

ISSUED FOR CONSTRUCTION - OCT. 12, 2018 TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 FISHER AVE. OTTAWA ON

CONSULTANT LIST:

ARCHITECT: Hobin Architecture Inc. 63 Pamilla Street, Ottawa, ON, K1S 3K7 Barry J. Hobin, Project Architect

CONTACT: Reinhard Vogel Tel: (613) 238-7200 Fax: (613)235-2005 Email: reinhard@hobinarc.com

STRUCTURAL ENGINEER: Cunliffe & Assoicates 1737 Woodward Drive, Suite 102 Ottawa, ON, K2C 0P9

CONTACT: Rick Cunliffe / Jordan Cuff Tel: (613) 729-7242 Email: rcunliffe@cunliffe.ca / jcuff@cunliffe.ca MECHANICAL ENGINEER: Bekolay & Associates Ltd. 200-1827 Woodward Drive Ottawa, ON, K2C 0P9

CONTACT: John R. Bekolay Tel: (613) 723-0474 Email: jbekolay@bga.ca **CIVIL ENGINEER: IBI GROUP** 400-333 PRESTON STREET Ottawa, ON, K1S 5N4

ELECTRICAL ENGINEER: WSP 300-2611 QUEENSVIEW DRIVE Ottawa, ON, K2B 8K2

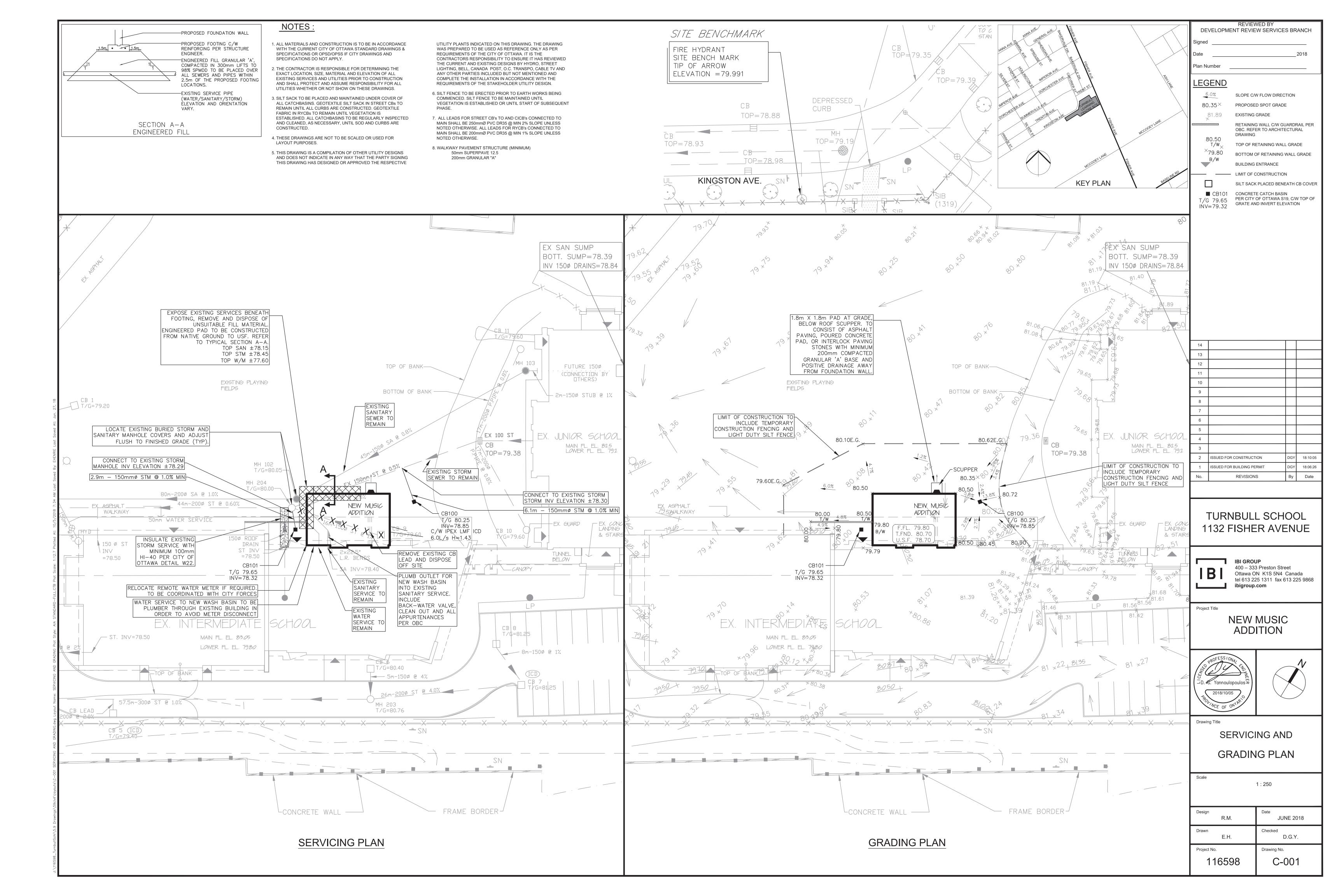
CONTACT: Ken MacIntosh Tel: (613) 829-2800 Fax: (613) 829-8299 Email: Ken.MacIntosh@wsp.com

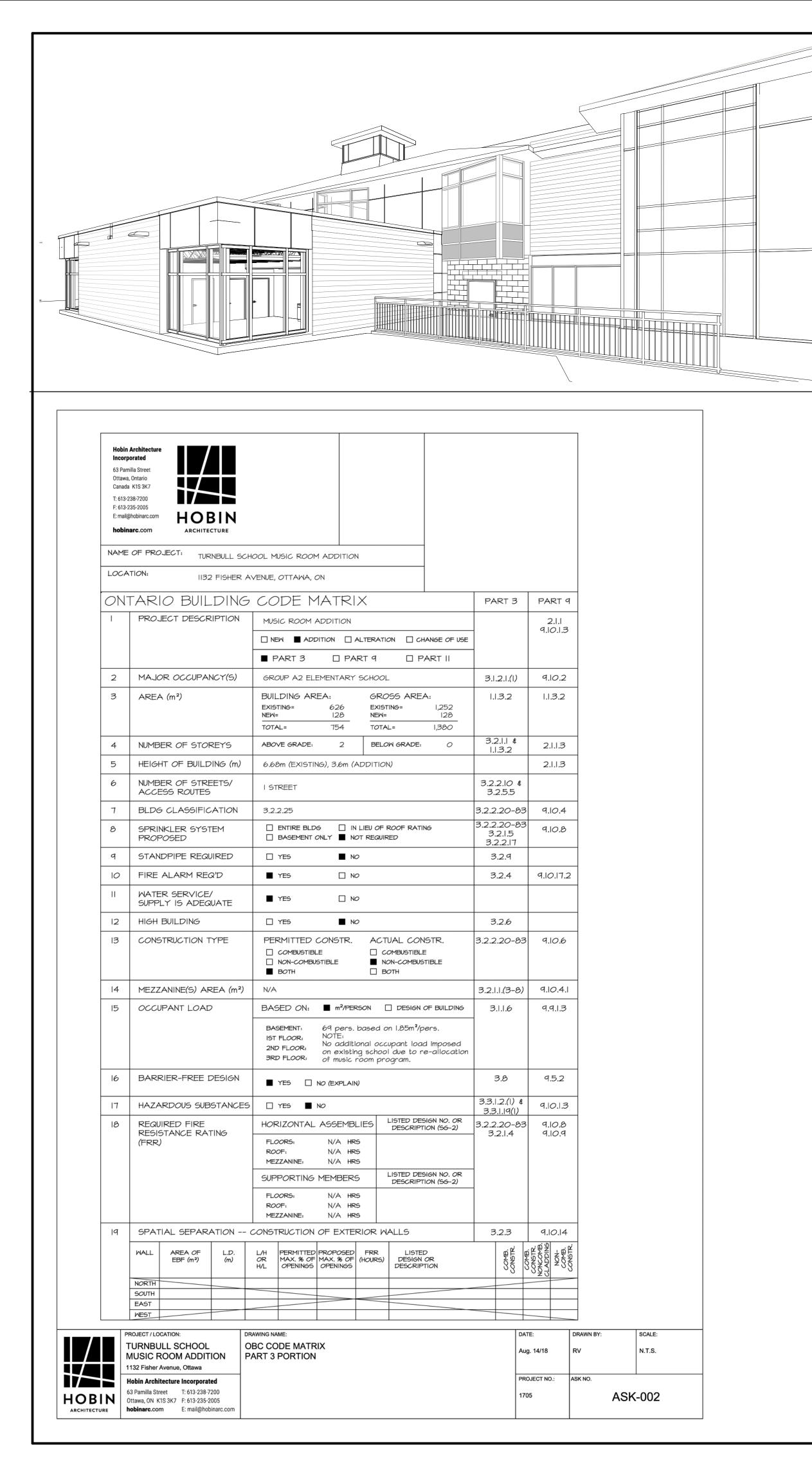
CONTACT: Ryan Magladry Tel: (613) 225 1311 Fax: (613) 225 9868 Email: rmagladry@IBIGroup.com



DRAWING LIST:		
CIVIL DRAWINGS		
C-001	SERVICING AND GRADING PLAN	
ARCHITECTURAL DRAWINGS		
A0.00 A0.01 A1.01 A2.01 A3.01 A4.01 A4.05 A6.01 A6.02	COVER PAGE CODE MATRIX & CONSTRUCTION ASSEMBLIES SITE PLAN MUSIC ROOM ADDITION PLANS MUSIC ROOM ADDITION EXTERIOR ELEVATIONS MUSIC ROOM ADDITION BUILDING SECTIONS MUSIC ROOM ADDITION WALL SECTIONS MUSIC ROOM ADDITION PLAN DETAILS MUSIC ROOM ADDITION PLAN DETAILS	
STRU	JCTURAL DRAWINGS	
S01 S02 S100 S200 S300 S301	SEISMIC DATA & GENERAL NOTES TYPICAL DETAILS FOUNDATION PLAN & ROOF PLAN BRACE FRAME ELEVATIONS SECTIONS & DETAILS SECTIONS & DETAILS	
MECH	HANICAL DRAWINGS	
M-1	HVAC & PLUMBING	
ELEC	TRICAL DRAWINGS	
E001 E002 E003 E101 E201	ELECTRICAL LEGEND & DRAWING LIST ELECTRICAL SPECIFICATION SHEET 1 OF 2 ELECTRICAL SPECIFICATION SHEET 2 OF 2 ELECTRICAL LIGHTING POWER AND SYSTEMS ELECTRICAL LIGHTING SCHEDULES & DETAILS	

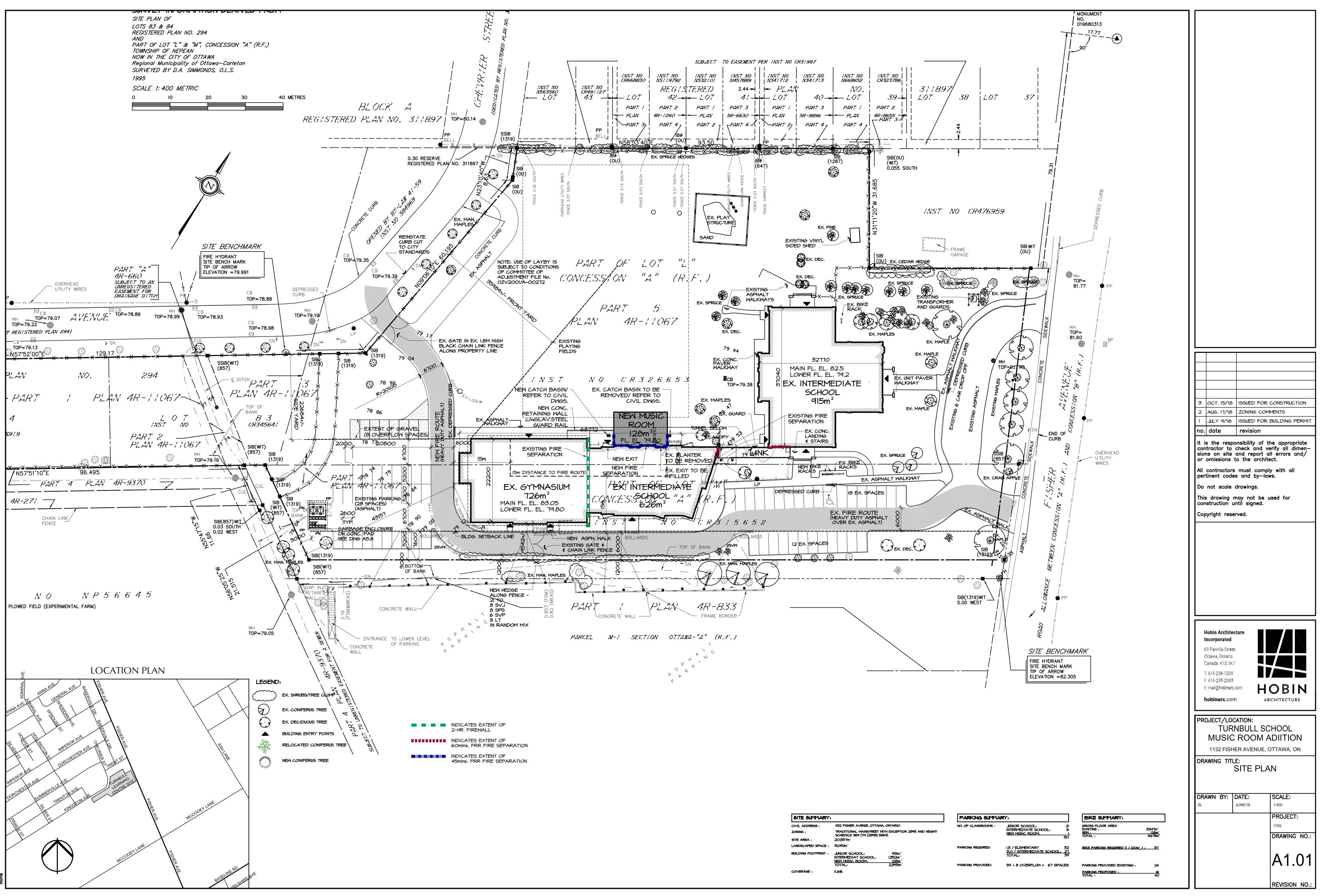
1	18/10/12 date	ISSUED FOR CONSTRUCTION					
cor sio or	ntractor t ns on sit omission	sponsibility of the appropriate to check and verify all dimer te and report all errors and, is to the engineer.	٦ —				
All	contracto	ors must comply with all					
		le drawings.					
Thi cor	s drawing nstruction	g may not be used for n until signed.					
Со	construction until signed.						
	pyright re	eserved.					
	pyright re	eserved.					
	Hobin Archit Incorporated 53 Pamilla Stre Dttawa, Ontario Canada K1S 31 T: 613-238-720 E: mail@hobinar	tecture a eet o K77 00 055					
	Hobin Archit Incorporated 53 Pamilla Stre Ottawa, Ontario Canada K1S 31 T: 613-238-720 F: 613-235-200	tecture a eet % K7 % S rc.com HOBIN					
	Hobin Archit Incorporated 63 Pamilla Stre Ottawa, Ontario Canada K1S 31 F: 613-238-720 F: 613-238-720 F: 613-235-200 F: mail@hobinar hobinarc.co	tecture deet o K7 00 05 rc.com tom TURNBULL HOBULL ARCHITECTURE					
	Hobin Archit Incorporated 63 Pamilla Stre Ottawa, Ontario Canada K1S 31 F: 613-238-720 F: 613-238-720 F: 613-235-200 F: mail@hobinar hobinarc.co	tecture deet o K7 o S7 c.com HOBIN ARCHITECTURE					
e e e e PRC	Hobin Archit Incorporated 53 Pamilla Stre Dtawa, Ontario Canada K1S 31 T: 613-238-720 E: 613-235-200 E: mail@hobinar c.c DJECT T SCH ROC	tecture deet o K7 o 55 rc.com tom tom tom tom tom tom tom t					
	Hobin Archit Incorporated 53 Pamilla Stre Ottawa, Ontario Canada K1S 31 F: 613-238-720 F: 613-238-720 F: 613-235-200 F: 613-200 F: 613-200 F	tecture deet o K7 00 05 rc.com COM ARCHITECTURE URNBULL HOBIN ARCHITECTURE URNBULL HOBIN ARCHITECTURE					
	Hobin Archit Incorporated 53 Pamilla Stre Ottawa, Ontario Canada K1S 31 F: 613-238-720 F: 613-238-720 F: 613-235-200 F: 613-200 F: 613-200 F	tecture deet o K7 00 55 rc.com COM ARCHITECTURE COVER PAGE DATE 10/15/18 PROJECT 1705					
	Hobin Archit Incorporated 53 Pamilla Stre Ottawa, Ontario Canada K1S 31 F: 613-238-720 F: 613-238-720 F: 613-235-200 F: 613-200 F: 613-200 F	tecture deet o K7 00 05 rc.com COM ARCHITECTURE COVER PAGE DATE 10/15/18 PROJECT					

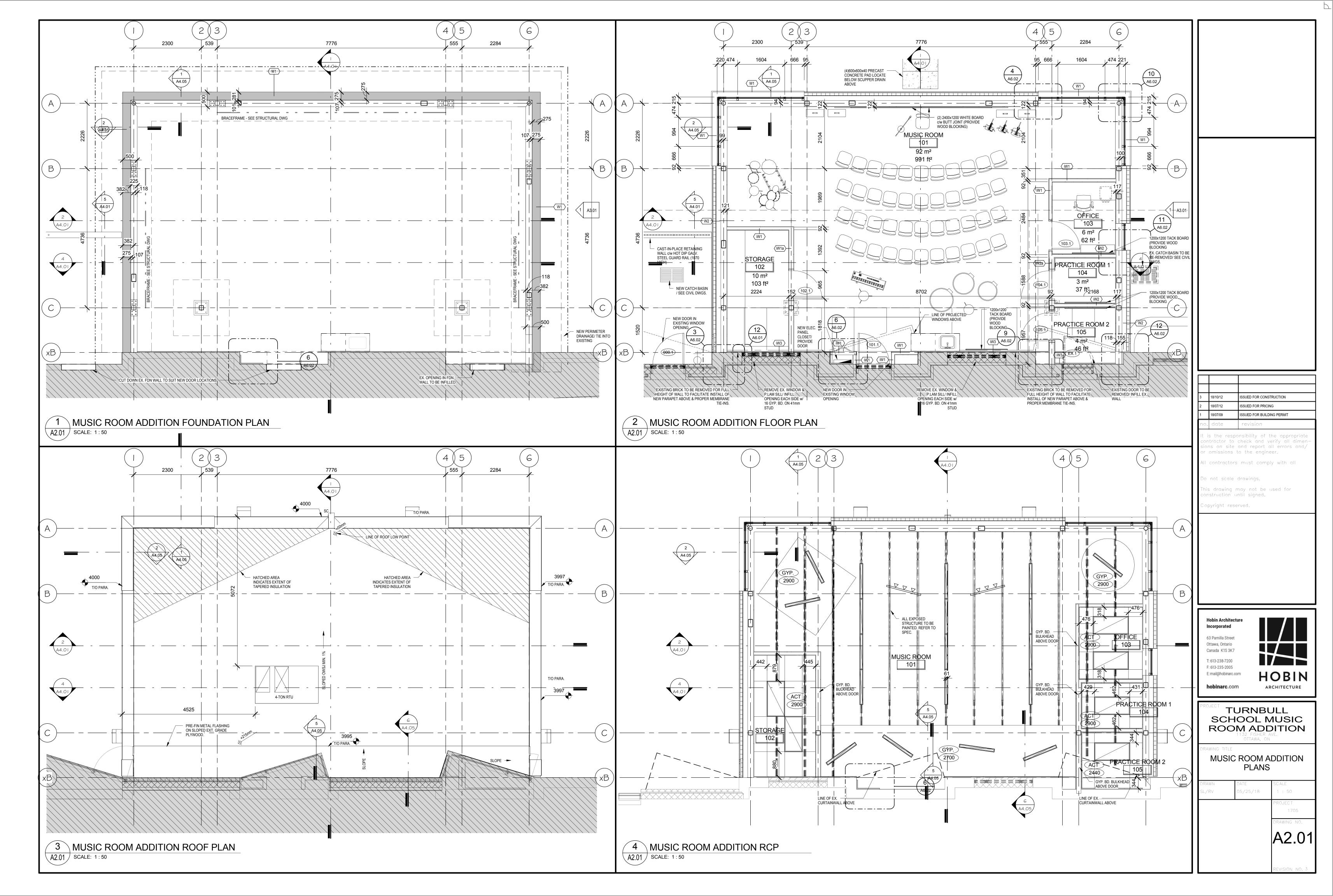


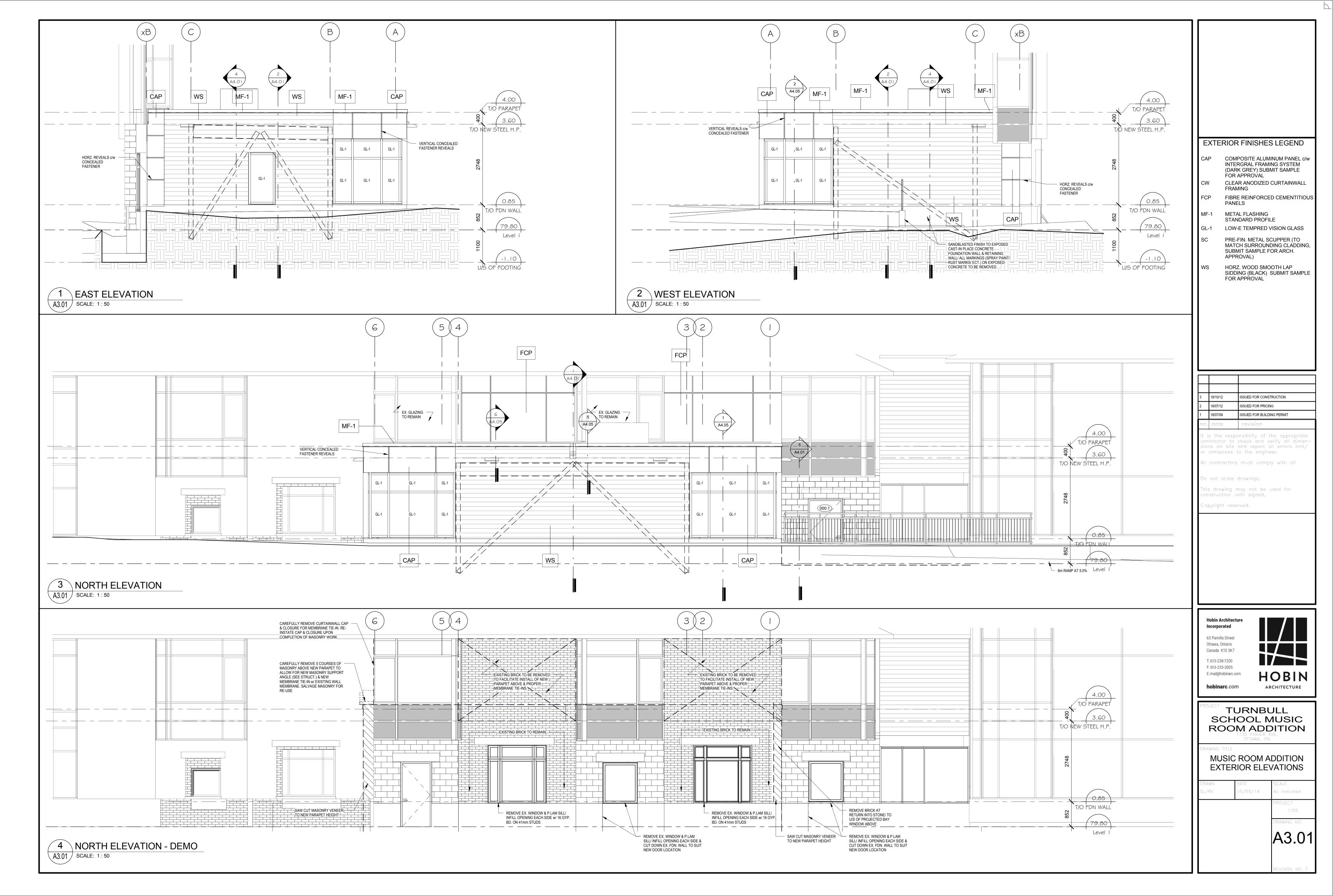


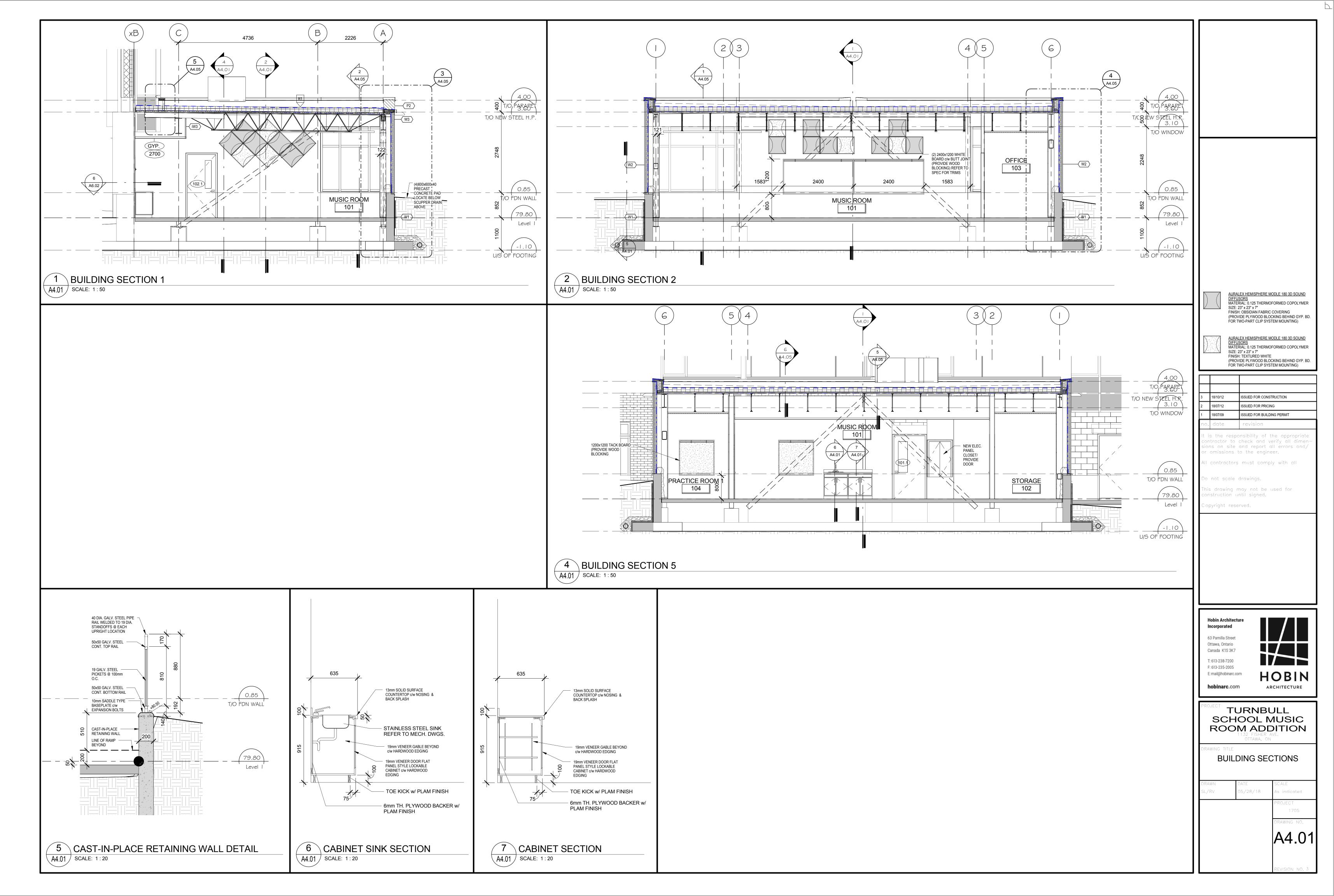
TURNBULL LEARNING CENTRE MUSIC ROOM ADDITION MECHANICAL ROOF TOP UNIT - REFER TO MECHANICAL DWGS. WOOD NAILER PREFINISHED METAL FLASHING PREMANUFACTURED ROOF CURB MEMBRANE CAP SHEET EXTEND ROOFING MEMBRANE UP CURB 2 PLY MOD. BIT ROOFING MEMBRANE _ ____ A/V BARRIFR SSUED FOR CONSTRUCTION 18/10/12 OWSJ (REFER TO SSUED FOR PRICING STRUCTURAL DRAWINGS) ISSUED FOR BUILDING PERMIT 8/07/09 is on site and report all errors omissions to the engineer 3 RTU CURB / TYPICAL contractors must comply with A0.01 SCALE: 1:10 o not scale drawings. his drawing may not be used for construction until signed. Copyright reserved. CONSTRUCTION ASSEMBLIES **INTERIOR PARTITIONS: EXTERIOR WALLS:** PARAPET ASSEMBLY iW1 - iW1-92 Stud iW1 16 GYP. BD. TO u/s OF DECK W1 - W1-275mm FDN WALL ര് 92 METAL STUDS @ 600 o.c. MAX. 275 CAST-IN-PLACE CONC. FOUNDATION WALL (REFER TO STRUCT) FILL W/ BATT INSULATION 16 GYP. BD. TO u/s OF DECK 203 STEEL STUDS @ 400 o.c. ഉ SPRAY FOAM MIN. 75mm DEPTH TO BACK 16 GYPSUM BOARD iW2 - iW2-92 Stud 2 layers/ side (TAPED, SANDED, PRIMED READY FOR PAINT) **Hobin Architecture** 16 GYP. BD. TO u/s OF DECK Incorporated 16 GYP, BD, TO u/s OF DECK 92 METAL STUDS @ 600 o.c. MAX. FILL W/ BATT INSULATION W2 - W2-HORZ. WOOD SIDING-SL W2 63 Pamilla Street 16 GYP. BD. TO u/s OF DECK 16 HORZ. PREFINISHED WOOD SIDING P2 - P2-HORZ. WOOD SIDING PARAPET Ottawa, Ontario 16 GYP. BD. TO u/s OF DECK 22 VERT. METAL Z-GIRTS @ 400 o.c. 16 HORZ. PREFINISHED WOOD SIDING 90 HORZ. METAL Z-GIRTS @ 600 o.c. c/w 22 VERT. METAL Z-GIRTS @ 400 o.c. Canada K1S 3K7 90 HORZ. METAL Z-GIRTS @ 600 o.c. c/w 89 SEMI-RIGID INSULATION AL 1 iW1a - iW1a-152 Stud iW1a SFLF ADHESIVE AIR/VAPOUR BARRIER MEMBRANE 89 SEMI-RIGID INSULATION 16 GYP. BD. TO u/s OF DECK T: 613-238-7200 SELF ADHESIVE AIR/VAPOUR BARRIER MEMBRANE 13 F.G.-FACED EXTERIOR GRADE GYP. BD. 152 METAL STUDS @ 600 o.c. MAX. F: 613-235-2005 152 STEEL STUDS @ 400 o.c. 13 F.G.-FACED EXTERIOR GRADE GYP. BD. 16 GYP. BD. TO u/s OF DECK 203 STEEL STUDS @ 400 o.c. 152 STEEL STUDS @ 400 o.c. HOBIN E: mail@hobinarc.com 50x50 P.T. WOOD FRAMING FILL VOID w/ 16 GYPSUM BOARD U/S DECK (TAPED, SANDED, PRIMED READY FOR PAINT) RIGID INSULATION iW2a - iW2a-152 Stud-2 layers/side 16 P.T. PLYWOOD SHEATHING hobinarc.com ARCHITECTURE iW2a 16 GYP. BD. TO u/s OF DECK 2-PLY MOD. BIT ROOFING MEMBRANE 16 GYP. BD. TO u/s OF DECK W3 - W3-COMPOSITE ALUM SIDING-SL W3 152 METAL STUDS @ 600 o.c. MAX. COMPOSITE ALUMINUM PANEL c/w P3 - P3-COMP ALUM PANEL PARAPET FILL W/ BATT INSULATION INTEGRAL FRAMING SYSTEM COMPOSITE ALUMINUM PANEL c/w 16 GYP. BD. TO u/s OF DECK TURNBULL 64 GALV. Z-GIRTS @ 400 o.c. c/w INTEGRAL FRAMING SYSTEM 16 GYP. BD. TO u/s OF DECK 64 SEMI-RIGID INSULATION 64 GALV. Z-GIRTS @ 400 o.c. c/w SCHOOL MUSIC SELF ADHESIVE AIR/VAPOUR BARRIER MEMBRANE 64 SEMI-RIGID INSULATION SELF ADHESIVE AIR/VAPOUR BARRIER MEMBRAN 13 F.G.-FACED EXTERIOR GRADE GYP. BD. **ROOM ADDITION** 13 F.G.-FACED EXTERIOR GRADE GYP. BD. 203 STEEL STUDS @ 400 o.c. iW3 iW3 - iW3-22Stud- layers/side _____ 16 GYPSUM BOARD U/S DECK 152 STEEL STUDS @ 400 o.c. 16 GYP. BD. TO u/s OF DECK 50x50 P.T. WOOD FRAMING FILL VOID w/ (TAPED, SANDED, PRIMED READY FOR PAINT) 22 METAL STUDS @ 400 o.c. MAX. RIGID INSULATION 16 P.T. PLYWOOD SHEATHING 2-PLY MOD. BIT ROOFING MEMBRANE CODE MATRIX -W4 - W4-New Cement Board on Ex. CONSTRUCTION COMPOSITE CEMENT BOARD PANEL c/w INTEGRAL HORZ. & VERT. ASSEMBLIES REVEAL SYSTEM 125 GALV. METAL X-GIRT @ 400 o.c. HORZ. c/w SEMI-RIGID INSUL. S/A AIR BARRIER MEMBRANE 13 F.G. FACED EXT. GRADE GYP. BD. OVER EXISTING 38x89 WD. STUD FRAMING 5/01/18 indicated ROOF ASSEMBLY: R1 - TYPICAL ROOF ASSEMBLY A0.01 2-PLY MOD. BIT ROOFING MEMBRANE SLOPED INSULATION (REFER TO ROOF PLAN) 2 x 75mm (STAGGERED) RIGID INSULATION c/w INTEGRAL FACER OR OVERLAY BOARD AIR VAPOUR BARRIER MEMBRANE 10mm ROOF DECK SHEATHING STEEL DECK, REFER TO STRUCTURAL

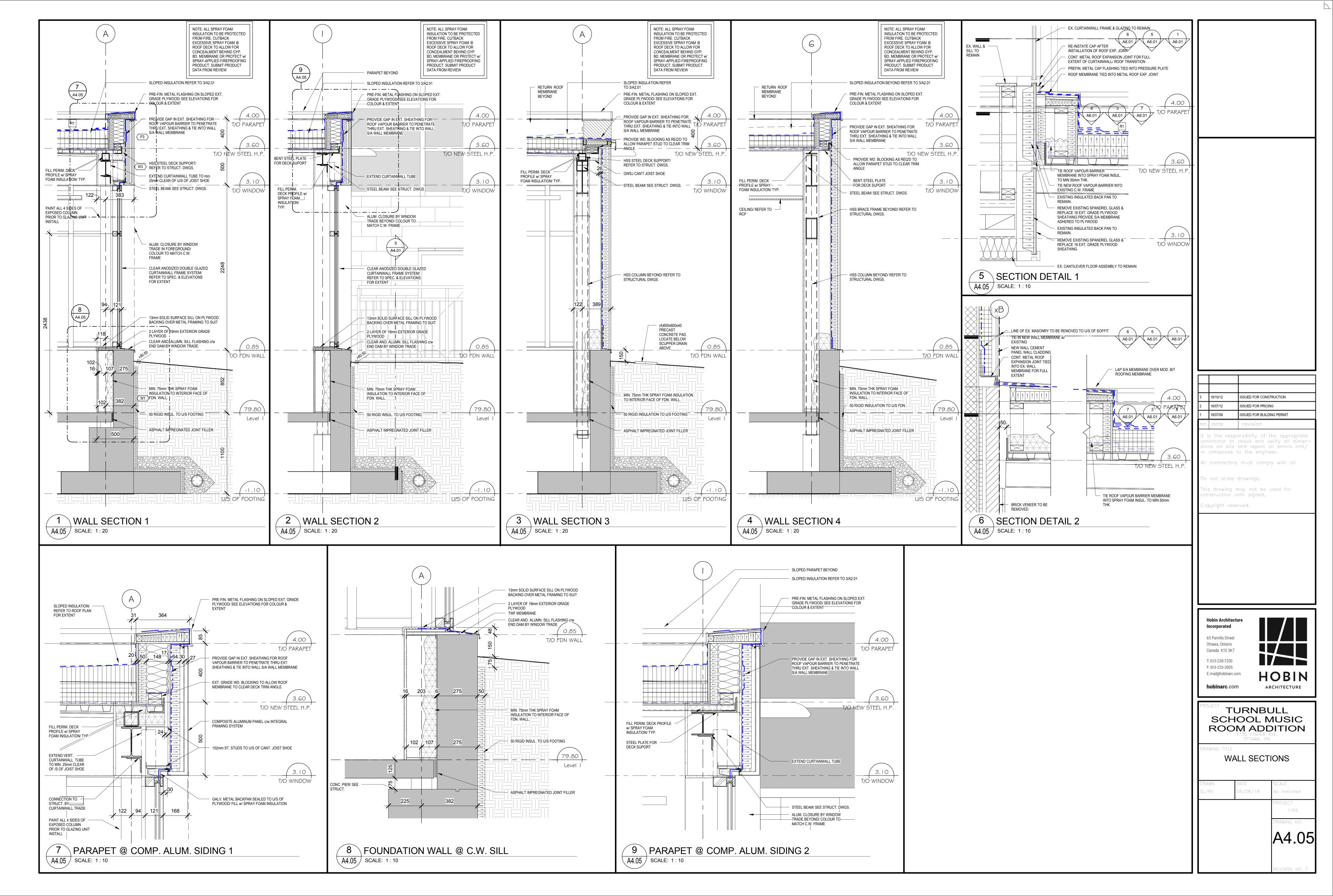
SLOPED STRUCTURAL STEEL FRAMING/ SEE STRUCTURAL DWGS.

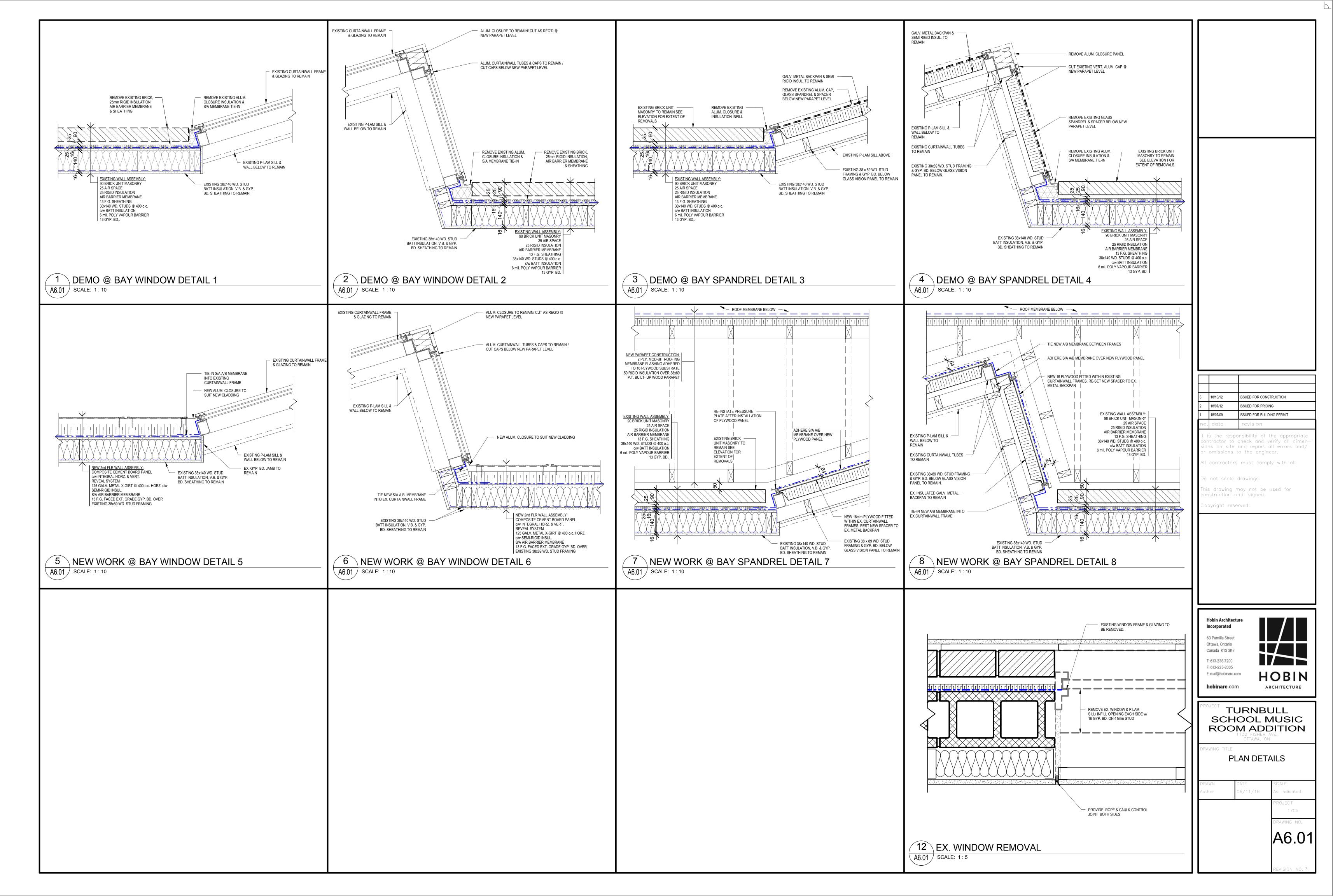


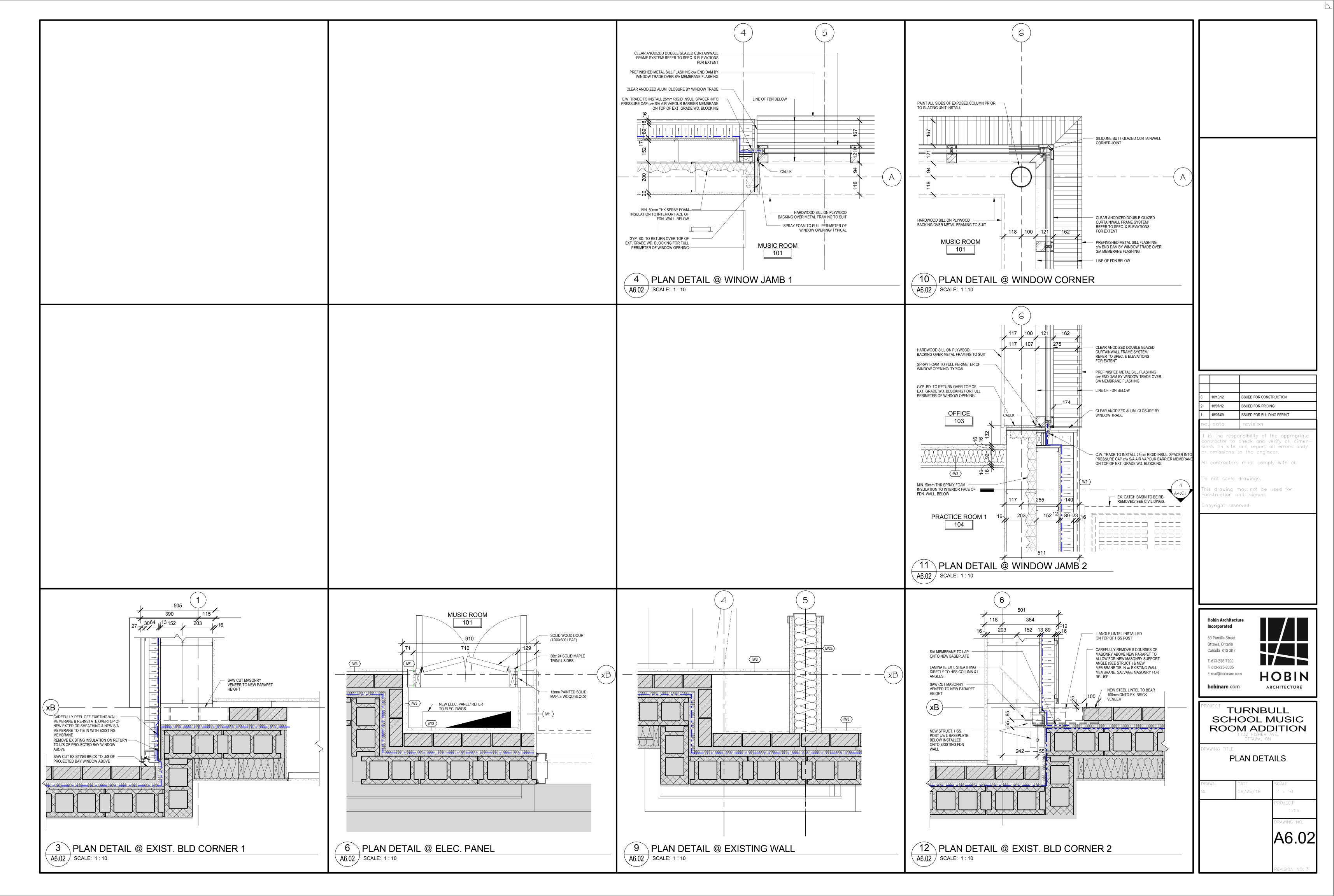












 \neg

<u>SEISMIC SYSTEM/LOADING DATA:</u> <u>MAIN BUILDING</u>	<u>SEISMIC LOADS</u>
<u>SEISMIC FORCE RESISTING SYSTEM (SFRS)</u>	STATIC LOADS DESIGN LOADS
SFRS: SYSTEM & CONNECTIONS: (2012 OBC CLAUSE 4.1.8.9/4.1.8.10) LATERAL LOAD RESISTING SYSTEM: CONVENTIONAL CONSTRUCTION (STEEL BRACED FRAMES)	NORTH-SOUTH: (1)
Rd = 1.5 Ro = 1.3	Vstns = 180 kN Vdns = 180 kN
CSA STANDARD: CAN/CSA S16-09	$W = 625 \text{ kN} \qquad \qquad Mdns = 650 \text{ kNm}$ Mstns = 650 kNm
PLICABLE CLAUSE(S): 27.11 APHRAGMS & CONNECTIONS: (2012 OBC CLAUSE 4.1.8.15)	<u>EAST</u> −WEST: (↔)
CSA STANDARD: CAN/CSA S16–09 APPLICABLE CLAUSE(S): 27.11.1 (b)	
SYSTEM FOUNDATIONS: (2012 OBC CLAUSE 4.1.8.16)	Vstew = 180 kNVdew = 180 kN $W = 625 kN$ Mdew = 650 kNm
A STANDARD: CAN/CSA A23.3-04 X FOR ANCHORED FOOTINGS PLICABLE CLAUSE(S): 21.11 D FOR UNANCHORED FOOTINGS	Mstew = 650 kNm
CONFIRMATION: FOUNDATIONS HAVE BEEN DESIGNED TO RESIST THE LATERAL LOAD CAPACITY OF THE SFRS INCLUDING ALL APPLICABLE AMPLIFICATION FACTORS	NOTES:
PORTANCE FACTOR: (2012 OBC CLAUSE 4.1.8.5)	1) DYNAMIC LOAD SCALING FACTOR
	S.F. = $g \cdot e = 0.667 g$
<u>CITY:</u> (OTTAWA, CITY HALL)	RdRo
THE NOTED SITE CLASSIFICATION FOR SEISMIC SITE RESPONSE AND SHEAR WAVE VELOCITY PARAMETERS INDICATED ARE AS REPORTED IN THE GEOTECHNICAL REPORT # PG4528-MEMO,01 BY PATERSON GROUP	 DESIGN LOAD SHEAR VALUES ARE BASED ON THE EVALUATION OF Vst AND Vd IN ACCORDANCE WITH 4.1.8.12 (5),(6),(7),(8), AND (9) OF THE 2012 OBC. LOADS INDICATED SHOW THE DESIGN BASE SHEAR AND CORRESPONDING OVERTURNING MOMENT.
REFER TO THE NOTED GEOTECHNICAL REPORT FOR V'S, N60, AND/OR Su VALUES USED TO DETERMINE SITE CLASSIFICATIO	N. SHEAR AND CORRESPONDING OVERTURNING MOMENT.
	WIND UPLIFT (REF FIG I-9 NBC 2010 STRUCTURAL COMMENTARY I)
	PNET = 1.4 (pe-pi) - 0.9 D (2012 OBC 4.1.7, 2010 NBC COMMENTARY FIGUR
SPECTRUM DATA:	Pe = $Iw q$ Ce Cp CgPf = 1.4 Pw NET - 0.9 PdP= $Iw q$ Ce Cp CgPi = $Iw q$ Ce Cpi CgiPw NET = Pe - PiP
) SPECTRAL RESPONSE ACCELERATION VALUES: (2012 OBC SUPPLEMENT STANDARD SB-1) = 0.640	$p_{w} \text{ NET INTERIOR} = 1.04 \text{ kPa}$ $q = 0.41 \text{ kPa}$
0.310 0.140	Pw NET PERIMETER = 1.37 kPa Iw (uls) = 1.15 Iw (sls) = 0.75 Ce = 0.9 Ce = 0.9
0.046	DESIGN SNOW LOAD PARAMETERS $C_{D}C_{d} = 1.3 \text{ OR } 1.95$
CTRAL RESPONSE ACCELERATION VALUES (DSRAV): (2012 OBC CLAUSE 4.1.8.4)	OTTAWA, ONTARIO, CANADA S= Is [Ss(CbCwCsCa)+Sr] $N.S(\uparrow) = E.W(\leftrightarrow)$ UNITS
: (Fa=1.0/Fv=1.0)	Ss = 2.4 kPa Sr = 0.4 kPa VBASE 29 18 KN
= 0.64	$\begin{aligned} & s = 1.15 \\ &S = 1.15 \left[2.4(0.8 \times 1.0 \times 1.0) + 0.4 \right] \end{aligned} \qquad \text{MBASE} \qquad 105 \qquad 65 \qquad \text{KN.m} \end{aligned}$
= 0.64 = 0.31	S= 2.67 kPa S= 2.67 kPa
= 0.14 = 0.046	
= 0.023	
$\frac{\text{RESTRICTION VALUE:}}{\square \text{ NO}} \text{IeFaSa(0.2)} = ????? \geq 0.35 \bigwedge \text{YES}$	REINFORCING BAR LAP LENGTH TABLE
DATA:	CONCRETE REINFORCING BAR LAP LENGTH (mm)
<u>PERIOD:</u> (2012 OBC CLAUSE 4.1.8.11(3))	STRENGTH (MPa) 10M 15M 20M 25M 30M 35M 45M 55M
TATIC) NS = 0.090 sec	
ATIC) EW = 0.090 sec	20 475 700 850 1325 1575 1875 2300 2975
N PERIODS/MODE & MOMENT FACTORS: (2012 OBC CLAUSE (4.1.8.11(5))	25 425 600 750 1200 1400 1675 2050 2650 30 400 550 675 1100 1275 1525 1875 2425
$\frac{1}{2} = 13.91 \ge 8.0$ X YES	30 400 530 673 1100 1273 1523 1873 2423 35 375 525 625 1000 1200 1425 1750 2250
ESIGN) NS = 0.09 sec MV = $1.00 \text{ J} = 1.00$	40 350 475 600 950 1125 1325 1625 2100
ESIGN) EW = 0.09 sec MV = 1.00 J = 1.00	45 325 450 550 900 1050 1250 1525 1975 50 700 425 525 850 1000 1200 1450 1875
UNDAMENTAL PERIOD BASED DSRAV:	50 300 425 525 850 1000 1200 1450 1875 55 300 425 500 800 950 1150 1400 1800
a) NS = 0.640 a) EW = 0.640	60 300 400 475 775 925 1100 1325 1725
ARITY REVIEW (2012 OBC CLAUSE 4.1.8.6)	64 300 375 475 750 875 1050 1300 1650
RTICAL STIFFNESS: I YES X NO	FOR SPECIAL CONDITIONS MULTIPLY THE VALUES LISTED ABOVE BY THE
EIGHT: I YES X NO RTICAL GEOMETRIC: I YES X NO	FOLLOWING FACTORS:
PLANE DISCONTINUITY: II YES X NO JT OF PLANE: II YES X NO	1. EPOXY COATED REINFORCING (X 1.5) 2. HORIZONTAL REINFORCING WITH >300 mm CONCRETE BELOW (X 1.3)
AK STOREY: DYES X NO	
	3. FOR CONDITIONS 1 & 2 OCCURRING SIMULTANEOUSLY (X 1.7)
IONAL: \Box YES X NO 5 = 1.48	3. FOR CONDITIONS I & 2 OCCURRING SIMULTANEOUSLY (X 1.7)
ONAL:	DESIGN & DETAILING CRITERIA FOR SUPPLIERS
IONAL: □ YES X NO S = 1.48 / = 1.41 -ORTHAGONAL: □ YES X NO DN: BUILDING IS X REGULAR □ IRREGULAR	DESIGN & DETAILING CRITERIA FOR SUPPLIERS
SIONAL: S = 1.48 W = 1.41 I-ORTHAGONAL: YES X NO ION: BUILDING IS X REGULAR ANALYSIS: REQUIRED X NOT REQUIRED	DESIGN & DETAILING CRITERIA FOR SUPPLIERS 1. STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND 5. SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPIN SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPIN
IONAL: ☐ YES X NO S = 1.48 V = 1.41 -ORTHAGONAL: ☐ YES X NO DN: BUILDING IS X REGULAR ☐ IRREGULAR ANALYSIS: ☐ REQUIRED X NOT REQUIRED PROCEDURE METHOD: ☐ MODAL RESPONSE SPECTRUM ☐ NUMERICAL INTEGRATION TIME HISTORY X N/A	DESIGN & DETAILING CRITERIA FOR SUPPLIERS 1. STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP 5. SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPIN SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPIN DETAILED BY MECH'L EQUIPMENT & PIPING SUPPL CONTRACTOR. SHOP DRAWINGS ARE TO BE SUBMIT
IONAL: \Box YES X NO = 1.48 '= 1.41 -ORTHAGONAL: \Box YES X NO ON: BUILDING IS X REGULAR \Box REQUIRED X NOT REQUIRED INALYSIS: \Box REQUIRED X NOT REQUIRED PROCEDURE METHOD: \Box MODAL RESPONSE SPECTRUM \Box NUMERICAL INTEGRATION TIME HISTORY X N/A <u>ECCENTRICITY:</u> X ± 0.10 Dnx (4.1.8.11(10a), B ≤ 1.7 EQUIV. STATIC FORCE PROCEDURE) \pm 0.10 Dnx (4.1.8.12(4a), B ≥ 1.7)	DESIGN & DETAILING CRITERIA FOR SUPPLIERS 1. STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED 5. SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPIN SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPING SUPPL SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPING SUPPL DETAILED BY MECH'L EQUIPMENT & PIPING SUPPL CONTRACTOR. SHOP DRAWINGS ARE TO BE SUBMIT DESIGN TEAM FOR REVIEW. SHOP STAMPED AND SIGNED Y A PROFESSIONAL ENGINEER LICENSED
SIONAL: \Box YES X NO S = 1.48 V = 1.41 -ORTHAGONAL: \Box YES X NO ON: BUILDING IS REGULAR \Box IRREGULAR ANALYSIS: \Box REQUIRED X NOT REQUIRED PROCEDURE METHOD: \Box MODAL RESPONSE SPECTRUM \Box NUMERICAL INTEGRATION TIME HISTORY X N/A <u>- ECCENTRICITY:</u> X ± 0.10 Dnx (4.1.8.11(10a), B \leq 1.7 EQUIV. STATIC FORCE PROCEDURE)	DESIGN & DETAILING CRITERIA FOR SUPPLIERS 1. STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR 5. SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPIN SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPING SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPING SUPPL DETAILED BY MECH'L EQUIPMENT & PIPING SUPPL CONTRACTOR. SHOP DRAWINGS ARE TO BE SUBMIT
IONAL: \Box YES \overleftarrow{A} NO S = 1.48 I = 1.41 -ORTHAGONAL: \Box YES \overleftarrow{A} NO DN: BUILDING IS \overleftarrow{A} REGULAR \Box IRREGULAR NAALYSIS: \Box REQUIRED \overleftarrow{A} NOT REQUIRED PROCEDURE METHOD: \Box MODAL RESPONSE SPECTRUM \Box NUMERICAL INTEGRATION TIME HISTORY \overleftarrow{A} N/A <u>ECCENTRICITY:</u> \overleftarrow{A} ± 0.10 Dnx (4.1.8.11(10a), B < 1.7 EQUIV. STATIC FORCE PROCEDURE)	 <u>STRUCTURAL STEEL CONNECTIONS</u> <u>STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE.</u> <u>SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPING SUPPL</u> CONTRACTOR. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DESIGN TEAM FOR REVIEW. SHOP DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL SEI RESTRAINT INSTALLATIONS ARE TO BE INSPECTED CONSTRUCTION BY THE DESIGN ENGINEER OF RECOMPLICE.
IONAL: \Box YES \overleftarrow{A} NO S = 1.48 I Image: state	 <u>DESIGN & DETAILING CRITERIA FOR SUPPLIERS</u> <u>STRUCTURAL STEEL CONNECTIONS</u> STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. <u>COLD FORMED STEEL STUDS & JOISTS</u> STEEL STUDS & JOISTS ARE TO BE DESIGNED AND <u>SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPING</u> SEISMIC RESTRAINT OF MECH'L EQUIPMENT & PIPING SUPPL CONTRACTOR. SHOP DRAWINGS ARE TO BE SUBMIT DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE STAMPED AND SIGNED BY A PROFESSIONAL ENGINE ILCENSED IN THE PROVINCE OF ONTARIO. ALL SEI RESTRAINT INSTALLATIONS ARE TO BE INSPECTION STEEL STUDS & JOISTS STEEL STUDS & JOISTS ARE TO BE DESIGNED AND
SiONAL: \square YES \bigwedge NO S = 1.48 \vee = 1.41 -ORTHAGONAL: \square YES \bigotimes NO DN: BUILDING IS \bigwedge REGULAR \square IRREGULAR ANALYSIS: \square REQUIRED \bigotimes NOT REQUIRED PROCEDURE METHOD: \square MODAL RESPONSE SPECTRUM \square NUMERICAL INTEGRATION TIME HISTORY \bigotimes N/A	 <u>DESIGN & DETAILING CRITERIA FOR SUPPLIERS</u> <u>STRUCTURAL STEEL CONNECTIONS</u> STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARION. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. <u>COLD FORMED STEEL STUDS & JOISTS</u> STEEL STUDS & JOISTS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR
DNAL: \Box YES X NO = 1.48 = 1.41 ORTHAGONAL: \Box YES X NO N: BUILDING IS REGULAR \Box IRREGULAR NALYSIS: \Box REQUIRED X NOT REQUIRED ROCEDURE METHOD: \Box MODAL RESPONSE SPECTRUM \Box NUMERICAL INTEGRATION TIME HISTORY X N/A <u>ECCENTRICITY:</u> X ± 0.10 Dnx (4.1.8.11(10a), B ≤ 1.7 EQUIV. STATIC FORCE PROCEDURE) \Box ± 0.10 Dnx (4.1.8.12(4a), B ≥ 1.7) \Box ± 0.05 Dnx (4.1.8.12(4b), B < 1.7, 3-D DYNAMIC ANALYSIS) L SEPARATION: X THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2012 O.B.C. \Box N/A RS/MOMENTS: (2012 OBC CLAUSE 4.1.8.11)	 DESIGN & DETAILING CRITERIA FOR SUPPLIERS STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED STEEL STUDS & JOISTS STEEL STUDS & JOISTS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE
ONAL: \Box YES X NO = 1.48 = 1.41 •ORTHAGONAL: \Box YES X NO NN: BUILDING IS REGULAR \Box IRREGULAR NALYSIS: \Box REQUIRED X NOT REQUIRED PROCEDURE METHOD: \Box MODAL RESPONSE SPECTRUM \Box NUMERICAL INTEGRATION TIME HISTORY X N/A <u>ECCENTRICITY:</u> X ± 0.10 Dnx (4.1.8.11(100), B \leq 1.7 EQUIV. STATIC FORCE PROCEDURE) \Box ± 0.10 Dnx (4.1.8.12(4a), B \geq 1.7) \Box ± 0.05 Dnx (4.1.8.12(4b), B < 1.7, 3-D DYNAMIC ANALYSIS) AL SEPARATION: X THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2012 O.B.C. \Box N/A ARS/MOMENTS: (2012 OBC CLAUSE 4.1.8.11) S(Ta)MvieW/(RdRo) = 270 kN W = 625 kN	 <u>STRUCTURAL STEEL CONNECTIONS</u> <u>STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE.</u> <u>COLD FORMED STEEL STUDS & JOISTS</u> STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. <u>COLD FORMED STEEL STUDS & JOISTS</u> STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER OF RECONSTRUCTION BY THE DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER OF RECONSTRUCTION BY THE DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL SEISMIC RESTRAINT OF SUSPENDED CEILINGS TO TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL SEISMIC RESTRAINT OF SUSPENDED CEILINGS TO TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL SEISMIC RESTRAINT OF SUSPENDED CEILINGS TO TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL SEISMIC RESTRAINT INSTALLATIONS A INSPECTED DURING CONSTRUCTION BY THE DESIGN AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL SEISMIC RESTRAINT INSTALLATIONS
SIONAL: $YES \not NO$ S = 1.48 W = 1.41 -ORTHAGONAL: $YES \not NO$ IREGULAR IREGULAR ANALYSIS: REQUIRED $\not NOT$ REQUIRED PROCEDURE METHOD: $WODAL RESPONSE SPECTRUM$ NUMERICAL INTEGRATION TIME HISTORY $\not N/A$ L = CCENTRICITY: $\not \pm 0.10 \text{ Dnx } (4.1.8.11(10a), B \le 1.7 \text{ EQUIV. STATIC FORCE PROCEDURE})$ $= \pm 0.10 \text{ Dnx } (4.1.8.12(4a), B \ge 1.7)$ $= \pm 0.05 \text{ Dnx } (4.1.8.12(4b), B < 1.7, 3-D \text{ DYNAMIC ANALYSIS})$ RAL SEPARATION: $\not A$ THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2012 O.B.C. N/A EARS/MOMENTS: (2012 OBC CLAUSE 4.1.8.11) $\therefore S(Ta)MvieW/(RdRo) = 270 \text{ kN}$ $W = 625 \text{ kN}$ AXIMUM/MINIMUM VALUES:	 DESIGN & DETAILING CRITERIA FOR SUPPLIERS STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED STEEL STUDS & JOISTS STEEL STUDS & JOISTS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL STEEL ISTUD & JOIST WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE STEEL STUD & JOIST DESIGN ENGINEER. MISCELLANEOUS METALS & STEEL STARS
ISIONAL: I YES X NO IS = 1.48 W = 1.41 →ORTHAGONAL: I YES X NO SION: BUILDING IS X REGULAR ANALYSIS: REQUIRED X NOT REQUIRED PROCEDURE METHOD: MODAL RESPONSE SPECTRUM INUMERICAL INTEGRATION TIME HISTORY X N/A AL ECCENTRICITY: X ± 0.10 Dnx (4.1.8.11(10g), B ≤ 1.7 EQUIV. STATIC FORCE PROCEDURE) L ± 0.10 Dnx (4.1.8.12(4g), B ≥ 1.7) L ± 0.05 Dnx (4.1.8.12(4g), B ≥ 1.7) L ± 0.05 Dnx (4.1.8.12(4g), B ≤ 1.7, 3-D DYNAMIC ANALYSIS) RAL SEPARATION: X THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2012 O.B.C. N/A EARS/MOMENTS: (2012 OBC CLAUSE 4.1.8.11) = S(To)MVIeW/(RdRo) = 270 kN W = 625 kN MAXIMUM/MINIMUM VALUES: SOUTH: (\$)	 DESIGN & DETAILING CRITERIA FOR SUPPLIERS STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED STEEL STUDS & JOISTS STEEL STUDS & JOISTS ARE TO BE DESIGNED AND DRAWINGS ARE TO BE STAMPED AND SIGNED PRAWINGS ARE TO BE STAMPED AND SIGNED DETAILED BY STEEL STUDS & JOISTS STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL STELL STUD & JOIST WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE STEEL STUD & JOIST DESIGN ENGINEER. MISCELLANEOUS METALS & STEEL STAIRS MISC METALS & STEEL STAIRS ARE TO BE DESIGNED AND INSPECTED DURING CONSTRUCTION BY THE STEEL STUD & MISCE METALS & STEEL STAIRS ARE TO BE DESIGNED AND TEMPORARY SHORING (FOR DEMOLITION AND/OR OF MISCENTIONS ON ALTAIS ARE TO BE DESIGNED AND
SIONAL: V YES X NO S = 1.48 W = 1.41 V = ORTHAGONAL: $VES X NOSION: BUILDING IS REGULAR IRREGULARANALYSIS: REQUIRED NOT REQUIREDPROCEDURE METHOD: MODAL RESPONSE SPECTRUM NUMERICAL INTEGRATION TIME HISTORY X N/AAL ECCENTRICITY: X \pm 0.10 Dnx (4.1.8.11(10a), B \le 1.7 EQUIV. STATIC FORCE PROCEDURE)U \pm 0.10 Dnx (4.1.8.12(4a), B \ge 1.7)U \pm 0.05 Dnx (4.1.8.12(4b), B < 1.7, 3 - D DYNAMIC ANALYSIS)RAL SEPARATION: X THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH4.1.8.14(1)$ OF THE 2012 O.B.C. W/A HEARS/MOMENTS; (2012 OBC CLAUSE 4.1.8.11) = S(Ta)MvieW/(RdRo) = 270 kN $W = 625$ kN MAXIMUM/MINIMUM VALUES; SOUTH: (\uparrow) S(2.0)MvieW/(RdRo) = 20 kN $W = 625$ kN	 DESIGN & DETAILING CRITERIA FOR SUPPLIERS STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED STELL STUDS & JOISTS STEEL STUDS & JOISTS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SIGNMED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL STEEL STUD & JOIST SUPPLIER. SHOP DRAWINGS ARE TO BE SIGNMED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL STEEL STUD & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SIGNMED AND DIST DESIGN TEAM FOR BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL STEEL STUD & JOIST SUPPLIER. SHOP DRAWINGS ARE TO BE SIGNED AND DIST DESIGN TEAM FOR BY A PROFESSIONAL ENGINEER. MISCELLANEOUS METALS & STEEL STAIRS MISC METALS & STEEL STAIRS ARE TO BE DESIGNED AND DETAILED BY MISC METALS & STEEL STAIRS MISC METALS & STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR MISC METALS & STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR MISC METALS & STEEL STAIRS SUPPLIER SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR MISC METALS & STEEL STAIRS SUPPLIER SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR AND/OR CONSTRUCTION IS TO BE DESIGNED AND DETAILED BY MISC METALS & STEEL STAIRS SUPPLIER SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR AND/OR CONSTRUCTION IS TO BE DESIGNED AND DETAILED BY SHOP DRAWINGS ARE TO BE SUBJIC MEDIATION AND/OR CONSTRUCTION IS TO BE DESIGNED AND DETAILED BY MISC METALS & STEEL STAIRS ARE TO BE DE
SSIONAL: \Box YES \bigwedge NO NS = 1.48 NO SW = 1.41 N-ORTHAGONAL: \Box YES \bigotimes NO SION: BUILDING IS REQULAR IRREGULAR ANALYSIS: \Box REQUIRED \bigotimes NOT REQUIRED PROCEDURE METHOD: MODAL RESPONSE SPECTRUM \Box NUMERICAL INTEGRATION TIME HISTORY \bigotimes N/A AL ECCENTRICITY: \bigstar ± 0.10 Dnx (4.1.8.11(10a), B \leq 1.7 EQUIV. STATIC FORCE PROCEDURE) \pm 0.10 Dnx (4.1.8.12(4a), B \geq 1.7) \Box ± 0.05 Dnx (4.1.8.12(4a), B \geq 1.7, 3-D DYNAMIC ANALYSIS) IRAL SEPARATION: \checkmark THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2012 O.B.C. \Box N/A HEARS/MOMENTS: (2012 OBC CLAUSE 4.1.8.11) = S(Ta)MvieW/(RdRo) = 270 kN W = 625 kN AXIMUM/MINIMUM VALUES: SOUTH: (\ddag) SQUTH: (\ddag) S(2.0)NWIEW/(RdRo) = 180 kN S(2.0)NVIEW/(RdRo) = 180 kN W = 625 kN	 STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED FOR CONNECTIONS ARE TO BE STAMPED AND SIGNED FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS. CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED STEEL STUDS & JOISTS STEEL STUDS & JOISTS STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER OF RECONNECTION STRUCTION BY THE STEEL STUD & JOIST SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY CELLINGS TO TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED MAD DETAILED BY MICHAEL SET DATES SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL STEEL STUD & JOIST WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE STEEL STUD & JOIST WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBAMITED TO DESIGN TEAM
SIONAL: I YES X NO IS = 1.48 W = 1.41 I-ORTHAGONAL: I YES X NO ION: BUILDING IS X REGULAR ANALYSIS: REQUIRED X NOT REQUIRED PROCEDURE METHOD: MODAL RESPONSE SPECTRUM NUMERICAL INTEGRATION TIME HISTORY X N/A L ECCENTRICITY: X \pm 0.10 Dnx (4.1.8.11(10a), B \leq 1.7 EQUIV. STATIC FORCE PROCEDURE) \pm 0.10 Dnx (4.1.8.12(4a), B \geq 1.7) \pm 0.05 Dnx (4.1.8.12(4b), B \leq 1.7, 3-D DYNAMIC ANALYSIS) RAL SEPARATION: X THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2012 O.B.C. N/A EARS/MOMENTS: (2012 OBC CLAUSE 4.1.8.11) : S(Ta)MvIeW/(RdRo) = 270 kN W = 625 kN AXIMUM/MINIMUM VALUES: :200TH: (\ddagger) S(2.0)MvIeW/(RdRo) = 20 kN W = 625 kN ST. (\leftrightarrow) S(2.0)MvIeW/(RdRo) = 20 kN W = 625 kN	 DESIGN & DETAILING CRITERIA FOR SUPPLIERS STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS OKLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED SITEL STUDS & JOISTS STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW, SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY MISC METALS & STEEL STARS MISC METALS & STEEL STARS MISC METALS & STEEL STARS SUPPLIER. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED DETAILED BY MISC METALS & STEEL STARS MISC METALS & STEEL STARS SUPPLIER. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, ALL MISC METALS & STEEL STARS MISC METALS & STEEL STARS SUPPLIER. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, ALL MISC METAL & STEEL STAR SUPPLIER SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, ALL MISC METAL & STEEL STAR WORK IS TO BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, ALL MISC METAL & STEEL STAR WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE MISC METALS.
SIONAL: I YES X NO IS = 1.48 W = 1.41 I-ORTHAGONAL: I YES X NO ION: BUILDING IS X REGULAR ANALYSIS: REQUIRED X NOT REQUIRED PROCEDURE METHOD: MODAL RESPONSE SPECTRUM NUMERICAL INTEGRATION TIME HISTORY X N/A L ECCENTRICITY: X \pm 0.10 Dnx (4.1.8.11(10a), B \leq 1.7 EQUIV. STATIC FORCE PROCEDURE) \pm 0.10 Dnx (4.1.8.12(4a), B \geq 1.7) \pm 0.05 Dnx (4.1.8.12(4b), B \leq 1.7, 3-D DYNAMIC ANALYSIS) RAL SEPARATION: X THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2012 O.B.C. N/A EARS/MOMENTS: (2012 OBC CLAUSE 4.1.8.11) : S(Ta)MvIeW/(RdRo) = 270 kN W = 625 kN AXIMUM/MINIMUM VALUES: :200TH: (\ddagger) S(2.0)MvIeW/(RdRo) = 20 kN W = 625 kN ST. (\leftrightarrow) S(2.0)MvIeW/(RdRo) = 20 kN W = 625 kN	 DESIGN & DETAILING CRITERIA FOR SUPPLIERS STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS. CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED STEEL STUDS & JOISTS STEEL STUDS & JOISTS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS ONE DE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS ONE TO BE SUBMITED TO DESIGN TEAM FOR RRVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOIST SORT OF DESIGN TEAM FOR RRVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL STEEL STUDS & JOIST SORT INSPECTED DURING CONSTRUCTION BY THE STEEL STUD & JOIST DESIGN ENGINEER. MISCELLANEOUS METALS & STEEL STARS MISC METALS & STEEL STARS MISC METALS & STEEL STARS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR RVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DTAILED BY MISC METALS & STEEL STARS MISC METALS & STEEL STARS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR RVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DTAILED BY MISC METALS & STEEL STAIRS MISC METALS & STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR RVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL MISC METAL & STEEL STAIR WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE STEEL STAR WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE MISC METALS & STEEL STARS DESIGN ENGINEER. MISCELLANEOUS AND TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. ALL MISC METAL & STEEL STAIR WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE MISC METALS & STE
SIONAL: I YES X NO IS = 1.48 W = 1.41 H-ORTHAGONAL: I YES X NO SION: BUILDING IS REGULAR ANALYSIS: REQUIRED X NOT REQUIRED PROCEDURE METHOD: MODAL RESPONSE SPECTRUM NUMERICAL INTEGRATION TIME HISTORY N/A NL ECCENTRICITY: X \pm 0.10 Dnx (4.1.8.11(100), B \leq 1.7 EQUIV. STATIC FORCE PROCEDURE) \pm 0.10 Dnx (4.1.8.12(40), B \geq 1.7) \pm 0.05 Dnx (4.1.8.12(40), B \leq 1.7, 3-D DYNAMIC ANALYSIS) RAL SEPARATION: X THE NEW AND EXISTING STRUCTURES HAVE BEEN SEPARATED IN ACCORDANCE WITH 4.1.8.14(1) OF THE 2012 O.B.C. N/A EARS/MOMENTS: (2012 OBC CLAUSE 4.1.8.11) \equiv S(To)MvIeW/(RdRo) = 270 kN W = 625 kN AXIMUM/MINIMUM VALUES: SOUTH: (1) S(2.0)MVIEW/(RdRo) = 180 kN W = 625 kN SII. (++) S(2.0)MVIEW/(RdRo) = 20 kN W = 625 kN	 DESIGN & DETAILING CRITERIA FOR SUPPLIERS STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED FOR CONNECTIONS & INSTALLATION STO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED STEEL STUDS & JOISTS STEEL STUDS & JOISTS ARE TO BE DESIGNED AND DETAILED BY STELL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOIST SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY MISC METALS & STEEL STAIRS MISC METALS & STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE CONSTRUCTION BY THE STEEL STUD & JOIST DESIGN ENGINEER. MISC METALS & STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS
RSIONAL: VS = 1.48 EW = 1.41 VPORTHAGONAL: $VS = 1.41VPS = 0.00VPORTHAGONAL:VPORTHAGONAL = 0.10 Dnx (4.1.8.11(100), B \leq 1.7 CQUIV. STATIC FORCE PROCEDURE)VPORTHAGONAL = 0.10 Dnx (4.1.8.12(40), B \leq 1.7, 3-D DYNAMIC ANALYSIS)VPORTHAGONAL = 0.05 Dnx (4.1.8.12(40), B \leq 1.7, 3-D DYNAMIC ANALYSIS)VPORTHAGONAL = 0.05 Dnx (4.1.8.12(40), B \leq 1.7, 3-D DYNAMIC ANALYSIS)VPORTHAGONAL = 0.05 Dnx (4.1.8.12(40), B \leq 1.7, 3-D DYNAMIC ANALYSIS)VPORTHAGONAL = 0.05 Dnx (4.1.8.12(40), B \leq 1.7, 3-D DYNAMIC ANALYSIS)VPORTHAGONAL = 0.05 Dnx (4.1.8.12(40), B \leq 1.7, 3-D DYNAMIC ANALYSIS)VPORTHAGONAL = 0.05 Dnx (4.1.8.12(40), B \leq 1.7, 3-D DYNAMIC ANALYSIS)VPORTHAGONAL = 0.05 Dnx (4.1.8.11)VPORTHAGONAL = 0.05 Dnx (4.1.8.11)VPORTHAGONAL = 0.05 Dnx (4.1.8.11)VPORTHAGONAL = 0.05 Dnx (4.1.8.11)VPORTHAGONAL = 0.05 Dnx (4.1.8.12(40), B \leq 2.5 KNVPORTHAGONAL = 0.05 Dnx (4.1.8.12(40), B$	 DESIGN & DETAILING CRITERIA FOR SUPPLIERS STRUCTURAL STEEL CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED 'FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A 3RD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED STEEL STUDS & JOISTS STEEL STUDS & JOISTS ARE TO BE DESIGNED AND DETAILED BY MECH DISCONSTRUCTION BERVICE. COLD FORMANDS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY STEEL STUDS & JOISTS MISC METALS & STEEL STAIRS ARE TO BE DESIGNED AND DETAILED BY MEALS & STEEL STAIRS MISC METALS & STEEL STAIRS ARE TO BE DESIGNED AND DETAILED BY MEALS & STEEL STAIRS MISC METALS & STEEL STAIRS ARE TO BE DESIGNED AND DETAILED BY MEALS & STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, ALL STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY MISC METALS & STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, ALL MISC METALS & STEEL STAIRS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, ALL MISC METALS & STEEL STAIR WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE PROVINCE OF ONTARIO, ALL MISC METAL & STEEL STAIR WORK IS TO BE INSPECTED DURING CONSTRUCTION BY THE MISC METALS & STEEL STARES DESIGN ENGINEER. 4 STEEL STAIRS & HANDRAILS GU
RSIONAL: \Box YES \bigwedge NO NS = 1.48 EW = 1.41 DN-ORTHAGONAL: \Box YES \bigstar NO JSION: BUILDING IS REGULAR IRREGULAR C ANALYSIS: \Box REQUIRED \bigstar NOT REQUIRED C PROCEDURE METHOD: MODAL RESPONSE SPECTRUM NUMERICAL INTEGRATION TIME HISTORY \bigstar N/A VAL ECCENTRICITY: \bigstar ± 0.10 Dnx (4.1.8.11(10a), B ≤ 1.7 EQUIV. STATIC FORCE PROCEDURE) \pm 0.10 Dnx (4.1.8.12(4a), B ≥ 1.7) \pm 0.05 Dnx (4.1.8.12(4b), B < 1.7, 3-D DYNAMIC ANALYSIS)	 DESIGN & DETAILED & CONNECTIONS STRUCTURAL STEEL CONNECTIONS ARE TO BE DESIGNED AND DETAILED BY STRUCTURAL STEEL SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE STAMPED AND SIGNED FOR CONNECTIONS ONLY' BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. INSPECTION OF WELDS, CONNECTIONS & INSTALLATION IS TO BE UNDERTAKEN BY A SRD PARTY, CERTIFIED INSPECTION SERVICE. COLD FORMED SITEL STUDS & JOISTS STEEL STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY STELE STUDS & JOISTS SUPPLIER. SHOP DRAWINGS ARE TO BE SUBMITTED TO DESIGN TEAM FOR REVIEW. SHOP DRAWINGS ARE TO BE DESIGNED AND DETAILED BY MISC METALS & STEEL STAIRS MISCELLANEOUS METALS & STEEL STAIRS MISCELANEOUS METALS & STEEL STAIRS ARE TO BE DESIGNED AND DEVELOS OF ONTARIO, ALL SEISMIC REVIEW OF THEMPORARY SHORING FOR THE PURPORARY SHO DE INSPECTED DURING CONSTRUCTION BY THE MISC METALS & STEEL STUPIER IN ACCORDANCE WITH THE CURERNT BUILDING TEMPORARY SHORING FOR THE PURPORARY SHORING ARE TO BE STAMPED AND DESIGNED AND/OR CONSTRUCTION AND/OR DEMOLITION AND ALSO PI AND/OR CONSTRUCTION AND/OR DEMOLITION AND ALSO PI AND/OR CONSTRUCTION AND/OR DEMOLITION AND ALSO PI AND AND A

CONCRETE STRENGTH	REINFORCING BAR LAP LENGTH (mm)							
(MPa)	10M	15M	20M	25M	30M	35M	45M	55M
20	475	700	850	1325	1575	1875	2300	2975
25	425	600	750	1200	1400	1675	2050	2650
30	400	550	675	1100	1275	1525	1875	2425
35	375	525	625	1000	1200	1425	1750	2250
40	350	475	600	950	1125	1325	1625	2100
45	325	450	550	900	1050	1250	1525	1975
50	300	425	525	850	1000	1200	1450	1875
55	300	425	500	800	950	1150	1400	1800
60	300	400	475	775	925	1100	1325	1725
64	300	375	475	750	875	1050	1300	1650

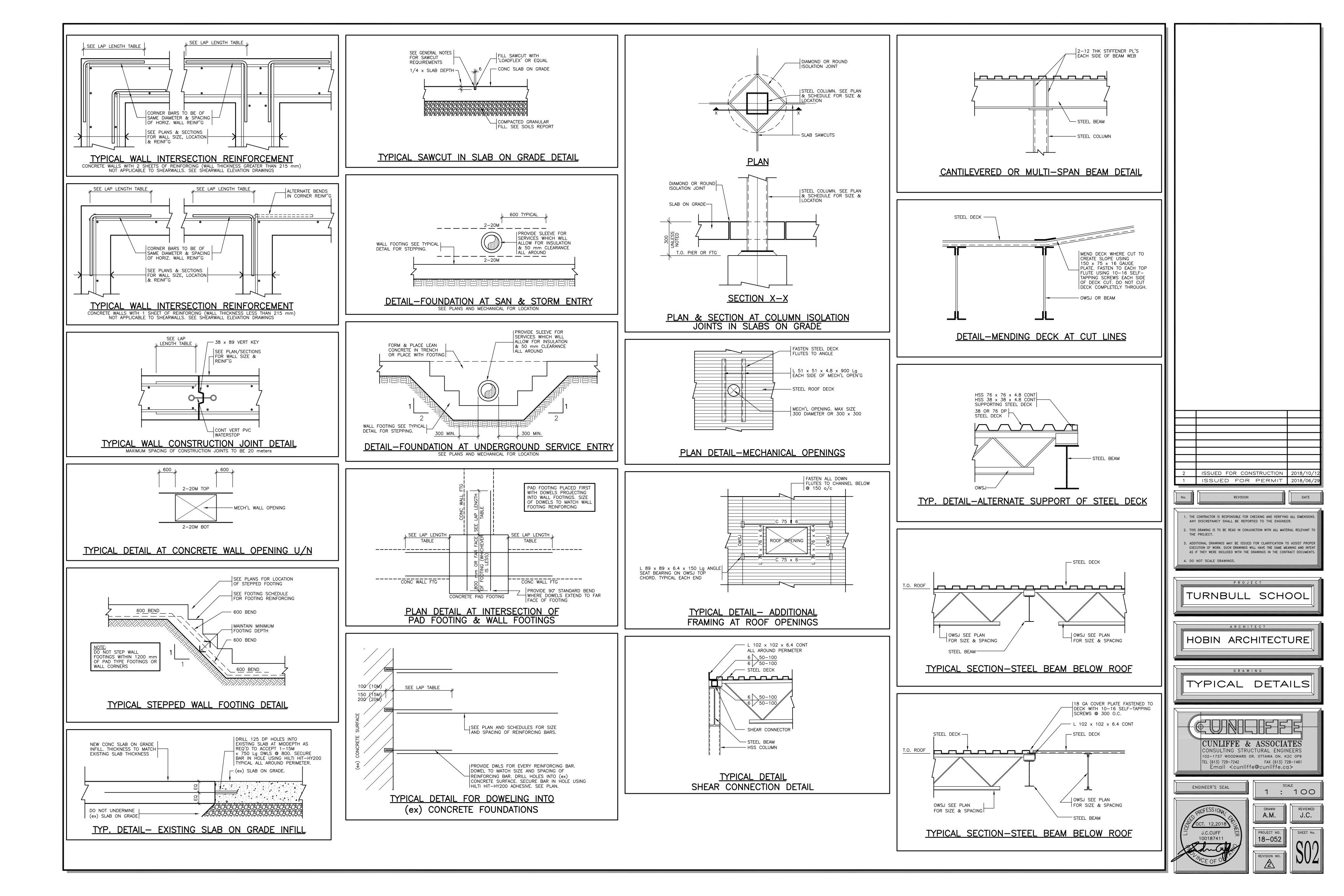
- <u>ON)</u>

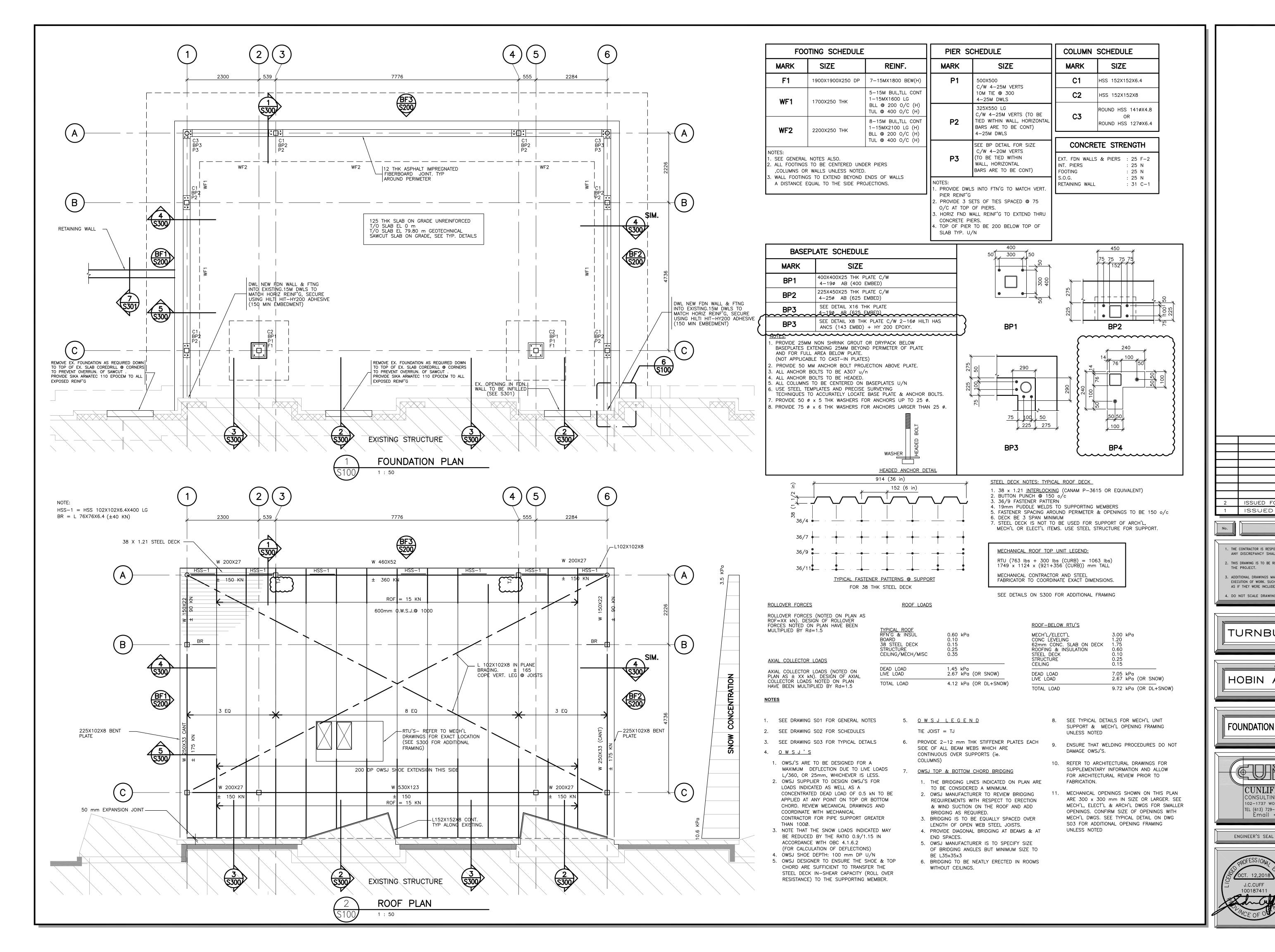
NOTED CONSULTANTS.

 June 1, Mar - And Mark 1, Mark 1,	 DRAWINGS MUST BE REPORTED TO THE ENGINEER. 2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF PART 4 OF THE O.B.C. (2012 EDITION) ONTARIO REGULATION 332/12 (AS AMENDED) 3. <u>STANDARDS</u> -CSA STANDARD A23.3-04 DESIGN OF CONCRETE STRUCTURES 	ALL LOADS & FORCES INDICATED ON THESE DRAWINGS	S02 TYPICAL DETAILS
LITI PRODUCT INSTALLATION REQUIREMENTS: HE CONTRACTOR THAT WILL BE INSTALLING ANY HILTI PRODUCT HALL BE TRAINED & CERTIFIED BY HILTI CANADA'S DERESENTATIVE ON THE ACCEPTABLE INSTALLING N PROCEDURES OR THE SPECIFIC HILTI PRODUCT BEING USED. THE ONTRACTOR IS TO PRESENT PROOF OF THIS TRAINING UPON EQUEST OF DEPARTMENTAL REPRESENTATIVE. ENGINEER'S SEAL ISON IF CURRENT SEAL ISON IF CURRENT SEAL ISON IF CURRENT SEAL INSTALLING AND AN AND AND	- CSA STANDARD S304.1-04 DESIGN OF MASONRY STRUCTURES A MAY MODIFICATIONS TO EXISTING STRUCTURES ARE TO BE UNITED TO YORK NOTED ON THESE DRAWINGS. NAY ADDITIONAL OR PROPOSED MODIFICATIONS TO EXISTING STRUCTURES MUST BE APPROVED BY THE ENGINEER 5. FOUNDATIONS 1. ALL FOOTINGS ARE TO BEAR ON NATURAL UNDISTRIBUTED SOL OR ENGINEERED FLL. SIS-125. KPp-(US-175 KPp 2. BEARING SURFACE IS TO BER INSPECTED BY GETECHNICAL ENGINEERENT DIEL SIS-125. KPp-(US-175 KPp 2. BEARING SURFACE IS TO BE INSPECTED BY GETECHNICAL ENGINEER PROFINE TO PLANATOM SEE OEDTECHNICAL REPORT INS. P0425-MEMOLO PERCHAED BY DATESON OROUP 5. STEP FOOTINGS WINGEL INDICATED ON PLANAT THE RATE OF 1 ANGINE TO ADDIANATOM SEE OEDTECHNICAL REPORT INS. P0425-MEMOLO TREVENDARED BY DATESON OROUP 5. STEP FOOTINGS WINGEL INDICATED ON PLANAT THE RATE OF 1 ANGINE TO ADDIANATION VERTICAL 5. SLABS ON GRADE SEE GEOTECHNICAE REPORT INS. P0425-MEMOLO TREVENDENT A SLAB DEFIN 9 HOURS 5. STARE ONGARDE SEE GEOTECHNICAE REPORT SUADS ON GRADE SEE GEOTECHNICAE REPORTING SUADS ON GRADE SEE GEOTECHNICAE REPORT SUADS ON SUADS ON A 4900 mm X4500 MMM REPORTER PLANED SUADS ON CLASS ON THESE DRAWINGS. 4. MATEE STRENGTH AT 28 DAYS TO BE AS NOTED OPROME THE ENGINEERING AND SPECIFICATIONS. 4. DATEES TRANSING AND SPECIFICATIONS.	1 ALL LOAD BEARING & NON-LOAD BEARING IN EXTERIOR WALLS (U/N) 1 140 mm CONCRETE BLOCK: VERT: 1-15M & 500 o/c HORZ: SL2 @ 200 o/c OR HL2 @ 400 o/c 2 190 mm CONCRETE BLOCK VERT: 1-20M & 500 o/c HORZ: HL2 @ 200 o/c 4 200 mm CONCRETE BLOCK VERT: 1-20M @ 500 o/c HORZ: HL2 @ 200 o/c + 1-20M HORZ. @ 1800 o/c HORZ: HL2 @ 200 o/c + 1-20M HORZ. @ 1800 o/c HORZ: HL2 @ 200 o/c + 1-20M HORZ. @ 1800 o/c HORZ: HL2 @ 200 o/c + 1-20M HORZ. @ 1800 o/c 100N-LOAD BEARING INTERIOR WALLS (U/N) 1 140 mm CONCRETE BLOCK VERT: 1-15M @ 800 o/c HORZ: HL2 @ 200 o/c HORZ: HL2 @ 100	

- 11

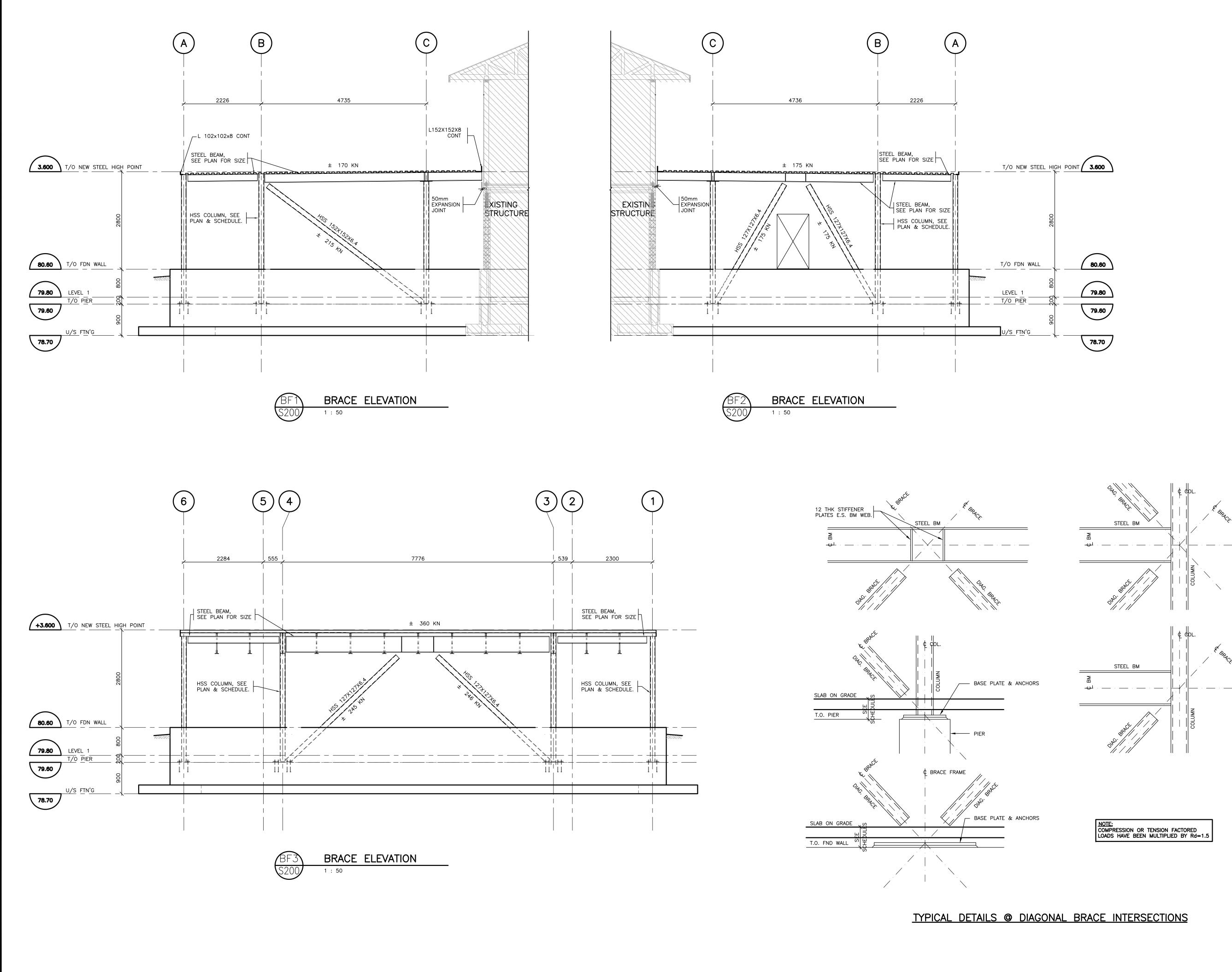
HILT THE SH, REI FOI CO



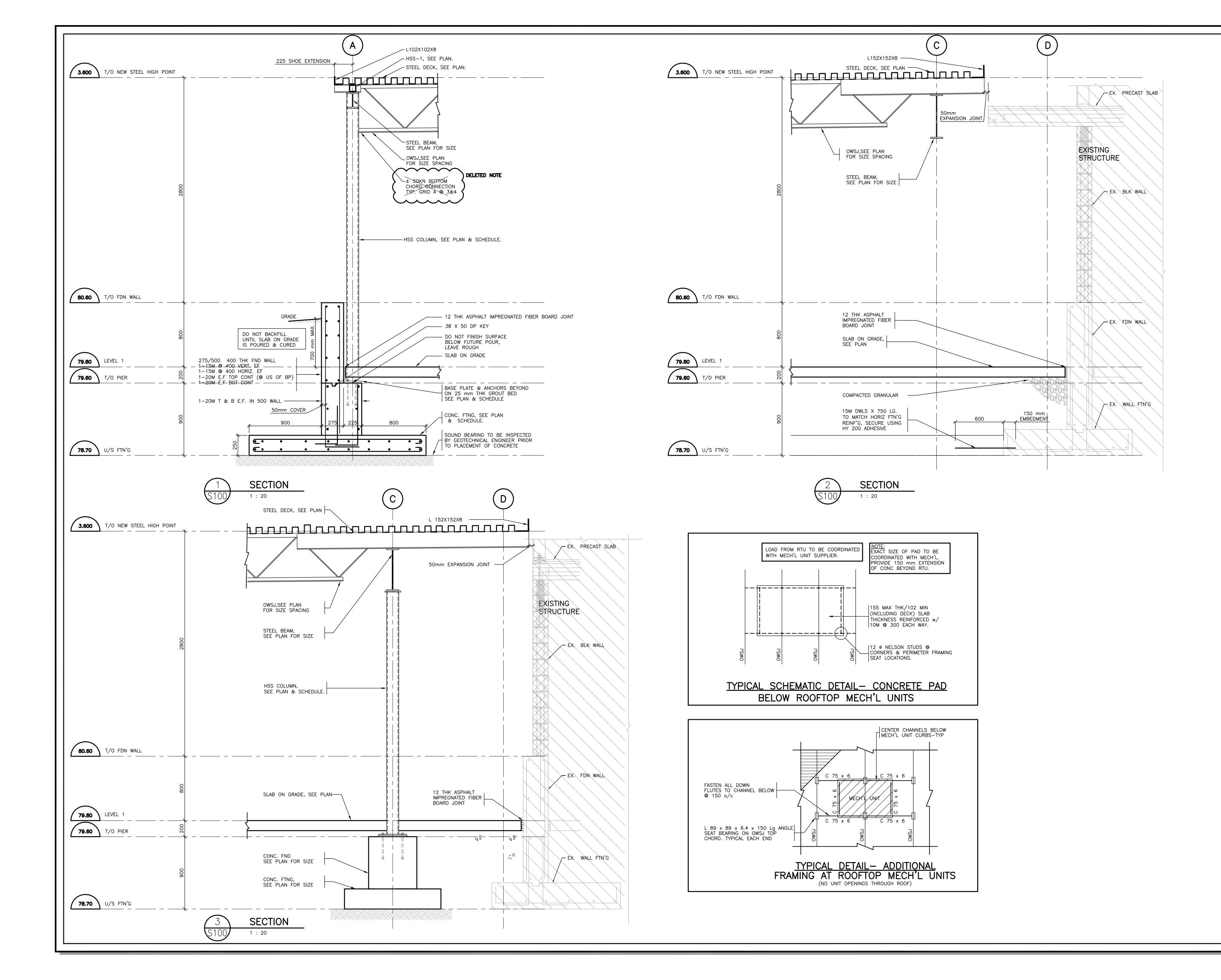


2 ISSUED FOR CONSTRUCTION 2018/10/12 1 ISSUED FOR PERMIT 2018/06/29 No. REVISION DATE
 THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MATERIAL RELEVANT TO THE PROJECT. ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE DRAWINGS IN THE CONTRACT DOCUMENTS. DO NOT SCALE DRAWINGS.
TURNBULL SCHOOL
HOBIN ARCHITECTURE
FOUNDATION PLAN & ROOF PLAN
CUNLIFFE & ASSOCIATES CONSULTING STRUCTURAL ENGINEERS 102-1737 WOODWARD DR. OTTAWA ON. K2C OP9 TEL (613) 729-7242 FAX (613) 728-1461
Email <cunliffe@cunliffe.ca></cunliffe@cunliffe.ca>
DRAWN A.M. DRAWN A.M. REVIEWED J.C.CUFF 100187411 PROJECT NO. 18-052 N.L.C. HEET No. 0100

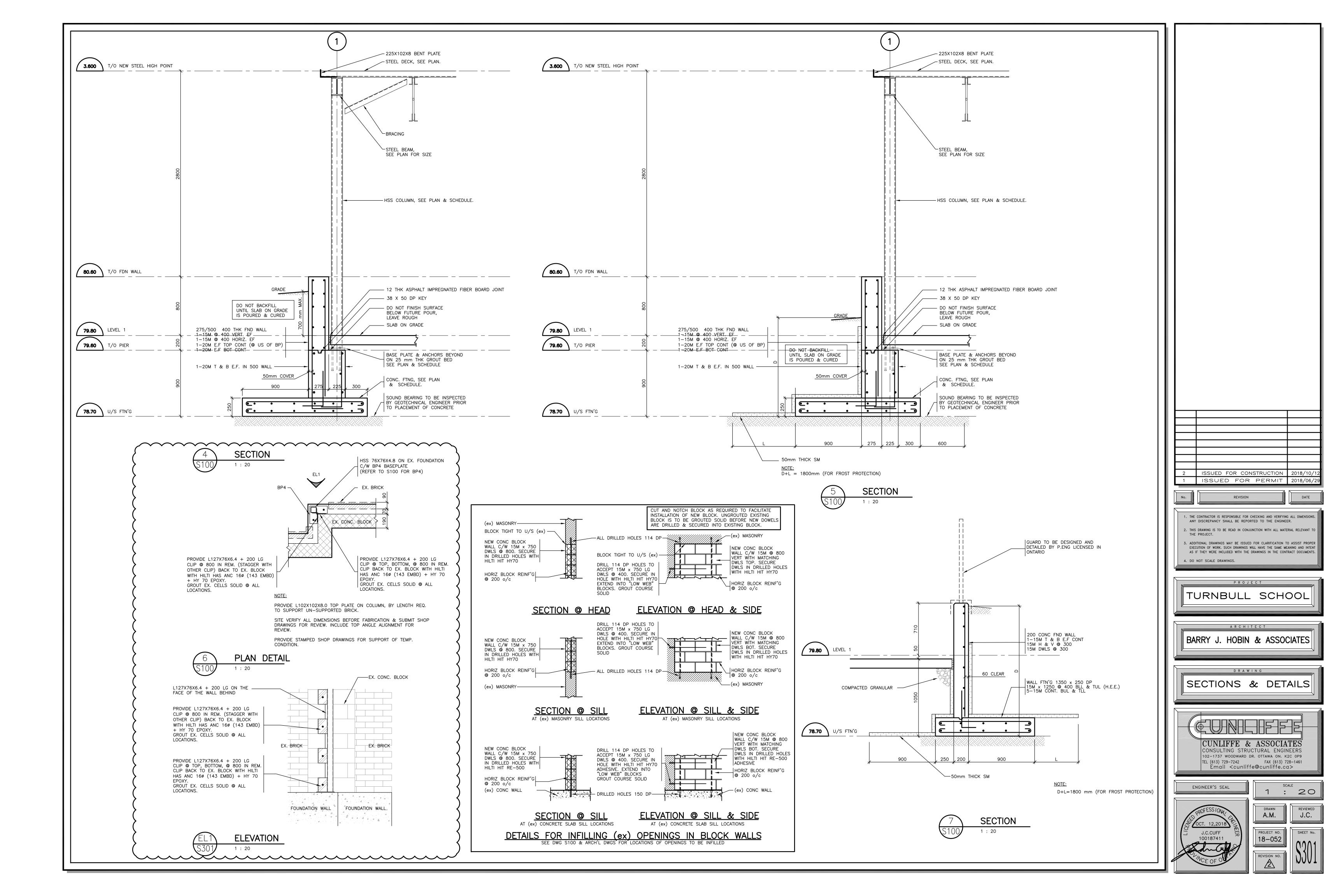
NTVN



2 ISSUED FOR CONSTRUCTION 2018/10/12 1 ISSUED FOR PERMIT 2018/06/29 No. REVISION DATE
 THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MATERIAL RELEVANT TO THE PROJECT. ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE DRAWINGS IN THE CONTRACT DOCUMENTS. DO NOT SCALE DRAWINGS.
TURNBULL SCHOOL
HOBIN ARCHITECTURE
BRACE FRAME ELEVATIONS
CUNLIFFE & ASSOCIATES CONSULTING STRUCTURAL ENGINEERS 102-1737 WOODWARD DR. OTTAWA ON. K2C OP9 TEL (613) 729-7242 FAX (613) 728-1461 Email <cunliffe@cunliffe.ca></cunliffe@cunliffe.ca>
ENGINEER'S SEAL SCALE 1 : 50 SCALE 1 : 50 DRAWN A.M. REVIEWED J.C.CUFF 100187411 PROJECT NO. 18-052 SCALE 1 : 50 SCALE 1 : 50
J.C.CUFF J.OO187411 NCE OF



2 ISSUED FOR CONSTRUCTION 2018/10/12 1 ISSUED FOR PERMIT 2018/06/29
 No. REVISION DATE 1. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND VERIFYING ALL DIMENSIONS. ANY DISCREPANCY SHALL BE REPORTED TO THE ENGINEER. 2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL MATERIAL RELEVANT TO THE PROJECT. 3. ADDITIONAL DRAWINGS MAY BE ISSUED FOR CLARIFICATION TO ASSIST PROPER EXECUTION OF WORK. SUCH DRAWINGS WILL HAVE THE SAME MEANING AND INTENT AS IF THEY WERE INCLUDED WITH THE DRAWINGS IN THE CONTRACT DOCUMENTS. 4. DO NOT SCALE DRAWINGS.
TURNBULL SCHOOL
BARRY J. HOBIN & ASSOCIATES
SECTIONS & DETAILS
CUNLIFFE & ASSOCIATES CONSULTING STRUCTURAL ENGINEERS 102-1737 WOODWARD DR. OTTAWA ON. K2C OP9 TEL (613) 729-7242 FAX (613) 728-1461 Email <cunliffe@cunliffe.ca></cunliffe@cunliffe.ca>
ENGINEER'S SEAL SCALE 1 : 20 DRAWN A.M. REVIEWED J.C.CUFF 100187411 PROJECT NO. 18-052 SCALE 1 : 20 SCALE 1 : 20
J.C.CUFF J.C.CUFF 100187411 WCE OF



SPECIFICATIONS

- 1. Comply with the OBC and local Codes and Bylaws.
- 2. General:
- .1 The current Ontario Building Code is to be considered the bare minimum for construction compliance levels and where the Act or the OBC is exceeded by the requirements of this document drawings and/or specifications), this document shall govern unless revised in writing by the Engineer. Merely "Meeting the Code" will not be accepted as an argument to avoid provision of the mechanical systems as documented and the Contractor shall bear all and any costs associated with making the necessary revisions to the
- satisfaction of the Engineer. .2 Comply with the requirements of OBC SB-10 and ASHRAE 90.1 for (prescriptive) energy efficiency compliance (as used in the development of this document).
- .3 Bekolay & Associates retain the copyright to all drawings and specifications created for this project and said works (both hard copy and CADD files) are not to be copied or distributed without consent. Costs for assimilation and/or distribution will be established upon written application to Bekolay & Associates for further copies
- .4 Obtain all permits, make arrangements for inspections and effect repairs required by Inspectors at no cost to the owner. Provide the consultant a Certificate of Approval from the inspecting authorities at completion of the work.
- .5 Examine the site and be aware of site conditions associated with this contract
- since extras related to site conditions will not be accepted. .6 Make arrangements with the building roofer to install all roof mounted equipment so the warrantee can be maintained.
- .7 Provide all hoisting, rigging and scaffolding associated with the installation of the equipment and material associated with this contract. .8 Repair or replace, at no cost to the owner, any defect in workmanship or materials which appear within a period of one year from the date of substantial completion
- of the work. Pay for all damage resulting from the deficiency which occurs within The warrantee period. Contractor shall not be held liable for anything attributable to acts of the owner or his agents. Co-ordinate the work of this trade with the Electrical Contractor for timely completion.
- Include Seismic Restraints for all mechanical equipment including piping, ductwork and equipment as required by OBC Part B, article 4.1.8.17 "Elements of Structures, Non–Structural Components and Equipment. Provide suitable pre-engineered systems and include the services of a professional structural engineer (registered in Ontario) to design, sign and seal drawings for all seismic restraints including permit approval from the Authority having jurisdiction.
- Motor Efficiencies for mechanical equipment:
- .1 All electrical motors supplied with mechanical equipment shall comply with OBC SB–10, sentence 10.4.1 and tables 10.4.1 (a) or 10.4.1 (b)
- Equivalents and Alternates:
- .1 Manufacturer's names listed in these specifications set the standard for the material and energy efficiency requirements to comply with SB-10 but are not Intended to exclude other manufactures from bidding with equivalent products. .2 Products not meeting all design requirements are considered alternates and they will be rejected until the specified item or equivalents meeting the energy efficiency requirements acceptable to the Engineer are provided. However, alternate products meeting the general intent accompanied by a savings allowance (including breakdown of material and labour) may be submitted for consideration provided they do not violate the SB-10 requirements.
- 6. Shop Drawings
- .1 Provide "PDF" files or 3 hard copies of shop drawings for review by the Engineer. .2 Submit product data for all specified equipment or trim including but not limited to grilles, diffusers, plumbing fixtures & trim.
- **Record** Drawings
- .1 Record all changes as work progresses and as changes occur on a set of clean prints.
- 8. Fire stopping
- sleeves and caulking .2 Caulking and Sealing Std: Hilti
- 9. Insulation:
- .1 Piping:
- (a) Insulate all hot and cold potable water piping as follows:
- .i Pre-formed fiberalass in 900mm sections with all service jacket sealed with aluminum tape. Hangers shall be outside of jacket. .ii Thickness: (to ASHRAE 90.1 table 9–1)
- Pipe Size Heating & DHW DCW
- 5/8" NPS 1/2" 5/8"
- NPS 3/4" to 2" 1-1/2" (b) Provide white, preformed PVC jacket for all exposed insulated pipe. (c) Hangers shall be outside of jacket.
- Identification:
- .1 2" outside (or insulated) diameter: Provide all weather vinyl pipe markers and tags with arrows and tape bands to identify all piping (except sprinkler branch piping) including direction (and supply or return where applicable).
- .2 1" & smaller: pre-formed, curled vinyl sleeves with coloured letters & background
- .3 Comply with ANSI standards for colours and identification requirements. Meet WHMIS
- tag requirements where applicable. .4 Marker separation shall be such that any pipe can be readily identified and not
- exceed 25 feet between markings. .5 Std: Brady, Top Tape & Label Ltd
- HVAC:
- 11. Duct Work:
- .1 Tape and seal all new supply air ductwork ductwork and comply with ASHRAE (low pressure standards), SMACNA and ICGIH details and recommended practices. Ductwork shall be handled and installed in accordance with SMACNA's Duct Cleanliness for New Construction Guidelines (Advanced Level).
- .2 All Supply, Return and Exhaust ductwork: (a) Provide radiused elbows (unless turning vanes are provided) and take–offs
- (r/D=1 min) (b) Bull head fittings, short and zero inside radius elbows (except where turning vanes are used) are entirely unacceptable and shall be replaced at the 23. Plumbing Fixtures:
- Contractor's expense. (c) Install the ductwork free of pulsation and chatter and make any repairs required when system is commissioned. Provide exhaust fan as shown on the drawings. Provide manual balancing dampers on all new branch duct take—offs as required for balancing.
- 12. Flexible Connections:
- .1 Frame: galvanized sheet metal frame with fabric clenched by means of double locked seams. .2 Material: Fire resistant, self extinguishing, neoprene coated glass fabric,
- temperature rated at minus 40 C to 90 C, density of 1.3 kg/m2.
- .3 Length of connection: 100mm with min 75 mm installed clearance between frames.
- 13. Flexible Ducts: .1 Factory fabricated spiral wound flexible aluminum.
- 2 Factory installed 12mm insulation with plastic jacket
- .3 Minimum working pressure 2.5 kPa.
- .4 Maximum length in a branch run to a diffuser not to exceed 2 meters. .5 Provide nylon tie wrap around flex at connection to branch duct and and sectional elbow at ceiling diffusers.
- 14. Duct Insulation:
- .1 Acoustic Liner:
- (a) Increase duct dimensions to provide unobstructed sizes shown (b) Natural cotton fibre or rigid board glass fibre duct liner acoustic/thermal (R-2)duct liner with air side factory coated with black fire resistant and abrasion
- resistant liner over 100% of the exposed surface. (c) Microbial resistant (complying with ASTM G21 and G22) and moisture resistant (ASTM C1104) with a flame spread and smoke development rating not
- exceeding 25/50 respectively without emitting toxic fumes (complying with UL 181 and NFPA90A) (a) Thickness: 25mm (1") thick insulation on interior of supply and return ducts
- within 3m (10 ft) of fans and as indicated.
- (b) Std: Titus Enviroloc, Fibreglass Canada "Line Acoustic-R" 2 Thermal:
- (a) 75mm thick rigid insulation pinned and fastened complete with aluminum waterproof jacket.
- (b) Std: Owens Corning Duct Wrap Type 75 .3 Adhesive & Sealer: to requirements of ANSI/NFPA 90A with same flame spread
- and smoke ratings as insulation. .4 Fasteners: Weld or adhesive plated pins 2.0mm diameter, length to suit insulation
- with metal retaining clips, 32mm square.
- .5 Joint Tape: Poly-vinyl treated open weave fibreglass membrane 50mm wide.
- 15. Turning Vanes: .1 Factory or shop fabricated single and double thickness to recommendations of SMACNA, as indicated and in all elbows supply and return where the inside radius of the elbow is less than $\frac{1}{2}$ the duct width.

- 16. Provide new diffusers as follows:
- .1 Type "A" Enameled round steel diffuser with balancing damper
- Std: E.H.Price RCD .2 Type "B"
- (a) Four way throw steel panel diffuser with balancing damper to set in tee bar (where room permits) or drywall ceiling (b) Std: E.H.Price SCDA
- .4 Tvoe "C" (a) Aluminum grid suit tee bar ceiling or with border for drywall with integrated
- plenum (b) E.H.Price CRE-80SR
- .5 Type "D" Return
- Aluminum grid for side wall mounted (b) Std: E.H.Price CRE-80
- 17. Control Wiring:
- .1 120 / 24vac transformers supplied by mechanical contractor mounting to box and final 120v connection to transformer by electrical contractor .2 24vac wiring and connections by controls contractor. 24vac wiring to be plenum
- rated, supported at regular intervals and run parallel to building lines in a neat and tidy manner.
- .3 Any surface or exposed wiring to be protected by EMT conduit
- 18. RTU–1: High Efficiency Packaged, gas fired rooftop air conditioning unit complete with:
- Capacities (a) Mechannical: ARI Nominal 4 Tons (total cooling 58.6MBH, Sensible
- 38.7MBH, 1600cfm) cooling, 120MBH high efficiency heating, 12.0 SEER (b) Electrical: Voltage 208V, 3 phase fused at 40 amps
- .2 One year warranty on entire unit, 5 year compressor warranty and 10 year heat exchanger warranty
- 3 Electrical service with CSA approved through the base wiring. Include weatherproof disconnect for wiring by Div. 16.
- .4 Compressors shall be direct drive, hermetic, scroll type with gear type oil pump, suction gas cooled, overload protection, vibration isolation.
- .5 Natural gas connection
- .6 Pleated 50mm throwaway filters equal to Farr 30–30. 7 Accessories:
- (a) Programmable thermostat
- (b) Low leak Economize w/ CO2 sensor & control (c) Insulated double height roof curb (14" above roof min) & seismically reinforced
- (d) Vibration isolation rail (Vibro-Acoustics or equal)
- (e) Condensate drain & trap (f) Factory installed GFI 20A weather proof receptacle
- .8 Std: York or equivalent by Trane or Carrier
- Natural Gas Piping 19.
- 1 Modify natural gas piping to new Roof Top Unit. .2 Conform to Ontario gas Utilization Code B149. (current version) including installation and testing.
- 3 Piping: (a) Schedule 40 black iron
- i complete with lubricated isolating valves and malleable iron fittings for exposed installation and welded fittings for ceiling or concealed installation. .ii Painting: Clean and epoxy prime paint bare piping followed by two coats of yellow enamel.
- .4 Roof pipe supports: (a) UV resistant injection moulded polypropylene impact copolymer shell and
- type 3 extruded polystyrene non-marring base pipe supports. (b) Std: E–Z Sleeper/Quick Block
- Plumbing & Piping:

Water Piping: 20.

- .1 Potable water piping shall be type 'M' copper with 95–5 lead free solder joints and fittings.
- .1 Provide fire stopping of all fire separations including fire dampers, retaining angles, .2 Isolating valves: equal to Crane 1324, 438 (gate) or 9322 (ball). .3 Rigidly fasten water supplies to the internal wall structure and secure with wing back elbow.
 - 21. Plumbing Piping

22.

Hangers:

barrier free sinks.

.2 Plumbing and vent piping below grade

SRD with ringtite joints

.1 Uninsulated Copper Pipe (Any system):

corrugated pipe ring.

ii Std: Caddy Series 100

i epoxy coated split black iron clevis.

.ii Std: Kindred, Steel Queen LBS4607

ii Std: Caddy Series 401, 427 or 420.

32mm and smaller

(e) 38mm and larger

.1 SS Sinks KS-1

(a) PVC or ABS with solvent weld joints or

Clevis hangers and tape are not acceptable.

Std: Shall be Caddy Superfix Series 454

on drain body

- .1 Plumbing and vent piping above grade: (a) NPS 1-1/2" and smaller DWV copper with solder joints NPS 2" and larger shall be cast iron with MJ neoprene couplings
- (b) System 15–50 PVC DWV solvent weld pipe and fittings with suitable fire

complete with weatherproof flashing to comply with OBC.

(e) Floor drain trap seal primer: all brass with integral vacuum breaker,

Stopping. Note regular PVC is not acceptable and shall not be installed.

Extend vent piping from all plumbing fixtures to vent stacks through roof

with cleanouts. Brass or plastic not acceptable. Provide trap insulation for

NPS 12mm continuous soft copper line drip line connection with to tapping

Provide 150mm of compacted sand bedding in the bottom of all trenches.

over piping. Granular fill in contact with the piping is not acceptable

(a) Split Ring metal support ring with integral rod connection and EPDM

i Swivel loop hanger with eletro-zinc plated band with hanger rod nut

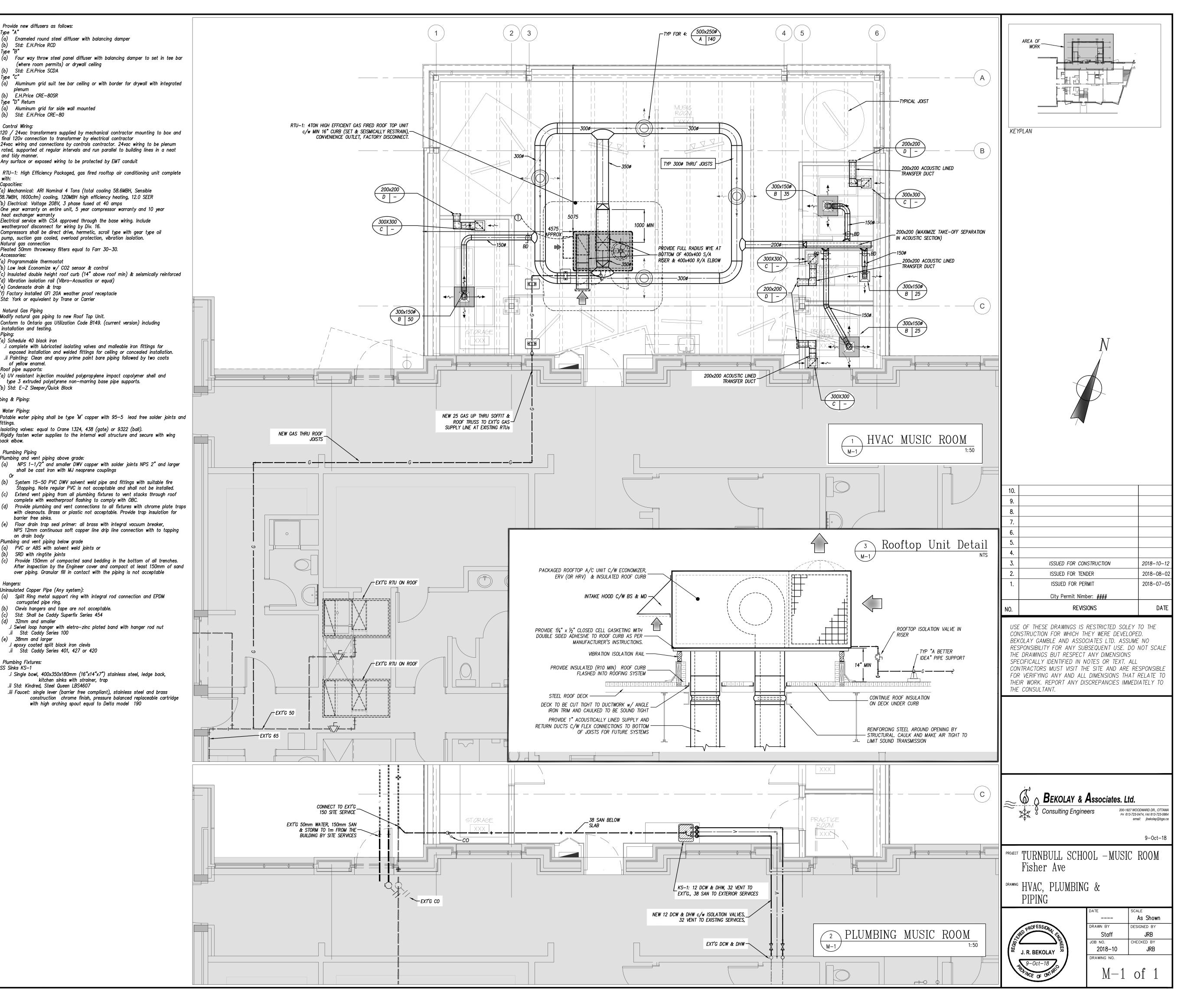
.i Single bowl, 400x350x180mm (16"x14"x7") stainless steel, ledge back,

.iii Faucet: single lever (barrier free compliant), stainless steel and brass

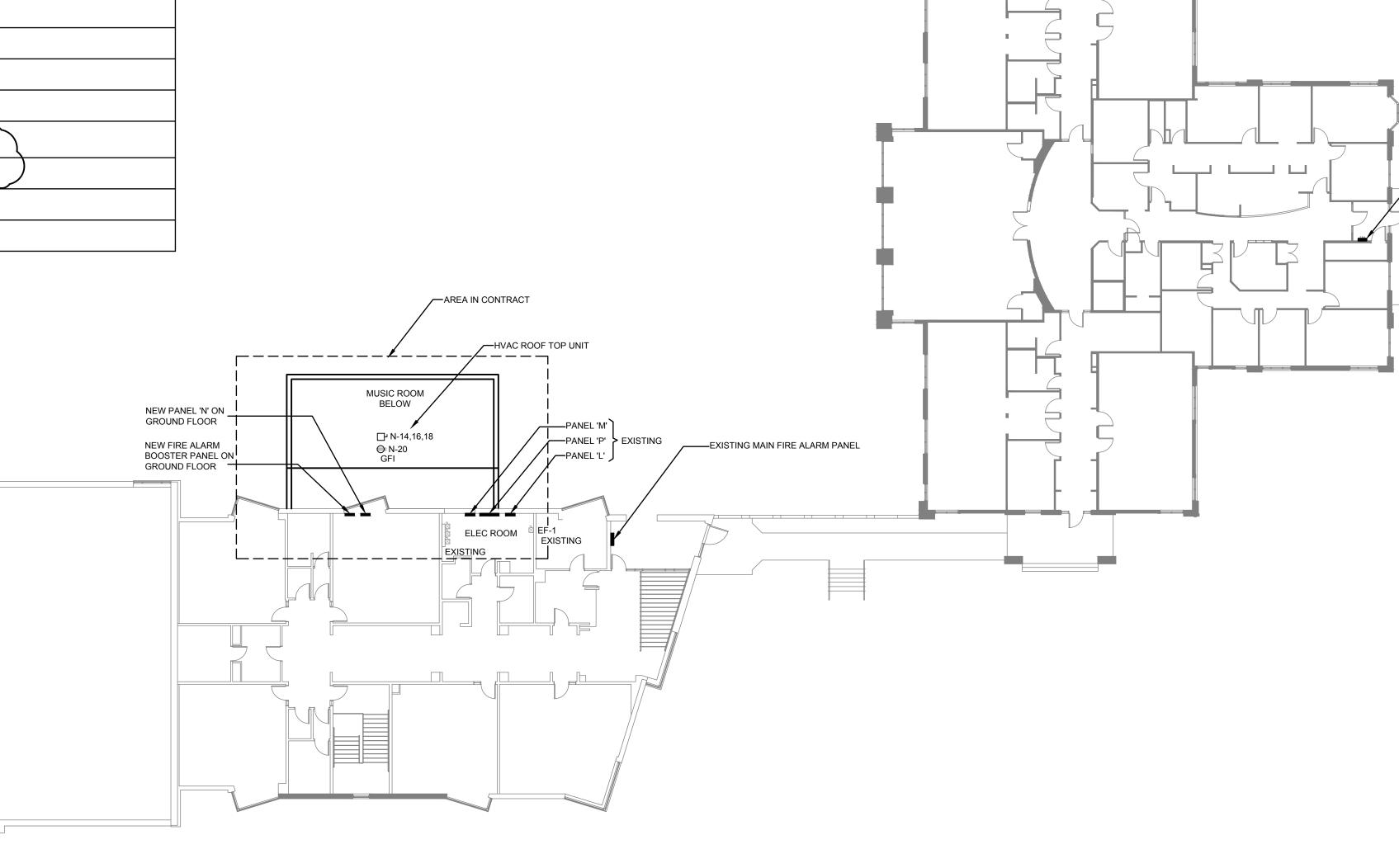
with high arching spout equal to Delta model 190

construction chrome finish, pressure balanced replaceable cartridge

kitchen sinks with strainer, trap



	POWER SYMBOLS	
SYMBOL	DESCRIPTION	SY
Φ	DUPLEX U-GROUND 5-20R - 15A/20A, 125 VOLT, 2 POLE, 3 WIRE GROUNDING RECEPTACLE MOUNTED 400 mm ABOVE FINISHED LEVEL, UNLESS OTHERWISE NOTED	
GFI	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	A
С	DEVICE MOUNTED IN CEILING	
F	DEVICE MOUNTED IN FLOOR MONUMENT	<u>A1</u>
Φ	SIMILAR TO ABOVE, BUT MOUNTED APPROXIMATELY 3'-6" (1050 mm) ABOVE FINISHED FLOOR LEVEL OR ABOVE COUNTER, UNLESS OTHERWISE NOTED	
\$	QUAD (TWO DUPLEX) U-GROUND 15A, 125 VOLT, 2 POLE, 3 WIRE GROUNDING RECEPTACLE MOUNTED 400 mm ABOVE FINISHED FLOOR LEVEL (IN COMMON FACEPLATE) UNLESS OTHERWISE NOTED	
\bigtriangleup	DATA OUTLET	ВВ
		c
6-20R	20A-250V 2P-3W GROUNDED SINGLE RECEPTACLE (CSA L6-20R) TWIST LOCK MOUNTED 300mm ABOVE FINISHED FLOOR LEVEL, UNLESS OTHERWISE NOTED.	\$\$
6-30R 🕀	30A-250V 2P-3W GROUNDED SINGLE RECEPTACLE (CSA L6-30R) TWIST LOCK MOUNTED 300mm ABOVE FINISHED FLOOR LEVEL, UNLESS OTHERWISE NOTED.	
	FURNITURE SYSTEM CONNECTION POLE	
\bigcirc	120V CONNECTION TO EQUIPMENT	
	208V, 1PH CONNECTION TO EQUIPMENTE	
۲	208V, 3PH CONNECTION TO EQUIPMENT	
	SINGLE SURFACE MOUNTED PANELBOARD,	
	SINGLE RECESSED MOUNTED PANELBOARD	
J	JUNCTION BOX	48
\$ 1	HORSE POWER RATED SWITCH	
PB	PULL BOX	
	DUAL CHANNEL (POWER AND DATA) SURFACE RACEWAY IN CARPET WIRE WAY - REFER TO SPECIFICATION - AT THE TRANSITION WALL BOX PROVIDE A 53MM (2") CONDUIT UP TO THE CEILING SPACE FOR DATA	đ
4	MOTOR	
	DISCONNECT SWITCH UNLESS NOTED OTHERWISE	
\boxtimes	MOTOR STARTER - MAGNETIC	
۲	MAGNETIC STARTER & DISCONNECT SWITCH (COMBINATION STARTER)	
\$™	MOTOR STARTER - MANUAL	
ýů.	DISCONNECT SWITCH AND CONNECTION TO DOOR OPERATOR	
	DOOR OPERATOR BUTTON - BACK BOX AND 21MM EMT FOR LV CONTROL	





 \Box

	LIGHTING SYMBOLS
	DESCRIPTION
	(1200MM x 600MM) 2'X4' LUMINAIRE, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
	(1200MM x 600MM) 2'X4' LUMINAIRE, SUPPLIED FROM EMERGENCY POWER SOURCE
	(1200MM x 600MM) 2'X4' LUMINAIRE, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE. NUMBER INDICATES CONTROLS (DAYLIGHT HARVESTING)
l	STRIP LUMINAIRE, 1200MM, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
	STRIP LUMINAIRE, 2400MM, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
	RECESSED DOWNLIGHT, LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
\sim	WALL MOUNTED LIGHT LETTER INDICATES LUMINAIRE TYPE AS PER LUMINAIRE SCHEDULE.
#	ONE, TWO, THREE AND FOUR GANG LINE VOLTAGE TOGGLE SWITCH MOUNTED 4'-0" (1200MM) ABOVE FINISHED FLOOR LEVEL, UNLESS OTHERWISE NOTED.
	3 - WAY SWITCH
	4 - WAY SWITCH
	LOW VOLTAGE SWITCH
	OCCUPANCY SENSOR - SWITCH MOUNTED
	VACANCY SENSOR - SWITCH MOUNTED
	OCCUPANCY SENSOR - CEILING MOUNTED
	DIMMER SWITCH WITH ON / OFF
	EXIT SIGN - WALL MOUNTED GREEN PICTOGRAM
	EXIT SIGN - CEILING MOUNTED GREEN PICTOGRAM
.T1	EMERGENCY LIGHTING BATTERY PACK (BAT1) C/W TWO HEADS. RECEPTACLE CONNECTED TO LOCAL LIGHTING CIRCUIT
1-1	EMERGENCY LIGHTING REMOTE SINGLE HEAD. CONNECTED TO BAT1
1-2	EMERGENCY LIGHTING REMOTE TWIN HEAD. CONNECTED TO BAT1

FIRE ALARM SYMBOLS							
	FIRE ALARIVI SY MBULS						
SYMBOL	DESCRIPTION						
F.A.C.P.	RECESSED OR SURFACE MOUNTED FIRE ALARM CONTROL PANEL.						
F.A.A.	RECESSED OR SURFACE MOUNTED FIRE ALARM ANNUNCIATOR PANEL.						
	FIRE ALARM PULL STATION MOUNTED 4'-0" (1200) ABOVE FINISHED FLOOR LEVEL UNLESS OTHERWISE NOTED.						
CG	SIMILAR TO ABOVE, EXCEPT "CG" WHERE SHOWN, DENOTES DEVICE c/w CLEAR GUARD.						
₽₩	FIRE ALARM SMOKE DETECTOR.						
	FIRE ALARM HORN						
	FIRE ALARM STROBE HORN COMBINATION.						
ZAM	FIRE ALARM SHUTDOWN RELAY						

		GENERAL NOTES:		
	1. THIS IS A DRAWINGS	COMPREHENSIVE LEGEND AND NOT ALL ITEMS A	PPEAR ON ELECTRICAL	
			J	
				D 2018 10 05 ISSUED FOR CONSTRUCTION
				C2018 08 02ISSUED WITH ADDENDUM No.2B2018 07 05ISSUED FOR PERMIT & TENDER
				A2018 06 28ISSUED FOR CO ORDINATIONno.daterevision
				It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect.
	EXISTING FIRE ALARM ANNU	NCIATOR PANEL		All contractors must comply with all pertinent codes and by-laws.
				Do not scale drawings. This drawing may not be used for
7				construction until signed. Copyright reserved.
				300-2611 QUEENSVIEW DRIVE OTTAWA ONTARIO CANADA K2B 8K2 TEL: 1-613-829-2800 FAX: 1-613-829-8299 WWW.WSP.COM
				Hobin Architecture
				Incorporated 63 Pamilla Street
				Ottawa, Ontario Canada K1S3K7
				T: 613-238-7200 F: 613-235-2005
		ELECTRICAL DRAWING LIST		E: mail@hobinarc.com
	SHEET NO.	DRAWING TITLE		
	E001	ELECTRICAL LEGEND AND, DRAWING LIST		PROJECT/LOCATION: TURNBULL SCHOOL
	E002 E003	ELECTRICAL SPECIFICATION SHEET 1 0F 2 ELECTRICAL SPECIFICATION SHEET 2 0F 2		MUSIC ROOM ADDITION
	E101	ELECTRICAL LIGHTING & POWER SYSTEMS		1132 Fisher Avenue, Ottawa DRAWING TITLE:
	E201	ELECTRICAL SCHEDULES AND DETAILS		ELECTRICAL LEGEND
				AND DRAWING LIST
				K. Mcl. APR. 2018 AS SHOWN
				PROJECT: 181-04865-00
				DRAWING NO.:
				E001
				REVISION NO.:

ELECTRICAL WORK SPECIFICATION

GENERAL

- 1.1 COMPLY WITH LATEST REQUIREMENTS OF BUILDING MANAGER'S WORKING REGULATIONS. OBTAIN REGULATIONS AND COMPLY WITH REQUIREMENTS WHEN WORKING ONSITE UNLESS OTHERWISE NOTED, BASE BUILDING STANDARDS AND SPECIFICATIONS TO BE MINIMUM BASIS FOR WORK. OBTAIN COPY OF DOCUMENTS AND REVIEW.
- 1.2 CONFORM TO OWNER'S/LANDLORD'S TENANT DESIGN CRITERIA AND CONSTRUCTION MANUAL AND TENANT LEASE AGREEMENT. WORK SUBJECT TO REVIEW WITH AND/OR APPROVAL OF OWNER/LANDLORD AND BUILDING MANAGER AND REVIEW WITH CONSULTANT.
- 1.3 SUPPLY LABOUR, TOOLS, SERVICES AND EQUIPMENT, AND PROVIDE PRODUCTS AND MATERIALS REQUIRED TO COMPLETE WORK IN ACCORDANCE WITH THIS SPECIFICATION AND DRAWINGS. COMPLY WITH LAWS, REGULATIONS, AND CODES OF AUTHORITIES HAVING JURISDICTION. CONFORM TO REQUIREMENTS OF CONTRACT DOCUMENTS OF DIVISIONS 00 AND 01 AND REQUIREMENTS HEREIN SPECIFIED WHICH ARE SUPPLEMENTARY TO THOSE REQUIREMENTS. PERFORM WORK IN ACCORDANCE WITH LOCAL APPLICABLE GOVERNING CODES AND AUTHORITIES INCLUDING ONTARIO BUILDING CODE (OBC), ONTARIO ELECTRICAL SAFETY CODE (OESC) AND ISSUED BULLETINS AND SUPPLEMENTARY STANDARDS.
- 1.4 WHERE CODES AND/OR REQUIREMENTS CONFLICT, OR THERE IS DISCREPANCY IN DOCUMENTS, INCLUDE FOR MORE STRINGENT AND COSTLY REQUIREMENTS FOR PRICING. ADVISE CONSULTANT AND OBTAIN CLARIFICATION PRIOR TO STARTING WORK.
- 1.5 SUBMIT TO CONSULTANT, CHANGE NOTICE QUOTATIONS FOR EXTRA OR DELETED WORK COMPLETE WITH ITEMIZED COST BREAKDOWN OF LABOUR AND MATERIALS. FAILURE TO PROVIDE WILL RESULT IN REJECTION. UNLESS OTHERWISE NOTED IN DIVISION 01. ELECTRICAL CHANGE NOTICES TO BE PRICED IN ACCORDANCE WITH NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION MANUAL OF LABOR UNITS AND "ALLPRISER" LESS 25% DISCOUNT FOR LABOUR AND MATERIAL COST. UNLESS OTHERWISE NOTED, ALLOWABLE MAXIMUM PERCENTAGES FOR OVERHEAD AND PROFIT ARE TO BE 7% AND 5% RESPECTIVELY.
- 1.6 COMPLY WITH EQUIPMENT MANUFACTURER'S INSTALLATION RECOMMENDATIONS AND INSTRUCTIONS UNLESS OTHERWISE NOTED HEREIN OR ON DRAWINGS. OR UNLESS SUCH INSTRUCTIONS AND RECOMMENDATIONS CONTRADICT GOVERNING CODES AND REGULATIONS. 1.7 WHERE STANDARDS OF WORK ARE SPECIFIED OR IMPLIED AND WORK DOES NOT COMPLY WITH PERFORMANCE SPECIFIED OR IMPLIED, CORRECT SUCH DEFICIENCY AS DIRECTED BY CONSULTANT OR GOVERNING AUTHORITY ANY SUBSEQUENT TESTING TO VERIEY
- PERFORMANCE TO BE PROVIDED AT CONTRACTOR'S EXPENSE. ANY CHARGES FOR OWNER'S STAFF, CONSULTANT OR OTHER PERSONNEL RELATED TO SUCH RETESTING, ARE TO BE AT THE CONTRACTOR'S EXPENSE. 1.8 FOR COMPLIANCE/SUBSTANTIAL COMPLETION LETTER, SUBMIT FOLLOWING APPLICABLE
- ELECTRONIC DOCUMENTS (PDFS) AS ONE COMPLETE PACKAGE .1 FIRE ALARM VERIFICATION REPORT WITH SOUND PRESSURE READINGS (MIN. 15 READINGS AT DIFFERENT LOCATIONS WITH DOOR OPEN) AND CERTIFICATE;
- .2 EQUIPMENT DATA SHEETS;
- .3 EQUIPMENT TESTING REPORTS;
- .4 WARRANTIES;
- .5 ESA INSPECTION CERTIFICATE;
- .6 ELECTROMAGNETIC LOCK TEST CERTIFICATE WARRANTY;
- .7 PERMIT NUMBERS;
- .8 AS-BUILT DRAWINGS; .9 CONFIRMATION THAT DEFICIENCIES WERE RECTIFIED.
- 1.9 ELECTRICAL ENCLOSURES IN CLIMATE CONTROLLED AREAS TO BE UNLESS OTHERWISE NOTED, TYPICALLY MINIMUM NEMA 1 TYPE WITH ADDITIONAL SPRINKLER PROTECTION FEATURES OF DRIP SHIELD WHEN SURFACE MOUNTED, GASKETTING AND VENTILATION LOUVRES DESIGNED TO PREVENT EGRESS OF WATER SPRAY ONTO LIVE COMPONENTS
- 1.10 PRIOR TO SUBMITTING BID, CAREFULLY EXAMINE CONDITIONS AT SITE WHICH WILL OR MAY AFFECT WORK, DRAWINGS, AND SPECIFICATIONS, AND BECOME FAMILIAR WITH BUILDING CONSTRUCTION, FINISHES AND OTHER WORK ASSOCIATED WITH WORK IN ORDER THAT BID INCLUDES FOR EVERYTHING NECESSARY FOR COMPLETION OF WORK
- 1.11 BEFORE ANY EQUIPMENT IS ROUGHED IN, DETERMINE ITS INTENDED LOCATION FROM DRAWINGS AND COORDINATE FINAL LOCATIONS WITH SERVICES AND STRUCTURAL CONDITIONS. IF IT IS NOT SHOWN ON DRAWINGS, VERIFY FINAL LOCATION ON SITE. LOCATIONS OF SERVICES ON DRAWINGS ARE APPROXIMATE ONLY. REVIEW WITH CONSULTANT AND COORDINATE WITH RESPECTIVE TRADES TO ENSURE THAT EQUIPMENT IS FULLY ACCESSIBLE FOR MAINTENANCE. FAILURE TO DO SO WILL NOT BE GROUNDS FOR ADDITIONAL COSTS. PROPERLY PLAN AND COORDINATE EXACT LOCATIONS AND ROUTING OF SERVICES PRIOR TO INSTALLATION TO AVOID OBSTRUCTIONS TO OTHER SERVICES AND EQUIPMENT REQUIRING ACCESS. CONCEAL SERVICES IN WALLS, CEILING SPACE AND FLOOR SPACE UNLESS OTHERWISE NOTED.
- 1.12 MAKE APPLICATION FOR, PAY FOR AND OBTAIN, PERMITS AND INSPECTION CERTIFICATES TO COMPLETE WORK. WHEN WORK IS COMPLETE. SUPPLY AND TURN OVER INSPECTION CERTIFICATES FROM GOVERNING AUTHORITIES. INCLUDING ESA. TO CONSULTANT. PAY FEES AND CHARGES LEVIED BY MUNICIPALITY AND OTHER GOVERNING AUTHORITIES FOR PERMITS. INSPECTIONS, AND CERTIFICATES. RETAIN COPY OF SUCH PERMITS AND CERTIFICATES, ETC.. ON JOB SITE. WHERE WORK INVOLVES ELECTROMAGNETIC LOCK WORK, PROVIDE PERMITS AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
- 1.13 COORDINATE WORK WITH WORK OF EACH TRADE TO ENSURE PROPER AND COMPLETE INSTALLATION. NOTIFY TRADES CONCERNED OF REQUIREMENTS FOR OPENINGS. SLEEVES. INSERTS AND OTHER HARDWARE NECESSARY IN COORDINATION OF WORK AND WHERE WORK IS INTEGRATED WITH WORK OF OTHER TRADES OR IS INSTALLED IN CLOSE PROXIMITY WITH WORK OF OTHER TRADES, CAREFULLY COORDINATE WORK PRIOR TO AND DURING INSTALLATION.
- 1.14 PROPERLY PLAN, COORDINATE AND ESTABLISH EXACT LOCATIONS AND ROUTING OF SERVICES WITH AFFECTED TRADES PRIOR TO INSTALLATION SUCH THAT THEY CLEAR FACH OTHER AS WELL AS ANY OBSTRUCTIONS. GENERALLY, PIPING REQUIRING UNIFORM PITCH IS GIVEN RIGHT OF WAY, WITH OTHER SERVICES LOCATED AND ARRANGED TO SUIT
- 1.15 SCHEDULE WORK WHICH MAY CAUSE NOISE DISTURBANCES AT TIMES APPROVED BY OWNER AND REVIEWED WITH CONSULTANT. COORDINATE WORK WITH TRADES TO MINIMIZE NOISE DISTURBANCES.
- 1.16 DURING CONSTRUCTION. KEEP SITE REASONABLY CLEAR OF RUBBISH AND WASTE MATERIAL RESULTING FROM WORK ON DAILY BASIS. AFTER COMPLETION OF WORK, REMOVE RUBBISH AND DEBRIS FROM SITE, ARRANGE AND PAY FOR REPAIR OF DAMAGES CAUSED AND LEAVE PREMISES AND WORK IN GOOD ORDER.
- 1.17 PROTECT AND STORE EQUIPMENT AND MATERIALS ON SITE FROM DAMAGE. BE RESPONSIBLE FOR SAFE STORAGE OF EQUIPMENT AND GOODS TO BE RELOCATED AND REPAIR OR REPLACE DAMAGED EQUIPMENT AND GOODS AT DISCRETION OF OWNER. 1.18 ALLOW CONSULTANT ACCESS TO WORK. NOTIFY CONSULTANT AT AGREED UPON TIMES OF
- STAGES OF WORK. 1.19 WHERE STANDARDS OF WORK ARE SPECIFIED OR IMPLIED AND WORK DOES NOT COMPLY WITH
- PERFORMANCE SPECIFIED OR IMPLIED, CORRECT SUCH DEFICIENCY AS DIRECTED BY CONSULTANT, INCLUDE ANY SUBSEQUENT TESTING TO VERIFY PERFORMANCE, ANY CHARGES FOR OWNER'S STAFF, CONSULTANT, OR OTHER PERSONNEL RELATED TO SUCH RETESTING TO ALSO BE AT EXPENSE OF CONTRACTOR.
- 1.20 PRODUCTS LISTED AND/OR SPECIFIED ON CONTRACT DOCUMENTS ARE SELECTED TO ESTABLISH DESIGN STANDARDS. IN MOST CASES, ACCEPTABLE MANUFACTURERS ARE LISTED. BASE YOUR BID PRICE ON BASE SPECIFIED PRODUCTS OR PRODUCTS SUPPLIED FROM ACCEPTABLE MANUFACTURERS, ENSURE PRODUCTS SUPPLIED FROM MANUFACTURERS OTHER THAN BASE SPECIFIED MANUFACTURERS ARE EQUIVALENT TO SPECIFIED PRODUCTS. CHANGES TO MANUFACTURERS OF PRODUCTS MAY BE PROPOSED TO CONSULTANT FOR ACCEPTANCE PRIOR TO CLOSING OF BIDS, LISTING IN EACH CASE CORRESPONDING CREDIT. CONSULTANT HAS SOLE DISCRETION IN ACCEPTING ANY PROPOSED SUBSTITUTION. INCLUDE IN BID PRICE ANY ADDITIONAL COSTS FOR CHANGES TO ASSOCIATED OR ADJACENT WORK RESULTING FROM PROVISION OF PRODUCTS SUPPLIED BY MANUFACTURER OTHER THAN BASE SPECIFIED MANUFACTURER. ANY PROPOSED CHANGES INITIATED BY CONTRACTOR AFTER AWARD OF CONTRACT MAY BE CONSIDERED BY CONSULTANT AT CONSULTANT'S DISCRETION, WITH COSTS FOR SUCH CHANGES IF ACCEPTED BY OWNER, AND COSTS OF SUCH REVIEW BY CONSULTANT TO BE PAID FOR BY CONTRACTOR.
- 1.21 UNLESS OTHERWISE NOTED IN DIVISION 01, WARRANT WORK TO BE IN STRICT ACCORDANCE WITH CONTRACT DOCUMENTS AND FREE FROM DEFECTS FOR 1 YEAR PERIOD FROM DATE OF WRITTEN ACCEPTANCE BY CONSULTANT. REPAIR AND/OR REPLACE ANY SUCH DEFECTS WHICH APPEAR IN WORK WITHIN WARRANTY PERIOD, ORDINARY WEAR AND TEAR AND WILFUL DAMAGE BY CARELESSNESS OF OWNER'S STAFF OR AGENTS EXCEPTED, WITHOUT ADDITIONAL EXPENSE TO OWNER. WHERE SUCH DEFECTS OCCUR, BE RESPONSIBLE FOR COSTS INCURRED IN MAKING DEFECTIVE WORK GOOD, INCLUDES REPAIR OR REPLACEMENT OF BUILDING FINISHES, OTHER MATERIALS, OR DAMAGE TO OTHER EQUIPMENT CAUSED BY SUCH DEFECTS, OR BY SUBSEQUENT REPLACEMENT OR REPAIRS.
- 1.22 ENSURE THAT THE INSTALLATION OF EQUIPMENT CONFORMS TO THE APPLICABLE SEISMIC RESTRAINT PROVISIONS INCLUDED IN THE LOCAL GOVERNING BUILDING CODE.
- 2 INTERRUPTIONS TO AND SHUT DOWNS OF EXISTING SERVICES AND SYSTEMS
- 2.1 COORDINATE AND PERFORM SHUT DOWNS AND INTERRUPTIONS TO EXISTING SYSTEMS AND SERVICES AT TIMES ACCEPTABLE TO OWNER. OBTAIN WRITTEN APPROVAL MINIMUM 5 WORKING DAYS IN ADVANCE OF SHUT DOWN OR INTERRUPTION. INCLUDE FOR PREMIUM TIME TO PERFORM WORK DURING NIGHTS, WEEKENDS OR OTHER TIME OUTSIDE OF NORMAL WORKING HOURS, AS NECESSARY TO MAINTAIN SERVICES IN OPERATION OR WITH MINIMUM INTERRUPTIONS AND TO COMPLY WITH OWNER'S REQUIREMENTS. PERFORM WORK ASSOCIATED WITH SHUT DOWNS AND INTERRUPTIONS AS CONTINUOUS OPERATIONS TO MINIMIZE SHUT DOWN TIME AND TO REINSTATE SYSTEMS AS SOON AS POSSIBLE, AND, PRIOR TO SHUT DOWN, ENSURE MATERIALS AND LABOUR REQUIRED TO COMPLETE WORK FOR WHICH SHUT DOWN IS REQUIRED ARE AVAILABLE AT SITE. CUTTING, PATCHING AND CORE DRILLING
- 3.1 PROVIDE CUTTING, PATCHING AND CORE DRILLING OF BUILDING REQUIRED FOR INSTALLATION OF WORK. PERFORM CUTTING IN NEAT AND TRUE FASHION, WITH PROPER TOOLS AND EQUIPMENT TO OWNER'S APPROVAL. PATCH SURFACES TO EXACTLY MATCH EXISTING FINISHES. UTILIZE TRADESMEN SKILLED IN PARTICULAR TRADE OR APPLICATION WORKED ON TO OWNER'S APPROVAL
- 3.2 IN FIRE RATED CONSTRUCTION, PACK AND SEAL VOID BETWEEN OPENING AND CONDUIT FOR LENGTH OF OPENING WITH ASBESTOS FREE ELASTOMERIC AND INTUMESCENT ULC LISTED AND LABELLED MATERIALS. INSTALL FIRESTOP AND SMOKE SEAL MATERIALS IN ACCORDANCE TO ULC CERTIFICATION, OBC AND MANUFACTURER'S REQUIREMENTS TO PROVIDE FIRESTOP RATINGS OF OPENINGS IN ACCORDANCE WITH GOVERNING BUILDING CODE REQUIREMENTS. SUBMIT WITH SHOP DRAWINGS, SPECIFIC ULC DESIGNATED NUMBER FOR EACH APPLICATION AND SDS SHEET. ACCEPTABLE MANUFACTURERS ARE 3M, SPECIFIED TECHNOLOGIES, TREMCO, HILTI, AND TYCO FIRE STOP SYSTEMS.

- 3.3 FOR EXTERIOR AND/OR UNDERGROUND PENETRATIONS, PROVIDE WATERPROOF, WEATHER-TIGHT, FIRE RATED MATERIALS IN COMPLIANCE WITH LOCAL GOVERNING AUTHORITY AND CODE REQUIREMENTS TO SEAL OPENINGS
- 3.4 COMPLY WITH PRODUCT MANUFACTURER'S RECOMMENDATIONS FOR PRODUCT THAT SUITS EACH SPECIFIC INSTALLATION. TYPICALLY, PRODUCT TO BE CONSISTENT MANUFACTURER THROUGHOUT BUILDING AS COORDINATED WITH GENERAL CONTRACTOR
- 3.5 DO NOT CUT OR DRILL EXISTING WORK WITHOUT PRIOR OWNER'S APPROVAL AND REVIEW WITH CONSULTANT. IN CONSULTATION WITH OWNER AND BY USE OF NON-DESTRUCTIVE RADAR SCANNING. DETERMINE PRESENCE OF EXISTING SERVICES AND REINFORCING RODS CONCEALED BEHIND SURFACE TO BE CUT. ENSURE THAT AREAS OF BOTH SIDES OF SURFACE BEING CUT ARE PROTECTED FROM DEBRIS. BE RESPONSIBLE FOR DAMAGE DONE TO EXISTING BUILDING AND SERVICES CAUSED BY CUTTING OR DRILLING. IF RADAR SCANNING IS NOT PERMITTED BY OWNER, CAREFULLY HAND CHISEL TO EXPOSE RE-BAR AND BURIED SERVICES AND CHISEL OUT REQUIRED OPENINGS. COMPLY WITH OWNER'S FM GLOBAL INSURANCE AS APPLICABLE, OR OTHER REQUIREMENTS CONFIRMED WITH OWNER. CONCRETE WORK

LENGTHS

- 4.1 PROVIDE CONCRETE REQUIRED FOR WORK, INCLUDING FORMWORK AND REINFORCING STEEL 4.2 PROVIDE CONCRETE WORK IN ACCORDANCE WITH REQUIREMENTS OF DIVISION 03 AND BE OF MINIMUM 3000 PSI READY MIX TYPE.
- DISCONNECTION. REMOVAL AND RELOCATION WORK 5.1 DISCONNECT AND REMOVE ITEMS OF EXISTING OBSOLETE ELECTRICAL WORK. RELOCATE REQUIRED DEVICES AS REQUIRED FOR WORK AND TO ACCOMMODATE WORK OF OTHER DIVISIONS. WHERE LUMINAIRES. SWITCHES. RECEPTACLES. AND OTHER DEVICES AND/OR EQUIPMENT IS REMOVED. DISCONNECT AT POINT OF ELECTRICAL SUPPLY. REMOVE OBSOLETE WIRING AND CONDUIT UP TO SOURCE, UNLESS OTHERWISE NOTED, AND MAKE SYSTEM SAFE TO
- OWNER'S SATISFACTION. REMOVE OBSOLETE CONDUIT/RACEWAYS IN ACCESSIBLE CEILING SPACES, EXPOSED LOCATIONS, ETC. WHERE EXISTING OBSOLETE CONDUIT AND SIMILAR RACEWAY MATERIAL CANNOT BE REMOVED. SUCH AS EMBEDDED IN CONCRETE. CUT BACK AND CAP OBSOLETE CONDUIT AND RACEWAYS. REFER TO SPECIFIC NOTES ON DRAWINGS.
- 5.2 WHEN EXISTING CIRCUITS ARE BEING DISCONNECTED, MAINTAIN SUPERVISION OF AREA TO ENSURE THAT SUCH CIRCUITS DO NOT AFFECT ESSENTIAL EXISTING CIRCUITS BEING RETAINED. 5.3 REFER TO ARCHITECTURAL DRAWINGS WHICH DEFINE EXTENT OF AREAS BEING DEMOLISHED IN
- EXISTING BUILDING. REVIEW DRAWINGS AND SITE AND INCLUDE FOR DEMOLITION AND/OR RENOVATION OF SERVICES AS REQUIRED TO ACCOMMODATE ALTERATIONS DETAILED. 5.4 UNLESS OTHERWISE NOTED, TAKE POSSESSION OF OBSOLETE MATERIALS WHICH ARE
- REMOVED AND ARE NOT TO BE RELOCATED OR REUSED AS DIRECTED BY OWNER. REMOVE FROM SITE AND PROPERLY DISPOSE OF, OBTAIN FROM OWNER, LIST OF EXISTING ELECTRICAL ITEMS WHICH ARE TO BE REMOVED AND TURNED OVER TO OWNER. SAID ITEMS ARE TO REMAIN PROPERTY OF OWNER
- 5.5 WHERE EXISTING SERVICES PASS THROUGH OR ARE IN AREA TO SERVE ITEMS WHICH ARE TO REMAIN, MAINTAIN SERVICES. REROUTE EXISTING SERVICES CONCEALED BEHIND EXISTING FINISHES AND WHICH BECOME EXPOSED DURING RENOVATION WORK. SO AS TO BE CONCEALED BEHIND NEW OR EXISTING FINISHES. CONFIRM WITH OWNER SERVICES WHICH ARE TO BE KEPT IN SERVICE AND OPERATIONAL.
- 5.6 REVISE PANELBOARD DIRECTORIES ACCORDINGLY, IF AFFECTED BY ANY RENOVATION, DISCONNECTION OR REMOVAL OF WORK. USE OWNER'S ACTUAL ROOM NAMES/NUMBERS.
- 5.7 PROTECT EXISTING DEVICES BEING RELOCATED OR DELETED TO ENSURE THAT THEY ARE NOT DAMAGED. TEST SUCH DEVICES PRIOR TO DISCONNECTION AND DE-ENERGIZATION. TO ENSURE THAT EACH DEVICE IS IN PROPER WORKING CONDITION. ENSURE THAT MOTORS ARE IN PROPER ROTATION DIRECTION. EXAMINE EACH DEVICE FOR DAMAGE. REPORT DEVICES NOT WORKING OR WITH DAMAGE TO CONSULTANT PRIOR TO INITIATING ANY WORK. IT WILL BE ASSUMED THAT DEVICES ARE IN PROPER WORKING ORDER AND GOOD CONDITION IF NOT REPORTED.
- 5.8 PROVIDE JUNCTION BOXES, OUTLET BOXES, WIRING, PLATES, ETC., AS NECESSARY FOR COMPLETE RELOCATION OF DEVICES. CLEAN RELOCATED OR TEMPORARY REMOVED DEVICES AND EQUIPMENT. AND ENSURE THAT THEY ARE IN GOOD OPERATING CONDITION BEFORE BEING REINSTALLED. WHERE EXISTING LUMINAIRES ARE RELOCATED, CLEAN LUMINAIRES AND INSPECT FOR DAMAGE. RELAMP RELOCATED LUMINAIRES. REPORT DEFECTS OR DAMAGES TO CONSULTANT. DO NOT SPLICE CONDUCTORS WITHOUT CONSENT OF CONSULTANT. UTILIZE JUNCTION BOXES AND TERMINAL DEVICES FOR PROPER EXTENSION OF CIRCUITS WHERE APPROVED. OTHERWISE REPLACE CIRCUITS WITH HOME RUN/CONTINUOUS RUN OF SUITABLE
- 5.9 PROVIDE BLANK COVERPLATES ON EXISTING OBSOLETE BOXES WHICH ARE TO REMAIN IN POSITION.
- 5.10 AFTER INSTALLATION IS COMPLETE. TEST PARTS OF RE-USED OR RELOCATED ELECTRICAL EQUIPMENT AND CORRECT FAULTS AND GROUNDS. INCLUDE FOR FIRE ALARM VERIFICATION COMPANY TO VERIFY ANY RELOCATED DEVICES AND DOWNSTREAM AFFECTED DEVICES. AND VERIFY SYSTEM AS REQUIRED BY LOCAL FIRE AUTHORITY TO SUIT ACTUAL RELOCATION WORK FOR OTHER EXISTING SYSTEMS, ENGAGE MANUFACTURERS AUTHORIZED REPRESENTATIVE OR OWNER'S SYSTEM MAINTENANCE CONTRACTOR. TO INSPECT AND VERIFY RELOCATED DEVICES COORDINATE AND CONFIRM EXACT REQUIREMENTS WITH OWNER AND REVIEW WITH CONSULTANT. ANY FIRE ALARM, LIFE SAFETY OR COMMUNICATION SYSTEM DEVICE THAT HAS BEEN WORKED ON OR RELOCATED IS TO BE TESTED. VERIFIED. AND CERTIFIED BY MANUFACTURER'S AUTHORIZED TECHNICIAN AFTER COMPLETION OF WORK. INCLUDE FOR SUCH WORK
- 5.11 INTERIOR, EXTERIOR OR UNDERGROUND ELECTRICAL SERVICES (INCLUDING AUXILIARY SERVICES, TELEPHONE, FIRE ALARM, P.A. SYSTEM, ETC.) TO OPERATING PARTS OF BUILDING ARE TO BE MAINTAINED IN OPERATION, AND TO THAT EFFECT. NECESSARY WORK MAY HAVE TO BE CARRIED OUT DURING NON-REGULAR BUSINESS HOURS AT NO ADDITIONAL COST TO THIS PROJECT EXISTING RISERS ARE TO BE MAINTAINED IN SERVICE AS REQUIRED TO FEED OTHER AREAS OF BUILDING. DO NOT INTERRUPT ANY SERVICES WITHOUT PRIOR WRITTEN APPROVAL FROM OWNER AND REVIEW WITH CONSULTANT SUBMIT FORMAL REQUESTS TO CONSULTAN OUTLINING IN DETAIL REQUIREMENTS OF PROPOSAL AND WAIT FOR INSTRUCTIONS FROM CONSULTANT.
- 5.12 BE PRESENT WHEN ADDITIONAL DOORS OR OPENINGS ARE BEING CUT INTO EXISTING WALLS AND CEILINGS. SHOULD ANY DAMAGE OCCUR TO ELECTRICAL SYSTEM, RESTORE SYSTEM TO A SAFE AND SOUND CONDITION
- 5.13 WHERE REFERENCES ARE MADE ON DRAWINGS THAT EXISTING RECEPTACLES, ETC., BE EXTENDED AND/OR RELOCATED TO SUIT NEW CONSTRUCTION, RECEPTACLES, ETC., ARE TO BE TESTED AND IF FOUND DEFECTIVE. BE REPLACED, CRACKED OR BROKEN COVERPLATES ARE TO BE REPLACED. FINISHES TO MATCH EXISTING SUBJECT TO REVIEW WITH CONSULTANT.
- 5.14 BE RESPONSIBLE FOR DISCONNECTING POWER SUPPLY TO BRANCH CIRCUITS CONTROLLING LIGHTING, RECEPTACLES, PANELS, MECHANICAL EQUIPMENT, ETC., FOR SAFE REMOVAL OF EQUIPMENT, CONDUIT, WIRING, BOXES, ETC., AFFECTED BY DEMOLITION
- 5.15 CLOSE OPENINGS IN BOXES, PANELS, ETC., THAT RESULT FROM REMOVAL OF EQUIPMENT, CONDUIT. WIRING. FIXTURES. ETC. CLOSE OPENINGS IN PROPER MANNER AND PROPERLY TERMINATE AND INSULATE CABLES TO RESTORE SYSTEM TO SAFE OPERATING CONDITION, TO OWNER'S SATISFACTION.
- 5.16 BE PRESENT AND SUPERVISE REMOVAL OF ELECTRICAL EQUIPMENT AND DEVICES. DURING DEMOLITION OF CEILINGS, WALLS, FLOORS, ETC. EXISTING EQUIPMENT WHICH IS NOT TO BE RELOCATED BUT INTERFERES WITH DEMOLITION IS TO BE TEMPORARILY RELOCATED UNTIL DEMOLITION WORK IS COMPLETED. SERVICES TO TEMPORARILY RELOCATED EQUIPMENT ARE TO BE MAINTAINED AT ALL TIMES.
- 5.17 DELETE EXISTING SYSTEM DEVICES AS NOTED. INCLUDE FOR: DISCONNECTING AND DECOMMISSIONING OF DELETED DEVICES; REMOVAL OF OBSOLETE BOXES, WIRING AND CONDUIT: PATCHING AND MAKING GOOD SURFACES AS COORDINATED WITH GENERAL TRADES CONTRACTOR: ENGAGING OWNER'S EXISTING RESPECTIVE SYSTEM VENDORS TO DECOMMISSION DEVICES, RE-PROGRAM EXISTING SYSTEM TO SUIT RENOVATIONS WORK. TEST AND VERIFY THAT OPERATION OF EXISTING SYSTEM IS IN PROPER ORDER AFTER SYSTEM CHANGES; TURN OVER DELETED DEVICES TO OWNER IF REQUESTED BY OWNER; PROPERLY DISPOSE OF MATERIALS NOT WANTED BY OWNER.
- 5.18 REMOVE AND RE-INSTALL EXISTING CEILING TILES AS REQUIRED TO PERFORM WORK. PRIOR TO REMOVAL INSPECT TILES FOR DAMAGE AND REPORT ANY TO OWNER AND CONSULTANT. REMOVE AND REINSTALL ELECTRICAL DEVICES/LUMINAIRES AS REQUIRED FOR INSTALLATION OF WORK. SECURE LOOSE CABLING, DEVICES AND LUMINAIRES TO CEILING SLAB. AFTER WORK HAS BEEN COMPLETED AND SUCCESSFULLY TESTED AND INSPECTED, RE-INSTALL CEILING TILES TO EXISTING STANDARDS. REPLACE TILES AND GRID MEMBERS DAMAGED DURING WORK. PATCH AND MAKE GOOD (INCLUDING PAINTING) SURFACES TO MATCH EXISTING. COMPLY WITH APPLICABLE GOVERNING AUTHORITY REQUIREMENTS WITH REGARDS TO CEILING WORK IN SPECIAL AREAS.
- 5.19 CHECK LUMINAIRES TO BE DELETED FOR PCB BALLASTS. DISCONNECT AND REMOVE SUCH BALLASTS. INCLUDE COSTS FOR COMPANY SPECIALIZED IN SUCH HAZARDOUS MATERIALS TO REMOVE AND DISPOSE SUCH MATERIALS OFF-SITE IN COMPLIANCE WITH MINISTRY OF ENVIRONMENT, MINISTRY OF TRANSPORT AND ANY OTHER GOVERNING AUTHORITY REGULATIONS.
- HAZARDOUS MATERIALS
- 6.1 IF AT ANY TIME DURING COURSE OF WORK HAZARDOUS MATERIALS ARE ENCOUNTERED OR SUSPECTED. CEASE WORK IN AREA IN QUESTION AND IMMEDIATELY REPORT TO CONSULTANT AND COMPLY WITH REGULATIONS OF LOCAL GOVERNING AUTHORITIES. DO NOT RESUME WORK IN AFFECTED AREA WITHOUT APPROVAL FROM OWNER AND REVIEW WITH CONSULTANT.
- 6.2 PROPERLY REMOVE AND DISPOSE OFFSITE MATERIALS CONTAINING HAZARDOUS MATERIALS IN ACCORDANCE WITH LOCAL GOVERNING AUTHORITY REGULATIONS. USE SPECIALTY FIRMS LICENSED BY LOCAL AUTHORITIES AS REQUIRED TO HANDLE SUCH MATERIALS AND TO ENSURE PROPER DISPOSAL TO MINISTRY APPROVED SITES. SUBMIT TO CONSULTANT COPIES OF PERMITS AND/OR APPROVALS. RECORD DRAWINGS (AS-BUILTS)
- 7.1 DRAWINGS FOR THIS PROJECT HAVE BEEN PREPARED ON AUTOCAD RELEASE VERSION OF SOFTWARE CONFIRMED WITH CONSULTANT. COPIES OF DRAWINGS ON DISKS FOR USE IN PREPARING "AS-BUILTS" MAY BE PURCHASED FROM CONSULTANT AT COST OF \$25 CDN. PLUS HST PER DRAWING.
- 7.2 FOR PRODUCTION OF AS-BUILT DOCUMENTS, OBTAIN CONSULTANT'S ACAD DRAWING FILES AND "CTB" FILE (FOR PLOTTING CORRECT LINE THICKNESS). WHEN WORK BEGINS ON SITE, MAINTAIN "AS-BUILT" WHITE PRINTS AT SITE FOR PERIODIC INSPECTION BY CONSULTANT THROUGHOUT DURATION OF WORK. PAY PARTICULAR ATTENTION TO ACCURATELY DIMENSIONING LOCATION OF CONCEALED SERVICES TERMINATED FOR FUTURE, BURIED WORK AND SERVICES, AND CONCEALED WORK. CLEARLY AND ACCURATELY MARK-UP CHANGES AND DEVIATIONS FROM ROUTING OF DUCTS, CONDUITS, RACEWAYS AND SERVICES, AND LOCATIONS OF EQUIPMENT SHOWN ON CONTRACT DRAWINGS. CHANGES AND DEVIATIONS INCLUDE THOSE MADE BY ADDENDA, CHANGE ORDERS AND SITE INSTRUCTIONS. BEFORE APPLYING FOR A CERTIFICATE OF SUBSTANTIAL COMPLETION, UPDATE AUTOCAD DISK SET IN ACCORDANCE WITH MARKED UP "AS-BUILT" WHITE PRINTS, SUBMIT TO CONSULTANT FOR REVIEW, "AS-BUILT" SITE DRAWING WHITE PRINTS PRODUCED FROM DISK SET AND DRAWING DISK SET USING CONSULTANT "CTB" FILE. MAKE REVISIONS AS REQUESTED BY CONSULTANT. UPON COMPLETION OF WORK, SUBMIT TO CONSULTANT, COMPLETED "AS-BUILT" DRAWINGS (PLOTTED WITH "CTB" FILE), TRANSPARENCIES, AUTOCAD FILES DISKS AND BUILDING INSPECTION DEPARTMENT'S FINAL CERTIFICATE OF APPROVAL. "AS-BUILT" DRAWINGS TO CONTAIN CONTRACTOR'S NAME AND DATE FAILURE TO PLOT DRAWINGS WITH CORRECT LINE THICKNESS WILL RESULT IN

REJECTION. CONFIRM QUANTITIES OF SETS OF AS-BUILTS WITH CONSULTANT AT STARTUP.

- 7.3 WHEN WORK BEGINS AT SITE, CLEARLY AND ACCURATELY MARK ON BOUND SET OF WHITE PRINTS OF CONTRACT DRAWINGS. ON DAILY BASIS. CHANGES AND DEVIATIONS FROM ROUTING OF AND LOCATIONS OF EQUIPMENT SHOWN ON CONTRACT DRAWINGS. CHANGES AND DEVIATIONS INCLUDING THOSE MADE BY ADDENDA, CHANGE ORDERS, AND SITE INSTRUCTIONS AND CHANGES AND DEVIATIONS INDICATED ON SUPPLEMENTAL DRAWINGS ISSUED WITH ADDENDA, CHANGE ORDERS, AND SITE INSTRUCTIONS, MAINTAIN "AS-BUILT" WHITE PRINTS AT SITE FOR PERIODIC INSPECTION BY CONSULTANT THROUGHOUT DURATION OF WORK. PAY PARTICULAR ATTENTION TO ACCURATELY DIMENSIONING LOCATION OF CONCEALED SERVICES TERMINATED FOR FUTURE EXTENSION BURIED WORK AND SERVICES AND WORK CONCEALED WITHIN BUILDING IN INACCESSIBLE LOCATIONS. LOCATE AND IDENTIFY FIRE ALARM DEVICES WITH ADDRESSES, AS APPLICABLE
- 7.4 WHEN WORK ENDS AT SITE, UPDATE A COMPUTER FILE COPY OF CONTRACT DOCUMENT DRAWING SET SO THAT IT REFLECTS DEVIATIONS FROM ORIGINAL CONTRACT DOCUMENT DRAWINGS. THUS FORMING A TRUE "AS-BUILT" DRAWING DISK SET. PROVIDE SET OF PRINTS OF CONTRACT DRAWINGS PRODUCED FROM TRUE "AS-BUILT" DRAWING SET SUBMIT "AS-BUILT" DRAWING ELECTRONIC FILES WITH WHITE PRINTS AND CAD PRODUCED "AS-BUILT" PRINTS TO CONSULTANT. SUBMITTED DRAWINGS TO BE OF SAME QUALITY AS ORIGINAL CONTRACT DOCUMENT DRAWINGS.
- 7.5 UPDATE ONSITE DISTRIBUTION RISER DIAGRAMS POSTED IN ELECTRICAL ROOMS.
- 8 SHOP DRAWINGS AND OPERATING/MAINTENANCE INSTRUCTION MANUALS 8.1 SUBMIT SHOP DRAWINGS FOR PRODUCTS. PROPERLY IDENTIFY SHOP DRAWINGS FOR REVIEW AND SHOW IN DETAIL EQUIPMENT AND MATERIALS. ENDORSE EACH DRAWING; INCLUDE COMPANY NAME AND SUBMITTAL DATE.
- 8.2 PROVIDE OPERATING AND MAINTENANCE (O&M) INSTRUCTION MANUALS AS INDEXED, IDENTIFIED, HARD COVER 3 RING BINDERS COMPLETE WITH: .1 TITLE SHEET AND LIST OF CONTENTS;
- .2 A COPY OF EACH "REVIEWED" SHOP DRAWING;
- .3 EXPLANATIONS OF OPERATING PRINCIPLES AND SEQUENCES;
- .4 PART LISTS WITH NUMBERS; .5 RECOMMENDED MAINTENANCE PRACTICES AND PRECAUTIONS;
- .6 COPIES OF INSPECTION CERTIFICATES ISSUED BY GOVERNING AUTHORITIES;
- .7 WIRING AND CONNECTION DIAGRAMS .8 COPIES OF ADDITIONAL AND REVISED PANELBOARD DIRECTORIES.
- 8.3 PROVIDE MINIMUM 2 SETS OF MANUALS UNLESS OTHERWISE DIRECTED IN DIVISION 01. CONFIRM EXACT QUANTITY AND METHOD OF SUBMISSION WITH CONSULTANT REVIEW BY CONSULTANT DOES NOT MEAN APPROVAL OF DETAIL DESIGN INHERENT IN SHOP DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN SHOP DRAWINGS
- UNLESS OTHERWISE DIRECTED BY CONSULTANT, SUBMIT SHOP DRAWINGS IN ELECTRONIC FORM. UNLESS OTHERWISE DIRECTED BY CONSULTANT ADDITIONALLY INCLUDE ELECTRONIC PDF COPIES OF MANUALS LOADED ON TO USB FLASH DRIVE.
- GENERAL CONDUIT AND CONDUCTOR INSTALLATION REQUIREMENTS
- 9.1 INSTALL CONDUIT AND CONDUCTORS CONCEALED TO DEGREE MADE POSSIBLE BY FINISHES AND PROVIDE INSTALLATIONS IN ACCORDANCE WITH OESC AND LOCAL GOVERNING AUTHORITIES. PLAN AND COORDINATE LOCATIONS AND ROUTING OF SERVICES WITH TRADES. PRIOR TO INSTALLATION. IN AREAS WHERE MULTIPLICITY OF SERVICES OCCURS. PREPARE DETAILED DRAWINGS AND SUBMIT TO CONSULTANT FOR REVIEW PRIOR TO START OF AFFECTED WORK
- WHERE CONDUIT AND/OR CONDUCTORS ARE EXPOSED. ARRANGE SAME TO AVOID INTERFERENCE WITH OTHER WORK AND INSTALL SERVICES PARALLEL TO BUILDING LINES. WHERE HORIZONTAL CONDUITS AND/OR CONDUCTORS ARE EXPOSED, INSTALL AS HIGH AS POSSIBLE. DO NOT INSTALL CONDUIT AND/OR CONDUCTORS WITHIN 150 MM OF "HOT" PIPES OF EQUIPMENT UNLESS CONDUIT AND/OR CONDUCTORS ARE ASSOCIATED WITH EQUIPMENT INDEPENDENTLY RUN CONDUIT AND CONDUCTORS MUST BE SUPPORTED FROM CEILING/WALL STRUCTURE, NOT FROM CEILING HANGERS, DUCTWORK, PIPING, CABLE TRAYS, ETC.
- 9.3 IDENTIFY CONDUIT RUNS. (I.E.: TAG BOTH ENDS OF CONDUIT RUNS). 9.4 AT NO EXTRA COST, ALLOW FOR FINAL RELOCATIONS OF DEVICES UP TO 3 M TO SUIT FINAL
- COORDINATED DEVICE LOCATIONS, PRIOR TO INSTALLATION OF WALL COVERINGS. 9.5 GENERALLY, CONDUCTORS AND CONDUIT ARE SIZED ON DRAWINGS, BUT IN ABSENCE OF DIRECTION IN TYPE AND SIZING, TYPE AND SIZE AND PROVIDE REQUIRED QUANTITY IN ACCORDANCE WITH INTENDED APPLICATION. TO APPLICABLE OESC REQUIREMENTS, SIZES WHERE SHOWN, ARE MINIMUM SIZES AND SHALL NOT BE REDUCED UNLESS APPROVED BY OWNER AND REVIEWED WITH CONSULTANT
- 9.6 CONDUCTORS IN PLENUM SPACES AND IN RAISED FLOOR AREAS TO COMPLY WITH OBC AND OESC REQUIREMENTS WITH REGARDS TO FLAME AND SMOKE TEST. 9.7 PROVIDE POLY TYPE PULL STRINGS IN ALL EMPTY CONDUITS.
- 10 PROVISIONS FOR MISCELLANEOUS SYSTEM ROUGH-INS
- 10.1 PROVIDE COMPLETE SYSTEM OF CONDUITS, OUTLET BOXES, JUNCTION BOXES, FACEPLATES AND SLEEVES (IF REQUIRED) AND FIRE RETARDANT PLYWOOD BACKBOARD TO ACCOMMODATE EXTENSION OF EXISTING SYSTEM BY SYSTEMS INSTALLERS WHO WILL PROVIDE EQUIPMENT AND WIRING. PROVIDE BLANK TYPE FACEPLATES
- 10.2 PROVIDE CONDUIT AS REQUIRED. PROVIDE PULLBOXES IN CONDUIT RUNS LONGER THAN 30 M OR HAVING MORE THAN 2, 90 DEGREE BENDS. PULLBOX SIZES ARE NOT TO BE LESS THAN 8 TIMES ENTERING CONDUIT IN LENGTH. LEAVE CONDUITS FREE AND CLEAR OF OBSTRUCTIONS AND TERMINATE AS REQUIRED. EQUIP TERMINATIONS WITH BUSHINGS AND CLEARLY IDENTIFY FACH RUN, PROVIDE FISH WIRES IN EMPTY CONDUIT FOR NETWORK CABLING SYSTEMS, BOXES CONDUITS, AND BENDING RADII TO CONFORM TO EIA/TIA 569 STANDARDS FOR INSTALLATION OF CATEGORY RATING OF CABLING. UNLESS OTHERWISE NOTED, CONDUITS TO BE MINIMUM 27 MM DIAMETER AND INCREASED TO SUIT MAXIMUM CABLE FILL REQUIREMENTS.
- PULL BOXES SHALL BE SECURELY ATTACHED TO THE COMMUNICATIONS PAC-POLE. PLASTIC BUSHINGS MUST BE UTILIZED WHEN TRANSITIONING FROM THE PULL BOX TO THE COMMUNICATION PAC-POLE.
- 11 CONDUIT
- 11.1 PROVIDE CONDUIT FOR CONDUCTORS, INTERIOR CONDUIT TO BE EMT (THINWALL) GALVANIZED. ELECTRICAL METALLIC TUBING TO CSA C22.2 NO. 83. COMPLETE WITH FACTORY MADE BENDS WHERE SITE BENDING IS NOT POSSIBLE, AND JOINTS AND TERMINATIONS MADE WITH SET SCREW TYPE CONNECTORS; FOR SHORT BRANCH CIRCUIT CONNECTORS TO MOTORIZED EQUIPMENT AND TRANSFORMERS (MINIMUM LENGTH 450 MM, MAXIMUM LENGTH 600 MM WITH 180 DEGREE LOOP WHERE POSSIBLE) GALVANIZED STEEL FLEXIBLE FLUID TIGHT METALLIC CONDUIT TO CSA C22.2 NO. 56. COMPLETE WITH IDEAL "STEEL TOUGH" LIQUID TIGHT FLEXIBLE CONDUIT CONNECTORS AT TERMINATIONS. FOR EXTERIOR EXPOSED CONDUIT. AND FOR INTERIOR CONDUIT GREATER THAN 50 MM DIAMETER AND FOR SURFACE MOUNTED CONDUIT AT HEIGHT LESS THAN 1200 MM, PROVIDE RIGID GALVANIZED STEEL TO CSA C22.2 NO. 45 COMPLETE WITH FITTINGS, CONNECTORS, AND RIGID COUPLINGS
- 11.2 FOR RUNNING UNDERGROUND, OR IN CONCRETE SLABS, PROVIDE CSA APPROVED, RIGID PVC CONDUIT COMPLETE WITH COUPLINGS, EXPANSION JOINTS, ELBOWS, ETC., AS REQUIRED. 11.3 SUPPORT AND SECURE CONDUIT AT SPACING IN ACCORDANCE WITH CODE REQUIREMENTS BY MEANS OF GALVANIZED PIPE STRAPS, CONDUIT CLIPS, RING BOLT TYPE HANGERS, OR BY OTHER PROPER MANUFACTURED DEVICES. PROVIDE CONDUIT FITTINGS CONSTRUCTED OF SAME MATERIALS AS CONDUIT AND SUITABLE FOR APPLICATION. SQUARE AND PROPERLY REAM ENDS OF SITE CUT CONDUIT. GENERALLY. CONDUIT IS SIZED ON DRAWINGS. SIZE CONDUIT NOT SIZED ON DRAWINGS IN ACCORDANCE WITH CODE. FOR CONTROLS AND COMMUNICATIONS CONDUCTORS, SIZE CONDUIT AS NOTED, BUT INCREASED TO SUFFICIENTLY ACCOMMODATE HOME RUN CONDUCTORS. BEND CONDUIT AT FULL CONDUIT DIAMETER WITH NO KINKING AND NO FLAKING OR CRACKING OF FINISHES.
- 12 NOT USED

- 13 CONDUCTORS
- 13.1 PROVIDE CONDUCTORS CONDUCTORS TO BE COPPER REFER TO DRAWINGS FOR SIZIN CONDUCTORS. GENERALLY, CONDUCTOR SIZES ARE INDICATED ON DRAWINGS. SUCH S ARE MINIMUM REQUIREMENTS AND MUST BE INCREASED TO SUIT LENGTH OF RUN VOLTAGE DROP IN ACCORDANCE WITH SCHEDULE OBTAINED FROM CONSULTANT. CONDUCTORS NOT SIZED ON DRAWINGS IN ACCORDANCE WITH OESC. PROVIDE CA SUPPORT SYSTEM ACCESSORIES WHICH ARE NOT SPECIFIED HEREIN OR SHOWN ON DRAWI BUT ARE REQUIRED FOR PROPER INSTALLATION.
- 13.2 INTERIOR CONDUCTORS: "T90 NYLON" SINGLE COPPER CONDUCTOR TO CSA C22.2 NO. COLOUR CODED, 90°C RATED, PVC INSULATED AND NYLON COVERED; OR "RW90", SIN COPPER CONDUCTOR TO CSA C22.2 NO. 38, 600 VOLTS, MAXIMUM 90°C CONDUC TEMPERATURE, MINUS 40°C MINIMUM INSTALLATION TEMPERATURE, X-LINK POLYETHYLE INSULATION, COLOUR CODED.
- 13.3 CONDUCTORS IN ACCESSIBLE SUSPENDED CEILING SPACES OR IN STUD WALL CONSTRUCT TO SUSPENDED CEILING SPACES, MAY BE "BX" TYPE, AC 90 FLEXIBLE ARMOURED CABLE V "RW 90" COPPER CONDUCTORS (MAXIMUM 6 M RUN PERMITTED), AND WITH BARE COF GROUND CONDUCTOR. "BX" TO COMPLY WITH CSA C22.2 NO. 51 (BULLETIN NO. 994). PROV PROPER SQUEEZE TYPE CONNECTORS AND PLASTIC ANTI SHORT BUSHINGS AT TERMINATION SUPPORT "BX" IN CEILING SPACES AND IN STUD WALL CONSTRUCTION WITH STEEL 2 H CABLE STRAPS TO CODE REQUIREMENTS. RUN BX PERPENDICULAR AND PARALLEL TO BUILD
- 13.4 CONDUCTORS UP TO AND INCLUDING NO. 10 AWG TO BE SOLID. CONDUCTORS IN SIZES LARG THAN NO. 10 AWG TO BE STRANDED. PROVIDE CONDUCTORS CONSTRUCTED OF CONDUCTIVE COPPER AND APPROVED FOR 600 V. DO NOT USE CONDUCTORS SMALLER T NO 12 AWG
- 13.5 PROVIDE IDI ELECTRIC "IDEAL" NO. 451, NO. 452 AND NO. 453 "WING NUT" CSA CERTIFIED (RATED PRESSURE TYPE CONNECTORS 13.6 COLOUR CODE CONDUCTORS IN ACCORDANCE WITH CODE, THROUGHOUT TO IDENT
- PHASES, NEUTRALS AND GROUND BY MEANS OF SELF-LAMINATING COLOURED T. COLOURED CONDUCTOR INSULATION, OR PROPERLY SECURED COLOURED PLASTIC DISCS. 13.7 WHEN PULLING WIRES INTO CONDUIT, USE IDI ELECTRIC "IDEAL YELLOW 77" LUBRIC.
- ENSURE WIRES ARE KEPT STRAIGHT AND ARE NOT TWISTED OR ABRAISED. 13.8 PROVIDE A NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT, AND A MINIMUM OF ONE GR INSULATED GROUND CONDUCTOR PER THREE CIRCUITS. TYPICALLY, FOR EACH 37S PROVIDE A JUNCTION BOX WITH THE BRANCH CIRCUITS, NEUTRALS, AND GROL CONDUCTORS AS DESCRIBED.
- 14 OUTLET BOXES, PULLBOXES AND JUNCTION BOXES
- 14.1 PROVIDE CSA APPROVED STAMPED GALVANIZED STEEL ELECTRICAL BOXES FOR E LUMINAIRE, DEVICE AND OTHER PRODUCT FOR WIRING TERMINATIONS AS REQUIRED. REFER DRAWINGS FOR TYPICAL LOCATIONS OF OUTLETS. CONFIRM EXACT LOCATIONS PRIOR ROUGHING IN. BOXES FOR RIGID STEEL CONDUITS TO BE CAST FS/FD TYPES. PROVIDE BOXES FOR PVC CONDUIT SYSTEMS.
- 14.2 PROVIDE PULLBOXES AND JUNCTION BOXES WHEREVER NECESSARY TO FACILIT CONDUCTOR/CONDUIT INSTALLATIONS. GENERALLY, PROVIDE CONDUIT RUNS EXCEEDING IN LENGTH, OR WITH MORE THAN 2, 90-DEGREE BENDS WITH PULLBOX INSTALLED CONVENIENT AND SUITABLE INTERMEDIATE ACCESSIBLE LOCATION. PROVIDE JUNCTION BO AND PULLBOXES SIZED IN ACCORDANCE WITH CODE TO SUIT NUMBER AND SIZE OF COND AND CONDUCTORS. BOXES TO BE GALVANIZED OR PRIME COATED PLATE STEEL COMPL WITH SCREW ON OR HINGED COVERS AND KNOCKOUTS. BOXES MUST BE ACCESSIBLE AF WORK IS COMPLETE.
- 14.3 SIZE, ARRANGEMENT AND TYPE OF BOXES TO BE SUITABLE FOR APPLICATION, PROVIDE BL COVERPLATES ON EXISTING OBSOLETE BOXES WHICH ARE TO REMAIN. CLEARLY IDENTIFY M PULL OR JUNCTION BOXES BY PAINTING COVERS IN ACCORDANCE WITH FOLLOWING COL SCHEDULE:
- .1 LIGHTING YELLOW; .2 NORMAL POWER - BLUE;
- .3 FIRE ALARM RED.
- 15 RECEPTACLES, SWITCHES AND FACEPLATES
- 15.1 FOR GENERAL AREAS: PROVIDE CSA APPROVED. EXTRA HEAVY DUTY, INDUSTRIAL GRADE QUIET ACTION NYLON TOGGLE TYPE, 20A, 120 277V SWITCHES AND, TAMPER RESISTANT, EX HEAVY DUTY, SPECIFICATION GRADE PREMIUM QUALITY, NYLON BODY CONSTRUCTION, DUP 15 OR 20A 125V, 3W GROUNDING RECEPTACLES EQUAL TO HUBBELL 5362WTR. DEVICES TO BACK AND SIDE WIRED. PROVIDE STAINLESS STEEL TYPE OR IMPACT RESIST THERMOPLASTIC FACEPLATES WITH MATCHING SCREWS, AS PER EXISTING STANDARDS **REVIEWED WITH CONSULTANT**
- 15.2 FOR PUBLIC SPACES OR OTHER AREAS WHERE DESIGNER DEVICES ARE REQUIRED: PROV CSA APPROVED, SPECIFICATION GRADE, ROCKER TYPE, 20A, 120 277V DECORATIVE T SWITCHES SPECIFICATION GRADE, DUPLEX NYLON CONSTRUCTION, 15A 125V, 3W DECORA RECEPTACLES. DEVICES TO BE BACK AND SIDE WIRED. PROVIDE IMPACT RESISTA THERMOPLASTIC FACEPLATES WITH MATCHING SCREWS.
- 15.3 WHERE REQUIRED. PROVIDE 15A 125V. ULC LISTED. 2 POLE. 3W. ORANGE COLOUI SPECIFICATION GRADE ISOLATED GROUND DUPLEX RECEPTACLE COMPLETE WITH STAINLE STEEL FACEPLATE AND MATCHING SCREWS.
- 15.4 WHERE REQUIRED, PROVIDE WEATHER RESISTANT SERIES, 15A 125V, ULC LISTED, CLAS GROUP ONE, 2 POLE, 3W, IVORY COLOURED, SPECIFICATION GRADE, GROUND FA INTERRUPTER DUPLEX RECEPTACLE, COMPLETE WITH STAINLESS STEEL FACEPLATES MATCHING SCREWS
- 15.5 IDENTIFY CIRCUIT NUMBERS ON RECEPTACLE DESIGNATED LABELLING SPACES. PRO PERMANENTLY LABELLED, SELF-ADHESIVE, IDENTIFICATION TAPE ON OUTSIDE OF EACH DEV OUTLET, IDENTIFYING LOCATION FROM WHERE EACH DEVICE IS FED.
- 15.6 CONFIRM TYPE, NUMBER OF WAY, NUMBER OF POLES, AND FINISHES OF DEVICES V CONSULTANT PRIOR TO ORDERING. SUBMIT SAMPLES AND FINISHES FOR CONSULTAN REVIEW
- 15.7 ACCEPTABLE MANUFACTURERS INCLUDE HUBBELL, LEGRAND P&S, COOPER ARROW HART LEVITON.
- 16 ACCESS DOORS
- 16.1 PROVIDE MINIMUM NO. 12 GAUGE PRIME COAT PAINTED STEEL FLUSH ACCESS DOORS, E COMPLETE WITH A HEAVY FRAME AND ANCHOR, HEAVY DUTY RUST RESISTANT CONCEA HINGES. POSITIVE LOCKING SCREWDRIVER LOCK. AND MOUNTING AND FINISHING PROVISI TO SUIT PARTICULAR CONSTRUCTION IN WHICH IT IS INSTALLED. ACCESS DOORS TYPICAL STANDARD SIZE AND TO SUIT CONCEALED WORK FOR WHICH THEY ARE SUPPLIED BUT NO LESS THAN 600 MM X 600 MM. ACCESS DOORS IN FIRE RATED CEILINGS, WALLS, PARTITIC STRUCTURES, ETC., TO BE ULC LISTED AND LABELLED AND OF A RATING TO MAINTAIN SEPARATION INTEGRITY.
- 16.2 WHERE ACCESS DOORS ARE LOCATED IN SURFACES WHERE SPECIAL FINISHES ARE REQUIR PROVIDE RECESSED DOOR TYPE CAPABLE OF ACCEPTING FINISH IN WHICH THEY ARE TO INSTALLED SO AS TO MAINTAIN FINAL BUILDING SURFACE APPEARANCE THROUGHOUT. 16.3 SUPPLY ACCESS DOORS TO GIVE ACCESS TO JUNCTION BOXES, PULLBOXES, CONDUCTOR/
- JOINTS AND OTHER SIMILAR ELECTRICAL WORK WHICH MAY NEED MAINTENANCE OR RE BUT WHICH IS CONCEALED IN INACCESSIBLE CONSTRUCTION. 16.4 BEFORE COMMENCING INSTALLATION OF WORK, PREPARE ON SET OF REFLECTED CEIL
- PLANS. COMPLETE LAYOUTS OF REQUIRED CEILING ACCESS DOORS. SUBMIT CONSULTANT'S REVIEW, LAYOUTS SHOWING EXACT SIZES AND LOCATIONS. LOCATE ARRANGE WORK TO SUIT. COORDINATE SUCH THAT MECHANICAL AND ELECTRICAL SERVICE CAN BE ACCESSED AT SAME LOCATION WHERE POSSIBLE.
- 16.5 ACCESS DOORS TO BE INSTALLED BY TRADE RESPONSIBLE FOR PARTICULAR TYPE CONSTRUCTION IN WHICH DOORS ARE REQUIRED. SUPPLY ACCESS DOORS TO TRA INSTALLING SAME AT PROPER TIME. 16.6 CONFIRM EXACT DIMENSIONS PRIOR TO ORDERING. CONFIRM FINISHES WITH CONSULTANT.
- 17 FASTENING AND SECURING HARDWARE
- 17.1 PROVIDE PROPER FASTENERS, HANGERS AND SIMILAR HARDWARE REQUIRED FOR CONDI CONDUCTORS AND EQUIPMENT. DO NOT USE EXPLOSIVE POWDER ACTUATED FASTENI WITHOUT WRITTEN APPROVAL FROM OWNER AND REVIEW WITH CONSULTANT. UNDER CIRCUMSTANCES SHALL CEILING SUSPENSION HANGERS OR GRIDS BE USED FOR SUSPENSION OF CONDUIT AND CONDUCTORS.
- 17.2 PROVIDE METAL "J" HOOKS OR PANDUIT "J-PRO" CABLE SUPPORT SYSTEMS COMMUNICATIONS SYSTEM CABLING IN ACCESSIBLE CEILING SPACES WERE CONDUIT OR CA TRAY IS NOT BEING PROVIDED. OBTAIN WRITTEN APPROVAL OF OWNER FOR USE OF J-HO COMPLY WITH J-HOOK MANUFACTURER'S LOADING LIMITATIONS AND SPACING CRITERIA. NOT EXCEED 1.2 M SPACING INTERVAL. ADD ADDITIONAL J-HOOKS IF CABLING SAGS, DISCRETION OF CONSULTANT. DO NOT INSTALL MORE THAN ONE SYSTEM ON EACH J-HOOK.
- 17.3 PROVIDE VELCRO TIE WRAPS FOR BUNDLING AND SECURING CABLES. DO NOT OVER TIGHT PROVIDE FT6/CMP RATED WRAPS IN PLENUM TYPE SPACES AS PER LOCAL BUILDING CO REQUIREMENTS.
- 18 IDENTIFICATION NAMEPLATES
- 18.1 FOR EACH PIECE OF ELECTRICAL DISTRIBUTION EQUIPMENT FROM ELECTRICAL SOURCE SUPPLY UP TO AND INCLUDING PANELBOARDS, AND OTHER SYSTEMS CONTROL CABINETS ASSOCIATED ENCLOSURES, PROVIDE ENGRAVED LAMACOID IDENTIFICATION NAMEPLA SECURED TO APPARATUS WITH STAINLESS STEEL SCREWS, WORDING TO INDICATE SOURCE ELECTRICAL SUPPLY AND SIZED TO SUIT EQUIPMENT FOR WHICH IT IS PROVIDED. REV EXACT NAMEPLATE WORDING, DESIGNATIONS, AND SIZES WITH CONSULTANT PRIOR MANUFACTURE.
- 19 SYSTEM BACKBOARDS
- 19.1 FSC (FOREST STEWARDSHIP COUNCIL), G1S CONSTRUCTION GRADE FIR PLYWOOD, FL/ RETARDANT PRIME COAT PAINTED ON EXPOSED SURFACES MINIMUM 20 MM THICK AS SIZEI DRAWINGS AND WITH FLAME SPREAD RATING IN ACCORDANCE WITH OBC REQUIREMENTS.

G OF IZES AND SIZE ABLE NGS	20 20.1	CIRCUIT BREAKERS FOR EXISTING PANELBOARDS PROVIDE BREAKERS IN EXISTING PANELBOARDS OF TYPE, QUALITY AND STANDARDS TO MATCH EXISTING DEVICES. CONFIRM REQUIREMENTS ON SITE PRIOR TO ORDERING. BREAKERS TO BE FULL HEIGHT MODULES. PROVIDE MODIFICATIONS TO PANELBOARDS TO ACCOMMODATE BREAKERS AND FEEDER INSTALLATIONS. PROVIDE REPLACEMENT BRANCH CIRCUIT DIRECTORY CARDS, NEATLY TYPEWRITTEN TO INCORPORATE ADDITIONAL AND EXISTING CONNECTED LOADS, TO CONSULTANT'S DIRECTIONS. DIRECTORIES TO USE OWNER'S ACTUAL ROOM	
. 75, IGLE	21	NAMES/NUMBERS AND NOT CONTRACT DRAWINGS NAMES/NUMBERS. PROVIDE ENGRAVED LAMACOID I.D. NAMEPLATES FOR DISTRIBUTION PANELBOARDS, TO CONSULTANT'S DIRECTIONS. PANELBOARDS	
tor .ene tion vith	21.1	PROVIDE CUTLER-HAMMER CANADA TYPE "POW-R-LINE 1" FACTORY ASSEMBLED DEAD FRONT PANELBOARDS, 120/208V, 3-PHASE, 4-WIRE, MANUFACTURED TO CSA STANDARD C22.2 NO. 29 AND OESC, AND DESIGNED FOR AN INTERRUPTING CAPACITY OF 10 KA SYMMETRICAL AT 208V, UNLESS OTHEWISE NOTED.	
PER VIDE ONS.	21.2	INSTALL PANELBOARDS WHERE SHOWN COMPLETE WITH:	
IOLE DING GER 98% HAN 600V		 EEMAC 2 SPRINKLER-PROOF ENCLOSURE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL WITH REMOVABLE BOX ENDS, WIRING GUTTER SPACE ON SIDES, AND FACTORY PAINTED WITH ASA-61 GREY BAKED, ACRYLIC ENAMEL FINISH; TRIM FOR RECESSED OR SURFACE WALL MOUNTING AS SHOWN, CONSTRUCTED CODE GAUGE STEEL, BONDERIZED, FACTORY FINISHED WITH ASA-61 GREY BAKED ACRYLIC ENAMEL AND COMPLETE WITH CONCEALED FASTENERS, CONCEALED HINGE, CHROME PLATED DOOR LATCH AND KEYED ALIKE LOCK WITH KEY, STEEL FRAME HOLDER AND CIRCUIT DIRECTORY BACK OF DOOR, AND MYLAR CIRCUIT 	
TIFY APE, ANT. REEN SQM, UND		 BREAKER IDENTIFICATION STRIPS; .3 FACTORY PAINTED DRIP SHIELD FOR SURFACE MOUNTED PANELBOARDS; .4 HARD DRAWN ELECTRICAL GRADE COPPER BUS AND GROUND BUS; .5 HIGH STRENGTH, SET SCREW TYPE, ANTI-TURNING WIRE CONNECTORS; .6 BOLT ON MOULDED CASE CIRCUIT BREAKERS; .7 MAIN BREAKER AND GREEN POWER "ON" INDICATOR LIGHT, WHERE SCHEDULED; .8 200% CAPACITY NEUTRALS FOR PANELBOARDS AS SCHEDULED. 	
		PROVIDE DOUBLE LUGGING TO EXISTING PANELBOARDS AS SHOWN. SUPPORT CABINET INDEPENDENT OF CONNECTING CONDUIT. TURN OVER TO CONSULTANT,	
ACH R TO R TO PVC		PRIOR TO APPLICATION FOR SUBSTANTIAL PERFORMANCE OF WORK, QUANTITY OF 2 PANELBOARD CABINET KEYS PER PANELBOARD. IDENTIFY PANELBOARD BREAKERS IN PERMANENT MANNER, AND COMPLETE TYPED CIRCUIT DIRECTORY TO OWNER'S APPROVAL.	
TATE 30 M	21.5	ACCEPTABLE MANUFACTURERS INCLUDE SIEMENS ELECTRIC AND SQUARE D.	
AT DXES UITS LETE TER ANK MAIN OUR		GROUNDING AND BONDING PROVIDE COMPLETE SYSTEM OF GROUNDING AND BONDING, WHICH COMPLIES WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION FOR ELECTRICAL WORK, INCLUDING REQUIRED GROUNDING SECTIONS OF OESC. CONNECT GROUNDING CONDUCTORS TO EXISTING BUILDING GROUND SYSTEM. PROVIDE SEPARATE INSULATED GROUND WIRE FOR EACH ISOLATED GROUND CIRCUIT. MAKE BURIED OR IN SLAB GROUND CONNECTIONS WITH ERICO CADWELD TYPE WELDED COPPER CONNECTIONS OR BURNDY HYGROUND COMPRESSION CONNECTORS. UNLESS OTHERWISE NOTED OR REQUIRED BY CODE, CONDUCTORS GREATER THAN 400 A TO BE PROVIDED WITH MINIMUM 3/0 AWG GROUND CONDUCTOR.	
		PROVIDE A GROUND CONDUCTOR IN ALL CONDUITS AND EMT. PROVIDE TELECOMMUNICATIONS GROUNDING BUSBAR (MINIMUM 300MM X 50MM X 9MM) MOUNTED WITH STANDOFF INSULATORS ON WALLS OF LAN CLOSETS. BUSBAR TO INCLUDE MINIMUM 8-DRILLED HOLES. CONNECT TO EQUIPMENT WITH GROUND CONDUCTORS AS REQUIRED.	
, AC TRA	23	CONNECTIONS FOR MECHANICAL, OWNER'S, ETC., EQUIPMENT	
LEX, D BE TANT S AS	23.1	PROVIDE REQUIRED ELECTRICAL AND COMMUNICATIONS CONNECTIONS TO APPARATUS SUPPLIED BY MECHANICAL DIVISION AND BY OWNER AS PART OF OTHER DIVISIONS. PERFORM ELECTRICAL WORK FOR EQUIPMENT SCHEDULED ON DRAWINGS. MECHANICAL DIVISION CONTRACTOR WILL SUPPLY STARTERS FOR MOTORIZED APPARATUS SUPPLIED BY THEM AND WILL PROVIDE LAMACOID IDENTIFICATION THROUGHOUT.	D2018 10 05ISSUED FOR CONSTRUCTIONC2018 08 02ISSUED WITH ADDENDUM No.2
ide , Type Tive Tant Red, Less	23.2	COORDINATE WITH TRADES OF OTHER DIVISIONS TO ENSURE PROVISION OF PROPER ELECTRICAL AND COMMUNICATIONS REQUIREMENTS. UNLESS OTHERWISE NOTED OR DIRECTED BY CONSULTANT, PROVIDE INTERCONNECTION WIRING BETWEEN REMOTE OPERATOR DEVICES/CONTROLLERS AND EQUIPMENT BEING CONTROLLED BY OPERATOR DEVICES, WHETHER OR NOT SUCH DEVICES ARE SUPPLIED BY ELECTRICAL DIVISION. PROVIDE DISCONNECT SWITCHES, RECEPTACLES AND OTHER REQUIRED WIRING AND CONNECTION ACCESSORIES. COORDINATE WORK WITH SUPPLIERS OF EQUIPMENT TO BE PROVIDED WITH CONNECTIONS AND WITH STRUCTURED CABLING SYSTEM VENDOR.	B2018 07 05ISSUED FOR PERMIT & TENDERA2018 06 28ISSUED FOR CO ORDINATIONno.daterevisionIt is the responsibility of the appropriate contractor to check and verify all dimen-
S A, AULT AND	23.3	BE RESPONSIBLE FOR: .1 COMPLETE INSTALLATION AND CONNECTION OF STARTERS AND PROVIDE "LINE" AND "LOAD" POWER CONNECTIONS AND INTERLOCKING AS REQUIRED;	sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all
VIDE VICE NITH NT'S		 PROVIDE MOTOR STARTER PANELS CONSISTING OF NO. 14 GAUGE STEEL BOLTED PANELS SIZED TO ACCOMMODATE STARTERS AS REQUIRED AND SUITABLE SPLITTER; UNLESS OTHERWISE NOTED OR SHOWN ON DRAWINGS, MOUNT 1 PHASE STARTERS ADJACENT TO EQUIPMENT THEY SERVE AND CONNECT COMPLETE; 	pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for
AND		 .4 COORDINATE FEEDER ENTRIES TO STARTERS AND STARTER ASSEMBLIES WITH MECHANICAL DIVISION; .5 PROVIDE ADDITIONAL DISCONNECT SWITCHES (COMPLETE WITH IDENTIFICATION), AS REQUIRED BY CODE, OR FOR APPARATUS WHICH CANNOT BE SEEN FROM ITS STARTER 	construction until signed. Copyright reserved.
ACH ALED ONS ALLY		 OR IS IN EXCESS OF 9 M (30') FROM ITS STARTER; .6 PROVIDE INTERLOCK WIRING AS INDICATED ON DRAWINGS AND AS REQUIRED AND AS COORDINATED WITH MECHANICAL DIVISION CONTRACTOR; .7 CONNECT REQUIRED CIRCUITS TO MOTOR STARTER PANEL SO AS TO BALANCE ACTUAL LOADS (WATTAGE). 	
T BE ONS, FIRE RED, O BE	24 24.1	LUMINAIRES INCLUDE WITH SHOP DRAWING SUBMISSIONS, PHOTOMETRIC DATA, LAMP AND DRIVER INFORMATION FOR EACH LUMINAIRE. PHOTOMETRIC DATA TO INCLUDE: TOTAL INPUT WATTS, CANDLEPOWER SUMMARY, CANDELA DISTRIBUTION ZONAL LUMEN SUMMARY, LUMINAIRE EFFICIENCY, CIE TYPE, COEFFICIENT OF UTILIZATION, LAMP TYPE AND LUMEN RATING IN ACCORDANCE WITH IESNA TESTING PROCEDURES.	\\ \ \])
/BUS PAIR	24.2	PROVIDE LUMINAIRES AS NOTED COMPLETE WITH LED LAMPS AND DRIVERS WITH FEATURES AS FOLLOWS: .1 CSA APPROVED, ULC LISTED AND LABELLED;	300-2611 QUEENSVIEW DRIVE OTTAWA ONTARIO CANADA K2B 8K2 TEL: 1-613-829-2800 FAX: 1-613-829-8299 WWW.WSP.COM
LING FOR AND ICES		 .2 OPERATING TEMPERATURE RANGE THROUGH -20°C TO 50°C ; .3 SPECIFICATION STANDARDS TO MEET REQUIREMENTS OF IES LM-79 AND LM-80; 	Hobin Architecture
OF		 .4 BE 100% COMPATIBLE WITH CONNECTED DIMMER CONTROLS TO PROVIDE DIMMING DOWN TO 10%; .5 LEDS TO BE SELECTED FROM SAME COLOUR BIN SIZE FOR CONSISTENCY IN CHROMATICITY AND MEET ANSI C78 377A AS A MINIMUM; .6 GENERALLY, COLOUR TEMPERATURE RANGE TO BE FROM 2700 K TO 6500 K; SPECIFIC TEMPERATURE REQUIREMENTS TO BE IDENTIFIED ON SCHEDULE OF LUMINAIRES; 	Incorporated 63 Pamilla Street Ottawa, Ontario Canada K1S3K7
DUIT, IERS NO SION		 .7 MINIMUM CRI OF 80; .8 RATED LIFE (BASED ON 70% LUMEN DEPRECIATION LEVEL) FROM 50,000 TO 70,000 HOURS. .9 OPERATE FROM 60 HZ INPUT SOURCE OF 120 VAC WITH SUSTAINED VARIATIONS OF ± 10% (VOLTAGE AND FREQUENCY) WITH NO DAMAGE TO DRIVER; .10 OUTPUT REGULATED TO ±5% ACROSS LOAD RANGE; 	T: 613-238-7200 F: 613-235-2005 E: mail@hobinarc.com
FOR		.11 POWER FACTOR GREATER THAN 0.90; .12 TOTAL HARMONIC DISTORTION LESS THAN 20%;	hobinarc.com ARCHITECTURE
OKS. . DO , AT		 .13 CLASS A SOUND RATING; .14 COMPLY WITH ANSI C62.41 CATEGORY A FOR TRANSIENT PROTECTION; .15 ACCEPTABLE MANUFACTURERS INCLUDE PHILIPS, LITHONIA, AND COOPER. 	PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION
TEN. ODE	24.3	THOROUGHLY REVIEW CEILING TYPES, FINISHES AND CONSTRUCTION DETAILS WITH OWNER BEFORE PLACING LUMINAIRE ORDERS AND ENSURE REQUIRED MOUNTING ASSEMBLIES, RINGS AND SIMILAR FEATURES ARE INCLUDED. INCLUDE FOR ASSEMBLY, MOUNTING AND ADJUSTING OF LUMINAIRES, COMPLETE WITH WIRING, CONNECTIONS, HANGERS, ALIGNERS, BOX COVERS, AND ACCESSORIES FOR COMPLETE, SAFE, FULLY OPERATIONAL ASSEMBLY. CAREFULLY	1132 Fisher Avenue, Ottawa DRAWING TITLE:
E OF AND ATES		COORDINATE LUMINAIRE INSTALLATION WITH WORK OF OTHER TRADES TO ENSURE NECESSARY RECESSING DEPTHS AND MOUNTING SPACES ARE PROVIDED. INSTALL LUMINAIRES IN ACCORDANCE WITH APPLICABLE ARCHITECTURAL REFLECTED CEILING PLANS AND/OR WALL ELEVATIONS. CONFIRM LUMINAIRE LOCATIONS PRIOR TO ROUGHING IN. REVIEW LAMP COLOUR TEMPERATURES WITH CONSULTANT/OWNER PRIOR TO ORDERING. SUPPORT LUMINAIRES	ELECTRICAL SPECIFICATION SHEET 1 OF 2
E OF /IEW TO		DIRECTLY TO CEILING SLAB STRUCTURE, NOT TO CEILING HANGERS, DUCTWORK, PIPING, CABLE TRAYS, ETC. ENSURE THAT THE INSTALLATION OF THE LUMINAIRES CONFORMS TO THE APPLICABLE SEISMIC RESTRAINT PROVISIONS INCLUDED IN THE LOCAL GOVERNING BUILDING CODE.	DRAWN BY: DATE: SCALE: K. Mcl. APR. 2018 N.T.S.
AME D ON			PROJECT: 181-04865-00
			DRAWING NO.:

REVISION NO.

- 24.4 CONNECT LUMINAIRES TO CIRCUITS AND NEW OR EXISTING LIGHTING CONTROL EQUIPMENT AS REQUIRED. DO NOT OVERLOAD CIRCUITS BEYOND FIXTURE MANUFACTURER'S
- RECOMMENDATIONS. 24.5 ENSURE THAT PRODUCTS THAT ARE TO BE DIMMED ARE COMPATIBLE WITH EACH OTHER, AND OF ONE MANUFACTURER. ENSURE DIMMING PERFORMANCE LEVELS ARE ACCEPTABLE TO CONSULTANT. UNLESS OTHERWISE NOTED, LIGHTING TO BE DIMMED FROM 100% DOWN TO 10%. 24.6 ACCEPTABLE DRIVER MANUFACTURERS ARE ADVANCE, OSRAM SYLVANIA, AND UNIVERSAL.
- 25 WALL BOX DIMMERS
- 25.1 PROVIDE WALL BOX DIMMERS TO MATCH THE LIGHTING BEING CONTROLLED (i.e. OF THE SAME MANUFACTURER OR AS RECOMMENDED BY THE LIGHTING MANUFACTURER). DIMMERS TO BE OF TYPE AND CAPACITY TO SUIT INTENDED LOADS, EACH COMPLETE WITH CALIBRATED LINEAR SLIDE CONTROL WITH SILVER CONTACTS AND SILENT POSITIVE ON/OFF, FACEPLATE, EMI AND RFI FILTERING. REVIEW FINISHES WITH CONSULTANT PRIOR TO ORDERING.
- 25.2 INSTALL FLUSH WALL BOX DIMMERS IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS, AND CONNECT TO CONTROL LIGHTING. REVIEW EXACT LOCATIONS WITH CONSULTANT PRIOR TO ROUGHING IN. EQUIP EACH DIMMER WITH FACEPLATE. WHEN INSTALLATION IS COMPLETE. CHECK AND TEST OPERATION OF DIMMERS AND ADJUST AS REQUIRED.
- 26 LOW VOLTAGE RELAYS/CONTACTORS
- 26.1 NOT USED
- 26.2 MAGNETIC, FULL VOLTAGE CONTACTORS, SUITABLE FOR APPLICATIONS; 26.3 ELECTRICAL ENCLOSURES/ BOXES SUITABLE FOR HOUSING COMPONENTS.
- 27 OCCUPANCY SENSORS
- 27.1 PROVIDE DEVICES TO MATCH THE LIGHTING BEING CONTROLLED. DEVICES TO BE CSA APPROVED AND TO PROVIDE AUTOMATIC CONTROL OF LIGHTING WITH FOLLOWING COMPONENTS:
- .1 POWER AND SLAVE PACKS; LOW VOLTAGE OR LINE VOLTAGE OPERATION TO SUIT SPECIFIC APPLICATIONS;
- .2 DUAL TECHNOLOGY OCCUPANCY SENSORS;
- .3 OVERRIDE SWITCHES TO BE WALL MOUNTING IN SINGLE GANG RECESSED OUTLET BOXES; .4 DAY LIGHT SENSORS TO BE PROVIDED WHERE REQUIRED FOR DIMMING OR CONTROLLING LIGHTS IN AREAS WITH WINDOWS AND ATRIUMS/SKY LIGHTS;
- .5 MOUNTING HARDWARE AND ANCILLARY DEVICES AS REQUIRED;
- .6 WIRING IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S REQUIREMENTS AND APPLICABLE LOCAL GOVERNING CODES AND STANDARDS.
- 27.2 DUAL TECHNOLOGY TYPE SENSORS AS FOLLOWS:
- .1 COMBINATION PASSIVE INFRARED AND ULTRASONIC TECHNOLOGIES;
- .2 WHEN BOTH PIR AND ULTRASONIC TECHNOLOGIES DETECT OCCUPANCY, LIGHTS TURN ON AUTOMATICALLY; ONCE LIGHTS ARE ON, DETECTION BY EITHER TECHNOLOGY HOLDS LIGHTS ON UNTIL OCCUPANCY IS NO LONGER DETECTED AND TIME DELAY ELAPSES;
- .3 360° LENS AREA COVERAGE, EXTENDING OUT UP TO 6 M AND AREA OF 92.9 M2; .4 LOW PROFILE CEILING MOUNTING DESIGN; INTEGRAL LIGHT SENSOR;
- .5 ADJUSTABLE SENSITIVITY AND DIGITAL TIME DELAY; WALK-THROUGH MODE; LED
- INDICATION OF OCCUPANCY DETECTION; .6 ISOLATED RELAY FOR INTERCONNECTION TO AUXILIARY CONTROL SYSTEMS WHERE REQUIRED.
- 27.3 FOR APPLICATIONS IN WASHROOMS AND SMALL STORAGE ROOMS: WALL MOUNTED DUAL TECHNOLOGY SENSORS AS FOLLOWS:
- .1 WALL SWITCH SENSOR TURNS LIGHTS OFF AND ON BASED ON OCCUPANCY; .2 FACTORY DEFAULT OPERATION IS FOR MANUAL-ON MODE, SO THAT USERS TURN LIGHT
- ON ONLY WHEN NEEDED; .3 VARIETY OF CONTROL OPTIONS INCLUDING AUTO-ON OPERATION, WALK-THROUGH AND
- TEST MODE; ADDITIONAL SETTINGS ALLOW CHOICE OF WHICH SENSING TECHNOLOGIES HOLD ON OR RETRIGGER LIGHTING; .4 COLOUR MATCHED LENS AND LOW PROFILE DESIGN;
- .5 WIDE DISPERSION LENS AREA COVERAGE, EXTENDING OUT UP TO 10 M AND AREA OF 37
- .6 INFRARED AND ULTRASONIC TECHNOLOGIES; .7 ADJUSTABLE TIME DELAYS AND SENSITIVITY; MANUAL PUSHBUTTON OPERATION (OVERRIDE).
- 27.4 EXACT TYPE OF OCCUPANCY SENSORS AND TYPE OF LENSES TO BE VERIFIED BY MANUFACTURER/SUPPLIER TO ENSURE PROPER COVERAGE IN SENSED AREAS ONLY. AND COMPATIBILITY TO INTERCONNECTED SYSTEMS. CONFIRM WITH RESPECTIVE MANUFACTURERS. 27.5 PROVIDE, LOCATE, AND AIM APPROPRIATE SENSORS IN CORRECT LOCATION REQUIRED FOR COMPLETE AND PROPER VOLUMETRIC COVERAGE WITHIN RANGE OF COVERAGE OF
- CONTROLLED AREAS PER MANUFACTURER'S RECOMMENDATIONS. ADJUST SENSITIVITY AND TIME DELAYS TO SUIT. 27.6 ACCEPTABLE MANUFACTURERS INCLUDE HUBBELL, PHILIPS, SENSOR SWITCH; LEVITON,
- 28 EMERGENCY LIGHTING BATTERY UNITS

WATTSTOPPER AND GE.

- 28.1 PROVIDE EMERGI-LITE 12V DC, "ESL" SERIES LONG LIFE (10 YEAR) SEALED LEAD, BATTERY UNITS. UNITS SHALL BE COMPLETE WITH AUTO-DIAGNOSTIC CONTROLLER, SOLID STATE CHARGER, AC LINE CORD AND PLUG SET, NO. 18 GAUGE STEEL CABINET AND INEGRAL 12V/6W LED ADJUSTABLE LAMP HEADS. UNLESS OTHERWISE NOTED, REMOTE SURFACE LAMP HEADS TO BE DISTINCTION DESIGNER SERIES TYPE EF150, 12V/6W MR16 LED SURFACE MOUNTED SINGLE/DUAL LAMP HEADS AND RECESSED UNITS TO MATCH BATTERY PACK. 12V/5W MR16 LED SURFACE, WITH ADJUSTABLE AIM. CONNECT COMPLETE, BACK TO BATTERY UNIT, CHARGER TO RESTORE BATTERIES TO FULL CHARGE WITHIN 12 HOURS. SYSTEM TO HAVE OBC REQUIRED DURATION OF OUTPUT CAPACITY FOR LOAD OF SYSTEM (BUT MINIMUM 30 MINUTES).
- 28.2 MOUNT UNIT IN AREA AS REQUIRED AND PLUG UNIT INTO ADJACENT RECEPTACLE. PROVIDE REMOTE LAMP HEADS WHERE REQUIRED AND PROVIDE WIRING IN CONDUIT TO BATTERY UNIT. CONFIRM EXACT LOCATIONS. SIZE CIRCUIT WIRING IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS FOR VOLTAGE DROP PROTECTION. TEST, CHECK, AND ADJUST AS REQUIRED. 28.3 INCLUDE FOR MANUFACTURER TO PROVIDE TESTING OF SYSTEM AND MEASUREMENT OF LIGHT LEVELS TO OBTAIN LOCAL INSPECTION APPROVALS AND PERMITS. MANUFACTURER'S AUTHORIZED TECHNICIAN TO PREPARE AND PROVIDE SIGNED TEST REPORT VERIFYING THAT SYSTEM IS PROPERLY WORKING AND THAT LIGHT LEVELS MEET LOCAL CODE REQUIREMENTS.
- INCLUDE REQUIRED TEST MEASUREMENTS IN REPORT AND SUBMIT TO CONSULTANT. 28.4 ACCEPTABLE MANUFACTURERS INCLUDE LUMACELL, AIMLITE, BEGHELLI AND EMERGI-LITE.
- 29 LOW VOLTAGE LIGHTING CONTROL COMPONENTS
- 29.1 NOT USED
- 30 EXISTING FIRE ALARM SYSTEM WORK SIEMENS CONTACT: STEVE.WOZNY@SIEMENS.COM

Existing system: Edwards EST-6616 and Siemens TXL-1000

- 30.1 ENGAGE EXISTING FIRE ALARM SYSTEM VENDOR AS APPROVED BY OWNER, TO PROVIDE SYSTEM WORK. DISCONNECT, RELOCATE, AND RECONNECT REQUIRED DEVICES. WORK TO BE AN EXTENSION OF EXISTING SYSTEM. PROVIDE ADDITIONAL DEVICES, CONDUCTORS IN CONDUIT AND END OF LINE RESISTORS. PROVIDE ULC LISTED DEVICES TO MATCH EXISTING DEVICES AND BE COMPLETELY COMPATIBLE WITH EXISTING SYSTEM. PERFORM WORK IN ACCORDANCE WITH LATEST EDITION OF CAN/ULC S524. SEQUENCE OF OPERATION OF NEW WORK TO FUNCTION AS PER EXISTING SYSTEM. UNLESS OTHERWISE NOTED, CONNECT ADDITIONAL DEVICES TO EXISTING ZONES SERVING AREA, AS PER SYSTEM MANUFACTURER'S INSTRUCTIONS, TO EXISTING STANDARDS AND AS APPROVED BY LOCAL FIRE AUTHORITY. PROVIDE WIRING OF MINIMUM NO. 16 AWG IN CONDUIT AND AS PER OESC REQUIREMENTS. RUN ALARM INITIATING CIRCUITS IN SEPARATE CONDUITS FROM ALARM SIGNALLING CIRCUITS.
- 30.2 PROVIDE ADDITIONAL DEVICES OF TYPE TO SUIT APPLICATIONS AS RECOMMENDED BY SYSTEM SUPPLIER, INCLUDE REQUIRED ACCESSORIES FOR PROPER OPERATION AND INSTALLATION. RE-PROGRAM SYSTEM TO ACCOMMODATE ADDITIONS AND MODIFICATIONS. RE-BURN SOFTWARE AS REQUIRED BY LOCAL FIRE AUTHORITY. MODIFY ANNUNCIATOR PANELS AS REQUIRED TO INCORPORATE REVISIONS AND ADDITIONS. PROVIDE AUDIBLE DEVICES AND ADJUST TO SOUND AT LEVELS AS PER LOCAL FIRE AUTHORITY REQUIREMENTS. PROVIDE ADDITIONAL DEVICES AS REQUIRED TO ACHIEVE SOUND LEVEL STANDARDS.
- 30.3 DURING WORK TO EXISTING FIRE ALARM SYSTEM, TIME AND DURATION OF INTERRUPTION TO BE APPROVED BY OWNER AND ONLY ONE ZONE SHALL BE INTERRUPTED AT ANY ONE TIME. IN AREAS WHERE RENOVATION WORK REQUIRES SHUTDOWN OF ANY PART OF FIRE ALARM PROTECTION SYSTEM, PROVIDE MANUAL FIRE ALARM PROTECTION (FIRE WARDEN) BY MEANS OF SUPERVISING AREA AS APPROVED BY GOVERNING AUTHORITIES. AT NO TIME SHALL FIRE ALARM SYSTEM OR ANY ONE ZONE BE LEFT INOPERATIVE OVERNIGHT. PROVIDE REQUIRED BYPASS WIRING AND TEMPORARY WIRING AS MAY BE REQUIRED TO MAINTAIN ENTIRE FIRE ALARM SYSTEM OPERATIVE DURING CONSTRUCTION AND ALTERATIONS.
- 30.4 COVER EXISTING DETECTORS TO PROTECT FROM DEMOLITION/CONSTRUCTION DUST. REMOVE COVERS WHEN ALTERNATIVE FIRE ALARM PROTECTION IN AREA IS NOT AVAILABLE OVERNIGHT.

- 30.5 COORDINATE WORK WITH MECHANICAL DIVISION WITH REGARDS TO INTERCONNECTIONS TO AIR HANDLING SYSTEMS, FIRE SUPPRESSION SYSTEMS, SUPERVISORY VALVES AND FLOW SWITCHES, BUILDING AUTOMATION SYSTEM, ETC. PERFORM SUCH INTERCONNECTIONS TO STANDARDS OF EXISTING SYSTEMS AND DOCUMENT IN SHOP DRAWINGS.
- 30.6 WHEN FIRE ALARM SYSTEM WORK IS COMPLETE AND READY FOR ACCEPTANCE. EXISTING SYSTEM MANUFACTURER/VENDOR TO INSPECT, TEST, VERIFY AND CERTIFY WORK AND EQUIPMENT, INCLUDING INITIATING DEVICES, SIGNALLING DEVICES, CONTROL DEVICES AND WIRING.
- 30.7 TEST AND VERIFY THAT AUDIBLE SIGNALS ARE AT LEVELS ACCEPTABLE TO LOCAL FIRE AUTHORITY AND THAT BATTERIES ARE OF SUFFICIENT CAPACITY AS PER OBC. PROVIDE CERTIFICATE OF LIABILITY INSURANCE REGISTERED FOR THIS PROJECT TO SHOW SATISFACTORY PROOF OF MANUFACTURER'S LIABILITY COVERAGE FOR BOTH HIS PRODUCT AND PERSONNEL. CONDUCT WORK IN ACCORDANCE WITH LATEST EDITIONS OF CAN/ULC \$536 AND \$537, TESTS TO BE CONDUCTED IN PRESENCE OF OWNER AND/OR CONSULTANT, PROVIDE TO CONSULTANT MINIMUM ONE HARD COPY AND ELECTRONIC COPY OF TEST REPORT WITH DETAILED SCHEDULES OF TESTED DEVICES. REPORTS SHALL BE SIGNED BY AUTHORIZED CERTIFIED TESTING TECHNICIAN. DIGITAL COPY OF REPORT TO BE PROVIDED IN COMPATIBLE FORMAT CONFIRMED WITH CONSULTANT.
- 30.8 OBTAIN FROM LOCAL FIRE AUTHORITY. APPROVAL CERTIFICATE AND SUBMIT TO CONSULTANT WITH REPORTS
- 30.9 EMPLOY TECHNICIANS CERTIFIED BY CANADIAN FIRE ALARM ASSOCIATION AND/OR ONTARIO FIRE MARSHALL AS APPLICABLE AND TO REQUIREMENTS OF ONTARIO FIRE CODE.
- 31 GENERAL ELECTRICAL WORK TESTING
- 31.1 IN ADDITION TO TESTS REQUIRED BY GOVERNING AUTHORITIES AND REGULATIONS, TEST WORK TO ENSURE THERE ARE NO GROUNDS OR CROSSES. ENSURE DEVICES ARE COMMISSIONED AND OPERABLE. CONNECT CIRCUITS TO PANELBOARDS SO AS TO BALANCE ACTUAL LOADS (WATTAGE) WITHIN 5%. IF REQUIRED, TRANSPOSE CIRCUITS WHEN WORK IS COMPLETE TO MEET THIS REQUIREMENT.
- 31.2 IN ADDITION, PERFORM FOLLOWING:
- .2 ENSURE THAT DEVICES ARE COMMISSIONED AND OPERABLE;
- ENSURE THAT PRODUCTS OPERATE AS DESIGNED;
- .4 PREPARE, DOCUMENT AND EVALUATE TEST RESULTS; .5 AUTHENTICATE TEST RESULTS WITH SIGNATURE OF AUTHORIZED TESTING
- ENGINEER/TECHNICIAN. 31.3 SUBMIT SIGNED REPORTS TO CONSULTANT.
- 32 SYSTEM TESTING, CO-ORDINATION AND VERIFICATION
- 32.1 PROVIDE ON-SITE ENGINEERING INSPECTION, TESTING AND VERIFICATION OF DISTRIBUTION EQUIPMENT AND OTHER SYSTEMS, REVIEW AND SURVEY EXISTING DISTRIBUTION SYSTEM PROTECTIVE DEVICES AS REQUIRED TO PROPERLY CO-ORDINATE ADDITIONAL SYSTEM DEVICES. FOR MAJOR DISTRIBUTION EQUIPMENT, PROVIDE PRELIMINARY COORDINATION STUDY AND AVAILABLE FAULT CURRENT CALCULATIONS AND SUPPLY TO CONSULTANT DURING SHOP DRAWING REVIEW PROCESS.
- 32.2 ENGINEERING INSPECTION AND TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT TESTING COMPANY AND INCLUDE WHERE APPLICABLE: .1 TESTING, CLEANING WHEN NECESSARY, AND CALIBRATING RELAYS AND CIRCUIT BREAKER
- TRIP DEVICES (CALIBRATION OF PROTECTIVE DEVICES SHALL CONFORM TO REQUIREMENTS OF APPROVED COORDINATION CURVES); .2 FUNCTION TEST OF ASSOCIATED CONTROL DEVICES;
- .3 PROVIDE A COORDINATION STUDY PREPARED TO REVIEW REVISED DISTRIBUTION SYSTEM DEVICES INCLUDING EXISTING MAIN OVER CURRENT PROTECTION DEVICES FEEDING RESPECTIVE MCCS OR PANELS WHERE ADDITIONAL LOADS HAVE BEEN ADDED; REVIEW COORDINATION OF DEVICES AND RESET/ADJUST WHERE POSSIBLE AND AS REQUIRED;
- .4 REPLACEMENT OF FUSES DESTROYED DURING TESTING;
- .6 PRESENCE, FOR LENGTH OF TIME REQUIRED, OF QUALIFIED AND COMPETENT EQUIPMENT
- MANUFACTURER'S SERVICE REPRESENTATIVE DURING START UP; .7 ADJUSTMENTS, START-UP PROCEDURES AND VERIFICATION OF EQUIPMENT;
- ELECTRICAL DIVISION. 32.3 PROVIDE VISUAL AND MECHANICAL INSPECTION OF GROUND SYSTEM AND VERIFY THAT IT IS IN COMPLIANCE WITH ISSUED DOCUMENTS AND OESC REQUIREMENTS.
- 32.4 TESTING SHALL BE DOCUMENTED IN A REPORT SIGNED BY PROFESSIONAL ENGINEERS OF ONTARIO LICENSED TESTING ENGINEER AUTHORIZED BY TESTING COMPANY. INCLUDE FOR MINIMUM 2 HARD COPIES AND ELECTRONIC VERSION OF REPORT SUBMITTED TO CONSULTANT FOR REVIEW. REPORT TO INCLUDE TEST RESULTS WITH PROPERLY PLOTTED CURVES, IDENTIFIED TROUBLE AREAS OF COORDINATION, EXTENSIVE COMMENTS REGARDING TEST
- RESULTS AND RECOMMENDATIONS ON BEST REMEDIAL COURSE OF ACTION. 32.5 PRODUCT MANUFACTURER TO EXAMINE PLANS AND SPECIFICATIONS TO ENSURE THAT RELAYS AND PROTECTIVE DEVICES BEING INSTALLED IN DISTRIBUTION SYSTEM WILL PROVIDE SATISFACTORY COORDINATION.
- 32.6 ACCEPTABLE TESTING COMPANIES TO BE INDEPENDENT OF EQUIPMENT MANUFACTURERS/SUPPLIERS AND ARE G.T. WOODS LTD., AC TESLA, PELIKAN, EATON ELECTRIC AND SCHNEIDER ELECTRIC.

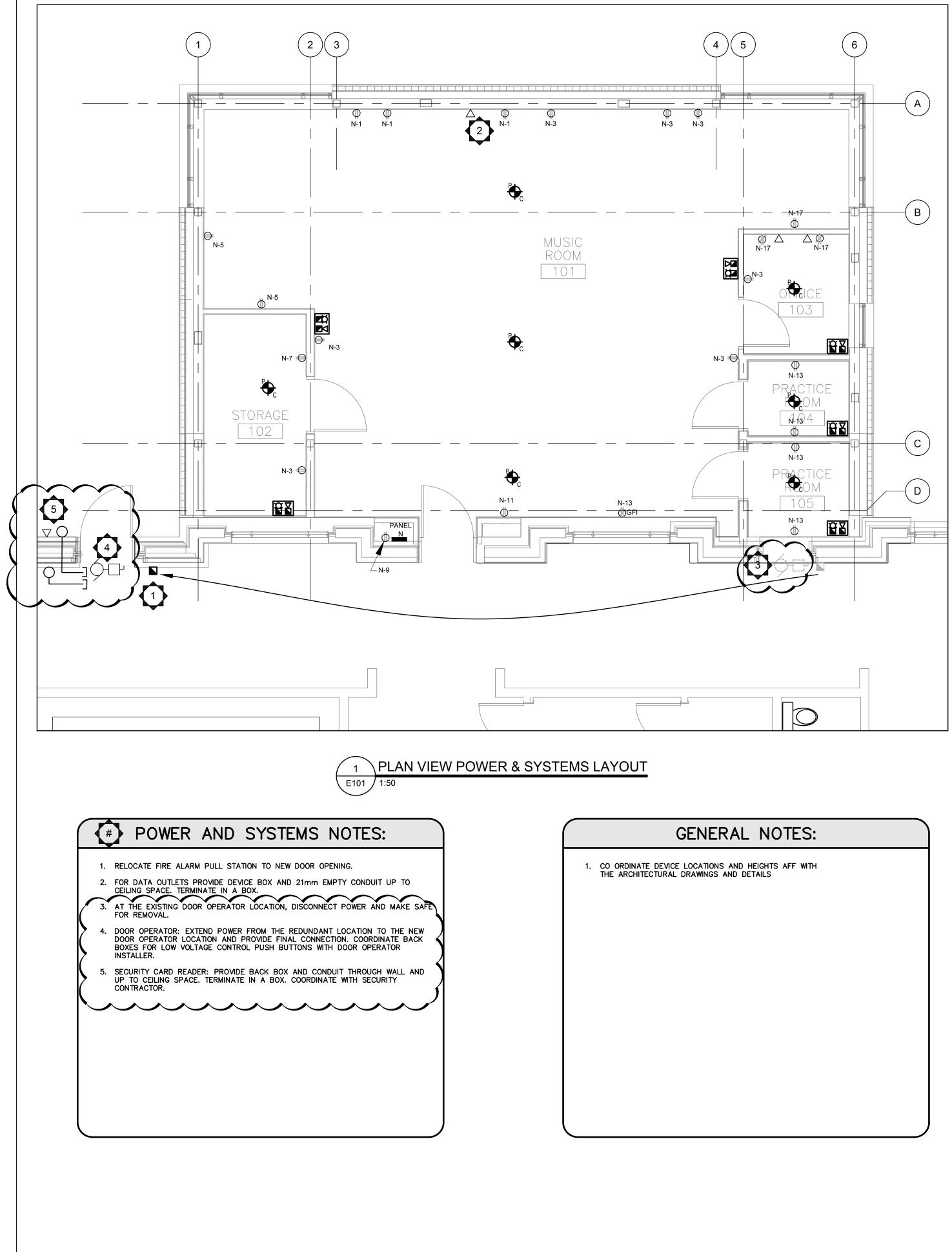
END

.1 CHECK COMPONENT CONNECTIONS AND OVERALL INSTALLATION; .3 TEST AND ADJUST SYSTEM AND ASCERTAIN THAT COMPONENTS ARE AS SPECIFIED AND

.5 AN ACCEPTANCE TEST IN PRESENCE OF AND AT SATISFACTION OF CONSULTANT;

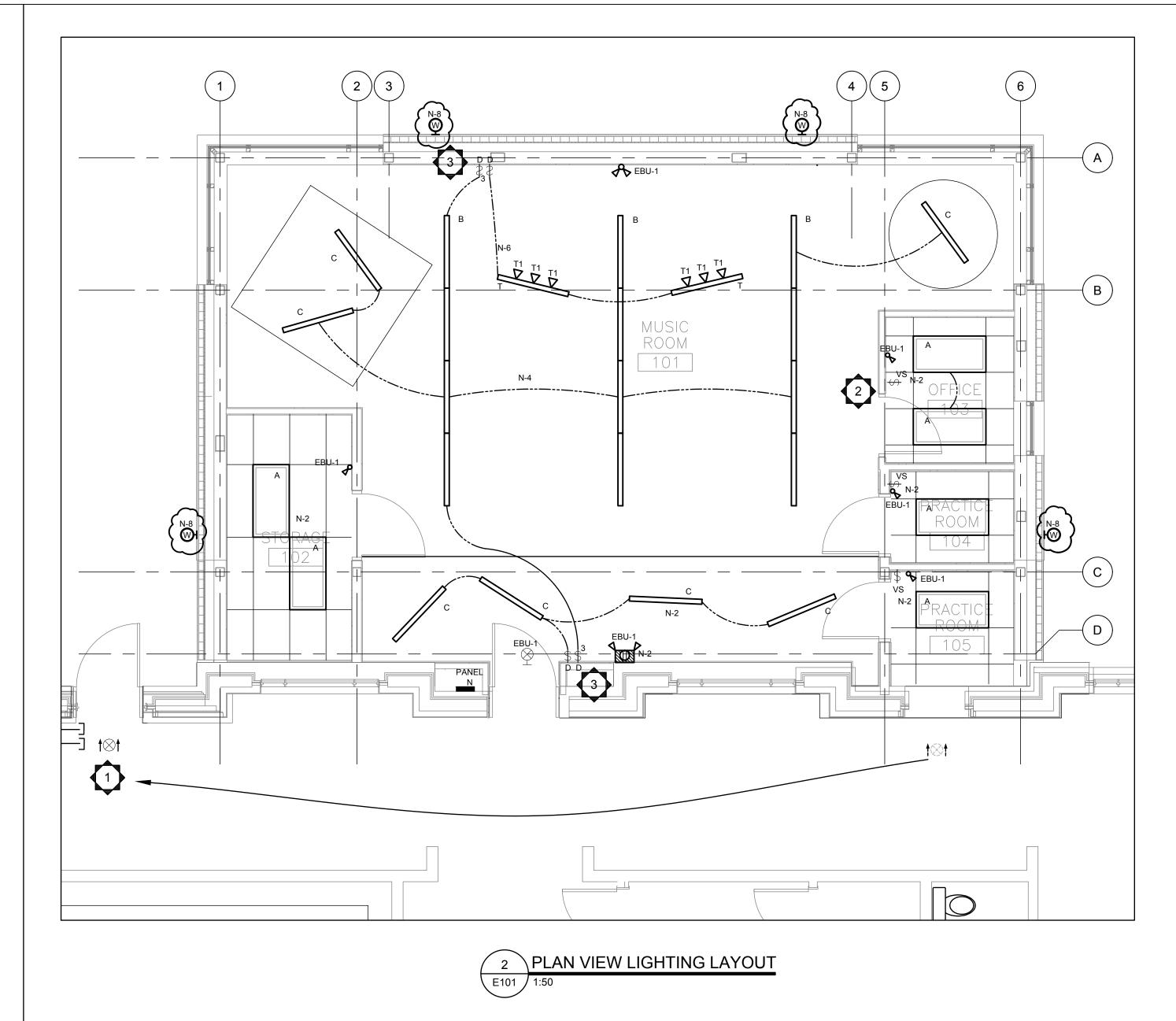
.8 TESTING OF INSTALLED ELECTRICAL DEVICES, WHETHER OR NOT SUPPLIED BY

D	2018 10 05	ISSUED FO	OR CONSTRUCTION						
C			TTH ADDENDUM No.2						
B	2018 07 05 2018 06 28		OR PERMIT & TENDER						
no.	date	revision							
con [.] sion	tractor to ch	eck and void report o	he appropriate erify all dimen— Ill errors and/ ect.						
All d	contractors r inent codes	nust comp	ly with all						
Do	not scale dr	awings.							
	drawing ma struction unt		used for						
Сор	yright reserve	ed.							
	30 01TAI TEL: 1 613 820 12		DRIVE K28 SK2 0. S200 LUMM WED COL						
	30 OTTAN TEL: 1–613–829–28		DRIVE K2B 8K2 9=8299 WWW.WSP.COM						
	lobin Architec	00-2611 QUEENSVIEW VA ONTARIO CANADA 000 FAX: 1-613-62	DRIVE K2B 8K2 19-8299 WWW.WSP.COM						
	lobin Architec ncorporated	00-2611 QUEENSVIEW VA ONTARIO CANADA 000 FAX: 1-613-62	DRIVE K2B 8K2 99-8299 WWW.WSP.COM						
6	lobin Architec ncorporated 3 Pamilla Street Httawa, Ontario	00-2611 QUEENSVIEW VA ONTARIO CANADA 000 FAX: 1-613-62	DRIVE K2B 8K2 99-8299 WWW.WSP.COM						
6 6	lobin Architec ncorporated 3 Pamilla Street Htawa, Ontario Canada K1S 3K7	00-2611 QUEENSVIEW VA ONTARIO CANADA 000 FAX: 1-613-62	DRIVE K2B 8K2 9-8299 WWW.WSP.COM						
і 6 С	lobin Architec ncorporated 3 Pamilla Street Httawa, Ontario	00-2611 QUEENSVIEW VA ONTARIO CANADA 000 FAX: 1-613-62	DRIVE K2B 8K2 9-8299 WWW.WSP.COM						
i 6 C C T F	lobin Architec ncorporated 3 Pamilla Street Htawa, Ontario Canada K1S 3K7 5 613-238-7200	00-2611 QUEENSVIEW WA ONTARIO CANADA 300 FAX: 1-613-82							
III 6 € € T F E	lobin Architec ncorporated 3 Pamilla Street Htawa, Ontario Canada K1S 3K7 1 613-238-7200 1 613-235-2005	00-2611 QUEENSVIEW WA ONTARIO CANADA 1000 FAX: 1-613-82							
in G G G T F F E B	lobin Architec ncorporated 3 Pamilla Street Htawa, Ontario Canada K1S3K7 Canada K1S3K7	NO-2611 QUEENSVIEW WA ONTARIO CANADA 3000 FAX: 1-613-82 Nure							
PRO	lobin Architec ncorporated 3 Pamilla Street Ittawa, Ontario Canada K1S 3K7 Canada	bo-2611 QUEENSVIEW WA ONTARIO CANADA 300 FAX: 1-613-82 bure	ARCHITECTURE						
PRO	Iobin Architec accrporated 3 Pamilla Street Attawa, Ontario Canada K1S3K7 Canada K1S3K	Nonzelli QUEENSVIEW Ma ontrano canada 1000 FAX: 1-613-82 Nure	ARCHITECTURE						
PRO	Iobin Architec accrporated 3 Pamilla Street Attawa, Ontario Canada K1S3K7 Canada K1S3K	Nonzelli QUEENSVIEW Ma ontrano canada 1000 FAX: 1-613-82 Nure	ARCHITECTURE						
PRO	lobin Architec neorporated 3 Pamilla Street Htawa, Ontario Canada K1S3K7 Canada K1S3K7	bo-2611 QUEENSVIEW M ONTARIO CANADA 100 FAX: 1-613-82 hure hure bom bom bom bom bom bom bom bom bom bom	ARCHITECTURE SCHOOL ADDITION hue, Ottawa						
PRO	Iobin Architec ncorporated 3 Pamilla Street Ittawa, Ontario anada K1S3K7 3 613-238-7200 3 613-238-7200 3 613-235-2005 3 mail@hobinarc.com JECT/LOCATIC TURN MUSIC 1132 F WING TITLE: El SP	bo-2611 QUEENSVIEW M ONTARIO CANADA 100 FAX: 1-613-82 hure hure bom bom bom bom bom bom bom bom bom bom	ARCHITECTURE SCHOOL ADDITION hue, Ottawa						
PRO	Iobin Architec ncorporated 3 Pamilla Street Attawa, Ontario anada K1S3K7 3 Cal3-238-7200 3 Cal3-235-2005 3 mail@hobinarc.com JECT/LOCATIC TURN MUSIC 1132 F WING TITLE: El SP SH WN BY:	bo-2611 QUEENSVIEW the ontrano Canada soo FAX: 1-613-82 ture ture bure DN: IBULL S ROOM Fisher Aver LECTR ECIFIC	ARCHITECTURE SCHOOL ADDITION hue, Ottawa						
PRO	Iobin Architec ncorporated 3 Pamilla Street Attawa, Ontario anada K1S3K7 3 Cal3-238-7200 3 Cal3-235-2005 3 mail@hobinarc.com JECT/LOCATIC TURN MUSIC 1132 F WING TITLE: El SP SH WN BY:	ACCEPTED AVER ACCEPTED AVER ACCEPTED AVER ACCEPTED AVER ACCEPTED ACCEPT	ARCHITECTURE SCHOOL ADDITION nue, Ottawa						
PRO	Iobin Architec ncorporated 3 Pamilla Street Attawa, Ontario anada K1S3K7 3 Cal3-238-7200 3 Cal3-235-2005 3 mail@hobinarc.com JECT/LOCATIC TURN MUSIC 1132 F WING TITLE: El SP SH WN BY:	ACCEPTED AVER ACCEPTED AVER ACCEPTED AVER ACCEPTED AVER ACCEPTED ACCEPT	ARCHITECTURE SCHOOL ADDITION Mue, Ottawa ICAL ATION OF 2 SCALE: N.T.S. PROJECT:						
PRO	Iobin Architec ncorporated 3 Pamilla Street Attawa, Ontario anada K1S3K7 3 Cal3-238-7200 3 Cal3-235-2005 3 mail@hobinarc.com JECT/LOCATIC TURN MUSIC 1132 F WING TITLE: El SP SH WN BY:	ACCEPTED AVER ACCEPTED AVER ACCEPTED AVER ACCEPTED AVER ACCEPTED ACCEPT	ARCHITECTURE SCHOOL ARCHITECTURE SCALE: N.T.S. PROJECT: 181-04865-00						



None None

 \Box



LIGHTING NOTES:

1. RELOCATE EXIT SIGN TO NEW DOOR OPENING.

#

- LIGHTING CONTROL AS FOLLOWS: CLASSROOMS OCCUPANCY CONTROL AND DIMMING STORAGE ROOM OCCUPANCY PRACTICE ROOMS VACANCY CONTROL. OFFICE, DIMMING AND VACANCY CONTROL
- 3.
- WIRELESS LIGHT SWITCHES -THE FUNCTION OF THE SWITCH IS INDICATED ON THE DRAWING: D DIMMER , OCCUPANCY, DAYLIGHT HARVESTING VS DIMMER , VACANCY, DAYLIGHT HARVESTING

GENERAL NOTES:

1. CO ORDINATE DEVICE LOCATIONS AND HEIGHTS AFF WITH THE ARCHITECTURAL DRAWINGS AND DETAILS

D	2018 10 05								
C B A	2018 08 02 2018 07 05	ISSUED FOR PERMIT & TENDER							
A no.	2018 06 28 date	ISSUED FOR CO ORDINATION revision							
con sior	tractor to ns on site	onsibility of the appropriate check and verify all dimen— and report all errors and/ to the architect.							
		s must comply with all es and by—laws.							
	not scale	-							
con	struction u struction u	may not be used for Intil signed. erved.							
		\\\\\							
	OTT TEL: 1–613–829–	300-2611 QUEENSVIEW DRIVE AWA ONTARIO CANADA K28 8K2 2800 FAX: 1-613-829-8299 WWW.WSP.COM							
	lobîn Archite	cture							
6	3 Pamilla Stree	Incorporated 63 Pamilla Street							
Ottawa, Ontario Canada K1S3K7									
-	Canada K1S3K7								
F	canada K1S3K7 613-238-7200 613-235-2005								
F	canada K1S3K7 : 613-238-7200	com HOBIN							
F	Canada K1S3K7 Canada K1S3K7 Canada K1S3K7 Canada K1S3K7 Canada K1S3K7 Canada K1S3K7 Canada K1S3K7 Contemporation of the second s	ARCHITECTURE							
F	Canada K1S3K7 613-238-7200 613-235-2005 mail@hobinarc. nobinarc.cor DJECT/LOC TURN MUSIC	ARCHITECTURE							
PR	Canada K1S3K7 613-238-7200 Cataloga Cataloga Cataloga Cataloga Cataloga Cataloga Cataloga Cataloga Cataloga C	ARCHITECTURE COM ARCHITECTURE							
PR	Canada K1S3K7 Canada	ARCHITECTURE COM ARCHITECTURE CATION: NBULL SCHOOL ROOM ADDITION Fisher Avenue, Ottawa E: LECTRICAL LIGHTING							
PRC DRA	Canada K1S3K7 Canada	ARCHITECTURE CATION: BULL SCHOOL ROOM ADDITION Fisher Avenue, Ottawa E: LECTRICAL LIGHTING R AND SYSTEMS DATE: SCALE:							
PR(Canada K1S3K7 Canada	ARCHITECTURE COMPANY ARCHITECTURE CATION: NBULL SCHOOL ROOM ADDITION Fisher Avenue, Ottawa E: LECTRICAL LIGHTING R AND SYSTEMS							
PRC DRA	Canada K1S3K7 Canada	ARCHITECTURE COM ARCHITECTURE CATION: BULL SCHOOL ROOM ADDITION Fisher Avenue, Ottawa E: LECTRICAL LIGHTING RAND SYSTEMS DATE: APR. 2018 SCALE: AS SHOWN							
PRC DRA	Canada K1S3K7 Canada	A CHITECTURE COM A CHITECTURE CATION: ARCHITECTURE CATION: ARCHITECTURE CATION: ARCHITECTURE							

		SCHEDULE		WIINAIRE3		
TYPE	DESIGN BASED ON SPECIFIED PRODUCT VOLTS MANUFACTURER DESCRIPTION VOLTS AND CATALOG NUMBER		LAMPS LUMENS WATTS COLOUR TEMPERATURE	MOUNTING NOTES		
A PHILIPS DAYBRIGHT CFI FluxGrid 2FG G 42B 835 4D 120 DIM DAY OCC DIM DAY OCC C		120V	LED MODULE 4276 LUMENS 36.2 WATTS 3500K	RECESSED IN CEILING GRID	DAYLIGHT SENSING C/W DIMMING AND SELECTABLE OCCUPANCY (SPACEWISE)	
В	PHILIPS LEADALITE TRUGROOVE 2901LBGQN0471EW DIM DAY OCC	1200mm X 100mm SUSPENDED LINEAR	120V	LED MODULE 4576 LUMENS 40.9 WATTS 3500K	SUSPENDED	DAYLIGHT SENSING C/W DIMMING AND SELECTABLE OCCUPANCY (SPACEWISE)
с	PHILIPS LEADALITE TRUGROOVE 3901LBGQS40471EW DIM SWZDT	LEADALITE 1200mm X 100mm TRUGROOVE RECESSED 3901LBGQS40471EW LINEAR		LED MODULE 4114 LUMENS 41.8 WATTS 3500K	RECESSED IN DRYWALL FEATURE	DAYLIGHT SENSING C/W DIMMING AND SELECTABLE OCCUPANCY (SPACEWISE)
\$	PHILIPS WIRELESS SWITCH UID8451/10 SINGLE GANG SWITCH PROVIDES SELECTABLE FUNCTIONS DIMMER, VACANCY AND OCCUPANCY		SELF POWERED	N/A	RECESSED IN ELECTRICAL WALL BOX OR SURFACE MOUNTING	WIRELESS
т	PHILIPS LIGHTOLIER LYTESPAN 6001NWH	IGHTOLIER1200mm LONG BASIC120VYTESPANONE CIRCUIT TRACK120V		N/A	SUSPENDED (TBD)	CONTROLLED BY DIMMER TRAILING EDGE (ELV) DIMMIN COMPATIBILITY PHILIPS CONTROLS SR400RPC120
T1	PHILIPS LIGHTOLIER CorePro LT- 08 RWF 830 WH VA	MICRO CYLINDER 57mm Dia X 114mm H COLOUR WHITE MOUNTED ON PIVOTING ARM	120V	LED MODULE 963 LUMENS 9 WATTS 3000K	MOUNTED ON TRACK	DIMMABLE TRACK LIGHTS
W	PHILIPS KEENE LytePro LPW16-7-BZ	315mm W X 130mm H X 145MM D WALL SCONCE COLOUR BRONZE	120V	LED MODULE 3374 LUMENS 36 WATTS TYPE 3 DISTRIBUTION	MOUNTED SURFACE AT 3538MM AFF	PHOTO CELL CONTROL P105A

SCHEDULE OF LUMINAIRES E201 / / N.T.S.

LIGHTING FIXTURE SCHEDULE NOTES:

- 1. DESIGN IS BASED ON THE LUMINAIRES SPECIFIED. IN ALL CASES, ALTERNATIVE LUMINAIRES SHALL BE COMPARABLE TO THE SPECIFIED LUMINAIRE IN QUALITY, PERFORMANCE, AND VISUAL CHARACTERISTICS. ACCEPTABILITY WITH RESPECT TO VISUAL CHARACTERISTICS SHALL BE AT THE SOLE DISCRETION OF THE CONSULTANT. IF A PROPOSED ALTERNATIVE LUMINAIRE IS DEEMED TO BE NOT VISUALLY COMPARABLE, THE SPECIFIED LUMINAIRE SHALL BE PROVIDED.
- 2. SUBJECT TO NOTE 1, ALTERNATIVES TO NOTED LUMINAIRES MANUFACTURED BY PHILIPS (AND AFFILIATES) OR BY LITHONIA ARE ACCEPTABLE, AND MAY BE SUPPLIED WITHOUT CREDIT TO CONTRACT AMOUNT. LUMINAIRES NOT SO NOTED SHALL BE PROVIDED AS SPECIFIED; PROPOSED ALTERNATIVES MAY BE ACCEPTED BY THE CONSULTANT, AND, IF THEY ARE, SHALL RESULT IN A CREDIT TO THE CONTRACT AMOUNT.
- 3. SUBJECT TO NOTE 1, ALTERNATIVES TO NOTED LUMINAIRES MANUFACTURED BY EMERGI-LITE, COOPER (AND AFFILIATES), CANLYTE (AND AFFILIATES) OR BY LITHONIA ARE ACCEPTABLE, AND MAY BE SUPPLIED WITHOUT CREDIT TO CONTRACT AMOUNT. LUMINAIRES NOT SO NOTED SHALL BE PROVIDED AS SPECIFIED; PROPOSED ALTERNATIVES MAY BE ACCEPTED BY THE CONSULTANT, AND, IF THEY ARE, SHALL RESULT IN A CREDIT TO THE CONTRACT AMOUNT.
- 4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHT OF LUMINAIRES.

	BATTERY PACK SCHEDULE									
TAG	DC VOLTS	TWIN HEAD ON BATTERY PACK	# OF TWIN REMOTE HEADS	# OF SINGLE REMOTE HEADS	# OF EXIT LIGHTS	EBU WATTAGE	DESCRIPTION			
EBU-1	EQUAL TO THOMAS & BETTS, EMERGI-LITE 12ESL72 U/2 LI WHITE FINISH									
NOTES: 1. EMERGENCY BATTERY UNIT TO HAVE MINIMUM OF 60 MINUTES BACK UP POWER. 2. CONNECT EMERGENCY LIGHTING BATTERY PACKS TO LOCAL (UNSWITCHED) LIGHTING CIRCUIT.										



 \square

RECEPTACLES (MUSIC ROOM)20	_1_
RECEPTACLES (MUSIC ROOM, STORAGE, OFFICE)	3
RECEPTACLES (MUSIC ROOM)	5
RECEPTACLES (OFFICE)	7
RECEPTACLES (ELECTRICAL ROOM)	9
RECEPTACLES (MUSIC ROOM)	11
RECEPTACLES (MUSIC ROOM, PRACTICE ROOM)	13
SPARE	15
	17

NEW
PANEL ' <u>N'</u> 120/208V 3Ø, 4W 24CCT

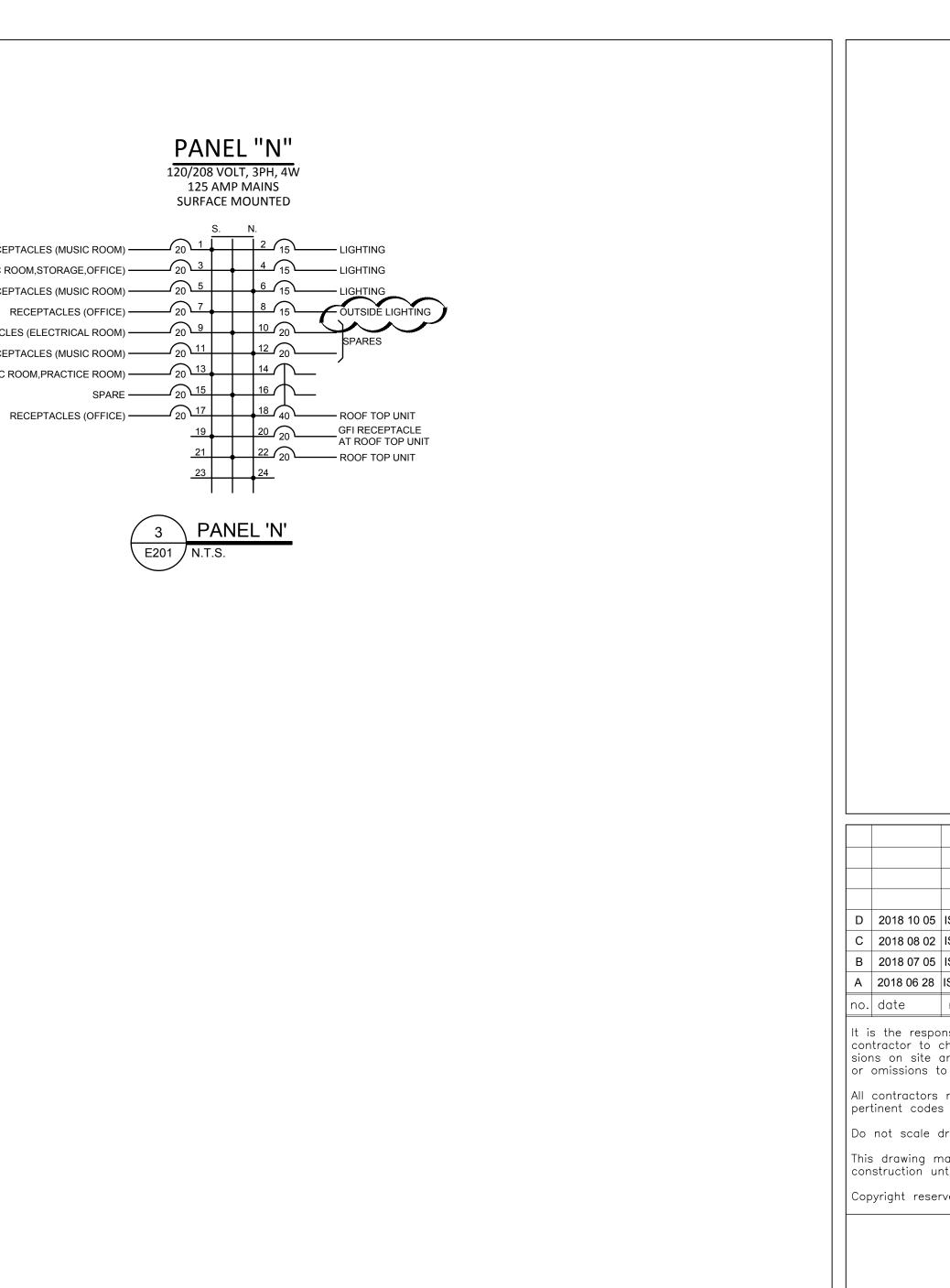
EXISTING PANEL 'P' 120/208 VOLT, 3PH, 4W 225 AMP MAINS SURFACE MOUNTED 60A 3P P-54,56,58 —

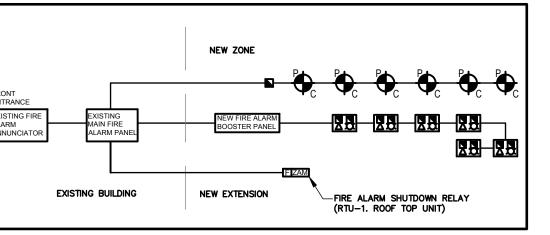


4#6AWG + #8 AWG GROUND IN 27MM CONDUIT

	AXIMUM E DLTAGE D								,	_ / 0
WIRE SIZE	BREAKER SIZE (AMPERES)	15	20	30	40	50	60	70	80	100
	MAX. LOAD AT 80% (AMPERES)	12	16	24	32	40	48	56	68	80
NO.12		16.8	12.2							
NO.10		25.9	19.0	12.9						
NO.8		39.6	30.4	20.5	15.2					
NO.6		62.4	47.2	32.0	23.6	19.0	16.0			
NO.4		99.0	73.1	50.2	38.1	30.4	24.3	21.3	19.0	
NO. 2			114.3	77.2	57.9	47.2	38.8	33.5	28.9	22.8
NO.1				96.0	73.1	57.9	47.2	42.6	36.5	27.4
NO.1/0					85.3	68.5	56.3	48.7	41.9	33.5
NO2/0					102.8	80.7	67.0	57.9	50.2	40.3
NO3/0						95.2	79.2	68.5	59.4	47.2
NO4/0							92.9	79.2	70.1	56.3
250 MCM							102.8	86.8	76.2	60.9
300 MCM								100.5	88.3	70.1

5 120 VOLT SYSTEM AT 2% VOLTAGE DROP TABLE E201 N.T.S.







D 2018 10 05 ISSUED FOR CONSTRUCTION C 2018 00 05 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/or or orisions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Copyright reserved. Hobin Architecture incorport INC 1-013-000-0000 (INC 1-013-000-0000)	C 2018 08 02 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR PERMIT & TENDER A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Hobin Architecture Incorporated G3 Pamilla Street Ottawa, Ontario Canada K1S3K7 T: G13-235-7200 F: G									
C 2018 08 02 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR PERMIT & TENDER A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. WWWERE THE THE STATE OF THE THE SECTION Canada KIS3K7 T-G13-235-2005 E-mail@hobinarc.com hobinarc.com PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: SCALE:	C 2018 08 02 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Hobin Architecture Incorporated 63 Pamilla Street Ottawa, Ontario Canada KIS3K7 T: 613-235-2005 E-mail@hobinarc.com hobinarc.com FROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: K. Mol. PROJECT: 181-04865-00			1						
C 2018 08 02 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR PERMIT & TENDER A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-lows. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Hobin Architecture Incorporated 63 Pamilla Street Ottawa, Ontario Canada K1S3K7 T-G13-235-2005 E-mail@hobinarc.com hobinarc.com PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: SCALE:	C 2018 08 02 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR PERMIT & TENDER A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Hobin Architecture Incorporated 63 Pamilla Street Ottawa, Ontario Canada KIS3K7 T: 613-235-2005 Ermai@hobinarc.com hobinarc.com PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: K. Mol. APR. 2018 REVIEW STATES AND									
C 2018 08 02 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR PERMIT & TENDER A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. WWWERE THE THE STATE OF THE THE SECTION Canada KIS3K7 T-G13-235-2005 E-mail@hobinarc.com hobinarc.com PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: SCALE:	C 2018 08 02 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Hobin Architecture Incorporated 63 Pamilla Street Ottawa, Ontario Canada KIS3K7 T: 613-235-2005 E-mail@hobinarc.com hobinarc.com FROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: K. Mol. PROJECT: 181-04865-00									
C 2018 08 02 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR PERMIT & TENDER A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. WWWERE THE THE STATE OF THE THE SECTION Canada KIS3K7 T-G13-235-2005 E-mail@hobinarc.com hobinarc.com PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: SCALE:	C 2018 08 02 ISSUED WITH ADDENDUM No.2 B 2018 07 05 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Hobin Architecture Incorporated 63 Pamilla Street Ottawa, Ontario Canada KIS3K7 T: 613-235-2005 E-mail@hobinarc.com hobinarc.com FROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: K. Mol. PROJECT: 181-04865-00									
B 2018 07 05 ISSUED FOR PERMIT & TENDER A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen-sions on site and report all errors and/or ormissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Copyright reserved. Hobia Architecture incorporated 63 Pamilla Street Ottawa, Ontario Canada K1S3K7 TG13-235-2005 Email@hobinarc.com ELECTRICAL LIGHTING SCHEOULES & DETAILS PROJECT/LOCATION: TURNBULL SCHOOL MUSIC PROJECT/LOCATION: TURNBULL SCHOOL MUSIC DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWIN BY: DATE: SCALE:	B 2018 07 05 ISSUED FOR PERMIT & TENDER A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Copyright reserved. Hobia Architecture incorporated 63 Pamilla Street Ottawa (Natrio Canada K1S 3K7) T: 613-235-2005 Email@hobinarc.com Architecture hobinarc.com Architecture PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWING TITLE: BARAWING TITLE: RAWING TITLE: SCALE: R.Moi. APR.2018	D	2018 10 05	ISSUED FOR	CONSTRUCTION					
A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Copyright reserved. Copyright reserved. Hobin Architecture Incorporated 63 Pamilla Street Ottawa, Ontario Canada K153K7 T.613-238-7200 F.613-235-2005 E-mail@hobinarc.com hobinarc.com FROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: SCALE:	A 2018 06 28 ISSUED FOR CO ORDINATION no. date revision It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/or or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. VSSUE Motion Architecture incorporated 63 Pamilla Street Otawa, Ontario Canada K153K7 T-613-239-2000 F-613-235-2005 E-mail@hobinarc.com hobinarc.com PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWING TITLE: ELECTRICAL IGHTING SCHEDULES & DETAILS DRAWIN BY: DATE: Are. as shown PROJECT: 181-04865-00	С	2018 08 02	ISSUED WITH	HADDENDUM No.2					
no. date revision It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. VSS_00_FREE Mobin Architecture incorporated 63 Pamilla Street Ottawa, Ontario Canada K1S3K7 To G13-232-2005 Email@hobinarc.com hobinarc.com PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWIN BY: DATE: SCALE:	no. date revision It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/or or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Copyright reserved. It is architecture incorporated 63 Pamilla Street Ottawa, Ontario Canada K153K7 T-613-239-2000 F-613-235-2005 E-file 252-2005 E-mail@hobinarc.com hobinarc.com DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DELE: <th></th> <td></td> <td></td> <td></td>									
It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved.	It is the responsibility of the appropriate contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved.				COORDINATION					
contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Copyright reserved.	contractor to check and verify all dimen- sions on site and report all errors and/ or omissions to the architect. All contractors must comply with all pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Copyright reserved. Cop									
pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved. Copyright reserved. Copyright reserved. Copyright reserved.	pertinent codes and by-laws. Do not scale drawings. This drawing may not be used for construction until signed. Copyright reserved.	con sior	tractor to is on site	check and v and report c	erify all dimen— all errors and/					
This drawing may not be used for construction until signed. Copyright reserved.	This drawing may not be used for construction until signed. Copyright reserved.									
construction until signed. Copyright reserved. Copyright reserved. Co	construction until signed. Copyright reserved.	Do	not scale	drawings.						
Copyright reserved.	Copyright reserved.	This con	s drawing n struction u	nay not be u ntil signed.	used for					
AND A STATES AND A	Image: An and the second state of t			C C						
Incorporated 63 Pamilla Street Ottawa, Ontario Canada K1S 3K7 T: 613-238-7200 F: 613-235-2005 E:mail@hobinarc.com hobinarc.com PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: SCALE:	Incorporated 63 Pamilla Street Ottawa, Ontario Canada K1S3K7 T: 613-238-7200 F: 613-235-2005 E-mail@hobinarc.com hobinarc.com PROJECT/LOCATION: TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: K. Mcl. DATE: APR. 2018 SCALE: AS SHOWN PROJECT: 181-04865-00		300-2611 QUEENSVIEW DRIVE OTTIAWA ONTARIO CANADA K28 8K2 TEL: 1-613-629-2800 KAX: 1-613-829-8299 WWW.WSP.COM							
TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: SCALE:	TURNBULL SCHOOL MUSIC ROOM ADDITION 1132 Fisher Avenue, Ottawa DRAWING TITLE: ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DRAWN BY: DATE: K. MGI. APR. 2018 PROJECT: 181-04865-00	III € € € T: F E	Accorporated 3 Pamilla Street Attawa, Ontario Canada K1S3K7 Canada K1S3K7 Ca							
ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: SCALE:	ELECTRICAL LIGHTING SCHEDULES & DETAILS DRAWN BY: DATE: SCALE: K. McI. APR. 2018 AS SHOWN PROJECT: 181-04865-00	TURNBULL SCHOOL MUSIC ROOM ADDITION								
DRAWN BY: DATE: SCALE:	DRAWN BY: DATE: SCALE: K. McI. APR. 2018 AS SHOWN PROJECT: 181-04865-00	ELECTRICAL LIGHTING SCHEDULES &								
	К. Mcl. APR. 2018 AS SHOWN PROJECT: 181-04865-00		WN RY. TI		_					
	181-04865-00									
PROJECT:	181-04865-00				PROJECT:					
	DRAWING NO .:									
DRAWING NO.:					DRAWING NO .:					
	E201				E201					

REVISION NO .: