GROU										
	UND SNOW L	OAD:	S	s = 2.2  kPa r = 0.4  kPa						
ROOF	<u>:</u>	DEAD LOAD SNOW LOAD	=	110 111 4	* REFER TO	) DRIFT LO	DAD			
<u>FLOO</u>	<u>R LOADS:</u>	DEAD LOAD LIVE LOAD	=	<b>1</b> .0, <b>m</b>	(INCLUDIN	IG EXITS)				
WIND	LOAD:	q (1/50) = 0.41 Iw = 1.0	kPa							
<u>SEISM</u>		Sa (0.2)= 0.62 Sa (0.5)= 0.31 SITE CLASS: "	S	a (1.0)= 0.14 a (2.0)= 0.046 ED		GA = 0.31 e = 1.0				
									E 2012 ONTARIO I ER ONTARIO BUII	
CONCRET	ſE:									
. DESIG	GN OF CONCI	RETE ELEMEN	TS SHALL (	CONFORM TO	O CSA-A23.	3-14. PROV	VIDE CONC	RETE AN	ID PERFORM WOR	K TO CSA A23.3-14.
2. TEST (	CONCRETE I	N ACCORDAN	CE WITH C	SA-A23.3-14.						
. CONC	RETE REQUI	REMENTS:								
LOCA COND	ATION DITION	Mpa = TY	SIGN STR. (PE (DAYS) PRESSION URAL	<u>CEMI</u>			<u>AX AGG.</u> (mm)	<u>EXP.</u>	<u>SLUMP</u>	
INT.	SLAB ON GI	RADE 25C (28	8)	GU	5	-8	20	Ν	40mm	
EXTI	ERIOR EXPO	SED CONC.	35C (2	8)	C	U	5-8	20	C-1	80mm +/- 30mm
		ED STRENGTH					ASS, SPECI	FIED STF	RENGTH GOVERNS	5.
- WA' - DO	TER CEMEN' NOT USE AN	T RATIOS FOR Y ADMIXTUR	EXPOSURE E CONTAIN	E CLASSES A	S PER TABI IDE FOR CO	LES 7 - 9, C			l.	
	ROL JOINTS SS OTHERWI		GRADE: SA	AWCUT AT L	OCATIONS	SHOWN O	N DRAWIN	GS BUT 1	NOT EXCEEDING 1	5'-0" SPACING.
5. NO CO OR WA		VALL FORMS S	SHALL BE R	REMOVED BE	EFORE CON	CRETE HA	AS REACHE	D 10 Mpa	FOR ARCHITECTU	JRAL CONCRETE AND 8 Mpa FOR OTHER COLUMN
5. NO SL	AB FORMS (	OR BEAM FOR	MS SHALL	BE REMOVEI	D BEFORE	CONCRETI	E HAS REAG	CHED 17	Mpa.	
	NGTH OF CO NEER, MAY E		STRIPPING	TO BE DETER	RMINED BY	FIELD-CU	JRED CYLI	NDERS. 1	ALTERNATE METH	HODS, IF ACCEPTABLE TO THE STRUCTURAL DESI
	-	E APPROVED E	BY THE ENG	GINEER PRIO	R TO STRIF	PING.				
						AYS, WET	CURING SH	IALL BE	COMPLETED WITH	H TERRAFIX 240R NON-WOVEN GEOTEXTILE
		E) CUDCTITUT								
	,	E). SUBSTITUT IS, GIRDERS, E				ETE REAC	HES DESIG	N STREN	GTH.	
0. ALL S 1. BE RE AND C	LABS, BEAM	IS, GIRDERS, E	TC. TO BE : DESIGN. M	SHORED UNT	TIL CONCR SHALL BE P	ROPORTIC	ONED WITH	DUE CO	NSIDERATION TO	EXTREME TEMPERATURES - WINTER OR SUMME BE APPROVED BY THE ENGINEER PRIOR TO
0. ALL S 1. BE RE AND C PLACE	LABS, BEAM SPONSIBLE CONSULT GE	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI	TC. TO BE : DESIGN. M	SHORED UNT	TIL CONCR SHALL BE P	ROPORTIC	ONED WITH	DUE CO	NSIDERATION TO	
0. ALL S 1. BE RE AND C PLACE REINFORC . REINF	LABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTES	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF	TC. TO BE DESIGN. M RACTOR TO	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/0	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F	ROPORTIC MENTS. A 2014), "BII	ONED WITH ADMIXTURI	DUE CO ES AND A	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE	
0. ALL S 1. BE RE AND C PLACE REINFORC . REINF CONFC	LABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STH ORM TO CAN	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF	TC. TO BE DESIGN. M RACTOR TO ORMED BA 9, GRADE 4	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/0 400W. ANCHO	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F DR BOLTS 7	ROPORTIC MENTS. A 2014), "BII	ONED WITH ADMIXTURI	DUE CO ES AND A	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELD
<ol> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORC</li> <li>REINF CONFC</li> <li>PROVI A) SU B) FC</li> </ol>	LABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTES ORCING STH ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR ORMED SUR	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES EXPOSI FACES NOT EX	TC. TO BE DESIGN. M RACTOR TO ORMED BA 9, GRADE 4 VER OVER F GROUND ED TO GRO (POSED TO	SHORED UNT IIX DESIGN S O DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WE	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F DR BOLTS T OLLOWS: ATHER	ROPORTIC MENTS. A 2014), "BII TO ASTM A 75 mm 40 mm &:	DNED WITH ADMIXTURI AJO7. STEEI AJO7. EPOX	DUE CO ES AND A	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELD
0. ALL S 1. BE RE AND C PLACE REINFORC . REINF CONFC 2. PROVI A) SU B) FC C) FC	LABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STH ORM TO CAN IDE CLEAR C URFACE POU ORMED SUR ORMED SUR BEAMS COLUM SLABS,	IS, GIRDERS, E FOR THE MIX ENERAL CONT S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES EXPOSI	TC. TO BE DESIGN. M RACTOR TO ORMED BA 9, GRADE 4 VER OVER F GROUND ED TO GRO (POSED TO S) CALS)	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/0 400W. ANCHO REBAR AS F OUND OR WE GROUND OF	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F DR BOLTS T OLLOWS: ATHER R WEATHEI	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mn	DNED WITH ADMIXTURI LLET STEEI A307. EPOX	DUE CO ES AND A	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELD
<ol> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORCE</li> <li>REINF CONFCE</li> <li>PROVIDANS SU B) FCC C) FCC</li> <li>D) P2</li> <li>REINF</li> </ol>	LABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STH ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR ORMED SUR ORMED SUR BEAMS COLUM SLABS, ARKING SUR	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES NOT EX (TO STIRRUPS INS (TO VERTI WALLS FACES AND E	TC. TO BE DESIGN. M RACTOR TO ORMED BA 9, GRADE 4 VER OVER F GROUND ED TO GRO (POSED TO S) CALS) XTERIOR T PECTED BY	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WEA GROUND OF GROUND OF OP OF SLAB	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER R WEATHEI :	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 8: 40 mm 20 mm 40 mm	DNED WITH ADMIXTURI LLET STEEI A307. EPOX	DUE CO ES AND A , BARS F Y COATE	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELD
<ol> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORG</li> <li>REINF CONFG</li> <li>PROVI</li> <li>A) SU B) FG C) FG</li> <li>D) P2</li> <li>REINF IN PLA</li> </ol>	SEABS, BEAM SEPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STH ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR ORMED SUR ORMED SUR BEAMS COLUM SLABS, ARKING SUR	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES EXPOSI FACES NOT EX (TO STIRRUPS INS (TO VERTI WALLS FACES AND E FACES AND E	TC. TO BE DESIGN. M RACTOR TO ORMED BA 9, GRADE 4 VER OVER CALS XTERIOR T PECTED BY	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WE GROUND OF COP OF SLAB	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER R WEATHEI : EER. NOTI	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 8: 40 mm 20 mm 40 mm	DNED WITH ADMIXTURI LLET STEEI A307. EPOX	DUE CO ES AND A , BARS F Y COATE	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELD M A775. PLACE REBAR TO CAN/CSA-A23.1-14.
<ol> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORG</li> <li>REINF CONFG</li> <li>PROVI</li> <li>A) SU B) FG C) FG</li> <li>D) P2</li> <li>REINF IN PLA</li> </ol>	ELABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTE: FORCING STH ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR ORMED SUR ORMED SUR SLABS, ARKING SUR FORCING WO ACE FOR THI R LAP SPLIC SIZE COMP	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES EXPOSI FACES NOT EX (TO STIRRUPS INS (TO VERTI WALLS EFACES AND E E INSPECTION. E LENGTHS (U <u>ES</u> (mm) <u>25</u>	TC. TO BE DESIGN. M RACTOR TO ORMED BA 9, GRADE 4 VER OVER CALS) TO GROUND ED TO GRO (POSED TO S) CALS) XTERIOR T PECTED BY NLESS NOT SION SPLICI MPA 3	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/G 000W. ANCHO REBAR AS F OUND OR WE GROUND OF GROUND OF COP OF SLAB THE ENGIN TED ON DRA E "CLASS B" <u>0 Mpa</u>	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER R WEATHEI : EER. NOTI WINGS) <u>FOR CC 3</u>	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 30 mm 20 mm 40 mm FY THE EN <u>DNCRETE S 5 Mpa</u>	DNED WITH ADMIXTURI ADMIXTURI A A A A A A A A A A A A A A A A A A A	DUE CO ES AND A DARS F Y COATH HOURS	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELD M A775. PLACE REBAR TO CAN/CSA-A23.1-14.
<ol> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORG</li> <li>REINF CONFG</li> <li>PROVI</li> <li>A) SU B) FG C) FG</li> <li>D) PA</li> <li>REINF IN PLA</li> <li>REINF</li> <li>REINF</li> <li>REINF</li> </ol>	ELABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTE: FORCING STH ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR ORMED SUR ORMED SUR SLABS, ARKING SUR FORCING WO ACE FOR THI R LAP SPLIC SIZE COMP	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES EXPOSI FACES NOT EX (TO STIRRUPS INS (TO VERTI WALLS FACES AND E ENSPECTION. E LENGTHS (U E LENG	TC. TO BE S DESIGN. M RACTOR TO 9, GRADE 4 9, GRADE 4 VER OVER CALS) XTERIOR T PECTED BY NLESS NOT SION SPLICE 5 Mpa 3 0 (560) 3 0 (790) 5	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WEA GROUND OF COP OF SLAB THE ENGIN TED ON DRA E "CLASS B" 0 Mpa 80 (510) 35 (790) 60 (865)	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER R WEATHEN : EER. NOTI WINGS) <u>FOR CC</u> <u>3</u> 5 6	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 30 mm 20 mm 40 mm FY THE EN	DNED WITH ADMIXTURI LLET STEEI A307. EPOX	DUE CO ES AND A DARS F Y COATH HOURS I S (mm) pa 130) 510) 760)	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELD M A775. PLACE REBAR TO CAN/CSA-A23.1-14.
<ol> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORCE</li> <li>REINF CONFORM</li> <li>PROVI</li> <li>A) SU</li> <li>B) FO</li> <li>C) FO</li> <li>D) P2</li> <li>REINF IN PLA</li> <li>REBAI</li> <li>BAR S</li> <li>10M</li> <li>15M</li> <li>20M</li> <li>25M</li> <li>TOP B</li> </ol>	SPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STH ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR BEAMS COLUM SLABS, ARKING SUR FORCING WO ACE FOR THI R LAP SPLIC SIZE COMP SPLICI 330 480 580 740	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES EXPOSI FACES NOT EX (TO STIRRUPS INS (TO VERTI WALLS FACES AND E INSPECTION. E LENGTHS (U E LENGTHS (U SES (mm) 25 43 61 74 11 LENGTHS ARE	TC. TO BE S DESIGN. M RACTOR TO ORMED BA 9, GRADE 4 VER OVER T GROUND ED TO GRO (POSED TO S) CALS) XTERIOR T PECTED BY NLESS NOT SION SPLICI Mpa 3 0 (560) 3 0 (790) 5 0 (940) 6 70 (1525) 10 DENOTED	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WE GROUND OF COP OF SLAB COP OF SLA	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER R WEATHEI : EER. NOTI WINGS) <u>FOR CC</u> 3 3 5 6 9	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 20 mm 20 mm 40 mm FY THE EN <u>ONCRETE S 5 Mpa</u> 60 (460) 10 (660) 10 (815) 90 (1295)	DNED WITH ADMIXTURI LLET STEEI A307. EPOX	DUE CO ES AND A DARS F Y COATH HOURS S (mm) pa 130) 510) 760) 220)	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELD M A775. PLACE REBAR TO CAN/CSA-A23.1-14.
<ol> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORG</li> <li>REINF CONFG</li> <li>PROVI</li> <li>A) SU B) FG C) FG</li> <li>D) P2</li> <li>REINF IN PLA</li> <li>REBAI</li> <li>BAR S</li> <li>10M</li> <li>15M</li> <li>20M</li> <li>25M</li> <li>TOP B</li> <li>300mn</li> </ol>	SPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STH ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR SORCING WO ACE FOR THI R LAP SPLIC SIZE COMP SPLICI 330 480 580 740 BAR SPLICE I n OF CONCR	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES EXPOSI FACES NOT EX (TO STIRRUPS INS (TO VERTI WALLS FACES AND E INSPECTION. E LENGTHS (U E LENGTHS ARE ETE POURED F	TC. TO BE S DESIGN. M RACTOR TO ORMED BA 9, GRADE 4 VER OVER T GROUND ED TO GRO (POSED TO S) CALS) XTERIOR T PECTED BY NLESS NOT SION SPLICE 5 Mpa 3 60 (560) 3 0 (790) 5 60 (940) 6 70 (1525) 10 DENOTED BELOW THI	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WE GROUND OF COP OF SLAB THE ENGIN TED ON DRA <u>E "CLASS B"</u> <b>0 Mpa</b> 80 (510) 35 (790) 60 (865) 065 (1400) IN BRACKET E BAR.	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER R WEATHEI : EER. NOTI WINGS) <u>FOR CC</u> <u>3</u> 5 6 9 TS AND SHO	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 20 mm 20 mm 40 mm FY THE EN <u>ONCRETE S 5 Mpa</u> 60 (460) 10 (660) 10 (815) 90 (1295)	DNED WITH ADMIXTURI LLET STEEI A307. EPOX	DUE CO ES AND A DARS F Y COATH HOURS S (mm) pa 130) 510) 760) 220)	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELDI M A775. PLACE REBAR TO CAN/CSA-A23.1-14.
<ol> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORM</li> <li>REINF CONFO</li> <li>PROVI</li> <li>A) SU B) FO</li> <li>C) FO</li> <li>D) PA</li> <li>REINF IN PLA</li> <li>REINF IN PLA</li> <li>REBAI</li> <li>BAR S</li> <li>10M 15M 20M 25M</li> <li>TOP B 300mm</li> <li>REBAI</li> <li>BAR</li> </ol>	LABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STH ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR ORMED SUR ORMED SUR ORMED SUR SLABS, ARKING SUF FORCING WO ACE FOR THI R LAP SPLIC SIZE COMP SPLICI 330 480 580 740 BAR SPLICE I n OF CONCR R EMBEDME	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES AND E INS (TO VERTI WALLS FACES AND E INSPECTION. E LENGTHS (U E LENGTHS (U E LENGTHS (U E LENGTHS ARE ETE POURED F A3 61 74 11 LENGTHS ARE ETE POURED F ENT LENGTHS RESSION EMB	TC. TO BE S DESIGN. M RACTOR TO ORMED BA 9, GRADE 4 VER OVER CALS) XTERIOR T PECTED BY NLESS NOT SION SPLICE Mpa 3 0 (560) 3 0 (790) 5 0 (940) 6 70 (1525) 10 DENOTED BELOW THE (UNLESS N	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WE GROUND OF COP OF SLAB THE ENGIN TED ON DRA E "CLASS B" 0 Mpa 80 (510) 35 (790) 60 (865) 065 (1400) IN BRACKET E BAR. TOTED ON DR	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER R WEATHEN : EER. NOTI WINGS) <u>FOR CC</u> <u>3</u> 5 6 9 CS AND SHO RAWINGS) TH	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 20 mm 20 mm 40 mm FY THE EN DNCRETE S 5 Mpa 50 (460) 10 (660) 10 (660) 10 (815) 90 (1295) DULD BE U	DNED WITH ADMIXTURI LLET STEEI A307. EPOX n n n NGINEER 24 <u>STRENGTHS</u> <u>40 M</u> 330 (4 480 (1 580 (1 940 (1) 940 (1)	DUE CO ES AND A DUE CO ES AND A DATE Y COATH HOURS 1 HOURS 1 50) 50) 50) 50) 50) 50) 50) 50) 760) 220) THORIZCO	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELDI M A775. PLACE REBAR TO CAN/CSA-A23.1-14.
<ol> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORG</li> <li>REINF CONFG</li> <li>PROVI</li> <li>A) SU B) FG C) FG</li> <li>D) PA</li> <li>REINF IN PLA</li> <li>REINF IN PLA</li> <li>REBAI</li> <li>BAR S</li> <li>10M 15M 20M 25M</li> <li>TOP B 300mn</li> <li>REBAI</li> </ol>	LABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STH ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR ORMED SUR ORMED SUR ORMED SUR SLABS, ARKING SUF FORCING WO ACE FOR THI R LAP SPLIC SIZE COMP SPLICI 330 480 580 740 BAR SPLICE I n OF CONCR R EMBEDME	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES EXPOSI FACES NOT EX (TO STIRRUPS INS (TO VERTI WALLS FACES AND E INSPECTION. E LENGTHS (U E LENGTHS (U E LENGTHS (U E LENGTHS ARE ESSION EMBINIS RESSION EMBINIS	TC. TO BE S DESIGN. M RACTOR TO ORMED BA 9, GRADE 4 VER OVER CALS) XTERIOR T PECTED BY NLESS NOT SION SPLICE Mpa 3 0 (560) 3 0 (790) 5 0 (940) 6 70 (1525) 10 DENOTED BELOW THE (UNLESS N	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WE GROUND OF COP OF SLAB COP OF SLAB THE ENGIN TED ON DRA E "CLASS B" <b>0 Mpa</b> 80 (510) 35 (790) 60 (865) 065 (1400) IN BRACKET E BAR. COTED ON DR <b>n</b> )	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER R WEATHEN : EER. NOTI WINGS) <u>FOR CC</u> <u>3</u> 5 6 9 CS AND SHO RAWINGS) TH	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 20 mm 20 mm 40 mm FY THE EN DNCRETE S 5 Mpa 50 (460) 10 (660) 10 (660) 10 (815) 90 (1295) DULD BE U	DNED WITH ADMIXTURI LLET STEEI A307. EPOX	DUE CO ES AND A DUE CO ES AND A DATE Y COATH HOURS 1 HOURS 1 50) 50) 50) 50) 50) 50) 50) 50) 760) 220) THORIZCO	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST IN ADVANCE. CO NTAL SPLICE BAR	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELDI M A775. PLACE REBAR TO CAN/CSA-A23.1-14.
<ul> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORM</li> <li>REINF CONFO</li> <li>PROVI</li> <li>A) SU</li> <li>B) FO</li> <li>C) FO</li> <li>D) PA</li> <li>REINF IN PLA</li> <li>REBAI</li> <li>BAR S</li> <li>10M 15M 20M 25M</li> <li>TOP B 300mn</li> <li>REBA</li> <li>BAR SIZE</li> <li>10M 15M 20M</li> </ul>	LABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STR ORM TO CAN IDE CLEAR O URFACE POL ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COMPE FOR COL 20 MPA 250(330) 360 (450) 430 (535)	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES AND E CONCRETE SEXPOSI FACES NOT EX (TO STIRRUPS INS (TO VERTI WALLS EFACES AND E INSPECTION. E LENGTHS (U E LENGTHS (U E LENGTHS (U E LENGTHS (U E LENGTHS (U E LENGTHS ARE ES (mm) 25 A3 A1 A1 EX ENGTHS ARE ETE POURED E ENT LENGTHS RESSION EMBI NCRETE STRE 25 Mpa 30 230 (280) 20 300 (400) 27 380 (485) 36	TC. TO BE S DESIGN. M RACTOR TO 9, GRADE 4 9, GRADE 4 VER OVER CALS) XTERIOR T PECTED BY NLESS NOT SION SPLICI 5 Mpa 3 0 (560) 3 0 (790) 5 0 (940) 6 70 (1525) 1 DENOTED BELOW THI (UNLESS N EDMENT CNGTH (mm ) Mpa 00 (250) 55 (360) 00 (450)	SHORED UNT IIX DESIGN S D DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WE GROUND OF COP OF SLAB: COP	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER WEATHEN EER. NOTI WINGS) FOR CC 3 5 6 9 TS AND SHO RAWINGS) TI FOR CO 3 5 6 9 TS AND SHO RAWINGS) TI FOR CO 3 5 6 9 TS AND SHO RAWINGS) TI FOR CO 3 5 6 9 TS AND SHO RAWINGS) 0 (430) 50 (610) 50 (735)	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 30 mm 20 mm 40 mm FY THE EN 0NCRETE S 5 Mpa 60 (460) 10 (660) 10 (660) 10 (815) 90 (1295) 0ULD BE U ENSION EN DNCRETE 30 Mpa 305 (380) 430 (530) 510 (660)	DNED WITH ADMIXTURI LLET STEEI A307. EPOX 1 1 1 NGINEER 24 STRENGTH 40 M 330 (4 480 (0 580 (1 940 (1) 940 (1) 9	DUE CO ES AND A BARS F Y COATH HOURS A 30) 510) 220) HORIZC T HORIZC T HORIZC T HORIZC 50 (330) 360 (48) 60 (585)	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST IN ADVANCE. CO IN ADVANCE. CO NTAL SPLICE BAR	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELDI M A775. PLACE REBAR TO CAN/CSA-A23.1-14.
<ul> <li>ALL S</li> <li>BE RE AND C PLACE</li> <li>REINFORG</li> <li>REINF CONFG</li> <li>PROVI</li> <li>A) SU</li> <li>B) FC</li> <li>C) FC</li> <li>D) PA</li> <li>REINF IN PLA</li> <li>REBAI</li> <li>BAR S</li> <li>10M</li> <li>15M</li> <li>20M</li> <li>25M</li> <li>TOP B</li> <li>300mn</li> <li>REBAI</li> <li>BAR SIZE</li> <li>10M</li> <li>15M</li> </ul>	LABS, BEAM SPONSIBLE CONSULT GE EMENT. CING NOTES FORCING STR ORM TO CAN IDE CLEAR O URFACE POU ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR ORMED SUR SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COLUM SLABS, ARKING SUR COMPE FOR CO 20 Mpa 250(330) 360 (450) 430 (535) 535 (710) 635 (840)	IS, GIRDERS, E FOR THE MIX I ENERAL CONTI S: EEL: NEW DEF V/CSA G30.18-0 CONCRETE CO JRED AGAINST FACES EXPOSI FACES NOT EX (TO STIRRUPS INS (TO VERTI WALLS EFACES AND E INSPECTION. E LENGTHS (U E LENGTHS (U E LENGTHS (U E S) (mm) E S)	TC. TO BE S DESIGN. M RACTOR TO PORMED BA 9, GRADE 4 VER OVER CALS) XTERIOR T PECTED BY NLESS NOT SION SPLICE MPA 3 60 (560) 3 0 (790) 5 60 (940) 6 70 (1525) 10 DENOTED BELOW THI (UNLESS N EDMENT CNGTH (mm ) Mpa 90 (250) 75 (360) 10 (585) 15 (685)	SHORED UNT IX DESIGN S D DETERMIN ARS TO CSA/G 400W. ANCHO REBAR AS F OUND OR WE GROUND OF COP OF SLAB COP OF SLAB	TIL CONCR SHALL BE P E REQUIRE G30.18-09 (F OR BOLTS T OLLOWS: ATHER R WEATHEN : EER. NOTI WINGS) FOR CC 3 5 6 9 TS AND SHO RAWINGS) TI FOR C 3 5 6 9 TS AND SHO RAWINGS) TI FOR C 3 5 6 9 TS AND SHO RAWINGS) TI FOR C 5 Mpa 50 (430) 50 (735) 5 (1170)	ROPORTIC MENTS. A 2014), "BII O ASTM A 75 mm 40 mm 30 mm 20 mm 40 mm FY THE EN 0NCRETE S 5 Mpa 50 (460) 10 (660) 10 (660) 10 (815) 90 (1295) 0ULD BE U ENSION EN DNCRETE 30 Mpa 305 (380) 430 (530) 510 (660) 840 (1070) 90 (1270)	DNED WITH ADMIXTURI LLET STEEI 307. EPOX 1 1 1 1 NGINEER 24 STRENGTH 40 M 330 (4 480 (0 580 (1 940 (1) 940 (1	DUE CO ES AND A BARS F Y COATE HOURS A 30) 510) 220) HORIZC T HORIZC T HORIZC T HORIZC T HORIZC 50 (330 360 (48 60 (585 10 (940 40 (112)	NSIDERATION TO ADDITIVES SHALL OR CONCRETE RE ED REBAR TO AST IN ADVANCE. CO IN ADVANCE. CO ONTAL SPLICE BAR	BE APPROVED BY THE ENGINEER PRIOR TO INFORCEMENT", GRADE 400R, BARS TO BE WELDI M A775. PLACE REBAR TO CAN/CSA-A23.1-14.
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#### WOOD

1. ALL LUMBER TO BE MIN. NO. 2 SPF TO CSA 086-14 ENGINEERING DESIGN IN WOOD.

2. NAILING TO ONTARIO BUILDING CODE UNLESS NOTED OTHERWISE.

#### STRUCTURAL STEEL:

- 1. FABRICATE AND ERECT STRUCTURAL STEEL TO CAN/CSA S16.1-14. SUBMIT TWO SETS OF PRINTS OF SHOP DRAWINGS SHOWING ALL DETAILS AND MATERIAL SPECS. FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS WILL NOT BE REVIEWED UNLESS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN ONTARIO, FOR THOSE CONNECTIONS AND COMPONENTS DESIGNED BY THE FABRICATOR. THIS ENGINEER OR HIS REP. SHALL VISIT THE SITE TO SATISFY HIMSELF THAT THESE CONNECTIONS AND COMPONENTS SUBSTANTIALLY COMPLY WITH HIS SEALED SHOP DRAWINGS. THIS ENGINEER SHALL PROVIDE A LETTER TO THE CONSULTANT TO THIS EFFECT. THE ENGINEER SHALL ALSO PROVIDE SEALED SKETCHES FOR ALL FIELD MODIFICATIONS, MADE TO THIS DESIGN.
- 2. PROVIDE STRUCTURAL STEEL TO CSA G40.21-13 WITH THE FOLLOWING GRADES;

WIDE FLANGE BEAMS & COLUMNS	350 W
CHANNELS	350 W
HSS SECTION (CLASS H)	350 W
ANGLES, BARS & PLATES	300 W
MISCELLANEOUS STEEL	300 W
PIPE COLUMNS	ASTM A35 GR. B

3. PROVIDE ERECTION BOLTS TO ASTM A325, MINIMUM M20. DESIGN BOLTED CONNECTIONS TO ASTM A325 ASSUMING THREADS IN THE SHEAR PLANE.

4. WELD TO CASA W59-18 BY FABRICATORS CERTIFIED TO CSA W47.1-09 WELDING OF REINFORCING BARS SHALL CONFORM TO CSA W186-M1990(R2012).

5. MINIMUM WELDS FOR CONNECTIONS SHALL BE 6mm FILLET WELDS AND WHERE EXPOSED IN FINISHED BUILDING WELDS SHALL BE GROUND SMOOTH.

ALL STUD ANCHORS AND DEFORMED BAR ANCHORS SHALL BE FUSION WELDED TO PLATES AS PER MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.
CONNECTIONS NOT DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED BY THE STEEL FABRICATOR. MINIMUM BEAM SHEAR IS 80% OF THE TOTAL

BEAM LOAD CAPACITY AS LISTED IN "CISC MANUAL BEAM LOADS TABLES" FOR THE GIVEN SPAN OF THE BEAM U.N.O. UNUSUAL LOADINGS SHOWN ON PLANS ARE SPECIFIED LOADS. SEE LEGEND FOR EXPLANATION OF THESE LOADS.

UNLESS OTHERWISE NOTED, ALL CONNECTIONS SHALL BE SIMPLE CONNECTIONS. FOR BEAMS TO FACE OF HSS COLUMN CONNECTIONS PROVIDE DOUBLE ANGLE OR TEE-TYPE CONNECTIONS PER CISC HANDBOOK.

FOR CONNECTIONS NOT DESCRIBED ABOVE NOR DETAILED ON THE STRUCTURAL DRAWINGS (I.E. SMALL FRAMING MEMBERS) USE ANY TYPE OF SIMPLE CONNECTION AND DESIGN FOR THE SPECIFIED LOAD SHOWN.

SIMPLE BEAM TO COLUMN CONNECTIONS SHALL BE DESIGNED TO DELIVER SHEAR ONLY TO THE FACE OF THE COLUMN. SEISMIC AND DRAG STRUT CONNECTIONS SHALL BE DESIGNED TO DELIVER SHEAR ONLY TO THE CENTER LINE OF THE COLUMN.

UNLESS OTHERWISE NOTED, CONNECTIONS ARE TO BE WELDED OR BOLTED WITH HIGH STRENGTH BOLTS IN BEARING TYPE CONNECTIONS (MIN. 2 - 20 DIA. BOLTS).

BOLTED CONNECTIONS FOR DRAG STRUT LINES ARE TO BE PRE-TENSIONED. THE PRIME STRUCTURAL CONSULTANT SHALL HAVE FINAL APPROVAL ON ALL CONNECTIONS.

8. TEMPORARY BRACING DURING CONSTRUCTION TO BE DESIGNED BY CONTRACTOR (WHOEVER IS RESPONSIBLE FOR ERECTION). CONTRACTOR IS RESPONSIBLE FOR SAFETY ON SITE.

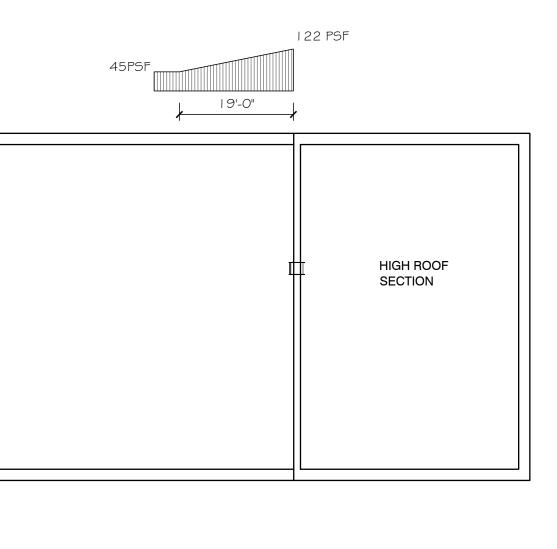
9. COORDINATE WITH MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS TO AVOID CONFLICT WITH STRUCTURAL ELEMENTS.

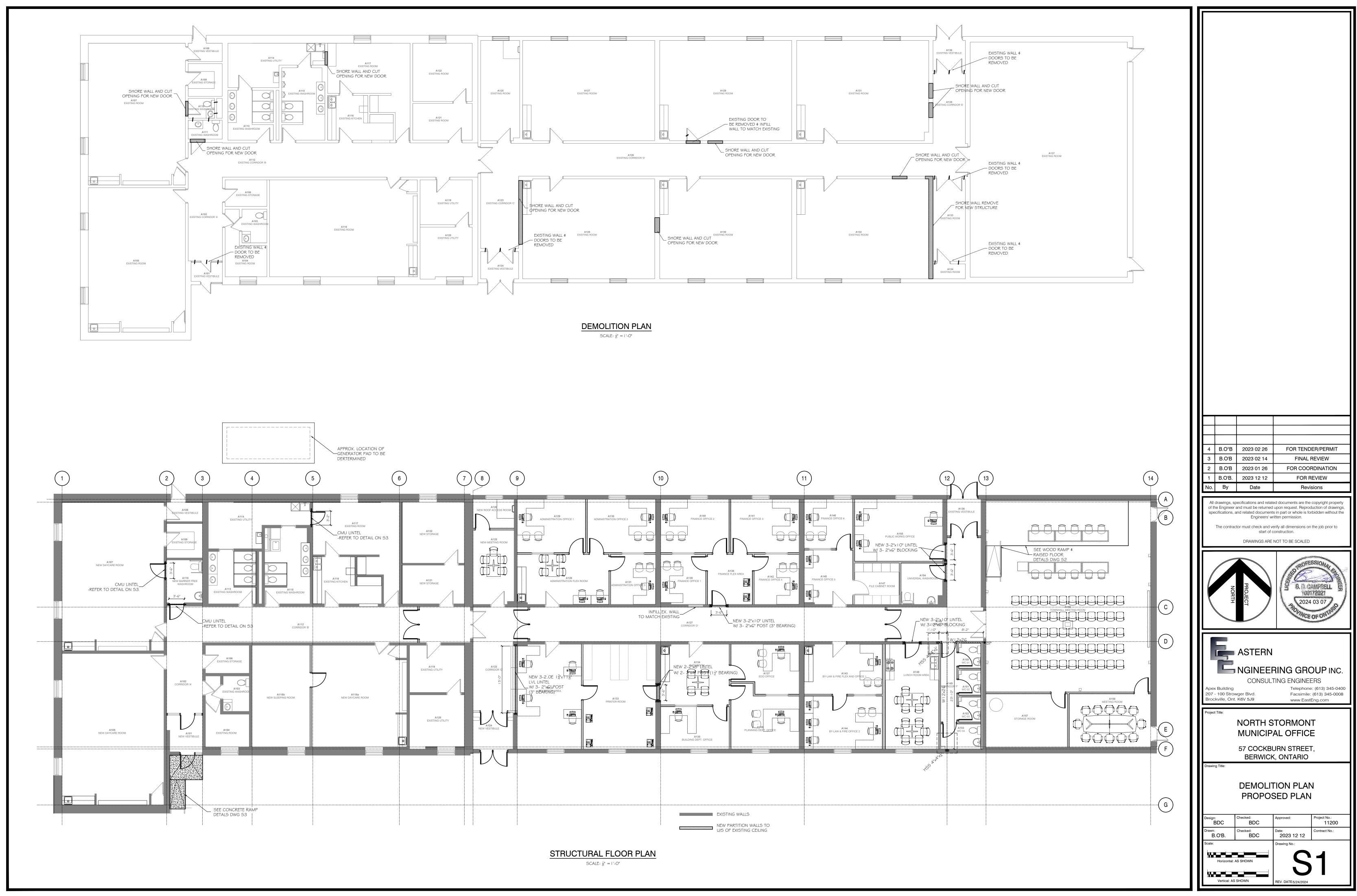
10. NO BURNING OF HOLES SHALL BE ALLOWED IN STRUCTURAL STEEL ANYWHERE.

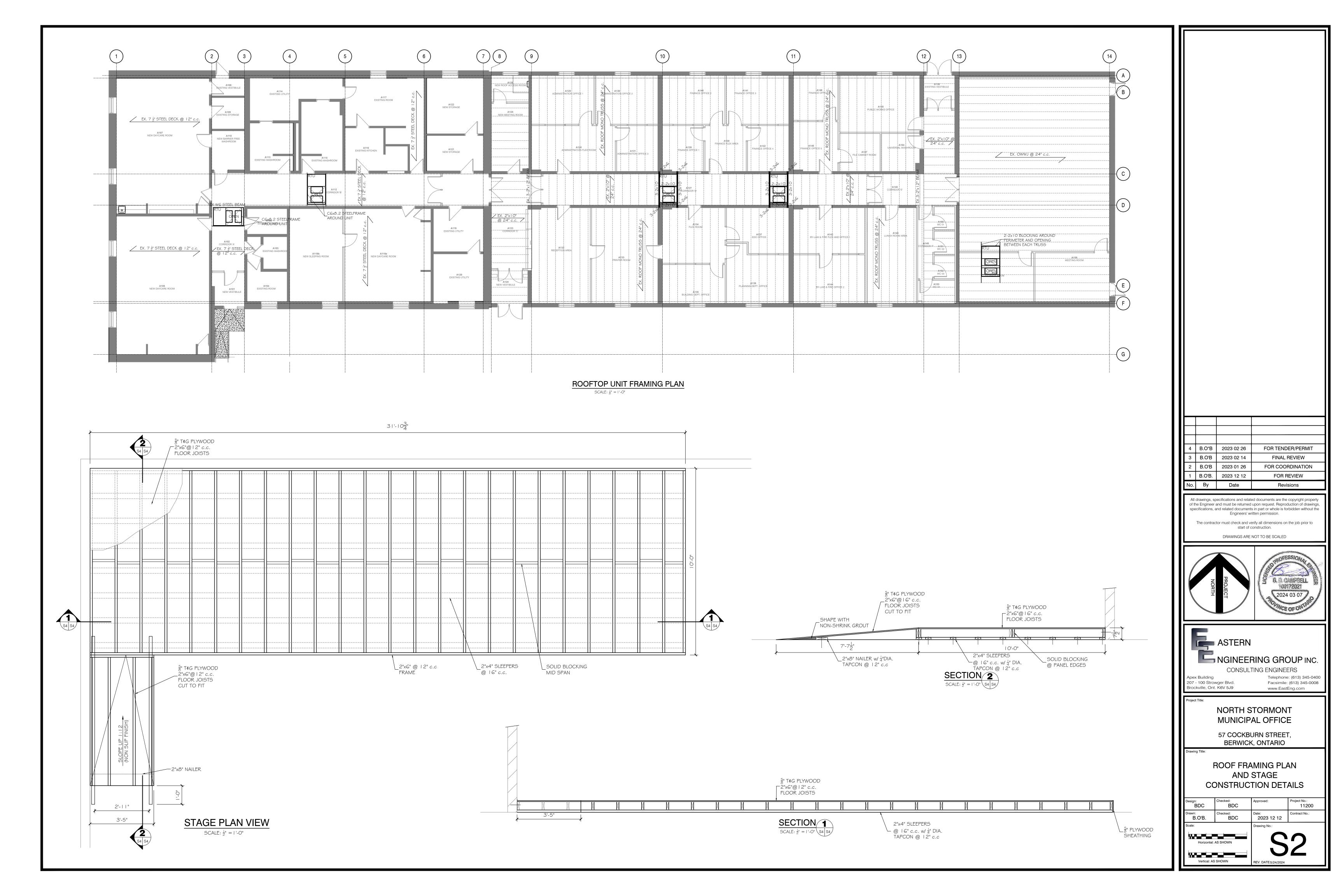
- 11. FOR MISC. STEEL SUCH AS RAILINGS, AWNINGS AND NON-STRUCTURAL ARCH. STEEL NOT DETAILED ON STRUCTURAL DRAWINGS, STRUCTURAL ENGINEER SHALL CHECK SHOP DRAWINGS AND COMMENT ON THE ABILITY OF THE SHOWN MEMBERS AND CONNECTIONS TO RESIST LOADS AND OTHER EFFECTS REQUIRED BY ONTARIO BUILDING CODE 2012. OVERALL DETAILING TO COMPLY WITH ARCHITECTURAL DRAWINGS AND ARE THE SUB-CONTRACTOR'S RESPONSIBILITY. ALL RAILINGS AND STAIR SHOP DRAWINGS TO BE STAMPED BY P.ENG. OF ONTARIO.
- ALL VISUALLY EXPOSED SURFACES OR SURFACES EXPOSED TO WEATHER AND NOT REQUIRING FIREPROOFING SHALL BE PAINTED WITH ONE COAT OF PRIMER TO CISC/CPMA 1-73A (REFER TO ARCHITECTURAL DRAWINGS). ALL SITE WELD AND WELDING CONNECTIONS TO BE TOUCHED-UP WITH ANTI-RUST PAINT.
   PROVIDE NAIL HOLES (2 MIN.) IN MISC. STEEL CAST INTO CONC. TO FACILITATE NAILING TO FORM WORK.
- 14. CHECK MECHANICAL AND ARCHITECTURAL DRAWINGS FOR OPENINGS, MECHANICAL UNITS, HOLES, ETC. TO BE MADE. OPENINGS SHOWN ON STRUCTURAL DRAWINGS FOR MECHANICAL UNITS, DUCTS AND PIPES ARE APPROXIMATE ONLY IN SIZE AND LOCATION. THE MECHANICAL CONTRACTOR MUST PROVIDE CONFIRMATION OF THE LATEST INFORMATION TO THE GENERAL CONTRACTOR AT THE STRUCTURAL STEEL AND METAL DECK SHOP DRAWING APPROVAL STAGE OF THE PROJECT.
- 15. THE STEEL STRUCTURE IS A NON-SELF-SUPPORTING STEEL FRAME AND IS DEPENDENT UPON DIAPHRAGM ACTION THE DECK FLOORS AND ATTACHMENT TO THE WALL SYSTEM FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES. PROVIDE ALL TEMPORARY SUPPORTS REQUIRED FOR STABILITY AND FOR RESISTANCE TO WIND AND SEISMIC FORCES UNTIL THESE ELEMENTS ARE COMPLETE AND ARE CAPABLE OF PROVIDING THIS SUPPORT.
- 16. THE FABRICATOR IS RESPONSIBLE FOR THE DESIGN OF ALL CONNECTIONS. CONNECTIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE SCHEMATIC AND ARE ONLY INTENDED TO SHOW THE RELATIONSHIP OF MEMBERS CONNECTED. CONNECTION DETAILS INDICATED ON THE DRAWINGS SHALL BE INCORPORATED INTO FABRICATOR'S CONNECTION DESIGN. SEE SPECIFICATIONS. ALL SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY THE FABRICATOR'S ENGINEER WITH THE ENGINEER'S SEAL FOR THE PROVINCE WHERE THE STRUCTURE IS LOCATED. ENGINEER'S SEAL MAY BE QUALIFIED "FOR DESIGN OF CONNECTIONS ONLY".
- 17. REFER TO SCHEDULE ON DWG FOR NON-BEARING WALL LINTELS NOT SHOWN ON STRUCTURAL DWG. REFER TO ARCH. & MECH. DWG. FOR OPENING SIZES AND LOCATIONS.
- 18. PROVIDE HOLES IN STEEL MEMBER FOR ATTACHMENT OF OTHER MATERIALS EXCEPT AT CRITICAL TENSILE SECTIONS OF BEAMS.
- 19. NO SPLICES IN COLUMNS AND BEAMS ARE ALLOWED WITHOUT THE ENGINEER'S APPROVAL. 100% BUTT WELDS IN SPLICES ARE TO BE ULTRASONICALLY TESTED OR EQUAL AND ACCEPTED BY A WELDING INSPECTION COMPANY.

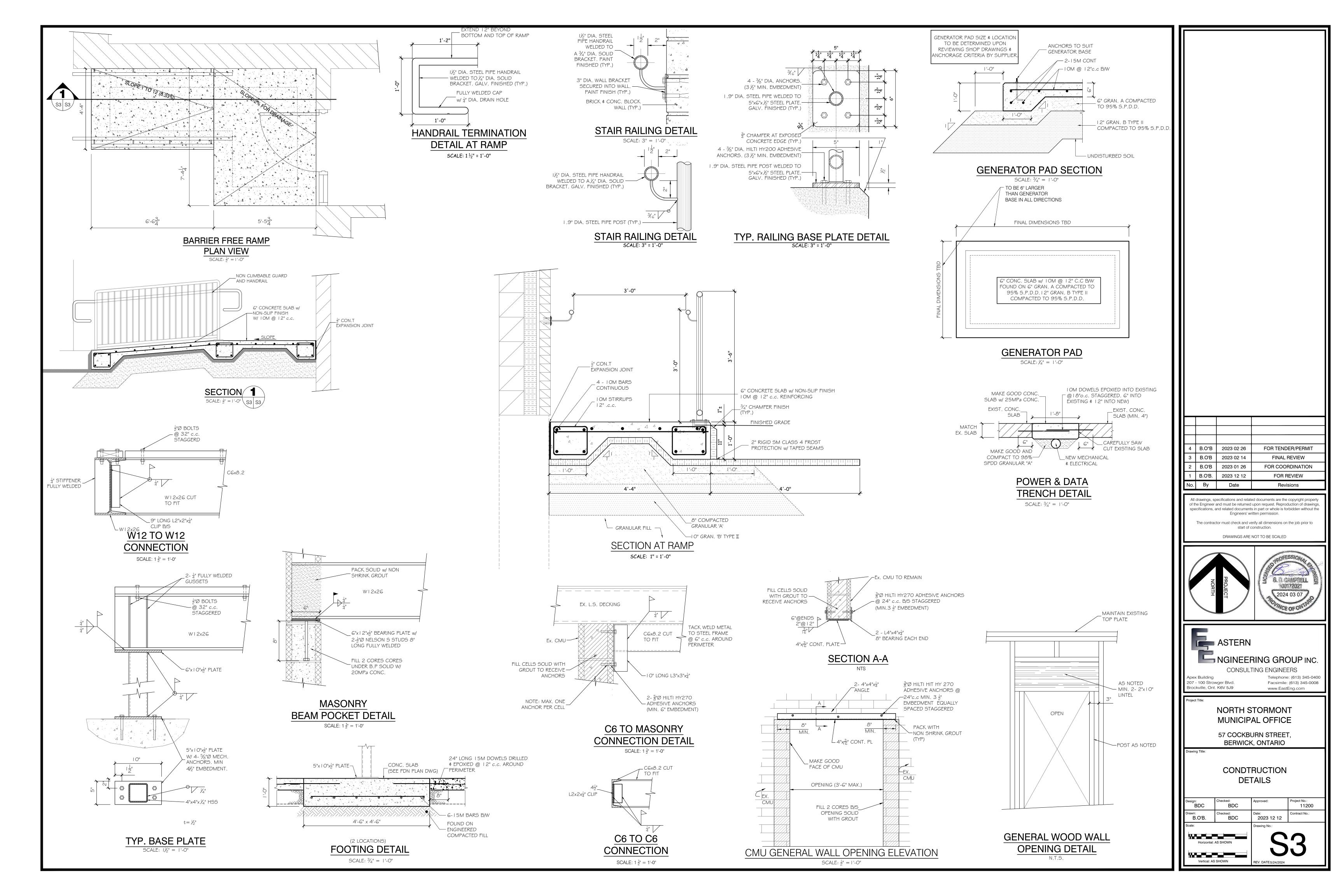
SNOW DRIFT DIAGRAM

11									
4	B.O"B	2023 02 26	FOR TENDER/PERMI	T					
3	B.O'B	2023 02 14	FINAL REVIEW						
2	B.O'B B.O'B.	2023 01 26 2023 12 12	FOR COORDINATION	J					
No.	Ву	Date	Revisions						
-	No.         By         Date         Revisions           All drawings, specifications and related documents are the copyright property of the Engineer and must be returned upon request. Reproduction of drawings, specifications, and related documents in part or whole is forbidden without the Engineers' written permission.           The contractor must check and verify all dimensions on the job prior to								
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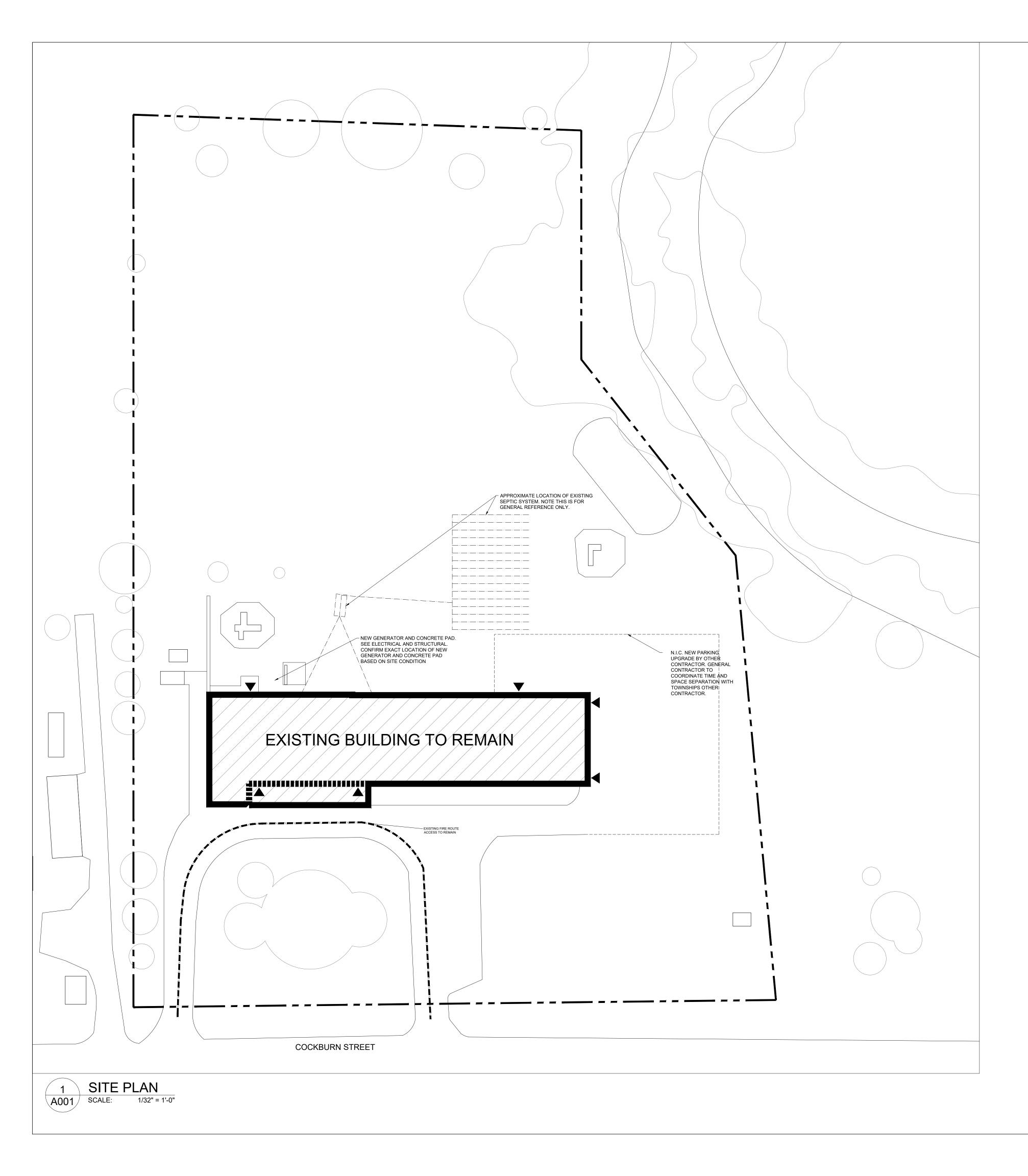


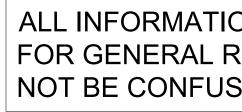


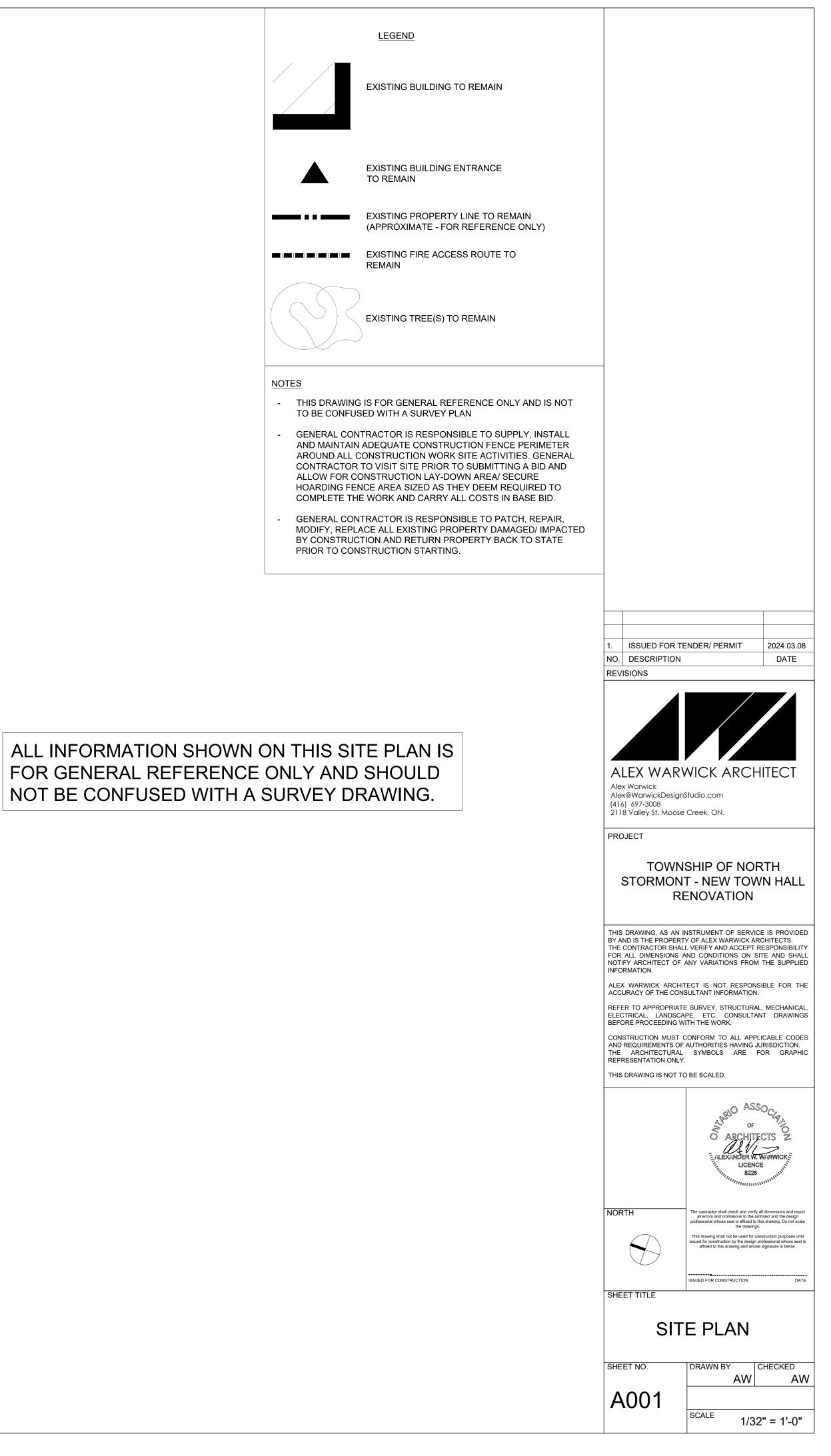
# TOWN TOWNSHIP

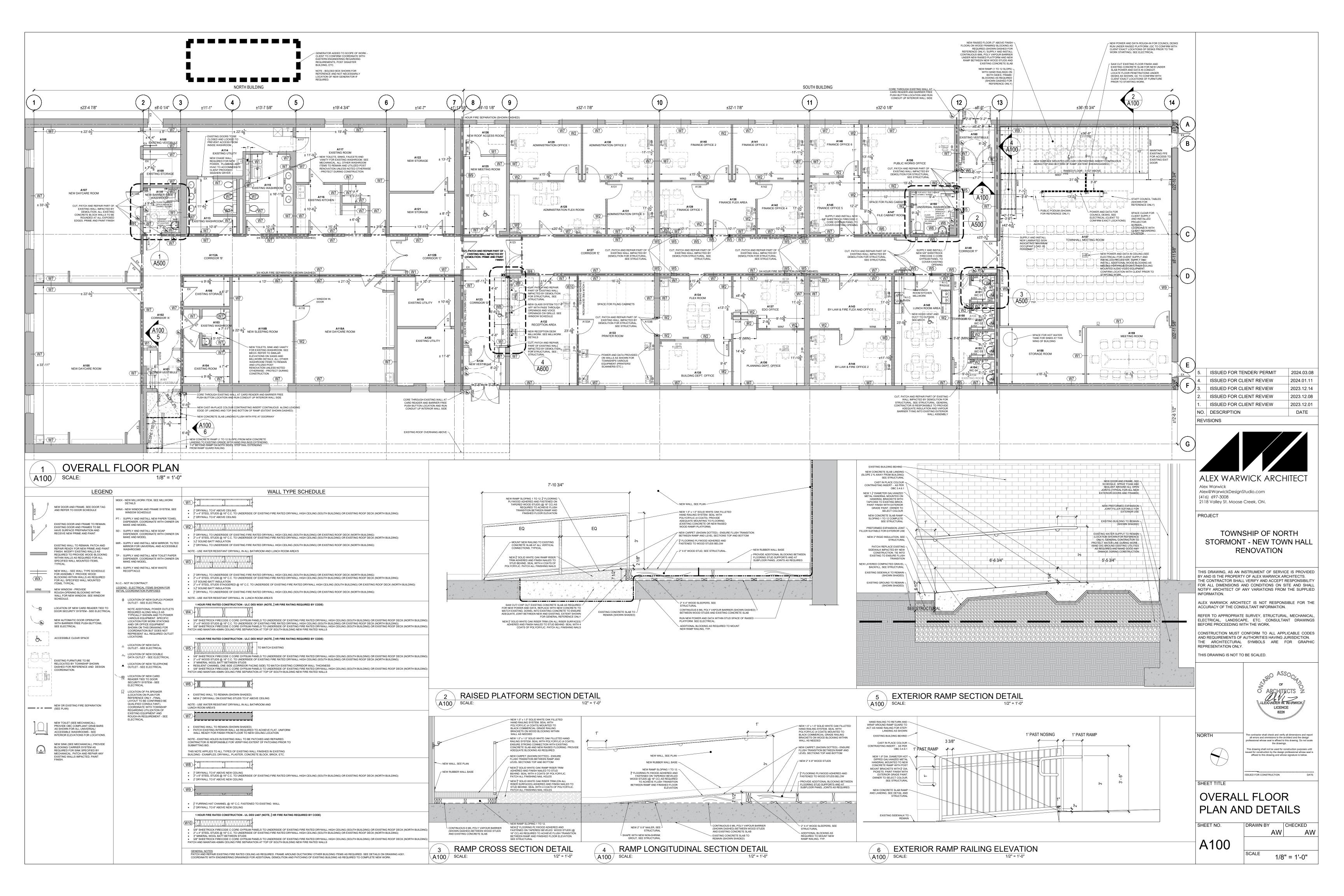
18 Required Horizontal Assemblies Li Name of Practice: ALEX WARWICK ARCHITECT FRR (Hours) or De Fire ALEX WARWICK Floors N/A Hours N/A - EXIS Resistance ALEX@WARWICKDESIGNSTUDIO.COM Rating N/A - EXIS Roof 3/4 Hours (416) 697-3008 (FRR) Mezzanine <u>N/A</u> Hours N/A - EXIS Name of Project: TOWNHALL RENOVATIONS FOR NORTH STORMONT Liste FRR of Supporting Des Members Floors N/A Hours N/A - EXIS Location: 57 COCKBURN ST., BERWICK ONTARIO Roof 3/4 Hours N/A - EXIS Mezzanine N/A Hours N/A - EXIS 19 Spatial Separation – Construction of Exterior Walls Item Building Code Reference Wall Area of L.D. L/H or Permitted Ontario Building Code Proposed % 
 EBF (m²)
 (m)
 H/L
 Max. % of
 of Openings
 References are to Division B unless noted Data Matrix Parts 3 or 9 Openings [A] for Division A or [C] for Division C. North N/A - EXISTING TO REMAIN Part 9 X Part 11 Part 3 Project Description: New Addition 11.1 to 11.4 1.1.2. [A] 1.1.2. [A] & 9.10.1.3. N/A - EXISTING TO REMAIN igarsimes Change of Use igarsimes Alteration East West N/A - EXISTING TO REMAIN 2 Major Occupancy(s) ASSEMBLY (A2), BUSINESS (D) 3.1.2.1.(1) 9.10.2. 20 Plumbing Fixture Requirements 3 Building Area (m<sup>2</sup>) Existing <u>1365 SQ</u>. M. New <u>0 SQ. M</u>. Total <u>1365 SQ</u>. M. 1.4.1.2. [A] 1.4.1.2. [A] Existing <u>1365 SQ</u>. M. New <u>0 SQ. M</u>. Total <u>1365 SQ</u>. M. 1.4.1.2. [A] 1.4.1.2. [A] 4 Gross Area 5 Number of Storeys Above grade 1 Below grade 0 1.4.1.2. [A]&3.2.1.1 1.4.1.2[A] & 9.10.4 Male/Female Count @ <u>50</u>% / <u>50</u>%, Occupant 6 Number of Streets/Fire Fighter Access 1 - EXISTING TO REMAIN 3.2.2.10. & 3.2.5. 9.10.20. except as noted otherwise Load 7 Building Classification <u>3.2.2.25 GROUP A, DIVISION 2, UP TO 2 STOREYS</u> 3.2.2.20.-.83 9.10.2. Basement: Occupancy N/A 8 Sprinkler System Proposed entire building 3.2.2.20.-.83 9.10.8.2. Occupancy <u>N/A</u> selected compartments 3.2.1.5. 49 (DESIGN) 3 1<sup>st</sup> Floor: Occupancy DAYCARE (CHILDREN) 3.2.2.17. selected floor areas 14 (DESIGN) Occupancy DAYCARE (STAFF)  $\Box$  basement  $\Box$  in lieu of roof rating INDEX INDEX 18 (DESIGN) Occupancy OFFICE N/A EXISTING 🕅 not required 85 (DESIGN) Occupancy TOWNHALL N/A EXISTING 🛛 Yes 🗌 No 9 Standpipe required 3.2.9. N/A 10 Fire Alarm required 🛛 Yes 🛛 No 3.2.4. 9.10.18. 11 Water Service/Supply is Adequate N/A EXISTING 🗆 Yes 🗆 No 3.2.5.7. N/A 12 High Building 🗆 Yes 🛛 🕅 No 3.2.6. N/A (Adjust as Required for Additional Floors or Occupancies) Combustible 13 Construction Restrictions 9.10.6. 21 Other (describe) permitted required □ Non-combustible ⊠ Both Combustible Actual Construction 14 Mezzanine(s) Area m<sup>2</sup> N/A EXISTING 3.2.1.1.(3)-(8) 9.10.4.1. 15 (Occupant Load - Continued) 15 Occupant load based on m²/person
 X design of building 3.1.17. 9.9.1.3. Floor Occupancy \_ Load\_\_\_ Occupancy N/A Load \_\_\_\_\_ persons Basement: \_Floor Load\_\_\_ Occupancy \_ 1 st Floor Occupancy <u>A2/D</u> Load <u>166</u> persons \_Floor Load\_ Occupancy \_ Occupancy N/A Load persons 2<sup>nd</sup> Floor \_\_Floor Load\_\_\_ Occupancy \_\_\_\_ Occupancy N/A Load persons 3<sup>rd</sup> Floor Floor Load Occupancy \_ (Additional floor areas continued on last page) Floor Load\_\_\_ Occupancy \_ ⊠Yes □No (Explain). Load\_\_\_ 16 Barrier-free Design 9.5.2. \_Floor 38 Occupancy \_\_\_\_ \_Floor Load\_\_\_ Occupancy \_ 17 Hazardous Substances □Yes 💢 No 3.3.1.2. & 3.3.1.19. 9.10.1.3.(4) \_\_Floor Occupancy \_\_\_\_ Load\_\_\_ \_\_\_\_\_ Floor Occupancy \_ Load Building Code Data Matrix, Parts 3 or 9 December, 2013 Building Code Data Matrix, Parts 3 or 9 © Ontario Association of Architects © Ontario Association of Architects

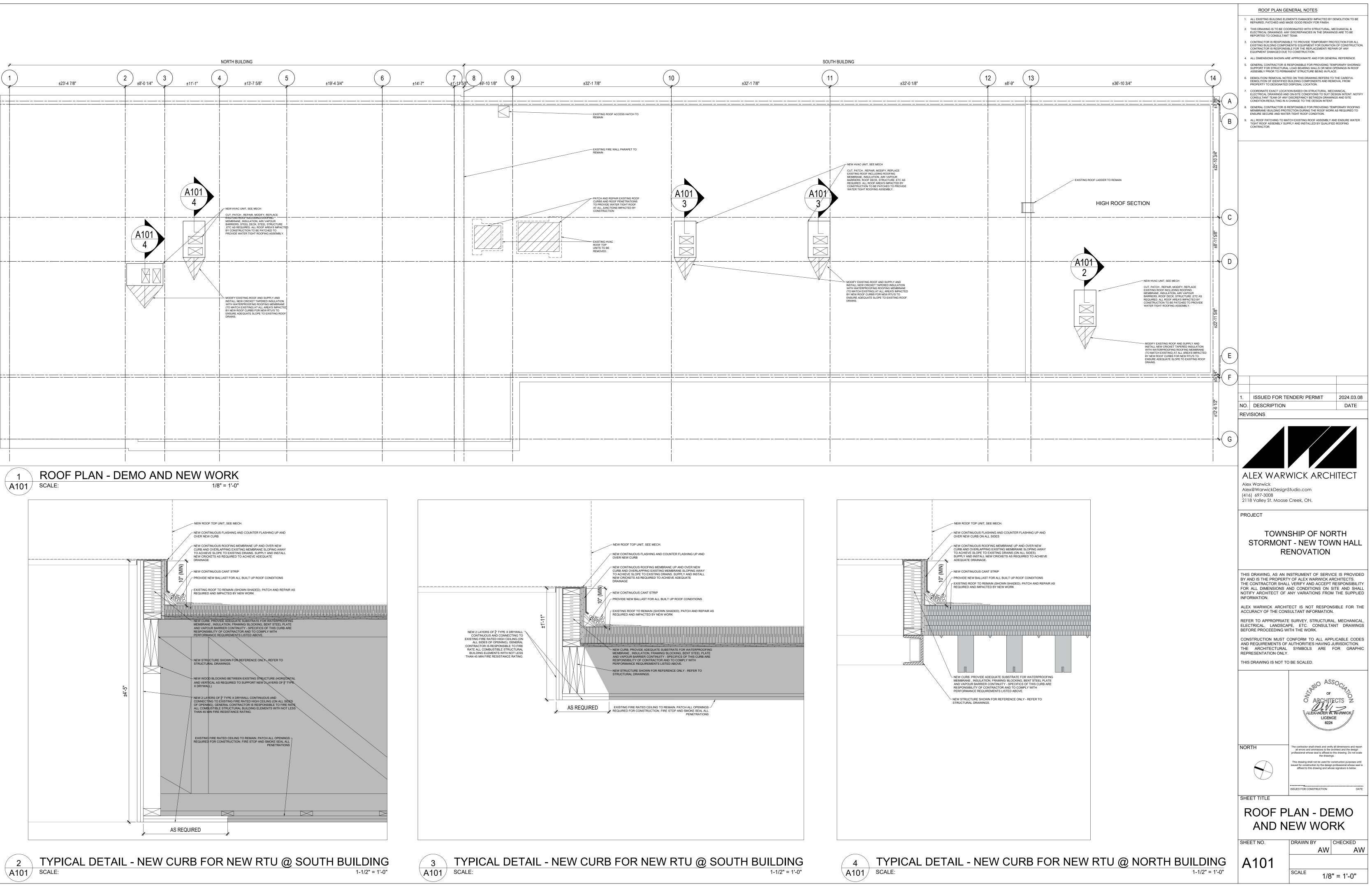
HALL RENOVATION OF NORTH STORMON	١T			
		1.ISSUED FOR TNO.DESCRIPTIONREVISIONS		2024.03.08 DATE
Description       Cladding         E)       E)       WHERE INDICATED USE ROCKWOLL "SAFE 'N' SOUND" FOR ALL BETWEEN STUD INTERIOR INSULATION (ACOUSTIC AND FIRE RATED)         TAPE/ MUD/ SAND (REPEAT AS NEEDED) ALL JOINTS AND FASTENERS HOLES TO ACHIEVE LEVEL 4 FINISH READY FOR PRIME AND PAINT.         4)       FINISHES	8)     8)     80 AP DIPPENSER     90 ORDICK MODEL NO. 8-2111 (STANLESS STEEL)     90 ORAB BARS     90 DORICK SERIES ''' TYPE B-5195 99 WALL MOUNT SWIND DOWN TYPE B-4999/ BACK HORIZONTAL B-8906     91 ORAB FRASE     92 DORICK SERIES ''''''''''''''''''''''''''''''''''''	ALEX WARRY Alex Warwick Alex@WarwickDesign (416) 697-3008 2118 Valley St. Moose PROJECT PROJECT TOWN STORMON R THIS DRAWING, AS AN BY AND IS THE PROPER THE CONTRACTOR SHAI FOR ALL DIMENSIONS NOTIFY ARCHITECT OF INFORMATION. ALEX WARWICK ARCHI ACCURACY OF THE CON REFER TO APPROPRIAT ELECTRICAL, LANDSC/ BEFORE PROCEEDING V CONSTRUCTION MUST AND REQUIREMENTS OF	Se Creek, ON. NSHIP OF NORT NT - NEW TOWN ENOVATION INSTRUMENT OF SERVICE RTY OF ALEX WARWICK ARCH ALL VERIFY AND ACCEPT RES AND CONDITIONS ON SITE AND CONDITIONS ON SITE SANT VARIATIONS FROM TH HITECT IS NOT RESPONSIBIN NSULTANT INFORMATION. TE SURVEY, STRUCTURAL, M CAPE, ETC. CONSULTANT WITH THE WORK. CONFORM TO ALL APPLIC, OF AUTHORITIES HAVING JUR L SYMBOLS ARE FOF Y.	TH TH NHALL SIS PROVIDED HITECTS. SEPONSIBILITY E AND SHALL THE SUPPLIED BLE FOR THE MECHANICAL, T DRAWINGS CABLE CODES RISDICTION.
i       i	Is NOTED AS South Bolldling . REPERTION FOR PARTIN FOR EXTENT. SOUTH BOLLDING HIGH CEILing as PENETRATING THAT HIGH CEILING MUST BE SMOKE SEALED AND FIRE STOPPED - PATCH AND REPAIR EXISTING 45MIN FIRE RATED HIGH CEILING AS REQUIRED TO COMPLETE NEW WORK WITH 2 LAYERS OF §" TYPE X DRYWALL. <b>ARCCHITECTURAL DRAWING LIST</b> COVER PAGE, OBC MATRIX, ARCHITECTURAL MATERIAL SPECIFICATIONS         A000         SITE PLAN         NEW FLOOR PLAN AND DETAILS         A100         ROOF PLAN AND DETAILS         A100         ROOF PLAN - DEMO AND NEW WORK	-	The contractor shall check and verify all dial errors and ommisions to the archite professional whose seal is a filted to this difference is affixed to this difference.	dimensions and report tect and the design
C) HARDWARE - SUPPLY AND INSTALL COMMERCIAL GRADE HARDWARE AS SPECIFIED.  C) HARDWARE - SUPPLY AND INSTALL COMMERCIAL GRADE HARDWARE AS SPECIFIED.  PROVIDE FIRE RATED DOOR/FRAME WHERE NOTED ON SCHEDULE COMPLETE WITH FIRE RATED TAGS AND RELATED FIRE RATED HARDWARE. ALL ACOUSTIC LISTED DOORS TO HAVE ACOUSTIC SOUND STRIPPING AND HARDWARE TO STC 48 (MIN).  Persons Pe	DEMO PLANSA200NEW FLOOR FINISH AND RCPA300CEILING DETAILSA301INTERIOR ELEVATIONSA500MILLWORK DETAILSA600		This drawing shall not be used for constru- issued for construction by the design profe- affixed to this drawing and whose sign ISSUED FOR CONSTRUCTION GE/ ARCHITECT IST/ MATERIAL	fessional whose seal is ignature is below. DATE TURAL
persons	MILLWORK DETAILSA601DOOR AND FRAME SCHEDULEA700WINDOW AND ROOM FINISH SCHEDULEA701DIGITAL SAMPLE BOARDA702	SHEET NO.		HECKED AW S.

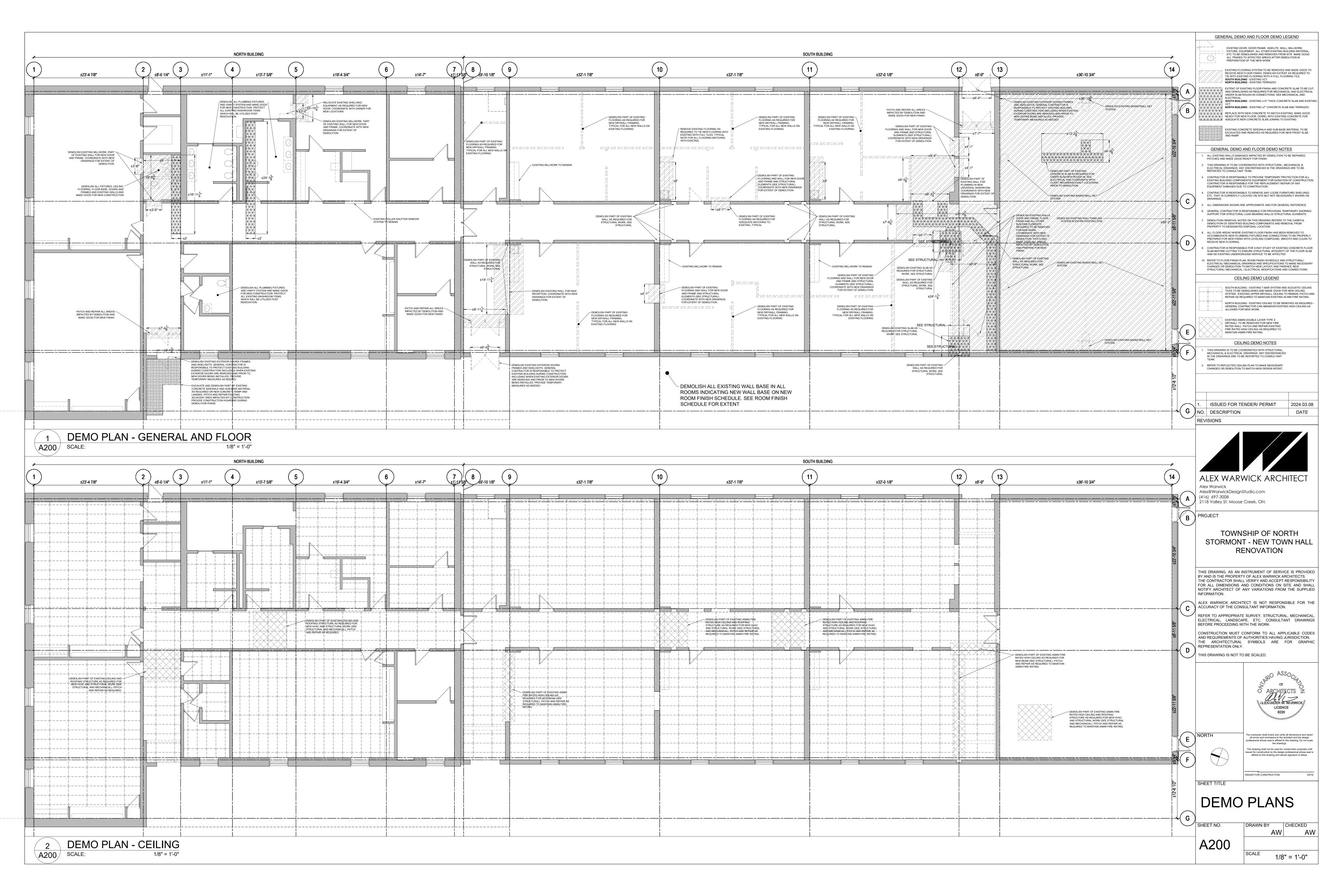






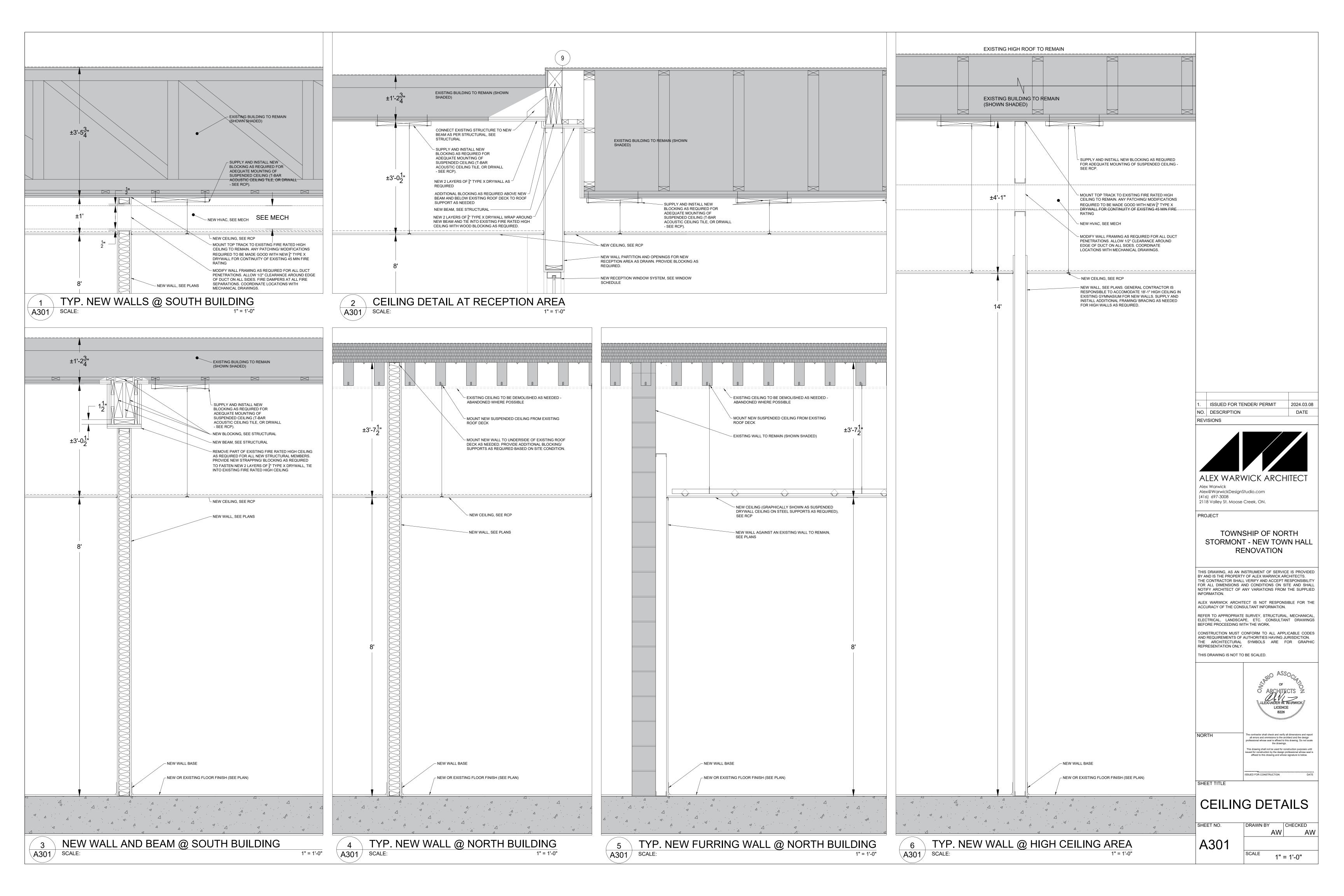


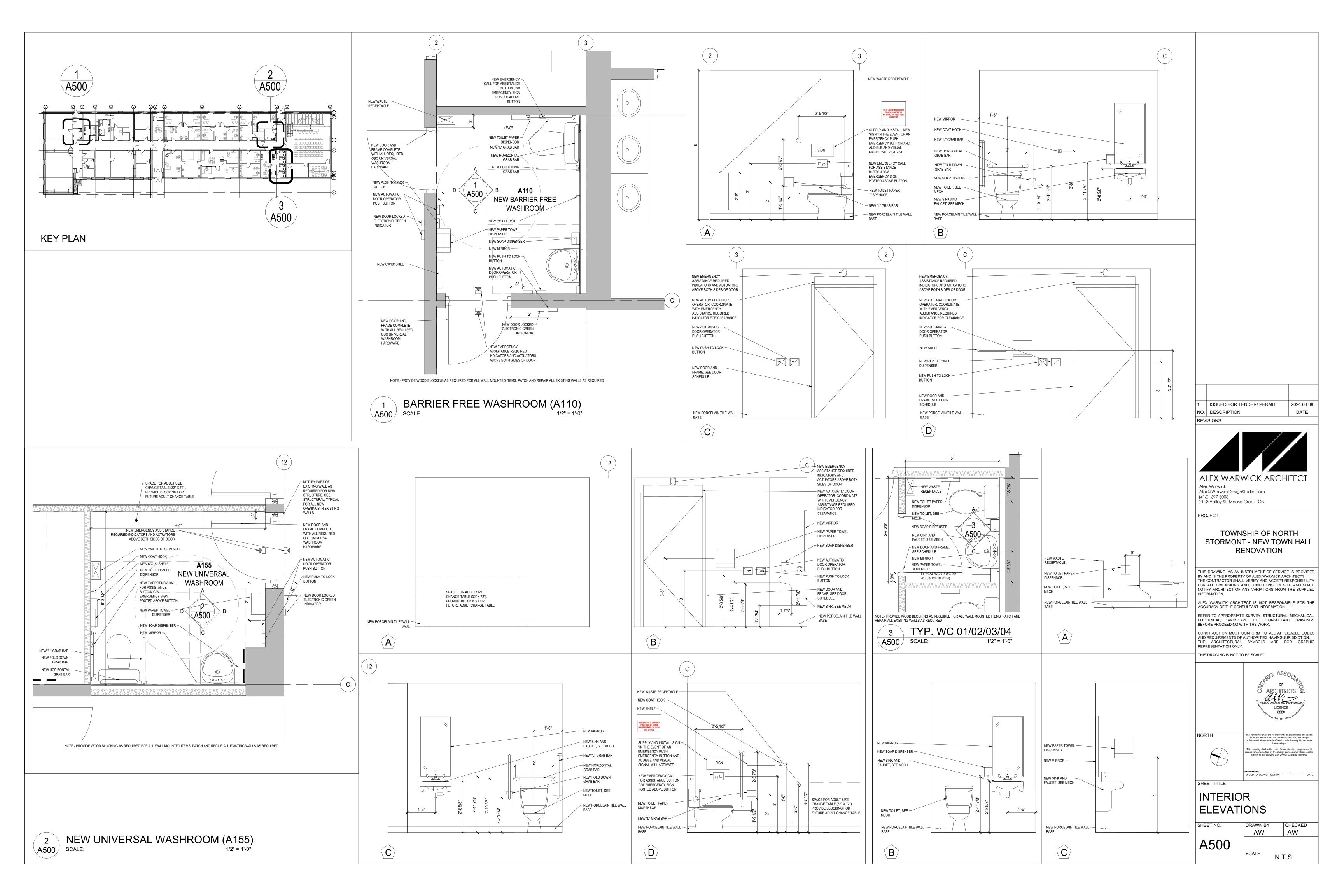


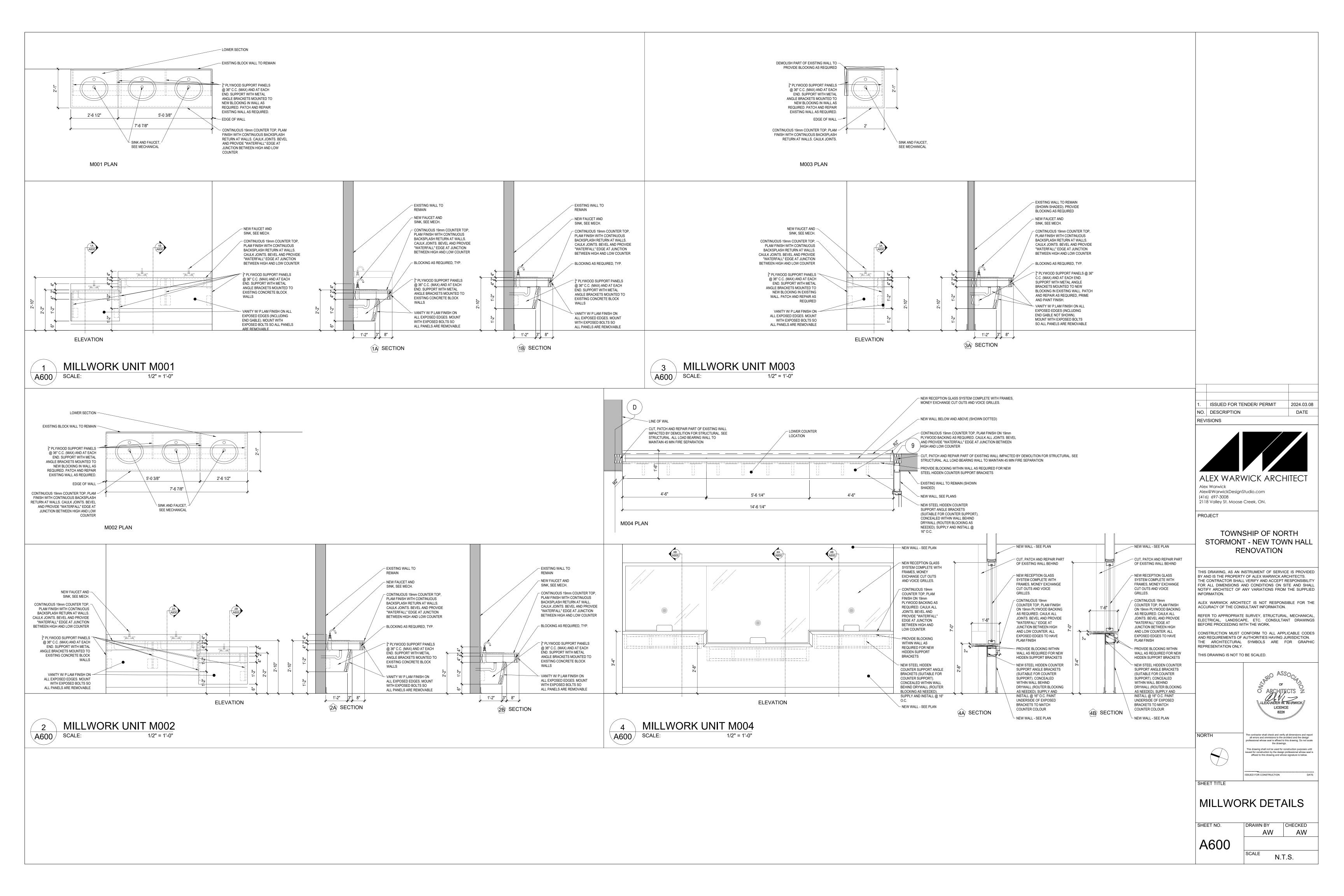


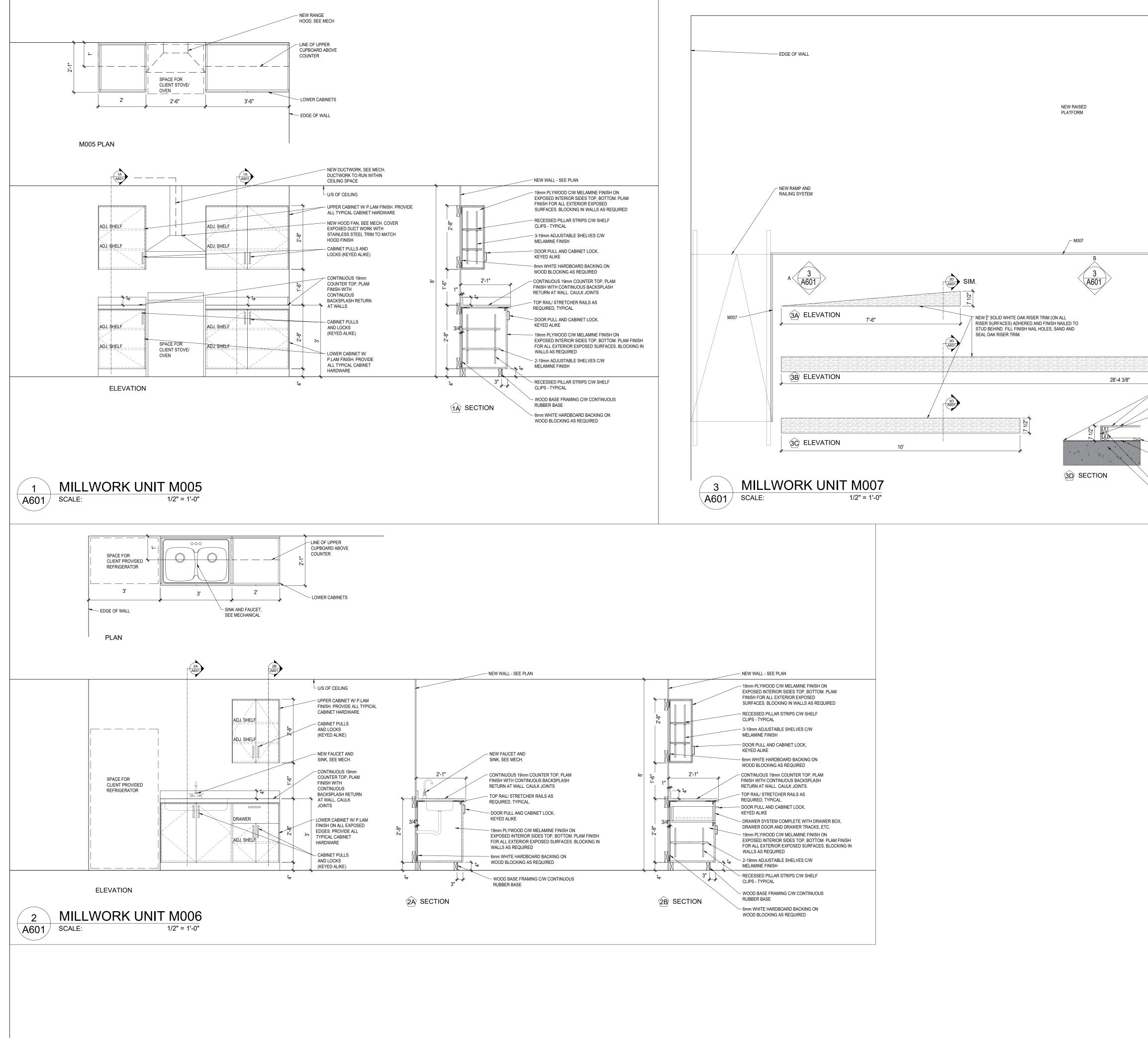


р				SOL	ITH BUILDING	
<b>8</b> /8 £9'-10 1/8"	<b>9</b> ±32'-1 7/8"	10	) ±32'-1 7/8	. (1	1)	±32'-0 1/8"
A126 NEW ROOF ACCESS ROOM	ADMINISTRATION OFFICE 1 ADMINISTRATION	A130 A110N OFFICE 2	A10           FINANCE OFFICE 2           CH.8-0*	A141 FINANCE OFFICE 3	A146 FINANCE OFFICE 6	
A125 NEW MEETING ROOM	A301 1 TYP.					A156 PUBLIC WORKS OFFICE C.H.8-0"
	A128 ADMINISTRATION FLEX ROOM C.H.8-0*	A131 ADMINISTRATION OFFICE 3	A138 FINANCE FLEX A FINANCE OFFICE 1 C.H.8°-0°	REA FINANCE OFFICE 4 CH-8-0*	A145 FINANCE OFFICE 5 C(H. 8'-0"	A155 UNIVERSAL WA FILE CABINET ROOM
	A127 CORRIDOR C.H.8'-0"		PROVIDE 2 LAYERS OF § TYPE X DRYWALL ON NEW WOOD BLOCKING AS REQUIRED AROUND ALL SIDES OF NEW OPENING FROM NEW ROOF CURB TO EXISTING 45MIN FIRE RATED HIGH CELLING TO MAINTAIN FIRE SEPARATION, FIRE STOP AND SMOKE SEAL ALL PENETRATIONS.		PROVIDE 2 LAYERS OF <sup>6</sup> TYPE X DRYWALL ON NEW WOOD BLOCKING AS REQUIRED AROUND ALL SIDES OF NEW OPENING FROM NEW ROOF CURB TO EXISTING 45MIN FIRE RATED HIGH CEILING TO MAINTAIN FIRE SEPARATION, FIRE STOP AND SMOKE SEAL ALL PENETRATIONS.	
A123 CORRIDOR D' C.H.8'-0"	SUPPLY AND INSTALL NEW STRAPPING AND 2 LAVERS OF ™ TYPE X DRYWALL TO ALL NEW GET TYPE X DRYWALL TO ALL NEGH CETLING AREA'S IMPACTED BY NEW STRUCTURAL WORK - PATOHTO EXISTING FIRE RATEO DETLING-FIRE STOP AND SMOKE SEAL ALL PENETRATIONS A132			A137 EDO OFFICE C.H.8°-0"	A143 BY-LAW & FIRE FLEX AND C.H. 8'-0'	
A124 NEW VESTIBULE C.H. 8'0"	С.H.8-0" Р АЗО1	A133 RINTER ROOM 		PLANNING DEPT. OFFICE C.H. 8'-0"	A144 BY-LAW & FIRE OF C.H. 8'-0"	



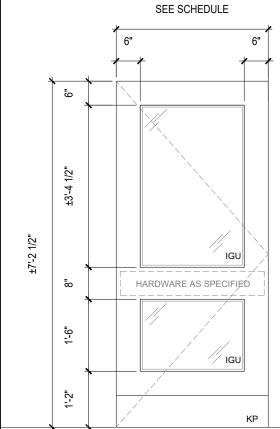




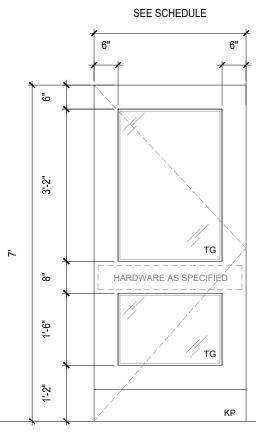


	M007				
NEW CARPET SHOWN DOTTED         NEW PLYWOOD SUBFLOOR ON WOOD FLOOR FRAMING         NEW <sup>1</sup> / <sup>2</sup> SOLID WHITE OAK RISER TRIM (ON ALL RISER SURFACES) ADHERED AND FINISH NAILED TO STUD BEHIND. FILL FINISH NAIL HOLES, SAND AND SEAL OAK RISER TRIM.         2" X 4" WOOD SLEEPERS, SEE STRUCTURAL         CONTINUOUS 6 MIL POLY VAPOUR BARRIER (SHOWN DASHED) BETWEEN WOOD STUDS AND EXISTING CONCRETE SLAB		1.2112 1.2112			
ADDITIONAL BLOCKING AS REQUIRED CONCRETE SLAB			STORMON	WICK ARCH Studio.com	HITECT
			THIS DRAWING, AS AN II BY AND IS THE PROPERT THE CONTRACTOR SHAL FOR ALL DIMENSIONS A NOTIFY ARCHITECT OF A INFORMATION. ALEX WARWICK ARCHIT ACCURACY OF THE CONS REFER TO APPROPRIATE ELECTRICAL, LANDSCA BEFORE PROCEEDING W CONSTRUCTION MUST OF AND REQUIREMENTS OF THE ARCHITECTURAL REPRESENTATION ONLY. THIS DRAWING IS NOT TO	Y OF ALEX WARWICK AF L VERIFY AND ACCEPT AND CONDITIONS ON S ANY VARIATIONS FROM TECT IS NOT RESPON SULTANT INFORMATION E SURVEY, STRUCTURA PE, ETC. CONSULTA (ITH THE WORK. CONFORM TO ALL APP AUTHORITIES HAVING J SYMBOLS ARE	RCHITECTS. RESPONSIBILITY SITE AND SHALL M THE SUPPLIED SIBLE FOR THE L. AL, MECHANICAL, MT DRAWINGS LICABLE CODES JURISDICTION. FOR GRAPHIC
			NORTH SHEET TITLE MILLWO SHEET NO.	The contractor shall check and verify all errors and ommisions to the a professional whose seal is a fitted to its drawing shall not be used for c issued for construction by the design affixed to this drawing and whose ISSUED FOR CONSTRUCTION	y all dimensions and report rchitect and the design this drawing. Do not scale s. onstruction purposes until professional whose seal is se signature is below.
			A601	SCALE N.T	.s.

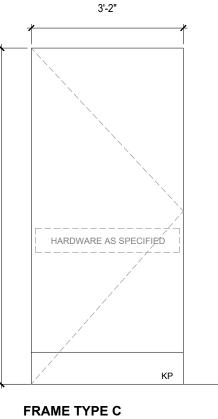
DOOR SCHEDULE												DOOR SCHEDULE GENERAL NOTES						
OOR			DOG	)R				FRA	MES			OBC REC	QUIREMENT		REMARKS	1. ALL DOORS INCLUDING FRAMES REQUIRING A FIRE PROT	ECTION RATING SHALL COMPLY WITH OBC SUBSECTION 3.1.8	DOOR FRAMES INTENDED FOR DRYW
NO.	TYPE		SIZE	MATERIAL	FIRE RATING	INISH	TYPE	MATERIAL	FIRE		OR WEATHER	BARRIER FREE HARWARE (AUTOMATIC DOOR OPERATOR AND PUSH BUTTONS)	DOOR CLOSER	DOOR STOP (CONFIR LOCATION ON SITE		2. ALL FIRE RATED DOORS, INCLUDING DOORS WITH 0HR RA	TING, TO BE SELF LATCHING AND SELF CLOSING DEVICES	FLOOR, PROVIDE BLOCKING/ ADDITION
101A	Α	WIDTH 3' - 2"	HEIGHT 7' - 2 <sup>1</sup> / <sub>2</sub> "	НМ	-	PT	1	НМ	-	PT THRE					INSULATED, THERMALLY BROKEN. CARD READER, PANIC SET, LEVER HARDWARE	3. ALL DOORS INCLUDING FRAMES REQUIRING A FIRE PROT LISTED SELF CLOSING DEVICE, A LISTED POSITIVE LATCH	ECTION RATING SHALL BE LABELLED INDICATING FIRE RATING AND BE EQUIPPED WITH A	INSTALLATION OF CLOSURES
101B		3' - 2"	(EXISTING) 7' - 0"	НМ		PT	2	НМ		PT		•	•	•	PUSH PLATE / DOOR PULL - NON-LATCHING DOOR		HAT THE DOOR HAS A MAXIMUM TEMPERATURE RISE OF 250°C	EXCEPT AS OTHERWISE SPECIFIED IN
							2		-			<b>●</b>	•			AFTER 1HR OF EXPOSURE [OBC TABLE 3.1.8.15] ARE TO B DOORS LOCATED IN FIRE WALLS, AND DOORS THAT ARE	E PROVIDED IN DOORS TO EXIT STAIRS FROM PARKING GARAGE, OCATED WITHIN MEASURE N VESTIBILIES	A) BE INSTALLED IN CONFORMA AND WINDOWS" AND
110A	С	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT		•	•	•	UNIVERSAL WASHROOM HARDWARE		L BE FIRE STOPPED AND SEALED WITH SAME RATING AS FIRE SEPARATION	B) WHERE REQUIRED TO HAVE CLASSIFICATIONS MARKS TO
110B	С	3' - 2"	7' - 0"	HM	20 MIN	PT	3	HM	20 MIN	PT		•	•	•	UNIVERSAL WASHROOM HARDWARE		CARD READER TO ALSO HAVE ELECTRIC STRIKE FOR PROPER USE. PROVIDE ALL	WHERE A DOOR IS INSTALLED SO TH
.112	С	2 X 3' - 2"	7' - 0"	HM	-	PT	4	HM	-	PT			•	•	CARD READER, PANIC SET, LEVER HARDWARE	APPROPRIATE HARDWARE AND MODIFICATIONS TO DOOI		DAMAGE [OBC 3.1.8.5 (3)]
.117	С	2' - 10"	7' - 0"	HM	0 HR	PT	3	HM	0 HR	PT			•	•	LOCKSET, LEVER HARDWARE, 0 HR FIRE SEPARATION (SMOKE SEAL)	7. PROVIDE DOOR STOPS AS REQUIRED TO PREVENT DAMA IF A DOOR SWING IS UNRESTRICTED [OBC 3.1.8.5 (3)]	GE TO INTEGRITY OF A WALL OR FIRE SEPARATION	
.118	В	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LEVER PASSAGE HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)		R EXIT SHALL COMPLY WITH OBC 3.4.6.10 TO 3.4.6.19 INCLUSIVE	
123	С	2 X 3' - 2"	7' - 0"	НМ	20 MIN	PT	4	НМ	20 MIN	PT			•	•	CARD READER, PANIC SET, LEVER HARDWARE		CILITY PROVIDING ACCESS TO EXIT FROM A SUITE, OR ROOM NOT	
24A	Α	3' - 2" / 2'-8"	7' - 1 <sup>7</sup> / <sub>8</sub> "	НМ	_	PT	5	HM	_	PT					INSULATED, THERMALLY BROKEN. CARD READER, PANIC SET, LEVER HARDWARE	LOCATED WITHIN A SUITE SHALL COMPLY WITH ARTICLE		
24B	^	2 X 3' - 2"	(EXISTING) 7' - 0 "	НМ		PT	4	НМ		PT		•	•		PUSH PLATE / DOOR PULL - NON-LATCHING DOOR	10.         ALL EXIT DOORS FROM STAIRS AT GRADE LEVEL TO BE P           11.         ALL EXIT DOORS AT GRADE OTHER THAN FROM STAIRS S		COORDINATE ALL D
	A				-		-		-			•	•	•			DE TO CONFORM TO OBC 3.3.4.10, 9.7.5.2 & 9.7.5.3 "RESISTANCE	SHOP DRAWINGS PF
126	C	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT			•	•	LOCKSET, LEVER HARDWARE		DORS. DOORS TO HAVE DEADBOLT LOCK AND SOLID BLOCKING	
29	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	13. ALL DOORS EQUIPPED WITH A HOLD OPEN DEVICE SHALL		CAUL
130	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	14. ALL DOORS EQUIPPED WITH AN ELECTRIC STRIKE REQUI		_
131	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	15. ALL DOORS EQUIPPED WITH AN ELECTROMAGNETIC LOC		
33A	С	3' - 2"	7' - 0"	НМ	20 MIN	PT	3	НМ	20 MIN	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	16. ALL STEEL DOORS EQUIPPED W/AN ELECTROMAGNETIC	OCK TO BE 18 GA. STEEL AND TACK WELD AND FILL EDGES	
133B	<u> </u>	3' - 2"	7' - 0"	НМ		PT	3	НМ		PT			•		LOCKSET, LEVER HARDWARE	17. ALL EXTERIOR DOORS TO BE WEATHER STRIPPED AND T		
	-				-		0		-				•	•		ENVIRONMENTAL LOADS AND EFFECTS OF THESE LOADS           18         ALL GLAZING WITHIN EXTERIOR DOORS TO BE DOUBLE G		
35	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	19 ALL GLASS IN DOORS AND SIDELITES TO BE MADE OF TEI		+ $+$ $+$ $+$
36	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	TO CAN/CGSB-12.1-M, LATEST ADDITION [OBC 3.3.1.18]		
37	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	20. ALL THRESHOLDS IN A BARRIER-FREE PATH OF TRAVEL 1	O BE MAXIMUM 13MM IN HEIGHT c/w 1:2 BEVELED SLOPE [OBC 3.8.1.3]	/
38	F	3' - 2"	7' - 0"	HM	20 MIN	PT	3	HM	20 MIN	PT			•	•	LOCKSET, LEVER HARDWARE	21. ALL THRESHOLDS TO BE ALUMINUM UNLESS OTHERWISE		
39	D	3' - 2"	7' - 0"	НМ	-	PT	3	НМ	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	22. DOOR RELEASE HARDWARE TO BE INSTALLED NOT MORE     23. ALL SINGLE USE PUBLIC WASHROOM/BATHROOM DOORS	THAN 1200MM ABOVE FINISH FLOOR AND NOT LESS THAN 865MM [OBC 3.3.1.12 (5)]	_
40		3' - 2"	7' - 0"	НМ		PT	3	HM		PT					LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)		VE MIN THERMAL RESISTANCE OF RSI 0.7 (R4) AS PER OBC SB-10, CHAPTER 2, 1.1.1.2 (4)	_
	-						0		-					•			/ER HARDWARE, PUSH TO LOCK, EMERGENCY CALL BUTTON SYSTEM / RELEASE/	_
41	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	INDICATOR ABOVE BOTH SIDES OF DOOR, DOOR LOCKED	INDICATOR	TYPICAL DOOR
142	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)		ABBREVIATIONS	(F1) CONCRETE BLO
144	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	ALUM= ALUMINUM	KP = KICK PLATE	LOCATIONS). EXI
46	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	BR = BUZZER RELEASE	LG = LAMINATED GLASS	
47	D	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT				•	LOCKSET, LEVER HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	CMP = COMPOSITE METAL PANEL	MDH = MAGNETIC DOOR HANDLE	
18	F	3' - 2"	7' - 0"	НМ	20 MIN	PT	3	HM	20 MIN	PT					LOCKSET, LEVER HARDWARE	CR = CARD READER (OVERIDE LATCH OR LOCK)	MH = MAGNETIC HOLD	
	<u> </u>	2 X 3' - 2"		НМ		PT	4	НМ		PT			•			DO = POWER DOOR OPERATOR	ML = MAGNETIC LOCK	
49	_		7' - 0"		-		- f		-					<b>─</b>		DSC = DOOR SECURITY CONTACT	PD = POWER DOOR	_
50	F	3' - 2"	7' - 0"	HM	20 MIN	PT	3	HM	20 MIN			•	•	•	LOCKSET, LEVER PRIVACY HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	ES = ELECTRIC STRIKE	PFG = PATTERNED GLASS WITH VISUAL MARKERS (BIRD FRIENDLY) REFER ALSO TO ELEV.	
51	С	3' - 0"	7' - 0"	HM	-	PT	3	HM	-	PT			•	•	LOCKSET, LEVER PRIVACY HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	FG = FIXED GLASS FLG = FIRE LITE GLASS	PG = PLATE GLASS	_
52	С	3' - 0"	7' - 0"	HM	-	PT	3	HM	-	PT			•	•	LOCKSET, LEVER PRIVACY HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	FRG = FROSTED GLASS	PT = PRIME AND PAINT	
53	С	3' - 0"	7' - 0"	НМ	-	PT	3	HM	-	PT			•	•	LOCKSET, LEVER PRIVACY HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	GWG = GEORGIAN WIRE GLASS	PS = PRESSED STEEL	
154	С	3' - 0"	7' - 0"	НМ	-	PT	3	HM	-	PT				•	LOCKSET, LEVER PRIVACY HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	HC = HOLLOW CORE	SC = SOLID CORE	
55	0	3' - 2"	7' - 0"	НМ	20 MIN	PT	3	НМ	20 MIN	PT					UNIVERSAL WASHROOM HARDWARE, ACOUSTIC SWEEP/ SOUND STRIPPING (ALL SIDES)	HCP = HOLLOW CORE MOLDED PANEL	SCL = SOLID CORE WOOD - LAMINATE FINISH	
	-						2					<b>▼</b>	-	<b>─</b>		HCW = HOLLOW CORE WOOD	SCP = SOLID CORE MOLDED PANEL	
56	F	3' - 2"	7' - 0"	HM	20 MIN	PT	3	HM	20 MIN	PT			•	•	LOCKSET, LEVER HARDWARE	HM = HOLLOW METAL	SCW = SOLID CORE WOOD	
58	С	3' - 2"	7' - 0"	HM	-	PT	3	HM	-	PT			•	•	LOCKSET, LEVER HARDWARE	HMF = HOLLOW METAL FRAME	SG = SHEET GLASS	_
59	D	3' - 2"	7' - 0"	НМ	-	PT	3	HM	-	PT			•	•	LOCKSET, LEVER HARDWARE	HMI = HOLLOW METAL INSULATED	SS = STAINLESS STEEL ST = STAINED	-
50A	A	2 X 3' - 2"	7' - 0 "	НМ	-	PT	4	НМ	-	PT		•	•	•	PUSH PLATE / DOOR PULL - NON-LATCHING DOOR	HMP = HOLLOW METAL PANEL IDD = INTERIOR DESIGN DWGS	TG = TEMPERED GLASS	_
60B	А	3' - 2" / 2'-8"	7' - 1 <sup>7</sup> / <sub>8</sub> " (EXISTING)	НМ	-	PT	5	НМ	-	PT	•	•	•	•	INSULATED, THERMALLY BROKEN. CARD READER, PANIC SET, LEVER HARDWARE	IGU = INSULATED GLAZING UNIT	VN = VINYL	_
			- /												EXISTING DOOR/ FRAME/ HARDWARE TO REMAIN - SAND, PATCH, PREPARE AND MAKE GOOD	IM = INSULATED METAL	WD = WOOD	-
EX	EX	EX	EX	EX	EX	PT	EX	EX	EX	PT E	X EX	EX	EX		TO PRIME AND PAINT DOORS AND FRAMES	IMP = INSULATED METAL PANEL		1



FRAME TYPE A INSULATED, THERMALLY **BROKEN HOLLOW METAL** SINGLE DOOR WITH INSULATED GLAZING UNITS

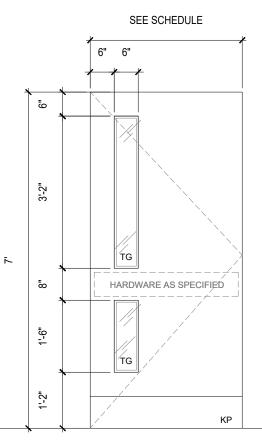






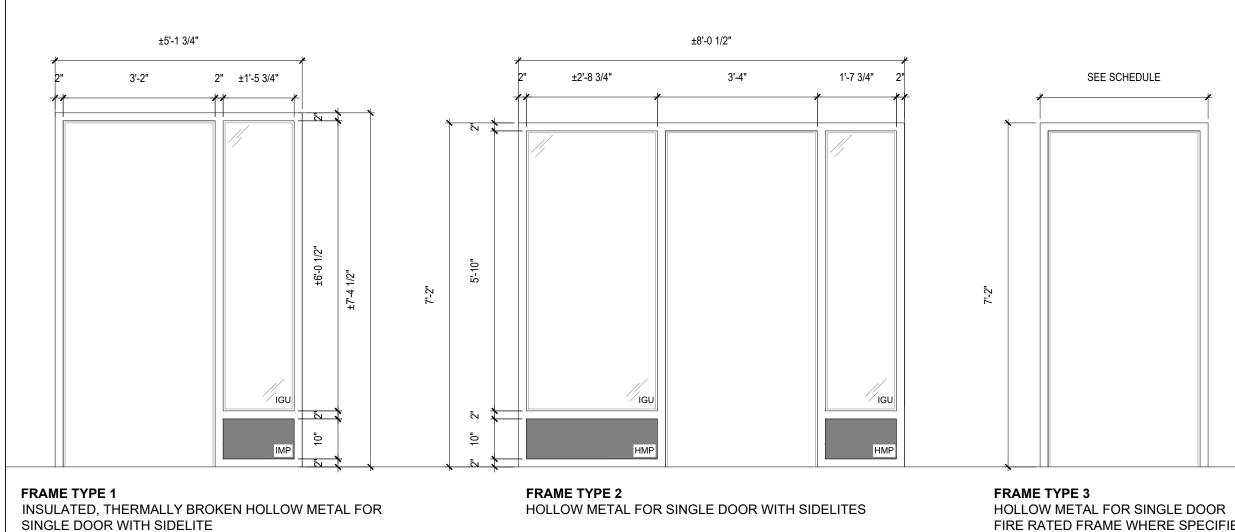
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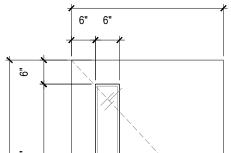
HOLLOW METAL SINGLE DOOR WITH NO GLAZING. FIRE RATED WHERE NOTED ON SCHEDULE





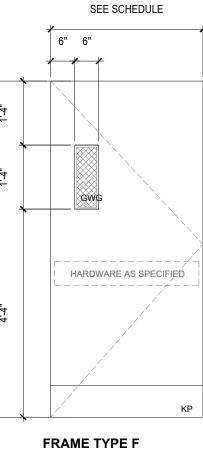
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SEE SCHEDULE

HARDWARE AS SPECIFIED



FRAME TYPE E HOLLOW METAL SINGLE DOOR WITH NARROW GLAZING

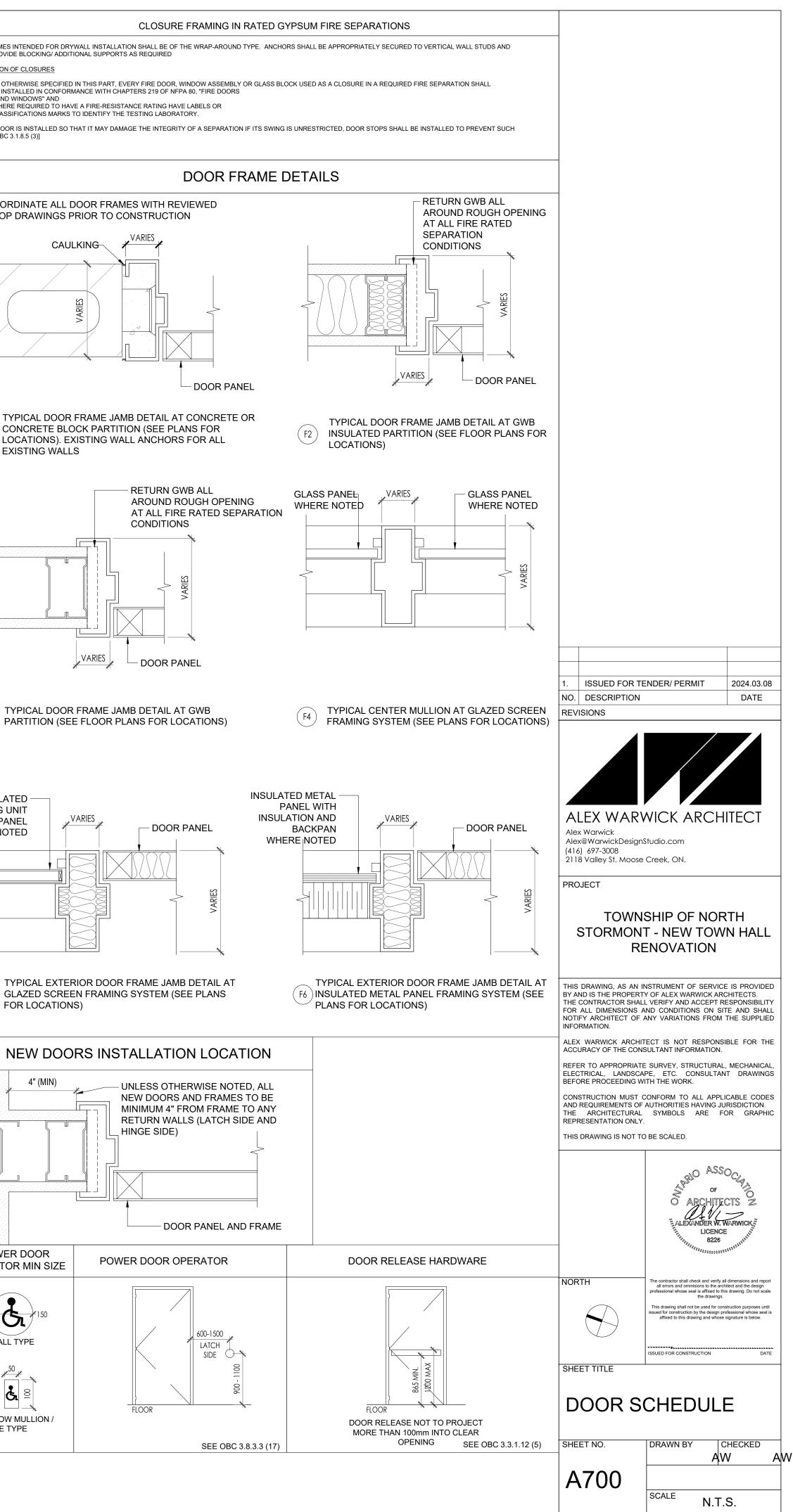
2"

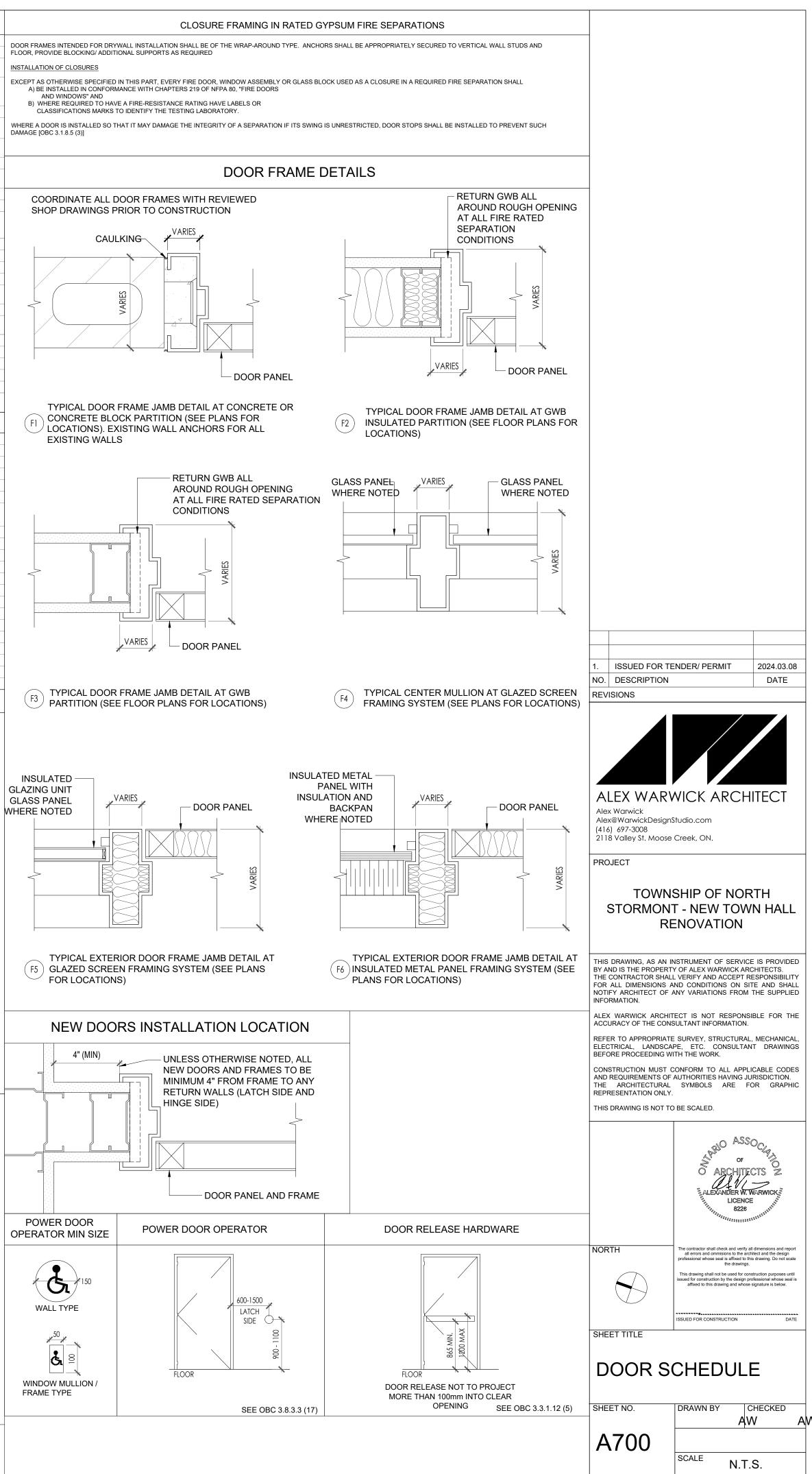
KP

20 MIN FIRE RATED HOLLOW METAL SINGLE DOOR WITH NARROW GEORGIAN WIRED GLAZING

2"

ALL DOORS AND FRAMES WITHIN ACOUSTIC INSULATED WALLS TO **BE ACOUSTIC HOLLOW METAL** DOORS AND FRAMES (STC 48 MIN) COMPLETE WITH ALL APPROPRIATE ACOUSTIC RATED HARDWARE



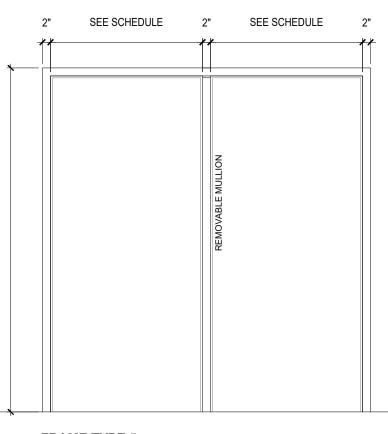


2 FRAME TYPE 4 HOLLOW METAL FOR DOUBLE DOOR

SEE SCHEDULE

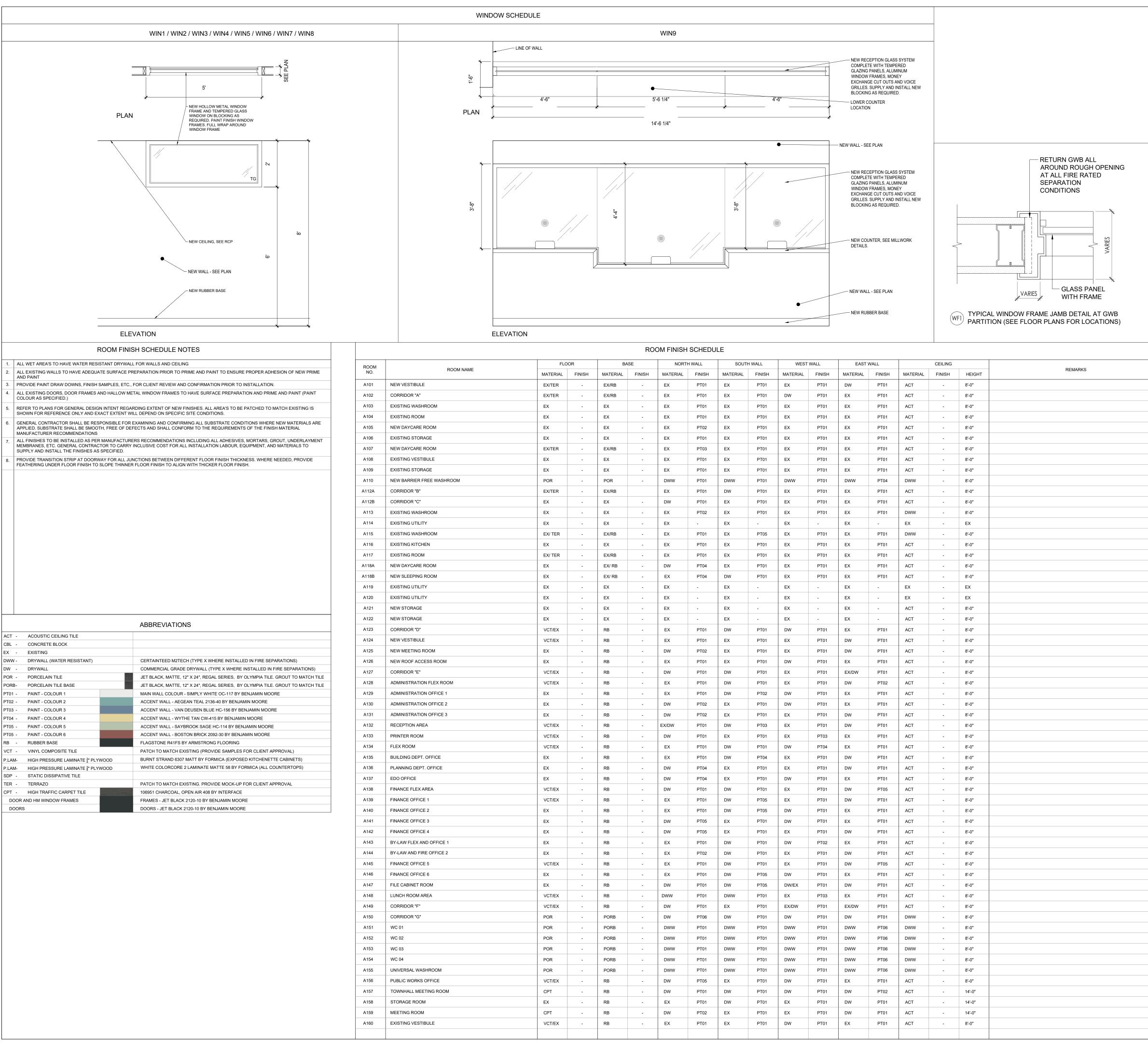
2"

SEE SCHEDULE



FRAME TYPE 5 INSULATED, THERMALLY BROKEN HOLLOW METAL FOR DOUBLE DOORS WITH REMOVABLE MIDDLE MULLION

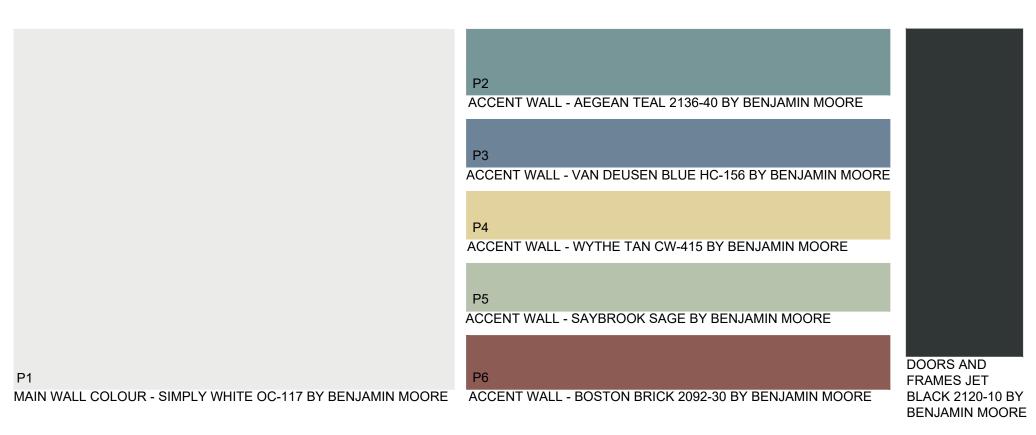
FIRE RATED FRAME WHERE SPECIFIED



			ROC	OM FINISH	SCHEDU	LE									
FLO	OR	BA	ASE	NORT	HWALL	SOUTH	WALL	WEST	WALL	EAST \	VALL		CEILING		
IATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	REMARKS
EX/TER	-	EX/RB	-	EX	PT01	EX	PT01	EX	PT01	DW	PT01	ACT	-	8'-0"	
EX/TER	-	EX/RB	-	EX	PT01	EX	PT01	DW	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX	-	EX	PT01	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX	-	EX	PT01	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX	-	EX	PT02	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX	-	EX	PT01	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX/TER	-	EX/RB	-	EX	PT03	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX	-	EX	PT01	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX	-	EX	PT01	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
POR	-	POR	-	DWW	PT01	DWW	PT01	DWW	PT01	DWW	PT04	DWW	-	8'-0"	
EX/TER	-	EX/RB		EX	PT01	DW	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX	-	DW	PT01	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX	-	EX	PT02	EX	PT01	EX	PT01	EX	PT01	DWW	-	8'-0"	
EX	-	EX	-	EX	-	EX	-	EX	-	EX	-	EX	-	EX	
EX/ TER	-	EX/RB	-	EX	PT01	EX	PT05	EX	PT01	EX	PT01	DWW	-	8'-0"	
EX	-	EX	-	EX	PT01	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX/ TER	-	EX/RB	-	EX	PT01	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX/ RB	-	DW	PT04	EX	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX/ RB	-	EX	PT04	DW	PT01	EX	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	EX	-	EX	-	EX	-	EX	-	EX	-	EX	-	EX	
EX	-	EX	-	EX	-	EX	-	EX	-	EX	-	EX	-	EX	
EX	-	EX	-	EX	-	EX	-	EX	-	EX	-	ACT	-	8'-0"	
EX	-	EX	-	EX	-	EX	-	EX	-	EX	-	ACT	-	8'-0"	
VCT/EX	-	RB	-	EX	PT01	DW	PT01	DW	PT01	EX	PT01	ACT	-	8'-0"	
VCT/EX	-	RB	-	EX	PT01	EX	PT01	EX	PT01	DW	PT01	ACT	-	8'-0"	
EX	-	RB	-	DW	PT02	EX	PT01	EX	PT01	DW	PT01	ACT	-	8'-0"	
EX	-	RB	-	EX	PT01	EX	PT01	DW	PT01	EX	PT01	ACT	-	8'-0"	
VCT/EX	-	RB	-	DW	PT01	DW	PT01	EX	PT01	EX/DW	PT01	ACT	-	8'-0"	
VCT/EX	-	RB	-	EX	PT01	DW	PT01	EX	PT01	DW	PT02	ACT	-	8'-0"	
EX	-	RB	-	EX	PT01	DW	PT02	DW	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	RB	-	DW	PT02	EX	PT01	DW	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	RB	-	DW	PT02	EX	PT01	EX	PT01	DW	PT01	ACT	-	8'-0"	
VCT/EX	-	RB	-	EX/DW	PT01	DW	PT03	EX	PT01	DW	PT01	ACT	-	8'-0"	
VCT/EX	-	RB	-	DW	PT01	EX	PT01	EX	PT03	EX	PT01	ACT	-	8'-0"	
VCT/EX	-	RB	-	EX	PT01	DW	PT01	DW	PT04	EX	PT01	ACT	-	8'-0"	
EX	-	RB	-	EX	PT01	DW	PT04	EX	PT01	DW	PT01	ACT	-	8'-0"	
EX	-	RB	-	DW	PT04	EX	PT01	EX	PT01	DW	PT01	ACT	-	8'-0"	
EX	-	RB	-	DW	PT04	EX	PT01	DW	PT01	EX	PT01	ACT	-	8'-0"	
VCT/EX	-	RB	-	DW	PT01	DW	PT01	EX	PT01	DW	PT05	ACT	-	8'-0"	
VCT/EX	-	RB	-	EX	PT01	DW	PT05	EX	PT01	DW	PT01	ACT	-	8'-0"	
EX	-	RB	-	EX	PT01	DW	PT05	DW	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	RB	-	DW	PT05	EX	PT01	DW	PT01	EX	PT01	ACT	-	8'-0"	
EX	-	RB	-	DW	PT05	EX	PT01	EX	PT01	DW	PT01	ACT	-	8'-0"	
EX	-	RB	-	EX	PT01	DW	PT01	DW	PT02	EX	PT01	ACT	-	8'-0"	
	-	RB	-	EX	PT02 PT01	DW	PT01 PT01	EX	PT01 PT01	DW	PT01 PT05	ACT	-	8'-0" 8'-0"	
VCT/EX EX	-	RB	-	EX	PT01	DW DW	PT01 PT05	EX DW	PT01 PT01	DW EX	PT05	ACT ACT	-	8'-0" 8'-0"	
EX	-	RB	-	DW	PT01	DW	PT05	DW/EX	PT01	DW	PT01	ACT	-	8'-0"	
VCT/EX	-	RB	-	DWW	PT01	DWW	PT01	EX	PT03	EX	PT01	ACT	-	8'-0"	
VCT/EX	-	RB	-	DW	PT01	EX	PT01	EX/DW	PT01	EX/DW	PT01	ACT	_	8'-0"	
POR	-	PORB	-	DW	PT06	DW	PT01	DW	PT01	DW	PT01	DWW	-	8'-0"	
POR	-	PORB	-	DWW	PT01	DWW	PT01	DWW	PT01	DWW	PT06	DWW	-	8'-0"	
POR	-	PORB	-	DWW	PT01	DWW	PT01	DWW	PT01	DWW	PT06	DWW	-	8'-0"	
POR	-	PORB	-	DWW	PT01	DWW	PT01	DWW	PT01	DWW	PT06	DWW	-	8'-0"	
POR		PORB	-	DWW	PT01	DWW	PT01	DWW	PT01	DWW	PT06	DWW		8'-0"	
POR	-	PORB	-	DWW	PT01	DWW	PT01	DWW	PT01	DWW	PT06	DWW	-	8'-0"	
VCT/EX	-	RB	-	DW	PT05	EX	PT01	DW	PT01	EX	PT01	ACT	_	8'-0"	
СРТ	-	RB	-	DW	PT01	DW	PT01	DW	PT01	DW	PT02	ACT	-	14'-0"	
EX	-	RB	-	EX	PT01	DW	PT01	EX	PT01	DW	PT01	ACT	-	14'-0"	
СРТ	-	RB	-	DW	PT02	EX	PT01	EX	PT01	DW	PT01	ACT	-	14'-0"	
VCT/EX	-	RB	-	EX	PT01	EX	PT01	DW	PT01	EX	PT01	ACT	-	8'-0"	
			1	<u>i</u>	1	1		1				1		1	L

1. NO.	ISSUED FOR TE DESCRIPTION SIONS	ENDER/ PERMIT	2024.03.0 DATE
Alex Alex (416 2118	EX WARV Warwick @WarwickDesigns ) 697-3008 3 Valley St. Moose		TECT
-	TOWN STORMON	SHIP OF NOR T - NEW TOW ENOVATION	
BY AN THE C FOR NOTIF INFOR ALEX ACCL	ND IS THE PROPERT CONTRACTOR SHALL ALL DIMENSIONS A TY ARCHITECT OF A RMATION. WARWICK ARCHIT JRACY OF THE CONS R TO APPROPRIATE	NSTRUMENT OF SERVICE Y OF ALEX WARWICK ARC L VERIFY AND ACCEPT RE IND CONDITIONS ON SIT ANY VARIATIONS FROM ECT IS NOT RESPONSI SULTANT INFORMATION. E SURVEY, STRUCTURAL, PE, ETC. CONSULTAN	CHITECTS. ESPONSIBILIT E AND SHAI THE SUPPLIE BLE FOR TH MECHANICA
CONS AND I THE REPR	REQUIREMENTS OF	CONFORM TO ALL APPLI AUTHORITIES HAVING JUI SYMBOLS ARE FC	RISDICTION.
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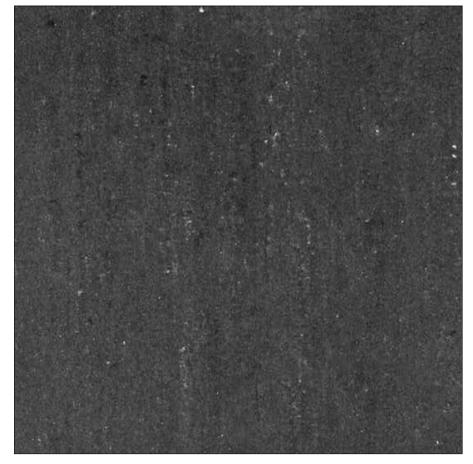


# BUILDING MATERIAL FINISHES

RUBBER WALL BASE - FLAGSTONE R41FS BY ARMSTRONG FLOORING



CARPET TILE - 106951 CHARCOAL, OPEN AIR 408 BY INTERFACE



PORCELAIN FLOOR TILE AND BASE JET BLACK, MATTE, 12" X 24", REGAL SERIES, BY OLYMPIA TILE



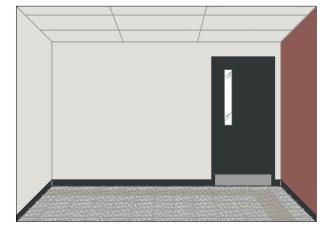
LUNCHROOM CABINET FINISH - BURNT STRAND 6307 MATT BY FORMICA

ALL COUNTER-TOP - WHITE COLORCORE 2 LAMINATE MATT 58 BY FORMICA



WHITE OAK RISER AND RAILINGS





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1. ISSUED FOR TE NO. DESCRIPTION	NDER/ PERMIT	2024.03.08 DATE						
REVISIONS								
ALEX WARV Alex Warwick Alex@WarwickDesignS (416) 697-3008 2118 Valley St. Moose		TECT						
PROJECT								
TOWNSHIP OF NORTH STORMONT - NEW TOWN HALL RENOVATION								
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REFER TO APPROPRIATE ELECTRICAL, LANDSCAI BEFORE PROCEEDING WI	PE, ETC. CONSULTAN							
CONSTRUCTION MUST C AND REQUIREMENTS OF THE ARCHITECTURAL REPRESENTATION ONLY.	AUTHORITIES HAVING JUI	RISDICTION.						
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#### MECHANICAL NOTES

#### MECHANICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR THIS PROJECT.

#### 1 GENERAL:

- CONFORM WITH APPLICABLE REQUIREMENTS OF THE MINISTRY OF LABOUR, AND THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- DO COMPLETE INSTALLATION IN ACCORDANCE WITH THE FOLLOWING: ONTARIO BUILDING CODE (OBC);
- NATURAL GAS AND PROPANE INSTALLATION CODE (GAS CODE);
- ASHRAE;
- SMACNA;
- NFPA;
- ALL OTHER RELEVANT CODES AND STANDARDS, AS APPLICABLE.
- OBTAIN ALL PERMITS REQUIRED FOR THE INSTALLATION OF MECHANICAL TRADES WORK, ARRANGE FOR INSPECTIONS AND TESTS, AND PAY ALL FEES AND COSTS FOR THE PERMITS, INSPECTIONS AND FEES. OBTAIN PERMITS IMMEDIATELY AFTER NOTIFICATION OF AWARD OF CONTRACT.
- PROVIDE DIGITAL AND HARD COPY OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR EQUIPMENT FURNISHED UNDER THIS CONTRACT. BIND INSTRUCTIONS IN 3-RING BINDERS. INCLUDE THE FOLLOWING:
- SCHEMATIC DIAGRAM OF ELECTRICAL SYSTEMS.
- CONTROL SHOP DRAWINGS AND OPERATING SEQUENCE INCLUDING WIRING OF COMPONENTS. WIRING DIAGRAM OF CONTROL PANELS.
- OPERATING INSTRUCTIONS, INCLUDING START-UP AND SHUT-DOWN PROCEDURE.
- MAINTENANCE INSTRUCTIONS INCLUDING PREVENTIVE MAINTENANCE INSTRUCTIONS FOR COMPONENTS OF THE EQUIPMENT.
- COMPLETE PARTS LIST OF ASSEMBLIES AND THEIR COMPONENT PARTS, SHOWING MANUFACTURER'S .6 NAME, CATALOGUE NUMBER, AND NEAREST REPLACEMENT SOURCE.
- LIST OF RECOMMENDED SPARE PARTS AND QUANTITY OF EACH ITEM TO BE STOCKED.
- MANUFACTURERS' WARRANTIES AND GUARANTEES. CLEAN ALL MECHANICAL SYSTEMS AT PROJECT COMPLETION.
- COMPLETE AS-BUILT DRAWINGS SHOWING ALL CHANGES AS WORK PROGRESSES.

#### **2** CONTRACTOR QUALIFICATIONS:

- .1 ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE "TRADE QUALIFICATION AND APPRENTICESHIP ACT" AND REGULATIONS, BY PERSONS WHO HOLD THE FOLLOWING CERTIFICATES OF QUALIFICATION (AS APPLICABLE):
- PLUMBER;
- REFRIGERATION & AIR CONDITIONING SYSTEMS MECHANIC;
- SHEET METAL WORKER.
- ALL FUELS-RELATED WORK TO BE CARRIED OUT IN ACCORDANCE WITH TSSA REQUIREMENTS AND ONTARIO REGULATION 215/01, "FUEL INDUSTRY CERTIFICATES" BY PERSONS WHO HOLD THE APPROPRIATE CERTIFICATES FOR THE WORK BEING PERFORMED.

#### **3 FACILITIES AND DEMOLITION:**

LOCATE AND PROTECT ALL EXISTING EXTERIOR SITE SERVICES.

- RETAIN AND PROTECT ALL EXISTING INTERIOR SERVICES AND BUILDING FABRIC. MAKE GOOD ANY AND ALL DAMAGE RESULTING FROM THIS WORK.
- PLUMBING:
- RETAIN AND PROTECT ALL EXISTING SANITARY VENTS. RE-ROUTE AS NECESSARY TO SUIT NEW FLOOR PLAN AND CEILINGS. CONNECT NEW SANITARY VENTS TO EXISTING IN CEILING SPACE.
- DISCONNECT AND REMOVE EXISTING PLUMBING FIXTURES, AND ALL OBSOLETE PIPING.
- CONCEAL AND CAP ALL OTHER PLUMBING IN WALLS, CEILINGS AND FLOORS WHICH ARE TO BE RETAINED.
- DISPOSE OF ALL OBSOLETE PLUMBING FIXTURES AND EQUIPMENT. .4
- EXISTING SANITARY PIPING:
- .1 PERFORM A CAMERA INSPECTION OF THE EXISTING SANITARY SERVICE TO CONFIRM EXISTING SANITARY PIPE SIZE, LOCATION AND CONDITION. REPORT ANY PIPE BLOCKAGES, INADEQUATE SLOPES, LOW SPOTS, AND POOR CONDITION TO ENGINEER, FOR COMMENT AND DIRECTION.
- FLOOR CUTTING: CONDUCT THERMAL IMAGING OF THE FLOOR IN ALL AREAS OF FLOOR CUTTING AND REMOVAL, .1
  - TO LOCATE BURIED ELECTRICAL SERVICES (IF ANY).
  - CAREFULLY SAWCUT FLOOR TO PERMIT INSTALLATION OF NEW SANITARY PIPING. REINSTATE FLOOR TO ORIGINAL CONDITION, FOLLOWING INSTALLATION OF NEW PLUMBING. .3

CUTTING AND PATCHING: EXECUTE CUTTING, FITTING AND PATCHING REQUIRED TO MAKE THE WORK FIT PROPERLY TOGETHER.

- CUT AND PATCH FOR PROCESS, MECHANICAL AND ELECTRICAL WORK. COORDINATE WORK WITH OTHER TRADES SO THAT THERE IS A MINIMUM OF CUTTING, FITTING AND PATCHING.
- DRILLING, CUTTING, FITTING AND PATCHING AND MAKING GOOD WHERE NECESSARY DUE TO FAILURE
- TO DELIVER ITEMS TO BE BUILT IN TIME OR INSTALLATION IN WRONG LOCATION, SHALL BE EXECUTED AS DIRECTED AT NO COST TO THE OWNER. DRILLING AND CUTTING OF LOAD BEARING STRUCTURAL MEMBERS SHALL BE DONE ON PRIOR EXPRESS 4
- WRITTEN PERMISSION OF THE ENGINEER FOR EACH INSTANCE. CUT HOLES ACCURATELY, WITH SMOOTH, TRUE, CLEAN EDGES. FIT UNITS TO TOLERANCES TO BEST
- STANDARD PRACTICE FOR APPLICABLE WORK.
- HOLES IN BLOCK AND CONCRETE WORK SHALL BE SAWCUT OR CORE-DRILLED, AND SHALL NOT BE MADE WITH A HAMMER GUN.
- PATCHED WORK SHALL BE INVISIBLE, SIZE HOLES AND OPENINGS FOR PIPES SO AS TO ALLOW FOR EXPANSION AND CONTRACTION OF SUCH PIPES.

#### **<u>4 FIXTURES AND EQUIPMENT:</u>**

PROVIDE SHOP DRAWINGS AND PRODUCT DATA FOR ALL MECHANICAL FIXTURES AND EQUIPMENT FOR APPROVAL, PRIOR TO PROCUREMENT.

- HVAC EQUIPMENT SHALL NOT USED FOR CONSTRUCTION HEATING.
- INSTALL ALL MECHANICAL FIXTURES AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S
- INSTRUCTIONS. EQUIPMENT AND MATERIAL TO BE CANADIAN GAS ASSOCIATION (CGA) CERTIFIED. WHERE THERE IS NO
- ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT CGA CERTIFIED, OBTAIN TSSA FIELD APPROVAL.

LOCATE ALL EQUIPMENT WITH CLEARANCES, AS REQUIRED BY THE MANUFACTURER, THE FUEL CODES, AND ALL OTHER CODES AND REGULATIONS, INCLUDING THE FOLLOWING CLEARANCES:

- TO PERMIT PROPER EQUIPMENT OPERATION; 1
- TO PERMIT SUFFICIENT AIRFLOW AROUND EQUIPMENT; FOR EQUIPMENT SERVICE;
- SUFFICIENT DISTANCE FROM COMBUSTIBLE MATERIAL;
- WITH SUFFICIENT VENT CLEARANCES;
- SUFFICIENT DISTANCE FROM ROOF EDGES OR OTHER HAZARDS.

#### **<u>5 EQUIPMENT SUPPLIED BY OTHERS:</u>**

- GENERAL CONTRACTOR SHALL ASSUME FULL REPON CONNECTIONS FOR ALL EQUIPMENT, SUPPLIED BY M
- MAKE ALL MECHANICAL SERVICE CONNECTIONS TO E CONFIRM ALL SERVICE CONNECTIONS WITH MANUF .3 SHALL INCLUDE ALL CONNECTION SIZES, LOCATIONS
- EQUIPMENT CLEARANCES AND INSTALLATION REQU

#### 6 PIPING AND ESCUTCHEONS:

#### 7 ACCESS DOORS:

.1

- .1 SUPPLY ACCESS DOORS, AS REQUIRED IN DUCTWORK MECHANICAL EQUIPMENT AND OPERATING DEVICES
- INSTALLED BY OTHER TRADES. .2 ACCESS DOORS SHALL BE FIRE-RATED TYPE, WHERE RATING OF THE ASSEMBLY.

## **8 PIPE INSULATION:**

- INSTALL IN ACCORDANCE WITH THERMAL INSULATIO .1 STANDARDS.
- MAX. FLAME SPREAD RATING: 25.
- MAX. SMOKE DEVELOPED RATING: 50. .3
- DOMESTIC COLD WATER (DCW): .4 1" RIGID MOULDED MINERAL FIBRE WITH V .1
- .2 INSULATE ALL PIPING IN FLOORS, WALLS AND .5 DOMESTIC HOT WATER (DHW):
- .1 1" RIGID MOULDED MINERAL FIBRE FOR PIPI .2 1-1/2" RIGID MOULDED MINERAL FIBRE FOR .3 INSULATE ALL PIPING IN FLOORS, WALLS AND
- .6 OUTER JACKET: CONCEALED LOCATIONS: ALL SERVICE JACKE .1
  - EXPOSED LOCATIONS: PVC JACKET. MECHANICAL/SERVICE ROOMS: PVC JACKET. .3

#### **9 WATER SERVICE AND WATER SUPPLY PIPING:**

- INSIDE BUILDING: COPPER TUBE, HARD DRAWN, TYP LEAD-FREE SOLDER.
- WATER SUPPLY PIPING IS SHOWN SCHEMATICALLY.
- NOTED. INSTALL TUBING CLOSE TO BUILDING STRUCTURE TO
- GROUP EXPOSED PIPING AND RUN PARALLEL TO WA .4 ISOLATE ALL EQUIPMENT, FIXTURES AND BRANCHES
- .5 TEST WATER SYSTEM AT 11/2 TIMES SYSTEM OPERAT
- GREATER. TEST PRESSURE AND TIMEFRAME SHALL FLUSH OUT, DISINFECT AND RINSE SYSTEM, PRIOR T

## **10 DRAINAGE, WASTE AND VENT PIPING:**

APPROXIMATE SUB-FLOOR PIPING ELEVATIONS HAVE CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING

.5

- BELOW GROUND/FLOOR: .2
- .1 PVC DWV, TYPE SDR26 SDR35.
- ABOVE GROUND: .3
  - .1 PVC DWV SOLID WALL SCHEDULE 40, CERTIF NONCOMBUSTIBLE CONSTRUCTION (FLAME S102.2).
  - PVC DWV SOLID WALL SCHEDULE 40, CERTIF NONCOMBUSTIBLE CONSTRUCTION (FLAME DEVELOPED CLASSIFICATION NOT MORE THAT
- PROVIDE CLEANOUTS AS REQUIRED BY THE ONTARIO VENT COMPLETE PLUMBING SYSTEM IN ACCORDAN

#### **<u>11 NATURAL GAS PIPING:</u>**

12 DUCTWORK

.4 FITTINGS

.3

.2 ROUND DUCT:

.1 RECTANGULAR DUCT:

SEAL CLASSIFICATION:

- COORDINATE NATURAL GAS SERVICE UPGRADE AND MECHANICAL CONTRACTOR SHALL ASSUME .1 GAS SERVICE WITH THE SUPPLY AUTHORITY
- INCLUDE DETAILED REVIEW OF EXISTING NA .2 LOAD;
- COORDINATE ALL SERVICE, METER AND EQU 3 STEEL PIPE, SCHEDULE 40, SEAMLESS, SCREWED FITT SUPPLY AND INSTALL:
- .1 EXPANSION CONTROL LOOPS ON PIPES
- SLOPE PIPING DOWN IN DIRECTION OF FLOW TO LOV .5 ALL NATURAL GAS PIPING AND FITTINGS SHALL BE:

.6 TEST SYSTEM IN ACCORDANCE WITH NATURAL GAS

MADE AIRTIGHT WITH SEALANT AND TAPE.

- CLEANED AFTER ASSEMBLY;
- PAINTED WITH ONE BASE LAYER OF METAL PAINTED WITH ONE TOP COAT OF EXTERIOR .3

EQUIPMENT SUPPLIED BY OTHERS:	.1 FABRICATION: TO SMACNA.	.2 MECHANICAL
GENERAL CONTRACTOR SHALL ASSUME FULL REPONSIBILITY FOR COORDINATING MECHANICAL SERVICES AND	.2 RADIUSED ELBOWS.	THE BUILDING
CONNECTIONS FOR ALL EQUIPMENT, SUPPLIED BY MECHANICAL OR ANY OTHER TRADES.	.1 RECTANGULAR: STANDARD WITH CENTRELINE RADIUS 1.5 TIMES DUCT DIMENSION, WITH	MANUAL OR O
MAKE ALL MECHANICAL SERVICE CONNECTIONS TO EQUIPMENT SUPPLIED BY OTHERS. CONFIRM ALL SERVICE CONNECTIONS WITH MANUFACTURER AND SUPPLIER, PRIOR TO INSTALLATION. THIS	SINGLE THICKNESS TURNING VANES. .2 ROUND: FIVE PIECE WITH CENTRELINE RADIUS 1.5 TIMES DIAMETER.	.3 FOLLOWING PI .4 CONTRACTOR
SHALL INCLUDE ALL CONNECTION SIZES, LOCATIONS AND DETAILS, AND SHALL TAKE INTO ACCOUNT	.3 MITRED ELBOWS, RECTANGULAR: WITH DOUBLE THICKNESS TURNING VANES.	SHOP DRAWIN
EQUIPMENT CLEARANCES AND INSTALLATION REQUIREMENTS.	.5 BRANCHES:	
	.1 RECTANGULAR MAIN AND BRANCH: WITH RADIUS ON BRANCH 1.5 TIMES WIDTH OF DUCT 45 DEGREES	17 EQUIPMENT AND
PIPING AND ESCUTCHEONS: PROVIDE DIELECTRIC UNIONS AT ALL PIPING LOCATIONS WHERE DISSIMILAR METALS ARE JOINED.	ENTRY ON BRANCH. .2 ROUND MAIN AND BRANCH: ENTER MAIN DUCT AT 45 DEGREES WITH CONICAL CONNECTION.	.1 ALL MECHANIC
PROVIDE DIELECTRIC UNIONS AT ALL PIPING LOCATIONS WHERE DISSIMILAR METALS ARE JOINED. PROVIDE ESCUTCHEONS ON ALL PIPES PASSING THROUGH WALLS, PARTITIONS, FLOORS AND CEILINGS,	<ul> <li>.2 ROUND MAIN AND BRANCH: ENTER MAIN DUCT AT 45 DEGREES WITH CONICAL CONNECTION.</li> <li>.3 PROVIDE VOLUME CONTROL DAMPER IN BRANCH DUCT NEAR CONNECTION TO MAIN DUCT.</li> </ul>	ATTACHED ANI .2 PIPE HANGERS
CHROME, NICKEL PLATED BRASS OR TYPE 302 STAINLESS STEEL.	.4 MAIN DUCT BRANCHES: WITH SPLITTER DAMPER.	SP-58, PIPE HA
	.6 TRANSITIONS:	INSTALLATION
ACCESS DOORS:	.1 DIVERGING: 20 DEGREES MAXIMUM INCLUDED ANGLE.	.3 PLATFORMS SH
SUPPLY ACCESS DOORS, AS REQUIRED IN DUCTWORK AND WALL/CEILING ASSEMBLIES, TO ALL CONCEALED	.2 CONVERGING: 30 DEGREES MAXIMUM INCLUDED ANGLE.	
MECHANICAL EQUIPMENT AND OPERATING DEVICES. ACCESS DOORS IN WALL/CEILING ASSEMBLIES TO BE INSTALLED BY OTHER TRADES.	.7 FIRE STOPPING .1 RETAINING ANGLES AROUND DUCT, ON BOTH SIDES OF FIRE SEPARATION IN ACCORDANCE WITH	REQUIREMENT
ACCESS DOORS SHALL BE FIRE-RATED TYPE, WHERE USED IN FIRE-RATED ASSEMBLIES, AND SHALL MATCH THE	SECTION.	18 COORDINATION:
RATING OF THE ASSEMBLY.	.2 FIRE STOPPING MATERIAL AND INSTALLATION MUST NOT DISTORT DUCT.	.1 INFORMATION
	.8 DAMPERS:	CONTRACTOR.
PIPE INSULATION:	.1 MANUFACTURE TO SMACNA STANDARDS.	.2 DRAWINGS AR
INSTALL IN ACCORDANCE WITH THERMAL INSULATION ASSOCIATION OF CANADA (TIAC) NATIONAL STANDARDS.	.2 SINGLE BLADE DAMPERS: .1 FABRICATE FROM SAME MATERIAL AS DUCT, BUT ONE SHEET METAL THICKNESS HEAVIER.	ARRANGEMEN AND ALLOW FO
MAX. FLAME SPREAD RATING: 25.	V-GROOVE STIFFENED.	INTERFERENCE
MAX. SMOKE DEVELOPED RATING: 50.	.2 SIZE AND CONFIGURATION TO RECOMMENDATIONS OF SMACNA.	.3 CONTRACTOR
DOMESTIC COLD WATER (DCW):	.3 LOCKING QUADRANT (WITH SHAFT EXTENSION TO ACCOMMODATE INSULATION THICKNESS, IF	ACCOMMODA
.1 1" RIGID MOULDED MINERAL FIBRE WITH VAPOUR RETARDER JACKET.	REQUIRED).	.4 COORDINATE A
.2 INSULATE ALL PIPING IN FLOORS, WALLS AND CEILINGS, TO POINT OF FIXTURE CONNECTIONS. DOMESTIC HOT WATER (DHW):	<ul><li>.4 INSIDE AND OUTSIDE NYLON END BEARINGS.</li><li>.5 CHANNEL FRAME OF SAME MATERIAL AS ADJACENT DUCT, COMPLETE WITH ANGLE STOP.</li></ul>	ELECTRICAL TR
.1 1" RIGID MOULDED MINERAL FIBRE FOR PIPING UP TO 1-1/4" SIZE	.9 DUCT LEAKAGE: IN ACCORDANCE WITH SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL.	19 START-UP, COMM
.2 1-1/2" RIGID MOULDED MINERAL FIBRE FOR PIPING 1-1/2" TO 3" SIZE.	.10 ALL DUCT AND SEAL MATERIALS TO HAVE A FLAME SPREAD RATING OF LESS THAN 25 AND A SMOKE	.1 COMMISSIONI
.3 INSULATE ALL PIPING IN FLOORS, WALLS AND CEILINGS, TO POINT OF FIXTURE CONNECTIONS.	DEVELOPED CLASSIFICATION OF LESS THAN 50.	.1 START-
	.11 PROVIDE FLEXIBLE CONNECTIONS AT ALL EQUIPMENT DUCT CONNECTION POINTS.	.1
.1 CONCEALED LOCATIONS: ALL SERVICE JACKET. .2 EXPOSED LOCATIONS: PVC JACKET.	13 DUCT INSULATION:	.2 .2 PERFO
.3 MECHANICAL/SERVICE ROOMS: PVC JACKET.	.1 REFER TO DRAWING FOR DUCT THAT IS IDENTIFIED TO BE INSULATED.	.2 FOLLO
	.2 INSTALL IN ACCORDANCE WITH THERMAL INSULATION ASSOCIATION OF CANADA (TIAC) NATIONAL	.1
WATER SERVICE AND WATER SUPPLY PIPING:	STANDARDS.	
INSIDE BUILDING: COPPER TUBE, HARD DRAWN, TYPE L. CAN. OR US MANUFACTURE, INCLUDING FITTINGS. LEAD-FREE SOLDER.	.3 MAX. FLAME SPREAD RATING: 25.	.2
LEAD-FREE SOLDER. WATER SUPPLY PIPING IS SHOWN SCHEMATICALLY. ALL PIPING SHALL BE CONCEALED UNLESS OTHERWISE	.4 MAX. SMOKE DEVELOPED RATING: 50. .5 THERMAL INSULATION - RECTANGULAR DUCT:	.3 .3 SYSTEN
NOTED.	.1 1" (R4.3) RIGID MINERAL FIBRE BOARD WITH VAPOUR RETARDER JACKET.	ADJUS
INSTALL TUBING CLOSE TO BUILDING STRUCTURE TO MINIMIZE FURRING, CONSERVE HEADROOM AND SPACE.	.2 ALUMINUM JACKET WITH MOISTURE BARRIER.	.4 PROVII
GROUP EXPOSED PIPING AND RUN PARALLEL TO WALLS.	.6 THERMAL INSULATION - ROUND DUCT:	CONDI
ISOLATE ALL EQUIPMENT, FIXTURES AND BRANCHES WITH VALVES. TEST WATER SYSTEM AT 1½ TIMES SYSTEM OPERATING PRESSURE OR MINIMUM 860 KPA, WHICHEVER IS	<ul> <li>.1 1" (R3.1) MINERAL FIBRE BLANKET WITH VAPOUR RETARDER JACKET.</li> <li>.2 ALUMINUM JACKET WITH MOISTURE BARRIER.</li> </ul>	.2 TESTING, ADJU
GREATER. TEST PRESSURE AND TIMEFRAME SHALL BE AS REQUIRED BY OBC 7.3.7.2.	.Z ALOWINOW JACKET WITH MOISTORE BARRIER.	.1 TEST, A THE FC
FLUSH OUT, DISINFECT AND RINSE SYSTEM, PRIOR TO CONSTRUCTION COMPLETION.	14 MECHANICAL FIRE PROTECTION:	.1
DRAINAGE, WASTE AND VENT PIPING:	.1 MECHANICAL CONTRACTOR RESPONSIBILITY:	.2 TAB PF
APPROXIMATE SUB-FLOOR PIPING ELEVATIONS HAVE BEEN INDICATED ON THE DRAWINGS. GENERAL	.1 REFER TO ARCHITECTURAL DRAWINGS, TO VERIFY LOCATION OF ALL FIRE SEPARATIONS AND FIRE-	MEASU
CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING FINAL INVERTS BASED ON SITE CONDITIONS. BELOW GROUND/FLOOR:	RATED MEMBRANES. .2 PROVIDE DRAWINGS FROM HILTI AND/OR 3M FOR FIRE PROTECTION OF ALL PIPING, DUCT AND	.3 EXTERI
.1 PVC DWV, TYPE SDR26 SDR35.	MECHANICAL ITEMS PENETRATING OR PASSING THROUGH A FIRE SEPARATION OR FIRE-RATED	AND SU .4 PROVII
ABOVE GROUND:	ASSEMBLY, FOR REVIEW BY ARCHITECT AND ENGINEER,	ASHRA
.1 PVC DWV SOLID WALL SCHEDULE 40, CERTIFIED TO CAN/CSA STANDARD B181.2, FOR	.3 ALL PIPING, DUCT AND MECHANICAL ITEMS SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING	.3 DEMONSTRATI
NONCOMBUSTIBLE CONSTRUCTION (FLAME-SPREAD RATING NOT MORE THAN 25 PER CAN/ULC-	MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-RATED MEMBRANES.	.1 DEMO
S102.2). .2 PVC DWV SOLID WALL SCHEDULE 40, CERTIFIED TO CAN/CSA STANDARD B181.2, FOR	.2 ALL PIPING SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-RATED MEMBRANES.	PERSO .2 PRIOR
NONCOMBUSTIBLE CONSTRUCTION (FLAME-SPREAD RATING NOT MORE THAN 25 AND SMOKE	.3 FIRE DAMPERS:	INTO C
DEVELOPED CLASSIFICATION NOT MORE THAN 50 PER CAN/ULC-S102.2).	.1 FIRE DAMPERS SHALL BE CAN/ULC-S112 (STANDARD METHOD OF FIRE TEST OF FIRE DAMPER	BALAN
PROVIDE CLEANOUTS AS REQUIRED BY THE ONTARIO BUILDING CODE.	ASSEMBLIES) LISTED AND LABELLED.	.3 DEMO
VENT COMPLETE PLUMBING SYSTEM IN ACCORDANCE WITH THE ONTARIO BUILDING CODE.	.2 FIRE DAMPERS SHALL BE NFPA 80 (STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES),	
NATURAL GAS PIPING:	NFPA 90A (STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING SYSTEMS), AND NFPA 101 (LIFE SAFETY CODE) COMPLIANT.	.4 INSTRU MAINT
COORDINATE NATURAL GAS SERVICE UPGRADE AND INSTALLATION, AS FOLLOWS:	.3 DUCTWORK SHALL BE FITTED WITH FIRE DAMPERS AT ALL FIRE SEPARATIONS AND FIRE-RATED	EXPLAI
.1 MECHANICAL CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR COORDINATION OF NATURAL	MEMBRANES.	
GAS SERVICE WITH THE SUPPLY AUTHORITY;	.4 SUPPLY AND INSTALL ACCESS DOORS IN ARCHITECTURAL FINISH (WALL, CEILING OR FLOOR) TO ACCESS	
.2 INCLUDE DETAILED REVIEW OF EXISTING NATURAL GAS LOADS FOR SUMMATION OF BUILDING TOTAL	DUCT, IN COMMON AREA WHERE POSSIBLE.	
LOAD; .3 COORDINATE ALL SERVICE, METER AND EQUIPMENT PRESSURES AND REGULATORS.	.5 SUPPLY AND INSTALL TIGHTLY-FITTED ACCESS DOOR IN DUCT TO ACCESS, INSPECT AND RESET FIRE DAMPER.	
STEEL PIPE, SCHEDULE 40, SEAMLESS, SCREWED FITTINGS.	.6 TYPES: DYNAMIC - FOR USE IN AIR HANDLING SYSTEMS THAT DO NOT SHUTDOWN UPON FIRE ALARM.	
SUPPLY AND INSTALL:	.7 RATING: 1-1/2 HR (30MIN TO 2HR FIRE RESISTANCE RATING).	
.1 EXPANSION CONTROL LOOPS ON PIPES	.4 FIRE DAMPER AND DUCT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS, AND	
SLOPE PIPING DOWN IN DIRECTION OF FLOW TO LOW POINTS.	SHALL BE SEALED WITH FIRESTOPPING MATERIAL.	
ALL NATURAL GAS PIPING AND FITTINGS SHALL BE: .1 CLEANED AFTER ASSEMBLY;	.5 ALL MECHANICAL MATERIALS USED WITHIN CEILING RETURN AIR PLENUMS SHALL FLAME-SPREAD RATING NOT MORE THAN 25 AND SMOKE DEVELOPED CLASSIFICATION NOT MORE THAN 50 PER CAN/ULC-S102.2.	
.2 PAINTED WITH ONE BASE LAYER OF METAL PRIMER;	.6 MOCK-UPS:	
.3 PAINTED WITH ONE TOP COAT OF EXTERIOR ENAMEL PAINT;	.1 PREPARE MOCK-UPS OF TYPICAL FIRESTOP INSTALLATION OF THE FOLLOWING, FOR REVIEW AND	
.4 COLOUR ON EXTERIOR WALL – TO MATCH WALL	APPROVAL BY THE OWNER, ENGINEER AND MUNICIPAL BUILDING INSPECTOR:	
.5 COLOUR ON ROOF AND INTERIOR OF BUILING - YELLOW.	.1 SANITARY PIPING – WALL AND CEILING/FLOOR FIRE SEPARATION;	
TEST SYSTEM IN ACCORDANCE WITH NATURAL GAS AND PROPANE INSTALLATION CODE.	<ul> <li>.2 DCW AND DHW PIPING – WALL AND CEILING/FLOOR FIRE SEPARATION;</li> <li>.3 FIRE DAMPER INSTALLATION – WALL AND CEILING/FLOOR FIRE SEPARATION.</li> </ul>	
DUCTWORK:	.2 ALL FIRESTOP INSTALLATIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROPRIATE	
RECTANGULAR DUCT:	PRODUCT INSTALLATION INSTRUCTIONS, AND THE REFERENCED UL/ULC LISTING AND/OR TEST	
.1 RIGID GALVANIZED STEEL, LOCK FORMING QUALITY TO ASTM A653/A653M	STANDARD.	
.2 THICKNESS, FABRICATION, REINFORCEMENT AND SUPPORT/ATTACHMENT TO ASHRAE OR SMACNA. ROUND DUCT:	.3 SUPPLY A COPY OF THE PRODUCT INSTALLATION INSTRUCTIONS WITH ULC LISTING AND/OR TEST STANDARD REFERENCE, FOR EACH INSTALLATION.	
.1 RIGID GALVANIZED STEEL, LOCK FORMING QUALITY TO ASTM A653/A653M	.4 MOCK-UP MAY REMAIN AS PART OF WORK.	
.2 THICKNESS, FABRICATION, REINFORCEMENT AND SUPPORT/ATTACHMENT TO ASHRAE OR SMACNA.		
.3 FLEXIBLE BRANCH DUCT (PERMITTED WITHIN 1m/3ft FROM OUTLET):	15 MECHANICAL IDENTIFICATION:	
.1 ALL METAL TYPE: TRIPLE LOCK, ALUMINUM CORRUGATED DUCT, MANUFACTURED USING AN	.1 IDENTIFY MECHANICAL EQUIPMENT WITH LABEL STATING – NUMBER AND NAME.	
ALUMINUM STRIP, WHICH IS SPIRALLY WOUND AND MECHANICALLY JOINED TOGETHER FORMING AN AIR TIGHT AND LEAKPROOF SEAM.	.2 LABEL ALL PIPING AT LEAST ONCE IN EVERY ROOM, AND AT NO MORE THAN 25 FT CENTERS.	
SEAL CLASSIFICATION:	16 EARTHQUAKE LOAD:	

CLASS A: LONGITUDINAL SEAMS, TRANSVERSE JOINTS, DUCT WALL PENETRATIONS AND CONNECTIONS

**16 EARTHQUAKE LOAD:** ALL MECHANICAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE EARTHQUAKE LOAD AND EFFECTS .1 REQUIRED BY THE ONTARIO BUILDING CODE.

AL ELEMENTS AND COMPONENTS (EQUIPMENT, PIPES, DUCTS, ETC.), AND THEIR CONNECTIONS TO NG SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SMACNA/ANSI SEISMIC RESTRAINT R OTHER GUIDELINE REFERENCED IN THE ONTARIO BUILDING CODE. G PROJECT COMPLETION, SEISMIC ENGINEER SHALL PROVIDE A LETTER OF FINAL SITE REVIEW. OR SHALL CARRY THE COST OF THE SEISMIC ENGINEERING, INCLUDING SITE REVIEWS, DESIGN AND VING PREPARATION.

#### ND MATERIALS SUPPORT:

NICAL EQUIPMENT, PIPING, DUCTWORK, AND RELATED ITEMS SHALL BE SECURELY SUPPORTED, AND FASTENED TO BUILDING STRUCTURE, AND SHALL NOT BE FASTENED TO THE ROOF DECK. ERS AND SUPPORTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH MSS STANDARD HANGERS AND SUPPORTS – MATERIALS, DESIGN, MANUFACTURE, SELECTION, APPLICATION, AND

S SHALL BE FABRICATED FROM STRUCTURAL GRADE STEEL MEETING THE REQUIREMENTS OF THE UILDING CODE, INCLUDING CSA STANDARD W59 WELDED STEEL CONSTRUCTION, AND THE ENTS OF THE CANADIAN WELDING BUREAU.

ION INVOLVING ACCURATE DIMENSIONING OF THE BUILDING SHALL BE TAKEN FROM SITE BY

ARE IN DIAGRAMMATIC FORM, INTENDED TO CONVEY THE SCOPE OF WORK AND GENERAL 1ENT FOR EQUIPMENT. COORDINATE PHYSICAL LOCATION OF ALL EQUIPMENT WITH OTHER TRADES V FOR ANY ADDITIONAL PIPING, DUCTING, FITTINGS, SUPPORTS, ETC., IN ORDER TO AVOID NCE AND FACILITATE THE WORK.

OR TO MAKE ANY NECESSARY MODIFICATIONS OR ADDITIONS, WITHOUT CHARGE, TO DATE SITE CONDITIONS AND COORDINATION.

TE ALL MECHANICAL EQUIPMENT WIRING, INCLUDING LOW VOLTAGE CONTROL WIRING, WITH TRADES.

#### MMISSIONING AND TRAINING:

ART-UP AND COMMISSION THE FOLLOWING SYSTEMS:

PLUMBING FIXTURES;

HVAC RFORM SYSTEMATIC TESTS, PROCEDURES AND CHECKS ON SYSTEMS, AS

LOWS: TO VERIFY OPERATION IN ACCORDANCE WITH CONTRACT DOCUMENTS, DESIGN CRITERIA AND INTENT, AND MANUFACTURER'S REQUIREMENTS;

TO ENSURE APPROPRIATE DOCUMENTATION IS PROVIDED; TO EFFECTIVELY TRAIN BUILDING OPERATIONAL STAFF

TEMS ARE TO BE OPERATED AT FULL CAPACITY, WITH CORRECTION OF ALL DEFICIENCIES AND JUSTMENTS TO MEET OPTIMUM PERFORMANCE. OVIDE WRITTEN REPORT AT END OF COMMISSIONING OUTLINING EQUIPMENT OPERATIONAL

NDITIONS AND PARAMETERS. DJUSTING AND BALANCING:

T, ADJUST AND BALANCE (TAB) ALL PLUMBING AND HVAC EQUIPMENT AND SYSTEMS; INCLUDING E FOLLOWING:

ROOFTOP HVAC UNITS.

PROCEDURE SHALL BE COMPLETED IN ACCORDANCE WITH ASHRAE STANDARD 111, ASUREMENT, TESTING, ADJUSTING AND BALANCING OF BUILDING HVAC SYSTEMS.

FERNAL STATIC PRESSURES SHALL BE MEASURED AFTER FILTER ON RETURN AIR AND BEFORE AC COIL D SUPPLY AIR. DVIDE DETAILED REPORT AT END OF TAB, IN ACCORDANCE WITH THE REPORTING PROCEDURES OF

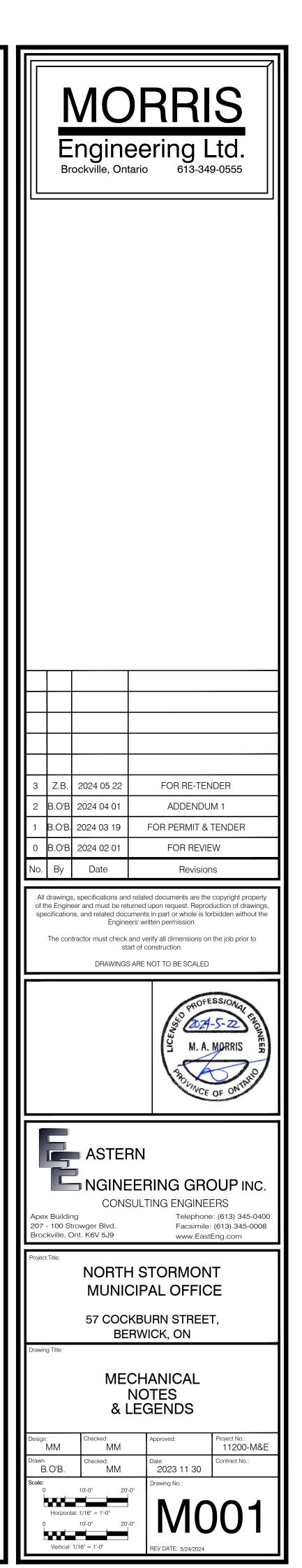
HRAE STANDARD 111. RATION AND TRAINING:

MONSTRATE OPERATION AND MAINTENANCE OF EQUIPMENT AND SYSTEMS TO OWNER'S

SONNEL ONE WEEK PRIOR TO DATE OF FINAL INSPECTION OR TO DEMONSTRATION AND TRAINING, ENSURE THAT EQUIPMENT HAS BEEN INSPECTED AND PUT O OPERATION, INCLUDING COMPLETION OF COMMISSIONING AND TESTING, ADJUSTING, AND

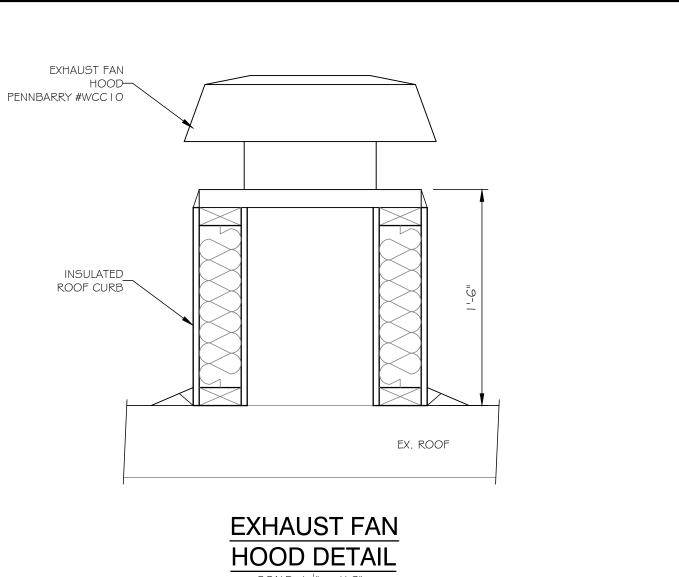
LANCING. MONSTRATE START-UP, OPERATION, CONTROL, ADJUSTMENT, TROUBLE-SHOOTING, SERVICING, AND INTENANCE OF EACH ITEM OF EQUIPMENT.

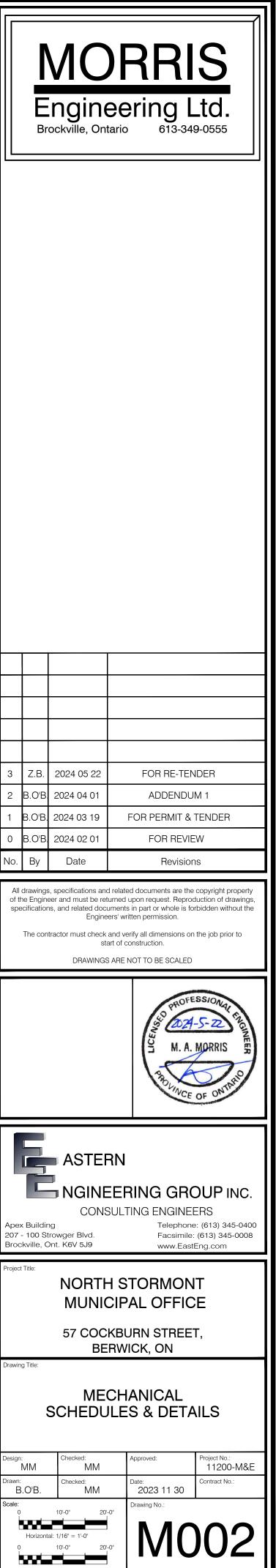
TRUCT PERSONNEL IN PHASES OF OPERATION AND MAINTENANCE USING OPERATION AND INTENANCE MANUALS AS BASIS OF INSTRUCTION. REVIEW CONTENTS OF MANUAL IN DETAIL TO LAIN ASPECTS OF OPERATION AND MAINTENANCE



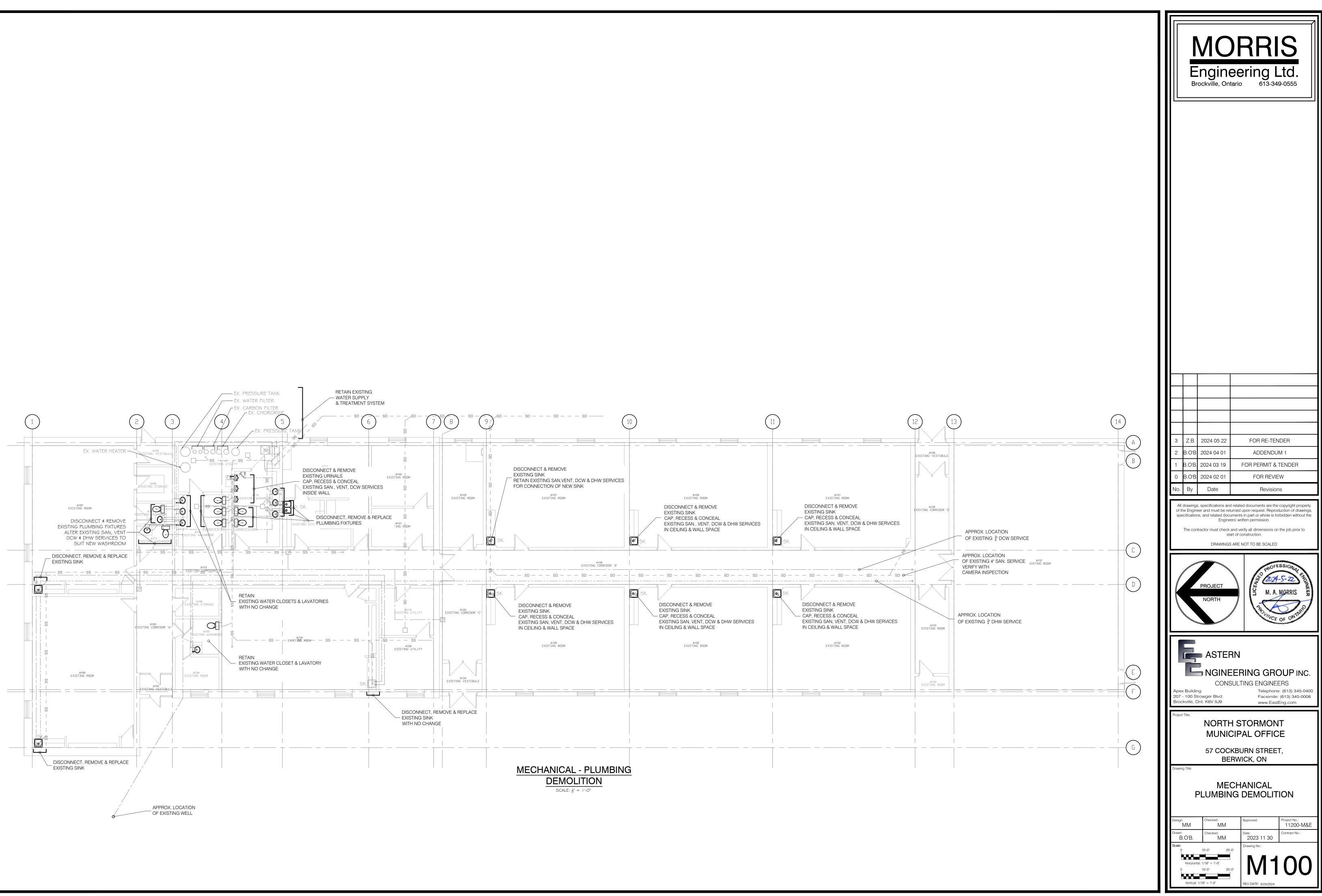
	BING FIXTURE SCHEDULE				70				ACCEDT						NOTES			EXHA UNIT
UNIT	DESCRIPTION			PIPE SIZ	DCW				ACCEPT	ABLE PRO	DUCI				NOTES		-	
		(in) (mm)	(in) (mm		(in) (mm)	(in) (mm)												EF-1
WC-1	WATER CLOSET - TANK	INT	3" 75		1/2" 13		WATERCLO SEAT - CEN			STANDAR	D #2462 (	(CADET)			RE ASSISTED, ELONGATED WHITE DUTY, OPEN FRONT SEAT & COVEF	, SS HINGE		
							OR APPROV	VED EQU	۹L					MAX. WA	TER CONSUMPTION - 6.0 Lpf, 1.6 gr V x H - 768 x 521 x 743 mm, 30.25 x	f		
														RIM HEIG	HT - 381 mm, 15 in			
														ISOLATIN	LANGE, FLANGE BOLTS & GASKET G VALVE - BRASS W CHROME FIN		-	
														WALL-MC	DUNTED, SCREWDRIVER STOP		_	
WC-2	WATERCLOSET - TANK BARRIER FREE	INT	3" 75		1/2" 13		WATERCLO SEAT - CEN			STANDAR	D #2467 (	016 (CADE	,		RE ASSISTED, ELONGATED WHITE DUTY, OPEN FRONT SEAT & COVER	SS HINGE	-	
							OR APPRO							MAX. WA	TER CONSUMPTION - 6.0 Lpf, 1.6 gr V x H - 768 x 521 x 781 mm, 30.25 x 3	f		
														RIM HEIG	HT - 419 mm, 16.5 in			
															IGHT - 430 to 485 mm, 17 to 19 in (OI LANGE, FLANGE BOLTS & GASKET	,		
															G VALVE - BRASS W CHROME FIN DUNTED, SCREWDRIVER STOP	SH,		
LA-1	LAVATORY	1 1/2	1.1/2	2" 1-1/4"	1/2"	1/2"	AMERICAN		חי								-	
LA-1	COUNTERTOP	38	38		13	13	#9494 LAVA	TORY						OVERALI	_ DIM - W x FTB x D - 533 x 445 x 16		-	
							#7385 SINGI	LE LEVER	R FAUCE	Τ					M - W x FTB x D - 441 x 279 x 133mr TER CONSUMPTION - 8.35 Lpm, 2.2			
LA-2	LAVATORY	1-1/2	1-1/2	2" 1-1/4"	1/2"		OR APPROVED EQUAL								E AND COVER ALL SAN, DCW & DH OP-UP DRAIN	W PIPE	-	
	WALL HUNG	38	38		13	13	#0954 (MUR #7385 SINGI	RO) LAVA	TORY V		EAN			OVERALI	_ DIM - W x FTB x D - 540 x 520 x 40 M - W x FTB x D - 394 x 343 x 127mr		-	
							WATTS #CA	-411 FLO	OR-MOU		NCEALE	D ARM		MAX. WA	TER CONSUMPTION - TO OBC			
							LAVATORY P-TRAP - 1-	1/4 (32) TF	RAP, CHF					INSTALLA	TION DIMENSIONS - TO OBC & ARG	CH DWGS		
							ISOLATING ' WALL-MOUI										j	
							PORCELAIN	,										EXI PENNBARR
1 4 2	LA-3 LAVATORY		Y         1-1/2"         1-1/2"         1-1/2"         1/2"         1/2"         1/2"         AMERICAN STANDARD         WHITE, POP-UP DRAIN							1	, LININDANK							
L'∐-3	WALL HUNG	38	38		172*	13	#0954 (MUR	RO) LAVA	TORY V		EAN			OVERALI	_ DIM - W x FTB x D - 540 x 520 x 40	,		
	BARRIER FREE							-411 FLO	OR-MOU		NCEALE	D ARM		MAX. WA	M - W x FTB x D - 394 x 343 x 127mr TER CONSUMPTION - TO OBC			
			WATTS #CA-411 FLOOR-MOUNTED, CONCEALED ARM       MAX. WATER CONSUMPTION - TO OBC         LAVATORY CARRIER       INSTALLATION DIMENSIONS - TO OBC & ARCH DWG         P-TRAP - 1-1/4 (32) TRAP, CHROME PLATED BRASS       VATER CONSUMPTION - TO OBC & ARCH DWG					CH DWGS										
			P-TRAP - 1-1/4 (32) TRAP, CHROME PLATED BRASS ISOLATING VALVE - BRASS W CHROME FINISH, WALL-MOUNTED, SCREWDRIVER STOP															
							PORCELAIN											
							OR APPRO											R
SK-1	KITCHEN SINK SINGLE BOWL WITH LEDGE	1-1/2" 38	1-1/2 38	2" 1-1/4" 32	1/2" 13			RANKE KINDRED #LB6407 SINK       STAINLESS STEEL, LEVER HANDLES         MERICAN STANDARD #6270 FAUCET       OVERALL DIM - W x FTB x D - 794 x 520 x 178mm, 31.25 x 20.5 x 7 in										
							OR APPRO	VED EQU/	۹L						M - W x FTB x D - 355 x 406 x 178mr TER CONSUMPTION - 8.35 Lpm, 2.2			
SK-2	KITCHEN SINK DOUBLE BOWL WITH LEDGE	1-1/2" 38	1-1/2 38		1/2" 13		FRANKE KII AMERICAN								SS STEEL, LEVER HANDLES _ DIM - W x FTB x D - 794 x 520 x 17	8mm, 31.25 x 20.5 x 7 in	-	
							E							BOWL DI	M - W x FTB x D - 355 x 406 x 178mr	n, 14 x 16 x 7 in		
CW	CLOTHESWASHER	2"	2"			1/2"	OATEY OR	1	4L					PROVIDE	TER CONSUMPTION - 8.35 Lpm, 2.2 RECESSED WALL BOX	gpm		
	FIRE-RATED	50	50	38	13	13									I., DCW, DHW			
FCO	FLOOR CLEANOUT ROUND	-	SIZE		-									SUIT FLO CAST IRC	OR FINISH DN BODY			
			PIPE	Ξ			N								RONZE TOP, GASKET			
WCO	WALL CLEANOUT ROUND				-	-								SUIT WAI	LL FINISH			
			PEF				OR APPROV		A 1					BRASS P				
								VEDEQU						STAINLE	SS STEEL COVER		]	
UNIT	TOP HVAC UNIT SCHEDUL           DESCRIPTION         \$	LE SUPPLY A	IR	OUTDR	EFF.		OLING		HEATING			ELECT		<b>.</b>	ACCEPTABLE PRODUCT	Ν	NOTES	
	· · · · · · · · · · · · · · · · · · ·	cfm) (E	SP)	AIR (cfm)	(SEER)	TEMP (deg.F)		INPUT (Mbtu/hr)		GAS (in)	VOLT	PHASE	MCA	MOCP				
		2200 0	).6	300	14	80 DB 67 WB		115	93	1/2	208	3	29	40	CARRIER BAS	E UNIT:		
	ELECTRIC COOLING					95 AME									TRANE	SEISMIC ROOF CURB	FICATION	F
IN I U-4	NATURAL GAS HEATING						З									HOT GAS REHEAT DEHUMIDI	ROMETRIC RELIE	
RTU-4 RTU-5	NATURAL GAS HEATING						B									HOT GAS REHEAT DEHUMIDI POWER EXHAUST FAN W BA COIL/HAIL GUARDS	ROMETRIC RELIE	
	NATURAL GAS HEATING						B									HOT GAS REHEAT DEHUMIDI POWER EXHAUST FAN W BA COIL/HAIL GUARDS CORROSION PROTECTION	ROMETRIC RELIE	
	NATURAL GAS HEATING						B									HOT GAS REHEAT DEHUMIDI POWER EXHAUST FAN W BA COIL/HAIL GUARDS	ROMETRIC RELIE	
	NATURAL GAS HEATING						B									HOT GAS REHEAT DEHUMIDI POWER EXHAUST FAN W BA COIL/HAIL GUARDS CORROSION PROTECTION DLING SYSTEM: HIGH EFFICIENCY TWO-STAGE		
	NATURAL GAS HEATING						B									HOT GAS REHEAT DEHUMIDI POWER EXHAUST FAN W BA COIL/HAIL GUARDS CORROSION PROTECTION DLING SYSTEM: HIGH EFFICIENCY	HROUGH ECONO	
	NATURAL GAS HEATING						B								СОС	HOT GAS REHEAT DEHUMIDI POWER EXHAUST FAN W BA COIL/HAIL GUARDS CORROSION PROTECTION DLING SYSTEM: HIGH EFFICIENCY TWO-STAGE LOW AMBIENT OPERATION T CONDENSATE DRAIN TRAP (I	HROUGH ECONO	
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	NATURAL GAS HEATING															HOT GAS REHEAT DEHUMIDI POWER EXHAUST FAN W BA COIL/HAIL GUARDS CORROSION PROTECTION DLING SYSTEM: HIGH EFFICIENCY TWO-STAGE LOW AMBIENT OPERATION T CONDENSATE DRAIN TRAP (I TING SYSTEM: TWO-STAGE STANDARD HEAT EXCHANGE COMBUSTION AIR INTAKE EX WER: ECM MOTOR W ELECTRONIC SOFT START ADJUSTABLE SP BLOWER PROVING SWITCH DOR AIR QUALITY: HIGH PERFORMANCE ECONO MERV 8 FILTERS CO2 SENSOR CTRICAL: THROUGH BASE WITH WEAT NEW WEATHERPROOF DISC GFCI SERVICE OUTLET WITH PHASE/VOLTAGE PROTECTION ITROLS: DEMAND CONTROL VENTILAT 7-DAY DIGITAL PROGRAMMA TO MEET ASHRAE 90.1:	THROUGH ECONO PVC) ER (TENSION C SPEED CONTRO OMIZER W OUTDO OMIZER W OUTDO OMIZER W OUTDO ONNECT SWITCH WEATHERPROOF DISC ONNECT SWITCH WEATHERPROOF ON	MIZER
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	NATURAL GAS HEATING															HOT GAS REHEAT DEHUMIDI POWER EXHAUST FAN W BA COIL/HAIL GUARDS CORROSION PROTECTION DLING SYSTEM: HIGH EFFICIENCY TWO-STAGE LOW AMBIENT OPERATION T CONDENSATE DRAIN TRAP (I TING SYSTEM: TWO-STAGE STANDARD HEAT EXCHANGE COMBUSTION AIR INTAKE EX WER: ECM MOTOR W ELECTRONIC SOFT START ADJUSTABLE SP BLOWER PROVING SWITCH DOR AIR QUALITY: HIGH PERFORMANCE ECONO MERV 8 FILTERS CO2 SENSOR CTRICAL: THROUGH BASE WITH WEAT NEW WEATHERPROOF DISC GFCI SERVICE OUTLET WITH PHASE/VOLTAGE PROTECTION ITROLS: DEMAND CONTROL VENTILAT 7-DAY DIGITAL PROGRAMMA TO MEET ASHRAE 90.1: - 7 DAY SCHEDULE - 10 HR POWER LOSS - 2 HR MANUAL OVERRIDE - SETBACK TO 55F (13C) - SETUP TO 90F (32C)	THROUGH ECONO PVC) ER (TENSION C SPEED CONTRO OMIZER W OUTDO OMIZER W OUTDO ON TION WITH CO2 SH BLE THERMOSTA BLE THERMOSTA	MIZER

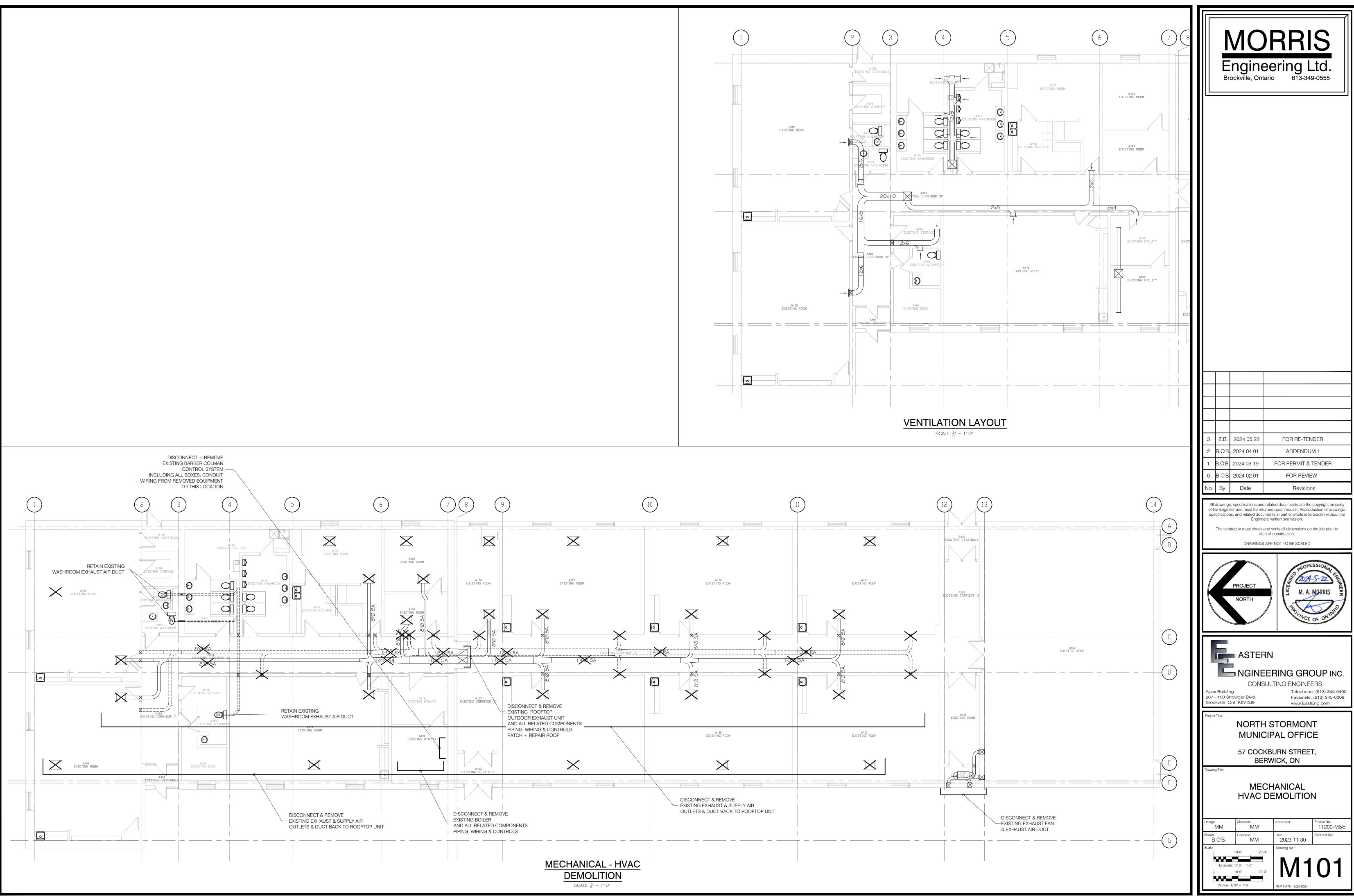
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UNIT	DESC	CRIPTION	FLOW	FAN ESP DRIVE	SONES CON	VOLT (V)	ELECTRICAL PHASE POWER (W)	ACCEPTABLE PRODUCT		NOTES	
EF-1 EX	HAUST	FAN	39 L/s 83 CFM	3 mm DIRECT 0.125 in	2.3 254 x 83 10 x 3.2			PENN BARRY #Z3 GREENHECK		D - 318 x 232 x 232 mm, 12.5 x 9.125 x 9.125 in 337 mm, 11 x 13.25 in ALL SWITCH	MC MC
								OR APPROVED EQUAL	GRILLE - POLY	/MER	Brockville, O
	REGIS UNIT	TER, GRILLI		SER SCHEDULE		CONFIGURATI		FRAME	FINISH	IG, BACKDRAFT DAMPER	
-					PATTERN	BLADE SPACING	DEFLECTION (deg)				
-		SA DIFFUSER CEILING SQUARE CON		STEEL	4 CONE FIXED AIR PATTERN	-	-	LAY-IN INVERTED T DRYWALL FLANGE	WHITE	EH PRICE #SCD STEEL	
-	<b>S</b> 2	LOUVRED SA WALL		STEEL	SINGLE	19mm, 3/4 ir PARALLEL		STANDARD 32mm, 1.25in	WHITE	OR APPROVED EQUAL EH PRICE #510 STEEL SINGLE	
-					ADJUSTABLE	to long din	M			OR APPROVED EQUAL	
-		EGG CRATE R CEILING	A	ALUMINUM	FIXED GRID	12x12x25mm 1/2x1/2x1in		LAY-IN INVERTED T DRYWALL FLANGE	WHITE	EH PRICE #81	
-		LOUVRED RA CEILING/WALL		STEEL	SINGLE DEFLECTION	19mm, 3/4 ir PARALLEL		STANDARD 32mm, 1.25in	ALUMINUM	OR APPROVED EQUAL EH PRICE #530 STEEL SINGLE	
-					ADJUSTABLE	TO LONG DIN	M			OR APPROVED EQUAL	
NNBARRY #			HOO							EGEND SUPPLY AIR RETURN AR ENTAUST AR OUTDOOR AIR DUCT SIZE, RECTANGULAR, FIRST FORSE IS SIDE SHOWN DUCT SIZE, ROUND DUCT SECTION, SUPPLY DUCT SECTION, SUPPLY DUCT SECTION, SUPPLY DUCT SECTION, RETURN OR EXHAUST ACOUSTICAL INSULATION LINING ACOUSTICAL INSULATION LINING ILEOW, RECTANGULAR(~ 1.5W) ELEOW, WITH VANES, RECTANGULAR(~ 1.5W) ELEOW, WITH VANES, RECTANGULAR(~ 1.5W) ELEOW, WITH VANES, RECTANGULAR TRANSITIONS FOT - FLAT ON TOP, FOB - FLAT ON BOTTOM TEE, RECTANGULAR MAIN AND TAP TEE, RECTANGULAR MAIN AND TAP TEE, RECTANGULAR MAIN AND TAP TEE, RECTANGULAR VOLUME DAMPER FIEL CON RECISTER WALL SUPPLY ORILLE OR REGISTER WALL SUPPLY ORILLE OR REGISTER WALL DAMPER FIELOR REGISTER FICOR OR CELLING SUPPLY FICOR OR CELING SUPPLY FICOR OR CELLING SUPPLY FICOR OR CELING SUPPLY FICOR	Image: Section of the section of th

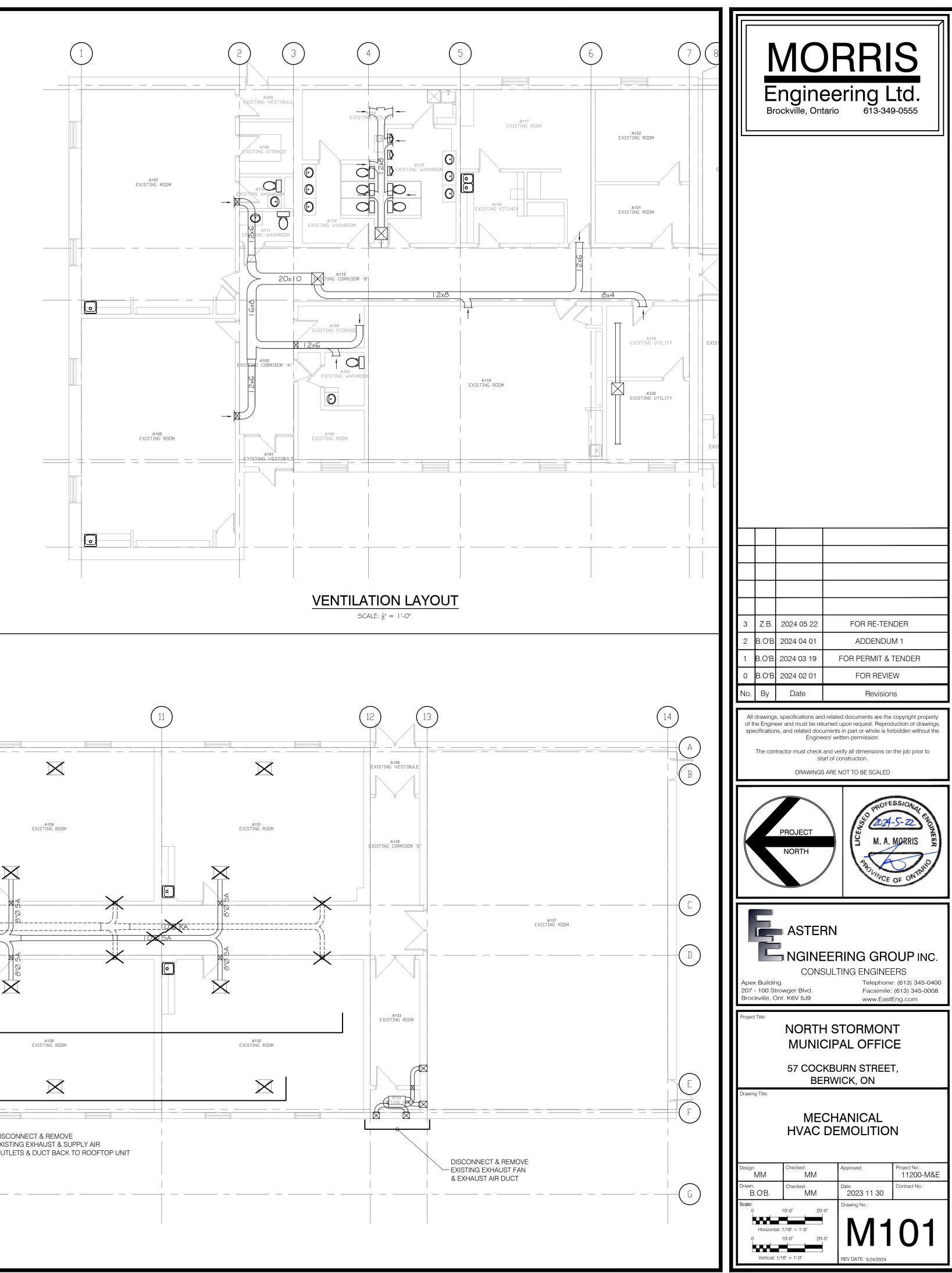


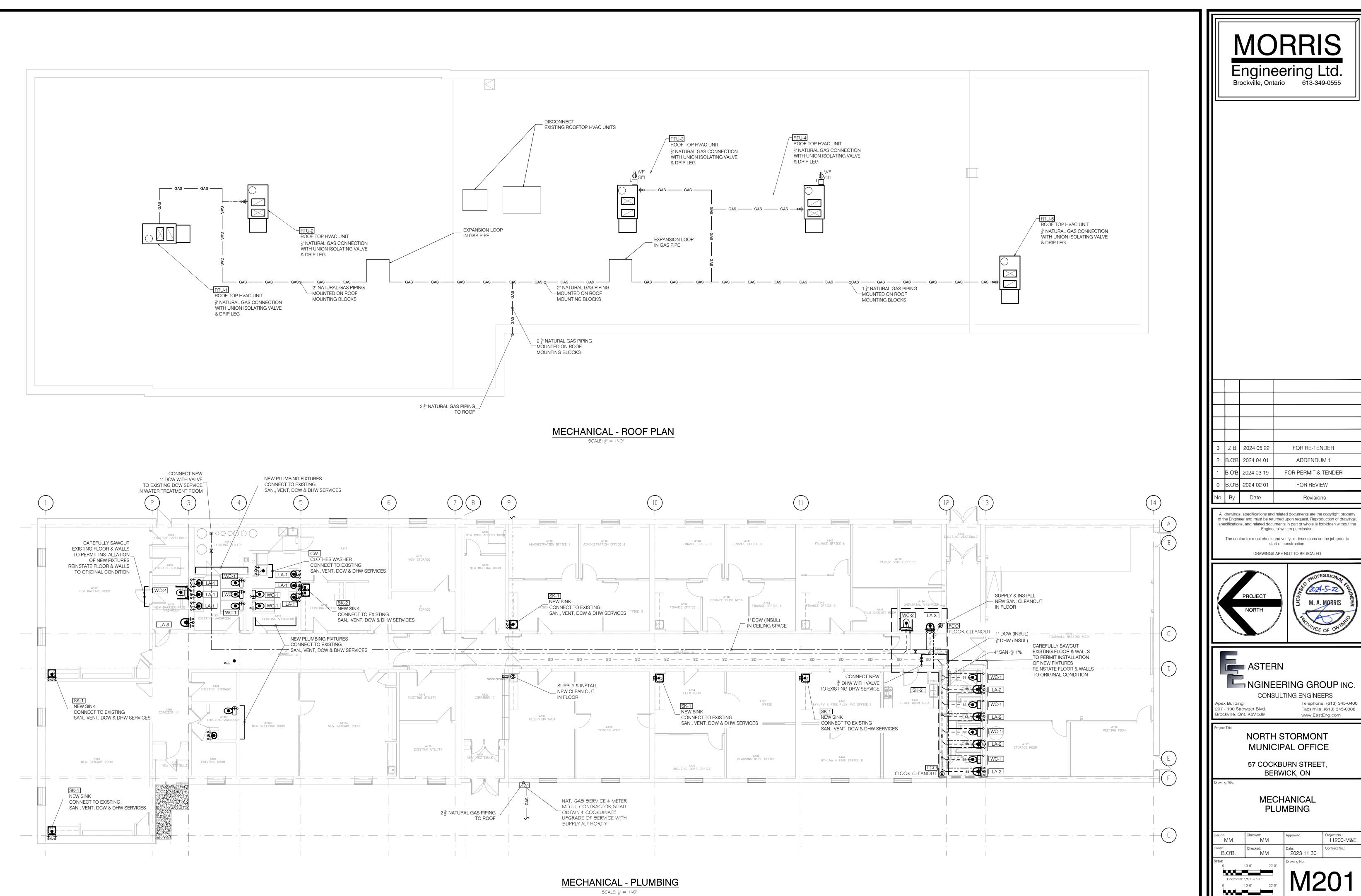


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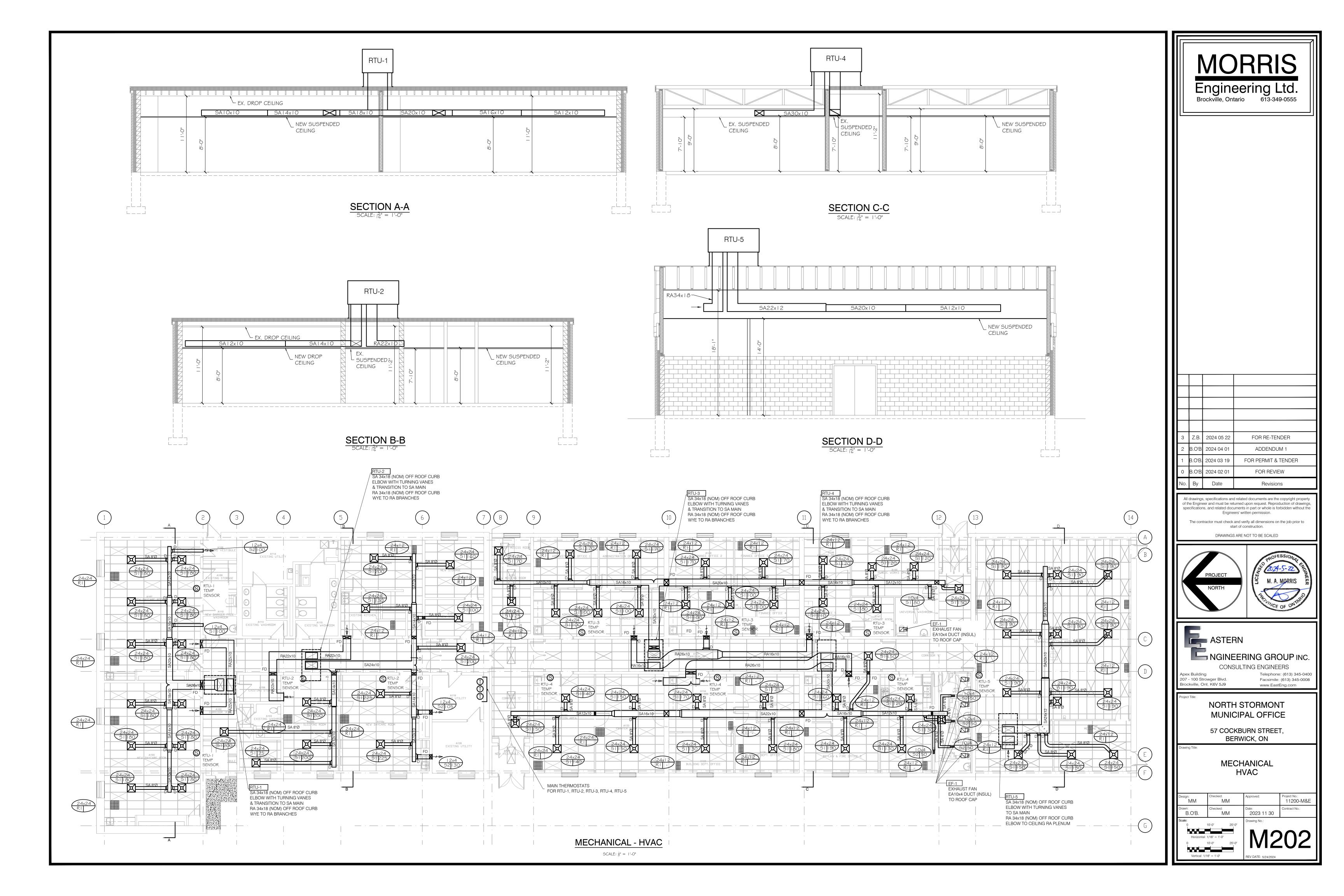








Vertical: 1/16" = 1'-0"



## **ELECTRICAL NOTES**

ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR THIS PROJECT.

#### **1 GENERAL:**

- CONFORM WITH APPLICABLE REQUIREMENTS OF THE MINISTRY OF LABOUR, AND THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
- DO COMPLETE INSTALLATION IN ACCORDANCE WITH THE FOLLOWING:
- ONTARIO ELECTRICAL SAFETY CODE; ELECTRICAL SAFETY AUTHORITY;
- .3 ELECTRICAL SUPPLY AUTHORITY.
- SUBMIT TO ELECTRICAL SAFETY AUTHORITY AND SUPPLY AUTHORITY NECESSARY NUMBER OF DRAWINGS AND SPECIFICATIONS FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.
- GENERAL CONTRACTOR AND ELECTRICAL CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR
- COORDINATING AND OBTAINING ELECTRICAL SERVICE LAYOUT FROM THE SUPPLY AUTHORITY. PAY ALL ELECTRICAL PERMIT AND INSPECTION FEES.
- GROUND COMPLETE SYSTEM IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE AND ELECTRICAL SAFETY AUTHORITY.
- IDENTIFICATION AND LABELLING: .1 IDENTIFY ELECTRICAL EQUIPMENT WITH LAMICOID NAMEPLATES, INCLUDING AMPERAGE, VOLTAGE, PHASE AND POWER SOURCE.
- PROVIDE TYPEWRITTEN PANEL DIRECTORIES. PROVIDE ADHESIVE LABEL ON ALL SWITCH, RECEPTACLE AND DEVICE COVER PLATES INDICATING
- SUPPLY CIRCUIT DESIGNATION. PROVIDE DIGITAL AND HARD COPY OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR EQUIPMENT FURNISHED UNDER THIS CONTRACT. BIND INSTRUCTIONS IN 3-RING BINDERS. INCLUDE THE FOLLOWING
  - SCHEMATIC DIAGRAM OF ELECTRICAL SYSTEMS.
  - CONTROL SHOP DRAWINGS AND OPERATING SEQUENCE INCLUDING WIRING OF COMPONENTS. WIRING DIAGRAM OF CONTROL PANELS.
  - OPERATING INSTRUCTIONS, INCLUDING START-UP AND SHUT-DOWN PROCEDURE.
  - MAINTENANCE INSTRUCTIONS INCLUDING PREVENTIVE MAINTENANCE INSTRUCTIONS FOR
  - COMPONENTS OF THE EQUIPMENT. COMPLETE PARTS LIST OF ASSEMBLIES AND THEIR COMPONENT PARTS, SHOWING MANUFACTURER'S NAME, CATALOGUE NUMBER, AND NEAREST REPLACEMENT SOURCE.
- LIST OF RECOMMENDED SPARE PARTS AND QUANTITY OF EACH ITEM TO BE STOCKED.
- .8 MANUFACTURERS' WARRANTIES AND GUARANTEES.

CLEAN ALL ELECTRICAL SYSTEMS AT PROJECT COMPLETION. .10 COMPLETE AS-BUILT DRAWINGS SHOWING ALL CHANGES AS WORK PROGRESSES.

#### **2 CONTRACTOR QUALIFICATIONS:**

- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE "TRADES QUALIFICATION AND APPRENTICESHIP ACT" AND REGULATIONS, BY PERSONS WHO HOLD THE FOLLOWING CERTIFICATES OF QUALIFICATION (AS APPLICABLE):
- .1 ELECTRICIAN: CONSTRUCTION & MAINTENANCE.

#### **<u>3 FACILITIES AND DEMOLITION:</u>**

- LOCATE AND PROTECT ALL EXISTING EXTERIOR SITE SERVICES.
- RETAIN AND PROTECT ALL EXISTING INTERIOR SERVICES AND BUILDING FABRIC. MAKE GOOD ANY AND ALL DAMAGE RESULTING FROM THIS WORK.

#### CUTTING AND PATCHING:

- EXECUTE CUTTING, FITTING AND PATCHING REQUIRED TO MAKE THE WORK FIT PROPERLY TOGETHER. CUT AND PATCH FOR PROCESS, MECHANICAL AND ELECTRICAL WORK.
- COORDINATE WORK WITH OTHER TRADES SO THAT THERE IS A MINIMUM OF CUTTING, FITTING AND PATCHING.
- DRILLING, CUTTING, FITTING AND PATCHING AND MAKING GOOD WHERE NECESSARY DUE TO FAILURE TO DELIVER ITEMS TO BE BUILT IN TIME OR INSTALLATION IN WRONG LOCATION, SHALL BE EXECUTED AS DIRECTED AT NO COST TO THE OWNER. DRILLING AND CUTTING OF LOAD BEARING STRUCTURAL MEMBERS SHALL BE DONE ON PRIOR EXPRESS
- WRITTEN PERMISSION OF THE ENGINEER FOR EACH INSTANCE. CUT HOLES ACCURATELY, WITH SMOOTH, TRUE, CLEAN EDGES. FIT UNITS TO TOLERANCES TO BEST
- STANDARD PRACTICE FOR APPLICABLE WORK. HOLES IN BLOCK AND CONCRETE WORK SHALL BE SAWCUT OR CORE-DRILLED, AND SHALL NOT BE MADE WITH A HAMMER GUN.
- PATCHED WORK SHALL BE INVISIBLE, SIZE HOLES AND OPENINGS FOR PIPES SO AS TO ALLOW FOR EXPANSION AND CONTRACTION OF SUCH PIPES.

#### **4 FIXTURES AND EQUIPMENT:**

- PROVIDE SHOP DRAWINGS AND PRODUCT DATA FOR ALL ELECTRICAL FIXTURES AND EQUIPMENT FOR APPROVAL, PRIOR TO PROCUREMENT.
- INSTALL ALL ELECTRICAL FIXTURES AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. EQUIPMENT AND MATERIAL TO BE CSA CERTIFIED. WHERE THERE IS NO ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT CSA CERTIFIED, OBTAIN SPECIAL APPROVAL FROM ELECTRICAL SAFETY AUTHORITY.

#### **<u>5 EQUIPMENT SUPPLIED BY OTHERS:</u>**

GENERAL CONTRACTOR SHALL ASSUME FULL REPONSIBILITY FOR COORDINATING ELECTRICAL SERVICES AND CONNECTIONS FOR ALL EQUIPMENT, INCLUDING EQUIPMENT SUPPLIED BY TRADES OTHER THAN ELECTRICAL. ELECTRICAL CONTRACTOR SHALL TAKE FULL REPONSIBILITY FOR MAKING ALL ELECTRICAL SERVICE

- CONNECTIONS TO EQUIPMENT SUPPLIED BY OTHERS, INCLUDING: .1 REVIEW OF ALL SHOP DRAWINGS FOR EQUIPMENT SUPPLIED BY OTHERS, WHICH REQUIRE ELECTRICAL
- CONNECTIONS. VERIFY AND CONFIRM ALL SERVICE CONNECTIONS WITH MANUFACTURER, SUPPLIER AND OTHER
- TRADES, PRIOR TO PROCUREMENT OF ELECTRICAL PANELS, BREAKERS, WIRE/CABLE, DISCONNECT SWITCHES, MOTOR STARTERS, RECEPTACLES AND RELATED EQUIPMENT.
- REVIEW OF EQUIPMENT SUPPLIED BY OTHERS, SHALL INCLUDE ALL CONNECTION SIZES, LOCATIONS AND DETAILS, AND SHALL TAKE INTO ACCOUNT EQUIPMENT CLEARANCES AND INSTALLATION REQUIREMENTS.

#### 6 CONDUITS:

- RIGID GALVANIZED STEEL, WITH THREADED FITTINGS, WHERE SUBJECT TO MECHANICAL INJURY, IN SERVICE
- AREAS ONLY. ELECTRICAL METALLIC TUBING (EMT), HOT DIPPED GALVANIZED STEEL, WITH THREADED CONNECTORS AND
- COUPLINGS, WHERE NOT SUBJECT TO MECHANICAL INJURY, IN SERVICE AREAS ONLY.
- RIGID PVC CONDUIT BELOW FLOOR AND IN CORROSIVE AREAS.

#### 7 WIRES AND CABLE:

- VOLTAGE DROP: .1
  - FEEDER CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 2% AT DESIGN LOAD. BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 3% AT DESIGN LOAD
- BUILDING WIRES:
- COMMERCIAL PROJECTS IN CONDUIT SYSTEMS TO BE STRANDED COPPER CONDUCTORS FOR 10 AWG AND LARGER, MINIMUM SIZE 12 AWG, TYPE RW90.
- BUILDING WIRES IN CONCEALED LOCATIONS TO BE COPPER, MINIMUM SIZE 12 AWG, TYPE AS FOLLOWS: WOOD FRAMED STRUCTURES – TYPE NMD90;
- .2 STEEL STUD OR STEEL FRAMED STRUCTURES TYPE AC90;

CEILING RETURN AIR PLENUMS – TYPE AC90. .3 .4 ALL WIRING, CABINETS AND BOXES SHALL BE CONCEAL

## 8 SERVICE EQUIPMENT:

- ELECTRICAL SERVICE EQUIPMENT, PANELBOARDS AND MANUFACTURER THROUGHOUT PROJECT.
- CIRCUIT BREAKERS: .2 .1 SUPPLY AND INSTALL GROUND FAULT & ARC-FA
- .3 WORKING SPACE ABOUT ELECTRICAL EQUIPMENT SHAL ELECTRICAL SAFETY CODE, INCLUDING THE FOLLOWING WORKING SPACE OF 3'4" (1m) WITH SECURE FC
- MINIMUM HEADROOM OF 7'3" (2.2m).
- 9 WIRING DEVICES: WIRING DEVICES OF ONE MANUFACTURER THROUGHO .1
  - .1 OUTLET BOXES: GANG BOXES WHERE WIRING DEVICES BLANK COVER PLATES FOR BOXES WITH
  - .2 SWITCHES: HEAVY DUTY, 20A/120V; .1
  - SINGLE POLE, AND THREE-WAY, AS APP
  - .3 COLOUR: SELECTED BY OWNER/ARCHIT .3 DUPLEX RECEPTACLES:
  - EXTRA HARD USE, CSA TYPE 5-15 R, 15A
    - GFI (GROUND FAULT CIRCUIT INTERRUI STATUS INDICATOR LIGHT AND TEST SWITCH;
    - TAMPER-RESISTANT WHERE REQUIRED BY CODE;
  - COLOUR: SELECTED BY OWNER/ARCHITECT. .4 .4 COVER PLATES:
    - .1 STAINLESS STEEL.

#### 10 LIGHTING:

- GENERAL LIGHTING: SUPPORT ALL LIGHTING IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE AND .1 BULLETINS.
- .2
- .2 FUNCTIONAL TESTING OF LIGHTING CONTROL, IN ACCORDANCE WITH ASHRAE 90.1 (9.4.3): .1 LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL INSTALLATION INSTRUCTIONS.
- .3 EXIT AND EMERGENCY LIGHTING:

#### **11 FIRE PROTECTION**

- ELECTRICAL CONTRACTOR RESPONSIBILITY: REFER TO ARCHITECTURAL DRAWINGS, TO VERIFY LOCATION OF ALL FIRE SEPARATIONS AND FIRE-.1
- RATED MEMBRANES.
- .3 ALL ELECTRICAL MATERIALS, INCLUDING PANELS, BOXES, CABLE, WIRE, CONDUIT AND OUTLETS SHALL
- RATED MEMBRANES. ALL CABLING AND CONDUIT SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE
- SEPARATIONS AND FIRE-RATED MEMBRANES. THE FOLLOWING CONDUCTORS SHALL BE PROTECTED IN ACCORDANCE WITH OBC 3.2.7.10(2), AND SHALL CONFORM TO ULC-S139 "FIRE TEST EVALUATION OF INTEGRITY OF ELECTRICAL CABLES", TO PROVIDE A CIRCUIT
- **INTERCONNECTED FLOOR SPACES):**
- BRANCH CIRCUIT CONDUCTORS WHICH SERVE EXIT AND EMERGENCY LIGHTING. .4 PLENUMS (OBC 3.6.4.3):
- ALL MATERIALS WITHIN THE PLENUM SHALL A FLAME-SPREAD RATING NOT MORE THAN 25 AND A .1 SMOKE DEVELOPED CLASSIFICATION NOT MORE THAN 50.
- .2 AND CABLES.
- .3 NON-METALLIC RACEWAYS WITH AN FT6 RATING TO CAN/ULC- S102.4, FIRE AND SMOKE CHARACTERISTICS OF ELECTRICAL WIRING AND CABLES.
- MOCK-UPS: .1 APPROVAL BY THE OWNER, ENGINEER AND MUNICIPAL BUILDING INSPECTOR:
  - ELECTRICAL PANELS. BOXES AND OUTLETS FIRE-RATED WALL:
- .2 ALL FIRESTOP INSTALLATIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROPRIATE PRODUCT INSTALLATION INSTRUCTIONS, AND THE REFERENCED UL/ULC LISTING AND/OR TEST STANDARD.
- .3 SUPPLY A COPY OF THE PRODUCT INSTALLATION INSTRUCTIONS WITH ULC LISTING AND/OR TEST STANDARD REFERENCE, FOR EACH INSTALLATION. .4 MOCK-UP MAY REMAIN AS PART OF WORK.

13 EQUIPMENT SUPPORT:

.1

.5

#### 12 EARTHQUAKE LOAD: ALL ELECTRICAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE EARTHQUAKE LOAD AND EFFECTS .1 REQUIRED BY THE ONTARIO BUILDING CODE.

- TO THE BUILDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SMACNA/ANSI SEISMIC RESTRAINT MANUAL OR OTHER GUIDELINE REFERENCED IN THE ONTARIO BUILDING CODE AND ONTARIO ELECTRICAL SAFETY CODE.
- FOLLOWING PROJECT COMPLETION, SEISMIC ENGINEER SHALL PROVIDE A LETTER OF FINAL SITE REVIEW. CONTRACTOR SHALL CARRY THE COST OF THE SEISMIC ENGINEERING, INCLUDING SITE REVIEWS, DESIGN AND SHOP DRAWING PREPARATION.

	IRING, (	IG RETURN AIR PLENUMS – TYPE AC90. CABINETS AND BOXES SHALL BE CONCEALED IN WALLS AND CEILINGS, UNLESS OTHERWISE NOTED D. SURFACE-MOUNTED WIRING IS NOT PERMITTED.	.3	PI O RI
UN AF	FROVEL	5. SURFACE-WOUNTED WIRING IS NOT PERMITTED.		
	UIPME	NT:	14	COOR
		ERVICE EQUIPMENT, PANELBOARDS AND DISCONNECT SWITCHES SHALL BE PRODUCT OF ONE	.1	IN
		RER THROUGHOUT PROJECT.		C
CIRCU	IT BREA	KERS:	.2	D
.1	SUPPI	Y AND INSTALL GROUND FAULT & ARC-FAULT CIRCUIT PROTECTION, AS REQUIRED BY THE OESC.		Al
WORK	ING SP	ACE ABOUT ELECTRICAL EQUIPMENT SHALL BE PROVIDED IN ACCORDANCE WITH THE ONTARIO		Al
ELECT	RICAL S	AFETY CODE, INCLUDING THE FOLLOWING:		IN
.1	WORI	(ING SPACE OF 3'4" (1m) WITH SECURE FOOTING;	.3	C
.2	MINI	/IUM HEADROOM OF 7'3" (2.2m).		A
			.4	C
ING DE	VICES:			0
WIRIN		CES OF ONE MANUFACTURER THROUGHOUT PROJECT – HUBBELL OR LEVITON:	.5	Pf
.1	OUTL	ET BOXES:		Μ
	.1	GANG BOXES WHERE WIRING DEVICES ARE GROUPED.	.6	Al
	.2	BLANK COVER PLATES FOR BOXES WITHOUT WIRING DEVICES.		0
.2	SWIT			
	.1	HEAVY DUTY, 20A/120V;	<u>15</u>	STAR
	.2	SINGLE POLE, AND THREE-WAY, AS APPLICABLE;	.1	ST
	.3	COLOUR: SELECTED BY OWNER/ARCHITECT.		.1
.3		EX RECEPTACLES:		.2
	.1	EXTRA HARD USE, CSA TYPE 5-15 R, 15A/125V;		.3
	.2	GFI (GROUND FAULT CIRCUIT INTERRUPTER) WITH DETECT AND TRIP ON GROUND FAULT,	.2	PE
				4

LIGHT FIXTURES SUPPORTED BY SUSPENDED CEILING SYSTEMS SHALL HAVE ADDITIONAL SUPPORT TO BUILDING STRUCTURE IN ACCORDANCE WITH ONTARIO ELECTRICAL SAFETY CODE BULLETIN #30-4-11. HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED, AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S

CONNECT DC CIRCUIT FROM EMERGENCY LIGHT BATTERY PACK TO ALL EXIT AND EMERGENCY LIGHTS. SIZE EMERGENCY LIGHTING POWER PACK TO PROVIDE FULL LOAD POWER FOR 1 HR PERIOD. EMERGENCY LIGHT BATTERY PACKS (UNIT EQUIPMENT) SHALL BE INSTALLED IN SUCH A MANNER THAT IT WILL BE AUTOMATICALLY ACTUATED UPON FAILURE OF THE POWER SUPPLY TO THE NORMAL LIGHTING IN THE AREA COVERED BY THAT UNIT EQUIPMENT PER OESC 46-304(4).

PROVIDE DRAWINGS FROM HILTI AND/OR 3M FOR FIRE PROTECTION OF ALL ELECTRICAL MATERIALS, INCLUDING PANELS, BOXES, CABLE, WIRE, CONDUIT AND OUTLETS PENETRATING OR PASSING THROUGH A FIRE SEPARATION OR FIRE-RATED ASSEMBLY, FOR REVIEW BY ARCHITECT AND ENGINEER, BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-

INTEGRITY RATING OF NOT LESS THAN 1 HOUR (2 HOUR FOR TALL BUILDINGS OR CONTAINED USE AREAS OR

ELECTRICAL FEEDER CONDUCTORS WHICH SERVE THE COMMERCIAL ELECTRICAL PANELS;

WIRE AND CABLE WITH AN FT6 RATING TO CSA C22.2 NO. 0.3, TEST METHODS FOR ELECTRICAL WIRES

PREPARE MOCK-UPS OF TYPICAL FIRESTOP INSTALLATION OF THE FOLLOWING, FOR REVIEW AND

CONDUIT AND CABLING – WALL AND CEILING/FLOOR FIRE SEPARATION.

ELECTRICAL ELEMENTS AND COMPONENTS (FIXTURES, EQUIPMENT, CONDUIT, ETC.), AND THEIR CONNECTIONS

ALL ELECTRICAL EQUIPMENT, CONDUIT, WIRING, LIGHTING, DEVICES, AND RELATED ITEMS SHALL BE SECURELY SUPPORTED, ATTACHED AND FASTENED TO BUILDING STRUCTURE. HANGERS AND SUPPORTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE AND CSA C22.2, AS APPLICABLE.

LATFORMS SHALL BE FABRICATED FROM STRUCTURAL GRADE STEEL MEETING THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, INCLUDING CSA STANDARD W59 WELDED STEEL CONSTRUCTION, AND THE REQUIREMENTS OF THE CANADIAN WELDING BUREAU.

DINATION:

- INFORMATION INVOLVING ACCURATE DIMENSIONING OF THE BUILDING SHALL BE TAKEN FROM SITE BY CONTRACTOR.
- DRAWINGS ARE IN DIAGRAMMATIC FORM, INTENDED TO CONVEY THE SCOPE OF WORK AND GENERAL ARRANGEMENT FOR EQUIPMENT. COORDINATE PHYSICAL LOCATION OF ALL EQUIPMENT WITH OTHER TRADES AND ALLOW FOR ANY ADDITIONAL CONDUIT, WIRING, FITTINGS, SUPPORTS, ETC., IN ORDER TO AVOID NTERFERENCE AND FACILITATE THE WORK.
- CONTRACTOR TO MAKE ANY NECESSARY MODIFICATIONS OR ADDITIONS, WITHOUT CHARGE, TO
- ACCOMMODATE SITE CONDITIONS AND COORDINATION. COORDINATE AND VERIFY ALL ELECTRICAL BRANCH CIRCUIT REQUIREMENTS FOR EQUIPMENT SUPPLIED BY
- OTHERS, PRIOR TO MATERIAL PROCUREMENT OR INSTALLATION.
- PROVIDE ALL WIRING TO ALL MECHANICAL EQUIPMENT, INCLUDING WIRING BELOW 50V. COORDINATE ALL MECHANICAL EQUIPMENT WIRING WITH MECHANICAL TRADES.
- LL DEVICE AND OUTLET LOCATIONS SHALL BE CAREFULLY COORDINATED WITH THE GENERAL CONTRACTOR OR OWNER, TO ACCOMMODATE ALL FEATURES, INCLUDING PLUMBING FIXTURES, EQUIPMENT AND MILLWORK.

#### RT-UP, COMMISSIONING AND TRAINING:

- TART-UP AND COMMISSION THE FOLLOWING SYSTEMS: MAIN ELECTRICAL SERVICE EQUIPMENT;
- GENERAL LIGHTING;
- EXIT AND EMERGENCY LIGHTING.
- ERFORM SYSTEMATIC TESTS, PROCEDURES AND CHECKS ON SYSTEMS, AS FOLLOWS:
- TO VERIFY OPERATION IN ACCORDANCE WITH CONTRACT DOCUMENTS, DESIGN CRITERIA AND INTENT, AND MANUFACTURER'S REQUIREMENTS;
- TO ENSURE APPROPRIATE DOCUMENTATION IS PROVIDED;
- TO EFFECTIVELY TRAIN BUILDING OPERATIONAL STAFF.
- SYSTEMS ARE TO BE OPERATED AT FULL CAPACITY, WITH CORRECTION OF ALL DEFICIENCIES AND ADJUSTMENTS TO MEET OPTIMUM PERFORMANCE.
- PROVIDE WRITTEN REPORT AT END OF COMMISSIONING OUTLINING EQUIPMENT OPERATIONAL CONDITIONS .4 AND PARAMETERS.

## **COMMUNICATIONS SYSTEMS NOTES:**

.1 IT IS THE RESPONSIBILITY OF THE **GENERAL CONTRACTOR** TO ENSURE THAT ALL COMMUNICATION SYSTEMS HAVE ALL EQUIPMENT, WIRING AND CONNECTIONS REQUIRED TO FURNISH AND INSTALL A FULLY **OPERATIONAL SYSTEM.** 

ALL COMMUNICATIONS SYSTEMS SHALL INCLUDE ALL EQUIPMENT/DEVICES, WIRING (INCLUDING ELECTRICAL POWER WIRING, CONDUIT AND TRANSFORMERS TO ALL DEVICES) AND APPURTENANCES FOR FULLY OPERATIONAL AND COMPLETE SYSTEMS, SEAMLESSLY CONNECTED TO THE EXISTING BUILDING SYSTEMS (WHERE APPLICABLE).

#### INSTALLATION – GENERAL

1 GENERAL:

.2

.3

.1

.2

3 TELEPHONE:

.2

.8

<u>4 DATA:</u>

.1

.1

.2

CONTRACTOR TO PROVIDE BOXES, CABLE, CONDUITS FROM DEVICE UP INSIDE WALL TO CORRIDOR CEILING SPACE, ETC. FOR COMPLETE SYSTEM. ALL SYSTEMS CABLES SHALL BE LABELLED AT BOTH ENDS AND RUN FROM EACH OUTLET/DEVICE TO THE

MAIN EQUIPMENT LOCATION. NO EXPOSED CABLES ARE TO BE RUN ACROSS CEILINGS OR WALLS. ALL CONDUIT TO BE PAINTED TO

MATCH AND ROUTING TO BE APPROVED BY OWNER PRIOR TO INSTALLATION. WHERE CABLES ARE RUN ABOVE SUSPENDED CEILINGS OR CEILING WITH ACCESS ABOVE THEM, J HOOKS MUST BE UTILIZED. CADDY CAT CM PRODUCT LINE OR EQUIVALENT SPACED NO MORE THAN 5' APART. J HOOKS TO BE UTILIZED ON ALL RUNS IN CEILING ACCESS SPACES. SUPPORT OFF BOTTOM OF TRUSS WITH J HOOK

IN WIRING CLOSETS ALL CABLES MUST BE GROUPED TOGETHER USING VELCRO STRAPS TO ORGANIZE CABLING AT RACKS. NO ZIP TIES ARE ALLOWED.

#### **<u>2</u>** COMMUNICATIONS SERVICE LOCATION:

SUPPLY AND INSTALL 3/4"x 4' x 4' BACKBOARD, FIRE-RATED PLYWOOD OVER DRYWALL. ROUTE ALL COMMUNICATIONS CABLES TO THIS LOCATION.

.1 GENERAL .1 SUPPLY AND INSTALL CONTINUOUS CABLING (NO SPLICES) FROM TELEPHONE SWITCH/RACK TO EACH **TELEPHONE LOCATION, AS FOLLOWS:** 

1m EXCESS CABLE AT SWITCH:

.2 JACKET COLOUR - WHITE. MAKE ALL CONNECTIONS AND TERMINATIONS AT TELEPHONE SWITCH/RACK AND AT OUTLETS. SUPPLY AND INSTALL TELEPHONE RUNS WHERE INDICATED.

.2 EQUIPMENT: ALL PART NUMBERS ARE FOR REFERENCE ONLY AND NEED TO BE CONFIRMED PRIOR TO ORDER TO MAKE SURE A COMPLETE END-TO-END CAT6 SOLUTION IS PROVIDED.

#### TELEPHONE RACK: RACK ENCLOSURE

TRIPP LITE 6U WALL MOUNT RACK ENCLOSURE SERVER CABINET, 16.5" DEEP, SWITCH-DEPTH (SRW6U), BLACK.

- .2 SWITCH: .1 HP2510 HP PART # J9019B. 24 PORT DATA SWITCH.
- WITH FIBER CONNECTION.
- .3 CAT 6 JACKS (PART NUMBER NK688MBU)

#### .4 CAT 6 PATCH CABLES, WHITE. .4 NETWORK CABLING:

.1 ALL NETWORK CABLING TO BE CAT6, APPROVED CABLE SUPPLIERS AND P/N'S BELOW (ALL PART NUMBERS TO BE VERIFIED BY CONTRACTOR PRIOR TO ORDERING):

- .1 PANDUIT HIGH PERFORMANCE CATEGORY 6 CMP/FT6 PART # PUP6004BU-Y (REEL
- BERK-TEK LANMARK-1000 CATEGORY 6 ENHANCED CMP/FT6 PART # 10032094
- (PACKAGING PULL BOX). .3 SUPERIOR ESSEX DATAGAIN<sup>®</sup> CATEGORY 6+ - CMP/FT6 PART # 66-246-2B.
- .4 JACKET COLOUR BLUE.

.5 CAT 6 JACKS, APPROVED CABLE SUPPLIERS AND P/N'S BELOW: LEVITON PART # 61110-RL6 (BLUE) OR (PANDUIT #NK688MBU) CAT 6 FACEPLATES, APPROVED CABLE SUPPLIERS AND P/N'S BELOW: LEVITON 42080-2WS OR PANDUIT

#### CFPE2IWYWH

CAT 6 PATCH PANELS: LEVITON PART # (24 PORT 1 RACK UNIT) 49255-H24 (PANDUIT NKFP24Y) CAT 6 PATCH CABLES: LEVITON PART NUMBER 6D460-XXL (XX = LENGTH IN FEET: 03,05,07,10,15,20) (PANDUIT NK6PC\*YBU) ALL CABLING TO BE CERTIFIED CAT 6 AND TESTED IN ACCORDANCE WITH TIA568. TEST RESULTS SHALL

BE PROVIDED TO OWNER UPON COMPLETION OF THE JOB.

#### GENERAL: .1 SUPPLY AND INSTALL CONTINUOUS CABLING (NO SPLICES) FROM DATA SWITCH/RACK TO EACH DATA

LOCATION, AS FOLLOWS:

- 1m EXCESS CABLE AT SWITCH;
- 3m EXCESS CABLE AT WIFI/WAP;
- 3m EXCESS CABLE WHERE INDICATED; .4 JACKET COLOUR – BLUE.

.2 MAKE ALL CONNECTIONS AND TERMINATIONS AT DATA SWITCH/RACK AND AT OUTLETS.

.3 SUPPLY AND INSTALL DATA RUNS AND WIRELESS WAP WHERE INDICATED.

#### .2 EQUIPMENT: .1 ALL PART NUMBERS ARE FOR REFERENCE ONLY AND NEED TO BE CONFIRMED PRIOR TO ORDER TO MAKE SURE A COMPLETE END-TO-END CAT6 SOLUTION IS PROVIDED.

.2 DATA RACK: .1 RACK ENCLOSURE:

TRIPP LITE 6U WALL MOUNT RACK ENCLOSURE SERVER CABINET, 16.5" DEEP, SWITCH-DEPTH (SRW6U), BLACK.

.2 SWITCH: HP2510 HP PART # J9019B. 24 PORT DATA SWITCH

#### WITH FIBER CONNECTION.

.3 CAT 6 JACKS (PART NUMBER NK688MBU)

.4 CAT 6 PATCH CABLES (BLUE).

#### .3 WIFI WIRELESS ACCESS POINTS (WAP) UNITS:

MERAKI MR46E

#### PHYSICALLY LOCATE BELOW CEILING TILE WITH "TWIST LOCK" INTO CEILING T-BAR.

.4 NETWORK CABLING ALL NETWORK CABLING TO BE CAT6, APPROVED CABLE SUPPLIERS AND P/N'S BELOW (ALL PART NUMBERS TO BE VERIFIED BY CONTRACTOR PRIOR TO ORDERING):

- .1 PANDUIT HIGH PERFORMANCE CATEGORY 6 CMP/FT6 PART # PUP6004BU-Y (REEL
- BERK-TEK LANMARK-1000 CATEGORY 6 ENHANCED CMP/FT6 PART # 10032094
- (PACKAGING PULL BOX). .3 SUPERIOR ESSEX DATAGAIN<sup>®</sup> CATEGORY 6+ - CMP/FT6 PART # 66-246-2B.
- .4 JACKET COLOUR BLUE.

.5 CAT 6 JACKS, APPROVED CABLE SUPPLIERS AND P/N'S BELOW: LEVITON PART # 61110-RL6 (BLUE) OR (PANDUIT #NK688MBU) CAT 6 FACEPLATES, APPROVED CABLE SUPPLIERS AND P/N'S BELOW: LEVITON 42080-2WS OR PANDUIT

CFPE2IWYWH CAT 6 PATCH PANELS: LEVITON PART # (24 PORT 1 RACK UNIT) 49255-H24 (PANDUIT NKFP24Y) CAT 6 PATCH CABLES: LEVITON PART NUMBER 6D460-XXL (XX = LENGTH IN FEET: 03,05,07,10,15,20)

(PANDUIT NK6PC\*YBU) ALL CABLING TO BE CERTIFIED CAT 6 AND TESTED IN ACCORDANCE WITH TIA568. TEST RESULTS SHALL BE PROVIDED TO OWNER UPON COMPLETION OF THE JOB.

#### .1 HDMI - GENERAL:

<u>5 HDMI:</u>

.1 SUPPLY AND INSTALL CONTINUOUS CABLING (NO SPLICES) FROM HDMI SWITCH TO EACH HDMI LOCATION, AS FOLLOWS: 1m EXCESS CABLE AT SWITCH.

.2 3m EXCESS CABLE AT HDMI SWITCH.

MAKE ALL CONNECTIONS AND TERMINATIONS AT HDMI SWITCH AND AT OUTLETS. .3 SUPPLY AND INSTALL HDMI RUNS WHERE INDICATED.

## .2 EQUIPMENT:

.1 HDMI SWITCH 4 HDMI IN, 4 HDMI OUT.

- 4K AT 60Hz, 18 Gbps. .2 CABLING:
  - 4K HDMI CABLE, HIGH SPEED, 4K, 60Hz, 18 Gbps.
  - WITH BUILT-IN SIGNAL BOOSTER FOR LONG RUNS. ALL CABLING TO BE TESTED, WITH TEST RESULTS SHALL BE PROVIDED TO OWNER UPON COMPLETION OF THE JOB.

Engine	RRIS ering Ltd. ario 613-349-0555									
3 Z.B. 2024 05 22	FOR RE-TENDER									
2         B.O'B         2024 04 01	ADDENDUM 1									
1 B.O'B. 2024 03 19 0 B.O'B 2024 02 01	FOR PERMIT & TENDER									
No. By Date	Revisions									
of the Engineer and must be return specifications, and related docum Engineer The contractor must check an star	related documents are the copyright property rned upon request. Reproduction of drawings, nents in part or whole is forbidden without the rs' written permission. Ind verify all dimensions on the job prior to t of construction.									
	M. A. MORRIS M. A. MORRIS M. A. MORRIS									
	N ERING GROUP INC. JLTING ENGINEERS Telephone: (613) 345-0400 Facsimile: (613) 345-0008 www.EastEng.com									
Project Title: NORTH STORMONT MUNICIPAL OFFICE 57 COCKBURN STREET, BERWICK, ON										
	CTRICAL S & LEGEND									
Design: MM Drawn: B.O'B. Checked: MM Checked: MM Scale: 0 10'-0" 20-0''	Approved: Project No.: 11200-M&E Date: Contract No.: Drawing No.:									
0 10'-0" 20'-0" Horizontal: 1/16" = 1'-0" 0 10'-0" 20'-0"										

Vertical: 1/16" = 1'-0"

ECTRICAL LOAD CALCULATION								
OTHER TYPES OF OCCUPANCY (OESC 8-210)								
BASIC LOAD			AREA	AREA	BASIC LOAD			D
			(sq.ft.)	(sq.m)	(W/sq.m.)			F
OFFICE BUILDING			8700	808	50			
DAYCARE			7560	702	25			
ADDITIONAL LOAD		QTY	LOAD	LOAD	VOLTAGE		PHASE	D
			(W)	(Amp)	(V)		FACTOR	F
WATER HEATER		1	3000					
AIR CONDITIONING:								-
- Library		5		29	208		1.73	
TOTAL LOAD								
TOTAL LOAD	VOLTAGE	PHASE						+
	(V)	FACTOR						
AMPERAGE	600	1.73						
MAIN SERVICE SIZE (DE-RATED TO 80%)								
NOTES:								—
1. ELECTRICAL LOAD CALCULATION IS BASED ON	THE CALCULATION F	PROCEDURES		UMCIRCU		OF THE		
SERVICE, AS OUTLINED IN THE ONTARIO ELEC								

LIGHT	FIXTURE SCHEDULE

UNIT	DESCRIPTION	NOM.	LAMP	COLOUR	WATTS	MEAN	VOLTAGE	ACCEPTABLE PRODUCT	NO
		DIM'N		TEMP		LUMENS			
		(in)		(K)					
F1	LED	W - 3.2	LED	4000	24	3000	120	BJ TAKE	DIMMABLE
	LINEAR STRIP FIXTURE	L - 32						#BLSP	
		(NOM 4FT)						STANPRO	
								OR APPROVED EQUAL	
F24	LED	W - 24	LED	4000	36	4000	120	BJ TAKE #BLR	DIMMABLE
	RECESSED	L - 48						STANPRO	FLANGE FOR DRYW
								OR APPROVED EQUAL	

LIGH	TING CONTROL SCHEDULE			
UNIT	DESCRIPTION	ELECTRICAL	ACCEPTABLE PRODUCT	NOTES
	WALL SWITCH	120V	LEVITON	PASSIVE INFRARED (PIR) AND ULTRASONIC (U/S
	MOTION SENSOR		#OSSMT-MAW	
	WALL SWITCH	120V	LEVITON #AW	
	MOTION SENSOR AND DIMMER		SENSOR SWITCH #WSX-D	
			OR APPROVED EQUAL	
	MOTION SENSOR			PASSIVE INFRARED (PIR) AND ULTRASONIC (U/S
	CEILING MOUNTED		#OSC05-M0W (500 SF)	24 VDC
			#OSC10-M0W (1,000 SF)	INFRARED SENSITIVITY, ULTRASONIC SENSITIVI
			#OSC20-M0W (2,000 SF)	TIME DELAY CONTROL
				POWER PACK AS REQUIRED

ELECT	RIC HEATER SCHEDULE							
UNIT	DESCRIPTION	FAN	DIM'N		ELECTRICA	Ĺ	ACCEPTABLE PRODUCT	NOTES
		CFM		WATTS	VOLT	PHASE		
EUH-1	FAN FORCED HEATER	160	16.75W	1125	208	1	DIMPLEX #RFI	WHITE
	COMMERCIAL GRADE		21.5H				STELPRO	CONTROL:
								- BUILT-IN TSTAT
							OR APPROVED EQUAL	RECESSED

UNIT	DESCRIPTION	LAMP	HOUSING	VOLTAGE	ACCEPTABLE PRODUCT	NOTES
E1		LED	ALUMINUM	120VAC	EMERGI-LITE #EA	EXTRUDED ALUMINUM HOUSING
	SINGLE FACE		WHITE	12 VDC	STANPRO	AND FACE PLATE
	SELF-POWERED					GREEN PICTOGRAM
						DIRECTION ARROW (WHERE REQUIRED
					OR APPROVED EQUAL	END OR CEILING MOUNTED
E2	EXIT AND EMERGENCY	2x6W	ALUMINUM	120VAC IN	EMERGI-LITE #EAC	LONG LIFE SEALED LEAD
	LIGHT COMBINATION	LED	WHITE	12VDC OUT	STANPRO	LED EXIT
	UNIT BATTERY PACK					PUSH TO TEST SWITCH
	2 LAMPHEADS					AC "ON" PILOT LIGHT
	SELF-POWERED					GREEN PICTOGRAM EXIT SIGN
					OR APPROVED EQUAL	DIRECTION ARROW (WHERE REQUIRED
EL1	EMERGENCY LIGHT	2x6W	OFF-WHITE	120VAC IN	EMERGI-LITE #ESL	LONG LIFE SEALED LEAD
	BATTERY PACK WITH	LED	STEEL	12VDC OUT	STANPRO	AC LINE CORD
	WITH 2 LAMPHEADS					PUSH TO TEST SWITCH
					OR APPROVED EQUAL	AC "ON" PILOT LIGHT
EL2	EMERGENCY LIGHT	2x6W	OFF-WHITE	12VDC	EMERGI-LITE #EF9D	
	DOUBLE REMOTE HEAD	LED			STANPRO	
					OR APPROVED EQUAL	
EL3	EMERGENCY LIGHT	1x6W	OFF-WHITE	12VDC	EMERGI-LITE #EF9	
	SINGLE REMOTE HEAD	LED			STANPRO	
					OR APPROVED EQUAL	

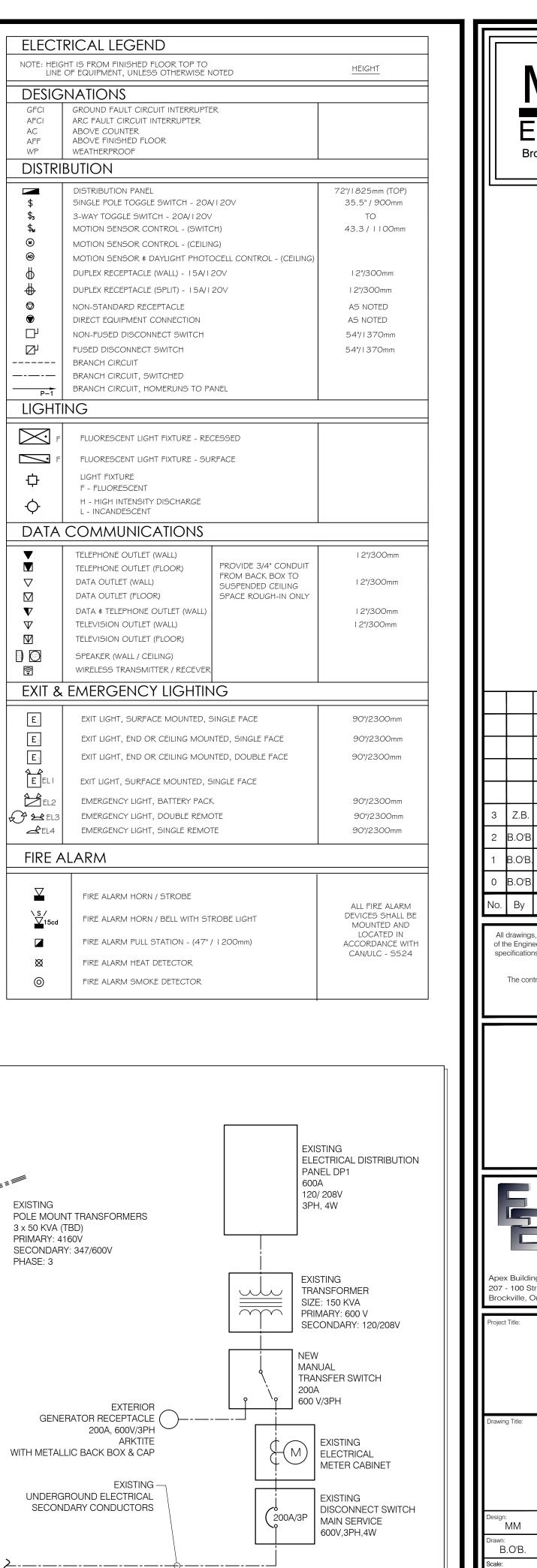
MAND		LOAD	
CTOR		(W)	
0.90		36372	
1.00		17559	
MAND		LOAD	
CTOR		(W)	
1.00		3000	
1.00		52177	
	(W)	109108	
	(A) (A)	105	
	(A)	131	

# IOTES

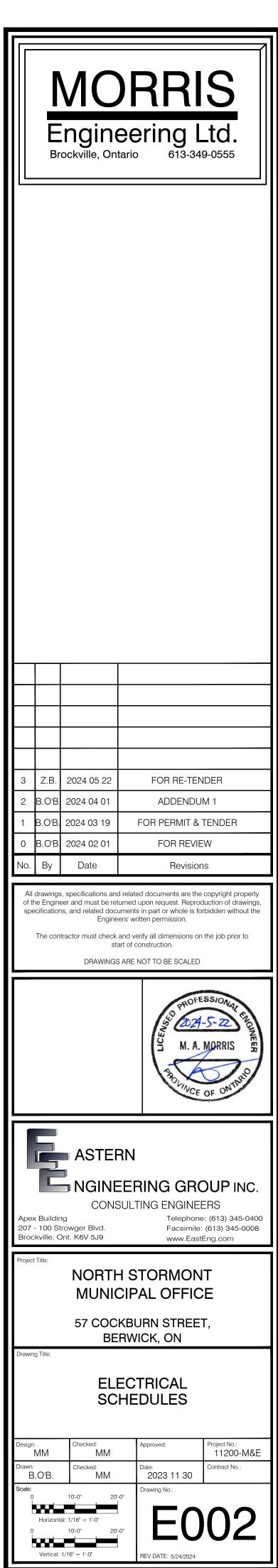
WALL

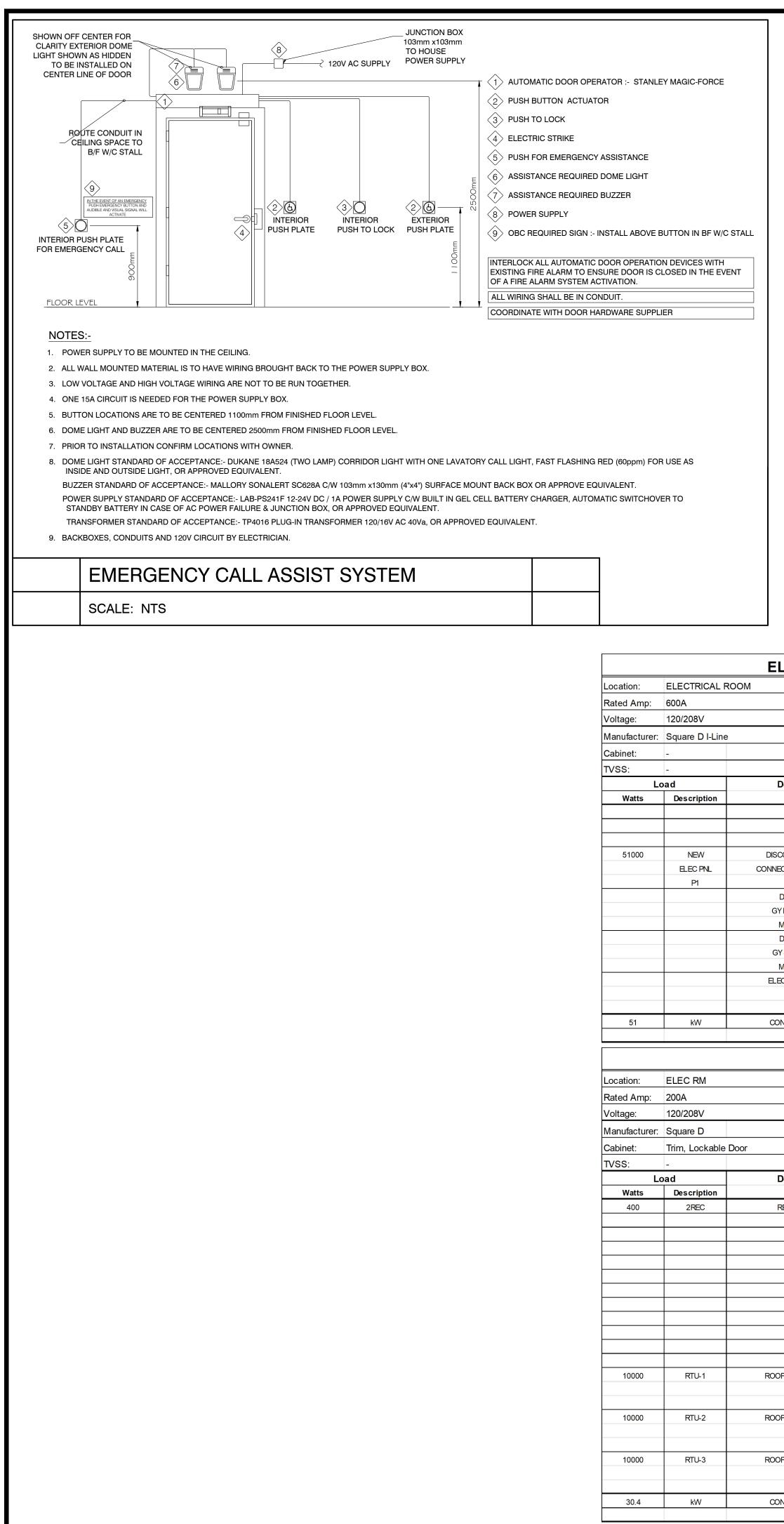
J/S)

U/S) IVITY AND



ELECTRICAL SINGLE LINE DIAGRAM





													FI F	CTR			ANF	 L'F	2'	(NEW)		
											Location:	LUNCH ROOM					Mounti		-	RECESSED		
												200A					Mains Phase			200 A MAIN BREAKER		
J											Voltage: Manufacturer:	120/208V Square D					Phase Bus:	vvire:		3PH, 4W Aluminum		
												Trim, Lockable	e Door				Breake	ers:		Bolt-On		
ELECTRICAL	DIS	<b>FRIB</b>	BUTI	ON	PA	NE	L 'I	DP1' (EXISTING)			TVSS:	-	De conin tion				lsolate			-		- 1
				Mour				SURFACE			U LC Watts	Description	Description		Breal Pole	ker ∋ No.	No	Break		Description	Lo Description	ad Watts
				Main		-		-			560	F1, 13F24	LIGHTS - 123,124,125,126,127	15	-	1	2	1	1		12F24	480
				Phas Bus:		ire:		3 PH, 4W			480 480	12F24 12F24	LIGHTS - 132,133 LIGHTS - 138,139,140,141,142	15 15	-	3 5	4 6	1	1		12F24 11F24	480 440
				Break				-			400	F1,9F24	LIGHTS - 145,146,147,154,155	15	1	7	8	1	1		6F1,5F24	440
			-	Isolat		round	d:	-			800	20F24	LIGHTS - 156 SPARE	20 15	1	9 11	10 12	_	1	5 LIGHTS - 157,158	8F24	320
Description	<b>A</b> m	Break p Pole			Bre ko.F	eake		Description	Loa Description	d Watts	1200	6REC	RECEP - 123,124	15	1	13	14		1		5REC	1000
		p Pole	1 NO.		2		200	ELECTRICAL PNL P2	NEW	Walls		4REC REC	RECEP - 128 RECEP - 128 COUNTER	15 15	1	15 17	16 18		1		5REC 5REC	1000 1000
			3		4				ELEC PNL		800	4REC	RECEP - 131	15	1	19	20		1		REC	600
DISCONNECT BOILER	20	0 3	5 7		6 8	3	60		P2		600 600	3REC 3REC	RECEP - 132 RECEP - 132	15 15	1	21 23	22 24		1		REC REC	600 600
NNECT TO ELEC PNL P1			9		10						400	2REC	RECEP - 134	15	1	25	26		1	5 RECEP - 133 PRINTER	REC	600
DISCONNECT	40	3	11 13		12 14	3	200	ELECTRICAL PANEL			400 800	REC 4REC	RECEP - 134 COUNTER RECEP - 135	15 15	1	27 29	28 30		1		2REC 4REC	400 800
GYM WEST HEAT			15		16			HP-2			800	4REC	RECEP - 137	15		31	32		1		REC	200
MARK SPARE		3	17 19		18 20	3	125	ELECTRICAL PANEL			800	4REC	RECEP - 139	15	-	33	34		1		REC	200
DISCONNECT GYMEASTHEAT	40	3	21		22	3	125	LP-2			800 800	4REC 4REC	RECEP - 140 RECEP - 141	15 15	-	35 37	36		1		REC 4REC	200 800
MARK SPARE			23		24						800	4REC	RECEP - 143	15	1	39	40	- ·	1		3REC	600
ELECTRICAL PANEL HP-1	20	) 3	25 27		26 28	3	100	ELECTRICAL PANEL			400	REC 3REC	RECEP - 143 COUNTER RECEP - 148	15 15	1	41 43	42		1		3REC 5REC	600 1000
			29		30						400	3REC	RECEP - 148 COUNTER	15	1	45	46		1		4REC	800
CONNECTED LOAD		_						CONNECTED LOAD TOTAL CONNECTED LOAD	kW	0 51	400	3REC	RECEP - 148 COUNTER	15		47	48	- ·	1		4REC	800
											400 500	3REC REC	RECEP - 148 COUNTER RECEP - 148 REFRIG	15 15	-	49 51	50 52		1		2REC 3REC	400 600
EL	ECT.	RIC/				'P'	<b>`</b>	NEW)			200	RH	RANGE HOOD	15		53	54		1		2REC	400
				Mour				SURFACE			6000	REC	RANGE	40	2	55 57	56 58		1		3REC 4REC	600 800
				Mains Phas				- 3PH, 4W			800	4REC	RECEP - 157	15	1	59	60	_	1	5 RECEP - 156 WALL	4REC	800
				Bus:				Aluminum			800	4REC	RECEP - 158	15	1	61 63	62 64		1		2REC 2REC	400 400
				Break	kers:			Bolt-On								65	66					400
Description			-	Isolat				- De serie fi su								67 69	68	_		5 WASHROOM - EMERG CALL		200
Description	Am	Break			Bre ko. F	eake Pole		Description	Loa Description	d Watts						71	70 72	-	1			200 200
RECEP - ROOF	15	1	1		2	1	15	RECEP - ROOF	3REC	600	23.22	kW	CONNECTED LOAD							CONNECTED LOAD	kW	18.76
			3		4 6															TOTAL CONNECTED LOAD	kW	41.98
			7		8							1	El	LEC	TR	CAL	PA	NEL	N	DTES		
		_	9 11		10 12						1.0 DEVICES:		DEVICE QUANTITIES ARE APPROXI	MATE	-				_			
			13		14								DEVICES SHOWN ON FLOOR PLAN		L SU	PERSE	DE.					
		_	15		16																	
			17 19		18 20						2.0 IDENTIFICA	ATION:	PERMANENT PANEL LABEL INDICA TYPEWRITTEN CIRCUITING DIREC		AIVIE,	AIVIP, VC	л. 1, РГ	ASE, V				
			21		22																	
ROOFTOP HVAC UNIT	40	3	23 25		24 26						3.0 EQUIPMEN	NT SUPPLIED BY	OTHERS: ELECTRICAL CONTRACTOR SHALI	ASSU		JLL RES	PONS	BILITY	' FOR	SERVICING REQUIREMENTS		
			27		28								FOR ALL EQUIPMENT SUPPLIED B									
ROOFTOP HVAC UNIT		2	29		30 32	2	40		RTU-4	10000			ELECTRICAL CONTRACTOR SHALL									
	40	3	31 33		32 34	3	40	ROOFTOP HVAC UNIT	rt10-4	10000			SHALL PROVIDE A NEW CIRCUITING			JUNITRI						
			35		36								FOR APPROVAL BY OWNER AND EN THIS CIRCUITING STUDY SHALL INC					DING	VITH	WIRING OF PANEL.		
ROOFTOP HVAC UNIT	40	3	37 39		38 10	3	40	ROOFTOP HVAC UNIT	RTU-5	10000			THE SILCOTING STUDT SHALL INC				5115.					
			41	4	12						NOTATIONS: WP		WEATHERPROOF									
CONNECTED LOAD								CONNECTED LOAD TOTAL CONNECTED LOAD	kW	20.6 51	TBD		TO BE DETERMINED AND VERIFIED	O MTH (	OTHE	ER TRAE	ES					
									17.4.4	01		1							1	1		

MORRISEngineering Ltd.Brockville, Ontario613-349-0555							
3         Z.B.         2024 05 22	FOR RE-TENDER						
2         B.O'B.         2024 04 01           1         B.O'B.         2024 03 19	ADDENDUM 1 FOR PERMIT & TENDER						
0 B.O'B. 2024 02 01	FOR REVIEW						
No.       By       Date       Revisions         All drawings, specifications and related documents are the copyright property of the Engineer and must be returned upon request. Reproduction of drawings, specifications, and related documents in part or whole is forbidden without the Engineers' written permission.         The contractor must check and verify all dimensions on the job prior to start of construction.         DRAWINGS ARE NOT TO BE SCALED							
	M. A. MORRIS HADLINCE OF ONTARIO						
ASTERN ASTERN NGINEERING GROUP INC. CONSULTING ENGINEERS Apex Building 207 - 100 Strowger Blvd. Brockville, Ont. K6V 5J9 Telephone: (613) 345-0400 Facsimile: (613) 345-0400 www.EastEng.com							
Project Title: NORTH STORMONT MUNICIPAL OFFICE 57 COCKBURN STREET,							
BERWICK, ON Drawing Title: ELECTRICAL DETAILS							
Design: MM Drawn: B.O'B. Checked: MM Checked: MM Scale: 0 10'-0" 20' Horizontal: 1/16" = 1'-0"							
0 10'-0" 20' Vertical: 1/16" = 1'-0"	-0" <b>E003</b> REV DATE: 5/24/2024						

#### **DEMOLITION NOTES – ELECTRICAL**

ALL OUTLETS THAT WERE VISIBLE DURING SITE REVIEW HAVE BEEN INDICATED.

ALL OUTLETS IN FLOORS, WALLS & CEILINGS THAT ARE TO BE REMOVED SHALL BE DISCONNECTED & REMOVED, INCLUDING BOX CONDUIT & WIRING, BACK TO SOURCE.

- C COMMUNICATIONS SYSTEM:
  - C1 RETAIN EXISTING SPEAKER
  - C2 DISCONNECT AND REMOVE EXISTING SPEAKER OR SCHOOL BELL INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING

#### D DATA AND TELEPHONE:

- D1 RETAIN EXISTING DATA OR TELEPHONE OUTLET
- D2 DISCONNECT AND REMOVE EXISTING ELECTRICAL DATA OR TELEPHONE OUTLET INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

#### F FIRE ALARM DEVICES:

- F1 RETAIN EXISTING FIRE ALARM DEVICE
- F2 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW WALL/CEILING
- F3 DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL WHERE APPLICABLE

#### H ELECTRIC HEATER:

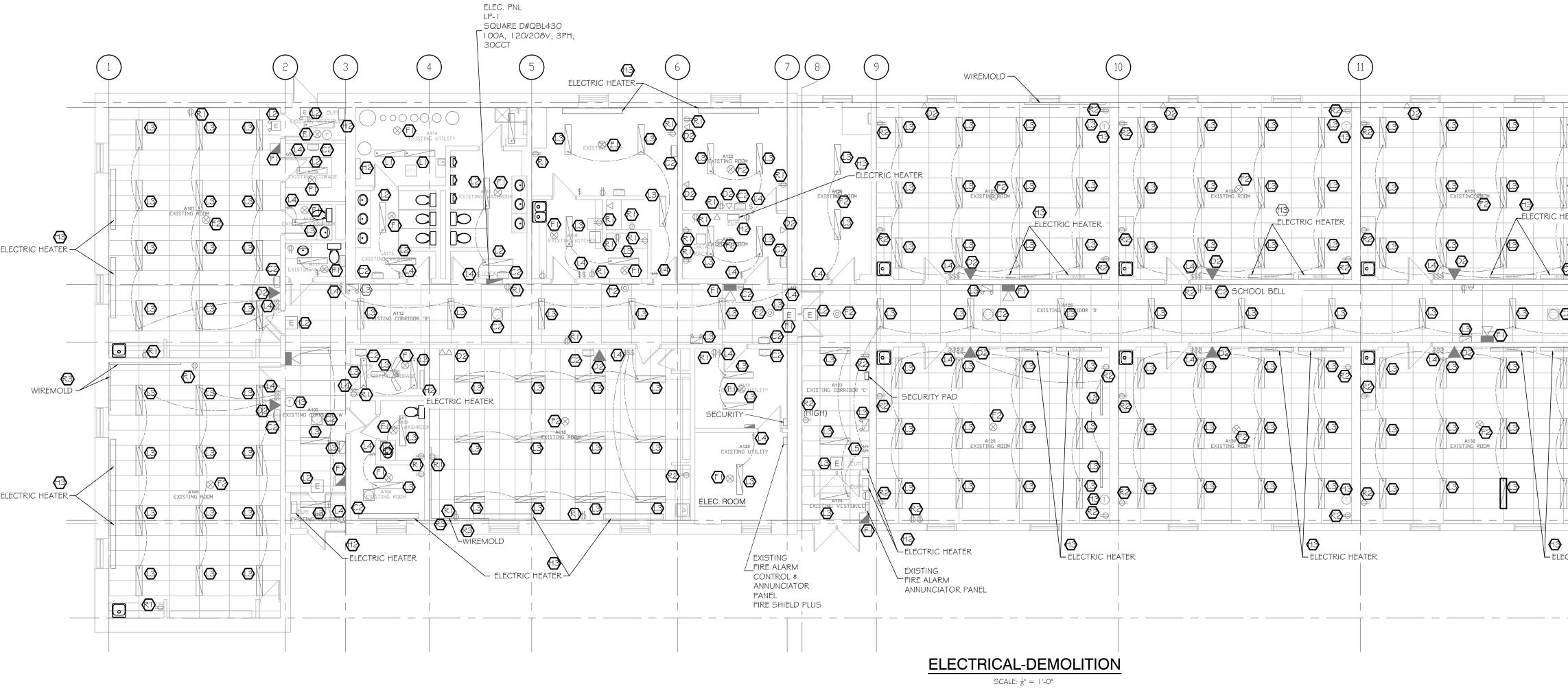
- H1 RETAIN EXISTING ELECTRIC HEATER
- H2 DISCONNECT, REMOVE AND REPLACE EXISTING ELECTRIC HEATER
- H3 DISCONNECT AND REMOVE EXISTING ELECTRIC HEATER INCLUDING ELECTRICAL BOX, CONDUIT AND WIRING BACK TO SOURCE AND CONTROL WIRING BOXES, CONDUIT + WIRING BACK TO SOURCE. INFILL AND REPAIR WALL WHERE APPLICABLE

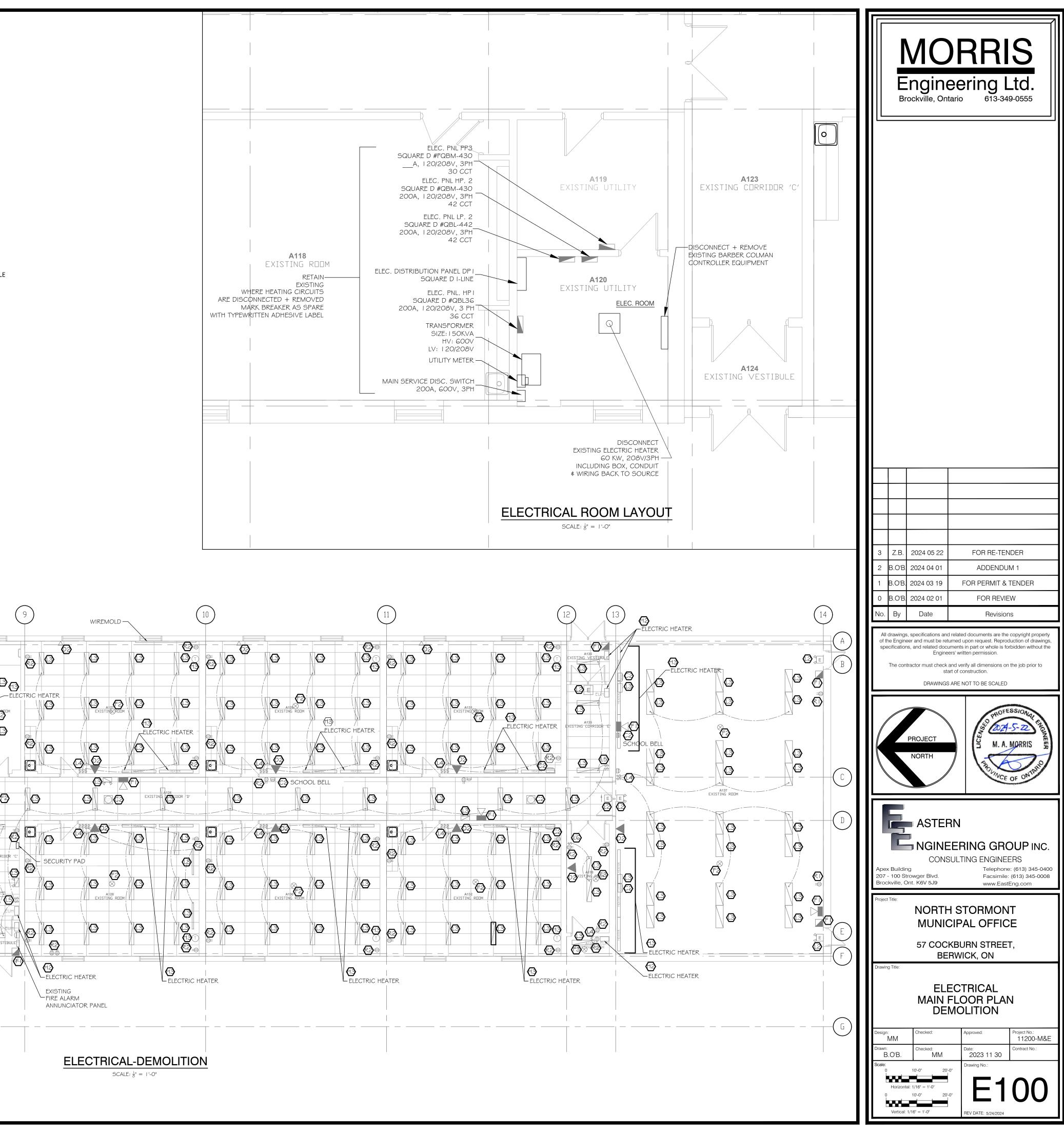
#### L LIGHT FIXTURES & SWITCHES:

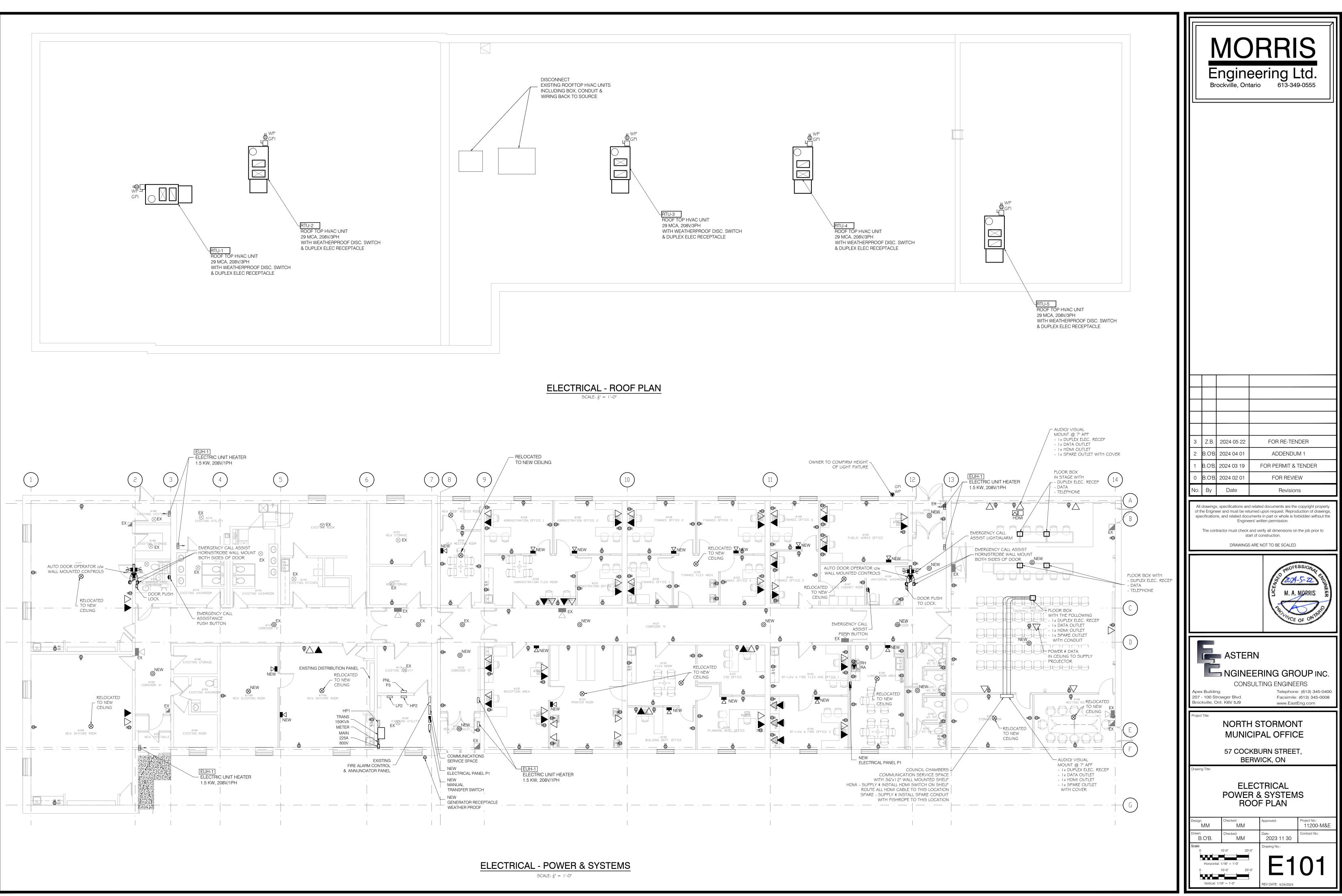
- L1 RETAIN EXISTING LIGHT FIXTURE
- L2 DISCONNECT, REMOVE AND REPLACE EXISTING LIGHT FIXTURE
- L3 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE
- L4 RETAIN EXISTING LIGHT SWITCH LOCATION SUPPLY AND INSTALL A NEW SWITCH AND COVER PLATE
- L5 DISCONNECT, REMOVE AND RELOCATE EXISTING LIGHT SWITCH ALTER BRANCH CIRCUIT WIRING AND SWITCHING TO SUIT OR AS SHOWN
- L6 DISCONNECT AND REMOVE EXISTING LIGHT SWITCH INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

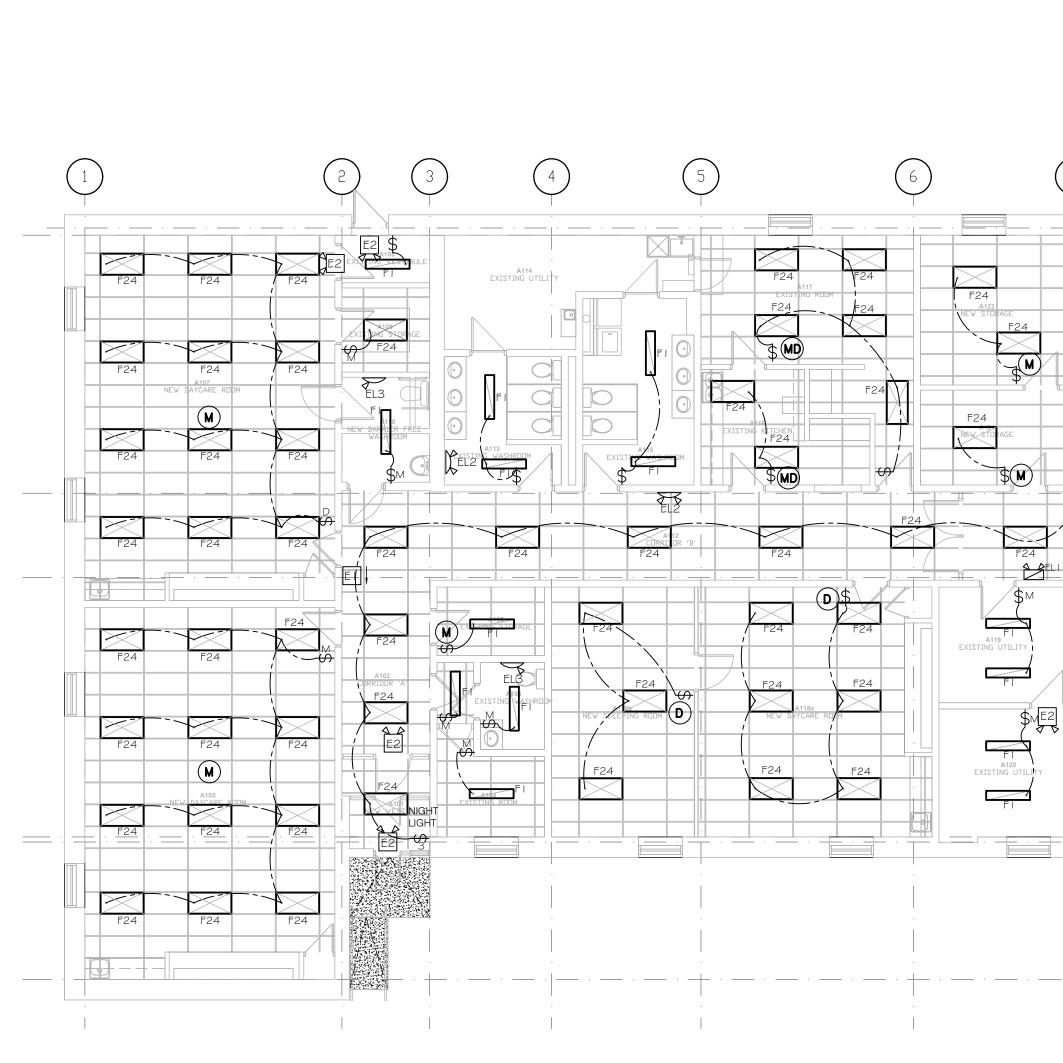
## R RECEPTACLES:

- R1 RETAIN EXISTING ELECTRICAL RECEPTACLE SUPPLY AND INSTALL NEW DUPLEX RECEPTACLE AND COVER PLATE
- R2 DISCONNECT, REMOVE AND RELOCATE EXISTING ELECTRICAL RECEPTACLE ALTER BRANCH CIRCUIT WIRING TO RETAIN SERVICE TO RELOCATED RECEPTACLE
- R3 DISCONNECT AND REMOVE EXISTING ELECTRICAL RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL









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NEW REPTING ROOM	F24 ADMINISTRATION OFFICE A ADMINISTRATION OFFICE A F24 F24 F24 F24 F24 F24 F24 F24	F24 F24 F24 F24 F24 F24 F24 F24 F24 F24	F24 / MD C DFFICE 4 /	F24 F24 F24 F24 F24 F24 F24 F24 F24 F24	F24 F24 ISS F24 F24 F24 F24 F1 M AC GF1 S 3 CORRDON F1
AI23 CORLIDER F24	F24     F24     F24     F24       F24     F24     F24     F24       F24     F24     F24       F24     F24     F24       F24     F24     F24       F24     F24     F24       F24     F24     F24	F24 F24 BUILDING DEPT. DFFICE	F24 F24 F24 F24 F24 F24 F24 F24 F24 F24 F24 F24	F24 F24	F24 EL2 F3 F3 F3 F3 F3 F3
	ELECTRICAL - LI	<u>GHTING</u>	· - · · · · · · 		- - - - -

