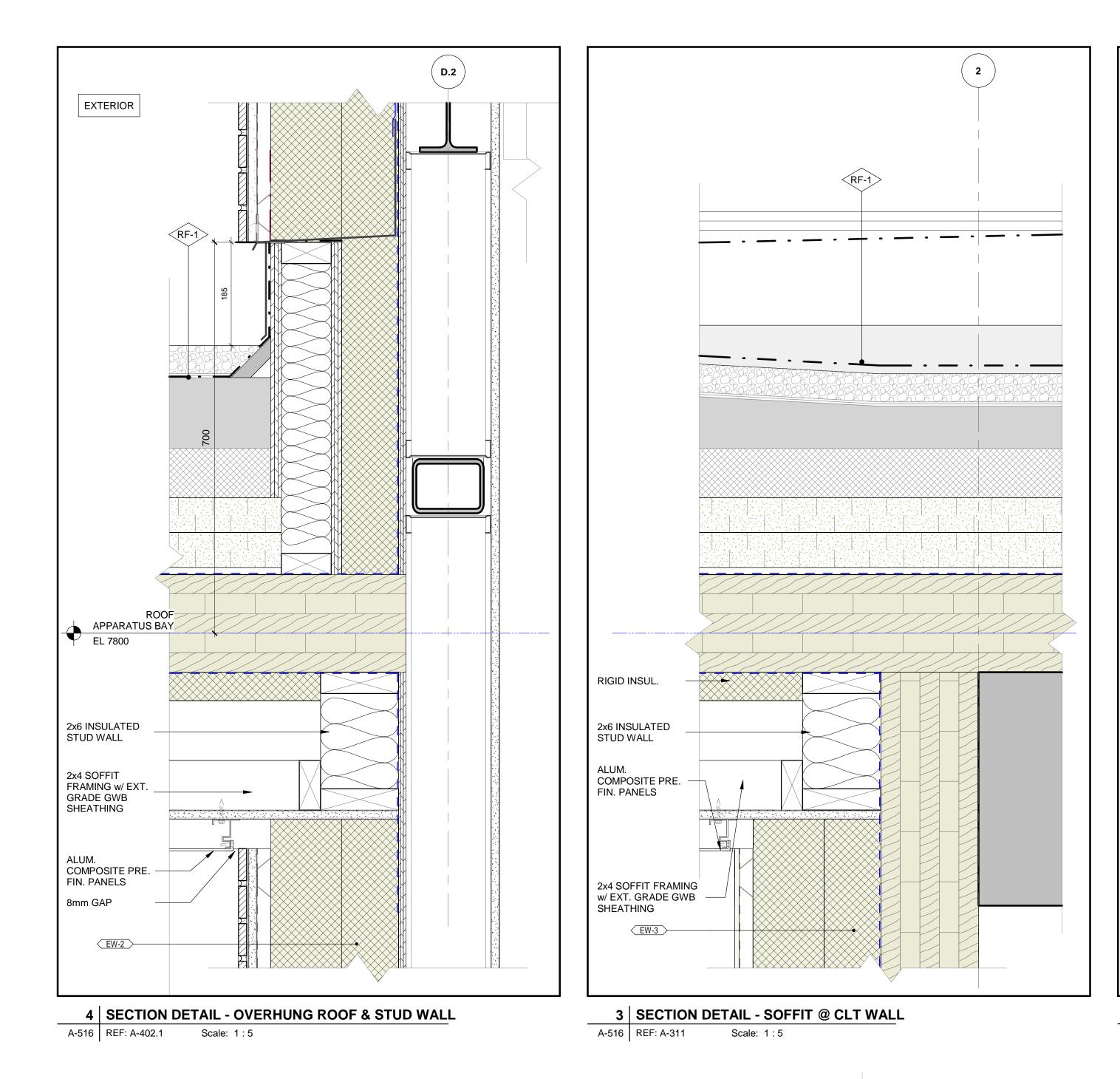
DOOR & CANOPY

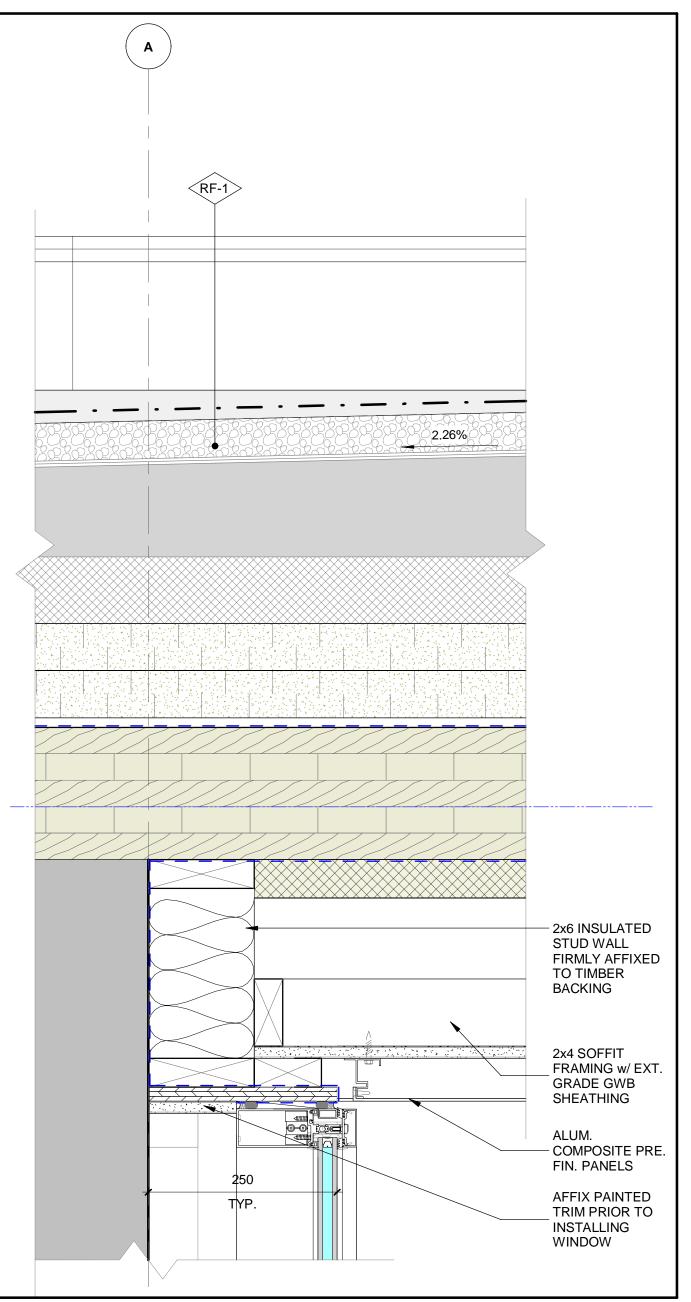
Scale: 1:5





A-515 REF: A-312 Scale: 1 : 5





 2
 SECTION DETAIL - SOFFIT @ CLERESTORY WINDOW

 A-516
 REF: A-311
 Scale: 1:5

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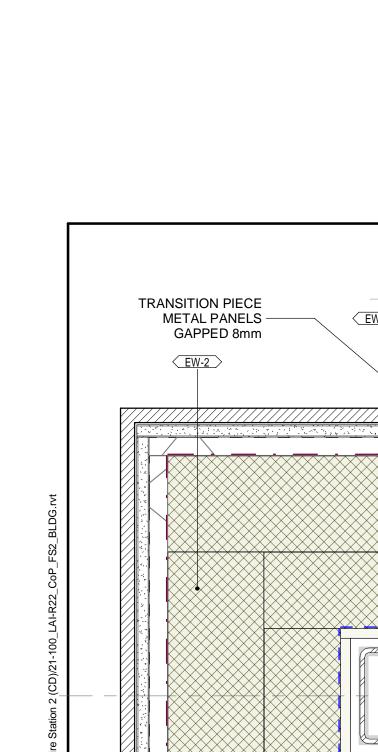
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ISSUE / REVISIONS

A-516

1Issued for Building PermitMar.21.222Issued for Building Permit
ResponseApr.25.223Issued for TenderAug.18.22

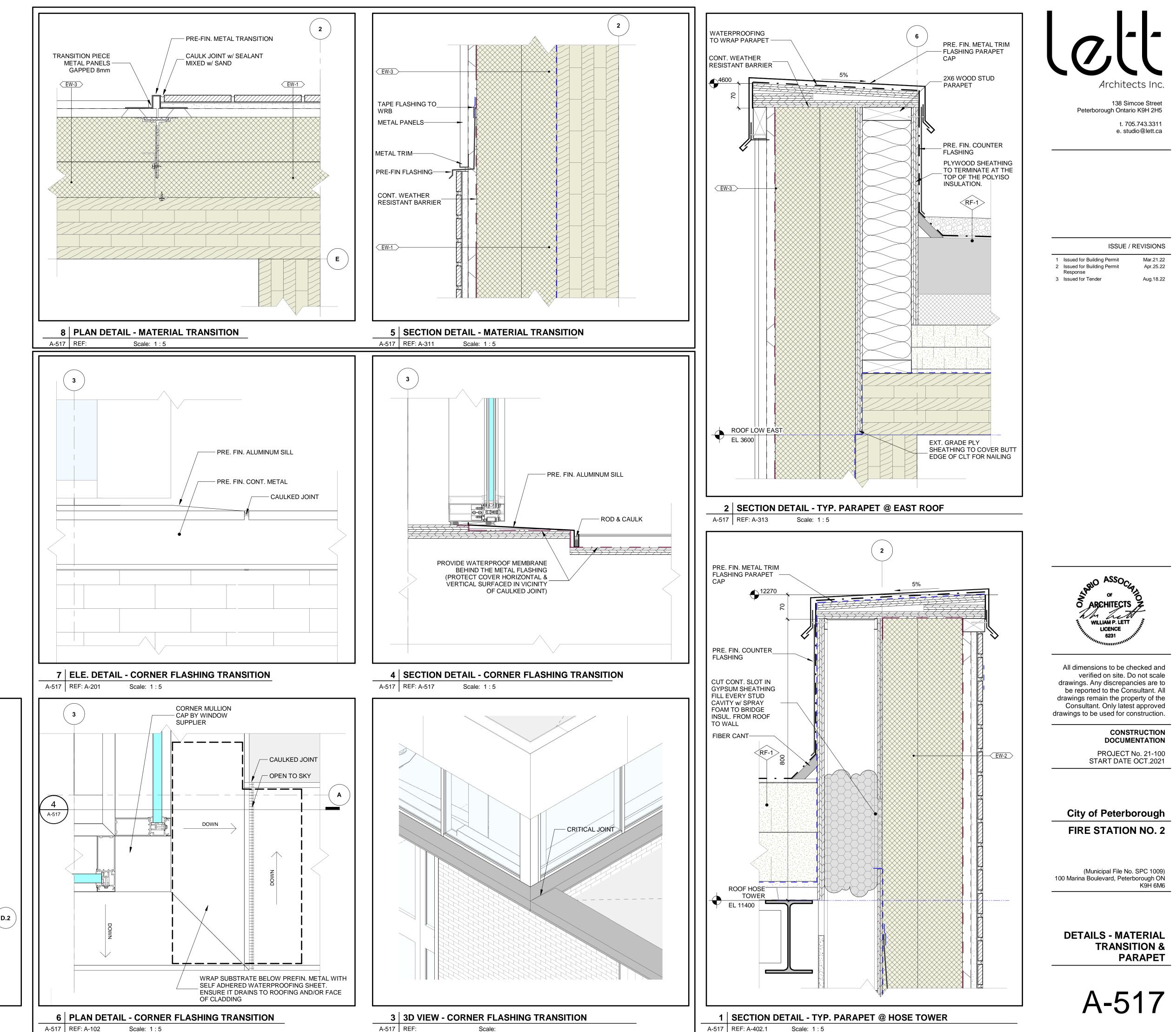
PROVIDE DRIP EDGE ON ACP 210 $\langle RF-1 \rangle$ _____ _ . _ - ROOF MEMBRANE ASSOC ARCHITECT 4/m WILLIAM P. LETT LICENCE 6231 2x4 INSULATED STUD WALL w/ PLY. SHEATHING B/S All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction. - CONT. A/V BARRIER - 2X2 LEDGER TO AID IN HANGING & LEVELING CONSTRUCTION DOCUMENTATION PROJECT No. 21-100 START DATE OCT.2021 ROOF APPARATUS BAY EL 7800 - SCREW STUDS TO CLT EDGE City of Peterborough **FIRE STATION NO. 2** - BOARD INSULATION (CONT.) (Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6 _ ALUM. COMPOSITE PRE. FIN. PANELS <u>_____</u>_____ 2x4 SOFFIT FRAMING w/ EXT. GRADE GWB SHEATHING 210 **SECTION DETAILS -**ROOF

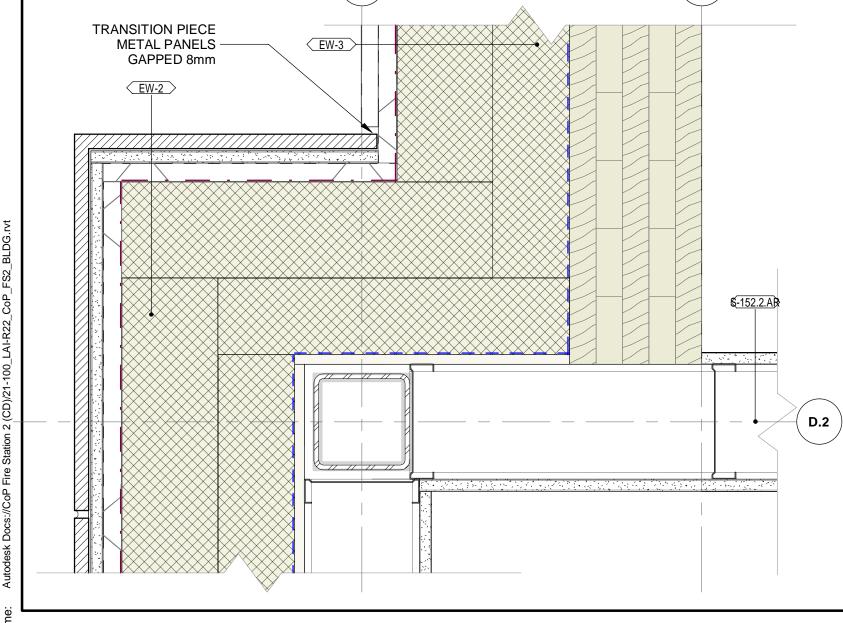


9 PLAN DETAIL - HOSE TOWER CORNER

Scale: 1:5

A-517 REF: A-401



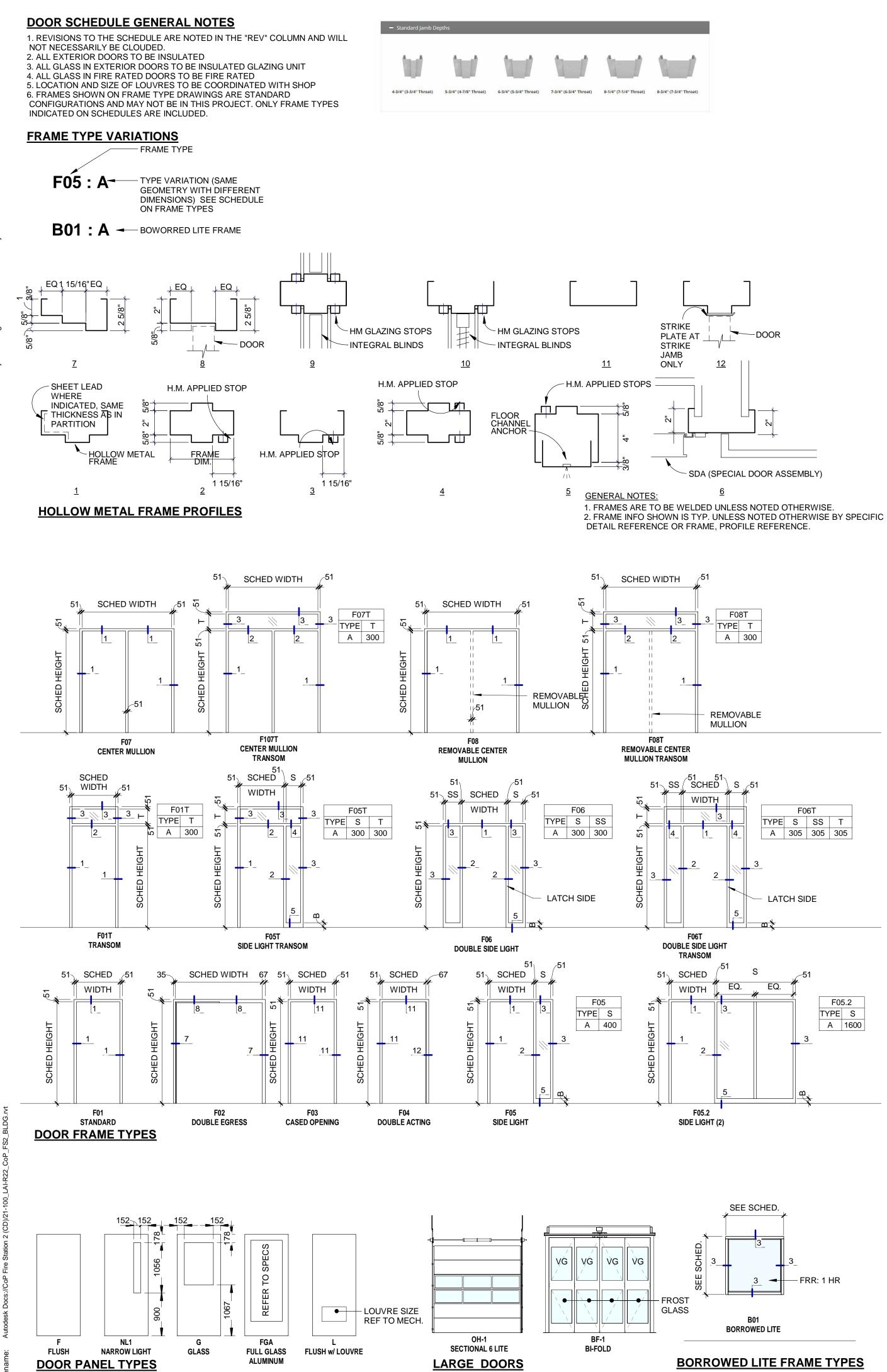


(1.1)



1

A-517 REF: A-402.1 Scale: 1:5



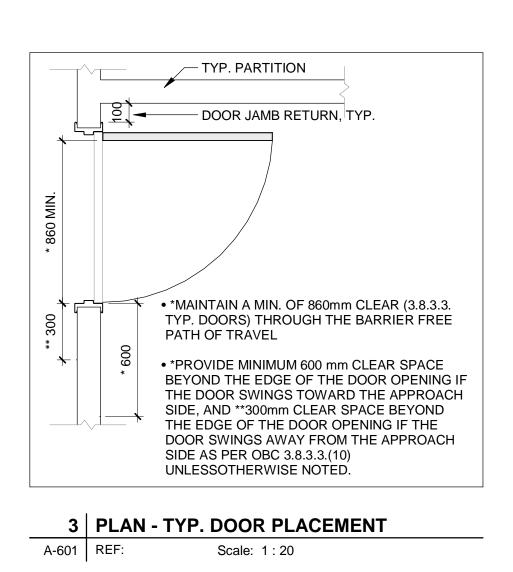
	DOOR SCHEDULE																				
	LOCATION DOORS												FRAM	ИE			E I				
	5001		FUNCTION	PANEL TYPE	WIDTH	LEAFS	HEIGHT	THICKNESS	ATERIAL	INSULATED	NDERCUT	FINISH	LOUVRE	LASS	TYPE	MATERIAL	DEPTH	FINISH	FRR (MIN.)	HARDWARE GROUP	
No.	FROM	ТО				o Z	Ī		MA	Z	Ŋ		Ľ	Ū	F		□		ü		
101 101-E	CORRIDOR_1 EXTERIOR	SOUTH VEST SOUTH VEST	Interior	FGA FGA	965	1	2134	45	AL			FF FF		TEMP.	-	AL		FF FF			
	CORRIDOR_1	CAPTAIN'S OFFICE #2	Exterior Interior	FGA	965 965		2134 2134	45 45	AL HM	N		PT			- F01	AL PS	146	PT		HG2 I	EMERGENCY PHONE OUTSIDE
102	CORRIDOR_1	UWR & SHWR	Interior	F	965		2134	45	HM			PT		-	F01	PS	146	PT		HG6	STANDARD PUSH-BUTTON WITH SEPARATE OCCUPIED
104	CORRIDOR_1	CAPTAIN'S OFFICE #1	Interior	F	965	1	2134	45	НМ			PT		-	F01	PS	146	PT		HG3	
105	CORRIDOR 1	IT	Interior	F	965		2134	45	HM			PT		-	F01	PS	146	PT		HG3	
	CORRIDOR_2	STOR.	Interior	F	965		2134	45	HM			PT		-	F01	PS	146	PT		HG4	
108	CORRIDOR_2	WR/SAUNA	Interior	F	762	1	2134	45	HM			PT		-	F01	PS	146	PT		HG3	
	CORRIDOR_2	WR/SHWR #2	Interior	F	762	1	2134	45	HM			PT		-	F01	PS	146	PT		HG3	
110	CORRIDOR_2	WR/SHWR #1	Interior	F	762	1	2134	45	HM			PT		-	F01	PS	146	PT		HG3	
111	CORRIDOR_2	JAN.	Interior	F	965		2134	45	HM			PT		-	F01	PS	146	PT			SELF-CLOSING AND SELF-LATCHING AS PER 3.1.8.11., 3.1.8.13., AND 3.3.1.20
112-E	EXTERIOR	DINING	Exterior	FGA			2134	45				PT		TEMP.	-	AL		PT			WITHOUT ELECTRIC STRIKE AND CARD READER
113	CORRIDOR_2	EXERCISE	Interior	NL1	965		2134		HM			PT		TEMP	F01	PS	146	PT		HG9	
	CORRIDOR_3	REST/STUDY RM #6	Interior	F	965		2134	45	HM			PT		-	F01	PS	146	PT			WITHOUT KEYPAD
115	CORRIDOR_3	REST/STUDY RM #1	Interior	F	965		2134	45	HM			PT		-	F01	PS	146	PT			
	CORRIDOR_3	REST/STUDY RM #5	Interior		965		2134	45	HM			PT		-	F01	PS	146	PT			
117 118	CORRIDOR_3 CORRIDOR_3	REST/STUDY RM #2 REST/STUDY RM #4	Interior Interior		965 965		2134 2134	45 45	HM HM			PT PT		-	F01 F01	PS	146 146	PT PT			WITHOUT KEYPAD WITHOUT KEYPAD
	CORRIDOR_3	REST/STUDY RM #4	Interior		965		2134	45	HM			PT		-	F01	PS PS	146	PT			WITHOUT KEYPAD
	STOR.	CORRIDOR_3	Interior	F	1220		2134	45	HM			PT		-	F01	PS	146	PT		HG4	
121	DINING		Interior		975		2672	13				PT						PT			GLASS PARTITION AND DOOR SYSTEM, SEE SPECS
123	CORRIDOR_1	FLEX SPACE	Interior	FGA	965		2134	45	AL			FF		TEMP.	-	AL		FF		(none)	
131-E1	APPARATUS BAY	EXTERIOR	Exterior	BF-1	4270	4	4270	51	MTL	V		PT		TEMP.	-			PT			POWER CONTROLS TO EAST WALL OF BAY. 3-WAY SWITCH ON WALL AND AT DOOR.
131-E2	APPARATUS BAY	EXTERIOR	Exterior	BF-1	4270	4	4270	51	MTL			PT		TEMP.	-			PT		(none)	SAME AS ABOVE
131-E3	APPARATUS BAY	EXTERIOR	Exterior	BF-1		4	4270		MTL			PT		TEMP.	-			PT		(none)	SAME AS ABOVE
	APPARATUS BAY	EXTERIOR	Exterior		4270		4270		MTL			PT		TEMP.	-	MTL		PT		,	SAME AS ABOVE
	APPARATUS BAY	EXTERIOR	Exterior	OH-1	_		4270		MTL			PT		TEMP.	-	MTL		PT		· · · ·	SAME AS ABOVE
	EXTERIOR	APPARATUS BAY	Exterior	F	965		2134			√		PT	YES	-	F01.TL		146	PT			TRANSOM LOUVRE
	CORRIDOR_2	RIP & RUN #1	Interior	G	965		2134		HM			PT		TEMP	F01	PS	197	PT		HG7	
	CORRIDOR_2 CORRIDOR_2	RIP & RUN #2 NORTH VEST	Interior	G G	965 965	-	2134		HM HM			PT PT		TEMP TEMP	F01	PS	197	PT PT		HG7	
	EXTERIOR	NORTH VEST	Interior Exterior	G	965	-	2134 2134		HM	1		PT		TEMP	F01 F01	PS PS	197 146	PT	00	HG1 HG2.1	
	APPARATUS BAY	SCBA/FUTURE COMP.	Interior		965		2134		HM	• •		PT	YES		F01		210	PT		HG4	
	ST. VEST	LNDRY & EXTRACT	Interior	L	965		2134		HM			PT	YES		F01		210	PT		HG4	
	ST. VEST	WR	Interior	F	762		2134		HM	1		PT		-	F01	PS	146	PT		HG3	
	ST. VEST	HOSE TOWER	Interior	NL1	965		2134		НМ	1		PT		TEMP	F01		210	PT		HG7	
	EXTERIOR	HOSE TOWER	Exterior	FGA			2134	45	AL	\checkmark		FF		TEMP.	-	AL		FF		HG1	
141	APPARATUS BAY	GROUNDS STOR.	Interior	L	965		2134		HM			PT	YES	-	F01		210	PT	45	HG4	
	GROUNDS STOR.	EXTERIOR	Exterior	F	1930		2134		HM			PT	YES		F01.TL	PS	146	PT			TRANSOM LOUVRE
142-E	MECH. / SPKLR. / ELEC.	EXTERIOR	Exterior	F	1930	2	2134		HM			PT		-	F01	PS	146	PT			KEYPAD PROGRAMMABLE
201-E		S/W ROOF	Exterior	F	762	1	1880			√		PT		-	F01	PS	146	PT		HG5	
202	MECH. MEZZ		Interior	NL1	965		2032		HM	1		PT		TEMP	F01	PS	146	PT	45	HG4	
202-Е 203	MECH. MEZZ	N/W ROOF TRENCH. MEZZ	Exterior Interior	F	1930 965		2134 2032		HM HM	N		PT PT		-	F01 F01	PS PS	146 146	PT PT			SIGNAGE ON DOOR TO READ "FALL HAZARD,
201 5	ROOF		Extorior	-	965	1	0404	45	НМ			PT			F01		146				AUTHORIZED PERSONNEL ONLY"
301-E			Exterior	<u> </u> Г'	900	1	2134	40		N				-		PS	146	PT			WITHOUT ASTRAGAL

HARDWARE GROUP

																				•.		
		LOCK	FUNG	CTION			CLIN	IATIC			_		OP	ERAT	ION						SECL	JRI
GROUP	CLASSROOM	ENTRY	PASSAGE	PRIVACY	STOREROOM	ASTRAGAL	DOORSWEEP	THRESHOLD	WEATHERSTRIP	CLOSER	COORDINATOR	DOOR LEVEL	PULLS	FLUSH BOLT	KICK PLATE	PANIC DEVICE	PUSH PLATE	PUSH TO LOCK	ACOUSTIC SEAL	CARD READER	DOOR BELL	
HG1		\checkmark																				
HG2		\checkmark					\checkmark		\checkmark	\checkmark			\checkmark									
HG2.1		\checkmark					\checkmark	\checkmark	\checkmark	\checkmark			\checkmark									
HG2.2		\checkmark					\checkmark	\checkmark	\checkmark	\checkmark			\checkmark									
HG3				\checkmark								\checkmark			\checkmark							
HG3.1				\checkmark								\checkmark			\checkmark							
HG4			\checkmark									\checkmark			\checkmark							
HG5						\checkmark	\checkmark	\checkmark	\checkmark				\checkmark									
HG6										\checkmark		\checkmark			\checkmark			\checkmark				
HG7			\checkmark										\checkmark		\checkmark	\checkmark						
HG8															\checkmark							
HG9			\checkmark																			

BORROWED LITE SCHEDULE

NAME	ТҮРЕ	WIDTH	HEIGHT	AREA	LOCATION	DESCRIPTION	FRR (MINUTE)
	=			74(27)	200/11011	BEGGIAI HOIT	(
B01	900x1200_146x50_Metal	900	1200	1.08 m ²	Interior	BORROWED, 1 LITE	60



6			
	Arch	itect	s Inc.

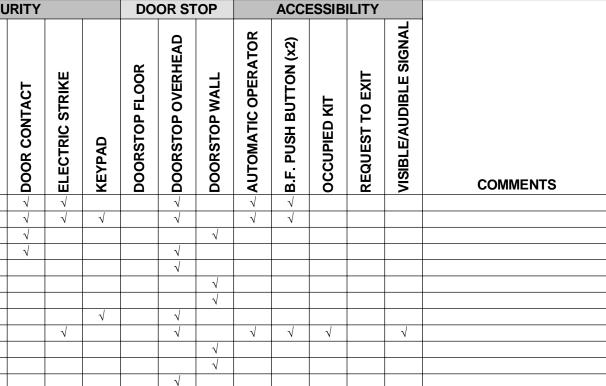
138 Simcoe Street Peterborough Ontario K9H 2H5

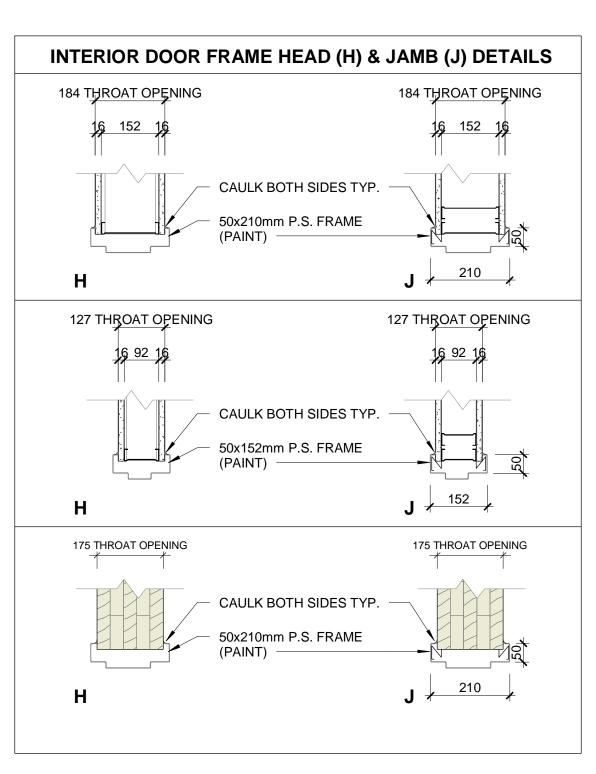
t. 705.743.3311 e. studio@lett.ca

ISSUE / REVISIONS

1 Issued for Building Permit 2 Issued for Building Permit Response 3 Issued for Tender

Mar.21.22 Apr.25.22 Aug.18.22







All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

CONSTRUCTION DOCUMENTATION

PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough **FIRE STATION NO. 2**

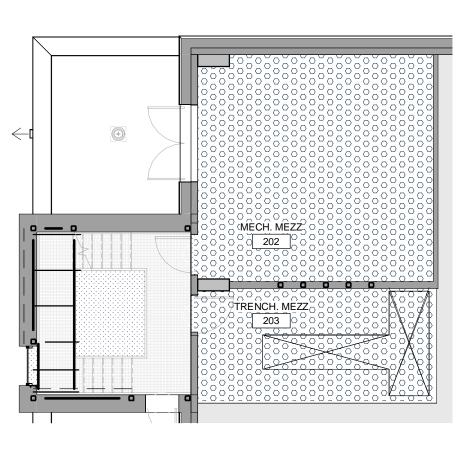
(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

DOOR SCHEDULE & DETAILS



105	IT
106	FLE
107	STC
108	WR
109	WR
110	WR
111	JAN
112A	KIT
112B	DIN
112C	LOL
113	EXE
114	RES
115	RES
116	RES
117	RES
118	RES
119	RES
120	STC
	COF
121B	COF
121C	COF
131	APF
131A	RIP
131B	RIP
131C	NOF
132	SCE
133	ST.
134	LNC
135	WR
136	HOS
137	DEC
138	WO
139	TRE
140	BUN
141	GRO
142	MEC
202	MEC
203	TRE

•REFER TO RO INTERIOR WA	
TYPE	Γ
WT-1	١
WT-2	١
WT-3	F



2 MEZZANINE FLOOR - FINISHES A-605 REF: A-301 Scale: 1 : 100

FLOOR FINISHES

ANTI-STA
CARPET
EPOXY
FT-1 (12"x
FT-2 (24"x

	ROOM FINISH SCHEDULE															
	LOCATION		FLOOR					WALL	_S					CEILING		
					NO	RTH	SO	UTH	E	AST	W	EST				
No.	ROOM NAME	SUBSTRATE	FINISH	BASE	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	CLG/RM HT.	COMMENTS
101	SOUTH VEST	CONC.	FT-2 (24"x12")	TILE/CAULK	GWB	PAINT	CLT	-	CLT	-	GWB	PAINT	WD PLANK	UNFINISHED	2700	
102	CAPTAIN'S OFFICE #2	CONC.	CARPET	RUBBER	GWB	PAINT	GWB	PAINT	CLT		GWB	PAINT	A.C.T.	-	2700	
103	UWR & SHWR	CONC.	FT-1 (12"x12")	TILE/CAULK	GWB	PAINT	CLT	-	GWB	PAINT	GWB	PAINT	GYP.	PAINT	2700	
104	CAPTAIN'S OFFICE #1	CONC.	CARPET	RUBBER/CAUL K	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	A.C.T.	-	2700	
105	Π	CONC.	ANTI-STATIC	RUBBER	GWB	PAINT	CLT	-	GWB	PAINT	GWB	PAINT	GYP.	PAINT	-	
106	FLEX SPACE	CONC.	RUBBER		GWB	PAINT	CLT	-	GWB	PAINT	CLT	-	EXPOSED	-	2700	
107	STOR.	CONC.	SEALED		GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	EXPOSED	-	-	
108	WR/SAUNA	CONC.	FT-1 (12"x12")		GWB	PAINT/TILE	GWB	PAINT/TILE	GWB	PAINT/TILE	GWB	PAINT/TILE	EXPOSED	PAINT	2400	
109	WR/SHWR #2	CONC.	FT-1 (12"x12")		GWB	PAINT/TILE	GWB	PAINT/TILE	GWB	PAINT/TILE	GWB	PAINT/TILE	EXPOSED	PAINT	2400	
110	WR/SHWR #1	CONC.	FT-1 (12"x12")		GWB	PAINT/TILE	GWB	PAINT/TILE	GWB	PAINT/TILE	GWB	PAINT/TILE	EXPOSED	PAINT	2400	
111	JAN.	CONC.	SEALED	RUBBER	GWB	PAINT/TILE	GWB	PAINT/TILE	GWB	PAINT/TILE	GWB	PAINT/TILE	EXPOSED	-	-	
112A	KITCHEN	CONC.	RUBBER		GWB/CLT	PAINT	GWB	PAINT			GWB	PAINT/TILE	GYP.	PAINT	2700	
112B	DINING	CONC.	RUBBER		CLT	-	GWB	PAINT					EXPOSED	-	-	
112C	LOUNGE	CONC.	RUBBER		CLT	-	GWB	PAINT	CLT/GWB	PAINT			EXPOSED	-	-	
113	EXERCISE	CONC.	SPORT FLOOR		GWB	PAINT	GWB	PAINT	CLT	-	GWB	PAINT	EXPOSED	-	-	MIRROR ON NORTHWALL, BASE TO BE SPORT FLOORING FLASHED UP WALL 300MM A.F.F.
114	REST/STUDY RM #6	CONC.	CARPET	RUBBER	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	A.C.T.	-	2700	
115	REST/STUDY RM #1	CONC.	CARPET	RUBBER	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	A.C.T.	-	2700	
116	REST/STUDY RM #5	CONC.	CARPET	RUBBER	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	A.C.T.	-	2700	
117	REST/STUDY RM #2	CONC.	CARPET	RUBBER	GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	A.C.T.	-	2700	
118	REST/STUDY RM #4	CONC.	CARPET	RUBBER	GWB	PAINT	GWB	PAINT	CLT	-	GWB	PAINT	A.C.T.	-	2700	
119	REST/STUDY RM #3	CONC.	CARPET	RUBBER	GWB	PAINT	GWB	PAINT	CLT	-	GWB	PAINT	A.C.T.	-	2700	
120	STOR.	CONC.	RUBBER		GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	GYP.	PAINT	2400	
121A	CORRIDOR_1	CONC.	RUBBER		GWB	PAINT	GWB	PAINT	CLT	-	GWB	PAINT	A.C.T./WD PLANK	-	2700	
121B	CORRIDOR_2	CONC.	RUBBER		GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	GYP/A.C.T.	PAINT	2700	
121C	CORRIDOR_3	CONC.	RUBBER		GWB	PAINT	GWB	PAINT	GWB	PAINT	GWB	PAINT	A.C.T.	-	2700	
131	APPARATUS BAY	CONC.	POLISHED	CAULK JOINT	CLT	-	CLT	-	CLT	-	CLT/CMU	-	EXPOSED	-	-	
131A	RIP & RUN #1	CONC.	POLISHED		GWB	PAINT	GWB	PAINT	GWB	PAINT	CLT	-	EXPOSED	-	-	
131B	RIP & RUN #2	CONC.	POLISHED		GWB	PAINT	GWB	PAINT	GWB	PAINT	CLT	-	EXPOSED	-	-	
	NORTH VEST		FT-2 (24"x12")	TILE/CAULK	GWB	PAINT	GWB	PAINT	GWB	PAINT	CLT	PAINT	WD PLANK	WOOD PANEL	2700	
132	SCBA/FUTURE COMP.	CONC.	EPOXY		GWB	PAINT	CLT	-	GWB	PAINT	CLT	-	EXPOSED	-	-	
	ST. VEST	CONC.	EPOXY		GWB	PAINT	GWB	PAINT	CLT	-	GWB	PAINT	EXPOSED	-	-	
	LNDRY & EXTRACT	CONC.	EPOXY	CAULK JOINT	GWB		GWB	PAINT	CLT		CLT	-	EXPOSED	-	-	
135	WR	CONC.	EPOXY		GWB	PAINT/TILE	GWB	PAINT/TILE	GWB	PAINT/TILE	CLT		GYP.	PAINT	2400	
136	HOSE TOWER	CONC.	EPOXY		GWB	PAINT	GWB	PAINT	CLT	-	GWB	PAINT	EXPOSED	-	-	
137	DECON.	CONC.	EPOXY	-	CMU	EPOXY	CMU	EPOXY	CMU	EPOXY	GWB	TILE	EXPOSED	-	-	
138	WORKSHOP	CONC.	POLISHED		CMU	PAINT			CMU	EPOXY	CMU	EPOXY	EXPOSED	-	-	
139		CONC.	POLISHED		CMU	EPOXY	CMU	EPOXY	CMU	EPOXY	CMU	EPOXY	EXPOSED	-	-	
	BUNKER GEAR RM	CONC.	POLISHED		CMU	EPOXY	CMU	EPOXY	CMU	EPOXY	CMU	EPOXY	EXPOSED		3450	
	GROUNDS STOR. MECH. / SPKLR. / ELEC.	CONC.	SEALED SEALED	CAULK JOINT	CLT CLT	-	CMU GWB	EPOXY PAINT	CMU CLT	EPOXY	CLT CLT	-	GYP. EXPOSED	PAINT	3450	
	MECH. / SPKLR. / ELEC.	CONC.	SEALED		CLT	-	GWB	PAINT	GWB	- PAINT	CLT	-	EXPOSED	-	-	
202	TRENCH. MEZZ	CONC.	SEALED		GWB	- PAINT	GVVD	FAINT	GWB	PAINT	CLT	-	EXPOSED	•	-	0
203			JEALED		GVVD				GVVD			-	EVLOSED	-	-	

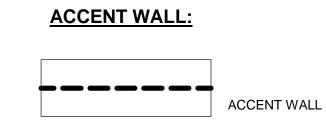
WALL FINISHES										
DM FINISH SCHEDULES AND INTERIOR ELEVATION DRAWINGS FOR EXTENT OF _ FINISHES AND ACCENTS.										
DESCRIPTION	PURPOSE	Comments								
WALL TILE 12" x 24"	FINISHES									
WALL TILE 4" x16"	FINISHES									
PENNY TILE	FINISHES									

POLISHED

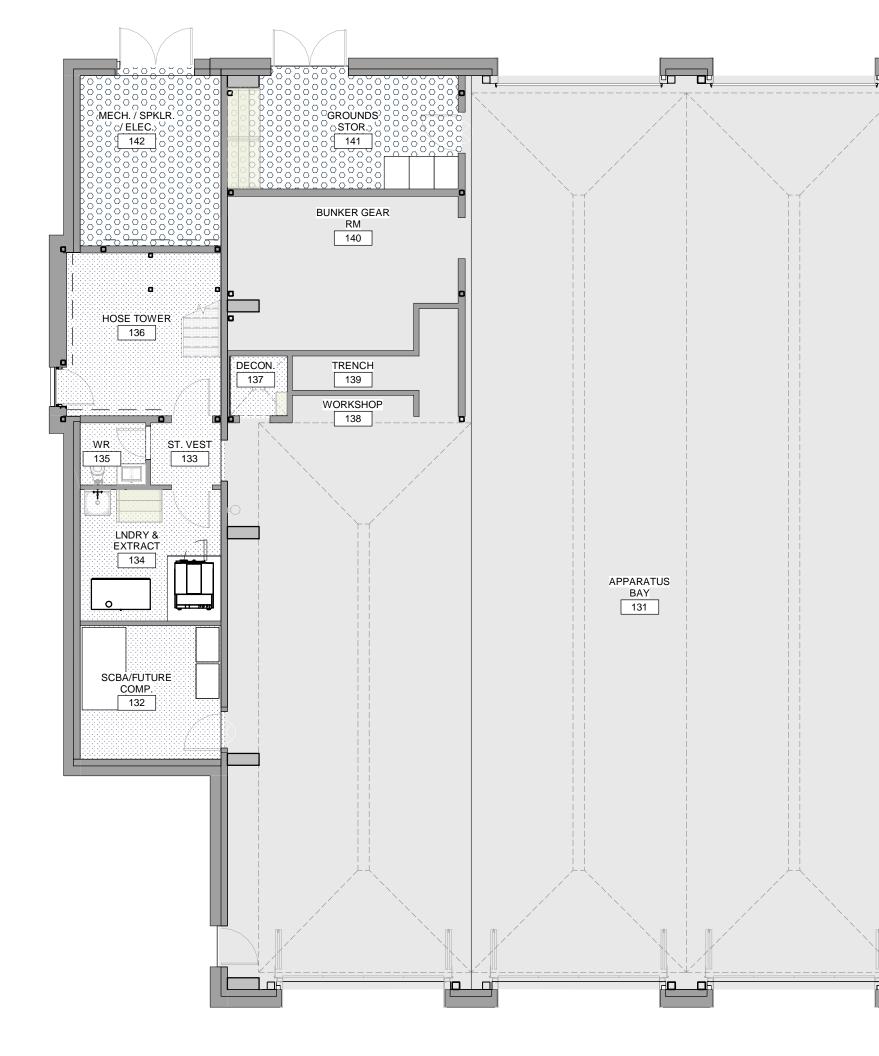
RUBBER

+ + + + + | SPORT FLOOR

SEALED



ATIC x12") "x12")





138 Simcoe Street Peterborough Ontario K9H 2H5

t. 705.743.3311 e. studio@lett.ca

- 1 Issued for Building Permit Response 2 Issued for Tender
- Apr.25.22 Aug.18.22

all ASSOC WILLIAM P. LETT LICENCE

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CONSTRUCTION DOCUMENTATION

PROJECT No. 21-100 START DATE OCT.2021

City of Peterborough **FIRE STATION NO. 2**

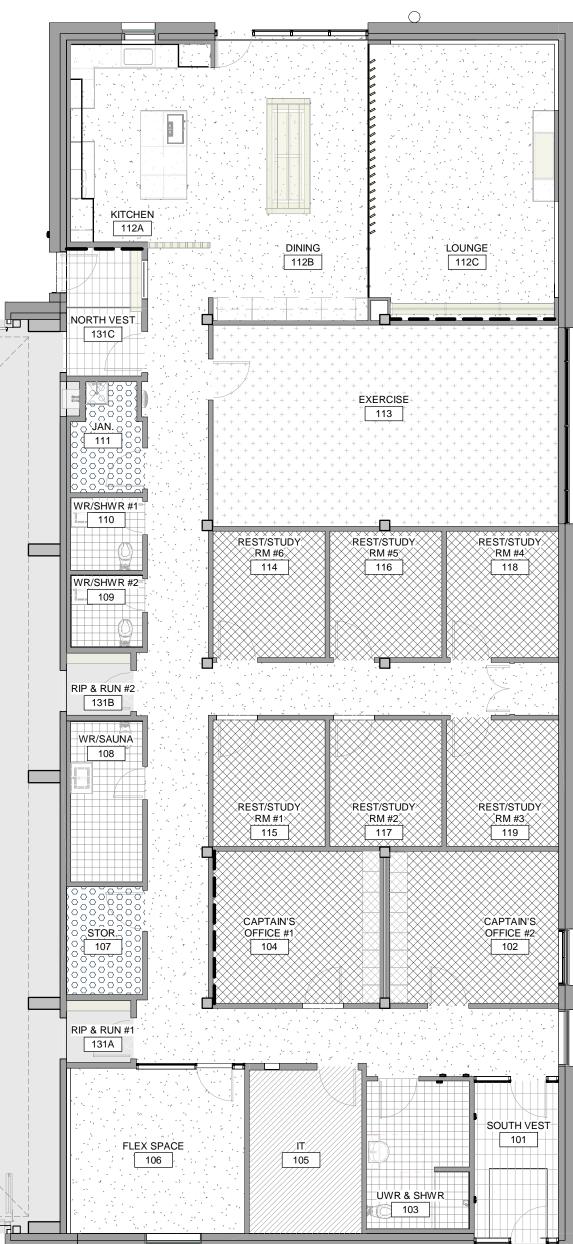
(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

ROOM SCHEDULE AND FLOOR FINISH PLAN

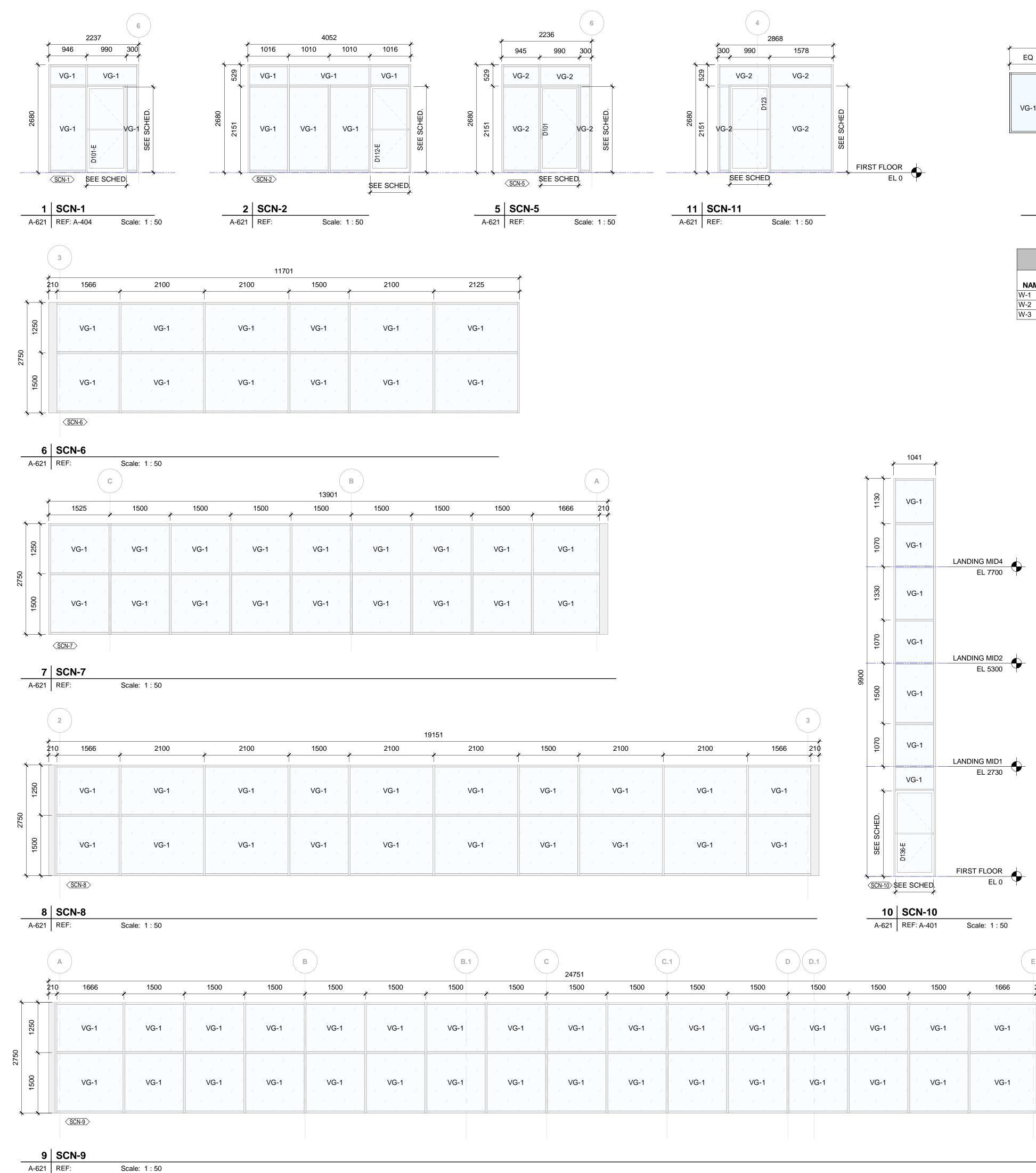
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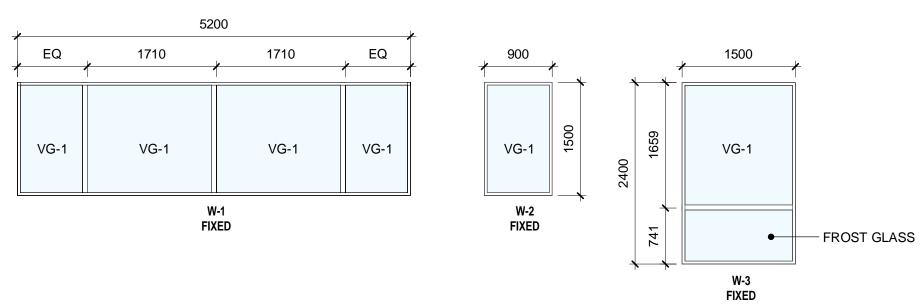
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ISSUE / REVISIONS





WINDOW	/ TYPES
REF:	Scale: 1 : 50

	WINDOW SCHEDULE											
	DIMENSIONS FRAME											
NAME	Width	Height	LOCATION	FINISH	DESCRIPTION							
W-1	5200	1500	Exterior	PREFIN.	ALUM. FRAME,1 LITE, FIXED WINDOW							
W-2	900	1500	Exterior	PREFIN.	ALUM. FRAME,2 LITE, FIXED WINDOW							
W-3	1500	2340	Exterior	PREFIN.	ALUM. FRAME,2 LITE, FIXED WINDOW							

			3
م	2100	2100	1566 210
1			
	VG-1	VG-1	VG-1
1		1 1 1 1	1 1 1
1			
11		1 1 1 1	1 1 1
	VG-1	VG-1	VG-1
11			
1		1 1 1 1	1 1 1
	<u>de de de composition de composition</u>	da da da da	

	C	.1		D (D.1)			E
4751							
1500	1500	1500	1500	1500	1500	1500	1666 210
	· · · · · · · · · · · · · · · · · · ·						
1 1	1 1 1		1 1 1		1 1 1	1 1 1	
VG-1	VG-1	VG-1	VG-1	VG-1	/ VG-1/	/ VG-1/	VG-1
1		1 1 1				1 1 1	
VG-1	VG-1	VG-1	VG-1	VG-1	VG-1	VG-1	VG-1
1	1 1 1		1 1 1		1 1 1	1 1 1	1 1 1
/ /	1 1 1	the the the	t t t		1 1 1	1 1 1	
de de	di di di	de de de	di di di		di di a	di di	

NOTE: 1. SCREENS TAGGED WITH 2. DOUBLE MULLIONS AT						
NAME	FACADE					
SCN-1	SOUTH-1					
SCN-2	NORTH-1					
SCN-6	NORTH-2					
SCN-7	WEST-2					
SCN-8	SOUTH-1					
SCN-9	EAST-2					
SCN-10	WEST-1					
SCN-5	INTERIOR					
SCN-11	INTERIOR					

GLASS TYPE					
NAME	ТҮРЕ				
VG-1	VISION GLASS, EXTERIOR (IGU)				
VG-2	VISION GLASS, INTERIOR				

2		
Arch	itects	s Inc.

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1	Issued for Building Permit	Mar.21.22
2	Issued for Building Permit	Apr.25.22
	Response	
3	Issued for Tender	Aug.18.22



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CONSTRUCTION DOCUMENTATION

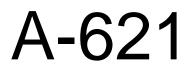
PROJECT No. 21-100 START DATE OCT.2021

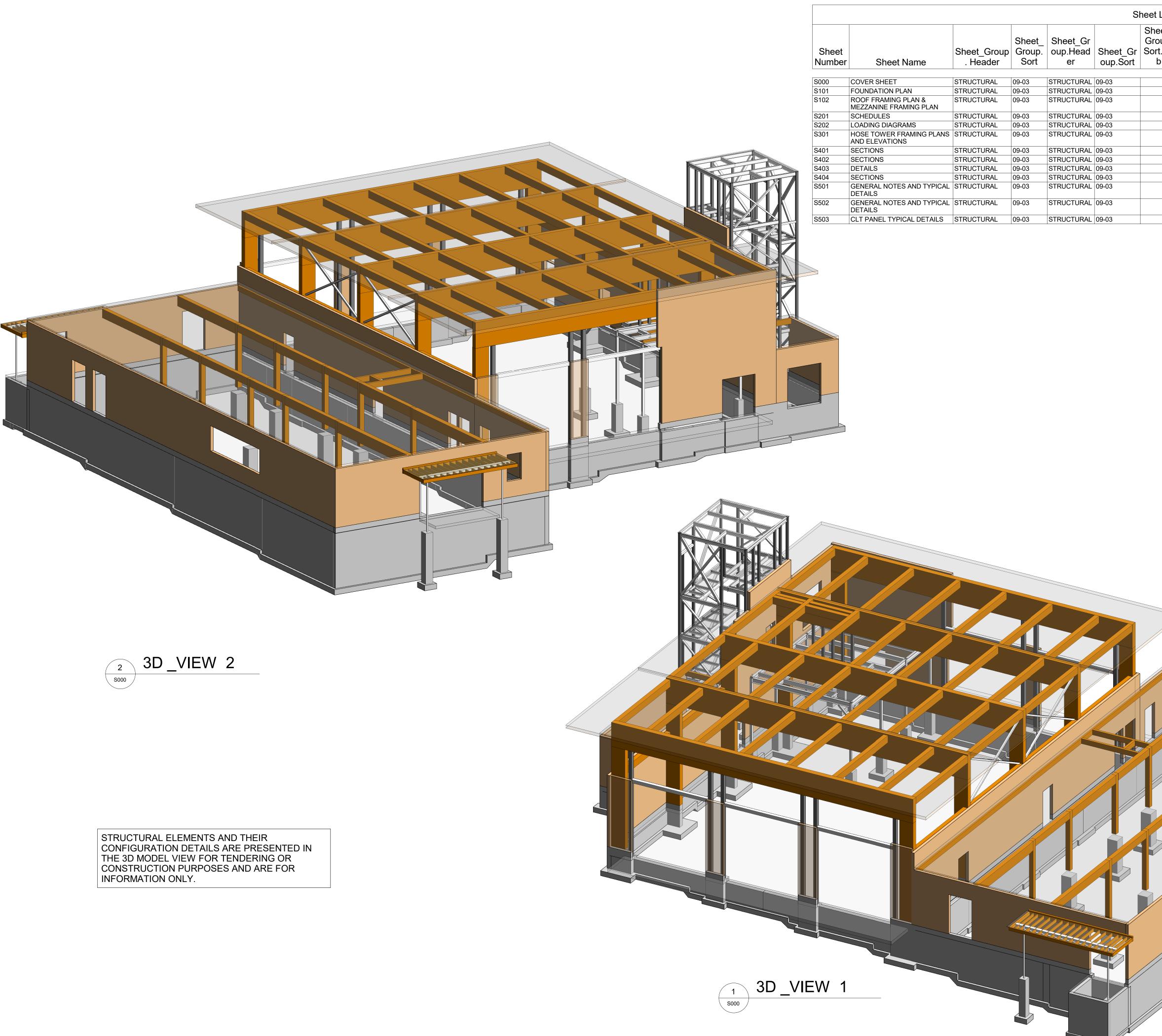
	SCREEN SCHEDULE									
	ARE SIMILAR CONFIGURATIONS. OOR HEAD WITH AUTOMATIC DOOR OPERAT	ORS								
	ТҮРЕ	FRR	LOCATION	FRAME	Comments					
	FIXED GLASS IN ALUM. FRAME		Exterior	PREFIN.						
	FIXED GLASS IN ALUM. FRAME		Exterior	PREFIN.						
	FIXED GLASS IN ALUM. FRAME		Exterior	PREFIN.						
	FIXED GLASS IN ALUM. FRAME		Exterior	PREFIN.						
	FIXED GLASS IN ALUM. FRAME		Exterior	PREFIN.						
	FIXED GLASS IN ALUM. FRAME		Exterior	PREFIN.						
	FIXED GLASS IN ALUM. FRAME		Exterior	PREFIN.						
			1							
	INTERIOR SCREEN		Interior							
	INTERIOR SCREEN		Interior							
-		1		-						

City of Peterborough **FIRE STATION NO. 2**

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON K9H 6M6

SCREEN AND WINDOW SCHEDULE







S000

COVER SHEET

100 Marina Boulevard Peterborough, Ontario

CITY OF PETERBOROUGH **FIRE STATION NO.2**

PROJECT No. 2153 START DATE Issue Date

Contract Documentation

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.



	AMR ENGINEERING LTD. STRUCTURAL ENGINEERS 920 Alness St Suite 205, Toronto, ON M3J 2H7 (416) 551-1611					
	ISSUE / R	EVISIONS				
1	ISSUED FOR DESIGN SIGN-OFF	OCT 27, 21				
2	ISSUED FOR COORDINATION	FEB 16, 22				
3	ISSUED FOR PERMIT REVIEW	FEB 25, 22				
4	ISSUED FOR BUILDING PERMIT	MAR 21, 22				

Architects Inc.

t. 705.743.3311 e. studio@lett.ca

138 Simcoe Street Peterborough Ontario K9H 2H5

Sheet_ Group. Sort.Su	Sheet Issue	Current	Current Revision	Current Revision	Designed	Drawn	Approved
b	Date	Revision	Date	Description	By	By	By
	06/08/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	ОН	DK
	06/08/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	OH	DK
	06/08/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	OH	DK
	06/08/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	OH	DK
	01/19/22	5	AUG 18, 22	ISSUED FOR TENDER	DK	ОН	DK
	10/18/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	ОН	DK
	06/08/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	ОН	DK
	10/04/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	ОН	DK
	02/01/22	5	AUG 18, 22	ISSUED FOR TENDER	DK	ОН	DK
	10/04/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	ОН	DK
	10/25/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	ОН	DK
	10/25/21	5	AUG 18, 22	ISSUED FOR TENDER	DK	ОН	DK

AUG 18, 22 ISSUED FOR TENDER DK

OH DK

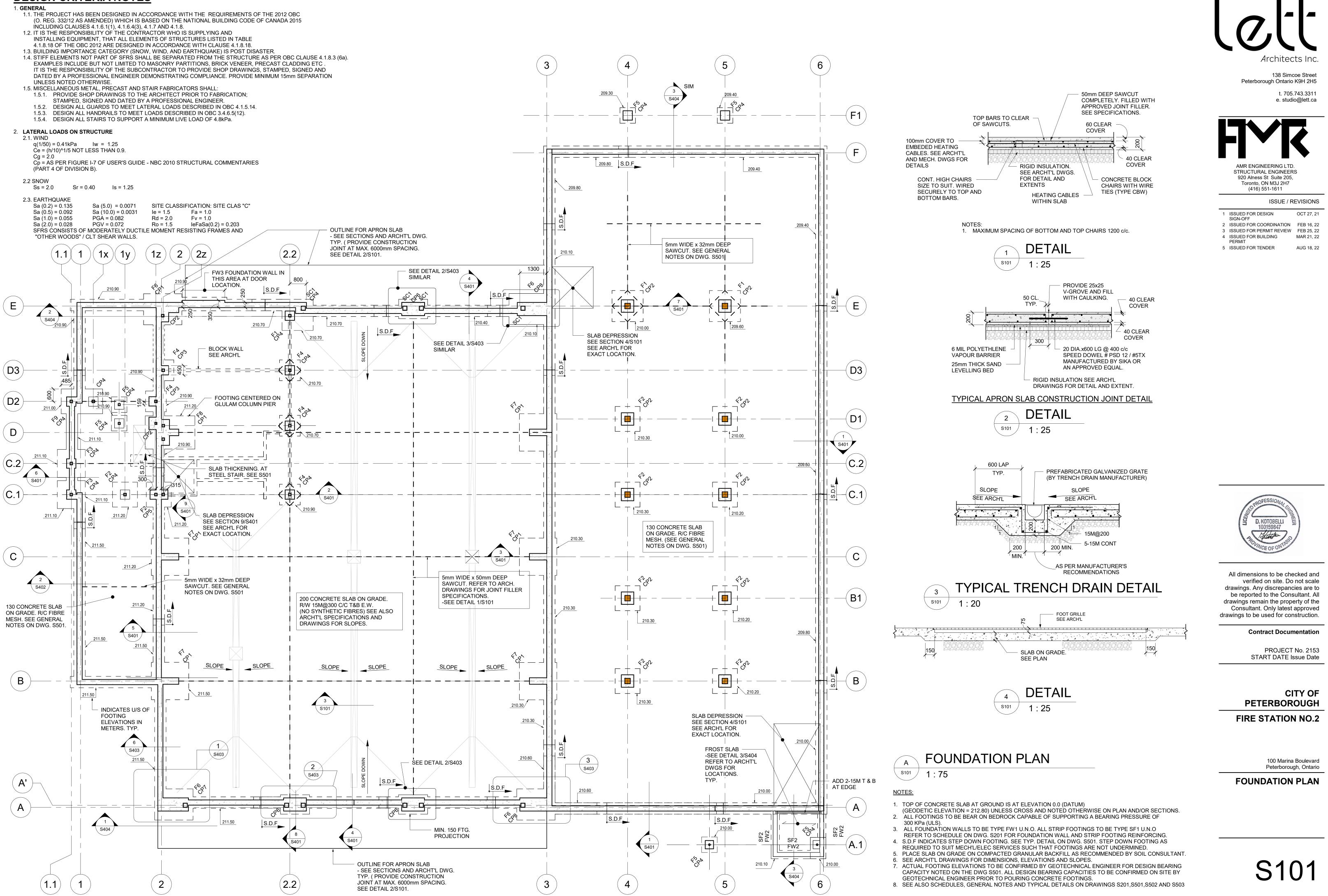
Sheet List

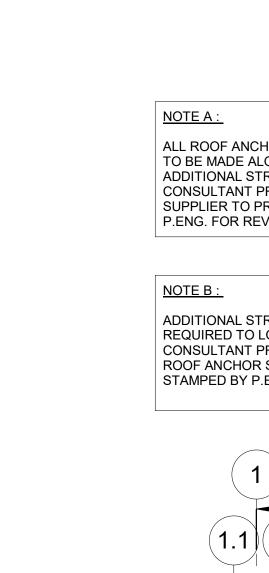
10/05/21 5

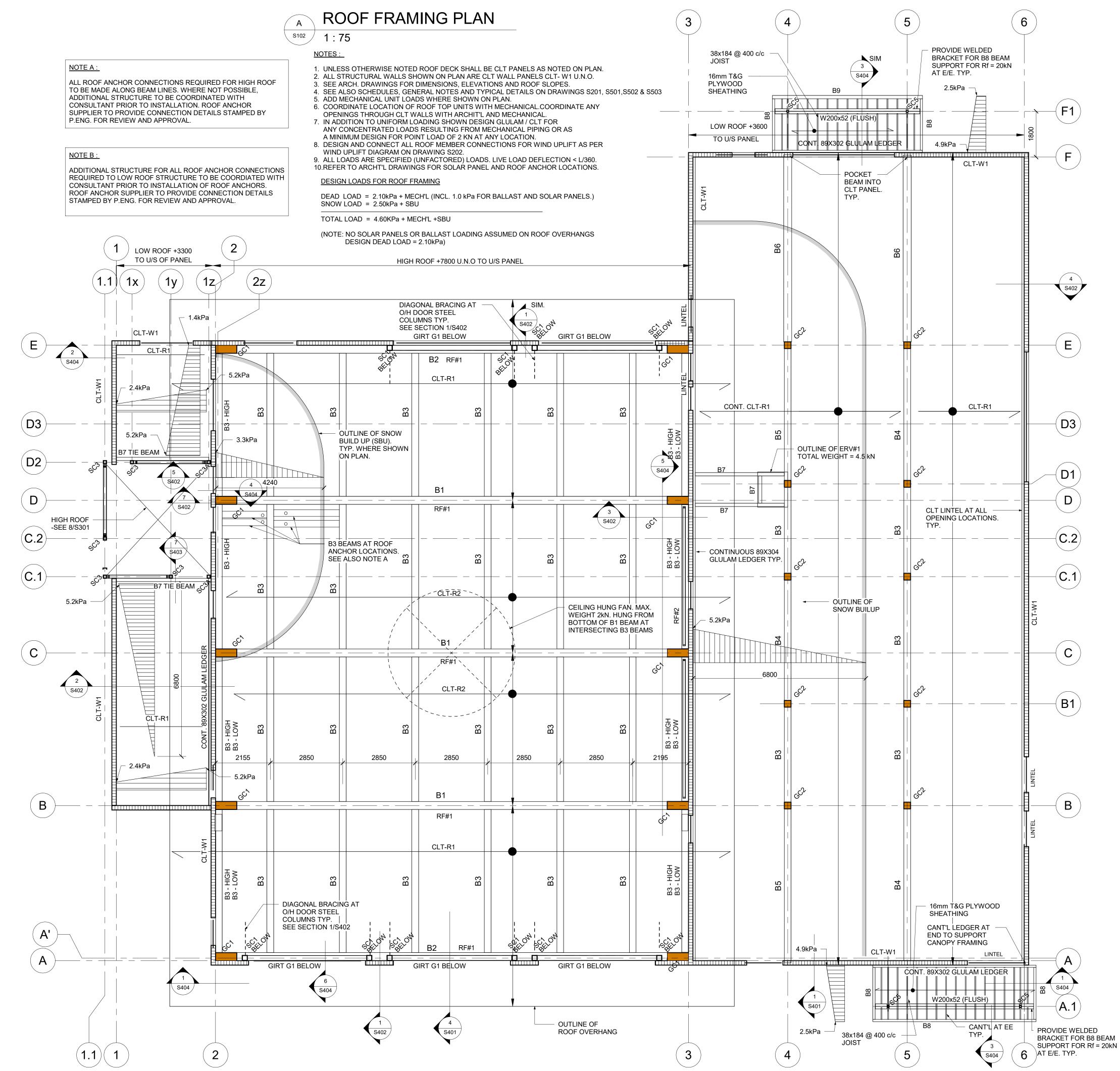
DESIGN CRITERIA NOTES

- (O. REG. 332/12 AS AMENDED) WHICH IS BASED ON THE NATIONAL BUILDING CODE OF CANADA 2015 INCLUDING CLAUSES 4.1.6.1(1), 4.1.6.4(3), 4.1.7 AND 4.1.8.
- 1.2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR WHO IS SUPPLYING AND
- 4.1.8.18 OF THE OBC 2012 ARE DESIGNED IN ACCORDANCE WITH CLAUSE 4.1.8.18.
- 1.3. BUILDING IMPORTANCE CATEGORY (SNOW, WIND, AND EARTHQUAKE) IS POST DISASTER. EXAMPLES INCLUDE BUT NOT LIMITED TO MASONRY PARTITIONS, BRICK VENEER, PRECAST CLADDING ETC . IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO PROVIDE SHOP DRAWINGS, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER DEMONSTRATING COMPLIANCE. PROVIDE MINIMUM 15mm SEPARATION
- 1.5.1. PROVIDE SHOP DRAWINGS TO THE ARCHITECT PRIOR TO FABRICATION; STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER.

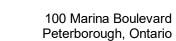
- - q(1/50) = 0.41kPa Iw = 1.25
 - Cg = 2.0
 - Cp = AS PER FIGURE I-7 OF USER'S GUIDE NBC 2010 STRUCTURAL COMMENTARIES (PART 4 OF DIVISION B).
- Ss = 2.0









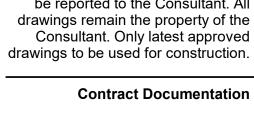


ROOF FRAMING PLAN & MEZZANINE FRAMING PLAN

100 Marina Boulevard

FIRE STATION NO.2

START DATE Issue Date **CITY OF** PETERBOROUGH



PROJECT No. 2153

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All

D. KOTOBELLI 100159847 Hatoto

MEZZANINE FRAMING PLAN

W250X39 WELDED

W250x45

W250x39

W250x39

W250x39

W250x73

W250x22 + L

W250x22+L

W250x45

OPEN/

KB

OUTRIGGER (100% MC)

W250x33 + L WELDED

W250x58

OUTRIGGER (100% MC)

S102 / 1:75

- NOTES:
- 1. TOP OF MEZZANINE SLAB IS AT ELEVATION +3900 FROM GROUND FLOOR.
- UNLESS NOTED OTHERWISE ON PLAN AND/OR SECTIONS. 2. TOP OF STEEL BEAM 100 BELOW TOP OF CONCRETE DECK UNLESS THERWISE
- ON PLAN /OR SECTIONS. 3. SEE ARCH. DRAWINGS FOR DIMENSIONS, ELEVATIONS AND SLOPES.
- 4. SEE MECHANICAL DRAWINGS FOR ALL EQUIPMENT LAYOUT ON MEZZANINE
- FLOOR. 5. SEE ALSO SCHEDULES, GENERAL NOTES AND TYPICAL DETAILS ON DRAWINGS S201, S501, S502 AND S503

DESIGN LOADS FOR MEZZANINE

KB

2)(2z)

Е

(D3)

S402

D

(C.1

5 S402

W200x15

TIE BEAM

S402 /

В

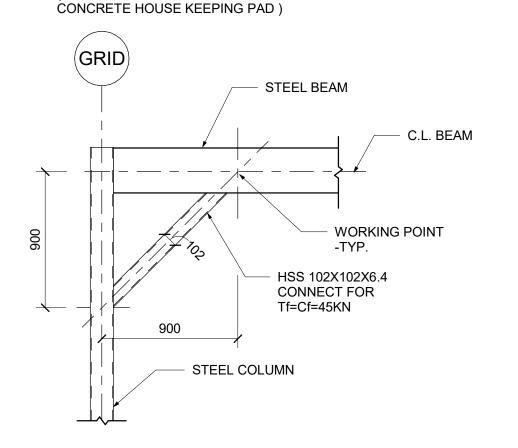
L102x76x6.4(LLV)

+12Ø x300 LG ANCHORS

@ 400c/c MAX. TYP. ALL AROUND PERIMETER.

> DEAD LOAD = 2.86 KPa + EQUIPMENT + CONC. PAD LIVE LOAD = 4.80 KPa TOTAL LOAD = 7.66 KPa + EQUIPMENT + CONC. PAD

(NOTE: ALL EQUIPMENTS ASSUMED TO BE MOUNTED ON 100mm THICK





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2	ISSUED FOR COORDINATION	FEB 16, 22
3	ISSUED FOR PERMIT REVIEW	FEB 25, 22
4		

4 ISSUED FOR BUILDING MAR 21, 22 PFRMIT 5 ISSUED FOR TENDER AUG 18, 22

TYP. SEE DETAIL C/S102

KNEE BRACE (KB)

W200x15

- ľů, –

TIE BEAM

BEAM AT TOP.

6

- SC7 VERTICALLY SLOTTED

CONNECTION TO GLULAM

S402

(2.2)

\ S40

STEEL COLUMN SCHEDULE							
MARK	SIZE	BASEPLATE	ANCHOR BOLTS	BASEPLATE DETAIL			
SC1	HSS 203x203x8.0 (PROVIDE VERTICAL SLOTTED CONNECTION AT TOP TO ACCOMDATE 50MM MOVEMENT	350x20x350	3-19Ø X 450mm LONG ABS. (50 HOOK)	25 75 75 75 75 75 75 75 75 75 7			
SC2	HSS 127x127x6.4	280x20x280	4-19Ø X 450mm LONG ABS. (50 HOOK)				
SC2A	HSS 127x127x6.4	280x20x280	4-19Ø X 450mm LONG ABS. (50 HOOK)	40 40 40 40			
SC2B	HSS 127x127x6.4	280x20x280	3-19Ø X 450mm LONG ABS. (50 HOOK)	40 40 K			
SC3	HSS 127x127x6.4	280x20x280	4-25Ø X 450mm LONG ABS. (50 HOOK)				
SC3A	HSS 127x127x6.4	280x20x280	4-25Ø X 450mm LONG ABS. (50 HOOK)	40 40 7 9 9 12 12			
SC4	HSS 102x102x6.4	250x20x250	4-19Ø X 450mm LONG ABS. (50 HOOK)				
SC5	HS89DIA.x6.4 ROUND	250x20x250	4-19Ø X 450mm LONG ABS. (50 HOOK)				
SC6	HSS 127x127x6.4	WELD TO BEAM BELOW (VERTICALLY SLOTTED TO STEEL BEAM AT TOP)					
SC7	HSS 127x127x6.4	WELD TO BEAM BELOW (VERTICALLY SLOTTED TO GLULAM BEAM AT TOP)					

NOTES:

1. UNDER ALL COLUMN BASE PLATES PROVIDE 6MM LEVELING PLATE AND 44MM NON-SHRINK GROUT. LEVELING PLATE SHALL PROJECT 12MM BEYOND COLUMN BASE PLATE ALL AROUND 2. ALL EXTERIOR STEEL COLUMNS, BASE PLATES, ANCHOR BOLTS ETC. SHALL BE HOT DIPPED

GALVANIZED DURING STEEL FABRICATION.

	PIER SCHED	ULE
MARK	SIZE	PIER CONFIGURATION
CP1	1086x315 CONC. PIER +12-20M VERT +5-10M@300 C/C TIES +2 TIES @ TOP	
CP2	600x600 CONC. PIER +8-20M VERT +3-10M@300 C/C TIES +2 TIES @ TOP	
CP3	600x450 CONC. PIER +8-15M VERT +3-10M@300 C/C TIES +2 TIES @ TOP	
CP4	450x450 CONC. PIER +8-15M VERT +3-10M@300 C/C TIES +2 TIES @ TOP	
CP5	865x450 CONC. PIER +12-15M VERT +3-10M@300 C/C TIES +2 TIES @ TOP	
CP6	1100x635 CONC. PIER +14-15M VERT +6-10M@300 C/C TIES +2 TIES @ TOP	
CP7	1480x635 CONC. PIER +16-20M VERT +7-10M@300 C/C TIES +2 TIES @ TOP	
CP8	1550x635 CONC. PIER +14-20M VERT +6-10M@300 C/C TIES +2 TIES @ TOP	

NOTE: TOP OF PIERS IS 250mm BELOW FLOOR SLAB U.N.O. ON PLAN AND/OR SECTIONS. TOP OF PIERS SUPPORTING GLULAM COLUMN GC1 IS 300mm ABOVE FLOOR SLAB.

MARK

F1

F2

F3

SF2

SF1

SPREAD FOOTING SCHEDULE					
SIZE	NOTES				
1500x1500x300	PROVIDE DOWELS TO MATCH PIER ABOVE				
R/W 6-15Mx1350 LG B.E.W	VERTICAL (SEE SECTIONS)				
1200x1200x300	PROVIDE DOWELS TO MATCH PIER ABOVE				
R/W 5-15Mx1050 LG B.E.W	VERTICAL (SEE SECTIONS)				
1350x1350x300	PROVIDE DOWELS TO MATCH PIER ABOVE				
R/W 5-15Mx1200 LG B.E.W	VERTICAL (SEE SECTIONS)				
1000x1000x300	PROVIDE DOWELS TO MATCH PIER ABOVE				
R/W 4-15Mx850 LG B.E.W	VERTICAL (SEE SECTIONS)				
750x750x300	PROVIDE DOWELS TO MATCH PIER ABOVE				
R/W 3-15Mx600 LG B.E.W	VERTICAL (SEE SECTIONS)				
1850x1500x300 R/W 7-15Mx1350 LG B.S.W 6-15Mx1700 LG B.L.W	PROVIDE DOWELS TO MATCH PIER ABOVE VERTICAL (SEE SECTIONS)				
1800x1800x300	PROVIDE DOWELS TO MATCH PIER ABOVE				
R/W 7-15Mx1650 LG B.E.W	VERTICAL (SEE SECTIONS)				
2400x1600x300 R/W 10-15Mx1450 LG B.S.W 6-15Mx2250 LG B.L.W	PROVIDE DOWELS TO MATCH PIER ABOVE VERTICAL (SEE SECTIONS)				
2000x1200x400	PROVIDE DOWELS TO MATCH PIER ABOVE				
R/W 15M@250 T&B EW	VERTICAL				

(B.S.W - BOTTOM SHORT WAY; B.L.W - BOTTOM LONG WAY; B.E.W - BOTTOM EACH WAY)

	STRIP FOOTING SCHEDULE				
ĸ	SIZE	NOTES			
	550x300 3-15M CONT.	DOWELS TO MATCH FOUNDATION WALL ABOVE. (SEE SECTION)			
	400x200 2-15M CONT.	DOWELS TO MATCH FOUNDATION WALL ABOVE. (SEE SECTION)			

MARK	SIZE	NOTES
FW1	250 THK CONC WALL R/W 10M@400 c/c V. E.W. AND 10M@400 c/c H. E.W.	REFER TO FOUNDATION PLAN FOR LOCATION
FW2	200 THK CONC WALL R/W 2-15M T&B + 10M@400 c/c E.W. @ CENTRE	REFER TO FOUNDATION PLAN FOR LOCATION
FW3	350 THK CONC WALL R/W 10M@400 c/c V. E.W. AND 10M@400 c/c H. E.W.	REFER TO FOUNDATION PLAN FOR LOCATION

WALL AND DECK (FLOOR / ROOF) PANEL SCHEDULE						
MARK	SIZE (THICKNESS)	MATERIAL	NOTES			
CLT-R1	175MM (5 PLY)	DOUGLAS FIR				
CLT-R2	105MM (3 PLY)	DOUGLAS FIR				
CLT-W1	175MM (5 PLY)	DOUGLAS FIR	PROVIDE CLT LINTELS ABOVE OPENINGS. TYP.			

	STEEL DECK SCHEDULE
MARK	SIZE
D1	38MM STEEL DECK - MIN. 22GAUGE (O.76MM
D2	62MM CONC. R/W 152x152 MW18.7xMW18.7 W 38MM STEEL DECK - MIN. 22GAUGE (O.76MM COMPOSITE DECK)
D3	CONTINUOUS WELDED STEEL BAR GRATING (SERRATED SURFACE) TYPE 30-102 COVER V MIN. BEARING BAR SIZE 38mm DPx4.8mm TH MANUFACTURED BY BORDEN GRATINGS OR APPROVED EQUAL

WOOD BEAM SCHEDULE					
MARK	SIZE (THICKNESS)	MATERIAL	GRADE	FACTORED SHEAR (kN)	
B1	315x1520	DOUGLAS FIR	20f-E	520	
B2	315x1444	DOUGLAS FIR	20f-E	420	
B3	265x418	DOUGLAS FIR	20f-E	150	
B4	265x494	DOUGLAS FIR	20f-E	185	
B5	265x570	DOUGLAS FIR	20f-E	230	
B6	315x608	DOUGLAS FIR	20f-E	260	
B7	130x304	DOUGLAS FIR	20f-E	30	
B8	2-45x184 LVL 2.0E				
В9	3-45x184 LVL 2.0E				

GLULAM WOOD COLUMN SCHEDULE					
MARK	SIZE (WxD)	MATERIAL	GRADE	NOTES	FACTORED LOAD (kN)
GC1	315x836	DOUGLAS FIR	20f-EX	PIER DIMENSIONS TO MATCH COLUMN SIZE	Pf = 650
GC2	265x266	DOUGLAS FIR	16c-E		Pf (max) = 400

WIND GIRT SCHEDULE				
MARK	SIZE			
G1	HSS 203x203x8.0	CON		

S201

SCHEDULES

100 Marina Boulevard Peterborough, Ontario

FIRE STATION NO.2

CITY OF PETERBOROUGH

START DATE Issue Date

PROJECT No. 2153

Contract Documentation

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.



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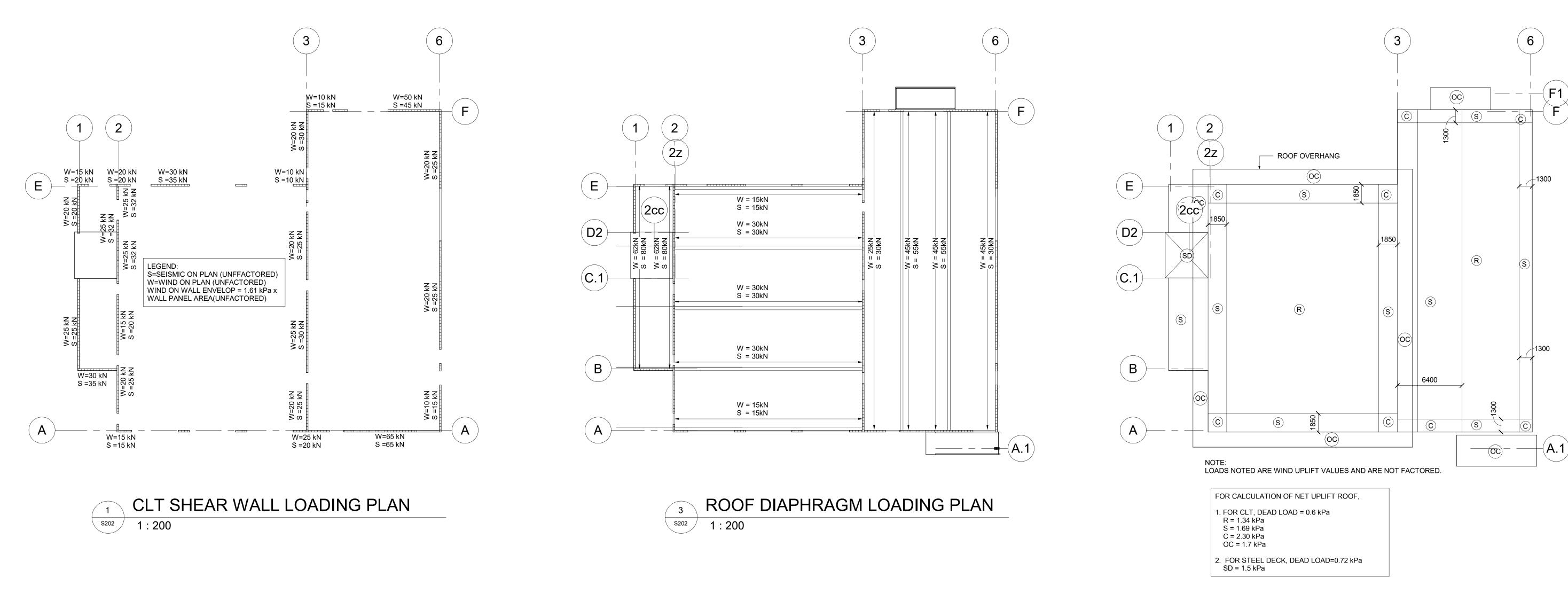
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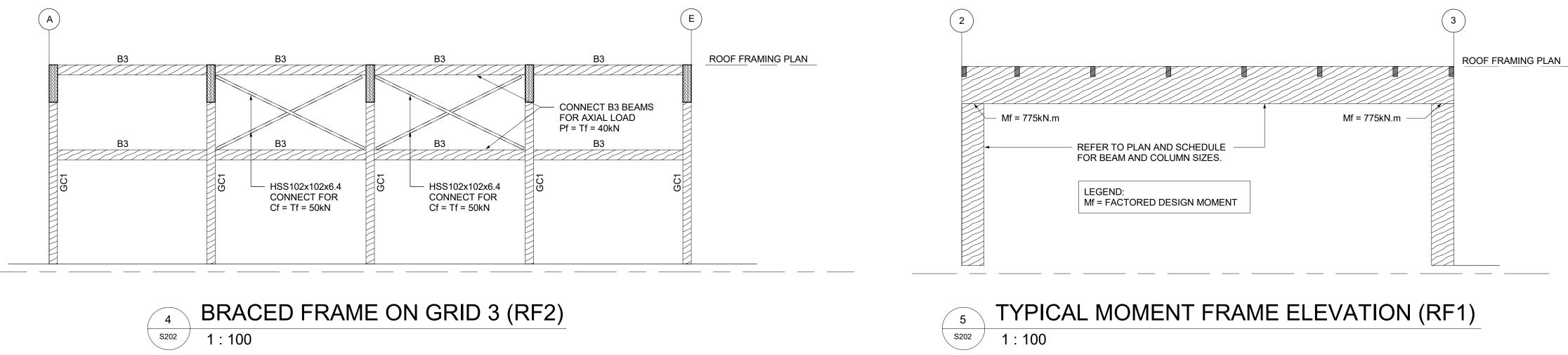
NOTES MIN. 3 SPAN CONTINUOUS 7 WWF + MIN. 3 SPAN CONTINUOUS MIN. 3 SPAN CONTINUOUS RW/ THK. AS)R

NOTES

ONNECT TO COLUMN AT EACH END









LOADING DIAGRAMS

FIRE STATION NO.2

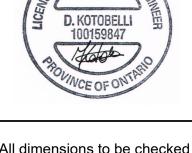
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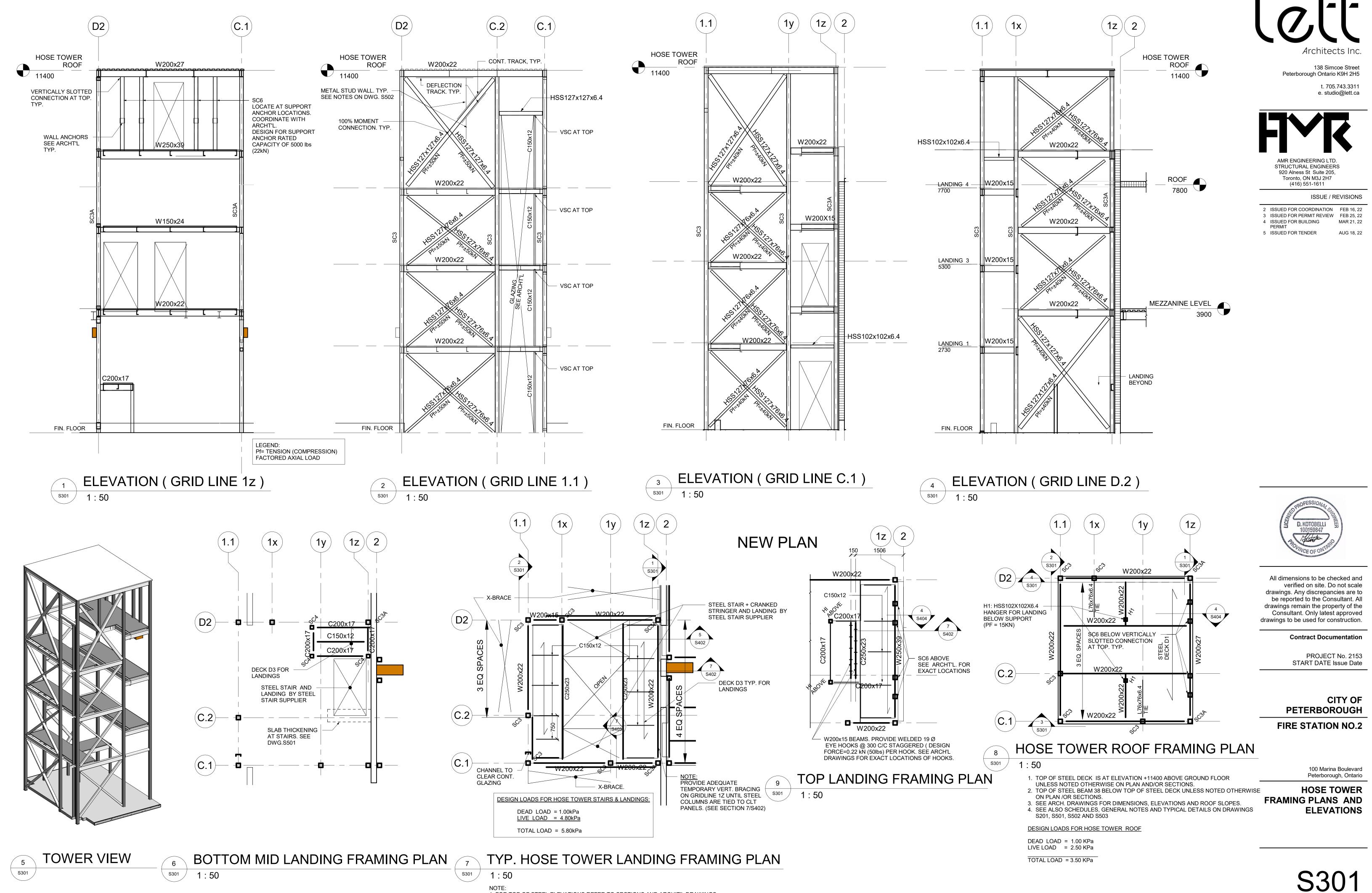
5 ISSUED FOR TENDER

PERMIT

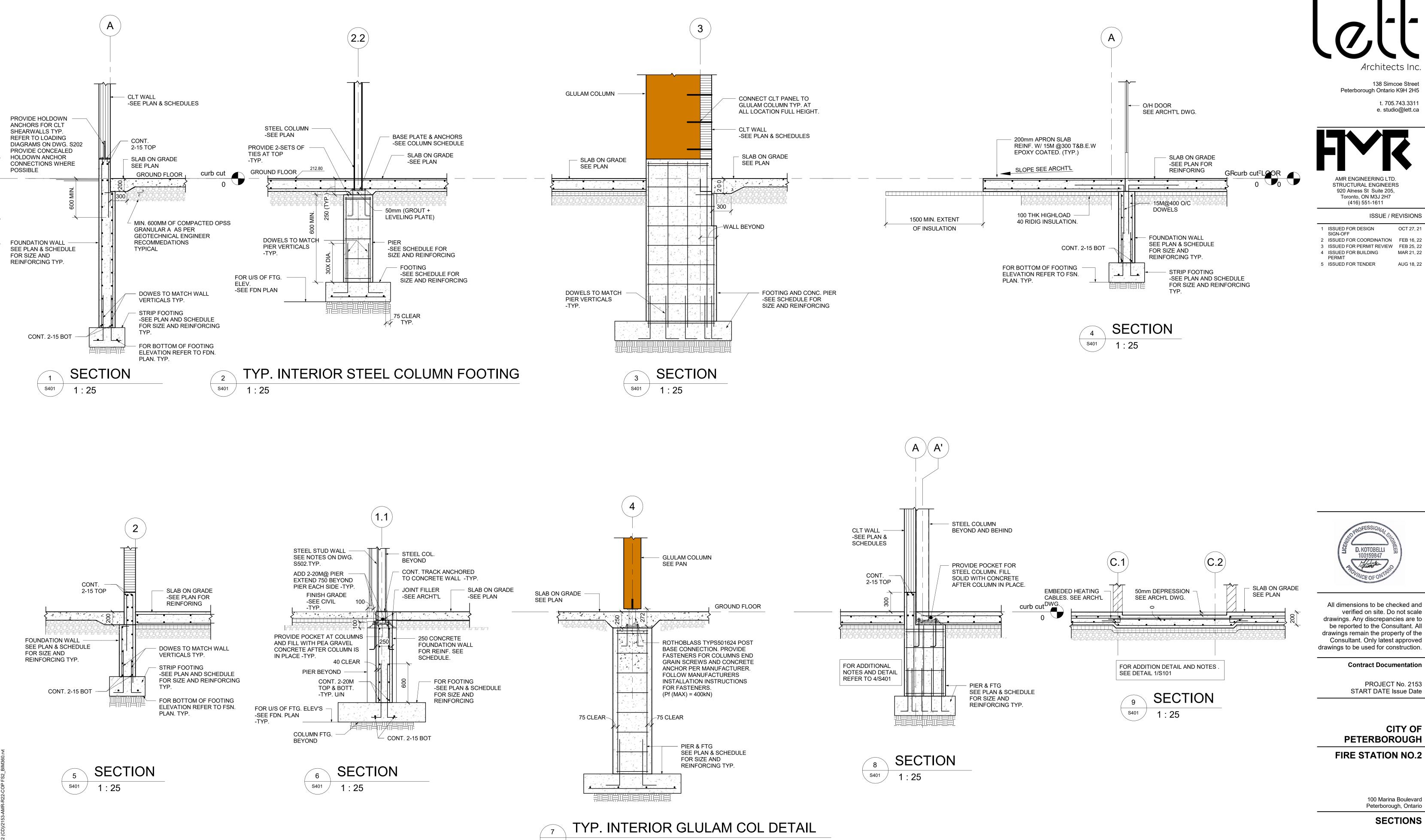
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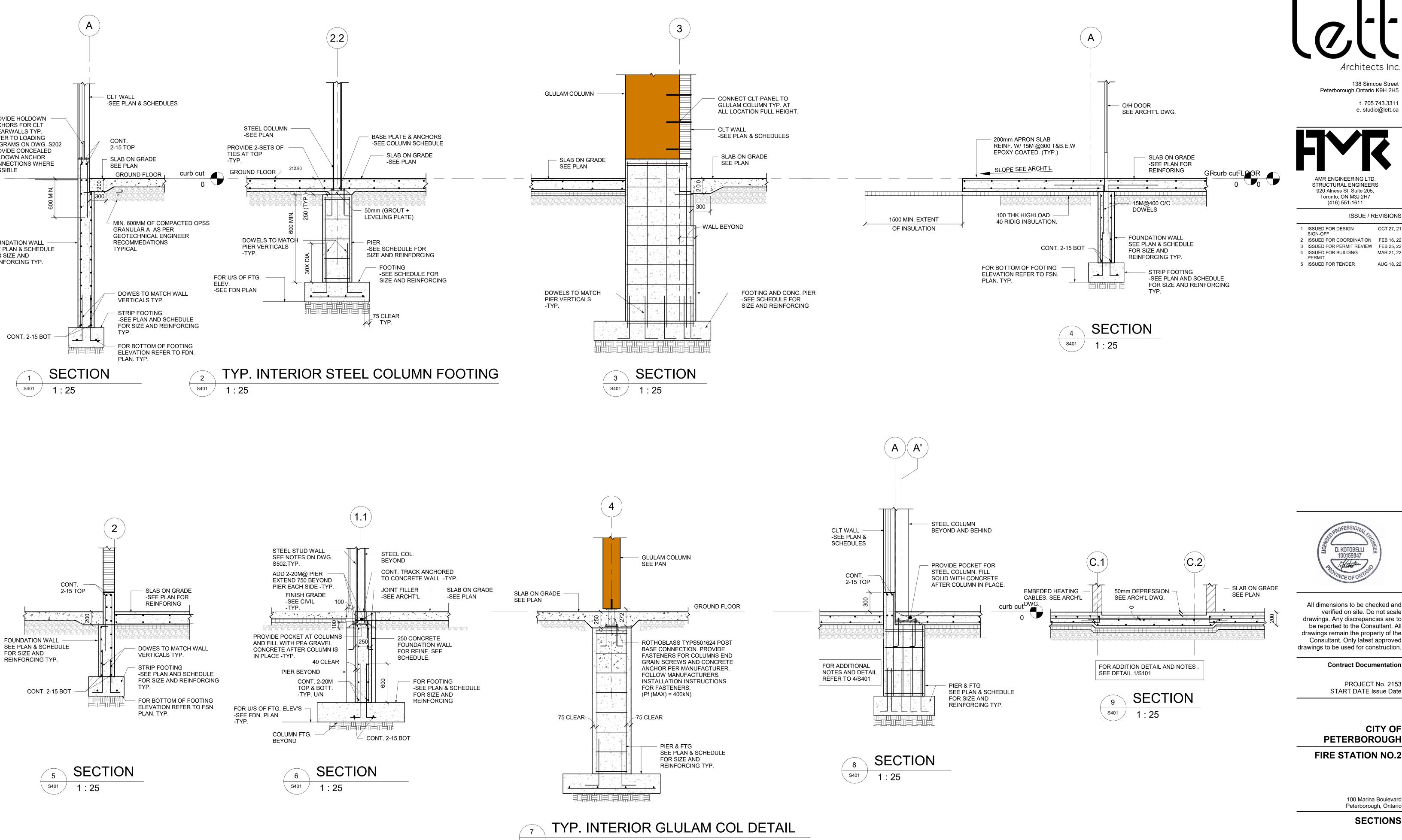
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2



1. FOR TOP OF STEEL ELEVATIONS REFER TO SECTIONS AND ARCHIT'L DRAWINGS.

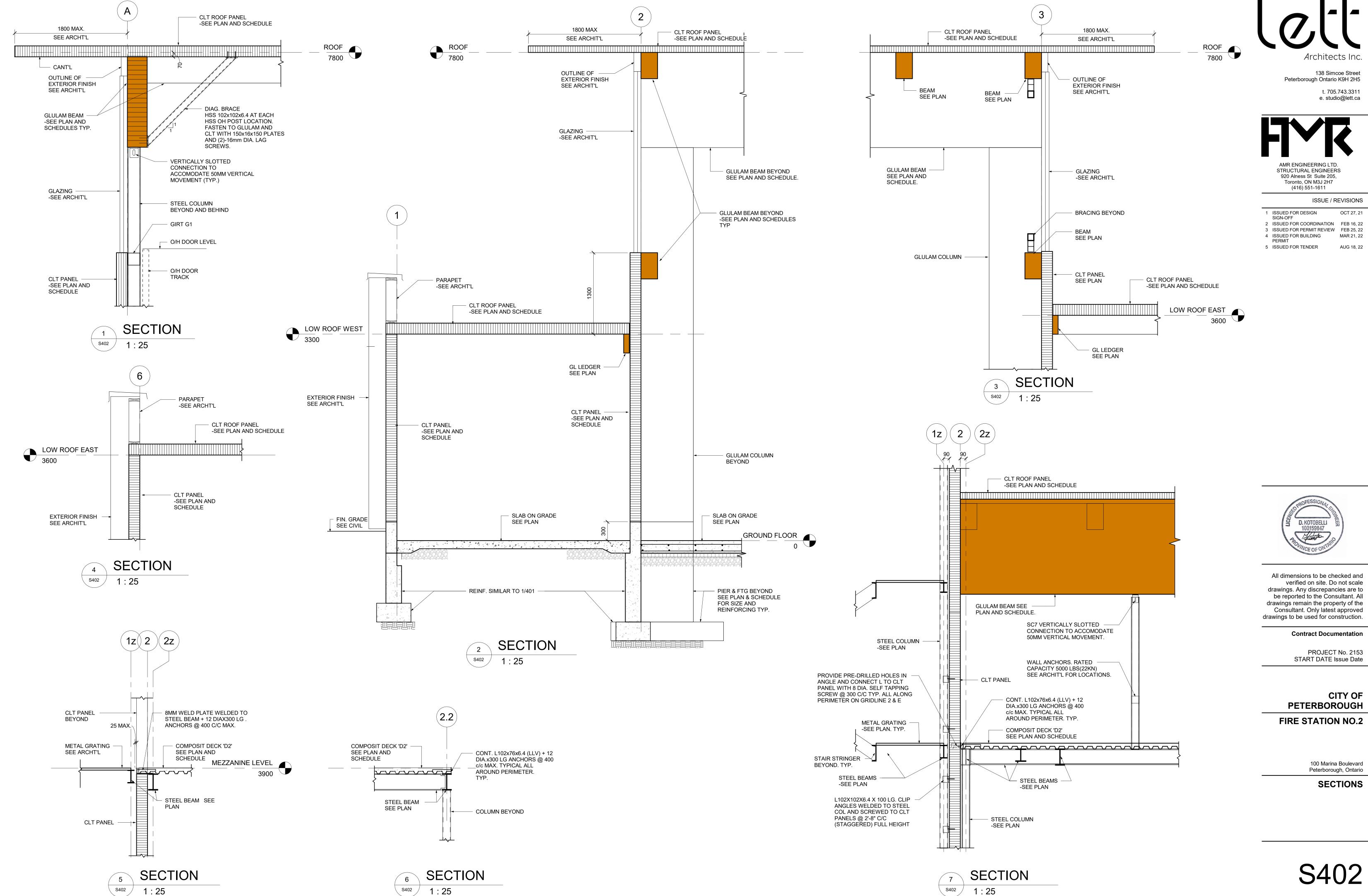




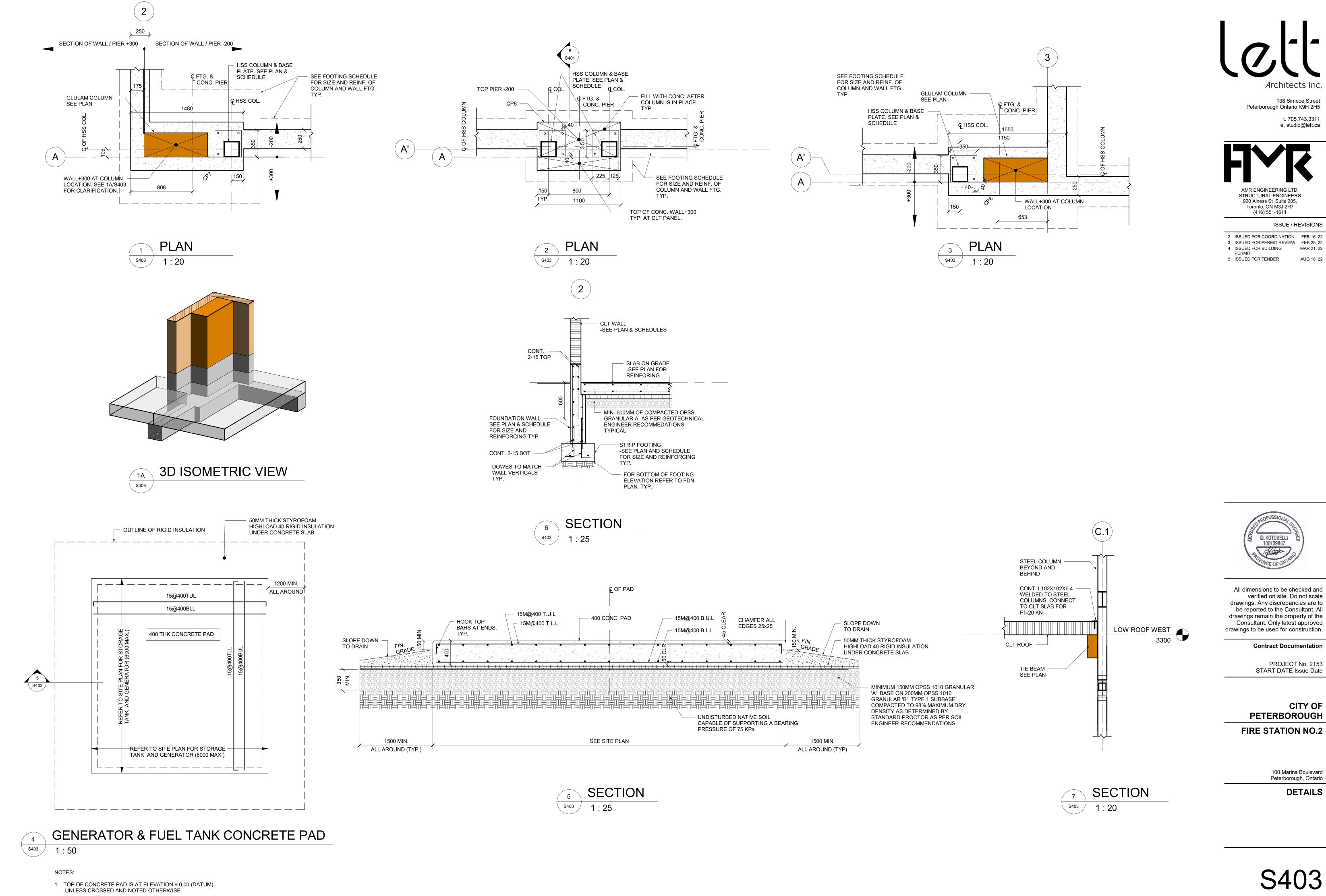
S401 1 : 25

S401

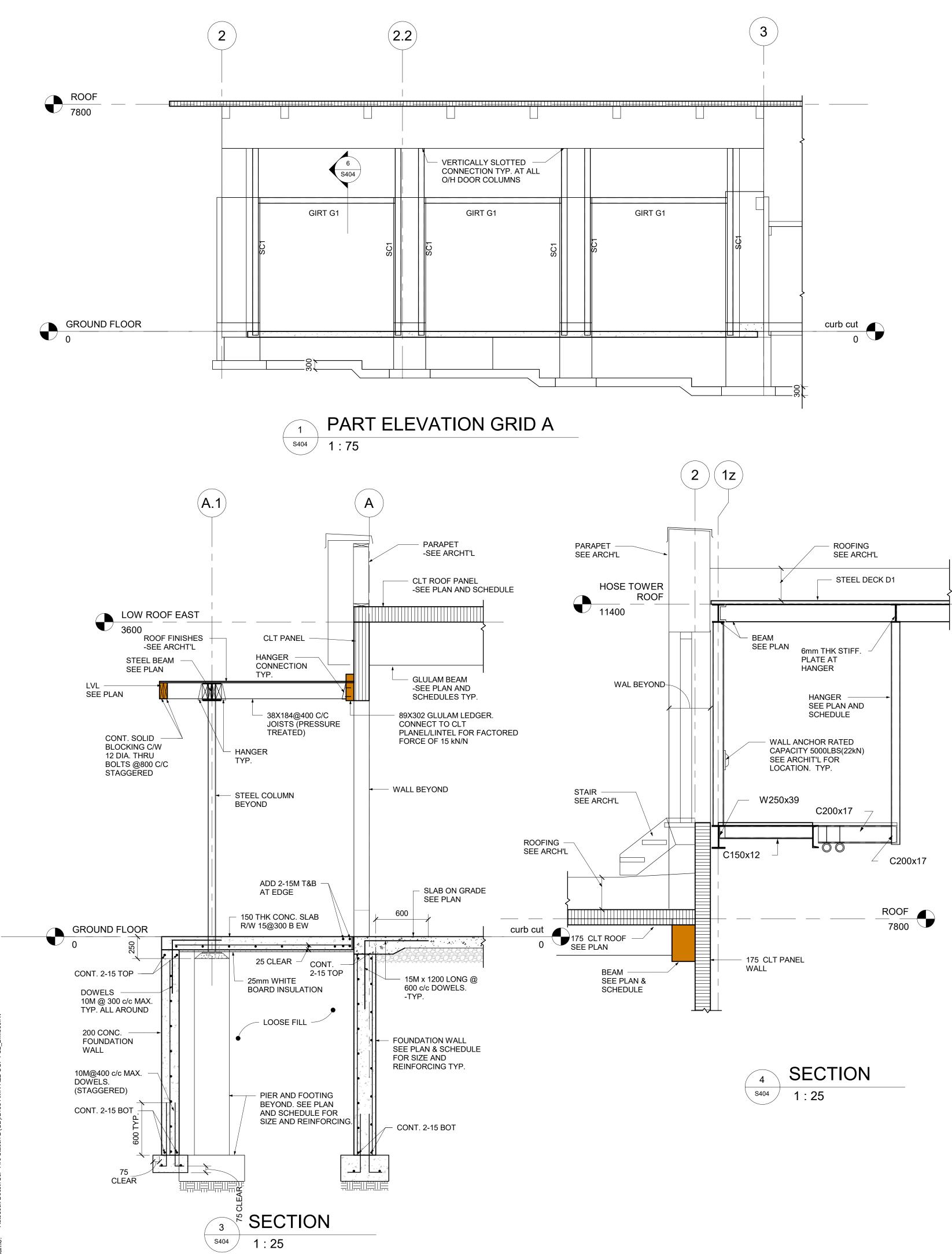
Peterborough, Ontario

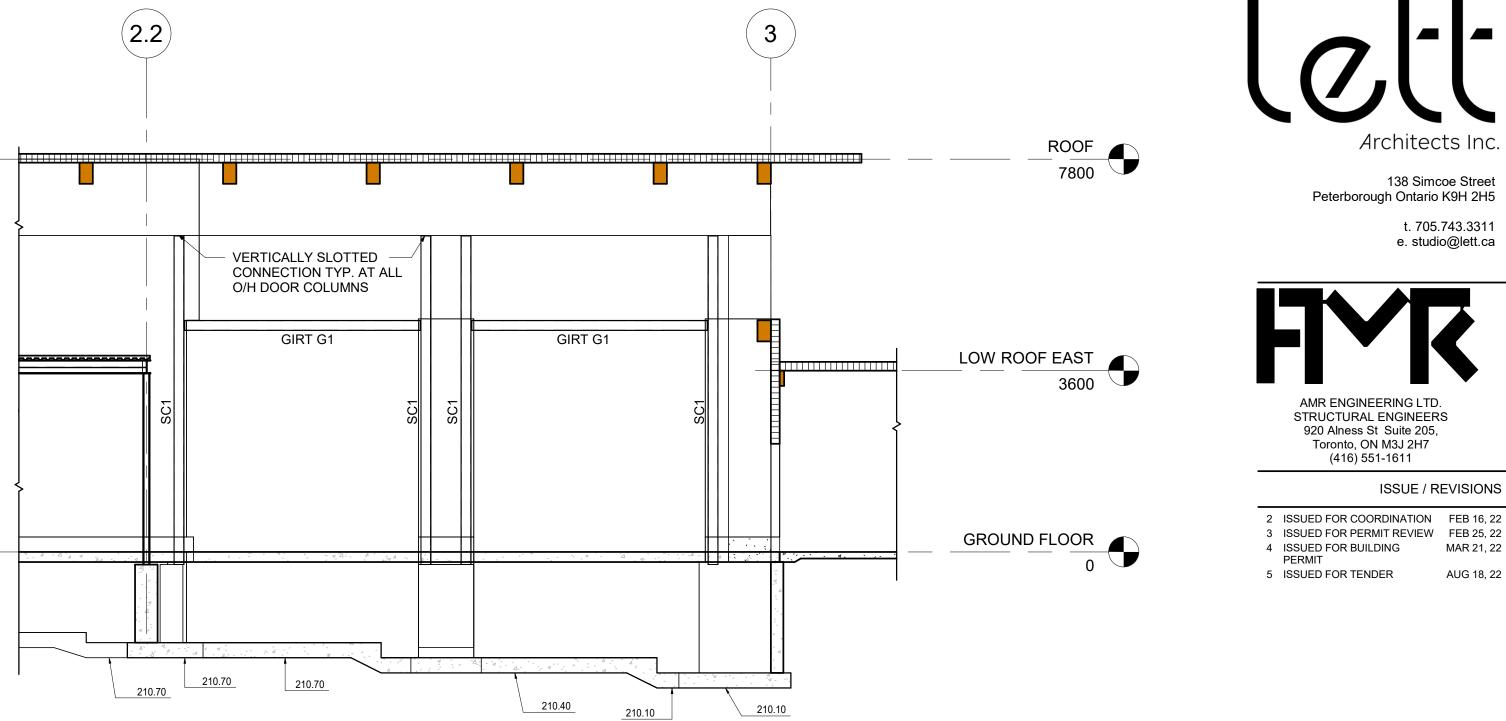


1 : 25

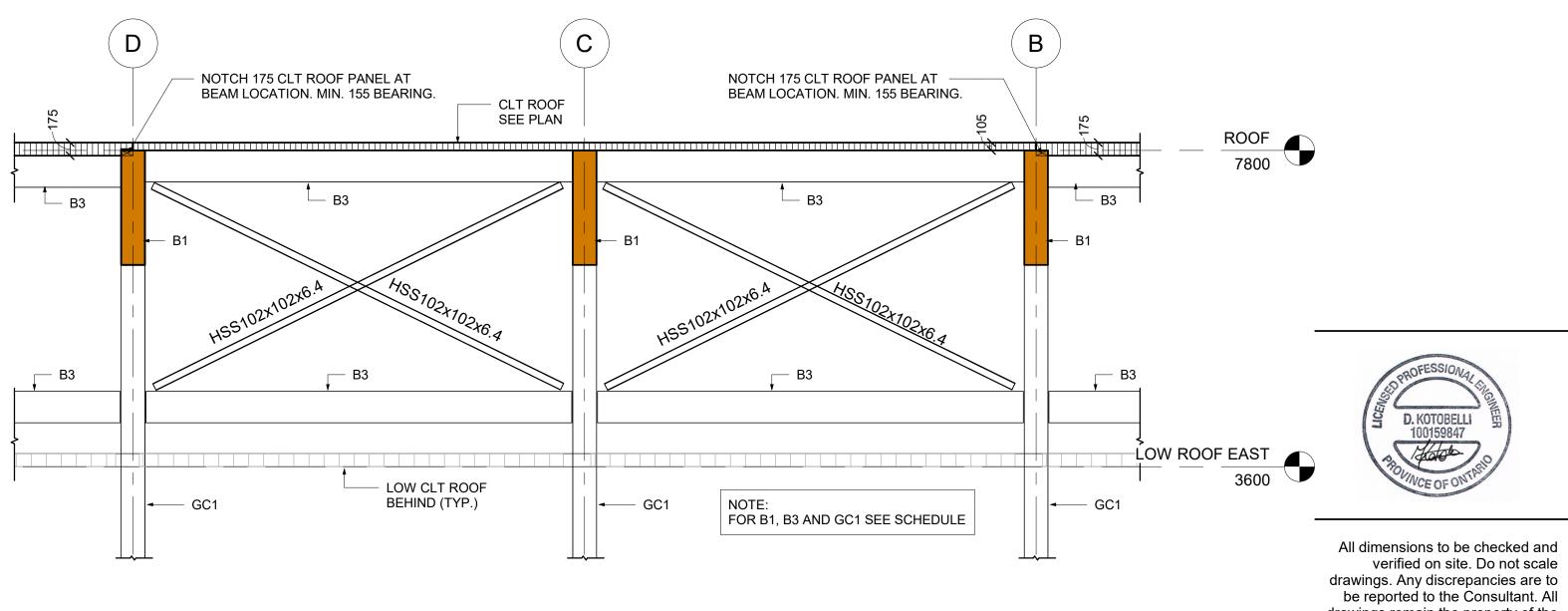


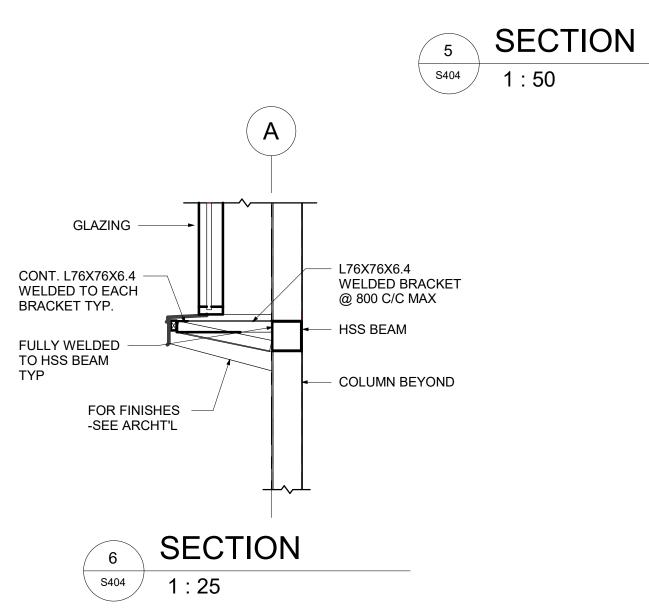
2. PLACE CONCRETE PAD ON UNIFORMLY COMPACTED GRANULAR BACKFILL AS PER SOIL ENGINEER RECCOMENDATIONS.











S404

SECTIONS

Peterborough, Ontario

100 Marina Boulevard

CITY OF PETERBOROUGH

FIRE STATION NO.2

PROJECT No. 2153 START DATE Issue Date

Contract Documentation

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MAR 21, 22

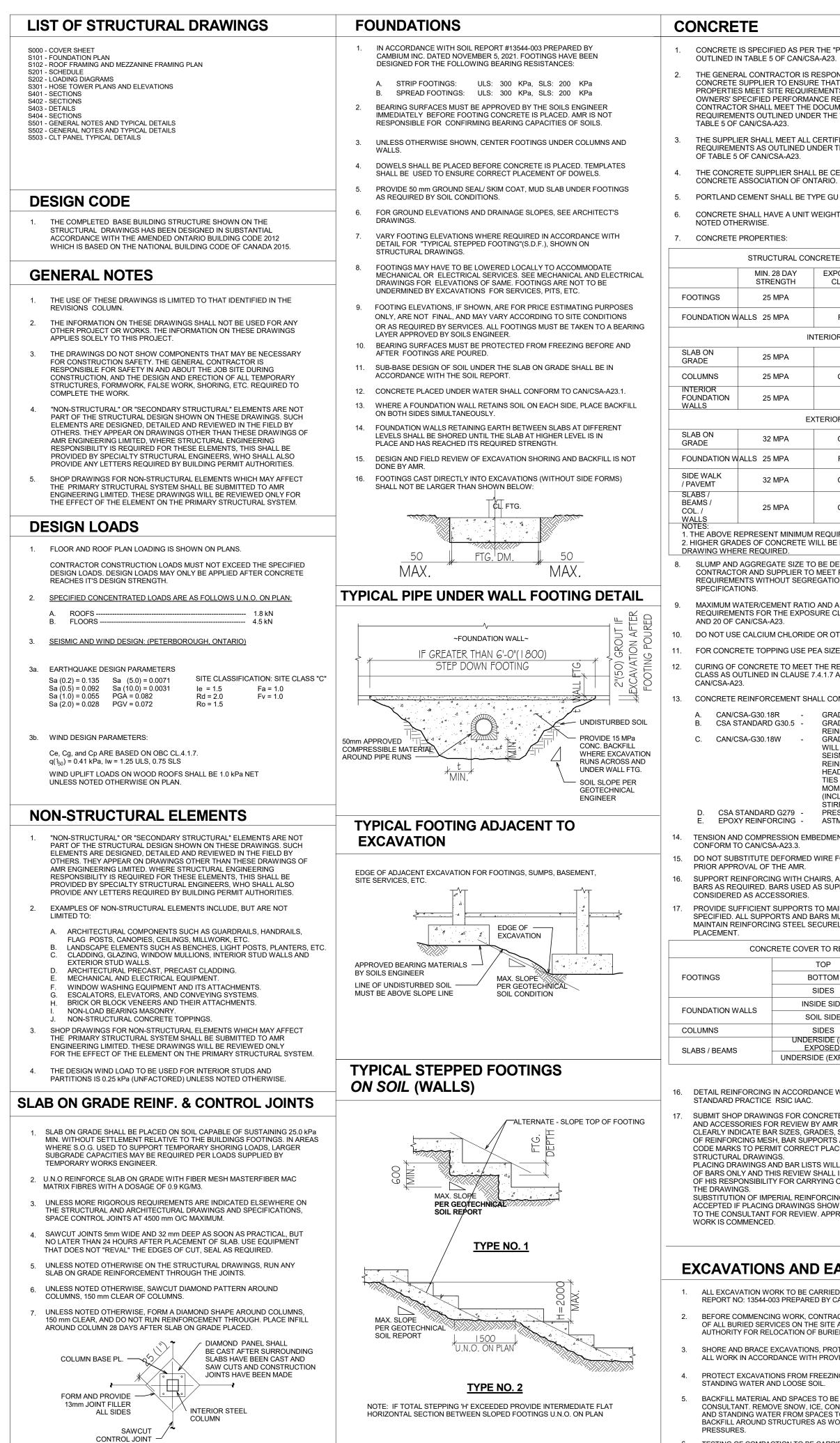
AUG 18, 22

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drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.



CONCRETE IS SPECIFIED AS PER THE "PERFORMANCE" ALTERNATE AS

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR WORKING WITH THE CONCRETE SUPPLIER TO ENSURE THAT THE PLASTIC AND HARDENED MIX PROPERTIES MEET SITE REQUIREMENTS FOR PLACING, FINISHING, AND THE OWNERS' SPECIFIED PERFORMANCE REQUIREMENTS. THE GENERAL CONTRACTOR SHALL MEET THE DOCUMENTATION AND QUALITY CONTROL REQUIREMENTS OUTLINED UNDER THE "PERFORMANCE" ALTERNATE OF

THE SUPPLIER SHALL MEET ALL CERTIFICATION AND DOCUMENTATION REQUIREMENTS AS OUTLINED UNDER THE "PERFORMANCE" AI TERNATE

THE CONCRETE SUPPLIER SHALL BE CERTIFIED BY THE READY MIXED CONCRETE ASSOCIATION OF ONTARIO.

PORTLAND CEMENT SHALL BE TYPE GU UNLESS NOTED OTHERWISE. CONCRETE SHALL HAVE A UNIT WEIGHT OF 23±1 kN/m3 (145±5 PCF) UNLESS

MIN. 28 DAY STRENGTH	EXPOSURE CLASS	AIR CONTENT	W/C RATIO
25 MPA	N	N.A.	N.A.
25 MPA	F-2	4-7%	0.55
I	NTERIOR		
25 MPA	N	N.A.	0.45
25 MPA	C-1	N.A.	0.55
25 MPA	N.	N/A	N/A
E	EXTERIOR		
32 MPA	C-2	5-8%	0.45
25 MPA	F-2	4-7%	0.55
32 MPA	C-2	5-8%	0.45
25 MPA	C-1	5-8%	0.45

2. HIGHER GRADES OF CONCRETE WILL BE NOTED ON STRUCTURAL

SLUMP AND AGGREGATE SIZE TO BE DETERMINED BY THE GENERAL CONTRACTOR AND SUPPLIER TO MEET PLACEMENT, AND FINISHING REQUIREMENTS WITHOUT SEGREGATION WHILE MEETING ALL OWNER

MAXIMUM WATER/CEMENT RATIO AND AIR CONTENT TO MEET THE REQUIREMENTS FOR THE EXPOSURE CLASS AS OUTLINED IN TABLE 2, 4

10. DO NOT USE CALCIUM CHLORIDE OR OTHER CHLORIDE PRODUCTS IN CONCRETE. FOR CONCRETE TOPPING USE PEA SIZE AGGREGATE (MAX. 10mm DIAMETER).

12. CURING OF CONCRETE TO MEET THE REQUIREMENTS FOR THE EXPOSURE CLASS AS OUTLINED IN CLAUSE 7.4.1.7 AS WELL AS TABLES 2 AND 20 OF

FORCEMEN	T SHAL	LL CONFORM TO THE FOLLOWING STANDARDS:
30.18R ARD G30.5	-	GRADE 400 MPa - 10M AND LARGER (U.N.O.) GRADE 400 MPa - WELDED WIRE
		REINFORCEMENT
30.18W	-	GRADE 400 MPa - ALL REINFORCING THAT
		WILL BE WELDED OR IS PART OF THE
		SEISMIC RESISTING ELEMENTS:
		REINFORCING FOR SHEAR WALLS,
		HEADERS AND ZONES (INCLUDING ZONE
		TIES AND HEADER TIES/STIRRUPS) AND
		MOMENT FRAME COLUMNS AND BEAMS
		(INCLUDING COLUMN TIES AND BEAM
		STIRRUPS).
DARD G279	-	PRESTRESSING STRANDS

EPOXY REINFORCING - ASTM A775M AND ASTM D3963 14. TENSION AND COMPRESSION EMBEDMENT AND SPLICE LENGTHS SHALL

15. DO NOT SUBSTITUTE DEFORMED WIRE FOR REINFORCING BARS WITHOUT

16. SUPPORT REINFORCING WITH CHAIRS, ACCESSORIES, OR REINFORCING BARS AS REQUIRED. BARS USED AS SUPPORT BARS SHALL BE

PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN CONCRETE COVER AS SPECIFIED. ALL SUPPORTS AND BARS MUST BE TIED TOGETHER TO MAINTAIN REINFORCING STEEL SECURELY IN PLACE DURING CONCRETE

CONCRETE COVER TO REINFORCEMENT

TOP	50 MM
BOTTOM	75 MM
SIDES	75 MM
INSIDE SIDE	30 MM
SOIL SIDE	40 MM
SIDES	40 MM
UNDERSIDE (NOT EXPOSED)	25 MM
UNDERSIDE (EXPOSED)	40 MM

16. DETAIL REINFORCING IN ACCORDANCE WITH REINFORCING STEEL MANUAL OF

SUBMIT SHOP DRAWINGS FOR CONCRETE REINFORCEMENT, BAR SUPPORT AND ACCESSORIES FOR REVIEW BY AMR PRIOR TO PLACEMENT OF REBAR. CLEARLY INDICATE BAR SIZES, GRADES, SPACING, LOCATION AND QUANTITIES OF REINFORCING MESH BAR SUPPORTS AND ACCESSORIES AND IDENTIFYING CODE MARKS TO PERMIT CORRECT PLACEMENT WITHOUT REFERENCE TO PLACING DRAWINGS AND BAR LISTS WILL BE REVIEWED FOR NUMBER AND SIZE OF BARS ONLY AND THIS REVIEW SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY FOR CARRYING OUT THE WORK IN ACCORDANCE WITH

SUBSTITUTION OF IMPERIAL REINFORCING SIZES AND GRADES WILL ONLY B ACCEPTED IF PLACING DRAWINGS SHOWING IMPERIAL SIZES ARE SUBMITTED TO THE CONSULTANT FOR REVIEW. APPROVAL MUST BE OBTAINED BEFORE ANY

EXCAVATIONS AND EARTHWORK

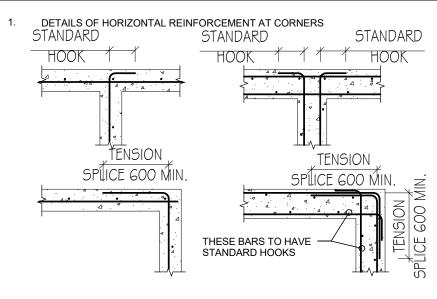
ALL EXCAVATION WORK TO BE CARRIED OUT IN CONFORMANCE WITH SOILS PORT NO: 13544-003 PREPARED BY CAMBIUM INC. DATED NOVEMBER 5, 2021. 2. BEFORE COMMENCING WORK, CONTRACTOR SHALL ESTABLISH THE LOCATION OF ALL BURIED SERVICES ON THE SITE AND ARRANGE WITH APPROPRIATE AUTHORITY FOR RELOCATION OF BURIED SERVICES.

SHORE AND BRACE EXCAVATIONS, PROTECT SLOPES AND BANKS AND PERFORM ALL WORK IN ACCORDANCE WITH PROVINCIAL AND MUNICIPAL REGULATIONS. PROTECT EXCAVATIONS FROM FREEZING, KEEP EXCAVATIONS CLEAN, FREE OF STANDING WATER AND LOOSE SOIL.

5. BACKFILL MATERIAL AND SPACES TO BE REVIEWED AND APPROVED BY SOIL CONSULTANT. REMOVE SNOW, ICE, CONSTRUCTION DEBRIS, ORGANIC SOIL AND STANDING WATER FROM SPACES TO BE FILLED. MAINTAIN EVEN LEVELS OF BACKFILL AROUND STRUCTURES AS WORK PROGRESSES, TO EQUALIZE EARTH

6. TESTING OF COMPACTION TO BE CARRIED OUT BY TESTING LABORATORY DESIGNATED BY THE SOIL CONSULTANT.

CONCRETE WALLS



- PLACE HORIZONTAL REINFORCEMENT IN OUTTER LAYERS OF THE CURTAINS AND VERTICALS AS 2ND INSIDE LAYER (BEHIND HORIZONTALS).
- ALL WALL REINFORCING SHALL BE CONTINUOUS, WITH HOOKS OR CORNER BARS USED AT ALL WALL JUNCTIONS. EXTEND HOOKS TO FAR FACE OF WALL. CORNER BARS TO BE LOCATED ON OUTSIDE FACE OR CENTRE OF WALL.
- ENDS OF ALL WALLS SHALL HAVE 2-15M VERTICAL LAPPED 600 UNLESS OTHERWISE NOTED ON DRAWINGS.
- ADD 2-15M PARALLEL TO ALL EDGES AND EXTENDING 625 BEYOND CORNERS AT OPENINGS IN WALLS

WALL CONSTRUCTION JOINT

(CONSTRUCTION JOINT CAN REPLACE CONTROL JOINT)



•

INSIDE FACE OF WALL

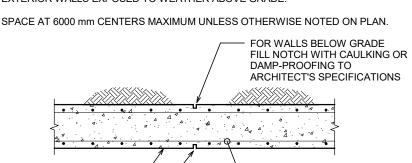
ALL HORIZONTAL BARS TO BE

CONTINUOUS THROUGH JOINT OR TENSION SPLICED

WALL CONTROL JOINT

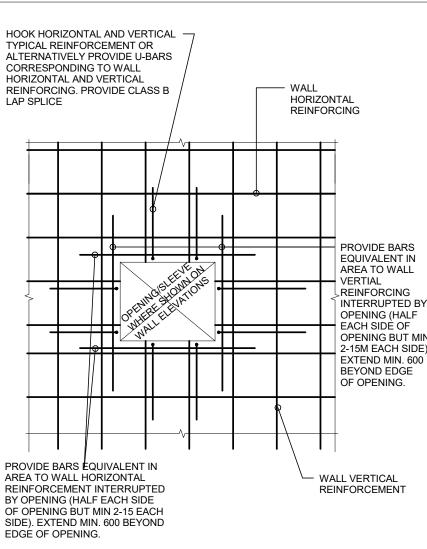
UNLESS NOTED OTHERWISE FOR EXTERIOR WALLS BELOW GRADE AND EXTERIOR WALLS EXPOSED TO WEATHER ABOVE GRADE.

<u>PLAN</u>



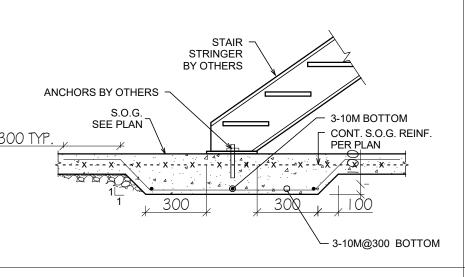


TYPICAL ADDITIONAL REINFORCEMENT FOR WALL OPENINGS UP TO 750mm x 750mm SIZE



NOTE: FOR LARGER OPENINGS SEE REINFORCEMENT ON WALL ELEVATIONS.

THICKENING SLAB ON GRADE AT STAIRS



EMBEDMENT / DEVELOPMENT LENGTHS AND SPLICE LENGTHS

BASED ON CAN/CSA-A23.3-04 WHERE EMBEDMENT OR SPLICES ARE DIMENSIONED ON THE DRAWINGS, SUCH DIMENSION SHALL APPLY.

WHERE THE DRAWINGS INDICATE A COMPRESSION EMBEDMENT, IT IS A COMPRESSION EMBEDMENT LENGTH AND IT SHALL BE AS NOTED BELOW WHERE THE DRAWINGS INDICATE A TENSION EMBEDMENT, IT IS A TENSION

EMBEDMENT LENGTH AND SHALL BE AS NOTED BELOW. WHERE NO EMBEDMENT OR EMBEDMENT TYPE IS CALLED FOR ON THESE DRAWINGS. IT SHALL BE A TENSION EMBEDMENT. EXCEPT FOR COLUMNS WHICH

SHALL BE A COMPRESSION EMBEDMENT. WHERE NO SPLICE OR SPLICE TYPE IS CALLED FOR ON THESE DRAWINGS, IT

SHALL BE A TENSION SPLICE, EXCEPT FOR COLUMNS WHICH SHALL BE A COMPRESSION SPLICE IN TABLES BELOW, EMBEDMENT LENGTHS ARE SHOWN WITHOUT BRACKETS, AND

SPLICE LENGTHS ARE SHOWN IN BRACKETS.

ALL LENGTHS ARE FOR Fy = 400 MPa REBAR. ALL TENSION SPLICE LENGTHS ARE CLASS "B" (1.3 {d).

COMPRESSION EMBEDMENT AND SPLICE LENGTHS COMPRESSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE THE "COMPRESSION DEVELOPMENT LENGTH" AS DEFINED IN

CAN/CSA-A23.3-04 CLAUSE 12.3.2. SPLICE LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A COMPRESSION SPLICE AS DEFINED IN CAN/CSA-A23.3-04 CLAUSE 12.16.1.

CONCRETE	FUNCTION	REBAR DESIGNATION						
STRENGTH	FUNCTION	10M	15M	20M	25M	30M	35M	
20 MPa	EMBEDMENT	215	325	430	540	645	755	
	(SPLICE)	(300)	(440)	(585)	(730)	(880)	(1025)	
25 MPa	EMBEDMENT	200	290	385	480	580	675	
	(SPLICE)	(300)	(440)	(585)	(730)	(880)	(1025)	
30 MPa &	EMBEDMENT	200	265	355	440	530	620	
GREATER	(SPLICE)	(300)	(440)	(585)	(730)	(880)	(1025)	

TENSION EMBEDMENT AND SPLICE LENGTHS

TENSION EMBEDMENT REFERS TO THE LENGTH REQUIRED TO PROVIDE A "TENSION DEVELOPMENT LENGTH" AS DEFINED IN CAN/CSA-A23.3-04 CLAUSE 12.2.3. SPLICE LENGTH REFERS TO THE MINIMUM LAP LENGTH REQUIRED FOR A CLASS 'B' TENSION SPLICE (1.3^td) AS PER CAN/CSA-A23.3-04 CLAUSE 12.15.

CASE 1 CONDITIONS

TENSION EMBEDMENT AND SPLICE LENGTHS CONFORMING TO CAN/CSA-A23.3-04 TABLE 12.1 (0.45 $k_1k_2k_3k_4f_{\rm v}d_b/\sqrt{f_c}$) ARE TO BE AS PER THE FOLLOWING TABLE FOR:

- COLUMNS BEAM AND GIRDER TOP AND BOTTOM BARS.
- SLAB BAND TOP BARS. TWO WAY SI AB TOP AND BOTTOM BARS ONE WAY SLAB BOTTOM BARS.
- WALL HORIZONTAL AND VERTICAL DISTRIBUTED REINFORCING. SEE ALSO NOTES ON TOP BARS AND EPOXY COATED REINFORCEMENT. MEMBERS WHICH DO NOT SATISFY THE ABOVE CONDITIONS SHALL HAVE

TENSION EMBEDMENTS AND SPLICES AS PER <u>CASE 2</u> TABLE BELOW.							
CONCRETE	FUNCTION		R	EBAR DE	SIGNATI	ON	
STRENGTH	FUNCTION	10M	15M	20M	25M	30M	35M
20 MPa	EMBEDMENT	325	485	645	1010	1210	1410
	(SPLICE)	(420)	(630)	(840)	(1310)	(1570)	(1835)
25 MPa	EMBEDMENT	300	435	580	900	1080	1260
	(SPLICE)	(390)	(565)	(750)	(1170)	(1405)	(1640)
30 MPa	EMBEDMENT	300	395	530	825	990	1155
	(SPLICE)	(390)	(515)	(685)	(1070)	(1285)	(1500)
35 MPa	EMBEDMENT	300	370	490	765	915	1065
	(SPLICE)	(390)	(475)	(635)	(990)	(1190)	(1385)
40 MPa	EMBEDMENT	300	345	460	715	855	1000
	(SPLICE)	(390)	(445)	(595)	(925)	(1110)	(1295)
45 MPa	EMBEDMENT	300	325	430	675	805	940
	(SPLICE)	(390)	(420)	(560)	(875)	(1050)	(1225)
50 MPa	EMBEDMENT	300	310	410	640	765	895
	(SPLICE)	(390)	(400)	(530)	(830)	(995)	(1160)
55 MPa	EMBEDMENT	300	300	390	610	730	850
	(SPLICE)	(390)	(390)	(505)	(790)	(950)	(1105)
60 MPa	EMBEDMENT	300	300	375	585	700	815
	(SPLICE)	(390)	(390)	(485)	(760)	(910)	(1060)
65 MPa &	EMBEDMENT	300	300	360	565	675	790
GREATER	(SPLICE)	(390)	(390)	(470)	(735)	(880)	(1025)
"TOP BAR" A	BAR" VALUES A APPLIES TO HOP	RIZONTAL	REINFO				mm OR

MORE OF CONCRETE BELOW THE BAR. NOTE: EPOXY COATED REINFORCEMENT

NCREASE THESE TABLE LENGTHS BY 1.5 FOR EPOXY COATED REINFORCEMENT. INCREASE THESE TABLE LENGTHS BY 1.7 FOR EPOXY COATED TOP REINFORCEMENT

CASE 2 CONDITIONS

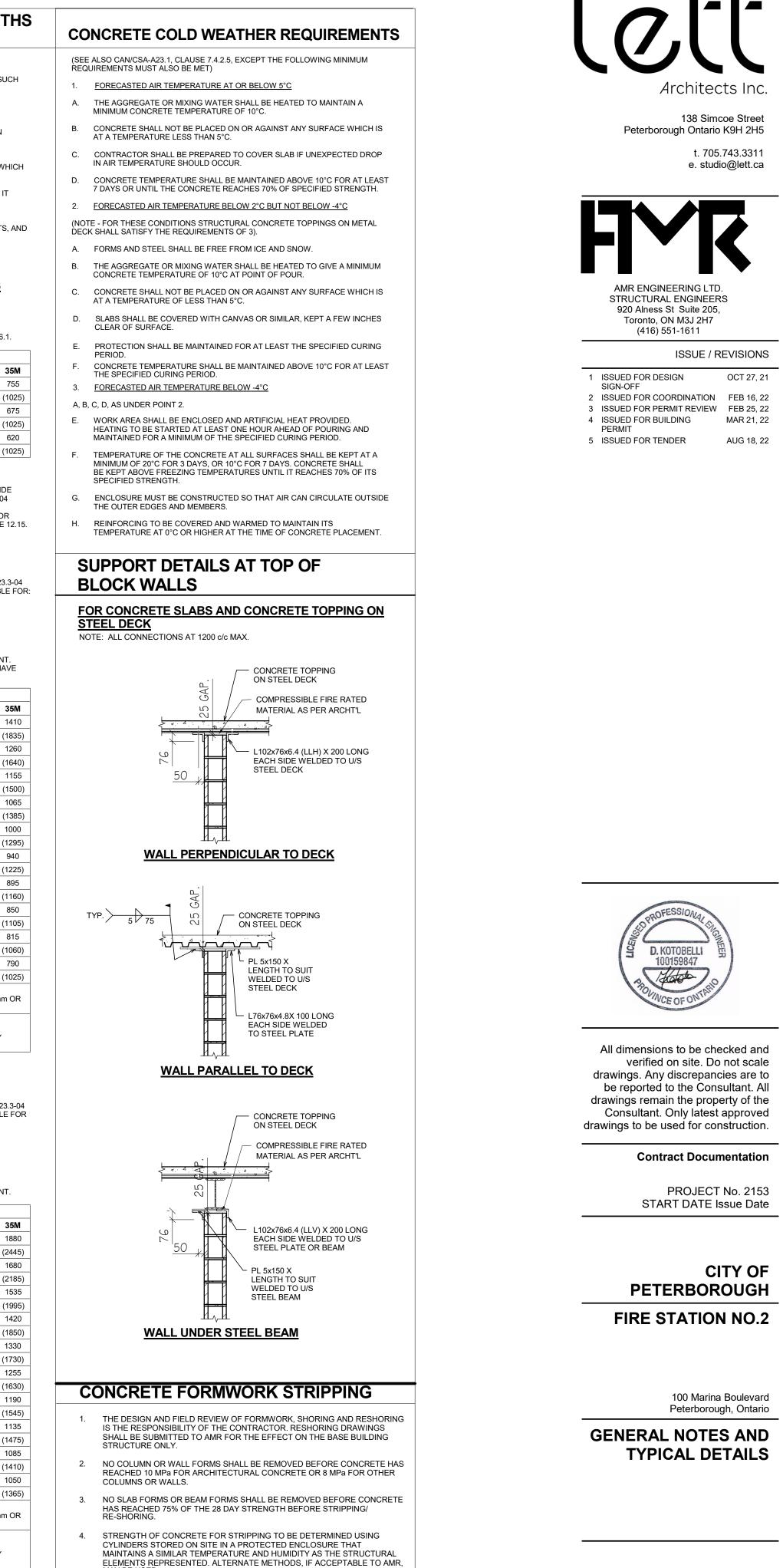
ENSION EMBEDMENT AND SPLICE LENGTHS CONFORMING TO CAN/CSA-A23.3-04 TABLE 12.1 (0.6 k, kg kg t, d, $/\sqrt{\epsilon}$) ARE TO BE AS PER THE FOLLOWING TABLE FOR MEMBERS NOT SATISFYING CASE 1 CONDITIONS AS SET OUT ABOVE. FOR EXAMPLE.

ONE WAY SLAB TOP BARS (SEE TOP BAR NOTE). SLAB BAND BOTTOM BARS

BARS (EXCLUDING THE SPLICE) SPACED CLOSER TOGETHER THAN **2 BAR DIAMETERS** STIRRUPS IN BEAMS GIRDERS AND TRANSFER SLABS

CONCRETE	FUNCTION		R	EBAR DE	SIGNATIO	NC	
STRENGTH	FUNCTION	10M	15M	20M	25M	30M	35
20 MPa	EMBEDMENT	430	645	860	1345	1610	18
	(SPLICE)	(560)	(840)	(1120)	(1745)	(2095)	(24
25 MPa	EMBEDMENT	385	580	770	1200	1440	16
	(SPLICE)	(500)	(750)	(1000)	(1560)	(1875)	(21
30 MPa	EMBEDMENT	355	530	705	1100	1315	15
	(SPLICE)	(460)	(685)	(915)	(1425)	(1710)	(19
35 MPa	EMBEDMENT	325	490	650	1015	1220	14
	(SPLICE)	(425)	(635)	(845)	(1320)	(1585)	(18
40 MPa	EMBEDMENT	305	460	610	950	1140	13
	(SPLICE)	(395)	(595)	(790)	(1235)	(1480)	(17
45 MPa	EMBEDMENT	300	430	575	895	1075	12
	(SPLICE)	(390)	(560)	(745)	(1165)	(1400)	(16
50 MPa	EMBEDMENT	300	410	545	850	1020	11
	(SPLICE)	(390)	(530)	(710)	(1105)	(1325)	(15
55 MPa	EMBEDMENT	300	390	520	810	975	11
	(SPLICE)	(390)	(505)	(675)	(1055)	(1265)	(14
60 MPa	EMBEDMENT	300	375	500	775	930	10
	(SPLICE)	(390)	(485)	(645)	(1010)	(1210)	(14
65 MPa &	EMBEDMENT	300	360	480	750	900	10
GREATER	(SPLICE)	(390)	(470)	(625)	(975)	(1170)	(13
"TOP BAR" A	BAR" VALUES A APPLIES TO HOP ONCRETE BELC	RIZONTAI	REINFO				nm (

INCREASE THESE TABLE LENGTHS BY 1.5 FOR EPOXY COATED REINFORCEMENT. INCREASE THESE TABLE LENGTHS BY 1.7 FOR EPOXY COATED TOP REINFORCEMENT



6 NO CONCRETE MAY BE REMOVED WITH PERCUSSIVE METHODS SUCH AS CHIPPING OR JACK-HAMMERING WITHOUT PRIOR APPROVAL OF AMR.

5. ALL SLABS, BEAMS, WALLS ETC. TO BE SHORED UNTIL CONCRETE

REACHES DESIGN STRENGTH.

STRUCTURAL STEEL

STRUCTURAL STEEL SECTIONS SHALL BE NEW AND CONFORM TO THE

TYPICAL FRAMING AROUND OPENINGS

SEE ALSO MECHANICAL, ELECTRICAL AND ARCHITECTURAL DRAWINGS

WITH L76x76x4.8 X 1200 mm LONG. WELD TO EVERY FLUTE.

TYPICAL DETAILS FOR SMALL MECHANICAL UNITS AND/OR OPENINGS IN

'C' WIDTH -

6 mm — *

ANGLE 'D'

L76x76x4.8

L76x76x4.8

L76x76x6.4

L102x102x6.4

ANGLE

то матсн -

CONNECT ANGLES FOR MAXIMUM FACTORED VERTICAL LOAD OF 6 kN.

WHERE AN OPENING IN DECK IS UNDER A MECHANICAL UNIT AND IS

PANNING BETWEEN THE MECHANICAL UNIT SUPPORT MEMBERS

SMALLER THAN THE FRAMING REQUIRED TO SUPPORT THE MECHANICAL

SEE NOTE 3, PLANS AND DETAILS FOR MECHANICAL UNIT SUPPORT FRAMING.

— CONTINUOUS ANGLE

DRAWINGS.

CONTINUOUS ANGLE

BENT PLATE SPLICE. SIZE AND CONNECT

FOR TENSION CAPACITY OF ANGLE OR

FOR TENSION FORCES SHOWN ON

- BOTH ENDS

PLICE BARS. SIZE AND CONNECT FOR

ENSION CAPACITY OF ANGLE OR FOR

TENSION FORCES SHOWN ON DRAWINGS.

3 x "T"

4 x "T"

240 (10") WALL

L127x 89 x 7.9 LLV

L127x89x7.9 LLV | 3 - L127x89x7.9

L152x89x9.5 LLV | 3 - L152x89x9.5

1 89x89x7 9 +

+ L127x127x7.9

27x89x9.5 LLV

+ L127x127x9.5

+ L127x127x9.5

290 (12") WALL

3 - L89x89x7.9

3 - L127x89x9.5

LLV

LLV

UNIT. REINFORCE THE OPENING WITH L76x76x4.8 ON ALL FOUR SIDES

TYPICAL TENSION SPLICE FOR ANGLES

+ 75 mm

 \rightarrow

TO MATCI

/─ 'C'

MECHANICAL UNI

(SPECIFIED)

0.25 kN TO

1 0 kN

NO UNIT

LESS THAN OR

EQUAL TO 2 kN

LESS THAN OR

EQUAL TO 2 kN

500 mm MAX. HIGH

00 mm MAX. HIGH

U.N.O. REINFORCE OPENINGS WITHOUT MECHANICAL UNITS

DECK UNLESS NOTED OTHERWISE ON PLANS AND DETAILS:

* (1500 MAX.) * 'C' DEPTH

ANGLE 'C'

L76x76x6.4

L102x102x6.4

L102x102x6.4

L102x102x6.4

MINIMUM BEND RADIUS FOR

0 mm TO 6 mm

6 mm TO 12 mm

LINTELS (NON LOAD BEARING BLOCK WALL)

OVER ALL OPENINGS IN MASONRY WALLS PROVIDE THE FOLLOWING LINTELS,

190 (8") WALL

2 - L89x89x7.9

LLV I

LLV

WELD BACK TO BACK ANGLES TOGETHER TOP AND BOTTOM WITH 5mm (3/16")

FOR WALLS OVER 300mm (12") THICK ADD ONE ANGLE FOR EACH ADDITIONAL

FOR LINTELS ABUTTING STEEL COLUMNS, CONC WALL OR COLUMNS PROVIDE

USE MASONRY LINTELS IN ALL FIRE RATED MASONRY WALLS - SEE ARCH DWG.

ALL STEEL LINTELS AND SHELF ANGLES IN THE EXTERIOR MASONRY SHALL BE HOT

100% SOLID MASONRY BEARING -----

- ALL SOLID MASONRY WHEN PIERS ARE -

<u>INTEL BEARING ON MASONRY</u>

LESS THAN 600 WIDE

MINIMUM BEARING FOR STEEL LINTELS SHALL BE 150mm (6") AND BLOCK LINTELS

- L89x64x6.4 2 - L127x89x7.9

- L89x64x7.9 2 - L127x89x9.5

- L89x64x9.5 2 - L152x89x9.5

FILLET 50mm (2") LONG AT 450mm (18") MAXIMUM CENTERS.

100mm (4") OF WALL THICKNESS OR PORTION THEREOF.

FILL VOIDS OF LINTEL BLOCK WITH 12.5 MPa GROUT MIN.

BETWEEN 150 mm TO 450 mm MAXIMUM DIMENSION

IN STEEL DECK WITHOUT

FOR ALL OPENINGS IN DECK.

BFAM OR

O.W.S.J.

MECH. UNIT OR

OPENING SIZE

'A' x 'B'

150 X 150 TO

450 X 450

450 X 450 TO

450 X 450 TO

450 X 900 TO

ALTERNATE

ALTERNATE

STEEL PLATES

UNLESS OTHERWISE SHOWN

140 (6") WALL

- L64x64x6.4

LLV

LLV

BLOCK WYTHES

STEEL LINTELS

CLEAR SPAN

LIP TO 1200

1201 TO 1800

801 TO 2400

(4'-0 TO 6'-0)

(6'-0 TO 8'-0)

2401 TO 3000

SHALL BE 200mm (8").

L 90x90x10 SHELF ANGLE.

FOR WALL RATINGS.

DIP GALVANIZED.

FOR 140 BLOCK USE BLOCK LINTELS.

(8'-0 TO 10'-0)

mm (ft-in)

(4'-0)

1500 X 1500

1500 X 1500

1500 X 900

CONCRETE TOPPING - U.N.O.

- WIDE FLANGE BEAMS AND WWF SECTIONS --- CSA G40.21 350W MISCELLANEOUS ROLLED SECTIONS (EXCEPT WIDE FLANGES) CSA G40.21 300W HOLLOW STRUCTURAL SECTIONS CSA G40.21 350W (CLASS C U.N.O.) -ROLLED PLATES --CSA G40.21 300W BOLTS (SEE PLANS AND DETAILS) ------ASTM A325 OR ASTM A490
- F. STRUCTURAL STEEL ANCHOR RODS (U.N.O.) -- ASTM F1554 **GRADE 36 MINIMUN** REINFORCING BAR ANCHOR BOLTS ----- CAN/CSA-G30.18R, GRADE 400 ALL CONNECTIONS TO BE DESIGNED BY FABRICATOR UNLESS NOTED OTHERWISE. ALL BEAM CONNECTIONS TO BE STANDARD FRAME BEAM CONNECTIONS OR EQUIVALENT. UNLESS NOTED OTHERWISE
- SUBMIT A LETTER OF CERTIFICATION BY P.ENG RESPONSIBLE FOR DESIGN OF CONNECTIONS. SHOP DRAWINGS SHALL BE PREPARED UNDER THE DIRECTION OF A SPECIALTY STRUCTURAL ENGINEER. FOR THOSE CONNECTIONS AND COMPONENTS DESIGNED BY THE FABRICATOR. THIS ENGINEER OR THEIR REPRESENTATIVE SHALL VISIT THE SITE TO REVIEW IN PLACE THE CONNECTIONS AND COMPONENTS DESIGNED BY THIS ENGINEE TO SATISFY THEMSELVES THAT THESE CONNECTIONS AND COMPONENTS COMPLY WITH THEIR DESIGN ON THE SHOP DRAWINGS THIS ENGINEER. SHALL PROVIDE A LETTER TO AMR TO THIS EFFECT. THIS ENGINEER
- SHALL ALSO PROVIDE SEALED SKETCHES FOR ALL FIELD MODIFICATIONS MADE TO THEIR DESIGN
- SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO START OF STEEL FABRICATION.
- FABRICATION, ERECTION, STRUCTURAL DESIGN, AND DETAILING OF ALL STEEL SHALL BE IN ACCORDANCE WITH CAN/CSA-S16.
- 7. FILLET WELDS SHALL BE 5 mm MINIMUM U.N.O.
- 8. BOLTS SHALL BE A325 19 mm Ø MINIMUM U.N.O. BOLTED CONNECTIONS SHALL HAVE A MINIMUM OF TWO BOLTS IN EACH
- MEMBER U.N.O 10. UNLESS NOTED OTHERWISE, COLUMN CAP PLATES SHALL BE 16 mm THICK AND COLUMN BASE PLATES SHALL BE 20 mm MINIMUM THICK.
- 11. PROVIDE 6 mm CAP PLATES FOR ALL HSS MEMBERS U.N.O.
- 12. CONNECTION DETAILS SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE ALTERED BY THE CONTRACTOR WITHOUT WRITTEN APPROVAL FROM AMR ENGINEERING LIMITED
- 13. UNLESS NOTED OTHERWISE ON THE PLANS, REFER TO THE DETAILS IN THE GENERAL NOTES FOR FRAMING FOR SUPPORT OF ROOF TOP MECHANICAL EQUIPMENT.
- 14. STEEL TO BE EXPOSED IN FINISHED WORK SHALL BE CLEANED. PREPARED PRIMED AND PAINTED IN ACCORDANCE WITH CSA STANDARD S16 AND THE ARCHITECTURAL DRAWINGS AND PAINTING SPECIFICATION
- 15. DESIGN DRAWINGS INCLUDE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS. SEE ALSO ARCHITECTURAL DRAWINGS FOR ROOF AND FLOOR FLEVATIONS ROOF SLOPES EDGE DETAILS AND ADDITIONAL DIMENSIONS AND DETAILS. WHERE ELEVATIONS, ROOF SLOPES. ETC., ARE SHOWN ON THE STRUCTURAL DRAWINGS, THEY MUST
- BE CONFIRMED WITH THE ARCHITECTURAL DRAWINGS. 16. UNLESS NOTED OTHERWISE, DO NOT OVERSIZE HOLES IN STEEL TO FIT ANY ANCHOR LOCATIONS. FOR COLUMN BASE PLATE HOLES, UNLESS NOTED OTHERWISE ON DRAWINGS FOLLOW STANDARD PRACTICE WHICH IS TO USE SLIGHTLY OVERSIZED HOLES. USE 6 mm OVERSIZED HOLE DIAMETER FOR COLUMN ANCHOR RODS UP TO AND INCLUDING
- 27 mm DIAMETER, AND 12 mm OVERSIZED HOLE DIAMETER FOR COLUMN ANCHOR RODS GREATER THAN 27 mm DIAMETER. 17. TOUCH UP ALL FIELD WELDS. ALL STEEL SHALL BE PAINTED WITH 1 ZINC RICH SHOP COAT AND FIELD TOUCH UP AS PER CGSB-1.40-M89. ALL
- EXTERIOR STEEL EXPOSED TO ELEMENTS SHALL BE HOT DIPPED GALVANIZED AS PER REQUIREMENTS OF CSAG164-18. 18. NON-SHRINK GROUT SHALL BE M-BED STANDARD BY SIKA CANADA
- INC. OR APPROVED EQUAL
- STEEL DECK
- 1. STEEL DECKING SHALL CONFORM TO CAN/CSA-S136.
- 2. STEEL DECKING SHALL CONFORM TO CSSBI SPECIFICATION 10M MINIMUI GRADE 230 ZINC COATED STRUCTURAL QUALITY STEEL FOR ROOF AND FLOOR DECK. BASE STEEL NOMINAL THICKNESSES INDICATED ON THE DRAWINGS ARE MINIMUM REQUIREMENTS ONLY.
- 3. INTERIOR EXPOSURE DECK SHALL BE ZINC COATED WIPE COAT ZF075 JSURE DECK SHALL BE Z275 ZINC COATED UNLESS NOTED OTHERWISE.
- STEEL DECKING SHALL BE INSTALLED SUCH THAT SHEETS ARE SET FOR A MINIMUM OF THREE SPANS CONTINUOUS UNLESS NOTED OTHERWISE. LAPS OF DECKING SHALL BE LIMITED OR DETAILED TO PREVENT UNDUE VERTICAL DEFORMATIONS AT THE END OF THE DECK DUE TO END
- 5. SEE DRAWINGS & NOTES FOR DECK THICKNESSES OR DESIGN LOADS. 6 WHERE DECK IS CALLED UP ON THE DRAWINGS ALTERNATES MUST BE THE SAME DEPTH, BE EQUIVALENT FOR DEFLECTIONS, VERTICAL LOAD,
- AND SHEAR CAPACITY, AND BE PRE-APPROVED. SUBMIT SHOP DRAWINGS INDICATING THE DECK SPANS, THICKNESSES, PROFILES AND DETAILS WHERE THE DECK THICKNESSES AND CONNECTIONS ARE NOT SHOWN ON THE DRAWINGS. THE FABRICATOR SHALL DESIGN THE DECK AND CONNECTIONS FOR THE VERTICAL LOADS
- AND THE SHEAR/DIAPHRAGM LOADS NOTED ON THE DRAWINGS AND HAVE THE SHOP DRAWINGS SEALED BY THE CONTRACTOR'S SPECIALTY STRUCTURAL ENGINEER.
- FASTENINGS MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE ON DRAWINGS:
- A. SIDE LAPS MECHANICALLY FASTENED (CLINCHED) AT NOT MORE THAN 600 mm O/C.
- 20 mm Ø FUSION WELDS AT DECK SUPPORTS SHALL BE
- T 300 mm O/C ALONG SIDE EDGES AND AT EVERY OTHER FLUTE.
- REMOVE WATER BETWEEN THE DECK AND SUPPORTING STEEL BEFORE WELDING DECK
- 10. IF NOT SHOWN OTHERWISE, ALL EDGES OF STEEL DECKING SHALL
- BE SUPPORTED ON CONTINUOUS ANGLE L76x76x6.4. 11. SEE ALSO MECHANICAL, ELECTRICAL AND ARCHITECTURAL DRAWINGS
- FOR ALL OPENINGS IN DECK.
- 12. STEEL DECK TO BE DESIGNED FOR A MINIMUM DIAPHRAGM SHEAR OF
- 4.0 kN/m. U.N.O.

13. TOUCH UP ALL FIELD WELDS WITH ZINC RICH PAINT. STEEL BEAMS AND GIRDERS

UNLESS NOTED, BEAM AND GIRDER CONNECTIONS TO EMBEDDED PLATES

** 2D

PL 10 STIFFENER -

EACH SIDE

- WF COLUMN -

- MIN. 4 BOLTS THRU. BEAM FLANGE AND TOP PL 16

SHALL BE DOUBLE ANGLE FRAMING CONNECTIONS WELDED TO THE BEAM WEB THUS

2. UNLESS NOTED OTHERWISE ALL CONNECTIONS FOR BEAMS AND

GIRDERS SHALL BE DESIGNED FOR A SHEAR BASED ON THE MEMBER'S

FULL MOMENT RESISTANCE CAPACITY RELATED TO A UNIFORM LOAD

3. STEEL BEAM CAMBERS SHOWN THUS (75) MEAN CAMBER BEAMS 75 mm

4. TOP FLANGES OF BEAMS TO BE FREE OF ALL PAINT, DIRT, HEAVY RUST, MILL SCALE SAND AND OTHER MATERIALS WHICH WILL INTERFERE WITH

- 2-PL 10 STIFFENERS -

FACH SIDE

HSS COLUMN

WELDING OF STUD SHEAR CONNECTIONS AND STEEL DECK TO BEAMS.

UNLESS NOTED OTHERWISE WHERE BEAMS SIT OVER COLUMNS, PROVIDE

FULL HEIGHT, FULL WIDTH PL 10 STIFFENERS EACH SIDE OVER COLUMN.

STIFFENER TO START AT FILLET (TYP.) U.N.O.

SLOTTED HOLE FOR

ERECTION BOLT

d → Mf

ON A SIMPLE SUPPORTED SPAN.

AT CENTRE.

Mf = Vf x e

EXTERIOR WIND STEEL STUD NOTES

I. SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW BEFORE FABRICATION IS STARTED. ASSUME RESPONSABILITY FOR THE ACCURACY OF THE WORK AND BE AWARE THAT REVIEW OF SHOP DRAWINGS IS ONLY TO ENSURE THAT THE CONTRACT DRAWINGS ARE BEING CORRECTLY INTERPRETED.

. SHOP DRAWINGS SHALL BEAR THE SEAL OF PROFFESIONAL ENGINEER OF ONTARIO RESPONSIBLE FOR DESIGN OF METAL STUDS. DESIGN STEEL STUDS FOR ANTICIPATED WIND LOADS LIVE AND

DEAD LOADS IN ACCORDANCE WITH ONTARIO BUILDING CODE. REFER TO ARCHITECTURAL DRAWINGS FOR WALL CONSTRUCTION/TYPES. DEAD LOADS IN ACCORDANCE WITH ONTARIO BUILDING CODE.

4. CONFORM TO THE REQUIREMENTS OF FIRE RATED ASSEMBLIES. 5. DESIGN AND INSTALL BRIDGING TO PREVENT MEMBER ROTATION AND MEMBER TRANSLATION PERPENDICULAR TO THE MINOR AXIS.

6. MAXIMUM DEFLECTION UNDER SPECIFIED LOADS SHALL NOT EXCEED THE FOLLOWING (a) WALL STUDS SUPPORTING MASONRY VENEER = SPAN/480 (b) WALL STUDS SUPPORTING OTHER FINISHES = SPAN/360

(c) LINTEL MEMBERS = SPAN/480 7. SPACING OF WALL STUDS & JOISTS SHALL NOT EXCEED 16" UNLESS NOTED OTHERWISE ON PLANS AND/OR SECTIONS.

8. STEEL STUDS SHALL BE ROLL FORMED FROM ZINC COATED STEEL SHEETS CONFORMING TO ASTM-A446-83 GRADE 'A' WITH ZINC COATING ON EACH SIDE. ZINC COATING DESIGNATION SHALL BE Z275.

9. STEEL STUDS SHALL BE AS MANUFACTURED BY BAILEY METAL PRODUCT LIMITED OR AN APPROVED EQUAL WITH A MINIMUM METAL THICKNESS BEFORE GALVANIZING SHALL BE 1.27 mm (18 GAUGE). USE HEAVIER GAUGE AS REQUIRED BY DESIGN

10. FASTENERS SHALL BE CORROSION RESISTANCE PAN HEAD SELF DRILLING SELF TAPPING SCREWS. 11. ERECT METAL STUDS TO TOLERANCE OF 1:1000.

12. FRAME ALL OPENINGS IN STUD WALLS, BY USE OF ADDITIONAL FRAMING MEMBERS AND BRACING, TO CARRY ALL APPLICABLE LOADS ADEQUATELY. 13. SPLICES IN STEEL STUDS WILL NOT BE PERMITTED.

STEEL DECK NOTES (WITH CONCRETE TOPPING)

STEEL DECK TO BE AS NOTED ON DRAWINGS. UNLESS NOTED OTHERWISE ALL DECK RECEIVING CONCRETE TOPPING TO BE COMPOSITE DECK. IT IS INTENDED THAT ALL STEEL DECK BE UNSHORED DURING CONSTRUCTION U.N.O.

THE STEEL DECK THICKNESS SHALL BE AS REQUIRED TO CARRY THE WET CONCRETE WITHOUT SHORING AND TO MEET THE LOADING REQUIREMENTS LISTED BELOW. AND WILL DEPEND ON THE ACTUAL PROFILE AND LAYOUT OF DECK USED. TOPPING THICKNESS ON THE DRAWINGS ARE MEASURED FROM THE TOP OF DECK FLUTE (SEE

"CONCRETE TOPPING ON STEEL DECK" NOTES). 4. DESIGN FLOOR LOADS (SPECIFIED OR UNFACTORED):

CONSTRUCTION DEAD LOAD = WEIGHT OF WET CONCRETE

CONSTRUCTION LIVE LOAD = 1 kPa SUPERIMPOSED DEAD LOAD = AS INDICATED ON DRAWINGS

SERVICE LIVE LOAD = AS INDICATED ON DRAWINGS

ALL DECK TO BE THREE SPAN MINIMUM WHERE POSSIBLE.

THE STEEL DECK PROFILES SHALL BE AS REQUIRED TO ACHIEVE FIRE SEPARATIONS AS SPECIFIED ON THE ARCHITECTURAL DRAWINGS IN ADDITION ALL COMPOSITE FLOOR DECK PROFILES SHALL HAVE AN AVERAGE BOTTOM FLUTE WIDTH AT LEAST 2 X DECK DEPTH WHERE USED ON COMPOSITE BEAMS WITH SHEAR STUDS.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH SUBTRADES FOR PROVIDING STEEL DECK AS INDICATED ON THE DRAWINGS. AND ALL NECESSARY FORMING AT THE DECK EDGES FOR THE FULL DECK AND CONCRETE DEPTH TO PREVENT LEAKING OF THE CONCRETE TOPPING THIS INCLUDES BUT IS NOT LIMITED TO ALL SLAB EDGES AT THE BUILDING EDGE AND ALL SLAB OPENINGS FRAMED BY STRUCTURAL STEEL, INCLUDING ELEVATOR SHAFTS AND STAIRWELLS AND AROUND THE WEBS

AND FLANGES OF ALL COLUMNS BEAMS NOTED AS COMPOSITE ON THE DRAWINGS REQUIRE STUD SHEAR CONNECTIONS, SEE ALSO SHEAR CONNECTOR NOTES. SEE ALSO PLANS, SECTIONS, DETAILS AND SCHEDULES FOR STUDS SHOWN ON MS/GIRDERS/DRAG-STRUTS ETC. OTHER THAN COMPOSITE BEAMS. THE CONTRACTOR SHALL CO-ORDINATE THE DESIGN, SUPPLY, AND

INSTALLATION OF ALL STUDS. FASTENINGS - MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE

ON DRAWINGS

IN OBC 2012.

IN OBC 2012.

SIDE LAPS MECHANICALLY FASTENED (CLINCHED) AT NOT MORE THAN 600 mm O/C

20 mm Ø FUSION WELDS AT DECK SUPPORTS SHALL BE AT 300 mm O/C ALONG SIDE EDGES AND AT EVERY OTHER FLUTE.

10. SEE ALSO MECHANICAL AND ARCHITECTURAL DRAWINGS FOR OPENINGS. HOLES ETC. IN DECKING.

SUBMIT SHOP DRAWINGS SEALED BY A SPECIALTY STRUCTURAL ENGINEER FOR DESIGN OF DECK AND SHEAR STUDS.

MISC. METALS AND STEEL STAIRS

PROVIDE SHOP DRAWINGS PRIOR TO FABRICATION STAMPED, SIGNED AND DATE BY P. FNG

ALL GUARDS TO BE DESIGNED TO MEET LATERAL LOAD DESCRIBED ALL HANDRAILS TO BE DESIGNED TO MEET LATERAL LOAD DESCRIBED

ALL STAIRS TO BE DESIGNED TO SUPPORT A MINIMUM LIVE LOAD OF 4.8KPa

WOOD FRAMING

- ALL DESIGN, DETAILS, MATERIALS AND CONSTRUCTION PROCEDURES SHALL CONFORM TO CURRENT EDITIONS OF THE FOLLOWING AS A | 1. ALL WORK TO APA STANDARD FOR PERFORMANCE RATED CLT MINIMUM:
- ONTARIO BUILDING CODE 2012
- PART 9 CAN/CSA-086 ENGINEERING DESIGN IN WOOD - CSA 0121 - DOUGLAS FIR PLYWOOD
- CAN/CSA-LO 4000 PARALLAMS AND MICROLLAMS - CAN/CSA-0122 - STRUCTURAL GLUED-LAMINATED TIMBER
- CSA O437 SERIES STANDARDS FOR OSB AND WAFERBOARD
- CSA B111 WIRE NAILS, SPIKES AND STAPLES - CAN/CSA-B34 - MISCELLANEOUS BOLTS AND SCREWS
- CANADIAN WOOD-FRAME HOUSE CONSTRUCTION-CMHC - "WOOD DESIGN MANUAL" - CANADIAN WOOD COUNCIL

ANY CHANGES TO THE FRAMING SHOWN ON THESE DRAWINGS SHALL HAVE PRIOR WRITTEN APPROVAL OF AMR. FRAMING CHANGES WHICH HAVE NOT BEEN SO APPROVED WILL BE REJECTED.

CONFIRM ALL DIMENSIONS AND OUTLINES WITH THE ARCHITECTURAL DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS, ELEVATIONS AND DETAILS.

- ANY TIMBER NOT GRADE MARKED WILL BE REJECTED.
- FINISHES SHALL BE DETAILED TO ACCOMMODATE SHRINKAGE OF THE TIMBER OVER TIME.
- DO NOT COVER WOOD FRAMING WITH FINISHES UNTIL AMR'S FRAMING REVIEW IS COMPLETE, PROVIDE 48 HOURS ADVANCE NOTIFICATION WHEN FRAMING REVIEWS ARE REQUIRED.
- NOTCHING AND DRILLING OF STRUCTURAL ELEMENTS SHALL FOLLOW THE GUIDELINES SET FORTH IN THE BUILDING CODE PART 9, UNLESS OTHERWISE APPROVED IN WRITING BY AMR.
- NOTCHING AND DRILLING OF STRUCTURAL ELEMENTS SHALL FOLLOW THE GUIDELINES SET FORTH IN THE BUILDING CODE PART 9. UNLESS OTHERWISE APPROVED IN WRITING BY AMR.
- ANY TIMBER NOT GRADE MARKED WILL BE REJECTED. TIMBER SHALL BE DRY SPRUCE #1 OR #2 CONFORMING TO CSA-086-14 U/N OTHERWISE.

TRUS JOISTS AND MICRO LAM BEAMS (MLB) SHALL BE AS MANUFACTURED BY TRUS JOIST CANADA LTD. OR AN APPROVED EQUAL.

- ALL LOAD BEARING STUDS SHALL HAVE ONE ROW OF SOLID BLOCKING AT MID-HEIGHT UNLESS NOTED OTHERWISE.
- PROVIDE 38X38 BRIDGING AT 2000 C/C MAXIMUM FOR FLOOR 10. JOISTS
- BRIDGING FOR TRUSS JOISTS SHALL BE AS RECOMMENDED BY THE MANUFACTURER, HOWEVER, PROVIDE MINIMUM ONE ROW OF BRIDGING AT MID-SPAN FOR JOIST SPANS > 4800.
- PROVIDE ADEQUATE TEMPORARY BRACING FOR ALL STUD WALLS DURING CONSTRUCTION.
- ALL CONNECTIONS, UNLESS NOTED OTHERWISE, TO BE IN ACCORDANCE WITH O.B.C 2012, TABLE 9.23.3.4. & TABLE 9.23.3.5
- ALL WOOD FRAME CONSTRUCTION SHALL SATISFY THE FOLLOWING CONSTRUCTION TOLERANCES AS A MINIMUM. REFER TO ARCHITECTURAL AND WARRANTY REQUIREMENTS
- FOR ADDITIONAL TOLERANCE SPECIFICATIONS. A. FLOORS - NOT MORE THAN 6 mm IN 3 m OUT OF LEVEL
- WALLS NOT MORE THAN 6 mm IN 2.4 m OUT OF PLUMB. NOT MORE THAN 6 mm IN 3 m FOR ANY BOWING.
- OVERALL BUILDING WALLS AND FLOORS SHALL NOT BE MORE THAN 10 mm DIFFERENCE IN MEASUREMENT FROM DIMENSIONS SHOWN ON CONTRACT DOCUMENTS.

MATERIAL

- STUDS AND BUILT-UP POSTS TO BE S-P-F #2 GRADE OR BETTER
- JOISTS TO BE S-P-F #2 GRADE OR BETTER.
- BUILT-UP BEAMS AND HEADERS TO BE S-P-F #2 GRADE OR BETTER. WALL PLATES TO BE S-P-F #2 GRADE. WALL PLATES SHALL BE KILN-DRIED AND MAY BE FINGER JOINTED EXCEPT IN SHEAR WALLS.
- BEAMS TO BE S-P-F #2 GRADE OR BETTER.
- ALL DIMENSION LUMBER TO BE SURFACED FOUR SIDES ('S4S').
- PLYWOOD TO BE DOUGLAS FIR SHEATHING GRADE.
- O.S.B TO CONFORM TO CSA 0325.
- TIMBER CONNECTION HARDWARE TO BE SIMPSON STRONG-TIE, OR EQUIVALENT APPROVED BY AMR. COMPLETE WITH NAILS SUPPLIED BY MANUFACTURER, DO NOT USE P NAILS.
- NAILS SHALL BE COMMON ROUND STEEL WIRE NAILS. NAILS ARE CALLED UP BY LENGTH AND SHALL CONFORM TO THE FOLLOWING TABLE:

LENGTH	DIAMETER	PENNY-WEIGHT
50 mm (2")	2.84 mm (0.113")	6d
65 mm (2 1/2")	3.25 mm (0.131")	8d
75 mm (3")	3.66 mm (0.148")	10d
80 mm (3 1/4")	3.66 mm (0.148")	12d
90 mm (3 1/2")	4.06 mm (0.162")	16d
100 mm (4")	4.88 mm (0.192")	20d
115 mm (4 1/2")	5.38 mm (0.225")	30d
125 mm (5")	5.89 mm (0.244")	40d

NOTE: SPIREL OR PNEUMATIC NAILS MAY BE USED IF THEY CONFIRM TO THE TABLE ABOVE.

- MISCELLANEOUS STEEL TO BE CAN/CSA-G40.21 OR APPROVED EQUAL. ANCHOR BOLTS SHALL BE ASTM F1554 OR ASTM A36 OR APPROVED UAL. ANCHOR BOLTS SHALL BE DEFORMED, THREADED ALONG THEIR
- FULL LENGTH OR HOOKED 40 mm AT THE BOTTOM. BOLTS SHALL BE ASTM A307 OR APPROVED EQUAL, USED WITH 13.
- TANDARD CUT STEEL WASHERS UNLESS NOTED OTHERWISE ON DRAWINGS.
- MOISTURE CONTENT OF ALL TIMBER ELEMENTS SHALL NOT EXCEED 19% AT THE TIME OF CONSTRUCTION OR FABRICATION.
- ALL FASTENERS AND CONNECTION HARDWARE THROUGH ESERVATIVE TREATED MATERIALS OR OUTSIDE OF THE MOISTURE BARRIER TO BE HOT DIPPED GALVANIZED OR STAINLESS STEEL STEEL AS SPECIFIED

CROSS-LAMINATED TIMBER (CLT)

ANSI/APA PRG 320-2011 AND CROSS LAMINATED TIMBER PLANT QUALIFICATION STANDARD BY FPINNOVATIONS.

- SUPPLIER TO SUBMIT ADEQUATE PRODUCT CERTIFICATES TO ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCEMENT OF FABRICATION. FABRICATION SHALL START ONLY AFTER REVIEW OF DOCUMENTS AND WRITTEN APPROVAL BY STRUCTURAL ENGINEER.
- CONFIRM ALL DIMENSIONS, OUTLINES, ELEVATIONS, AND DETAILS WITH ARCHITECTURAL DRAWINGS.
- CLT PANELS CONSIST OF CROSSWISE STACKED AND GLUED TOGETHER LAYERS OF SPRUCE PLANKS. BONDING TO BE CARRIED OUT EXCLUSIVELY WITH APPROVED ADHESIVES. PLANKS TO BE STRESS AND QUALITY GRADED AND MACHINE DRIED.
- THE PANEL CONSISTS OF 3, 5, 7 OR MORE LAYERS. THE LAMINATION THICKNESS VARIES BETWEEN 19MM(3/4") AND 38MM(1 1/2") DEPENDING ON STRUCTURAL REQUIREMENT AS SHOWN ON STRUCTURAL DRAWINGS UNLESS OTHERWISE NOTED
- CLT PANELS SHALL HAVE A MOISTURE CONTENT OF 12% (±2%)
- PANEL SURFACES TO BE IN ACCORDANCE WITH ARCHITECTURAL REQUIREMENTS.
- KEEP THE PANELS CONSTANTLY PROTECTED FROM THE WEATHER DURING TRANSPORTATION, STORAGE AND ERECTION. STORE CLT PANELS OFF THE GROUND WITH SPACER BLOCKS PLACED BETWEEN MEMBERS.
- ANCHOR POINTS FOR INSTALLATION STRAPS TO HAVE MIN 89MM [3 1/2"] EDGE / END DISTANCE.
- 10. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL CONNECTING CLT PANELS ELEMENTS TO EACH OTHER AND TO SUPPORTING MEMBERS SHALL BE DETAILED, SUPPLIED AND TEST FITTED IN THE SHOP BY THE CLT SUPPLIER.
- 1.UNLESS NOTED OTHERWISE, USE 8.0MM [5/16"] SELF TAPPING SCREWS TO CONNECT PANELS.76MM [3"] MIN LENGTH OF PENETRATION INTO CONNECTED MEMBER. SEE TYPICAL DETAILS FORFURTHER INFORMATION.
- 12. UNLESS NOTED OTHERWISE, USE SIMPSON CONNECTORS OR EQUIVALENT WHERE REQUIALLNAIL HOLES IN CONNECTORS, INCLUDING STRAPS, TO BE FILLED WITH 6ØX60MM [1/4"ØX2 3/8" GUNNEBO NAILS (ANNULAR RINGED NAILS) OR EQUIVALENT. SUBSTITUTIONS MUST HAVE WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION. SEE TYPICAL DETAILS FOR FURTHER INFORMATION.
- 13. STEEL HARDWARE SHALL BE ASTM A36 OR BETTER AND BOLTS SHALL BE A307, HOT DIPPED GALVANIZED. ALL BOLTS AND LAG BOLTS BEARING AGAINST TIMBER SHALL HAVE STANDARD "CUT" (OVERSIZED) WASHERS UNLESS NOTED OTHERWISE
- 14. IN TRANSITION AREA BETWEEN WOOD ELEMENTS AND CONCRETE OR MASONRY, WOOD ELEMENTS TO BE PROTECTED FROM ASCENDING MOISTURE. PROVIDE LIGHT-GAUGE METAL, ASPHALT-IMPREGNATED BUILDING PAPER, CLOSED-CELL FOAM GASKET MATERIAL, TYPE S ROLL ROOFING, OR 0.1 MM POLYETHYLENE AS A MOISTURE BARRIER. SEE TYPICAL DETAILS FOR FURTHER INFORMATION.
- 15. AT JOINT LOCATIONS BETWEEN WALL TO FLOOR/ROOF PANELS AS WELL AS FLOOR/ROOF
- TO FLOOR/ROOF PANELS, USE JOINT SEALANT FOR IMPROVED NOISE PERFORMANCE. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

16. RE-TIGHTEN ALL ACCESSIBLE BOLTS AT END OF PROJECT.

- 17. FINISHES SHALL BE DETAILED TO ACCOMMODATE SHRINKAGE/MOVEMENT OF CLT PANELS.
- 18. NON-LOAD BEARING ELEMENTS TO BE DETAILED TO ACCOMMODATE MOVEMENT / DEFLECTION AS OUTLINED UNDER 'SECONDARY COMPONENTS AND THEIR ATTACHMENTS'.
- 19. CONFIRM SERVICE CHANNELS INCORPORATED IN CLT PANELS WITH ARCHITECTURAL, ELECTRICAL AND MECHANICAL DRAWINGS, ALL CUTS AND DRILLS TO BE SHOWN ON SHOP DRAWINGS AND TO BE APPROVED BY STRUCTURAL ENGINEER PRIOR TO FABRICATION.
- 20. SUBMIT PDF SHOP DRAWINGS SHOWING ALL APPLICABLE DETAILS AND MATERIAL SPECIFICATIONS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL BE ACCOMPANIED BY A CERTIFICATE OF CONFORMANCE TO MANUFACTURING STANDARD AS OUTLINED UNDER NOTED #1.
- 21. AFFIX AUTHORIZED LABEL TO ALL MEMBERS SUPPLIED. ALSO IDENTIFY EACH MEMBER WITH MARK NUMBER.

22. SHOP DRAWINGS OF MEMBERS, CONNECTIONS AND

- AND SEALED BY THE SPECIALTY ENGINEER AND SUBMITTED WITH A STATEMENT OF PRODUCT COMPLIANCE WITH DRAWING SPECIFICATIONS AND STANDARDS.
- 23. ANY CHANGES TO THE FRAMING SHOWN ON THESE DRAWINGS SHALL HAVE PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
- 24. STRUCTURAL ENGINEER MUST COMPLETE FRAMING REVIEW BEFORE FINISHES CAN BE APPLIED TO WOOD FRAMING.

TO MEET ALL STRUCTURAL, FIRE AND DEMONSTRATION

ENGINEER AND ARCHITECT.

REQUIREMENTS TO THE SATISFACTION OF THE STRUCTURAL

27. ALL EXPOSED CLT CONNECTIONS SUPPORTING, OR WITHIN FIRE

RATED ASSEMBLIES TO MEET FRR REQUIREMENTS.

SEE ARCHITECT DRAWINGS FOR DETAI

25. SIZES ON STRUCTURAL DRAWINGS CAN BE REVISED BY THE CLT SUPPLIER IF THE SPECIALTY ENGINEER DESIGNS THE VARIANCE

26. COORDINATE ALL ROOF PENETRATIONS WITH CLT SUPPLIER.

GLUE-LAMINATED TIMBER: GLULAM (GL)

- 1. ALL WORK TO CSA STANDARD 086 AND REFERENCED DOCUMENTS.
- 2. GLULAM MEMBERS SHALL BE DOUGLAS FIR 20f-E (24f-Ex FOR CANTILEVER OR CONTINUOUS BEAMS) STRESS GRADE WITH QUALITY APPEARANCE GRADE AND 15% MAX. MOISTURE CONTENT U.N.O. INDUSTRIAL APPEARANCE GRADE MAY BE USED WHERE BEAMS ARE TO BE CONCEALED.
- 3. GLULAM MANUFACTURER MUST QUALIFY UNDER CAN/CSA-0177-M89 (R2003).
- PROVIDE FULL GLULAM PACKAGE WITH POLYURETHANE RESIN (WHITE) ADHESIVE MEETING THE REQUIREMENTS OF ANSI A190.1.
- 5. CAMBER SIMPLE SPAN BEAMS 10MM (3/8") PER 3000 (10'-0") OF SPAN.
- 6. SUBMIT PDF SHOP DRAWINGS SHOWING ALL APPLICABLE DETAILS AND MATERIAL SPECIFICATIONS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL BE ACCOMPANIED BY A CERTIFICATE OF CONFORMANCE TO MANUFACTURING STANDARD.
- AFFIX AUTHORIZED LABEL TO ALL MEMBERS SUPPLIED. ALSO IDENTIFY EACH MEMBER WITH MARK NUMBER.
- 8. STORE GLULAM OFF THE GROUND WITH SPACER BLOCKS PLACED BETWEEN MEMBERS. KEEP WRAPPING ON THE MEMBERS UNTIL PERMANENT PROTECTION FROM THE WEATHER IS IN PLACE BUT CUT HOLES ON UNDERSIDE OF WRAPPING TO PREVENT THE ACCUMULATION OF CONDENSATION.
- 9. ALL PRESSURE TREATED GLULAM TO BE TREATED ACCORDING TO CAN/CSA-080 SERIES-97 (R2002) "WOOD PRESERVATION." ALL CUTTING AND DRILLING TO BE COMPLETED BEFORE THE TREATMENT. FIELD APPLY PRESERVATIVE TO EQUIVALENT STANDARD, TO ALL AREAS CUT OR DRILLED.
- 10. ALL STRUCTURAL STEEL CONNECTING GLULAM ELEMENTS TO EACH OTHER AND TO SUPPORTING MEMBERS SHALL BE DETAILED, SUPPLIED AND TEST FITTED IN THE SHOP BY THE GLULAM SUPPLIER.
- 11. IN TRANSITION AREA BETWEEN WOOD ELEMENTS AND CONCRETE OR MASONRY, WOOD ELEMENTS TO BE PROTECTED FROM ASCENDING MOISTURE. PROVIDE LIGHT-GUAGE METAL, ASPHALT-IMPREGNATED BUILDING PAPER, CLOSED-CELL FOAM GASKET MATERIAL, TYPE S ROLL ROOFING, OR 0.05 MM PLOYTHYLENE AS A MOISTURE BARRIER.
- 12. FINISH OF CONCEALED MEMBERS: SEE ARCHITECTURAL FOR DETAILS.
- 13. FINISH OF EXPOSED MEMBERS (INTERIOR OR EXTERIOR): SEE ARCHITECTURAL FOR DETAILS.
- 14. RE-TIGHTEN ALL ACCESSIBLE BOLTS AT END OF PROJECT.
- 15. SHOP DRAWINGS OF CONNECTIONS AND COMPONENTS DESIGNED BY THE CONTRACTOR SHALL BE SIGNED AND SEALED BY THE SPECIALTY ENGINEER AND SUBMITTED WITH A STATEMENT OF PRODUCT COMPLIANCE WITH DRAWING SPECIFICATIONS AND STANDARDS.

WOOD FRAME FASTENERS

- . THE FOLLOWING PARTIALLY THREADED SELF TAPPING SCREWS ARE ACCEPTABLE, UNLESS SPECIFIED ON STRUCTURAL DRAWINGS: FASTENER TYPE MANUFACTURER
 - SFS INTEC SFS WFC-T SFS WFR-T SFS WFD-T GRK FASTENERS R4 ™ Multi Purpose Screw RSS STRUCTURAL (IN CLT ONLY) HECO **TOPIX (TAPERED** SCREW HEAD UNO) ASSY 3.0 SK SWG (Wurth)
- ASSY 3.0 KOMBI SIMPSON SDS SCREWS ARE ONLY ACCEPTABLE WHERE SPECIFICALLY INDICATED ON STRUCTURAL DRAWINGS.
- 2. THE FOLLOWING FULLY THREADED SELF TAPPING SCREWS ARE ACCEPTABLE. UNLESS SPECIFIED ON STRUCTURAL DRAWINGS. MANUFACTURER FASTENER TYPE SFS INTEC SFS WT-T SFS WR-T
 - HECO TOPIX CC (TAPERED SCREW HEAD UNO) SWG (WURTH) ASSY PLUS VG
- 3. SCREW TYPES SPECIFIED ON STRUCTURAL DRAWINGS SUPERSEDE THE INFORMATION ABOVE UNLESS NOTED OTHERWISE
- 4. WHERE PARTIALLY THREADED AND/OR FULLY THREADED SELF TAPPING SCREWS ARE USED IN COMBINATION WITH ARCHITECTURALLY EXPOSED STEEL PLATES, USE SCREWS WITH TAPERED SCREW HEAD UNLESS NOTED OTHERWISE. COUNTERSINK HOLES IN STEEL TO RECEIVE TAPERED SCREW HEADS. DO NOT OVERSIZE HOLES. CONTRACTOR TO SUBMIT SAMPLE OF STEEL PLATE INCLUDING SCREW USED IN ASSEMBLY TO EQUILIBRIUM CONSULTING FOR APPROVAL PRIOR TO MASS FABRICATION.
- 5. WHERE PARTIALLY THREADED AND/OR FULLY THREADED SELF TAPPING SCREWS ARE USED IN COMBINATION WITH STEEL PLATES NOT EXPOSED TO VIEW, USE SCREWS WITH A HEX HEAD TO ALLOW FOR EASIER AND SAFER INSTALLATION, UNLESS NOTED OTHERWISE. HOLES IN STEEL PLATE TO MATCH THE SCREW TYPE USED. CONTRACTOR TO SUBMIT SAMPLE OF STEEL PLATE INCLUDING SCREW USED IN ASSEMBLY TO EQUILIBRIUM CONSULTING FOR APPROVAL PRIOR TO MASS FABRICATION.
- 6. WHERE PRE-DRILLING OF SCREWS IS RECOMMENDED BY THE SUPPLIER, HOLE DIAMETER TO BE STRICTLY AS PER MANUFACTURER'S RECOMMENDATIONS.
- 7. ALL OTHER FASTENING SYSTEMS INCLUDING, BUT NOT LIMITED TO, SHERPA CONNECTORS BY HARRER ARE SPECIFIED ON DRAWINGS. REFER ALSO TO WOOD FRAME GENERAL NOTES WHERE APPLICABLE.
- 8. SEE MANUFACTURE'S SPECIFICATIONS FOR ALL INSTALLATION DETAILS UNLESS NOTED OTHERWISE.
- 9. ALL FASTENERS TO BE CLEARLY IDENTIFIED ON SHOP DRAWINGS.

138 Simcoe Street Peterborough Ontario K9H 2H5

t. 705.743.3311 e. studio@lett.ca



STRUCTURAL ENGINEERS 920 Alness St Suite 205, Toronto, ON M3J 2H7 (416) 551-1611

ISSUE / REVISIONS

1	ISSUED FOR DESIGN SIGN-OFF	OCT 27, 21
2	ISSUED FOR COORDINATION	FEB 16, 22
3	ISSUED FOR PERMIT REVIEW	FEB 25, 22
4	ISSUED FOR BUILDING PERMIT	MAR 21, 22
5	ISSUED FOR TENDER	AUG 18, 22



All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

Contract Documentation

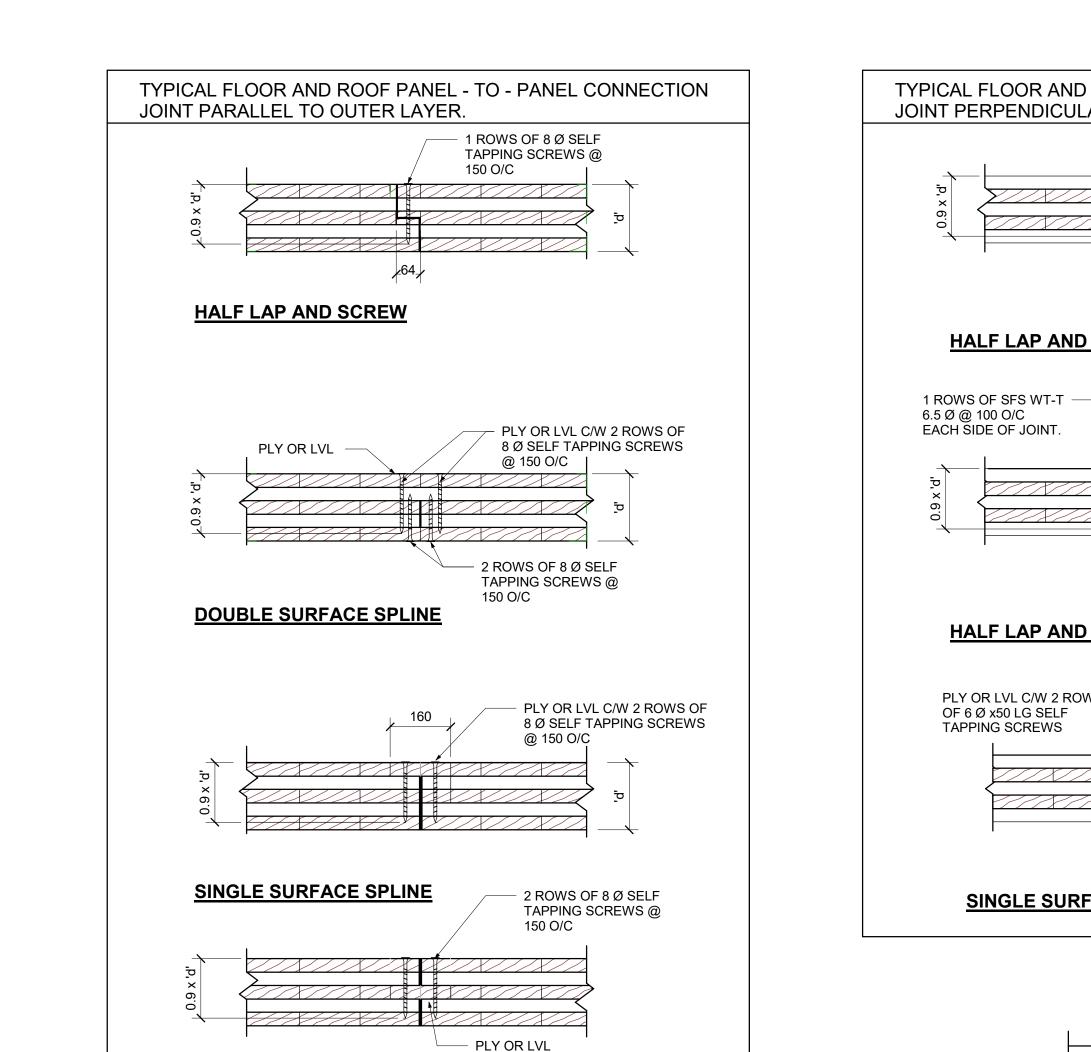
PROJECT No. 2153 START DATE Issue Date

CITY OF PETERBOROUGH

FIRE STATION NO.2

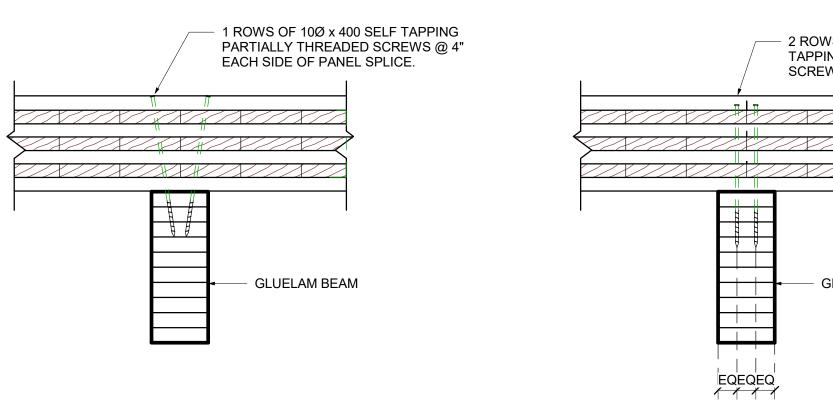
100 Marina Boulevard Peterborough, Ontario

GENERAL NOTES AND TYPICAL DETAILS



8Ø x 200 SELF TAPPING PARTIALLY THREADED SCREWS @ 200 O/C ALONG grids @ 100 ELSEWHERE USE ASSY 3.0K

EXTERIOR



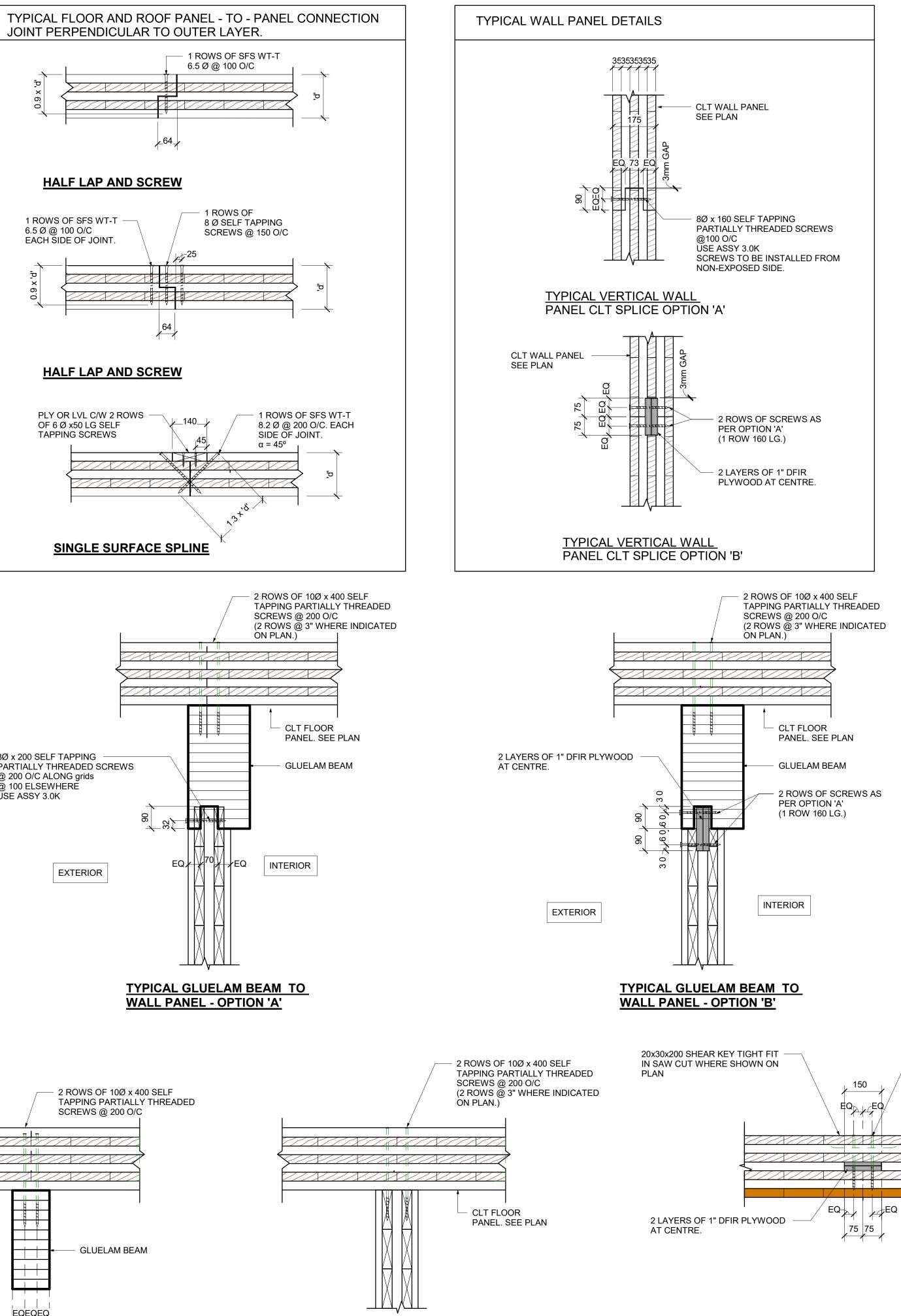
TYPICAL ROOF PANEL OVER GLUELAM BEAM - PANEL SPLICE

INTERNAL SPLINE

TYP. UNO

NOTE: ALL PANEL JOINTS TO HAVE SEALANT

TYPICAL ROOF PANEL OVER **GLUELAM BEAM - CONTINUOUS**



TYPICAL WALL PANEL OVER FLOOR PANEL

TYPICAL ROOF CLT SPLICE

CLT FLOOR PANEL. SEE PLAN

EXPOSED SIDE.

2 ROWS OF 8Ø x 220 SELF TAPPING PARTIALLY THREADED SCREWS @ 200 O/C USE ASSY 3.0 SK FROM NON-



CLT PANEL TYPICAL DETAILS

100 Marina Boulevard Peterborough, Ontario

FIRE STATION NO.2

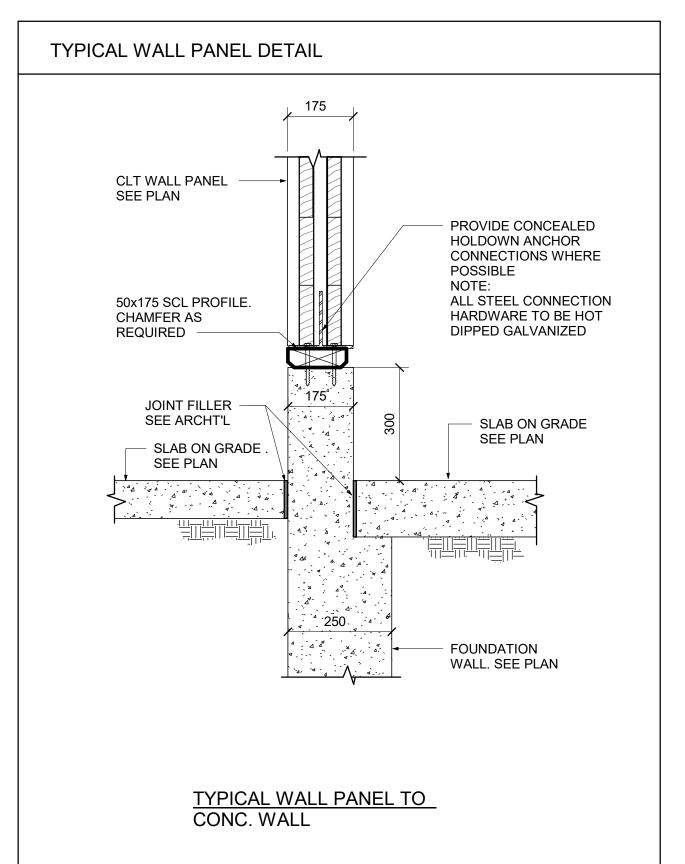
CITY OF PETERBOROUGH

PROJECT No. 2153 START DATE Issue Date

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	AMR ENGINEERING LTD. STRUCTURAL ENGINEERS 920 Alness St Suite 205, Toronto, ON M3J 2H7 (416) 551-1611					
-	ISSUE / REVISIONS					
	1	ISSUED FOR DESIGN SIGN-OFF	OCT 27, 21			
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	3	ISSUED FOR PERMIT REVIEW	FEB 25, 22			
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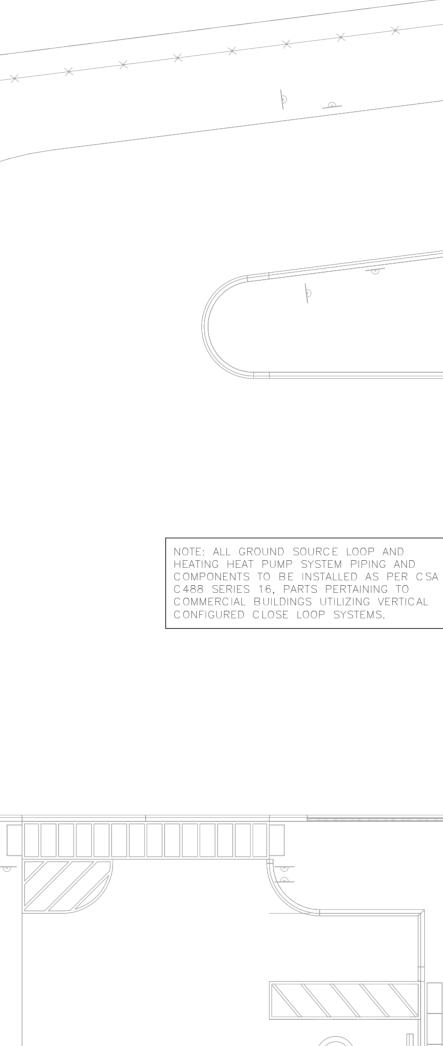
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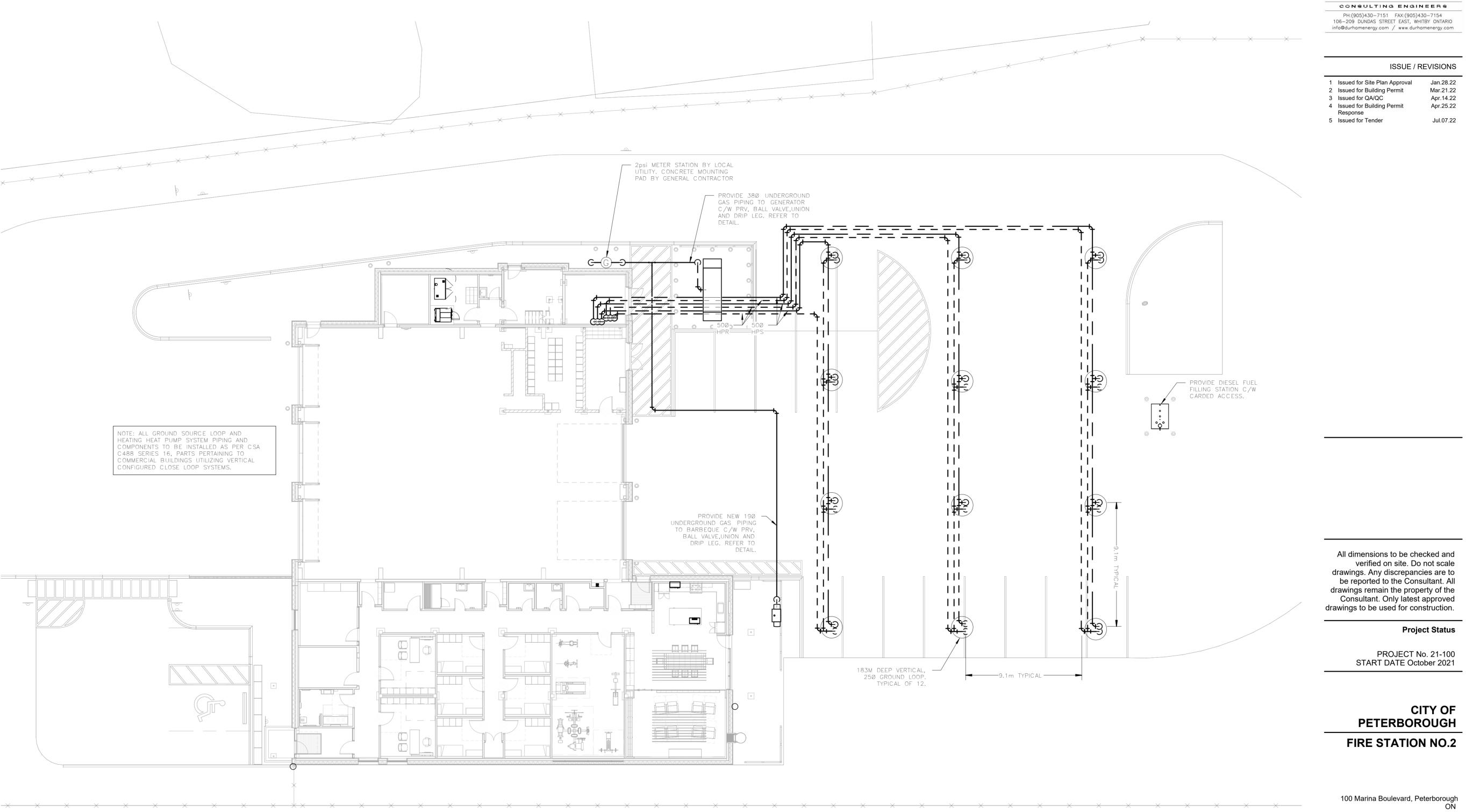
5 ISSUED FOR TENDER

138 Simcoe Street Peterborough Ontario K9H 2H5 t. 705.743.3311 e. studio@lett.ca

AUG 18, 22

Architects Inc





M101

SITE PLAN -GEOTHERMAL PIPING

PETERBOROUGH

DES DURHAM ENERGY SPECIALIST LIMITED

Architects Inc.

Peterborough Ontario K9H 2H5

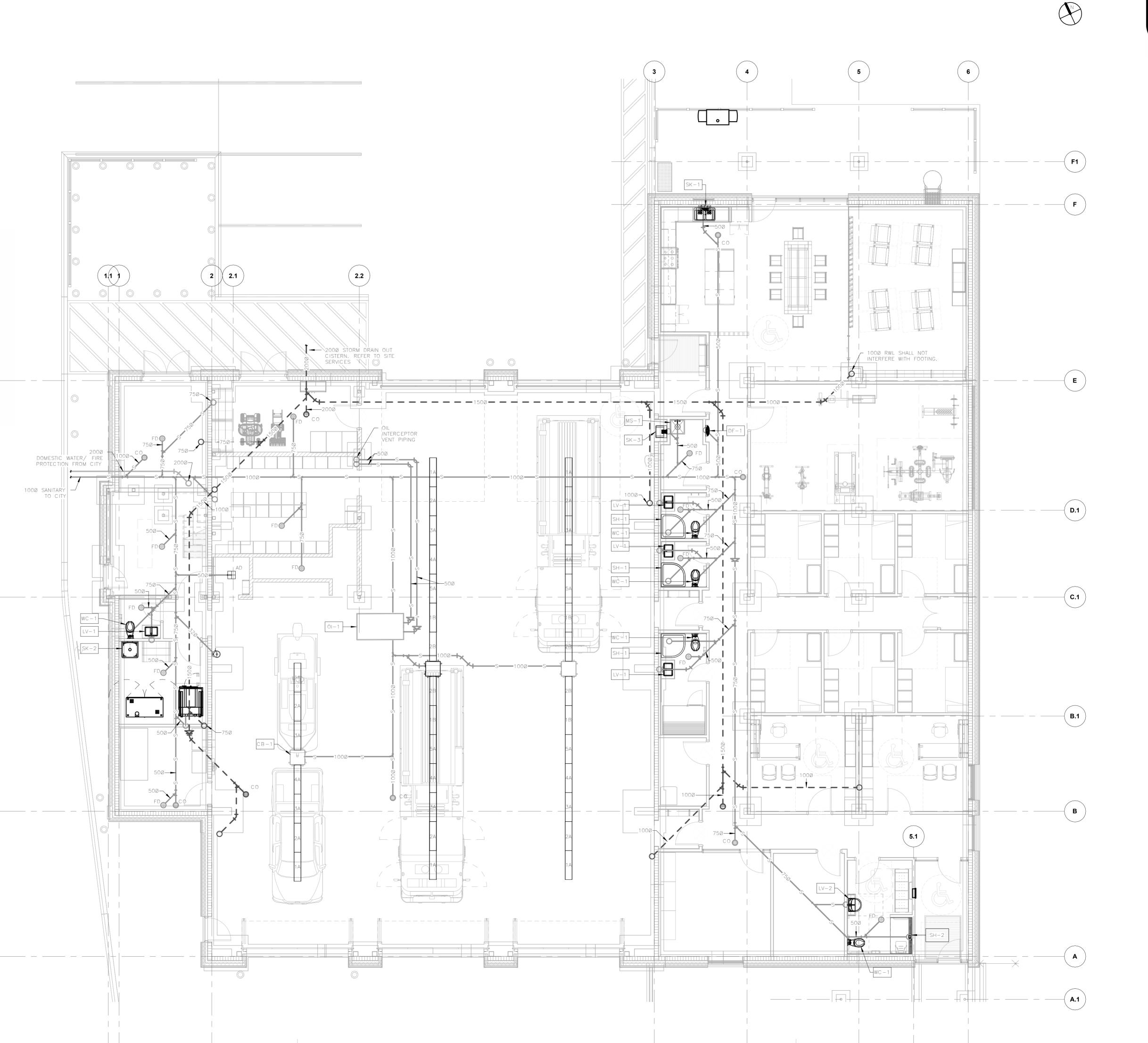
138 Simcoe Street

t. 705.743.3311 e. studio@lett.ca

True North

- THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM SERVICES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER.
 REFER TO ARCHITECTURAL DRAWINGS AND/OR GENERAL CONTRACTOR FOR CEILING HEIGHTS TO ENSURE ALL SERVICES ARE CONCEALED WITHIN AVAILABLE CEILING SPACE. RUN ALL NEW SERVICES UP IN JOIST SPACE AND BETWEEN LIGHTS AS NOTED OR AS REQUIRED.
- AVAILABLE CEILING SPACE. RUN ALL NEW SERVICES UP IN JOIST SPACE AND BETWEEN LIGHTS AS NOTED OR AS REQUIRED.3. PREPARE INTERFERENCE DRAWINGS AND COORDINATE ALL SERVICES WITH ALL TRADES PRIOR TO INSTALLATION.
- 4. COVER ALL FLOOR DRAINS DURING CONSTRUCTION TO PREVENT DEBRIS
- FROM FALLING IN DRAINS OR GROUT BEING POURED DOWN DRAINS.5. PROVIDE NEW PLUMBING VENTS THROUGH ROOF AS REQUIRED .
- 6. ALLOW FOR THE INSULATION AND LABELING OF NEW PIPING WITHIN CEILING
- SPACE IN AREA OF WORK INCLUDING WATER AND STORM.7. FIRE STOP ALL <u>NEW</u> PIPING THROUGH RATED WALLS IN AREA OF WORK.
- 8. THE CONTRACTOR SHALL FLUSH, SCOPE, AND PROVIDE VIDEO INSPECTION OF THE SANITARY SYSTEM AFTER COMPLETION OF WORK AND PRIOR TO SUBSTANTIAL COMPLETION. FLUSHING, SCOPING AND VIDEO SHALL INCLUDE AREA OF WORK TO WHERE IT TIES INTO THE MAIN. SUBMIT REPORT AND VIDEO ON USB.

TYPICAL PLUMBING PIPE SIZING						
	DCW	DHW	DTW	SANITARY	VENT	
WC (FLUSH VALVE)	25ø			75ø	38ø	
LAVATORY	13ø	13ø		32ø	32ø	
SHOWER	13ø	13ø		38ø	32ø	
SINK (DOMESTIC)	13ø	13ø		38ø	32ø	
MOP SINK	13ø	13ø		38ø	32ø	
CLOTHES WASHER	13ø	13ø		50ø	32ø	
DISHWASHER		13ø		TIE INTO SINK		
EYEWASH			13ø	32ø	32ø	
EYEWASH/SHOWER			32ø	38ø	32ø	
HOSEBIBB	19ø					
50ø FD/CO				75ø	38ø	
75ø FD/CO				75ø	38ø	
100ø FD/CO				100ø	38ø	
PROVIDE ISOLATION VALVES AT ALL FIXTURES						







100 Marina Boulevard, Peterborough ON

CITY OF PETERBOROUGH FIRE STATION NO.2

PROJECT No. 21-100 START DATE October 2021

Project Status

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.



138 Simcoe Street

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ISSUE / REVISIONS

Oct.27.21

Nov.02.21

Mar.21.22

Apr.14.22

Jul.07.22

Peterborough Ontario K9H 2H5

DES DURHAM ENERGY SPECIALIST LIMITED

CONSULTING ENGINEERS

PH:(905)430-7151 FAX:(905)430-7154

106-209 DUNDAS STREET EAST, WHITBY ONTARIO info@durhamenergy.com / www.durhamenergy.com

1 Issued for Design Sign-Off

3 Issued for Building Permit

2 Issued for Costing

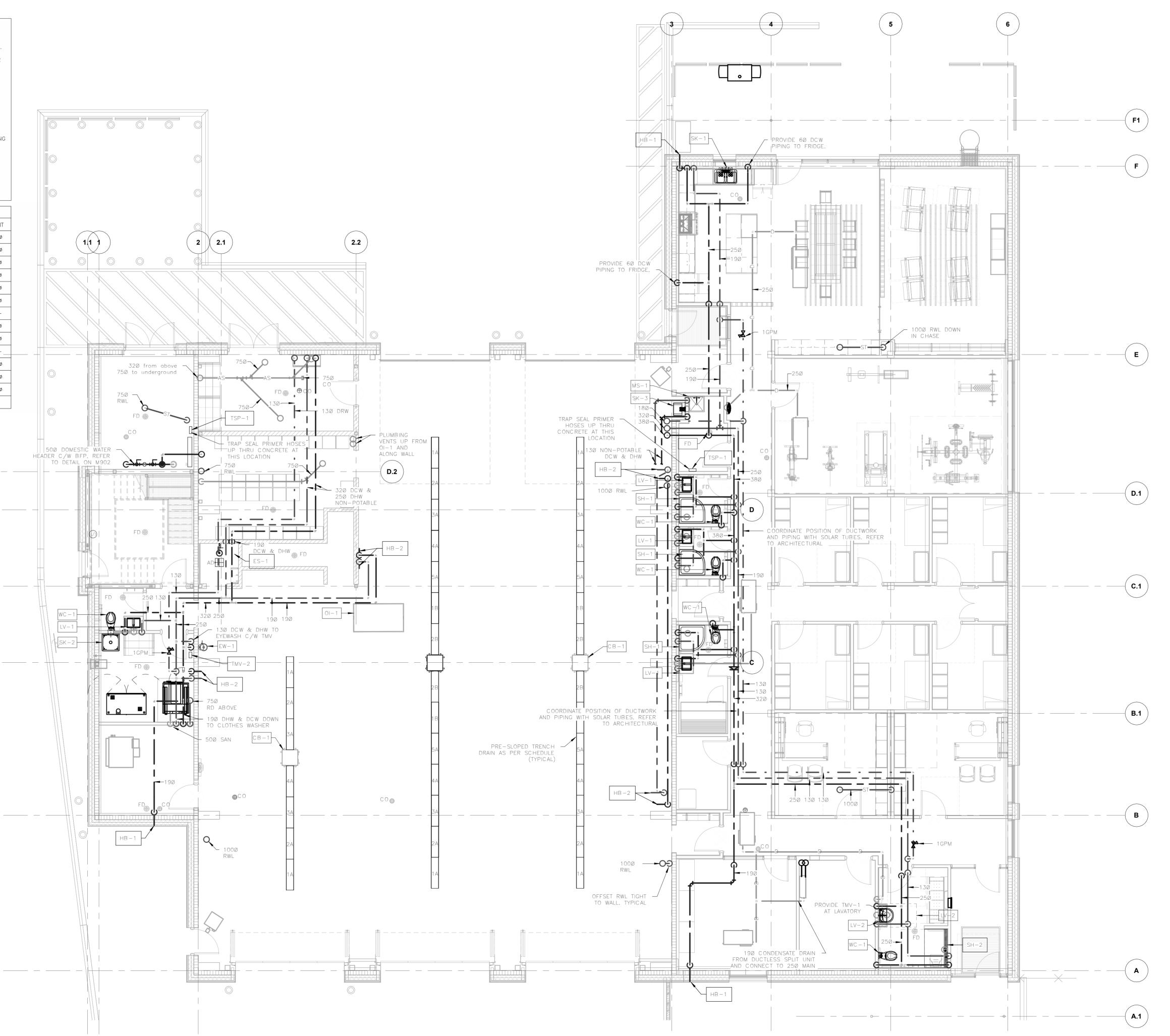
4 Issued for QA/QC

5 Issued for Tender

GENERAL NEW PLUMBING NOTES:

- 1. THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM SERVICES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER.
- 2. REFER TO ARCHITECTURAL DRAWINGS AND/OR GENERAL CONTRACTOR FOR . REFER TO ARCHITECTURAL DRAWINGS AND/OR GENERAL CONTRACTOR FOR CEILING HEIGHTS TO ENSURE ALL SERVICES ARE CONCEALED WITHIN AVAILABLE CEILING SPACE. RUN ALL NEW SERVICES UP IN JOIST SPACE AND BETWEEN LIGHTS AS NOTED OR AS REQUIRED.
- 3. PREPARE INTERFERENCE DRAWINGS AND COORDINATE ALL SERVICES WITH ALL TRADES PRIOR TO INSTALLATION.
- 4. COVER ALL FLOOR DRAINS DURING CONSTRUCTION TO PREVENT DEBRIS FROM FALLING IN DRAINS OR GROUT BEING POURED DOWN DRAINS.
- 5. PROVIDE NEW PLUMBING VENTS THROUGH ROOF AS REQUIRED .
- 6. ALLOW FOR THE INSULATION AND LABELING OF NEW PIPING WITHIN CEILING SPACE IN AREA OF WORK INCLUDING WATER AND STORM.
- 7. FIRE STOP ALL <u>NEW</u> PIPING THROUGH RATED WALLS IN AREA OF WORK. 8. THE CONTRACTOR SHALL FLUSH, SCOPE, AND PROVIDE VIDEO INSPECTION OF THE SANITARY SYSTEM AFTER COMPLETION OF WORK AND PRIOR TO SUBSTANTIAL COMPLETION. FLUSHING, SCOPING AND VIDEO SHALL INCLUDE AREA OF WORK TO WHERE IT TIES INTO THE MAIN. SUBMIT REPORT AND VIDEO ON USB.

TYPIC	al plu	MRING	PIPF SI	ZING		
		DHW	DTW	SANITARY	VENT	
WC (FLUSH VALVE)	25ø			75ø	38ø	
LAVATORY	13ø	13ø		32ø	32ø	
SHOWER	13ø	13ø		38ø	32ø	
SINK (DOMESTIC)	13ø	13ø		38ø	32ø	
MOP SINK	13ø	13ø		38ø	32ø	
CLOTHES WASHER	13ø	13ø		50ø	32ø	
DISHWASHER		13ø		TIE INTO SINK		
EYEWASH			13ø	32ø	32ø	
EYEWASH/SHOWER			32ø	38ø	32ø	
HOSEBIBB	19ø					
50ø FD/CO				75ø	38ø	
75ø FD/CO				75ø	38ø	
100ø FD/CO				100ø	38ø	
PROVIDE ISOLATION VALVES AT ALL FIXTURES						







100 Marina Boulevard, Peterborough ON

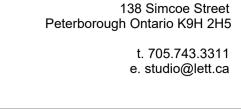
PETERBOROUGH **FIRE STATION NO.2**

CITY OF

PROJECT No. 21-100 START DATE October 2021

Project Status

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.



DES DURHAM ENERGY SPECIALIST LIMITED

CONSULTING ENGINEERS

PH:(905)430-7151 FAX:(905)430-7154

106-209 DUNDAS STREET EAST, WHITBY ONTARIO info@durhamenergy.com / www.durhamenergy.com

1 Issued for Design Sign-Off 2 Issued for Costing

3 Issued for Building Permit

4 Issued for QA/QC

5 Issued for Tender

Architects Inc.

ISSUE / REVISIONS

Oct.27.21

Nov.02.21

Mar.21.22

Apr.14.22

Jul.07.22

GENERAL NEW PLUMBING NOTES:

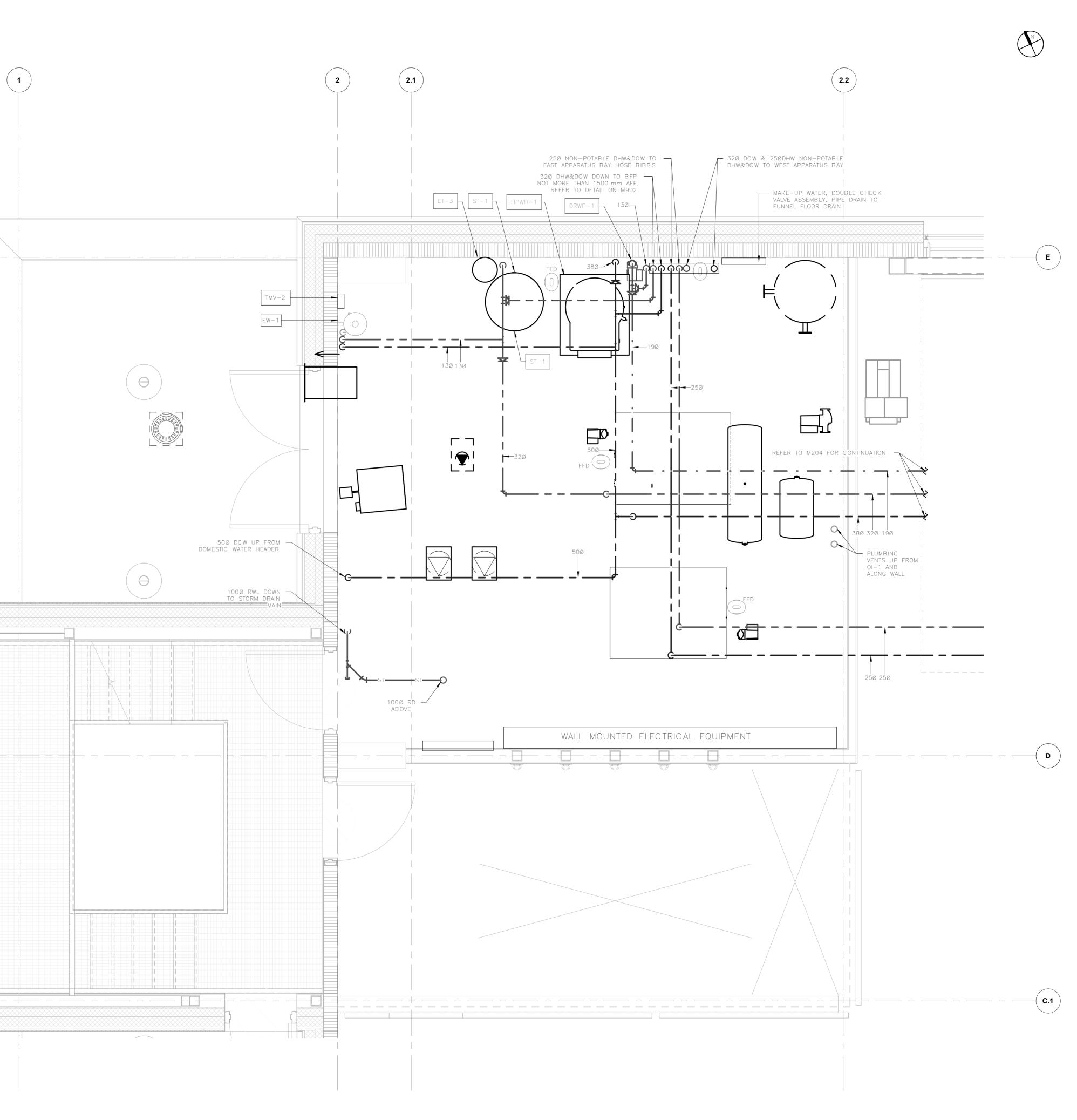
1. THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM SERVICES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER.

(1.1)

- REFER TO ARCHITECTURAL DRAWINGS AND/OR GENERAL CONTRACTOR FOR CEILING HEIGHTS TO ENSURE ALL SERVICES ARE CONCEALED WITHIN AVAILABLE CEILING SPACE. RUN ALL NEW SERVICES UP IN JOIST SPACE AND BETWEEN LIGHTS AS NOTED OR AS REQUIRED.
- 3. PREPARE INTERFERENCE DRAWINGS AND COORDINATE ALL SERVICES WITH ALL TRADES PRIOR TO INSTALLATION.
- 4. COVER ALL FLOOR DRAINS DURING CONSTRUCTION TO PREVENT DEBRIS
- FROM FALLING IN DRAINS OR GROUT BEING POURED DOWN DRAINS. 5. PROVIDE NEW PLUMBING VENTS THROUGH ROOF AS REQUIRED .
- 6. ALLOW FOR THE INSULATION AND LABELING OF NEW PIPING WITHIN CEILING SPACE IN AREA OF WORK INCLUDING WATER AND STORM.
- 7. FIRE STOP ALL <u>NEW</u> PIPING THROUGH RATED WALLS IN AREA OF WORK.
- 8. THE CONTRACTOR SHALL FLUSH, SCOPE, AND PROVIDE VIDEO INSPECTION OF THE SANITARY SYSTEM AFTER COMPLETION OF WORK AND PRIOR TO SUBSTANTIAL COMPLETION. FLUSHING, SCOPING AND VIDEO SHALL INCLUDE AREA OF WORK TO WHERE IT TIES INTO THE MAIN. SUBMIT REPORT AND VIDEO ON USB.

LU UN USB.					
TYPIC	TYPICAL PLUMBING PIPE SIZING				
	DCW	DHW	DTW	SANITARY	VENT
WC (FLUSH VALVE)	25ø			75ø	38ø
LAVATORY	13ø	13ø		32ø	32ø
SHOWER	13ø	13ø		38ø	32ø
SINK (DOMESTIC)	13ø	13ø		38ø	32ø
MOP SINK	13ø	13ø		38ø	32ø
CLOTHES WASHER	13ø	13ø		50ø	32ø
DISHWASHER		13ø		TIE INTO SINK	
EYEWASH			13ø	32ø	32ø
EYEWASH/SHOWER			32ø	38ø	32ø
HOSEBIBB	19ø				
500 FD/CO				75ø	38ø
75ø FD/CO				75ø	38ø
100ø FD/CO				100ø	38ø

1000 FD/CO ___ __ 1000 380 PROVIDE ISOLATION VALVES AT ALL FIXTURES



M203

PLUMBING LAYOUT -MEZZANINE

100 Marina Boulevard, Peterborough ΟŇ

CITY OF PETERBOROUGH **FIRE STATION NO.2**

PROJECT No. 21-100 START DATE October 2021

Project Status

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CONSULTING ENGINEERS

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1 Issued for Building Permit

2 Issued for QA/QC

3 Issued for Tender

106-209 DUNDAS STREET EAST, WHITBY ONTARIO

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t. 705.743.3311 e. studio@lett.ca

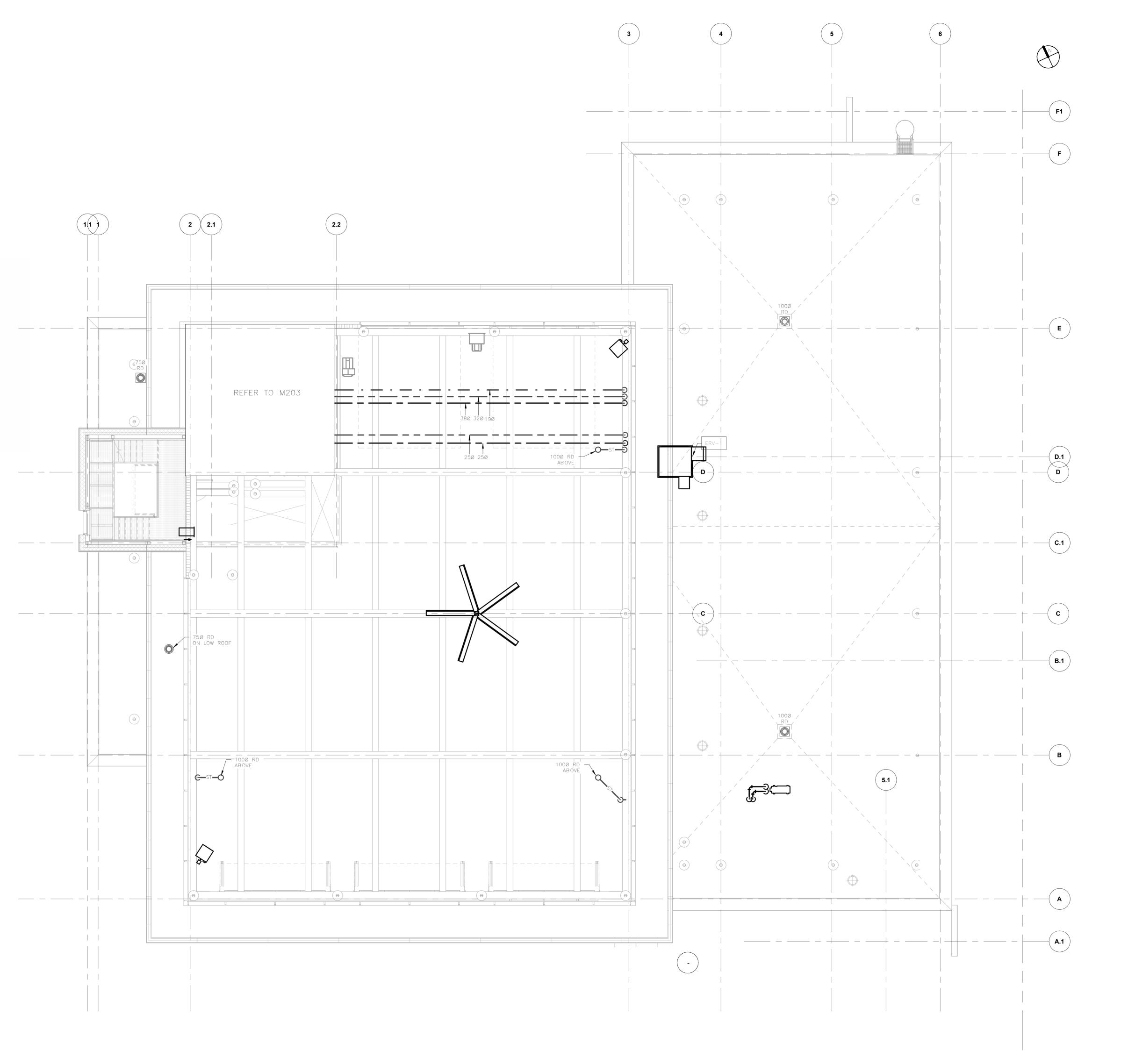
ISSUE / REVISIONS

Mar.21.22

Apr.14.22 Jul.07.22 GENERAL NEW PLUMBING NOTES:

- 1. THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM SERVICES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER.
- REFER TO ARCHITECTURAL DRAWINGS AND/OR GENERAL CONTRACTOR FOR CEILING HEIGHTS TO ENSURE ALL SERVICES ARE CONCEALED WITHIN AVAILABLE CEILING SPACE. RUN ALL NEW SERVICES UP IN JOIST SPACE AND BETWEEN LIGHTS AS NOTED OR AS REQUIRED.
- 3. PREPARE INTERFERENCE DRAWINGS AND COORDINATE ALL SERVICES WITH ALL TRADES PRIOR TO INSTALLATION.
- 4. COVER ALL FLOOR DRAINS DURING CONSTRUCTION TO PREVENT DEBRIS FROM FALLING IN DRAINS OR GROUT BEING POURED DOWN DRAINS.
- 5. PROVIDE NEW PLUMBING VENTS THROUGH ROOF AS REQUIRED .
- 6. ALLOW FOR THE INSULATION AND LABELING OF NEW PIPING WITHIN CEILING SPACE IN AREA OF WORK INCLUDING WATER AND STORM.
- 7. FIRE STOP ALL <u>NEW</u> PIPING THROUGH RATED WALLS IN AREA OF WORK.
- 8. THE CONTRACTOR SHALL FLUSH, SCOPE, AND PROVIDE VIDEO INSPECTION OF THE SANITARY SYSTEM AFTER COMPLETION OF WORK AND PRIOR TO SUBSTANTIAL COMPLETION. FLUSHING, SCOPING AND VIDEO SHALL INCLUDE AREA OF WORK TO WHERE IT TIES INTO THE MAIN. SUBMIT REPORT AND VIDEO ON USB.

TYPIC.	al plu	MBING	PIPE SI	ZING	
	DCW	DHW	DTW	SANITARY	VENT
WC (FLUSH VALVE)	25ø			75ø	38ø
LAVATORY	13ø	13ø		32ø	32ø
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CLOTHES WASHER	13ø	13ø		50ø	32ø
DISHWASHER		13ø		TIE INTO SINK	
EYEWASH			13ø	32ø	32ø
EYEWASH/SHOWER			32ø	38ø	32ø
HOSEBIBB	19ø				
50ø FD/CO				75ø	38¢
75ø FD/CO				75ø	38¢
100ø FD/CO				100ø	38¢
PROVIDE ISOLATION	VALVES AT	F ALL FIXT	TURES		



M204

PLUMBING LAYOUT -**APPARATUS BAY**

100 Marina Boulevard, Peterborough ON

CITY OF PETERBOROUGH **FIRE STATION NO.2**

PROJECT No. 21-100 START DATE October 2021

Project Status

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info@durhamene	ergy.com / www.durhamenergy.com

1 Issued for Building Permit

2 Issued for QA/QC

3 Issued for Tender

CONSULTING ENGINEERS

DES DURHAM ENERGY SPECIALIST LIMITED

Peterborough Ontario K9H 2H5

138 Simcoe Street

t. 705.743.3311 e. studio@lett.ca

Mar.21.22

Apr.14.22 Jul.07.22

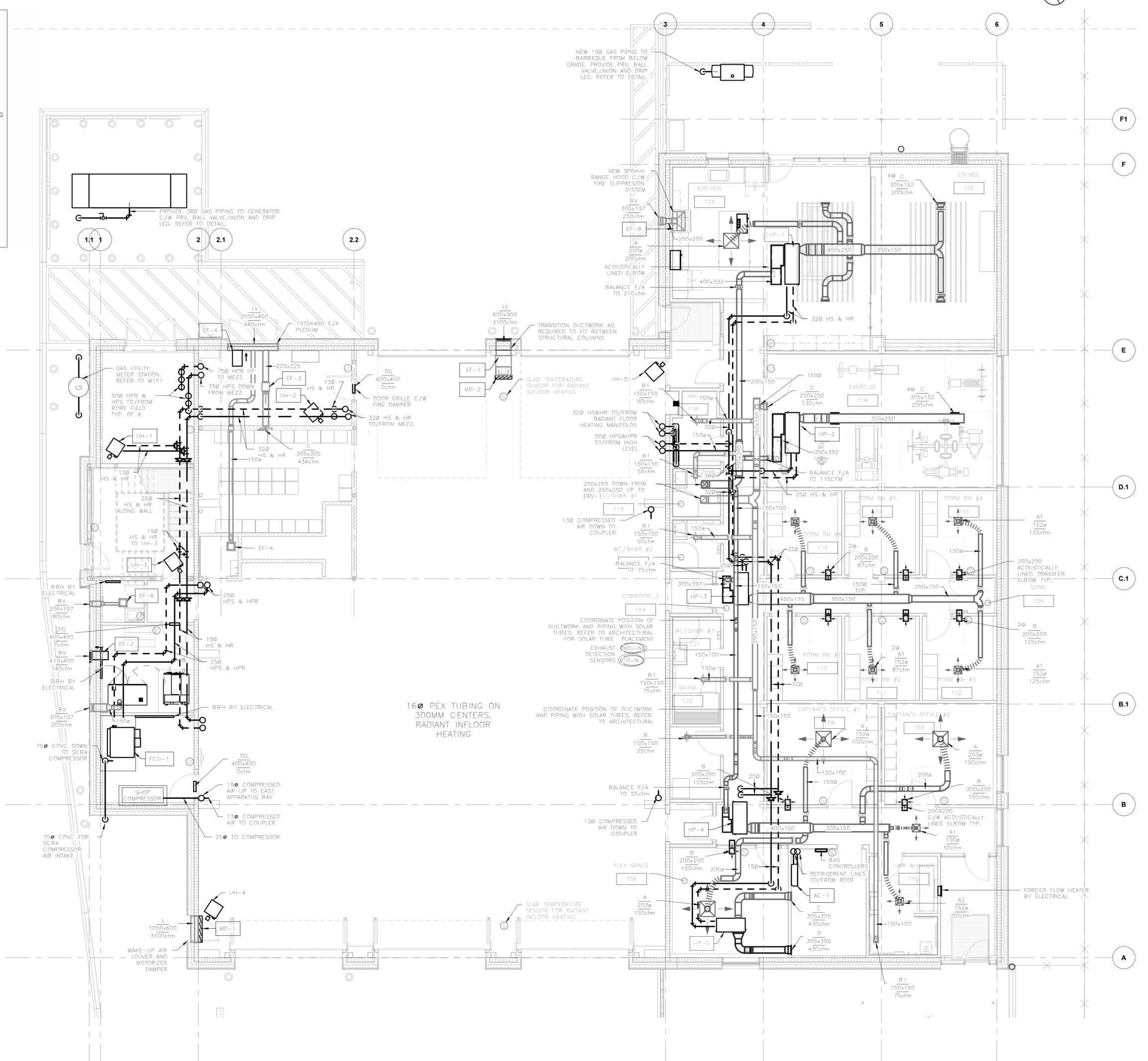
Architects Inc.

<u>GENERAL</u> NEW HVAC NOTES:

- PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER CEILING HEIGHTS TO ENSURE ALL SERVICÉS ARE CONCEALED WITHIN
- 2. REFER TO ARCHITECTURAL DRAWINGS AND/OR GENERAL CONTRACTOR FOR

1. THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM SERVICES ON SITE

- AVAILABLE CEILING SPACE. RUN ALL NEW SERVICES UP IN JOIST SPACE
- AND BETWEEN LIGHTS AS NOTED OR AS REQUIRED.
- 3. PREPARE INTERFERENCE DRAWINGS AND COORDINATE ALL SERVICES WITH
- ALL TRADES PRIOR TO INSTALLATION. 4. FIRE STOP ALL NEW PIPING THROUGH RATED WALLS IN AREA OF WORK.
- 5. SUPPLY ACCESS DOORS FOR MECHANICAL DEVICES ABOVE DRYWALL CEILING AND TURN OVER TO GENERAL CONTRACTOR FOR INSTALLATION.
- 6. ELECTRICAL CONTRACTOR TO PROVIDE BACK BOX, CONDUIT AND PULL
- STRING FOR WALL SENSORS. COORDINATE WITH ELECTRICAL. 7. LABEL CEILING GRID AT ACCESS TO MECHANICAL EQUIPMENT AND DEVICES WITH LAMACOID NAMEPLATE.
- 8. TEMPORARILY SEAL ALL OPEN DUCTS THROUGHOUT CONSTRUCTION TO PREVENT DUST AND DIRT FROM ENTERING THE SYSTEM. WHERE THE CONTRACTOR DOES NOT CONFORM THEY ARE RESPONSIBLE FOR CLEANING OF THE SYSTEMS IN A MANNER APPROVED BY THE CONSULTANT.
- 9. PERFORM DUCT LEAKAGE TESTS (SUPPLY AND RETURN) FOR ALL NEW AIR HANDLING SYSTEMS. ARRANGE FOR ENGINEER TO WITNESS AND SUBMIT REPORT.
- 10. ARRANGE FOR TSSA INSPECTIONS AND APPLICATIONS. POST CERTIFICATE ON WALL.



M301

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DES DURHAM ENERGY SPECIALIST LIMITED

CONSULTING ENGINEERS

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ISSUE / REVISIONS

1	Issued for Site Plan Approval	Jan.28.22
2	Issued for Building Permit	Mar.21.22
3	Issued for QA/QC	Apr.14.22
4	Issued for Building Permit	Apr.25.22
	Response	
5	Issued for Tender	Jul 07 22

-	boudd for Building Forring	IVICAL 2
3	Issued for QA/QC	Apr.14
4	Issued for Building Permit	Apr.2
	Response	

All dimensions to be checked and

drawings. Any discrepancies are to

drawings remain the property of the

be reported to the Consultant. All

Consultant. Only latest approved drawings to be used for construction.

verified on site. Do not scale

Project Status

CITY OF

ON

PROJECT No. 21-100 START DATE October 2021

PETERBOROUGH

FIRE STATION NO.2

100 Marina Boulevard, Peterborough

HVAC LAYOUT -

GROUND LEVEL

Jul.07.22

5 Issued for Tender

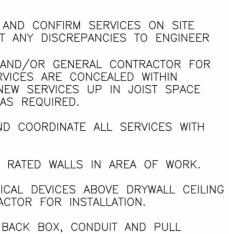
info@durhamenergy.com / www.durhamenergy.com

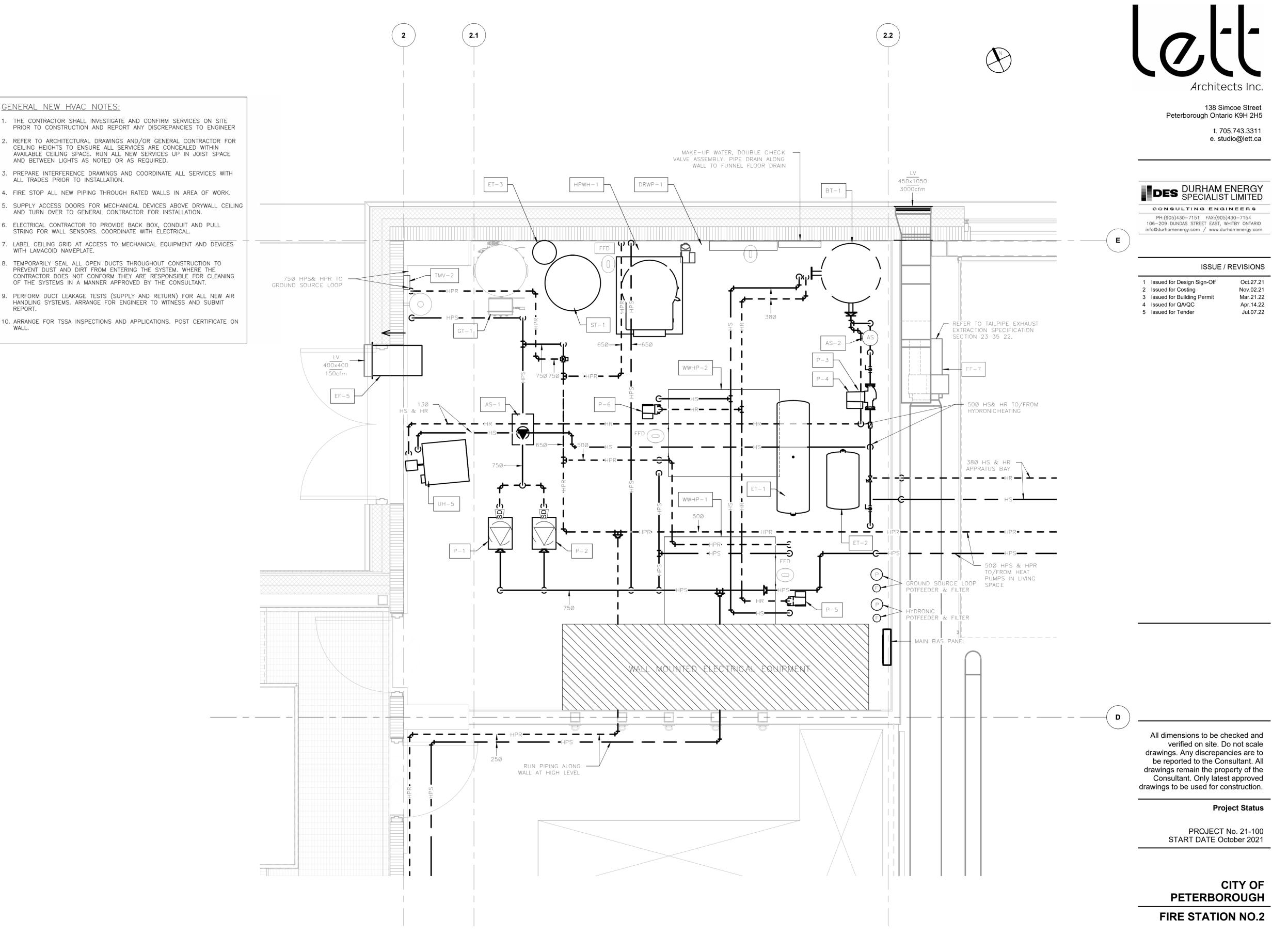
4. FIRE STOP ALL NEW PIPING THROUGH RATED WALLS IN AREA OF WORK. 5. SUPPLY ACCESS DOORS FOR MECHANICAL DEVICES ABOVE DRYWALL CEILING AND TURN OVER TO GENERAL CONTRACTOR FOR INSTALLATION. 6. ELECTRICAL CONTRACTOR TO PROVIDE BACK BOX, CONDUIT AND PULL STRING FOR WALL SENSORS. COORDINATE WITH ELECTRICAL. 7. LABEL CEILING GRID AT ACCESS TO MECHANICAL EQUIPMENT AND DEVICES WITH LAMACOID NAMEPLATE. 8. TEMPORARILY SEAL ALL OPEN DUCTS THROUGHOUT CONSTRUCTION TO PREVENT DUST AND DIRT FROM ENTERING THE SYSTEM. WHERE THE CONTRACTOR DOES NOT CONFORM THEY ARE RESPONSIBLE FOR CLEANING OF THE SYSTEMS IN A MANNER APPROVED BY THE CONSULTANT. 9. PERFORM DUCT LEAKAGE TESTS (SUPPLY AND RETURN) FOR ALL NEW AIR HANDLING SYSTEMS. ARRANGE FOR ENGINEER TO WITNESS AND SUBMIT

REPORT.

WALL.

- ALL TRADES PRIOR TO INSTALLATION.
- AND BETWEEN LIGHTS AS NOTED OR AS REQUIRED. 3. PREPARE INTERFERENCE DRAWINGS AND COORDINATE ALL SERVICES WITH
- 2. REFER TO ARCHITECTURAL DRAWINGS AND/OR GENERAL CONTRACTOR FOR CEILING HEIGHTS TO ENSURE ALL SERVICES ARE CONCEALED WITHIN AVAILABLE CEILING SPACE. RUN ALL NEW SERVICES UP IN JOIST SPACE
- GENERAL NEW HVAC NOTES: 1. THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM SERVICES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER





M302

HVAC LAYOUT -MEZZANINE

100 Marina Boulevard, Peterborough ΟŇ

<u>G</u> E	ENERAL NEW HVAC NOTES:	
1.	THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM SERVICES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER	
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4.	FIRE STOP ALL NEW PIPING THROUGH RATED WALLS IN AREA OF WORK.	
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6.	ELECTRICAL CONTRACTOR TO PROVIDE BACK BOX, CONDUIT AND PULL STRING FOR WALL SENSORS. COORDINATE WITH ELECTRICAL.	
7.	LABEL CEILING GRID AT ACCESS TO MECHANICAL EQUIPMENT AND DEVICES WITH LAMACOID NAMEPLATE.	
8.	TEMPORARILY SEAL ALL OPEN DUCTS THROUGHOUT CONSTRUCTION TO PREVENT DUST AND DIRT FROM ENTERING THE SYSTEM. WHERE THE CONTRACTOR DOES NOT CONFORM THEY ARE RESPONSIBLE FOR CLEANING OF THE SYSTEMS IN A MANNER APPROVED BY THE CONSULTANT.	
9.	PERFORM DUCT LEAKAGE TESTS (SUPPLY AND RETURN) FOR ALL NEW AIR HANDLING SYSTEMS. ARRANGE FOR ENGINEER TO WITNESS AND SUBMIT REPORT.	
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10. ARRANGE FOR TSSA INSPECTIONS AND APPLICATIONS. POST CERTIFICATE ON WALL.

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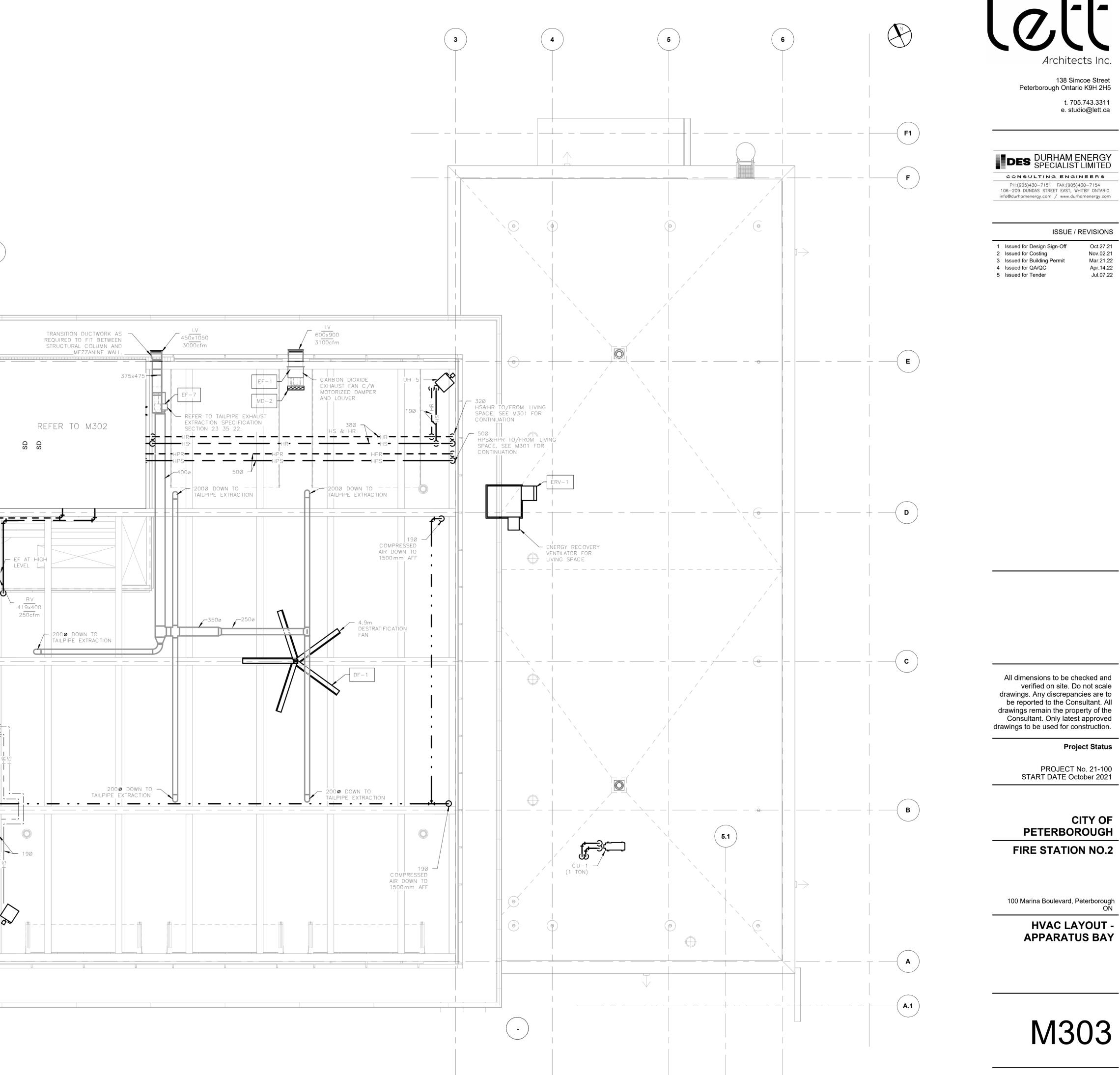
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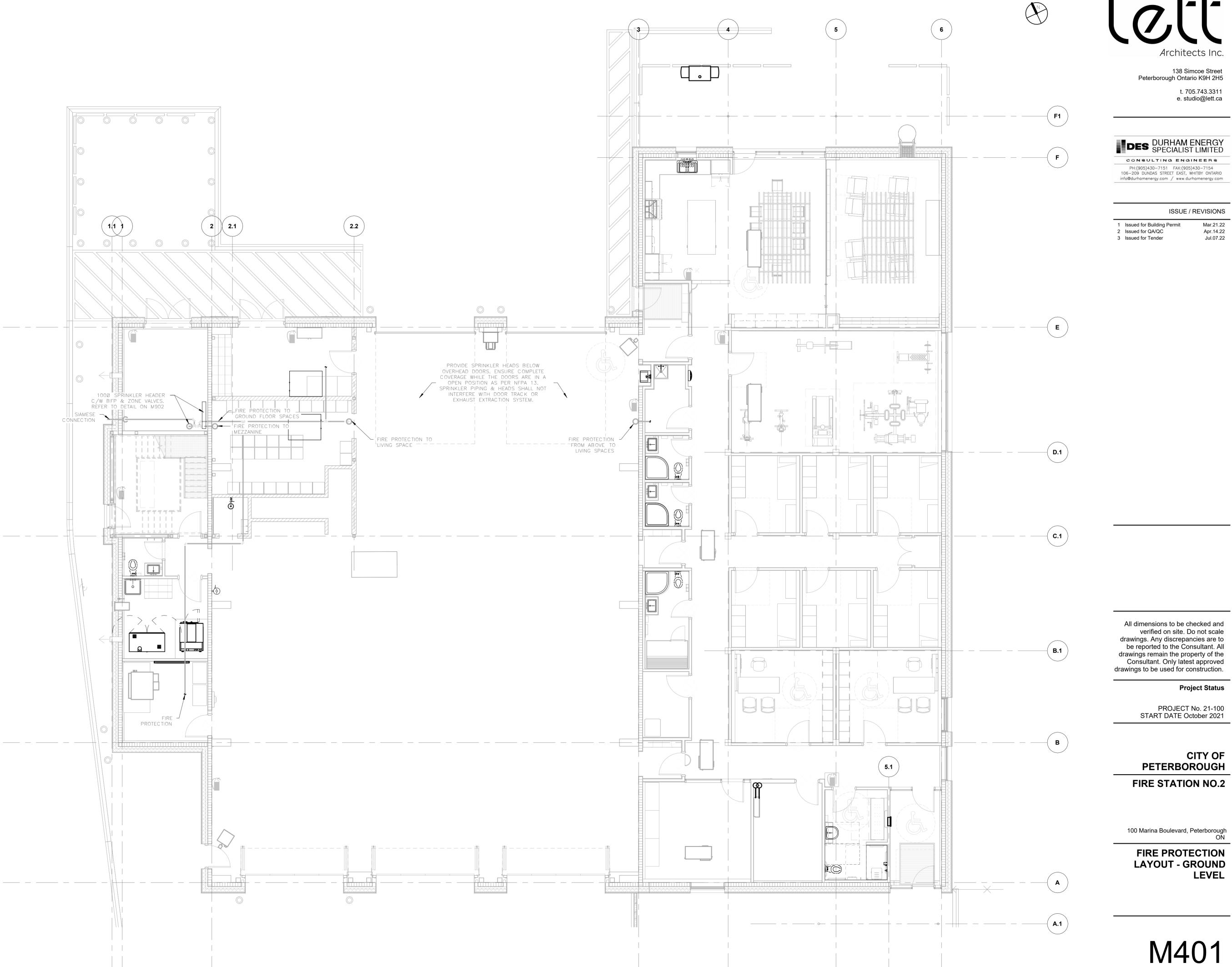
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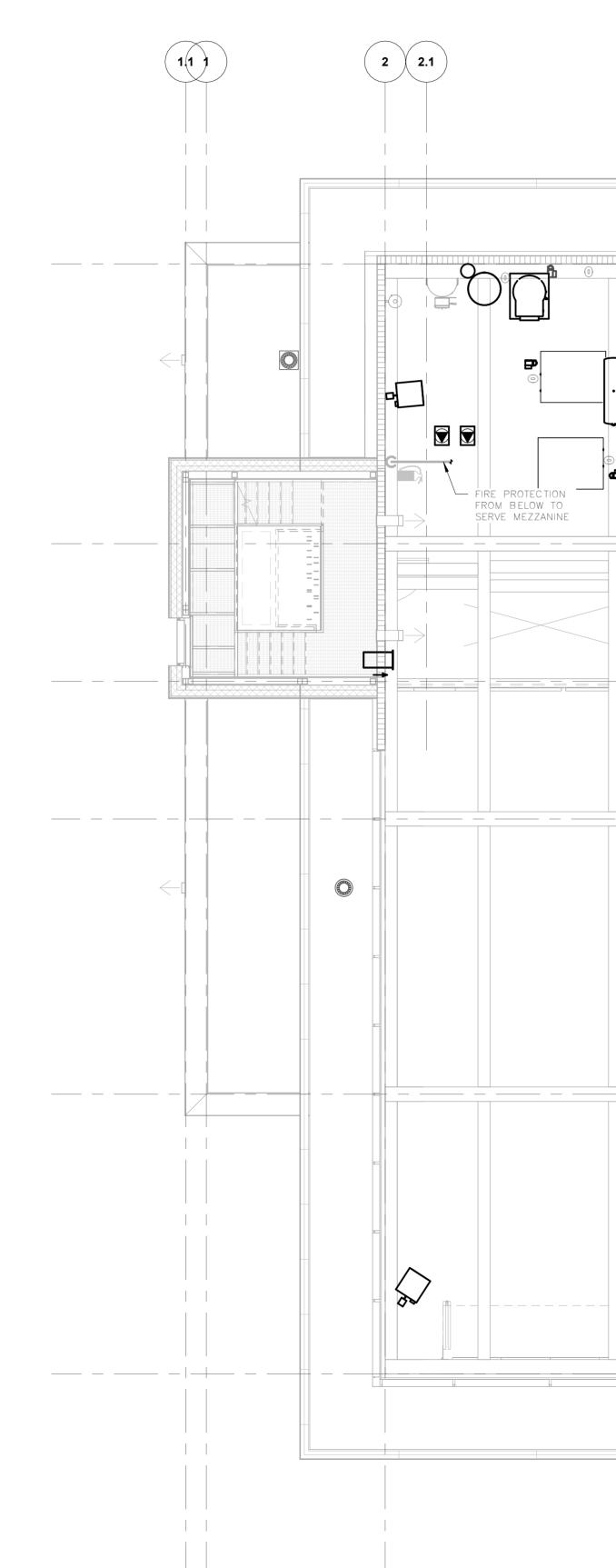


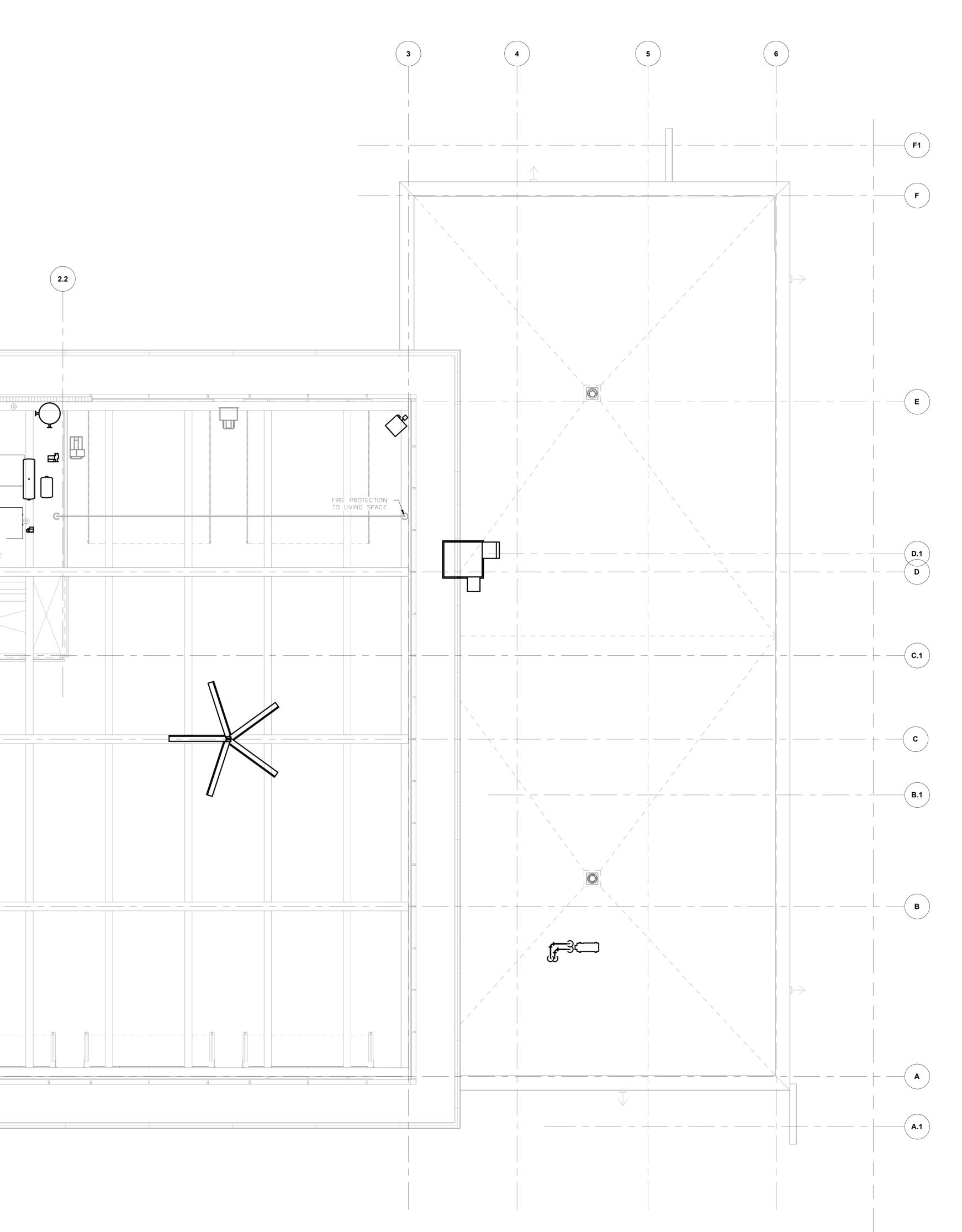


Mar.21.22

Apr.14.22

Jul.07.22





M402

FIRE PROTECTION LAYOUT - APPARATUS BAY

100 Marina Boulevard, Peterborough ON

CITY OF PETERBOROUGH **FIRE STATION NO.2**

PROJECT No. 21-100 START DATE October 2021

Project Status

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138 Simcoe Street Peterborough Ontario K9H 2H5

DES DURHAM ENERGY SPECIALIST LIMITED

CONSULTING ENGINEERS

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1 Issued for Building Permit

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3 Issued for Tender

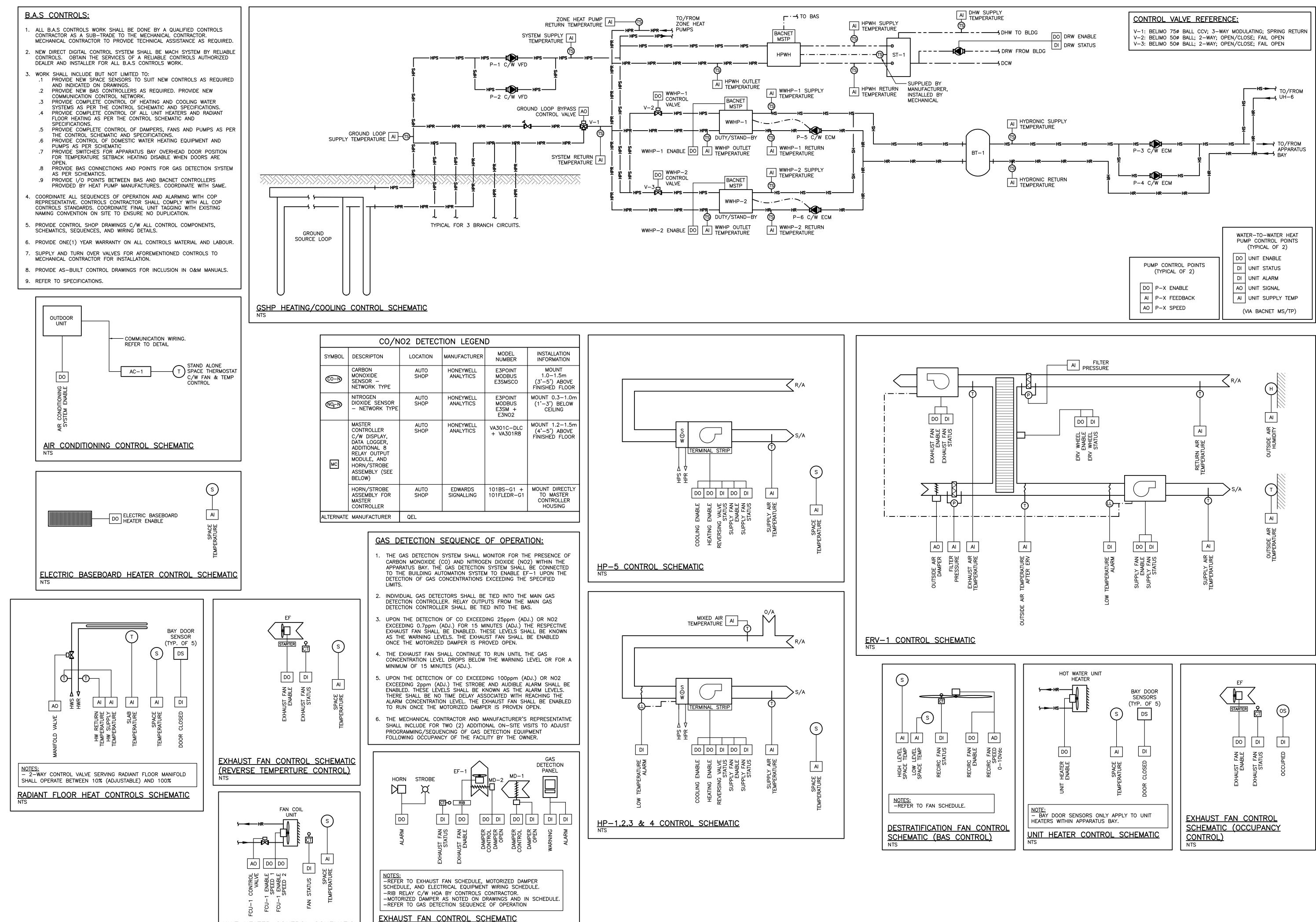
ISSUE / REVISIONS

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. Jul.07.22

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(GAS DETECTION CONTROL)

UNIT HEATER CONTROL SCHEMATIC



CONTROLS



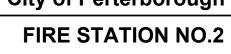
Drawing Title:



100 Marina Boulevard, Peterborough, ON

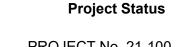
FIRE STATION NO.2



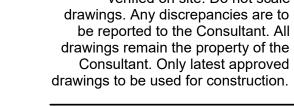








PROJECT No. 21-100





1 ISSUED FOR PERMIT

2 ISSUED FOR QA/QC

3 ISSUED FOR TENDER

Architects Inc

138 Simcoe Street Peterborough Ontario K9H 2H5

> t. 705.743.3311 e. studio@lett.ca

ISSUE / REVISIONS

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DURHAM ENERGY DES SPECIALIST LIMITE

CONSULTING ENGINEERS PH:(905)430-7151 FAX:(905)430-7154 106-209 DUNDAS STREET EAST, WHITBY ONTARIO info@durhamenergy.com / www.durhamenergy.com DES JOB No.: 21-507 DRAWING SIZE: I

PROVIDE CLEANOUTS AS REQUIRED BY CODE. SIZE OF CLEANOUTS TO BE SAME SIZE AS SANITARY LINES. 2. PROVIDE ALL TRENCHING, EXCAVATING AND BACKFILL FOR UNDERGROUND PLUMBING.

PLUMBING NOTES:

- 3. PROVIDE PLUMBING VENTS THROUGH ROOF AS REQUIRED BY CODE. SUPPLY AND INSTALL ROOF VENTS AS PER SPECIFICATIONS. 4. PROVIDE ISOLATION VALVES AT HOT WATER TANK AND ALL FIXTURES.
- 5. INSULATE ALL DOMESTIC HOT, COLD AND RECIRCULATING WATER PIPING WITH 1"(25mm) INSULATION. PROVIDE PVC JACKET OVER INSULATION IN EXPOSED AREAS.
- 5. INSULATE ALL ABOVE GROUND STORM PIPING WITH 1"(25mm) INSULATION. PROVIDE PVC JACKET OVER INSULATION IN EXPOSED AREAS.
- ALL HOSE BIBBS TO BE COMPLETE WITH VACUUM BREAKERS. OUTDOOR HOSEBIBBS TO BE COMPLETE WITH LOCKING COVER.
- AROUND PIPES. ENSURE NO CONTACT BETWEEN DISSIMILAR METALS. 10. PROVIDE FIRE STOPPING AROUND ALL PIPING THROUGH FIRE SEPARATIONS.
- 11. COORDINATE EXACT LOCATION OF FLOOR DRAINS WITH GENERAL CONTRACTOR TO SUIT FLOOR SLOPE.
- 12. PROVIDE TRAP SEAL PRIMER FOR ALL FLOOR DRAINS USING PRIMER SPECIFIED IN PLUMBING FIXTURE SCHEDULE.
- 13. PROVIDE CONDENSATE DRAINS C/W TRAPS FOR NEW INDOOR AIR HANDLING EQUIPMENT AND RUN TO CLOSEST PLUMBING DRAIN WITH INDIRECT DRAIN CONNECTION IN A VISIBLE AND ACCESSIBLE LOCATION.
- SHALL BE MAX 3m(10') SPACING AND ON EITHER SIDE OF WALLS.
- 15. PROVIDE ACCESS DOORS WHERE REQUIRED AND TURN OVER TO GENERAL CONTRACTOR FOR INSTALLATION.
- 16. PROVIDE ESCUTCHEONS AROUND WATER AND SANITARY PIPING THROUGH WALL, FLOOR OR MILLWORK AT ALL FIXTURES.
- 18. FLUSH AND PERFORM A VIDEO INSPECTION OF ALL UNDERGROUND PIPING SYSTEMS AFTER CONSTRUCTION AND IMMEDIATELY PRIOR TO APPLYING FOR SUBSTANTIAL COMPLETION.
- 19. PERFORM DOMESTIC WATER QUALITY TEST AFTER ALL NEW PLUMBING WORK. SUBMIT CERTIFICATE OF ANALYSIS FROM CERTIFIED TESTING AGENCY TO CONSULTANT AND INCLUSION IN CLOSEOUT DOCUMENTATION.

HVAC NOTES:

- 8. PROVIDE BALANCING VALVES AT START OF EACH BRANCH OF ALL HOT OR TEMPERED WATER RECIRCULATION LOOPS.
- 9. PROVIDE SLEEVES FOR PIPES THROUGH ANY BLOCK WALLS. FILL VOIDS

- 14. LABEL ALL PIPING COMPLETE WITH SERVICE AND FLOW ARROWS. LABELS

- 17. LABEL CEILING GRID AT ACCESS TO ALL DEVICES.

- 22. SUPPLY DRYWALL ACCESS DOORS FOR CONCEALED FIRE AND BALANCE DAMPERS AND ANY OTHER CONCEALED DEVICES AND TURN OVER TO THE GENERAL CONTRACTOR FOR INSTALLATION. DOORS TO BE GALVANIZED STEEL FOR FIELD PAINTING. DOORS SHALL BE RATED WHERE INSTALLED IN FIRE SEPARATIONS.
- 23. ALL CBVs SHALL BE MOUNTED WITH PORTS IN HORIZONTAL (90*) POSITION. 24. PROVIDE EXTERNAL INSULATION ON ALL PIPING ABOVE GROUND.
- 26. LABEL ALL HEATING PIPING COMPLETE WITH FLOW ARROWS. LABELS SHALL BE MAX 3m(10') SPACING AND ON EITHER SIDE OF WALLS. LABELING MUST BE COMPLETE PRIOR TO NEW CEILING BEING INSTALLED OTHERWISE IT IS THE CONTRACTORS RESPONSIBILITY TO REMOVE CEILING TILES FOR INSPECTION AT THE DIRECTION OF THE CONSULTANT.
- 28. PROVIDE CONDENSATE DRAINS C/W TRAPS FOR NEW INDOOR AIR HANDLING EQUIPMENT AND RUN TO CLOSEST PLUMBING DRAIN WITH INDIRECT DRAIN CONNECTION IN A VISIBLE AND ACCESSIBLE LOCATION. PROVIDE CONDENSATE PUMP WHERE GRAVITY DRAINAGE IS NOT POSSIBLE.
- REPORT TO ENGINEER FOR REVIEW.

CONCEAL ALL SERVICES IN CEILING SPACES AND FURRED CONSTRUCTION UNLESS INSTALLED IN UNFINISHED OR EXPOSED AREAS OR IF SPECIFICALLY NOTED TO BE EXPOSED.

- 2. COORDINATE INSTALLATION WITH ALL OTHER TRADES.
- REFER TO REFLECTED CEILING PLAN TO CONFIRM EXACT LOCATION OF GRILLES AND DIFFUSERS. LIGHTING TAKES PRECEDENCE.

PROVIDE A CONTINUOUS ANTI-VIBRATION RUBBER GASKET BETWEEN ROOFCURBS AND EQUIPMENT UNIT RAILS.

- FILL INSIDE OF ROOF CURBS WITH ROXUL INSULATION FOR SOUND ATTENUATION (EXCEPT PLENUM SECTIONS). ENSURE ALL EXPOSED ENDS ARE SEALED. ARRANGE FOR INSPECTION BY CONSULTANT PRIOR TO INSTALLING UNIT ON CURB OR SEND PHOTOS.
- . ALL ROOFTOP EQUIPMENT SHALL BE PROVIDED WITH "LOCKING" ACCESS DOORS USING RECESSED SOCKET OPERATED HANDLES. KEYED PADLOCKS ARE NOT ACCEPTABLE. PROVIDE KEYED PAD LOCK FOR UNIT DISCONNECT.
- PROVIDE 4" FLEXIBLE CONNECTIONS AT ALL DUCT CONNECTIONS TO AIR HANDLING EQUIPMENT. PROVIDE ACOUSTIC INSULATION IN FIRST 5' (1.5m) OF SUPPLY AND RETURN
- DUCTS OFF AIR HANDLING UNITS, ALL TRANSFER DUCTS AND AS INDICATED ON DRAWINGS. SEAL ALL EXPOSED ENDS OF INSULATION.
- PROVIDE TURNING VANES IN ALL SQUARE ELBOWS AND SHORT RADIUS ELBOWS FOR SUPPLY AIR DUCTS.
- 0. TEMPORARILY SEAL ALL OPEN DUCTS THROUGHOUT CONSTRUCTION TO PREVENT DUST AND DIRT FROM ENTERING THE SYSTEM. WHERE THE CONTRACTOR DOES NOT CONFORM THEY ARE RESPONSIBLE FOR CLEANING OF THE SYSTEMS IN A MANNER APPROVED BY THE CONSULTANT.
- . SEAL ALL JOINTS ON ALL SUPPLY & RETURN AIR DUCTS WITH DURODYNE DUCT SEALER IN CONFORMANCE TO CLASS 'C' ASHRAE 90.1 AND SMACNA STANDARDS.
- 12. PERFORM DUCT LEAKAGE TEST. REFER TO SPECIFICATIONS.
- 13. BRANCH DUCTWORK TO DIFFUSERS TO BE SAME SIZE AS DIFFUSER NECK. 14. PROVIDE BALANCE DAMPERS ON ALL BRANCH DUCTS CLOSE TO MAIN TAKE-OFF. REVIEW WITH BALANCING CONTRACTOR TO CONFIRM LOCATIONS OF ALL BALANCE DAMPERS PRIOR TO CONSTRUCTION.
- 5. INCLUDE FOR THE SUPPLY AND INSTALLATION OF TWO(2) EXTRA BALANCE DAMPERS AFTER CONSTRUCTION AND BALANCING COMPLETION. (PENDING BALANCING RESULTS AND COMMENTS).
- 6. FLEXIBLE DUCT SHALL ONLY BE USED IN SUPPLY AIR APPLICATIONS FOR CONNECTIONS TO DIFFUSERS IN DROPPED CEILING. FLEXIBLE DUCT SHALL BE MAXIMUM 6' (1.8m) IN LENGTH AND SHALL BE SECURELY FASTENED TO DUCTS AND DIFFUSERS. PROVIDE HANGERS AND FLEXIBLE DUCTWORK WITHOUT SHARP 90°s, SAGGING, OR CRUSHING OF DUCT. FLEXIBLE DUCT IS NOT ACCEPTABLE IN ANY OTHER APPLICATION.
- 7. PROVIDE EXTERNAL INSULATION ON ALL SUPPLY AIR DUCTS, ALL OUTSIDE AIR DUCTS AND ON ALL EXHAUST DUCTS WITHIN 8' (2.4m) OF OUTSIDE WALL/ROOF INCLUDING RIGID AND FLEXIBLE DUCT. <u>EXCEPTION:</u> SUPPLY AIR DUCTS THAT RUN IN EXPOSED AREAS DO NOT NEED TO BE INSULATED.
- 18. CONFIRM EXACT LOCATIONS OF THERMOSTATS/SENSORS WITH ENGINEER AND OWNER. MOUNT THERMOSTATS AT 47" (1200mm) AFF. MOUNT SENSORS AT 59" (1500mm) AFF. ENSURE THAT THERMOSTAT/SENSOR LOCATIONS WILL NOT BE AFFECTED BY DIRECT SUNLIGHT, COLD WALLS OR MILLWORK.
- 9. ALL INDOOR CONTROL WIRING SHALL BE RUN IN EMT CONDUIT OR FT6 (EMT SHALL BE USED IN EXPOSED AREAS). LAST 3' SHALL BE BX WHEN USING CONDUIT. ALL OUTDOOR CONTROL WIRING SHALL BE RUN IN LIQUIDTIGHT. ALL CONTROL WIRING SHALL RUN PARALLEL TO BUILDING LINES AND TIGHT TO ROOF DECK OR WALLS. ALL CONTROL WIRING PASSING THROUGH WALLS SHALL BE RUN IN EMT CONDUIT C/W BUSHINGS AT EACH END.
- 20. PROVIDE FIRE DAMPERS AT ANY FIRE SEPARATIONS. FIRE DAMPERS SHALL BE TYPE 'B' C/W LINKAGE OUT OF THE AIR STREAM. FIRE DAMPER RATING TO MATCH THE RATING OF THE SEPARATION CROSSED. INSTALLATION MUST CONFORM TO LATEST NFPA/CUA 90A SPECIFICATIONS. ONLY USE ULC APPROVED EQUIPMENT. PROVIDE DUCT ACCESS DOORS AND BREAK AWAY FLANGES FOR ALL FIRE DAMPERS IN CONFORMANCE WITH CODE AND INSTALLATION INSTRUCTIONS. ACCESS DOORS SHALL BE TWIST LOCK TYPE SCREWED PANELS ARE NOT ACCEPTABLE.
- 21. PROVIDE SLEEVES FOR PIPES THROUGH ALL BLOCK WALLS. FILL VOIDS AROUND PIPES. ENSURE NO CONTACT BETWEEN DISSIMILAR METALS.
- 25. PROVIDE FIRE STOPPING AROUND ALL PIPING THROUGH FIRE SEPARATIONS.
- 27. LABEL CEILING TILE WITH PERMANENT ADHESIVE LABELS OR LAMACOID NAMEPLATES FOR ACCESS TO MECHANICAL ITEMS.
- 29. OBTAIN THE SERVICES OF A NEBB, CAABC OR NBCTA ACCREDITED BALANCING COMPANY TO BALANCE THE COMPLETE HVAC SYSTEM. PROVIDE
- 30. PROVIDE START-UP AND COMMISSIONING OF ALL NEW EQUIPMENT AND PROVIDE REPORTS TO THE ENGINEER FOR REVIEW.

GENERAL NOTES:

PROJECT. OBTAIN AND REVIEW THE DESIGNATED SUBSTANCE REPORT FROM THE CLIENT AND COORDINATE ANY DESIGNATED SUBSTANCE ISSUES WITH THE CLIENT PRIOR TO ANY WORK BEING DONE.

OBTAIN, ARRANGE AND PAY FOR ALL REQUIRED INSPECTIONS AND NOTICE OF

- PROVIDE SHOP DRAWINGS ELECTRONICALLY IN PDF FORMAT TO CONSULTANT FOR REVIEW. ALL SHOP DRAWINGS MUST BE REVIEWED. STAMPED AND SIGNED BY THE MECHANICAL CONTRACTOR PRIOR TO SUBMITTING TO THE CONSULTANT. REVIEW SHALL INCLUDE BUT NOT BE LIMITED TO: VERIFYING UNIT VOLTAGE WITH ELECTRICIAN AND/OR SITE, EQUIPMENT PERFORMANCE, DIMENSIONS AND CLEARANCES. SUBMIT SHOP DRAWINGS ELECTRONICALLY TO INFO@DURHAMENERGY.COM.
- THOROUGHLY REVIEW AND COORDINATE WITH SITE CONDITIONS AND COMPLETE DRAWING SET PRIOR TO PRICING AND INSTALLATION.
- INSTALL ALL WORK IN CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
- DO NOT USE ANY NEW PERMANENT EQUIPMENT FOR TEMPORARY USE DURING CONSTRUCTION WITHOUT WRITTEN APPROVAL. WHERE SYSTEMS ARE USED AND ARE CONTAMINATED BY DUST OR DIRT, THE CONTRACTOR SHALL CLEAN IN A MANNER ACCEPTABLE TO THE CONSULTANT.
- MAINTAIN AS-BUILT DRAWINGS ON AN ON-GOING BASIS. DRAWINGS SHALL BE AVAILABLE FOR PERIODIC REVIEW BY THE CONSULTANT DURING CONSTRUCTION.
- 8. ALL WORK SHALL COMPLY WITH APPLICABLE CODES.
- . REMOVE ALL REDUNDANT EQUIPMENT. MATERIALS AND GARBAGE FROM SITE AND DISPOSE OF IN AN APPROVED MANNER. REDUNDANT EQUIPMENT AND MATERIALS SHALL NOT BE ABANDONED IN PLACE.
- 10. TRENCHING, EXCAVATION AND BACKFILL FOR UNDERGROUND PLUMBING SHALL BE BY THIS CONTRACTOR.
- 11. COORDINATE ROOFING FOR DUCT AND PIPE ROOF PENETRATIONS WITH GENERAL CONTRACTOR. PROVIDE PITCH POCKETS FOR ALL SERVICES THROUGH ROOF UNLESS SERVICES CAN BE FED THROUGH BASE OF EQUIPMENT.
- 12. ANY FEED TO ROOFTOP EQUIPMENT SHALL BE INSTALLED WITH GOOSENECK STYLE PITCH POCKET EQUAL TO THALER METAL MEF-2A OR DOGHOUSE. SIZE AS REQUIRED TO SUIT FEED.
- 13. MAINTAIN REQUIRED ACCESS AND CLEARANCE TO ALL EQUIPMENT AND SYSTEMS AS REQUIRED BY CODE AND AS PER MANUFACTURER'S REQUIREMENTS.
- 14. TAG ALL EQUIPMENT WITH LAMACOID NAMEPLATES. TAG ALL VALVES WITH LAMACOID NAMEPLATES OR BRASS TAGS ON CHAINS.
- 15. LABEL ALL PIPING WITH SERVICE AND FLOW ARROWS EVERY 10'(3m) AND ON EITHER SIDE OF WALLS.
- 16. THE CONTRACTOR SHALL ARRANGE FOR INSPECTIONS BY THE ENGINEER PRIOR TO CEILINGS AND WALLS BEING CLOSED IN. WHERE THIS HAS NOT BEEN ARRANGED IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE CEILING TILES OR ACCESS DOORS FOR INSPECTION AT THE DIRECTION OF THE CONSULTANT.
- 7. PERFORM TESTING AND COMMISSIONING OF ALL SYSTEMS AS REQUIRED BY CODE, THE CONSULTANT, MANUFACTURER'S REQUIREMENTS, AND AUTHORITIES HAVING JURISDICTION. SUBMIT REPORTS TO THE CONSULTANT.
- 18. INSTRUCT AND DEMONSTRATE TO THE OWNER ON PROPER OPERATION OF THE SYSTEM. RECORD AND SUBMIT A LOG DATED AND SIGNED BY ALL ATTENDEES.
- 19. UPON COMPLETION OF THE PROJECT THE CONSULTANT WILL DO A FINAL REVIEW. UPON RECEIVING THE FINAL INSPECTION REPORT, THE CONTRACTOR MUST CORRECT AND SIGN BACK THE INSPECTION REPORT INDICATING ALL DEFICIENCIES ARE COMPLETED A RE-INSPECTION WILL ONLY BE DONE ONCE THE CONSULTANT RECEIVES THIS IN WRITING. WHERE THE CONSULTANT PERFORMS THE RE-INSPECTION AND THE WORK IS NOT COMPLETE, THE CONTRACTOR IS RESPONSIBLE FOR REIMBURSING THE CONSULTANT FOR THE FIELD REVIEW. THE FEE FOR ADDITIONAL REVIEWS WILL BE AT THE CONSULTANT'S HOURLY RATES PLUS MILEAGE AND APPLICABLE TAXES TO BE PAID DIRECTLY TO THE CONSULTANT PRIOR TO PERFORMING THE NEXT FIELD REVIEW.
- 20. PROVIDE ONE (1) YEAR WARRANTY ON ALL MATERIAL AND LABOUR FROM THE DATE OF SUBSTANTIAL COMPLETION.

21. REFER TO SPECIFICATIONS.

PLUN	BING LEGEND		
	DOMESTIC COLD WATER (DCW)		
	DOMESTIC HOT WATER (DHW)		
<u> </u>	DOMESTIC HOT WATER RECIRC (DRW)		
AS	ABOVEGROUND SANITARY LINE		
ss	UNDERGROUND SANITARY LINE		
—_sī—sī—_	ABOVEGROUND STORM LINE		
	UNDERGROUND STORM LINE		
AD	ACID DRAIN LINE		
DD	CONDENSATE DRAIN LINE		
<u></u>	EYE WASH STATION - WALL MOUNT		
	FLOOR DRAIN / FUNNEL FLOOR DRAI		
HD HD	HUB DRAIN		
🕅 RD 🔯 RD	ROOF DRAIN / ROOF DRAIN ABOVE		
AD	AREA DRAIN		
	STACK / FLOOR CLEANOUT		
-+	HOSEBIBB (HB)		
WC-1	FIXTURE/EQUIPMENT TAG		
	PUMP		
— •	ELBOW RISING		
— ə	ELBOW DROPPING		
	BRANCH RISING FROM TEE		
— ə—	BRANCH DROPPING FROM TEE		
IQI	SHUT–OFF BALL VALVE		
Å	PRESSURE REDUCING VALVE		
N	CHECK VALVE		
Ŕ	SAFETY RELIEF VALVE		
И	REDUCER		
5	STRAINER		
ılı	UNION		
P	PRESSURE GAUGE WITH PETCOCK		
₽ ^D	DIGITAL THERMOMETER		

MECHANIC	al abe
AFF	ABOVE F
c/w	COMPLET
U/S	UNDERSI
H/L	HIGH LE
L/L	LOW LEV
U/C [SIZE]	DOOR UN
S/A	SUPPLY
R/A	RETURN
E/A	EXHAUST
T/A	TRANSFEI
0/A	OUTSIDE
DCV	DOUBLE
BFP	BACK FL
НВ	HOSE BI
NFHB	NON FRE
RWL	RAIN WAT
VTR	VENT TH
TMV	THERMOS
TSP	TRAP SE

SPRI	NKLER LEGI
F F	SPRINKLER LIN
•	ELBOW RISING
	ELBOW DROPP
— ~	BRANCH RISING
~~	BRANCH DROP
X a	SUPERVISORY
FS T	FLOW SWITCH
	FIRE EXTINGUIS
(FIRE EXTINGUIS
К	CLASS 'K' FIRI BRACKET
	FIRE DEPARTM
NOTE: 1. 'EX' DENOTES EXISTING TO 2. 'D' DENOTES EXISTING TO 3. 'N' DENOTES NEW	

Drawing No.:

LEGENDS & NOTES

Drawing Title:

100 Marina Boulevard, Peterborough, ON

City of Perterborough FIRE STATION NO.2

PROJECT No. 21-100 START DATE OCT.21

Project Status

All dimensions to be checked and
verified on site. Do not scale
drawings. Any discrepancies are to
be reported to the Consultant. All
drawings remain the property of the
Consultant. Only latest approved
drawings to be used for construction.

		· · · ·
EGROUND SANITARY LINE		ROUND DUCTS (UP / DOWN)
RGROUND SANITARY LINE		FLEXIBLE DUCT
EGROUND STORM LINE		BALANCE DAMPER
RGROUND STORM LINE		FIRE DAMPER
DRAIN LINE		SPLITTER DAMPER
ENSATE DRAIN LINE		SUPPLY DIFFUSER (SQUARE / ROUND)
VASH STATION - WALL MOUNT		SUPPLY CEILING OUTLET
R DRAIN / FUNNEL FLOOR DRAIN		RETURN/EXHAUST CEILING GRILLE
DRAIN		SUPPLY SIDE WALL/DUCT GRILLE
DRAIN / ROOF DRAIN ABOVE		RETURN/EXHAUST SIDE WALL/DUCT GRILLE
DRAIN		DOOR GRILLE
C / FLOOR CLEANOUT	GG	GAS PIPING
ВІВВ (НВ)		HEAT PIPE SUPPLY
RE/EQUIPMENT TAG		HEAT PIPE RETURN
	нsнs	HOT WATER HEATING SUPPLY (HS)
V RISING		HOT WATER HEATING RETURN (HR)
V DROPPING	K A	PUMP
CH RISING FROM TEE	o	ELBOW RISING
CH DROPPING FROM TEE	ə	ELBOW DROPPING
-OFF BALL VALVE	_ ~ _	BRANCH RISING FROM TEE
SURE REDUCING VALVE	_ 	BRANCH DROPPING FROM TEE
< VALVE	IQI	BALL SHUT-OFF VALVE
Y RELIEF VALVE	Ó	BUTTERFLY VALVE
CER	 因	BAS 2-WAY CONTROL VALVE
NER		BAS 3-WAY CONTROL VALVE
		CHECK VALVE
SURE GAUGE WITH PETCOCK	× X	CIRCUIT BALANCING VALVE (CBV)
L THERMOMETER		PRESSURE REDUCING VALVE (PRV)
	N N N	GAS PRESSURE REDUCING VALVE (PRV)
BBREVIATIONS		UNION
FINISHED FLOOR	ц. т. Ф	BAS PIPE TEMPERATURE SENSOR
LETE WITH	<u> </u>	BAS DUCT TEMPERATURE SENSOR
RSIDE	T	BAS PRESSURE SENSOR
LEVEL	T	MOTORIZED DAMPER ACTUATOR
LEVEL	AAV	AUTOMATIC AIR VENT C/W 1/4" BALL
UNDERCUT [mm]	다. 	VALVE AND NIPPLE/COUPLING (MINI BALL VALVES NOT ACCEPTABLE)
Y AIR	<u> </u>	MANUAL 'COIN' AIR VENT
N AIR	 © 5	PRESSURE GAUGE C/W BALL VALVE
IST AIR		(MINI BALL VALVES NOT ACCEPTED)
FER AIR	5	P/T PORT
DE AIR		CONTROL/SENSING WIRING
LE CHECK VALVE	S	SPACE SENSOR SUPPLIED BY MECHANICAL
FLOW PREVENTER		INSTALLED BY MECHANICAL
BIBB	69	OUTDOOR AIR SENSOR SUPPLIED BY MECHANICAL
FREEZE HOSE BIBB	_	INSTALLED BY MECHANICAL
WATER LEADER	0	OCCUPANCY SENSOR
THROUGH ROOF	\$	LIGHT/EXHAUST FAN SWITCH SUPPLIED AND INSTALLED BY
IOSTATIC MIXING VALVE		ELECTRICAL
SEAL PRIMER	TYPE-ID	EQUIPMENT TYPE_OF_EQUIPMENT
R LEGEND		SYMBOLS NUMBER DESIGNATION
KLER LINE	QTY TYPE SIZE	GRILLE SIZE (mm)
/ RISING	AIR	SYMBOLS AIR FLOW (I/s)

HVAC LEGEND

SUPPLY DUCTS (UP / DOWN)

RETURN DUCTS (UP / DOWN)

EXHAUST DUCTS (UP / DOWN)

138 Simcoe Street Peterborough Ontario K9H 2H5

t. 705.743.3311 e. studio@lett.ca

DES DURHAM ENERGY SPECIALIST LIMITED

CONSULTING ENGINEERS PH:(905)430-7151 FAX:(905)430-7154 106-209 DUNDAS STREET EAST, WHITBY ONTARIO info@durhamenergy.com / www.durhamenergy.com DES JOB No.: 21-507 DRAWING SIZE: D

ISSUE / REVISIONS

- 1 ISSUED FOR PERMIT Mar.21.22 Apr.14.22
- 2 ISSUED FOR QA/QC 3 ISSUED FOR TENDER Jul.07.22

- DROPPING RISING FROM TEE
- DROPPING FROM TEL OFF BALL VALVE JRE REDUCING VALVE VALVE RELIEF VALVE JRE GAUGE WITH PETC THERMOMETER BREVIATIONS FINISHED FLOOR
- SIDE
- ETE WITH
- VEL VEL NDERCUT [mm]
- AIR AIR AIR ER AIR AIR
- CHECK VALVE
- FLOW PREVENTER
- BIBB

- REEZE HOSE BIBB

ATER LEADER

HROUGH ROOF STATIC MIXING VALVE EAL PRIMER

LEGEND LER LINE RISING

DROPPING RISING FROM TEE DROPPING FROM TEE

ISORY VALVE C/W TAMPER SWITCH

WITCH TINGUISHER IN CABINET 10LB AS INDICATED)

TINGUISHER C/W WALL BRACKET 10LB AS INDICATED)

'K' FIRE EXTINGUISHER C/W WALL

PARTMENT (SIAMESE) CONNECTION

HOT WATER UNIT	HEATER	SCHED	ULE					EXHAUST FAN SCHEI	DULE										
TAG		UH-1	I	UH-3	UH-4	UH-5	UH-6	TAG		EF-1	EF-2		EF-3	EF-4 8	£ 5		EF-6	EF-A	EF-B
SERVICE		MECH/ELEC	C 146 GROUNDS STORAGE 148	HOSE TOWER 143	APPARATUS BAY	APPARATUS BAY	MECH MEZZ 201	SERVICE		APPARATUS BAY	LAUNE	RY E	BUNKER GEAR	GROUNDS &	MEZZANINE	HOS	E TOWER	SHOWER & WEST BATHROOM	KITCHEN
MANUFACTURER		SIGMA	SIGMA	SIGMA	SIGMA	SIGMA	SIGMA	TYPE		SIDEWALL	SIDEWA	LL	INLINE	SIDEWA	ALL	SI	DEWALL	CEILING MOUNTED	RANGE HOOD
MODEL		UHNL-1		UHNL-260	UHNL-220	UHNL-220	UHNL-160	MANUFACTURER		СООК	GREENH	СК	GREENHECK	GREENH	ECK	GRE	ENHECK	BROAN	GREENHECK
HEATING CAPACITY	btuh	9,800	,	29,700	21,400	21,400	9,800	MODEL		AWD-20A17DA	SE1-8-44	0–VG	SQ-80-VG	SE1-8-4	28–P	SE1-8	8-440-VG	QTXE150	GRRS-W-36-R-E-X
AIR FLOW	cfm	300		840	560	560	300	AIR FLOW	cfm	3,100	150		300	200			150	80	300
MOTOR	hp	1/20	, = -	1/20	1/20	1/20	1/20	STATIC	in.w.c.	0.75	0.25		0.3	0.2			0.25	0.5	0.3
FLUID	•F	100% WA		100% WATER	100% WATER	100% WATER	100% WATER	SONES		27	4.8		6.6	8.7			4.8	1.4	7.5
EWT/LWT EAT/LAT	•	110/9 60/90	, ,	110/90 60/92.7	110/90 60/95	110/90 60/95.4	110/90 60/90.2	FAN RPM		1,725	1,503		1,471	1,66			1,503		
WATER FLOW	gpm	1.0	1.0	3	2.2	2.2	1.0	FAN MOTOR	hp	1/3	1/25		1/10	1/15	5		1/15	FRACTIONAL	FRACTIONAL
WATER PRESSURE DROP	ft	1.0	1.5	1.4	0.8	0.8	1.5	FAN TYPE		PROPELLER DIRECT DRIVE	PROPELLER DIF		RIF. DIRECT DR			PROPELLER	R DIRECT DRIVE	CENTRIF. DIRECT DRIVE	CENTRIF. DIRECT DRIVE
WATER CONNECTION	in	1.5	1/2	3/4	3/4	3/4	1.3	ELECTRICAL	volt/ph	208/1	115/		115/1	115/	<u>′1</u>	1	15/1	120/1	120/1
ELECTRICAL	volt/ph	115/	· · · · · · · · · · · · · · · · · · ·	115/1	115/1	115/1	115/1	FLA	amps	4			1.5						1.2
	amps	1.1	, ,	1.1	1.1	1.1	1.1	DIMENSIONS	inches	24.3x24.3x21	13x13	.7	15x15x16	13x13	x7	13	3x13x7	10.5x11.5x7.6	36x23.5x12.5
WEIGHT	lbs	48	48	95	48	48	48	WEIGHT	lbs	65	16		50	18			16	13	93
MAX MOUNTING HEIGHT	fT.	9	9	10	9	9	9	CONTROLS		TIED INTO GAS DETECTION REFER TO CONTROLS	-OCCUPANCY SENS		OUS OPERATION	-OCCUPANCY SENS -REFER TO CONTR	SOR	-WALL TIMER	BY MECHANICAL	-TIED INTO LIGHTING CONTROL	-BUILT-IN CONTROLS
CONTROLS	REF	ER TO CO	NTROLS DETAILS. INTERLOCK APP. BA	Y HEATERS WITH O/H	DOOR SWITCHES		-			CELER TO CONTROLS	-REFER TO CONTR	DLS	O CONTROLS		JULS				
ACCESSORIES			ARD, UNIT MOUTED SPEED CONTROL					ACCESSORIES/		NEMA1 DISCONNECT SWITCH	-NEMA1 DISCONNE			-NEMA1 DISCONNE		-NEMA1 DISCO	NNECT SWITCH	-BACKDRAFT DAMPER	-REAR DISCHARGE
ALTERNATE	ENC	AIR, REZI	NOR					FEATURES		ACTORY WIRED FAN SPEED	-FACTORY WIRED F		USCONNECT SWI WIRED FAN SPI	ICH -FACTORY WIRED F EED CONTROLLER		-FACTORY WIR CONTROLLER	ED FAN SPEED		-SELF CONTAINED FIRE SUPPRESSION SYSTEM
MANUFACTURERS										BACKDRAFT DAMPER	-BACKDRAFT DAMPI		ER	-BACKDRAFT DAMP	ER	-BACKDRAFT	DAMPER		-ELECTRONIC DETECTION
													BACKDRAFT DAM HANGER ISOLATC		CREEN				-APPLIANCE POWER SHUT DOW -E26 LED LAMPS
RV AIR CONDITIONIN	IG UNIT	SCHED	JLE	VRV CONDEN	ISING UNIT SCHED	DULE													-300A UL LISTING
			AC-1	TAG			CU-1	ALTERNATE MANUFACTURERS	RI	EFER TO SPECIFICATIONS									
RVICE			IT 107 (BACKUP)	SERVICE			AC-1												
NUFACTURER			DAIKIN	MANUFACTURER			DAIKIN		STOR	AGE TANK SCHEDULE		WATER-TO-AIR H	HEAT PUMP	SCHEDULE					
Έ			WALL MOUNTED	TYPE		н	IEAT PUMP		TAG		ST-1	TAG		HP-1	HP-	-2	HP-3	HP-4	HP-5
DEL			FTX12NMVJU	MODEL		R	X12NMVJU		SERVIC	E DOM	STIC HOT WATER	MANUFACTURER		DAIKIN	DAIK	(IN	DAIKIN	DAIKIN	DAIKIN
FRIGERANT			R410A	REFRIGERANT			R410A		TYPE		NSULATED &	SERIES		SMART SOURCE	SMART SO	DURCE	SMART SOURCI	E SMART SOURCE	SMART SOURCE
OOR COOLING CONDITIONS	(DB/WB)	•F	80/67	INDOOR COOLING	CONDITIONS (DB/WB)	•F	80/67				GLASSLINED	MODEL		WGSH0321	WGSHO	0241	WGSH0191	WGSH0191	WGSH0121
TDOOR COOLING CONDITION	IS (DB/WB)	•F	95/75	OUTDOOR COOLING	G CONDITIONS (DB/WB)	•F	95/75		MANUFA		ADFORD WHITE	REFRIGERANT		R410A	R410	0A	R410A	R410A	R410A
OOR HEATING CONDITIONS	(DB/WB)	۰F	70/60	INDOOR HEATING	CONDITIONS (DB/WB)	•F	70/60		MODEL		-3-ST120R5A	COOLING							
TDOOR HEATING CONDITION	S (DB/WB)	•F	47/43	OUTDOOR HEATING	GONDITIONS (DB/WB)	•F	47/43		CAPACI		119	SENSIBLE CAPACITY	btuh	23,625	20,4	78	13,552	13,552	9,433
TED PIPING LENGTH		ft	25	RATED PIPING LEN	NGTH	ft	25			IG PRESSURE psi	150	EAT (DB/WB)	•F	75.0/62.5	75.0/0	62.5	75.0/62.5	75.0/62.5	75/63
OLING CAPACITY		btuh	10,900	RATED COOLING C	APACITY	btuh	10,900				2-1/2 (x4)	EWT/LWT	*F	48/58.6	48/5		48/57.8	48/57.8	48/58.6
ATING CAPACITY		btuh	13,500	COOLING SEER			19		ALTERN	ATES inches AO SMIT	H, HUBBELL	TOTAL CAPACITY	btuh	33,086	27,0		18,743	18,743	13,335
R FLOW		cfm	145/321/434	RATED HEATING C	APACITY	btuh	13,500					THR	btuh	38,118	30,7		21,211	21,211	15,279
TERNAL STATIC PRESSURE		in.w.c	0/0/0	HEATING COP			3.8		BOFF	ER TANK SCHEDULE		FLOW RATE	gpm	7.5	6.0		4.5	4.5	3.0
S PIPE CONNECTION		inches	3/8	AIRFLOW RATE		cfm	2101		TAG		BT-1	EER (DESIGN)		22.4	24.	7	26.0	26.0	23.4
UID PIPE CONNECTION		inches	1/4	ELECTRICAL			.08–230/1		SERVIC		NIC HEATING LOOP	HEATING		/ /		- /			
NDENSATE CONNECTION		inches	5/8	GAS PIPE CONNEC			3/8 ×2		TYPE		-PORT ASME	FLUID	%	76/24 WATER/GLYCOL	76/24 WATE	,	76/24 WATER/GL		, ,
ECTRICAL		volt/ph	(SEE CU-1)	LIQUID PIPE CONN	IECTION		1/4 x2		MANUFA	ACTURER	AMTROL	EAT (DB)	•F	72	72		72	72	72
A		amps	N/A	MCA		amps	12.2		MODEL		BT200-2/2-125		btuh	22,037	16,7		12,396	12,396	9,181
CP		amps	N/A	MOCP			15		CAPACI		200	EWT/LWT COP		28/23.7	28/2			28/24	28/23.6
UND PRESSURE LEVEL		dBA	45	SOUND PRESSURE		dB	49			IG PRESSURE psi	125	PRESSURE DROP	ft	3.4	3.4 7.8			3.7	3.3
IT DIMENSIONS		+ +	30-5/16Wx 8-3/4Dx 11-1/4H	UNIT DIMENSIONS			11-3/16Dx 21-5/8H		DIMENS		30øx62.5H	AIR FLOW	cfm	1000	7.8		600	600	400
PROX. WEIGHT		lbs	18	APPROX. WEIGHT		lbs feet	60			IG WEIGHT Ibs	222	FSP	in.wc.	0.3	0.3		0.3	0.3	0.3
TES			POWER FOR INDOOR UNITS FROM	MAX TOTAL PIPE L		feet	65			ONNECTION inches	2 (x4)	WATER CONNECTIONS	in.	0.75	0.7		0.75	0.75	0.75
		+ +		MAX VERTICAL PIP					NOTES	-ASME	CONSTRUCTION	ELECTRICAL	volt/ph	208/1	208		208/1	208/1	208/1
NTROLS			-CONTROLLER/THERMOSTAT SUPPLIED BY MANUFACTURER	CONTROLS		SCHEDULING A	/DISABLE BY BAS FOR ND OUTSIDE AIR			-INSULA	TION PACKAGE C RESTAINTS	TOTAL UNIT FLA	amps	18.1	14.		9.4	9.4	5.6
		-	-CONTROLS CONTRACTOR TO SUPPLY AND INSTALL THERMOSTAT			TEMPERATURE	NTRACTOR TO SUPPLY					MCA	amps	21.4	17.		11.3	11.3	6.8
			NTERCONNECT WIRING BETWEEN			AND INSTALL V	WIRING BETWEEN AC					MOCP	amps	30	25	5	15	15	15
			HERMOSTATS, AC UNITS, AND CONDENSING UNIT ON ROOF			UNIT THERMOS	TATS AND CONDENSING . REFER TO		VFD	SCHEDULE		DIMENSIONS	in. 2	2.4W x 63.3L x 19.317.3H	22.4W × 63	.3L x 19H	31.4W x 50.8L x	19H 31.4W x 50.8L x 19	H 21.6W x 45L x 17.3H
ESSORIES			ASPEN MINI-ORNAGE CONDENSATE			MANUFACTURER	S INSTALLATION		TAG		P-1 & 2	SHIPPING WEIGHT	lbs	289	289		228	228	173
			UMP	40050000150		INSTRUCTIONS.				ACTURER	DANFOSS	ACCESSORIES		-WATERSIDE ECONOMIZER				I	
ERNATE MANUFACTURERS			ARRIER, FUJITSU, YORK						ELECTR		575/3		-	-HOSE KIT, SUPPLY AND RET					
		<u> </u>		ALTERNATE MANUF	AUTURERS	CARRIER, FUJI	ISU, YORK		MOTOR	hp	10		-	-THROW AWAY FILTERS (MER) -PVC TUBING CONNECTION F	OR CONDENSATE	(1.5m LONG)			
									DISCON		YES		-	-TERMINAL STRIP FOR BAS T -ISOLATION HANGER KIT	IE—IN	· · · · · · · · · · · · · · · · · · ·			
									BYPASS		NO			-ISOLATION HANGER KIT -DISCONNECT SWITCH					
									AI TERN	ATE MANUFACTURERS	ABB								1
											,	CONTROLS	-	-REFER TO CONTROLS DETAIL	_S				
									7212111		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	CONTROLS NOTES		-REFER TO CONTROLS DETAIL -CONTRACTOR TO CONFIRM L		IAND RETURN T	O SUIT FINAL INSTALI	ATION	
									<u>A ci ci ci ci</u>		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					IAND RETURN T	O SUIT FINAL INSTALI	ATION	

HOT WATER UNIT	T HEAT	FER SCHEDULE						EXHAUST FAN SCHEDU	ULE												
		UH-1	UH-2	UH-3	UH-4	UH-5	UH-6	TAG		EF	F—1	EF-:	·2	EF-	-3	EF-4 &	٤ 5	EF-6		EF-A	EF-B
SERVICE		MECH/ELEC 146	GROUNDS STORAGE 148	HOSE TOWER 143	APPARATUS BAY	APPARATUS BA		SERVICE			ARATUS BAY	LAUN	IDRY	BUNKEF	GEAR	GROUNDS & I	MEZZANINE	HOSE TOWER	SHOWER &	: WEST BATHROOM	KITCHEN
MANUFACTURER		SIGMA	SIGMA	SIGMA	SIGMA	SIGMA	SIGMA				EWALL	SIDEW		INLI		SIDEWA		SIDEWALL		NG MOUNTED	RANGE HOOD
MODEL		UHNL-160	UHNL-160	UHNL-260	UHNL-220	UHNL-220	UHNL-160				OOK	GREEN		GREEN		GREENH		GREENHECK		BROAN	GREENHECK
HEATING CAPACITY	btuh	9,800	9,800	29,700	21,400	21,400	9,800	MODEL			20A17DA	SE1-8-4		SQ-8		SE1-8-42		SE1-8-440-VG		QTXE150	GRRS-W-36-R-E-X
AIR FLOW	cfm	300	300	840	560	560	300	AIR FLOW	cfm		,100	150		30		200		150	`	80	300
MOTOR	hp	1/20	1/20	1/20	1/20	1/20	1/20		in.w.c.).75	0.25		0.		0.2		0.25		0.5	0.3
FLUID		100% WATER	100% WATER	100% WATER	100% WATER	100% WATER	100% WATER	SONES			27	4.8		6.	-	8.7		4.8		1.4	7.5
EWT/LWT	•F	110/90	110/90	110/90	110/90	110/90	110/90	FAN RPM			725	1,50		1.4		1,662		1,503			
EAT/LAT	•F	60/90.2	60/90.2	60/92.7	60/95	60/95.4	60/90.2	FAN MOTOR	hp		/3	1/2		1/		1,002		1/15		RACTIONAL	FRACTIONAL
WATER FLOW	gpm	1.0	1.0	3	2.2	2.2	1.0	FAN MOTOR			DIRECT DRIVE	PROPELLER DI		CENTRIF. DI		PROPELLER DIR		PELLER DIRECT DRIVE		DIRECT DRIVE	CENTRIF. DIRECT DRIVE
WATER PRESSURE DROP	ft	1.5	1.5	1.4	0.8	0.8	1.5	ELECTRICAL	volt/ph		08/1	115/		115		115/		115/1		120/1	120/1
WATER CONNECTION	in	1/2	1/2	3/4	3/4	3/4	1/2		amps	20	4				•	· · · ·					•
ELECTRICAL	volt/ph	115/1	115/1	115/1	115/1	115/1	115/1				4			1.	-						1.2
AMPS	amps	1.1	1.1	1.1	1.1	1.1	1.1	DIMENSIONS	inches		24.3x21	13x13		15x1		13×13>	<7	13x13x7	10.	5x11.5x7.6	36x23.5x12.5
WEIGHT	lbs	48	48	95	48	48	48	WEIGHT	lbs		65	16		5	-	18		16		13	93
MAX MOUNTING HEIGHT	fT.	9	9	10	9	9	9	CONTROLS		-TIED INTO GAS -REFER TO CON	DETECTION	-OCCUPANCY SENS		-CONTINUOUS OF		-OCCUPANCY SENS		IMER BY MECHANICAL	-TIED INTO L	IGHTING CONTROL -	-BUILT-IN CONTROLS
CONTROLS		REFER TO CONTROLS	DETAILS, INTERLOCK APP, I	BAY HEATERS WITH 0/	H DOOR SWITCHES			1				-REFER TO CONTR									
ACCESSORIES			IT MOUTED SPEED CONTRO	······································				ACCESSORIES/	·	-NEMA1 DISCON		-NEMA1 DISCONNE	ECT SWITCH	-ECM MOTOR		-NEMA1 DISCONNED	CT SWITCH -NEMA1	DISCONNECT SWITCH	-BACKDRAFT		-REAR DISCHARGE
ALTERNATE		ENG AIR, REZNOR						FEATURES '		-FACTORY WIRED) FAN SPEED	-FACTORY WIRED I	FAN SPEED	-NEMA1 DISCONN	ECT SWITCH	-FACTORY WIRED F	AN SPEED -FACTOR	Y WIRED FAN SPEED		-	-SELF CONTAINED FIRE SUPPRESSION SYSTEM
MANUFACTURERS										-BACKDRAFT DAM	MPER	-BACKDRAFT DAMP	PER	CONTROLLER		-BACKDRAFT DAMPE	ER –BACKDR	AFT DAMPER		-	-ELECTRONIC DETECTION
														-GRAVITY BACKDF		-ALUMINUM BIRDSC	REEN				-APPLIANCE POWER SHUT DOW -E26 LED LAMPS
RV AIR CONDITIONI	NG UN	NIT SCHEDULE		VRV CONDE	NSING UNIT SCHE	EDULE									130EATOR					-	-300A UL LISTING
3			AC-1				CU-1	ALTERNATE MANUFACTURERS		REFER TO SPECI	FICATIONS										
RVICE			IT 107 (BACKUP)	SERVICE			AC-1														
NUFACTURER			DAIKIN	MANUFACTURER			DAIKIN	-	STO	DRAGE TANK		-		TO-AIR HEAT							
PE			WALL MOUNTED				HEAT PUMP	-	1310								HP-2	HP-3		HP-4	HP-5
			FTX12NMVJU	MODEL			RX12NMVJU	1	TAG	#0 5		ST-1						DAIKIN			DAIKIN
				REFRIGERANT			R410A	1	SERV	/ICE -		IESTIC HOT WATER	MANUFACTU			ART SOURCE	SMART SOURCE	SMART SOU		SMART SOURCE	SMART SOURCE
			R410A 80/67		CONDITIONS (DB/WB)	•F	80/67	1	IYPE	-		INSULATED & GLASSLINED	MODEL			WGSH0321	WGSH0241	WGSH019		WGSH0191	WGSH0121
DOOR COOLING CONDITIONS	. ,	,			G CONDITIONS (DB/WB)		95/75	-	MANU	UFACTURER	BF	RADFORD WHITE	REFRIGERAN			R410A	R410A	R410A		R410A	R410A
TDOOR COOLING CONDITIO	. ,		95/75		CONDITIONS (DB/WB)	• • F	70/60	-	MODE	EL	M N	M-3-ST120R5A				R4TUA	K410A	K410A		R410A	K410A
DOOR HEATING CONDITIONS	· ·	·	70/60		G CONDITIONS (DB/WB)	· · ·	47/43	-	CAPA		usgal	119	SENSIBLE		- 11 .	23,625	20,478	13,552		13,552	9,433
TDOOR HEATING CONDITION	N2 (DB/N	WB) F	47/43	RATED PIPING LE		ft	25	-	WORK	KING PRESSURE	psi	150	EAT (DB/		otuh •r	75.0/62.5	75.0/62.5	75.0/62		75.0/62.5	75/63
TED PIPING LENGTH		ft	25	RATED COOLING		btuh	10,900	-	PIPE	CONNECTION	inches	2-1/2 (x4)			<u>г</u>	48/58.6	48/58.7	48/57.8		48/57.8	48/58.6
OLING CAPACITY		btuh	10,900	COOLING SEER	CAFACITI	bun	19	-			inches AO SMIT		TOTAL CA			33,086	27,018	18,743		18,743	13,335
		btuh	13,500	RATED HEATING (btuh	13,500	-							otuh	38,118	30,745	21,211		21,211	15,279
R FLOW	_	cfm	145/321/434	HEATING COP		blun	3.8	-	RUE	FFER TANK	SCHEDUI E				gpm	7.5	6.0	4.5		4.5	3.0
TERNAL STATIC PRESSURE		in.w.c	0/0/0	AIRFLOW RATE				-					EER (DES		<u> </u>	22.4	24.7	26.0		26.0	23.4
S PIPE CONNECTION		inches	3/8			cfm	2101	4	TAG	#0 5		BT-1	HEATING			22.4	24./	20.0		20.0	23.4
UID PIPE CONNECTION		inches	1/4				208-230/1	-	SERV			ONIC HEATING LOOP	FLUID		% 76/24	WATER/GLYCOL	76/24 WATER/GLYCOL	76/24_WATER/		76/24 WATER/GLYCOL	76/24 WATER/GLYCOL
NDENSATE CONNECTION		inches	5/8	GAS PIPE CONNE		inches	3/8 x2	-	TYPE	-		4-PORT ASME	EAT (DB)		*F	72	70724 WATER/ GETCOL 72	70/24 WATER/ 72		70/24 WATER/GETCOL 72	70724 WATER/GETCOL
ECTRICAL		volt/ph	(SEE CU-1)	LIQUID PIPE CON	INECTION	inches	1/4 x2	4	MANU	UFACTURER		AMTROL			·	22,037	16,731	12,396		12,396	9,181
A		amps	N/A			amps	12.2	4	MODE		н	/BT200-2/2-125			otuh •F	22,037	28/23.9	28/24		28/24	28/23.6
		amps	N/A				15	4	CAPA		usgal	200			<u> </u>	3.4	3.4	3.7		3.7	3.3
UND PRESSURE LEVEL		dBA	45	SOUND PRESSUR		dB	49	4	WORK	KING PRESSURE	psi	125	PRESSURE			11.88	7.85	11.3		11.3	12.3
IT DIMENSIONS		inches 30-5/	16Wx 8-3/4Dx 11-1/4H	UNIT DIMENSIONS		· · · ·	6Wx 11-3/16Dx 21-5/8H	4		INSIONS	inches	30øx62.5H	AIR FLOW		cfm	1000	800	600		600	400
PROX. WEIGHT		lbs	18	APPROX. WEIGHT		lbs	60	4		PING WEIGHT	lbs	222			n.wc.	0.3	0.3	0.3		0.3	0.3
TES			FOR INDOOR UNITS FROM			feet	65	4			inches	2 (x4)	WATER CON		in.	0.3	0.75	0.75		0.3	0.75
		OUTDOOR		MAX VERTICAL PI	PE LENGTH	feet	49	4	NOTE			CONSTRUCTION	ELECTRICAL		ın. lt∕ph	208/1	208/1	208/1		208/1	208/1
NTROLS			OLLER/THERMOSTAT	CONTROLS			ABLE/DISABLE BY BAS FOR NG AND OUTSIDE AIR			,	-INSULA	ATION PACKAGE	TOTAL UNIT		mps	18.1	14.7	· · · ·		9.4	· ·
			LS CONTRACTOR TO			TEMPERAT	URE				-SEISMI	IC RESTAINTS			mps			9.4			5.6
			AND INSTALL THERMOSTAT				L CONTRACTOR TO SUPPLY								mps	21.4	17.6 25	11.3		<u> </u>	6.8
		THERMOS	TATS, AC UNITS, AND			UNIT THEF	RMOSTATS AND CONDENSING		VFD) SCHEDULE									v 10U		
			SING UNIT ON ROOF	-			ROOF. REFER TO URER'S INSTALLATION		TAG			P-1 & 2	SHIPPING W			63.3L x 19.317.3H 289	22.4W x 63.3L x 19H			31.4W x 50.8L x 19H	21.6W x 45L x 17.3H
CESSORIES		-ASPEN	MINI-ORNAGE CONDENSATE			INSTRUCTI			MANL	UFACTURER		DANFOSS			Ibs WATERS		289	228		228	173
IERNATE MANUFACTURERS			FUJITSU, YORK	ACCESSORIES		-INVERTE	R COMPRESSOR				volt/pl				-HOSE I	IDE ECONOMIZER					
TERMATE MANOTACTORERS		CARRIER,	FUJIISU, TURK	ALTERNATE MANU	IFACTURERS	CARRIER,	FUJITSU, YORK	1	мото		hp		- 1		-THROW	AWAY FILTERS (MERV	'7)				
								_		ONNECT		YES	1		-TERMIN	AL STRIP FOR BAS TI)R CONDENSATE (1.5m LC E—IN	UNG)			
									BYPA			NO	1		-ISOLATI	ON HANGER KIT					
										RNATE MANUFACT		ABB	┥┝───			NECT SWITCH					
												,				TO CONTROLS DETAIL					
													NOTES			CTOR TO CONFIRM LE	EFT OR RIGHT HAND RETU	JRN TO SUIT FINAL INST	ALLATION		
													ALTERNATE		JOHNSON	I CONTROLS					
													MANUFACTU			-					

EXPANSION TANK S	CHED	DULE			GLYCOL TANK S	CHEDU	JLE	PUMP SCHEDULE				
		ET-1	ET-2	ET-3	TAG		GT-L1	TAG		P-1 & 2	P-3 & 4	P-5 & 6
SERVICE		HYDRONIC HEATING	HYDRONIC HEATING	DOMESTIC	SERVICE		MECH ROOM GLYCOL SYSTEM	SERVICE		GROUND SOURCE LOOP	HYDRONIC HEATING LOOP	WATER-TO-WATER HEAT PUMPS
ORIENTATION		HORIZONTAL	HORIZONTAL	VERTICAL	MANUFACTURER		WESSELS	TYPE		VERTICAL INLINE	WET ROTOR CIRCULATOR	WET ROTOR CIRCULATOR
TYPE		DIAPHRAGM	DIAPHRAGM	DIAPHRAGM	MODEL		GMP-13050	MANUFACTURER		BELL & GOSSETT	BELL & GOSSETT	BELL & GOSSETT
MANUFACTURER		BELL & GOSSETT D-SERIES	BELL & GOSSETT D-SERIES	AMTROL THERM-X-TROL	TOTAL VOLUME	usgal	50	MODEL		1.5x1.5x7C	65-130	36-45
MODEL		D-80 (ASME)	D-15 (ASME)	ST-12C-DD	MAKE-UP CAPACITY		1.8 gpm @ 70 psi	SERIES		e-80SC	ecocirc XL	ecocirc XL
TOTAL VOLUME	usgal	44.4	8.0	6.4	MOTOR	hp	1/3	FLUID		20% PROPYLENE GLYCOL	100% WATER	100% WATER
MAX. ACCEPTANCE VOLUME	usgal	22.6	2.4	3.2	VOLTAGE	volt/p	h 120/1	FLOW	gpm	123.2	22.6	15.8
DIAMETER	in.	16-1/4	12	12	PRESSURE RANGE	psi	10–70	PRESSURE LOSS	feet	135	40	20
HEIGHT/LENGTH	in.	56	19	18	DIAMETER	in.	28	EFFICIENCY AT DUTY PT.		64%	34.7%	44.5%
SYSTEM CONNECTIONS	in.	1/2	1/2	3/4	HEIGHT	in.	42	SUCTION SIZE	inches	1.5	1.5	1.25
FACTORY PRE-CHARGE	psi	12	12	55	WEIGHT	lbs	90	DISCHARGE SIZE	inches	1.5	1.5	1.25
WORKING PRESSURE	psi	125	125	150	ACCESSORIES		-COMPLETE GLYCOL MAKE-UP PACKAGE	MOTOR	hp	10	1	1/6
SHIPPING WEIGHT	lbs	146	117	17	1		-PUMP ASSEMBLY C/W MAGNETIC STARTER, STRAINER & SHUT-OFF VALVE	RPM	rpm	3600	2780	3400
ACCESSORIES		-SIGHT GLASS	-SIGHT GLASS				-PRESSURE CONTROL, PRIMING VALVE, PRV, SHUT-OFF VALVE & PRESSURE GAUGE	ELECTRICAL	volt/ph	575/3	208/1	208/1
ALTERNATE		REFER TO SPECIFICATIONS					-CUT-OFF & ALARM	APPROX. WEIGHT	lbs	380	35	38
MANUFACTURERS							-110V SIGNAL FOR REMOTE ALARM	NOTES		-STAINLESS STEEL FITTED -INVERTER DUTY MOTOR FOR VFD -175 PSI MAX WORKING PRESSURE -SUCTION GUIDE AND STRAINER -EPDM GASKET	-TEFC NEMA PRIEMIUM EFFICIENT MOTOR -STAINLESS STEEL FITTED -ECM MOTOR -125# ANSI FLANGE DRILLING -EXT. FLUSHLINE, FILTER	-TEFC NEMA PRIEMIUM EFFICIENT MOTOR -STAINLESS STEEL FITTED -ECM MOTOR -125# ANSI FLANGE DRILLING -EXT. FLUSHLINE, FILTER
								ALTERNATE MANUFACTURERS	1	ARMSTRONG, GRUNDFOS		•

	WATER-TO-WATER	HEAT PUN	IP SCHEDULE	
	TAG		WWHP-1 & WWHP-2	HPWH-1
IPS	SERVICE		HYDRONIC HEATING	DOMESTIC HOT WATER
	MANUFACTURER		MULTISTACK	NYLE
	MODEL		HSS240XNCCCRAAA	C270WM
	REFRIGERANT		R410A	R134A
	CAPACITY		157,800	180,000
	SOURCE SIDE			
	FLOW RATE	gpm	39.8	50
	EWT/LWT	۴F	36/30	36/29
	FLUID		20% PG	20% PG
	PRESSURE DROP	ft	13.62	11.2
	SYSTEM SIDE			
	FLOW RATE	gpm	15.8	25
	EWT/LWT	۰F	90/110	40/140
	FLUID		100% WATER	100% WATER
	PRESSURE DROP	ft	3.65	1.9
Т	ELECTRICAL	volt/ph	575/3	575/3
	MCA	amps	25	35
	МОСР	amps	40	40
	DIMENSIONS	inches	44Wx56Lx36H	35Lx36Wx67H
	WEIGHT	lbs	555	1300
	NOTES		-DUTY/STAND-BY	

OIL INTERCEPTOR S	SCHE	DULE						
TAG	TAG OI-1							
SERVICE		APPARATUS BAY 101						
LOCATION		RECESSED IN FLOOR						
MANUFACTURER		WATTS						
MODEL		OI-7100-HDC						
FLOW RATE	gpm	100						
CAPACITY	gal	250						
INLET/OUTLET SIZE	in	4						
DIMENSIONS	in	72Lx54Wx34H						
NOTES		-INTEGRAL STORAGE COMPARTMENT -XHD EXTRA HEAVY DUTY TRAFFIC COVER -EXTENSION AS REQUIRED FOR DESIRED INLET INVERT DEPTH TO SUIT DRAINAGE LAYOUT						
ALTERNATE MANUFACTURERS		JAY R SMITH						

2		
Arch	itects	Inc.

138 Simcoe Street Peterborough Ontario K9H 2H5

t. 705.743.3311 e. studio@lett.ca

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ISSUE / REVISIONS

_		
1	ISSUED FOR PERMIT	Mar.21.22
2	ISSUED FOR QA/QC	Apr.14.22
3	ISSUED FOR TENDER	Jul.07.22

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

Project Status

PROJECT No. 21-100 START DATE OCT.21

City of Perterborough

FIRE STATION NO.2

100 Marina Boulevard, Peterborough, ON Drawing Title:

SCHEDULES

Drawing No.:



Project Management Initials: BRT Drawn By: MRC

AIR OUTLET SCHEDULE

TAG	A	A1	A2	В	B1	С	D	DG	BV	L
TYPE	SQUARE CONE DIFFUSER	SQUARE CONE DIFFUSER	SQUARE CONE DIFFUSER	EGG CRATE RETURN	EGG CRATE RETURN	LOUVERED FACE SUPPLY	LOUVERED FACE RETURN	STEEL DOOR GRILLE	BRICK VENT	LOUVER
MANUFACTURER	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	GREENHECK	PRICE
MODEL	SCD-31-3C	SCD-31-3C	ASCD-31-3C	80	80(DAL)	520D-F-L-A	535(D)-F-L-A	STG1-BF	BVE	DE436
SIZE	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS
COLOUR	B12	B12	B12	B12	B12	B12	B12	COORD WITH ARCH	COORD WITH ARCH	COORD WITH ARCH
NOTES	-24x24 CEILING MODULE FOR T-BAR MOUNTING	-12×12 CEILING MODULE FOR T-BAR MOUNTNG -C/W BORDER (F) AND SCREWS FOR DRYWALL MOUNTING	-ALUMINUM -12x12 CEILING MODULE FOR T-BAR MOUNTING -C/W BORDER (F) AND SCREWS FOR DRYWALL MOUNTING	-NO BORDER FOR T-BAR MOUNTING	-NO BORDER FOR T-BAR MOUNTING -BORDER REQUIRED WHERE USED IN DRYWALL CEILINGS -ALUMINUM CONSTRUCTION -ALUMINUM DAMPER	-DOUBLE DEFLECTION (ADJUSTABLE BLADES) -STEEL DAMPER	-SINGLE DEFLECTION (FIXED BLADES) -1/2" BLADE SPACING -STEEL DAMPER	-FLAT BORDER BOTH SIDES	-ALUMINUM -BIRDSCREEN -BACKDRAFT DAMPER	-ALUMINUM CONSTRUCTION -BIRDSCREEN

ALTERNATE NAILOR, TITUS, METALAIRE

DESTRATIFICATION FAI	N SCH	EDULE
TAG		DF-1
SERVICE		APPARATUS BAY
MANUFACTURER		BIG-ASS FAN
MODEL		POWERFUL D
AIRFLOW		UP/DOWNDRAFT, VARIABLE SPEED
FAN SIZE	feet	16
MAX RPM		108
FINISH (FOILS)		STD (MILL)
WINGLETS		STD (YELLOW)
ELECTRICAL	volt/ph	120/1
WATTS		500
DRIVE		DIRECT (GEARLESS)
DOWNROD LENGTH		TO SUIT
WEIGHT	lbs	250
CONTROLS		-REFER TO CONTROLS
ALTERNATES MANUFACTURERS		MACROAIR, GREENHECK, CAPTIVEAIRE

ENERGY RECOVERY	/ENTIL	ATOR (ERV) SCHEDULE
TAG		ERV-1
SERVICE		VENTILATION/EXHAUST
LOCATION		ROOF
MANUFACTURER		СООК
MODEL		ERV-1500
AIR FLOW	cfm	455
STATIC	in.wc.	0.3/0.6 (SUPPLY/EXHAUST)
MOTOR	hp	0.5 (SUPPLY/EXHAUST)
MOTOR SPEEDS		1
ELECTRICAL	volt/ph	208/1
MCA	amps	11
МОСР	amps	15
UNIT DIMENSIONS	inches	54.25Lx49.25Wx43H
WEIGHT	lbs	604
ACCESSORIES		 -1" INSULATION, DOUBLE WALL -POWDER COATED FINISH (GREY) -MERV8 DISPOSABLE FILTERS (SUPPLY & EXHAUST) -DISCONNECT SWITCH -24" ROOF CURB (INSULATED) -WHEEL ROTATION SENSOR -MOTORIZED INTAKE DAMPER -GRAVITY RELIEF (EXHAUST) DAMPER -PREHEAT FROST CONTROL -INTAKE & EXHAUST WEATHER HOODS
CONTROLS		-REFER TO CONTROLS
NOTES		SITE REQUIREMENTS, ADDITIONAL WORK AND EXTRA COSTS DUE TO THE SUPPLY OF ALTERNATE EQUIPMENT IS THE CONTRACTORS RESPONSIBILITY
ALTERNATE MANUFACTURERS		SYSTEMAIR, GREENHECK, RUSKIN, NORTEK

	FAN COIL S						
						FC-1	
	SERVICE					REFER TO LAYOUTS	
	QUANTITY					_	
	MANUFACTURER					REFPLUS	
	MODEL					EKA-1400-2W	
	UNIT TYPE					T INDUSTRIAL WA	LK-IN
	CONFIGURATION					2 PIPE	
	HANDING					SITE CONFIRM	
	FAN VOLUME			cfm		2100	
	ESP			in.wg		0.25	
	FAN MOTOR			volts/ph		240/1	
	FLA			amps		2.0	
	COIL						
	ROWS					4	
	FINS PER INCH					7	
	COOLING						
	EAT db/wb			۰F		80/69.3	
	EWT			۰F		55	
	WATER FLOW			gpm		5.2	
	LAT db/wb			۰F		69.3/56.2	
	TOTAL CAPACITY			mbh		24.4	
	SENSIBLE CAPA	CITY		mbh		24.0	
HE	WPD			ft.wg		11.69	
ILITY.	CONTROLS				LOCAL THEF	RMOSTAT	
	ACCESSORIES				-DISCONNE	SPRING ISOLATORS	5
	NOTES				CONTRACTOR -CHANGES, EXTRA COST ALTERNATE	TO BE CONFIRMED R AT TIME OF OR ADDITIONAL WORK 'S DUE TO THE S EQUIPMENT IS TH RS RESPONSIBILIT	DERING (AND SUPPLY O E
	ALTERNATE MANUF	ACTURE	۲		REFER TO	SPECIFICATIONS	
	MOTORIZED	DAMPE	ER S	CHEDI	JLE		
	TAG			MD-	-1	MD-2	

TAG		MD-1	MD-2
SERVICE		EF-1 MAKEUP	EF-1 EXHAUST
LOCATION		SOUTH WALL	SOUTH WALL
MANUFACTURER		ТАМСО	ТАМСО
MODEL		9000 (INSULATED)	9000 (INSULATED)
SIZE	inches	41x30	24x24
AIR FLOW	cfm	3,100	3,100
ACTUATOR		BELIMO NFB24-S	BELIMO NFB24-S
OPERATION		OPEN – CLOSE	OPEN – CLOSE
ELECTRICAL	volt/ph	24V/1ø	24V/1ø
CONTROLS		-REFER TO CONTROL SCHEMATICS AND SEQUENCES	-REFER TO CONTROL SCHEMATICS AND SEQUENCES
ALTERNATE MANUFACTURERS		GREENHECK, NAILOR, VENTEX	GREENHECK, NAILOR, VENTEX

Architects Inc.

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DES DURHAM ENERGY SPECIALIST LIMITED

CONSULTING ENGINEERS PH:(905)430-7151 FAX:(905)430-7154 106-209 DUNDAS STREET EAST, WHITBY ONTARIO info@durhamenergy.com / www.durhamenergy.com DES JOB No.: 21-507 DRAWING SIZE: D

ISSUE / REVISIONS

- 1
 ISSUED FOR PERMIT
 Mar.21.22

 2
 ISSUED FOR QA/QC
 Apr.14.22
- 3 ISSUED FOR TENDER Jul.07.22

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

Project Status

PROJECT No. 21-100 START DATE OCT.21

City of Perterborough FIRE STATION NO.2

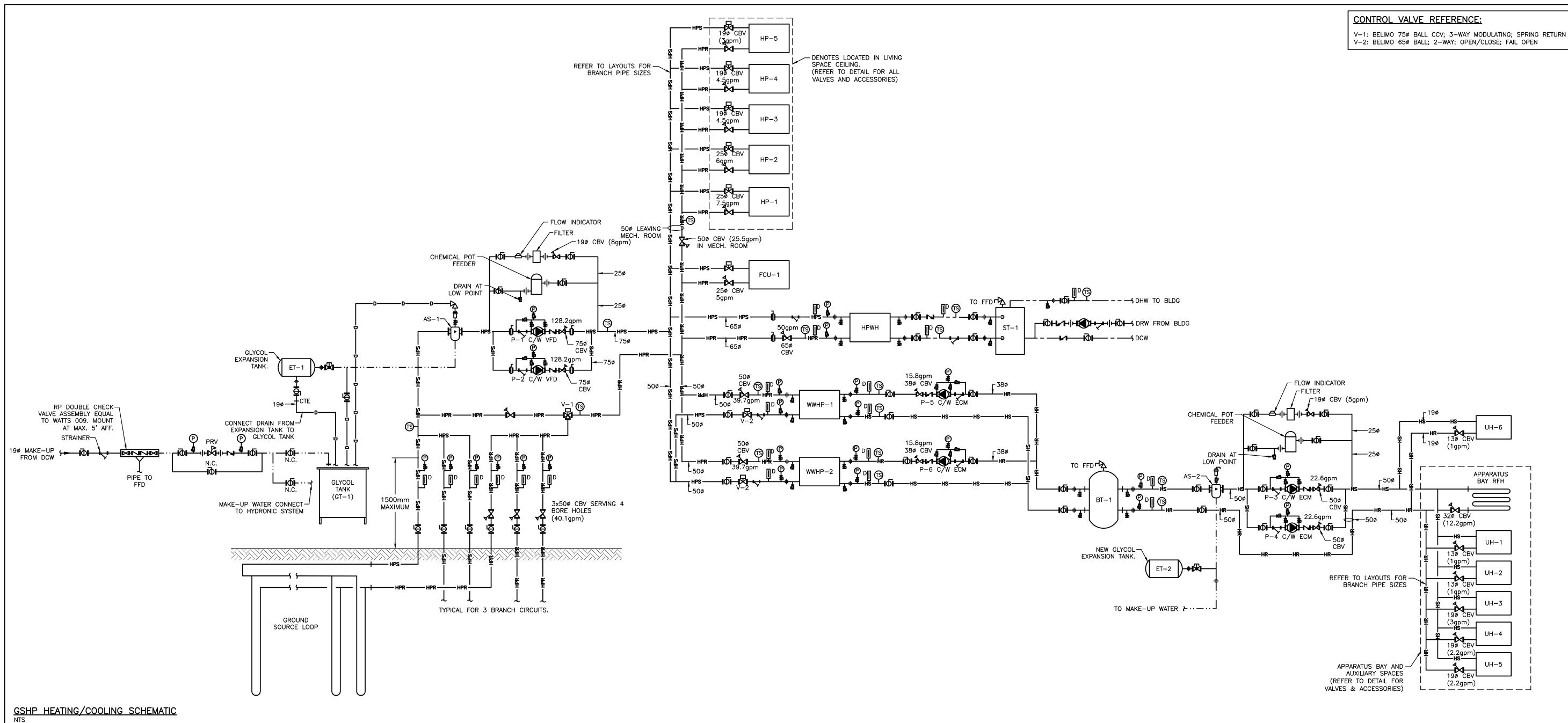
100 Marina Boulevard, Peterborough, ON Drawing Title:

SCHEDULES

Drawing No.:

M803





M901

Drawing No.:

HEATING PIPING SCHEMATIC

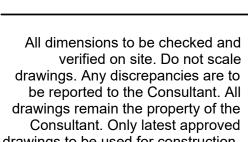
100 Marina Boulevard, Peterborough, ON Drawing Title:

City of Perterborough **FIRE STATION NO.2**

Project Status

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1 ISSUED FOR PERMIT 2 ISSUED FOR QA/QC Apr.14.22

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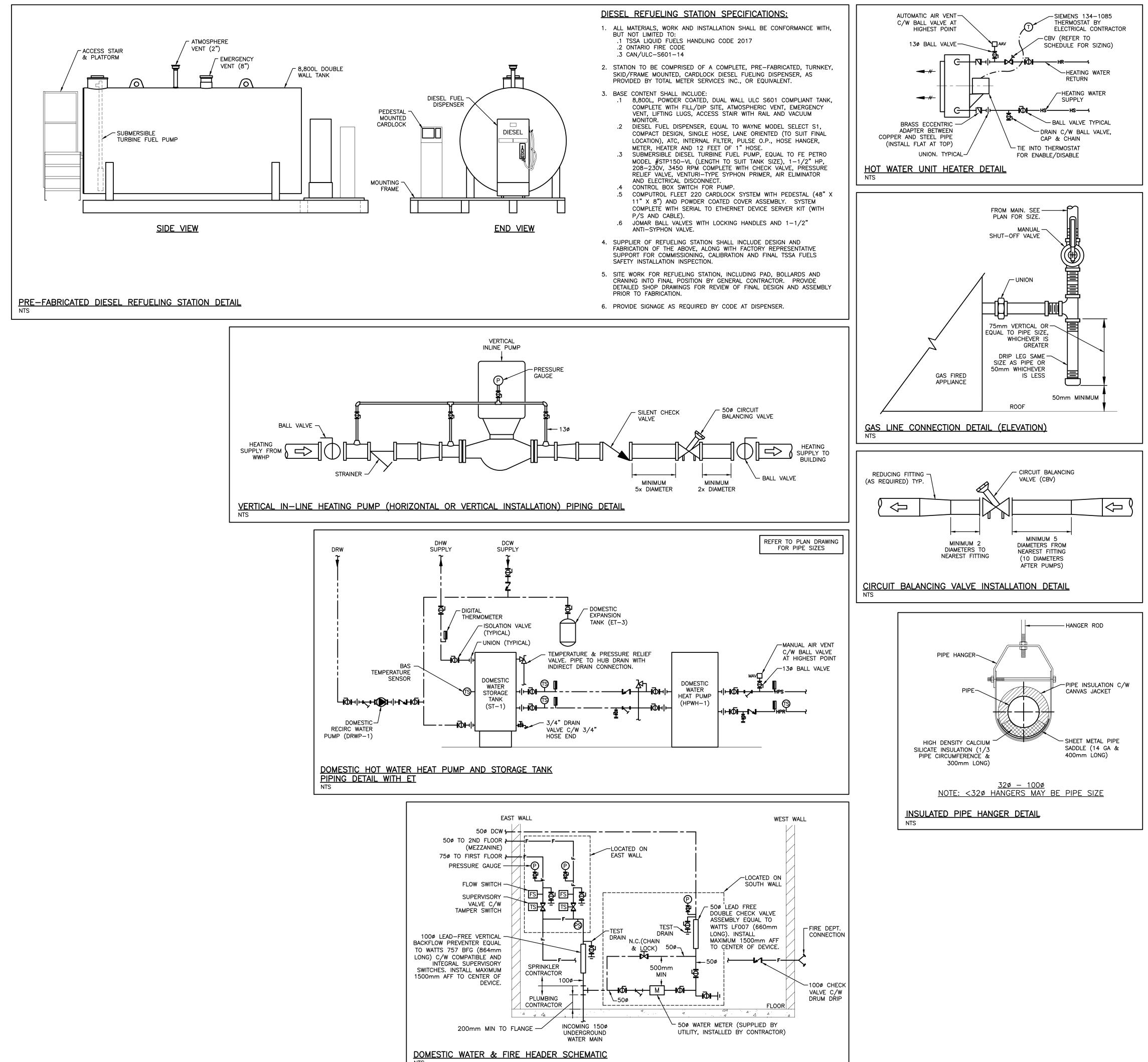
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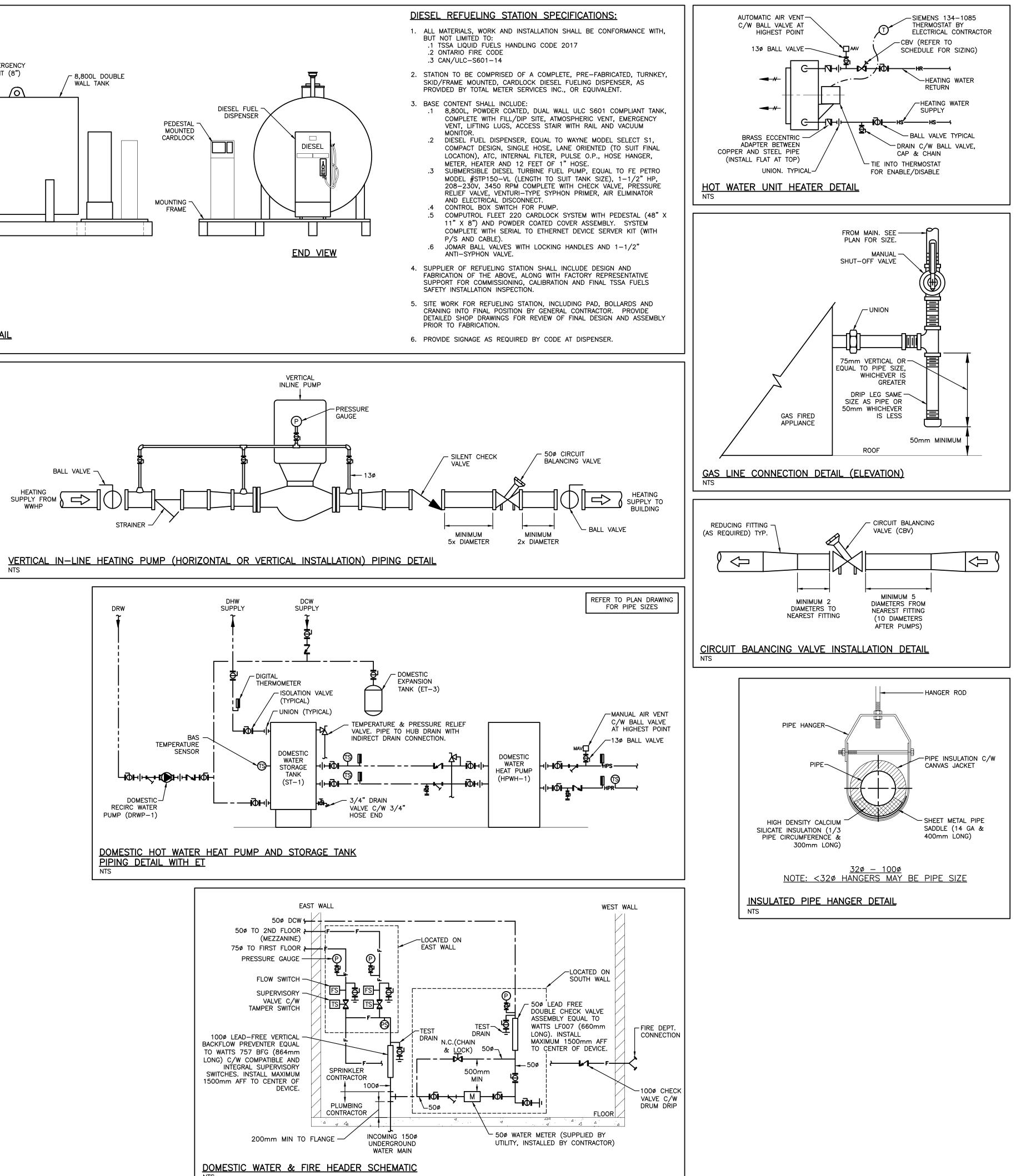
Peterborough Ontario K9H 2H5

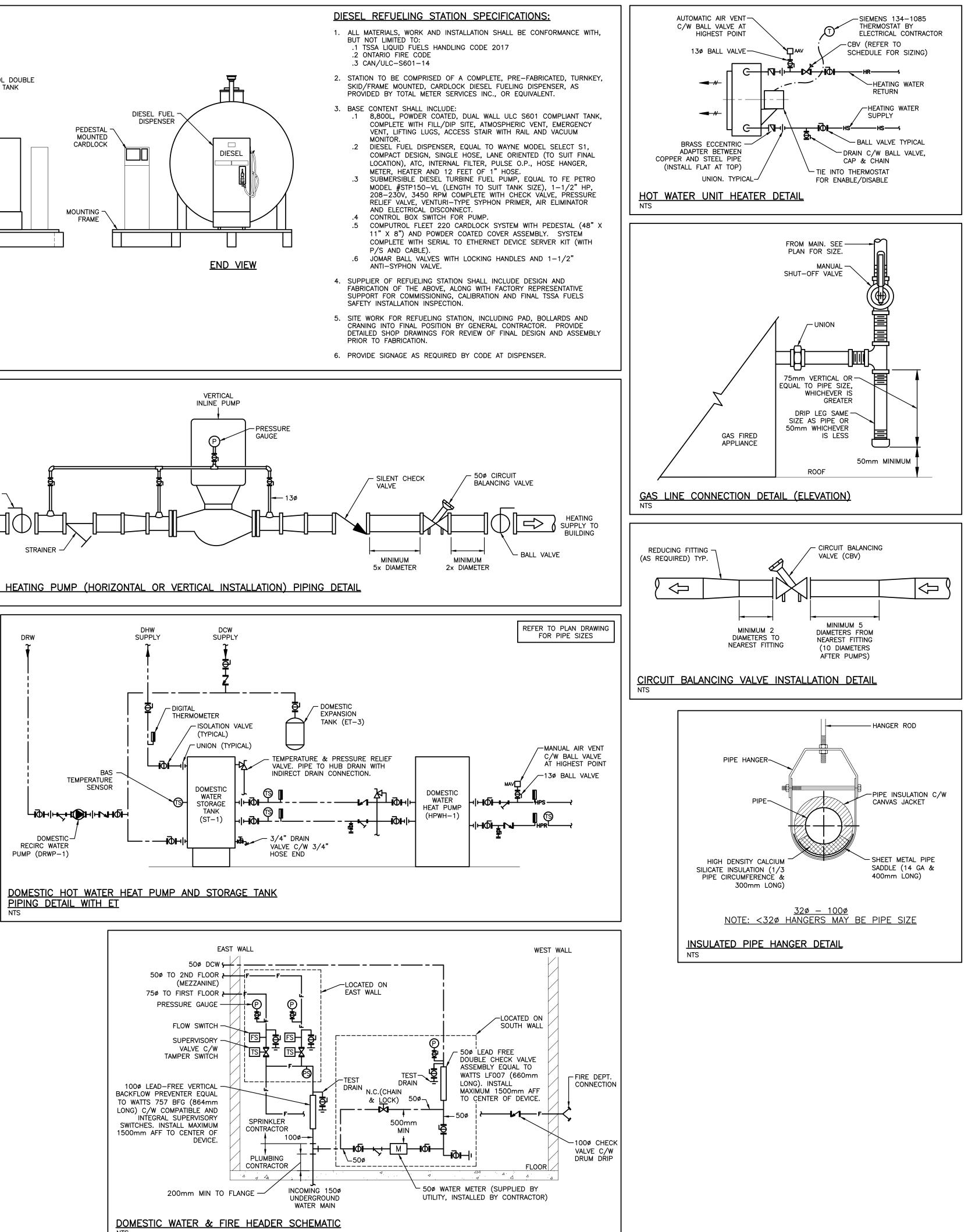
138 Simcoe Street

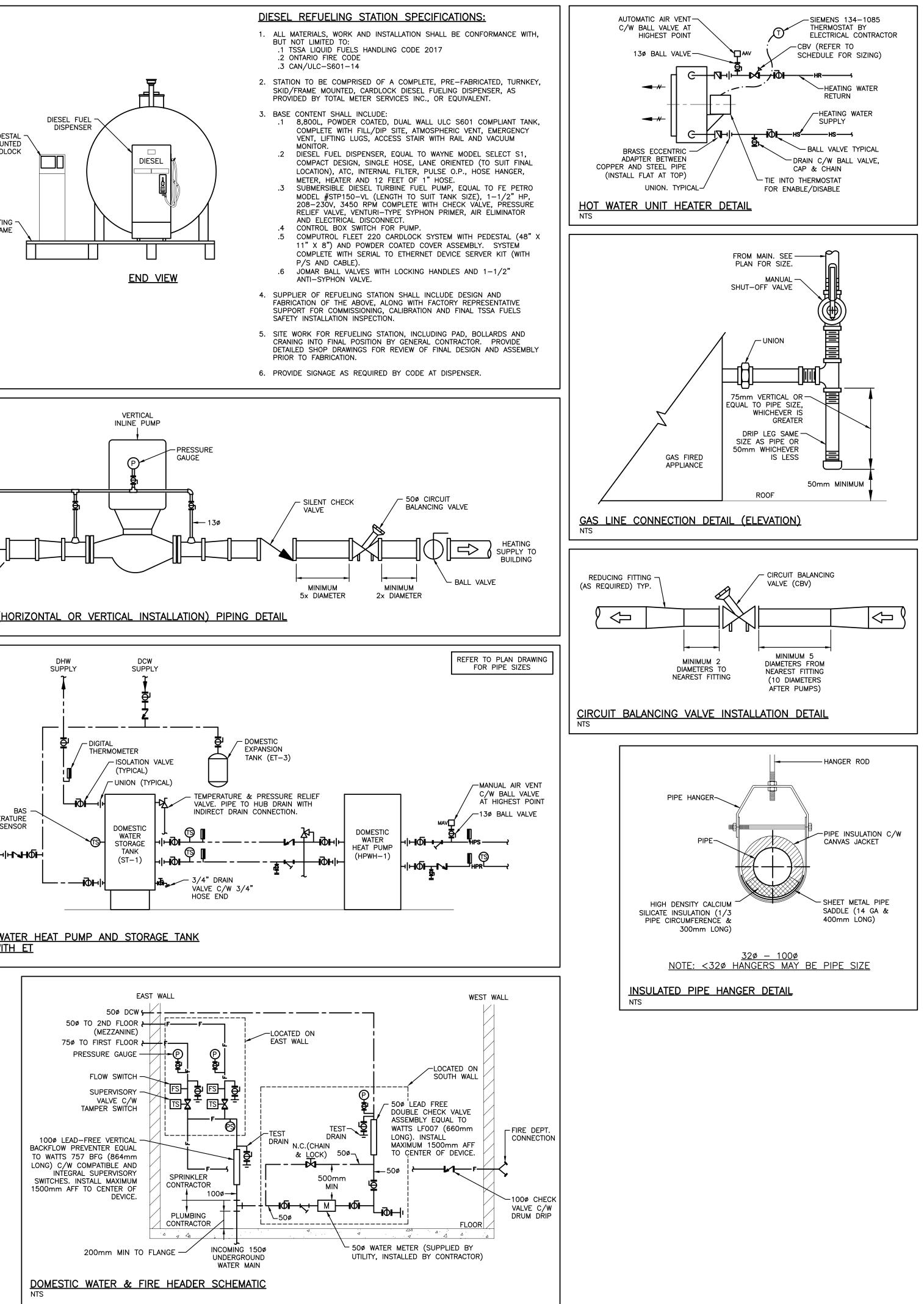
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Drawing No.:

PIPING DETAILS

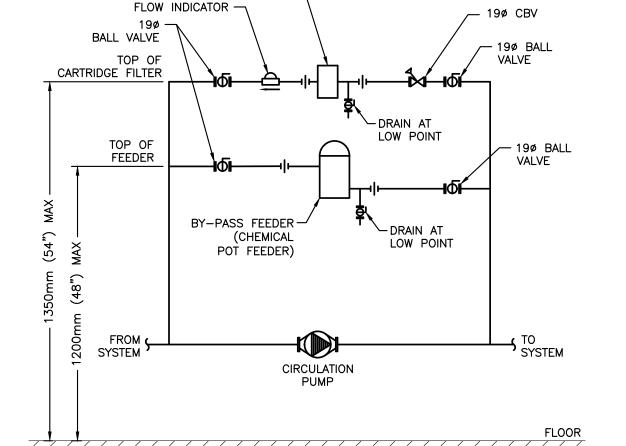
100 Marina Boulevard, Peterborough, ON Drawing Title:

City of Perterborough **FIRE STATION NO.2**

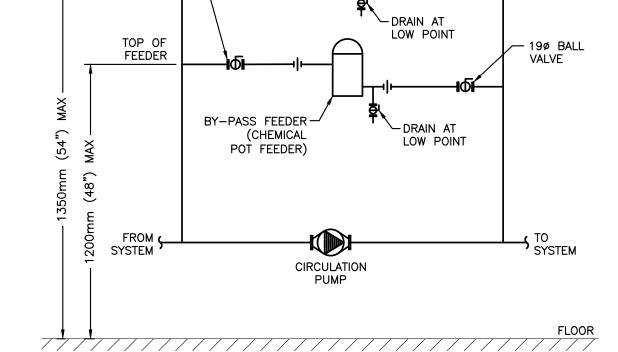


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POT FEEDER & FILTER INSTALLATION DETAIL



25ø DCW & 25ø DHW ----

RP ZONE ASSEMBLY -

EQUAL TO WATTS LF009-QT. TYPICAL.

<u>ب</u>

APPARATUS BAY DOMESTIC WATER BACKFLOW PREVENTION DETAIL

<u>ب</u>

TO EAST APPARATUS

BAY FIXTURES

MEZZANINE

NTS

SLAB

32ø DCW & 25ø DHW

TO WEST APPARATUS

BAY FIXTURES

32ø DCW & 32ø

DHW FROM MAINS

AS NOTED

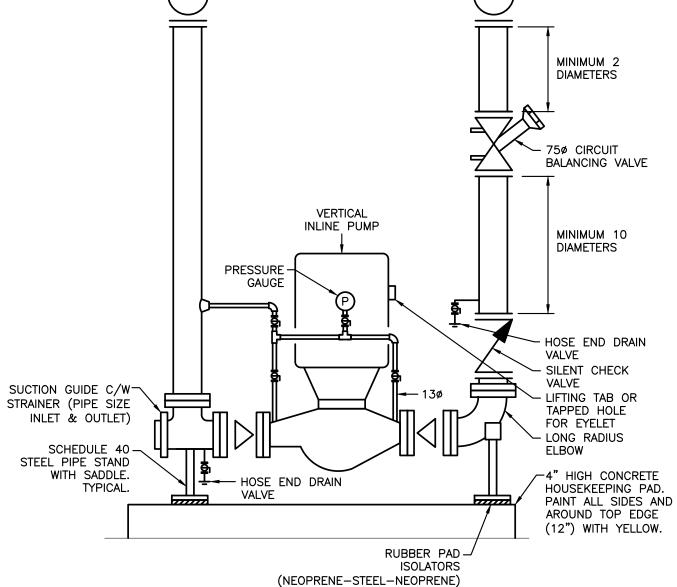
-<u>∎⊘∎-∎Ò</u>I-

DRAIN

____s____

TYPICAL.

- FUNNEL FLOOR



HEATING

BUILDING

 \sim

BALL VALVE

SUPPLY TO

CARTRIDGE FILTER-

ASSEMBLY

VERTICAL IN-LINE HEATING PUMP PIPING DETAIL

HEATING SUPPLY

FROM BOILERS

BALL VALVE

Peterborough Ontario K9H 2H5 t. 705.743.3311 e. studio@lett.ca

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ISSUE / REVISIONS

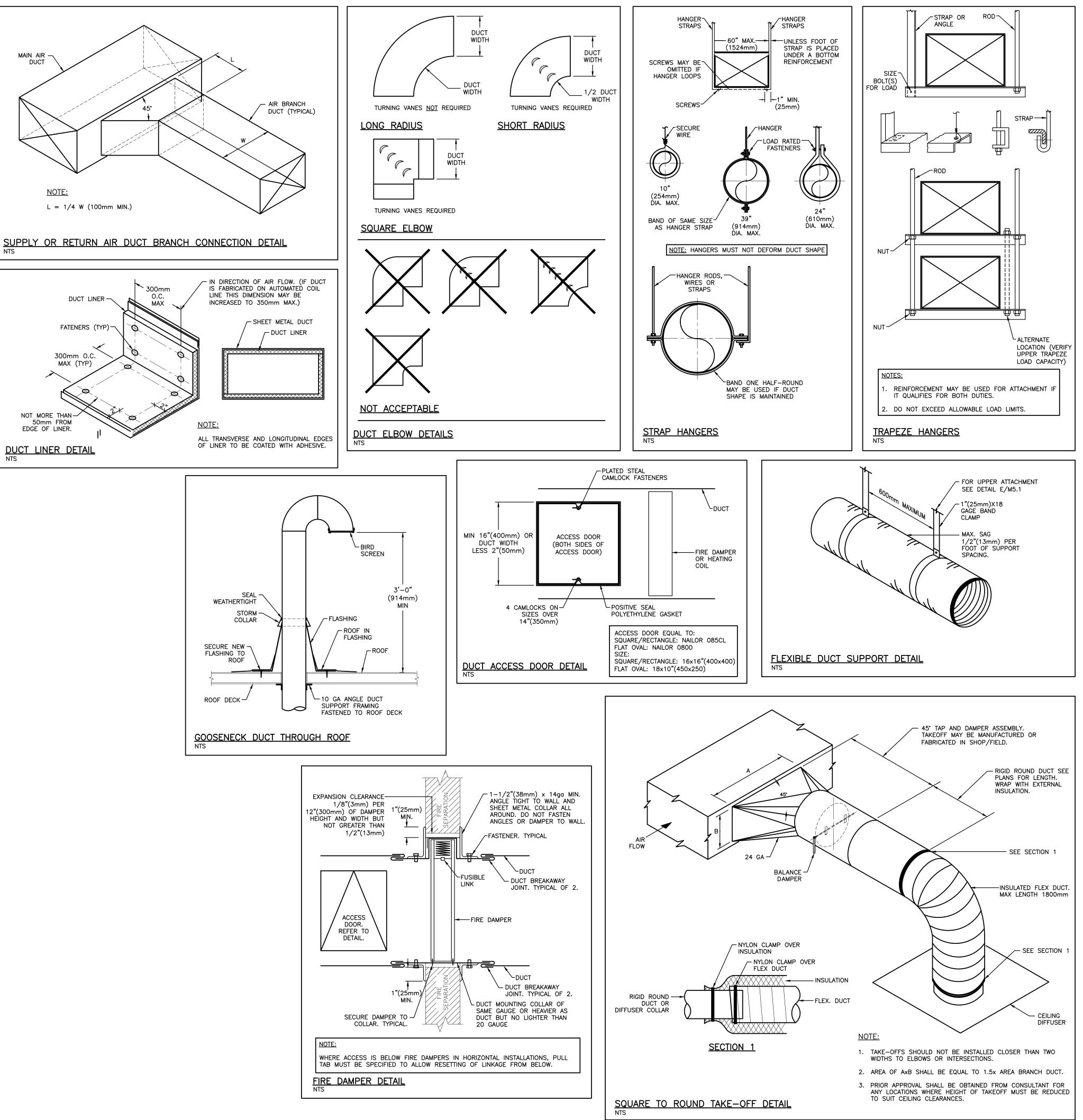
- 1 ISSUED FOR PERMIT Mar.21.22
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DES JOB No.: 21-507 DRAWING SIZE: [

MAIN AIR -DUCT <u>NOTE:</u>

300mm 0.C. MAX (TYP) NOT MORE THAN ----50mm FROM EDGE OF LINER.

NTS



Drawing No.:

SHEET METAL DETAILS

M903

100 Marina Boulevard, Peterborough, ON Drawing Title:

City of Perterborough **FIRE STATION NO.2**

Project Status PROJECT No. 21-100 START DATE OCT.21

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SEISMIC SPECIFICATIONS:

<u>PART 1 – GENERAL</u>

- GENERAL
- .1 IT IS THE INTENT OF THIS SEISMIC SPECIFICATION TO KEEP ALL MECHANICAL BUILDING SYSTEM COMPONE A SEISMIC EVENT.
- .2 ALL SUCH SYSTEMS MUST BE INSTALLED IN STRICT ACCORDANCE WITH SEISMIC CODES, COMPONENT MAN BUILDING CONSTRUCTION STANDARDS. WHENEVER A CONFLICT OCCURS BETWEEN THE MANUFACTURERS OR STANDARDS, THE MOST STRINGENT SHALL APPLY.
- .3 SEISMIC RESTRAINTS SHALL BE DESIGNED IN ACCORDANCE WITH SEISMIC REQUIREMENTS OUTLINED IN PAR BUILDING CODE.
- .4 THE WORK IN THIS SECTION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
- .1 SEISMIC RESTRAINTS FOR ISOLATED EQUIPMENT.
- .2 SEISMIC RESTRAINTS FOR NON-ISOLATED EQUIPMENT.
- .3 CERTIFICATION OF SEISMIC RESTRAINT DESIGNS AND INSTALLATION SUPERVISION.
- .5 ALL MECHANICAL SYSTEMS (EQUIPMENT NOT LISTED IS STILL INCLUDED IN THIS SPECIFICATION).
- 2. AIR HANDLING UNITS, FANS, CONDUIT (SOLID BRACING ONLY), PIPING, AND DUCTWORK
- 3. SUBMITTALS
- .1 PRODUCT DATA: INCLUDE SEISMIC RATING CURVE FOR EACH SEISMICALLY RATED ISOLATOR OR RESTRAIN .2 SHOP DRAWINGS: INCLUDE THE FOLLOWING:
- .1 DESIGN CALCULATIONS: CALCULATE REQUIREMENTS FOR SELECTING VIBRATION ISOLATORS AND SEISMIC CERTIFICATION DOCUMENTS TO BE SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WITH EXPERIENCE IN THE DESIGN OF SEISMIC RESTRAINTS.
- .2 SEISMIC-RESTRAINT DETAILS: DETAIL SUBMITTAL DRAWINGS OF SEISMIC RESTRAINTS AND SNUBBERS. DETAILS AND INDICATE QUANTITY, DIAMETER, AND DEPTH OF PENETRATION OF ANCHORS.
- .3 SUBMITTALS FOR INTERLOCKING SNUBBERS: INCLUDE RATINGS FOR HORIZONTAL, VERTICAL AND COMBIN
- .4 EQUIPMENT MANUFACTURER SEISMIC QUALIFICATION CERTIFICATION: THE EQUIPMENT MANUFACTURER MU CERTIFICATION THAT EACH PIECE OF PROVIDED EQUIPMENT WILL WITHSTAND SEISMIC FORCES. INCLUE
- .1 BASIS FOR CERTIFICATION: INDICATE WHETHER THE "WITHSTAND" CERTIFICATION IS BASED ON ACTUAL COMPONENTS OR ON CALCULATIONS.
- .2 INDICATE THE EQUIPMENT IS CERTIFIED TO BE DURABLE ENOUGH TO:
- .1 STRUCTURALLY RESIST THE DESIGN FORCES AND/OR
- .2 WILL ALSO REMAIN FUNCTIONAL AFTER THE SEISMIC EVENT. .5 DIMENSIONED OUTLINE DRAWINGS OF EQUIPMENT UNIT: IDENTIFY CENTER OF GRAVITY AND LOCATE AND
- AND ANCHORAGE PROVISIONS. .6 DETAILED DESCRIPTION OF THE ASSUMED EQUIPMENT ANCHORAGE DEVICES ON WHICH THE CERTIFICAT
- 4. DESCRIPTION OF SYSTEM
- .1 IT SHALL BE UNDERSTOOD THAT THE REQUIREMENTS OF THIS SEISMIC RESTRAINT SECTION ARE IN ADDITI REQUIREMENTS AS SPECIFIED ELSEWHERE FOR THE SUPPORT AND ATTACHMENT OF EQUIPMENT AND MEC FOR THE VIBRATION ISOLATION OF SAME EQUIPMENT. NOTHING ON THE PROJECT DRAWINGS OR SPECIFIC INTERPRETED AS JUSTIFICATION TO WAIVE THE REQUIREMENTS OF THIS SEISMIC RESTRAINT SECTION.
- .2 ALL SEISMIC SNUBBER RESTRAINT ASSEMBLIES SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: .1 THE SNUBBER SHALL INCLUDE A HIGH QUALITY ELASTOMERIC ELEMENT THAT WILL ENSURE THAT NO CAN OCCUR.
- .2 IT SHALL BE POSSIBLE TO VISUALLY INSPECT THE RESILIENT MATERIAL FOR DAMAGE AND REPLACE IT
- .3 RESILIENT MATERIAL USED IN SNUBBER ASSEMBLIES TO BE A MINIMUM OF 0.25" (6mm) THICK.
- .4 RESILIENT MATERIAL USED IN SNUBBER GROMMETS TO BE A MINIMUM OF 0.12" (3mm) THICK.
- .5 ALL INTERLOCKING SNUBBERS TO INCLUDE A MAXIMUM AIR GAP OF .25 IN (6mm).
- .6 ASSEMBLY MUST BE DESIGNED TO OFFER SEISMIC RESTRAINT IN ALL DIRECTIONS, UNLESS OTHERWISE
- .7 SEISMIC RESTRAINT CAPACITIES TO BE VERIFIED BY AN INDEPENDENT TEST LABORATORY OR CERTIFIED REGISTERED PROFESSIONAL ENGINEER TO ENSURE THAT THE DESIGN INTENT OF THIS SPECIFICATION IS
- 5. SYSTEM DESIGN
- .1 SEISMIC SNUBBER MANUFACTURER SHALL BE RESPONSIBLE FOR THE STRUCTURAL DESIGN OF ATTACHMEN REQUIRED TO ATTACH SNUBBERS TO BOTH THE EQUIPMENT AND SUPPORTING STRUCTURE ON VIBRATION OR TO DIRECTLY ATTACH EQUIPMENT TO THE BUILDING STRUCTURE FOR NON-ISOLATED EQUIPMENT.
- .2 THE CONTRACTOR SHALL FURNISH A COMPLETE SET OF APPROVED SHOP DRAWINGS OF ALL MECHANICAL EQUIPMENT WHICH IS TO BE RESTRAINED TO THE SEISMIC RESTRAINT MANUFACTURER, FROM WHICH THE OF SEISMIC RESTRAINT DEVICES AND/OR ATTACHMENT HARDWARE WILL BE COMPLETED. THE SHOP DRAW SHALL INCLUDE, AT A MINIMUM, BASIC EQUIPMENT LAYOUT, LENGTH AND WIDTH DIMENSIONS, INSTALLED THE EQUIPMENT TO BE RESTRAINED AND THE DISTRIBUTION OF WEIGHT AT THE RESTRAINT POINTS.
- .3 ALL PIPING AND DUCTWORK IS TO BE RESTRAINED TO MEET CODE REQUIREMENTS. SPACING BETWEEN I EXCEED THE ALLOWABLE SPACING LISTED IN THE LATEST REVISION OF THE SMACNA MANUAL (SHEET MET. CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC.) "SEISMIC RESTRAINT MANUAL GUIDELINES FOR MOST RECENT EDITION. AT A MINIMUM, THE SEISMIC RESTRAINT MANUFACTURER SHALL PROVIDE DOCUME RESTRAINT SPACING FOR VARIOUS CABLE SIZES AND ANCHORS, AS WELL AS 'WORST CASE' REACTION LOA LOCATIONS. IN ADDITION, SEISMIC RESTRAINT MANUFACTURER SHALL PROVIDE SUPPORT DOCUMENTATION INFORMATION TO ALLOW THE INSTALLATION CONTRACTOR TO MAKE REASONABLE FIELD MODIFICATIONS TO CONDITIONS.
- 6. INSTALLATION
- .1 INSTALLATION OF ALL SEISMIC RESTRAINT MATERIALS SPECIFIED HEREIN SHALL BE ACCOMPLISHED FOLLOWI MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALLATION INSTRUCTIONS SHALL BE SUBMITTED TO THE ENG PRIOR TO THE BEGINNING OF THE WORK.
- PART 2 PRODUCTS
- 1. SOURCE OF MATERIALS
- .1 ALL SEISMIC SNUBBERS AND COMBINATION SNUBBER / VIBRATION ISOLATION MATERIALS SPECIFIED HEREI BY A SINGLE MANUFACTURER TO ASSURE SOLE SOURCE RESPONSIBILITY FOR THE PROPER PERFORMANCI USED. MANUFACTURER IS TO BE A MEMBER OF VISCMA (VIBRATION ISOLATION AND SEISMIC CONTROL M ASSOCIATION).
- .2 MECHANICAL ANCHOR TYPES AND SIZES ARE TO BE PER THE DESIGN DATA AS PROVIDED BY THE SEISMIC MANUFACTURER.
- .3 MATERIALS AND SYSTEMS SPECIFIED HEREIN AND DETAILED ARE BASED UPON MATERIALS MANUFACTURED CONTROL, INC. MATERIALS AND SYSTEMS PROVIDED BY OTHER MANUFACTURERS ARE ACCEPTABLE, PROVIDED BY OTHER ACCEPTABLE, PROVIDED BY OTHER MANUFACTURERS ARE ACCEPTABLE, PROVIDED BY OTHER MANUFACTURERS ARE ACCEPTABLE, PROVIDED BY OTHER ACCEPTABLE, ALL REQUIREMENTS AS LISTED IN THIS SPECIFICATION.
- .4 WHERE NOT PROTECTED BY A SHIELD, RESILIENT MATERIALS SHALL BE EASY TO VISUALLY INSPECT FOR
- 2. FACTORY FINISHES
- .1 MANUFACTURER'S STANDARD PRIME-COAT FINISH READY FOR FIELD PAINTING.
- .2 FINISH: MANUFACTURER'S STANDARD PAINT APPLIED TO FACTORY-ASSEMBLED AND TESTED EQUIPMENT BEI .3 POWDER COATING ON SPRINGS AND HOUSINGS.
- .4 ALL HARDWARE SHALL BE ELECTROGALVANIZED. HOT-DIP GALVANIZE OR POWDER COAT METAL HOUSINGS .5 ENAMEL OR POWDER COAT METAL COMPONENTS ON ISOLATORS FOR INTERIOR USE.
- .6 COLOR-CODE OR OTHERWISE MARK VIBRATION ISOLATION AND SEISMIC-CONTROL DEVICES TO INDICATE C. 3. SEISMIC RESTRAINT ISOLATION
- .1 ISOLATORS:
- .1 VIBRATION/SEISMIC SPRING FLOOR MOUNTS: TYPE FHS SPRING ISOLATORS SHALL BE SEISMICALLY RE ISOLATORS, INCORPORATING A SINGLE VIBRATION ISOLATOR.. SPRING ISOLATORS SHALL BE MODEL FHS KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.
- .2 VIBRATION/SEISMIC RESTRAINED SPRING ISOLATOR: TYPE FLSS VIBRATION ISOLATORS SHALL BE SEISMICALLY RATED, RESTRAINED SPRING ISOLATORS FOR EQUIPMENT WHICH IS SUBJECT TO LOAD VARIATIONS AND LARGE EXTERNAL FORCES. VIBRATION ISOLATORS SHALL BE MODEL FLSS AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.

	SHALL BE MODEL FMS (A, B, C, D, E, F) AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL. .4 ALL DIRECTION NEOPRENE ISOLATOR: TYPE RQ — VIBRATION ISOLATORS SHALL BE NEOPRENE, MOLDED FROM OIL RESISTANT COMPOUNDS, DESIGNED TO OPERATE WITHIN THE STRAIN LIMITS OF THE ISOLATOR SO TO PROVIDE THE MAXIMUM ISOLATION AND LONGEST LIFE EXPECTANCY POSSIBLE USING NEOPRENE COMPOUNDS NEOPRENE ISOLATORS SHALL BE MODEL RQ AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.	.5 SEISMICALLY RESTRAIN / COMPRESSED AIR, ETC.) .6 BRANCH LINES MAY NOT
INENTS IN PLACE DURING	3. SEISMIC RESTRAINTS	5. RESTRAINT SPACING FOR PIP .1 FOR DUCTILE PIPING: TR
ANUFACTURERS AND OR CONSTRUCTION	.1 SEISMIC RESTRAINT DEVICES: .1 SEISMIC CABLE RESTRAINTS: SEISMIC WIRE ROPE CABLE RESTRAINTS SHALL CONSIST OF STEEL WIRE STRAND CABLES, SIZED	.2 FOR DUCTILE PIPING: LO .3 FOR NON-DUCTILE PIPIN LONGITUDINAL SUPPORTS
PART 4 OF THE ONTARIO	TO RESIST PROJECT SEISMIC LOADS, ARRANGED TO OFFER SEISMIC RESTRAINT CAPABILITIES FOR PIPING, DUCTWORK, AND SUSPENDED EQUIPMENT IN ALL LATERAL DIRECTIONS. SEISMIC CABLE(S) WITH USE OF "U" CLIPS & OR KINETICS QUAKELOCS SHALL BE AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.	SIZE AND LENGTH(S) OF .4 FOR PIPING WITH HAZARI MAXIMUM OF 6 M (20') .5 FOR PIPE RISERS, RESTR
	 .1 SEISMIC CABLE BUILDING AND EQUIPMENT ATTACHMENT BRACKETS SHALL BE MODEL KSUA OR KSCA AS MANUFACTURED BY KINETICS NOISE CONTROL, INC. .2 SEISMIC CABLE CONCRETE ANCHOR BOLTS SHALL BE MODEL KCAB WEDGE, MODEL KCCAB CRACKED CONCRETE, MODEL KUAB UNDERCUT OR KAABC ADHESIVE, AS MANUFACTURED BY KINETICS NOISE CONTROL, INC. 	 SEISMICALLY RESTRAIN PER THE DRAWINGS), USING SEIS .1 ALL DUCTS WITH CROSS
	.2 HANGER ROD STIFFENER: TYPE KHRC – SEISMIC ROD STIFFENER ANGLE BRACING SHALL BE SECURELY ATTACHED TO HANGING THREAD ROD BY A SERIES OF ATTACHMENT CLAMPS. ATTACHMENT CLAMPS SHALL BE MANUFACTURED FROM A ONE PIECE METAL STAMPING, AND SHALL INCLUDE ALL REQUIRED ATTACHMENT HARDWARE AND LOCKING NUTS. SEISMIC ROD STIFFENER ANGLE ATTACHMENT CLAMPS SHALL BE MODEL KHRC AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.	.2 ALL ROUND DUCTS WITH .3 ANY DUCTWORK, PIPE OF OR BUILDING FUNCTION .4 ALL DUCTWORK WEIGHING
	.3 SEISMIC BEAM CLAMPS: TYPE KSBC – SEISMIC BEAM CLAMPS SHALL BE MODEL KSBC AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.	7. RESTRAINT SPACING FOR DU
AINT COMPONENT.	.4 SEISMIC RESTRAINT BRACKETS: TYPE KSMS / KSMG – FORMED STEEL BRACKETS FOR SECURING FLOOR-MOUNTED EQUIPMENT COMPLETE WITH PRE-DRILLED HOLES. SEISMIC BRACKETS SHALL BE MODEL KSMS / KSMG AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.	.2 LONGITUDINAL SUPPORTS 8. INSTALLATION REQUIREMENTS
ITH AT LEAST 5 YEARS	.5 SEISMIC SNUBBERS: STRUCTURAL STEEL ANGLE(S) WITH SURFACES COVERED WITH RIBBED NEOPRENE PADS TO CUSHION CONTACT WITH SNUBBER. SNUBBERS SHALL BE DESIGNED TO LIMIT EQUIPMENT MOTION TO NO MORE THAN 6 MM (¼") IN ANY DIRECTION.	.1 BRACE A CHANGE OF DI .2 THIS SPECIFICATION DOE: EXEMPTED FROM SEISMIC SUBJECTED TO BENDING .3 INSTALL RESTRAINT CABL
BINED LOADS.	.1 TYPE HS-1 (1-AXIS): SINGLE-AXIS SNUBBERS SHALL BE MODEL HS-1 BY KINETICS NOISE CONTROL, INC OR ACCEPTABLE EQUAL. .2 TYPE HS-2 (2-AXIS): TWO-AXIS LATERAL SNUBBERS SHALL BE MODEL HS-2 BY KINETICS NOISE CONTROL, INC OR	TIE BACK TO STRUCTURE .4 LONGITUDINAL RESTRAINT
MUST SUBMIT UDE THE FOLLOWING: JAL TEST OF ASSEMBLED	ACCEPTABLE EQUAL. .3 TYPE HS-5 (3-AXIS): THREE-AXIS SEISMIC SNUBBERS SHALL BE MODEL HS-5 AS MANUFACTURED BY KINETICS NOISE CONTROL INC OR ACCEPTABLE EQUAL. .4 TYPE KRMS (3-AXIS): THREE-AXIS SEISMIC NEOPRENE ISOLATOR RESTRAINT SHALL BE MODEL KRMS AS MANUFACTURED	HANGER. .5 FOR SUPPORTS WITH MU APPLICATION. .6 INSTALL FLEXIBLE METAL AMOUNT OF MOVEMENT.
	BY KINETICS NOISE CONTROL INC OR ACCEPTABLE EQUAL. .6 CONCRETE ANCHOR BOLTS: POST-INSTALLED ANCHORS IN CONCRETE SHALL BE QUALIFIED FOR SEISMIC RESTRAINT	.7 INSTALL FLEXIBLE PIPING STRUCTURAL ELEMENTS, TO A DIFFERENT STRUCT
	APPLICATION IN ACCORDANCE WITH ACI 355.2. .1 MECHANICAL ANCHOR BOLTS: THE SEISMIC CERTIFICATION BY KINETICS NOISE CONTROL, INC. USES THE MODELS: KCAB WEDGE TYPE ANCHOR; KCCAB CRACKED CONCRETE TYPE ANCHOR; KUAB UNDERCUT HEAVY-DUTY CONCRETE TYPE	.8 WHERE PIPE SIZES REDU INSTALLED AT THE TRANS .9 WHERE DUCT SIZES RED
ND DESCRIBE MOUNTING	ANCHOR. ANY ANCHORS THAT ARE SUBSTITUTED AND/OR SUPPLIED BY OTHERS MUST BE EVALUATED AND APPROVED BY THE DESIGN PROFESSIONAL OF RECORD.	THE TRANSITION LOCATIO .10 LONGITUDINAL RESTRAINT PIPE/CONDUIT HANGER.
ATION IS BASED.	.2 ADHESIVE ANCHOR BOLTS: DRILLED-IN AND CAPSULE ANCHOR SYSTEM CONTAINING POLYVINYL OR URETHANE METHACRYLATE-BASED RESIN AND ACCELERATOR, OR INJECTED POLYMER OR HYBRID MORTAR ADHESIVE. THE SEISMIC CERTIFICATION BY KINETICS NOISE CONTROL, INC. USES THE MODELS: KAABC (CARBON STEEL FOR INDOOR USE) ADHESIVE ANCHOR; KAABS (STAINLESS STEEL FOR EXTERNAL USE) ADHESIVE ANCHOR. ANY ADHESIVE TYPE ANCHORS THAT ARE SUBSTITUTED AND/OR SUPPLIED BY OTHERS MUST BE EVALUATED AND APPROVED BY THE DESIGN	.11 FOR SUPPORTS WITH MU FOR APPLICATION. .12 WHERE CONDUIT, BUS DI RESTRAINT SHALL BE INS .13 ROD STIFFENER CLAMPS
ITION TO OTHER ECHANICAL SERVICES, AND	PROFESSIONAL OF RECORD. .7 GROMMET WASHERS: TYPE TG ANCHOR BOLT ISOLATION GROMMET SHALL BE MODEL TG AS MANUFACTURED BY KINETICS	CALCULATION SHEETS. TH .14 SEISMICALLY RATED BEAN APPROVED.
FICATIONS SHALL BE	NOISE CONTROL, INC, OR ACCEPTABLE EQUAL. <u>PART 3 – EXECUTION</u>	.15 ADJUST RESTRAINT CABL OPERATION. .16 SEISMIC SYSTEMS ARE TO .17 DRILLED OR POWER DRIV
UN-CUSHIONED SHOCK	1. INSTALLATION	.17 DRILLED OR FOWER DRIV MEASURES. .18 FRICTION DUE TO GRAVIT .19 SEISMIC RESTRAINT CON
IT IF NECESSARY.	.1 INSTALLATION OF ALL SEISMIC RESTRAINT MATERIALS SPECIFIED IN THIS SECTION SHALL BE ACCOMPLISHED AS PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS.	FLANGE OF STEEL BEAMS .20 STANDARD BEAM CLAMPS SEISMIC RESTRAINT TO T
	.2 UPON COMPLETION OF INSTALLATION OF ALL SEISMIC RESTRAINT MATERIALS AND BEFORE START UP OF RESTRAINED EQUIPMENT, ALL DEBRIS SHALL BE CLEANED FROM BENEATH ALL PROTECTED EQUIPMENT, LEAVING EQUIPMENT FREE TO CONTACT SNUBBERS.	.21 BRACE REMAINING PIPING SMACNA (SHEET METAL A
	.3 NO RIGID CONNECTIONS BETWEEN THE EQUIPMENT AND THE BUILDING STRUCTURE SHALL BE MADE WHICH DEGRADES THE SEISMIC RESTRAINT SYSTEM HEREIN SPECIFIED. ALL ELECTRICAL CONDUIT TO RESTRAINED EQUIPMENT SHALL BE LOOPED TO ALLOW FREE MOTION OF EQUIPMENT WITHOUT DAMAGE TO THE ELECTRICAL WIRING4 ADJUST ISOLATORS AFTER PIPING SYSTEMS HAVE BEEN FILLED AND EQUIPMENT IS AT OPERATING WEIGHT.	GUIDELINES FOR MECHAN 9. INSPECTION .1 THE CONTRACTOR SHALL NOT
SE NOTED BELOW.	.4 ADJUST ISOLATORS AFTER FIFING STSTEMS HAVE BEEN FILLED AND EQUIPMENT IS AT OPERATING WEIGHT. .5 ADJUST LIMIT STOPS ON RESTRAINED SPRING ISOLATORS TO MOUNT EQUIPMENT AT NORMAL OPERATING HEIGHT. AFTER EQUIPMENT INSTALLATION IS COMPLETE, ADJUST LIMIT STOPS SO THEY ARE OUT OF CONTACT DURING NORMAL OPERATION.	INSTALLING ANY SEISMIC RES INSTALLATION PROCEDURES W
IS REALIZED.	.6 ADJUST SNUBBERS ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS.	.2 UPON COMPLETION OF THE I OF THE SEISMIC SNUBBERS REPORT IN WRITING ANY INS
IENT HARDWARE AS N ISOLATED EQUIPMENT,	.7 ADJUST SEISMIC RESTRAINTS TO PERMIT FREE MOVEMENT OF EQUIPMENT WITHIN NORMAL MODE OF OPERATION.	WHICH COULD AFFECT THE F
AL AND ELECTRICAL	.8 TORQUE ANCHOR BOLTS ACCORDING TO EQUIPMENT MANUFACTURER'S WRITTEN RECOMMENDATIONS TO RESIST SEISMIC FORCES 2. EXECUTION	INCLUDING THE MANUFACTURI BEEN PROPERLY INSTALLED,
IE SELECTION AND DESIGN AWINGS FURNISHED O OPERATING WEIGHTS OF	.1 SHACKLE PIPING TO THE TRAPEZE WHEN RESTRAINING TRAPEZE MOUNTED PIPING, CONDUIT AND DUCTWORK. INSTALL CABLES SO THEY DO NOT BEND ACROSS SHARP EDGES OF ADJACENT EQUIPMENT OR BUILDING STRUCTURE.	WORK AS PER THE SPECIFIC
I RESTRAINTS IS NOT TO	.2 INSTALL STEEL ANGLES TO STIFFEN HANGER RODS AND PREVENT BUCKLING WHERE APPROPRIATE. CLAMP WITH ADJUSTABLE STEEL CLAMPS TO HANGER RODS. REQUIREMENTS APPLY EQUALLY TO HANGING EQUIPMENT. DO NOT WELD ANGLES TO RODS	
ETAL AND AIR R MECHANICAL SYSTEMS", IMENTATION ON MAXIMUM	.3 IF THERE IS GREATER THAN A 1/8" DIAMETER MISMATCH BETWEEN ANCHORAGE HARDWARE AND HOLE DIAMETER, REDUCE CLEARANCE IN HOLE WITH EPOXY GROUT OR FLANGED NEOPRENE BUSHINGS.	
LOADS AT RESTRAINT IN CONTAINING ADEQUATE IO SUIT SPECIAL CASE	3. SEISMIC RESTRAINT FOR EQUIPMENT: .1 SEISMICALLY RESTRAIN EQUIPMENT AS REQUIRED BY CODE. INSTALL FASTENERS, STRAPS AND BRACKETS AS REQUIRED TO	
	SECURE THE EQUIPMENT.	
OWING THE ENGINEER FOR APPROVAL	.2 INSTALL SEISMIC SNUBBERS ON HVAC EQUIPMENT SUPPORTED BY FLOOR-MOUNTED, NON-SEISMIC VIBRATION ISOLATORS. POSITION SNUBBERS AS NECESSARY AND ATTACH TO EQUIPMENT BASE AND SUPPORTING STRUCTURE AS REQUIRED.	
	.3 INSTALL NEOPRENE GROMMET WASHERS OR FILL THE GAP WITH EPOXY ON EQUIPMENT ANCHOR BOLTS WHERE CLEARANCE BETWEEN ANCHOR AND EQUIPMENT SUPPORT HOLE EXCEEDS 3.2 MM (0.125 INCH).	
	.4 SUSPENDED EQUIPMENT: ALL SUSPENDED EQUIPMENT THAT MEETS ANY OF THE FOLLOWING CONDITIONS REQUIRES SEISMIC RESTRAINTS AS SPECIFIED BY THE SUPPLIER:	
REIN SHALL BE PROVIDED NCE OF THE MATERIALS MANUFACTURERS	 .1 RIGIDLY ATTACHED TO PIPE OR DUCT THAT IS 75 LBS. AND GREATER, .2 ITEMS HUNG INDEPENDENTLY OR WITH FLEXIBLE CONNECTIONS GREATER THAN 20 LBS FOR IMPORTANCE FACTORS GREATER THAN 1.0 ALL SUSPENDED EQUIPMENT REQUIRES SEISMIC RESTRAINTS REGARDLESS OF THE ABOVE NOTES. .3 WALL MOUNTED EQUIPMENT WEIGHING MORE THAN 20 LBS. WITH AN IMPORTANCE FACTOR OF 1.0. .4 THE 12" RULE DOES NOT APPLY TO SUSPENDED EQUIPMENT. 	
SMIC RESTRAINT	.5 BASE MOUNTED EQUIPMENT: ALL BASE MOUNTED EQUIPMENT THAT MEETS ANY OF THE FOLLOWING CONDITIONS REQUIRES ATTACHMENTS AND SEISMIC RESTRAINTS AS SPECIFIED THE SUPPLIER:	
D BY KINETICS NOISE OVIDED THAT THEY MEET	.1 CONNECTIONS TO OR CONTAINING HAZARDOUS MATERIAL, .2 WITH AN OVERTURNING MOMENT, 3 WEICHT OPERTER THAN 400 LPS	
R DAMAGE.	.3 WEIGHT GREATER THAN 400 LBS., .4 MOUNTED ON A STAND 4 FT. OR MORE FROM THE FLOOR. .5 FOR IMPORTANCE FACTORS GREATER THAN 1.0 ALL BASE MOUNTED ITEMS REQUIRE SEISMIC RESTRAINTS REGARDLESS OF THE ABOVE NOTES.	
	.6 RIGID MOUNTED EQUIPMENT: .1 ANCHOR FLOOR AND WALL MOUNTED EQUIPMENT TO THE STRUCTURE AS PER THE STAMPED SEISMIC CERTIFICATIONS /	
BEFORE SHIPPING. NGS FOR EXTERIOR USE.	DRAWINGS. .2 SUSPENDED EQUIPMENT SHALL BE RESTRAINED USING SEISMIC CABLE RESTRAINTS, OR STRUTS, AND HANGER RODS AS PER THE STAMPED SEISMIC CERTIFICATIONS / DRAWINGS.	
	.7 VIBRATION ISOLATED EQUIPMENT: .1 SEISMIC CONTROL SHALL NOT COMPROMISE THE PERFORMANCE OF NOISE CONTROL, VIBRATION ISOLATION OR FIRE STOPPING SYSTEMS	
CAPACITY RANGE.	STOPPING SYSTEMS. .2 EQUIPMENT SUPPORTED BY VIBRATION—ISOLATION HANGERS SHALL BE DETAILED AND INSTALLED WITH APPROXIMATELY A 1/8" GAP BETWEEN THE ISOLATION HANGERS AND THE STRUCTURE. ISOLATORS AT RESTRAINT LOCATIONS MUST BE FITTED WITH UPLIFT LIMIT STOPS.	
RESTRAINED SPRING	4. SEISMIC RESTRAINT FOR PIPING, DUCT: .1 ALL PIPING, DUCT ARE TO BE RESTRAINED TO MEET CODE REQUIREMENTS.	
HS AS MANUFACTURED BY	.1 ALL PIPING SYSTEMS ASSIGNED A COMPONENT IMPORTANCE FACTOR OF 1.5 SHALL REQUIRE SEISMIC RESTRAINTS. SEISMIC RESTRAINT REQUIREMENTS / EXEMPTIONS VARY WITH CODE AND SEISMIC ACCELERATION – SEE SPECIFIC CODE AND COMPLY	

.3 VIBRATION/SEISMIC MODULAR RESTRAINED SPRING ISOLATOR: TYPE FMS (A, B, C, D, E, F) - THE ISOLATOR/RESTRAINT

SHALL BE MODEL FMS (A, B, C, D, E, F) AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.

RESTRAINT REQUIREMENTS / EXEMPTIONS VARY WITH CODE AND SEISMIC ACCELERATION - SEE SPECIFIC CODE AND COMPLY WITH APPLICABLE RESTRAINT REQUIREMENTS. .2 PIPING ASSOCIATED WITH AN IMPORTANCE FACTOR OF 1.0 MAY NOT REQUIRE SEISMIC RESTRAINT; SEE SPECIFIC CODE FOR

REQUIREMENTS. .3 SEISMICALLY RESTRAIN / BRACE ALL PIPES 65 MM (2 ½") IN NOMINAL DIAMETER AND LARGER. .4 SEISMICALLY RESTRAIN / BRACE ALL PIPING IN BOILER ROOMS, MECHANICAL ROOMS AND REFRIGERATION MECHANICAL ROOMS 32 MM (1 1/4") IN NOMINAL DIAMETER AND LARGER. .5 SEISMICALLY RESTRAIN / BRACE ALL GAS (IE: NATURAL GAS, MEDICAL GAS, VACUUM, PETROLEUM BASED LIQUID, COMPRESSED AIR, ETC.) PIPING 25 MM (1") IN NOMINAL DIAMETER AND LARGER. MAY NOT BE USED TO BRACE MAIN LINES.

NG FOR PIPING:

PIPING: TRANSVERSE SUPPORTS A MAXIMUM OF 12 M (40') O.C. PIPING: LONGITUDINAL SUPPORTS A MAXIMUM OF 24 M (80') O.C.

CTILE PIPING (E.G., CAST IRON, PVC) SPACE TRANSVERSE SUPPORTS A MAXIMUM OF 6 M (20') O.C., AND SUPPORTS A MAXIMUM OF 12 M (40') O.C. DIFFERENTIAL SPACING CAN BE DESIGNED DEPENDING UPON PIPE GTH(S) OF RUN.

/ITH HAZARDOUS MATERIAL INSIDE (E.G., NATURAL GAS, MEDICAL GAS) SPACE TRANSVERSE SUPPORTS A 6 M (20') O.C., AND LONGITUDINAL SUPPORTS A MAXIMUM OF 12 M (40') O.C. ERS, RESTRAIN THE PIPING AT FLOOR PENETRATIONS USING THE SAME SPACING REQUIREMENTS AS ABOVE.

RAIN PER SPECIFIC CODE REQUIREMENTS, ALL DUCTWORK LISTED BELOW (UNLESS OTHERWISE INDICATED ON JSING SEISMIC CABLE RESTRAINTS:

/ITH CROSS SECTIONAL AREA EQUAL TO OR GREATER THAN 0.55 M2 (6 FT2). OUCTS WITH DIAMETERS EQUAL TO OR GREATER THAN 28" (710 MM).

K, PIPE OR EQUIPMENT, WHICH IF IT WERE TO FAIL WOULD RESULT IN DAMAGE TO A PIECE OF EQUIPMENT FUNCTION THAT HAS A COMPONENT IMPORTANCE FACTOR OF 1.5. K WEIGHING MORE THAN 25 KG/M (17 LB/FT).

NG FOR DUCTWORK:

SUPPORTS A MAXIMUM OF 9 M (30') O.C. SUPPORTS A MAXIMUM OF 18 M (60') O.C.

UIREMENTS AND NOTES:

NGE OF DIRECTION LONGER THAN 3.7 M (12'). ATION DOES NOT ALLOW THE USE OF THE "12-INCH RULE" WHERE THE PIPING, DUCT AND ELECTRICAL MAY BE OM SEISMIC RESTRAINT BASED ON THE LENGTH OF THE SUPPORT RODS PROVIDED THAT THE RODS ARE NOT BENDING MOMENTS.

RAINT CABLES SO THEY DO NOT BEND ACROSS EDGES OF ADJACENT EQUIPMENT OR BUILDING STRUCTURE. STRUCTURE AT 45 DEGREES TO THE STRUCTURE. RESTRAINTS FOR SINGLE PIPE SUPPORTS SHALL BE ATTACHED RIGIDLY TO THE PIPE, NOT TO THE PIPE TS WITH MULTIPLE PIPES (TRAPEZES), SECURE PIPES TO TRAPEZE MEMBER WITH CLAMPS APPROVED FOR

IBLE METAL HOSE LOOPS IN PIPING WHICH CROSSES BUILDING SEISMIC JOINTS, SIZED FOR THE ANTICIPATED IOVEMENT. BLE PIPING CONNECTORS WHERE ADJACENT SECTIONS OR BRANCHES ARE SUPPORTED BY DIFFERENT ELEMENTS, AND WHERE THE CONNECTIONS TERMINATE WITH CONNECTION TO EQUIPMENT THAT IS ANCHORED NT STRUCTURAL ELEMENT FROM THE ONE SUPPORTING THE CONNECTIONS AS THEY APPROACH EQUIPMENT.

SIZES REDUCE BELOW REQUIRED DIMENSIONS NOTED ABOVE IN HEREIN, THE FINAL RESTRAINT SHALL BE THE TRANSITION LOCATION. SIZES REDUCE BELOW REQUIRED DIMENSIONS NOTED HEREIN, THE FINAL RESTRAINT SHALL BE INSTALLED AT ON LOCATION. RESTRAINTS FOR SINGLE CONDUIT SUPPORTS SHALL BE ATTACHED RIGIDLY TO THE PIPE, NOT TO THE

TS WITH MULTIPLE CONDUITS (TRAPEZES), SECURE CONDUIT TO TRAPEZE MEMBER WITH CLAMPS APPROVED JIT, BUS DUCTS, CABLE TRAYS SIZES REDUCE BELOW REQUIRED DIMENSIONS NOTED HEREIN, THE FINAL ALL BE INSTALLED AT THE TRANSITION LOCATION. R CLAMPS ARE REQUIRED WHERE THE HANGER ROD EXCEEDS THE MAXIMUM LENGTH SHOWN IN THE SEISMIC SHEETS. THEY ARE ONLY REQUIRED AT RESTRAINT LOCATIONS. RATED BEAM CLAMPS ARE REQUIRED WHERE WELDING TO OR PENETRATIONS TO STEEL BEAMS ARE NOT

AINT CABLES SO THAT THEY ARE NOT VISIBLY SLACK. CABLE NOT TO SUPPORT WEIGHT DURING NORMAL EMS ARE TO BE COMPATIBLE WITH REQUIREMENTS FOR ANCHORING AND GUIDING OF SYSTEMS. OWER DRIVEN ANCHORS OR FASTENERS SHALL NOT BE PERMITTED FOR USE WITH SEISMIC CONTROL

TO GRAVITY DOES NOT CONSTITUTE A SEISMIC ATTACHMENT. RAINT CONNECTIONS ARE NOT TO BE CONNECTED TO THE BOTTOM CHORD OF STEEL JOISTS OR THE BOTTOM TEEL BEAMS. AM CLAMPS CAN BE USED TO SUPPORT RESTRAINED COMPONENTS; THEY CANNOT BE USED TO CONNECT THE RAINT TO THE STRUCTURE - ONLY FOR THE HANGER RODS. VING PIPING, DUCTWORK, ELECTRICAL COMPONENTS TO CODE REQUIREMENTS (OBC) OR IN CONFORMANCE WITH ET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC.) "SEISMIC RESTRAINT MANUAL OR MECHANICAL SYSTEMS", 2ND ED.

SHALL NOTIFY THE LOCAL REPRESENTATIVE OF THE SEISMIC RESTRAINT MATERIALS MANUFACTURER PRIOR TO EISMIC RESTRAINT DEVICES. THE CONTRACTOR SHALL SEEK THE REPRESENTATIVE'S GUIDANCE IN ANY CEDURES WITH WHICH HE IS UNFAMILIAR.

OF THE INSTALLATION OF ALL SEISMIC RESTRAINT DEVICES HEREIN SPECIFIED, THE LOCAL REPRESENTATIVE HE CONTRACTORS G ANY INSTALLATION ERRORS, IMPROPERLY SELECTED SNUBBER DEVICES, OR OTHER FAULT IN THE SYSTEM ECT THE PERFORMANCE OF THE SYSTEM.

ONTRACTOR SHALL SUBMIT A REPORT UPON REQUEST TO THE BUILDING ARCHITECT AND/OR ENGINEER, ANUFACTURER'S REPRESENTATIVE'S FINAL REPORT, INDICATING THAT ALL SEISMIC RESTRAINT MATERIAL HAS NSTALLED, OR STEPS TO BE TAKEN BY THE CONTRACTOR TO PROPERLY COMPLETE THE SEISMIC RESTRAINT SPECIFICATIONS.

Architects Inc

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DES DURHAM ENERGY SPECIALIST LIMITED

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ISSUE / REVISIONS

1	ISSUED FOR PERMIT	Mar.21.22
2	ISSUED FOR QA/QC	Apr.14.22

3 ISSUED FOR TENDER Jul.07.22

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

City of Perterborough

100 Marina Boulevard, Peterborough, ON

SEISMIC SPECIFICATION

FIRE STATION NO.2

Drawing Title:

Drawing No.:

Project Status

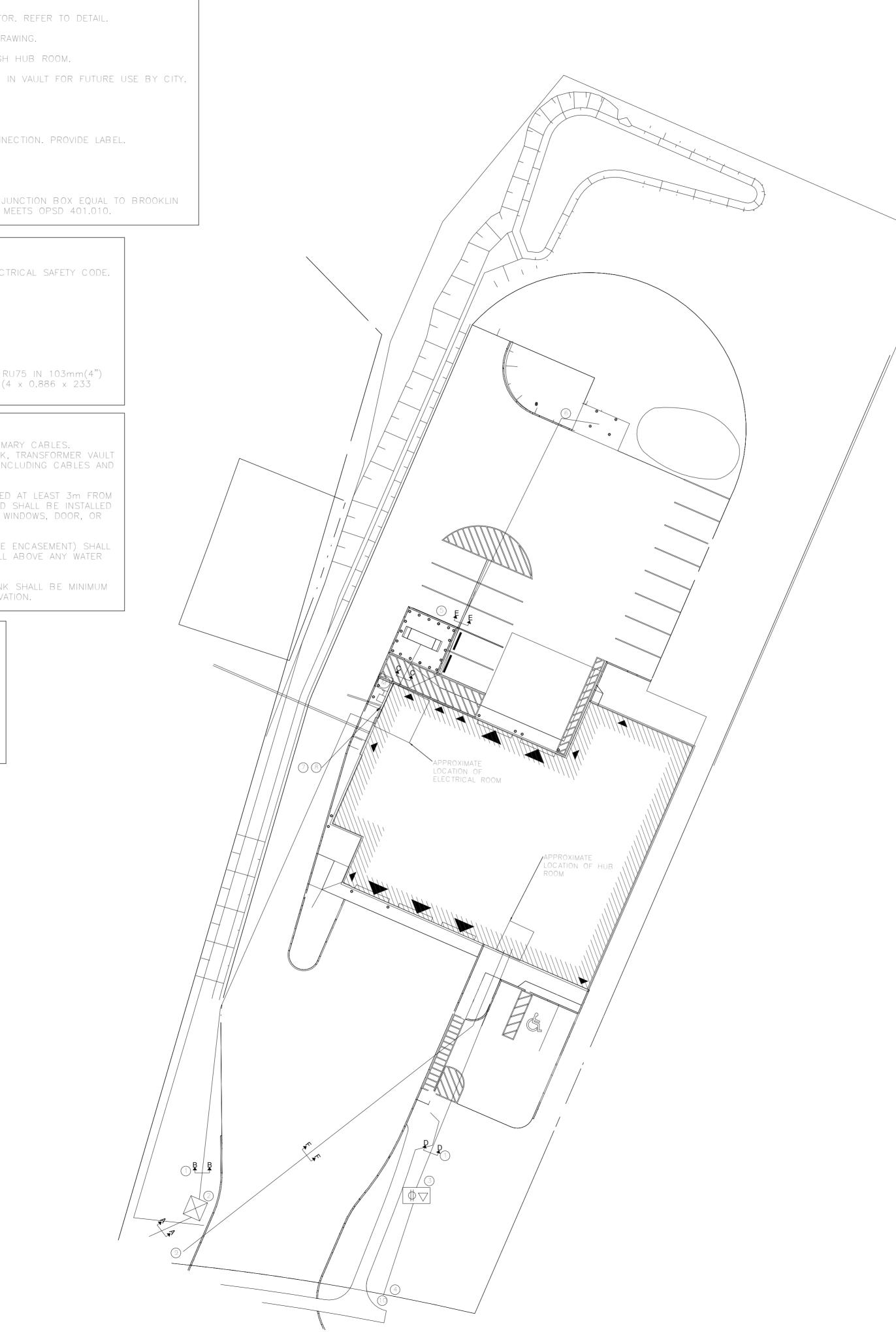
PROJECT No. 21-100

START DATE OCT.21

	WORKING NOTES:
	DUCTBANK SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO DETAIL.
2	300kva transformer by utility. Refer to notes on this drawing.
3	POWER AND DATA FOR PYLON SIGN. CONDUITS TO RUN THROUGH HUB ROOM.
4	CONDUIT TO BE EXTENDED TO PROPERTY LINE AND TERMINATED IN VAULT FOR FUTURE
5	CONDUIT TO BE TERMINATED AT GRADE FOR FUTURE EV.
6	POWER AND DATA CONDUIT FOR FUELING STATION.
\bigcirc	DISCONNECT MOUNTED ON BUILDING FOR SOLAR PANEL DISCONNECTION. PROVIDE LABE
8	METER CABINET FOR UTILITY METER MOUNTED ON BUILDING.
9	TERMINATE COMMUNICATION CONDUITS AT PROPERTY LINE.
10	TERMINATE CONDUITS FOR FUTURE USE BY COP IN RECESSED JUNCTION BOX EQUAL T CONCRETE BCP2112.03 C/W TYPE A COVER AND FRAME THAT MEETS OPSD 401.010.
BUIL	DING ELECTRICAL SERVICE SIZE CALCULATION:
CALC	CULATIONS ARE BASED ON CLAUSE 8-102 OF THE ONTARIO ELECTRICAL SAFETY CODE.
1. 2.	TOTAL AREA
3. 4.	MECH LOADS ————————————————————————————————————
5. 6.	TOTAL (2+3+4 FROM ABOVE) 145,040 WATTS CONTINUOUS LOAD (×125%) 287,876 WATTS
7.	SERVICE SIZE (@208V/3φ) 799A (800 AMPERES)
DB2	ONDARY SERVICE CONDUCTORS – 4 RUNS OF 4#350 KCMIL AL RU75 IN 103mm(4") PV DUCT BASED ON DIAGRAM D11 DETAIL 4 AND TABLE D11B (4 x 0.886 x 233 ERES = 825 AMPERES) FOR A NON-CONTINUOUS LOAD.
	GENERAL ELECTRICAL SITE SERVICE NOTES:
1	
1.	HYDRO ONE SHALL PROVIDE TRANSFORMER C/W PAD AND PRIMARY CABLES. ELECTRICAL CONTRACTOR SHALL PROVIDE PRIMARY DUCT BANK, TRANSFORMER VAULT BOLLARDS, GROUNDING AND COMPLETE SECONDARY SERVICE INCLUDING CABLES AND DUCT BANK.
2.	PAD MOUNTED DISTRIBUTION TRANSFORMER SHALL BE INSTALLED AT LEAST 3m FROM ANY COMBUSTIBLE SURFACE OR MATERIAL ON A BUILDING AND SHALL BE INSTALLED AT LEAST 6m FROM ANY OPENING ON A BUILDING INCLUDING WINDOWS, DOOR, OR VENTILATION INLET OR OUTLET ON A BUILDING.

- 3. WHEN CROSSING OTHER UTILITIES THE DUCT BANK (CONCRETE ENCASEMENT) SHALL MAINTAIN A MINIMUM OF 300mm VERTICAL CLEARANCE. INSTALL ABOVE ANY WATER LINES.
- 4. WHEN RUNNING PARALLEL TO ANOTHER UTILITY THE DUCT BANK SHALL BE MINIMUM 1.5m CLEAR AND IN NO CASE INSTALLED IN THE SAME EXCAVATION.

SHORT CIRCUIT CALCULATION	
ASSUMPTIONS : INFINITE SHORT CIRCUIT TRANSFORMER IMPEDANC	
SWITCHBOARD FAULT CURRENT	
AVAILABLE SHORT SHORT CIRCUIT – MOTORS = 4 * 150 = MULTIPLIER = TOTAL	37,070 A 1600 A 0.8904 37,671 A
ELECTRICAL EQUIPMENT TO BE RATED FOR	50KA-IC.



SITE PLAN -ELECTRICAL LAYOUT

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

CITY OF PETERBOROUGH FIRE STATION NO. 2

PROJECT No. 21-100 START DATE October 2021

Design

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

1 issued for Costing 2 issued for Site Plan Application Jan.28.22 3 issued for Permit 4 Issued for Building Permit 5 Issued for QA/QC 6 Issued for Tender . Jul.07.22

Nov.02.21 Mar.21.22 Apr.14.22

ISSUE / REVISIONS

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CONSULTING ENGINEERS



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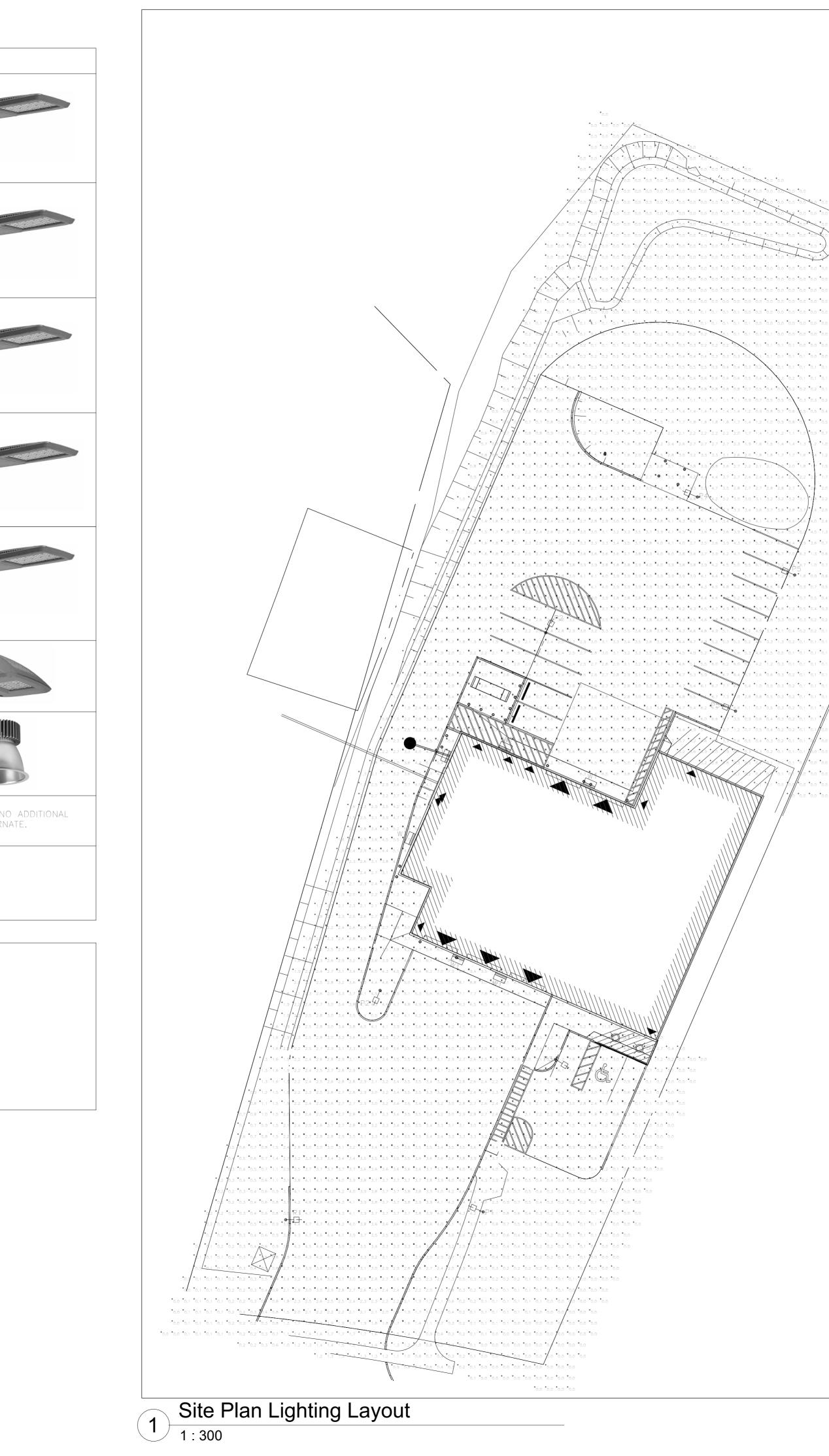
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	NEW 4" SQUARE STEEL POLE PLUS 838mm (2'9") BASE WITH SINGLE LIGHT FIXTURE	
	BASE: ARTFORMS NEWAVEA 510R-HIGH OR EQUAL	
₽1 @[-]-	POLE: 6.10m (20') 4" BLACK SQUARE STEEL DESIGNED FOR 1 LIGHT @ 36LBS EA, EQUAL TO DYNAPOLE SSS4-20 (OR APPROVED EQUAL)	f
	LIGHT FIXTURE: POLE MOUNTED, NIGHT FRIENDLY, BLACK, 120V, 20,000 LUMENS, TYPE 3, HOUSE SIDE SHIELD, LED, GARDCO ECOFORM ECF-S-48L-1A-NW-G2-AR-3-120-IMRO- BK (OR APPROVED EQUAL)	
	NEW 4" SQUARE STEEL POLE PLUS 838mm (2'9") BASE WITH SINGLE LIGHT FIXTURES	
DO	BASE: ARTFORMS NEWAVEA 510R-HIGH OR EQUAL	
₽2 ©—_[POLE: 6.10m (20') 4" BLACK SQUARE STEEL DESIGNED FOR 1 LIGHT @ 36LBS EA, EQUAL TO DYNAPOLE SSS4-20 (OR APPROVED EQUAL)	Ę
	LIGHT FIXTURE: POLE MOUNTED, NIGHT FRIENDLY, BLACK, 120V, 27,500 LUMENS, TYPE 5, LED, GARDCO ECOFORM ECF-S-64L-1A-NW-G2-AR-5-120-IMRO-BK (OR APPROVED EQUAL)	1
	NEW 4" SQUARE STEEL POLE PLUS 838mm (2'9") BASE WITH SINGLE LIGHT FIXTURE	
	BASE: ARTFORMS NEWAVEA 510R-HIGH OR EQUAL	
P 3 ©	POLE: 2.44m (8') 4" BLACK SQUARE STEEL DESIGNED FOR 1 LIGHT @ 36LBS EA, EQUAL TO DYNAPOLE SSS4-8 (OR APPROVED EQUAL)	Ż
	LIGHT FIXTURE: POLE MOUNTED, NIGHT FRIENDLY, BLACK, 120V, 5,000 LUMENS, TYPE 3, LED, GARDCO ECOFORM ECF-S-32L-365-NW-G2-AR-3-120-IMRO-BK (OR APPROVED EQUAL)	
	NEW 4" SQUARE STEEL POLE PLUS 838mm (2'9") BASE WITH SINGLE LIGHT FIXTURE	
P4	BASE: ARTFORMS NEWAVEA 510R-HIGH OR EQUAL	
₽4 © —_]-	POLE: 2.44m (8') 4" BLACK SQUARE STEEL DESIGNED FOR 1 LIGHT @ 36LBS EA, EQUAL TO DYNAPOLE SSS4-8 (OR APPROVED EQUAL)	
	LIGHT FIXTURE: POLE MOUNTED, NIGHT FRIENDLY, BLACK, 120V, 5,000 LUMENS, TYPE 4, LED, GARDCO ECOFORM ECF-S-32L-365-NW-G2-AR-4-120-IMRO-BK C/W (OR APPROVED EQUAL)	
	NEW 4" SQUARE STEEL POLE PLUS 838mm (2'9") BASE WITH SINGLE LIGHT FIXTURE	
P5	BASE: ARTFORMS NEWAVEA 510R-HIGH OR EQUAL	R
©	POLE: 6.10m (20') 4" BLACK SQUARE STEEL DESIGNED FOR 1 LIGHT @ 36LBS EA, EQUAL TO DYNAPOLE SSS4-20 (OR APPROVED EQUAL)	ľ
	LIGHT FIXTURE: POLE MOUNTED, NIGHT FRIENDLY, BLACK, 120V, 20,000 LUMENS, TYPE 4, HOUSE SIDE SHIELD, LED, GARDCO ECOFORM ECF-S-48L-1A-NW-G2-AR-4-120-IMRO- BK (OR APPROVED EQUAL)	
W 1	OUTDOOR WALL MOUNTED FULL CUT-OFF "NIGHT FRIENDLY" WALLPACK, 5,500 LUMENS, TYPE 3, 4000K, LED, BLACK, 120V. EQUIPPED WITH MOTION SENSOR TO 50% OUTPUT. MOUNT AT 3.66m (12') ABOVE GRADE. SIGNIFY GARDCO 121-32L-530-NW-G3-3-UNV- BK C/W MS-A-120V (OR APPROVED EQUAL)	
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	OUTDOOR RECESSED 7"Ø O.D. LED POT LIGHT, DIFFUSE LENS, 39W, 120V, 2000 LUMENS, 4000K. MOUNT IN OVERHANG. CALCULITE C7L1520DL40KWCCLP-C7L20N1 (OR APPROVED EQUAL)	
	RNATES: PHILIPS, LITHONIA, LSI, SPAULDING, STAN PRO. ALTERNATE FIXTURE(S) MUST MATCH SPEC JECT WILL BE ACCEPTED FOR THE USE OF ALTERNATE FIXTURE EVEN IF ENGINEER REFUSES PROF	

2. ALL EXTERIOR LIGHTING TO BE CONNECTED TO TIMECLOCK FOR EXTERIOR LIGHTING CONTROL.

PHOTOMET	ric re	<u>ESULTS</u> :									
Parking L	<u>0T</u>		<u>front par</u>	RKING	LOT	<u>back par</u>	KING	LOT	<u>west side</u>		
AVERAGE	_	1.8	AVERAGE	_	3.5	AVERAGE	_	3.4	AVERAGE	_	3.2
MAX	=	11.6	MAX	=	11.6	MAX	—	7.8	MAX	=	6.0
MIN	=	0.0	MIN	=	0.4	MIN	—	0.8	MIN	—	0.9
MAX/MIN	—	N/A	MAX/MIN	—	29.0:1	MAX/MIN	—	9.8:1	MAX/MIN	—	6.7:1
NOTE: ALL PHOTOMETRIC VALUES ARE IN FOOTCANDLES											



E101

SITE PLAN - LIGHTING LAYOUT

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

CITY OF PETERBOROUGH **FIRE STATION NO. 2**

PROJECT No. 21-100 START DATE October 2021

Design

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•... •... •... •... •. / *0.0 *0.0 *0.0 *0.0 *0.0 / *0.0 *0.0 *0.0 *0.0 *0.0 *0.0 *0.0 *0.0 *0.0 •o.o *o.o *o.o *o.o *o.o o *o.o *o.o *o.o *o.o *o.o *05 *04 *02 *01 *00 *00 *00 *00 *00 *00 * 07 *05 *03 *02 *01 *00 *00 *00 *00 *00 *00 o *o.o *o.o *o.o *o.o 1.0 *****0.7 *****0.4 *****0.2 *****0.1 *****0.0 *****0. o.o *o.o *o.o *o.o *o.o 1.2 *0.9 *0.5 *0.2 *0.1 *0.0 *0.0 *0.0 *0.0 *0.0 *0.0 ,3 *****3.3 *****3.4 *****3.6 *****3.7 *****3.8 *****3.8 *****3.7/*****1.4 *****2.5 *****1.1 *****0.2 *****0.1 *****0.1 *****0.1 *****0.0 *****0.0 *****0.0 *****0.0 *****0.0 *****0.0 *****0.0 *****0.0) *2.4 *0.4 *0.2 *0.1 *0.1 *0.1 *0.1 *0.0 ***1**0 *0.0 *0.0 *0.0 *0.0 *0.0 4.5 *1.3 *0.4 *0.2 *0.2 *0.1 *0.1 *0.1 *0.*1*/*0.0 *0.0 *0.0 *0.0 *0.0 *3.6 *0.7 *0.4 *0.3 *0.2 *0.1 *0.1 *0.1 *0.0 *0.0 *0.0 *0.0 *0.0 3 *1.3 *0.6 *0.4 *0.3 *0.2 *0.1 *0.1 *0.1 *0.0 *0.0 *0.0 *0.0 *0.0 *1.0 *0.7 *0.4 *0.3 *0.2 *0.1 *0.1 *0.0 *0.0 *0.0 *0.0 *0.0 . •... •... •... •... •... 72 60 18 00 06 04 02 02 01 0 1 *5 3 *0 9 *0 7 *0 5 *0 3 *0 2 *0 1 *0 1 * ... *0.0 *0.0 *0.0 *0.0 *2.7 *0.7 *0.5 *0.4 *0.3 *0.2 *0.1 *0 1/10 *0.0 *0.0 *0.0 *0.0 *0.0 *12 *05 *04 *03 *02 *01 *01 * *07 *03 *02 *02 *01 *01 *01 */1 *00 *00 *00 *00 *00 +1 3 +0 2 +0 1 +0 1 +0 1 +0 1 + *o.o *o.o *o.o *o.o *o.o *o.o *o.o *o.o *o.o *o. 5 *05 *01 *01 *01 *01 *01 * *0.0 *0.0 *0.0 *0.0 •1 2 •0 3 •0 1 •0 1 •0 1 •0 1 • *0.0 *0.0 *0.0 *0.0 *0.0 e *oe *os *os *os *os *os *os *os ••••••••• *0.0 *0.0 *0.0 *0.0 *0.0 • • • • • • • • • • • • • • • •0.0 *0.0 *0.0 *0.0 *0.0 1 2 *0 7 *0.5 *0.4 *0.2 *0.2 *0.1 *0.1 #0.0 *0.0 *0.0 *0.0 *0.0 *0.0 5 *0.5 *0.4 *0.3 *0.2 *0.1 *0.1 *0/ *0.0 *0.0 *0.0 *0.0 *0.0 **************** 0.0 *0.0 *0.0 *0.0 *0.0 *o.o *o.o *o.o *o.o *o.o o *o.o *o.o *o.o *o.o *o.o o.o *o.o *o.o *o.o *o.o *****0.0 *****0.0

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138 Simcoe Street Peterborough Ontario K9H 2H5

ISSUE / REVISIONS

Oct.27.21

Nov.02.21

Mar.21.22

Apr.14.22

Jun.17.22

Jul.07.22

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DES DURHAM ENERGY SPECIALIST LIMITED

CONSULTING ENGINEERS

1 issued for design sign off

5 Issued for Building Permit

7 Re-Issued for Site Plan

2 issued for Costing

4 issued for Permit

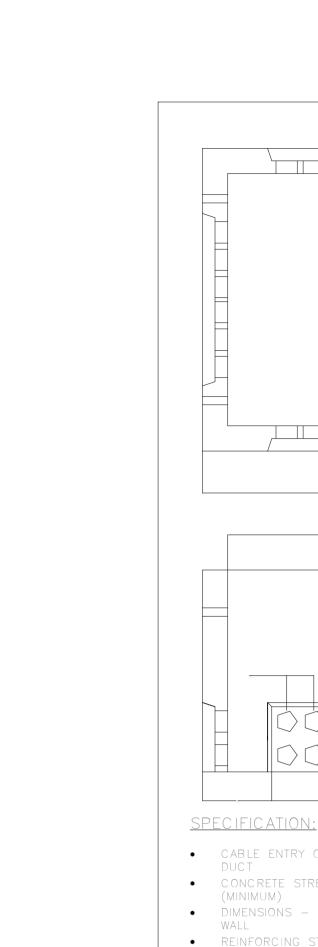
6 Issued for QA/QC

Application

8 Issued for Tender

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3 issued for Site Plan Application Jan.28.22



DUCT

(MINIMUM)

WALL

A23.1

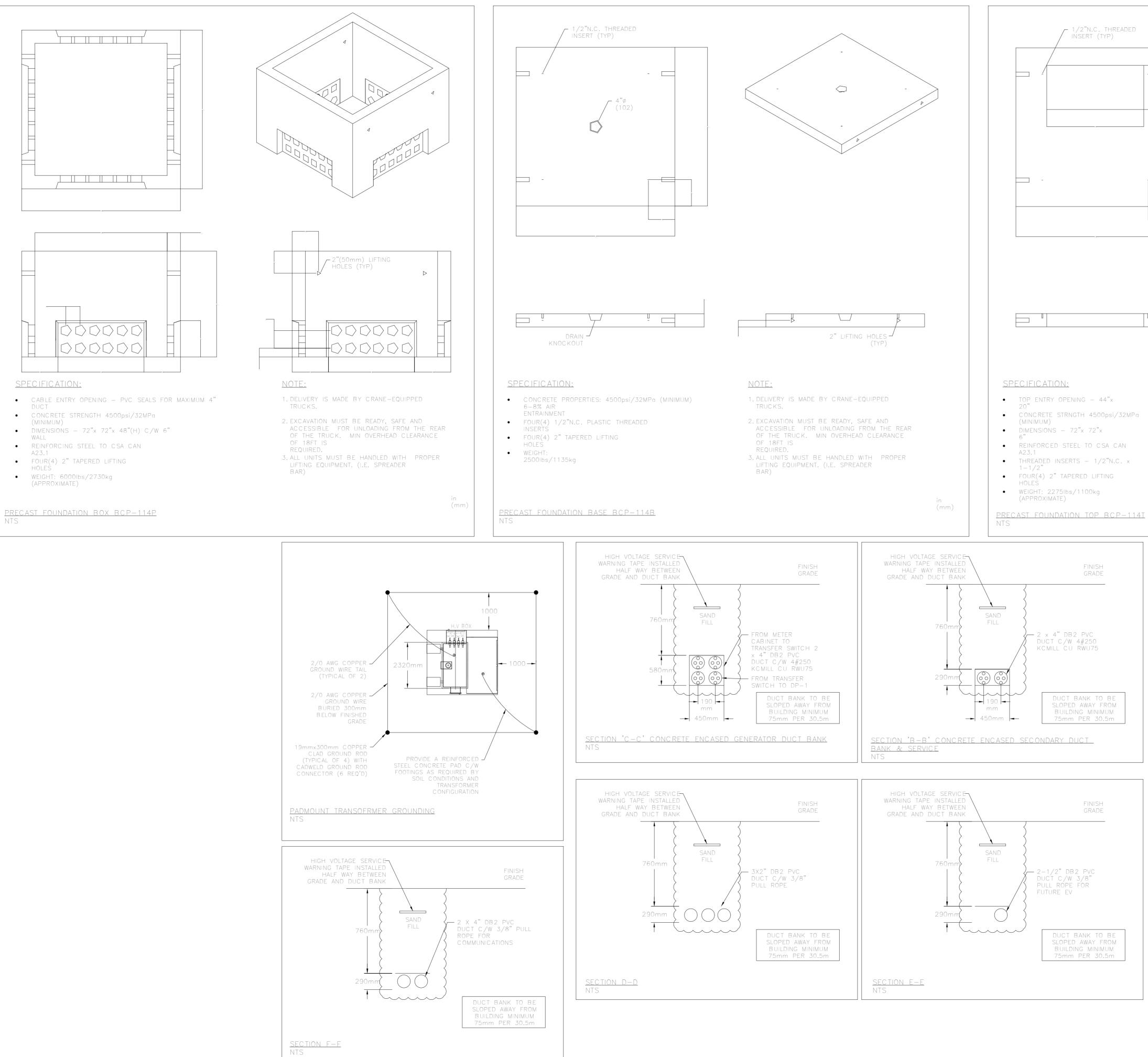
HOLES

NTS

• WEIGHT: 6000lbs/2730kg (APPROXIMATE)

DETAIL

CAL



E102

100 Marina Boulevard, Peterborough ON **ELECTRICAL DETAILS**

SITE PLAN -

(Municipal File No. SPC 1009)

PETERBOROUGH **FIRE STATION NO. 2**

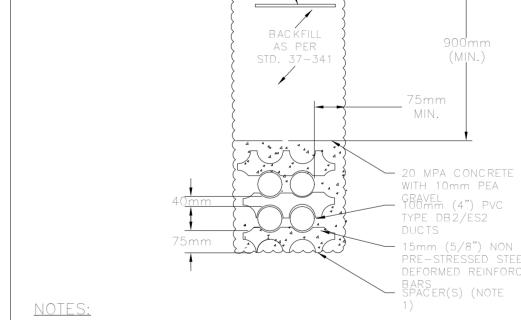
CITY OF

PROJECT No. 21-100 START DATE October 2021

Design

verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

All dimensions to be checked and



LOCATOR TAPE. REFER TO NOTE 3

OF 18FT IS

REQUIRED.

- I. REFER TO STANDARD 37-341 FOR CONCRETE ENCASED DUCT BANK REQUIREMENTS.
- . LOCATOR TAPE SHALL BE RED PLASTIC, 152mm WIDE x 0.1mm THICK C/W BLACK BOLD LETTERING "CAUTION BURIED ELECTRICAL LINE

THE TRENCH SHALL BE EXCAVATED TO SUFFICIENT DEPTH AND WIDTH TO ACCOMMODATE THE REQUIRED NUMBER OF DUCTS AND SHOULD PROVIDE A MINIMUM COVER AS SPECIFIED ON STANDARD 37-341. SECURE AND PREVENT DUCTS FROM MOVING DURING CONCRETE POURING BY INSTALLING NON METALLIC BANDING EVERY 3.0m OF DUCT. THE TRENCH BOTTOM AND BACKFILL SHALL BE FREE OF STONES, HARD EARTH AND

BELOW".

SECTION A-A PRIMARY DUCT BANK NTS

t. 705.743.3311 e. studio@lett.ca DES DURHAM ENERGY SPECIALIST LIMITED CONSULTING ENGINEERS PH:(905)430-7151 FAX:(905)430-7154 106-209 DUNDAS STREET EAST, WHITBY ONTARIO info@durhamenergy.com / www.durhamenergy.com

1 issued for Costing

3 issued for Permit 4 Issued for Building Permit

5 Issued for QA/QC

6 Issued for Tender

Architects Inc.

Peterborough Ontario K9H 2H5

138 Simcoe Street

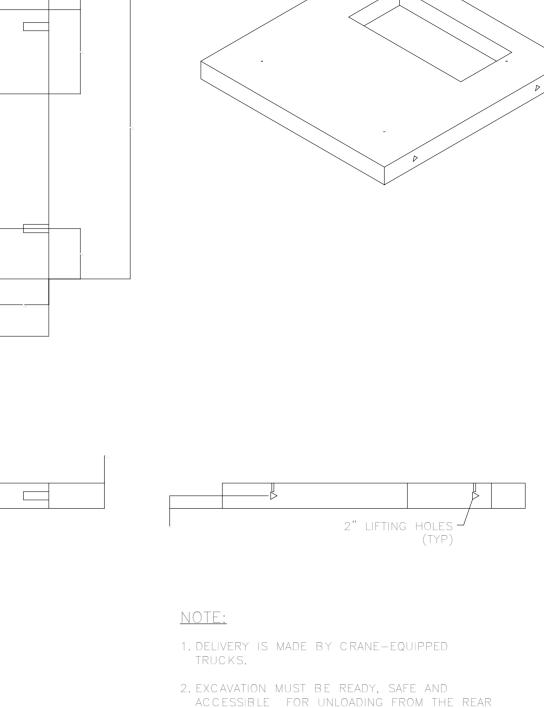
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2 issued for Site Plan Application Jan.28.22

Nov.02.21

Mar.21.22

Apr.14.22 Jul.07.22



OF THE TRUCK. MIN OVERHEAD CLEARANCE

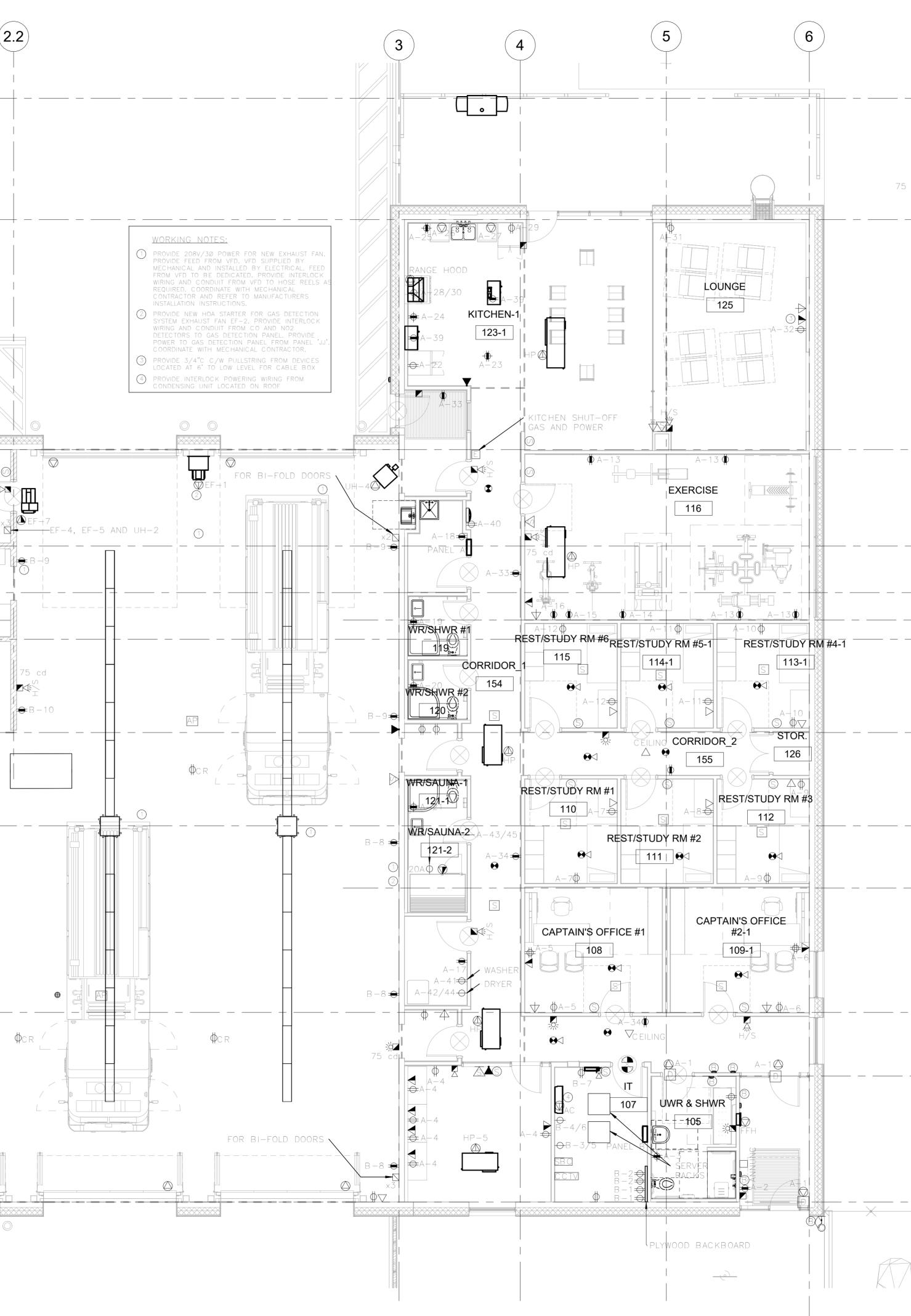
3. ALL UNITS MUST BE HANDLED WITH PROPER

FINISH

lifting equipment. (i.e. spreader



(2.2) 2 (2.1 1 ATS ____ \rightarrow XXXXX X3 🖞 Ē eter cabinet x3 🖞 🗎 🖨 E \checkmark -9 B ۲ B - 1575 cd UH-3 $\Phi \qquad \Phi$ VE \bigcirc **Z**(\square 22 🌵 😡 DRYFR \oplus \oplus COMP ▲ B-23 ♦ Фсr \bigcirc



E201

NEW ELECTRICAL LAYOUT - GROUND LEVEL

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

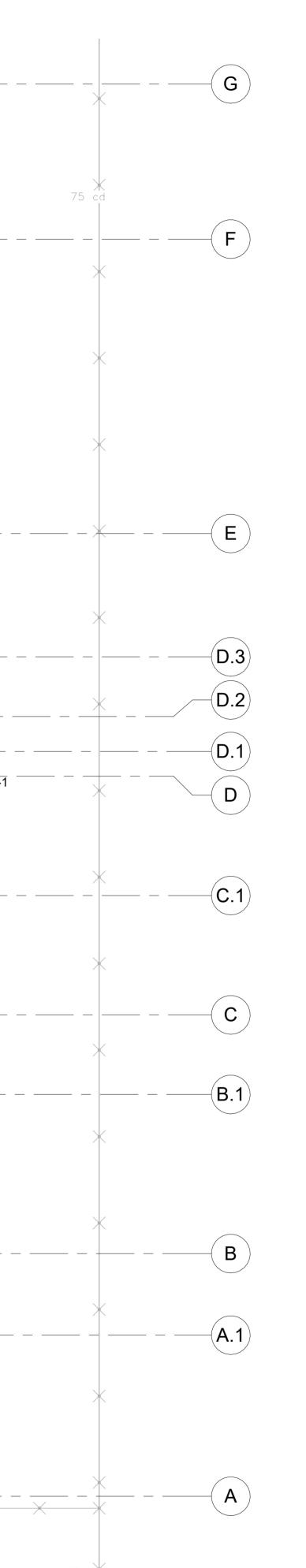
PETERBOROUGH **FIRE STATION NO. 2**

PROJECT No. 21-100 START DATE October 2021

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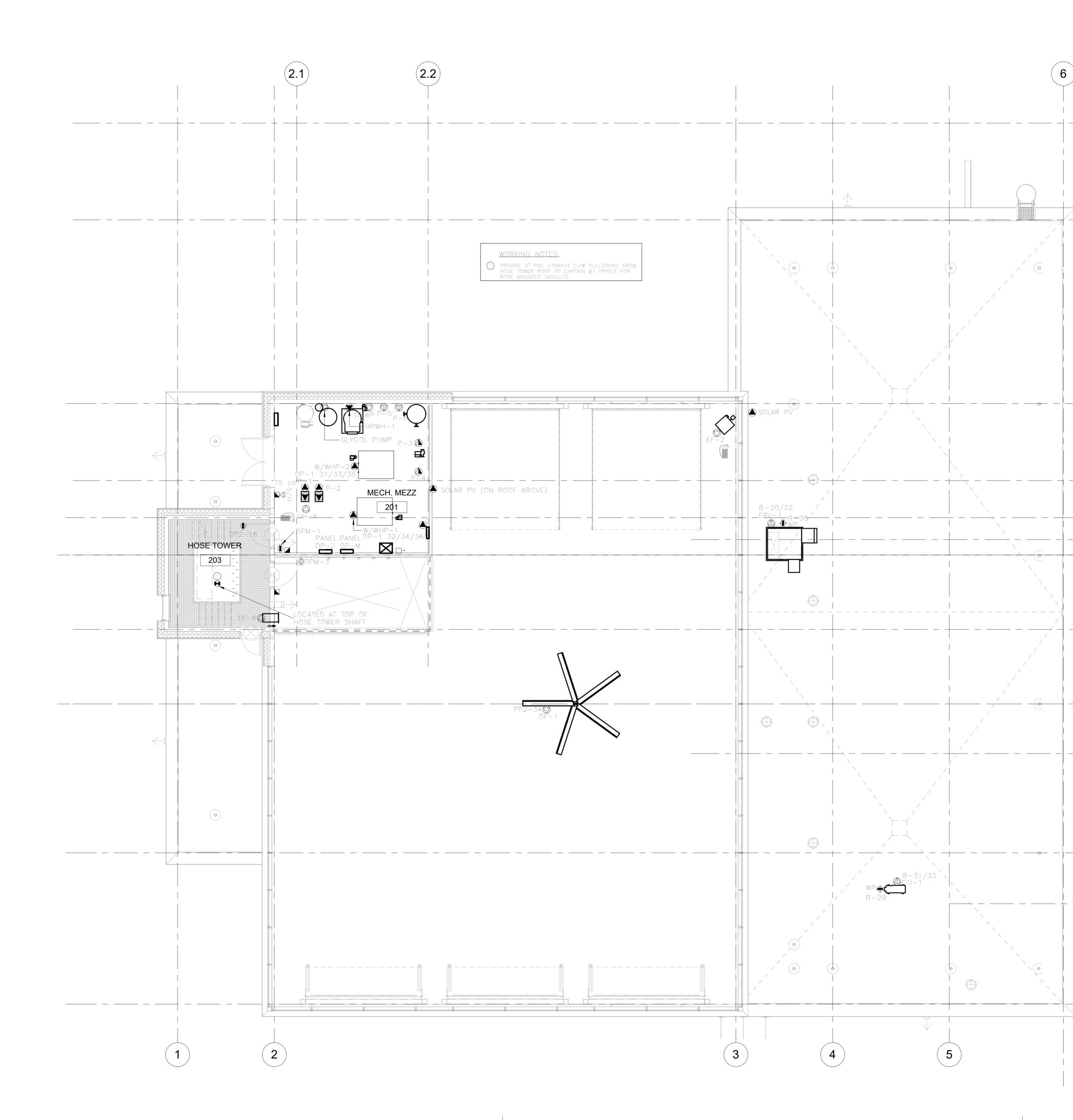
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	1330E	/ REVISIONS
1	issued for design sign off	Oct.27.21
2	issued for Costing	Nov.02.21
3	issued for Permit	
4	Issued for Building Permit	Mar.21.22
5	Issued for QA/QC	Apr.14.22
6	lssued for Building Permit Response	Apr.25.22

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1	issued for design sign off	Oct.27.21
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6	Issued for Building Permit	Apr.25.22
	Response	
7	Issued for Tender	Jul.07.22



NEW ELECTRICAL LAYOUT - MEZZANINE LEVEL

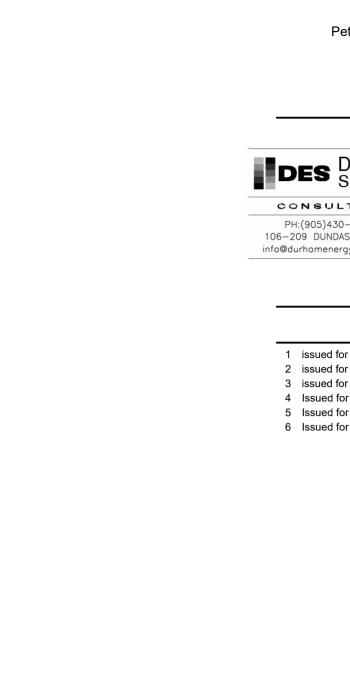
(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

CITY OF PETERBOROUGH **FIRE STATION NO. 2**

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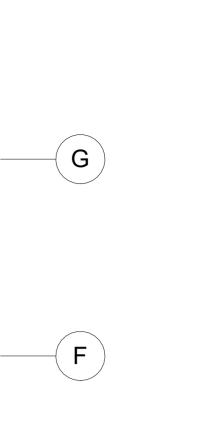
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6	Issued for Tender	Jul.07.22

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138 Simcoe Street Peterborough Ontario K9H 2H5



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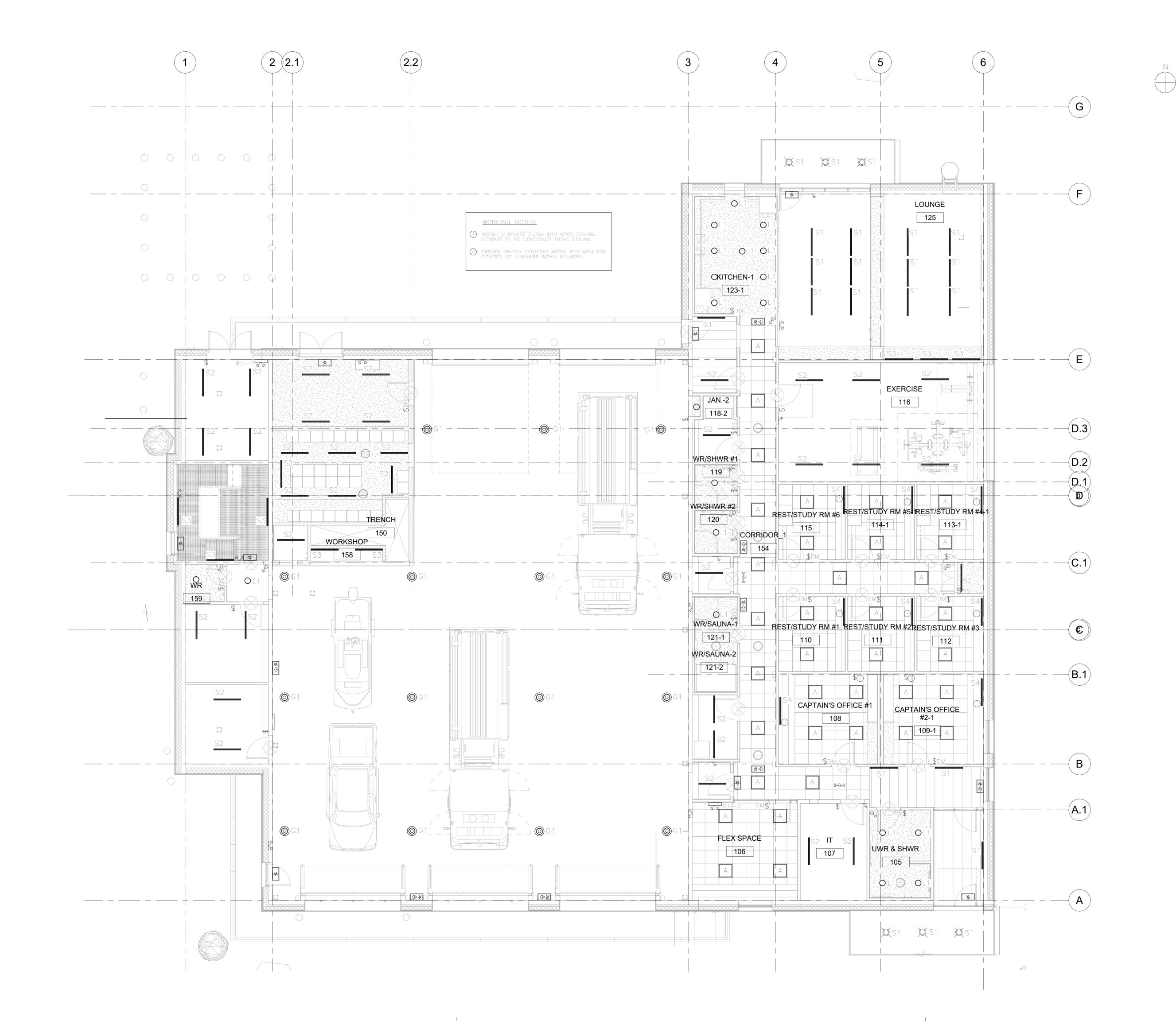
(C)

–(**B**.1)

(B)

–(A.1)

(A)



NEW LIGHTING LAYOUT - GROUND LEVEL

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

CITY OF PETERBOROUGH FIRE STATION NO. 2

PROJECT No. 21-100 START DATE October 2021

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1 2 3	issued for design sign off issued for Costing issued for Permit	Oct.27.21 Nov.02.21

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Jul.07.22



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4 Issued for Building Permit

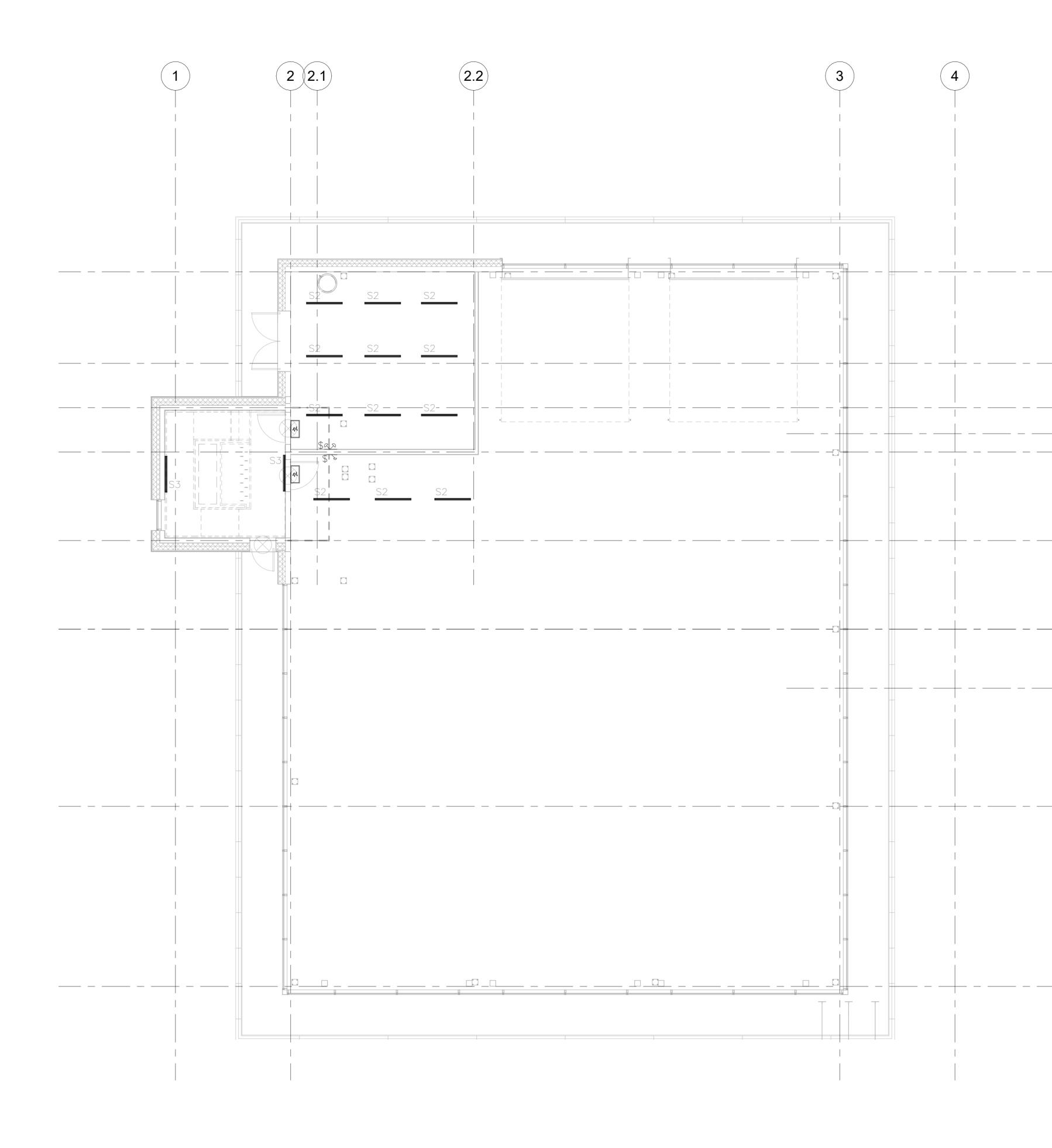
6 Issued for Building Permit

5 Issued for QA/QC

Response

7 Issued for Tender





NEW LIGHTING LAYOUT - MEZZANINE LEVEL

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

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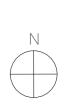
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Last Filen

3-03E801-LEGENDS ARCH D 24" x 36" 16-CAL ပ် 山

EMERGENCY	LIGHTING	SCHEDULE

TAG	DESCRIPTION	MAKE/MODEL
## ## ## (\$& & & &	ALL METAL EXIT SIGN, WHITE LED LIGHT SOURCE, FACTORY WHITE, GREEN RUNNING MAN WITH LEGEND PLATE AS NOTED, SINGLE FACE, UNIVERSAL MOUNTING (WALL, END OR CEILING), 120/347V AC INPUT (NORMAL), 6–24V DC INPUT (EMERGENCY).	EQUAL TO LUMACELL LS1WU.
هم BU-1	STEEL BATTERY UNIT, CORROSION RESISTANT, FACTORY WHITE, REMOVABLE FRONT ACCESS PANEL, LEAD ACID BATTERY, SOLID STATE PULSE-TYPE CHARGER, TEST SWITCH, LED INDICATOR LIGHTS, 120/347V INPUT WITH LINE CORD KIT, 12V OUTPUT.	EQUAL TO LUMACELL RG12S-400-2-MQM2-LD7
₩ BU-2	STEEL BATTERY UNIT COMPLETE 2 4W LED HEADS, CORROSION RESISTANT, FACTORY WHITE, REMOVABLE FRONT ACCESS PANEL, LEAD ACID BATTERY, SOLID STATE PULSE-TYPE CHARGER, TEST SWITCH, LED INDICATOR LIGHTS, 120/347V INPUT WITH LINE CORD KIT, 12V OUTPUT.	EQUAL TO LUMACELL RG12S-200-2-MQM2-LD7
## <u>«</u>	WALL MOUNTED REMOTE SINGLE HEAD 12V 4W LED EMERGENCY LIGHT, INJECTION MOLDED IMPACT RESISTANT FLAME RETARDANT THERMOPLASTIC, ADJUSTABLE LENSES, SUITABLE FOR INSTALLATION ON 4" OCTAGON BOX.	EQUAL TO LUMACELL MQM-LD7
##	WALL MOUNTED REMOTE DUAL HEAD 12V 4W LED EMERGENCY LIGHT, INJECTION MOLDED IMPACT RESISTANT FLAME RETARDANT THERMOPLASTIC, ADJUSTABLE LENSES, SUITABLE FOR INSTALLATION ON 4" OCTAGON BOX.	EQUAL TO LUMACELL MQM2-LD7
## &	CEILING MOUNTED REMOTE SINGLE HEAD 12V 4W LED EMERGENCY LIGHT, INJECTION MOLDED IMPACT RESISTANT FLAME RETARDANT THERMOPLASTIC, ADJUSTABLE LENSES, SUITABLE FOR INSTALLATION ON 4" OCTAGON BOX.	EQUAL TO LUMACELL MQM-LD7
## ¢ 0 ₽	CEILING MOUNTED REMOTE DUAL HEAD 12V 4W LED EMERGENCY LIGHT, INJECTION MOLDED IMPACT RESISTANT FLAME RETARDANT THERMOPLASTIC, ADJUSTABLE LENSES, SUITABLE FOR INSTALLATION ON 4" OCTAGON BOX.	EQUAL TO LUMACELL MQM2-LD7
		1

APPROVED	ALTERNATES:	BEGHELLI,	EMERGI-LITE,	AIMLITE,	STAN PR	0
		,	,	· · · · · · _ · · _ ,		

<u>note:</u> 1. ## denotes battery unit. 2. 'ds' denotes double sided.

	COMMUNICATION LEGEND										
TAG	DESCRIPTION	MAKE/MODEL									
\bigtriangledown	DATA ONLY OUTLET BOX – WALL BOX, Outlet & 3/4" conduit c/w cable back to server room										
▼	VOICE ONLY OUTLET BOX - WALL BOX, Outlet & 3/4" conduit c/w cable back to server room mounted 5' aff										
V	DATA AND VOICE OUTLET BOX — WALL BOX, OUTLET & 3/4" CONDUIT C/W CABLE BACK TO SERVER ROOM										
\forall	WALL MOUNTED TELEVISION VIDEO OUTLET – WALL BOX, OUTLET & 2" CONDUIT C/W PULL STRING UP WALL TO CEILING SPACE.										
\diamond	P.A. INTERCOM										
ΗO	SECURITY CAMERA WALL MOUNTED										
AP	ACCESS POINT										
SBC	SESSION BORDER CONTROLLER										
CCTV	CCTV SYSTEM										
V	WALL MOUNTED P.A. SPEAKER										

	FIRE ALARM LEGEND
Θ	SMOKE DETECTOR C/W INDICATION LIGHT
	FIRE ALARM PULL STATION WITH CLEAR, TAMPER-PROOF, POLYCARBONATE SHIELD THAT EMITS AN ALARM WHEN ACCESSED
	FIRE ALARM HORN
K ∉H/S cd	COMBINATION HORN/STROBE. '##' DENOTES STROBE CANDELA RATING. PROVIDE 15cd UNLESS OTHERWISE NOTED.
	STROBE ONLY. '##' DENOTES STROBE CANDELA RATING. PROVIDE 15cd UNLESS OTHERWISE NOTED.
$\mathbf{\Theta} \triangleleft$	COMBINATION SMOKE ALARM/STROBE EQUAL TO BRK7020BSLA
	SPRINKLER SUPERVISORY POINT – VALVE OR ZONE
Ŷ	SPRINKLER ALARM POINT - FLOW SWITCH
	SPRINKLER - LOSS OF POWER
FAC P	FIRE ALARM CONTROL PANEL
ANNUNC	ANNUNCIATOR PANEL

AG	DESCRIPTION	MAKE/MODEL	ALTERNATE	
A	RECESSED FLAT PANEL 2x2 LED LUMINAIRE, DIFFUSE LENS, 3800 LUMENS, 4000K, 120V, 0-10V, DIMMING DRIVER	SIGNIFY FLUXPANEL- 2FPZ38B840-2-DS-UNV-DIM		
S1	WALL MOUNTED 3" BIDIRECTIONAL LIGHT,LED, 4000K, 4000Im/4FT, 120V, DIMMING	SIGNIFY TRUGROOVE 2926LAANW027DEW		
S2	SUSPENDED 4' LED STRIP LIGHT, FROSTED LENS, DIMMABLE DRIVER, 4000 LUMENS, 4000K, 120V	SIGNIFY FLUXSTREAM FSS440L840-UNV-DIM	LITHONIA PEERLESS-ELECTRIC	
S3	WALL MOUNTED 4' LED STRIP LIGHT, FROSTED LENS, DIMMABLE DRIVER, 3000 LUMENS, 4000K, 120V	SIGNIFY FLUXSTREAM FSS430L840-UNV-DIM	VISIONEERING CREE LIGHTING	
S4	SUSPENDED 4' LED STRIP LIGHT, FROSTED LENS, DIMMABLE DRIVER, 3000 LUMENS, 4000K, 120V	SIGNIFY FLUXSTREAM FSS430L840-UNV-DIM		
O L1	4" LED INDOOR RECESSED DOWNLIGHT 80 CRI, 2000 LUMENS, 4000K, 120V, 0-10V, DIMMING WET LOCATION RATED	SIGNIFY CALCULITE 4RN-C4L20840MZ10U		
O L2	4" LED INDOOR RECESSED DOWNLIGHT 80 CRI, 1000 LUMENS, 4000K, 120V, 0-10V, DIMMING WET LOCATION RATED	SIGNIFY CALCULITE 4RN-C4L10840MZ10U		
@ G1	HIGH BAY LED LUMINAIRE, 14000 LUMENS, Selectable colour temperature, 120V, 0—10V DIMMING	SIGNIFY DAYBRITE CFI HCY14L8CST-UN3-DIM		
\$\$3	LIGHT SWITCH – '3' DENOTES 3-WAY	HUBBELL 1200 SERIES (120V) HUBBELL 18200 SERIES (347V)		
\$ _{DM}	LIGHT SWITCH WITH SLIDE DIMMER, ON/OFF SWITCH, 0-10V LED RATED, 120V	LEVITON RF DECORA 25057-30Z (347V)	HUBBELL LEGRAND COOPER	
\$os	SWITCH PLATE MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR WITH BUTTON, WHITE, 120V	LEVITON ODS10-IDW	HUBBELL	
OS	CEILING MOUNTED DUAL TECHNOLOGY LOW PROFILE OCCUPANCY SENSOR 24V, INCLUDE POWER PACKS AS REQUIRED	LEVITON OSC10-MDW	ACUITY CONTROLS	

	POWER LEGEND	
TAG	DESCRIPTION	MAKE/MODEL
ф	15A 120V 1PH GROUNDED DUPLEX RECEPTACLE C/W STAINLESS STEEL COVER PLATE	HUBBELL BR15WHI OR Equal
\$	20A 120V 1PH GROUNDED DUPLEX RECEPTACLE C/W STAINLESS STEEL COVER PLATE	HUBBELL BR20WHI OR EQUAL
0	15A 120V 1PH GROUND FAULT CIRCUIT INTERRUPTING DUPLEX RECEPTACLE C/W STAINLESS STEEL COVER PLATE	HUBBELL GF15WLA OR EQUAL
φ	208V 3PH GROUNDED RECEPTACLE CONFIGURATION TO SUIT EQUIPMENT	HUBBELL HBL OR Equal
¢cr	RECEPTACLE CORD REEL C/W 15A 120V 1PH grounded duplex receptacle	AREO-MOTIVE CORD REEL #358C-R C/W 15-5R
\bigcirc	120V 1PH GROUNDED DIRECT EQUIPMENT CONNECTION	
\square	208V 1PH GROUNDED DIRECT EQUIPMENT CONNECTION	
	208V 3PH GROUNDED DIRECT EQUIPMENT CONNECTION	
$\overline{\mathbf{v}}$	575V 3PH GROUNDED DIRECT EQUIPMENT CONNECTION	
D	POWER DOOR OPERATOR BY GENERAL CONTRACTOR. PROVIDE 120V POWER TO DOOR OPERATOR AND INTERLOCK WIRING BETWEEN OPERATOR AND WALL PUSH BUTTON	
P	EMERGENCY AUDIBLE/VISUAL DEVICE. <u>SUPPLIED</u> AND INSTALLED BY GENERAL WITH DOOR HARDWARE. PROVIDE BACK BOX CONDUIT C/W PULL STRING TO DOOR CONTROLLER IN CEILING SPACE.	
B	"PUSH TO OPEN" FOR BARRIER FREE OR REGULAR DOOR CONTROL BY GENERAL CONTRACTOR. PROVIDE CONCEALED CONDUIT UP WALL TO DOOR OPERATOR C/W INTERLOCK WIRING TO DOOR OPERATOR.	
	DISCONNECT SWITCH 'WP' DENOTES WEATHERPROOF	
	EXISTING PANEL	
	TRANSFORMER	

E801

LEGENDS

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

CITY OF PETERBOROUGH **FIRE STATION NO. 2**

PROJECT No. 21-100 START DATE October 2021

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ISSUE / REVISIONS

1	issued for Costing	Nov.02.21
2	issued for Permit	
3	Issued for Building Permit	Mar.21.22
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5	Issued for Tender	Jul.07.22

<u>pa</u> rt	1 – GE	NERAL	
1.	GENEF		
.1	IT IS	THE INTENT OF THIS SEISMIC SPECIFICATION TO KEEP ALL MECHANICAL BUILDING SYSTEM COMPONENTS IN DURING A SEISMIC EVENT.	
.2	MANU	JCH SYSTEMS MUST BE INSTALLED IN STRICT ACCORDANCE WITH SEISMIC CODES, COMPONENT ACTURERS AND BUILDING CONSTRUCTION STANDARDS. WHENEVER A CONFLICT OCCURS BETWEEN THE ACTURERS OR CONSTRUCTION STANDARDS, THE MOST STRINGENT SHALL APPLY.	
.3		C RESTRAINTS SHALL BE DESIGNED IN ACCORDANCE WITH SEISMIC REQUIREMENTS OUTLINED IN PART 4 OF NTARIO BUILDING CODE.	
.4		ORK IN THIS SECTION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:	
. –	.1	SEISMIC RESTRAINTS FOR ISOLATED EQUIPMENT.	
	.2	SEISMIC RESTRAINTS FOR NON-ISOLATED EQUIPMENT.	
	.3	CERTIFICATION OF SEISMIC RESTRAINT DESIGNS AND INSTALLATION SUPERVISION.	
	.5	ALL MECHANICAL SYSTEMS (EQUIPMENT NOT LISTED IS STILL INCLUDED IN THIS SPECIFICATION).	
2. AIR		NG UNITS, FANS, CONDUIT (SOLID BRACING ONLY), PIPING, AND DUCTWORK	
	BMITTAL		
	.1	PRODUCT DATA: INCLUDE SEISMIC RATING CURVE FOR EACH SEISMICALLY RATED ISOLATOR OR RESTRAINT COMPONENT.	
.2	SHOP	DRAWINGS: INCLUDE THE FOLLOWING:	
. ∠	.1	DESIGN CALCULATIONS: CALCULATE REQUIREMENTS FOR SELECTING VIBRATION ISOLATORS AND SEISMIC RESTRAINTS. CERTIFICATION DOCUMENTS TO BE SIGNED AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER WITH AT LEAST 5 YEARS EXPERIENCE IN THE DESIGN OF SEISMIC RESTRAINTS.	
	.2	SEISMIC—RESTRAINT DETAILS: DETAIL SUBMITTAL DRAWINGS OF SEISMIC RESTRAINTS AND SNUBBERS. SHOW ANCHORAGE DETAILS AND INDICATE QUANTITY, DIAMETER, AND DEPTH OF PENETRATION OF ANCHORS.	
	.3	SUBMITTALS FOR INTERLOCKING SNUBBERS: INCLUDE RATINGS FOR HORIZONTAL, VERTICAL AND COMBINED LOADS.	
	.4	EQUIPMENT MANUFACTURER SEISMIC QUALIFICATION CERTIFICATION: THE EQUIPMENT MANUFACTURER MUST SUBMIT CERTIFICATION THAT EACH PIECE OF PROVIDED EQUIPMENT WILL WITHSTAND SEISMIC FORCES. INCLUDE THE FOLLOWING:	
		.1 BASIS FOR CERTIFICATION: INDICATE WHETHER THE "WITHSTAND" CERTIFICATION IS BASED ON ACTUAL TEST OF ASSEMBLED COMPONENTS OR ON CALCULATIONS.	
		.2 INDICATE THE EQUIPMENT IS CERTIFIED TO BE DURABLE ENOUGH TO:	
		.1 STRUCTURALLY RESIST THE DESIGN FORCES AND/OR	
		.2 WILL ALSO REMAIN FUNCTIONAL AFTER THE SEISMIC EVENT.	
	.5	DIMENSIONED OUTLINE DRAWINGS OF EQUIPMENT UNIT: IDENTIFY CENTER OF GRAVITY AND LOCATE AND DESCRIBE MOUNTING AND ANCHORAGE PROVISIONS.	
	.6	DETAILED DESCRIPTION OF THE ASSUMED EQUIPMENT ANCHORAGE DEVICES ON WHICH THE CERTIFICATION IS	
4.	DESCI	BASED. RIPTION OF SYSTEM:	
- · ·	.1	IT SHALL BE UNDERSTOOD THAT THE REQUIREMENTS OF THIS SEISMIC RESTRAINT SECTION ARE IN ADDITION TO OTHER REQUIREMENTS AS SPECIFIED ELSEWHERE FOR THE SUPPORT AND ATTACHMENT OF EQUIPMENT AND MECHANICAL SERVICES, AND FOR THE VIBRATION ISOLATION OF SAME EQUIPMENT. NOTHING ON THE PROJECT DRAWINGS OR SPECIFICATIONS SHALL BE INTERPRETED AS JUSTIFICATION TO WAIVE THE REQUIREMENTS OF THIS SEISMIC RESTRAINT SECTION.	
	.2	ALL SEISMIC SNUBBER RESTRAINT ASSEMBLIES SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:	
	. ∠	.1 THE SNUBBER SHALL INCLUDE A HIGH QUALITY ELASTOMERIC ELEMENT THAT WILL ENSURE THAT NO	
		UN-CUSHIONED SHOCK CAN OCCUR. .2 IT SHALL BE POSSIBLE TO VISUALLY INSPECT THE RESILIENT MATERIAL FOR DAMAGE AND REPLACE IT IF NECESSARY.	
		.3 RESILIENT MATERIAL USED IN SNUBBER ASSEMBLIES TO BE A MINIMUM OF 0.25" (6mm) THICK.	
		.4 RESILIENT MATERIAL USED IN SNUBBER GROMMETS TO BE A MINIMUM OF 0.12" (3mm) THICK.	
		.5 ALL INTERLOCKING SNUBBERS TO INCLUDE A MAXIMUM AIR GAP OF .25 IN (6mm).	
		.6 ASSEMBLY MUST BE DESIGNED TO OFFER SEISMIC RESTRAINT IN ALL DIRECTIONS, UNLESS OTHERWISE NOTED BELOW.	
		.7 SEISMIC RESTRAINT CAPACITIES TO BE VERIFIED BY AN INDEPENDENT TEST LABORATORY OR CERTIFIED BY AN EXPERIENCED REGISTERED PROFESSIONAL ENGINEER TO ENSURE THAT THE DESIGN INTENT OF THIS SPECIFICATION IS REALIZED.	
5. SYS	stem de	SIGN	
	.1	SEISMIC SNUBBER MANUFACTURER SHALL BE RESPONSIBLE FOR THE STRUCTURAL DESIGN OF ATTACHMENT HARDWARE AS REQUIRED TO ATTACH SNUBBERS TO BOTH THE EQUIPMENT AND SUPPORTING STRUCTURE ON VIBRATION ISOLATED EQUIPMENT, OR TO DIRECTLY ATTACH EQUIPMENT TO THE BUILDING STRUCTURE FOR NON-ISOLATED EQUIPMENT.	
	.2	THE CONTRACTOR SHALL FURNISH A COMPLETE SET OF APPROVED SHOP DRAWINGS OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT WHICH IS TO BE RESTRAINED TO THE SEISMIC RESTRAINT MANUFACTURER, FROM WHICH THE SELECTION AND DESIGN OF SEISMIC RESTRAINT DEVICES AND/OR ATTACHMENT HARDWARE WILL BE COMPLETED. THE SHOP DRAWINGS FURNISHED SHALL INCLUDE, AT A MINIMUM, BASIC EQUIPMENT LAYOUT, LENGTH AND WIDTH DIMENSIONS, INSTALLED OPERATING WEIGHTS OF THE EQUIPMENT TO BE RESTRAINED AND THE DISTRIBUTION OF WEIGHT AT THE RESTRAINT POINTS.	
	.3	ALL PIPING AND DUCTWORK IS TO BE RESTRAINED TO MEET CODE REQUIREMENTS. SPACING BETWEEN RESTRAINTS IS NOT TO EXCEED THE ALLOWABLE SPACING LISTED IN THE LATEST REVISION OF THE SMACNA MANUAL (SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC.) "SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS", MOST RECENT EDITION. AT A MINIMUM, THE SEISMIC RESTRAINT MANUFACTURER SHALL PROVIDE DOCUMENTATION ON MAXIMUM RESTRAINT SPACING FOR VARIOUS CABLE SIZES AND ANCHORS, AS WELL AS 'WORST CASE' REACTION LOADS AT RESTRAINT LOCATIONS. IN ADDITION, SEISMIC RESTRAINT MANUFACTURER SHALL PROVIDE SUPPORT DOCUMENTATION CONTAINING ADEQUATE INFORMATION TO ALLOW THE INSTALLATION CONTRACTOR TO MAKE REASONABLE FIELD	

6. INSTALLATION

INSTALLATION OF ALL SEISMIC RESTRAINT MATERIALS SPECIFIED HEREIN SHALL BE ACCOMPLISHED FOLLOWING THE MANUFACTURER'S WRITTEN INSTRUCTIONS. INSTALLATION INSTRUCTIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE BEGINNING OF THE WORK.

<u> Part 2 – products</u>

1. SOURCE OF MATERIALS

- .1 ALL SEISMIC SNUBBERS AND COMBINATION SNUBBER / VIBRATION ISOLATION MATERIALS SPECIFIED HEREIN SHALL BE PROVIDED BY A SINGLE MANUFACTURER TO ASSURE SOLE SOURCE RESPONSIBILITY FOR THE PROPER PERFORMANCE OF THE MATERIALS USED. MANUFACTURER IS TO BE A MEMBER OF VISCMA (VIBRATION ISOLATION AND SEISMIC CONTROL MANUFACTURERS ASSOCIATION).
- .2 MECHANICAL ANCHOR TYPES AND SIZES ARE TO BE PER THE DESIGN DATA AS PROVIDED BY THE SEISMIC RESTRAINT MANUFACTURER.
- .3 MATERIALS AND SYSTEMS SPECIFIED HEREIN AND DETAILED ARE BASED UPON MATERIALS MANUFACTURED BY KINETICS NOISE CONTROL, INC. MATERIALS AND SYSTEMS PROVIDED BY OTHER MANUFACTURERS ARE ACCEPTABLE, PROVIDED THAT THEY MEET ALL REQUIREMENTS AS LISTED IN THIS SPECIFICATION.
- .4 WHERE NOT PROTECTED BY A SHIELD, RESILIENT MATERIALS SHALL BE EASY TO VISUALLY INSPECT FOR DAMAGE.
- 2. FACTORY FINISHES:
 - .1 MANUFACTURER'S STANDARD PRIME-COAT FINISH READY FOR FIELD PAINTING.
 - .2 FINISH: MANUFACTURER'S STANDARD PAINT APPLIED TO FACTORY-ASSEMBLED AND TESTED EQUIPMENT
 - .3 POWDER COATING ON SPRINGS AND HOUSINGS.
 - .4 ALL HARDWARE SHALL BE ELECTROGALVANIZED. HOT-DIP GALVANIZE OR POWDER COAT METAL HOUSINGS
 - .5 ENAMEL OR POWDER COAT METAL COMPONENTS ON ISOLATORS FOR INTERIOR USE.
 - .6 COLOR-CODE OR OTHERWISE MARK VIBRATION ISOLATION AND SEISMIC-CONTROL DEVICES TO INDICATE CAPACITY RANGE.

3. SEISMIC RESTRAINT ISOLATION

- .1 ISOLATORS:
 - VIBRATION/SEISMIC SPRING FLOOR MOUNTS: TYPE FHS SPRING ISOLATORS SHALL BE SEISMICALLY RESTRAINED SPRING ISOLATORS, INCORPORATING A SINGLE VIBRATION ISOLATOR.. SPRING ISOLATORS SHALL BE MODEL FHS AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE
 - .2 VIBRATION/SEISMIC RESTRAINED SPRING ISOLATOR: TYPE FLSS VIBRATION ISOLATORS SHALL BE SEISMICALLY RATED, RESTRAINED SPRING ISOLATORS FOR EQUIPMENT WHICH IS SUBJECT TO LOAD VARIATIONS AND LARGE EXTERNAL FORCES. VIBRATION ISOLATORS SHALL BE MODEL FLSS AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.

VIBRATION/SEISMIC MODULAR RESTRAINED SPRING ISOLATOR: TYPE FMS (A, B, C, D, E, F) - THE ISOLATOR/RESTRAINT SHALL .3 BE MODEL FMS (A, B, C, D, E, F) AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.

.4 ALL DIRECTION NEOPRENE ISOLATOR: TYPE RQ - VIBRATION ISOLATORS SHALL BE NEOPRENE. MOLDED FROM OIL RESISTANT COMPOUNDS, DESIGNED TO OPERATE WITHIN THE STRAIN LIMITS OF THE ISOLATOR SO TO PROVIDE THE MAXIMUM ISOLATION AND LONGEST LIFE EXPECTANCY POSSIBLE USING NEOPRENE COMPOUNDS.. NEOPRENE ISOLATORS SHALL BE MODEL RQ AS MANUFACTURED BY KINETICS NOISE CONTROL, INC. OR ACCEPTABLE EQUAL.

- .1 SEISMIC CABLE RESTRAINTS: SEISMIC WIRE ROPE CABLE RESTRAINTS SHALL CONSIST OF STEEL WIRE STRAND CABLES, SIZED TO RESIST PROJECT SEISMIC LOADS, ARRANGED TO OFFER SEISMIC RESTRAINT CAPABILITIES FOR PIPING, DUCTWORK, AND SUSPENDED EQUIPMENT IN ALL LATERAL DIRECTIONS. SEISMIC CABLE(S) WITH USE OF "U" CLIPS & OR KINETICS QUAKELOCS SHALL BE AS MANUFACTURED BY KINETICS NOISE CONTROL, INC. OR ACCEPTABLE FOUAL
 - .1 SEISMIC CABLE BUILDING AND EQUIPMENT ATTACHMENT BRACKETS SHALL BE MODEL KSUA OR KSCA AS MANUFACTURED BY KINETICS NOISE CONTROL, INC. SEISMIC CABLE CONCRETE ANCHOR BOLTS SHALL BE MODEL KCAB WEDGE, MODEL KCCAB CRACKED CONCRETE, MODEL KUAB UNDERCUT OR KAABC ADHESIVE, AS MANUFACTURED BY KINETICS NOISE CONTROL,

HANGER ROD STIFFENER: TYPE KHRC - SEISMIC ROD STIFFENER ANGLE BRACING SHALL BE SECURELY ATTACHED TO HANGING THREAD ROD BY A SERIES OF ATTACHMENT CLAMPS. ATTACHMENT CLAMPS SHALL BE MANUFACTURED FROM A ONE PIECE METAL STAMPING, AND SHALL INCLUDE ALL REQUIRED ATTACHMENT HARDWARE AND LOCKING NUTS. SEISMIC ROD STIFFENER ANGLE ATTACHMENT CLAMPS SHALL BE MODEL KHRC AS MANUFACTURED BY KINETICS NOISE CONTROL, INC., OR ACCEPTABLE EQUAL.

SEISMIC BEAM CLAMPS: TYPE KSBC - SEISMIC BEAM CLAMPS SHALL BE MODEL KSBC AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.

SEISMIC RESTRAINT BRACKETS: TYPE KSMS / KSMG - FORMED STEEL BRACKETS FOR SECURING FLOOR-MOUNTED EQUIPMENT COMPLETE WITH PRE-DRILLED HOLES. SEISMIC BRACKETS SHALL BE MODEL KSMS / KSMG AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.

SEISMIC SNUBBERS: STRUCTURAL STEEL ANGLE(S) WITH SURFACES COVERED WITH RIBBED NEOPRENE PADS TO CUSHION CONTACT WITH SNUBBER. SNUBBERS SHALL BE DESIGNED TO LIMIT EQUIPMENT MOTION TO NO MORE THAN 6 MM (1/2") IN ANY DIRECTION.

- .1 TYPE HS-1 (1-AXIS): SINGLE-AXIS SNUBBERS SHALL BE MODEL HS-1 BY KINETICS NOISE CONTROL, INC OR
- ACCEPTABLE EQUAL. .2 TYPE HS-2 (2-AXIS): TWO-AXIS LATERAL SNUBBERS SHALL BE MODEL HS-2 BY KINETICS NOISE CONTROL, INC OR
- ACCEPTABLE EQUAL. TYPE HS-5 (3-AXIS): THREE-AXIS SEISMIC SNUBBERS SHALL BE MODEL HS-5 AS MANUFACTURED BY KINETICS NOISE CONTROL INC OR ACCEPTABLE EQUAL.
- TYPE KRMS (3-AXIS): THREE-AXIS SEISMIC NEOPRENE ISOLATOR RESTRAINT SHALL BE MODEL KRMS AS MANUFACTURED BY KINETICS NOISE CONTROL INC. OR ACCEPTABLE FOUND

CONCRETE ANCHOR BOLTS: POST-INSTALLED ANCHORS IN CONCRETE SHALL BE QUALIFIED FOR SEISMIC RESTRAINT APPLICATION IN ACCORDANCE WITH ACI 355.2.

MECHANICAL ANCHOR BOLTS: THE SEISMIC CERTIFICATION BY KINETICS NOISE CONTROL, INC. USES THE MODELS: KCAB WEDGE TYPE ANCHOR: KCCAB CRACKED CONCRETE TYPE ANCHOR; KUAB UNDERCUT HEAVY-DUTY CONCRETE TYPE ANCHOR. ANY ANCHORS THAT ARE SUBSTITUTED AND/OR SUPPLIED BY OTHERS MUST BE EVALUATED AND APPROVED BY METHACRYLATE-BASED RESIN AND ACCELERATOR, OR INJECTED POLYMER OR HYBRID MORTAR ADHESIVE. THE SEISMIC CERTIFICATION BY KINETICS NOISE CONTROL, INC. USES THE MODELS: KAABC (CARBON STEEL FOR INDOOR USE) ADHESIVE ANCHOR: KAABS (STAINLESS STEEL FOR EXTERNAL USE) ADHESIVE ANCHOR. ANY ADHESIVE TYPE ANCHORS

GROMMET WASHERS: TYPE TG -. ANCHOR BOLT ISOLATION GROMMET SHALL BE MODEL TG AS MANUFACTURED BY KINETICS NOISE CONTROL, INC, OR ACCEPTABLE EQUAL.

THAT ARE SUBSTITUTED AND/OR SUPPLIED BY OTHERS MUST BE EVALUATED AND APPROVED BY THE DESIGN

<u> RT 3 – EXECUTION</u> INSTALLATION

.1	INSTALLATION OF ALL SEISMIC RESTRAINT MATERIALS SPECIFIED IN THIS SECTION SHALL BE ACCOMPLISHED AS PER THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
.2	UPON COMPLETION OF INSTALLATION OF ALL SEISMIC RESTRAINT MATERIALS AND BEFORE START UP OF RESTRAINED EQUIPMENT, ALL DEBRIS SHALL BE CLEANED FROM BENEATH ALL PROTECTED EQUIPMENT, LEAVING EQUIPMENT FREE TO CONTACT SNUBBERS.
.3	NO RIGID CONNECTIONS BETWEEN THE EQUIPMENT AND THE BUILDING STRUCTURE SHALL BE MADE WHICH DEGRADES THE SEISMIC RESTRAINT SYSTEM HEREIN SPECIFIED. ALL ELECTRICAL CONDUIT TO RESTRAINED EQUIPMENT SHALL BE LOOPED TO ALLOW FREE MOTION OF EQUIPMENT WITHOUT DAMAGE TO THE ELECTRICAL WIRING.
.4	ADJUST ISOLATORS AFTER PIPING SYSTEMS HAVE BEEN FILLED AND EQUIPMENT IS AT OPERATING WEIGHT.
.5	ADJUST LIMIT STOPS ON RESTRAINED SPRING ISOLATORS TO MOUNT EQUIPMENT AT NORMAL OPERATING HEIGHT. AFTER EQUIPMENT INSTALLATION IS COMPLETE, ADJUST LIMIT STOPS SO THEY ARE OUT OF CONTACT DURING NORMAL OPERATION.
.6	ADJUST SNUBBERS ACCORDING TO MANUFACTURER'S WRITTEN RECOMMENDATIONS.
.7	ADJUST SEISMIC RESTRAINTS TO PERMIT FREE MOVEMENT OF EQUIPMENT WITHIN NORMAL MODE OF OPERATION.
.8	TORQUE ANCHOR BOLTS ACCORDING TO EQUIPMENT MANUFACTURER'S WRITTEN RECOMMENDATIONS TO RESIST SEISMIC FORCES
UTION	
.1	SHACKLE PIPING TO THE TRAPEZE WHEN RESTRAINING TRAPEZE MOUNTED PIPING, CONDUIT AND DUCTWORK. INSTALL CABLES SO THEY DO NOT BEND ACROSS SHARP EDGES OF ADJACENT EQUIPMENT OR BUILDING STRUCTURE.
.2	INSTALL STEEL ANGLES TO STIFFEN HANGER RODS AND PREVENT BUCKLING WHERE APPROPRIATE. CLAMP WITH ADJUSTABLE STEEL CLAMPS TO HANGER RODS. REQUIREMENTS APPLY EQUALLY TO HANGING EQUIPMENT. DO NOT WELD ANGLES TO RODS
.3	IF THERE IS GREATER THAN A 1/8" DIAMETER MISMATCH BETWEEN ANCHORAGE HARDWARE AND HOLE DIAMETER, REDUCE Clearance in hole with epoxy grout or flanged neoprene bushings.
	TRAINT FOR FOURMENT.

.1 SEISMICALLY RESTRAIN EQUIPMENT AS REQUIRED BY CODE. INSTALL FASTENERS, STRAPS AND BRACKETS AS REQUIRED TO

POSITION SNUBBERS AS NECESSARY AND ATTACH TO EQUIPMENT BASE AND SUPPORTING STRUCTURE AS REQUIRED. .3 INSTALL NEOPRENE GROMMET WASHERS OR FILL THE GAP WITH EPOXY ON EQUIPMENT ANCHOR BOLTS WHERE CLEARANCE

BETWEEN ANCHOR AND EQUIPMENT SUPPORT HOLE EXCEEDS 3.2 MM (0.125 INCH). .4 SUSPENDED EQUIPMENT: ALL SUSPENDED EQUIPMENT THAT MEETS ANY OF THE FOLLOWING CONDITIONS REQUIRES SEISMIC

- RESTRAINTS AS SPECIFIED BY THE SUPPLIER:
- RIGIDLY ATTACHED TO PIPE OR DUCT THAT IS 75 LBS. AND GREATER, .2 ITEMS HUNG INDEPENDENTLY OR WITH FLEXIBLE CONNECTIONS GREATER THAN 20 LBS.. FOR IMPORTANCE FACTORS GREATER THAN 1.0 ALL SUSPENDED EQUIPMENT REQUIRES SEISMIC RESTRAINTS REGARDLESS OF THE ABOVE NOTES. WALL MOUNTED EQUIPMENT WEIGHING MORE THAN 20 LBS. WITH AN IMPORTANCE FACTOR OF 1.0.

.4 THE 12" RULE DOES NOT APPLY TO SUSPENDED EQUIPMENT. .5 BASE MOUNTED EQUIPMENT: ALL BASE MOUNTED EQUIPMENT THAT MEETS ANY OF THE FOLLOWING CONDITIONS REQUIRES ATTACHMENTS AND SEISMIC RESTRAINTS AS SPECIFIED THE SUPPLIER:

- CONNECTIONS TO OR CONTAINING HAZARDOUS MATERIAL,
- WITH AN OVERTURNING MOMENT, WEIGHT GREATER THAN 400 LBS.

MOUNTED ON A STAND 4 FT. OR MORE FROM THE FLOOR. FOR IMPORTANCE FACTORS GREATER THAN 1.0 ALL BASE MOUNTED ITEMS REQUIRE SEISMIC RESTRAINTS REGARDLESS OF THE ABOVE NOTES.

.6 RIGID MOUNTED EQUIPMENT:

ANCHOR FLOOR AND WALL MOUNTED EQUIPMENT TO THE STRUCTURE AS PER THE STAMPED SEISMIC CERTIFICATIONS / SUSPENDED EQUIPMENT SHALL BE RESTRAINED USING SEISMIC CABLE RESTRAINTS, OR STRUTS, AND HANGER RODS AS PER THE STAMPED SEISMIC CERTIFICATIONS / DRAWINGS.

.7 VIBRATION ISOLATED EQUIPMENT:

SEISMIC CONTROL SHALL NOT COMPROMISE THE PERFORMANCE OF NOISE CONTROL, VIBRATION ISOLATION OR FIRE EQUIPMENT SUPPORTED BY VIBRATION-ISOLATION HANGERS SHALL BE DETAILED AND INSTALLED WITH APPROXIMATELY A 1/8" GAP BETWEEN THE ISOLATION HANGERS AND THE STRUCTURE. ISOLATORS AT RESTRAINT LOCATIONS MUST BE FÍTTED WITH UPLIFT LIMIT STOPS.

4. SEISMIC RESTRAINT FOR ELECTRICAL SYSTEMS:

SEISMICALLY RESTRAIN PER SPECIFIC CODE REQUIREMENTS ALL ELECTRICAL COMPONENTS LISTED BELOW (UNLESS OTHERWISE INDICATED ON THE DRAWINGS), USING SEISMIC CABLE RESTRAINTS:

SEISMICALLY RESTRAIN ALL CONDUIT 65 MM (2 ½°) IN NOMINAL DIAMETER AND LARGER. SEISMICALLY RESTRAIN ALL CONDUIT. BUS DUCTS. OR CABLE TRAYS THAT ARE SUPPORTED ON TRAPEZE BARS. THAT HAVE BEEN ASSIGNED A COMPONENT IMPORTANCE FACTOR EQUAL TO 1.5. AND THAT HAVE A TOTAL WEIGHT GREATER THAN 10 LB/FT (146 N/M). THIS TOTAL WEIGHT INCLUDES NOT ONLY THE CONDUIT, BUS DUCT, OR CABLE TRAYS, BUT ALSO INCLUDES THE TRAPEZE BARS AS WELL.

		PER UNIT LENGTH FOR CABLE TRAYS AND BUS DUCT.
5.	DUCT,	SUPPORTED CONDUIT AND TRAPEZE SUPPORTED CONDUIT, BUS AND CABLE TRAYS TO BE SEISMICALLY INED IN A MANNER SIMILAR TO PIPE AND DUCT.
	.1	 CONDUIT: .1 FOR NON-DUCTILE CONDUIT SPACE TRANSVERSE SUPPORTS A MAXIMUM OF 6 M (20') O.C., AND LONGITUDINAL SUPPORTS A MAXIMUM OF 12 M (40') O.C. DIFFERENTIAL SPACING CAN BE DESIGNED DEPENDING UPON PIPE SIZE AND LENGTH(S) OF RUN. .2 FOR CONDUIT RISERS, RESTRAIN THE CONDUIT AT FLOOR PENETRATIONS USING THE SAME SPACING REQUIREMENTS AS ABOVE.
.2	BUS DI	JCTS AND CABLE TRAYS:
	.1	TRANSVERSE SUPPORTS A MAXIMUM OF 9 M (30') O.C.
	.2	LONGITUDINAL SUPPORTS A MAXIMUM OF 18 M (60') O.C.
7.	CONTRO SUPPOF AND BU RESTRA CABLE EVALUA	ISMIC RESTRAINT COMPONENTS PROVIDED BY KINETICS NOISE DL, INC. ARE INTENDED TO BE USED WITH SUSPENDED SINGLE RTED CONDUIT AND TRAPEZE SUPPORTED CONDUIT, CABLE TRAYS, JS DUCTS. COMPONENTS INTENDED TO BOTH SUPPORT AND IN DISTRIBUTION SYSTEMS SUCH AS WALL MOUNTED CONDUIT, TRAYS, AND BUS DUCTS WILL NEED TO BE DESIGNED AND TED FOR BOTH THE DEAD WEIGHT LOAD AND THE DESIGN NTAL SEISMIC LOAD.
8.	THE RE INDIVIDU INTERVA TRAYS THE DE	URE THAT THE SEISMIC FORCES ARE TRANSFERRED PROPERLY TO STRAINT POINTS, THE CABLES SHOULD BE STRAPPED EITHER JALLY OR IN BUNDLES TO THE CABLE TRAY AT REGULAR ALS. IT IS NECESSARY FOR THE CONDUIT, BUS DUCTS, AND CABLE TO BE ATTACHED TO THE TRAPEZE BARS SUFFICIENTLY TO RESIST SIGN HORIZONTAL SEISMIC FORCES, BOTH TRANSVERSE (T) AND JDINAL(L).
9.	INSTALL	ATION REQUIREMENTS AND NOTES:
	.1 .2	BRACE A CHANGE OF DIRECTION LONGER THAN 3.7 M (12'). THIS SPECIFICATION DOES NOT ALLOW THE USE OF THE "12-INCH RULE" WHERE THE ELECTRICAL MAY BE EXEMPTED FROM SEISMIC RESTRAINT BASED ON THE LENGTH OF THE SUPPORT RODS PROVIDED THAT THE RODS ARE NOT SUBJECTED TO BENDING MOMENTS.
	.3 .4 .5 .6 .7	INSTALL RESTRAINT CABLES SO THEY DO NOT BEND ACROSS EDGES OF ADJACENT EQUIPMENT OR BUILDING STRUCTURE. TIE BACK TO STRUCTURE AT 45 DEGREES TO THE STRUCTURE. LONGITUDINAL RESTRAINTS FOR SINGLE PIPE SUPPORTS SHALL BE ATTACHED RIGIDLY TO THE PIPE, NOT TO THE PIPE HANGER. FOR SUPPORTS WITH MULTIPLE PIPES (TRAPEZES), SECURE PIPES TO TRAPEZE MEMBER WITH CLAMPS APPROVED FOR APPLICATION. INSTALL FLEXIBLE METAL HOSE LOOPS IN PIPING WHICH CROSSES BUILDING SEISMIC JOINTS, SIZED FOR THE ANTICIPATED AMOUNT OF MOVEMENT. INSTALL FLEXIBLE PIPING CONNECTORS WHERE ADJACENT SECTIONS OR BRANCHES ARE SUPPORTED BY DIFFERENT STRUCTURAL ELEMENTS, AND WHERE THE CONNECTIONS TERMINATE WITH
	.8 .9	CONNECTION TO EQUIPMENT THAT IS ANCHORED TO A DIFFERENT STRUCTURAL ELEMENT FROM THE ONE SUPPORTING THE CONNECTIONS AS THEY APPROACH EQUIPMENT. WHERE PIPE SIZES REDUCE BELOW REQUIRED DIMENSIONS NOTED ABOVE IN SECTION 3.2.E, THE FINAL RESTRAINT SHALL BE INSTALLED AT THE TRANSITION LOCATION. WHERE DUCT SIZES REDUCE BELOW REQUIRED DIMENSIONS NOTED ABOVE IN SECTION 3.2.D, THE FINAL RESTRAINT SHALL BE
	.10	INSTALLED AT THE TRANSITION LOCATION. LONGITUDINAL RESTRAINTS FOR SINGLE CONDUIT SUPPORTS SHALL BE ATTACHED RIGIDLY TO THE PIPE, NOT TO THE PIPE/CONDUIT
	.11	HANGER. FOR SUPPORTS WITH MULTIPLE CONDUITS (TRAPEZES), SECURE CONDUIT TO TRAPEZE MEMBER WITH CLAMPS APPROVED OR
	.12	APPLICATION. WHERE CONDUIT, BUS DUCTS, CABLE TRAYS SIZES REDUCE BELOW REQUIRED DIMENSIONS NOTED ABOVE IN SECTION 3.2.F, THE FINAL RESTRAINT SHALL BE INSTALLED AT THE TRANSITION
	.13	LOCATION. ROD STIFFENER CLAMPS ARE REQUIRED WHERE THE HANGER ROD EXCEEDS THE MAXIMUM LENGTH SHOWN IN THE SEISMIC CALCULATION SHEETS. THEY ARE ONLY REQUIRED AT RESTRAINT
	.14	LOCATIONS. SEISMICALLY RATED BEAM CLAMPS ARE REQUIRED WHERE WELDING
	.15	TO OR PENETRATIONS TO STEEL BEAMS ARE NOT APPROVED. ADJUST RESTRAINT CABLES SO THAT THEY ARE NOT VISIBLY SLACK.
	.16	CABLE NOT TO SUPPORT WEIGHT DURING NORMAL OPERATION. SEISMIC SYSTEMS ARE TO BE COMPATIBLE WITH REQUIREMENTS FOR ANCHORING AND GUIDING OF SYSTEMS.
	.17	DRILLED OR POWER DRIVEN ANCHORS OR FASTENERS SHALL NOT BE PERMITTED FOR USE WITH SEISMIC CONTROL MEASURES.
	.18	FRICTION DUE TO GRAVITY DOES NOT CONSTITUTE A SEISMIC ATTACHMENT.
	.19	SEISMIC RESTRAINT CONNECTIONS ARE NOT TO BE CONNECTED TO THE BOTTOM CHORD OF STEEL JOISTS OR THE BOTTOM FLANGE OF STEEL BEAMS.
	.20	STANDARD BEAM CLAMPS CAN BE USED TO SUPPORT RESTRAINED COMPONENTS; THEY CANNOT BE USED TO CONNECT THE SEISMIC RESTRAINT TO THE STRUCTURE - ONLY FOR THE HANGER RODS.
	.21	BRACE REMAINING PIPING, DUCTWORK, ELECTRICAL COMPONENTS TO CODE REQUIREMENTS (OBC) OR IN CONFORMANCE WITH SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC.) "SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS", 2ND ED.

THE SEISMIC RESTRAINT MATERIALS MANUFACTURER PRIOR TO INSTALLING ANY SEISMIC RESTRAINT DEVICES. THE CONTRACTOR SHALL SEEK THE REPRESENTATIVE'S GUIDANCE IN ANY INSTALLATION PROCEDURES WITH WHICH HE IS UNFAMILIAR.

.2 UPON COMPLETION OF THE INSTALLATION OF ALL SEISMIC RESTRAINT DEVICES HEREIN SPECIFIED, THE LOCAL REPRESENTATIVE OF THE SEISMIC SNUBBERS MANUFACTURER SHALL, AT THE CONTRACTORS SNUBBER DEVICES, OR OTHER FAULT IN THE SYSTEM WHICH COULD AFFECT THE PERFORMANCE OF THE SYSTEM.

THE INSTALLING CONTRACTOR SHALL SUBMIT A REPORT UPON REQUEST TO THE BUILDING ARCHITECT AND/OR ENGINEER. CONTRACTOR TO PROPERLY COMPLETE THE SEISMIC RESTRAINT

WORK AS PER THE SPECIFICATIONS.

SEISMIC SPECIFICATIONS

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

CITY OF PETERBOROUGH **FIRE STATION NO. 2**

START DATE October 2021

PROJECT No. 21-100

Design

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

138 Simcoe Street

ISSUE / REVISIONS Mar.21.22

1 Issued for Building Permit 2 Issued for QA/QC Apr.14.22

3 Issued for Tender Jul.07.22

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Peterborough Ontario K9H 2H5

.3 THE ELECTRICAL CONTRACTOR ARE TO PROVIDE THE WEIGHT

PER UNIT LENGTH FOR CABLE TRAYS AND BUS DUCT.

CHEDULES I D 24" × 36" -SCI

FIRE ALARM ZONES									
ALARM	SUPERVISORY								
MAIN FLOOR	SPRINKLER-MAIN VALVE								
MAIN FLOOR	SPRINKLER-MAIN FLOOR								
MEZZANINE	SPRINKLER-MEZZANINE								
HOSE TOWER STAIR									
SPRINKLER MAIN FLOOR									
SPRINKLER MEZZANINE									
SPARE									
SPARE									
CIRCUITS									
HORN/STROBE CIRCUIT A-EAST SIDE									
HORN/STROBE CIRCUIT B-EAST SIDE									
HORN/STROBE CIRCUIT A-WEST SIDE									
HORN/STROBE CIRCUIT A-APPARATUS									
HORN/STROBE CIRCUIT B-APPARATUS									
HORN/STROBE CIRCUIT A-MEZZANINE									

400Α, 60 CIRCUIT, 3φ, 4W, 120/208 VOLT SURFACE MOUNTED BOLT-ON CIRCUIT BREAKER PANEL BOARD WITH MAIN BREAKER & COPPER BUS, 22 KAIC * DENOTES BREAKER LOCK-ON DEVICE

DESCRIPTION	BKR	ССТ	- S/N	ССТ	BKR	DESCRIPTION	DESCRIPTION	BKR	ССТ	S/N CCT	BKR	DESC RIPTION
PANEL A	200A 3P	1	• • •	4	200A 3P	PANEL B	150KVA TRANSFORMER (DP-2)	100A 3P	1	 ↓ ↓	50A 3P	WATER TO WATER HEAT PUMP
FIRE ALARM	15A*	7	•	8	15A*	EMERGENCY LIGHTING			7	• 8		
RECEPTACLE APPARATUS BAY	20A	9	 +•+	10	20A	RECEPTACLE APPARATUS BAY	DOMESTIC WATER HEAT PUMP	40A 3P	Þ		100A 3P	150KVA TRANSFORMER (DP-M)
RECEPTACLE APPARATUS BAY	20A	11	+++	12	20A	RECEPTACLE APPARATUS BAY			11	• 12		
RECEPTACLE GARBAGE ROOM	20A	13	•	14	20A	RECEPTACLE GROUNDS STORAGE			13/	• 14		
RECEPTACLE ELECTRICAL ROOM	20A	15	++	16	20A	RECEPTACLE HOSE TOWER	SCBA	25A 3P	1/5		25A 3P	СОМР
GFI REC WASHROOM 145	20A	17	•	- 18	20A	GFI REC LAUNDRY/EXTRACT			17	18		
REC WASHER ROOM 144	15A	19	•	20/	40A	REC DRYER ROOM 144			19/	• 20		
REC SCBA 141	15A	21	•	22			P-1	15A 3P	2/1		15A 3P	P-2
REC FUTURE COMP	15A	23	•	24	20A	RECEPTACLE APPARATUS CORRIDOR			23			
REC BUNKER GEAR ROOM	15A	25	•	26		BBH WR 145			25/	• 26	1	
FFH LAUNDRY/EXTRACT	15A	27	++++	- 28	15A	FFH SCBA 141	SOLAR TX	100A 3P	2/7	<u>−</u>	40A 3P	WWHP-1
FFH FUTURE COMP	15A	29	++++	- 30	15A	UH ELECTRICAL ROOM			29			
UH GROUNDS STORAGE ROOM	15A	31	•	- 32	15A	UH GARBAGE ROOM			31/	• 32	15A	
UH HOSE TOWER	15A	33	++++	- 34	15A	DF-1	WWHP-2	40A 3P	3/3		15A	
GAS FILLING STN	15A	35	++++	- 36	20A	LTG APPARATUS BAY			/35	→ 36	15A	
LTG 2ND FLOOR + HOSE TOWER	20A	37	+++	- 38	20A	LTG APPARATUS BAY NL		15A	37	• 38	15A	
LTG ELEC, STOR, SCBA	15A	39	•	40	15A			15A	39	40	15A	
	15A	41	++++	42	15A			15A	41	4 2		
	15A	43	++	44	15A							
	15A	45	•	46	15A							
	15A	47	++++	48	15A							
	15A	49	•	50	15A							
	15A	51	 +	52	15A							
	15A	53	++++	54	15A							
	15A	55		56	15A							
	15A	57	+	- 58	15A							
	15A	59	 + + 	60	15A							

PANEL DP-2

PANEL DP-1 200A, 42 CIRCUIT, 3¢, 4W, 347/600 VOLT SURFACE MOUNTED BOLT-ON CIRCUIT BREAKER PANEL BOARD WITH MAIN LUGS ONLY & COPPER BUS, 22 KAIC

	PAN	EL			\bowtie			
400A, 42 CIRCUIT, 3¢, 4W, 120/208 VOLT SURFACE MOUNTED BOLT—ON CIRCUIT BREAKER PANEL BOARD WITH MAIN BREAKER & COPPER BUS, 10 KAIC								
BREAKER PARE BOARD WITH MAAR BREAKER & OOFFER BOO, TO TAKE								
DESCRIPTION	BKR	ССТ	S/N	ССТ	BKR	DESCRIPTION		
RECEPTACLE MECH MEZZANINE	20A	1	•	2	20A	RECEPTACLE MECH MEZZANINE		
RECEPTACLE SECOND FLOOR	15A	3		4	15A	UH MECH MEZZANINE		
		5	•	6 /				
P-5	20A 3P	X	•	7	20A 3P	P-6		
		9 \	•	-/10				
	20A	11	•	12/	204	P-4		
P-3	3P	13	•	14	20A 3P			
		15		/16				
GLYCOL PUMP	15A	17			15A 2P	EF-1		
DRP-1	15A	19		20				
	4.5.4	21			15A	EF-2		
EF-3	15A	23		24	15A	EF-4		
EF-5 UH - 4,5,6	15A 15A		•	26	15A 15A			
	15A	27		30	15A			
	15A	29 31		32	15A			
_	15A	33		34	15A			
_	15A	35		- 36	15A			
_	15A	37	$ \bullet +$	- 38	15A			
_	15A	39	│ 	40	15A			
EF-6	15A	41		42	15A			

ELECTR	ICAL FORC
TAG	
SERVICE	MOUNTING
TYPE	
MANUFAC	CTUERER
MODEL	
AIR FLOV	N
CAPACITY	(
FAN MOT	OR
ELECTRIC	CAL
WEIGHT	
COLOUR	
CONTROL	S

PANEL A

225A, 60 CIRCUIT, 3¢, 4W, 120/208 VOLT RECESSED BOLT-ON CIRCUIT BREAKER PANEL BOARD WITH MAIN LUGS ONLY & COPPER BUS, 10 KAIC

* DENOTES BREAKER LOCK-ON DEVICE

ESCRIPTION	BKR	ССТ	S/N	CCT	BKR	DESCRIPTION
DOR OPERATOR VEST D4/UWR 105	15A	1	•	2	20A	REC VEST 104
FI REC UWR 105	20A	3	•	- 4	15A	FLEX SPACE 106
APTAIN OFFICE 108	15A	5	•	6	15A	CAPTAIN OFFICE 109
DRM ROOM 110	15A	7	•	- 8	15A	DORM ROOM 111
DRM ROOM 112	15A	9	•	- 10	15A	DORM ROOM 113
DRM ROOM 114	15A	11	•	- 12	15A	DORM ROOM 115
KERCISE ROOM 116	20A	13	•	14	20A	EXERCISE ROOM 116
(ERCISE ROOM 116	20A	15	•	16	20A	EXERCISE ROOM 116
EC STORAGE 117	20A	17	•	- 18	20A	REC JAN 118
FIREC WR 119	20A	19	•	20	20A	GFI REC WR 120
FI REC WR 121	20A	21	•	- 22	20A	FRIDGE KITCHEN 123
FI REC KITCHEN 123	20A	23	•	- 24	20A	GFI REC KITCHEN 123
TI REC KITCHEN 123	20A	25	•	26	15A	DISHWASHER KITCHEN 12
SHWASHER KITCHEN 123	15A	27	•	28/	20A	STOVE KITCHEN 123
RIDGE KITCHEN 123	15A	29	•	- 30	2P	STOVE KIICHEN 123
EC DINING ROOM 124	15A	31	•	- 32	15A	REC LOUNGE 125
EC VEST 127/CORRIDOR 154	20A	33	•	- 34	20A	REC CORRIDOR 154/156
AERGENCY LIGHTING	15A*	35		- 36	20A	LIGHTING-104/105/106/1 07/117 /CORRIDOR/153
GHTING-108/109/110/111/112 113/114/115/119/120/121	20A	37	•	- 38	20A	LIGHTING-116/118/151/1 27/123 /124 /125
ITCHEN 123 REC(MICRO)	20A	39	•	40	15A	WATER FOUNTAIN
ASHER	15A	41	•	+ 42/ - 44	40A 2P	DRYER
AUNA POWER	20A 2P	45	•	46	15A	
	15A	47	•	48	15A	
	15A	49	•	50	15A	
	15A	51	++	- 52	15A	
	15A	53		54	15A	
	15A	55	•	- 56	15A	
	15A	57	++	58	15A	
	15A	59		- 60	15A	

PANEL B

225A, 42 CIRCUIT, 3¢, 4W, 120/208 VOLT SURFACE MOUNTED BOLT-ON CIRCUIT BREAKER PANEL BOARD WITH MAIN LUGS ONLY & COPPER BUS, 10 KAIC

			C /1				
DESCRIPTION	BKR	ССТ	S/N	CCT	BKR	DESCRIPTION	
RECEPTACLES IT ROOM 107	15A	1		2	20A	RECEPTACLES IT ROOM 103	
RECEPTACLE IT ROOM 107	15A 2P	3	•	4 • 6	15A 2P	RECEPTACLE IT ROOM 107	
RECEPTACLE IT ROOM 107	15A	7	•	8/	30A	LIEAT DUMP UP 1	
HEAT PUMP HP-2	25A	<u>_9</u>	•	10	2P	HEAT PUMP HP-1	
ILAI FUMP HF-2	2P	1		• 12/	15A	heat pumps hp-3	
Heat PUMP HP-4	15A	13		14	2P	TEAT FUMPS HF-3	
	2P	15	↓ •	16/	15A	HEAT PUMPS HP-1V	
C IT ROOM	15A	17		• 18	2P		
	2P	19		20/	15A	ERV-1	
		21	│	1/22	2P		
EF-7	20A 3P	23		• 24	20A	LIGHTING	
		25	+	26	20A	LIGHTING	
HAND DRYER	20A	27	++	28	20A	LIGHTING	
CU-1 MAINTENANCE REC	15A	29		- 30	20A	ERV MAINTENANCE REC	
	15A	31/		- 32	15A		
CU-1	2P	33	+	- 34	15A		
	15A	35		• 36	15A		
	15A	37	+	- 38	15A		
	15A	39	+++	40	15A		
	15A	41	$ \cdot \cdot $	● 42	15A		

	FF-1/FF-2
	VESTIBULE
	WALL-CONFIRM WITH ARCH.
	OUELLET
	0AC 02008-T
cfm	160 cfm
watts	2000
hp	FRACTIONAL
volt/ph	208/1
kg	10.9 (24lbs)
	CONFIRM COLOUR WITH ARCHITECT
	TAMPERPROOF BUILT-IN THERMOSTAT

ELECTRIC BASEBOARD HEATER SCHEDULE					
TAG		B B — 1			
SERVICE		WASHROOM			
MANUFACTURER		OUELLET			
MODEL		OFM0502			
HEATING CAPACITY	watts	500			
VOLTAGE	volt/ph	120V/1PH			
WEIGHT	kg	2.5(5.5LBS)			
COLOUR		WHITE			

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DES DURHAM ENERGY SPECIALIST LIMITED

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ISSUE / REVISIONS

1	issued for Costing	Nov.02.21
2	issued for Permit	
3	Issued for Building Permit	Mar.21.22
4	Issued for QA/QC	Apr.14.22
5	Issued for Tender	Jul.07.22

All dimensions to be checked and verified on site. Do not scale drawings. Any discrepancies are to be reported to the Consultant. All drawings remain the property of the Consultant. Only latest approved

drawings to be used for construction.

Design

PROJECT No. 21-100

CITY OF

START DATE October 2021

PETERBOROUGH

FIRE STATION NO. 2

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

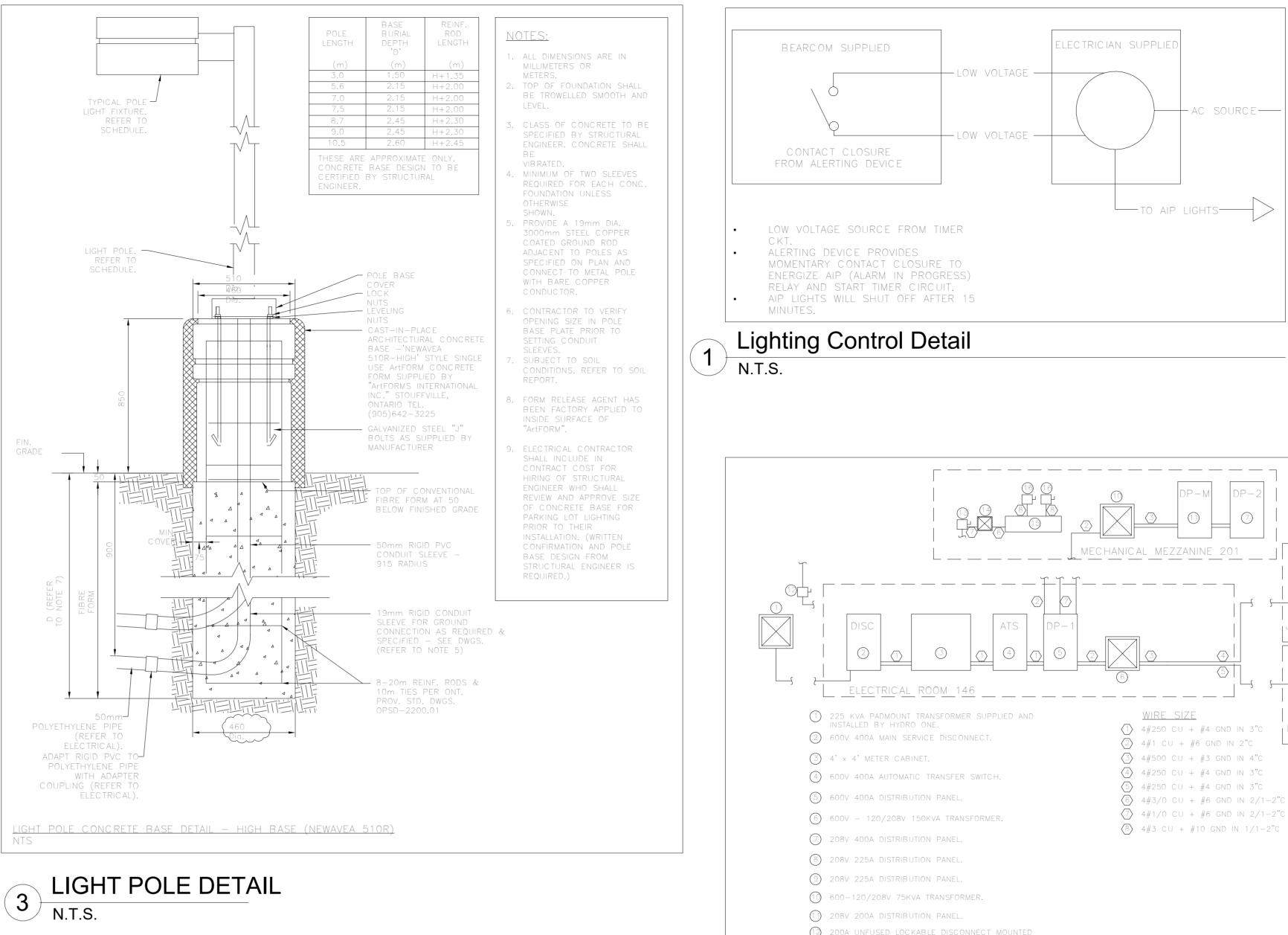
SCHEDULES

E901

12-DETAIL\$ D 24" x 36'

S

GRADE



E902

DETAILS

(Municipal File No. SPC 1009) 100 Marina Boulevard, Peterborough ON

FIRE STATION NO. 2

CITY OF PETERBOROUGH

PROJECT No. 21-100 START DATE October 2021

Design

verified on site. Do not scale drawings. Any discrepancies are to drawings remain the property of the Consultant. Only latest approved drawings to be used for construction.

All dimensions to be checked and be reported to the Consultant. All

PNL A JANITOR 118 PNL B S I O (1) 4#250 CU + #4 GND IN 3"C || ROOM 10/ 2 4#1 CU + #6 GND IN 2"C (6) 4#3/0 CU + #6 GND IN 2/1−2"C 4#1/0 CU + #6 GND IN 2/1-2"C 200A UNFUSED LOCKABLE DISCONNECT MOUNTED ON EXTERIOR OF BUILDING FOR UTLITY SHUT-OFF OF SOLAR SYSTEM 600V 200A/100AF DISCONNECT 600V-460V 112.5KVA TRANSFORMER FOR SOLAR PANELS \bigcirc 600V 100A DISCONNECT FOR SOLAR INVERTER

15 600V 400A SPLITTER

2 Single Line Diagram





DES DURHAM ENERGY SPECIALIST LIMITED

CONSULTING ENGINEERS

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1 Issued for Tender

ISSUE / REVISIONS

Jul.07.22