

# CONSEIL SCOLAIRE CATHOLIQUE MONAVENIR SAINT MICHEL



## SAINT MICHEL CATHOLIC ELEMENTARY SCHOOL CENTRE EDUCATIF A PETIT PAS

**A=COM**

29 MEADOWVALE RD, SCARBOROUGH  
ISSUED FOR TENDER FEBRUARY 2, 2021

60593561  
TENDER# 2021-16



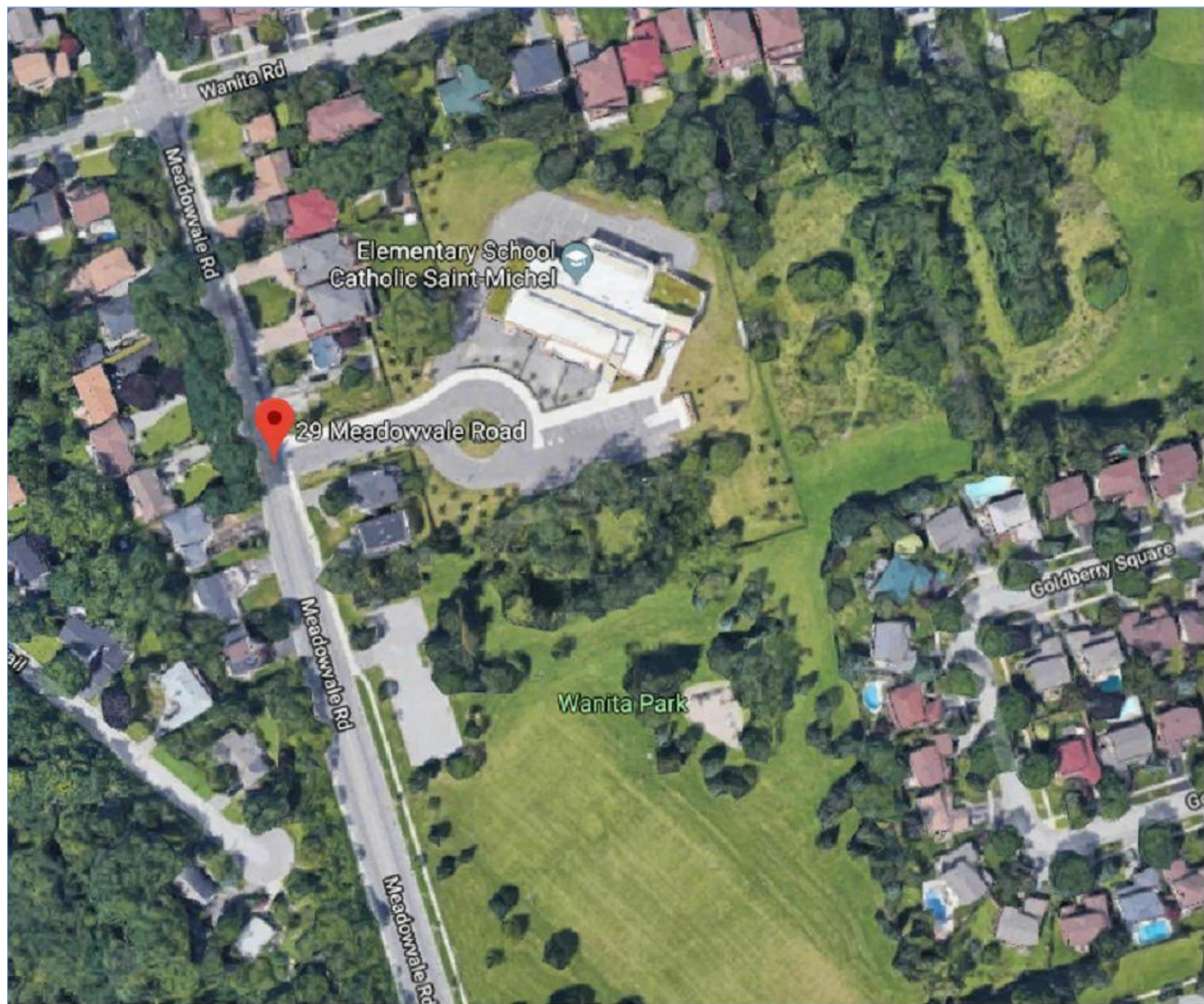
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LOCATION PLAN



ASSEMBLIES

WALLS:

EW1		<b>EXTERIOR WALL</b> <ul style="list-style-type: none"><li>90mm BRICK VENEER</li><li>25mm AIR GAP</li><li>75mm EXTRUDED POLYSTYRENE(XPS) TYPE INSULATION (R-15 MIN.)</li><li>AIR BARRIER</li><li>190mm STANDARD CONCRETE BLOCK (ALL BLOCK REINFORCED)</li></ul>
M190		<b>CMU WALL</b> <ul style="list-style-type: none"><li>FINISH AS PER SCHEDULE</li><li>190mm CMU</li><li>(HEIGHT VARIES SEE SECTIONS)</li></ul>
M140		<b>CMU WALL</b> <ul style="list-style-type: none"><li>FINISH AS PER SCHEDULE</li><li>140mm CMU</li><li>(HEIGHT VARIES SEE SECTIONS)</li></ul>
S4		<b>WALL</b> <ul style="list-style-type: none"><li>FINISH AS PER SCHEDULE</li><li>16mm MOISTURE RESISTANT GYPSUM WALL BOARD</li><li>(PROVIDE WOOD BLOCKING FOR ALL MILLWORK)</li><li>92mm METAL STUD LAYER</li><li>(HEIGHT VARIES SEE SECTIONS)</li></ul>

FLOORS:

F1		<b>GROUND FLOOR CONSTRUCTION:</b> <ul style="list-style-type: none"><li>FLOOR FINISH, SEE SCHEDULES</li><li>200 OR 100mm CONC. FLOOR SLAB, SEE STRUCT. DWGS.</li></ul>
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ROOFS:

R1		<b>BUILT-UP ROOF CONSTRUCTION (TO MATCH EXISTING):</b> <ul style="list-style-type: none"><li>2 PLY MODIFIED BITUMEN WHITE ROOF</li><li>25MM FIBREBOARD INSULATION</li><li>2 LAYERS 76MM POLYISOCYANURATE RIGID INSULATION (R-35)</li><li>VAPOUR RETARDER</li><li>13mm 'DENS-DECK' ON</li><li>METAL DECK ON O.W.S.J.</li></ul>
R2		<b>BUILT-UP ROOF CONSTRUCTION:</b> <ul style="list-style-type: none"><li>MEMBRANE FLASHINGS</li><li>TAPERED INSULATION AT ROOF (REFER TO LOCATIONS SHOWN, SEE PLAN)</li><li>VAPOUR RETARDER</li><li>38mm METAL DECK</li><li>STEEL BEAM (REFER TO STRUCT. DWGS. FOR DEPTH)</li><li>64mm METAL FRAMING</li><li>16mm MISC. METAL FURRING</li><li>13mm METAL SOFFIT</li></ul>

GENERAL NOTES:

- 1-SCHOOL BOARD TO HAVE ALL MISCELLANEOUS FURNITURE, BOOKS ETC. REMOVED FROM ROOMS AFFECTED BY WORK UNDER THIS CONTRACT.
- 2-ALL FURNITURE SHOWN FOR REFERENCE ONLY UNLESS NOTED OTHERWISE.
- 3-NEW MILLWORK & SHELIVING AS PER DETAILS.
- 4-CONTRACTOR TO MAKE GOOD ALL FINISHES DISTURBED TO INSTALL ALL COMPONENTS UNDER THIS CONTRACT. REFER TO ARCH., MECH., & ELECT. DRAWINGS.

- 5-PROVIDE TEMPORARY HOARDING & DUST SCREENS AS REQUIRED TO COMPLETE WORK. MAINTAIN FIRE EXITS WHERE REQUIRED.

- 6-CONTRACTOR TO ENSURE CONTINUITY OF VAPOUR BARRIER AND ANY HOLES OCCURRING THRU SUCH CEILING-WALL VAPOUR BARRIERS FOR WIRES, PIPES, DUCTWORK, OR ELECTRICAL BOXES. VAPOUR BARRIER MUST BE TIGHTLY SEALED WITH TAPE, CAULKING OR OTHER SUITABLE MATERIAL. CONSULTANT TO REVIEW PRIOR TO INSTALLATION OF CEILING OR WALLBOARD.

- 7-PROVIDE LATERAL SUPPORT & DEFLECTION AT TOP OF ALL NEW NON-LOAD BEARING MASONRY PARTITIONS.

- 8-MAINTAIN CONTINUITY OF FIRE SEPERATIONS BEHIND ALL RECESSED ELECTRICAL PANEL AND FIRE EXTINGUISHER CABINETS, HEATING EQUIPMENT, ETC.

- 9-REMOVE & RESTORE OR REPLACE ALL CEILINGS AFFECTED BY ACCESS TO MECH. & SERVICES. SEE MECH. & ELECT. DRAWINGS FOR EXTENT OF WORK.

- 10-DISCONNECT OR RELOCATE ALL MECH. & ELEC. SERVICES LOCATED IN PARTITIONS TO BE DEMOLISHED. REFER ALSO TO ELECTRICAL DWGS & SPECIFICATIONS.

- 11-PROVIDE STEEL ANGLE OR MASONRY LINTELS OVER ALL NEW MECHANICAL DUCTS & GRILLES THAT PENETRATE EXIST. & NEW MASONRY WALLS. FOR LARGE OPENINGS, REFER TO STRUCT. DWGS.

- 12-WHERE EXIST. FLOORING FINISHES ARE REMOVED, ALLOW FOR PREPARATION OF SUBSTRATE SUITABLE FOR INSTALLATION OF NEW FINISHES AS PER MANUFACTURERS REQUIREMENTS.

- 13- PROVIDE TEMPORARY 1.8m HIGH CONST.FENCE IF ANY OUTSIDE LAYDOWN AREA IS REQUIRED AS AGREED WITH THE BOARD. REFER ALSO TO SITE PLANS FOR PERTINENT INFORMATION.

- 14-CLEAR PATH OF TRAVEL MUST BE MAINTAINED FOR FIRE EXITING AT ALL TIMES.

- 15-CONTRACTOR SHALL MAKE GOOD ANY DAMAGE TO EXISTING PAVED AREAS, CURBS,WALKWAYS AND OTHER SITE FEATURES DISTURBED OR DAMAGED BY THE WORK.

OBC MATRIX

<b>Name of Practice:</b> AECOM Architects Canada Ltd. 300 Water Street, Whitby, Ontario, L1N 9J2, Canada  <b>Addition:</b> 123m <sup>2</sup> <b>Renovation:</b> 50m <sup>2</sup>				
<b>Name of Project:</b> MonAvenir Catholic School Board - ÉÉC Saint-Michel				
<b>Location:</b> 29 Meadowvale Rd, Scarborough, ON M1C 1R7				
<b>Ontario Building Code Data Matrix Part 3</b>				<b>Building Code Reference<sup>1</sup></b>
3.00	Building Code Version:	O_Reg_332/12	Last Amendment	O_Reg_191/14
3.01	Project Type:	<input type="checkbox"/> New <input type="checkbox"/> Addition <input type="checkbox"/> Renovation <input type="checkbox"/> Change of use <input checked="" type="checkbox"/> Addition and renovation		
		Description: Addition of a Preschool room and associated areas to the existing daycare & Partial renovation of existing daycare for infants		
3.02	Major Occupancy Classification:	Occupancy: A/2 Use: Elementary School and Daycare	3.12.1.(1)	
3.03	Superimposed Major Occupancies:	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
3.04	Building Area (m <sup>2</sup> )	Description:	Existing	New
		Main Floor	2057 m <sup>2</sup>	123 m <sup>2</sup>
			0	0
			0	0
			0	0
		Total	2057 m <sup>2</sup>	123 m <sup>2</sup>
			2180 m <sup>2</sup>	
3.05	Gross Area (m <sup>2</sup> )	Description:	Existing	New
		Main floor	2057 m <sup>2</sup>	123 m <sup>2</sup>
		Second Floor	1007 m <sup>2</sup>	0
			0	0
			0	0
		Total	3064 m <sup>2</sup>	123 m <sup>2</sup>
			3187 m <sup>2</sup>	
3.06	Mezzanine Area (m <sup>2</sup> )	Description:	Existing	New
		N/A	0	0
			0	0
			0	0
			0	0
		Total	0	0
			0	0
3.07	Building Height	2 0	Storeys above grade	10 m
			(m) Above grade	
			Storeys below grade	
3.08	High Building	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
3.09	Number of Streets/ Firefighter access	1 street(s)		
3.10	Building Classification: (Size and Construction Relative to Occupancy)	3.2.2.24 Group/Div A/2		
3.11	Sprinkler System	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not Required Proposed: <input checked="" type="checkbox"/> entire building <input type="checkbox"/> selected compartments <input type="checkbox"/> selected floor areas <input type="checkbox"/> basement <input type="checkbox"/> in lieu of roof rating <input type="checkbox"/> none		
3.12	Standpipe System	<input checked="" type="checkbox"/> Not required <input type="checkbox"/> Required		
3.13	Fire Alarm System	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Not required Proposed: <input type="checkbox"/> Single stage <input type="checkbox"/> Two stage <input type="checkbox"/> None		
3.14	Water Service / Supply is Adequate	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		

3.15	Construction Type:	<b>Restriction:</b> <input type="checkbox"/> Combustible permitted <input checked="" type="checkbox"/> Non-combustible required <b>Actual:</b> <input type="checkbox"/> Combustible <input checked="" type="checkbox"/> Non-combustible <input type="checkbox"/> Combination <b>Heavy Timber Construction:</b> <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes			
		3.2.2.20. - 83.3 & 3.2.1.4.			
3.16	Importance Category:	<input type="checkbox"/> Low <input type="checkbox"/> Low human occupancy <input type="checkbox"/> Post-disaster shelter <input type="checkbox"/> Normal <input checked="" type="checkbox"/> High <input type="checkbox"/> Minor storage building <input type="checkbox"/> Explosive or hazardous substances <input type="checkbox"/> Post-disaster			
		4.1.2.1.(3) & 4.1.2.1.B			
3.17	Seismic Hazard Index:	(I <sub>e</sub> Fa Sa (0.2)) = <0.35 Seismic design required for Table 4.1.8.18. Items 6 to 21: (I <sub>e</sub> Fa Sa (0.2)) ≥ 0.35 or Post-disaster <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes			
		4.1.2.1.(3) & 4.1.3.18.(2)			
3.18	Occupant Load	Floor Level/Area	Occupancy Type	Based On	Occupant Load (Persons)
		Main Floor	A/2	Design	24
					0
					0
					0
3.19	Barrier-free Design:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Explanation:			
		3.8.			
3.20	Hazardous Substances:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Explanation:			
		3.3.1.2. & 3.3.1.9.			
3.21	Required Fire Resistance Ratings	Horizontal Assembly	Rating(H)	Supporting Assembly	Noncombustible in lieu of rating?
		Floors over basement	0	0	<input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
		Floors	1	1	<input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
		Mezzanine	0	0	<input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
		Roof	0	0	<input type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A
3.22	Spatial Separation	Wall	EBF Area (m <sup>2</sup> )	L.D. (m)	L.H or H.L.
		N	19.3	16	2.5/1
		E	13.2	2.8	1.7/1
		W	55.4	8	7.1/1
		S	25.5	31	3.3/1
		Require FRR (H)	% UO permitted	% UO proposed	Construction Type Required
		0	100	0	<input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible
		22	0	0	<input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible
		45min	100	34	<input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible
		0	100	19	<input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible <input type="checkbox"/> Non-combustible
3.23	Plumbing Fixture Requirements	Ratio: Male:Female = 50:50 Except as noted otherwise			
		3.7.4.			
		Floor Level/Area	Occupant Load	OBC Reference	Fixtures Required
		123m <sup>2</sup>	24	3.7.4.3 (13)	24/10=3
			0		0
			0		0
			0		0
3.24	Energy Efficiency:	Compliance Path:			
		Climatic Zone: Zone 5			
3.25	Notes:	SB10 table SB5.5-5 (I-P): Assembly Max U Insulation Min R Roofs Insu. Above deck U- 0.029 R- 35 ci Walls, above grade Mass U- 0.054 R- 17 ci Floors Mass U- 0.051 R-16.4 ci Slab on Grade Floors Unheated F- 0.468 R- 15 for 48 in. Opaque doors Doors U- 0.45 Vertical Fenestration 0%-40% of Wall Entrance door U- 0.69 Metal framing Operable U- 0.45/ Fixed U-0.38			

1 All references are to Division B of the OBC unless preceded by [A] for Division A and [C] for Division C.



PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
CENTRE EDUCATIF A PETIT PAS

29 MEADOWVALE RD  
SCARBOROUGH

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REGISTRATION



ISSUE/REVISION

9	FEB 02, 2021	ISSUED FOR TENDER
7	APR 20, 2020	RE-ISSUED FOR TENDER
6	APR 15, 2020	ISSUED FOR B.P.
5	JAN 31, 2020	ISSUED FOR TENDER
3	APR 1, 2019	ISSUED FOR CLIENT REVIEW
2	Mar 08, 2019	ISSUED FOR SPA
1	Feb 15, 2019	60 % CLIENT REVIEW
I/R	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

60593561  
TENDER# 2021-16

SHEET TITLE

BUILDING INFORMATION SHEET

SHEET NUMBER

A-001



ARCHITECTURAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
#	POUND OR NUMBER
&	AND
@	AT
A	ARCHITECT / ENGINEER
AAP	ALARM ANNUNCIATOR PANEL
AB	ANCHOR BOLT
ABV	ABOVE
AC	AIR CONDITIONER / CONDITIONING
ACCS	ACCESSORIES
ACSDR	ACCESS DOOR
ACSF	ACCESS FLOOR
ACU	ACOUSTICAL
ACP	ACOUSTICAL CEILING PANEL
ACS	ACCESSIBLE
ACT	ACQUSTICAL CEILING TILE
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITY ACT
ADRL	ADDITIONAL
ADD	ADDENDUM
ADJ	ADJUSTABLE
ADJ	ADJACENT
ADMIN	ADMINISTRATION
AF	ABOVE FINISH COUNTER
AFD	ACCORDIAN FOLDING DOOR
AFF	ABOVE FINISH FLOOR
AFFD	ACCORDIAN FOLDING FIRE DOOR
AFG	ABOVE FINISH GRADE
AGD	ALL GLASS DOOR
AGGR	AGGREGATE
AGW	ALL GLASS WINDOW / WALL
AHR	ANCHOR
AHU	AIR HANDLING UNIT
AIA	AMERICAN INSTITUTE OF ARCHITECTS
ALM	ALIGNMENT
ALMNT	ALIGNMENT
ALT	ALTERNATE
AL OR ALUM	ALUMINUM
AMEND	AMENDMENT
ANOD	ANODIZED
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ANUN	ANNUNCIATOR
AP	ACCESS PANEL
APC	ARCHITECTURAL PRECAST CONCRETE
APPD	APPROVED
APPROX	APPROXIMATE
AR	ARCHITECT / ARCHITECTURAL
AS	ADJUSTABLE SHELVES
ASPH	ASPHALT
ASST	ASSISTANT
ASSY	ASSEMBLY
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AUTO	AUTOMATIC
AV	AUDIO VISUAL / AUDIO VIDEO
AVG	AVERAGE
AWP	ACOUSTIC WALL PANEL
B	BLANK
BA	BUILDING ACCESSORY
BA	BATH ACCESSORY
BC	BRICK COURSES
BD	BOARD
BFE	BOTTOM FOOTING ELEVATION
BIM	BUILDING INFORMATION MODEL
BITUM	BITUMENOUS
BKG	BACKING
BKT	BRACKET
BLGD	BUILDING
BL	BLOCK
BLK	BLOCKING
BLKG	BLOCKING
BLT	BORROWED LIGHT
BLW	BELOW
BM	BEAM
BMS	BALANCED MAGNETIC SWITCH
BMS	BUILDING MANAGEMENT / MAINTANCE SYSTEM
BO	BY OWNER
BOLL	BOLLARD
BOS	BOTTOM OF STEEL
BOT	BOTTOM
BR	BRICK
BRG	BEARING
BRLG	BRICK LEDGE
BRWL	BRICK WALL
BS	BOTH SIDES
BSMT	BASEMENT
BET OR BETW	BETWEEN
B17	BULLETIN
BUR	BUILT-UP ROOFING
C	CHANNEL
CAB	CABINET
CANFL	CANTILEVER
CAP	CAPACITY
CAS	CASEWORK
CAT	CATEGORY
CATV	CABLE ACCESSED TELEVISION
CB	CATCH BASIN
CC	CUBICLE CURTAIN
CCD	COLING COUNTER DOOR
CC18	CONSTRUCTION CHANGE DIRECTIVE
CCT	CUBICLE CURTAIN TRACK
CCTV	CLOSED CIRCUIT TELEVISION
CD	COILING DOOR
CDISP	CUP DISPENSER
CEM	CEMENT
CER	CERAMIC
CF	CIRC FOOT
CG	CUBIC FEET PER MINUTE
C6	CORNER GUARD
QGR	COLING GRILLE
CH	COAT HOOK / CLOTHES HOOK
CHEM	CHEMISTRY
CHAM	CHAMFER
CHR	CHAIR RAIL
CI	CAST IRON
CI	CONTRACTOR INSTALLED
CIP	CAST IN PLACE
CJ OR CJT	CONTROL JOINT
CHBD	CHALK BOARD
CL	CENTER LINE
CLS	CLASS
CLG	CLING
CLO	CLOSET
CLR	CLEAR
CM	CONSTRUCTION MANAGER
CMU	CONCRETE MASONRY UNIT
CO	CLEAR / CLEAR OUT
CO	CASED OPENING
COL	COLUMN
COMB	COMBINATION / ED
COMM	COMMUNICATION
CONC	CONCRETE
CONF	CONFERENCE
CONN	CONNECT-ED / ON
CONSTR	CONSTRUCTION
CONT	CONTINUE / CONTINUOUS
CONTR	CONTRACT / CONTRACTOR
CORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET
CPTB	CARPET BASE
CR	CASH RAIL
CR	CARDREADER
CRF	CONDUCTIVE RESILIENT FLOORING
CTSK	COUNTERSUNK
CSTN	CAST STONE
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
CTOP	COUNTERTOP
CTR	CENTER
CUH	CABINET UNIT HEATER
CW	CURTAIN WALL
CW	COLD WATER

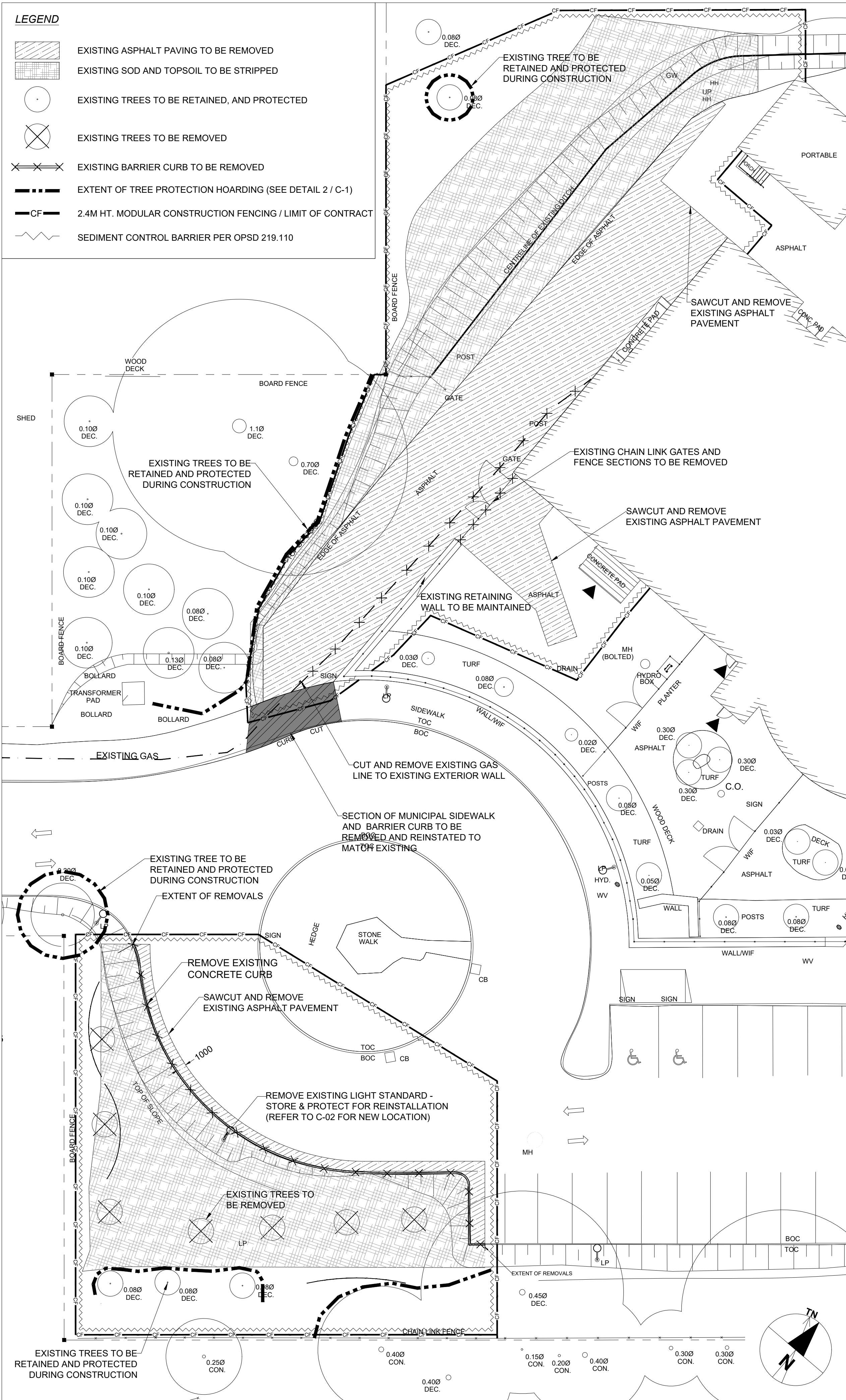
ARCHITECTURAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
CYL	CYLINDER
D	DEPTH / DEEP
D15	DOUBLE
DCS	DIAPER CHANGING STATION
DD	DESIGN DEVELOPMENT
DEFS	ALARM ANNUNCIATOR FINISH SYSTEM
DEG	DEGREE
DEMO	DEMOLITION
DEP	DEPRESSION
DEPT	DEPARTMENT
DET	DETAIL / DETAILS
DF	DRINKING FOUNTAIN
DEPS OR DFS	DIRECT APPLIED FINISH SYSTEM
DGL	DECORATIVE GLASS/GLAZING
DIA	DIAMETER
DIAG	DIAGONAL
AD	AREA DRAIN
DIFF	DIFFUSER
DIM	DIMENSION
DIR	DIRECTOR
DISP	DISPENSER
DIST	DISTRIBUTION
DIV	DIVISION
DJUT	DUMMAY JOINT
DK	DARK
DKRM	ACCORDIAN FOLDING DOOR
DLO	DAY LIGHT OPENING
DN	DOWN
DP	DAMP PROOFING
DP	DEMOUNTABLE PARTITION
DP	DATA PROCESSING
DR	DOOR
DROR OR DCR	DOOR OPERATOR CARD READER
DRHO	DOOR HOLD OPEN
DRLL	DOOR AND FRAME LEAD LINED
DRPP OR DPP	DOOR OPERATOR PUSH PLATE
DRRF	DOOR AND FRAME RF SHIELDING
DS	DOWNSPOUT
811	DRYWALL TRIM or WALL REVEAL TRIM
DW	DUMBWATER
DW	DISHWASHER
DWG	DRAWING
DWLS	DOWELS
E	EAST
E	EXISTING
EA	EACH
EC	ELECTRIC CABINET
EF	EXHAUST FAN
EF	EACH FREE
EH	EQUIPMENT HOOK
EHD	ELECTRIC HAND DRYER
EIFS	EXTERIOR INSUL AND FINISH SYSTEM
EJ OR EJT	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER OR EMERG	EMERGENCY
ENCL	ENCLOSURE
ENG	ENGINEER
ENTR	ENTRANCE
EO	ELECTRICAL OUTLET
EDD	END OF DECK
ED	END OF SLAB
EP	EXPLOSION PROOF
EP	ELECTRICAL PANEL
EPX	EPX
EQ	EQUAL
EQPT OR EQUIP	EQUIPMENT
ES	END SECTION
EST	ESTIMATE
EWG	ELECTRIC WATER COOLER
EXA	EXHAUST AIR
EXC	EXCAVATE / RD-ION
EXH	EXHAUST / EXHAUST HOOD
EXIST	EXISTING
EXP	EXPANSION
EXP	EXPOSED
EXT	EXTERIOR
F	FIRE EXTINGUISHER CABINET (RECESSED)
FEC (R)	FIRE EXTINGUISHER CABINET (SEMI-RECESSED)
F	FIRE EXTINGUISHER, WALL MOUNTED
FL	FLUSH
FA	FIRE ALARM
FAA	FIRE ALARM ANNUNCIATOR
FAF	FLUID APPLIED FLOORING
FAST	FASTEN / FASTENER
FB	FIRE BLANKET
FBR	FACE BRICK
FLO	FLOOR CLEAN-OUT
FD	FLOOR DRAIN
FDISP	FOAM / GEL DISPENSER
788	FOAM DISPENSER
FDN OR FND	FOUNDATION
FDV	FIRE DEPARTMENT VALVE
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FTE	FURNITURE, FURNISHINGS AND EQUIPMENT
FPL	FINISH FLOOR LINE
FG	FULL GLASS
FGA	FULL GLASS ALUMINUM
FGL	FIBERGLASS
FQS	FOAM GASKET SEAL
PH	FIRE HOSE
PHC	FIRE HOSE CABINET
PHP	FULL HEIGHT PARTITION
RHV	FIRE HOSE VALVE
FIN	FINISH / FINISHED
FINXT	FINISHED
788	FLOOR MAT
FLASH	FLASHING
FLEX	FLEXIBLE
FLN	FLOOR
FLOR	FLUORESCENT
FO	FIBEROPTICS
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
POS	FACE OF STUDS
FOW	FACE OF WALL
FW	FIRE PROOFING / FIREPROOF
FPL	FIREPLACE
FRC	FIBER REINFORCED CONCRETE
FRGP	FIBER REINFORCED GYPSUM BOARD
FR	FRAME / FRAMING
FRP	FIBERGLASS REINFORCED PLASTIC PANEL
FRS	FLUSHING RIM SINK
FRT	FIRE RETARDANT TREATED
FRZR	FREEZER
FS	FULL SIZE
FS	FLOOR SINK
FSTOP	FIRESTOPPING
FT	FOOT / FEET
FTG	FOOTING
FTR	FIN TUBE RADIATION
FURN	FURNITURE
FURR	FURRING
FUT	FUTURE
PV	FILM VIEWER
FV	FIRE VALVE CABINET
FWF	FULLY WELDED FRAME
FWP	FABRIC WRAPPED PANEL
G	GAS
GA	GAUGE
GAL	GALLON / GALLONS
GALLY	GALVANIZED
GB	GRAB BAR
GBM	GRADE BEAM
GC	GENERAL CONTRACTOR
GD OR GDSP	GEL DISPENSER
GEN	GENERATOR
GEN	GENERAL
GFI	GROUND FAULT INTERRUPTER

ARCHITECTURAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
GFRG	GLASS FIBER REINFORCED GYPSUM
GL	GLASS / GLAZING
G OR GMT	GROMMET
GMU	GLASS MASONRY UNIT
GND	GROUND
GPS	GRAPHIC PANEL SYSTEM
GRP	GRADE
GRP	GROUP
GRT	GROUT
GT	GLASS TILE
GRV	GRAVEL
GW	GLASS WALL
GWB	GYPSUM WALL BOARD
GYP OR GYB	GYPSUM BOARD
GYP SHTG	GYPSUM SHEATHING
H	HIGH
H	HUMIDISTAT
HB	HOSE BIB
HC	HOLLOW CORE
HD	HEAVY DUTY
HD	HARD
HD	HAND DRYER
HDCAP	HANDICAP
HDR	HEADER
HDWR	HARDWARE
HDWD	HARD WOOD
HDWNG	HARDWARE GROUP
HG	HALF GLASS
HM	HOLLOW METAL
HMM	HOLLOW METAL INSULATED
HOR OR HORIZ	HORIZONTAL
HPC	HIGH PERFORMANCE COATING
HPT	HIGHPOINT
HR	HANDRAIL
HR	HANDRAIL
HSGK	HOUSEKEEPING
HT	HEIGHT
HTR	HEATER
HVAC	HEATING, VENTILATING, AIR CONDITIONING
HW	HOT WATER
HWd	HARDWOOD
HWS	HAND WASH STATION
HYD	HYDRANT
IBC	INTERNATIONAL BUILDING CODE
IC	INTERCOM
ID	INSIDE DIAMETER
IN	INCH
INCL	INCLUDE / INCLUDED
INSUL	INSULATION
INT	INTERIOR
ISOL	ISOLATION / ISOLATED
ISOLPP	ISOLATED POWER PANEL
J	JANITOR
JAN	JANITOR
J OR JB	JUNCTION BOX
JST	JOIST
J	JOINT
K	KEYBOARD
KBD	KEYBOARD
KT	KEYBOARD TRAY
KIT	KITCHEN
KO	KNOCK-OUT PANEL
KS	KEY SWITCH
L	ANGLE
L OR A	LIFE SAFETY
LAB	LABORATORY
LAM	LAMINATED
LAN	LOCAL AREA NETWORK
LAV OR L	LAVATORY
LB OR LBS	POUND / POUNDS
LCD	LIQUID CRYSTAL DISPLAY
LED	LEADERSHIP IN ENVIRONMENTAL DESIGN
LEED	LEADERSHIP IN ENVIRONMENTAL DESIGN
LF	LINEAR FOOT / FEET
LF	LINE FIGURED
LG	LEDGE
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LIB	LIBRARY
LIN	LINER
LKR	LOCKER
LL	LEAD LINER / LINED
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LINEAR METAL CEILING
LCC	LOCATION / LOCATE
LONG	LONGITUDINAL
LP	LOW POINT
LRB	LOCKER ROOM BENCH
LS	LAWN SPRINKLING
LT	LIGHT
LTG	LIGHTING
LTSW	LIGHT SWITCH
LVL	LEVEL
LVR	LOUVER
LWT	LIGHT WEIGHT
LWC	LINEAR WOOD CEILING
M	METER / METERS
M	MACHINE
MACH	MACHINE
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MH	MOP / BROOM HOLDER
MCI	MODULAR COILING UNIT
788	MANUFACTURER CASEWORK
MDF	MEDIUM DENSITY FIBERBOARD
ME	MECHANICAL EQUIPMENT
MECH	MECHANICAL
MEMB	MEMBRANE
MEP	MECHANICAL, ELECTRICAL AND PLUMBING
MET OR MTL	METAL
787	METAL FABRICATION
788	METAL RAILING
MTLB	METAL BASE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MHC	MATERIAL HANDLING CONVEYOR
M	MIDDLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MBD	MARKER BOARD
MLAM	METALLIC LAMINATE
MLO OR MLDG	MOULDING
MLWK	MILLWORK
MM	MILLIMETER / MILLIMETERS
MO	MASONRY OPENING
MONO	MONOLITHIC
MP	METAL PANEL
MPC	METAL PAN CEILING
MPL	MULTI-PURPOSE UNIT
MR	MOISTURE RESISTANT
MT	MARKER TRAY
MTD	MOUNTED
MTR	MOTOR
MUL OR MULL	MULLION
MMV	MICROWAVE
N	NARROW
N	NORTH
NA OR N/A	NOT APPLICABLE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NUMBER
NOM	NOMINAL
NR	NOISE REDUCTION COEFFICIENT
NOTE	NOTE
NTS	NOT TO SCALE

ARCHITECTURAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
O	OVERALL
OBS	OBSCURE
OC	ON CENTER
OCS	OUTSIDE DIAMETER
OCFI	OWNER FURNISHED CONTRACTOR INSTALLED
ORD	OVERFLOW ROOF DRAIN
OF	OFFICE
OO	OWNER FURNISHED OWNER INSTALLED
OFS	OVERFLOW SCUPPER
OH	OVERHEAD
OP	OPERABLE PARTITION
OPER	OPERATOR
OPG OR OPNG	OPENING
OPP	OPPOSITE
789	ORNAMENTAL METAL ASSEMBLIES
800	ORNAMENTAL METAL RAILING
OSHA	OPPPATIONAL SAFETY AND HEALTH ADMINISTRATION
OF	OVERFLOW
801	OPERATEABLE WALL SYSTEM
OZ	OUNCE
P	PTC-ROLL
PTC-ROLL	PAPER TOWEL DISPENSER LARGE ROLL TYPE
PTC-VIR	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE
PART	PARTIAL
PAT	PATTERN
PB	PUSH BUTTON
PBD	PARTICLE BOARD
PRCST OR PC	PRECAST CONCRETE
822	PERSONAL COMPUTER
PCD	PAPER CUP DISPENSER
PCT	PORCELAIN TILE
PB	PORCELAIN CERAMIC TILE BASE
PEB	PEDESTAL
PER	PERMITTER
PERP	PERPENDICULAR
PERF	PERFORATED
PF	PREFINISHED
PGL	PLASTIC GLAZING
PHYS	PHYSICAL
PIP	POURED IN PLACE
PL	PLATE
PLN	PROPERTY LINE
PLAM OR PL	PLASTIC LAMINATE
PLBG	PLUMBING
PLS OR PLAS	PLYWOOD
PLW OR PLYWD	PLYWOOD
PMF	PRESSURE METAL FRAMES
PNL	PANEL
803	PANELING
POP	POINT OF PRESENCE
PR	PAIR
821	PROPOSAL REQUEST
PRELIM	PRELIMINARY
PREP	PREPARATION
PRESS	PRESSURE
PRM	PRIMARY
PROC	PROCEDURE
PROJ	PROJECTION
PROP	PROPERTY
PRV	POWER ROOF VENTILATOR
PROJ	PROJECTION SCREEN
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PAINT
PT	POINT
PTC	PAPER TOWEL CABINET
PTD	PAPER TOWEL DISPENSER
PART OR PTN	PARTITION
819	PAPER TOWEL RECEPTACLE
PTR	PRINTER
PTS	PNEUMATIC TUBE STATION
PTDF OR PTWD	PRESSURE TREATED DOUGLAS FIR / WOOD
PUL	PULP
PVC	POLYVINYL CHLORIDE
804	PAVER
Q	QUARRY TILE
QTB	QUARRY TILE BASE
QTY	QUANTITY
R	RADIUS
R OR RAD	RISER
R	RETURN AIR
RAD	RADIATION
RLH	RADIOLOGY
RB	RESILIENT BASE / RUBBER BASE
RH	ROBE HOOK
RC	REINFORCED CONCRETE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RE	RELOCATE EXISTING
REC	RECESSED
RECP	RECEPTION
REF	REFERENCE
REFR	REFRIGERATOR
REG	REGISTER
REIN	REINFORCE / ED-ING
REM	REMOVE / REMOVABLE
REQ OR REQ	REQUIRE / REQUIRED
RESIL	RESILIENT
RET	RETAINING
REV	REVERSE
REV	REVISE / ED-ION
REX	HOUSE EXISTING
RFL	REFLECTED
RFS	ROOM FINISH SCHEDULE
RH	RIGHT HAND
RH	ROOF HATCH
RHR	RIGHT HAND REVERSE
RIL	ROOM IN USE LIGHT
RM	ROOM
RMS	RECESSED MAT SYSTEM
RO	ROUGH OPENING
ROS	ROOM OPENING SCHEDULE
RS	ROUGH SLAB
RST	RUBBER / RESILIENT STAIR TREADS AND RISERS
806	RESILIENT TRANSITION STRIP
RWC OR RWL	RAIN WATER CONDUCTOR / LEADER
REDWOOD	REDWOOD
SB-E	SUPPORT BRACKET - END
SB-M	SUPPORT BRACKET - METAL
SB-P	SUPPORT BRACKET - END PANEL
823	SINK
S	SOUTH
ST	STAR ACCESSORY
SAF	SPRAY APPLIED FIRE PROOFING
SAN	SANITARY
SB	SHADOW BOX
SC	SHARPS CONTAINER
SC	SMOKE CURTAIN
SC	SOLID CORE
SC	SHOWER CURTAIN
SCD	SEAT COVER DISPENSER
SCH	SHOWER CURTAIN HOOK
SCHED	SCHEDULE
SCN OR SCR	SCREEN
SCR	SHOWER CURTAIN ROD
788	SPECIALTY CEILING SYSTEM
SD	SHOWER DRAIN
SD	SLIDING DOOR
SD	SMOKE DAMPER
SD	STORM DRAIN
SDA	SMOKE DETECTOR
SDA	SPECIAL DOOR ASSEMBLY
SDP OR SD	SEMI-DISPENSER
SDP	SPRAYED DAMP PROOFING
SECT	SECTION
SECY	SECRETARY

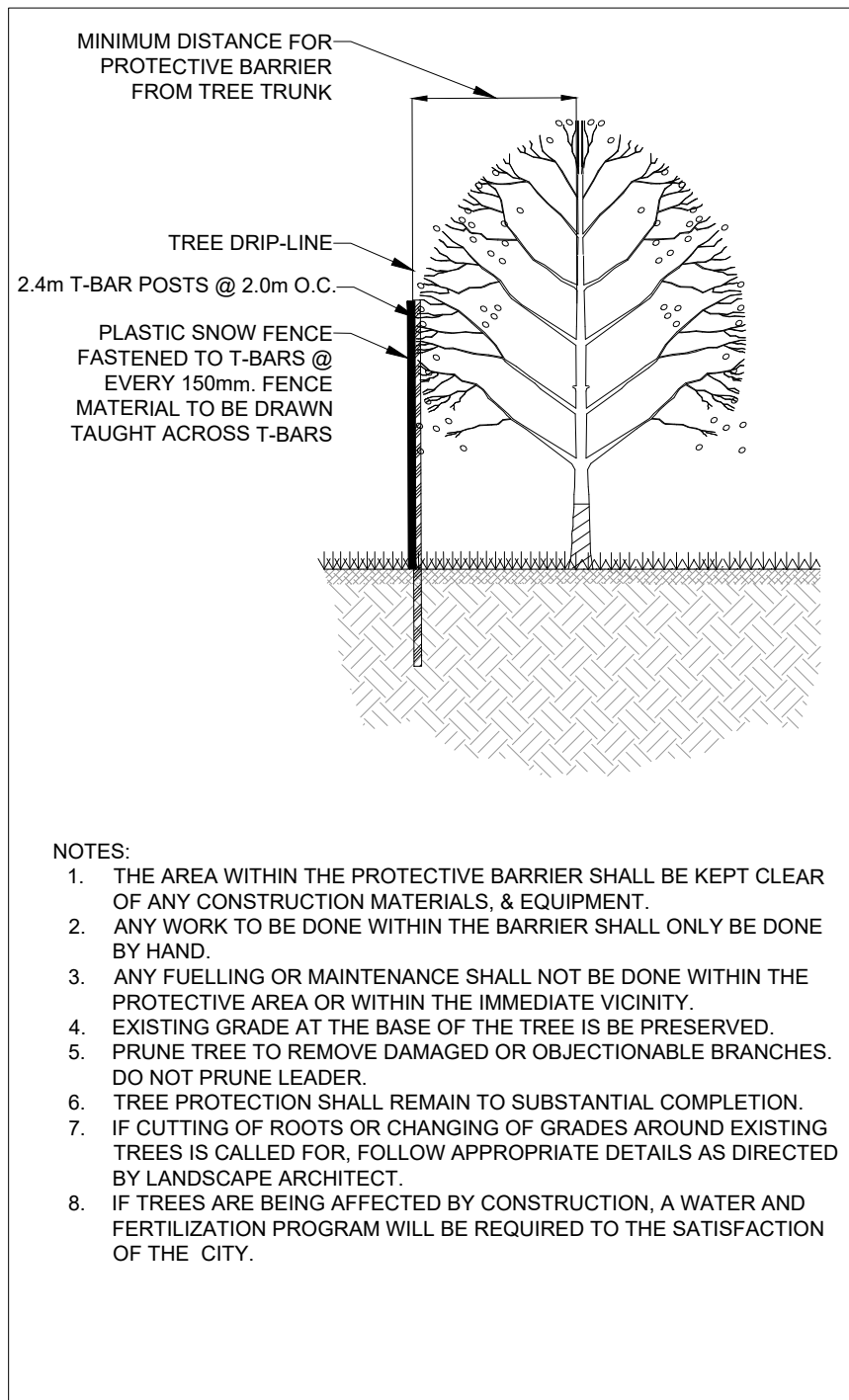
ARCHITECTURAL ABBREVIATIONS	
ABBREVIATION	DESCRIPTION
SQFT OR SF	SQUARE FOOT / FEET
SF	STORE FRONT
SG	SMOKE GUARD
SHR	SHOWER
SHT	SHEET
SHTG	SHEATHING
SI	SUPPLEMENTAL INSTRUCTION
SM	SIMILAR
SW	SLAT





## 1 REMOVALS

C-01 SCALE: 1 : 200



## 2 HOARDING / TREE PROTECTION

C-1 SCALE: NTS

CRITICAL ROOT ZONE	
TRUNK DIAMETER (DBH)	MINIMUM PROTECTION DISTANCES REQUIRED <sup>1</sup> (CITY OWNED AND PRIVATE TREES)
<10 cm	1.0 m from DBH
10-29 cm	1.0m to 2.9m from DBH
30-40 cm	3.0m to 4.0m from DBH
41-50 cm	4.1m to 5.0m from DBH
51-60 cm	5.1m to 6.0m from DBH
61-70 cm	6.1m to 7.0m from DBH
71-80 cm	7.1m to 8.0m from DBH
81-90 cm	8.1m to 9.0m from DBH
91-100 cm	9.1m to 10.0m from DBH
>100 cm	6cm protection for each 1cm diameter

<sup>1</sup> DIAMETER AT BREAST HEIGHT (DBH) - MEASUREMENT OF TREE STEM TAKEN AT 1.2M ABOVE THE GROUND, AND 0.3M ABOVE THE GROUND FOR TREES LESS THAN 15CM IN DIAMETER.

<sup>2</sup> CRITICAL ROOT ZONE DISTANCES ARE TO BE MEASURED FROM THE OUTSIDE EDGE OF THE TREE BASE

### TREE PROTECTION NOTES:

THE MUNICIPAL TREES AND NATURAL AREAS PROTECTION BY-LAW REQUIRES THAT CONTRACTORS WORKING NEAR TREES MUST:

- ERECT A FENCE AT THE CRITICAL ROOT ZONE (CRZ) OF TREES
- NOT PLACE ANY MATERIAL OR EQUIPMENT WITHIN THE CRZ OF THE TREE
- NOT ATTACH ANY SIGNS, NOTICES OR POSTERS TO ANY TREE
- NOT RAISE OR LOWER THE EXISTING GRADE WITHIN THE CRZ OF A TREE WITHOUT APPROVAL OF FORESTRY SERVICES
- TUNNEL OR BORE WHEN DIGGING WITHIN THE CRZ OF ANY TREE
- NOT DAMAGE THE ROOT SYSTEM, TRUNK OR BRANCHES OF ANY TREE
- ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARDS ANY TREE'S CANOPY

### CONTRACTORS MUST:

- BE FAMILIAR WITH THE MUNICIPAL TREES AND NATURAL AREAS PROTECTION BY-LAW AND THE ROAD ACTIVITY BY-LAW PRIOR TO COMMENCING ANY WORK
- OBTAIN ALL PERMITS AND APPROVALS PRIOR TO THE START OF CONSTRUCTION
- REQUEST A SITE VISIT BY A FORESTRY INSPECTOR WHEN WORK IS REQUIRED NEAR CITY TREES

### GENERAL NOTES

- ALL WORKS TO BE INSTALLED IN ACCORDANCE WITH CURRENT CITY OF TORONTO SUBDIVISION DEVELOPMENT GUIDELINES AND TECHNICAL STANDARDS, ONTARIO PROVINCIAL STANDARD SPECIFICATIONS AND DRAWINGS UNLESS SPECIFIED OTHERWISE.
- NO BLASTING WILL BE PERMITTED AS PART OF THIS CONTRACT.
- AGGREGATES - CRUSHED LIMESTONE GRANULAR A AND B AS PER OPSS 1010.
- EXISTING TREES TO BE RETAINED AND PROTECTED UNLESS NOTED OR AS DIRECTED BY THE CLIENT REPRESENTATIVE.
- IN THE EVENT THAT DEEPLY BURIED OR PREVIOUSLY UNDISCOVERED ARCHAEOLOGICAL DEPOSITS ARE DISCOVERED IN THE COURSE OF DEVELOPMENT OR SITE ALTERATION, ALL WORK MUST IMMEDIATELY CEASE AND THE SITE MUST BE SECURED. THE CULTURAL PROGRAM BRANCH OF THE MINISTRY OF CULTURE (416-314-7123) AND THE CITY OF TORONTO HERITAGE PLANNER (416-392-1975) MUST BE IMMEDIATELY CONTACTED.
- IN THE EVENT THAT HUMAN REMAINS ARE ENCOUNTERED, ALL WORK MUST IMMEDIATELY CEASE AND THE SITE MUST BE SECURED. THE TORONTO POLICE (416-808-2222), THE REGISTRAR OF CEMETERIES REGULATION SECTION OF THE MINISTRY OF CONSUMER BUSINESS SERVICES (416-326-8494), THE CULTURAL PROGRAM BRANCH OF THE MINISTRY OF CULTURE (416-314-7123), AND THE CITY OF TORONTO HERITAGE PLANNER (416-392-1975) MUST BE IMMEDIATELY CONTACTED.
- ALL PIPE MATERIAL TO BE CSA CERTIFIED

### ENVIRONMENTAL

WHILE UNDERTAKING CLEARING, DEMOLITION, EXCAVATION OR CONSTRUCTION THE OWNER AND THEIR CONTRACTORS SHALL BE VIGILANT FOR THE POTENTIAL PRESENCE OF UNDERGROUND FUEL TANKS, POTENTIALLY CONTAMINATED SOILS OR GROUNDWATER, BURIED WASTES OR ABANDONED WATER WELLS. IF ANY OF THE ABOVE ARE ENCOUNTERED OR SUSPECTED, THE OWNER SHALL ENSURE THAT:

- ANY SOIL OR GROUNDWATER CONTAMINATION ENCOUNTERED IS REMEDIATED TO APPLICABLE STANDARDS AS DEFINED IN O. REG. 153/04 OR AS REVISED;
- ANY WASTES GENERATED BY SITE CLEAN-UPS ARE MANAGED IN ACCORDANCE WITH APPLICABLE LAWS AND STANDARDS;
- ANY ABANDONED FUEL TANKS ENCOUNTERED ARE DECOMMISSIONED IN ACCORDANCE WITH APPLICABLE LAWS AND STANDARDS;
- ANY UNUSED WATER WELLS (DRILLED OR DUG) ARE PROPERLY ABANDONED IN ACCORDANCE WITH ACCORDANCE WITH O. REG. 903-WELLS OR AS REVISED;
- IF IT APPEARS LIKELY THAT CONTAMINATION EXTENDS BEYOND THE BOUNDARIES OF THE SUBJECT PROPERTY, THE OWNER SHALL NOTIFY THE LOCAL OFFICE OF THE MINISTRY OF THE ENVIRONMENT AND THE CITY OF TORONTO'S ENVIRONMENT DIVISION;
- CONSTRUCTION WASTES ARE NOT TO BE BURIED WITHIN THE PROPERTY THAT IS THE SUBJECT OF THIS AGREEMENT, AND
- THE OWNER AND THEIR CONTRACTORS REPORT ALL SPILLS TO THE MINISTRY OF THE ENVIRONMENT'S SPILLS ACTION CENTRE (1-800-268-6660) AND TO THE MUNICIPALITY (416-392-2489) FORTHWITH.

### EROSION & SEDIMENT CONTROL & TREE PROTECTION

- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF DISTURBANCE. ACCORDING TO THEIR MANUFACTURER'S GUIDELINES AND RELEVANT OPSD DETAILS, SHALL BE CHECKED ON A REGULAR BASIS, AND SHALL BE REMOVED, ALONG WITH ACCUMULATED SEDIMENT, IMMEDIATELY FOLLOWING THE EFFECTIVE STABILIZATION OF THE SITE
- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO PROVIDE PROTECTION FROM RECEIVING DRAINAGE DURING CONSTRUCTION ACTIVITIES (I.E. STRAW BALE CHECK DAMS AND SEDIMENT CONTROLS AROUND ALL DISTURBED AREAS). ALL CONSTRUCTION OPERATIONS THAT MAY IMPACT UPON WATER QUALITY SHALL BE CARRIED OUT IN A MANNER THAT STRICTLY MEETS REQUIREMENTS OF ALL APPLICABLE LEGISLATION, REGULATIONS AND BY-LAWS.
- ALL EXISTING AND PROPOSED STRUCTURES (IN THE VICINITY OF THE CONSTRUCTION AND IMMEDIATELY AFTER INSTALLATION) SHALL HAVE FILTER FABRIC SACK PLACED UNDER THE LID TO CONTROL THE ENTRY OF SILT TO THE SEWER. FILTER FABRIC TO BE INSTALLED AND MAINTAINED BY THE CONTRACTOR TO THE SATISFACTION OF THE CONSULTANT. CONTRACTOR TO REMOVE FILTER FABRIC UPON COMPLETION OF FINAL RESTORATION AND ONLY WHEN APPROVED BY THE CONSULTANT.
- THE CONTRACTOR SHALL MONITOR AND MAINTAIN ALL SYSTEM OF CONTROLS UTILIZED ON THE PROJECT. THE CONTRACTOR SHALL REGULARLY CLEAN, REPAIR, REPLACE OR UNDERTAKE ADDITIONAL MEASURES IN ORDER TO ENSURE THE DESIRED RESULTS. FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROLS MAY BE SUBJECT TO PENALTIES IMPOSED BY THE APPLICABLE REGULATORY AGENCY.
- GRADES SHALL BE 1% MINIMUM AND 33% (3:1) MAXIMUM ON ALL GRASSED SURFACES. ADEQUATE CONTROL MEASURES SHALL BE EMPLOYED WHERE NECESSARY TO CONTROL EROSION. CONTROL SILTATION AND EROSION AT ALL TIMES.
- TREE PROTECTION BARRIER AS PER OPSD 220.01. PROVIDE STANDARD PROTECTIVE TREATMENT.
- NO TREE OR SHRUB REMOVAL TO BE UNDERTAKEN BETWEEN APRIL 15 AND JULY 15 UNLESS OTHERWISE DIRECTED BY THE CLIENT REPRESENTATIVE.

# AECOM

### PROJECT

SAINT MICHEL

CATHOLIC ELEMENTARY SCHOOL

CENTRE EDUCATIF A PETIT PAS

29 MEADOWVALE RD

SCARBOROUGH

### CLIENT

CONSEIL SCOLAIRE CATHOLIQUE

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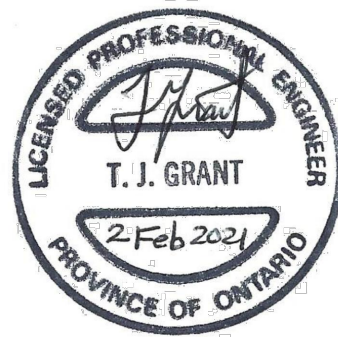
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### REGISTRATION



### ISSUE/REVISION

1	FEB 2, 2021	ISSUED FOR TENDER
I/R	DATE	DESCRIPTION

### KEY PLAN



### PROJECT NUMBER

60593561

TENDER # 2021-16

### SHEET TITLE

REMOVALS PLAN

### SHEET NUMBER

C-01

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SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
CENTRE EDUCATIF A PETIT PAS

## CLIENT

## CONSULTANT

## REGISTRATION



## KEY PLAN



**SHEET TITLE**

## GRADING PLAN

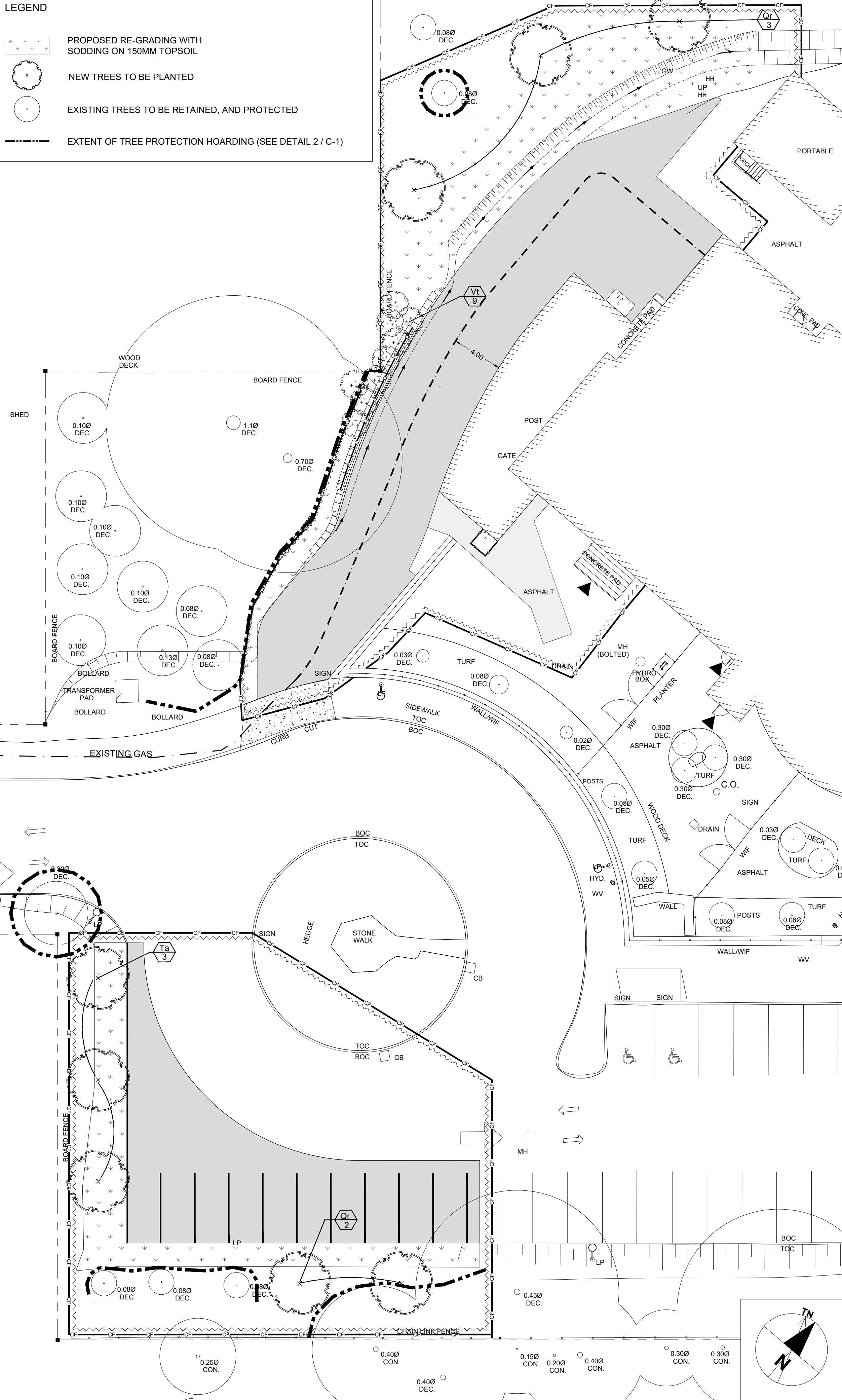
**SHEET NUMBER**

C-03





- LEGEND
- PROPOSED RE-GRADING WITH SODDING ON 150MM TOPSOIL
  - NEW TREES TO BE PLANTED
  - EXISTING TREES TO BE RETAINED, AND PROTECTED
  - EXTENT OF TREE PROTECTION HOARDING (SEE DETAIL 2 / C-1)

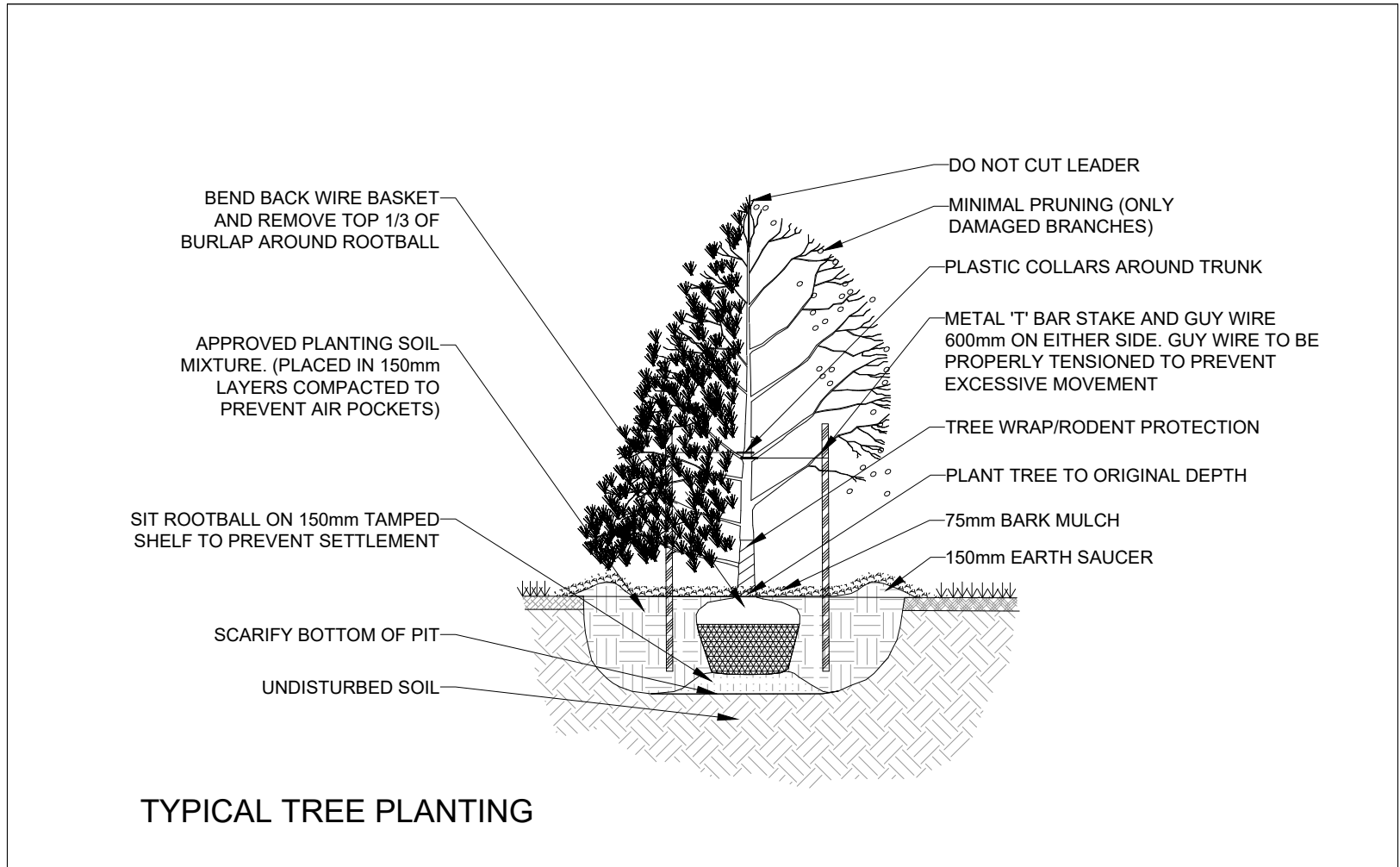


## 1 PLANTING

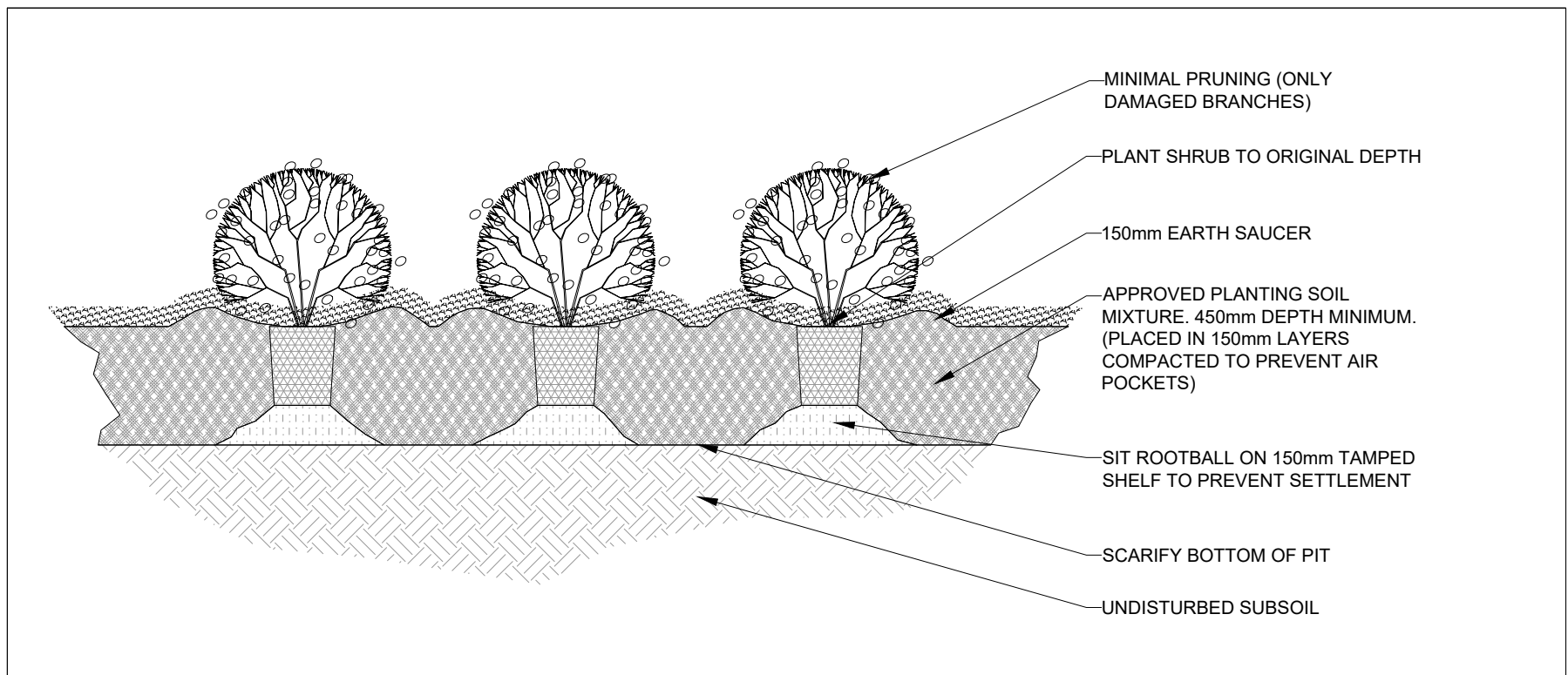
C-04

SCALE: 1 : 200

- PLANTING NOTES:
- THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
  - TREE SITING SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
  - RESTORE ALL DISTURBED 'GREEN AREAS' WITH 150MM OF TOPSOIL AND SOD.
  - ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
  - DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE CITY.
  - BASE INFORMATION SURVEY WAS SUPPLIED BY CITY OF SCARBOROUGH.
  - THE CONTRACTOR IS RESPONSIBLE TO ARRANGE FOR LOCATIONS OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR TAKING ALL NECESSARY STEPS TO ENSURE THAT ALL UTILITIES ARE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
  - STAKE PLANTING LOCATIONS AND RECEIVE APPROVAL OF LANDSCAPE ARCHITECT PRIOR TO EXCAVATION OF ANY PLANTING PITS.
  - NO SUBSTITUTIONS OF PLANT MATERIAL SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT.
  - WHERE CLAY IS ENCOUNTERED DURING THE EXCAVATION FOR PLANTING, STEPS MUST BE TAKEN TO ENSURE PROPER DRAINAGE OF THE PLANTING PITS. METHOD OF DRAINAGE MUST BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
  - THE QUALITY OF ALL PLANT MATERIAL TO BE IN ACCORDANCE WITH THE CANADIAN STANDARDS FOR NURSERY STOCK.
  - REINSTATE ALL AREAS AND ITEMS THAT HAVE BEEN DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITY.
  - MAINTAIN POSITIVE SURFACE DRAINAGE FOR ALL LANDSCAPE AREAS.
  - ALL PLANT MATERIAL SHALL BE PROPERLY MAINTAINED DURING THE WARRANTY PERIOD AND ANY PLANTS THAT ARE DEAD AND/OR NOT PERFORMING PROPERLY SHALL BE REPLACED TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.
  - STAKING OF ALL TREES TO BE REMOVED AT THE END OF THE WARRANTY PERIOD AFTER THE FINAL ACCEPTANCE OF PROJECT BY LANDSCAPE ARCHITECT
  - THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM CITY OF SCARBOROUGH PRIOR TO COMMENCING CONSTRUCTION.



TYPICAL TREE PLANTING



### PLANT LIST

Key	Botanical Name	Common Name	Qty	Size	Remarks
Trees					
Qr	Quercus rubra	Red Oak	5	60mm Cal., W.B.	Straight trunk, well branched, symmetrical form, 1.8m min. branch ht.
Ta	Tilia americana	Basswood	3	60mm Cal., W.B.	Straight trunk, well branched, symmetrical form, 1.8m min. branch ht.
Shrubs					
Vt	Viburnum trilobum	American Highbush Cranberry	9	1.0m ht. W.B.	Min. 3 canes, well branched, symmetrical form

# AECOM

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### REGISTRATION



### ISSUE/REVISION

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I/R	DATE	DESCRIPTION

### KEY PLAN



### PROJECT NUMBER

60593561  
TENDER # 2021-16

### SHEET TITLE

PLANTING PLAN

### SHEET NUMBER

L-01

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# 1 SITE PLAN - SURVEY

A-101 REF: A-201 SCALE: 1 : 300



## PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
CENTRE EDUCATIF A PETIT PAS

29 MEADOWVALE RD  
SCARBOROUGH

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## REGISTRATION

## ISSUE/REVISION

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9	FEB 02, 2021	ISSUED FOR TENDER
7	APR 20, 2020	RE-ISSUED FOR TENDER
6	APR 15, 2020	ISSUED FOR B.P.
5	JAN 31, 2020	ISSUED FOR TENDER

## KEY PLAN

## PROJECT NUMBER

60593561  
TENDER# 2021-16

## SHEET TITLE

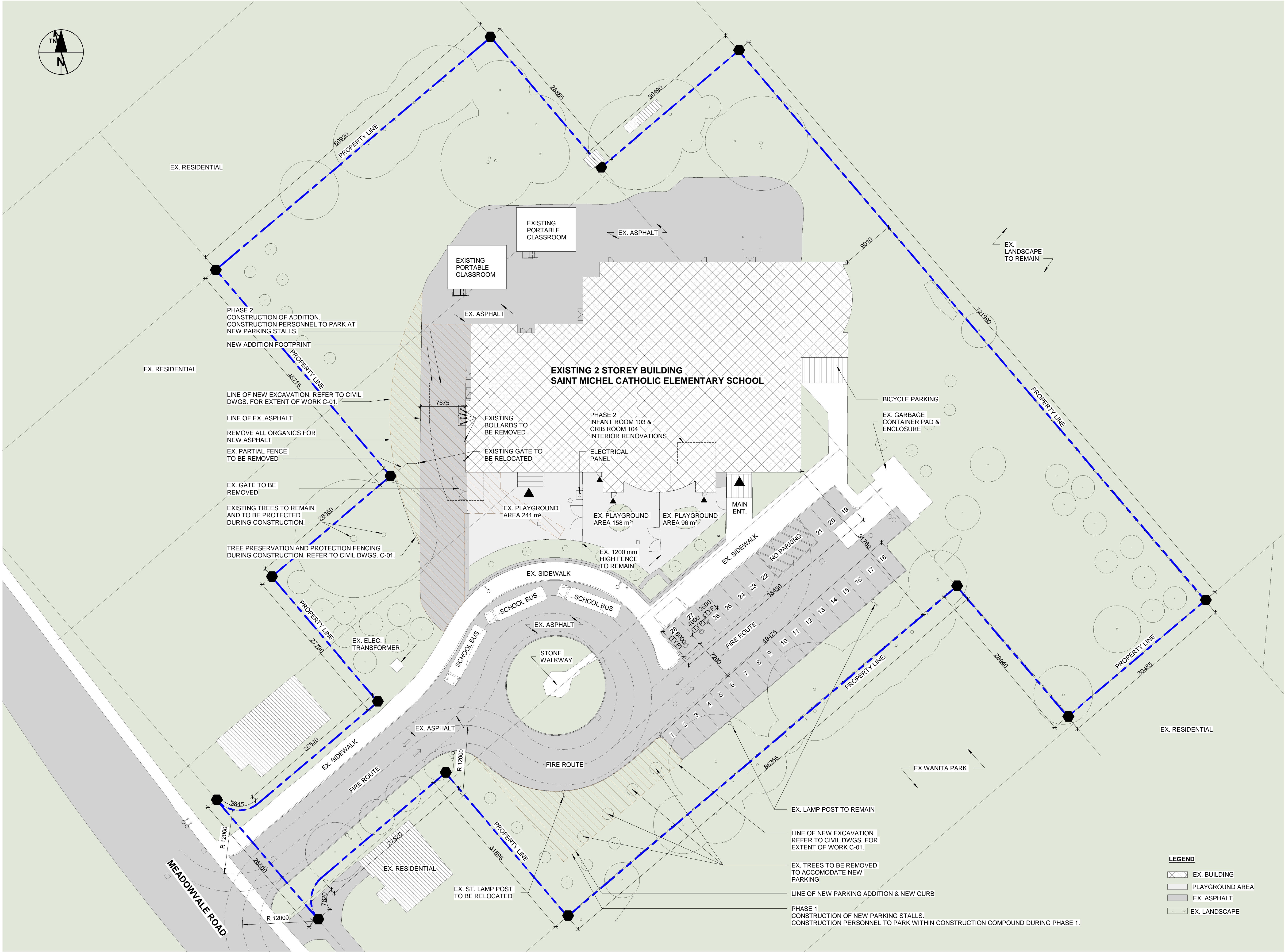
SITE PLAN - SURVEY

## SHEET NUMBER

A-101

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1 SITE PLAN - DEMO  
A-102 REF: A-201 SCALE: 1 : 300



PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
CENTRE EDUCATIF A PETIT PAS

29 MEADOWVALE RD  
SCARBOROUGH

CLIENT

CONSEIL SCOLAIRE CATHOLIQUE  
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REGISTRATION



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1	Feb 15, 2019	60 % CLIENT REVIEW
I/R	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

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SHEET TITLE

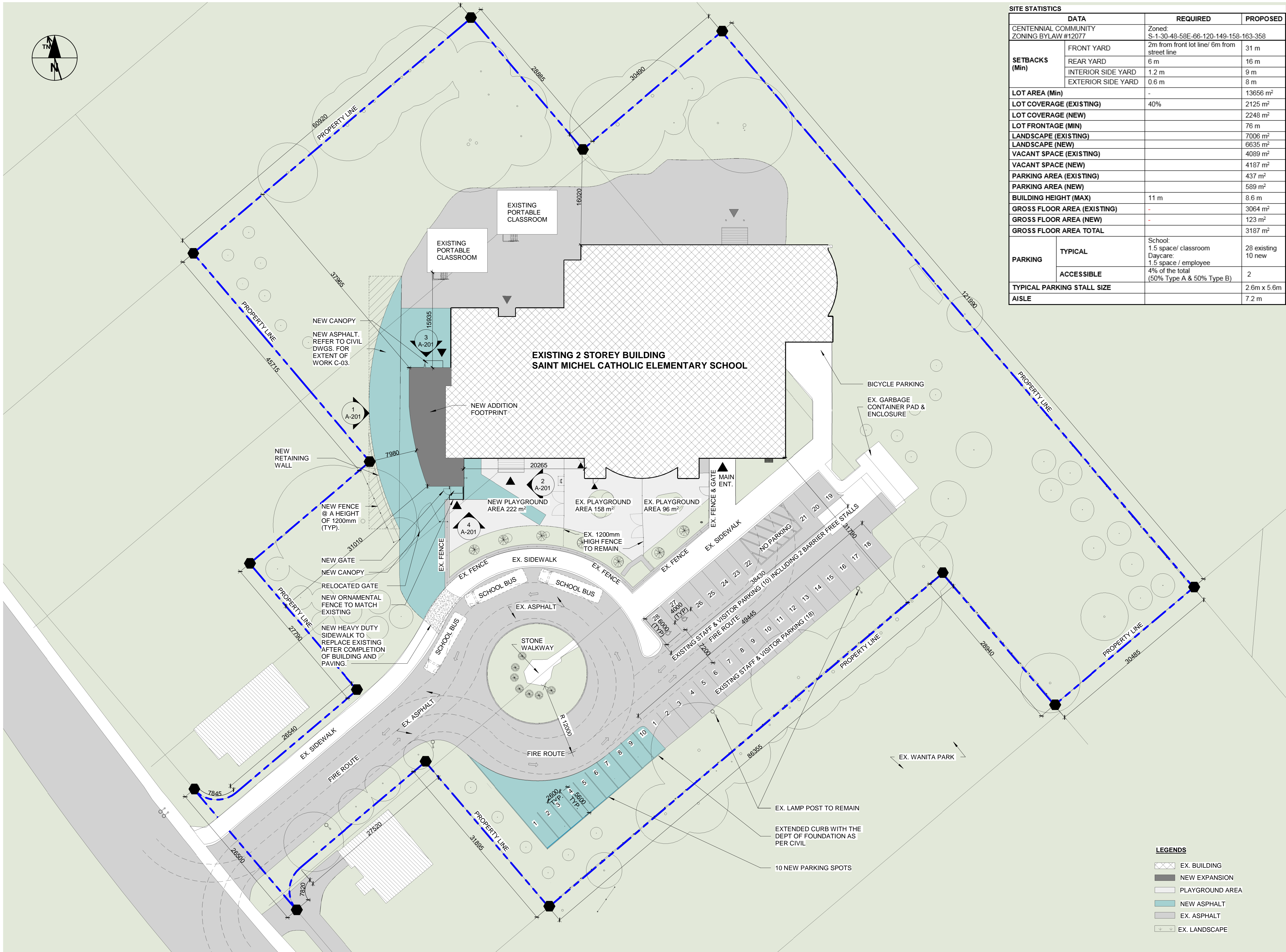
SITE PLAN - DEMO

SHEET NUMBER

A-102

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SITE STATISTICS		
DATA		REQUIRED
CENTENNIAL COMMUNITY ZONING BYLAW #12077		Zoned: S-1-30-48-58E-66-120-149-158-163-358
SETBACKS (Min)	FRONT YARD	2m from front lot line/ 6m from street line
	REAR YARD	6 m
	INTERIOR SIDE YARD	1.2 m
	EXTERIOR SIDE YARD	0.6 m
LOT AREA (Min)		-
LOT COVERAGE (EXISTING)		40%
LOT COVERAGE (NEW)		-
LOT FRONTAGE (MIN)		76 m
LANDSCAPE (EXISTING)		7006 m²
LANDSCAPE (NEW)		6635 m²
VACANT SPACE (EXISTING)		4089 m²
VACANT SPACE (NEW)		4187 m²
PARKING AREA (EXISTING)		437 m²
PARKING AREA (NEW)		589 m²
BUILDING HEIGHT (MAX)		11 m
GROSS FLOOR AREA (EXISTING)		-
GROSS FLOOR AREA (NEW)		-
GROSS FLOOR AREA TOTAL		3187 m²
PARKING	TYPICAL	School: 1.5 space/ classroom Daycare: 1.5 space / employee
	ACCESSIBLE	4% of the total (50% Type A & 50% Type B)
TYPICAL PARKING STALL SIZE		2.6m x 5.6m
AISLE		7.2 m



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SHEET TITLE

SITE PLAN - NEW

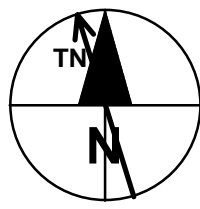
SHEET NUMBER

A-104

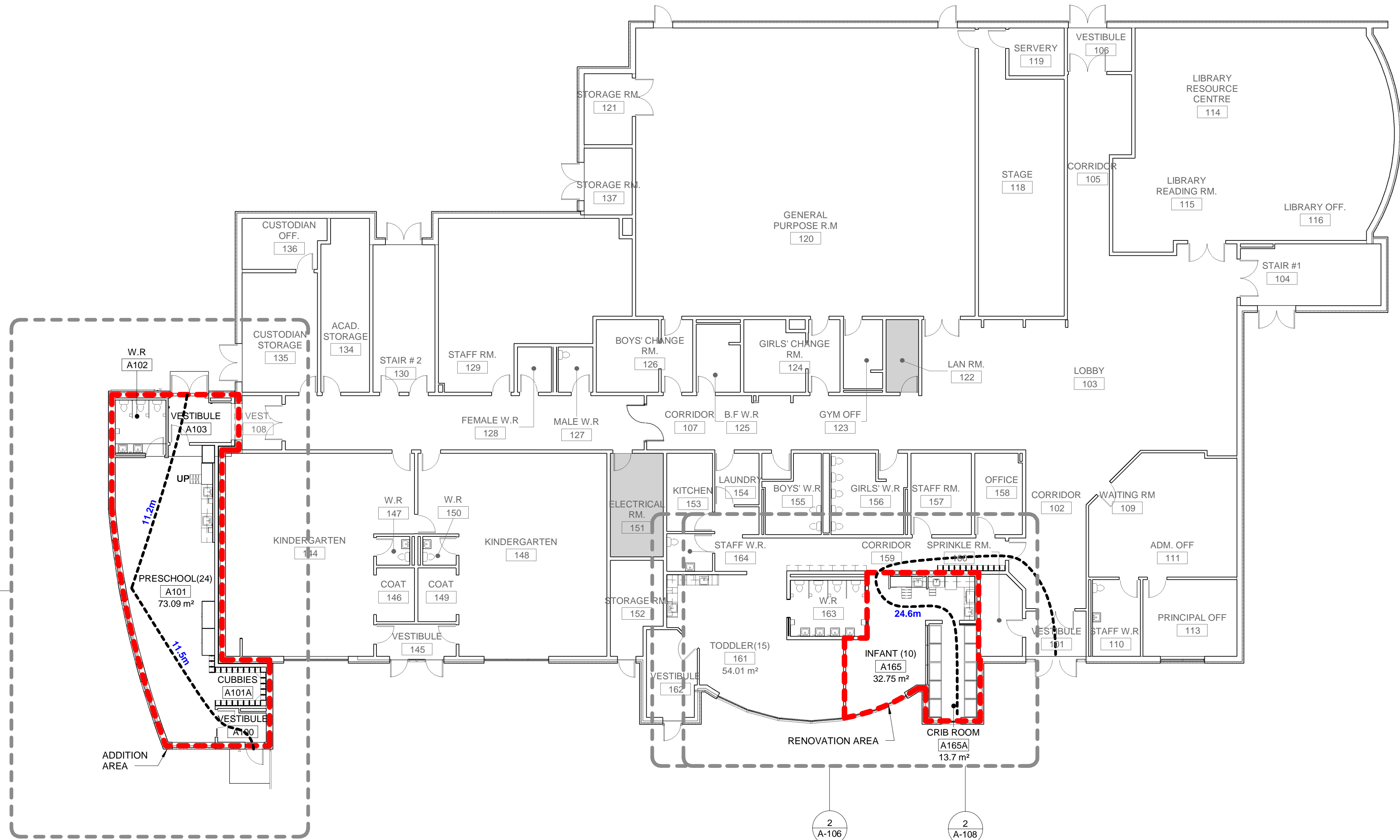
1 SITE PLAN - NEW

A-104 REF: A-201 SCALE: 1 : 300





1  
A-106



2  
A-106

2  
A-108

## 1 | LIFE SAFETY PLAN

A-105 REF: A-201

SCALE: 1 : 150

### LEGEND

- BUILDING ENTRANCE/EXIT
- BUILDING EGRESS ROUTE WITH DISTANCE TO EXIT INDICATED.
- AREA OF NEW ADDITION AND RENOVATION.



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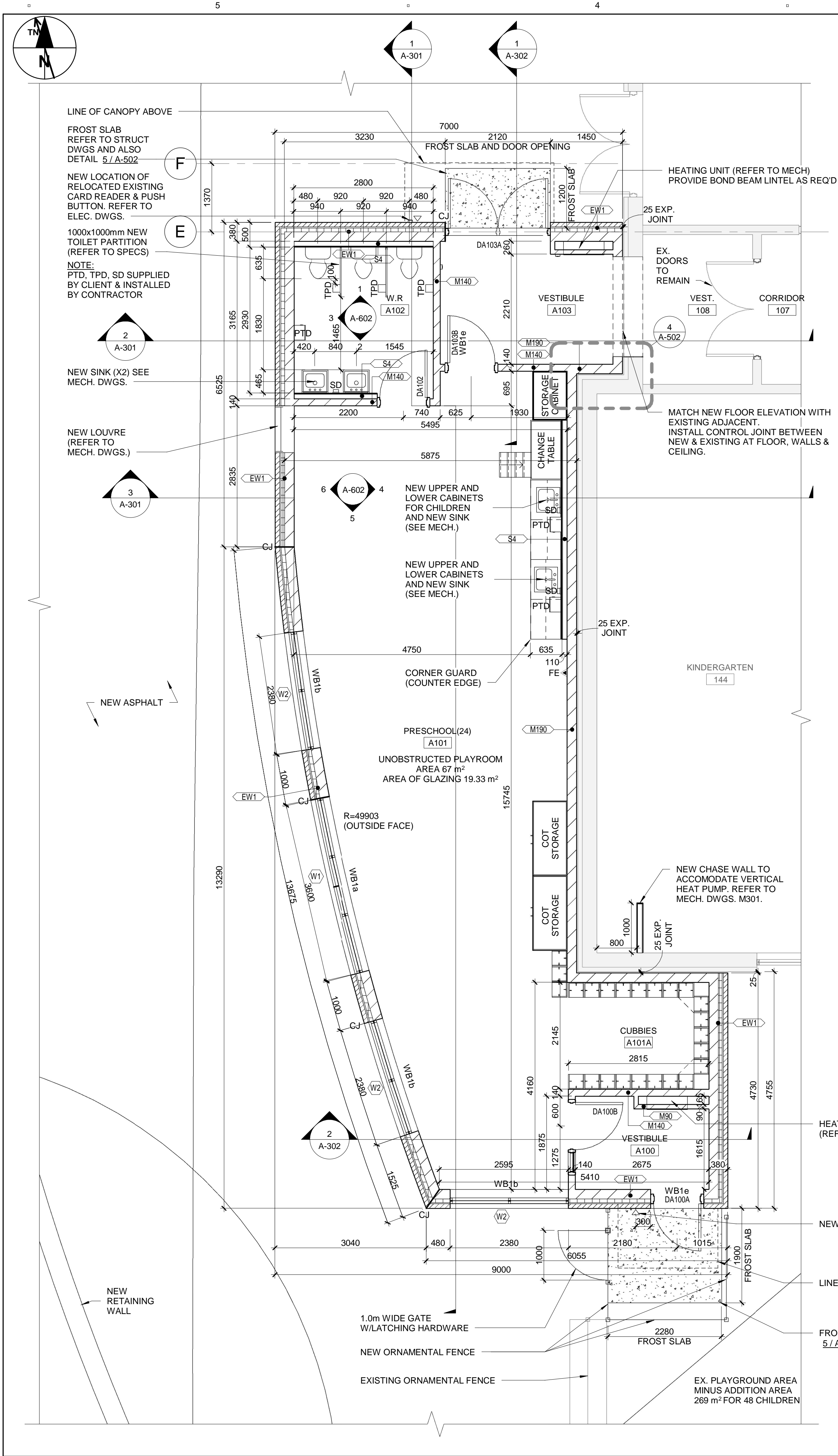
LIFE SAFETY PLAN

### SHEET NUMBER

A-105

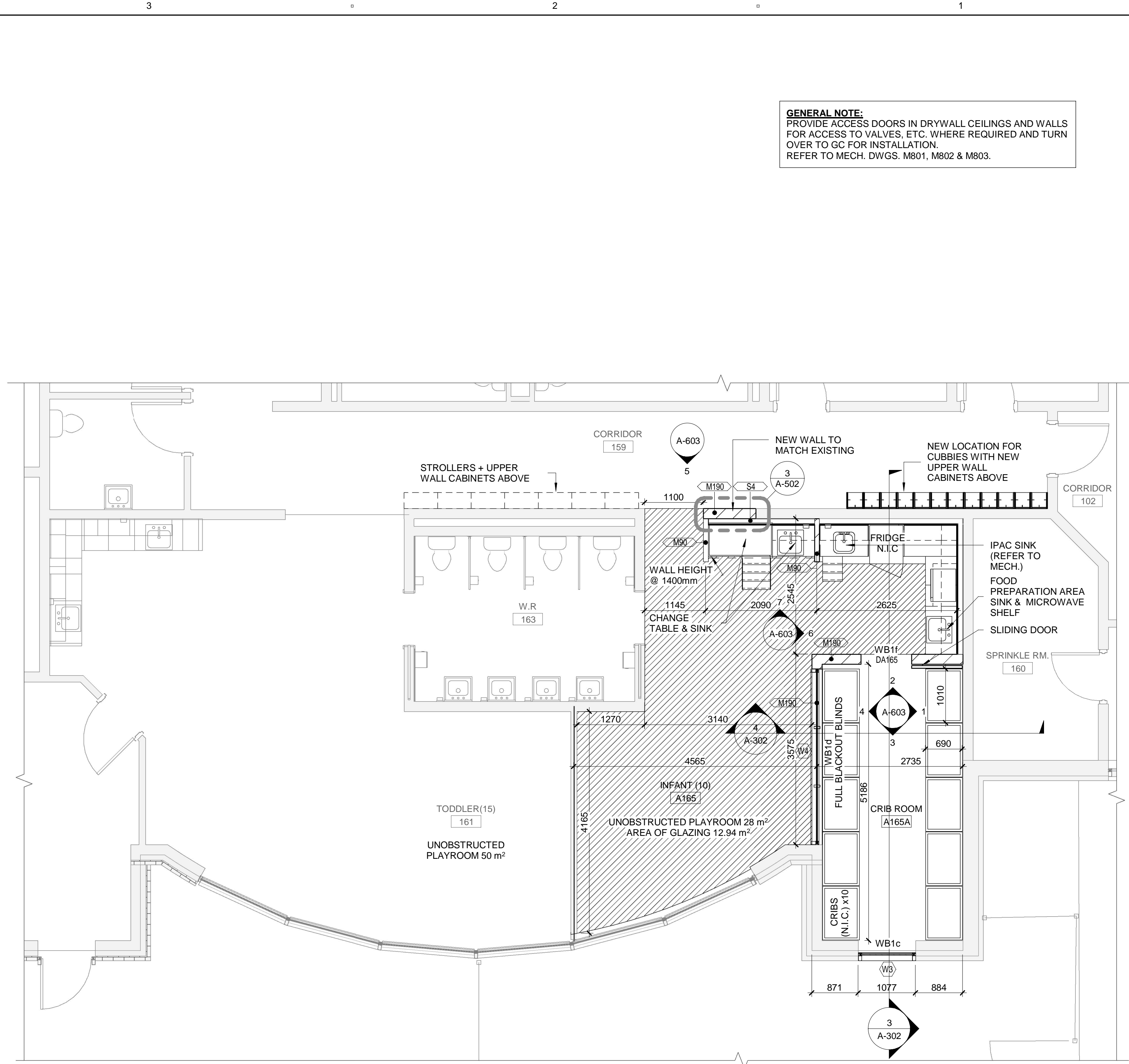
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## 1 ENLARGED PLAN - PRESCHOOL

A-106 REF: A-105 SCALE: 1 : 50



## 2 ENLARGED PLAN- INFANT

A-106 REF: A-105 SCALE: 1 : 50

### LEGEND

- WB1a** 3600x1800 WINDOW BLINDS (REFER TO SPECS)
- WB1b** 2380x1800 WINDOW BLINDS (REFER TO SPECS)
- WB1c** 1075x1765 WINDOW BLINDS (REFER TO SPECS)
- WB1d** 1600x3300 FULL BLACKOUT BLINDS (REFER TO SPECS)
- WB1e** 610x889 WINDOW BLINDS FOR DOOR (REFER TO SPECS)
- WB1f** 150x1056 WINDOW BLINDS FOR DOOR (REFER TO SPECS)

**GENERAL NOTE:**  
PROVIDE ACCESS DOORS IN DRYWALL CEILINGS AND WALLS FOR ACCESS TO VALVES, ETC. WHERE REQUIRED AND TURN OVER TO GC FOR INSTALLATION.  
REFER TO MECH. DWGS. M801, M802 & M803.



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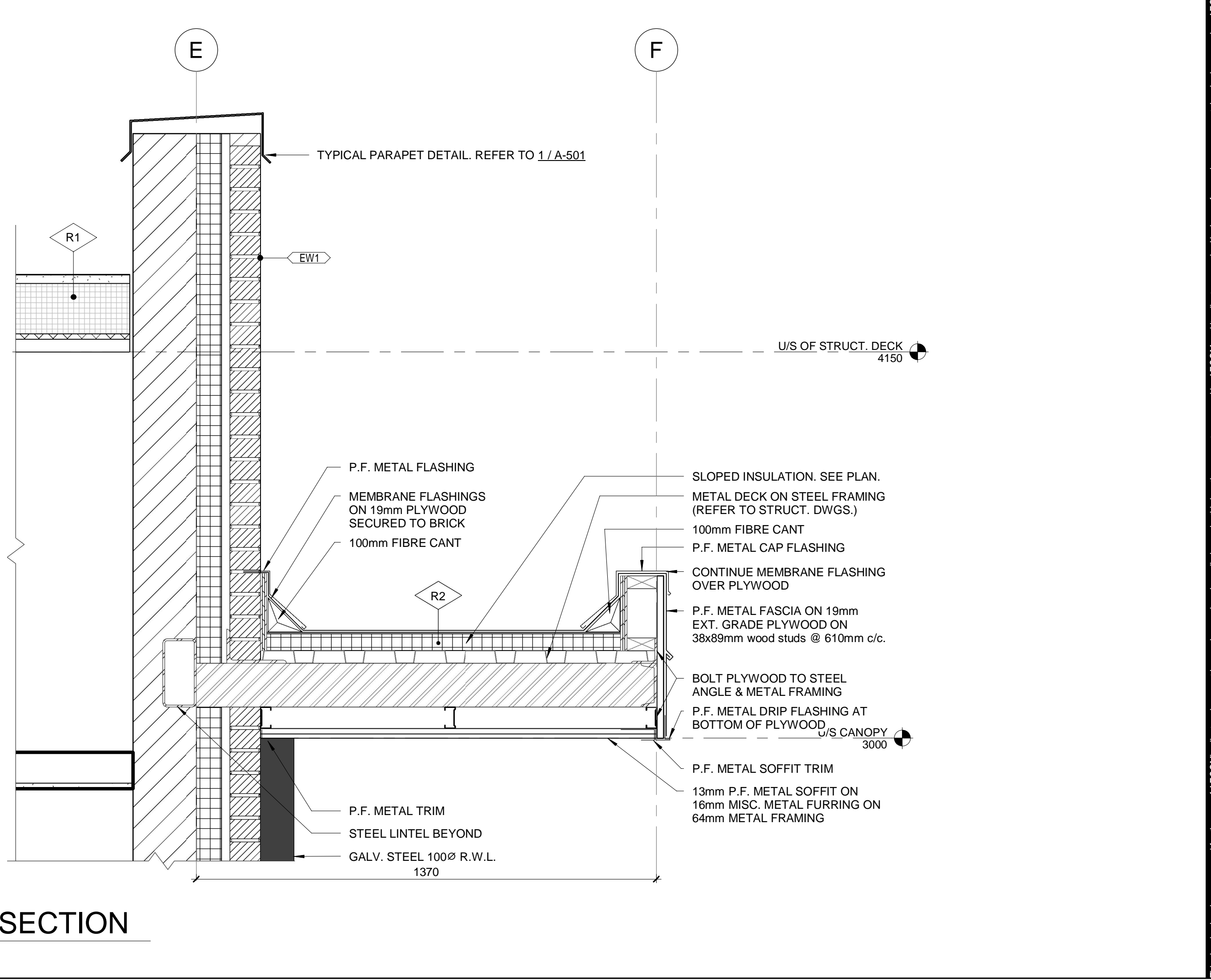
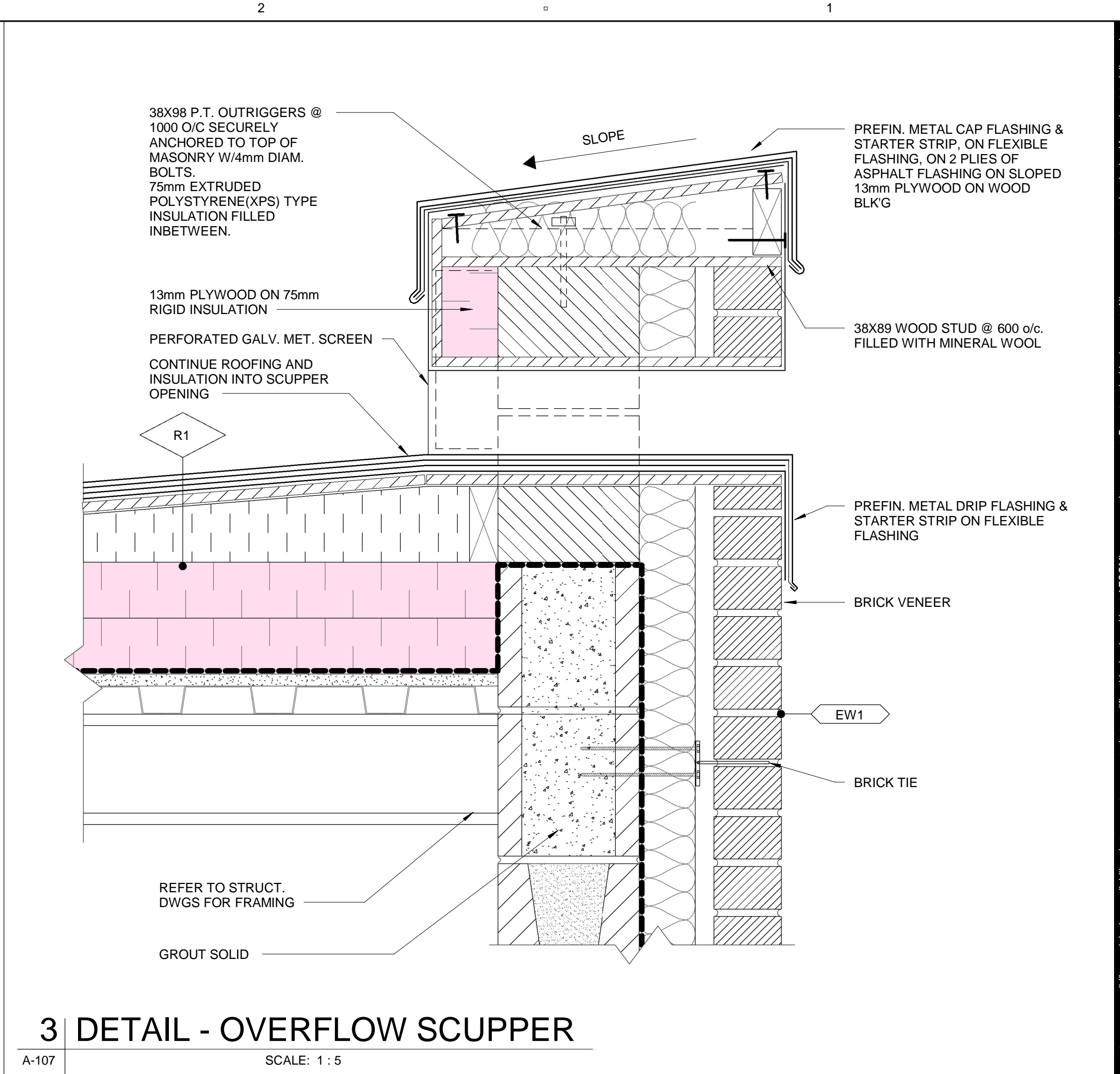
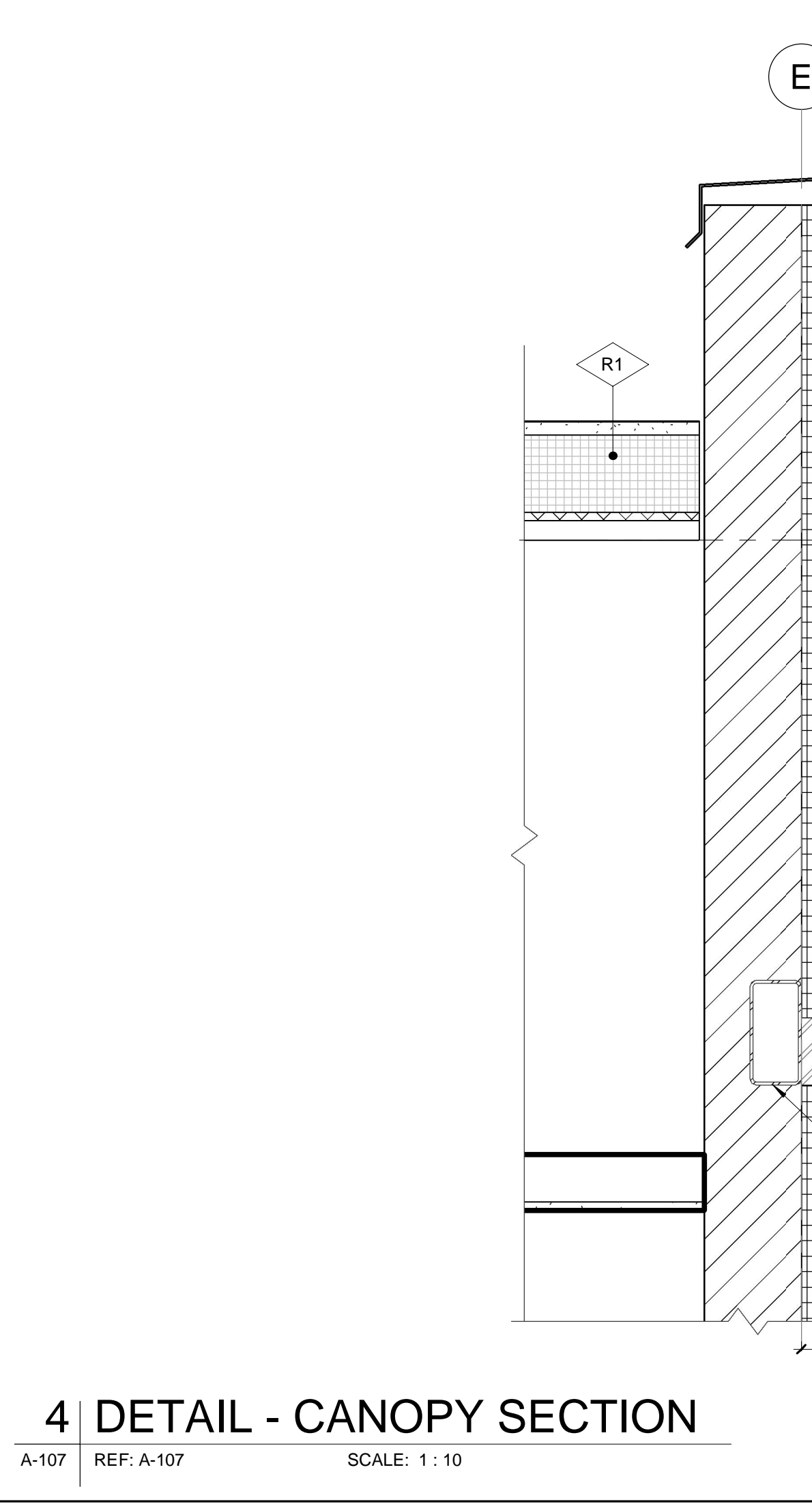
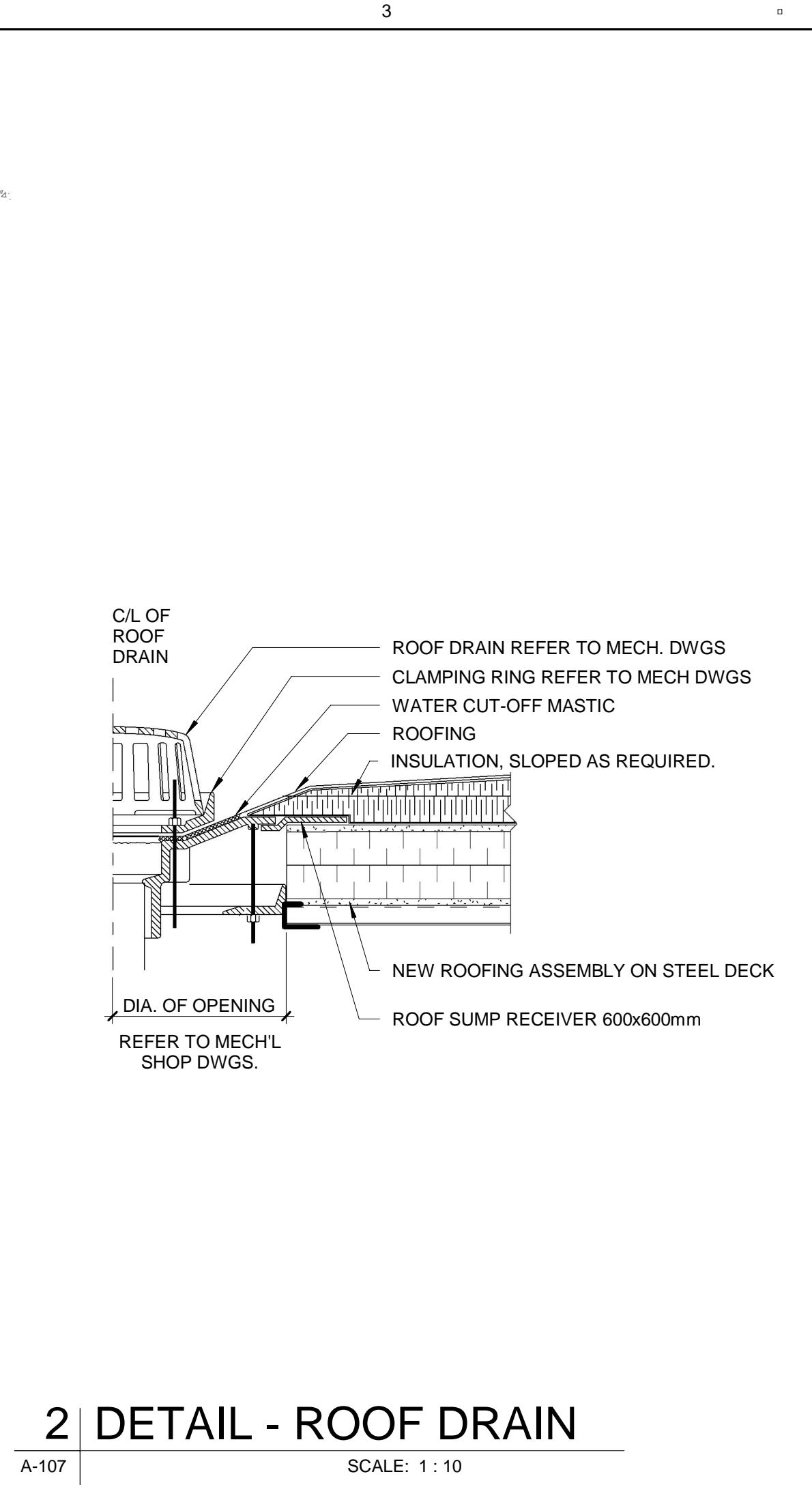
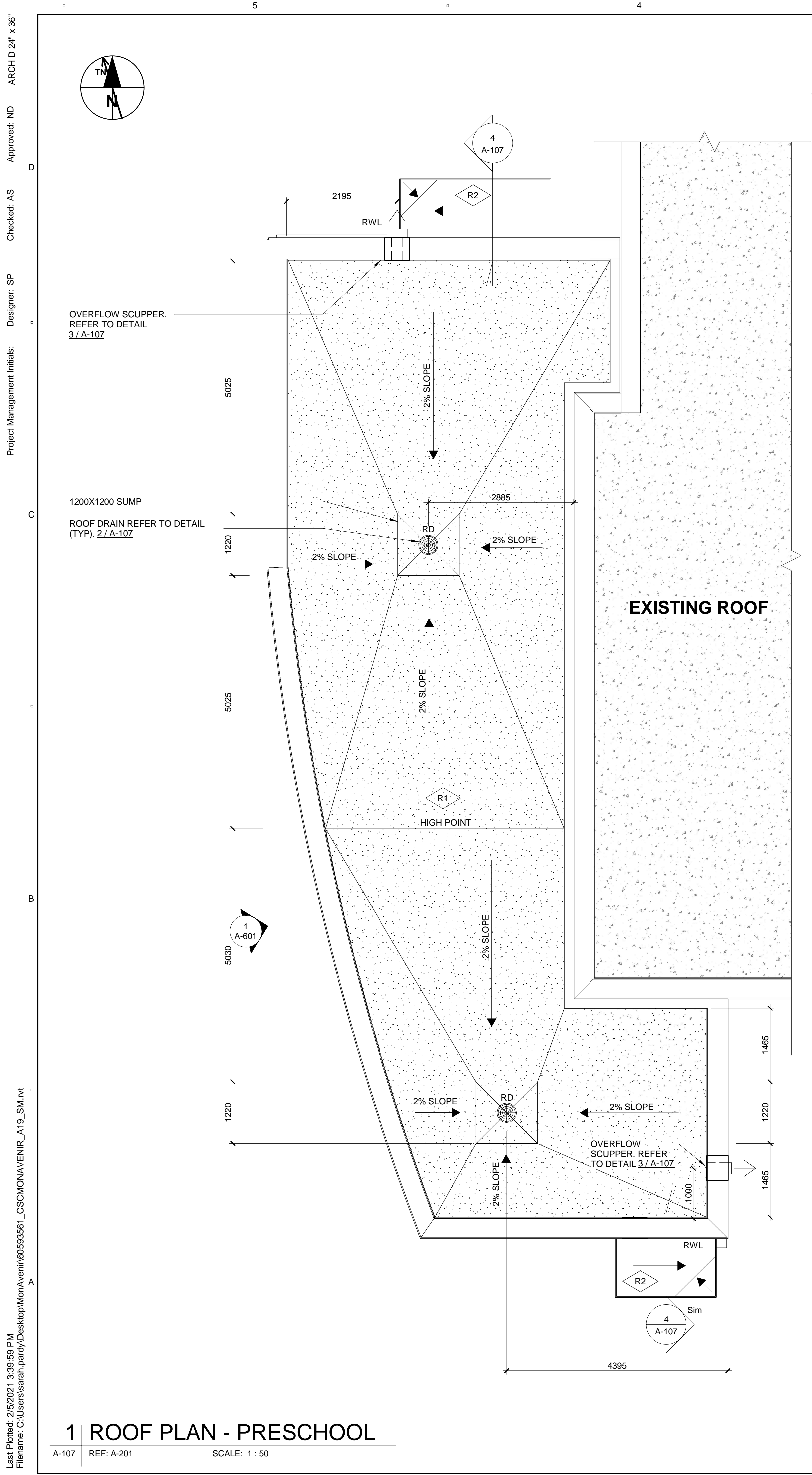
ENLARGED PLAN

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A-106

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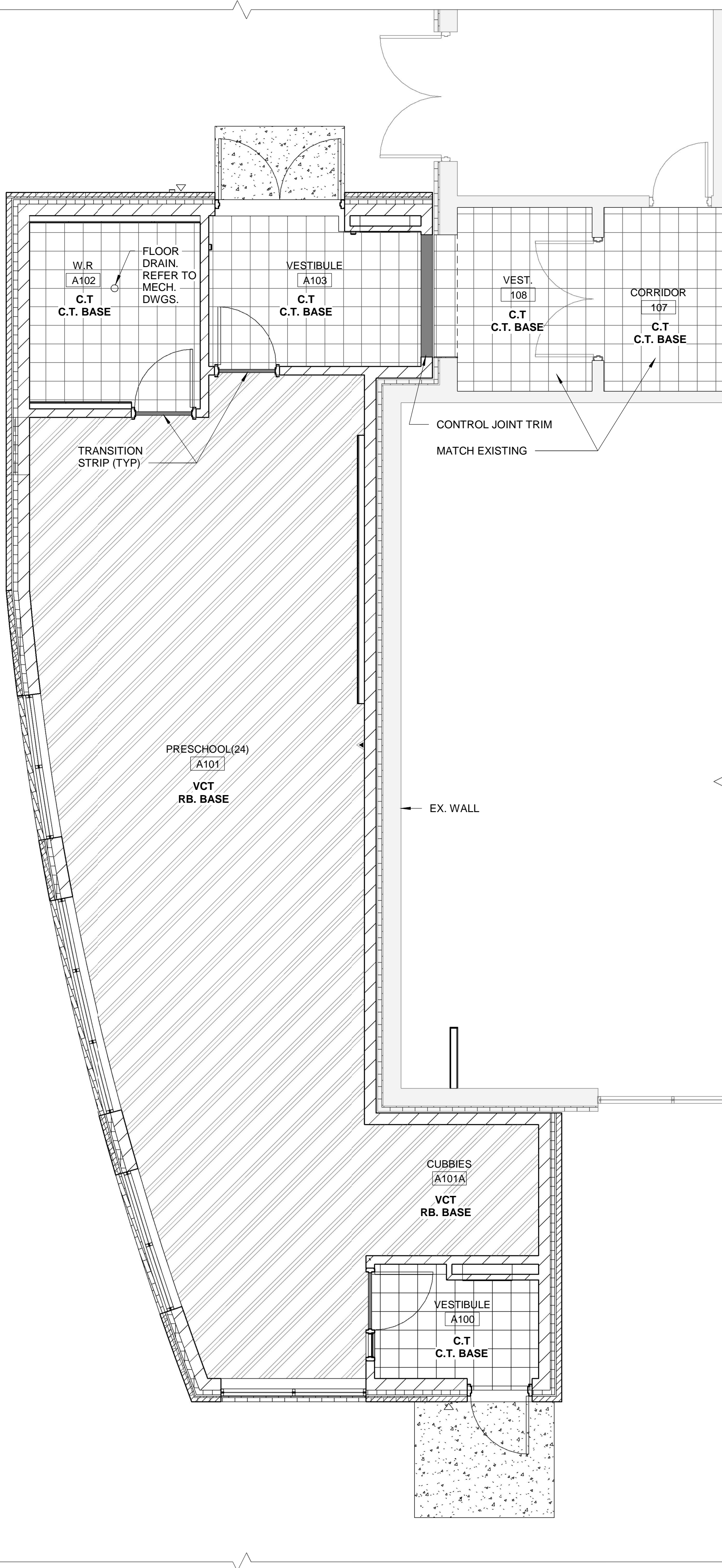
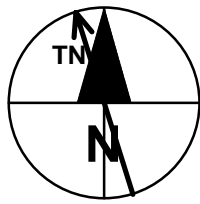
ROOF PLAN

## SHEET NUMBER

A-107

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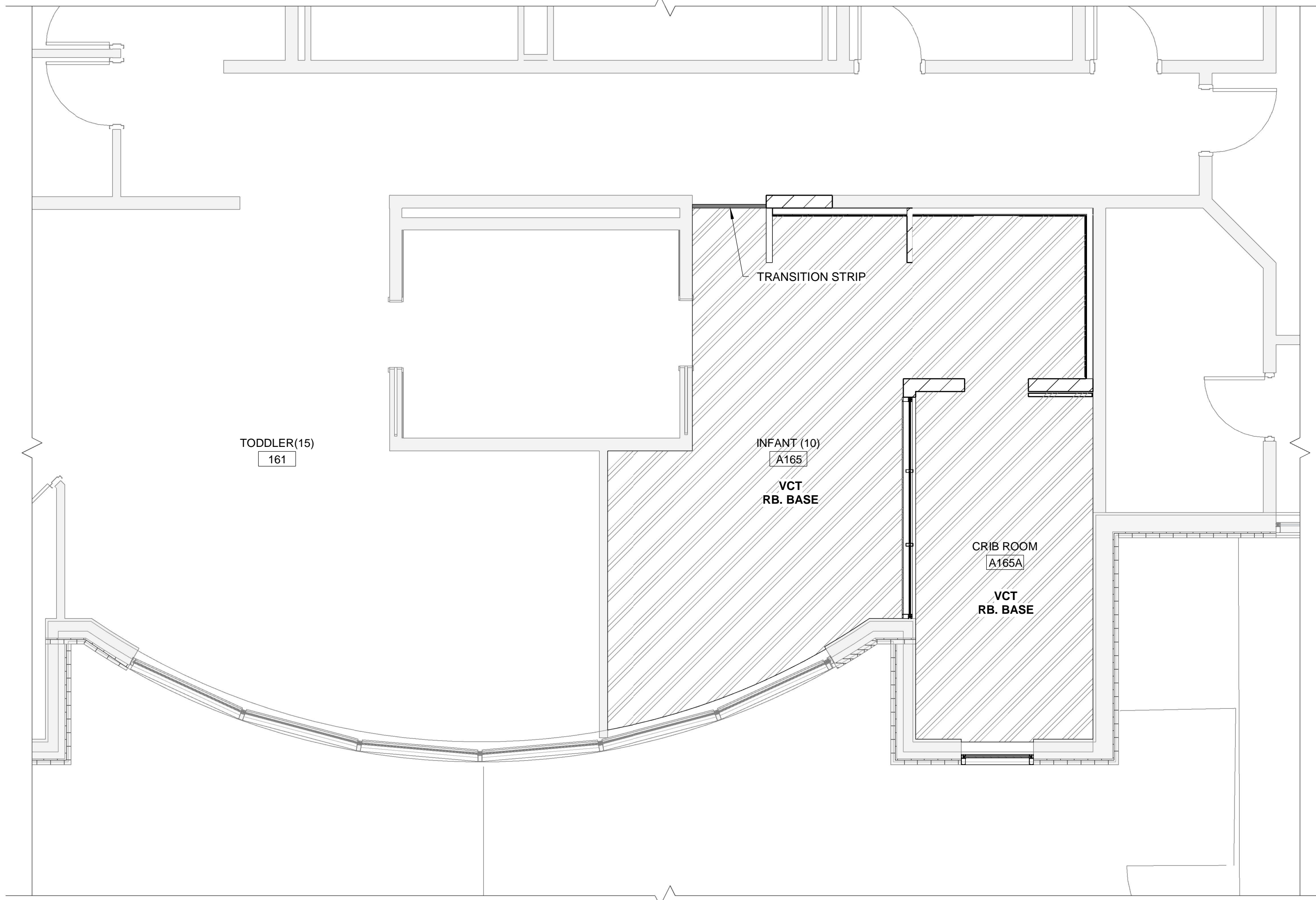




1 FLOOR FINISHES PLAN - PRESCHOOL

A-108 SCALE: 1 : 50

ROOM SCHEDULE																	
LOCATION		FLOOR			WALLS								CEILING		COMMENTS		
No.	ROOM NAME	MATERIAL	FINISH	BASE	NORTH		SOUTH		EAST		WEST		MATERIAL	FINISH		HEIGHT*	
					MATERIAL	FINIS H	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH					
A100	VESTIBULE	CONC.	CT	CT BASE	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	GWB	PNT	2850	TILES 1950mm AFF	
A101	PRESCHOOL(24)	CONC.	RB SF	RB BASE	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK./GWB	PNT./CT	CONC. BLK.	PNT.	ACT	-	2850		
A101A	CUBBIES	CONC.	RB SF	RB BASE	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	ACT	-	2850		
A102	W.R.	CONC.	CT	CT BASE	GWB	PNT./CT	CONC. BLK.	PNT./CT	CONC. BLK.	PNT.	CONC. BLK.	PNT.	GWB	PNT	2600		
A103	VESTIBULE	CONC.	CT	CT BASE	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	GWB	PNT	2850		
A105	KITCHENETTE	CONC.	RB SF	RB BASE	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	ACT	-	2850		
A165	INFANT (10)	CONC.	RB SF	RB BASE	CONC. BLK.	PNT./CT	CONC. BLK.	PNT.	CONC. BLK.	PNT./CT	CONC. BLK.	PNT.	ACT	-	2850		
A165A	CRIB ROOM	CONC.	RB SF	RB BASE	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	CONC. BLK.	PNT.	ACT	-	2850		
107	CORRIDOR	CONC.	CT	CT BASE													MATCH EXISTING FINISHES
108	VEST.	CONC.	CT	CT BASE													MATCH EXISTING FINISHES



2 FLOOR FINISHES PLAN - INFANT

A-108 REF: A-105 SCALE: 1 : 50

NEW FLOOR FINISH LEGEND  
REFER TO ROOM FINISH SCHEDULE

- (VCT) VINYL CARPET TILE
- (CT) CERAMIC TILE 12"X12"



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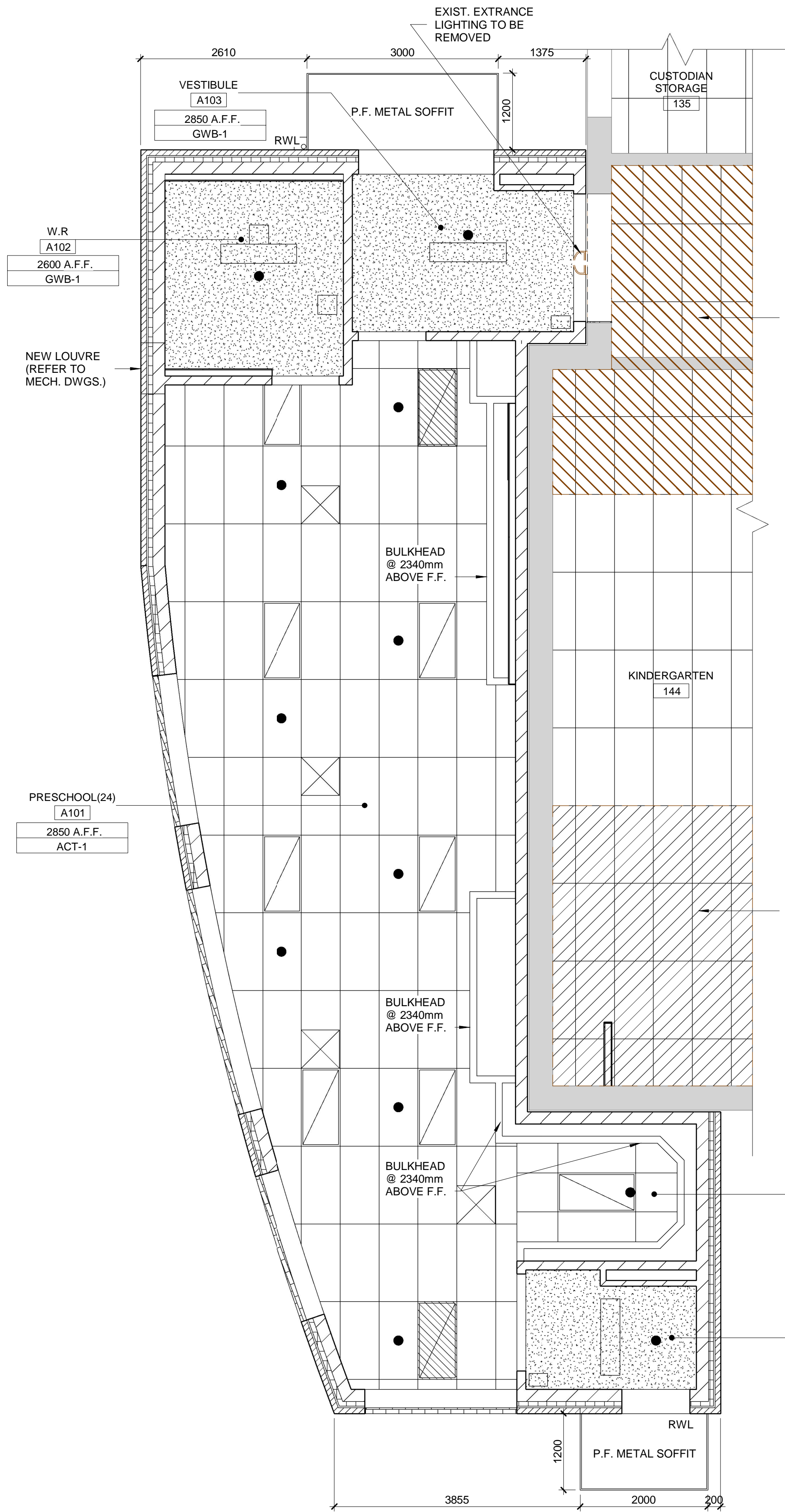
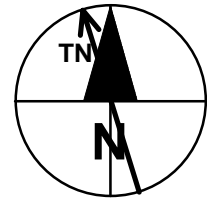
FLOOR FINISHES

SHEET NUMBER

A-108

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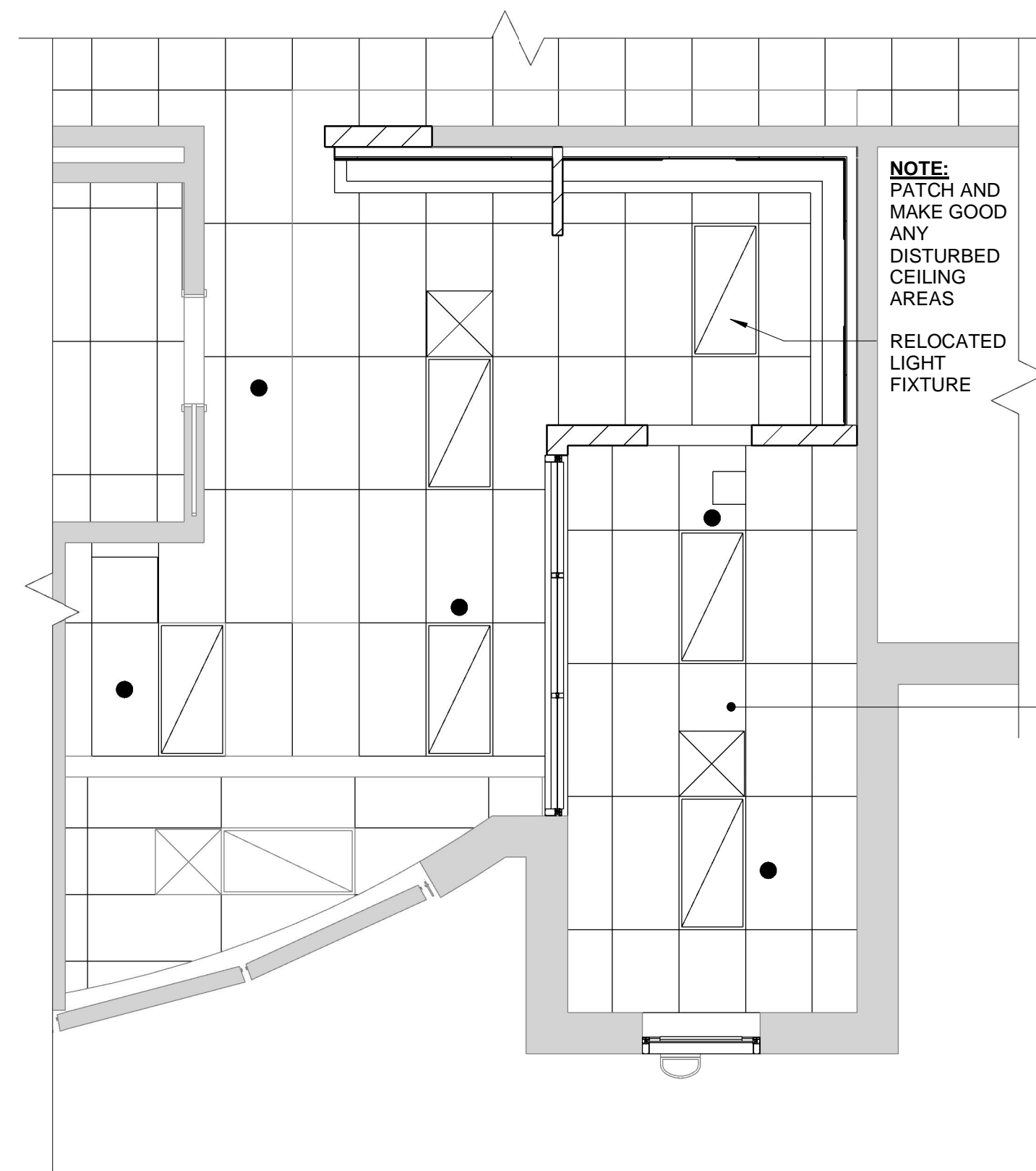
1 PRESCHOOL NEW - REFLECTED CEILING PLAN

A-150 REF: A-201 SCALE: 1 : 50



2 INFANT ROOM REFLECTED CEILING PLAN - EXISTING DEMOLITION

A-150 REF: A-201 SCALE: 1 : 50



3 INFANT NEW - REFLECTED CEILING PLAN

A-150 REF: A-201 SCALE: 1 : 50

**GENERAL NOTES:**

- COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS.
- PROVIDE ACCESS DOORS IN DRYWALL CEILINGS AND WALLS FOR ACCESS TO VALVES, ETC. WHERE REQUIRED AND TURN OVER TO GC FOR INSTALLATION. REFER TO MECH. DWGS: M801, M802 & M803.

**RCP FINISH LEGEND**

REFER TO ROOM FINISH SCHEDULE

	GWB - 1: SUSPENDED CEILING ONE LAYER OF 16mm GYPSUM BOARD ON SUSPENDED METAL FURRING (PAINT TO BE SELECTED BY CONSULTANT).
	ACT - 1: 1: 610x1220mm ACOUSTIC CEILING TILE IN T-BAR SYSTEM
	NEW LIGHTING FIXTURE (SEE ELEC.)
	EXIST. LIGHTING FIXTURE
	EXIST. EMERGENCY LIGHTING FIXTURES
	SUPPLY DIFFUSER (SEE MECH.)
	EXHAUST/RETURN CEILING GRILLE (SEE MECH.)
	CONCEALED SPRINKLER HEADS (SEE MECH.)



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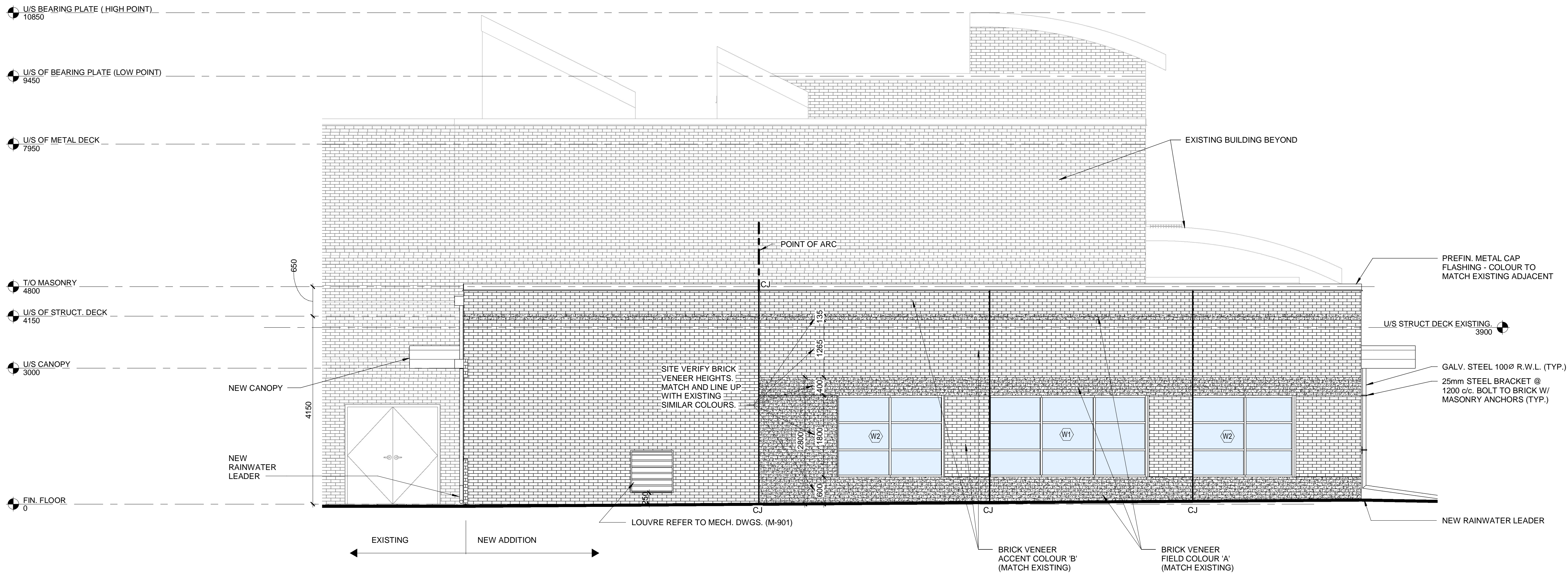
REFLECTED CEILING PLANS

**SHEET NUMBER**

A-150

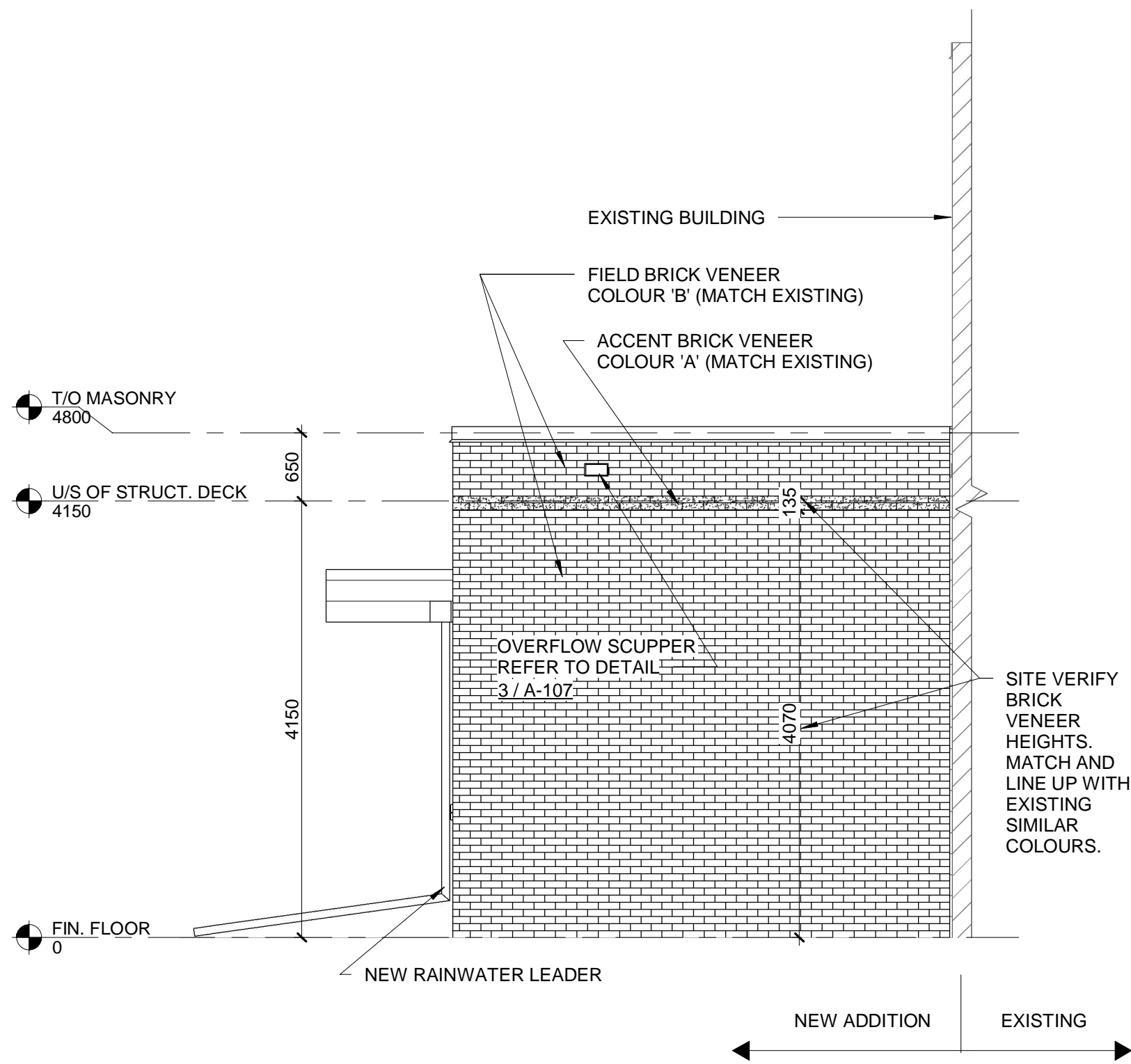
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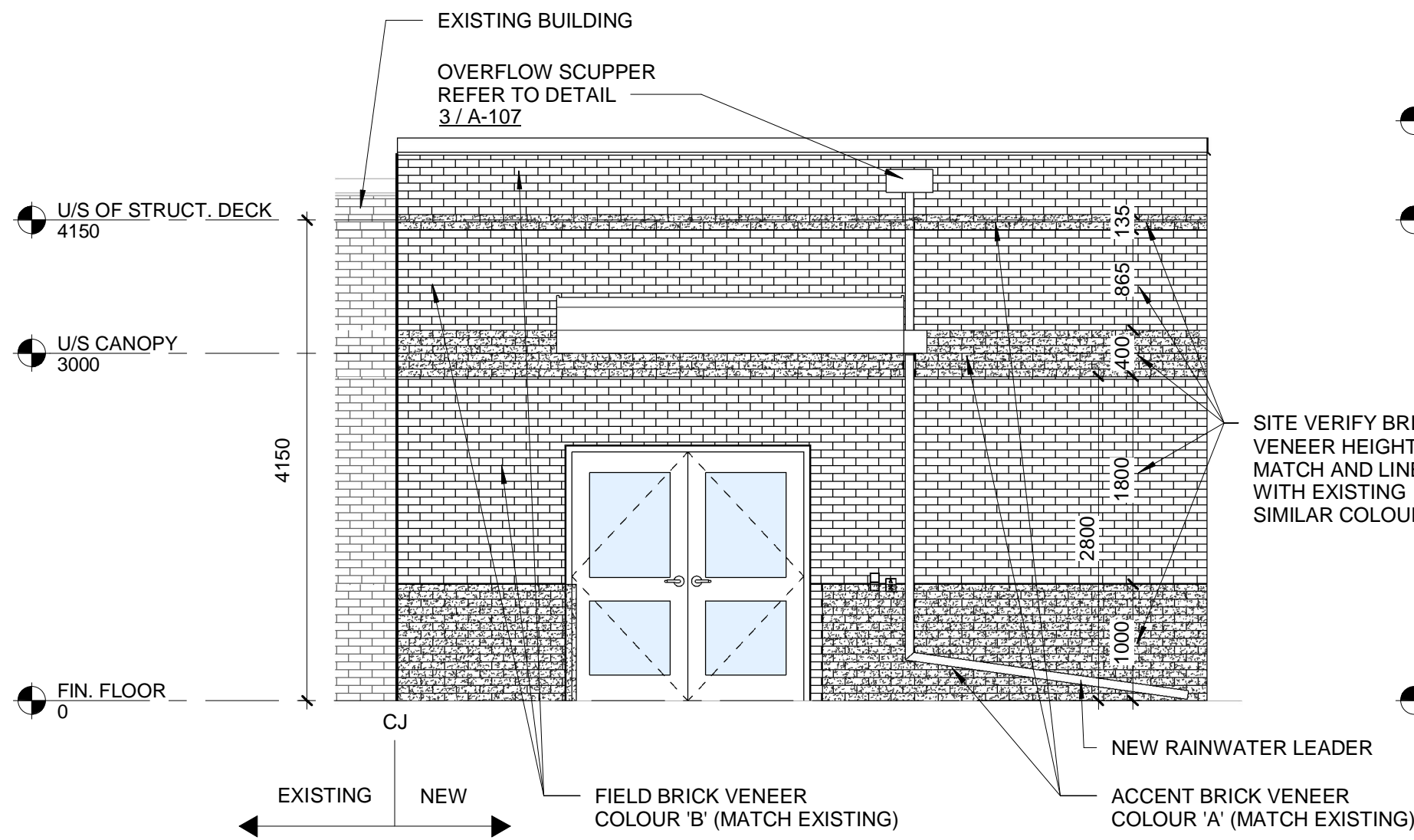
1 | WEST ELEVATION

A-201 REF: A-104 SCALE: 1 : 50



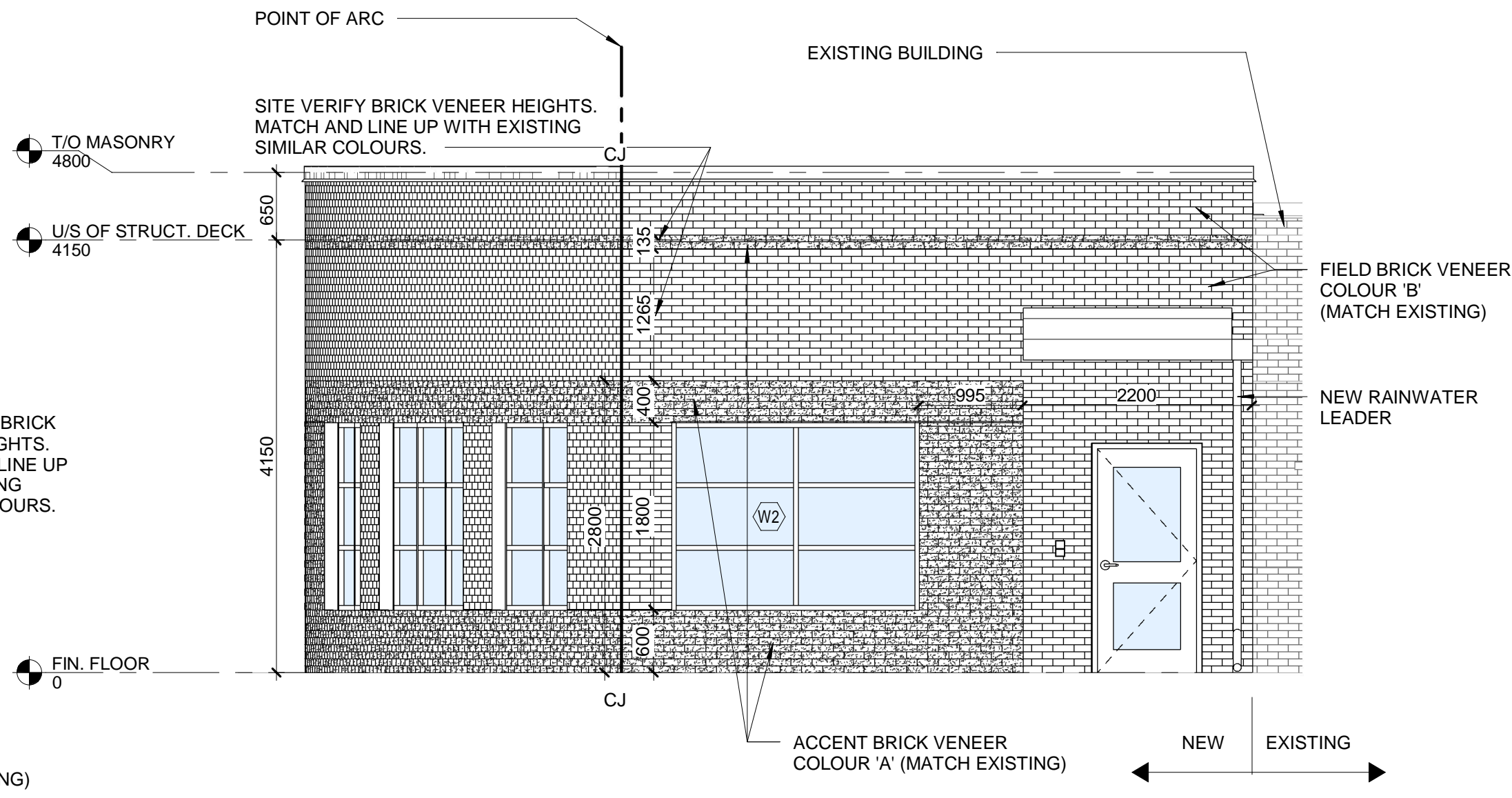
2 | EAST ELEVATION

A-201 REF: A-104 SCALE: 1 : 50



3 | NORTH ELEVATION

A-201 REF: A-104 SCALE: 1 : 50



4 | SOUTH ELEVATION

A-201 REF: A-104 SCALE: 1 : 50



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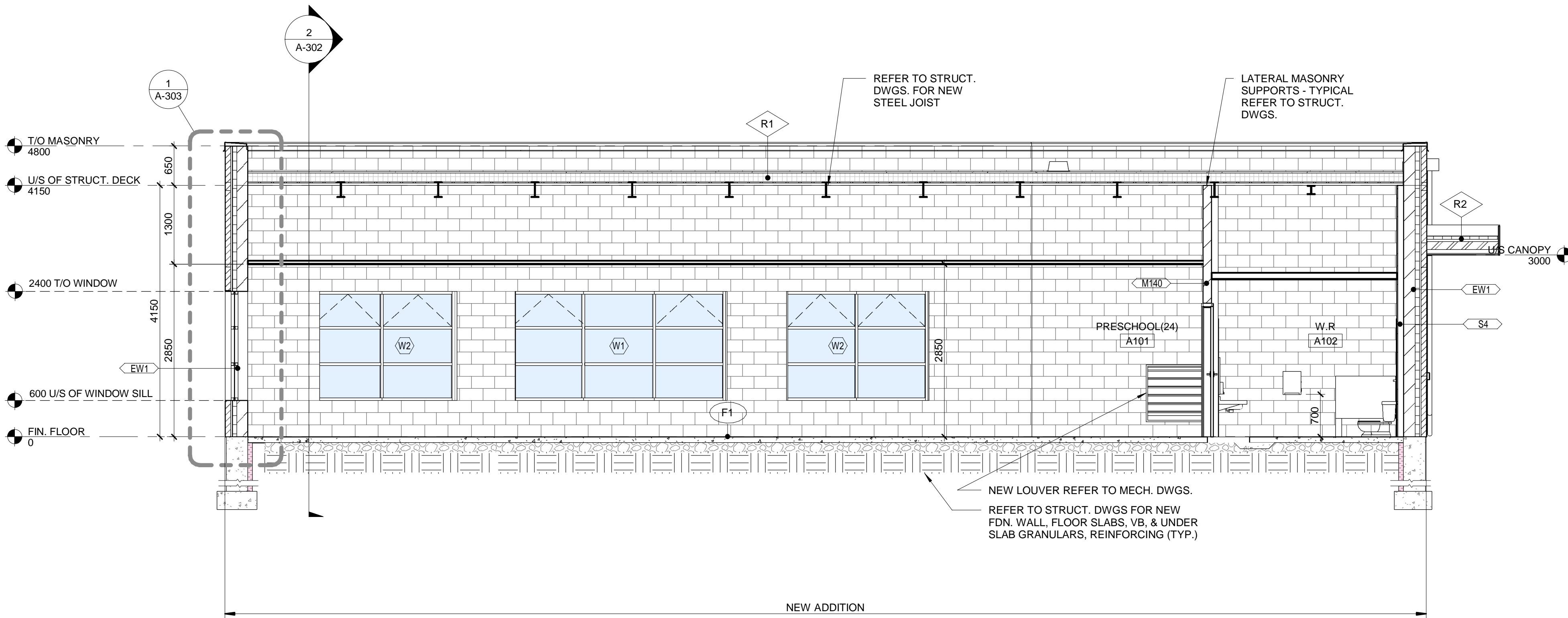
ELEVATIONS

SHEET NUMBER

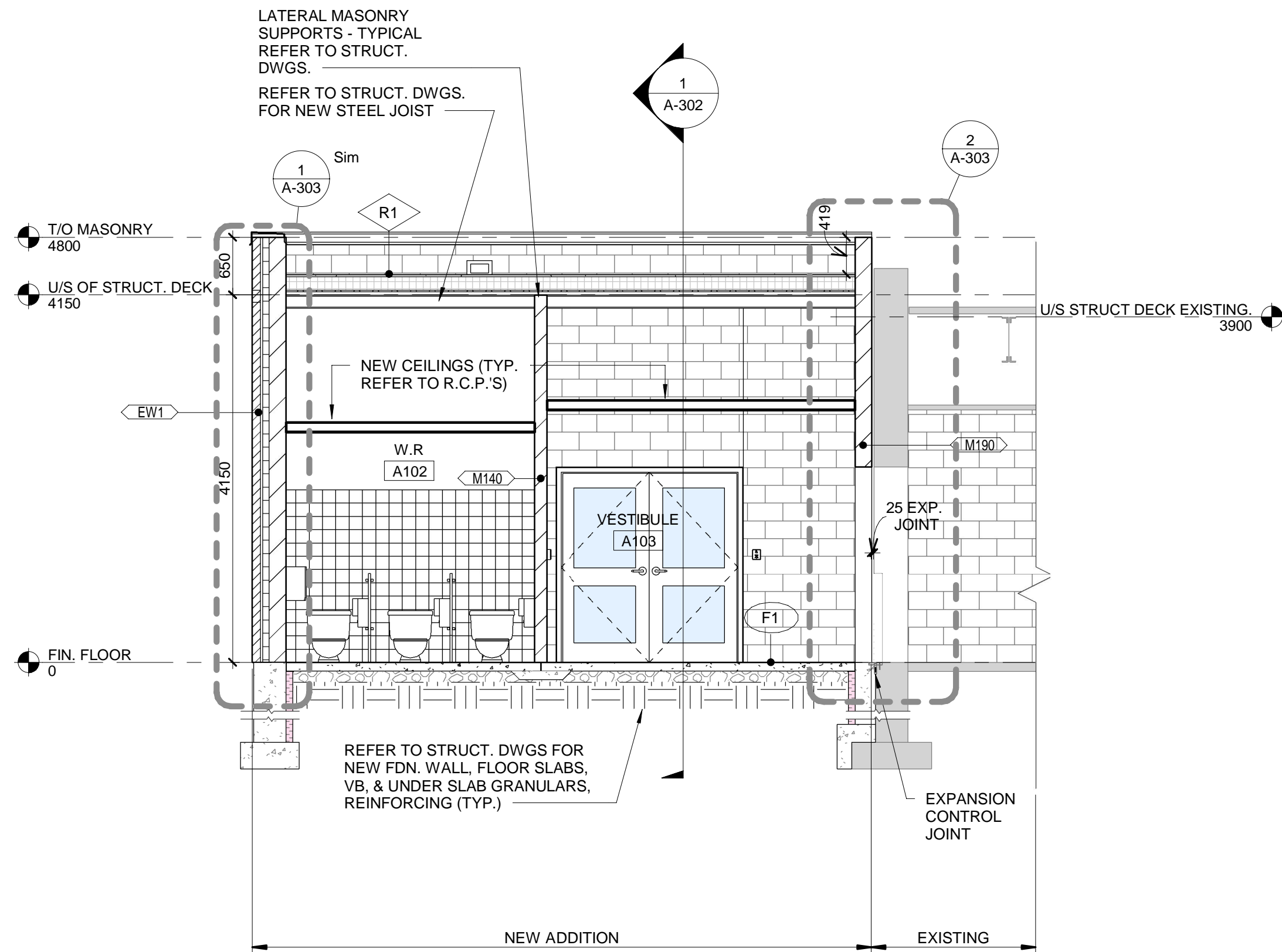
A-201

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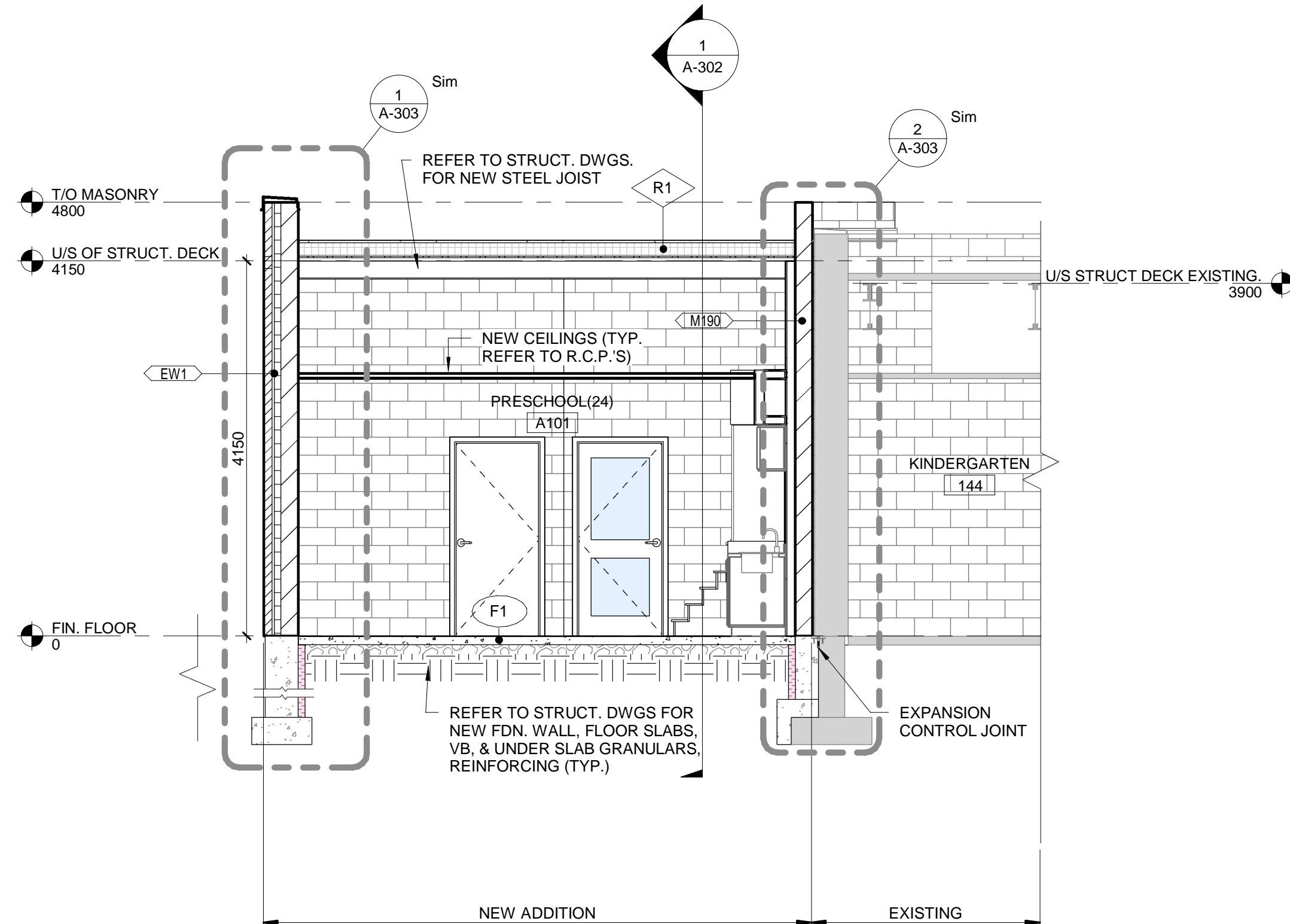




1 | BUILDING SECTION 1  
A-301 REF: A-106 SCALE: 1 : 50



2 | BUILDING SECTION 2  
A-301 REF: A-106 SCALE: 1 : 50



3 | BUILDING SECTION 3  
A-301 REF: A-106 SCALE: 1 : 50



## PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
CENTRE EDUCATIF A PETIT PAS

29 MEADOWVALE RD  
SCARBOROUGH

## CLIENT

CONSEIL SCOLAIRE CATHOLIQUE  
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## REGISTRATION



## ISSUE/REVISION

9	FEB 02, 2021	ISSUED FOR TENDER
7	APR 20, 2020	RE-ISSUED FOR TENDER
6	APR 15, 2020	ISSUED FOR B.P.
5	JAN 31, 2020	ISSUED FOR TENDER
3	APR 1, 2019	ISSUED FOR CLIENT REVIEW
2	Mar 08, 2019	ISSUED FOR SPA
1	Feb 15, 2019	60 % CLIENT REVIEW
I/R	DATE	DESCRIPTION

## KEY PLAN

## PROJECT NUMBER

60593561  
TENDER# 2021-16

## SHEET TITLE

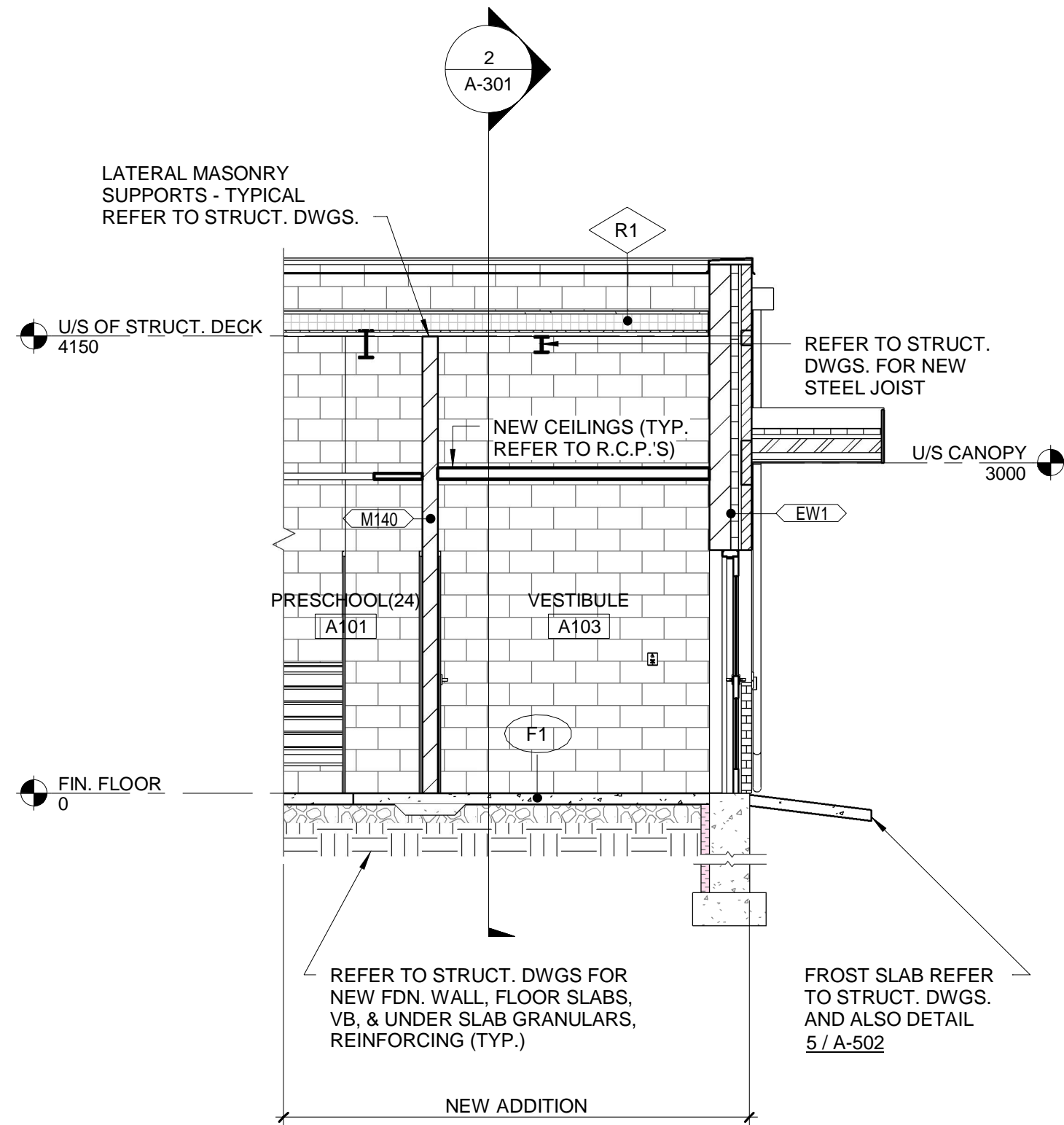
## SECTIONS

## SHEET NUMBER

A-301

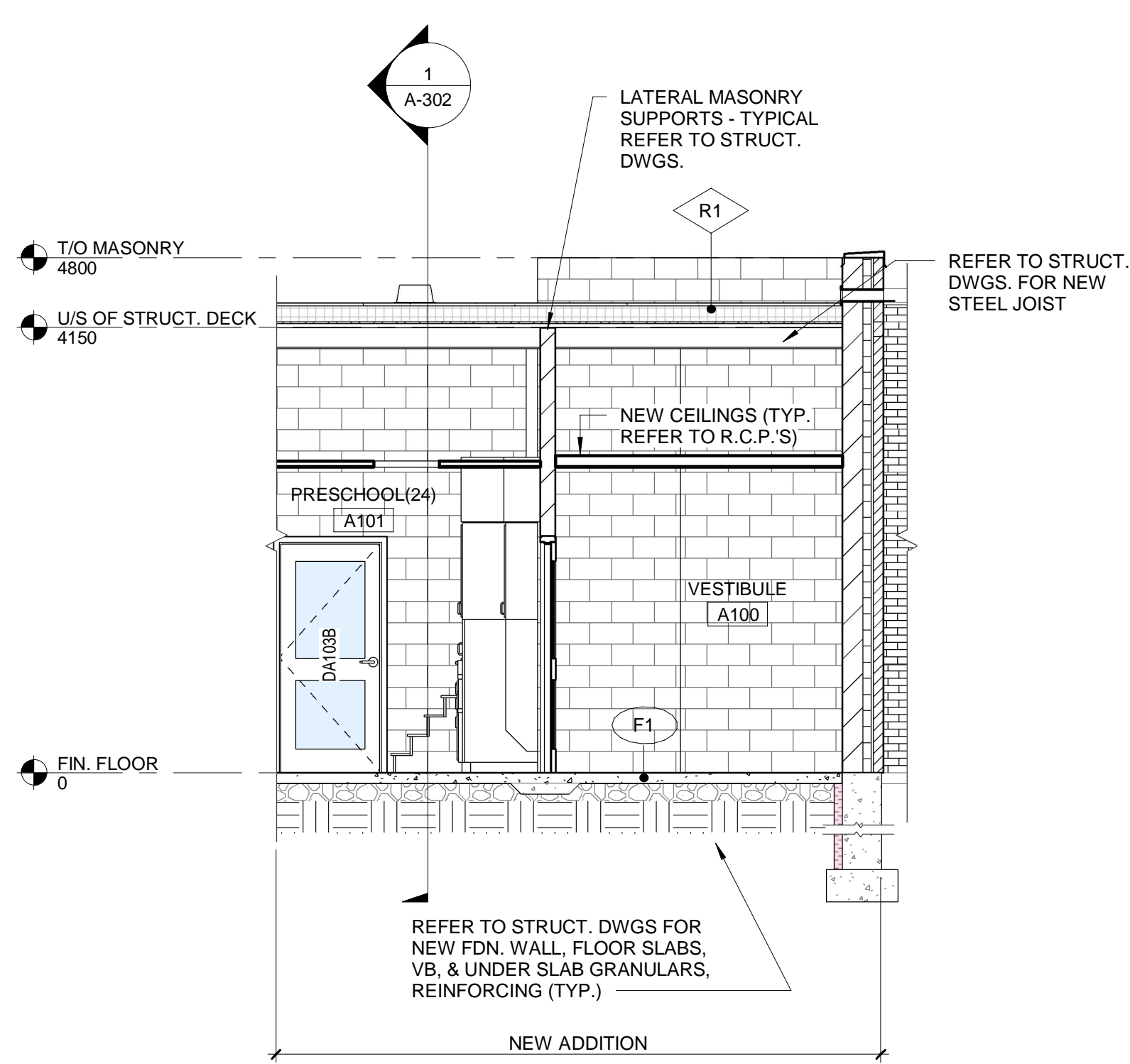
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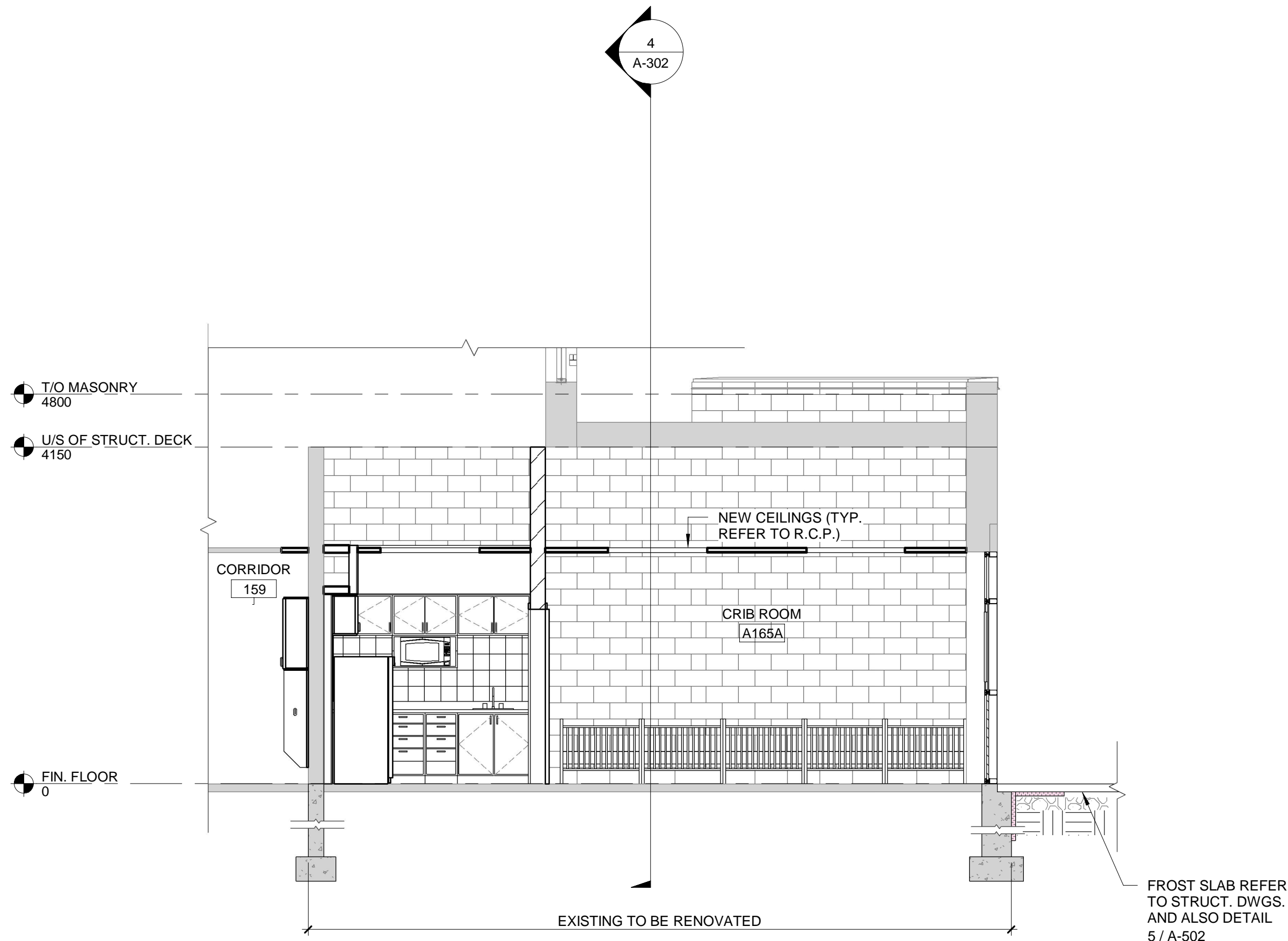
1 | BUILDING SECTION 4

A-302 REF: A-106 SCALE: 1 : 50



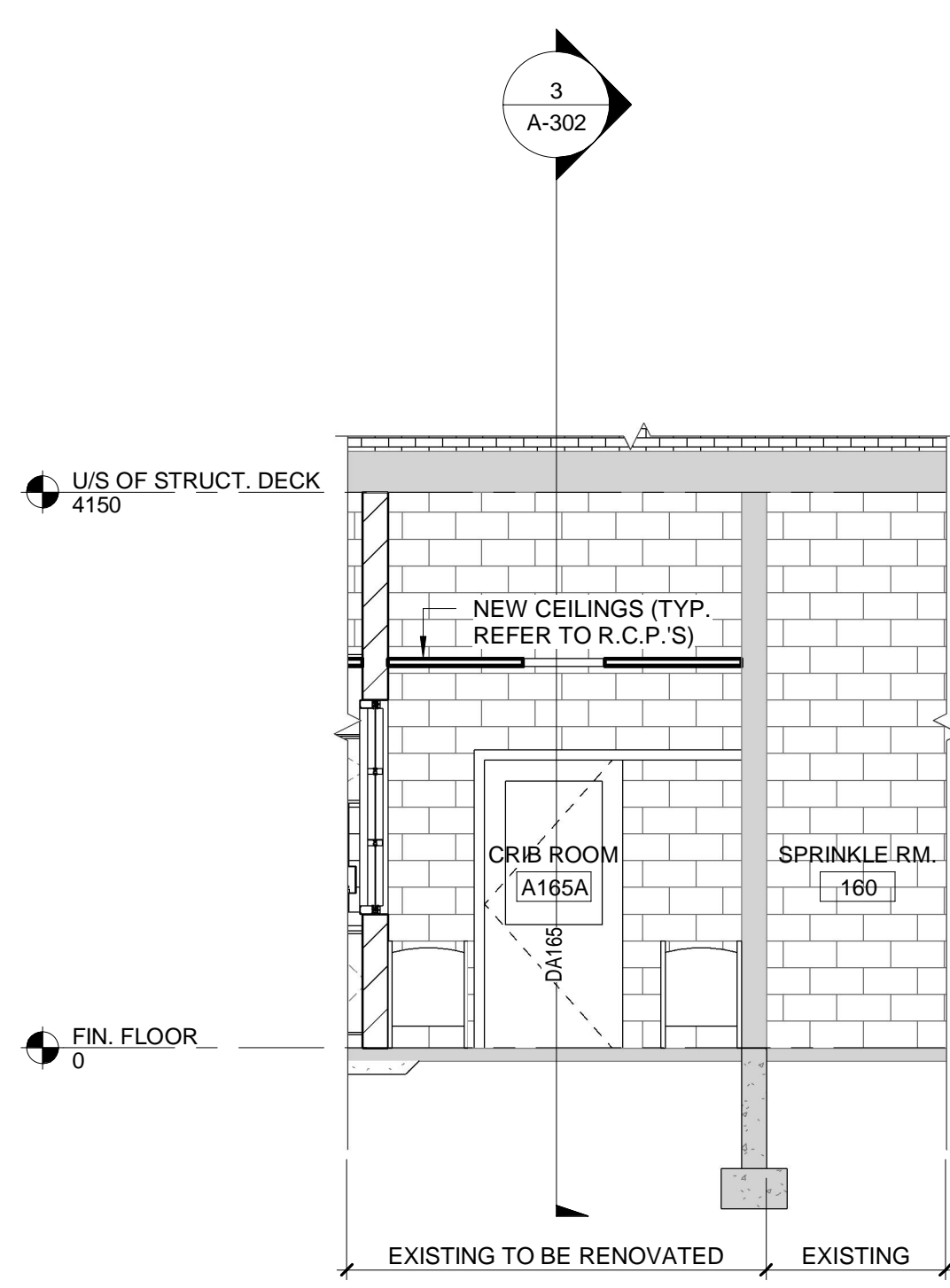
2 | BUILDING SECTION 5

A-302 REF: A-106 SCALE: 1 : 50



3 | BUILDING SECTION 6

A-302 REF: A-106 SCALE: 1 : 50



4 | BUILDING SECTION 7

A-302 REF: A-106 SCALE: 1 : 50



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#### KEY PLAN

#### PROJECT NUMBER

60593561  
TENDER# 2021-16

#### SHEET TITLE

#### SECTIONS

#### SHEET NUMBER

A-302

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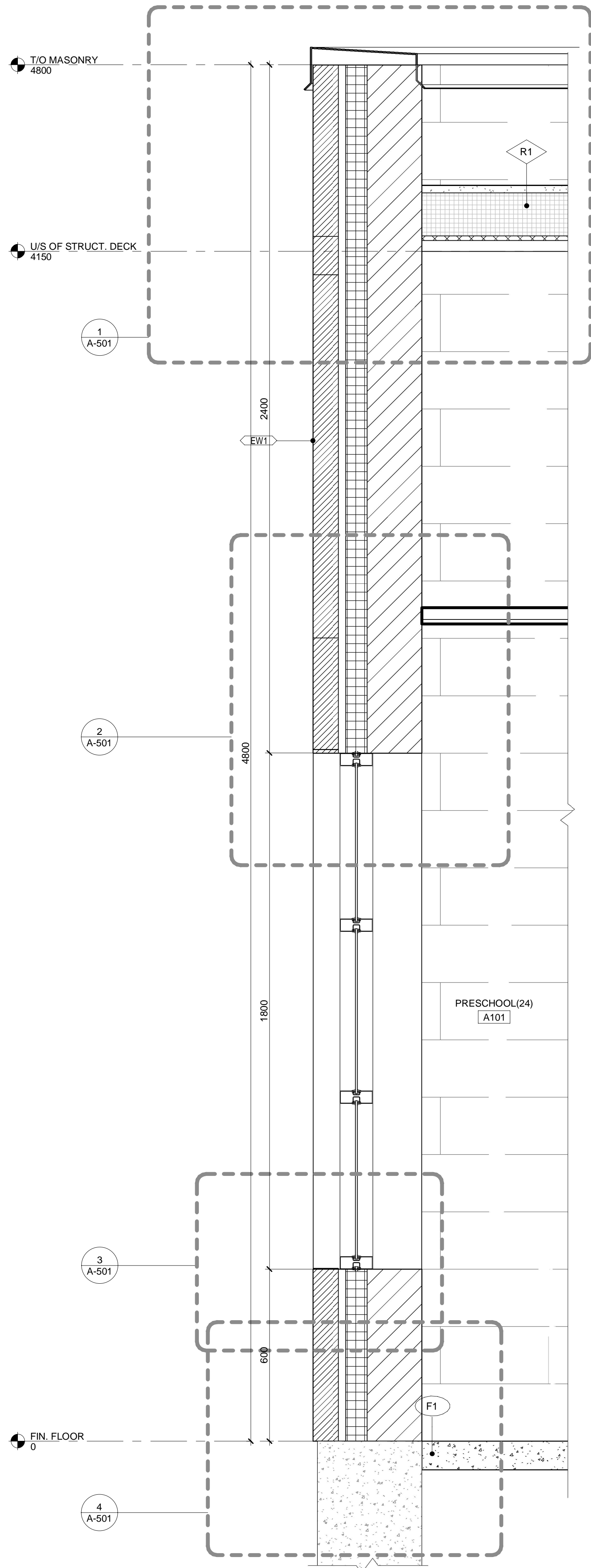
5

4

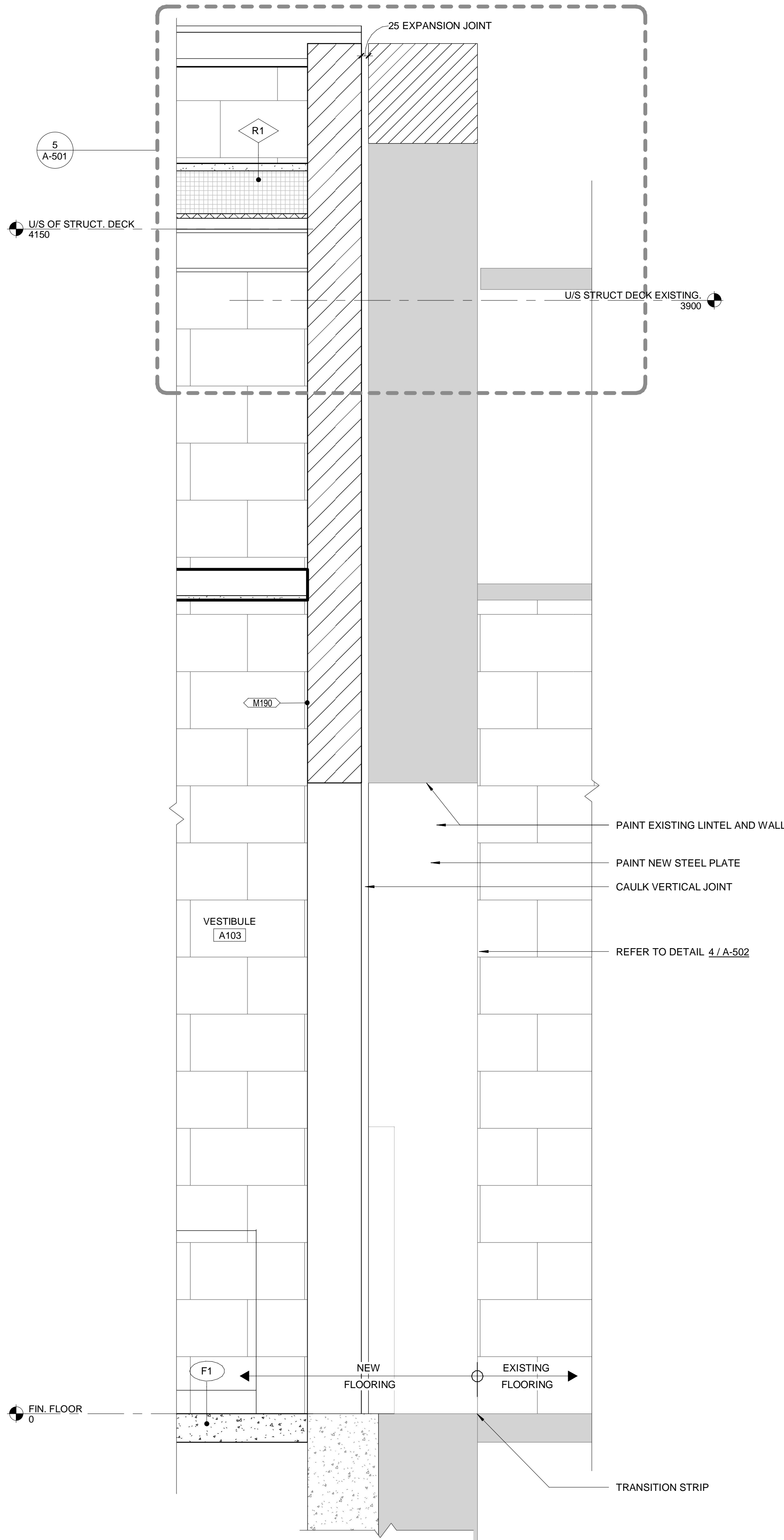
3

2

1



1 | WALL SECTION A  
A-303 REF: A-301 SCALE: 1 : 10



2 | WALL SECTION B  
A-303 REF: A-301 SCALE: 1 : 10



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TENDER# 2021-16

#### SHEET TITLE

WALL SECTIONS

#### SHEET NUMBER

A-303

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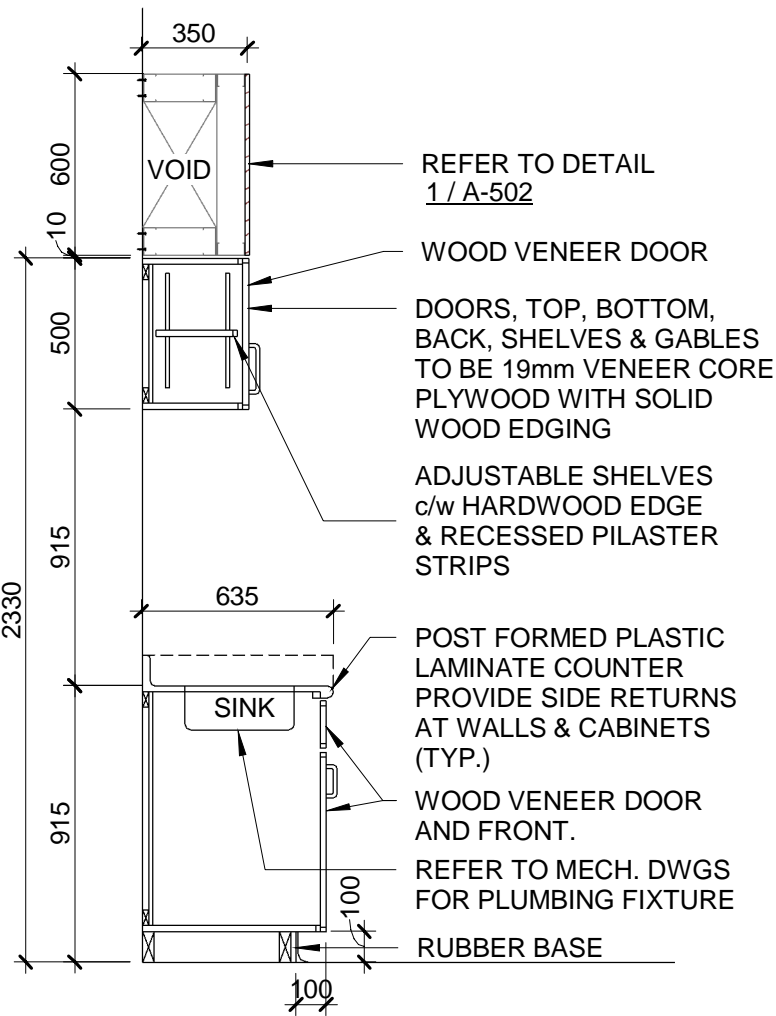






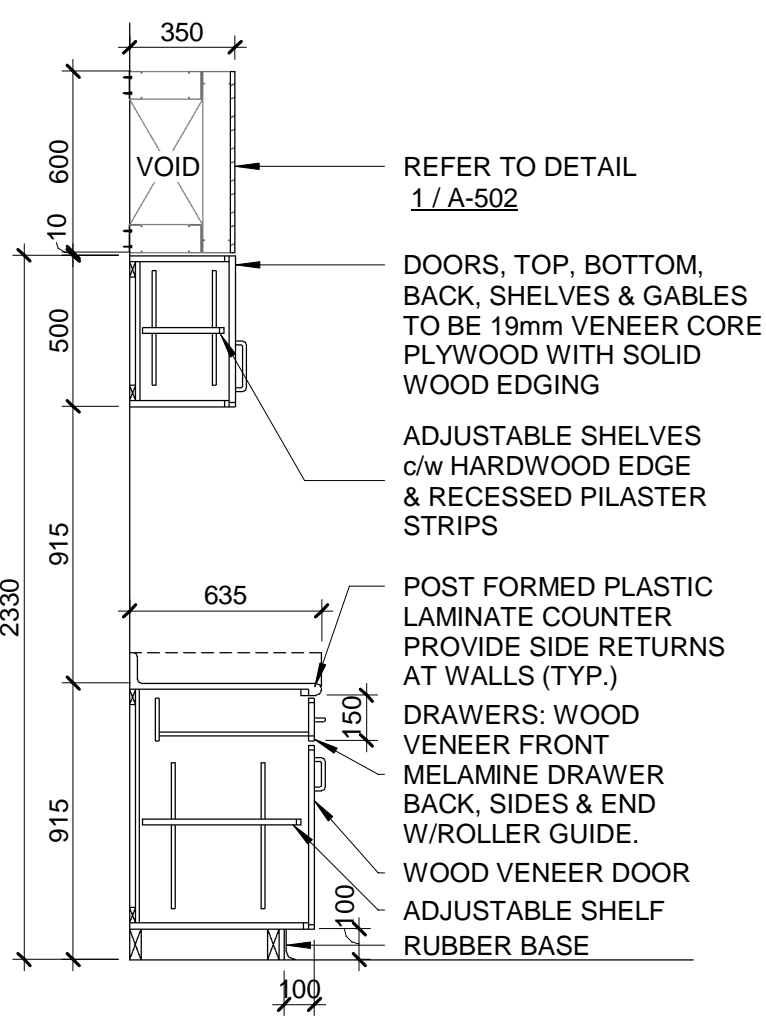






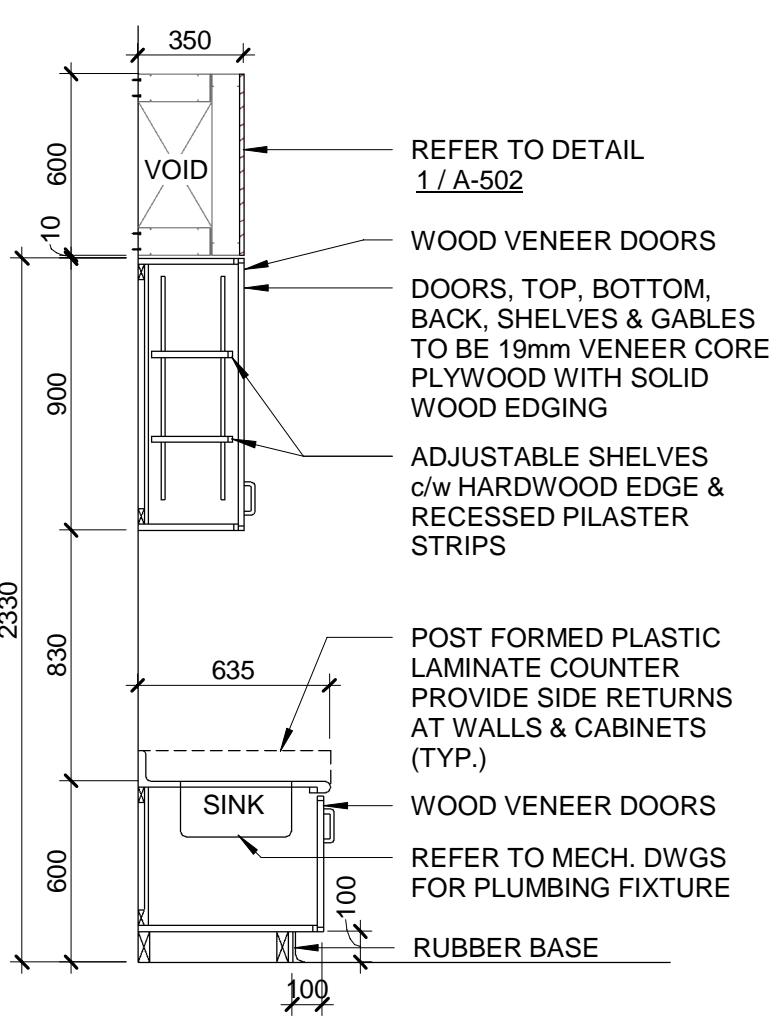
1 CABINET W/ SINK

A-503 REF: A-602 SCALE: 1 : 25



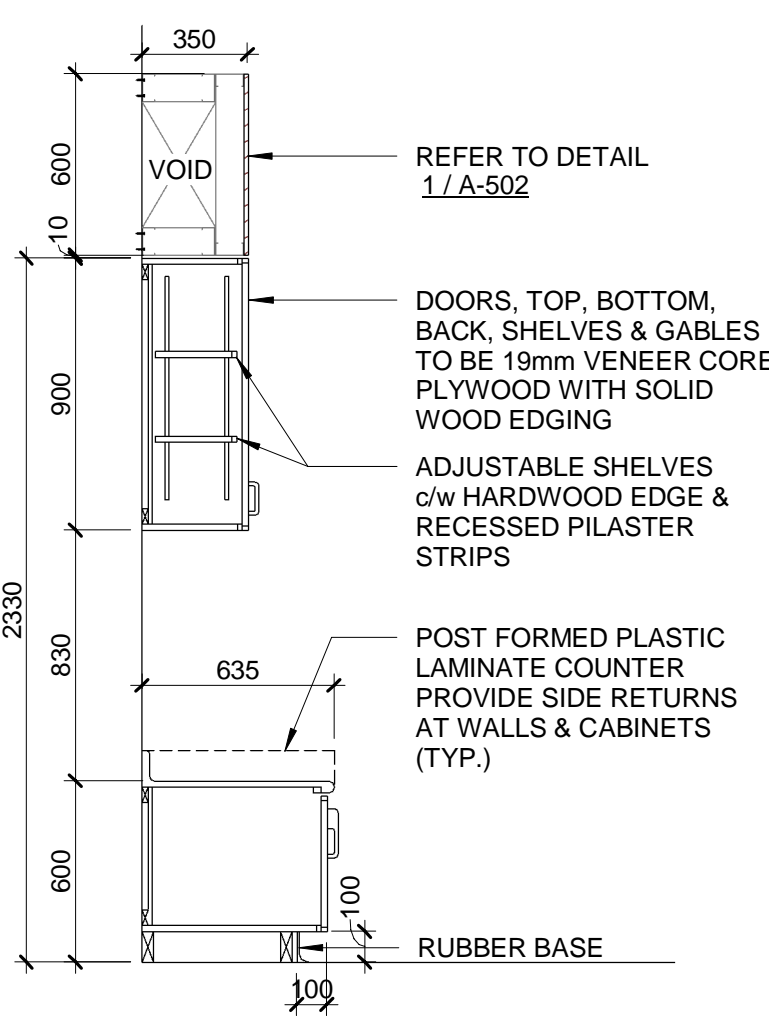
2 CABINET W/ DRAWER

A-503 REF: A-602 SCALE: 1 : 25



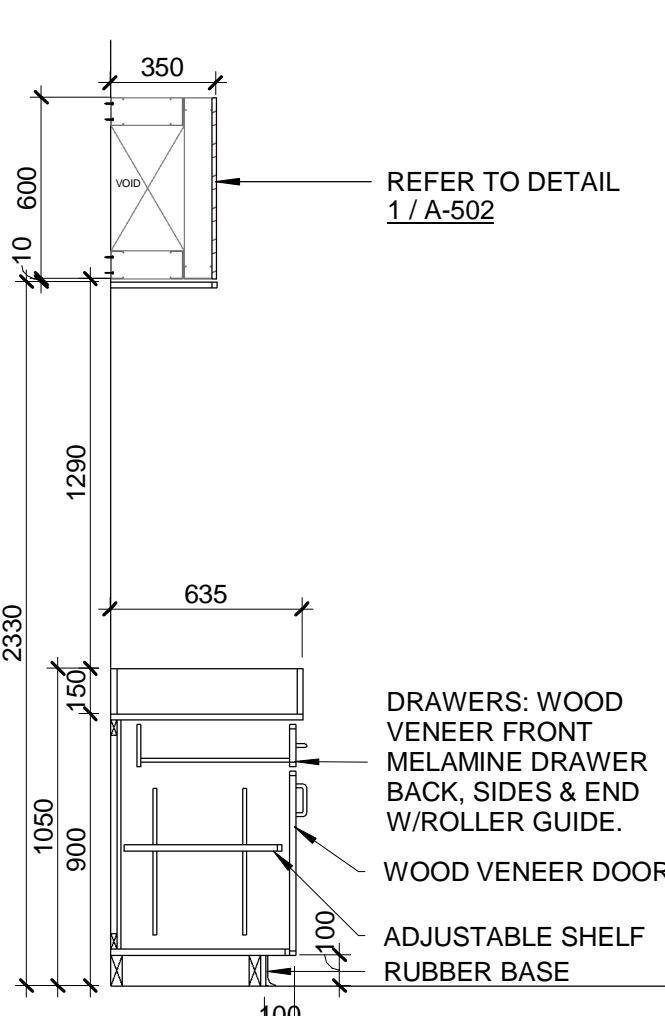
3 CABINET W/ SINK - CHILD

A-503 REF: A-602 SCALE: 1 : 25



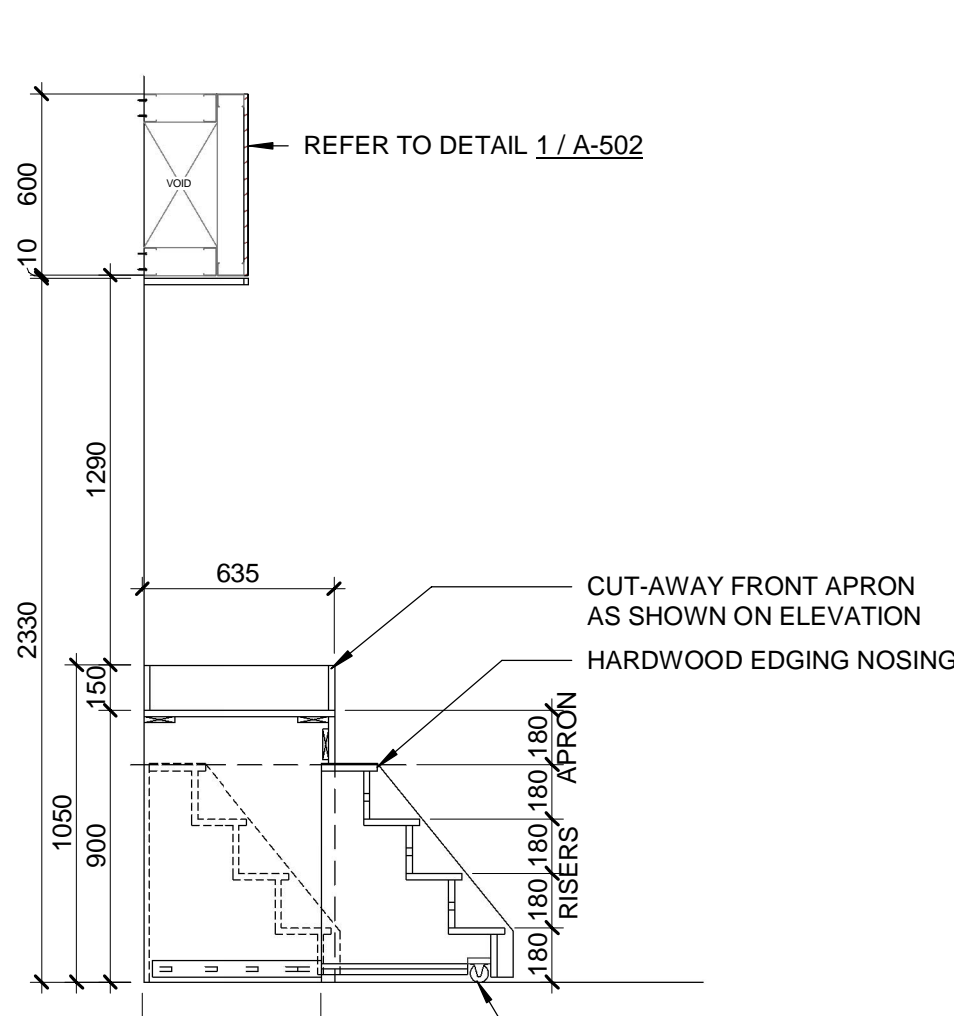
4 FULL CABINET - CHILD

A-503 REF: A-602 SCALE: 1 : 25



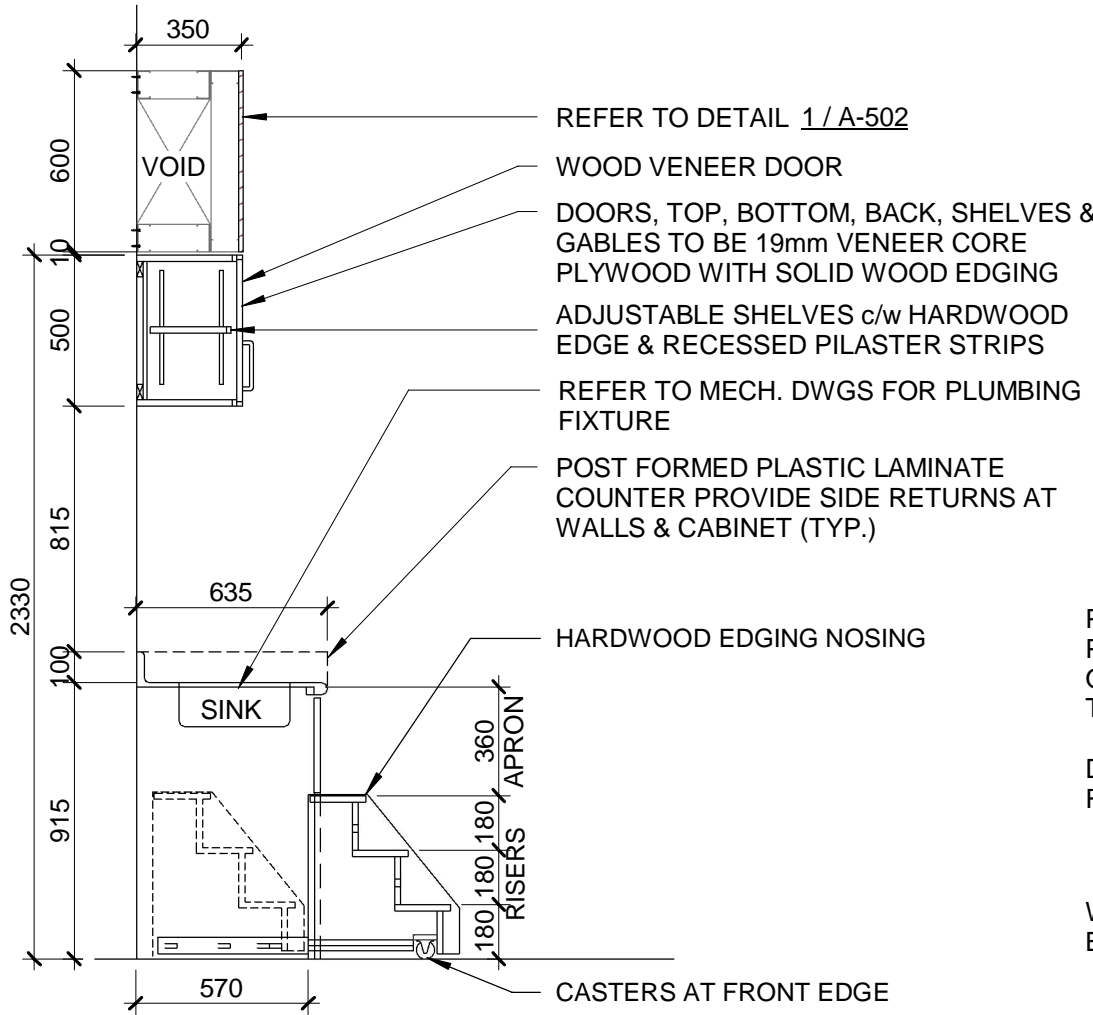
5 CHANGE TABLE

A-503 REF: A-602 SCALE: 1 : 25



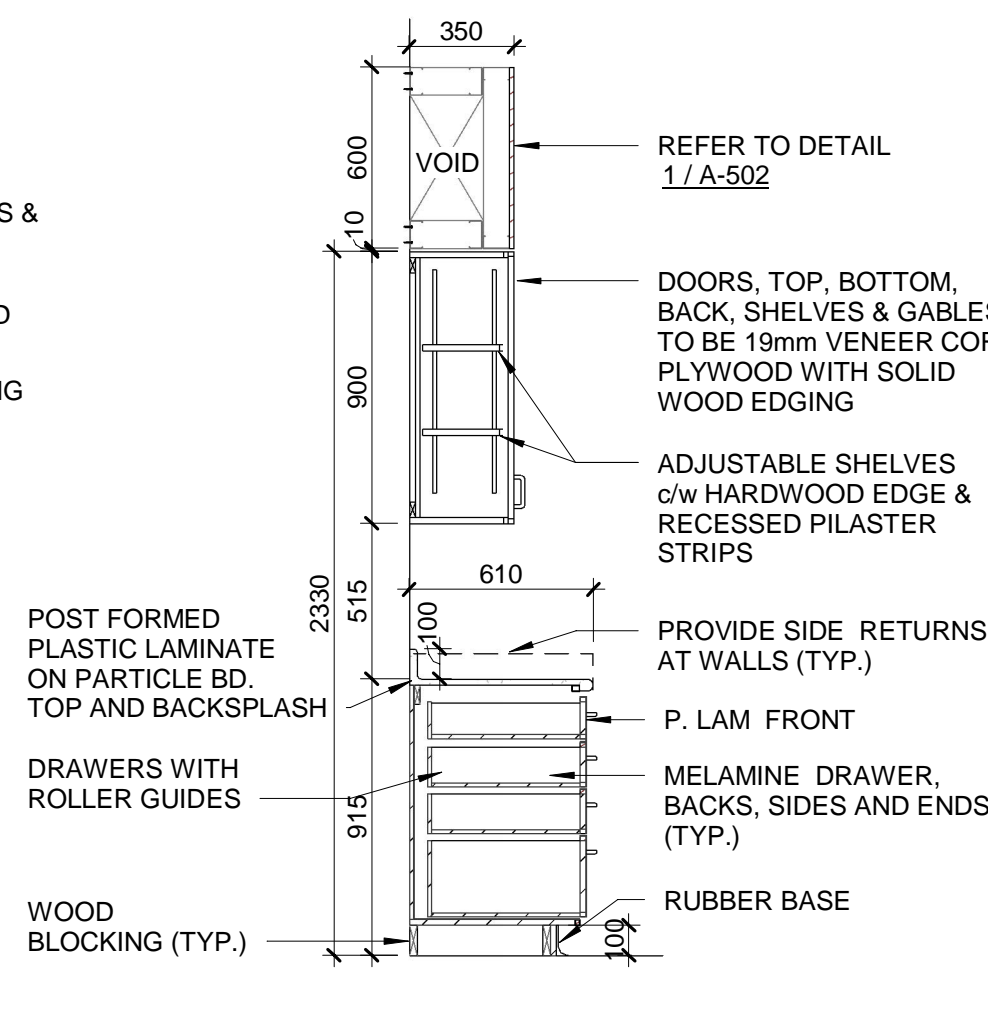
6 DETAIL - CHANGE TABLE (STEPS)

A-503 REF: A-602 SCALE: 1 : 25



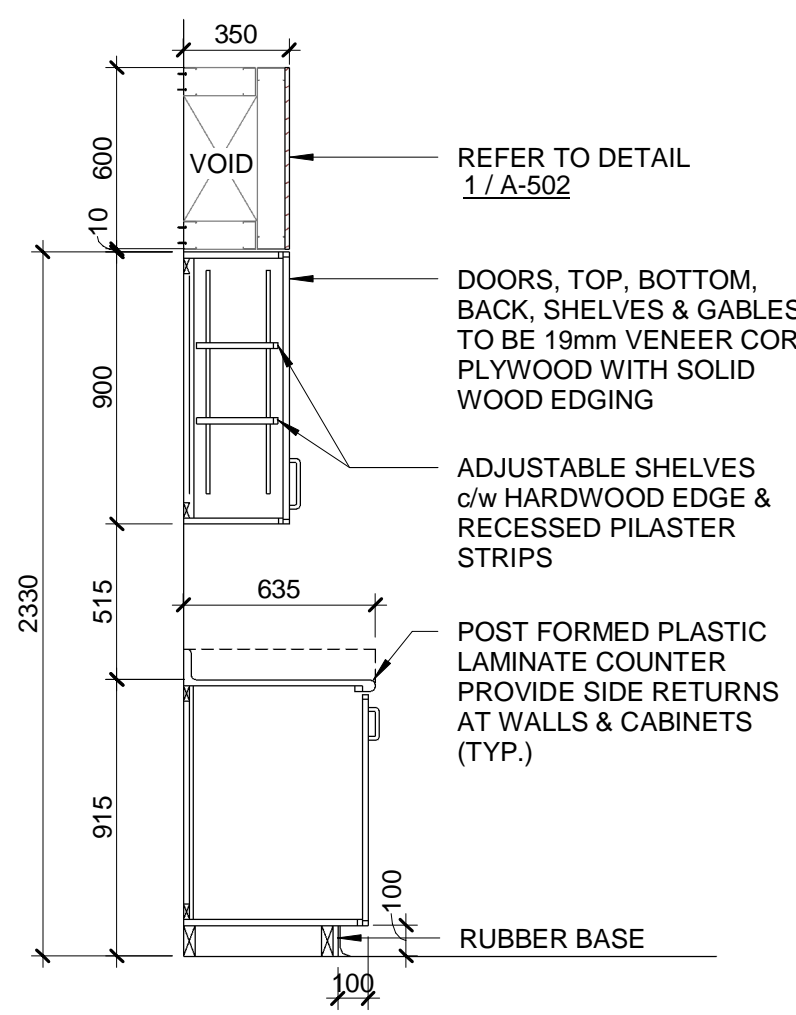
7 IPAC SINK W/ STEPS

A-503 REF: A-603 SCALE: 1 : 25



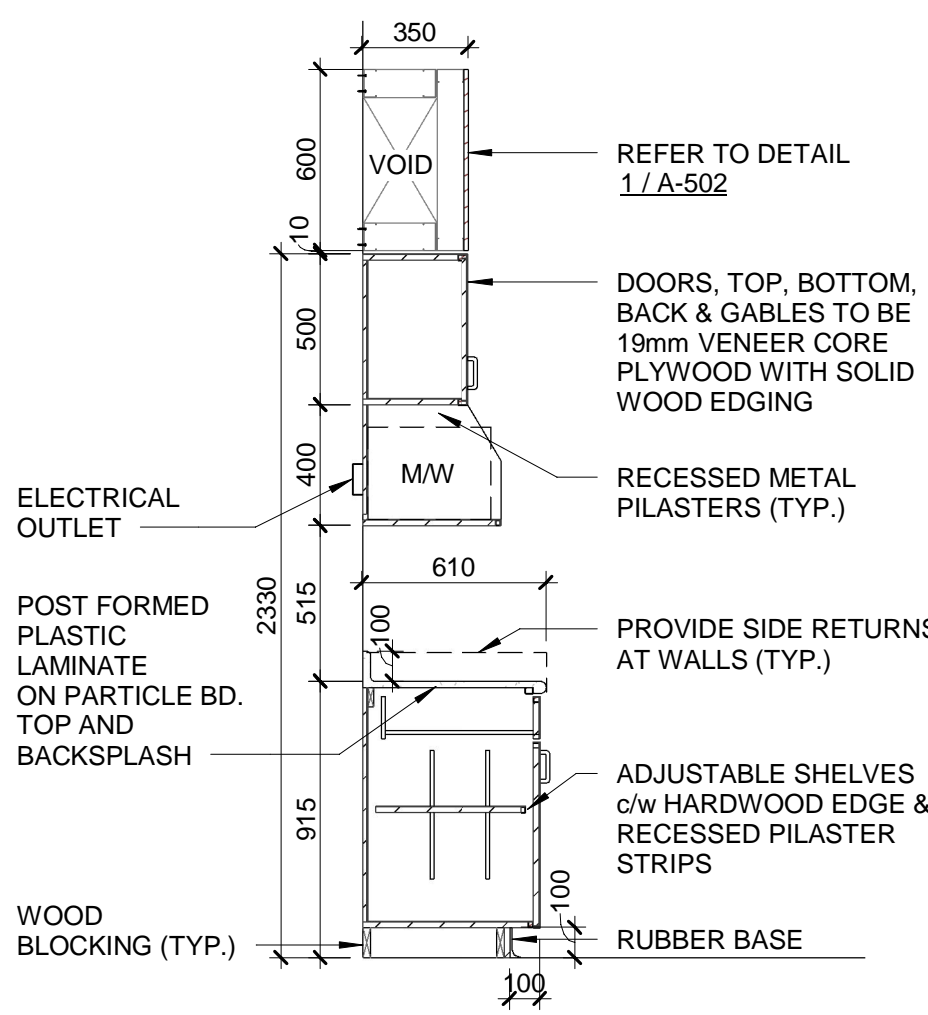
8 CABINET W/DRAWERS

A-503 REF: A-603 SCALE: 1 : 25



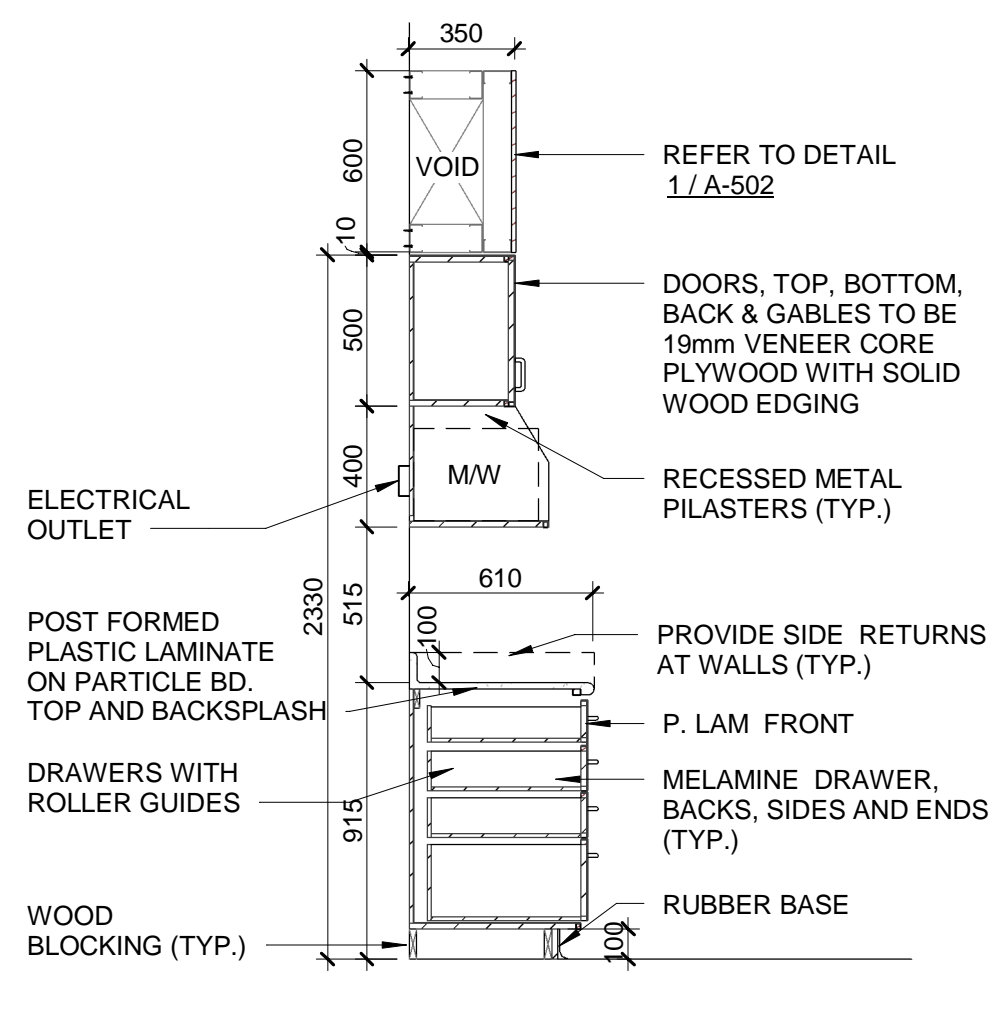
9 CABINET W/DRAWER

A-503 REF: A-603 SCALE: 1 : 25



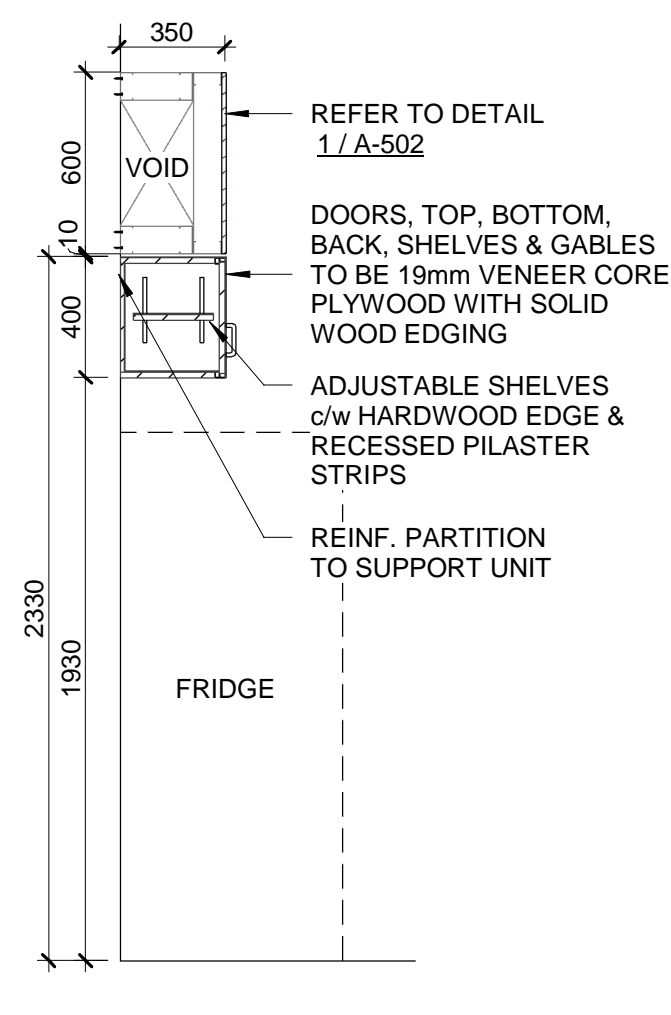
10 MICROWAVE

A-503 REF: A-603 SCALE: 1 : 25



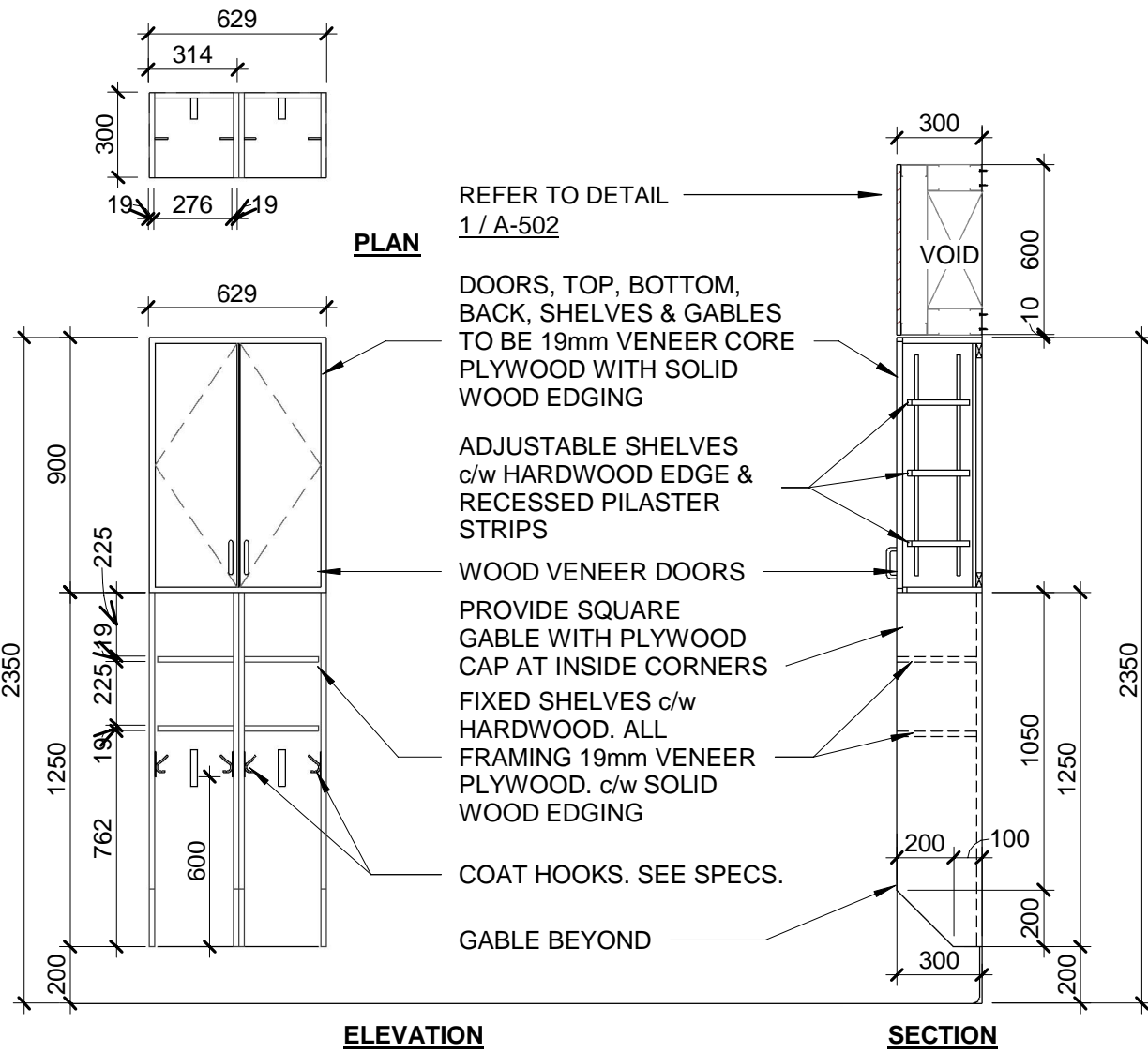
11 MICROWAVE W/DRAWERS

A-503 REF: A-603 SCALE: 1 : 25



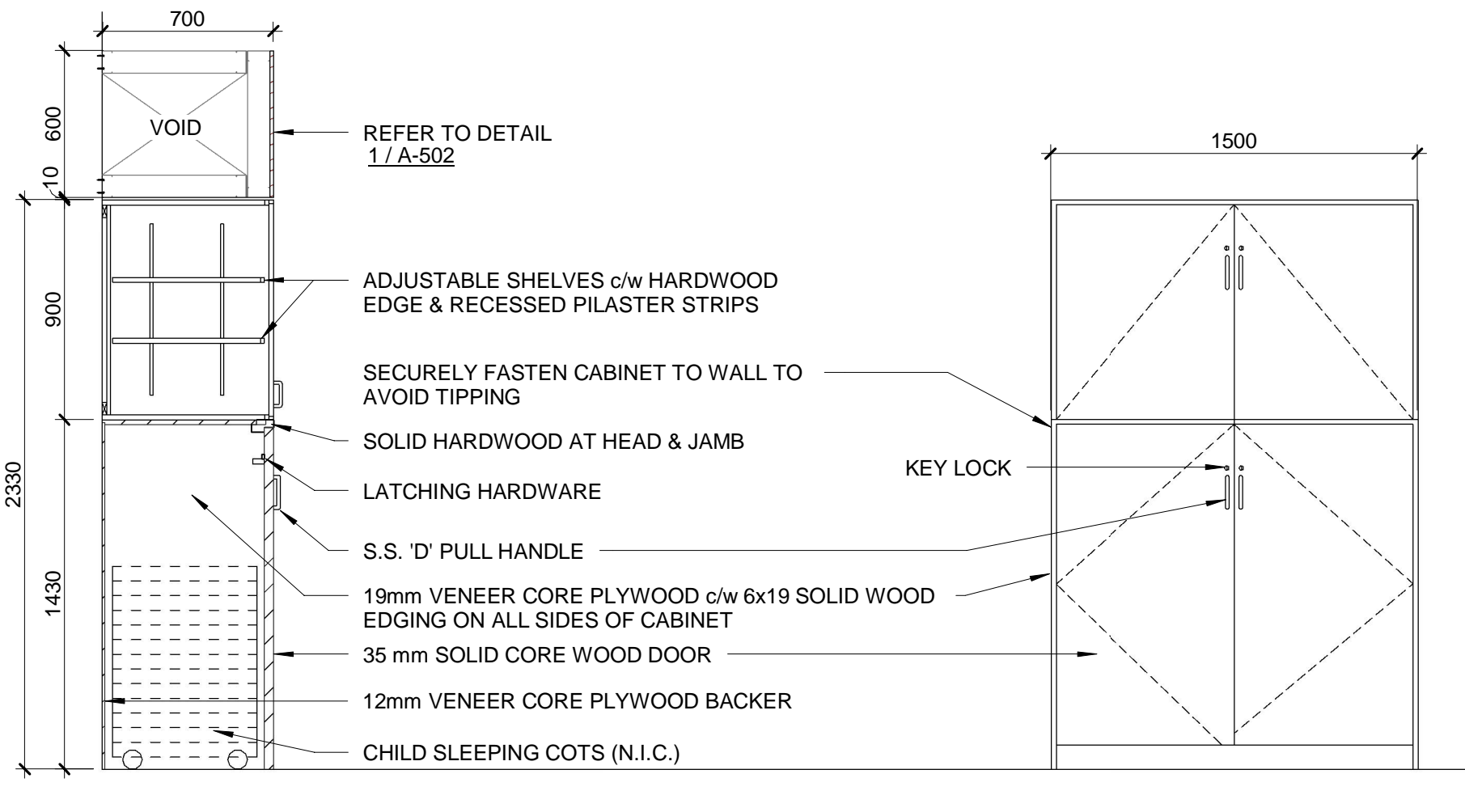
12 FRIDGE

A-503 REF: A-603 SCALE: 1 : 25



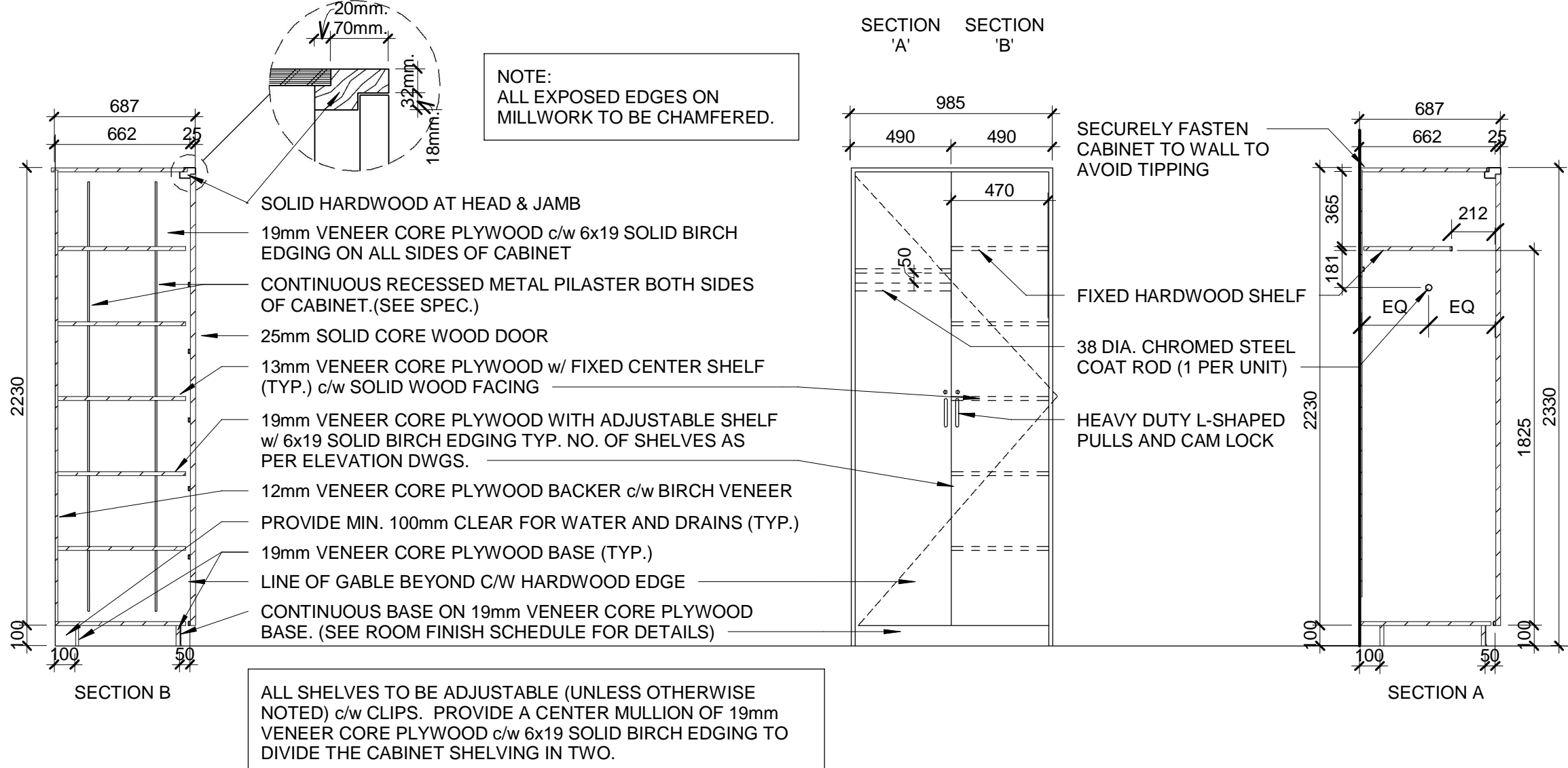
13 CUBBIES WITH UPPER CABINET

A-503 REF: A-602 SCALE: 1 : 25



14 COT STORAGE CLOSET

A-503 REF: A-602 SCALE: 1 : 25



15 STORAGE CABINET

A-503 REF: A-602 SCALE: 1 : 25

GENERAL NOTES:

1. PROVIDE WOOD BLOCKING FOR ALL MILLWORK AT STUD WALLS

PROJECT

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KEY PLAN

PROJECT NUMBER

60593561  
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SHEET TITLE

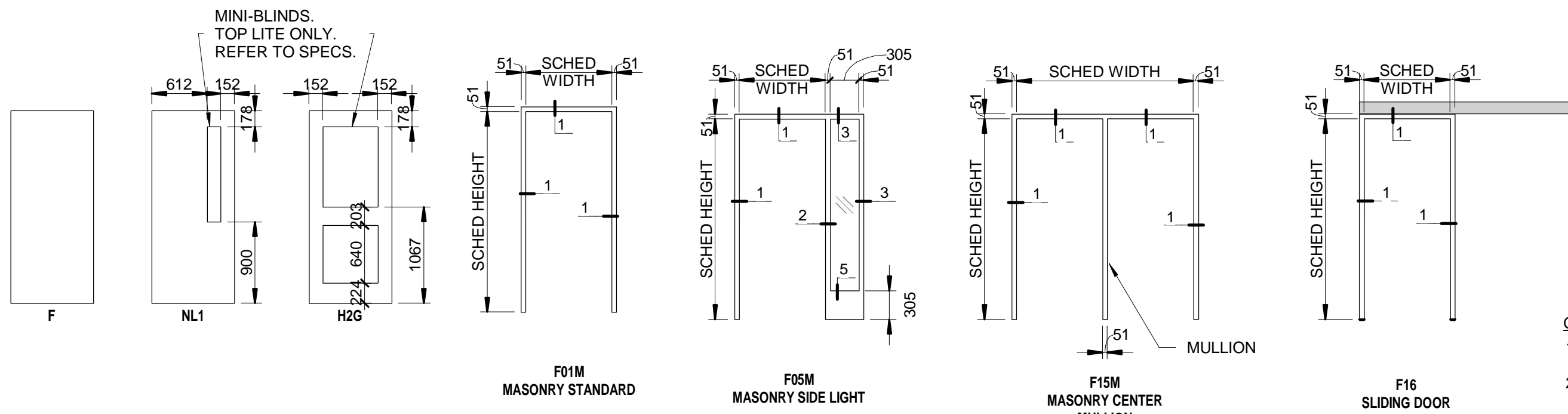
MILLWORK

SHEET NUMBER

A-503



DOOR/OPENING SCHEDULE																			
DOOR										FRAME									
No.	TYPE	LEAF'S	WIDTH (1)	WIDTH (2)	HEIGHT	THICKNESS	MATERIAL	INSULATED	UNDERCUT	FINISH	LOUVER	GLASS	TYPE	MATERIAL	DEPTH	FINISH	HEAD DETAIL	SILL DETAIL	FIRE RATING
A100A	H2G	1	950		2150	45	HM	✓		PT.	-	INSUL.	F01	PS	197	PT.	H1	J1	
A100B	H2G	1	950		2150	45	HM			PT.	-	TEMP.	F05	PS	146	PT.	H1	J1	
A102	F	1	950		2150	45	W			VARNISH	-		F01	PS	197	PT.	H1	J1	
A103A	H2G	2	1000	1000	2150	45	HM	✓		PT.	-	INSUL.	F15	PS	146	PT.	H2	J2	
A103B	H2G	1	950		2150	45	HM			PT.	-		F01	PS	197	PT.	H1	J1	
A165	NL1	1	950		2150	45	W			VARNISH	-		F16	PS	146	PT.	H3	J3	
										HARDWARE GROUP									
										COMMENTS									
										NOTE 1-3 PROVIDE AIPHONE SYSTEM. PROVIDE & INSTALL ALUM. MINI-BLIND( TOP LITE ONLY)									
										NOTE 1-3 RELOCATE EXISTING CARD READER AND PUSH BUTTON. PROVIDE & INSTALL ALUM. MINI-BLIND (TOP LITE ONLY)									
										NOTE 1-3 SLIDING DOOR. PROVDE & INSTALL ALUM. MINI-BLIND (TOP LITE ONLY)									



DOOR PANEL TYPES

DOOR FRAME TYPES

- GENERAL NOTES:**
1. FRAMES ARE TO BE WELDED UNLESS NOTED OTHERWISE.
  2. FRAME INFO SHOWN IS TYP. UNLESS NOTED OTHERWISE BY SPECIFIC DETAIL REFERENCE OR FRAME, PROFILE REFERENCE.

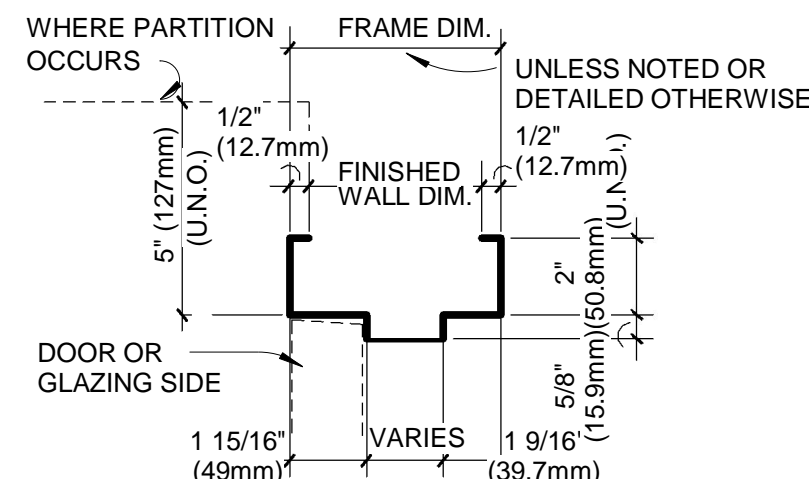
HOLLOW METAL FRAME PROFILES

DOOR SCHEDULE GENERAL NOTES

1. CONTRACTOR TO VERIFY DOOR OPENING SIZES BEFORE FABRICATION.
2. REFER TO SPEC SECTION FOR DOOR HARDWARE.
3. PT TO BE SELECTED BY CONSULTANT.

FRAME TYPE VARIATIONS

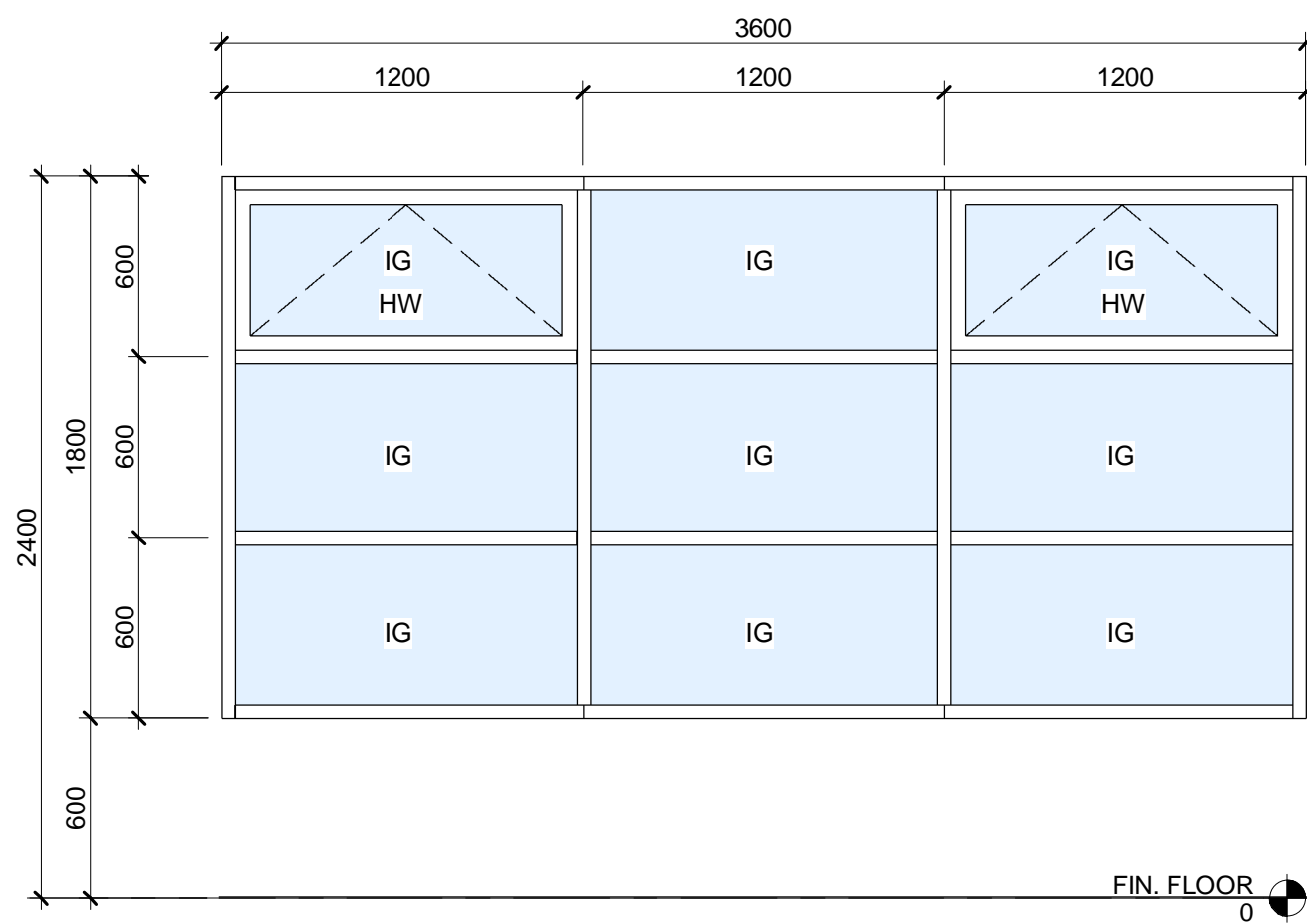
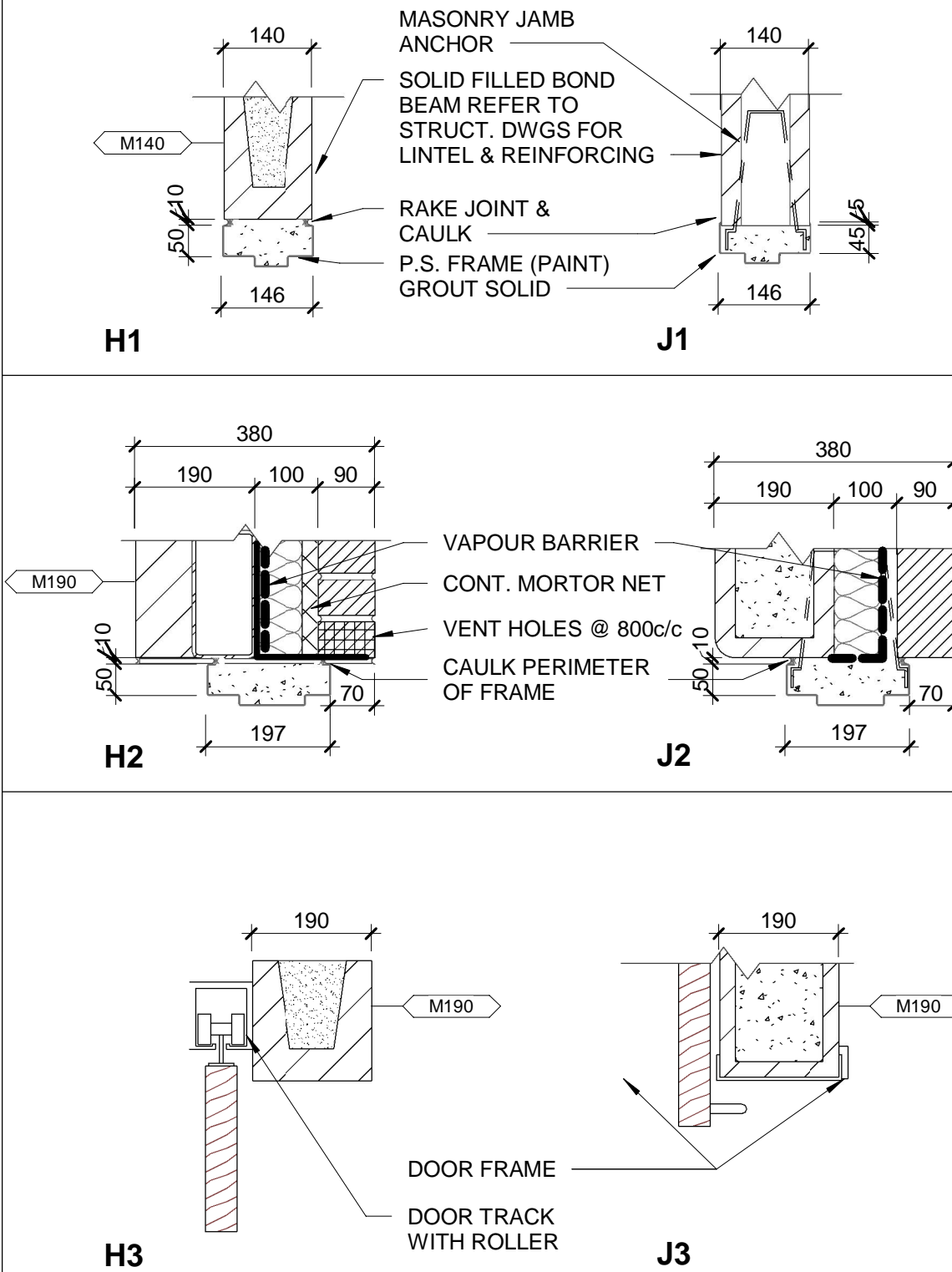
**F05 : A** - FRAME TYPE  
TYPE VARIATION (SAME GEOMETRY WITH DIFFERENT DIMENSIONS) SEE SCHEDULE ON FRAME TYPES



- GENERAL NOTES:**
1. FRAMES ARE TO WELDED UNLESS NOTED OTHERWISE.
  2. FRAME INFO SHOWN IS TYP. UNLESS NOTED OTHERWISE BY SPECIFIC DETAIL REFERENCE ON PLANS/SCHEDULE.
  3. SEE DETAIL \_A\_ FOR TYP. FRAME AT DRYWALL PART.

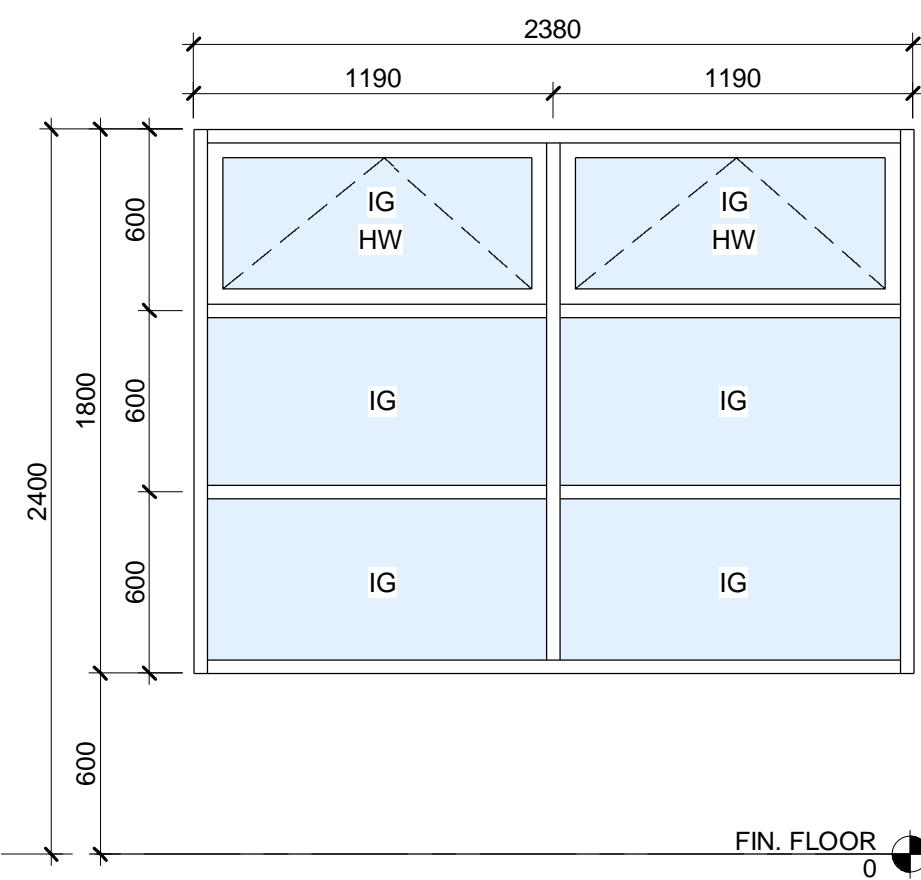
TYP HOLLOW METAL FRAME INFO

DOOR FRAME HEAD (H) & JAMB (J) DETAILS



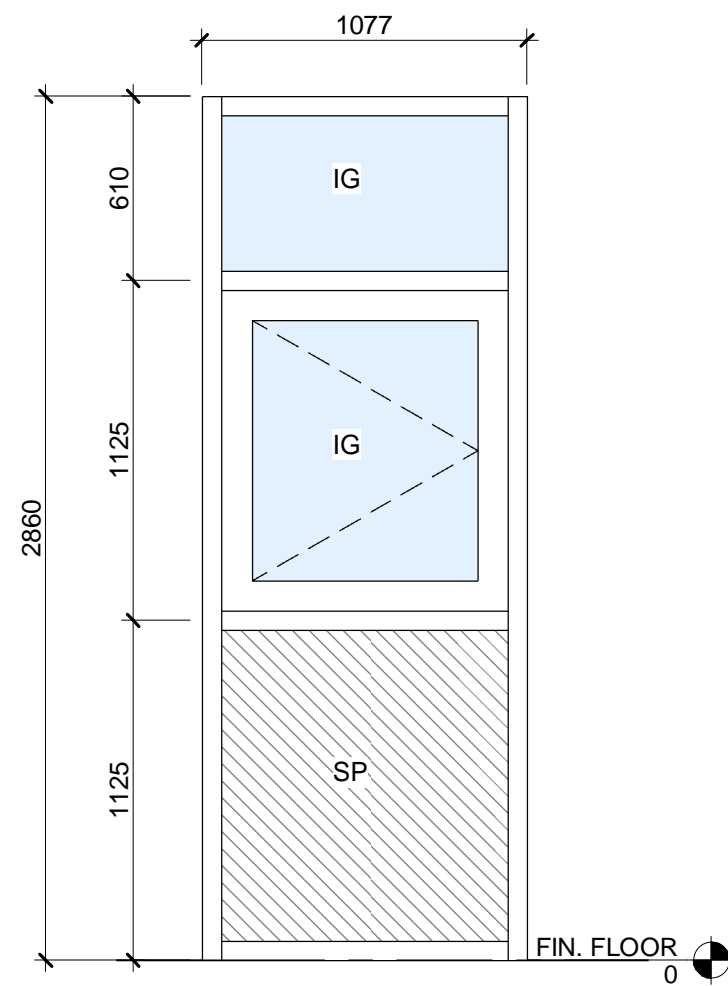
1 EXT. ALUMINUM - W1

A-601 REF: A-103 SCALE: 1 : 25



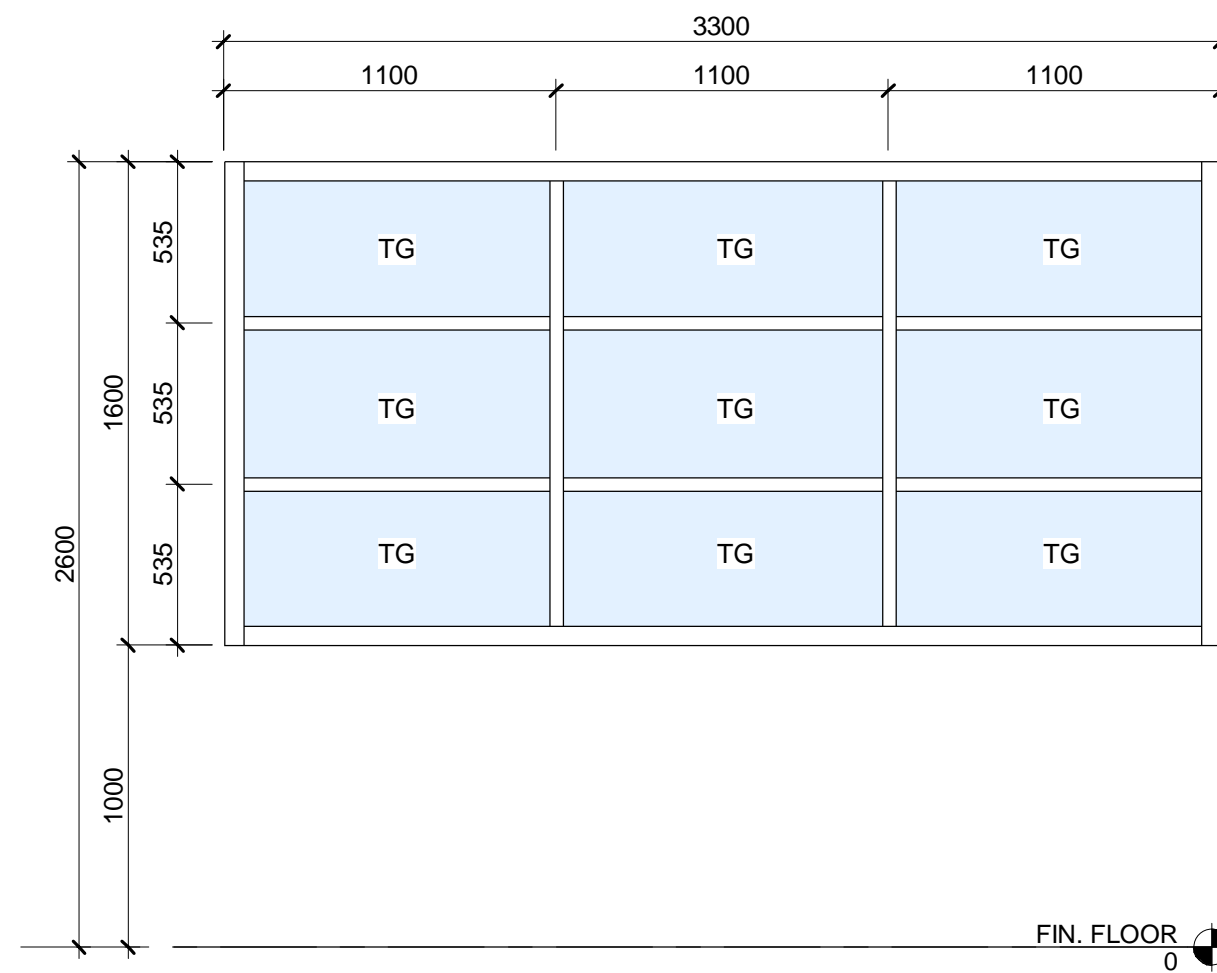
2 EXT. ALUMINUM - W2

A-601 SCALE: 1 : 25



3 EXT. ALUMINUM - W3

A-601 SCALE: 1 : 25



4 INTERIOR H/M - W4

A-601 SCALE: 1 : 25

LEGEND

- IG - INSULATED & TEMPERED GLASS
- SP - SPANDREL GLASS
- HW - HOPPER WINDOW
- TG - TEMPERED GLASS



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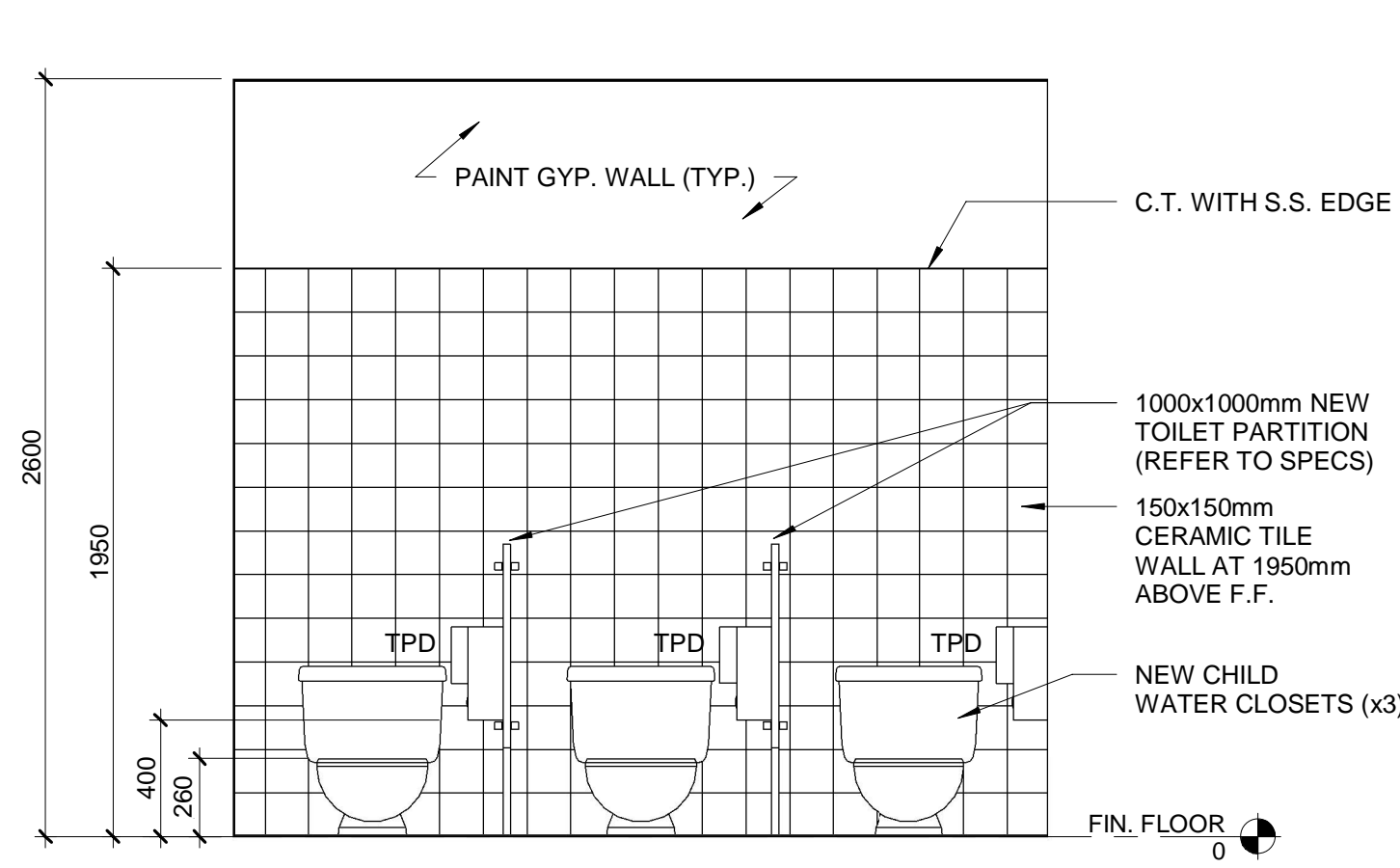
SHEET TITLE

DOOR & WINDOW  
SCHEDULE/DETAILS

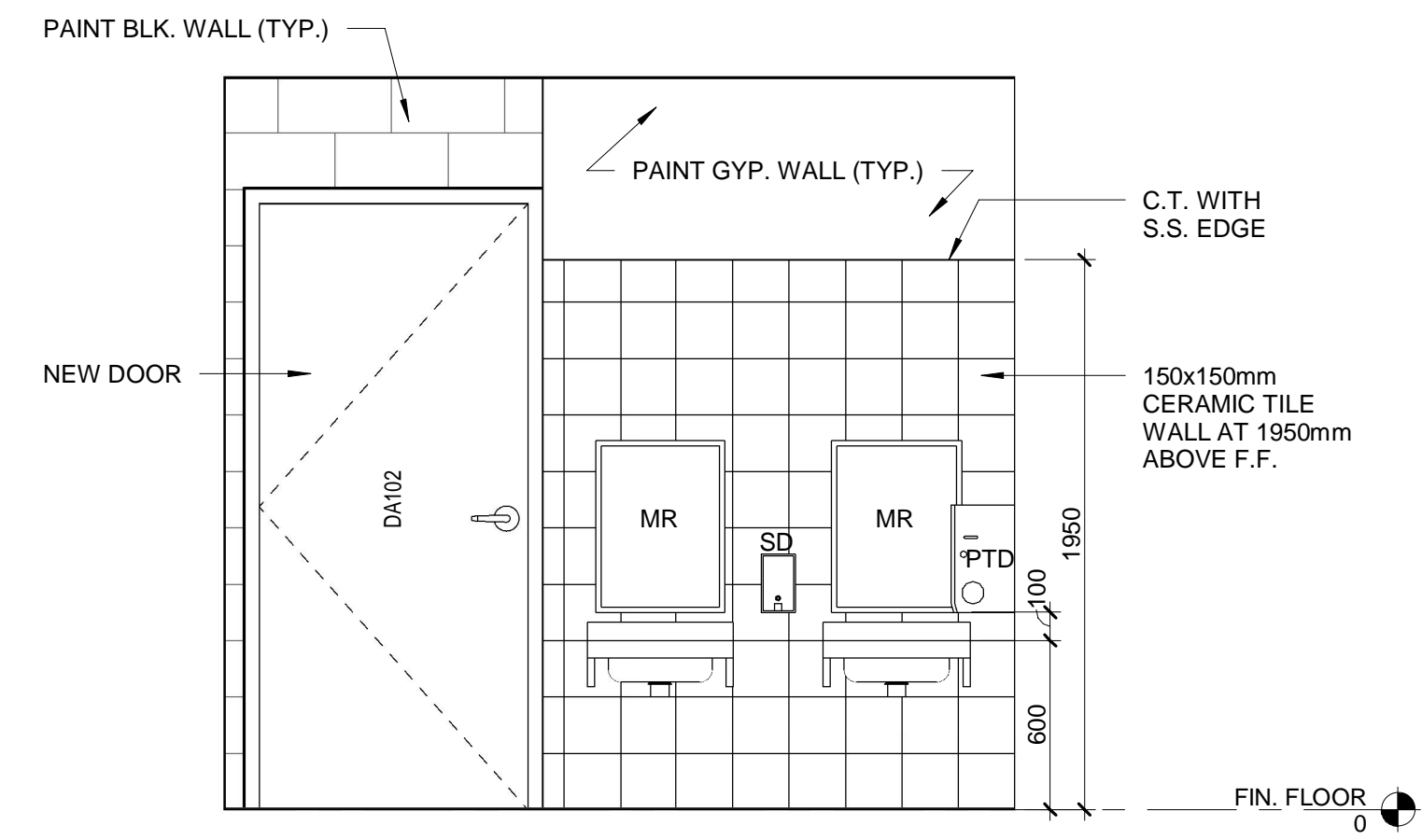
SHEET NUMBER

A-601

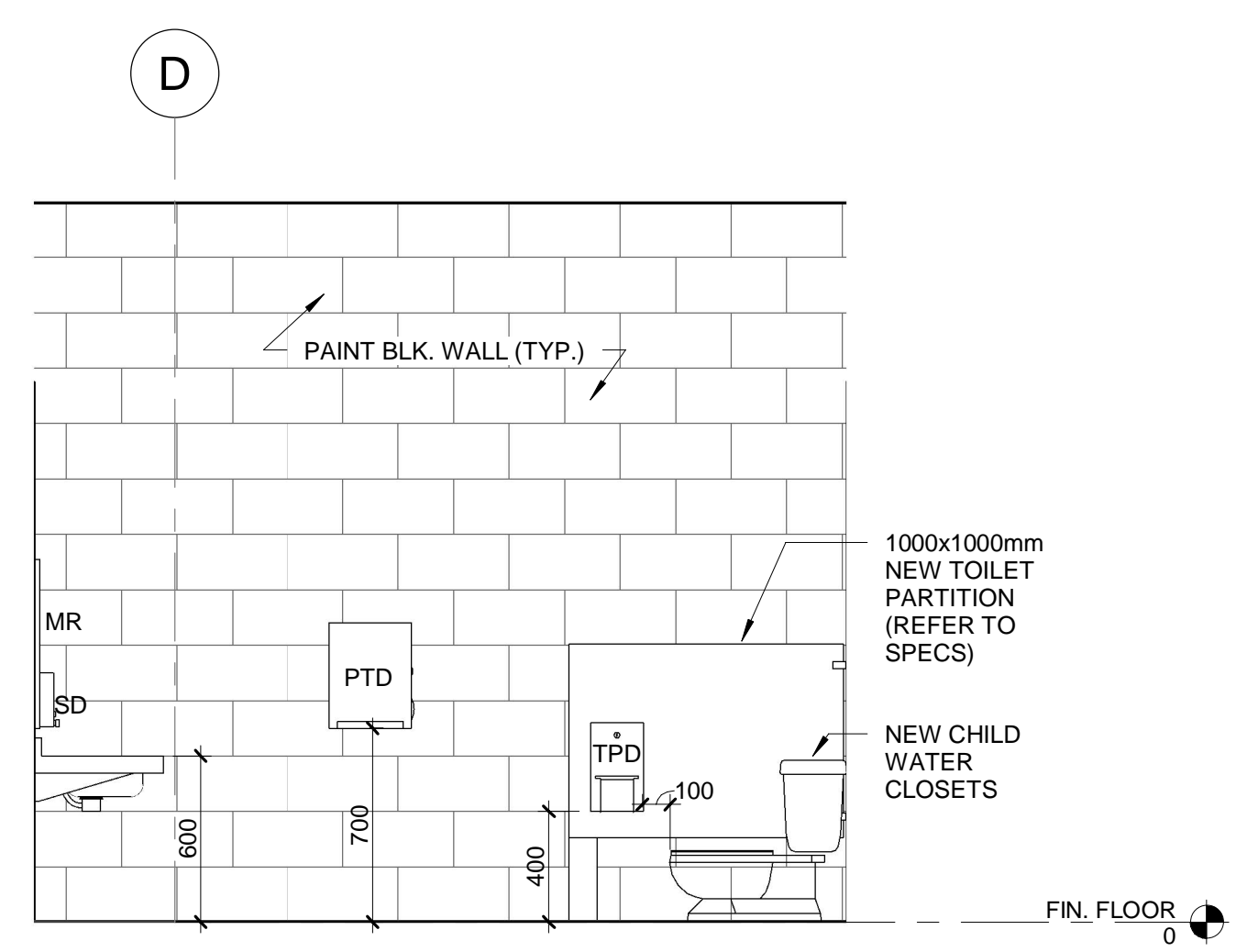




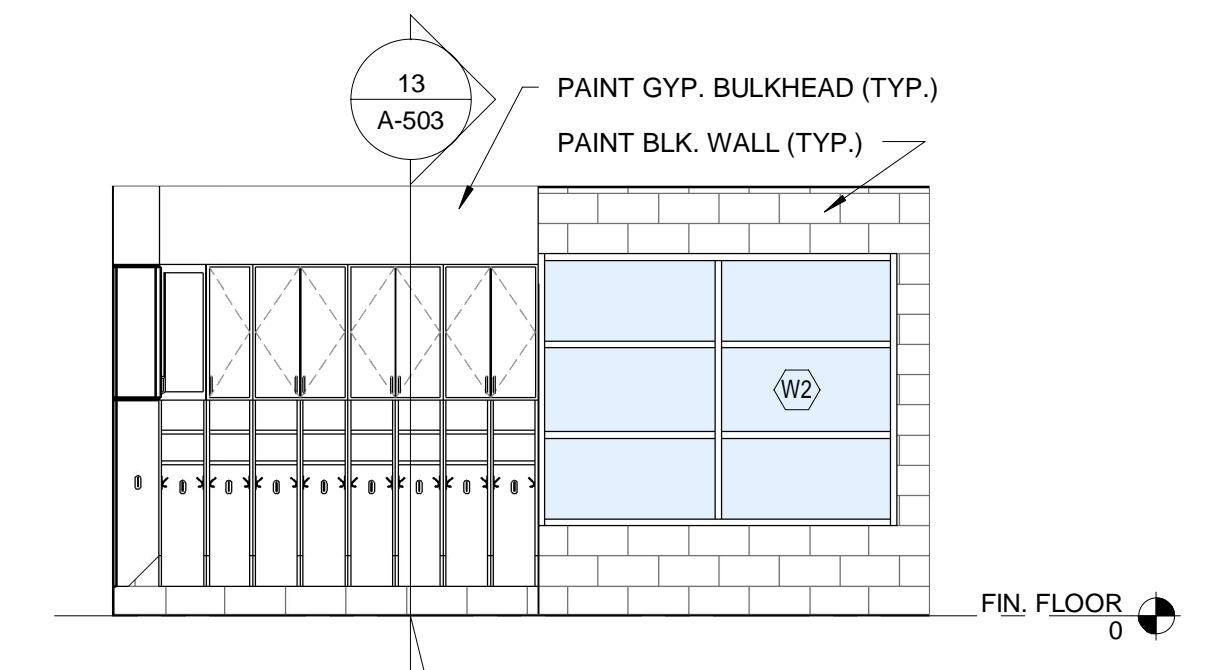
1	NORTH ELEVATION - WR	
A-602	REF: A-106	SCALE: 1 : 25



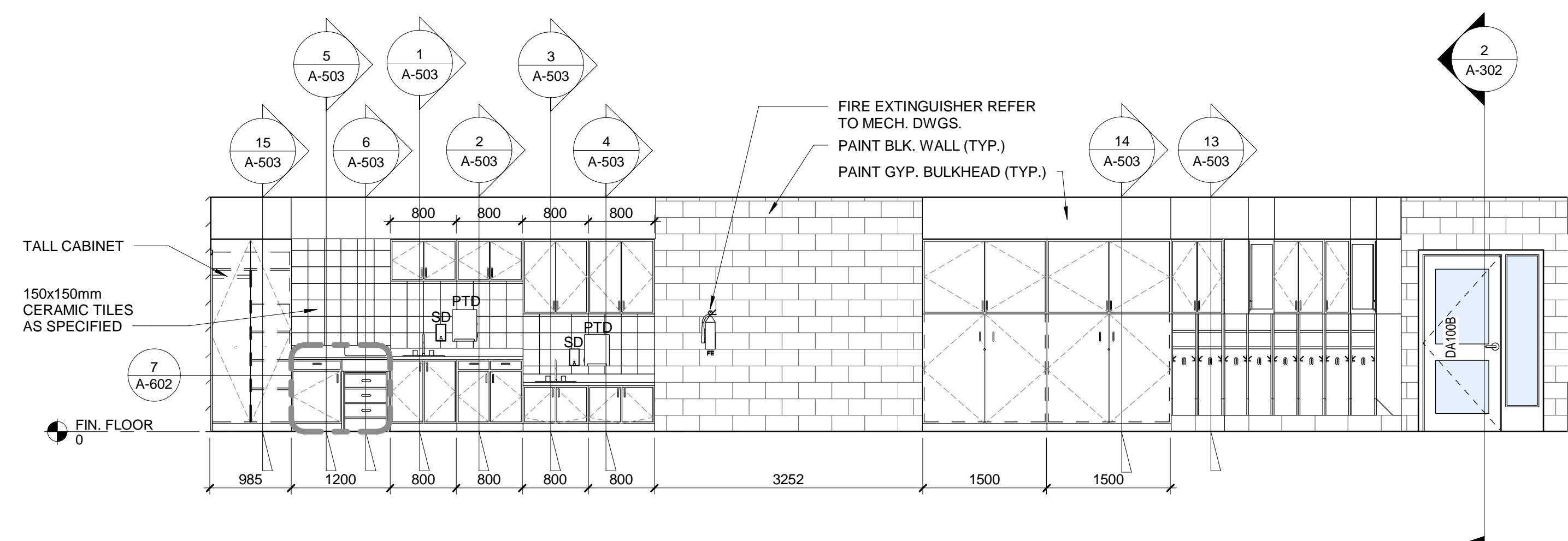
2 | SOUTH ELEVATION - WR



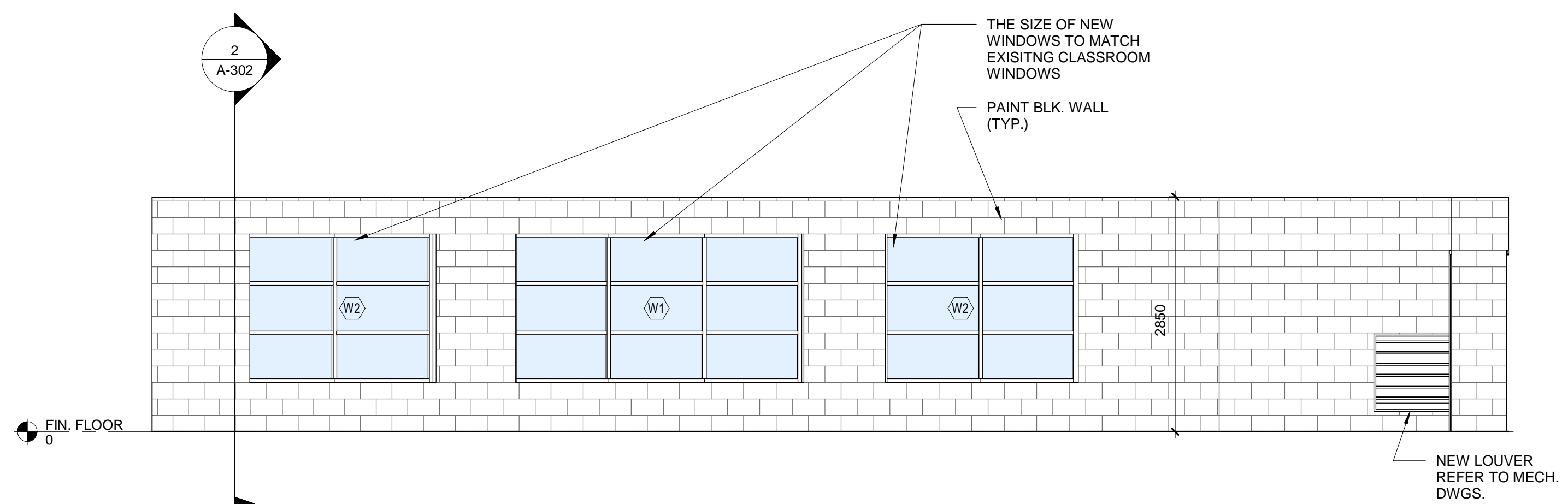
### 3 WEST ELEVATION - WR



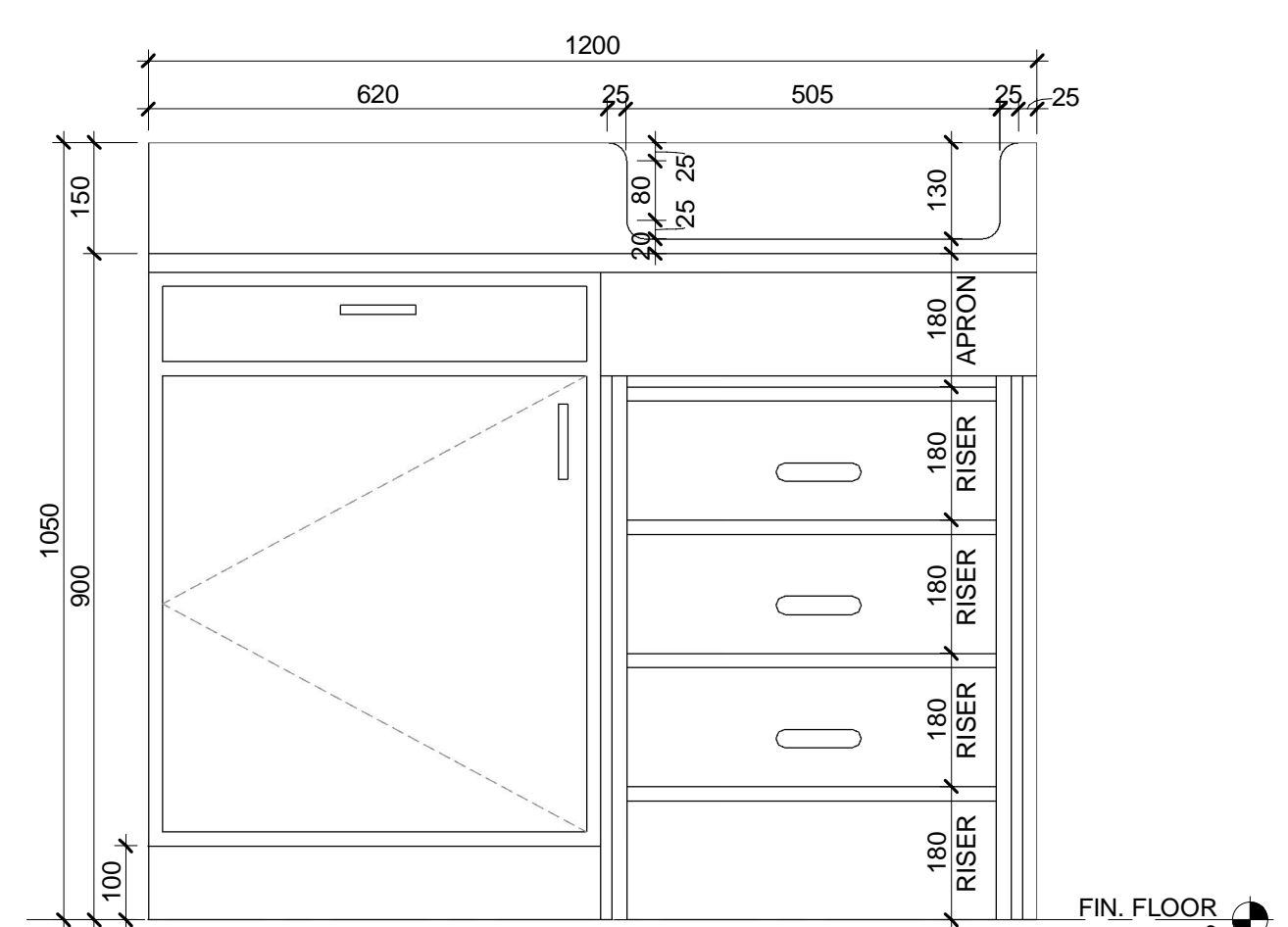
## 5 SOUTH ELEVATION - PRESCHOOL



## 4 EAST ELEVATION - PRESCHOOL



## 6 WEST ELEVATION - PRESCHOOL



7 CHANGE TABLE		
A-602	REF: A-602	SCALE: 1 : 10

**NOTE:**  
PTD, TPD, SD SUPPLIED BY CLIENT & INSTALLED BY CONTRACTOR



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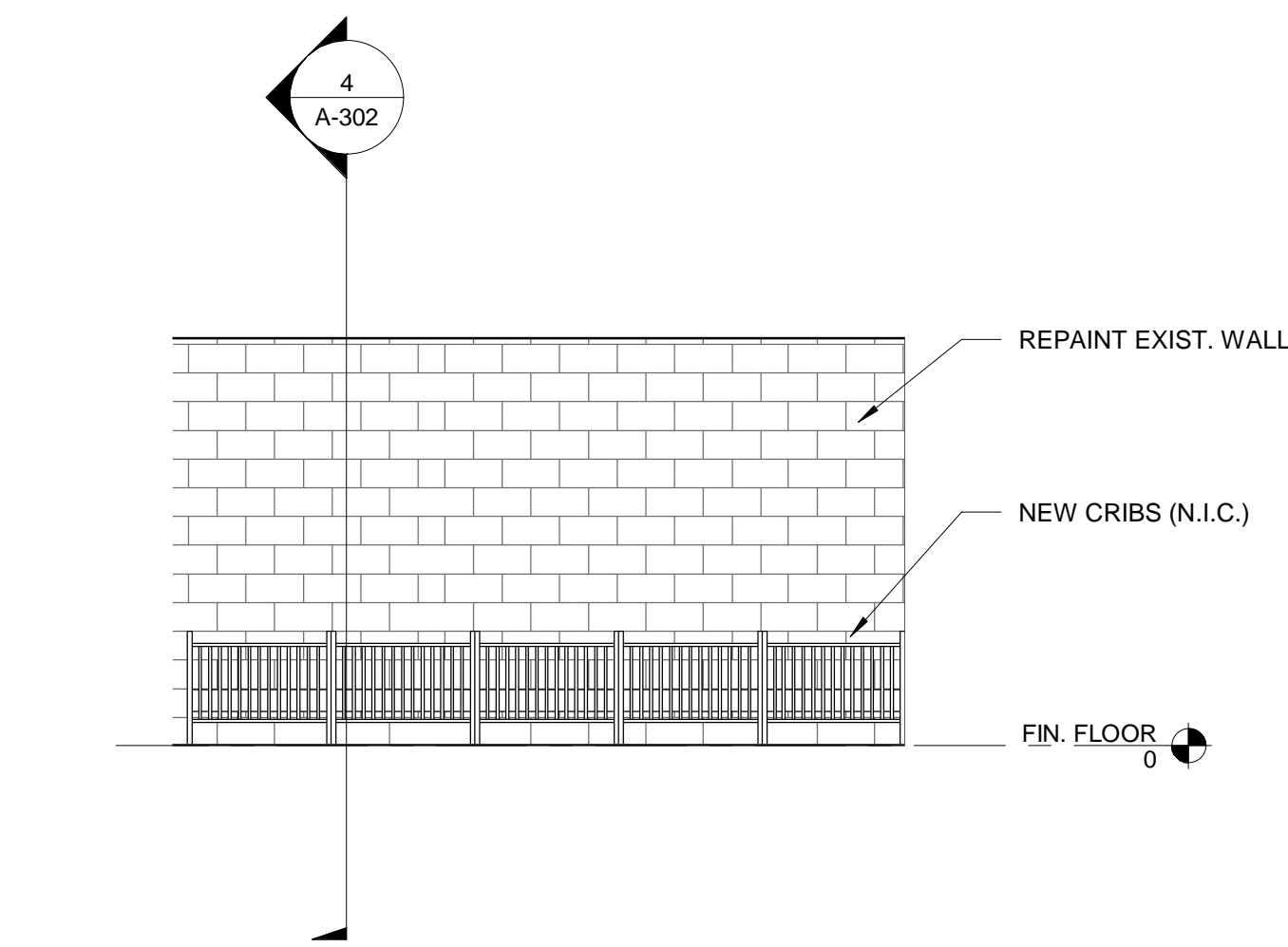
## INTERIOR PLANS & ELEVATIONS

**SHEET NUMBER**

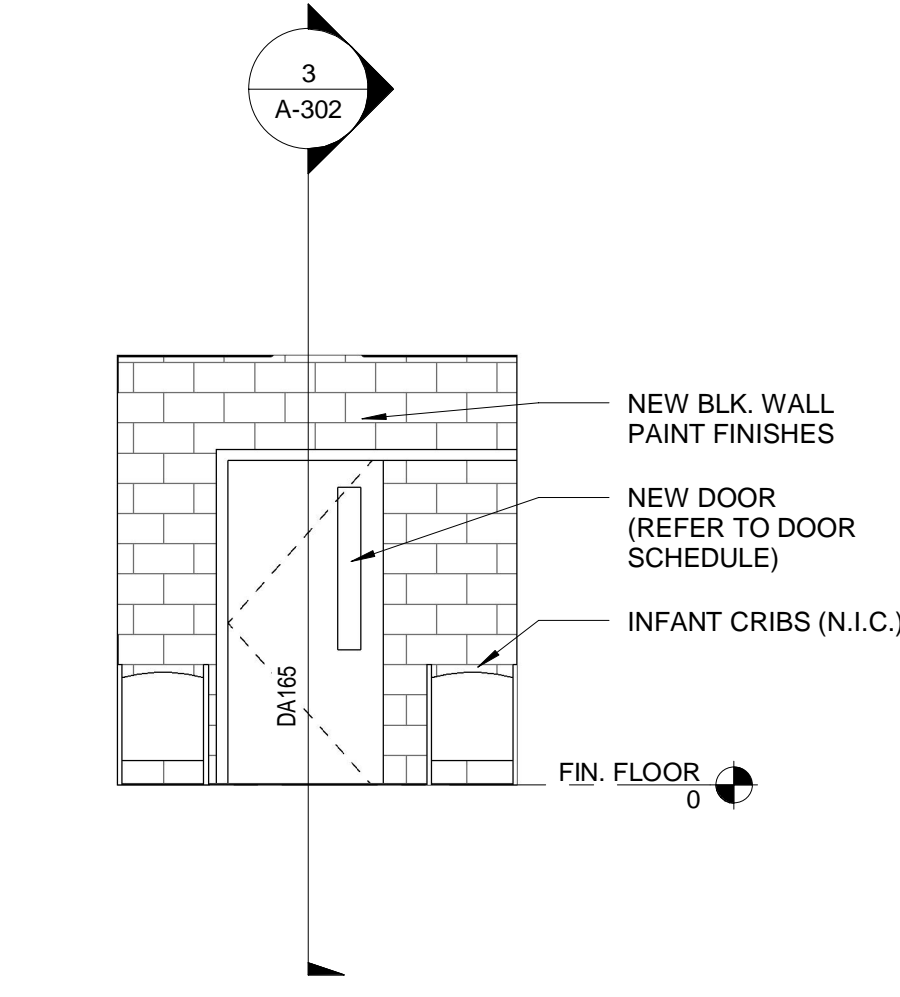
A-602

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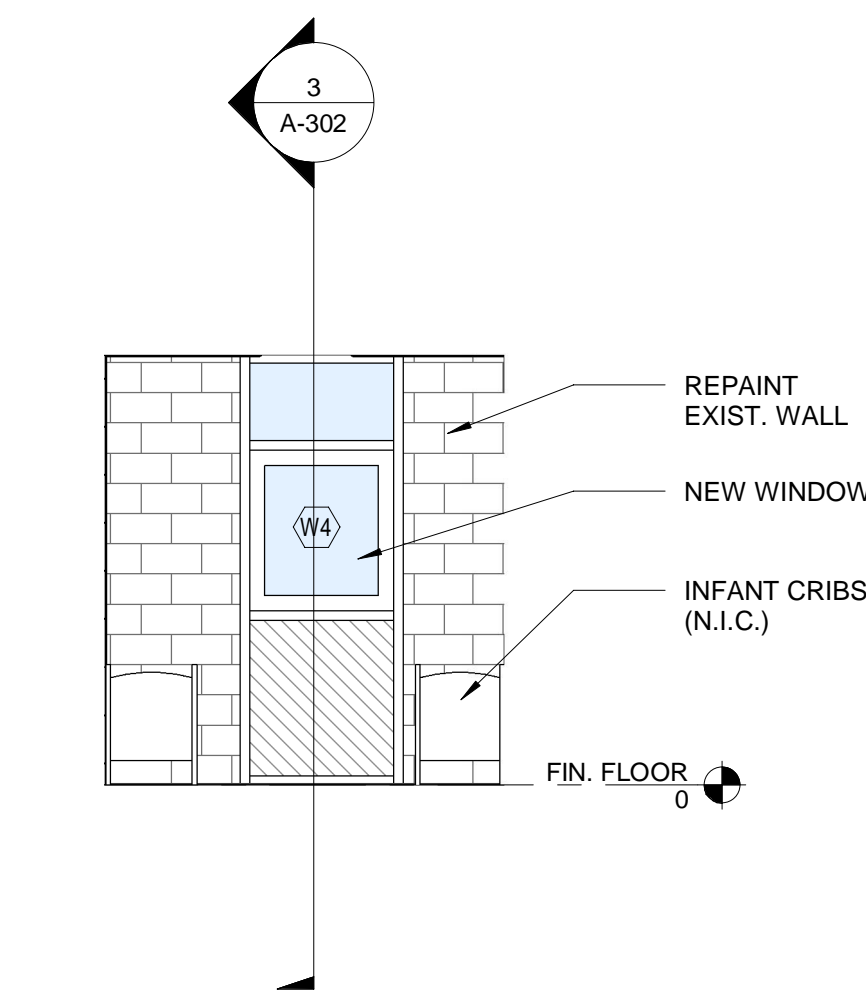




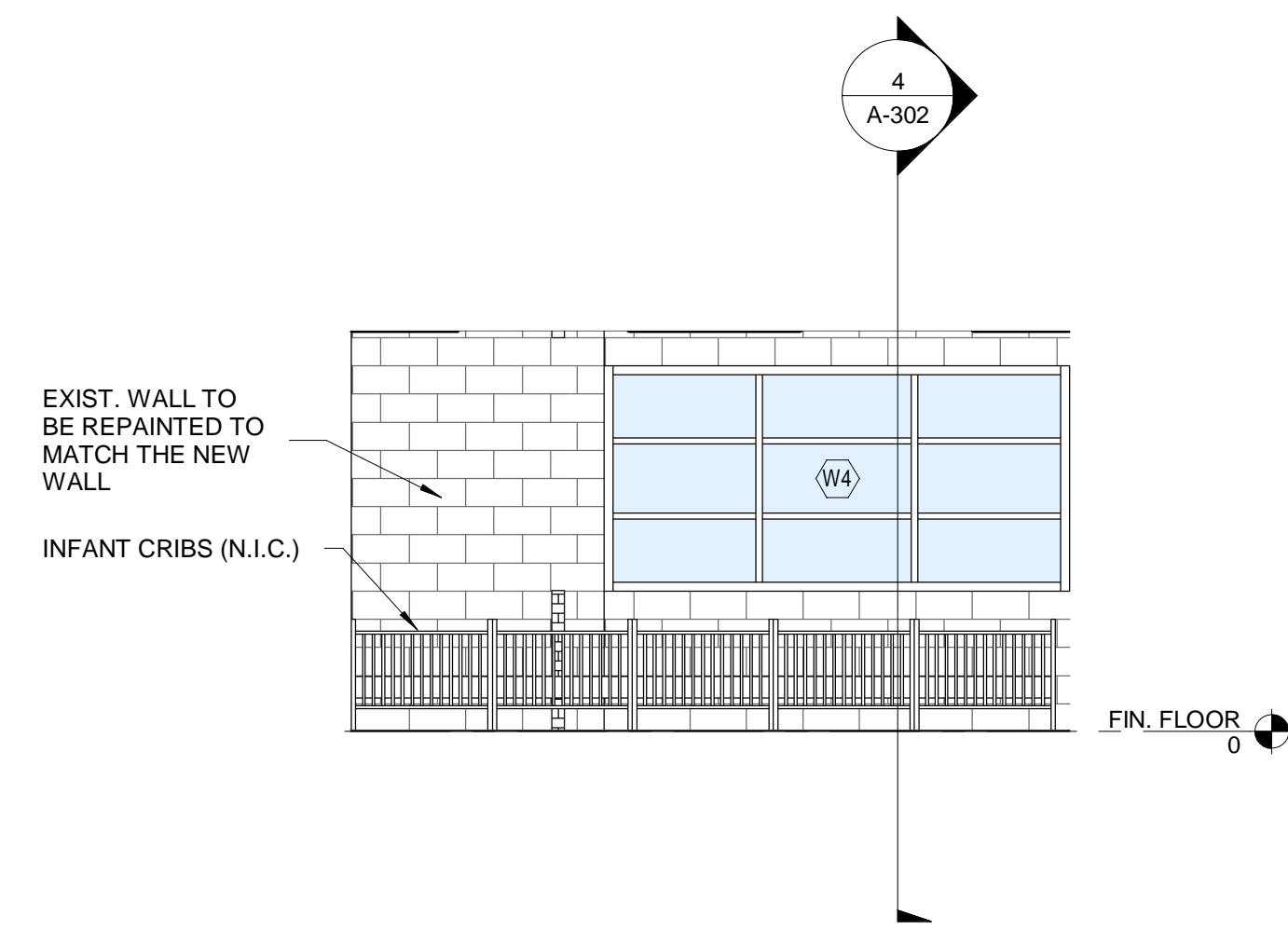
1 EAST ELEVATION - CRIB RM.  
A-603 REF: A-106 SCALE: 1 : 50



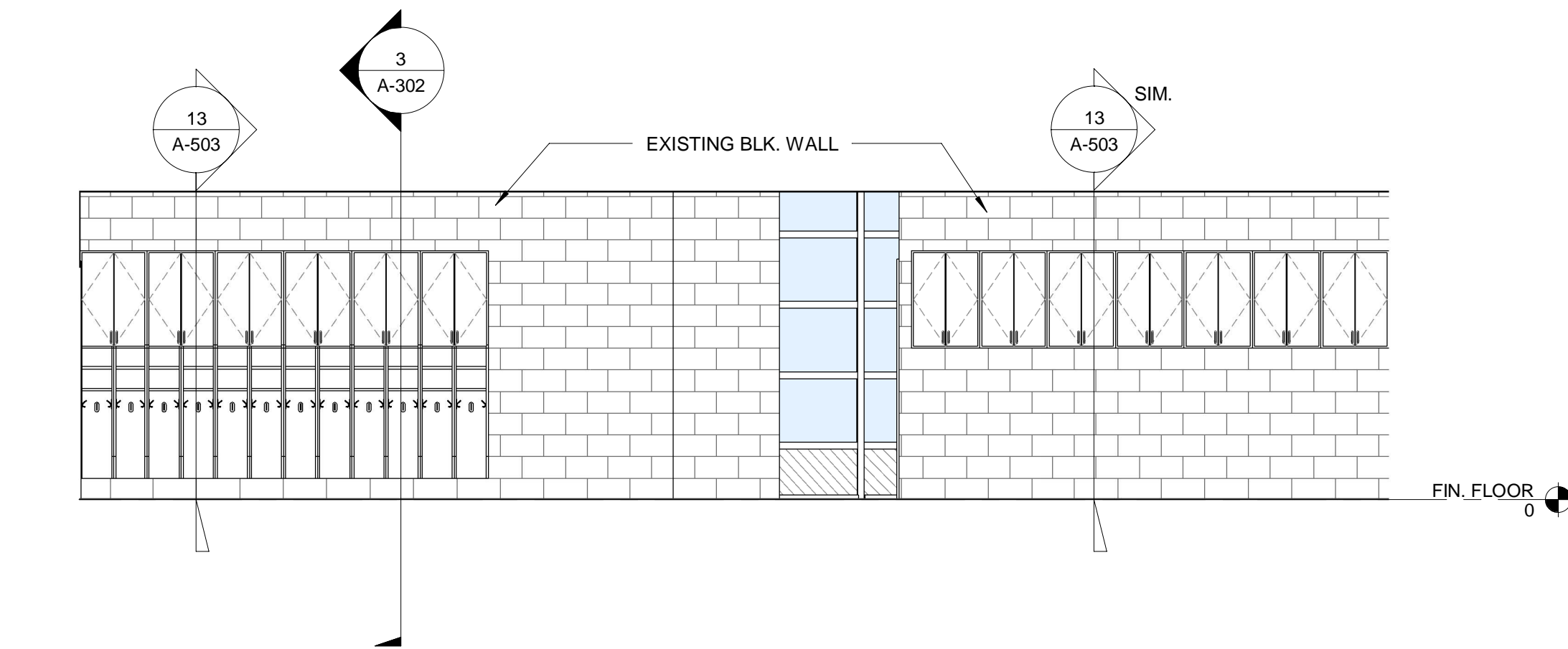
2 NORTH ELEVATION - CRIB RM.  
A-603 REF: A-106 SCALE: 1 : 50



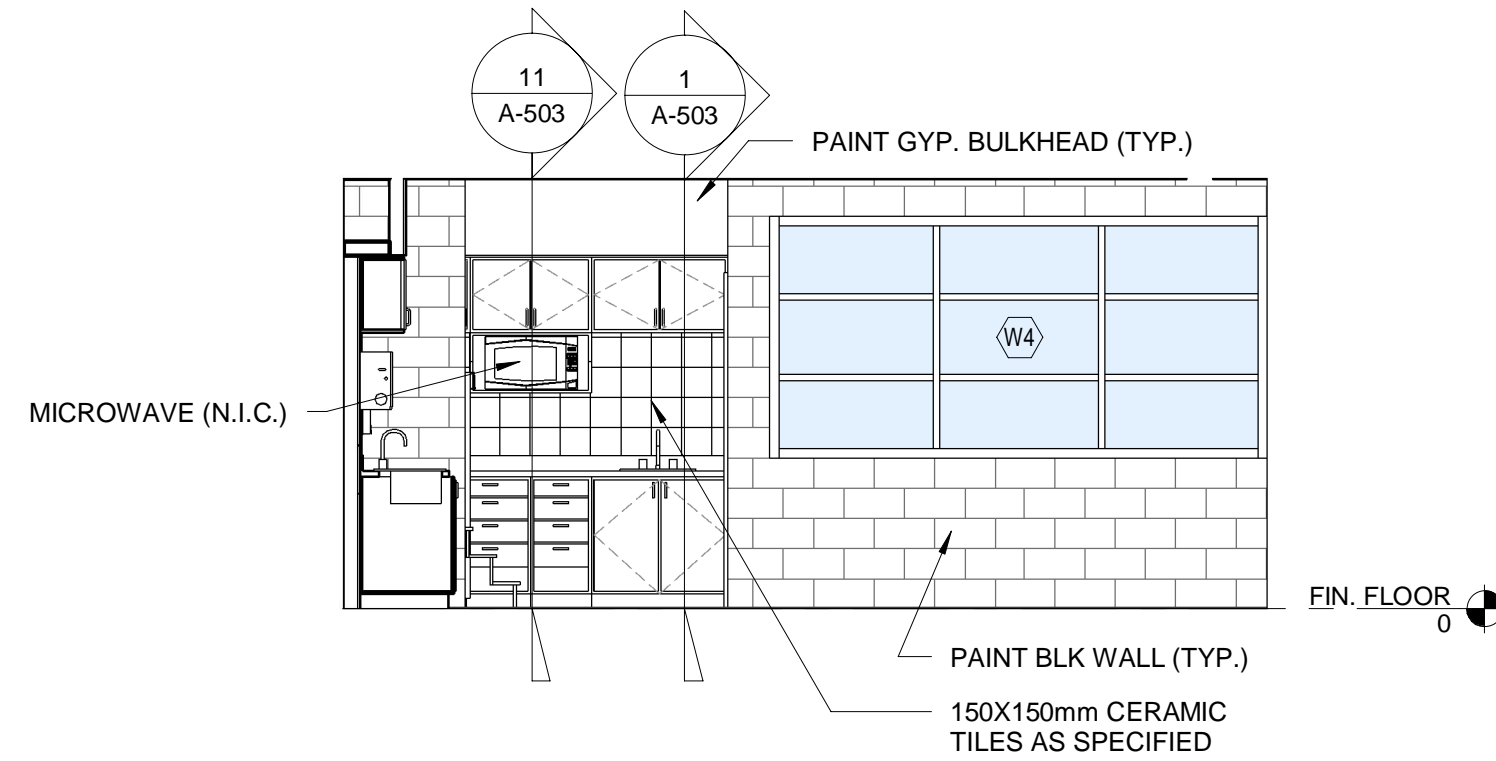
3 SOUTH ELEVATION - CRIB RM.  
A-603 REF: A-106 SCALE: 1 : 50



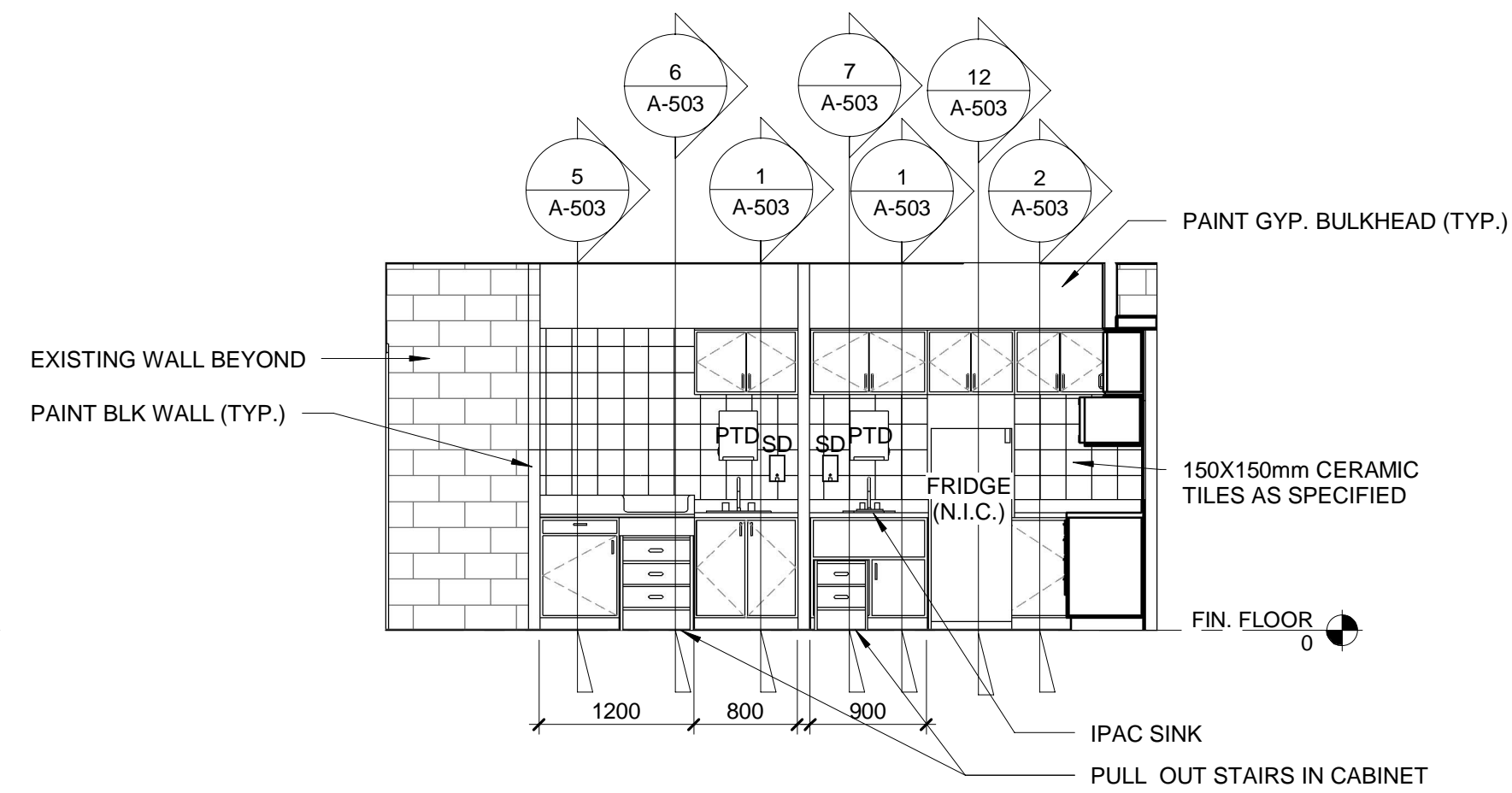
4 WEST ELEVATION - CRIB RM.  
A-603 REF: A-106 SCALE: 1 : 50



5 SOUTH ELEVATION - CORRIDOR  
A-603 REF: A-106 SCALE: 1 : 50



6 EAST ELEVATION - INFANT  
A-603 REF: A-106 SCALE: 1 : 50



7 NORTH ELEVATION - INFANT  
A-603 REF: A-106 SCALE: 1 : 50

NOTE:  
PTD, TPD, SD SUPPLIED BY CLIENT & INSTALLED BY CONTRACTOR



## PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
CENTRE EDUCATIF A PETIT PAS

29 MEADOWVALE RD  
SCARBOROUGH

## CLIENT

CONSEIL SCOLAIRE CATHOLIQUE  
MONAVENIR  
110 DREWRY AVENUE  
NORTH YORK, ON M2M 1C8  
416.397.6564 tel 416.397.6576 fax  
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## CONSULTANT

AECOM Canada Architects Ltd.  
300 Water Street  
Whitby, Ontario L1N 9J2  
905.215.1400 tel 905.668.0221 fax  
www.aecom.com

## REGISTRATION



## ISSUE/REVISION

I/R	DATE	DESCRIPTION
9	FEB 02, 2021	ISSUED FOR TENDER
7	APR 20, 2020	RE-ISSUED FOR TENDER
6	APR 15, 2020	ISSUED FOR B.P.
5	JAN 31, 2020	ISSUED FOR TENDER

## KEY PLAN

## PROJECT NUMBER

60593561  
TENDER# 2021-16

## SHEET TITLE

INTERIOR PLANS & ELEVATIONS

## SHEET NUMBER

A-603

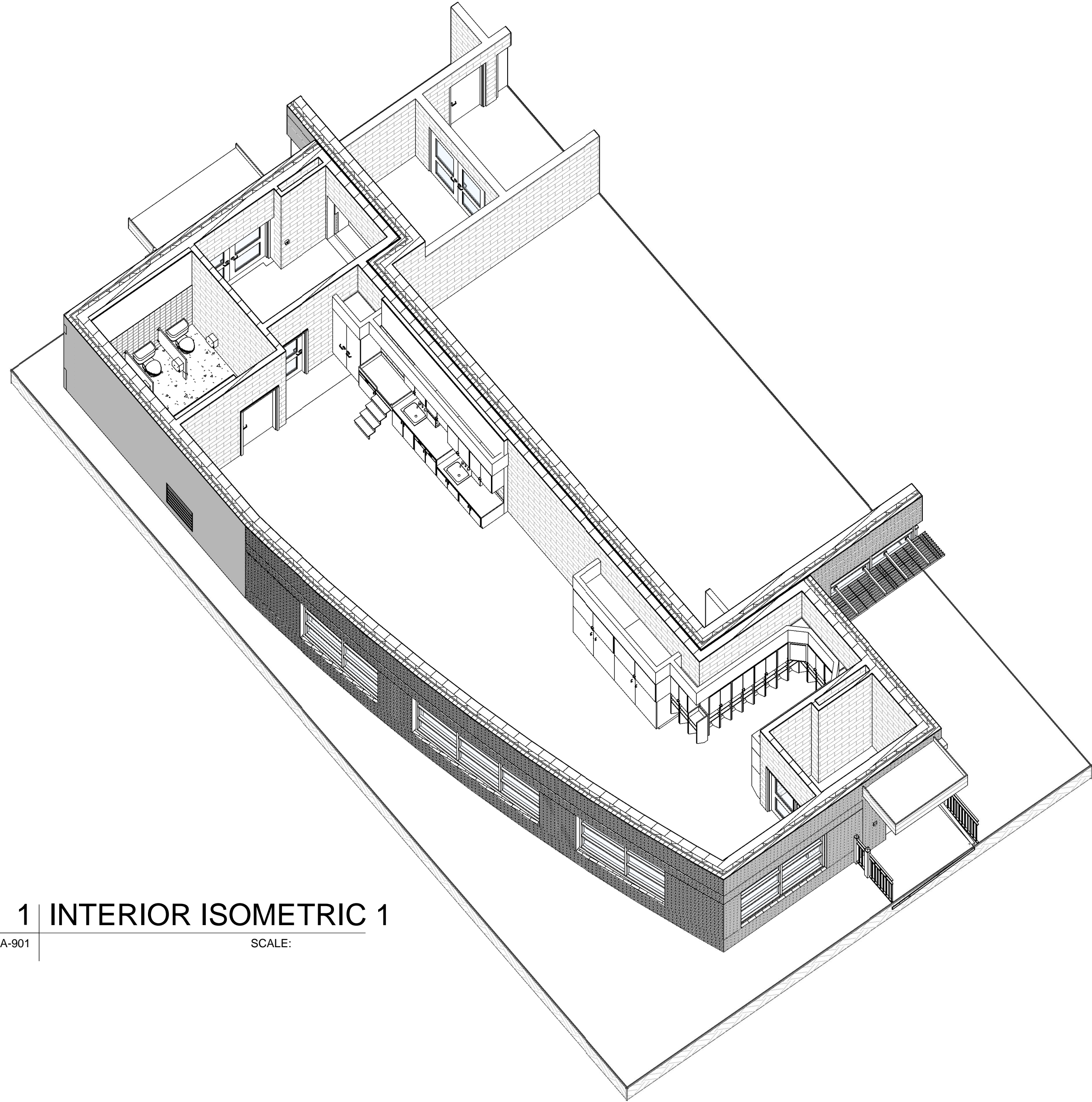
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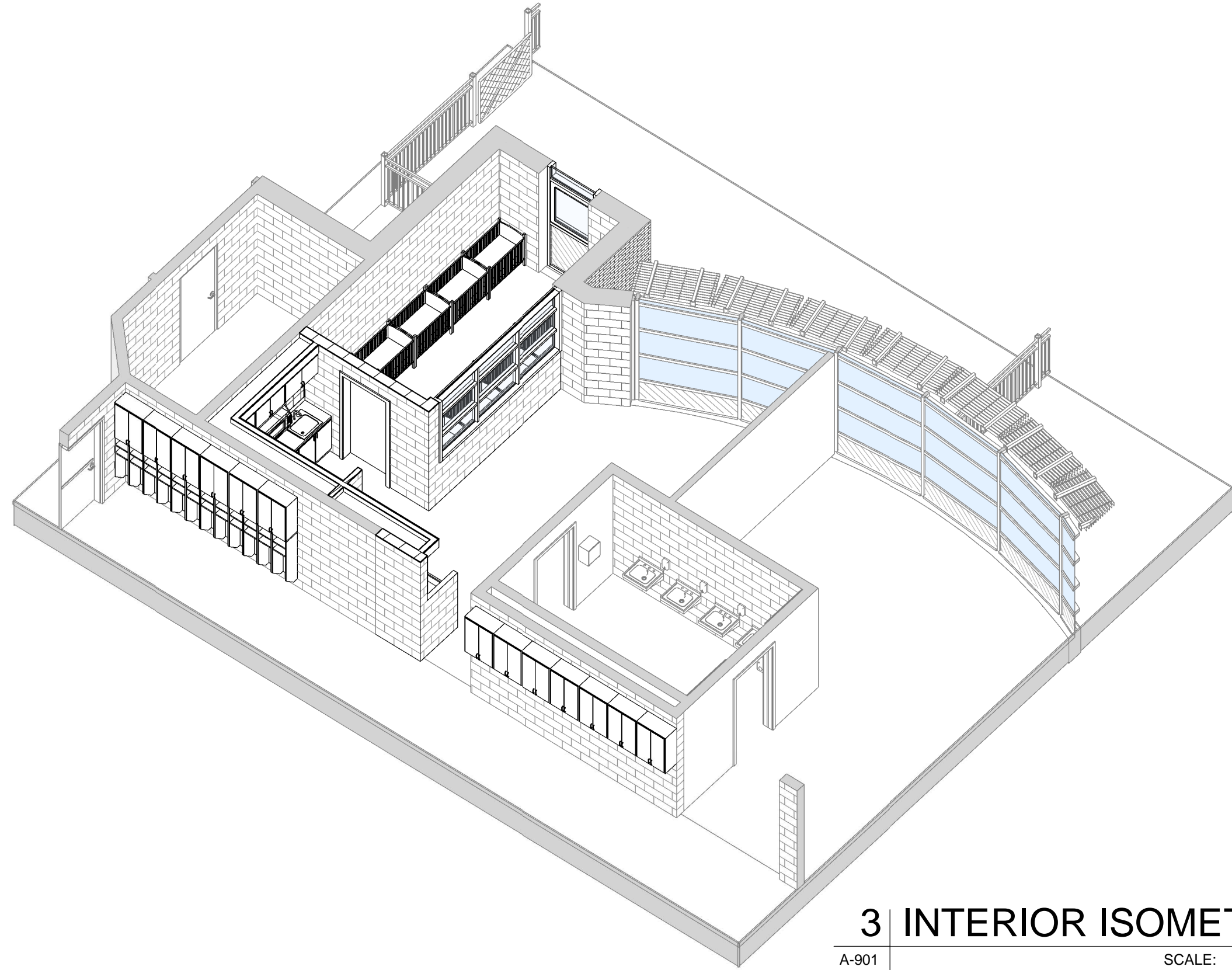
Project Management Initials: Designer: SP Checked: AS Approved: ND ARCH'D 24" x 36"

Last Plotted: 2/5/2021, 3:41:26 PM  
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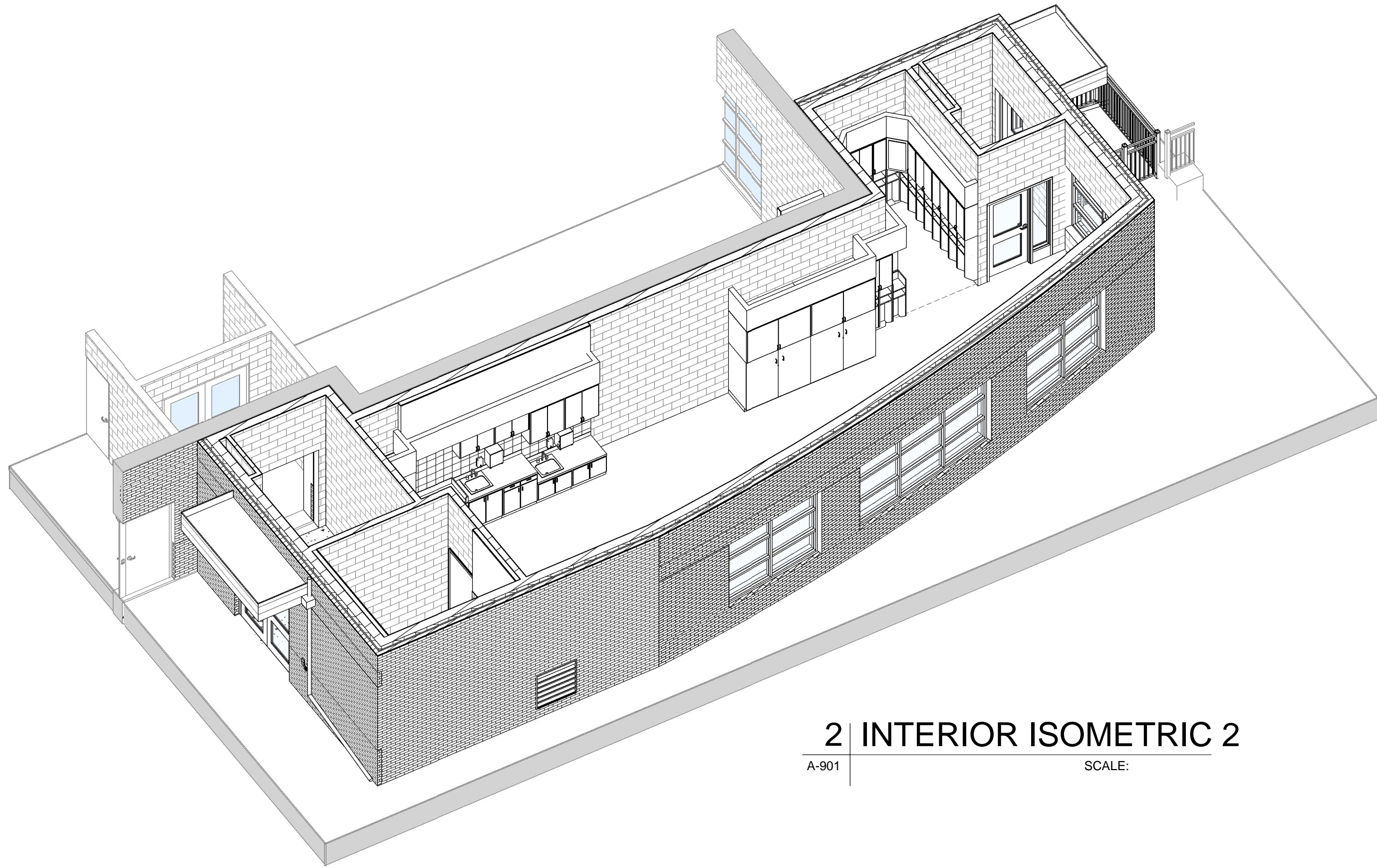
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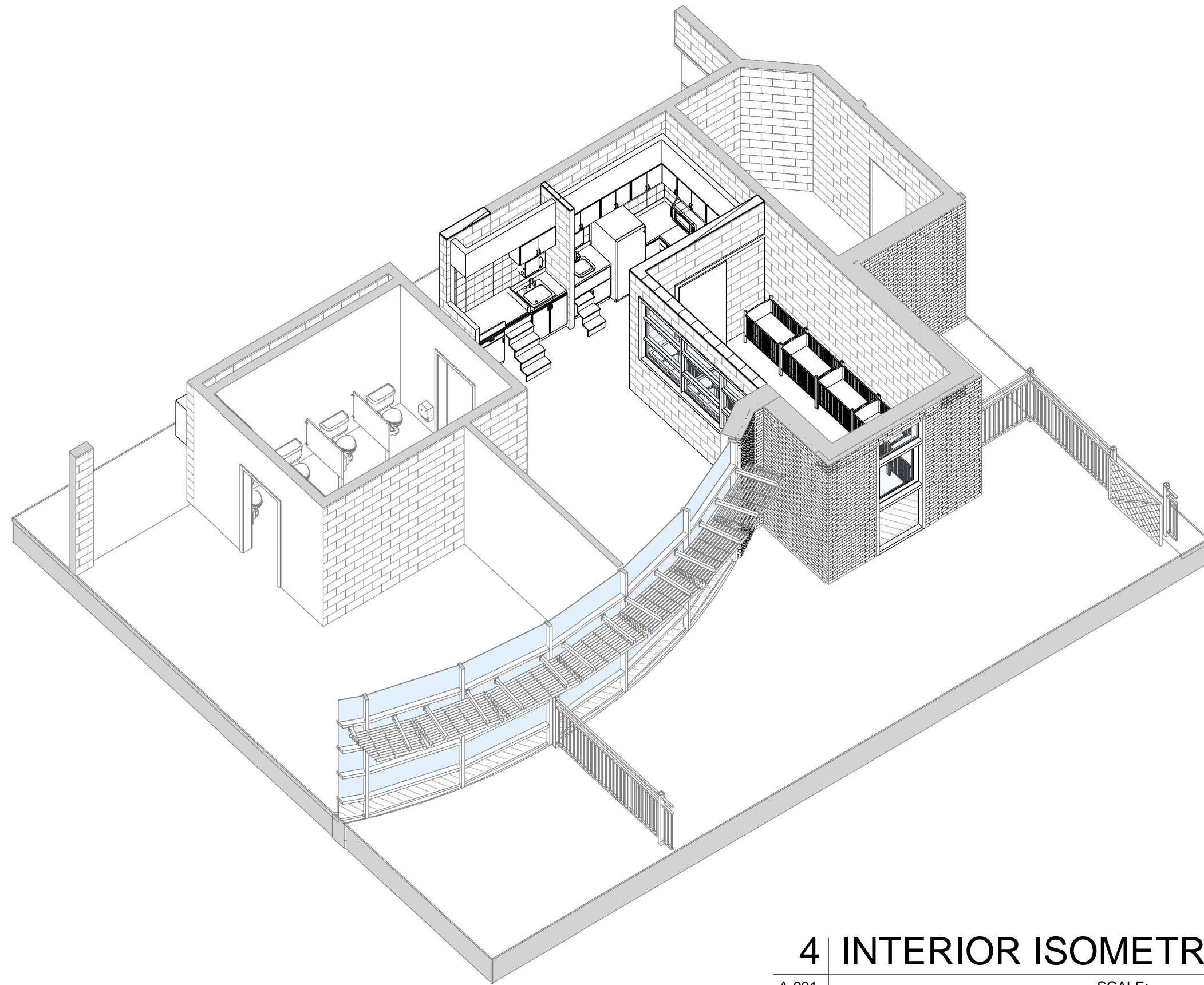
1 | INTERIOR ISOMETRIC 1  
A-901 SCALE:



3 | INTERIOR ISOMETRIC 3  
A-901 SCALE:



2 | INTERIOR ISOMETRIC 2  
A-901 SCALE:



4 | INTERIOR ISOMETRIC 4  
A-901 SCALE:



PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
CENTRE EDUCATIF A PETIT PAS

29 MEADOWVALE RD  
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REGISTRATION



ISSUE/REVISION

9	FEB 02, 2021	ISSUED FOR TENDER
7	APR 20, 2020	RE-ISSUED FOR TENDER
6	APR 15, 2020	ISSUED FOR B.P.
5	JAN 31, 2020	ISSUED FOR TENDER
3	APR 1, 2019	ISSUED FOR CLIENT REVIEW
2	Mar 08, 2019	ISSUED FOR SPA
1	Feb 15, 2019	60 % CLIENT REVIEW
I/R	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

60593561  
TENDER# 2021-16

SHEET TITLE

3D VIEWS

SHEET NUMBER

A-901

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CONCRETE MIX SCHEDULE

	STRENGTH AT 28 DAYS (Mpa)	SLUMP AT DELIVERY (mm)	AIR ENTRAINMENT	MAXIMUM W/C RATIO	EXPOSURE CLASSIFICATION
FOOTINGS & INTERIOR FOUNDATION WALLS	25	80 ± 20	----	TO SUIT	N
INTERIOR FRAMED SLABS WALLS AND COLUMNS	25	80 ± 20	----	TO SUIT	N
(1) GROUT FOR MASONRY FILL / BOND BEAMS	15 MIN. (FINE GROUT)	TO SUIT CONFORMING TO CSA A179 SUPERPLASTICIZER MAY BE USED	----	----	----
EXTERIOR CONCRETE SLABS, SIDEWALKS, CURBS AND GUTTERS	32	80 ± 20	5 - 8 %	0.45	C - 2
(2) INTERIOR SLAB-ON-GRADE	SUPERPLASTICIZED 25	BEFORE ADDITION OF SUPERPLASTICIZER 50 ± 20 AFTER ADDITION OF SUPERPLASTICIZER 150 ± 20	----	0.50	N
LEAN MIX	5	150 MIX	----	NO SUIT	N
EXPOSED EXTERIOR WALLS, FOUNDATION WALLS AND COLUMNS	25	80 ± 20	4 - 7 %	0.55	F - 2
FROST SLABS	35	80 ± 20	5 - 8 %	0.40	C - 1

1) FINE GROUT TO CONSIST OF (BY VOLUME)

1. PART PORTLAND CEMENT (MASONRY CEMENT IS NOT ACCEPTABLE)

2. 1/2 TO 3 PARTS FINE AGGREGATE (SAND) AND NO COARSE AGGREGATE.

2) SYNTHETIC FIBRES ADDED AT BATCHING PLANT. REFER TO SPECIFICATION NOTE. IF CONCRETE IS TO BE "PUMPED" INCLUDE DETAILS IN MIX DESIGN SUBMISSION.

DRAWING LIST	
Sheet Number	Sheet Name
S1-01	FOUNDATION PLAN
S1-02	ROOF FRAMING PLAN
S2-01	WALL SECTIONS
S3-01	GENERAL NOTES
S3-02	TYPICAL DETAILS
S3-03	TYPICAL DETAILS
S3-04	TYPICAL DETAILS
S3-05	TYPICAL DETAILS

DESIGN CRITERIA NOTES

1. GENERAL

1.1. THE PROJECT HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2012 OBC (O. REG. 3302/12 AS AMENDED) INCLUDING CLAUSES 4.1.6.1(1), 4.1.6.4(3), 4.1.7 AND 4.1.8.

1.2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR WHO IS SUPPLYING AND INSTALLING EQUIPMENT, THAT ALL ELEMENTS OF STRUCTURES LISTED IN TABLE 4.1.8.18 OF THE OBC 2012 ARE DESIGNED IN ACCORDANCE WITH CLAUSE 4.1.8.18.

1.3. BUILDING IMPORTANCE CATEGORY (SNOW, WIND, AND EARTHQUAKE) IS HIGH.

1.4. STIFF ELEMENTS NOT PART OF SFRS SHALL BE SEPARATED FROM THE STRUCTURE AS PER OBC CLAUSE 4.1.8.3 (6a). EXAMPLES INCLUDE, BUT NOT LIMITED TO MASONRY PARTITIONS, BRICK VENEER, PRECAST CLADDING ETC. IT IS THE RESPONSIBILITY OF THE SUBCONTRACTOR TO PROVIDE SHOP DRAWINGS, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER DEMONSTRATING COMPLIANCE. PROVIDE MINIMUM 15mm SEPARATION UNLESS NOTED OTHERWISE.

1.5. MISCELLANEOUS METAL, PRECAST AND STAIR FABRICATORS SHALL:

1.5.1. PROVIDE SHOP DRAWINGS TO THE ARCHITECT PRIOR TO FABRICATION; STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER.

1.5.2. DESIGN ALL GUARDS TO MEET LATERAL LOADS DESCRIBED IN OBC 4.1.5.14.

1.5.3. DESIGN ALL HANDRAILS TO MEET LOADS DESCRIBED IN OBC 3.4.6.5(12).

1.5.4. DESIGN ALL STAIRS TO SUPPORT A MINIMUM LIVE LOAD OF 4.8kPa.

1.6. ARCHITECTURAL PRECAST FABRICATOR SHALL:

1.6.1. PROVIDE SHOP DRAWINGS TO THE ARCHITECT PRIOR TO FABRICATION, STAMPED, SIGNED AND DATED BY A PROFESSIONAL ENGINEER.

1.6.2. WHERE PRECAST IS USED AS A GUARD DESIGN THE PRECAST AND CONNECTIONS TO MEET LATERAL LOADS DESCRIBED IN OBC 4.1.5.14.
2. LATERAL LOADS ON STRUCTURE

2.1. WIND

$q(150) = 0.47 \text{ kPa}$

$C_e = (h/10)^{1/5}$  NOT LESS THAN 0.9.

$C_g = 2.0$

$C_p = \text{AS PER FIGURE I-15 OF USER'S GUIDE - NBC 2010 STRUCTURAL COMMENTARIES (PART 4 OF DIVISION B).}$

2.2. SNOW

$S_s = 1.2$

$S_r = 0.4$

2.3. EARTHQUAKE

$S_{a(0.2)} = 0.219$

$S_{a(0.5)} = 0.116$

$S_{a(1.0)} = 0.080$

$S_{a(2.0)} = 0.0200$

$P_GA = 0.140$

$\text{SITE CLASS} = D$

$R_d = 1.5$

$R_o = 1.5$

$F_a = 1.222$

$F_v = 1.531$

$I_b = 1.3$

$I_{ef} S_{a(0.2)} = 0.35$

SFRS CONSISTS OF CONVENTIONAL MASONRY SHEAR WALLS.

METHOD OF ANALYSIS - STATIC
3. FOUNDATION WALLS

3.1. WALLS RETAINING EARTH ARE DESIGNED TO SAFELY WITHSTAND HORIZONTAL EARTH PRESSURE

$P = K (W_1 + q)$

$K = 0.45$

$W_1 = 22 \text{ kN/m}^3$

$q = 12 \text{ kPa}$

$h = \text{DEPTH IN METRES}$

3.2. THE WALLS HAVE BEEN DESIGNED ASSUMING FREE DRAINING BACKFILL OR THE USE OF A DRAINAGE CORE TO PREVENT THE BUILD-UP OF HYDROSTATIC PRESSURE.

WHERE MECHANICAL SERVICE PIPES PASS THROUGH LOAD BEARING FOUNDATION WALLS, PROVIDE STEEL SLEEVES (MIN. 50Ø) LARGER THAN PIPE (TYPICAL)

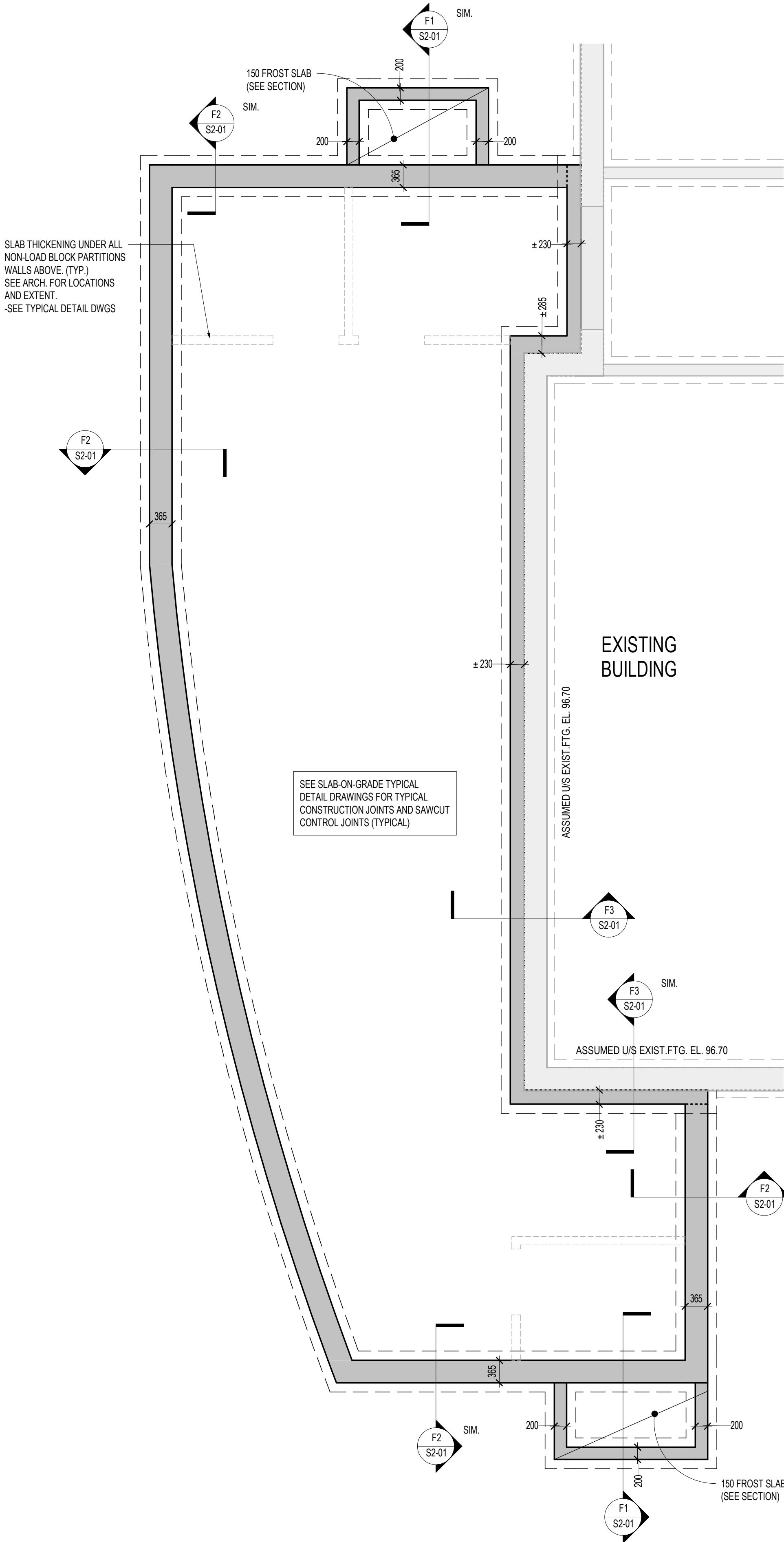
LOWER ELEVATIONS AT UNDERSIDE OF COLUMN AND WALL FOOTINGS, WHERE REQUIRED, BUT LIMITED TO SUIT STORM / SANITARY, WATER / FIRE LINES AND ELECTRICAL DUCT BANKS. THE MAXIMUM SLOPE FROM THE PIPE EXCAVATION TO THE UNDERSIDE OF ADJACENT FOOTING ELEVATIONS SHALL NOT EXCEED 7 VERTICAL TO 10 HORIZONTAL.

FOUNDATION PLAN NOTES

1. ALL FOOTINGS SHALL BE FOUNDED ON UNDISTURBED NATIVE HARD SILT TILL CAPABLE OF SUSTAINING 200 kPa (ØSL) AND 300 kPa (ØULS).
2. REFER TO SOILS REPORT NO. G6465 DATED MARCH 12, 2019. PREPARED BY FORWARD ENGINEERING & ASSOCIATES INC.
3. SOIL AT THE UNDERSIDE OF THE FOOTINGS IS TO BE INSPECTED AND APPROVED BY A REPRESENTATIVE OF A SOILS CONSULTANT BEFORE PLACING CONCRETE.
4. UNDERSIDE OF WALL FOOTINGS TO BE AT ELEVATIONS AS NOTED.
5. SLAB - ON - GRADE TO BE 100 mm THICK REINFORCED SYNTHETIC FIBRES. (SEE SPECIFICATION)
6. TOP OF SLAB - ON - GRADE TO BE AT FINISHED FLOOR DATUM ELEVATION, 98.05m EXCEPT AS CROSSED AND NOTED. TOS = TOP OF SLAB.
7. CENTRELINES OF COLUMNS, CAPS AND FOOTINGS ARE COINCIDENT UNLESS OTHERWISE NOTED.
8. PROVIDE SLAB DEPRESSIONS, OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS, AS REQUIRED BY THE ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS.
9. SDF = STEP DOWN FOOTING.
10. UNLESS OTHERWISE NOTED, ALL WALL FOOTINGS TO BE 300 mm DEEP WITH 150 mm PROJECTIONS EACH SIDE.
11. FILL REQUIRED ON BOTH SIDES OF FOUNDATION WALLS SHALL BE PLACED AND COMPACTED SIMULTANEOUSLY ON BOTH SIDES TO EQUALIZE SOIL PRESSURE.
12. THE PROJECT SUPERINTENDENT MUST NOTIFY THIS OFFICE 24 HOURS PRIOR TO PLACING STRUCTURAL CONCRETE, INCLUDING STRIP FOOTINGS.
13. SEE ALSO TYPICAL NOTES AND DETAILS.
14. SEE COLUMN SCHEDULE FOR COLUMNS, AND COLUMN FOOTINGS.
15. CONCRETE STRENGTHS - SEE CONCRETE SCHEDULE.
16. REFER TO SITE PREPARATION NOTES ON THIS DRAWING.

SITE PREPARATION NOTES FOR SLAB-ON-GRADE (WITHIN BUILDING ENVELOPE)

1. THE AREA WITHIN THE BUILDING SHALL BE STRIPPED OF THE UPPER LAYER SOIL, FILL, ORGANICALLY CONTAMINATED MATERIAL AND RUBBLE AND TO A MINIMUM OF 200mm (8") BELOW THE UNDERSIDE OF THE SLAB ON GRADE.
2. THE EXPOSED SUB-GRADE SHALL BE EXAMINED AND APPROVED BY THE SOIL CONSULTANT.
3. THE ENTIRE AREA SHALL BE PROOF ROLLED WITH A HEAVY COMPACTOR TO A MINIMUM OF 98% STANDARD PROCTOR MAX. DRY DENSITY AND TO THE APPROVAL OF THE SOIL CONSULTANT.
4. ANY LOOSE OR SOFT SPOTS ENCOUNTERED SHALL BE SUB-EXCAVATED AND BACKFILLED WITH COMPACTED APPROVED MATERIAL.
5. FILL REQUIRED TO RAISE THE GRADES SHALL BE COMPRISED OF APPROVED GRANULAR B TYPE 1 CONFORMING TO OPS5 1010. PLACED IN SUCCESSIVE LOOSE 300mm (12") LAYERS EACH COMPACTED TO AT LEAST 98% OF ITS STANDARD PROCTOR MAXIMUM DRY DENSITY.
6. THE LAYER IMMEDIATELY BELOW THE SLAB-ON-GRADE SHALL BE 200mm (8") OF 19mm CLEAR STONE COMPACTED TO MIN. 98% STANDARD PROCTOR MAX. DRY DENSITY.
7. ALL PROCEDURES, EQUIPMENT AND MATERIALS SHALL BE APPROVED BY THE SOIL CONSULTANT WHO SHALL CONDUCT SUFFICIENT TESTS TO ENSURE THAT THE SPECIFIED MATERIALS AND DENSITIES ARE ACHIEVED.
8. THE CONTRACTOR SHALL CO-ORDINATE WITH THE SOIL CONSULTANT AND ARRANGE A SUITABLE PROGRAM FOR SAMPLING AND INSPECTIONS, ETC. AND NOTIFY THE ARCHITECT ACCORDINGLY.
9. EXISTING ON-SITE MATERIAL **MAY BE USED** WITHIN THE BUILDING AREA FOR BACKFILLING IN TRENCHES AGAINST FOUNDATION WALLS OR UNDER SLABS-ON-GRADE.
10. REFER TO THE SPECIFICATION AND THE SOIL REPORT FOR PREPARATION OF AREAS OUTSIDE THE BUILDING ENVELOPE.



PROJECT

SAINT MICHEL CATHOLIC ELEMENTARY SCHOOL DAY CARE EXPANSION PROJECT

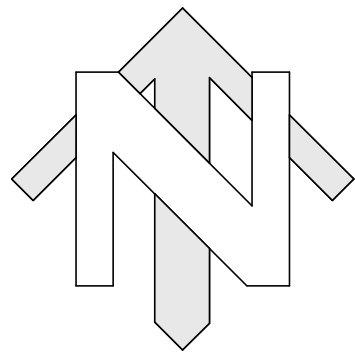
29 MEADOVALE RD SCARBOROUGH, ON M1C 1R7

CLIENT

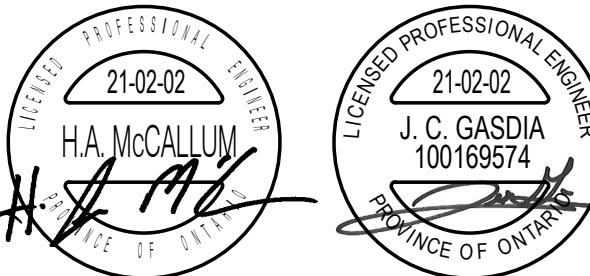
CONSEIL SCOLAIRE CATHOLIQUE MONAVENIR  
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REGISTRATION

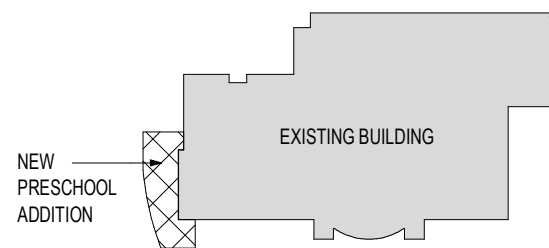


THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

ISSUE/REVISION

4	FEB/02/21	ISSUED FOR TENDER
2	APR/15/20	ISSUED FOR PERMIT
1	APRIL 05/19	ISSUED FOR 60% COORDINATION
I/R	DATE	DESCRIPTION

KEY PLAN



PROJECT NUMBER

20182240  
TENDER# 2021-16

SHEET TITLE

FOUNDATION PLAN

SHEET NUMBER

S1-01



Drawn By: AE

Checked: MM

C

B

A

MECHANICAL LINTEL SCHEDULE					
LINTELS IN LOAD BEARING WALLS OVER MECHANICAL DUCTS ETC.					
MARK	WALL THICKNESS	CLEAR SPAN	MATERIAL	TYPE	NOTES
ML1	190	200-550	175x8 PLATE	---	Cavity Wall & Exterior Angles & Plates Galvanized Unless Noted
ML2	190	550-1220	2-L90x90x6	JL	
ML3	240	200-550	225x8 PLATE	---	
ML4	240	550-1220	2-L100x100x8	JL	
ML5	290	200-550	275x8 PLATE	---	
ML6	290	550-1220	3-L90x90x6	JL	
ML7	190 + 90	200-550	175x8 PLATE + 80x6 PLATE	---	
ML8	190 + 90	550-1220	2-L90x90x6 + 1-L90x90x6	JL	
ML9	240 + 90	200-550	225x8 PLATE + 80x6 PLATE	---	
ML10	240 + 90	550-1220	2-L100x100x8 + 1-L90x90x6	JL	
ML11	290 + 90	200-550	275x8 PLATE + 80x6 PLATE	---	
ML12	290 + 90	550-1220	3-L90x90x6 + 1-L90x90x6	JL	
1 FOR LINTELS MARKED ML ON DRAWINGS. 2 FOR SPANS LESS THAN 200mm - NO LINTEL REQUIRED. 3 FOR SPANS GREATER THAN 120mm, SEE PLANS AND MAIN LINTEL SCHEDULE.					

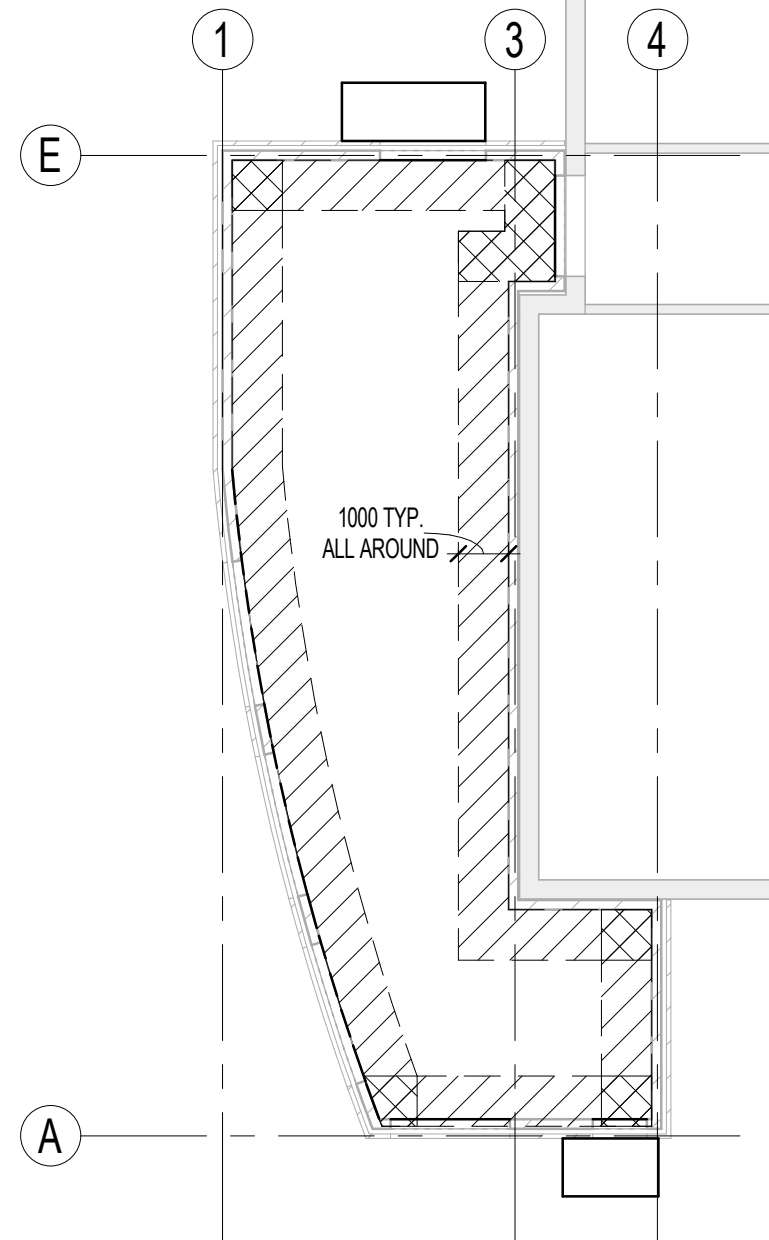
WHILE EVERY EFFORT HAS BEEN MADE TO SHOW ALL LINTELS WHICH OCCUR IN LOAD BEARING MASONRY WALLS, IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE CORRECT SIZES AND QUANTITY OF LINTELS ARE PROVIDED.

LINTELS IN NON-LOAD BEARING WALLS AND PARTITIONS ARE GENERALLY NOT SHOWN ON THE DRAWINGS. ALL SUCH LINTELS SHALL BE PROVIDED AS REQUIRED AND SHALL CONFORM TO THE NOTES & TYPICAL DETAILS ON THE STRUCTURAL DRAWINGS.

PROVIDE MECHANICAL LINTELS IN ACCORDANCE WITH TYPICAL DETAILS AND NOTES FOR ALL DUCTS AND PIPES PASSING THROUGH MASONRY WALLS

REFER TO DRAWING S1-02 FOR MISC. MECHANICAL LINTELS FOR DUCT WORK.

NOTE:  
DUCTS NOT TO INTERFERE WITH VERTICAL WALL REINFORCING OR WALL/BEARING PLATES.



## WIND UPLIFT DIAGRAM PLAN

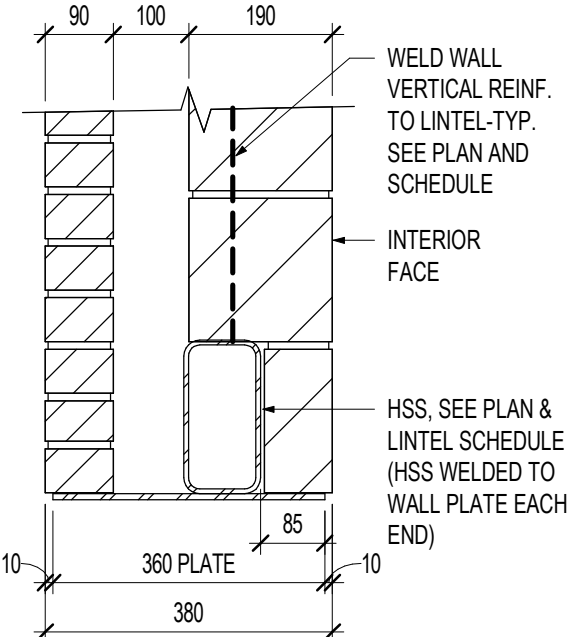
1 : 150

- LOADS NOTED ARE WIND UPLIFT VALUES AND ARE NOT FACTORED.
- ROOF JOISTS AND THEIR ANCHORAGE SHALL BE DESIGNED FOR THE MINIMUM NET UPLIFT VALUES AND NO LESS THAN THAT REQUIRED IN PART 4 OF THE ONTARIO BUILDING CODE.

### LEGEND:

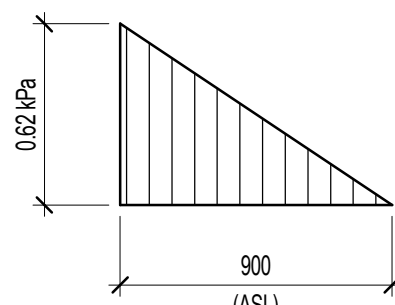
	0.96 kPa
	1.37 kPa
	2.86 kPa

MASONRY CORE FILL SCHEDULE				M20
TYPE	SIZE	REINF	REMARKS	
C1	1 x 400	2-15 VERT. CONT.		
C2	1 x 600	3-15 VERT. CONT.		
C3	1 x 800	4-15 VERT. CONT.		
C4	1 x 400 x 400	4-15 VERT. CONT.		
C5	1 x 1000	5-20 VERT. CONT.		
1 DENOTES THE WALL THICKNESS				
<b>MASONRY CORE FILLS NOTES:</b> 1. PROVIDE CORE FILLS AS NOTED ON PLAN AND PROVIDE REINFORCEMENT AS SHOWN IN SCHEDULE. 2. CORE FILLS EXTEND FULL HEIGHT OF WALL FLOOR TO FLOOR UNLESS NOTED. 3. INSTALL ALL REINFORCEMENT FULL HEIGHT BETWEEN FLOORS AND GROUT CORE SOLID FULL HEIGHT BETWEEN FLOORS UNLESS NOTED. 4. WHERE CORE FILL CONTINUES TO NEXT FLOOR ABOVE, EXTEND INDICATED VERTICAL REINFORCEMENT TO PROVIDE SPECIFIED CLASS "B" TENSION LAP SPICE WITH REINFORCEMENT OF CORE ABOVE. WHERE MASONRY WALLS START ON TOP OF STEEL BEAMS, PROVIDE WELDABLE REINFORCING DOWELS TO MATCH REINFORCING NOTED IN THIS SCHEDULE, OR EQUIVALENT DZL DEFORMED BAR ANCHORS. 5. PROVIDE 15M DOWELS IN FOUNDATION WALLS FOR ALL WALL REINFORCEMENT UNLESS NOTED OTHERWISE. 6. REFER TO M04 FOR LAP LENGTHS FOR VERTICAL BARS AND DOWELS. 7. REFER TO CORE FILLS SCHEDULE FOR DETAILS AND REINFORCEMENT. 8. PROVIDE CORE FILL C1 AT EACH SIDE OF OPENINGS UN OTHERWISE NOTED ON PLANS AND/OR SECTIONS. a) PROVIDE C1 AT UNSUPPORTED ENDS OF WALLS UN. b) PROVIDE C1 AT EACH SIDE OF CONTROL JOINTS UN. 9. PROVIDE CORE FILL C4 AT ALL WALL CORNERS UN OTHERWISE IN PLANS AND/OR SECTIONS. 10. PROVIDE TIE WALL BL A CONTROL JOINT BY BLOK-LOK OR EQUIVALENT FOR ALL VERTICAL CONTROL JOINTS IN EXTERIOR MASONRY WALLS EXCEEDING 4m IN HEIGHT. 11. SEISMIC MINIMUM REINFORCEMENT FOR WALLS, SEE TABLE BELOW. 12. REINFORCE ALL MASONRY SILLS, INTERIOR AND EXTERIOR, AS PER THE REINFORCING INDICATED IN THIS SCHEDULE. GROUT TOP TWO COURSES OF ALL SILLS SOLID. FULLY GROUT ALL EXTERIOR SILLS.				
<b>TYPICAL MASONRY WALL REINFORCING SCHEDULE</b> VERTICAL BLOCK WALL REINFORCING LOAD BEARING AND NON-LOAD BEARING WALLS SCHEDULE (TYP. UN NOTED)  140mm 10M @ 1200 o/c MAX. 190mm 15M @ 800 o/c MAX. 240mm 15M @ 600 o/c MAX. 290mm 2-15M @ 1000 o/c MAX.  HORIZONTAL WALL REINFORCING FOR MASONRY BLOCK WALLS - EXTERIOR WALLS:  190mm - EXTRA HEAVY BLOK-LOK BL10 OR EQUIV. @ 200 o/c MAX. 240mm - EXTRA HEAVY BLOK-LOK BL10 OR EQUIV. @ 200 o/c MAX. 290mm - EXTRA HEAVY BLOK-LOK BL30 OR EQUIV. @ 200 o/c MAX.  - INTERIOR WALLS: (140, 190, 240, 290mm) - STANDARD BLOK-LOK BL10 OR EQUIV. @ 400 o/c MAX.				



NOTE:  
BOTTOM PLATES TO TERMINATE 10mm CLEAR OF SUPPORTING MASONRY-VERIFY WITH ARCH.

DL1  
S1-02  
DETAIL  
1 : 10



TYPICAL CANOPY (ASL)

WALL PLATE SCHEDULE		
(LAST DIMENSION PARALLEL TO WEB)		
MARK	MATERIAL	REMARKS
WP1	180x15x180	(2)130 A.BOLTS x 150 LG. JT

ROOF LINTEL SCHEDULE			
REFER TO LINTEL NOTES A07 ON TYPICAL DETAIL DRAWINGS SEE ALSO SPECIFICATION			
MARK	MATERIAL	TYPE	REMARKS
RL1	HSS 203x102x6.4 + 360x8mm BOTTOM PLATE		WP1 ** EACH END SEE DETAIL DL1/S1-02
RL2	W200x27 + 170x8mm BOTTOM PLATE		WP1 E.E. **
Tf = 10kNm TORSION CONNECTION ALL EXTERIOR LINTELS SUPPORTING FACE BRICK TO BE GALVANIZED ** WELDED TO HSS / BEAM EACH END.			

WALLS SHADED AS THUS REQUIRE  
= CONT. LINTEL BLOCK BOND BEAM  
(SEE SECTIONS)

## ROOF PLAN NOTES

- UNDERSIDE OF ROOF DECK AT PERIMETER AND HIGH POINTS TO BE 0.0mm BELOW ROOF DATUM ELEVATION +4150mm, EXCEPT AS NOTED ON PLAN U.O.D. - UNDERSIDE OF DECK.
- ROOF DECK TO SLOPE TO DRAINS AS SHOWN ON ARCHITECT DRAWINGS.
- TOP OF STEEL BEAMS SUPPORTING STEEL DECK ARE 0.0mm BELOW U.O.D.
- FOR LOADING SEE ROOF LOADING SCHEDULE ON THIS DRAWING.
- JOISTS AND BEARING ANCHORAGES SHALL BE DESIGNED TO RESIST UPLIFT DUE TO WIND AS REQUIRED BY THE ONTARIO BUILDING CODE AND IN NO CASE LESS THAN THE GREATER OF THOSE INDICATED ON THE WIND UPLIFT KEY PLAN.
- LIVE LOAD DEFLECTION OF ROOF JOISTS SHALL NOT EXCEED 1/240 OF SPAN UNLESS OTHERWISE NOTED.
- STEEL ROOF DECK SHALL BE DESIGNED TO SUPPORT SPECIFIED TOTAL DEAD AND LIVE LOADS. MINIMUM BASE NOMINAL THICKNESS (BNT) OF STEEL DECK SHALL BE 0.76 MM.
- NO HANGERS OR BRACKETS SUPPORTING MECHANICAL EQUIPMENT OR PIPING SHALL BE HUNG FROM ROOF DECK.
- STEEL ROOF DECK SHALL BE INSTALLED FOR DIAPHRAGM ACTION IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE CANADIAN SHEET STEEL BUILDING INSTITUTE AND TYPICAL NOTES.
- LOCATION OF MECHANICAL EQUIPMENT AND MECHANICAL EQUIPMENT LOADS ARE TO BE CONFIRMED BY MECHANICAL CONTRACTOR BEFORE STRUCTURAL STEEL IS FABRICATED. REFER TO MECHANICAL DRAWINGS. UNLESS OTHERWISE APPROVED, MECHANICAL EQUIPMENT AND PIPING MUST BE HUNG FROM OWSJ PANEL POINTS AND HANGER SPACING SHALL NOT EXCEED 3.0 M.
- FRAME ALL ROOF OPENINGS AND MECHANICAL UNITS AS SHOWN ON TYPICAL DETAILS UNLESS NOTED.
- SUBMIT DETAILS TO STRUCTURAL CONSULTANT FOR REVIEW FOR ALL OPENINGS OTHER THAN THOSE SHOWN ON STRUCTURAL DRAWINGS.
- AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO INSPECT STRUCTURAL STEEL AND STEEL DECK IN THE SHOP AND IN THE FIELD FOR WELDING, CONNECTIONS, BOLT TORQUES, AND GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.
- NON-LOAD BEARING PARTITIONS SHALL BE A MINIMUM OF 25 mm CLEAR OF STRUCTURE.
- WALL PLATES (WP) SHALL HAVE LAST DIMENSION PARALLEL TO BEAM OR JOIST WEB. SEE SCHEDULE ON DRAWINGS.
- SEE ROOF LINTEL SCHEDULE ON THIS DRAWING.
- REFER TO GENERAL NOTES AND SPECIFICATION FOR GRADES OF STRUCTURAL STEEL AND STEEL DECK.
- SEE TYPICAL NOTES, TYPICAL DETAILS, AND ALL OTHER DRAWINGS.
- FOR LOCATION OF ROOF ANCHORS AND DAVIT SUPPORTS, REFER TO ARCHITECTURAL DRAWINGS. REFER TO TYPICAL DETAILS FOR CONNECTION DETAILS. SUBMIT SHOP DRAWINGS FOR REVIEW AND COORDINATION.

## ROOF FRAMING PLAN

1 : 50

NOTE:  
TRIM STEEL DECK ROOF OPENINGS AS PER TYPICAL DETAIL SR01 UN.

NOTE:  
ALL EXPOSED STEEL INCLUDING NUTS, BOLTS AND WASHERS TO BE HOT DIPPED GALVANIZED.

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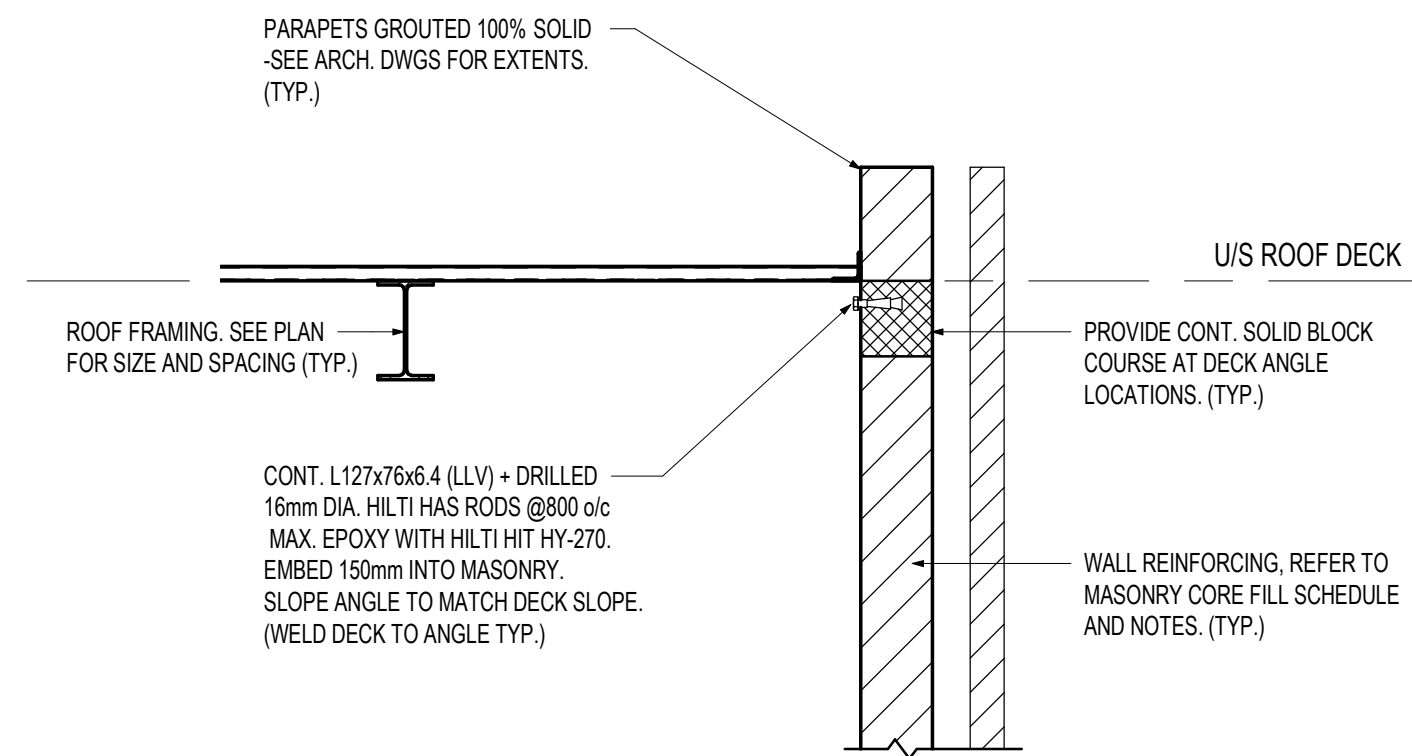
Checked: MM

Drawn By: AE

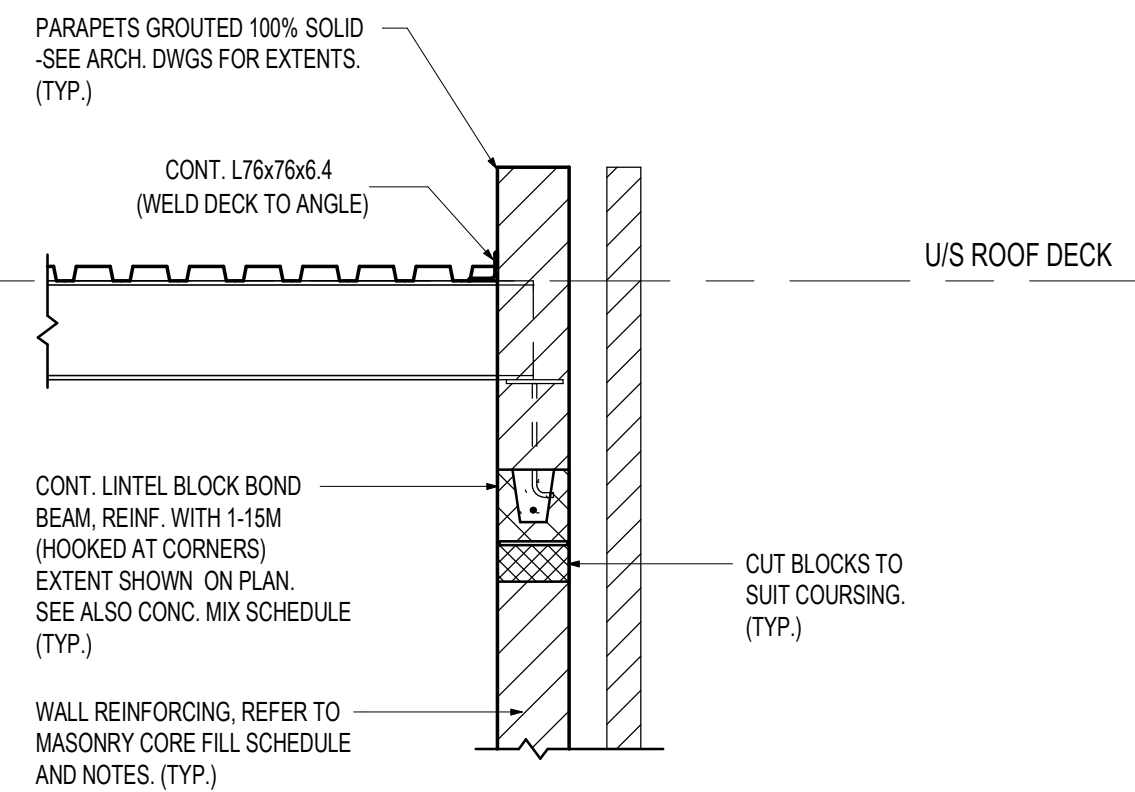
C

B

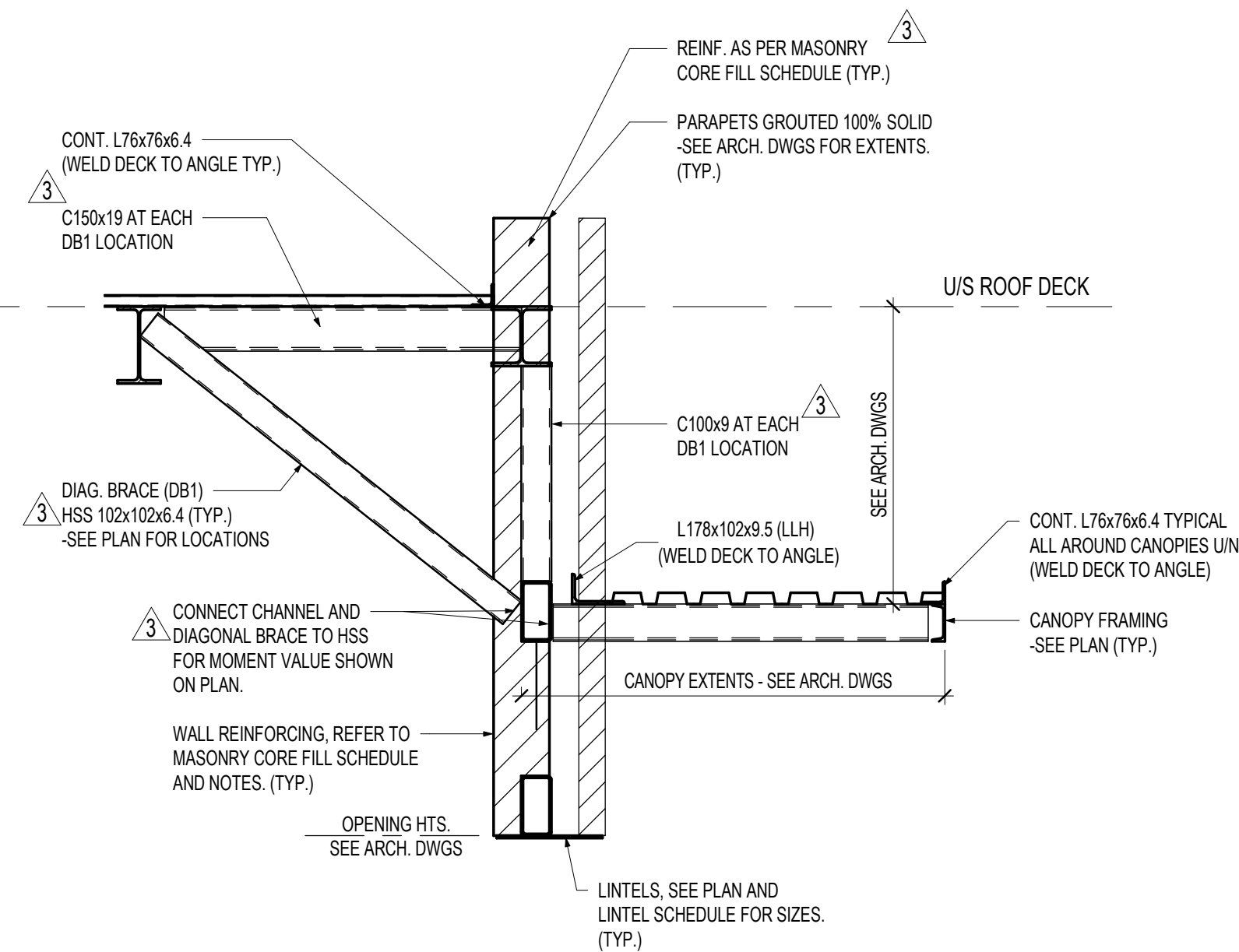
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R1 SECTION  
S2-01 1:20



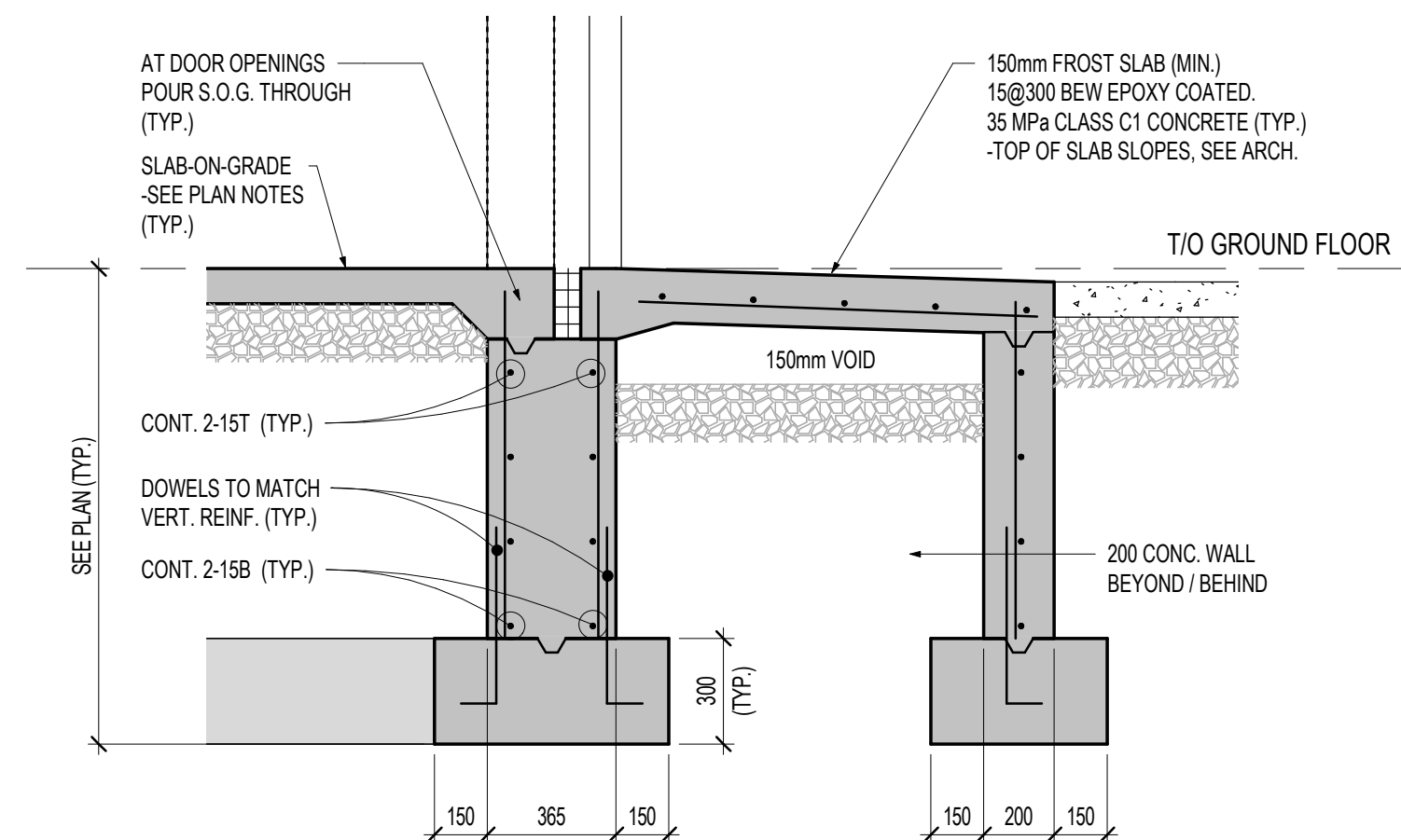
R2 SECTION  
S2-01 1:20



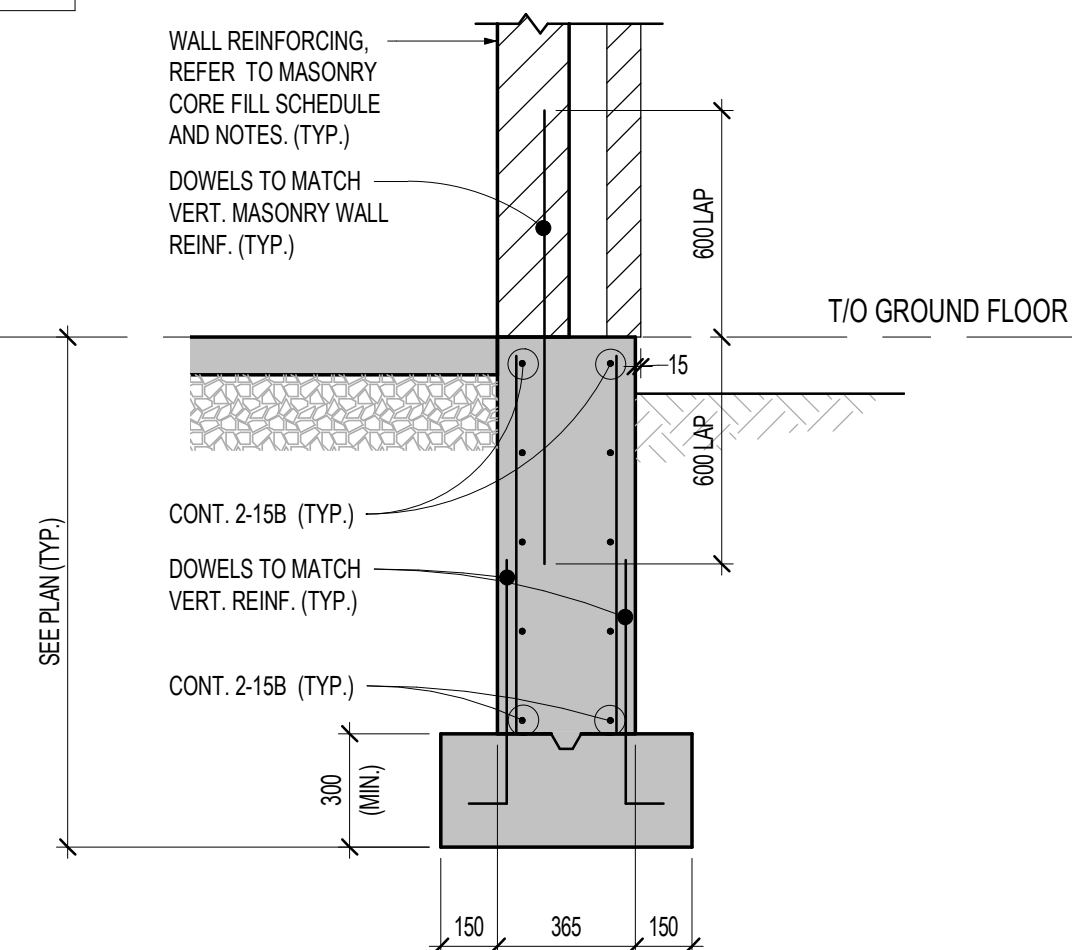
R3 SECTION  
S2-01 1:20

**NOTE:**  
TYPICAL FOUNDATION WALL REINFORCING  
(UNLESS NOTED OTHERWISE ON SECTIONS  
OR SHEAR WALL ELEVATIONS)  
10M @460 VEF  
10M @320 HEF

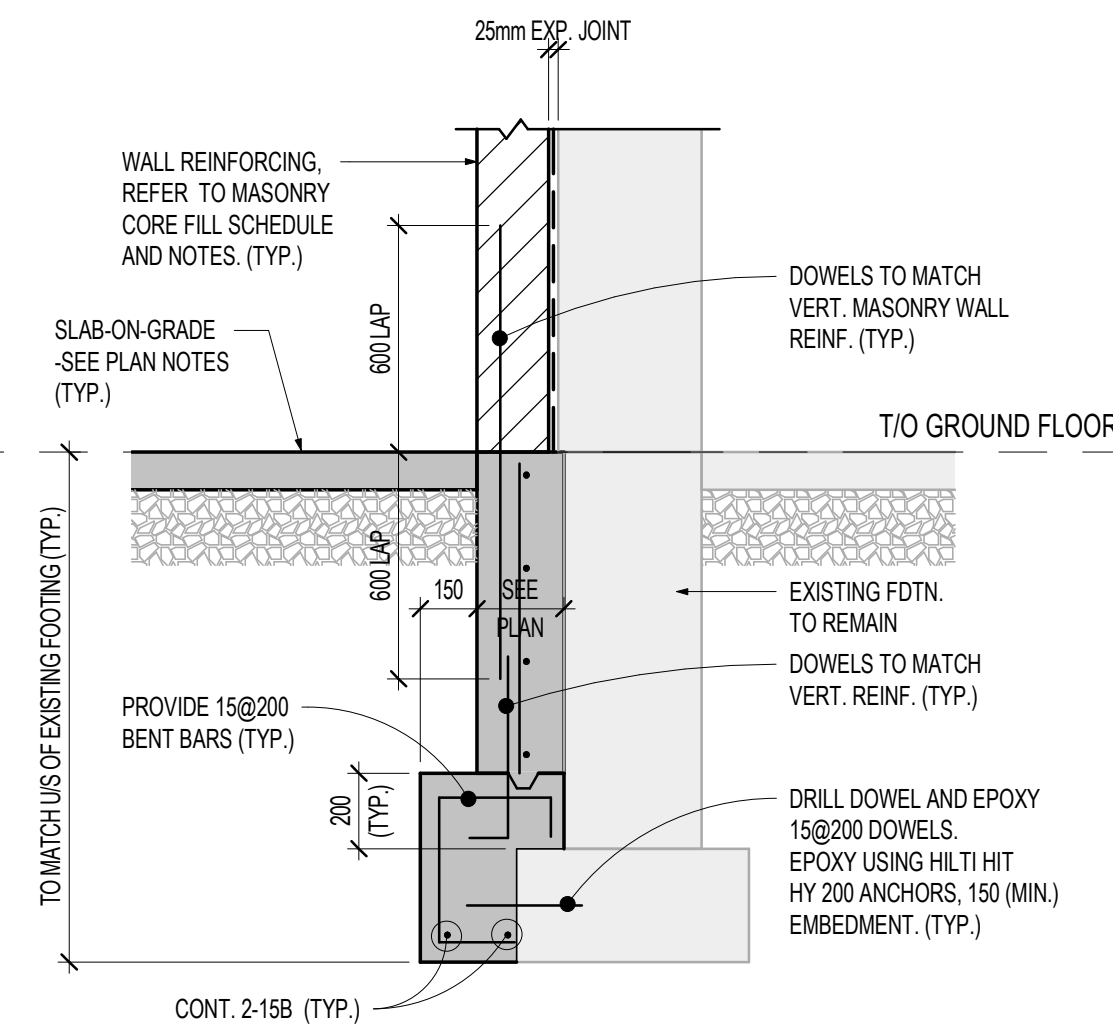
FOR 190mm/200mm WALLS:  
10M @320 VERT. CENTRE OF WALL  
10M @200 HORIZ. CENTRE OF WALL



F1 SECTION  
S2-01 1:20



F2 SECTION  
S2-01 1:20



F3 SECTION  
S2-01 1:20

**NOTE:** EXISTING CONDITIONS AS SHOWN ON THE  
STRUCTURAL DRAWINGS ARE BASED UPON INFORMATION  
AVAILABLE AT THE TIME THAT DRAWINGS WERE  
PREPARED AND ARE TO BE VERIFIED BY THE CONTRACTOR  
ON SITE.  
ANY VARIATIONS ARE TO BE REPORTED AND INSTRUCTIONS  
RECEIVED BEFORE PROCEEDING.

**PROJECT**

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAY CARE EXPANSION PROJECT

29 MEADOVALE RD  
SCARBOROUGH, ON  
M1C 1R7

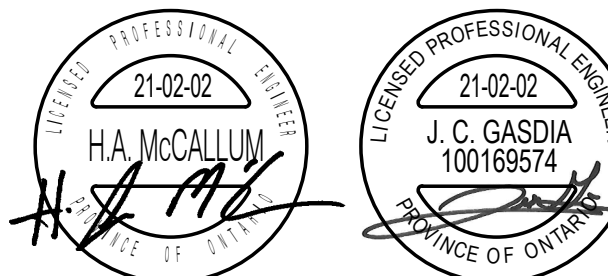
**CLIENT**

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**CONSULTANT**

2550 Victoria Park Ave. Suite 602  
Toronto ON M2J 5A9 | Tel: (416) 635 9970  
www.stephenson-eng.com | info@stephenson-eng.com

**REGISTRATION**



THE CONTRACTOR SHALL CHECK ALL  
DIMENSIONS WITH THE LATEST ISSUE OF  
ARCHITECTURAL, MECHANICAL AND ELECTRICAL  
DRAWINGS. REPORT ANY DISCREPANCIES TO  
THE ARCHITECT BEFORE PROCEEDING WITH  
WORK.

**ISSUE/REVISION**

I/R	DATE	DESCRIPTION
4	FEB/02/21	ISSUED FOR TENDER
3	OCT/26/20	RE-ISSUED FOR PERMIT
2	APR/15/20	ISSUED FOR PERMIT

**KEY PLAN**

**PROJECT NUMBER**

20182240  
TENDER# 2021-16

**SHEET TITLE**

WALL SECTIONS

**SHEET NUMBER**

S2-01



Checklist: MM Drawn By: AE

LOAD BEARING MASONRY NOTES	A06
<p><b>1. GENERAL</b></p> <p>1.1. UNLESS OTHERWISE NOTED OR SHOWN ON THE DRAWINGS, THE FOLLOWING INDICATES THE MINIMUM REQUIREMENTS APPLICABLE TO STRUCTURAL LOAD BEARING MASONRY.</p> <p>1.2. REFER ALSO TO ARCHITECTURAL DRAWINGS AND/ OR THE SPECIFICATION FOR REQUIREMENTS OTHER THAN STRUCTURAL, AND FOR NON-LOAD BEARING WALLS AND PARTITIONS.</p> <p>1.3. MASONRY CONSTRUCTION TO CONFORM TO CSA STANDARD 3034.1.</p> <p><b>2. PRODUCTS</b></p> <p>2.1. CONCRETE BLOCKS TO BE MODULAR UNITS AS SHOWN ON THE ARCHITECTURAL DRAWINGS AND /OR SPECIFICATION, AND UNLESS OTHERWISE NOTED SHALL BE:</p> <p>2.1.1. FOR BELOW GRADE AND EXTERIOR EXPOSED WALLS USE NORMAL WEIGHT LOAD BEARING UNITS:</p> <p>STANDARD HOLLOW: .....TYPE H / 15 / A / M.</p> <p>75% SOLID: .....TYPE S / 15 / A / M.</p> <p>100% SOLID: .....TYPE S / 15 / A / M.</p> <p>2.1.2. FOR INTERIOR ABOVE GRADE WALLS USE EITHER:</p> <p>2.1.2.1. LIGHTWEIGHT LOAD BEARING BLOCKS:</p> <p>STANDARD HOLLOW: .....TYPE H / 15 / C / M.</p> <p>75% AND 100% SOLID: .....TYPE S / 15 / C / M.</p> <p>2.1.2.2. ULTRA LIGHT (OR EOUEVLANT) BLOCKS:</p> <p>STANDARD HOLLOW: .....TYPE H / 15 / D / M.</p> <p>(REFER TO ARCHITECTURAL DRAWINGS AND SCHEDULES FOR LOCATIONS AND TYPES).</p> <p>2.2. CLAY BRICKS:</p> <p>TO CONFORM TO ONE OR MORE OF CSA STANDARDS A82 (SERIES) SEE ARCHITECTURAL DRAWINGS AND / OR SPECIFICATIONS FOR TYPES AND STYLES OF BRICKS REQUIRED. UNLESS OTHERWISE NOTED, THE MINIMUM COMPRESSIVE STRENGTH (BRICK FLATWISE) GROSS AREA SHALL BE 20 MPa.</p> <p>2.3. MORTAR:</p> <p>TO CONFORM TO CSA A179</p> <p>FOR LAYING ALL LOAD BEARING CONCRETE BLOCKS .....USE TYPE "S" MORTAR UNLESS NOTED.</p> <p>FOR LAYING ALL CLAY BRICKS .....USE TYPE "N" MORTAR UNLESS NOTED.</p> <p>2.4. MASONRY GROUT:</p> <p>TO CONFORM TO CSA A179. THE SLUMP SHALL BE 200mm TO 250mm (8"TO10") AND THE MINIMUM 28 DAY COMPRESSIVE STRENGTH FOR "FINE" GROUT SHALL BE 18MPa.</p> <p>2.5. MASONRY CONNECTORS (ANCHORS, FASTENERS AND TIES):</p> <p>SHALL CONFORM TO CSA A307, AND BE INSTALLED TO COMPLY WITH CSA A371.</p> <p>SPACING, STRENGTH AND GALVANIZING OF STRIP TIES, DOVETAIL ANCHORS, BAR ANCHORS, ROD ANCHORS, STRAP ANCHORS, WALL AND PARTITION ANCHORS SHALL COMPLY WITH CSA A370.</p> <p>2.6. HORIZONTAL JOINT REINFORCEMENT FOR ALL WALL BEARING WALLS:</p> <p>THE FOLLOWING ARE MINIMUM REQUIREMENTS:</p> <p>2.6.1. CONFORM TO CSA STANDARDS A370 AND A371.</p> <p>2.6.2. REINFORCEMENT SHALL BE AN APPROVED CONTINUOUS "LADDER" TYPE, PREFABRICATED WITH 3.66mm DIAMETER (9 GAUGE) LONGITUDINAL AND CROSS WIRES.</p> <p>2.6.3. SPACINGS- PROVIDE REINFORCING IN THE TOP COURSE IMMEDIATELY BELOW FLOOR AND ROOF BEARING LEVELS AND THE FIRST TWO COURSES ABOVE AND BELOW EVERY WALL OPENING. THE REINFORCEMENT SHALL EXTEND 600mm (24") BEYOND SUCH OPENINGS. FOR THE REMAINDER OF WALLS, THE VERTICAL SPACING SHALL NOT EXCEED 400mm (16").</p> <p>2.6.4. OVERLAP SPICES:</p> <p>SHALL BE A MIN. OF 150mm (6") FOR ROUNDED WIRE AND 300mm (12") FOR PLAIN WIRE.</p> <p>LAPS SHALL BE STAGGERED A MINIMUM OF 750mm (30") FROM COURSE TO COURSE.</p> <p>REINFORCING SHALL NOT PASS THROUGH A VERTICAL CONTROL JOINT UNLESS OTHERWISE SHOWN.</p> <p>2.6.5. CORROSION RESISTANCE:</p> <p>JOINT REINFORCING FOR ALL WALLS IN CONTACT WITH SOIL, EXTERIOR WALLS AND WALLS IN A MOIST ENVIRONMENT SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION TO ASTM A153 458 g/m<sup>2</sup>sq.meter (1.5 oz. / sq. foot).</p> <p>2.6.6. COMPOSITE AND CAVITY WALLS:</p> <p>WHERE COURSING OF WYTHES DO NOT ALIGN OF WHERE IT IS DESIRABLE AND PERMITTED TO BUILD ONE WYTHE BEFORE THE OTHER, REINFORCING SHALL BE AN APPROVED ADJUSTABLE TYPE WITH A BOX OR EYE SECTION WHICH EXTENDS INTO THE COLLAR JOINT OR CAVITY AND RESTRAINS THE TRANSVERSE MOVEMENT OF THE TWO WYTHES. FOR CAVITY WALLS WITH RIGID INSULATION, EXTENSION SHALL BE DESIGNED TO HOLD THE INSULATION IN PLACE BY USE OF PLASTIC WEDGES OR APPROVED EQUAL. GALVANIZED HOOK STYLE "BOX TIES" OR "PIN-TIES" SHALL EXTEND INTO THE FACE WYTHE TO COMPLETE THE ASSEMBLY.</p> <p>2.6.7. PROVIDE ALL PREFABRICATED CORNER AND TEE SECTIONS.</p> <p>2.7. COMPOSITE WALLS- SHALL HAVE THE VERTICAL COLLAR JOINTS BETWEEN WYTHES COMPLETELY FILLED WITH MORTAR OR GROUT.</p> <p>2.8. BOND BEAMS- MADE FROM Lintel BLOCKS, OR HALF WEB BLOCKS, WHERE SHOWN ON STRUCTURAL DRAWING SHALL CONFORM TO CSA A371.</p> <p>2.9. GROUTING- BY FILLING VOIDS OF HOLLOW UNITS AND REINFORCED HOLLOW UNITS SHALL CONFORM TO CSA A179 (MORTAR IS NOT ACCEPTABLE).</p> <p>2.10. EXPANSION AND CONTROL JOINTS:</p> <p>SHALL BE PROVIDED. SEE ARCHITECTURAL DRAWINGS AND/ OR SPECIFICATION FOR DETAILS.</p> <p><b>3. EXECUTION</b></p> <p>3.1. BEARING ON MASONRY:</p> <p>3.1.1. MINIMUM BEARING ON MASONRY UNLESS OTHERWISE NOTED- BEAMS (STEEL, CONC., WOOD) ..... 200mm (8") NOMINAL</p> <p>LINTELS (STEEL, CONC., WOOD) ..... 150mm (6") NOMINAL</p> <p>JOISTS (STEEL, WOOD) ..... 100mm (4") NOMINAL</p> <p>SLABS (CAST-IN-PLACE, PRECAST) ..... 100mm (4") NOMINAL</p> <p>STEEL DECKING (ON WELD PLATE) ..... 100mm (4") NOMINAL</p> <p>3.1.2. MASONRY BEARINGS SHALL BE OF SOLID BLOCKS (OR GROUTED SOLID) OR BRICKS LAID IN MORTAR. ALL JOINTS ARE TO BE FULLY FILLED WITH TYPE "S" MORTAR.</p> <p>3.1.3. MIN. SIZE OF SOLID BEARINGS AT BEAMS AND LINTELS UNLESS NOTED SHALL BE EQUAL TO TWICE THE BEARING / WALL PLATE (WP) LENGTH AND FOR A DEPTH EQUAL TO THE BEARING / WALL PLATE (WP) LENGTH, AND IN NO CASE LESS THAN 400 LONG x 200 DEPT (16" x 8"). SYMMETRICAL UNDER BEARING POINT.</p> <p>3.1.4. PROVIDE A MINIMUM OF ONE CONTINUOUS COURSE 200mm (8") OF SOLID OR GROUTED VOID BLOCKS OR BRICKS LAID IN MORTAR AT THE TOP COURSE IMMEDIATELY BELOW ALL FLOOR AND ROOF BEARING LEVELS.</p> <p>3.2. TOLERANCES:</p> <p>UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWINGS AND/ OR SPECIFICATION, SHALL CONFORM TO CSA A371.</p> <p>3.3. COLD WEATHER CONSTRUCTION- REQUIREMENTS AND PROTECTION SHALL CONFORM TO CSA A371 AND UNDER NO CIRCUMSTANCES SHALL MASONRY CONSTRUCTION BE PERMITTED WHEN THE AIR TEMPERATURE FALLS BELOW -12°C.</p> <p><b>4. QUALITY CONTROL</b></p> <p>4.1. WHEN REQUESTED SAMPLING AND TESTING SHALL CONFORM TO CSA STANDARDS 3034.1 AND ASTM C140. REFER ALSO TO GENERAL NOTES.</p>	

GENERAL NOTES	A02
<p><b>1. GENERAL</b></p> <p>1.1. DESIGN AND CONSTRUCTION IS TO CONFORM TO THE REQUIREMENTS OF THE 2012 ONTARIO BUILDING CODE, AND ANY APPLICABLE REQUIREMENTS OR BY-LAW OF THE AUTHORITY HAVING JURISDICTION. REFER ALSO TO TYPICAL DETAILS, NOTES UNDER PLANS AND SCHEDULES ON THE STRUCTURAL DRAWINGS, AND TO THE SPECIFICATION. ALL CODES, MANUALS, STANDARDS AND SPECIFICATIONS REFERRED TO SHALL BE THE SPECIFIC EDITION REFERENCED IN APPLICABLE BUILDING CODE INCLUDING ALL REVISIONS AND ADDENDA.</p> <p>1.2. ALL DIMENSIONS, OTHER THAN PURELY STRUCTURAL DIMENSIONS SHOWN ON THE STRUCTURAL DRAWINGS MUST BE CHECKED AGAINST THE ARCHITECTURAL DRAWINGS AND ANY INCONSISTENCIES REPORTED TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK. STRUCTURAL DRAWINGS MUST NOT BE SCALED.</p> <p>1.3. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATIONS AND SIZES OF OPENINGS, TRENCHES, PITS, PUMPS, EQUIPMENT, SLEEVES, DEPRESSIONS, GROOVES AND CHAMFERS NOT INDICATED ON THE STRUCTURAL DRAWINGS, UNLESS SPECIFICALLY NOTED OTHERWISE. THE ABOVE ITEMS WHERE SHOWN ON THE STRUCTURAL DRAWINGS ARE INDICATED ONLY APPROXIMATELY AS TO SIZE AND LOCATION.</p> <p>1.3. UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS, NO PROVISION HAS BEEN MADE IN THE DESIGN FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THE CONTRACTOR IS TO PROVIDE ALL NECESSARY BRACING AND SHORING REQUIRED FOR STRESSES AND INSTABILITY OCCURRING FROM ANY CAUSE DURING CONSTRUCTION. THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR ALL SUCH MEASURES. IT SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL NECESSARY BRACING, SHORING, SHEET PILING OR OTHER TEMPORARY SUPPORTS OF SAFEGUARD ALL EXISTING OR ADJACENT STRUCTURES AFFECTED BY THIS WORK. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR CONSULTANTS REVIEW.</p> <p><b>2. SHOP DRAWINGS, PLACING DRAWINGS AND BAR LISTS</b></p> <p>2.1. FOR ALL STRUCTURAL COMPONENTS SHOWN ON THE STRUCTURAL DRAWINGS, SUBMIT COPIES OF SHOP DRAWINGS AS DIRECTED FOR REVIEW BY THE STRUCTURAL CONSULTANT. SHOP DRAWINGS TO SHOW COMPLETE INFORMATION FOR THE FABRICATION AND ERECTION OF THE STRUCTURAL COMPONENTS.</p> <p>2.2. REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL CONSULTANT IS ONLY TO ASSESS THAT THE SUBMITTED SHOP DRAWINGS REFLECT THE INTENT OF THE STRUCTURAL DESIGN.</p> <p>2.3. REVIEW BY THE STRUCTURAL CONSULTANT SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR SEEING THAT THE WORK IS COMPLETE, ACCURATE AND IN CONFORMITY WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.</p> <p><b>3. INSPECTION AND TESTING</b></p> <p>3.1. A SOILS CONSULTANT AND AN INDEPENDENT INSPECTION AND TESTING COMPANY ARE TO BE ENGAGED TO CARRY OUT THE FOLLOWING SERVICES</p> <p>3.1.1. BEARING SOILS- REFER TO NOTES ON STRUCTURAL DRAWINGS AND ALSO TO THE SOIL REPORT.</p> <p>3.1.2. FILL UNDER SLAB-ON-GRADE- CONFORM THAT FILL MATERIAL USED IS SATISFACTORY AND THAT THE REQUIRED DEGREE OF COMPACTION HAS BEEN ATTAINED.</p> <p>3.1.3. CAST-IN-PLACE AND PRECAST CONCRETE- ROUTINE INSPECTION OF MATERIALS, INCLUDING SLUMP, CYLINDER AND AIR ENTRAINMENT TESTS AND REINFORCING ROD TESTS WHEN REQUIRED, OR DIRECTED IN ACCORDANCE WITH CSA STANDARD A23.2.</p> <p>3.1.4. THE PROJECT SUPERINTENDENT IS TO ADVISE THE STRUCTURAL CONSULTANT A MINIMUM OF 24 HOURS IN ADVANCE OF A CONCRETE POUR FOR A REVIEW OF PREPARATIONS.</p> <p>3.1.5. STRUCTURAL STEEL AND OWS- ROUTINE SHOP AND FIELD INSPECTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE REQUIREMENTS CSA S16.</p> <p>3.1.6. STEEL DECK- SEE STEEL DECK NOTES.</p> <p>3.1.7. MASONRY- WHEN REQUIRED OR DIRECTED, CONCRETE BLOCKS SHALL BE TESTED IN ACCORDANCE WITH ASTM C140 BRICKS IN ACCORDANCE WITH CANCSA A82 AND MORTAR AND/OR GROUT IN ACCORDANCE WITH CSA A179.</p> <p>3.2. ALL INSPECTION AND TESTING SERVICES ARE TO BE PERFORMED BY COMPANIES CERTIFIED BY THE CANADIAN STANDARDS ASSOCIATION AND FOR WELDING, INSPECTORS ARE TO BE CERTIFIED BY THE CANADIAN WELDING BUREAU.</p> <p><b>4. FOUNDATIONS</b></p> <p>4.1. REFER TO NOTES UNDER FOUNDATION PLANS. ALL EXTERIOR FOOTINGS OR OTHER FOOTINGS EXPOSED TO FREEZING IN THE FINISHED BUILDING SHALL BE FOUNDED AT A MINIMUM OF 200mm (8") BELOW FINISHED GRADE. UNLESS OTHERWISE NOTED, THE FIRST ACTION DURING CONSTRUCTION SHALL BE PROTECTING WITH A MINIMUM OF 100mm (4") OF EARTH OR ITS EQUIVALENT SUFFICIENT TO PREVENT FREEZING.</p> <p>4.2. THE LINE OF SLOPE BETWEEN ADJACENT EXCAVATIONS FOR FOOTINGS OR ALONG STEPPED FOOTINGS SHALL NOT EXCEED A RISE OF 1 IN A RUN OF 10, MAXIMUM STEP APPROX. 600mm (2'-0").</p> <p>4.3. PIER DEPTHS AND FOOTING ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE BASED UPON INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THE STRUCTURAL DRAWINGS.</p> <p>4.4. IF ACTUAL JOB SITE OR SOIL CONDITIONS VARY FROM THOSE ASSUMED, THEN WRITTEN DIRECTIONS MUST BE OBTAINED FROM THE STRUCTURAL CONSULTANT BEFORE PROCEEDING WITH THE WORK.</p> <p>4.5. KEEP EXCAVATIONS CONTINUOUSLY DRY BEFORE CONCRETE IS PLACED. IF THE SOIL IS SOFTENED BY WATER, THE EXCAVATION SHALL BE EXTENDED BELOW THE SOFTENED MATERIAL AND THE BOTTOM OF THE FOOTINGS LOWERED TO SUIT.</p> <p><b>5. BACKFILLING AND COMPACTION</b></p> <p>5.1. SLABS-ON-GRADE AND ALL STRUCTURAL ELEMENTS FRAMING INTO WALLS WHICH RETAIN EARTH MUST BE IN PLACE BEFORE BACKFILLING.</p> <p>5.2. AT FOUNDATION WALLS WITH GRADE BOTH SIDES, UNLESS ADEQUATELY SHORED BACKFILL AND COMPACT EACH SIDE OF WALL SIMULTANEOUSLY.</p> <p>5.3. UNDER SLAB-ON-GRADE, REMOVE SOFT SPOTS, ORGANIC AND FOREIGN MATTER IN THE SUB-GRADE, (WHERE SUB-GRADE CONSISTS OF COMPACTED FILL, REFER TO SPECIFIC NOTES ON THE DRAWINGS).</p> <p>5.4. BACKFILL UNDER SLAB-ON-GRADE, IN FOOTING EXCAVATIONS AND IN TRENCHES ONLY WITH APPROVED MATERIAL. UNLESS SPECIFICALLY NOTED OTHERWISE, BACKFILLING SHALL BE CARRIED OUT IN MAXIMUM OF 200mm (8") THICK LIFTS OF LOOSE FILL EACH COMPACTED TO A MINIMUM OF 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.</p> <p>5.5. UNLESS OTHERWISE NOTED IN GEO-TECHNICAL REPORT, PROVIDE IMMEDIATELY UNDER SLABS-ON-GRADE A MINIMUM OF 200mm (8") OF COMPACTED (MTC) GRANULAR "B" MATERIAL COMPACTION TO ACHIEVE A MINIMUM OF 98% STANDARD PROCTOR MAXIMUM DRY DENSITY.</p>	

LINTEL NOTES	A07
<p>UNLESS OTHERWISE SHOWN OR NOTED ON THE STRUCTURAL DRAWINGS, PROVIDE LINTELS OVER ALL OPENINGS IN MASONRY WALLS, AS FOLLOWS:</p> <p>1. FOR OPENINGS UP TO 1200 mm (4') CLEAR:</p> <p>1.1. ONE ANGLE 90 x 90 x 6 (3 1/2" x 3 1/2" x 1/4") FOR EACH 100mm (4") OF WALL THICKNESS OR PORTION THEREOF.</p> <p>OR</p> <p>1.2. 200mm (8") DEEP MASONRY LINTEL BLOCK REINFORCED WITH 1-10M BOTTOM FOR EACH 100mm (4") OF WALL THICKNESS OR PORTION THEREOF.</p> <p>2. FOR OPENINGS FROM 1200mm (4') CLEAR TO 1800mm (6') CLEAR:</p> <p>2.1. ONE ANGLE 125 x 90 x 8 (LONG LEG VERTICAL, 5"x 3 1/2" x 5/16") FOR EACH 100mm (4") OF WALL THICKNESS OR PORTION THEREOF.</p> <p>OR</p> <p>2.2. 200mm (8") DEEP MASONRY LINTEL BLOCK REINFORCED WITH 1-15M BOTTOM FOR EACH 100mm (4") OF WALL THICKNESS OR PORTION THEREOF.</p> <p>3. ALL LINTELS TO BEAR 150mm (6") MINIMUM AT EACH END ON SOLID MASONRY, UNLESS SHOWN OTHERWISE.</p> <p>4. PAIRS OF LINTEL ANGLES SHALL BE TO BE BOLTED OR WELDED TOGETHER, PICKED TO SHIPMENT, AT MAXIMUM 450mm (18") CENTRES.</p> <p>5. MASONRY LINTEL BLOCKS MAY ONLY BE USED IN LOAD-BEARING WALLS WITH PERMISSION AND MUST BE FILLED WITH 20 MPa concrete. MORTAR IS NOT ACCEPTABLE AND WILL BE REJECTED.</p> <p>6. STEEL LINTELS ARE TO BE SUPPLIED BY STEEL CONTRACTOR BUT PLACED BY GENERAL CONTRACTOR OR MASONRY SUB- CONTRACTOR.</p> <p>7. STEEL CONTRACTOR TO SUPPLY ALL NECESSARY DIRECTIONS REQUIRED FOR PLACING STEEL LINTELS.</p> <p>8. WHILE EVERY EFFORT HAS BEEN MADE TO SHOW ON THE STRUCTURAL DRAWINGS EACH AND EVERY Lintel UNDER DOORS, MECHANICAL AND ELECTRICAL SERVICES, RECESSES AND SOCKETS ETC., THROUGH LOAD-BEARING MASONRY WALLS, IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO CO-ORDINATE AND SUPPLY ALL LINTELS REQUIRED THROUGH ALL WALLS (INCLUDING NON-LOAD BEARING WALLS) THROUGHOUT THE PROJECT. UNLESS OTHERWISE DIRECTED, LINTELS SHALL CONFORM TO THE ABOVE REQUIREMENTS.</p> <p>9. REFER ALSO TO TYPICAL DETAILS.</p>	

STEEL DECK NOTES	A05.1
<p><b>1. GENERAL</b></p> <p>1.1. DESIGN, FABRICATION, HANDLING AND ERECTION SHALL CONFORM TO THE FOLLOWING STANDARDS:</p> <p>1.1.a. CSA S136</p> <p>1.1.b. CSSB 10M ..... STANDARD FOR STEEL ROOF DECK.</p> <p>1.1.c. CSSB 12M ..... STANDARD FOR COMPOSITE STEEL DECK.</p> <p>1.1.d. ASTM A653 ..... SPECIFICATIONS FOR STEEL SHEET, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY COATED (GALVANNEALD) BY THE HOT DIP PROCESS.</p> <p>1.1.e. WELDING SHALL CONFORM TO CSA STANDARD W59 AND BE PERFORMED BY A FABRICATOR CERTIFIED TO CSA STANDARD W47.1.</p> <p>1.2. THE STEEL DECK SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER, SHOP DRAWINGS AND CALCULATIONS BEARING THE STAMP AND SIGNATURE OF THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION AND ERECTION.</p> <p>1.3. NO HANGERS OR BRACKETS SHALL BE HUNG DIRECTLY FROM THE FLOOR OR ROOF DECK. ALL POINT LOADS MUST BE APPLIED DIRECTLY TO STRUCTURAL STEEL FRAMING UNLESS OTHERWISE SHOWN OR APPROVED BY THE STRUCTURAL CONSULTANT.</p> <p>1.4. WHEREVER STRUCTURAL FRAMING PERMITS, STEEL DECK SHALL BE DESIGNED AND FABRICATED TO SPAN CONTINUOUSLY OVER AT LEAST 4 SUPPORTS (3 SPANS). PROVIDE AN ADEQUATE INCREASE IN THICKNESS OF METAL TO COMPENSATE FOR CONTINUITY WHEREVER FEWER SUPPORTS MAY OCCUR. END LAPS TO BE 50mm (2") MIN. AND BE LOCATED OVER SUPPORTS.</p> <p>1.5. ROOF DECK SHALL BE FORMED WITH INTEGRAL RIBS IN ORDER TO SAFELY SUPPORT THE LOADS GIVEN ON THE DRAWINGS OVER THE SPANS REQUIRED. DECK THICKNESS GIVEN ON DRAWINGS IS MINIMUM ASSUMED ALLOWABLE THICKNESS AND MUST BE DESIGNED BY THE DECK SUPPLIER.</p> <p>1.5.a. DEFLECTION OF ROOF DECK UNDER LIVE OR SNOW LOAD ONLY SHALL NOT EXCEED 1/300TH OF SPAN.</p> <p>1.6. FLOOR DECK SHALL BE FORMED WITH INTEGRAL RIBS AND EMBOSMENTS FOR COMPOSITE ACTION WITH CONCRETE SLAB IN ORDER TO SAFELY SUPPORT THE LOADS GIVEN ON THE DRAWINGS OVER THE SPANS REQUIRED. IN ADDITION, THE DECK SHALL SAFELY SUPPORT ALL CONSTRUCTION LOADS WITH NO SHORING UNTIL CONCRETE IS SET. DECK THICKNESS GIVEN ON DRAWINGS IS MINIMUM ALLOWED.</p> <p>1.6.a. DEFLECTION OF COMPOSITE FLOOR UNDER LIVE LOAD ONLY SHALL NOT EXCEED 1/600TH OF SPAN.</p> <p>1.7. DESIGN AND DETAIL ON SHOP DRAWINGS ALL CONNECTIONS TO SUPPORTING MEMBERS FOR ALL COMBINATIONS OF DIAPHRAGM SHEAR AND UPLIFT FORCES ACTING ON THE ROOF DECK.</p> <p><b>2. PRODUCTS</b></p> <p>2.1. UNLESS OTHERWISE NOTED ROOF DECK AND / OR COMPOSITE DECK SHALL BE FORMED OF METALLIC COATED SHEET STEEL CONFORMING TOASTM A653 A653M, STRUCTURAL, QUALITY GRADE: 120 WITH A Z775 ZINC COATING, (GALVANNEAL).</p> <p>2.2. UNLESS OTHERWISE NOTED DECK SHALL BE SINGLE FLUTED ELEMENT WITH INTEGRAL RIBS OF DEPTH AND MIN. BASE NOMINAL THICKNESS (BNT) AS NOTED ON THE DRAWINGS. DECK SHALL HAVE INTERLOCKING SIDE JOINTS BETWEEN PANELS ( MIN. BNT. 0.76mm (0.30").</p> <p>2.3. COVER PLATES, CLOS. CLOSURES, FLASHINGS AND REINFORCING STIFFENERS FOR UNSUPPORTED EDGES TO BE SUPPLIED OF SIMILAR MATERIAL AND ZINC COATING TO THAT FOR DECK, UNLESS NOTED.</p> <p>2.4. PRIMER PAINT TO BE ZINC RICH, READY MIX TO CAN CSSB-1181 FOR FIELD "TOUCH-UP" OF WELD BURNS AFTER DECK IS INSTALLED.</p> <p>2.5. UNLESS OTHERWISE SHOWN FOR OPENINGS THROUGH ROOF DECK FROM 150mm TO 450mm (6" TO 18") ACROSS THE FLUTES THE DECK SUPPLIER SHALL PROVIDE NOT LESS THAN A 51x51x6 ANGLE (2x2x 1/4 L). REINFORCEMENT TO FRAME ACROSS EACH SIDE OF THE OPENING PERPENDICULAR TO THE FLUTES, WELDED TO AT LEAST TWO FLUTES EACH SIDE OF THE OPENING.</p> <p>2.6. FOR ROOF OPENINGS OVER 450mm (18") ACROSS THE FLUTES AND FOR AREAS OF CONCENTRATED LOAD, REINFORCE IN ACCORDANCE WITH STRUCTURAL FRAMING DETAILS SHOWN ON PLANS OR TYPICAL DETAILS.</p>	

CAST-IN-PLACE CONCRETE NOTES	A03.1
<p><b>1. GENERAL</b></p> <p>1.1. PROVIDE ALL LABOUR, MATERIALS, TOOLS AND EQUIPMENT REQUIRED TO CARRY OUT THE WORK.</p> <p>1.2. REFER ALSO TO GENERAL NOTES, NOTES UNDER PLANS AND SCHEDULES, TYPICAL DETAILS AND SPECIFICATION.</p> <p><b>2. PRODUCTS</b></p> <p>2.1. PORTLAND CEMENT, WATER AND AGGREGATES SHALL CONFORM TO CSA STANDARD A23.1.</p> <p>2.2. PROVIDE AN APPROVED WATER REDUCING ADDITIVE IN ALL CONCRETE. PROVIDE AN APPROVED AIR ENTRAINING ADDITIVE IN ALL CONCRETE WHICH WILL BE EXPOSED TO A FREEZE/THAW CYCLE AND/OR THE ACTION OF DE-ICING SALT. ADMIXTURES SHALL CONFORM TO CSA STANDARD A23.1.</p> <p>2.3. FORMWORK SHALL CONFORM TO CSA STANDARD A23.1 AND CSA STANDARD S99.1 AND FALSEWORK SHALL CONFORM TO CSA S269.1.</p> <p>2.4. IF SO INSTRUCTED, THE DESIGNS FOR THE FORMWORK SHALL BE SUBMITTED FOR REVIEW BEFORE CONSTRUCTION. FORMWORK DRAWINGS AND DESIGN SHALL BEAR THE STAMP OF A LICENSED PROFESSIONAL ENGINEER.</p> <p>2.5. PROVIDE SLAB AND BEAM FORMS WITH AN UPWARD CAMBER AS INDICATED ON PLANS THIS <sup>mm</sup> WHERE CAMBERS ARE NOT NOTED ON PLANS, CAMBER SLABS AND BEAMS FOR SPAN/40 AT INTERIOR BAYS, AND CANTILEVER LENGTH/250 AT CANTILEVER. CAMBER BOTH THE UNDERSIDE AND TOP OF CONCRETE IN A PARABOLIC PROFILE, WHILE MAINTAINING THE INDICATED STRUCTURAL THICKNESS OF MEMBERS.</p> <p>2.6. PROVIDE STANDARD ADJUSTABLE MASONRY ANCHOR SLOTS FOR ALL MASONRY FACING OR ABUTTING CONCRETE FACES.</p> <p>2.7. PROVIDE AND/OR INSTALL STANDARD ADJUSTABLE INSERTS AND ALL OTHER CAST-IN INSERTS AS REQUIRED BY THE ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATION.</p> <p>2.8. REINFORCING STEEL UNLESS SPECIFICALLY NOTED, SHALL BE DEFORMED BARS CONFORMING TO CANCSA -G30 18-M GRADE 400 (50000 PSI).</p> <p>2.9. WELDED WIRE FABRIC TO BE SUPPLIED IN FLAT SHEETS ONLY, UNLESS APPROVED OTHERWISE.</p> <p>2.10. REINFORCING SHALL BE DETAIL, BENT, PLACED AND SUPPORTED TO CONFORM TO ACI DETAILING MANUAL AND THE MANUAL OF STANDARD PRACTICE PUBLISHED BY THE REINFORCING STEEL INSTITUTE OF CANADA.</p> <p>2.11. DRY-PACK GROUT TO BE 1 PART PORTLAND CEMENT TO 1 1/2 PARTS SAND TO 2 PARTS OF 8 mm pea GRAVEL WITH ONLY SUFFICIENT WATER TO DAMPEN MIXTURE. COMPRESSIVE STRENGTH 50MPa (7200 PSI).</p> <p>2.12. NON-SHRINK GROUT TO BE AN APPROVED, PRE-MIXED PROPRIETARY PRODUCT.</p> <p>2.13. PROVIDE APPROVED EXTRUDED PVC WATERSTOPPS OF SIZE AND STYLE INDICATED, WITH PRE-WELDED CORNERS AND INTERSECTIONS. SEE ALSO TYPICAL DETAILS.</p> <p>2.14. CURING AND SEALING COMPOUNDS WHERE APPROVED FOR USE TO CONFORM TO ASTM STANDARD C308. GENERALLY ALL CONCRETE SURFACES ARE TO BE SEALED UNLESS NOTED OTHERWISE. COMPOUNDS ARE TO BE COMPATIBLE WITH APPLIED FINISHES.</p> <p>2.15. SHEAR REINFORCEMENT AT SLAB CONNECTION AS SHOWN ON DRAWINGS AND DETAILS, SHALL BE STUDRALIS86 AS MANUFACTURED BY DECONE, THE COMPLETE AND FINISHED STUDRALIS86 SHALL BE ICC EES EVALUATED AND WELDING SHALL TAKE PLACE IN A ICC EES APPROVED AND AUDITED FACILITY. STUDRALIS86 SHALL CONFORM TO THE LATEST UPDATING OF ASTM A1044.</p> <p><b>3. EXECUTION</b></p> <p>3.1. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE @ 28 DAYS SHALL BE AS NOTED ON THE DRAWINGS (20MPa MINIMUM).</p> <p>3.2. SLUMP AT THE POINT OF DISCHARGE SHALL BE CONSISTENT AT 80 mm ±30mm (3" ±1 1/8") UNLESS NOTED OTHERWISE GREATER SLUMPS ARE NOT ACCEPTABLE.</p> <p>3.3. CONCRETE MIXING, TRANSPORTATION, HANDLING AND PLACING SHALL CONFORM TO CSA STANDARD A23.1.</p> <p>3.4. CONSTRUCTION JOINTS FOR WALLS ARE BASED UPON VERTICAL JOINTS AT A MAXIMUM SPACING OF 1000mm (30'-0") UNLESS CONTROL JOINTS ARE PROVIDED AS PER DETAIL CFW02. TOTAL LENGTH OF JOINTS TO BE DISCUSSED WITH ENGINEER PRIOR TO PROCEEDING.</p> <p>3.5. CONSTRUCTION JOINTS FOR WALLS, SLABS, AND BEAMS NOT SHOWN ON THE DRAWINGS SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE CONSTRUCTION. GENERALLY JOINTS IN SLABS SHALL BE AT RIGHT ANGLES TO THE SPANS, AT MID-SPAN IF POSSIBLE AND BE CLEAR OF SUPPORTS AND POINT LOADS.</p> <p>3.6. INSERTS, FRAME-OUTS, SLEEVES, JOINTS AND FASTENING DEVICES, SHALL BE INSTALLED AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS IN A MANNER THAT SHALL NOT IMPAIR THE STRUCTURAL STRENGTH OF THE SYSTEM, BE SO INSTALLED THAT THEY SHALL NOT REQUIRE THE CUTTING, BENDING, OR DISPLACEMENT OF THE REINFORCING OTHER THAN AS SHOWN ON THE TYPICAL DETAILS.</p> <p>3.7. ELECTRICAL CONDUIT SHALL NOT PASS THROUGH A COLUMN. SHALL NOT BE LARGER IN OUTSIDE DIAMETER THAN 1/3 SLAB THICKNESS OR WALL OR BEAM IN WHICH IT IS EMBEDDED, SHALL NOT BE SPACED CLOSER THAN 3 DIAMETERS ON CENTRE UNLESS APPROVED, AND HAVE A MINIMUM CONCRETE COVER OF 25 mm (1") AND UNLESS SPECIFICALLY PERMITTED OTHERWISE, SHALL NOT RUN HORIZONTALLY IN A CONCRETE WALL.</p> <p>3.8. OPENINGS AND DRIVEN FASTENERS REQUIRED IN THE CONCRETE AFTER THE CONCRETE IS PLACED SHALL BE APPROVED BY THE STRUCTURAL CONSULTANT BEFORE PROCEEDING.</p> <p>3.9. FINISHING, REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR REQUIRED FINISH TO EXPOSED CONCRETE. ALL HONEYCOMBING SHALL BE CUT OUT AND FILLED. FLOOR FINISHES SHALL BE AS REQUIRED BY THE ARCHITECTURAL DRAWINGS AND SPECIFICATIONS AND SHALL CONFORM TO CSA STANDARD A23.1.</p> <p>3.10. TOLERANCES FOR PLACING STRUCTURAL CONCRETE, REINFORCING STEEL, CAST-IN HARDWARE AND FOR FLOOR AND ROOF FINISHES SHALL BE AS SPECIFIED IN CSA STANDARD A23.1.</p> <p>3.11. MINIMUM REINFORCING FOR ANY CONCRETE WALL TO BE AS SHOWN ON TYPICAL DETAIL FOR CONCRETE WALLS.</p> <p>3.12. MINIMUM REINFORCING FOR ANY SUSPENDED SLAB SHALL BE TEMPERATURE BARS BOTTOM EACH WAY PLUS 10M @ 400 (16") DOWELS 50x650 (2" x 2'-0") TOP AROUND PERIMETER, REFER TO TYPICAL DETAIL OF ONE WAY SLABS.</p> <p>3.13. PERFORM SURVEYS OF CG SLABS AS INDICATED IN SPECIFICATIONS.</p>	

CAST-IN-PLACE CONCRETE NOTES	A03.2
<p>3.14. GENERAL REQUIREMENTS FOR CUTTING AND DRILLING INTO CONCRETE</p> <p>(A) DO NOT DRILL INTO, CORE THROUGH, SAW-CUT OR CHIP THE CONCRETE STRUCTURE WITHOUT WRITTEN AUTHORIZATION BY THE STRUCTURAL CONSULTANT.</p> <p>(B) UNLESS NOTED OTHERWISE, PRIOR TO CUTTING, CORING OR DRILLING INTO THE CONCRETE STRUCTURE, LOCATE EXISTING CONCRETE REINFORCEMENT AND EMBEDDED SERVICES (E.G. THAT LOCATION USING SUITABLE SCANNING DEVICE, I.E. X-RAYS, GROUND PENETRATION RADAR (GPR), LOGIC CHIPPING OF SLAB, ONLY WHERE APPROVED BY THE STRUCTURAL CONSULTANT, ETC.), AS AUTHORIZED BY PROPERTY MANAGER IF APPLICABLE.</p> <p>(C) GPR SCANNING MUST BE DONE BY TRAINED TECHNICIANS WITH AT LEAST 5 YEARS OF EXPERIENCE AS SUCH.</p> <p>(D) GPR SCANNING DEVICES MUST BE CAPABLE OF ACCURATELY LOCATING REBAR IN A CONCRETE SLAB TO A MINIMUM DEPTH OF 300 mm, WITHIN A HORIZONTAL TOLERANCE OF +25 mm AND A VERTICAL (DEPTH) TOLERANCE OF THE LARGER OF +25 mm OR +/- 15% OF THE REBAR DEPTH.</p> <p>(E) AFTER ALL THE EXISTING REINFORCEMENT AND SERVICES HAVE BEEN LOCATED, NOTIFY THE STRUCTURAL CONSULTANT, WHO WILL REVIEW AND APPROVE THE PROPOSED LOCATION OF OPENINGS, CORES OR DRILLED HOLES. MAKE ANY NECESSARY ADJUSTMENTS TO THE HOLE LOCATIONS AS DIRECTED BY THE STRUCTURAL CONSULTANT.</p> <p>(F) THE REVIEW BY THE STRUCTURAL CONSULTANT IS LIMITED ONLY TO THE LOCATION OF THE PROPOSED CORES OR DRILLED HOLES THROUGH THE EXISTING STRUCTURE AND IT IS BASED ON THE ASSUMPTION THAT THE X-RAY OR SCAN RESULTS LOCATING SLAB REINFORCEMENT AND EMBEDDED SERVICES ARE COMPLETE AND ACCURATE. STEPHENSON ENGINEERING LTD. TAKES NO RESPONSIBILITY FOR THE ACCURACY OF THE X-RAY OR SCAN RESULTS.</p> <p>(G) CORE DRILL NEW HOLES FOR PIPES TO A DIAMETER NOT LARGER THAN THE OUTSIDE PIPE DIAMETER PLUS 25MM. DO NOT CUT EXISTING REINFORCEMENT OR SERVICES WITHOUT PRIOR APPROVAL OF THE CONSULTANT.</p> <p>(H) WHERE RECTANGULAR OPENINGS ARE TO BE CUT, PRE-DRILL THE CORNERS USING A 100 MM DIAMETER CORE DRILL OR DRILL A SERIES OF HOLES TO PREVENT OVER CUTTING OF THE CORNERS.</p> <p><b>4. QUALITY CONTROL</b></p> <p>4.1. FOR INSPECTION AND TESTING, SEE GENERAL NOTES AND/OR SPECIFICATION.</p>	

STEEL DECK NOTES	A05.2
<p><b>3. EXECUTION</b></p> <p>3.1. SUPPLY AND PLACE STEEL PACKING AS REQUIRED TO PRODUCE AN EVEN BEARING PRESSURE AT SUPPORTS.</p> <p>3.2. FOR STEEL ROOF DECK, UNLESS OTHERWISE DETERMINED DURING THE DIAPHRAGM AND UPLIFT CONNECTION DESIGN OR SPECIFIED OTHERWISE IN THE SPECIFICATIONS OR ENGINEERING DRAWINGS, THE MINIMUM ATTACHMENT OF THE DECK TO THE BEARING SURFACES AND THE MINIMUM SIDE LAP CONNECTIONS BETWEEN DECK UNITS SHALL BE:</p> <p>3.2.A. FOR 30mm DEEP DECK PROFILES, CONNECT THE FIRST, THIRD, FIFTH AND SEVENTH LOW CORRUGATIONS (364 CONFIGURATION), AND EACH SUPPORT PARALLEL TO FLUTE DIRECTION AT 300mm (12") MAXIMUM CENTERS. CONNECTIONS SHALL BE MADE USING EITHER AN ARC SPOT WELD WITH 20mm (3/4") NOMINAL TOP DIAMETER, OR MECHANICALLY FASTENED USING HILTI POWDER ACTUATED FASTENERS (X-HEN24, HILTI X-ENP19, OR EQUIVALENT).</p> <p>3.2.B. FOR 16mm DEEP DECK PROFILES, CONNECT THE FIRST, THIRD AND FIFTH LOW CORRUGATIONS (243 CONFIGURATION), AND EACH SUPPORT PARALLEL TO FLUTE DIRECTION AT 300mm (12") MAXIMUM CENTERS. CONNECTIONS SHALL BE MADE USING EITHER AN ARC SPOT WELD WITH 20mm (3/4") NOMINAL TOP DIAMETER, OR MECHANICALLY FASTENED USING HILTI POWDER ACTUATED FASTENERS (X-HEN24, HILTI X-ENP19, OR EQUIVALENT).</p> <p>3.2.C. FOR ROOF DECKS, SIDE LAPS OF ADJACENT NEASTABLE UNITS SHALL BE CRIMPED TOGETHER AT 900mm (36") CENTRES, OR FASTENED WITH HILTI M HWN SCREWS (SLC01, SLOC2, OR EQUIVALENT).</p> <p>3.3. FOR STEEL FLOOR DECK, UNLESS OTHERWISE DETERMINED DURING THE DIAPHRAGM CONNECTION DESIGN OR SPECIFIED OTHERWISE IN THE SPECIFICATIONS OR ENGINEERING DRAWINGS, THE MINIMUM ATTACHMENT OF THE DECK TO THE BEARING SURFACES AND THE MINIMUM SIDE LAP CONNECTIONS BETWEEN DECK UNITS SHALL BE:</p> <p>3.3.A. SIDE LAPS OF ADJACENT FLOOR UNITS SHALL BE CRIMPED TOGETHER AT 600mm (24") MAXIMUM ON CENTRE, BUT NOT EXCEEDING THE SPACING REQUIRED FOR THE APPLICABLE ULC FIRE RATED ASSEMBLY.</p> <p>3.3.B. DECK SUPPORTS PARALLEL AND PERPENDICULAR TO FLUTES SHALL BE WELDED WITH 20mm (3/4") WELDS AT 300mm (12") MAXIMUM SPACING, BUT NOT EXCEEDING THE SPACING REQUIRED FOR THE APPLICABLE ULC FIRE RATED ASSEMBLY.</p> <p>3.3.C. THE REQUIRED PUDDLE WELDS AT SUPPORTS MAY BE SUBSTITUTED WITH POWDER ACTUATED FASTENERS THAT PROVIDE EQUIVALENT DIAPHRAGM SHEAR CAPACITY PER METRE.</p> <p>3.4. INSTALL ALL POWDER ACTUATED AND SCREW FASTENERS ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.</p> <p>3.5. WELD STUD SHEAR CONNECTORS THROUGH DECK WHERE REQUIRED BY DRAWINGS.</p> <p>3.6. TOUCH-UP GALVANIZED OR GALVANNEALED SURFACES WITH SPECIFIED PRIMER AT WELDS AND SCRAPES, ETC., BOTH UPPER AND LOWER SURFACES.</p> <p>3.7. DO NOT SUSPEND CEILING OR MECHANICAL/ELECTRICAL SERVICES FROM US OF STEEL DECK.</p> <p><b>4. QUALITY CONTROL</b></p> <p>4.1. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO BE ENGAGED TO CARRY OUT AND REPORT ON THE FOLLOWING INSPECTION SERVICES:</p> <p>4.1.a. SECTION PROFILE, GAUGE AND STEEL GRADE.</p> <p>4.1.b. ZINC COATING.</p> <p>4.1.c. WELDED JOINTS.</p> <p>4.1.d. BEARINGS.</p> <p>4.1.e. SIDE LAP CONNECTIONS.</p> <p>4.1.f. TOUCH-UP PRIMER.</p> <p>4.1.g. FIELD CUTTING AND/OR ALTERATIONS.</p> <p>4.2. REFER ALSO TO THE GENERAL NOTES, SPECIFICATIONS, AND TERMS OF REFERENCE FOR ADDITIONAL INFORMATION.</p>	

STRUCTURAL STEEL AND STEEL JOIST NOTES	A04
<p><b>1. GENERAL</b></p> <p>1.1. STRUCTURAL STEEL AND JOIST DESIGN DETAILS AND CONNECTIONS SHALL CONFORM TO CSA STANDARD S16 AND SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER EXPERIENCED IN THIS TYPE OF WORK.</p> <p>1.2. REFER ALSO TO GENERAL NOTES, NOTES UNDER PLANS AND TO THE SPECIFICATION.</p> <p>1.3. WELDING SHALL CONFORM TO CSA STANDARD W59 AND BE PERFORMED BY A FABRICATOR CERTIFIED TO CSA W47.1.</p> <p>1.4. BEAM CONNECTIONS SHALL BE DESIGNED FOR A MINIMUM OF FACTORED VERTICAL SHEAR FORCE OF 50% OF THE BEAM SHEAR CAPACITY, UNLESS OTHERWISE NOTED, AND IN NO CASE BE LESS THAN THE LOADS SHOWN ON OR IMPLIED BY THE DRAWINGS, WHERE BOLTED CONNECTIONS ARE UTILIZED, A MINIMUM OF TWO BOLTS PER CONNECTION SHALL BE USED.</p> <p>1.5. MEMBER CONNECTIONS SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER FOR FORCES AND MOMENTS INDICATED. SHOP DRAWINGS AND CALCULATIONS BEARING THE STAMP AND SIGNATURE OF THE REGISTERED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION AND ERECTION.</p> <p><b>2. PRODUCTS</b></p> <p>2.1. STRUCTURAL STEEL SECTIONS SHALL CONFORM TO CSA-C40.20/G40.21 (UNLESS NOTED OTHERWISE ON PLANS OR SECTIONS).</p> <p>2.1.1. S SHAPES, CHANNELS, ANGLES, PLATES AND ROOS- GRADE 300 W</p> <p>2.1.2. HSS SECTIONS- GRADE 350W (CLASS C UN)</p> <p>2.1.3. WWF SHAPES, W SHAPES, WT SHAPES- GRADE 350W</p> <p>2.2. JOIST CHORDS AND WEBS SHALL CONFORM TO CSA-S16.</p> <p>2.3. BOLTS FOR CONNECTIONS TO CONFORM TO ASTM F1554/AS238/29M, GRADE A325 OR A325M, UNLESS NOTED.</p> <p>2.4. ANCHOR RODS FOR BASE PLATES, BEARING PLATES AND WELD PLATES TO CONFORM TO ASTM F1554, GRADE 36, UNLESS NOTED.</p> <p>2.5. NUTS AND WASHERS TO CONFORM TO ASTM A563 AND ASTM A438.</p> <p>2.6. SHEAR STUDS WHERE REQUIRED TO CONFORM TO ASTM A108, WELDING TO CONFORM TO CSA W59.</p> <p>2.7. WELDING MATERIALS TO CONFORM TO CSA W48.</p> <p>2.8. SURFACE PREPARATION AND PRIMER PAINT FOR STRUCTURAL STEEL MEMBERS AND JOISTS INSIDE VAPOUR BARRIER TO CONFORM TO OSCQP/PA 1.73x OR OSCQP/PA 2.75 IF EXPOSED TO VIEW, UNLESS NOTED ON DRAWINGS OR SPECIFICATIONS.</p> <p>2.9. HOT DIP GALVANIZING SHALL PROVIDE A MINIMUM ZINC COATING OF 600g/m<sup>2</sup> UNLESS OTHERWISE SPECIFIED.</p> <p>2.11. BRIDGING AND BRACING FOR JOISTS BY JOIST DESIGN- SEE DRAWINGS AND TYPICAL DETAILS FOR MINIMUM REQUIREMENTS.</p> <p><b>3. EXECUTION</b></p> <p>3.1. FABRICATION, HANDLING AND ERECTION SHALL CONFORM TO CAN CSA -S16.</p> <p>3.2. TOLERANCES- VARIATION FROM PLUMB AND LEVELNESS OF STRUCTURAL FRAMING SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND TYPICAL DETAILS.</p> <p>3.3. FIELD "TOUCH-UP" BOLTS, WELDS, BURNED OR SCRAPPED SURFACES AFTER ERECTION.</p> <p>3.6. NO HOLES OTHER THAN THOSE SHOWN ON REVIEWED SHOP DRAWINGS SHALL BE MADE IN ANY STEEL MEMBER WITHOUT WRITTEN PERMISSION OF THE STRUCTURAL CONSULTANT.</p> <p>3.7. CO-ORDINATE WITH MECHANICAL AND ELECTRICAL CONSULTANTS AND SUB-TRADES HOW WORK MAY EFFECT DETAILING, FABRICATION AND ERECTION OF THE STEEL STRUCTURE.</p> <p>3.8. WHEREVER ITEMS ARE TO BE HUNG FROM JOISTS, CONNECT TO THE TOP CHORDS AT PANEL POINTS, UNLESS OTHERWISE PERMITTED.</p> <p>3.9. PROVIDE 1/8x76x6 (4MM) ANGLE SEATS FOR ALL STEEL DECK AT LOCATIONS WHERE THE CONNECTION TO SUPPORTING FRAMING IS INTERRUPTED. (EG. AT COLUMNS)</p> <p>3.10. PROVIDE ALL NECESSARY TEMPORARY BRACING TO KEEP STRUCTURE SAFE AND PLUMB. BRACING SHOWN ON STRUCTURAL DRAWINGS IS PERMANENT FOR FINISHED BUILDING ONLY.</p> <p>3.11. PROVIDE A MINIMUM OF 2-12 mm (1/2") LONG WALL ANCHORS FOR ALL BEAM AND JOIST BEARING PLATES ON MASONRY, OR AN APPROVED EQUAL, UNLESS OTHERWISE NOTED. BEAMS AND JOIST SHOES TO BE WELDED TO BEARING PLATES.</p> <p>3.12. PROVIDE ADJUSTABLE ANCHORS TO ALL STEEL TO BE BUILT INTO, ABUTTED BY, OR FACED WITH MASONRY (REFER ALSO TO TYPICAL DETAILS FOR VERTICAL SPACING ..... 600 (24") MAX. CENTRES.</p> <p>FOR HORIZONTAL SPACING ..... TIMES WALL THICKNESS" (MAX. 2000 (8'-8") CENTRES)</p> <p>(NOTE, USE BACK-UP WYTHES WHERE THE THICKNESS ONLY FOR CAVITY WALLS)</p> <p>3.13. WHERE STEEL PROVIDES LATERAL BRACING ONLY TO MASONRY (I.E. DOES NOT SUPPORT MASONRY ANCHORS SHALL PERMIT DIFFERENTIAL VERTICAL MOVEMENT BETWEEN STRUCTURAL MEMBERS AND MASONRY).</p> <p><b>4. QUALITY CONTROL</b></p> <p>4.1. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO INSPECT STRUCTURAL STEEL AND STEEL DECK IN THE SHOP AND IN THE FIELD FOR WELDING, CONNECTIONS, BOLT TORQUES AND GENERAL CONFORMANCE WITH THE STRUCTURAL DRAWINGS AND SPECIFICATIONS.</p> <p>4.2. SEE SPECIFICATIONS FOR ADDITIONAL INSPECTION AND TESTING REQUIREMENTS.</p>	

STANDARD ABBREVIATIONS		A01
@ -At	H (HOR) -Horizontal	S -Standard Beam
ADJ -Adjustable	HEF -Horizontal Each Face	SDF -Step Down Footing
AFB -Asphalt Impregnated Fibre Board	HIF -Horizontal Inside Face	SOL -Superimposed Dead Load
ALT -Alternate	HOF -Horizontal Outside Face	SECT -Section
ARCH -Architectural	HSS -Horizontally Slotted Connection	SL -Slab
A. ROD(A.R.) -Anchor Rod	HSC -Hollow Structural Section	SQ -Square
ASL -Accumulated Snow Loading		SOB -Slab on Grade
	IF -Inside Face	S.P.F -Spruce/Pine/Fir
B (BOT) -Bottom	INT -Interior	SPEC -Specifications
BEW -Bottom Each Way	INV -Invert	ST -Steel
BLDG -Building		STD -Standard
BL -Bottom Lower Layer	JT -Joint	STR -Straight
BM -Beam		STRUCT -Structural
BML -Bottom Middle Layer	kg -Kilogram	
BNT -Base Nominal/Thickness	kN/m -Kilo Newton Metres	T -Top
B.O.F -Bottom of Footing	kN/m <sup>2</sup> -Kilo Newton per Square Metre	TEMP -Temperature
BP -Baseplate	kN/m -Kilo Newton per Metre	TI -Factored Tension Force
BSMT -Basement	kPa -Kilo Pascals	TJ -Tie Joist
BUL -Bottom Upper Layer		TLL -Top Lower Layer
	L -Angle	TMF -Factored Torsional Moment
C -Standard Channel	LB -Pounds	TML -Top Middle Layer
CA -Column Above	LG -Long	TOD, TID -Top of Deck
CANT -Cantilever	LL -Live Load / Lower Layer	T.O.F -Top of Footing
C/C (c/c) -Centre to Centre	LLH -Long Leg Horizontal	TOS, TSF -Top of Slab
C/L -Control Joint	LLV -Long Leg Vertical	TOST -Top of Steel
CL -Centreline	LSSJ -Long Span Steel Joists	TSF -Tons per Square Foot
COL -Column	LV -Live Loaded Veneer Lumber	TUL -Top Upper Layer
COMP -Compressible		TYF -Typical
CONC -Concrete	n -Metre	
CONST -Construction	MAX -Maximum	UL -Upper Layer
CONST JT (CJT) -Construction Joint	MECH -Mechanical	UN -Unless Noted
CONT (CONTIN) -Continuous	MEZZ -Mezzanine	U.N.O -Unless Noted Otherwise
C/W -Complete With	MIN -Minimum	US -Underside
	MISC -Miscellaneous	USD -Underside of Deck
D.FIR -Douglas Fir	ML -Middle Layer	
DET -Detail	MML -Middle Lower Layer	V (VERT) -Vertical
DIAG -Diagonal	mm -Millimetre	VBF -Vertically Braced Framing
Ø (DIA) -Diameter	MMO, (M) -Moment	VEF -Vertical Each Face
DIM -Dimension	MPL -Mega Pascals	VIF -Vertical Inside Face
DJM -Double Joint	MUL -Middle Upper Layer	VOF -Vertical Outside Face
DL -Dead Load		VSC -Vertically Slotted Connection
DO -Ditto	N -Newton	
DWG -Drawing	N-S -North-South	W -Wide Flange Beam
DWL -Dowel	NF -Near Face	WP -Wall Plate
DT -Double Tee	NIC -Not in Contact	WWF -Welded Wide-Flange Beam
	NT -Number	WWF (WWW) -Welded Wire Fabric Mesh
E-W -East-West	NTS -Not to Scale	
EA -Each		
EE -Each End	OWSJ -Open Web Steel Joist	
EF -Each Face		
ELECT -Electrical	Pa -Pascal	
ELEV (EL) -Elevation / Elevator	PC -Prestcast	
EQ -Equal	PL -Plate	
ES -Each Side	PLF -Pounds per Lineal Foot	
EW -Each Way	PREL -Preliminary	
FMC -Full Moment Connection	PROJ -Projection	
EXIST -Existing	PSF -Pounds per Square Foot	
EXP. JT. -Expansion Joint	PSI -Pounds per Square Inch	
EXT -Exterior	PSL -Parallel Strand Lumber	
	PT -Pressure Treated	
FDN -Foundation	R -Reaction	
FF -Far Face	RAD -Radius	
FIN -Finished	REF -Reference	
FL -Floor	REIN -Reinforcing	
FMC -Full Moment Connection	REQD -Required	
FT -Foot / Feet	REV -Revision/Revised	
FTG -Footing	RF -Factored Vertical Reaction	
GA -Gauge	RW -Reinforced With	
GALV -Galvanized		
GEN -General		



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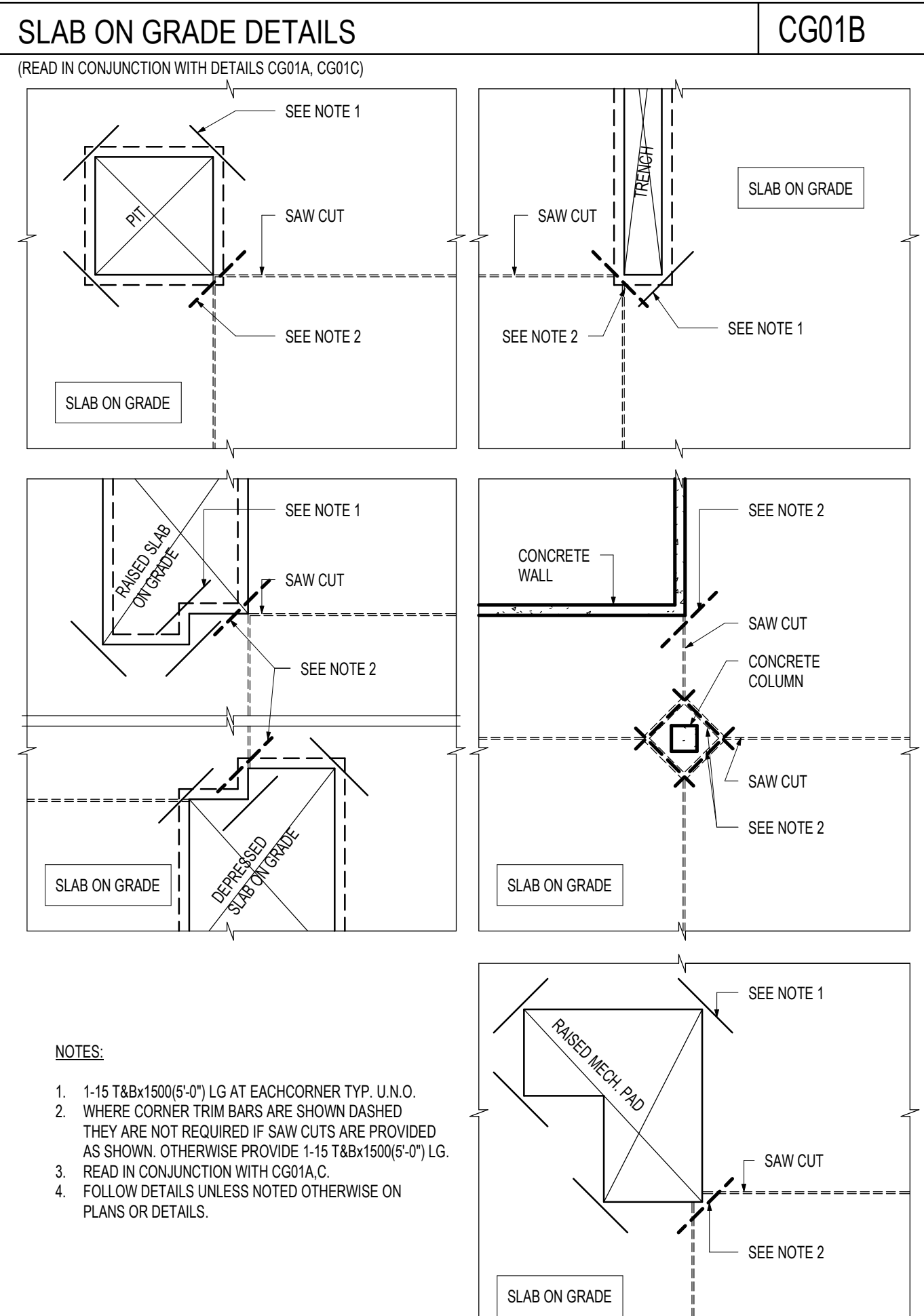
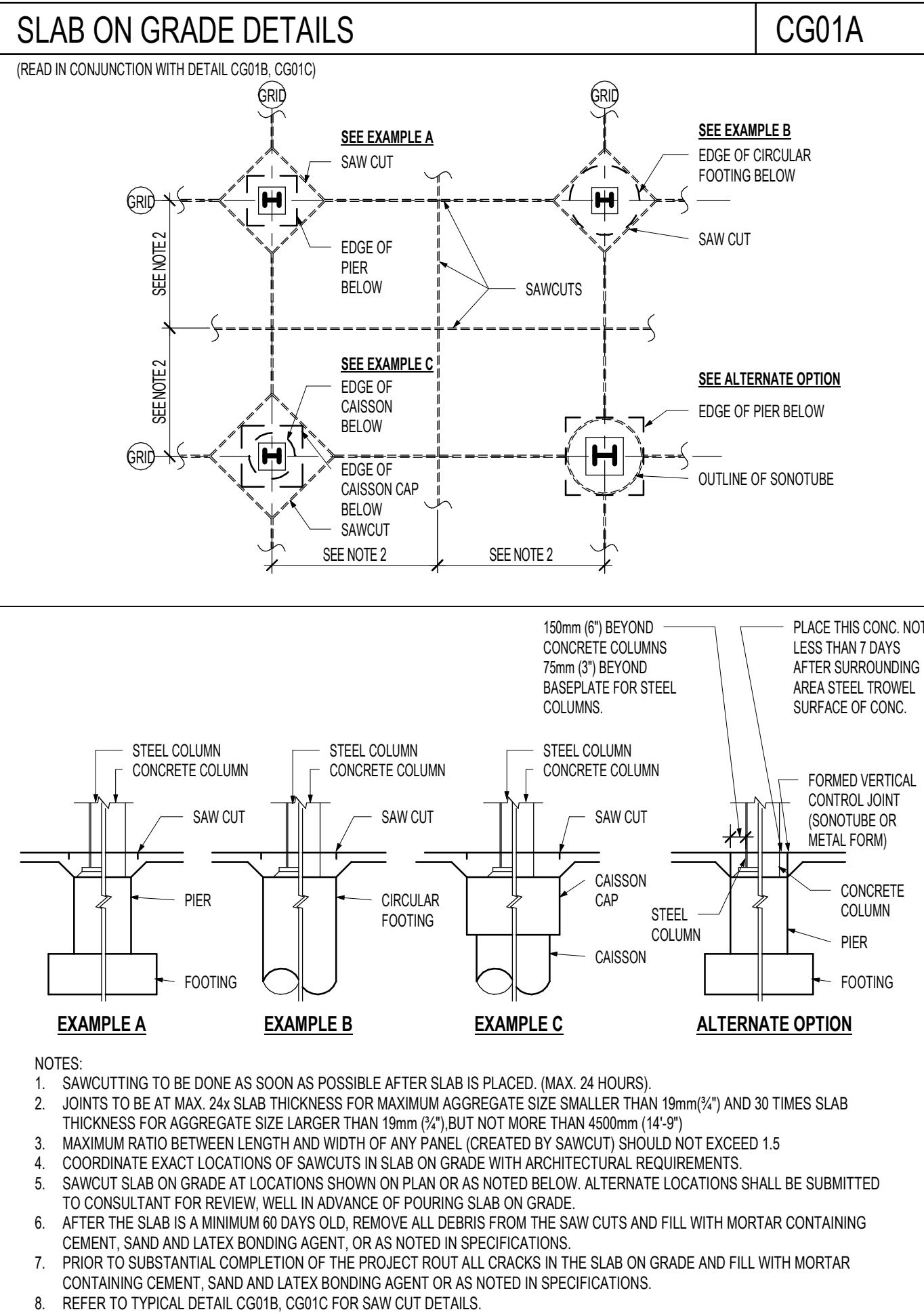
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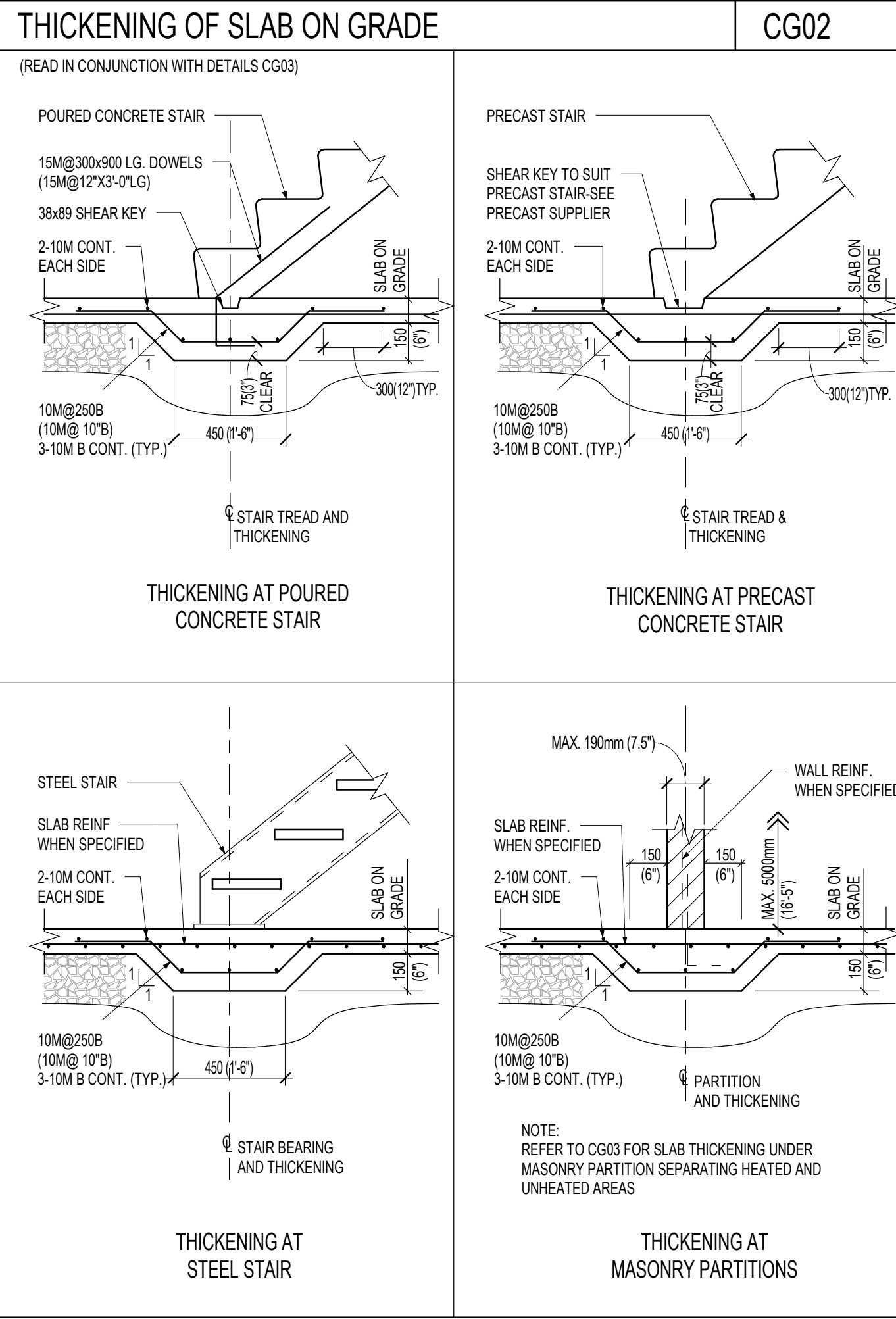
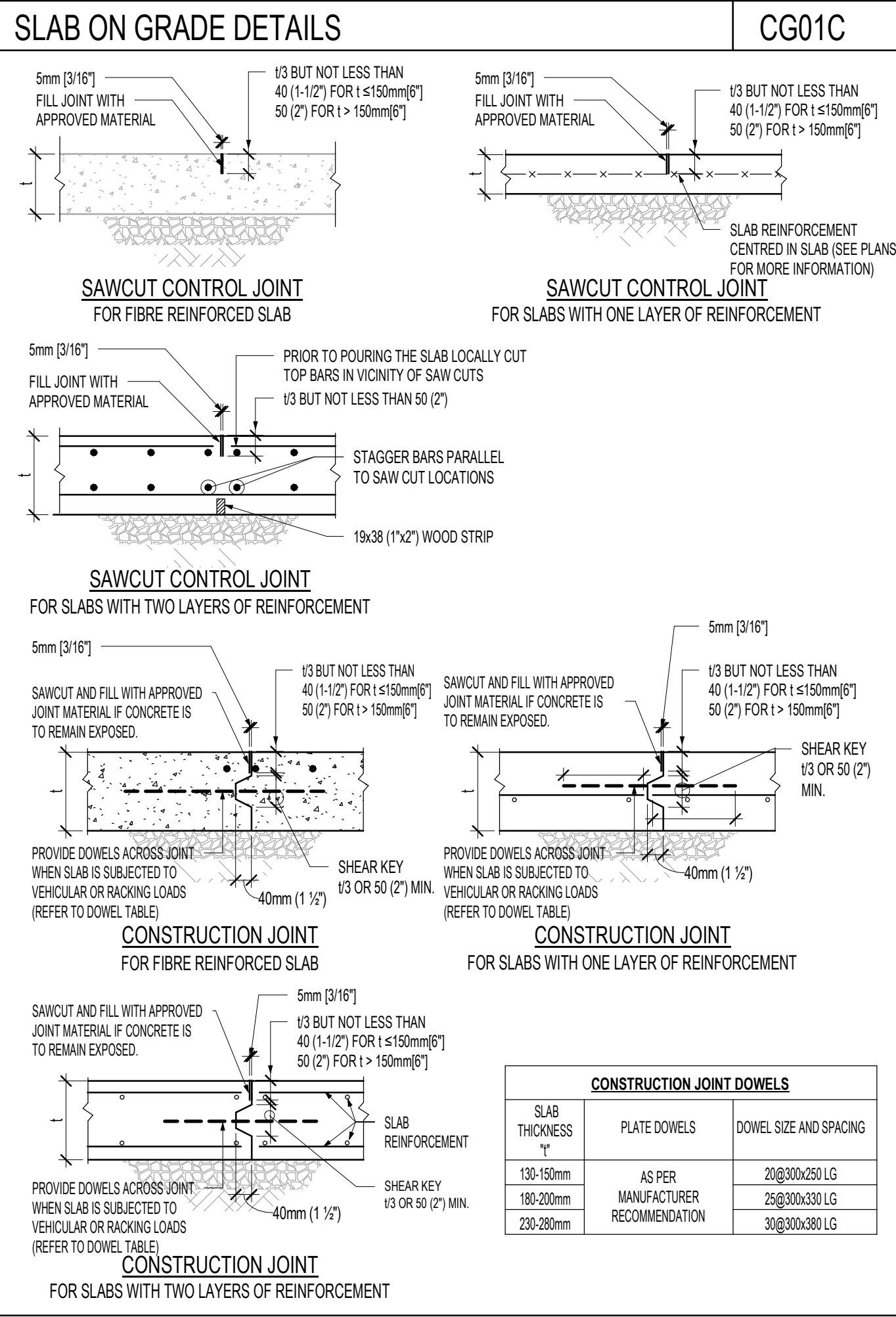
B

A

TYPICAL CONCRETE COVER TABLE				C01
ELEMENTS EXPOSED TO EARTH	PROJECT SPECIFIC COMMENTS	BAR SIZE	COVER (mm)	
PERMANENTLY EXPOSED TO SOIL		ALL SIZES	50	
CAST AGAINST AND PERMANENTLY EXPOSED TO SOIL		ALL SIZES	75	
<b>TABLE NOTES</b> 1. CONCRETE COVER SHALL BE MEASURED FROM THE DEEPEST POINT OF TEXTURED CONCRETE SURFACE TO THE NEAREST DEFORMATION OF REINFORCEMENT. REINFORCEMENT INCLUDES TIES, STIRRUPS AND MAIN BARS. 2. FOR FIRE RATING INFORMATION, REFER TO ARCHITECTURAL DRAWINGS				



COMPRESSION-TENSION DEVELOPMENT AND LAP LENGTHS $F_y = 400 \text{ MPa}$		C02A	TENSION DEVELOPMENT AND LAP SPlice LENGTHS $F_y = 400 \text{ MPa}$		C02B																																																																																																																																																																																																																																										
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<table><tr><th colspan="8">UNCOATED BLACK BAR</th></tr><tr><th>10M</th><th>15M</th><th>20M</th><th>25M</th><th>30M</th><th>35M</th><th>45M</th><th>55M</th></tr><tr><td>300</td><td>440</td><td>590</td><td>730</td><td>880</td><td>1030</td><td>NOT PERMITTED</td><td></td></tr></table>			UNCOATED BLACK BAR								10M	15M	20M	25M	30M	35M	45M	55M	300	440	590	730	880	1030	NOT PERMITTED		<table><tr><th rowspan="2"><math>f'_c</math></th><th colspan="4">10M</th><th colspan="4">15M</th><th colspan="4">20M</th><th colspan="4">25M</th><th colspan="4">30M</th><th colspan="4">35M</th></tr><tr><th>Top</th><th>Bottom</th><th>Top</th><th>Bottom</th><th>Top</th><th>Bottom</th><th>Top</th><th>Bottom</th><th>Top</th><th>Bottom</th><th>Top</th><th>Bottom</th><th>Top</th><th>Bottom</th><th>Top</th><th>Bottom</th><th>Top</th><th>Bottom</th></tr><tr><td>20MPa</td><td>550</td><td>420</td><td>820</td><td>630</td><td>1090</td><td>840</td><td>1710</td><td>1310</td><td>2050</td><td>1570</td><td>2390</td><td>1840</td></tr><tr><td>25MPa</td><td>490</td><td>380</td><td>740</td><td>570</td><td>980</td><td>750</td><td>1530</td><td>1170</td><td>1830</td><td>1410</td><td>2130</td><td>1640</td></tr><tr><td>30MPa</td><td>450</td><td>350</td><td>670</td><td>520</td><td>890</td><td>690</td><td>1390</td><td>1070</td><td>1670</td><td>1290</td><td>1950</td><td>1500</td></tr><tr><td>35MPa</td><td>420</td><td>320</td><td>620</td><td>480</td><td>830</td><td>640</td><td>1290</td><td>990</td><td>1550</td><td>1190</td><td>1800</td><td>1390</td></tr><tr><td>40MPa</td><td>390</td><td>300</td><td>580</td><td>450</td><td>770</td><td>600</td><td>1210</td><td>930</td><td>1450</td><td>1110</td><td>1690</td><td>1300</td></tr><tr><td>45MPa</td><td>370</td><td>300</td><td>550</td><td>420</td><td>730</td><td>560</td><td>1140</td><td>880</td><td>1370</td><td>1050</td><td>1590</td><td>1230</td></tr><tr><td>50MPa</td><td>350</td><td>300</td><td>520</td><td>400</td><td>690</td><td>530</td><td>1080</td><td>830</td><td>1300</td><td>1000</td><td>1510</td><td>1160</td></tr><tr><td>55MPa</td><td>330</td><td>300</td><td>500</td><td>380</td><td>660</td><td>510</td><td>1030</td><td>790</td><td>1240</td><td>950</td><td>1440</td><td>1110</td></tr><tr><td>60MPa</td><td>320</td><td>300</td><td>480</td><td>370</td><td>630</td><td>490</td><td>990</td><td>760</td><td>1180</td><td>910</td><td>1380</td><td>1060</td></tr><tr><td>64MPa</td><td>310</td><td>300</td><td>460</td><td>360</td><td>610</td><td>470</td><td>960</td><td>740</td><td>1150</td><td>880</td><td>1340</td><td>1030</td></tr></table>			$f'_c$	10M				15M				20M				25M				30M				35M				Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	20MPa	550	420	820	630	1090	840	1710	1310	2050	1570	2390	1840	25MPa	490	380	740	570	980	750	1530	1170	1830	1410	2130	1640	30MPa	450	350	670	520	890	690	1390	1070	1670	1290	1950	1500	35MPa	420	320	620	480	830	640	1290	990	1550	1190	1800	1390	40MPa	390	300	580	450	770	600	1210	930	1450	1110	1690	1300	45MPa	370	300	550	420	730	560	1140	880	1370	1050	1590	1230	50MPa	350	300	520	400	690	530	1080	830	1300	1000	1510	1160	55MPa	330	300	500	380	660	510	1030	790	1240	950	1440	1110	60MPa	320	300	480	370	630	490	990	760	1180	910	1380	1060	64MPa	310	300	460	360	610	470	960	740	1150	880	1340	1030																																					
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## PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAY CARE EXPANSION PROJECT

29 MEADOVALE RD  
SCARBOROUGH, ON  
M1C 1R7

## CLIENT

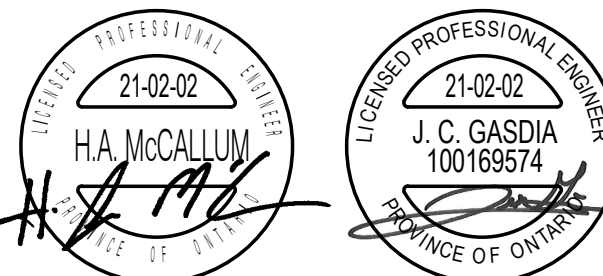
CONSEIL SCOLAIRE CATHOLIQUE  
MONAVENIR  
110 DREWRY AVENUE  
NORTH YORK, ON M2M 1C8  
416.397.6564 tel 416.397.6576 fax  
www.cscmonavenir.com

## CONSULTANT



2550 Victoria Park Ave, Suite 602  
Toronto ON M2J 5A9 | Tel: (416) 635 9970  
www.stephenson-eng.com | info@stephenson-eng.com

## REGISTRATION



THE CONTRACTOR SHALL CHECK ALL  
DIMENSIONS WITH THE LATEST ISSUE OF  
ARCHITECTURAL, MECHANICAL AND ELECTRICAL  
DRAWINGS. REPORT ANY DISCREPANCIES TO  
THE ARCHITECT BEFORE PROCEEDING WITH WORK.

## ISSUE/REVISION

NO.	DATE	DESCRIPTION
1	APRIL 05/19	ISSUED FOR 60% COORDINATION
2	APRIL 05/19	ISSUED FOR PERMIT
4	FEB/02/21	ISSUED FOR TENDER

## KEY PLAN

## PROJECT NUMBER

20182240

TENDER# 2021-16

## SHEET TITLE

TYPICAL DETAILS

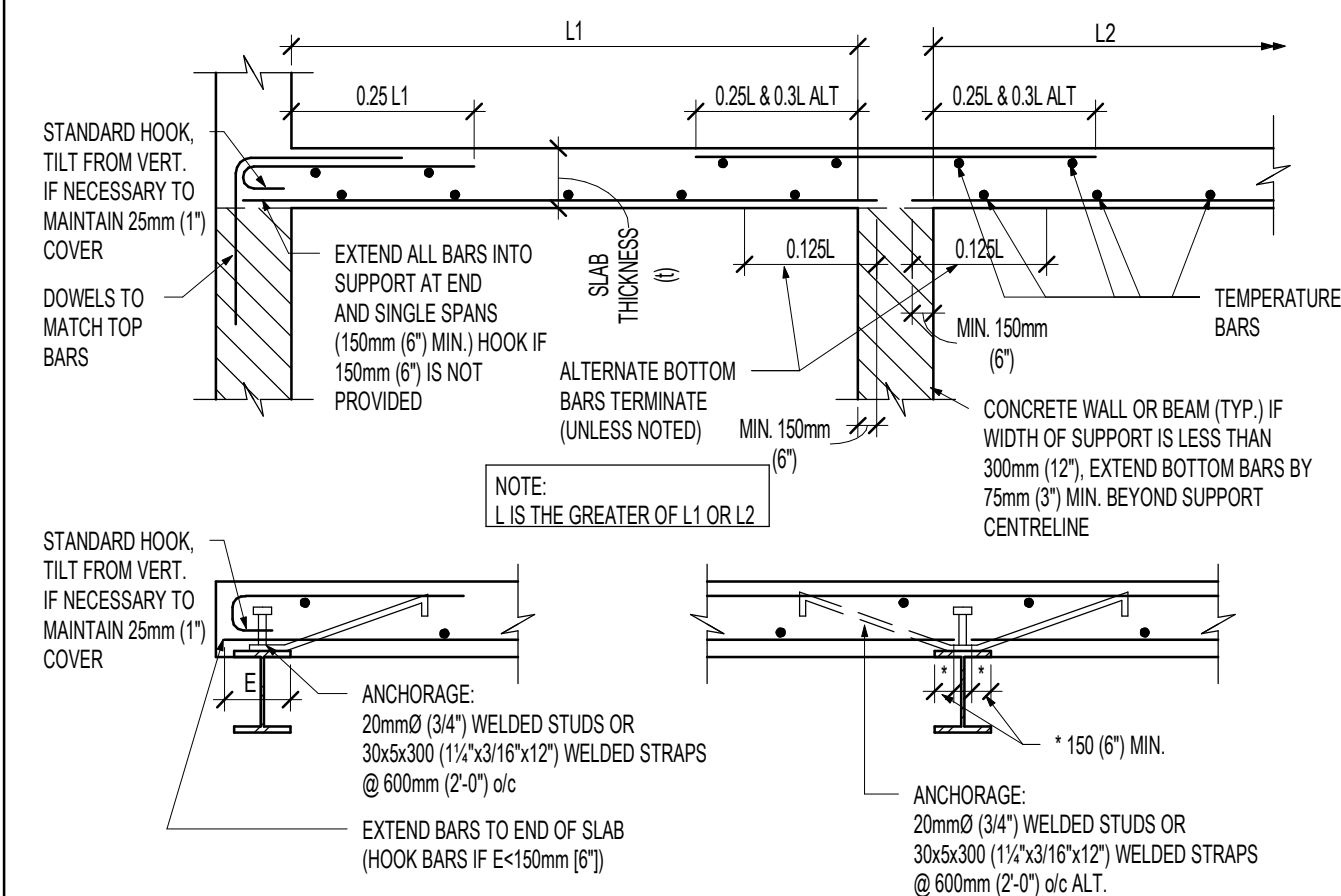
## SHEET NUMBER

S3-02



## CONCRETE ONE-WAY SLABS

CS01



## TYPICAL SECTIONS

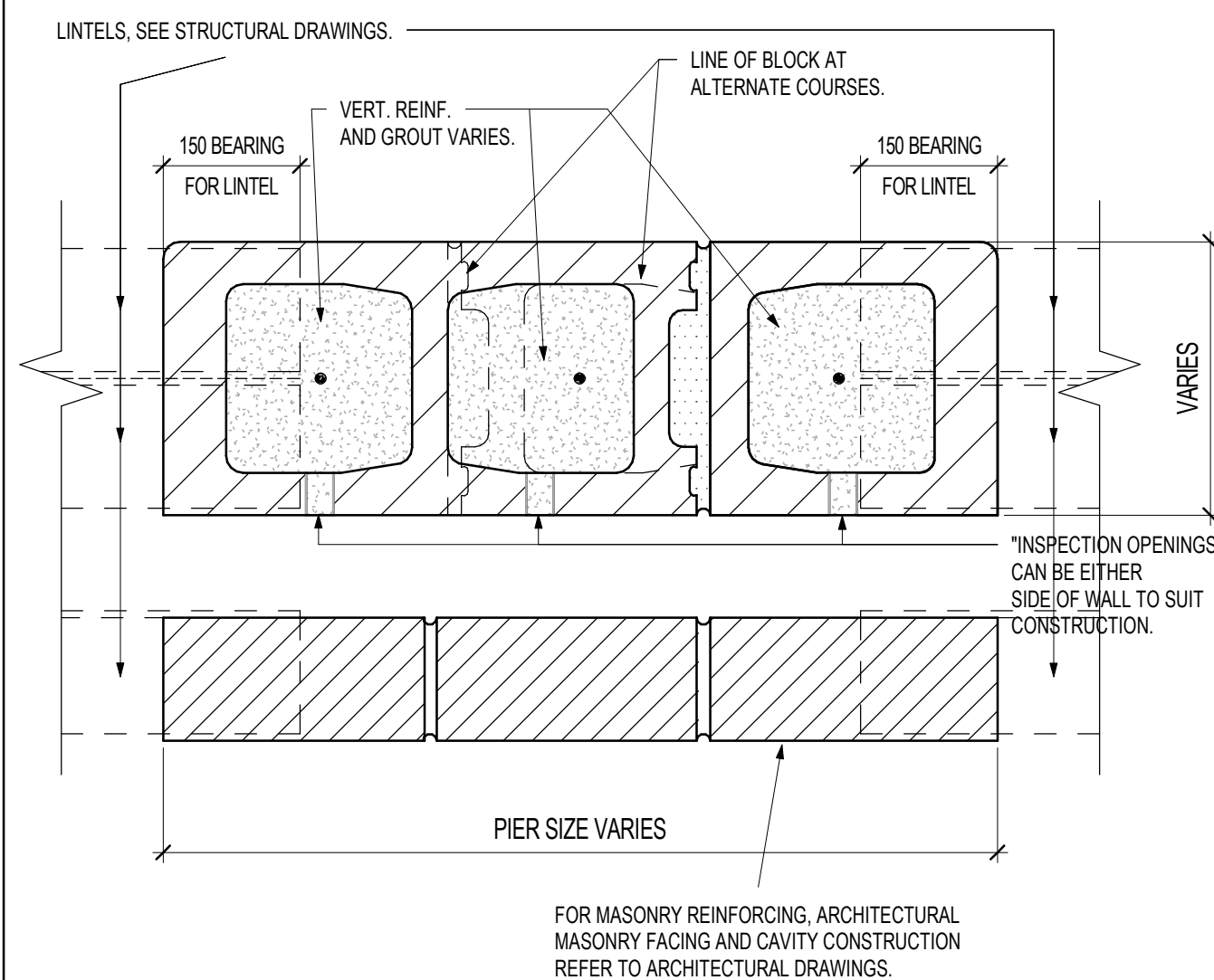
- USE DEFORMED BARS CONFORMING TO CSA G30.12-M GRADE 400
- AT NON-CONTINUOUS ENDS, ALL TOP BARS SHALL TERMINATE WITH A 90° OR 180° HOOK, REFER TO ACI STANDARD 315 AND RSIC "MANUAL OF STANDARD PRACTICE" FOR STANDARD HOOKS
- UNLESS OTHERWISE SHOWN, PROVIDE TEMPERATURE BARS AS SHOWN BELOW, IN ALL SLABS. WHERE REQUIRED, LAPS ARE TO BE STAGGERED CLASS "A" TENSION LAP SPLICES, TOL. (SEE 002 AND C03)
- TOLERANCE FOR PLACING REINFORCEMENT SHALL CONFORM WITH CSA CAN3-A23.1-M
- DETAILS AS SHOWN SHALL BE USED FOR ALL "ONE-WAY" SLABS UNLESS OTHERWISE SHOWN ON STRUCTURAL DRAWINGS. NO DEVIATIONS PERMITTED WITHOUT WRITTEN AUTHORIZATION.
- WHERE TOP AND BOTTOM BARS EXIST, ALTERNATE TEMPERATURE BARS ON TOP AND BOTTOM LAYERS. SEE BELOW.

TEMPERATURE BARS METRIC (unless noted otherwise on structural drawings)									
(l) mm	125	150	175	200	225	250	275	300	
TEMP. BARS	10M@400	10M@340	10M@280	15M@300	15M@450	15M@400	15M@300	15M@320	

TEMPERATURE BARS IMPERIAL (unless noted otherwise on structural drawings)									
(l) inches	5'	6'	7'	8'	9'	10'	11'	12'	
TEMP. BARS	10M@16"	10M@13"	10M@11"	15M@20"	15M@17"	15M@15"	15M@14"	15M@12"	

## TYPICAL REINFORCED EXTERIOR MASONRY WALLS AND PIERS PLAN DETAIL

M03

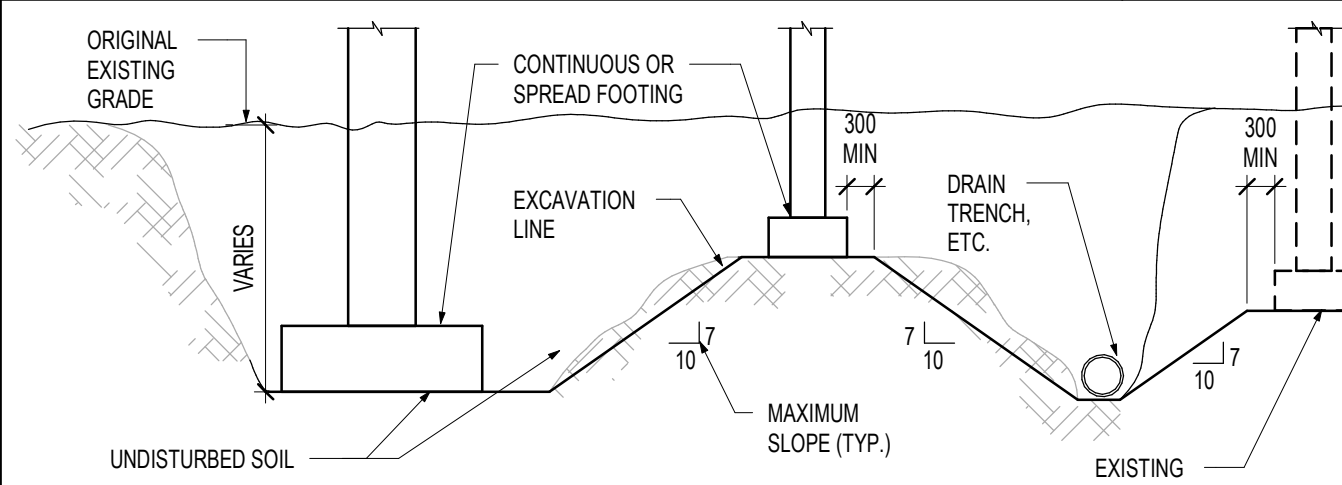


## NOTE:

- GROUT TO CONFORM TO REQUIREMENTS OF CSA STANDARD A179-M CLAUSE 8.1 TABLE 3 "FINE GROUT". SLUMP SHALL BE  $\pm 200$ mm A AND COMPRESSIVE STRENGTH SHALL BE A MINIMUM OF 15 MPa @ 28 DAYS.
- COMPRESSIVE TESTING OF GROUT SHALL BE CARRIED OUT BY THE APPROVED INSPECTION AND TESTING COMPANY IN ACCORDANCE WITH CSA STANDARD A179-M. PREPARE A MINIMUM 3 TESTS FOR EACH STOREY OF CONSTRUCTION. 1 TEST SHALL COMPRISE OF 3 CUBES FOR TESTING, 1 AT 7 DAYS AND 2 AT 28 DAYS.
- NOTE - MORTAR IS NOT ACCEPTABLE FOR USE AS GROUT, AND IF USED PIERS SHALL BE REJECTED AND RE-CONSTRUCTED.
- ALL CELLS CONTAINING VERTICAL REINFORCING SHALL BE COMPLETELY FILLED WITH GROUT IN LIFTS NOT EXCEEDING 240mm GROUT SHALL BE CONSOLIDATED BY PUDDLING OR VIBRATING DURING POURING.
- AT EACH LIFT "INSPECTION" OPENINGS SHALL BE PROVIDED AT THE BOTTOMS OF CELLS TO BE FILLED. THE CLEANOUTS SHALL BE INSPECTED BY THE ENGINEER BEFORE BEING SEALED.
- SEE TYPICAL DETAIL ELEVATION M04.

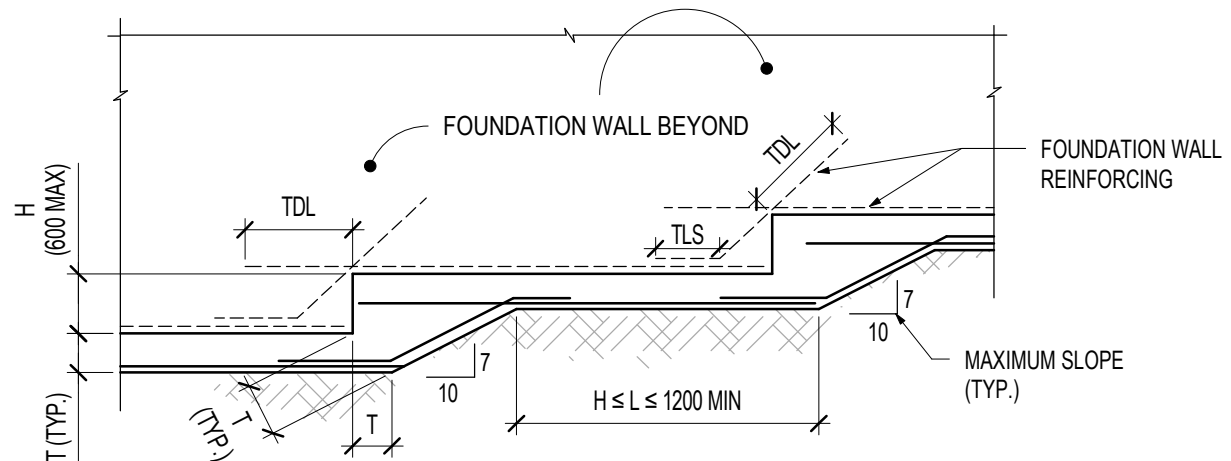
## STEPPED FOUNDATION AND CONSTRUCTION EXCAVATION

F09



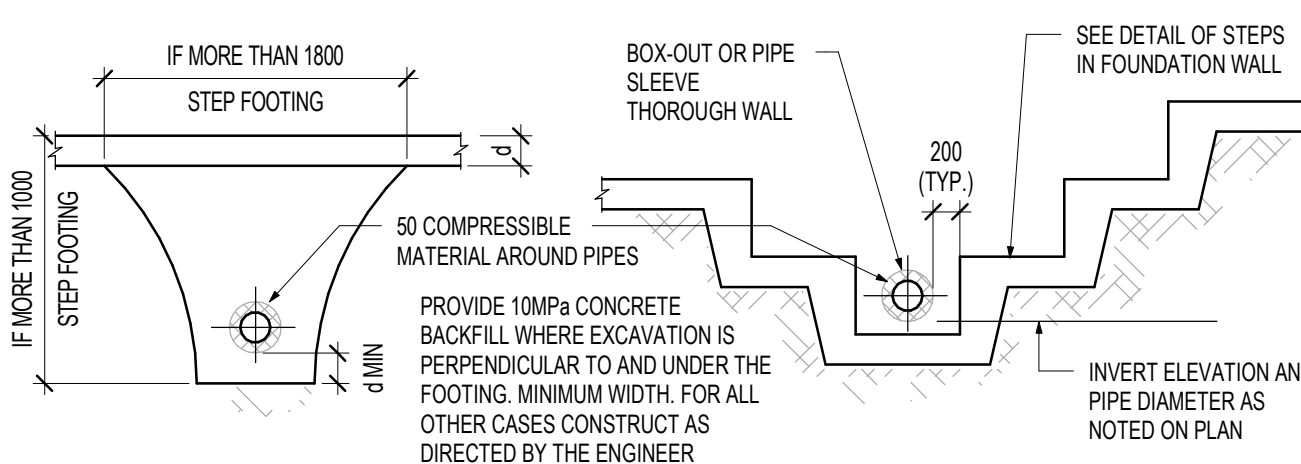
## MAXIMUM SLOPE AT EXCAVATIONS

- NOTES:
- WHERE TRENCHING OR EXCAVATING AT ADJACENT FOOTING SATISFY THE MAXIMUM SLOPE REQUIREMENT SHOWN ABOVE.
  - IF EXCAVATION REQUIREMENTS VIOLATE SLOPE REQUIREMENTS PROVIDE PLANS FOR REMEDIAL MEASURES (BRACING OR UNDERPINNING) TO THE CONSULTANT PRIOR TO PROCEEDING



## STEPS IN FOUNDATION WALL

- NOTES:
- STEPS IN FOUNDATION WALLS TO FOLLOW THE GEOMETRY SHOWN ABOVE UNLESS NOTED OTHERWISE ON PLANS

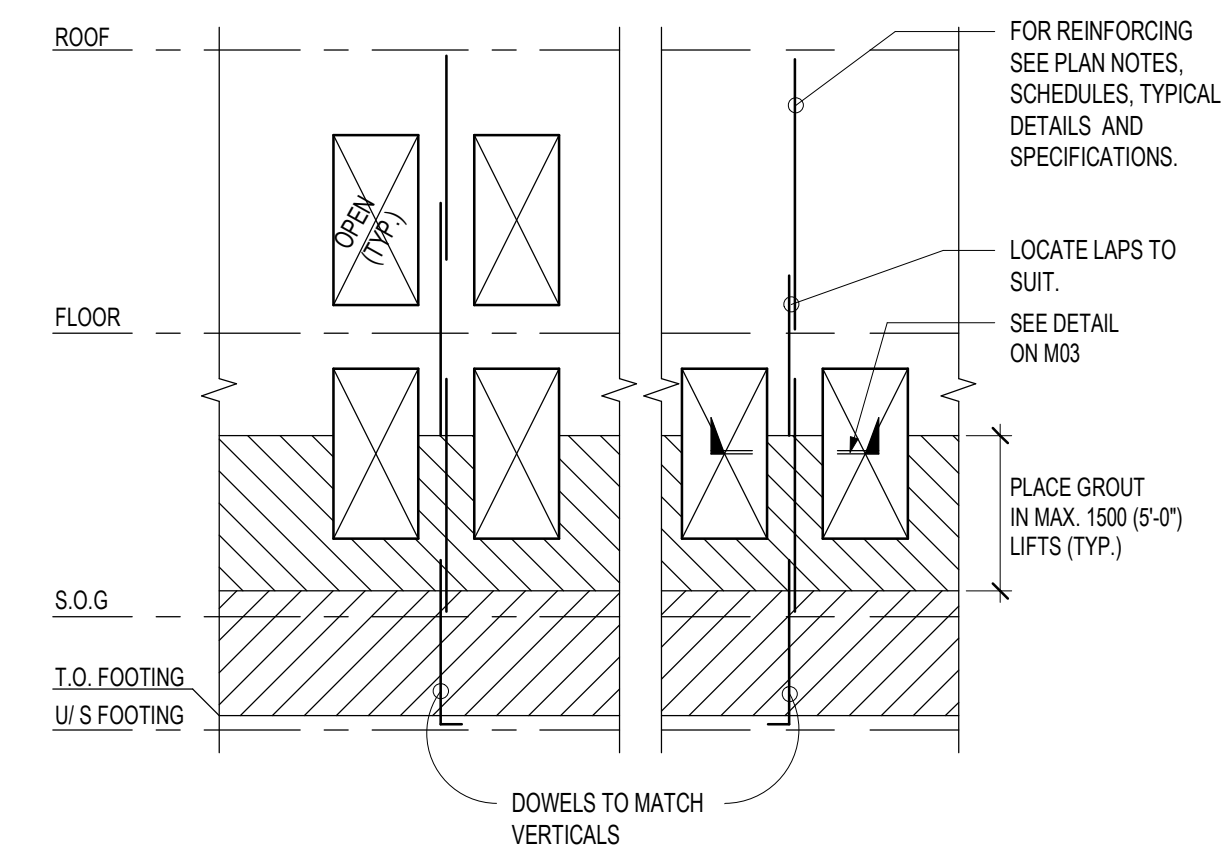


## PIPES UNDER CONTINUOUS WALL FOOTINGS

## PIPES REQUIRING STEPPED FOOTINGS

## TYPICAL ELEVATION REINFORCED MASONRY WALLS AND PIERS

M04



## NOTE:

- PROVIDE MINIMUM LAP SPLICES FOR VERTICAL REINFORCING (BASED ON 15MPa GROUT):
  - 10M - 500mm (20")
  - 15M - 700mm (2'-4")
  - 20M - 1000mm (3'-4")
- LAP ALL HORIZONTAL LADDER TYPE REINFORCING 500mm.
- ANY CROSSWIRES WITHIN LAP LENGTH SHALL BE REMOVED.
- LAPS SHALL BE STAGGERED A MINIMUM OF 750mm FROM COURSE TO COURSE.

## NON-LOAD BEARING BLOCK WALL LINTELS

M01A

WALL OPENING CLEAR SPAN	MASONRY BLOCK THICKNESS				
	90 (4")	140 (6")	190 (8")	240 (10")	290 (12")
300mm TO 500mm (12" TO 22")	75mm X 8mm PL (3"x5/16" PL)	125mm X 8mm PL (5"x5/16" PL)	175mm X 8mm PL (7"x5/16" PL)	225mm X 8mm PL (9"x5/16" PL)	275mm X 8mm PL (11"x5/16" PL)
550mm TO 1200mm (22" TO 4'-0")	1-L189x89x6.4 OR 2-L144x44x6.4	1-L127x89x6.4 (LLH) OR 2-L164x44x6.4	2-L189x89x6.4	2-L102x89x6.4 (LLH)	3-L189x89x6.4
1200mm TO 1830mm (4'-0" TO 6'-0")	1-L127x89x7.9 (LLV) OR 2-L151x38x6.4 (LLV)	1-L127x127x7.9 OR 2-L189x64x6.4 (LLV)	2-L127x89x7.9 (LLV)	2-L102x102x7.9	3-L127x89x7.9 (LLV)
1830mm TO 2440mm (6'-0" TO 8'-0")	1-L127x89x7.9 (LLV)	1-L127x127x7.9 OR 2-L189x64x6.4 (LLV)	2-L127x89x7.9 (LLV)	2-L152x102x7.9 (LLV)	N/A
2440mm TO 3080mm (8'-0" TO 10'-0")	1-L127x89x9.5 (LLV)	1-L127x127x7.9	W200x27 + 175x6.4 PL. BOTTOM	W200x27 + 225x6.4 PL. BOTTOM	N/A
3080mm TO 3660mm (10'-0" TO 12'-0")	N/A	N/A	W200x27 + 175x6.4 PL. BOTTOM	W200x27 + 225x6.4 PL. BOTTOM	N/A

## STRUCTURAL STEEL LINTEL NOTES:

- WHEN PROVIDING MULTIPLE ANGLES SEE DIAGRAMS FOR ORIENTATION. BOLT DOUBLE ANGLES BACK TO BACK USING 19mm BOLTS OR PROVIDE 6mmX30mm (1/4"x2") LONG WELDS @450mm (18") O/C STARTING AT 100mm (4") MAX FROM THE EACH END OF THE LINTEL.
- SAWCUT WEBS OF BLOCK IN COURSE OF BLOCK OVER OPENING AS NECESSARY TO INSTALL ANGLES.
- ALTERNATIVES PROVIDED FOR CASES WHERE EXPOSED FACE OF SINGLE ANGLE IS NOT ACCEPTABLE.

## MASONRY BEAM LINTELS

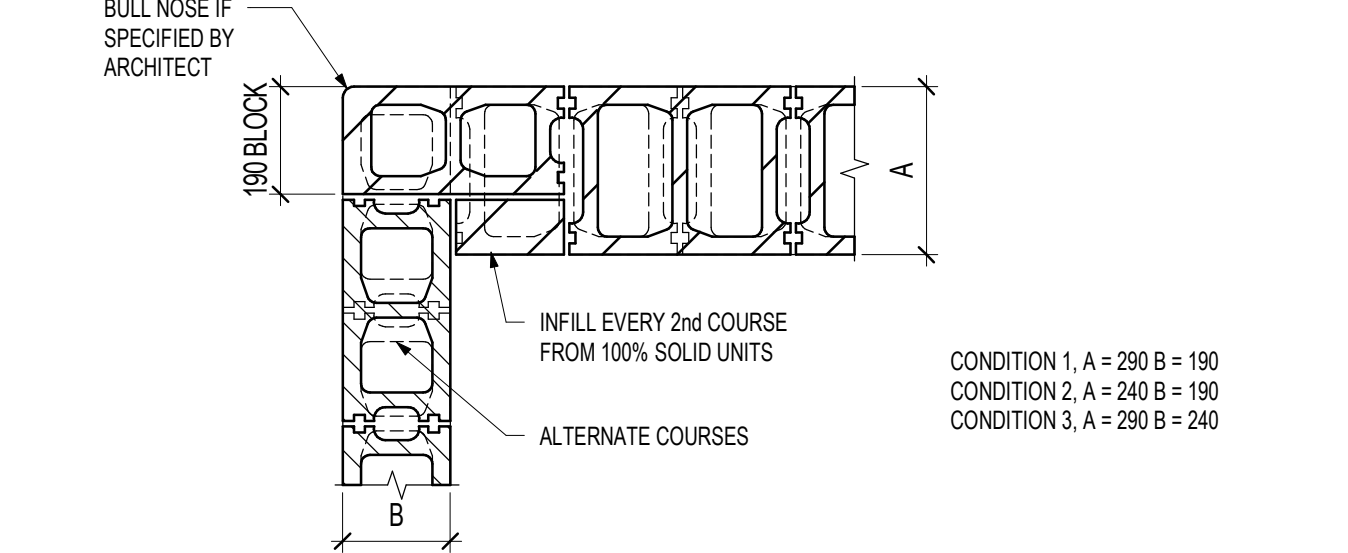
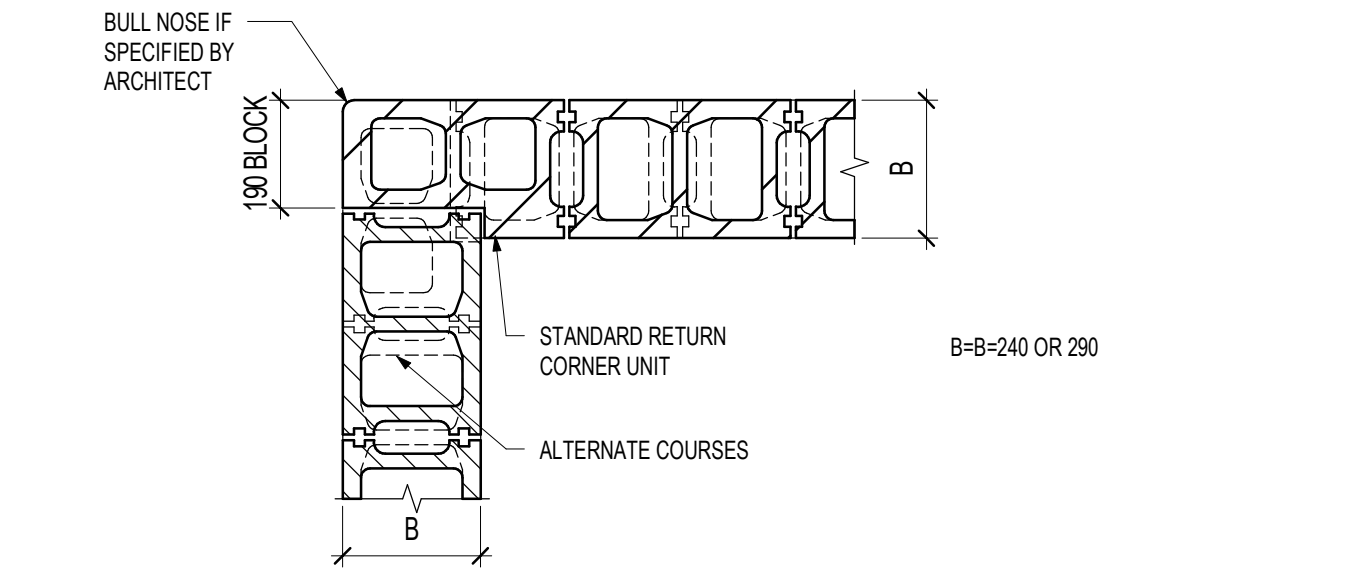
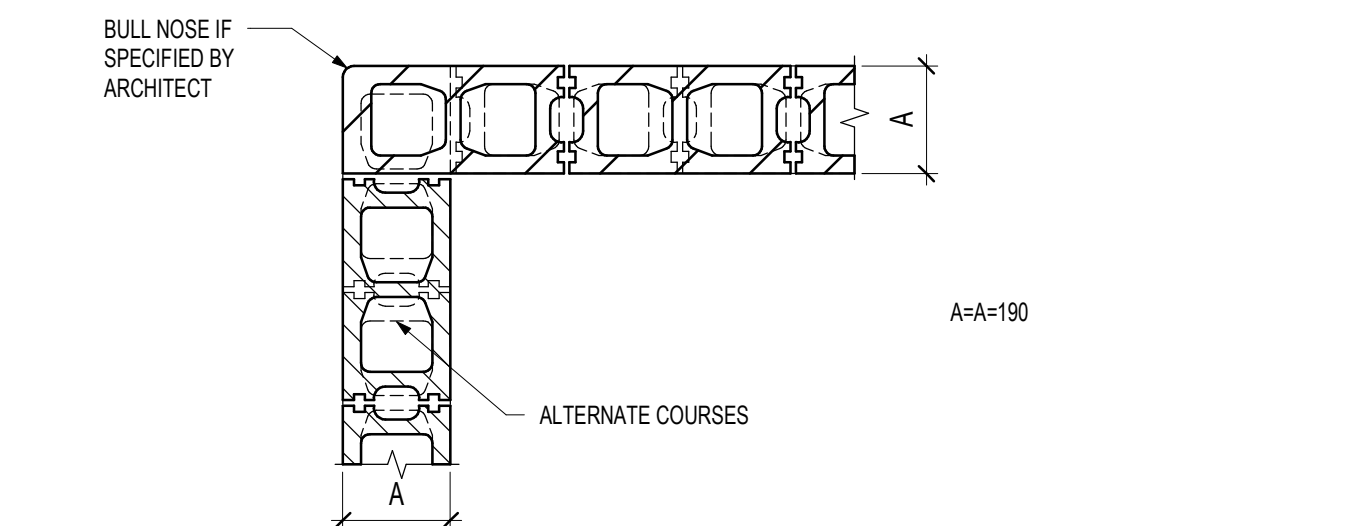
WALL OPENING CLEAR SPAN	MASONRY BLOCK THICKNESS				
	90 (4")	140 (6")	190 (8")	240 (10")	290 (12")
0mm TO 1200mm (0" TO 4'-0")	190 (8") DEEP 1-10M T&B	190 (8") DEEP 1-10M T&B	190 (8") DEEP 2-10M T&B	190 (8") DEEP 2-10M T&B	190 (8") DEEP 2-10M T&B
1200mm TO 1830mm (4'-0" TO 6'-0")	190 (8") DEEP 1-15M T&B	190 (8") DEEP 1-15M T&B	190 (8") DEEP 2-10M T&B	190 (8") DEEP 2-10M T&B	190 (8") DEEP 2-10M T&B
1830mm TO 2440mm (6'-0" TO 8'-0")	N/A	190 (8") DEEP 1-15M T&B	190 (8") DEEP 2-15M T&B	190 (8") DEEP 2-15M T&B	190 (8") DEEP 2-15M T&B
2440mm TO 3080mm (8'-0" TO 10'-0")	N/A	390 (16") DEEP 2-15M T&B	390 (16") DEEP 2-15M T&B	390 (16") DEEP 2-15M T&B	390 (16") DEEP 2-15M T&B

## MASONRY BEAM LINTEL NOTES:

- BEAM MUST BE FILLED WITH 20MPa TYPE N CONCRETE OR APPROVED GROUT EQUIVALENT (MORTAR IS NOT ACCEPTABLE).
- TEMPORARILY SHORE LINTEL UNTIL GROUT HAS REACHED FULL DESIGN STRENGTH.

## TYPICAL DETAIL OF CONSTRUCTED CORNERS IN SINGLE WYTHE MASONRY WALLS (NO CONTROL JOINT)

M06

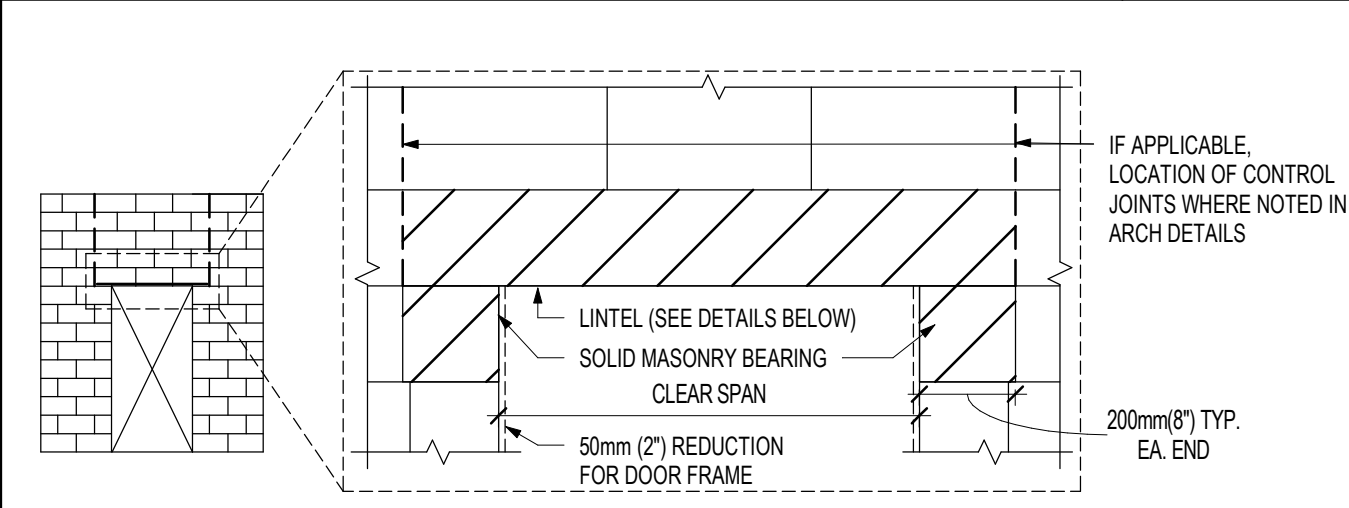


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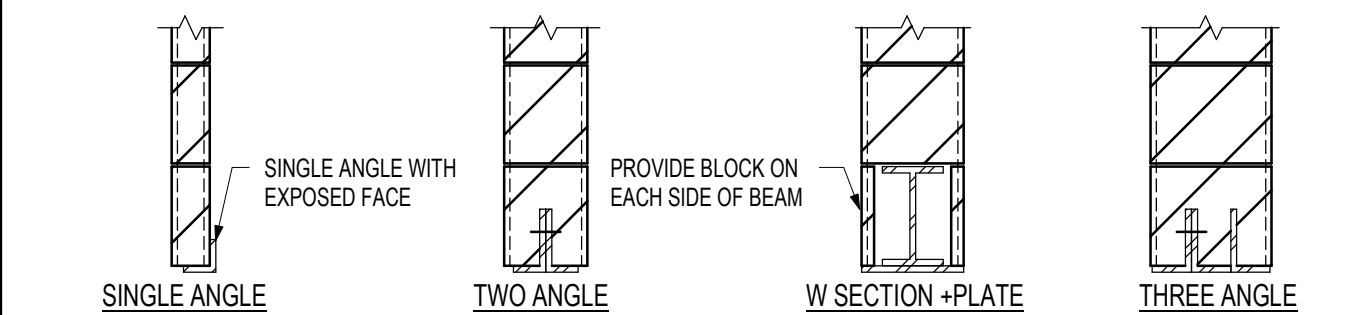
- PROVIDE PREFABRICATED CORNERS FOR HORIZONTAL JOINT REINFORCING (TYPICAL).
- REFER TO TYPICAL LOAD BEARING MASONRY NOTES AND TO THE SPECIFICATION FOR MASONRY MATERIALS AND FOR HORIZONTAL JOINT REINFORCING

## NON-LOAD BEARING BLOCK WALL LINTEL DETAILS

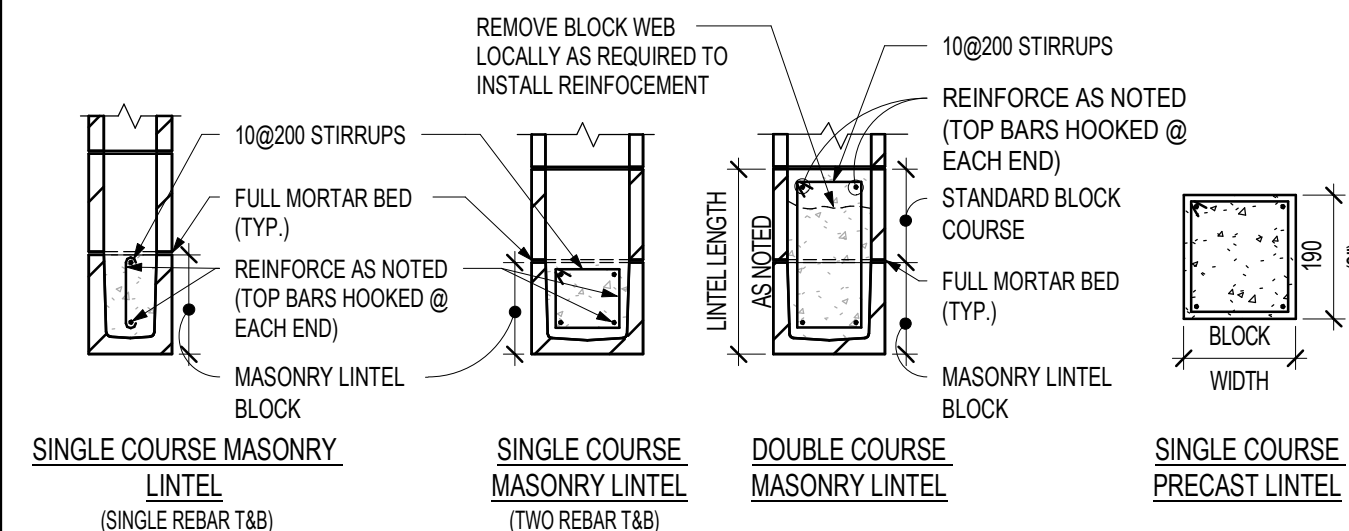
M01B



## LINTEL DETAILS



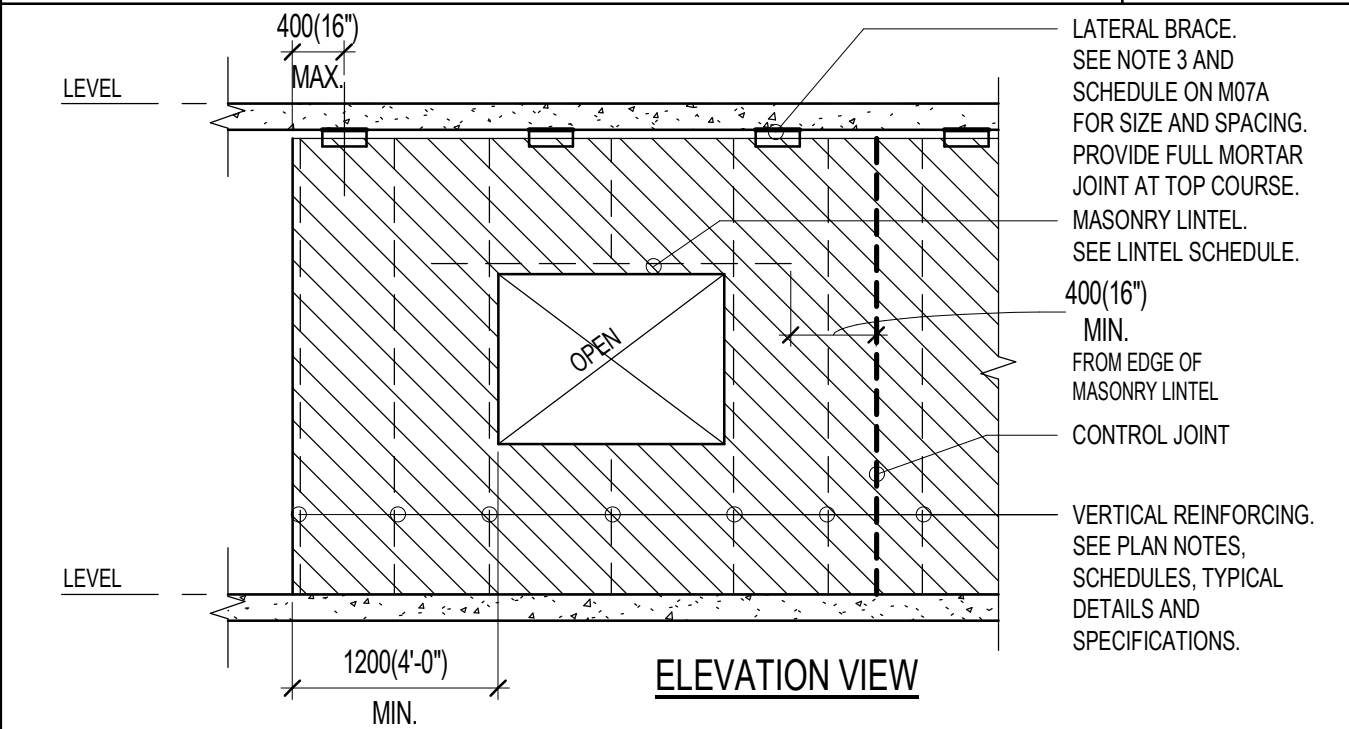
## STRUCTURAL STEEL LINTEL DETAILS



## MASONRY AND PRECAST BEAM LINTEL DETAILS

## TYPICAL MASONRY WALL REINFORCING SCHEDULE NOTES AND DETAIL

M07



## NOTES:

- PROVIDE ADDITIONAL REINFORCING IN THE TOP COURSE AND THE FIRST TWO COURSES ABOVE AND BELOW WALL OPENING. THE REINFORCING SHALL EXTEND 800mm (24") BEYOND SUCH OPENINGS. COORDINATE WITH THE REQUIREMENTS OF THE SPECIFICATIONS FOR TYPE AND FINISHES.
- PROVIDE VERTICAL REINFORCEMENT AS NOTED ABOVE AND ADD 1-15M AT END OR CORNER OF WALL, SIDES OF DOOR AND WINDOW OPENINGS, AND CONTROL AND EXPANSION JOINTS. VERTICAL REINFORCEMENT TO BE FULL HEIGHT OF WALL AND ALL CELLS WITH VERTICAL REINFORCEMENT TO BE FILLED SOLID WITH GROUT.
- SEE SCHEDULE ON DETAILS M14 OR M07B FOR THICKNESS AND SPACING OF LATERAL BRACE AT TOP OF WALL. ALL WALL BRACES SHALL BE GALVANIZED LATERAL BRACES 200mm(8") LONG WITH 75mm(3") VERTICAL LEG.
- REFER TO M14 FOR TYPICAL LATERAL SUPPORT DETAIL AT PARTITIONS FOR STEEL STRUCTURES AND M07B FOR TYPICAL LATERAL SUPPORT DETAIL AT PARTITIONS FOR CONCRETE STRUCTURES.
- REFER TO TYPICAL DETAIL M07B FOR CONNECTION OF MASONRY WALL ABUTTING CONCRETE OR MASONRY WALL FACING CONCRETE.
- PROVIDE DOWELS, 1200mm (4'-0") LONG. SIZE AND SPACING TO MATCH VERTICAL WALL REINFORCEMENT.
- COMPLETELY FILL REINFORCED CELLS WITH GROUT HAVING MINIMUM 28 DAYS STRENGTH OF 15MPa.
- ADD HORIZONTAL BOND BEAM AT EACH FLOOR AND ROOF LEVEL.

## PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAY CARE EXPANSION PROJECT

29 MEADOVALE RD  
SCARBOROUGH, ON  
M1C 1R7

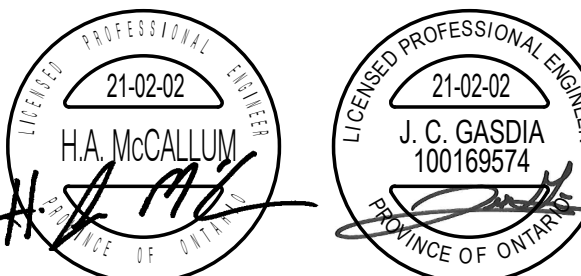
## CLIENT

CONSEIL SCOLAIRE CATHOLIQUE  
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NORTH YORK, ON M2M 1C8  
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www.cscmonaenir.com

## CONSULTANT

2550 Victoria Park Ave, Suite 602  
Toronto ON M2J 5A9 | Tel: (416) 635 9970  
www.stephenson-eng.com | info@stephenson-eng.com

## REGISTRATION



THE CONTRACTOR SHALL CHECK ALL DIMENSIONS WITH THE LATEST ISSUE OF ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH WORK.

## ISSUE/REVISION

NO.	DATE	DESCRIPTION
4	FEB/02/21	ISSUED FOR TENDER
2	APR/15/20	ISSUED FOR PERMIT
1	APRIL 05/19	ISSUED FOR 60% COORDINATION
I/R	DATE	DESCRIPTION

## KEY PLAN

## PROJECT NUMBER

20182240  
TENDER# 2017-16

## SHEET TITLE

TYPICAL DETAILS

## SHEET NUMBER

S3-03



Drawn By: AE  
Checked: MM

D

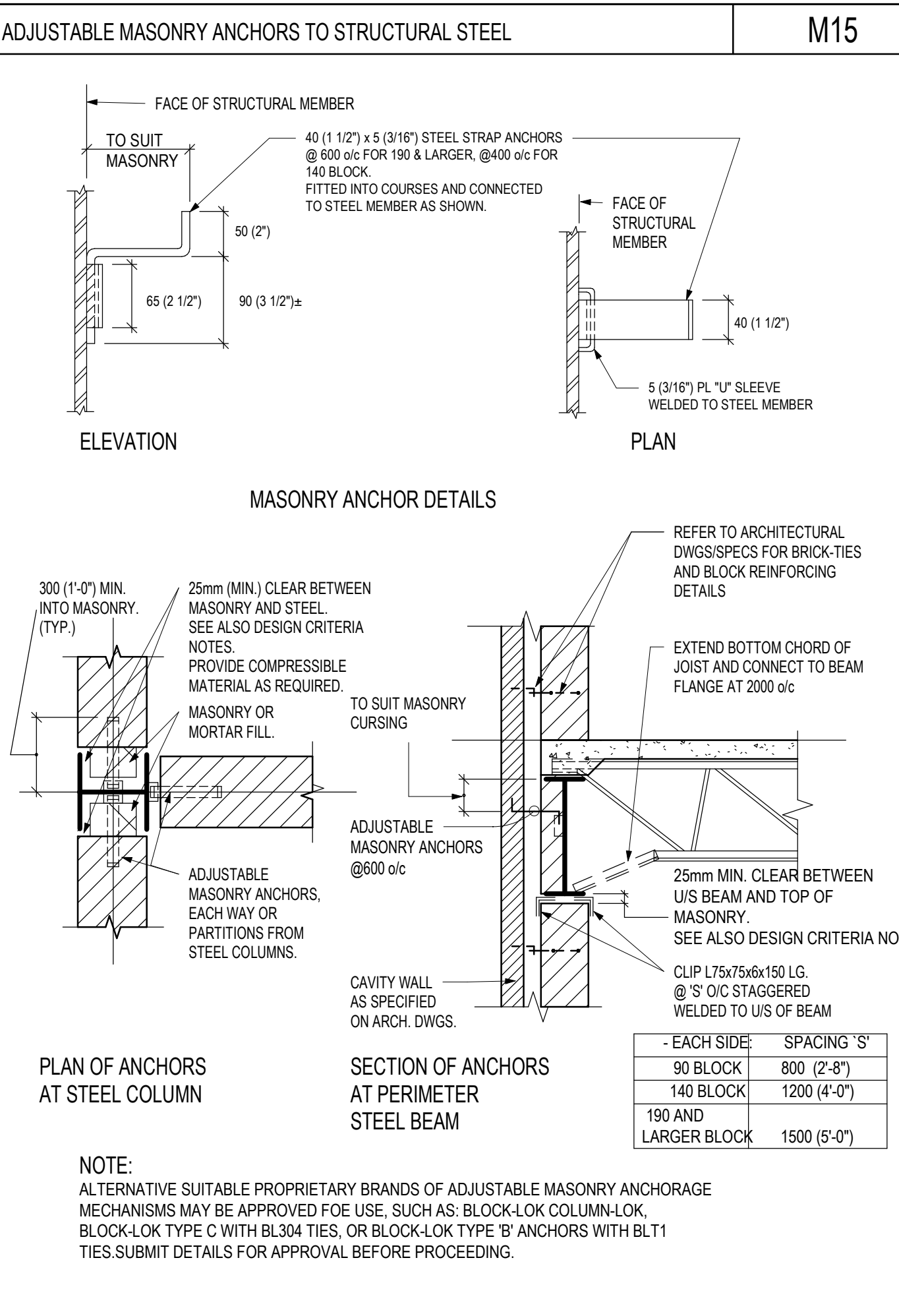
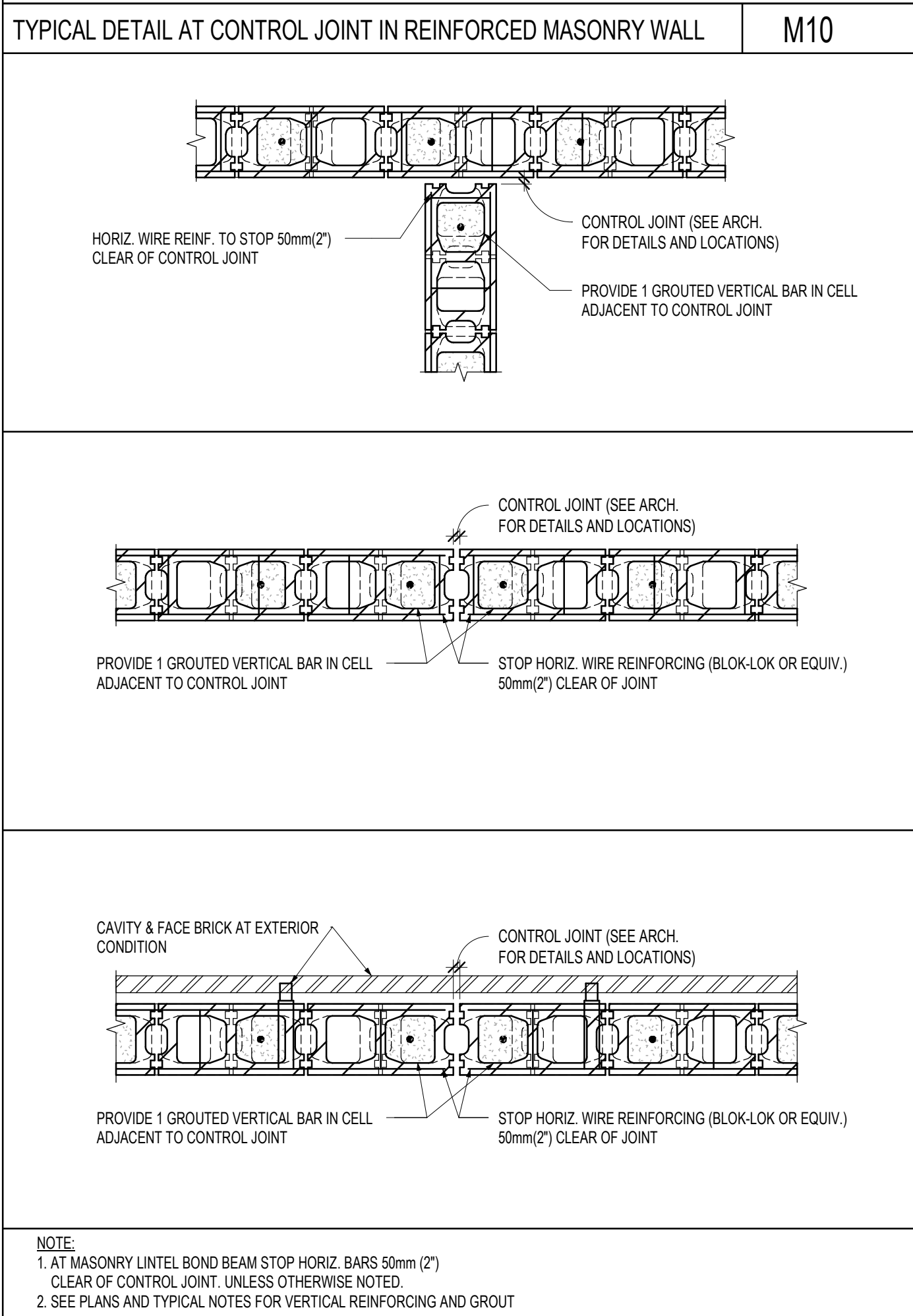
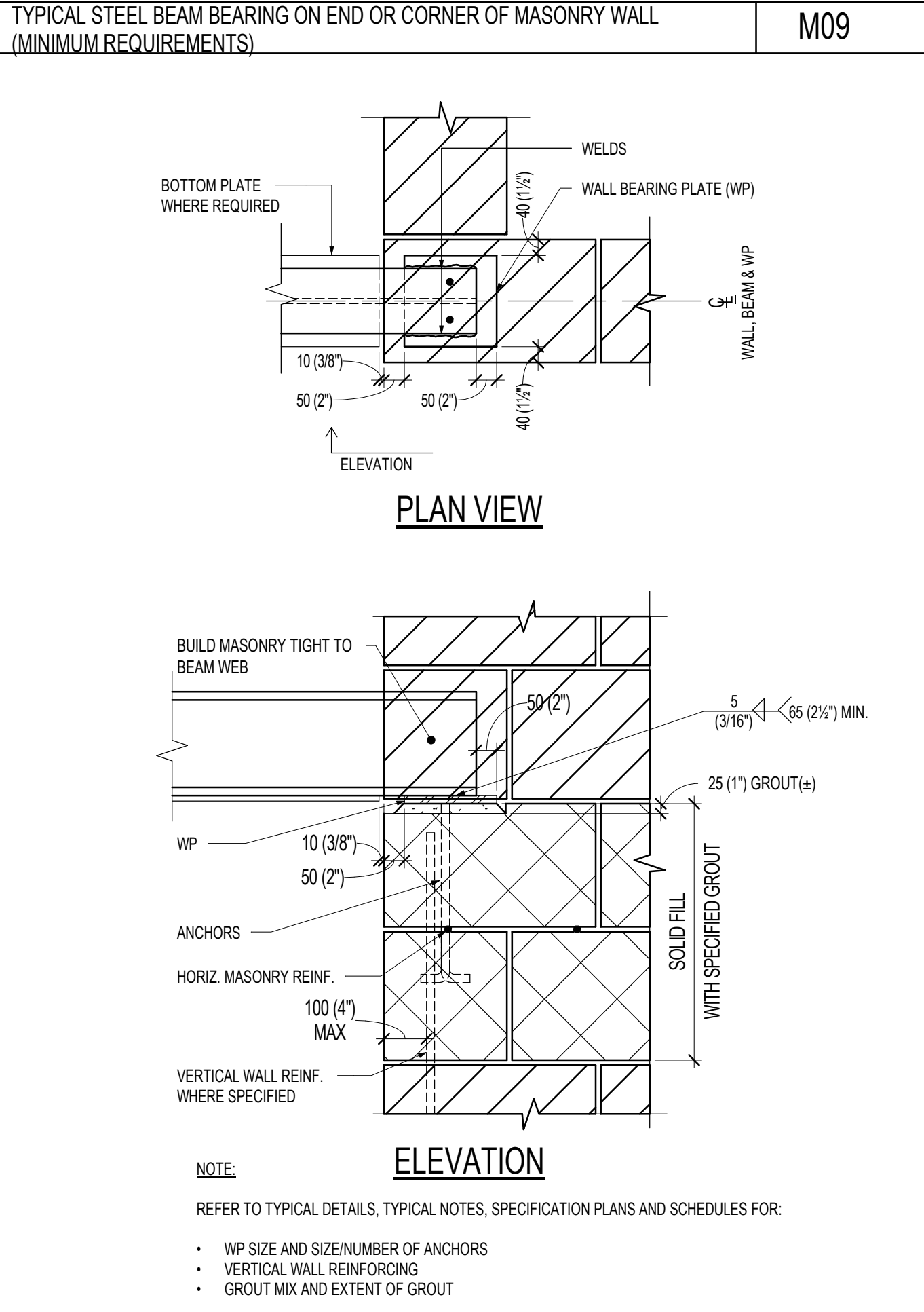
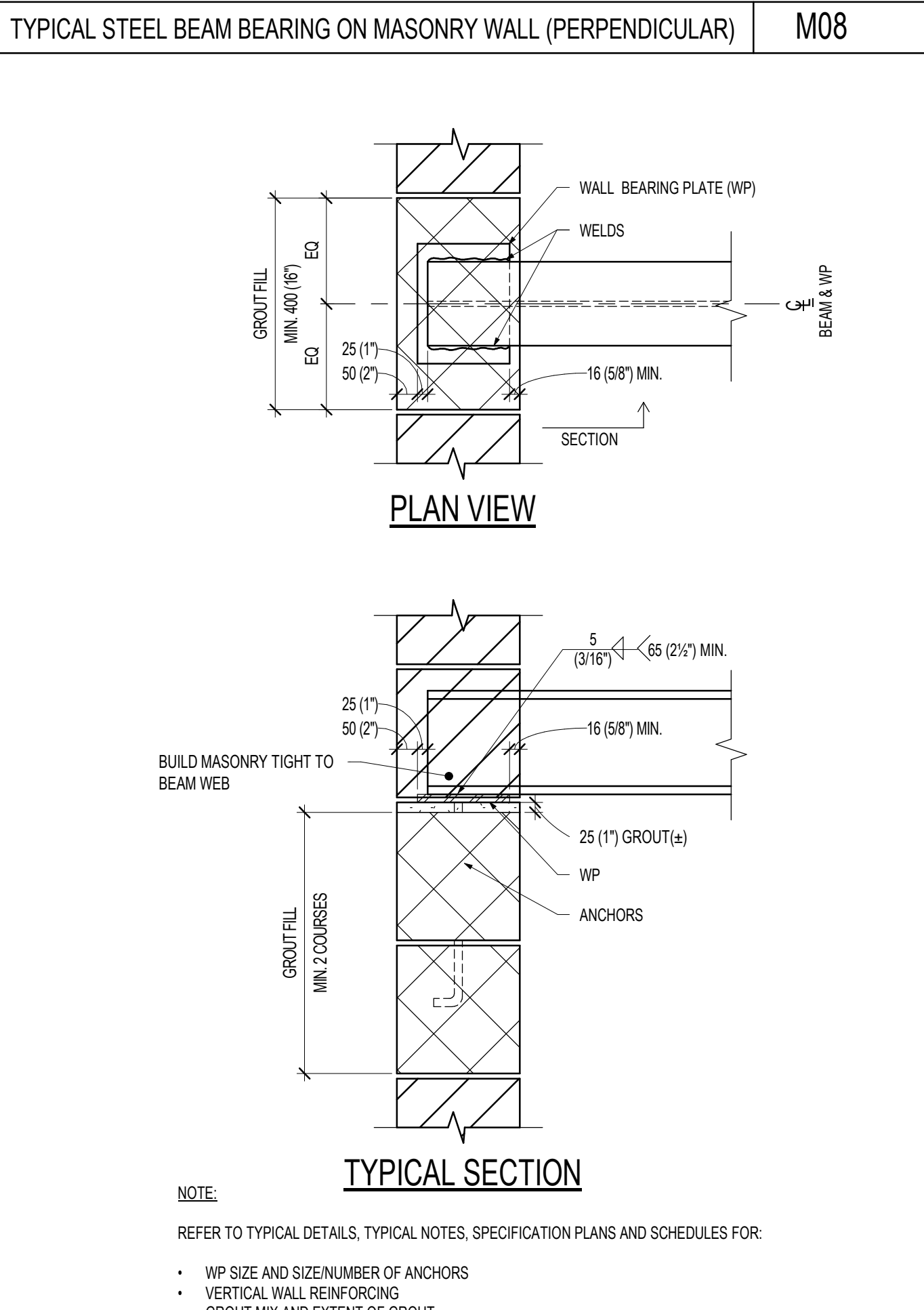
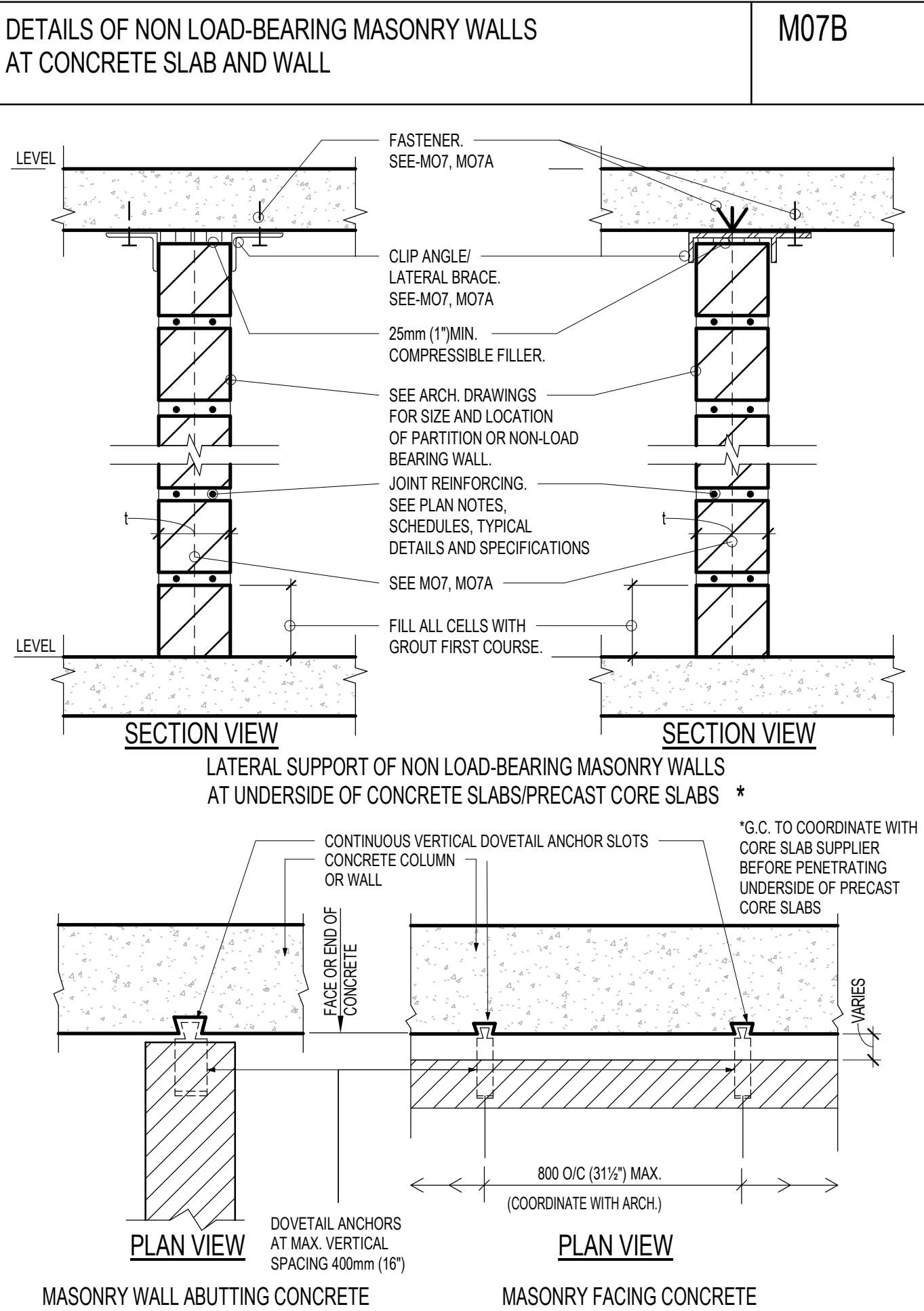
C

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A

NON LOAD-BEARING MASONRY PARTITION REINFORCING SCHEDULE   FaSa(0.2)<0.35							M07A	
PARTITIONS IN BASEMENT (INTERIOR)				(DIFFERENTIAL PRESSURE 0.25kPa)				
BLOCK	HEIGHT AND	VERTICAL REINFORCING	HORIZONTAL REINFORCEMENT	CLIP ANGLES				
				SPACING	FASTENER			
140	≤3800 (12'-5")	UNREINFORCED	9 GA @ 400mm (1'-4") o/c MAX. "LADDER" TYPE	1400 (4'-6")	CLIP 1.00X7.56 LH @ 5° o/c L4"x3"x14" LH @ 5° o/c EACH SIDE, STAGGERED WITH 1-1/8 (5/8)" SELF DRILL INSERT IN EACH CLIP			
190	≤5600 (18'-4")			1900 (6'-3")				
240	≤7000 (22'-11")			2400 (7'-11")				
INTERIOR PARTITIONS ABOVE GRADE				(DIFFERENTIAL PRESSURE 0.5kPa)				
BLOCK	HEIGHT AND	VERTICAL REINFORCING	HORIZONTAL REINFORCEMENT	HEIGHT AND	VERTICAL REINFORCING	HORIZONTAL REINFORCEMENT	CLIP ANGLES	
							SPACING	FASTENER
140	≤2400 (7'-10")	UNREINFORCED	9 GA @ 400mm (1'-4") o/c MAX. "LADDER" TYPE	2400 (7'-10") < H ≤ 4200 (13'-9")	15 @ 1200 (4'-0") o/c	9 GA @ 400mm (1'-4") o/c MAX. "LADDER" TYPE	1400 (4'-6")	CLIP 1.00X7.56 LH @ 5° o/c L4"x3"x14" LH @ 5° o/c EACH SIDE, STAGGERED WITH 1-1/8 (5/8)" SELF DRILL INSERT IN EACH CLIP
190	≤3800 (12'-5")			3800 (12'-5") < H ≤ 5800 (19'-0")			1900 (6'-3")	
240	≤4200 (14'-0")			4200 (14'-0") < H ≤ 6800 (22'-8")			2400 (7'-11")	

NOTES:  
ALLOWABLE PARTITION HEIGHTS ARE BASED ON 15MPa NORMAL DENSITY BLOCK w/ TYPE 'N' MORTAR.



PROJECT

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CATHOLIC ELEMENTARY SCHOOL  
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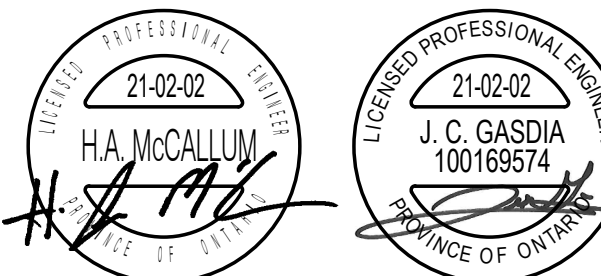
CLIENT

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REGISTRATION



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1/R	DATE	DESCRIPTION

KEY PLAN

PROJECT NUMBER

20182240  
TENDER# 2021-16

SHEET TITLE

TYPICAL DETAILS

SHEET NUMBER

S3-04

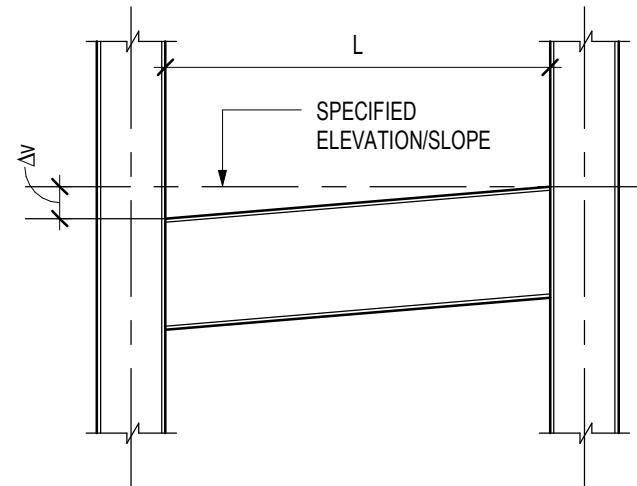


## ERECTION TOLERANCES FOR STEEL BEAMS

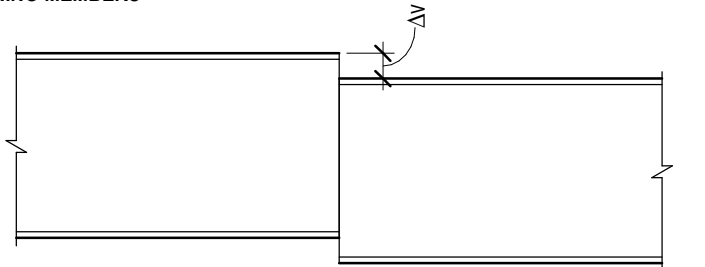
SB02A

(READ IN CONJUNCTION WITH SB02B)

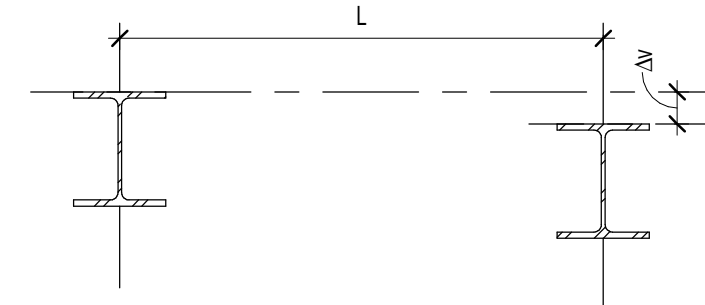
## 1. VERTICAL DEVIATION FROM SPECIFIED ELEVATION/SLOPE.

FLOOR BEAMS:  $\Delta v = \pm 10\text{mm}$  (3/8") OR = L/500MEMBERS WITH ADJUSTABLE CONNECTIONS:  $\Delta v = \pm 6\text{mm}$  (1/4") OR = L/1000

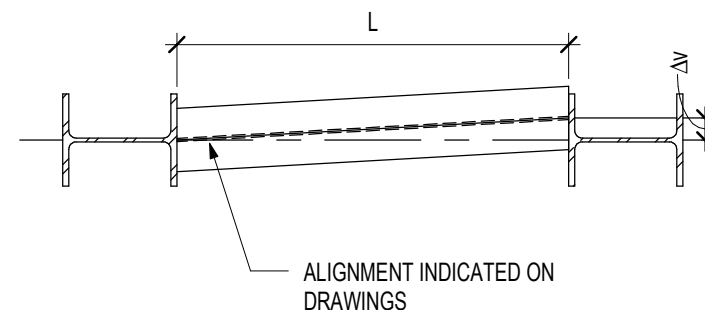
## 2. VERTICAL DEVIATION FROM SPECIFIED ELEVATION - ADJOINING MEMBERS

FLOOR BEAMS:  $\Delta v = \pm 6\text{mm}$  (1/4")MEMBERS WITH ADJUSTABLE CONNECTIONS:  $\Delta v = \pm 2\text{mm}$  (3/32")

## 3. VERTICAL DEVIATION FROM ADJACENT BEAMS

FLOOR BEAMS:  $\Delta v = L/1000$ 

## 4. HORIZONTAL DEVIATION FROM INDICATED POSITION

FLOOR BEAMS:  $\Delta H = \pm 12\text{mm}$  (1/2") OR L/500SPANDREL BEAMS:  $\Delta H = \pm 6\text{mm}$  (1/4") OR L/1000

## NOTES

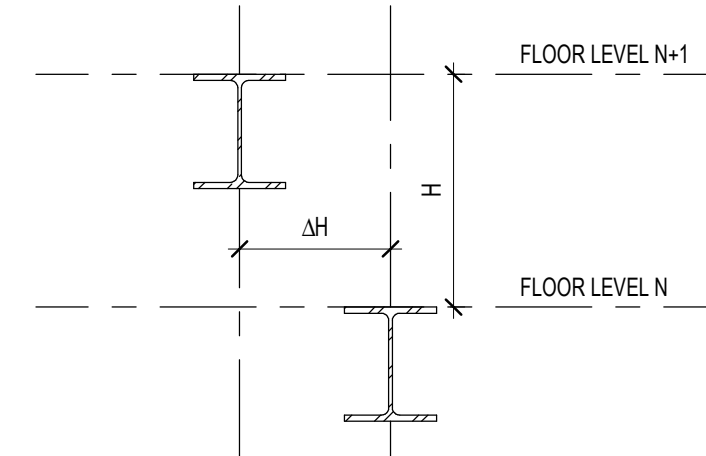
- TOLERANCES PROVIDED IN THE DETAIL ABOVE SHALL NOT SUPERSEDE THE VALUES INDICATED IN CSA S16 AND REFERENCED DOCUMENTS.

## ERECTION TOLERANCES FOR STEEL BEAMS

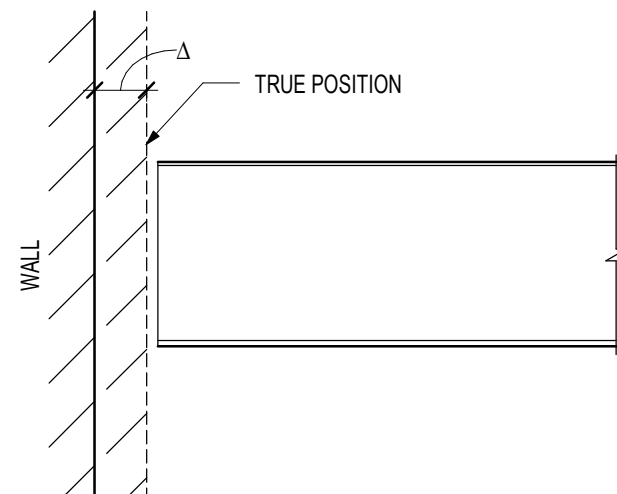
SB02B

(READ IN CONJUNCTION WITH SB02A)

## 5. HORIZONTAL DEVIATION FROM ADJACENT BEAMS

FOR  $H < 3000\text{mm}$  (10'-0"):  $\Delta H = \pm 5\text{mm}$  (3/16")FOR  $H > 3000\text{mm}$  (10'-0"):  $\Delta H = H/600$ 

## 6. HORIZONTAL DEVIATION FROM SUPPORT POINT AT VERTICAL WALL

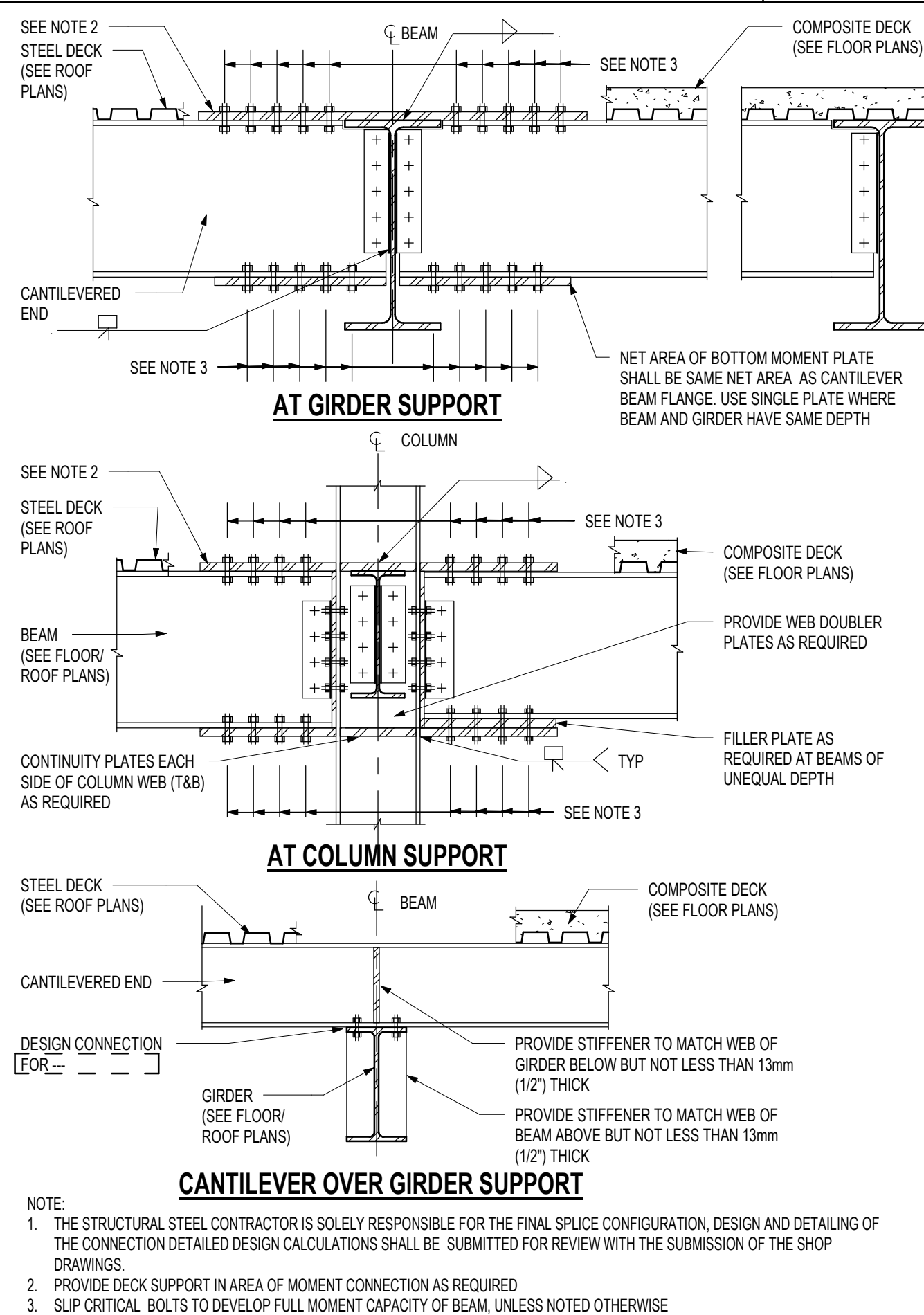
 $\Delta = \pm 25\text{mm}$  (1")

## NOTES

- TOLERANCES PROVIDED IN THE DETAIL ABOVE SHALL NOT SUPERSEDE THE VALUES INDICATED IN CSA S16 AND REFERENCED DOCUMENTS.
- FOR ERECTION TOLERANCES OF SPECIAL MEMBERS SUCH AS CRANE GIRDERS, CRANE RAILS AND MONORAIL BEAMS, SEE THE APPROPRIATE CODE RECOMMENDATIONS.
- DEVIATIONS SHOWN FOR V-SHAPES ALSO APPLY TO BUILT-UP SECTIONS, HOLLOW STRUCTURAL SECTIONS, CHANNEL AND ANGLE SHAPES.
- ERECTION TOLERANCES ARE TO BE MEASURED IN CALM WEATHER. RECORD AMBIENT TEMPERATURE AT TIME TOLERANCES ARE VERIFIED.

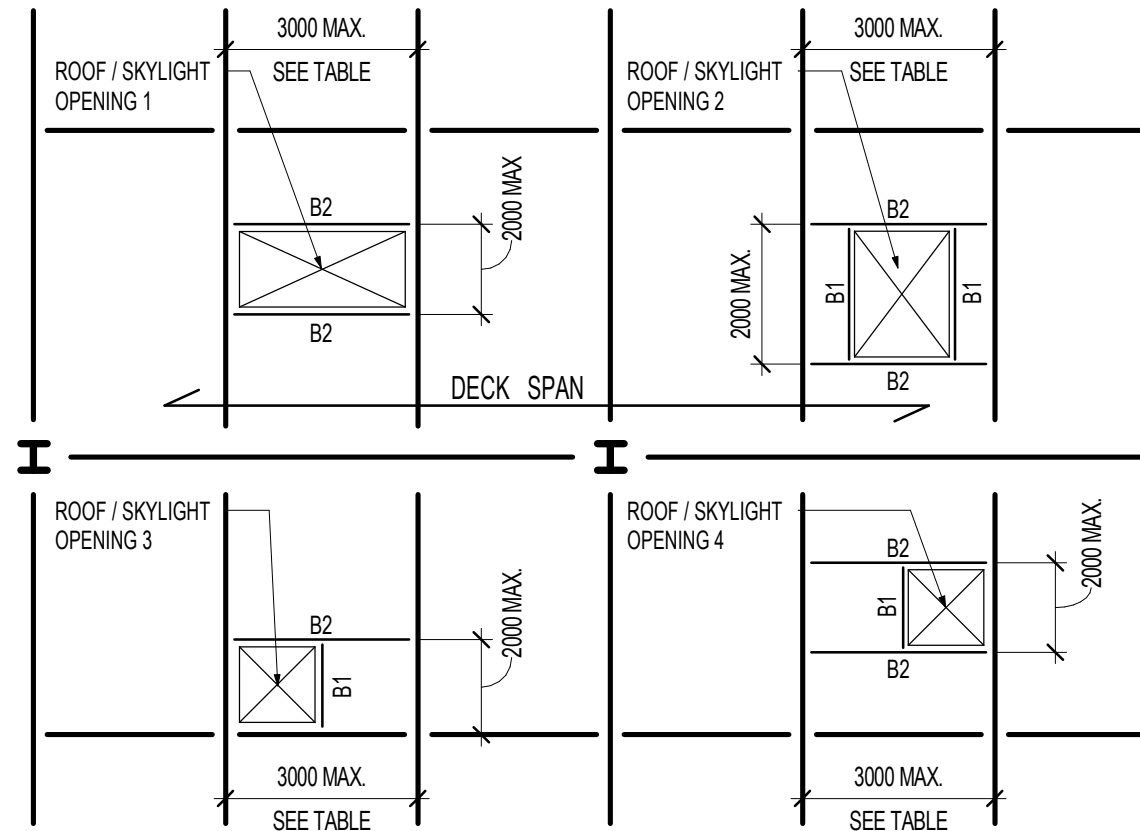
## STEEL BEAM AND GIRDER MOMENT CONNECTIONS

SB03



## ROOF FRAMING AT OPENINGS IN ROOF DECK

SR01



## TYPICAL ROOF OPENINGS IN DECK

SPAN (mm)		BEAM 1 (B1)		BEAM 2 (B2)	
SIZE	CONNECTION	SIZE	CONNECTION	SIZE	CONNECTION
0-1500	C100x8	5 kN	C100x8	10 kN	
1500-3000	C100x8	10 kN	C150x12	20 kN	

## TYPICAL SKYLIGHT OPENINGS IN DECK

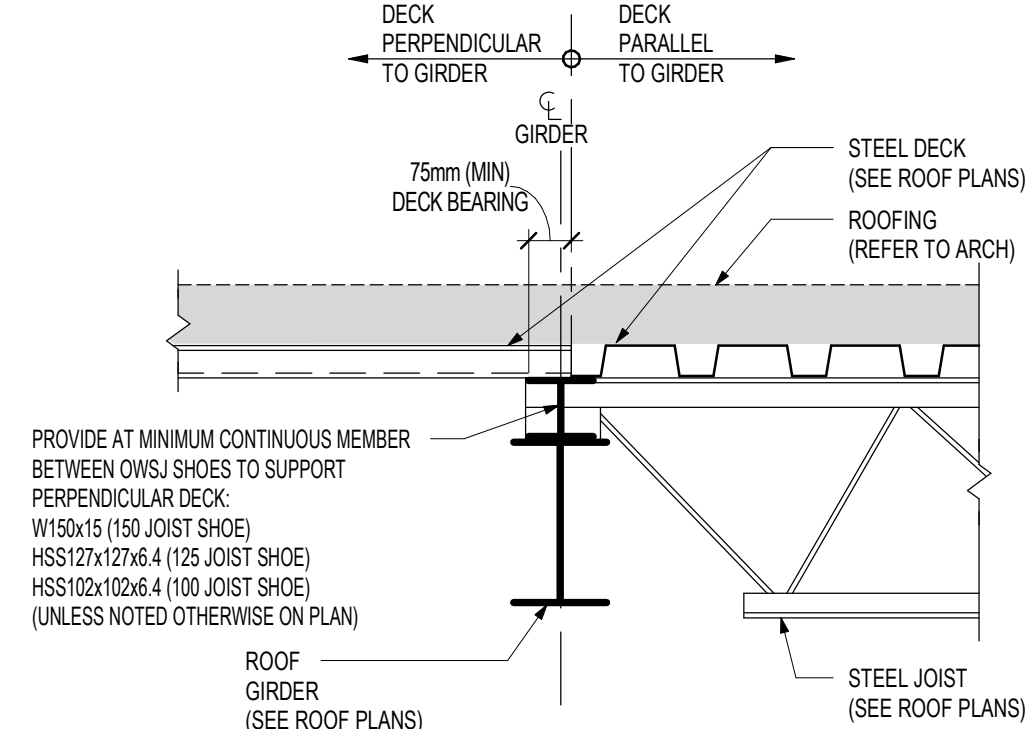
SPAN (mm)		SKYLIGHT OPENING 2		BEAM 2 (B2)	
SIZE	CONNECTION	SIZE	CONNECTION	SIZE	CONNECTION
0-1500	C100x8	10 kN	C150x12	15 kN	
1500-3000	C100x8	10 kN	C200x17	20 kN	

## NOTES:

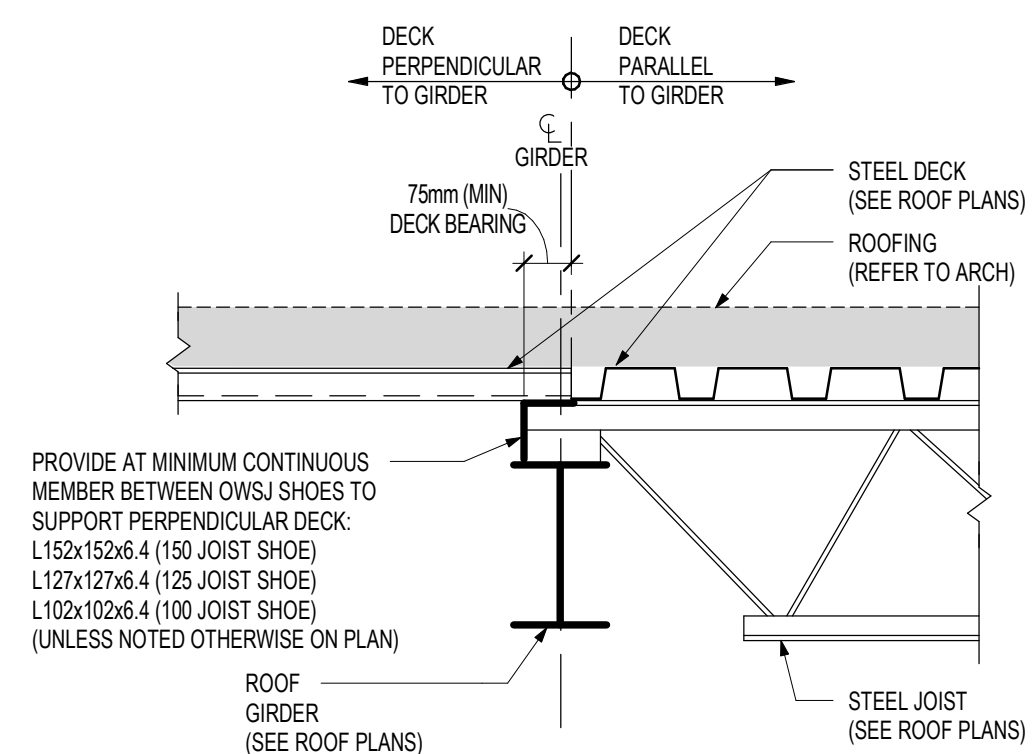
- TOP OF ALL TRIMMING STEEL AT UNDERSIDE OF STEEL DECK UNLESS OTHERWISE NOTED.
- OPENINGS FRAMES ARE DESIGNED FOR THE FOLLOWING LOADS (MAX.)  
DL=0.50kPa  
SDL=0.50kPa  
SNOW=1.50kPa
- LOCATION OF ALL MECHANICAL UNITS AND OPENINGS THROUGH ROOF IS BASED ON INFORMATION SHOWN ON MECHANICAL DRAWINGS. THE STRUCTURAL STEEL SUB-CONTRACTOR MUST CONFIRM ALL THESE DIMENSIONS AND SIZES WITH THE MECHANICAL CONTRACTOR.
- C.W.S.J MUST BE DESIGNED FOR ADDITIONAL LOADS FROM MECHANICAL UNITS.
- IF ACTUAL LOCATIONS OR DETAILS VARY FROM THOSE SHOWN, THE STRUCTURAL CONSULTANT MUST BE INFORMED AND INSTRUCTIONS RECEIVED BEFORE PROCEEDING WITH THE WORK.
- THE STRUCTURAL STEEL SUB-CONTRACTOR IS TO SUBMIT ERECTION DRAWINGS TO THE MECHANICAL ENGINEER AND/ OR CONTRACTOR FOR APPROVAL OF SIZE AND LOCATION OF OPENINGS FOR MECHANICAL UNITS.

## CHANGE OF DECK DIRECTION DETAILS

SR03



## OPTION 1



## OPTION 2

(NOT TO BE USED WHERE DETAIL SR09 APPLIES OR WHERE SHEAR COLLECTORS ARE SHOWN ON PLAN)

## PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAY CARE EXPANSION PROJECT29 MEADOVALE RD  
SCARBOROUGH, ON  
M1C 1R7

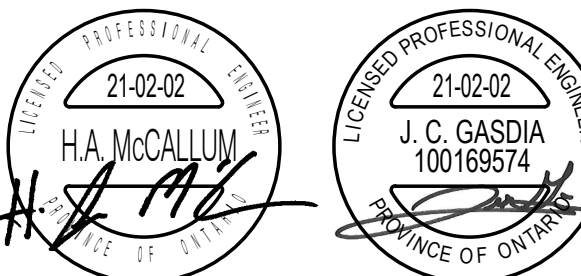
## CLIENT

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MONAVENIR  
110 DREWRY AVENUE  
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## CONSULTANT

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## REGISTRATION

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THE ARCHITECT BEFORE PROCEEDING WITH  
WORK.

## ISSUE/REVISION

NO.	DATE	DESCRIPTION
4	FEB/02/21	ISSUED FOR TENDER
2	APR/15/20	ISSUED FOR PERMIT
1	APRIL 05/19	ISSUED FOR 60% COORDINATION
1/R	DATE	DESCRIPTION

## KEY PLAN

## PROJECT NUMBER

20182240  
TENDER# 2021-16

## SHEET TITLE

TYPICAL DETAILS

## SHEET NUMBER

S3-05



ARCH D 24" x 36"

Approved: -

Checked By: -

Drawn By: -

D

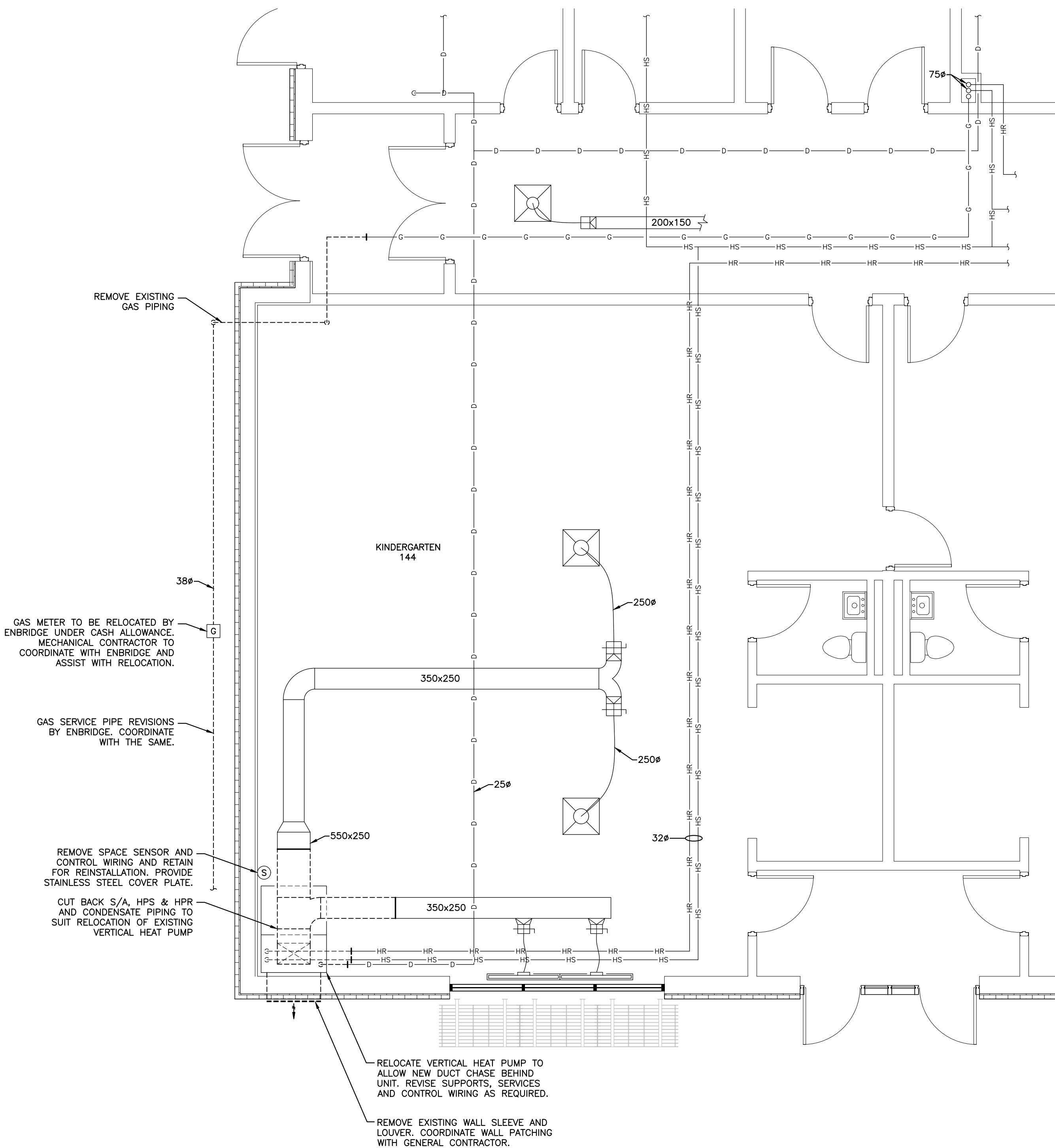
C

B

A

GENERAL DEMOLITION PLUMBING AND HVAC NOTES:

1. THE CONTRACTOR SHALL ALLOW FOR DETAILED SITE INVESTIGATION TO CONFIRM ALL SERVICES PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
2. SCOPE/CAMERA EXISTING UNDERGROUND SANITARY AND STORM PIPING THROUGH WORK AREA TO CONFIRM CONDITION OF PIPE, ROUTING AND INVERTS. SUBMIT REPORT AND VIDEO ON USB.
3. SCAN FLOOR PRIOR TO FLOOR CUTS AND UNDERGROUND PIPING INSTALLATION.



DAYCARE AREA - DEMO HVAC LAYOUT

1:50

AECOM

PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAYCARE EXPANSION PROJECT

29 MEADOVALE RD  
SCARBOROUGH

CLIENT

CONSEIL SCOLAIRE CATHOLIQUE  
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CONSULTANT

AECOM Canada Architects Ltd.  
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905.668.9363 tel 905.668.0221 fax  
www.aecom.com

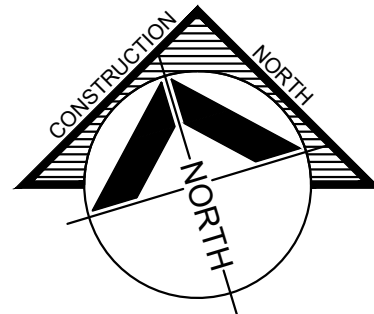
**DES DURHAM ENERGY**  
**SPECIALIST LIMITED**

CONSULTING ENGINEERS

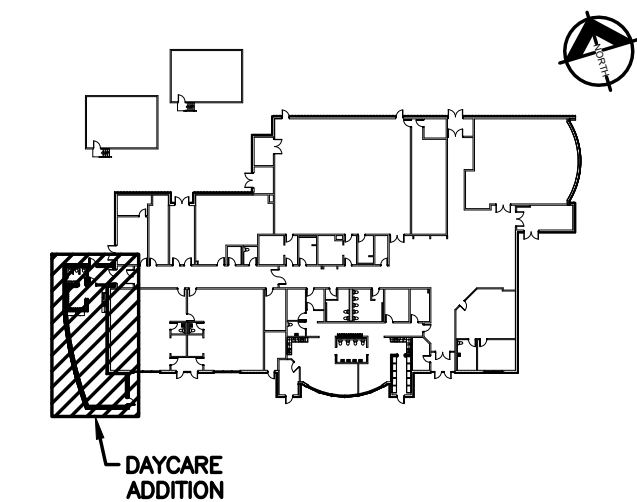
PH:(905)430-7151 FAX:(905)430-7154  
106-209 DUNDAS STREET EAST, WHITBY ONTARIO  
info@durhamenergy.com / www.durhamenergy.com

DES JOB No.: 19-216

DWG SIZE: D



KEYPLAN



ISSUE/REVISION

7	21-02-02	RE-ISSUED FOR TENDER
6	20-04-21	RE-ISSUED FOR TENDER
5	20-04-14	ISSUED FOR PERMIT
4	20-01-31	ISSUED FOR TENDER
3	20-01-24	ISSUED FOR FINAL REVIEW
2	19-12-19	ISSUED FOR PERMIT
1	19-04-05	ISSUED FOR 60% REVIEW
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60593561  
TENDER# 2021-16

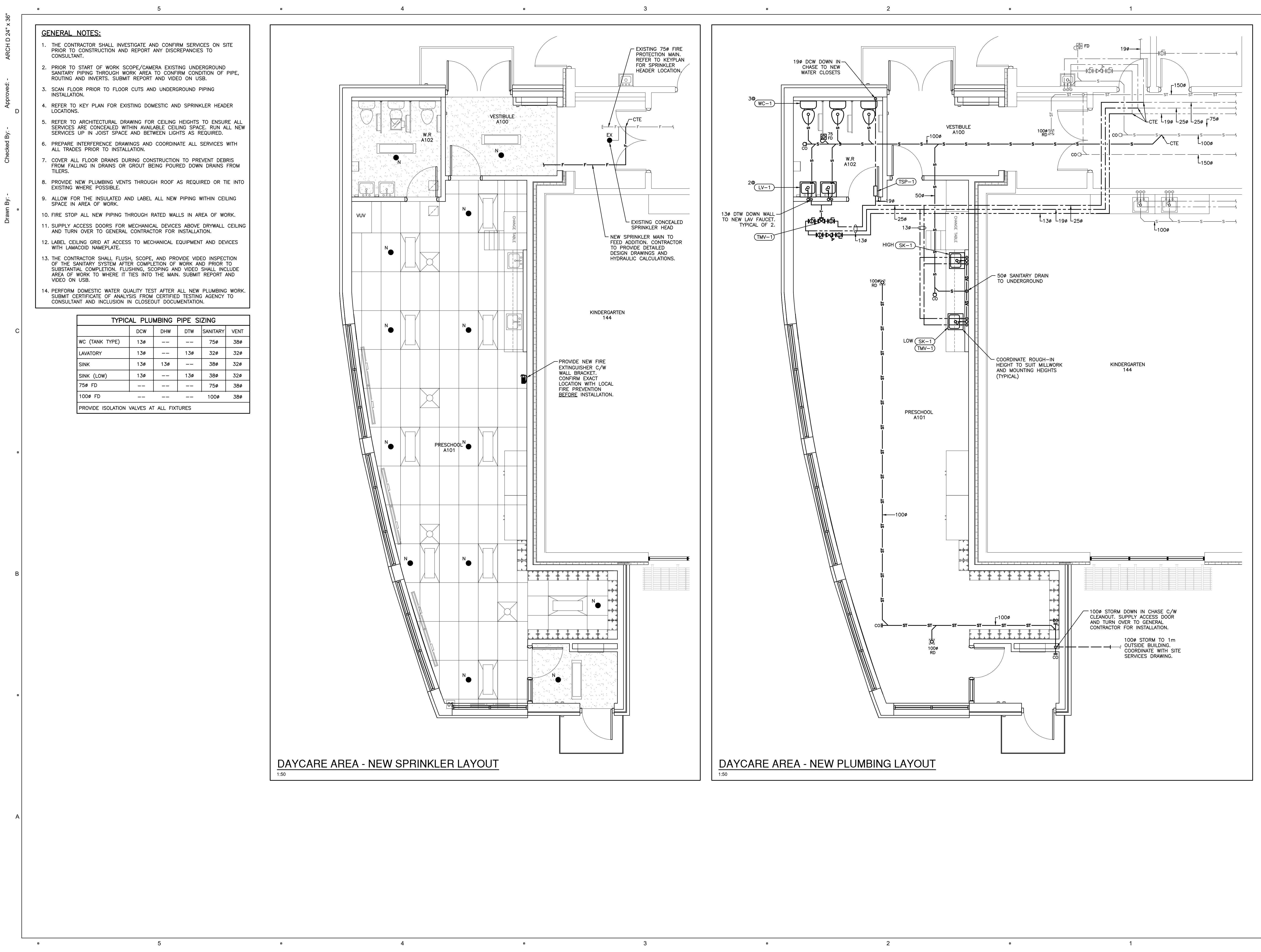
SHEET TITLE

DAYCARE AREA  
DEMO HVAC LAYOUT

SHEET NUMBER

M101





- GENERAL NOTES:**
1. THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM SERVICES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO CONSULTANT.
  2. PRIOR TO START OF WORK SCOPE/CAMERA EXISTING UNDERGROUND SANITARY PIPING THROUGH WORK AREA TO CONFIRM CONDITION OF PIPE, ROUTING AND INVERTS. SUBMIT REPORT AND VIDEO ON USB.
  3. SCAN FLOOR PRIOR TO FLOOR CUTS AND UNDERGROUND PIPING INSTALLATION.
  4. REFER TO KEY PLAN FOR EXISTING DOMESTIC AND SPRINKLER HEADER LOCATIONS.
  5. REFER TO ARCHITECTURAL DRAWING FOR CEILING HEIGHTS TO ENSURE ALL SERVICES ARE CONCEALED WITHIN AVAILABLE CEILING SPACE. RUN ALL NEW SERVICES UP IN JOIST SPACE AND BETWEEN LIGHTS AS REQUIRED.
  6. PREPARE INTERFERENCE DRAWINGS AND COORDINATE ALL SERVICES WITH ALL TRADES PRIOR TO INSTALLATION.
  7. COVER ALL FLOOR DRAINS DURING CONSTRUCTION TO PREVENT DEBRIS FROM FALLING IN DRAINS OR GROUT BEING POURED DOWN DRAINS FROM TILERS.
  8. PROVIDE NEW PLUMBING VENTS THROUGH ROOF AS REQUIRED OR TIE INTO EXISTING WHERE POSSIBLE.
  9. ALLOW FOR THE INSULATED AND LABEL ALL NEW PIPING WITHIN CEILING SPACE IN AREA OF WORK.
  10. FIRE STOP ALL NEW PIPING THROUGH RATED WALLS IN AREA OF WORK.
  11. SUPPLY ACCESS DOORS FOR MECHANICAL DEVICES ABOVE DRYWALL CEILING AND TURN OVER TO GENERAL CONTRACTOR FOR INSTALLATION.
  12. LABEL CEILING GRID AT ACCESS TO MECHANICAL EQUIPMENT AND DEVICES WITH LAMACOID NAMEPLATE.
  13. THE CONTRACTOR SHALL FLUSH, SCOPE, AND PROVIDE VIDEO INSPECTION OF THE SANITARY SYSTEM AFTER COMPLETION OF WORK AND PRIOR TO SUBSTANTIAL COMPLETION. FLUSHING, SCOPING AND VIDEO SHALL INCLUDE AREA OF WORK TO WHERE IT TIES INTO THE MAIN. SUBMIT REPORT AND VIDEO ON USB.
  14. PERFORM DOMESTIC WATER QUALITY TEST AFTER ALL NEW PLUMBING WORK. SUBMIT CERTIFICATE OF ANALYSIS FROM CERTIFIED TESTING AGENCY TO CONSULTANT AND INCLUSION IN CLOSEOUT DOCUMENTATION.

TYPICAL PLUMBING PIPE SIZING					
	DCW	DHW	DTW	SANITARY	VENT
WC (TANK TYPE)	13ø	--	--	75ø	38ø
LAVATORY	13ø	--	13ø	32ø	32ø
SINK	13ø	13ø	--	38ø	32ø
SINK (LOW)	13ø	--	13ø	38ø	32ø
75ø FD	--	--	--	75ø	38ø
100ø FD	--	--	--	100ø	38ø
PROVIDE ISOLATION VALVES AT ALL FIXTURES					

**AECOM**

**PROJECT**

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAYCARE EXPANSION PROJECT

29 MEADOVALE RD  
SCARBOROUGH

**CLIENT**

CONSEIL SCOLAIRE CATHOLIQUE  
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**CONSULTANT**

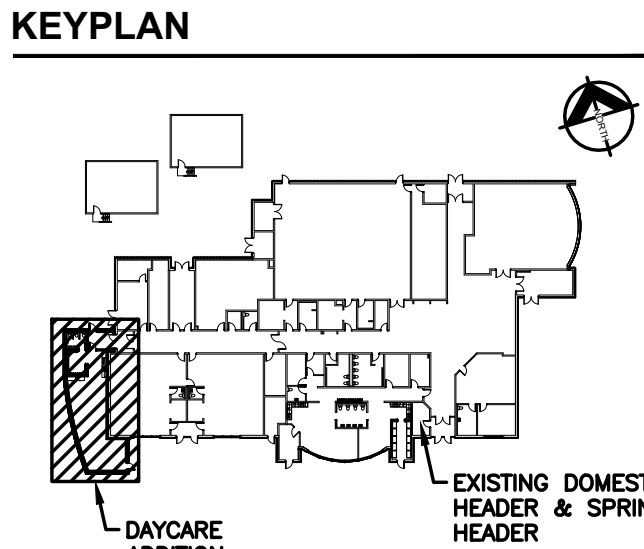
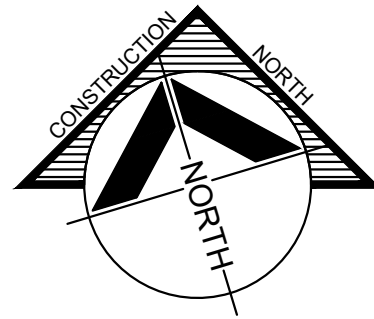
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DES JOB No.: 19-216 DWG SIZE: D



**ISSUE/REVISION**

I/R	DATE	DESCRIPTION
7	21-02-02	RE-ISSUED FOR TENDER
6	20-04-21	RE-ISSUED FOR TENDER
5	20-04-14	ISSUED FOR PERMIT
4	20-01-31	ISSUED FOR TENDER
3	20-01-24	ISSUED FOR FINAL REVIEW
2	19-12-19	ISSUED FOR PERMIT
1	19-04-05	ISSUED FOR 60% REVIEW

**PROJECT NUMBER**

60593561  
TENDER# 2021-16

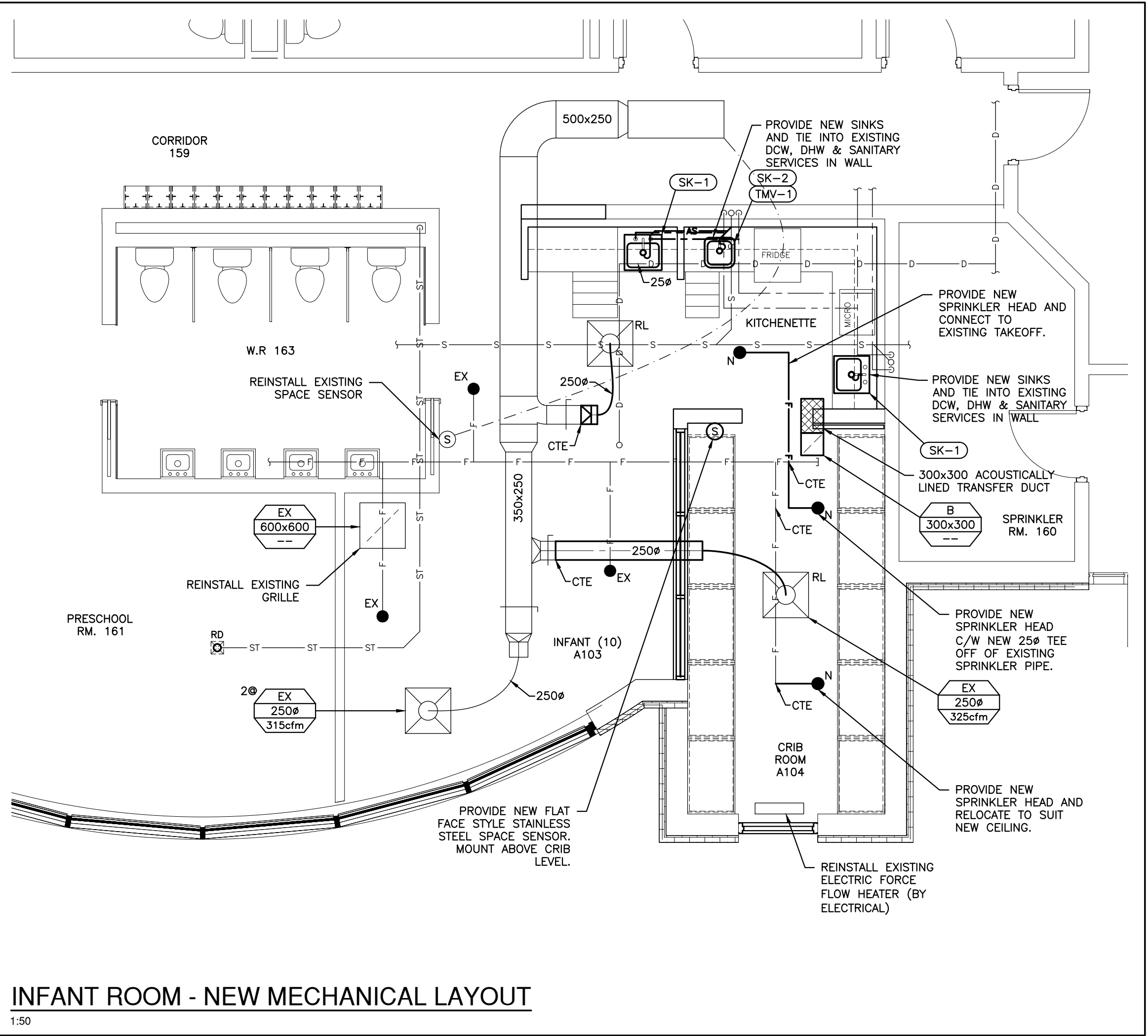
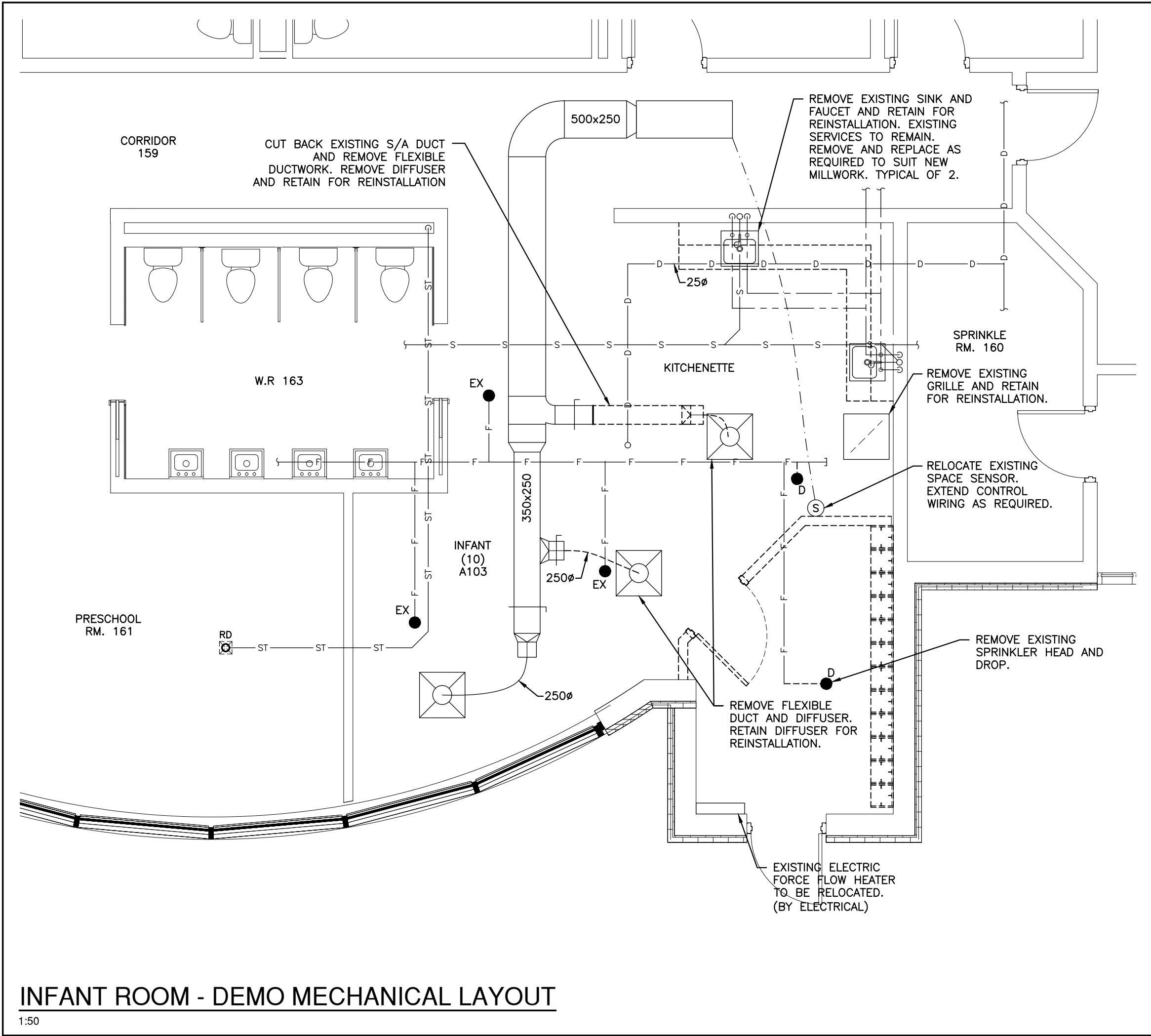
**SHEET TITLE**

NEW DAYCARE  
NEW PLUMBING &  
SPRINKLER LAYOUT

**SHEET NUMBER**

M201





- GENERAL NOTES:**
1. THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM SERVICES ON SITE PRIOR TO CONSTRUCTION AND REPORT ANY DISCREPANCIES TO CONSULTANT.
  2. SCOPE/CAMERA EXISTING UNDERGROUND SANITARY PIPING THROUGH WORK AREA TO CONFIRM CONDITION OF PIPE, ROUTING AND INVERTS. SUBMIT REPORT AND VIDEO ON USB.
  3. SCAN FLOOR PRIOR TO FLOOR CUTS AND UNDERGROUND PIPING INSTALLATION.
  4. REFER TO ARCHITECTURAL DRAWING FOR CEILING HEIGHTS TO ENSURE ALL SERVICES ARE CONCEALED WITHIN AVAILABLE CEILING SPACE. RUN ALL NEW SERVICES UP IN JOIST SPACE AND BETWEEN LIGHTS AS REQUIRED.
  5. PREPARE INTERFERENCE DRAWINGS AND COORDINATE ALL SERVICES WITH ALL TRADES PRIOR TO INSTALLATION.
  6. PROVIDE NEW PLUMBING VENTS THROUGH ROOF AS REQUIRED OR TIE INTO EXISTING WHERE POSSIBLE.
  7. INSULATE AND LABEL ALL NEW PIPING WITHIN CEILING SPACE IN AREA OF WORK.
  8. FIRE STOP ALL NEW PIPING THROUGH RATED WALLS IN AREA OF WORK.
  9. SUPPLY ACCESS DOORS FOR MECHANICAL DEVICES ABOVE DRYWALL CEILING AND TURN OVER TO GENERAL CONTRACTOR FOR INSTALLATION.
  10. LABEL CEILING GRID AT ACCESS TO MECHANICAL EQUIPMENT AND DEVICES WITH LAMACOID NAMEPLATE.
  11. THE CONTRACTOR SHALL FLUSH, SCOPE, AND PROVIDE VIDEO INSPECTION OF THE SANITARY SYSTEM AFTER COMPLETION OF WORK AND PRIOR TO SUBSTANTIAL COMPLETION. FLUSHING, SCOPING AND VIDEO SHALL INCLUDE AREA OF WORK TO WHERE IT TIES INTO THE MAIN. SUBMIT REPORT AND VIDEO ON USB.



**PROJECT**

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAYCARE EXPANSION PROJECT

29 MEADOVALE RD  
SCARBOROUGH

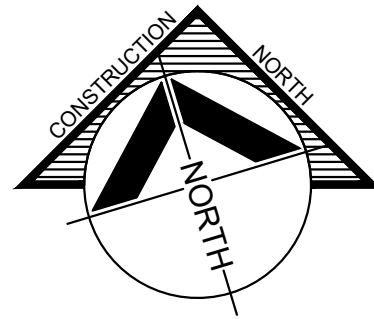
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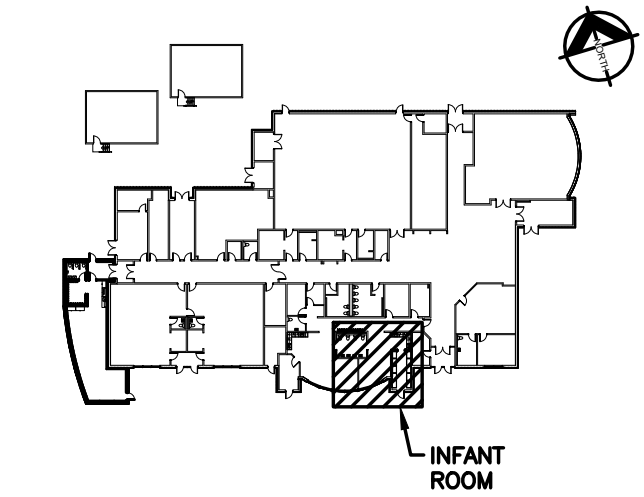
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info@durhamenergy.com / www.durhamenergy.com  
DES JOB No.: 19-216 DWG SIZE: D



**KEYPLAN**



**ISSUE/REVISION**

7	21-02-02	RE-ISSUED FOR TENDER
6	20-04-21	RE-ISSUED FOR TENDER
5	20-04-14	ISSUED FOR PERMIT
4	20-01-31	ISSUED FOR TENDER
3	20-01-24	ISSUED FOR FINAL REVIEW
2	19-12-19	ISSUED FOR PERMIT
1	19-04-05	ISSUED FOR 60% REVIEW
I/R	DATE	DESCRIPTION

**PROJECT NUMBER**

60593561  
TENDER# 2021-16

**SHEET TITLE**

INFANT ROOM  
DEMO & NEW  
MECHANICAL LAYOUT

**SHEET NUMBER**

M202







PLUMBING FIXTURE SCHEDULE	
WC-1 – TOILET – FLOOR MOUNTED – VITREOUS CHINA – GRAVITY TANK TYPE	
Zurn Children's Two-Piece Round Rim #25590 Toilet, 254 mm high, vitreous china, white finish, Floor Mounted, Siphon jet flush action, 6.0 l (1.6 US Gal) per flush, raised sanitary bor and two (2) points tank stabilization, 275 mm x 275 mm (11" x 11") water surface, two (2) piece tank assembly, lined tank, bolted tank cover, internal flush valve with flopper, 254 mm (10") rough-in, round rim bowl, fully glazed internal trapway, floor outlet, bolt caps. Provide bolted tank cover if required to meet local codes. Provide trip lever on open side of toilet, (TMM-1070) if required to meet local codes.	
Centaco #AM230053CO Toilet Seat, heavy duty, for juveniles (baby) bowl, open front, solid plastic, less cover, stainless steel check hinges with gasket, metal flat washers, stainless steel posts and nuts. Provide Toilet Supply, chrome plated finish all metal construction, light duty residential angle stops, pipe nipple, escutcheon and flexible metal riser, Provide Floor Flange, (same material as the connecting pipe drain), with all brass bolts and with rubber gasket. Alternates: American Standard, Kohler	
LV-1 – BASIN – WALL HUNG – HARD-WIRED ELECTRONIC "NO-TOUCH" – BARRIER FREE	
Kohler Brenham #K-1997-4 Wall-Mount Bathroom Sink, 502 mm x 557 mm x 177 mm (19-3/4" x 22" x 7") deep, vitreous china, for carrier with concealed arms, rear overflow, recessed self-draining faucet ledge, 4" center faucet holes, wall hanger, semi-pedestal P-trap cover.	
Moen Commercial #8894 "M-Press" single mount cast brass metering faucet, 99551 deck plate, extended reach, time preset to 10 seconds at 70 psi (adjustable), 1.9 LPM (0.5 GPM) vandal resistant aerator, 0.95 LPC (0.25 GPC) 1/2" IPS connections. Tempered water to faucet fed from mixing valve.	
Lowe's TMM-1070, Point of Use Thermostatic Water Mixing Valve, bronze body construction, high temperature limit stop with shut off temperature of 118° (+/- 3°), integral rubber duck-bill backflow checks with inlets, temperature adjustment dial, thermostatic mechanical mixing valve with outlet temperature range within 35-46C (95-115F), ASSE 1070 approved, valve shall control temperature from a low of 1/2 gpm, 1 gpm at 10 psi and 1.6 gpm at 20 psi drop across the valve, 10 mm (3/8") compression fit inlets and outlets, ASSE lead free certified. Set valve temperature at 46 °C (114.8 °F). Provide tee, adaptors and flexible copper tubing to suit installation.	
McGuire #155AC Open Grid Drain, chrome plated cast brass one piece top, 17 GA (1.5mm) tubular 32 mm (1-1/4") tailpiece.	
McGuire #LFH165LKN5RB, Faucet Supplies, chrome plated polished brass, heavy duty angle stops, 10 mm (3/8") I.P.S. Inlet x 127 mm (5") long rigid horizontal nipples, V.P. Loose keys, escutcheon and stainless steel braided flexible riser. One supply required if fed from mixing valve.	
McGuire #8872C P-Trap, heavy cast brass adjustable body, with slip nut, 32 mm (1-1/4") size, shallow wall flange and seamless tubular wall bend.	
Watts #CA-462, Fixture carrier, wall mounted, adjustable epoxy coated cast iron wall plate and arms. Alternates: American Standard, Faucet: Delta, Sloan.	
SK-1 – SINGLE BOWL SINK – COUNTERTOP WITH LEDGEBACK – STANDARD USE – 302/304 STAINLESS STEEL – TWO HANDLE FAUCET	
Franke Commercial #LBS6808-1/3 Single bowl countertop mount sink, 3 holes, 8" (203mm) center, 20-1/2"(521mm) x 20" (508mm) x 203mm (8") deep, counter mounted, backledge, grade 18-10, 20 GA. (0.8mm) type 302 stainless steel, satin finish rim and bowls, mounting kit provided, fully undercoated to reduce condensation and resonance, factory applied rim seal, 3-1/2" (89mm) crumb cup waste assembly with 1-1/2" (38 mm) tailpiece.	
Moen Commercial #8289 Deckmount Two handle manual faucet, 8" (203mm) centerset, lead free chrome plated solid brass with one piece concealed rough body, ceramic 1/4 turn cartridges, 8"(203mm) swing spout, Vandal Resistant 5.7LPM (1.5 GPM) aerator outlet, metal red and blue index buttons, 4" (102mm) wrist blade handles with vandal resistant screw.	
McGuire #LFH165LKN3, Faucet Supplies, chrome plated polished brass, heavy duty angle stops, 3/8" (10mm) I. P. S. Inlet x 3" (76mm) long rigid horizontal nipples, V. P. Loose keys, escutcheons and flexible copper riser. McGuire #8912CB P-Trap, heavy cast brass adjustable body, with slip nut, 1-1/2" (38mm) size, box flange and seamless tubular wall bend.	
Alternates: Architectural Metal Products, Faucet: Delta	
SK-2 – COUNTERTOP MOUNT HAND WASH SINK – TWO HANDLE – MANUAL FAUCET	
Franke Commercial #LBS1306-1/2 Single Bowl Countertop Mount Sink, 2 holes, 4" (102mm) center, 392 mm (15-7/16") x 384 mm (15-1/8") x 152 mm (6") deep, counter mounted, backledge, 18-10 type 302 20 GA. (0.8mm) stainless steel, self-rimming, satin finish rim and bowls, mounting kit provided, fully undercoated to reduce condensation and resonance, factory applied rim seal, 3-1/2" (89mm) crumb cup waste assembly with 1-1/2" (38 mm) tailpiece.	
Moen Commercial #8272 Deckmount Two handle manual faucet, 4" (102mm) centerset, lead free chrome plated solid brass with one piece concealed rough body, ceramic 1/4 turn cartridges, 5-1/4"(133mm) swing spout, 52611 Vandal Resistant 5.7LPM (1.5 GPM) aerator outlet, metal red and blue index buttons, 2-1/2" (64mm) lever style handles with hot and cold colour indicators and vandal resistant screws.	
McGuire #LFH165LKN3, Faucet Supplies, chrome plated polished brass, heavy duty angle stops, 10 mm (3/8") I.P.S. Inlet x 76 mm (3") long rigid horizontal nipples, V.P. Loose keys, escutcheon and flexible copper riser. McGuire #8912CB P-Trap, heavy cast brass adjustable body, with slip nut, 38 mm (1-1/2") size, box flange and seamless tubular wall bend.	
TMM-1 – THERMOSTATIC MIXING VALVE – POINT-OF-USE	
Lowe's TMM-1070, bronze body construction, high temperature limit stop with shut off temperature of 118° (+/- 3°), integral rubber duck-bill back-flow checks within inlets, temperature adjustment dial, thermostatic mechanical mixing valve with outlet temperature range within 95-115°F (35-46°C), ASSE 1070 approved, valve shall control temperature from a low of 1/2gpm, 1gpm at 10psi and 1.6gpm at 20psi drop across the valve, 3/8" compression fit inlets and outlets, ASSE Lead Free Certified.	
Alternates: Symmons, Powers, Leonard, RDA	
TMM-2 – THERMOSTATIC MIXING VALVE – POINT-OF-USE VALVE	
Lowe's Tempered Water Mixer #570-86822-01 Thermostatic Mixing Valve, nickel plated finish, rotating spindle for temperature adjustment, thermostatic mixing valve with outlet temperature range within 95-115°F (35-48°C), ASSE 1017, 1069, 1070 approved, CSA B125.3 certified, valve shall control temperature from a low of 1/2gpm, 6gpm at 10psi and 7gpm at 20psi drop across the valve, 3/4" MNPT inlets and 3/4" MNPT outlets.	
TSP-1 – TRAP SEAL PRIMERS	
Flow activated PPP PRO 1-500 c/w vacuum breaker ports and internal backflow protection, factory pre-set and 100% function tested. Use for single or multiple floor drain trap seal applications. Activated at minimum flow rate of 0.5 gpm at 20 psig.	
FD – FLOOR DRAINS – FINISHED AREA – ADJUSTABLE STRAINER	
Watts #FD-100-C-7-A5-1 Floor Drain – epoxy coated, cast iron body, reversible flashing clamp with primary and secondary weepholes, trap primer connection with plug, no hub outlet. Watts-A5-1 5" (127mm) diameter, nickel bronze, adjustable, round strainer. Alternates: Zurn, J.R. Smith	
RD – ROOF DRAINS – LARGE CONVENTIONAL INSULATED ROOF	
Watts #RD-100-NH-B-D-F-K-L Roof Drain – epoxy coated, 14-1/8" (359 mm) diameter, cast iron body, flashing clamp and integral gravel stop, with self-locking 12-3/8" (314 mm) diameter ductile iron dome, sump receiver, sediment bucket, vandal proof dome, adjustable extension, under deck clamp, no hub outlet.	
CO – FLOOR CLEANOUTS / ACCESS COVERS – ADJUSTABLE CLEANOUTS	
Watts #CO-200-R-340 Cleanout – epoxy coated, cast iron body, with 5" (127mm) round, adjustable, gasketed, nickel bronze top, ABS plug with neoprene gasket, no hub outlet. Alternates: Zurn, J.R. Smith	
ACCESS DOORS/COVERS – RECESSED ACCESS DOOR – DRYWALL AREA	
Acudor #DW-5015 Series Recessed Access Door, 16 GA. (1.5mm) steel, baked enamel prime coat, with concealed pivoting rod type hinge and self-opening screwdriver operated lock. Door to be recessed 5/8" (14mm) to receive drywall. Flange of door to be galvanized steel taping beadng to provide finish of drywall joints recessed access door.	
ACCESS DOORS/COVERS – FLUSH ACCESS DOOR – UNIVERSAL	
Acudor #UF-5000 Universal Access Doors, 14 GA. (1.7mm) steel, baked enamel prime coat, continuous concealed hinge, with positive and self-opening screwdriver operated lock. Doors in tile walls shall be stainless steel and shall suit tile pattern. All other panels shall be prime painted steel. Minimum size of panels shall be 12" x 18" (300mm x 450mm). Wherever possible 24" x 24" (600mm x 600mm) panels shall be used universal Flush Access Door – For Walls and Ceilings.	
WATER HAMMER ARRESTORS – PPP SC SERIES	
SMS INC. #SC Series Water Hammer Arrestors with brass piston in a type 'K' copper casing size according to manufacturer's recommendations to eliminate water hammer and shock from piping system. Provide Water Hammer Arrestors on hot and cold water supplies to all quick valves, solenoids, and plumbing fixtures, and locate in an upright position between the last two fixtures on a line, or horizontally at the end of line closest to supply source. On projects exceeding five stories in height, provide water hammer arrestors on domestic water risers as follows. Locate arrestors at the end of riser opposite supply source.	

PLUMBING SPECIFICATIONS:	
1. ALL PLUMBING PRODUCTS SHALL BE "LEAD-FREE" CERTIFIED TO ANSI/NSF 372.	
2. ALL NEW ABOVE GROUND WATER PIPING SHALL BE TYPE 'L' HARD COPPER WITH SOLDER JOINTS. VICTAULIC FITTINGS ARE ACCEPTABLE FOR SIZES 2.5" AND OVER.	
3. DRAINAGE SYSTEM (ABOVE GROUND): 1. 2-1/2"(63mm) AND OVER – CAST IRON MJ PIPE WITH MJ FITTINGS AND STAINLESS STEEL CLAMPS. 2. 2"(50mm) AND UNDER – COPPER DWV PIPE WITH WROUGHT COPPER SOLDER FITTINGS	
4. DRAINAGE SYSTEM (UNDERGROUND): 1. PIPE UP TO AND INCLUDING 75mm(3") SHALL BE: 1. ULC CERTIFIED PVC 40 DWV PIPE TO CAN/CSA B181.2 COMPLETE WITH PVC DWV FITTINGS TO CAN/CSA B181.2 WITH SOLVENT WELD JOINT. 2. PIPE 75mm(3") UP TO AND INCLUDING 100mm(4") SHALL BE: 1. ULC CERTIFIED PVC 40 DWV PIPE TO CAN/CSA B181.2 COMPLETE WITH PVC DWV FITTINGS TO CAN/CSA B181.2 WITH SOLVENT WELD JOINT, OR 2. ULC CERTIFIED PVC SDR 28/35 BDS PIPE TO CAN/CSA B182.1 COMPLETE WITH PVC 60S FITTINGS TO CAN/CSA B182.2 WITH SOLVENT WELD JOINTS. 3. PIPE 125mm(6") AND UP SHALL BE: 1. ULC CERTIFIED PVC SDR 28/35 SEWER PIPE TO CAN/CSA B182.2 COMPLETE WITH PVC FITTINGS TO CAN/CSA B182.2 WITH RING GASKET JOINTS.	
5. CONDENSATE PIPING SHALL BE COPPER C/W 1"(25mm) INSULATION. PLASTIC TUBING OR PIPE IS NOT ACCEPTABLE.	
6. VENTS PASSING THROUGH ROOF SHALL USE HEAVY GAUGE, SEAMLESS, SPUN ALUMINUM PRE-INSULATED, VANDAL PROOF VENT FLASHING AS SUPPLIED BY NATIONAL ROOFING SUPPLY OR THALER METAL.	
7. ALL NEW PIPE HANGERS SHALL BE: 1. EPOXY COATED CLEVIS TYPE WITH THREADED SUSPENSION RODS WHERE HANGER DIRECTLY TOUCHES PIPING. 2. ADJUSTABLE WROUGHT IRON CLEVIS TYPE AND/OR ADJUSTABLE RING WITH THREADED SUSPENSION RODS WHERE HANGERS WRAP AROUND OUTSIDE OF PIPE INSULATION. PROVIDE SADDLES TO PREVENT CRUSHING OF INSULATION. 3. PIPE HANGER SPACING -SIZES UP TO 1-1/4"(32mm) = 8'(2.5m) SPACING -SIZES 1-1/2"(38mm) TO 2"(50mm) = 10'(3m) SPACING -SIZES 2-1/2"(63mm) AND OVER = 12'(3.5m) SPACING 4. PROVIDE HANGER WITHIN 12"(300mm) OF EVERY ELBOW	
8. PROVIDE A SUPPLY SHUT OFF VALVE ON HOT, COLD AND/OR TEMPERED WATER SUPPLY TO EACH FIXTURE. SUPPLY SHUT OFF SHALL BE EQUAL TO MCGUIRE H165. [OR H172. FOR RESIDENTIAL] ALL VALVES SHALL BE LINE SIZE.	
9. BALL VALVES SHALL BE LEAD FREE WITH SOLDERED OR THREADED ENDS. BALL VALVES SHALL BE EQUAL TO KITZ #858 & #859. ALL VALVES SHALL BE LINE SIZE.	
10. CHECK VALVES SHALL BE LEAD FREE. CHECK VALVES 2" AND SMALLER SHALL BE EQUAL TO KITZ #822 & #823 WITH SOLDER OR THREADED ENDS. 2-1/2" AND LARGER CHECK VALVES SHALL BE EQUAL TO KITZ #15000AM WITH FLANGED ENDS. ALL VALVES SHALL BE LINE SIZE.	
11. CIRCUIT BALANCING VALVES SHALL BE LEAD FREE. PROVIDE A CBV ON EACH DOMESTIC RECIRCULATION LOOP. CIRCUIT BALANCING VALVES SHALL BE IMI TA 88V LF OR 76X SERIES (NO ALTERNATES ACCEPTABLE). MOUNT WITH PORTS UPRIGHT OR AT LEAST 90° UP FROM BOTTOM. SUBMIT SHOP DRAWINGS COMPLETE WITH VALVE SIZING SCHEDULE (CBVS MAY BE SMALLER THAN LINE SIZE).	
12. FLEXIBLE SUPPLIES ARE NOT ACCEPTABLE FOR FLUSH TANK TOILETS OR ANY EXPOSED INSTALLATION, WHERE SUPPLIES ARE INSTALLED UNDER COUNTER OR BEHIND SHROUDS FLEXIBLE SUPPLIES ARE ACCEPTABLE.	
13. REFER TO PLUMBING FIXTURE SPECS INCLUDING FIXTURES, TRAP SEAL PRIMERS, WATER HAMMER ARRESTORS, ACCESS DOORS, ETC.	
14. INSULATION: 1. EXTERNAL PIPE INSULATION SHALL BE RIGID, SECTIONAL FIBERGLASS TYPE AND BE COMPLETE WITH FACTORY APPLIED ALL PURPOSE VAPOUR BARRIER. PRE-FORMED INSULATION SHALL BE USED AT PIPE FITTINGS, VALVES, ETC. PROVIDE NON-CRUSHING INSULATION AT ALL PIPE HANGERS AND PROVIDE SADDLES. 2. INSULATE DOW, DHW, DRW AND DTW PIPING. 3. [INSULATE ALL EXISTING STORM IN AREA OF WORK (EXCLUDING CORRIDOR) – ALL LINES ON DRAWING.] 4. INSULATE VENT LINES 1.5m BACK FROM ROOF. 5. INSULATION THICKNESS: 1"(25mm)	
15. ACCESS DOORS/COVERS 1. RECESSED ACCESS DOOR – DRYWALL AREA: ACUDOR #DW-5015 SERIES RECESSED ACCESS DOOR, 16 GA. (1.5mm) STEEL, BAKED ENAMEL PRIME COAT, WITH CONCEALED PIVOTING ROD TYPE HINGE AND SELF-OPENING SCREWDRIVER OPERATED LOCK. DOOR TO BE RECESSED 5/8" (14mm) TO RECEIVE DRYWALL. FLANGE OF DOOR TO BE GALVANIZED STEEL TAPING BEADING TO PROVIDE FINISH OF DRYWALL JOINTS RECESSED ACCESS DOOR. 2. FLUSH ACCESS DOOR – UNIVERSAL: ACUDOR #UF-5000 UNIVERSAL ACCESS DOORS, 14 GA. (1.7mm) STEEL, BAKED ENAMEL PRIME COAT, CONTINUOUS CONCEALED HINGE, WITH POSITIVE AND SELF-OPENING SCREWDRIVER OPERATED LOCK. DOORS IN TILE WALLS SHALL BE STAINLESS STEEL AND SHALL SUIT TILE PATTERN. ALL OTHER PANELS SHALL BE PRIME PAINTED STEEL. MINIMUM SIZE OF PANELS SHALL BE 12"x18" (300mmx450mm). WHEREVER POSSIBLE 24"x24" (600mmx600mm) PANELS SHALL BE USED UNIVERSAL FLUSH ACCESS DOOR – FOR WALLS AND CEILINGS.	
16. TEST ALL BACKFLOW PREVENTERS AND SUBMIT "CROSS CONNECTION REPORT" TO CONSULTANT.	

PLUMBING NOTES:	
1. PROVIDE SCOPING/FLUSHING BEFORE AND AFTER CONSTRUCTION.	
2. PROVIDE CLEANOUTS AS REQUIRED BY CODE. SIZE OF CLEANOUTS TO BE SAME SIZE AS SANITARY LINES.	
3. PROVIDE ALL TRENCHING, EXCAVATING AND BACKFILL FOR UNDERGROUND PLUMBING. ALL SAW CUTTING AND RESTORATION OF CONCRETE FLOOR IS BY GENERAL CONTRACTOR. COORDINATE WITH SAME.	
4. PROVIDE NEW PLUMBING VENTS THROUGH ROOF AS REQUIRED BY CODE OR TIE INTO EXISTING WHERE POSSIBLE. SUPPLY AND INSTALL ROOF VENTS AS PER SPECIFICATIONS. ALL ROOFING WORK INCLUDING CUTTING, FLASHING AND MODIFICATIONS TO ROOF MEMBRANE SHALL BE BY GENERAL CONTRACTOR. COORDINATE WITH SAME.	
5. PROVIDE ISOLATION VALVES AT ALL FIXTURES.	
6. INSULATE ALL NEW DOMESTIC HOT, COLD AND TEMPERED WATER PIPING WITH 1"(25mm) INSULATION. PROVIDE PVC JACKET OVER INSULATION IN EXPOSED AREAS.	
7. INSULATE ALL NEW ABOVE GROUND STORM PIPING WITH 1"(25mm) INSULATION. PROVIDE PVC JACKET OVER INSULATION IN EXPOSED AREAS.	
8. ALL NEW HOSE BIBBS TO BE COMPLETE WITH VACUUM BREAKERS. OUTDOOR HOSEBIBBS TO BE COMPLETE WITH LOCKING COVER.	
9. PROVIDE BALANCING VALVES AT START OF EACH BRANCH OF ALL HOT OR TEMPERED WATER RECIRCULATION LOOPS.	
10. PROVIDE SLEEVES FOR PIPES THROUGH ALL NEW BLOCK WALLS. FILL VOIDS AROUND PIPES. ENSURE NO CONTACT BETWEEN DISSIMILAR METALS.	
11. PROVIDE FIRE STOPPING AROUND ALL PIPING THROUGH FIRE SEPARATIONS.	
12. COORDINATE EXACT LOCATION OF NEW FLOOR DRAINS WITH GENERAL CONTRACTOR TO SUIT FLOOR SLOPE.	
13. PROVIDE TRAP SEAL PRIMER FOR ALL FLOOR DRAINS USING PRIMER SPECIFIED IN PLUMBING FIXTURE SCHEDULE. PRIMERS SHALL BE CONCEALED. MOUNT IN CEILING SPACE AND RUN LINE CONCEALED DOWN WALL AND UNDER FLOOR TO DRAIN.	
14. PROVIDE CONDENSATE DRAINS C/W TRAPS FOR NEW INDOOR AIR HANDLING EQUIPMENT AND RUN TO CLOSEST PLUMBING DRAIN WITH INDIRECT DRAIN CONNECTION IN A VISIBLE AND ACCESSIBLE LOCATION.	
15. LABEL ALL NEW PIPING COMPLETE WITH SERVICE AND FLOW ARROWS. LABELS SHALL BE MAX 3m(10') SPACING AND ON EITHER SIDE OF WALLS.	
16. PROVIDE ACCESS DOORS WHERE REQUIRED AND TURN OVER TO GENERAL CONTRACTOR FOR INSTALLATION. REFER TO PLUMBING FIXTURE SCHEDULE.	
17. PROVIDE ESCUTCHEONS AROUND WATER AND SANITARY PIPING THROUGH WALL, FLOOR OR MILLWORK AT ALL FIXTURES.	
18. LABEL CEILING GRID AT ACCESS TO ALL DEVICES.	
19. FLUSH AND PERFORM A VIDEO INSPECTION OF ALL UNDERGROUND PIPING SYSTEMS AFTER CONSTRUCTION AND IMMEDIATELY PRIOR TO APPLYING FOR SUBSTANTIAL COMPLETION.	
20. PERFORM DOMESTIC WATER QUALITY TEST AFTER ALL NEW PLUMBING WORK. SUBMIT CERTIFICATE OF ANALYSIS FROM CERTIFIED TESTING AGENCY TO CONSULTANT AND INCLUSION IN CLOSEOUT DOCUMENTATION.	

SPRINKLER NOTES:	
1. CONFIRM EXISTING CONDITIONS AND SYSTEM LAYOUT PRIOR TO PRICING AND INSTALLATION.	
2. ANY SPRINKLER WORK REQUIRING SHUT DOWN OF SPRINKLER OR FIRE ALARM SYSTEMS SHALL BE DONE OUTSIDE OF SCHOOL HOURS. NOTIFY FIRE ALARM MONITORING COMPANY WHEN WORK IS BEING DONE. COORDINATE WITH OWNER AS REQUIRED.	
3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING SYSTEM LAYOUT AND SYSTEM TYPE. ANY UPGRADES SHALL MATCH EXISTING DESIGN INTENT. ANY DESIGN REQUIRED IS THE RESPONSIBILITY OF THE CONTRACTOR. COORDINATE WITH ALL OTHER TRADES PRIOR TO PRICING AND INSTALLATION.	
4. PROVIDE VALVES, HEADS, AND PIPING AS REQUIRED FOR A COMPLETE AND OPERATIONAL SPRINKLER SYSTEM IN CONFORMANCE WITH NFPA 13, OBC AND LOCAL CODES.	
5. PROVIDE DESIGN DRAWINGS COMPLETE WITH HYDRAULIC CALCULATIONS SEALED AND SIGNED BY A LICENSED ONTARIO PROFESSIONAL ENGINEER. DRAWINGS SHALL BE PREPARED IN AUTOCAD. SUBMIT DRAWINGS FOR ALL COMPONENTS AND DEVICES. PERFORM AND SUBMIT WATER FLOW TEST TO CONFIRM AVAILABLE WATER FLOW & PRESSURE. CONTRACTOR CAN RETAIN TEST FROM MUNICIPALITY WHERE ONE(1) EXISTING WITHIN ONE(1) CALENDAR YEAR. SUBMIT DESIGN PACKAGE TO ENGINEER AND AUTHORITIES HAVING JURISDICTION.	
6. PROVIDE SPECIALTY COVERAGE FOR FLOOR OPENINGS AND WINDOWS.	
7. PROVIDE FIRE EXTINGUISHERS C/W CABINET OR WALL BRACKETS AS NOTED, AS PER NFPA 10, AND AS REQUIRED BY LOCAL FIRE PREVENTION SERVICES. THE CONTRACTOR SHALL ARRANGE A SITE REVIEW WITH FIRE PREVENTION TO CONFIRM LOCATION OF ALL EXTINGUISHERS PRIOR TO INSTALLATION.	
8. THE SPRINKLER CONTRACTOR SHALL COORDINATE WITH GRILLE, DIFFUSER, AND LIGHT LOCATIONS AND WITH MECHANICAL AND ELECTRICAL DRAWINGS PRIOR TO DESIGN AND INSTALLATION OF SPRINKLER SYSTEM. LIGHTING TAKES PRECEDENCE.	
9. THE CONTRACTOR SHALL DETERMINE BEST ROUTING OF SPRINKLER PIPING BY COORDINATING WITH ALL DRAWINGS. COORDINATE WITH ALL OTHER TRADES ON SITE PRIOR TO DESIGN OR INSTALLATION.	
10. CONCEAL ALL NEW PIPING IN CEILING SPACE.	
11. PROVIDE ACCESS DOORS IN DRYWALL CEILINGS AND WALLS FOR ACCESS TO VALVES, ETC. WHERE REQUIRED.	
12. PROVIDE FIRE STOPPING AROUND ALL PIPING THROUGH FIRE SEPARATIONS.	
13. ALL REQUIRED CUTTING AND CORING IS BY SPRINKLER CONTRACTOR. COORDINATE ALL PATCHING WITH GENERAL CONTRACTOR.	
14. SYSTEM SHALL BE TESTED AS PER NFPA REQUIREMENTS. PROVIDE MATERIAL AND TEST CERTIFICATES SIGNED BY TECHNICIAN WHO PERFORMED THE TESTS UPON COMPLETION OF INSTALLATION AND TESTING. SUBMIT TO ENGINEER AND AUTHORITIES HAVING JURISDICTION.	
15. COORDINATE WITH AND WORK WITH ELECTRICAL CONTRACTOR FOR TESTING OF DEVICES INTERLOCKED WITH FIRE ALARM SYSTEM.	
16. PROVIDE RISER NAMEPLATES FOR EACH ZONE.	
17. PROVIDE ANY NEW HEAD TYPE IN EXISTING SPARE SPRINKLER HEAD BOX.	
18. THE CONTRACTOR SHALL PROVIDE A LETTER STATING THE SPRINKLER INSTALLATION WAS PERFORMED BY QUALIFIED SPRINKLER CONTRACTOR IN CONFORMANCE WITH NFPA 13.	
19. SUBMIT A SIGN-OFF LETTER SEALED AND SIGNED BY THE SPRINKLER ENGINEER CONFIRMING THE INSTALLATION OF THE SPRINKLER SYSTEMS.	

GENERAL NOTES:	
1. OBTAIN, ARRANGE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.	
2. THE CONTRACTOR AND ITS SUB-TRADES SHALL ATTEND SITE MEETINGS AS ARRANGED BY CONSULTANT OR OWNER.	
3. OBTAIN AND REVIEW THE DESIGNATED SUBSTANCE REPORT FROM THE CLIENT AND COORDINATE ANY DESIGNATED SUBSTANCE ISSUES WITH THE CLIENT PRIOR TO ANY WORK BEING DONE.	
4. PROVIDE SHOP DRAWINGS ELECTRONICALLY IN PDF FORMAT TO CONSULTANT FOR REVIEW. ALL SHOP DRAWINGS MUST BE REVIEWED, STAMPED AND SIGNED BY THE MECHANICAL CONTRACTOR PRIOR TO SUBMITTING TO THE CONSULTANT. REVIEW SHALL INCLUDE BUT NOT BE LIMITED TO VERIFYING UNIT VOLTAGE WITH ELECTRICIAN AND/OR SITE, EQUIPMENT PERFORMANCE, DIMENSIONS AND CLEARANCES. SUBMIT SHOP DRAWINGS ELECTRONICALLY TO INFO@DURHAMENERGY.COM.	
5. THOROUGHLY WORK AND COORDINATE WITH SITE CONDITIONS AND COMPLETE DRAWING SET PRIOR TO PRICING AND INSTALLATION.	
6. INSTALL ALL WORK IN CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.	
7. DO NOT USE ANY NEW PERMANENT EQUIPMENT FOR TEMPORARY USE DURING CONSTRUCTION WITHOUT WRITTEN APPROVAL. WHERE SYSTEMS ARE USED AND ARE CONTAMINATED BY DUST OR DIRT, THE CONTRACTOR SHALL CLEAN IN A MANNER ACCEPTABLE TO THE CONSULTANT.	
8. MAINTAIN RECORD DRAWINGS ON AN ON-GOING BASIS. DRAWINGS SHALL BE AVAILABLE FOR PERIODIC REVIEW BY THE CONSULTANT DURING CONSTRUCTION.	
9. ALL WORK SHALL COMPLY WITH APPLICABLE CODES.	
10. REMOVE ALL REDUNDANT EQUIPMENT, MATERIALS AND GARBAGE FROM SITE AND DISPOSE OF IN AN APPROVED MANNER. REDUNDANT EQUIPMENT AND MATERIALS SHALL NOT BE ABANDONED IN PLACE.	
11. ALL CUTTING AND CORING SHALL BE BY THIS CONTRACTOR. COORDINATE PATCHING WITH GENERAL CONTRACTOR. TRENCHING, EXCAVATION AND BACKFILL FOR UNDERGROUND PLUMBING SHALL BE BY THIS CONTRACTOR. ALL SAW CUTTING AND RESTORATION OF CONCRETE FLOOR BY GENERAL CONTRACTOR. COORDINATE WITH SAME.	
12. COORDINATE ROOFING FOR DUCT AND PIPE ROOF PENETRATIONS WITH GENERAL CONTRACTOR. PROVIDE PITCH POCKETS FOR ALL SERVICES THROUGH ROOF UNLESS SERVICES CAN BE FED THROUGH BASE OF EQUIPMENT.	
13. MAINTAIN REQUIRED ACCESS AND CLEARANCE TO ALL EQUIPMENT AND SYSTEMS AS REQUIRED BY CODE AND AS PER MANUFACTURER'S REQUIREMENTS.	
14. TAG ALL EQUIPMENT WITH LAMACOID NAMEPLATES. TAG ALL VALVES WITH LAMACOID NAMEPLATES OR BRASS TAGS ON CHAINS.	
15. LABEL ALL NEW PIPING WITH SERVICE AND FLOW ARROWS EVERY 10'(3m) AND ON EITHER SIDE OF WALLS.	
16. THE CONTRACTOR SHALL ARRANGE FOR INSPECTIONS BY THE ENGINEER PRIOR TO CEILINGS AND WALLS BEING CLOSED IN. WHERE THIS HAS NOT BEEN ARRANGED IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE CEILING TILES OR ACCESS DOORS FOR INSPECTION AT THE DIRECTION OF THE CONSULTANT.	
17. PERFORM TESTING AND START UP OF ALL SYSTEMS AS REQUIRED BY CODE, THE CONSULTANT, MANUFACTURER'S REQUIREMENTS, AND AUTHORITIES HAVING JURISDICTION. SUBMIT REPORTS TO THE CONSULTANT.	
18. INSTRUCT AND TRAIN THE OWNER ON PROPER OPERATION OF THE SYSTEM. RECORD AND SUBMIT A TRAINING LOG DATED AND SIGNED BY ALL ATTENDEES INCLUDING THE TRAINERS.	
19. UPON COMPLETION OF THE PROJECT THE CONSULTANT WILL DO A FINAL REVIEW. UPON RECEIVING THE FINAL INSPECTION REPORT, THE CONTRACTOR MUST CORRECT AND SIGN BACK THE INSPECTION REPORT INDICATING ALL DEFICIENCIES ARE COMPLETED. A RE-INSPECTION WILL ONLY BE DONE ONCE THE CONSULTANT RECEIVES THIS IN WRITING. WHERE THE CONSULTANT PERFORMS THE RE-INSPECTION AND THE WORK IS NOT COMPLETE, THE CONTRACTOR IS RESPONSIBLE FOR REIMBURSING THE CONSULTANT FOR THE FIELD REVIEW. THE FEE FOR ADDITIONAL REVIEWS WILL BE AT THE CONSULTANT'S HOURLY RATES PLUS MILEAGE AND APPLICABLE TAXES TO BE PAID DIRECTLY TO THE CONSULTANT PRIOR TO PERFORMING THE NEXT FIELD REVIEW.	
20. PROVIDE ONE (1) YEAR WARRANTY ON ALL MATERIAL AND LABOUR FROM THE DATE OF SUBSTANTIAL COMPLETION.	
21. PROGRESS DRAWS SHALL INCLUDE MINIMUM \$2,500.00 FOR MANUALS AND AS-BUILT DRAWINGS. TOTAL AMOUNT SHALL REMAIN UNBILLED UNTIL MANUALS AND AS-BUILT DRAWINGS HAVE BEEN SUBMITTED AND APPROVED.	
22. PROVIDE TWO(2) HARD COPIES OF MAINTENANCE MANUALS IN A 3-RING BINDER LABELED ON SPINE AND FRONT AND ONE(1) ELECTRONIC COPY ON USB. MANUAL SHALL INCLUDE TABLE OF CONTENTS, CONTRACTOR INFORMATION, WARRANTY LETTER, SHOP DRAWINGS, O&Ms, INSPECTION & TEST REPORTS, AND AS-BUILT DRAWINGS. AS-BUILT DRAWINGS SHALL INCLUDE COMPLETE MECHANICAL DRAWING SET WITH ANY CHANGES MARKED CLEARLY AND NEATLY IN COLOUR. AS-BUILTS SHALL BE STAMPED ACCORDINGLY BY THE CONTRACTOR (ALL DRAWINGS). DRAWINGS SHALL BE SUBMITTED HARD COPY IN FULL SIZE. SUBSTANTIAL COMPLETION WILL NOT BE AWARDED UNTIL THE MANUALS AND AS-BUILTS HAVE BEEN SUBMITTED TO THE CONSULTANT AND THE CONSULTANT HAS APPROVED.	
23. PERFORM DOMESTIC WATER QUALITY TEST AFTER ALL NEW PLUMBING WORK. SUBMIT CERTIFICATE OF ANALYSIS FROM CERTIFIED TESTING AGENCY TO CONSULTANT AND INCLUSION IN CLOSEOUT DOCUMENTATION.	

SPRINKLER AND STANDPIPE MATERIAL SPECIFICATIONS:	
1. SPRINKLER PIPING SHALL BE WELDED AND SEAMLESS BLACK STEEL ULC LISTED FOR FIRE PROTECTION USE IN CONFORMANCE WITH ASTM A-795. OR ANSI/ASTM A-53. PIPING IN DAMP OR WET ENVIRONMENTS INCLUDING ATTICS AND EXTERIORS SHALL BE NOT-DIPPED GALVANIZED.	
2. PIPING (2" AND UNDER): STEEL SCHEDULE 40 WITH ULC LISTED THREADED MALLEABLE STEEL FITTINGS TO ASTM A-197 AND ASTM A-153 CLASS A, OR STEEL SCHEDULE 10 WITH ULC LISTED STEEL GROOVED FITTINGS TO ASTM A-47 AND ASTM A536 EQUAL TO "FIRELOCK". PIPING (2-1/2" AND OVER): STEEL SCHEDULE 10 WITH ULC LISTED STEEL GROOVED FITTINGS TO ASTM A-47 AND ASTM A-536 EQUAL TO "FIRELOCK".	
3. HANGERS, SUPPORTS AND SPACING SHALL BE IN CONFORMANCE WITH NFPA 13. HANGERS SHALL BE STEEL ULC LISTED. USE ADJUSTABLE GALVANIZED CLEVIS PIPE SUPPORTS AND HANGERS WITH THREADED HANGER RODS. HANGERS SHALL SUPPORT FROM UPPER MEMBERS OF STEEL JOISTS OR PROVIDE LISTED AND APPROVED FASTENERS FOR CONCRETE STRUCTURE (EXCEPT NOT ACCEPTABLE IN CINDER). DO NOT SUPPORT FROM METAL DECK.	
4. TOP OF RISERS SHALL BE SUPPORTED USING RISER CLAMPS OFF WALLS. A HANGER SHALL ALSO BE INSTALLED ON HORIZONTAL LINE WITHIN 24"(610mm) OF CENTERLINE OF RISER.	
5. ALL OTHER MATERIALS SHALL BE ULC LISTED, IN CONFORMANCE WITH NFPA 13, AND SPECIFIC ASTM/ANSI RATINGS.	

PLUMBING LEGEND	
—	NEW
---	EXISTING
-----	DEMOLITION
----	DOMESTIC COLD WATER (DCW)
-----	DOMESTIC HOT WATER (DHW)
-----	DOMESTIC HOT WATER RECIRC (DRW)
—T—T—	DOMESTIC TEMPERED WATER LINE (DTW)
—AS—AS—	ABOVEGROUND SANITARY LINE
—S—S—	UNDERGROUND SANITARY LINE
—ST—ST—	ABOVEGROUND STORM LINE
-----	UNDERGROUND STORM LINE
-----	PLUMBING VENT
FD	FLOOR DRAIN
Rd Rd	ROOF DRAIN / ROOF DRAIN ABOVE
HC DC	STACK / FLOOR CLEANOUT
WC-1	FIXTURE TAG
TYPE ID	EQUIPMENT TYPE OF EQUIPMENT TAG NUMBER DESIGNATION
—o—	ELBOW RISING
—o—	ELBOW DROPPING
—o—	BRANCH RISING FROM TEE
—o—	BRANCH DROPPING FROM TEE
BD	SHUT-OFF BALL VALVE
U	UNION



BALANCING SPECIFICATIONS:

- 1. OBTAIN THE SERVICES OF A 3rd PARTY ACCREDITED BALANCING COMPANY TO BALANCE THE COMPLETE AIR AND WATER HVAC SYSTEM FOR THE NEW ADDITION.
- 2. PROVIDE REPORT TO ENGINEER FOR REVIEW.
- 3. RETURN TO SITE FOR ANY ADJUSTMENTS AND SUBMIT FINAL REPORT TO ENGINEER AND CONTRACTOR. [FOR INCLUSION INTO MAINTENANCE MANUAL.]
- 4. ACCEPTABLE AGENTS:
  - 1. QUALITY AIR DISTRIBUTION INC  
CONTACT: DAREK NIEZGODA  
TEL: (905)492-3111  
EMAIL: darek@qualityairdistribution.com
  - 2. DESIGN TEST & BALANCE  
CONTACT: SURINDER SINGH  
TEL: (905)886-6513  
EMAIL: mol@designtest.ca
  - 3. DYNAMIC FLOW BALANCING LTD.  
PHONE: (905) 338-0808  
EMAIL: info@dynamicflowbalancing.com
  - 4. TECHNICAL AIRE  
CONTACT: LINVAL CHAROO  
PHONE: (416)492-9408  
EMAIL: lcharoo@technicalaire.com
  - 8. FLOWSET BALANCING  
CONTACT: CHRIS PITHER  
PHONE: (416)410-9793 OR (647)321-5114  
EMAIL: chrisp@flowset.com

HVAC MATERIAL SPECIFICATIONS:

- 1. DUCTWORK:
  - 1. IN CONFORMANCE WITH SMACNA, ASHRAE, OBC, NFPA 90A.
  - 2. SHEET METAL SHALL BE BEST QUALITY LOCK FORMING GALVANIZED SHEET METAL. GALVANIZING SHALL BE TO ASTM A525 (G90), HAVING A THICKNESS OF 0.054 MM AND WEIGHING NOT LESS THAN 0.31 KG/M2 ON EACH SURFACE.
  - 3. PROVIDE INSTRUMENT TEST PORTS IN DUCTS FOR PITOT TUBE INSERTION.
- 2. FLEXIBLE CONNECTIONS:
  - 1. PROVIDE FLEXIBLE CONNECTIONS AT AIR HANDLING UNITS WITH UL APPROVED FABRIC OF 6"(150mm) MINIMUM WIDTH AND WEIGHING NOT LESS THAN 0.8136 KG/M2.
- 3. HOT WATER HEATING PIPING:
  - 1. PIPING UP TO INCLUDING 2"(50mm): PIPING SHALL BE BLACK STEEL SCHEDULE 40 WITH MALLEABLE STEEL THREADED SCREW FITTINGS OR COPPER WITH SOLDER JOINTS.
  - 2. PIPING 2-1/2"(63mm) AND OVER: PIPING SHALL BE BLACK STEEL SCHEDULE 40 WITH WELDED FITTINGS.
  - 3. BRASS ADAPTERS SHALL BE PROVIDED AT ALL CONNECTIONS BETWEEN COPPER TUBING AND FERROUS PIPING.
  - 4. PROVIDE AUTOMATIC AIR VENTS C/W BALL VALVE AT ALL HIGH POINTS. REFER TO SPECIFICATIONS BELOW.
  - 5. PROVIDE DRAIN VALVES C/W HOSE CONNECTION AND CAP AT ALL LOW POINTS AND AS NOTED ON DETAILS.
  - 6. ALLOW FOR ANY CHEMICAL TREATMENT TO BRING SYSTEM TO ACCEPTABLE LEVELS AND SUBMIT REPORTS.
- 4. PIPE HANGERS:
  - 1. ADJUSTABLE WROUGHT IRON CLEVIS TYPE AND/OR ADJUSTABLE RING WITH THREADED SUSPENSION RODS.
  - 2. FOR COPPER PIPING WITHIN WALLFIN ENCLOSURE) PROVIDE COPPER PLATED OR EPOXY TYPE HANGERS OR PROVIDE SEPARATION OF DISSIMILAR METALS WITH APPROVED DIELECTRIC MATERIALS. INSULATING TAPE IS NOT ACCEPTABLE.
  - 3. HANGERS SHALL WRAP AROUND OUTSIDE OF PIPE INSULATION. PROVIDE SADDLES TO PREVENT CRUSHING OF INSULATION.
  - 4. PIPE HANGER SPACING
    - SIZES UP TO 1-1/4"(32mm) = 8'(2.5m) SPACING
    - SIZES 1-1/2"(38mm) TO 2"(50mm) = 10'(3m) SPACING
    - SIZES 2-1/2"(63mm) AND OVER = 12'(3.5m) SPACING
  - 5. PROVIDE HANGER WITHIN 12"(300mm) OF EVERY ELBOW
- 5. VALVES AND ACCESSORIES:
  - 1. ALL VALVES SHALL BE LINE SIZED UNLESS OTHERWISE NOTED. (CBVs GENERALLY NOT LINE SIZE).
  - 2. CIRCUIT BALANCING VALVES SHALL BE IMI TA STAS/STAD/STAF SERIES (NO ALTERNATES: ACCEPTABLE), MOUNT WITH PORTS UPRIGHT AT LEAST 90° UP FROM BOTTOM. SUBMIT SHOP DRAWINGS COMPLETE WITH VALVE SIZING SCHEDULE.
  - 3. BALL VALVES SHALL BE EQUAL TO KITZ 58 & 59.
  - 4. BUTTERFLY VALVES SHALL BE EQUAL TO KITZ #6122 OR #6141.
  - 5. AUTOMATIC AIR VENTS SHALL BE EQUAL TO:
    - WALLFINS, CONVECTORS, RADS: "MAID-O-MIST" #67 COMPLETE WITH BALL VALVE
    - PIPE MAINS & LINES, MECHANICAL ROOMS, EQUIPMENT, COILS, CEILING SPACES AND ALL OTHER SPACES EXCEPT NOTED ABOVE: "MAID-O-MIST" #71 COMPLETE WITH BALL VALVE
- 6. WATER TREATMENT:
  - 1. ALLOW FOR CHEMICAL TREATMENT TO BRING SYSTEM TO ACCEPTABLE LEVELS AND SUBMIT REPORTS.
  - 2. OBTAIN THE SERVICES OF CONTROL CHEM (CONTACT: ROBERT BAKER, 905-638-5768) FOR ALL WATER TREATMENT.
- 7. DUCT INSULATION:
  - 1. ACOUSTIC DUCT INSULATION
    - 1. FIBERGLASS INSULATION, COATED TO PREVENT FIBRE EROSION AT AIR VELOCITIES UP TO 400 fpm.
    - 2. ALL SUBSTRATE MATERIAL TO BE NON-DARKENED, CONTRASTING COLOUR FROM LINER LAYER.
    - 3. THICKNESS: 1" (25mm)
  - 2. THERMAL DUCT INSULATION
    - 1. INSULATION SHALL BE PRECOVERED, PREFORMED RIGID FIBROUS GLASS INSULATION COMPLETE WITH FOIL OR KRAFT ALL-PURPOSE JACKET.
    - 2. THICKNESS: 1" (25mm)
    - 3. RECOVERING JACKETS (INTERIOR): ULC LISTED "THERMO CANVAS", TREATED COTTON FABRIC.
- 8. PIPE INSULATION:
  - 1. PROVIDE 1/2"(38mm) PIPE INSULATION ON ALL HEATING PIPING SIZES UP TO AND INCLUDING 1-1/4"(32mm)
  - 2. PROVIDE 2"(50mm) PIPE INSULATION ON ALL HEATING PIPING SIZES 1-1/2"(38mm) AND OVER
  - 3. PROVIDE 1"(25mm) PIPE INSULATION ON ALL VENT PIPING 10'(3m) BACK FROM ROOF
  - 4. EXTERNAL PIPE INSULATION SHALL BE RIGID, SECTIONAL FIBERGLASS TYPE AND BE COMPLETE WITH FACTORY SUPPLIED ALL PURPOSE VAPOUR BARRIER. PRE-FORMED INSULATION SHALL BE USED AT PIPE FITTINGS, VALVES, ETC. PROVIDE NON-CRUSHING INSULATION AT ALL PIPE HANGERS AND PROVIDE SADDLES.
  - 5. PROVIDE PVC JACKET ON ALL INSULATION IN EXPOSED AREAS.
- 9. GAS PIPING
  - 1. ABOVE GROUND GAS PIPING SHALL BE ASTM A53 SCHEDULE 40 SEAMLESS WROUGHT STEEL WITH STANDARD THREADED MALLEABLE FITTINGS TO ANSI B16.3 (SIZE 2"(50mm) AND SMALLER), BAKED ENAMEL PRIME COAT, WITH CONCEALED PIVOTING ROD TYPE HINGE AND SELF-OPENING SCREWDRIVER OPERATED LOCK. DOOR TO BE RECESSED 5/8" (14mm) TO RECEIVE DRYWALL. FLANGE OF DOOR TO BE GALVANIZED STEEL TAPING BEADING TO PROVIDE FINISH OF DRYWALL. JOINTS RECESSED ACCESS DOOR.
  - 2. FLUSH ACCESS DOOR - UNIVERSAL: ACUDOR #UF-5000 UNIVERSAL ACCESS DOORS, 14 GA. (1.7mm) STEEL, BAKED ENAMEL PRIME COAT, CONTINUOUS CONCEALED HINGE, WITH POSITIVE AND SELF-OPENING SCREWDRIVER OPERATED LOCK. DOORS IN TILE WALLS SHALL BE STAINLESS STEEL AND SHALL SUIT TILE PATTERN. ALL OTHER PANELS SHALL BE PRIME PAINTED STEEL. MINIMUM SIZE OF PANELS SHALL BE 12"x18" (300mmx450mm). WHEREVER POSSIBLE 24"x24" (600mmx600mm) PANELS SHALL BE USED UNIVERSAL FLUSH ACCESS DOOR - FOR WALLS AND CEILINGS.
- 10. DUCT ACCESS DOORS
  - 1. DUCT ACCESS DOORS SHALL BE EQUAL TO NAILOR 085CL(SQUARE) OR 0800(OVAL). REFER TO DETAIL.
- 11. ACCESS DOORS/COVERS
  - 1. RECESSED ACCESS DOOR - DRYWALL AREA: ACUDOR #DW-5015 SERIES RECESSED ACCESS DOOR, 16 GA. (1.5mm) STEEL, BAKED ENAMEL PRIME COAT, WITH CONCEALED PIVOTING ROD TYPE HINGE AND SELF-OPENING SCREWDRIVER OPERATED LOCK. DOOR TO BE RECESSED 5/8" (14mm) TO RECEIVE DRYWALL. FLANGE OF DOOR TO BE GALVANIZED STEEL TAPING BEADING TO PROVIDE FINISH OF DRYWALL. JOINTS RECESSED ACCESS DOOR.
  - 2. FLUSH ACCESS DOOR - UNIVERSAL: ACUDOR #UF-5000 UNIVERSAL ACCESS DOORS, 14 GA. (1.7mm) STEEL, BAKED ENAMEL PRIME COAT, CONTINUOUS CONCEALED HINGE, WITH POSITIVE AND SELF-OPENING SCREWDRIVER OPERATED LOCK. DOORS IN TILE WALLS SHALL BE STAINLESS STEEL AND SHALL SUIT TILE PATTERN. ALL OTHER PANELS SHALL BE PRIME PAINTED STEEL. MINIMUM SIZE OF PANELS SHALL BE 12"x18" (300mmx450mm). WHEREVER POSSIBLE 24"x24" (600mmx600mm) PANELS SHALL BE USED UNIVERSAL FLUSH ACCESS DOOR - FOR WALLS AND CEILINGS.

HVAC NOTES:

- 1. CONCEAL ALL SERVICES IN CEILING SPACES AND FURRED CONSTRUCTION.
- 2. COORDINATE INSTALLATION WITH ALL OTHER TRADES.
- 3. REFER TO REFLECTED CEILING PLAN TO CONFIRM EXACT LOCATION OF GRILLES AND DIFFUSERS.LIGHTING TAKES PRECEDENCE.
- 4. PROVIDE 4" FLEXIBLE CONNECTIONS AT ALL DUCT CONNECTIONS TO AIR HANDLING EQUIPMENT.
- 5. PROVIDE ACOUSTIC INSULATION IN FIRST 5' (1.5m) OF SUPPLY AND RETURN DUCTS OFF AIR HANDLING UNITS, ALL TRANSFER DUCTS AND AS INDICATED ON DRAWINGS. SEAL ALL EXPOSED ENDS OF INSULATION.
- 6. PROVIDE TURNING VANES IN ALL SQUARE ELBOWS AND SHORT RADIUS ELBOWS FOR SUPPLY AIR DUCTS.
- 7. TEMPORARILY SEAL ALL OPEN DUCTS THROUGHOUT CONSTRUCTION TO PREVENT DUST AND DIRT FROM ENTERING THE SYSTEM. WHERE THE CONTRACTOR DOES NOT CONFORM THEY ARE RESPONSIBLE FOR CLEANING OF THE SYSTEMS IN A MANNER APPROVED BY THE CONSULTANT.
- 8. SEAL ALL JOINTS ON ALL SUPPLY & RETURN AIR DUCTS WITH DURODYNE DUCT SEALER IN CONFORMANCE TO CLASS "C" ASHRAE 90.1 AND SMACNA STANDARDS. USE CLEAR DUCT SEALER OR SEAL BEHIND JOINTS FOR ALL EXPOSED DUCTWORK.
- 9. BRANCH DUCTWORK TO DIFFUSERS TO BE SAME SIZE AS DIFFUSER NECK.
- 10. PROVIDE BALANCE DAMPERS ON ALL BRANCH DUCTS CLOSE TO MAIN TAKE-OFF. REVIEW WITH BALANCING CONTRACTOR TO CONFIRM LOCATIONS OF ALL BALANCE DAMPERS PRIOR TO CONSTRUCTION.
- 11. INCLUDE FOR THE SUPPLY AND INSTALLATION OF TWO(2) EXTRA BALANCE DAMPERS, PENDING BALANCING RESULTS AND COMMENTS.
- 12. FLEXIBLE DUCT SHALL ONLY BE USED IN SUPPLY AIR APPLICATIONS FOR CONNECTIONS TO DIFFUSERS IN DROPPED CEILING. FLEXIBLE DUCT SHALL BE MAXIMUM 6' (1.8m) IN LENGTH AND SHALL BE SECURELY FASTENED TO DUCTS AND DIFFUSERS. PROVIDE HANGERS AND FLEXIBLE DUCTWORK WITHOUT SHARP 90's, SAGGING, OR CRUSHING OF DUCT. FLEXIBLE DUCT IS NOT ACCEPTABLE IN ANY OTHER APPLICATION.
- 13. PROVIDE EXTERNAL INSULATION ON ALL SUPPLY AIR DUCTS, ALL OUTSIDE AIR DUCTS AND ON ALL EXHAUST DUCTS WITHIN 8' (2.4m) OF OUTSIDE WALL/ROOF INCLUDING RIGID AND FLEXIBLE DUCT.
- 14. CONFIRM EXACT LOCATIONS OF SENSORS WITH ENGINEER AND OWNER. MOUNT SENSORS AT 47" (1200mm) AFF. ENSURE THAT SENSOR LOCATIONS WILL NOT BE AFFECTED BY DIRECT SUNLIGHT, COLD WALLS OR MILLWORK.
- 15. ALL INDOOR CONTROL WIRING SHALL BE RUN IN EMT CONDUIT OR FTE (EMT SHALL BE USED IN EXPOSED AREAS). LAST 3' SHALL BE BX WHEN USING CONDUIT. ALL OUTDOOR CONTROL WIRING SHALL BE RUN IN LIQUIDTIGHT. ALL CONTROL WIRING SHALL RUN PARALLEL TO BUILDING LINES AND TIGHT TO ROOF DECK OR WALLS. ALL CONTROL WIRING PASSING THROUGH WALLS SHALL BE RUN IN EMT CONDUIT C/W BUSHINGS AT EACH END.
- 16. PROVIDE FIRE DAMPERS AT ALL FIRE SEPARATIONS. FIRE DAMPERS SHALL BE C/W LINKAGE OUT OF THE AIR STREAM. FIRE DAMPER RATING TO MATCH THE RATING OF THE SEPARATION CROSSED. INSTALLATION MUST CONFORM TO LATEST NFPA/CIA 90A SPECIFICATIONS. ONLY USE ULC APPROVED EQUIPMENT. PROVIDE DUCT ACCESS DOORS AND BREAK AWAY FLANGES FOR ALL FIRE DAMPERS IN CONFORMANCE WITH CODE AND INSTALLATION INSTRUCTIONS. ACCESS DOORS SHALL BE TWIST LOCK TYPE - SCREWED PANELS ARE NOT ACCEPTABLE.
- 17. PROVIDE SLEEVES FOR PIPES THROUGH ALL NEW BLOCK WALLS. FILL VOIDS AROUND PIPES. ENSURE NO CONTACT BETWEEN DISSIMILAR METALS.
- 18. SUPPLY DRYWALL ACCESS DOORS FOR CONCEALED FIRE AND BALANCE DAMPERS AND ANY OTHER CONCEALED DEVICES AND TURN OVER TO THE GENERAL CONTRACTOR FOR INSTALLATION. DOORS ARE TO MATCH WALL AND CEILING SURFACE AND COLOR EXCEPT USE STAINLESS STEEL IN WASHROOMS. DOORS SHALL BE RATED WHERE INSTALLED IN FIRE SEPARATIONS.
- 19. DRAIN HEATING SYSTEMS AS REQUIRED FOR NEW WORK. FILL, FLUSH, TEST AND TREAT (CHEMICAL TREATMENT) AFTER WORK IS COMPLETE. PROVIDE ALL PORTS, VALVES AND GAUGES AS REQUIRED. SUBMIT CHEMICAL TREATMENT REPORT TO ENGINEER. FREEZING OF PIPING TO ALLOW ISOLATION OF WORK AREA IS ACCEPTABLE IN LIEU OF DRAINING.
- 20. ALL CBVs SHALL BE MOUNTED WITH PORTS IN HORIZONTAL (90°) POSITION.
- 21. PROVIDE EXTERNAL INSULATION ON ALL HEATING PIPING.
- 22. PROVIDE FIRE STOPPING AROUND ALL NEW PIPING THROUGH FIRE SEPARATIONS.
- 23. LABEL ALL NEW HEATING PIPING COMPLETE WITH FLOW ARROWS. LABELS SHALL BE MAX 3m(10') SPACING AND ON EITHER SIDE OF WALLS. LABELING MUST BE COMPLETE PRIOR TO NEW CEILING BEING INSTALLED OTHERWISE IT IS THE CONTRACTORS RESPONSIBILITY TO REMOVE CEILING TILES FOR INSPECTION AT THE DIRECTION OF THE CONSULTANT.
- 24. LABEL CEILING TILE WITH PERMANENT ADHESIVE LABELS OR LAMACOID NAMEPLATES FOR ACCESS TO MECHANICAL ITEMS.
- 25. PROVIDE CONDENSATE DRAINS C/W TRAPS FOR NEW INDOOR AIR HANDLING EQUIPMENT AND RUN TO CLOSEST PLUMBING DRAIN WITH INDIRECT DRAIN CONNECTION IN A VISIBLE AND ACCESSIBLE LOCATION (CEILING SPACE NOT ACCEPTABLE). PROVIDE CONDENSATE PUMP WHERE GRAVITY DRAINAGE IS NOT POSSIBLE.
- 26. OBTAIN THE SERVICES OF A NEBB, CAABC OF NBCTA ACCREDITED BALANCING COMPANY TO BALANCE THE COMPLETE HVAC SYSTEM. PROVIDE REPORT TO ENGINEER FOR REVIEW. REFER TO SPECIFICATIONS FOR APPROVED AGENTS.
- 27. PROVIDE TESTING AND STARTUP OF ALL NEW EQUIPMENT AND PROVIDE REPORTS TO THE ENGINEER FOR REVIEW.

GENERAL NOTES:

- 1. OBTAIN, ARRANGE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.
- 2. THE CONTRACTOR AND ITS SUB-TRADES SHALL ATTEND SITE MEETINGS AS ARRANGED BY CONSULTANT OR OWNER.
- 3. OBTAIN AND REVIEW THE DESIGNATED SUBSTANCE REPORT FROM THE CLIENT AND COORDINATE ANY DESIGNATED SUBSTANCE ISSUES WITH THE CLIENT PRIOR TO ANY WORK BEING DONE.
- 4. PROVIDE SHOP DRAWINGS ELECTRONICALLY IN PDF FORMAT TO CONSULTANT FOR REVIEW. ALL SHOP DRAWINGS MUST BE REVIEWED, STAMPED AND SIGNED BY THE MECHANICAL CONTRACTOR PRIOR TO SUBMITTING TO THE CONSULTANT. REVIEW SHALL INCLUDE BUT NOT BE LIMITED TO: VERIFYING UNIT VOLTAGE, WITH ELECTRICIAN AND/OR SITE, EQUIPMENT PERFORMANCE, DIMENSIONS AND CLEARANCES. SUBMIT SHOP DRAWINGS ELECTRONICALLY TO INFO@DURHAMENERGY.COM.
- 5. THOROUGHLY REVIEW AND COORDINATE WITH SITE CONDITIONS AND COMPLETE DRAWING SET PRIOR TO PRICING AND INSTALLATION.
- 6. INSTALL ALL WORK IN CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
- 7. DO NOT USE ANY NEW PERMANENT EQUIPMENT FOR TEMPORARY USE DURING CONSTRUCTION WITHOUT WRITTEN APPROVAL. WHERE SYSTEMS ARE USED AND ARE CONTAMINATED BY DUST OR DIRT, THE CONTRACTOR SHALL CLEAN IN A MANNER ACCEPTABLE TO THE CONSULTANT.
- 8. MAINTAIN RECORD DRAWINGS ON AN ON-GOING BASIS. DRAWINGS SHALL BE AVAILABLE FOR PERIODIC REVIEW BY THE CONSULTANT DURING CONSTRUCTION.
- 9. ALL WORK SHALL COMPLY WITH APPLICABLE CODES.
- 10. REMOVE ALL REDUNDANT EQUIPMENT, MATERIALS AND GARBAGE FROM SITE AND DISPOSE OF IN AN APPROVED MANNER. REDUNDANT EQUIPMENT AND MATERIALS SHALL NOT BE ABANDONED IN PLACE.
- 11. ALL CUTTING AND CORING SHALL BE BY THIS CONTRACTOR. COORDINATE PATCHING WITH GENERAL CONTRACTOR. TRENCHING, EXCAVATION AND BACKFILL FOR UNDERGROUND PLUMBING SHALL BE BY THIS CONTRACTOR. ALL SAW CUTTING AND RESTORATION OF CONCRETE FLOOR BY GENERAL CONTRACTOR. COORDINATE WITH SAME
- 12. COORDINATE ROOFING FOR DUCT AND PIPE ROOF PENETRATIONS WITH GENERAL CONTRACTOR. PROVIDE PITCH POCKETS FOR ALL SERVICES THROUGH ROOF UNLESS SERVICES CAN BE FED THROUGH BASE OF EQUIPMENT.
- 13. MAINTAIN REQUIRED ACCESS AND CLEARANCE TO ALL EQUIPMENT AND SYSTEMS AS REQUIRED BY CODE AND AS PER MANUFACTURER'S REQUIREMENTS.
- 14. TAG ALL EQUIPMENT WITH LAMACOID NAMEPLATES. TAG ALL VALVES WITH LAMACOID NAMEPLATES OR BRASS TAGS ON CHAINS.
- 15. LABEL ALL NEW PIPING WITH SERVICE AND FLOW ARROWS EVERY 10'(3m) AND ON EITHER SIDE OF WALLS.
- 16. THE CONTRACTOR SHALL ARRANGE FOR INSPECTIONS BY THE ENGINEER PRIOR TO CEILINGS AND WALLS BEING CLOSED IN. WHERE THIS HAS NOT BEEN ARRANGED IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE CEILING TILES OR ACCESS DOORS FOR INSPECTION AT THE DIRECTION OF THE CONSULTANT.
- 17. PERFORM TESTING AND START UP OF ALL SYSTEMS AS REQUIRED BY CODE, THE CONSULTANT, MANUFACTURER'S REQUIREMENTS, AND AUTHORITIES HAVING JURISDICTION. SUBMIT REPORTS TO THE CONSULTANT.
- 18. INSTRUCT AND TRAIN THE OWNER ON PROPER OPERATION OF THE SYSTEM. RECORD AND SUBMIT A TRAINING LOG DATED AND SIGNED BY ALL ATTENDEES INCLUDING THE TRAINERS.
- 19. UPON COMPLETION OF THE PROJECT THE CONSULTANT WILL DO A FINAL REVIEW. UPON RECEIVING THE FINAL INSPECTION REPORT, THE CONTRACTOR MUST CORRECT AND SIGN BACK THE INSPECTION REPORT INDICATING ALL DEFICIENCIES ARE COMPLETED. A RE-INSPECTION WILL ONLY BE DONE ONCE THE CONSULTANT RECEIVES THIS IN WRITING. WHERE THE CONSULTANT PERFORMS THE RE-INSPECTION AND THE WORK IS NOT COMPLETE, THE CONTRACTOR IS RESPONSIBLE FOR REIMBURSING THE CONSULTANT FOR THE FIELD REVIEW. THE FEE FOR ADDITIONAL REVIEWS WILL BE AT THE CONSULTANT'S HOURLY RATES PLUS MILEAGE AND APPLICABLE TAXES TO BE PAID DIRECTLY TO THE CONSULTANT PRIOR TO PERFORMING THE NEXT FIELD REVIEW.
- 20. PROVIDE ONE (1) YEAR WARRANTY ON ALL MATERIAL AND LABOUR FROM THE DATE OF SUBSTANTIAL COMPLETION.
- 21. PROGRESS DRAWS SHALL INCLUDE MINIMUM \$2,500.00 FOR MANUALS AND AS-BUILT DRAWINGS. TOTAL MANUAL SHALL REMAIN UNBILLED UNTIL MANUALS AND AS-BUILT DRAWINGS HAVE BEEN SUBMITTED AND APPROVED.
- 22. PROVIDE TWO(2) HARD COPIES OF MAINTENANCE MANUALS IN A 3-RING BINDER LABELED ON SPINE AND FRONT AND ONE(1) ELECTRONIC COPY ON USB. MANUAL SHALL INCLUDE TABLE OF CONTENTS, CONTRACTOR INFORMATION, WARRANTY LETTER, SHOP DRAWINGS, O&Ms, INSPECTION & TEST REPORTS, AND AS-BUILT DRAWINGS. AS-BUILT DRAWINGS SHALL INCLUDE COMPLETE MECHANICAL DRAWING SET WITH ANY CHANGES MARKED CLEARLY AND NEATLY IN COLOUR. AS-BUILTS SHALL BE STAMPED ACCORDINGLY BY THE CONTRACTOR (ALL DRAWINGS). DRAWINGS SHALL BE SUBMITTED HARD COPY IN FULL SIZE. SUBSTANTIAL COMPLETION WILL NOT BE AWARDED UNTIL THE MANUALS AND AS-BUILTS HAVE BEEN SUBMITTED TO THE CONSULTANT AND THE CONSULTANT HAS APPROVED.
- 23. PERFORM DOMESTIC WATER QUALITY TEST AFTER ALL NEW PLUMBING WORK. SUBMIT CERTIFICATE OF ANALYSIS FROM CERTIFIED TESTING AGENCY TO CONSULTANT AND INCLUSION IN CLOSEOUT DOCUMENTATION.

HVAC LEGEND

	NEW
	EXISTING
	DEMOLITION
	SUPPLY DUCTS (UP / DOWN)
	RETURN DUCTS (UP / DOWN)
	EXHAUST DUCTS (UP / DOWN)
	ROUND DUCTS (UP / DOWN)
	FLEXIBLE DUCT
	ACOUSTIC LINED DUCT
	TURNING VANES
	BALANCE DAMPER
	FIRE DAMPER
	SPLITTER DAMPER
	SUPPLY DIFFUSER
	RETURN/EXHAUST CEILING GRILLE
	HOT WATER HEATING SUPPLY (HS)
	HOT WATER HEATING RETURN (HR)
	HEAT PIPE SUPPLY (HPS)
	HEAT PIPE RETURN (HPR)
	CONDENSATE DRAIN LINE
	GAS PIPING
	ELBOW RISING
	ELBOW DROPPING
	BRANCH RISING FROM TEE
	BRANCH DROPPING FROM TEE
	BALL SHUT-OFF VALVE
	UNION
	CIRCUIT BALANCING VALVE (CBV)
	STRAINER
	AUTOMATIC AIR VENT C/W 1/4" BALL VALVE AND NIPPLE/COUPLING (MINI BALL VALVES NOT ACCEPTABLE)
	CONTROL/SENSING WIRING
	BAS SPACE SENSOR
	EQUIPMENT TYPE OF EQUIPMENT SYMBOLS NUMBER DESIGNATION
	GRILLE TYPE SYMBOLS SIZE (mm) AIR FLOW (cfm)

HVAC ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
CTE	CONNECT TO EXISTING
C/W	COMPLETE WITH
U/S	UNDERSIDE
S/A	SUPPLY AIR
E/A	EXHAUST AIR
T/A	TRANSFER AIR
O/A	OUTSIDE AIR



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DES JOB No.: 19-216 DWG SIZE: D

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2	19-12-19	ISSUED FOR PERMIT
1	19-04-05	ISSUED FOR 60% REVIEW
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60593561  
TENDER# 2021-16

SHEET TITLE

HVAC LEGENDS & NOTES

SHEET NUMBER

M802



ARCH D 24" x 36"

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Checked By: -

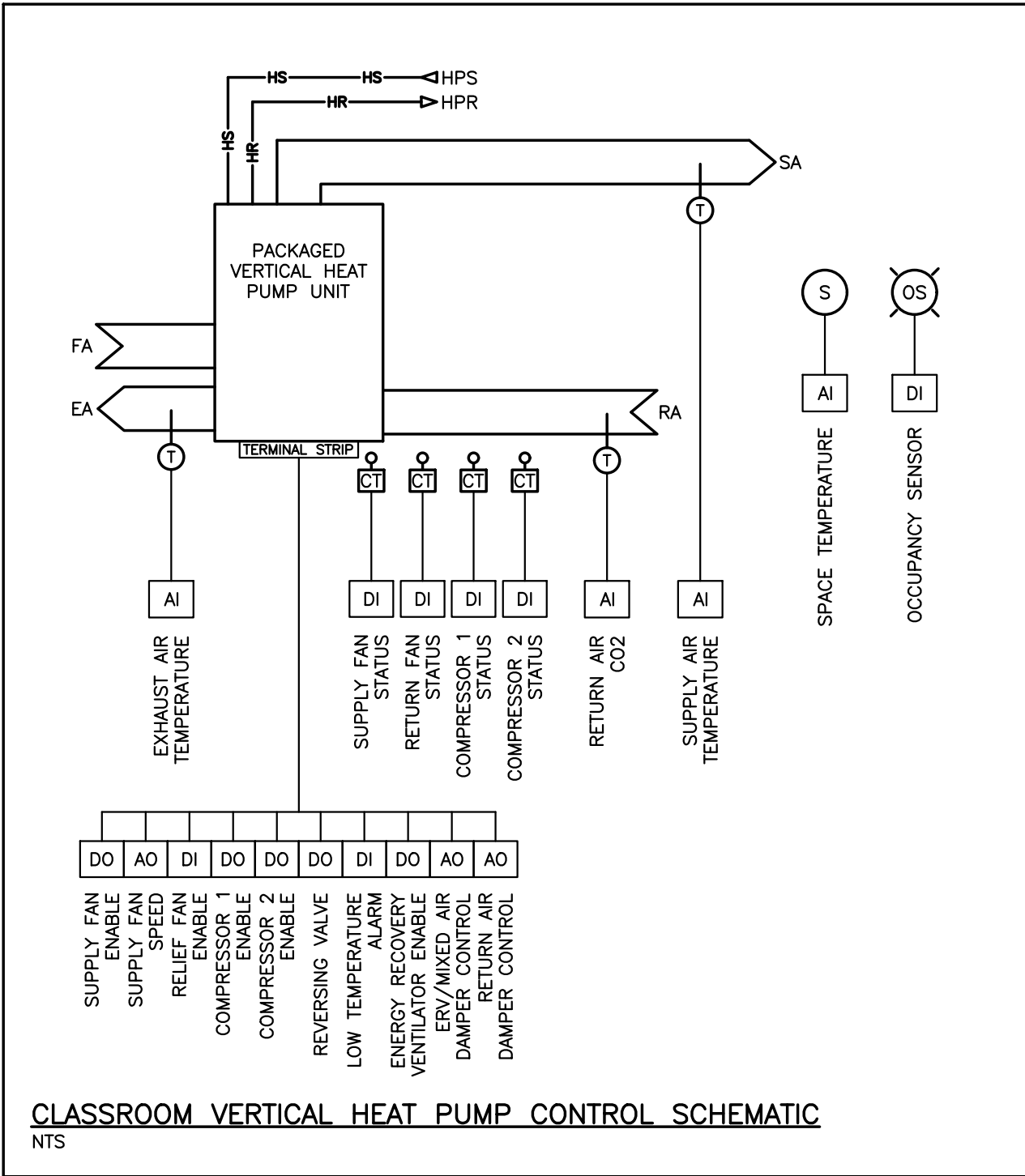
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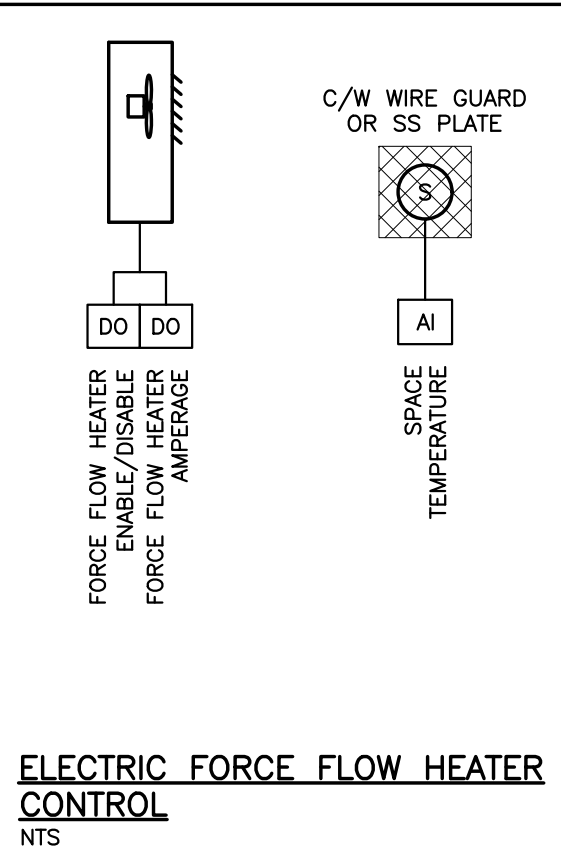
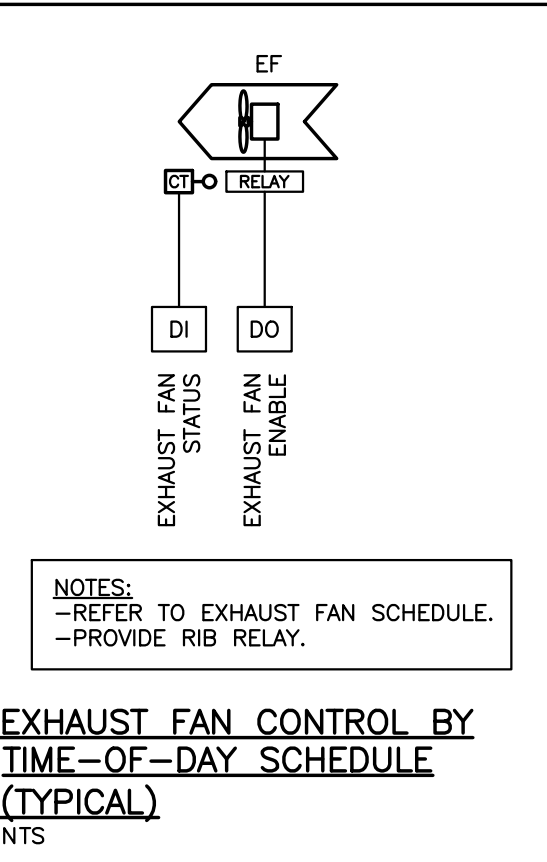
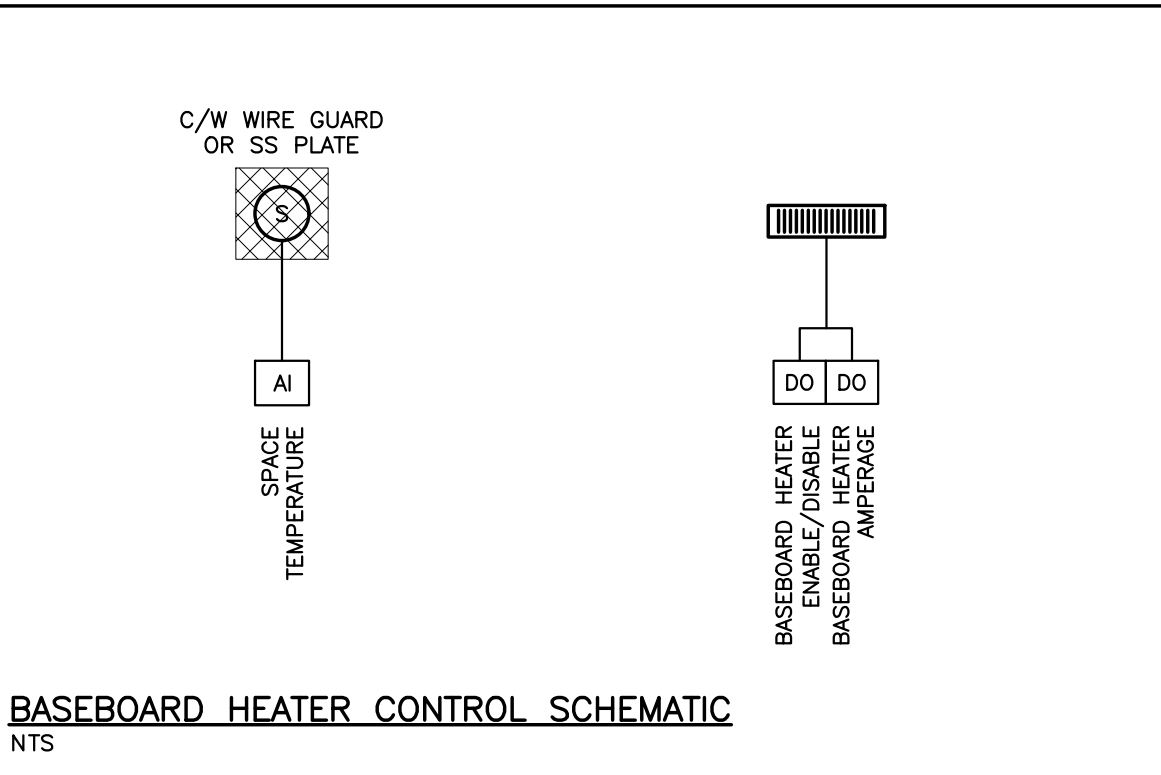
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#### CONTROLS SCOPE OF WORK:

1. ALL CONTROLS WORK SHALL BE DONE BY NAMED CONTROLS CONTRACTORS AS A SUB-TRADE TO THE MECHANICAL CONTRACTOR. PROVIDE TECHNICAL ASSISTANCE AS REQUIRED.
2. EXISTING BAS SYSTEM IS RELIABLE. CONTROLS, OBTAIN THE SERVICES OF SETPOINT FOR ALL ELECTRONIC CONTROLS WORK. (KEITH LAIDMAN, PHONE: 905-669-8012, EMAIL: keithlaidman@setpoint.ca)
3. MECHANICAL CONTRACTOR SHALL PROVIDE TECHNICAL ASSISTANCE AS REQUIRED.
4. DISCONNECT AND REMOVE ALL REDUNDANT ELECTRONIC CONTROLS IN AREA OF WORK AS INDICATED ON DRAWINGS. ALL 24V ELECTRIC DEMOLITION WORK SHALL BE PERFORMED BY SETPOINT.
5. SCOPE OF WORK SHALL INCLUDE BUT IS NOT LIMITED TO:
  1. REMOVAL OF REDUNDANT CONTROLS. TURN OVER REMOVED DEVICES TO MONAVENIR OR DISPOSE OF IN APPROVED MANNER.
  2. PROVIDE NEW SPACE SENSORS, RELOCATE EXISTING SENSORS, OR REWIRE EXISTING SENSORS TO SUIT NEW CONTROLS AS REQUIRED AND AS INDICATED ON DRAWINGS.
  3. PROVIDE NEW OR UPGRADE EXISTING BAS CONTROLLERS AS REQUIRED FOR COMPLETELY FUNCTIONAL SYSTEMS. TIE NEW CONTROLLERS INTO EXISTING BAS CONTROL NETWORK. RELOCATE EXISTING CONTROLLERS AS REQUIRED AND TIE BACK INTO EXISTING BAS CONTROL NETWORK.
  4. PROVIDE COMPLETE CONTROL OF NEW VERTICAL HEAT PUMP AS PER SCHEMATICS AND SPECIFICATIONS. SEQUENCE OF OPERATION TO SUIT MONAVENIR BOARD STANDARDS.
  5. PROVIDE COMPLETE CONTROL OF NEW ELECTRIC BASEBOARD AND ELECTRIC FORCE FLOW HEATERS AS PER SCHEMATICS.
  6. PROVIDE COMPLETE CONTROL OF NEW EXHAUST FAN AS PER SCHEDULES AND SCHEMATICS.
6. WHERE EXISTING DEVICES AND WIRING IS NOTED TO REMAIN, SCHEMATICS ARE PROVIDED FOR REFERENCE. NOTIFY ENGINEER OF ANY DISCREPANCIES.
7. THE BAS CONTRACTOR SHALL UPDATE ALL PROGRAMMING, GRAPHICS, PANELS, ETC. TO SUIT CURRENT SCOPE OF WORK AND NEW FLOOR PLANS INCLUDING ROOMS NAMES AND NUMBERS.
8. COORDINATE ALL SEQUENCES OF OPERATION AND ALARMING WITH MONAVENIR REPRESENTATIVE. CONTROLS CONTRACTOR SHALL COMPLY WITH ALL MONAVENIR CONTROLS STANDARDS. COORDINATE FINAL UNIT TAGGING WITH EXISTING NAMING CONVENTION ON SITE TO ENSURE NO DUPLICATION.
9. MECHANICAL AND CONTROL CONTRACTORS SHALL ENSURE BAS COMMUNICATIONS WIRING REMAINS FULLY FUNCTIONAL AND OPERATIONAL DURING RENOVATION. PROVIDE TEMPORARY WIRING AS REQUIRED TO MAINTAIN SYSTEM UPTIME AND INTEGRITY.
10. PROVIDE CONTROL SHOP DRAWINGS C/W ALL CONTROL COMPONENTS, SCHEMATICS, SEQUENCES, AND WIRING DETAILS AS PER SPECIFICATIONS.
11. PROVIDE ONE(1) YEAR WARRANTY ON ALL CONTROLS MATERIAL AND LABOUR.
12. PROVIDE AS-BUILT CONTROL DRAWINGS FOR INCLUSION IN O&M MANUALS AS PER SPECIFICATIONS.



VERTICAL HEAT PUMP UNIT VENTILATOR SCHEDULE			
TAG		HP-22	
SERVICE		PRESCHOOL A101	
MANUFACTURER		CHANGE'AIR	
MODEL		NWHP 48 1600 B C	
CABINET COLOUR		SKY WHITE	
DISCHARGE		TOP DUCTED	
FILTER SIZE	inches	2" PLEATED DIPOASABLE MERV8	
AIR FLOW			
TOTAL	cfm	1600	
SUPPLY FAN MOTOR	hp	0.75 ECM	
MIN. O/A	cfm	450	
MAX ESP	in.wc.	0.25	
POWERED EXHAUST			
MAX AIR FLOW	cfm	1600	
FAN MOTOR	hp	0.3 ECM	
MAX ESP	in.wc.	0.25	
COOLING			
CAPACITY	btuh	47,300(TOTAL)/40,340(SENSIBLE)	
EAT	'F	80.6	
LAT	'F	57.2	
EFFICIENCY		13.2 EER	
FLUID FLOW RATE	gpm	12.0	
FLUID PRESSURE DROP	feet/H2O	6.7	
EWT	'F	90.0	
LWT	'F	100.6	
HEATING			
CAPACITY	btuh	52,070	
EAT	'F	66.9	
LAT	'F	100.1	
FLUID FLOW RATE	gpm	12.0	
FLUID PRESSURE DROP	feet/H2O	6.7	
EWT	'F	60.0	
LWT	'F	53.8	
ENERGY RECOVERY (COOL.)			
DESIGN ROOM TEMP	db°F/wb°F	75.0/63.0	
DESIGN OAT	db°F/wb°F	95.0/66.0	
DESIGN LAT	db°F/wb°F	79.5/63.4	
CAPACITY	btuh	10,580	
ENERGY RECOVERY (HEAT)			
DESIGN ROOM TEMP	'F	72.0	
DESIGN OAT	'F	-20	
DESIGN LAT	'F	51.4	
CAPACITY	btuh	35,870	
ELECTRICAL	volt/ph	208/1	
MIN. CIRCUIT AMPERAGE	amps	37.1	
MAX FUSE	amps	50.0	
CABINET DIMENSIONS	inches	39.75"W x 25"D x 91"H	
APPROX. WEIGHT	lbs	780	
CONTROLS			
ACCESSORIES/OPTIONS			
-TERMINAL STRIP FOR TIE IN BY CONTROLS CONTRACTOR			
-WATER SOURCE HEAT PUMP WITH REVERSING VALVE			
-ENERGY RECOVERY WHEEL			
-LOW LEAKAGE DAMPERS EQUAL TO TAMCO 9000			
-2" PLEATED DISPOSABLE FILTERS, MERV8 & SPARE SET			
-FACTORY INSTALLED INTERNAL DISCONNECT			
-1" ACOUSTIC LINER			
-26" HIGH TOP DUCT SHROUD (FIELD TRIMMED BY INSTALLING CONTRACTOR TO SUIT CEILING HEIGHT)			
-WALL SLEEVE C/W INSULATED SPLITTER PLATE AND DOUBLE SIDED GASKET (ADJUSTABLE UP TO 14")			
-36"H x 36"W WALL LOUVRE C/W FLANGE AND BIRDSCREEN			
-FRONT RETURN GRILLE			
-INTEGRAL CONDENSATE PUMP			
ALTERNATE MANUFACTURER	AIREDALE		

AIR OUTLET SCHEDULE				
TAG	A	B	C	D
TYPE	SQUARE CONE DIFFUSER	LINEAR DIFFUSER	EGG CRATE RETURN	LOUVERED FACE RETURN
MANUFACTURER	PRICE	PRICE	PRICE	PRICE
MODEL	SCD-31-3C	48"/AST225/1/10"	80	535(D)-F-L-A
SIZE	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS	SEE DRAWINGS
COLOUR	B12	B12	B12	B12
NOTES	-24x24 CEILING MODULE FOR T-BAR MOUNTING -STANDARD WHITE FINISH	-1Ø2.5" SLOT, 4' LONG, 10" INLET -FOR DRYWALL MOUNTING -STANDARD WHITE FINISH	-C/W BORDER (F) (NO SCREWS FOR T-BAR MOUNTING)	-SINGLE DEFLECTION (FIXED BLADES) -1/2" BLADE SPACING -NO DAMPER
ALTERNATE MANUFACTURERS	NAILOR, TITUS, METALAIR			

FAN SCHEDULE		
TAG		EF-102
SERVICE		WASHROOM A102
TYPE		CEILING MOUNTED ULTRA SILENT
MANUFACTURER		BROAN
MODEL		QTXE150C
AIR FLOW	cfm	150/120
EXTERNAL STATIC	in.wc.	0.1/0.25
SOUND		1.4 @ .01" ESP
FAN RPM		-
FAN MOTOR	hp	FRACTIONAL
FAN TYPE		CENTRIFUGAL BLOWER
AMPS	amps	0.35
ELECTRICAL	volt/ph	120/1
DIMENSIONS	inches	7.63 H x 11.25 L x 10.38 W HOUSING w/ 15 x 14 GRILLE
APPROX. WEIGHT	lbs	94
CONTROLS		-TIE INTO BAS TO ENABLE DURING OCCUPIED HOURS
ACCESSORIES	-PLUG-IN	
	-POLYMERIC GRILLE	
	-RESILIENT ANTI-VIBRATION MOTOR MOUNTS	
	-4" DUCT CONNECT OR ASSEMBLY	
	C/W DAMPER FOAM	
ALTERNATE MANUFACTURERS	COOK, ZONEX	

# AECOM

**PROJECT**

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAYCARE EXPANSION PROJECT

29 MEADOVALE RD  
SCARBOROUGH

**CLIENT**

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DES JOB No.: 19-216 DWG SIZE: D

**KEYPLAN**

**ISSUE/REVISION**

7	21-02-02	RE-ISSUED FOR TENDER
6	20-04-21	RE-ISSUED FOR TENDER
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60593561  
TENDER# 2021-16

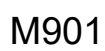
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#### SCHEDULES & CONTROLS

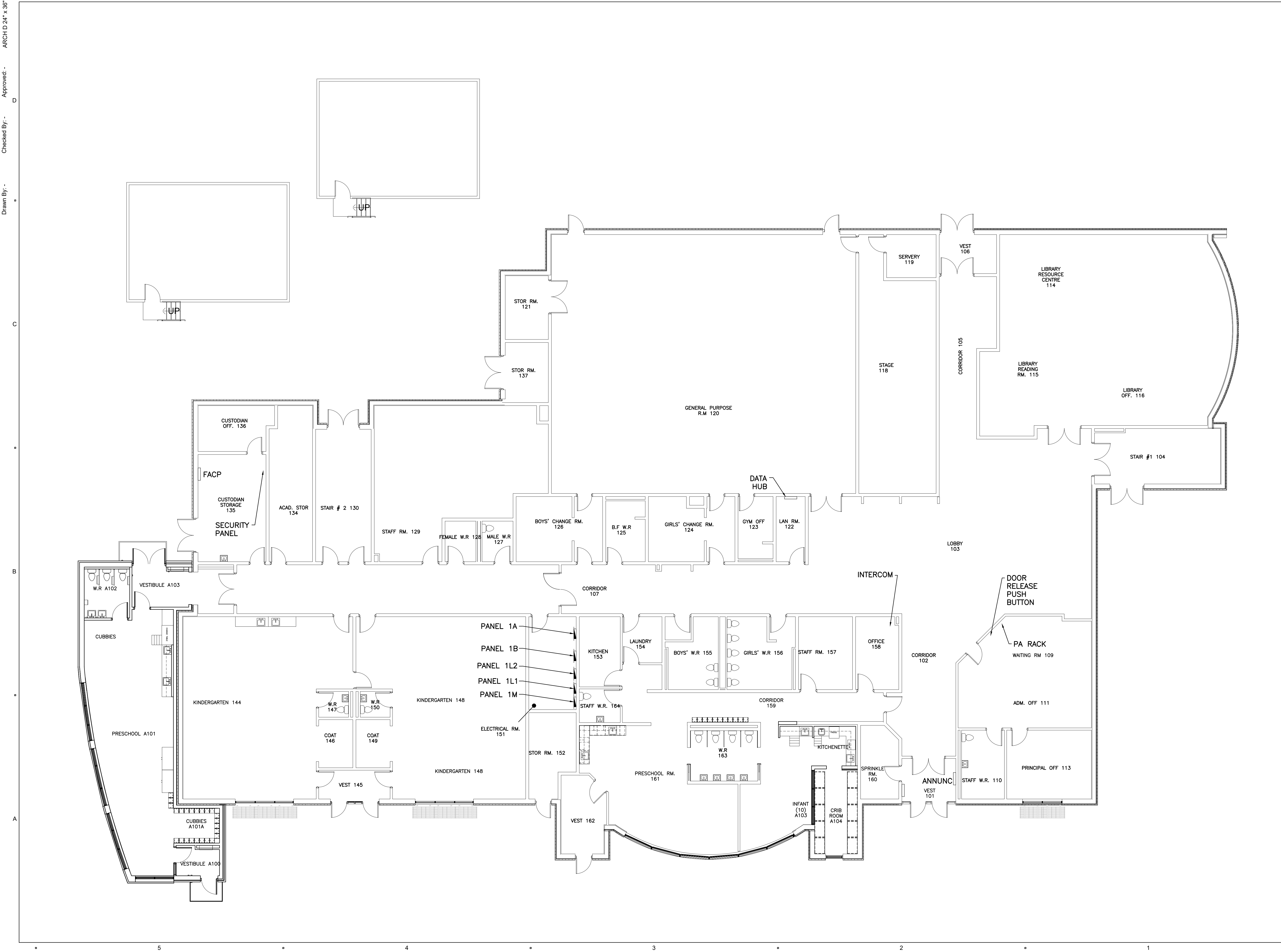
#### SHEET NUMBER

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PROJECT

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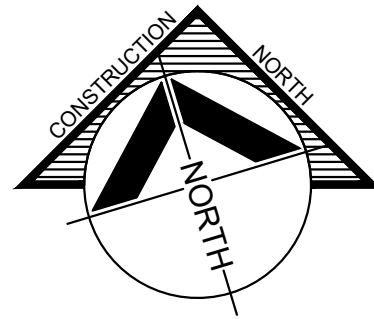
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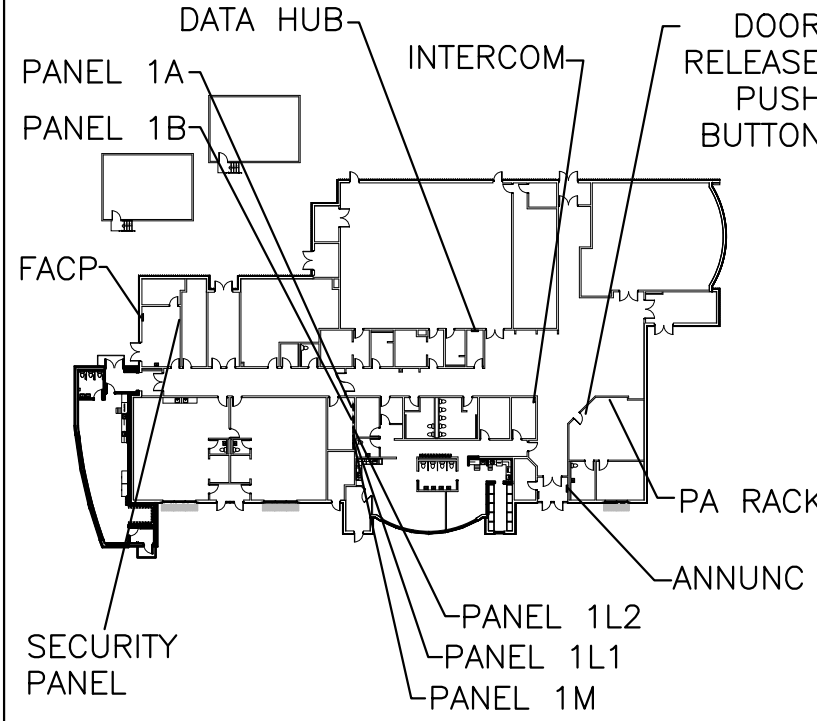
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SHEET TITLE

KEYPLAN

SHEET NUMBER

E100



ARCH D 24" x 36"

Approved: -

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Drawn By: -

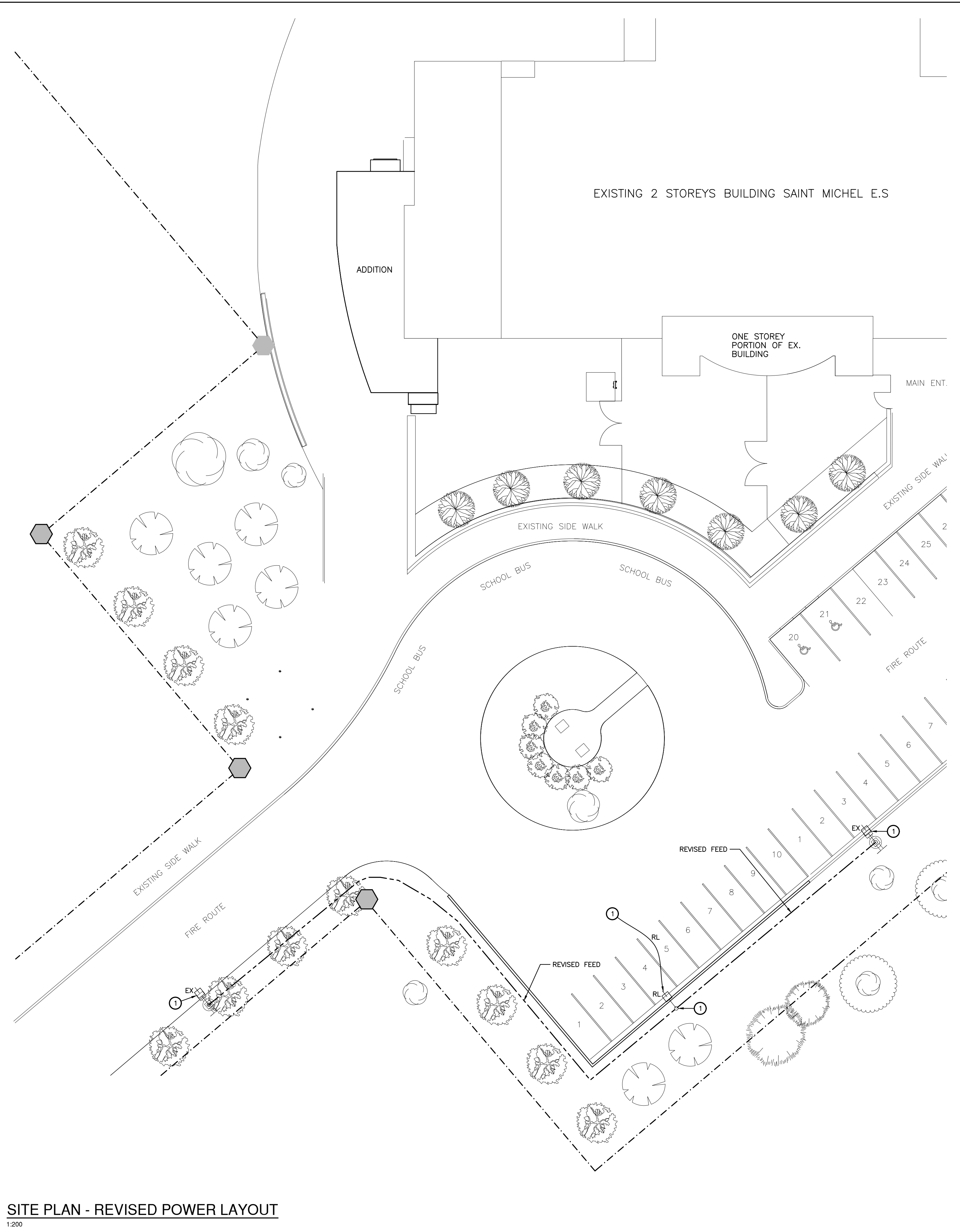
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**NEW POWER WORKING NOTES:**

① RELOCATE EXISTING LAMP POST AS NOTED. DISCONNECT AND REMOVE EXISTING FEED TO ALLOW RELOCATION. EXTEND FEEDS FROM ADJACENT LAMP POST AS REQUIRED.



**SITE PLAN - REVISED POWER LAYOUT**

1:200



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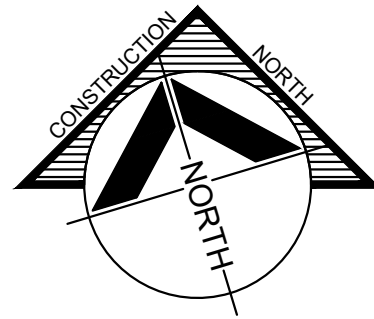
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**DES DURHAM ENERGY SPECIALIST LIMITED**

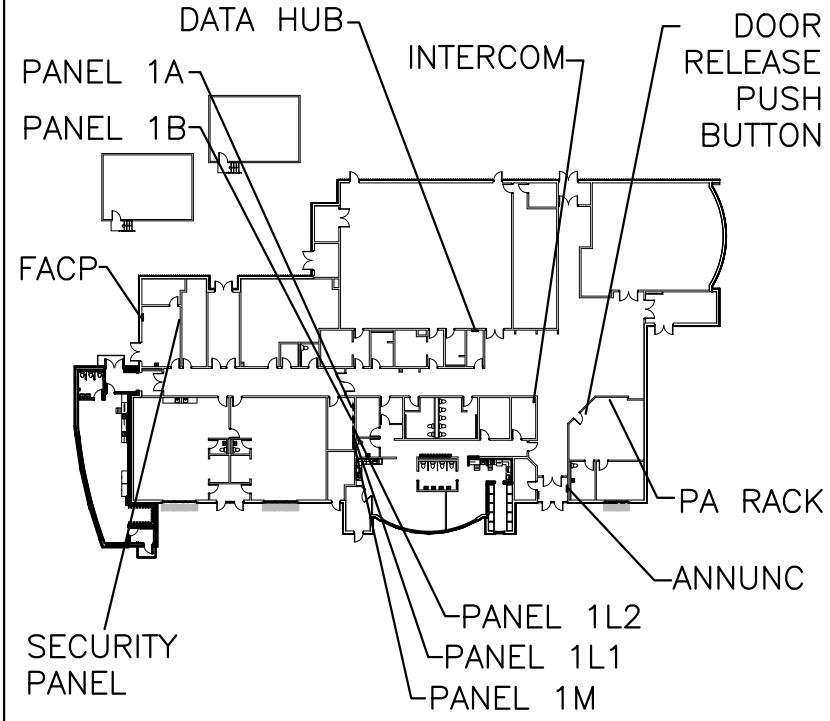
CONSULTING ENGINEERS

PH:(905)430-7151 FAX:(905)430-7154  
106-209 DUNDAS STREET EAST, WHITBY ONTARIO  
info@durhamenergy.com / www.durhamenergy.com

DES JOB No.: 19-216 DWG SIZE: D



**KEYPLAN**



**ISSUE/REVISION**

7	21-02-02	RE-ISSUED FOR TENDER
6	20-04-21	RE-ISSUED FOR TENDER
5	20-04-14	ISSUED FOR PERMIT
4	20-01-31	ISSUED FOR TENDER
3	20-01-24	ISSUED FOR FINAL REVIEW
2	19-12-19	ISSUED FOR PERMIT
1	19-04-05	ISSUED FOR 60% REVIEW
I/R	DATE	DESCRIPTION

**PROJECT NUMBER**

60593561  
TENDER# 2021-16

**SHEET TITLE**

SITE PLAN  
REVISED POWER PLAN

**SHEET NUMBER**

E101



ARCH D 24" x 36"

Approved: -

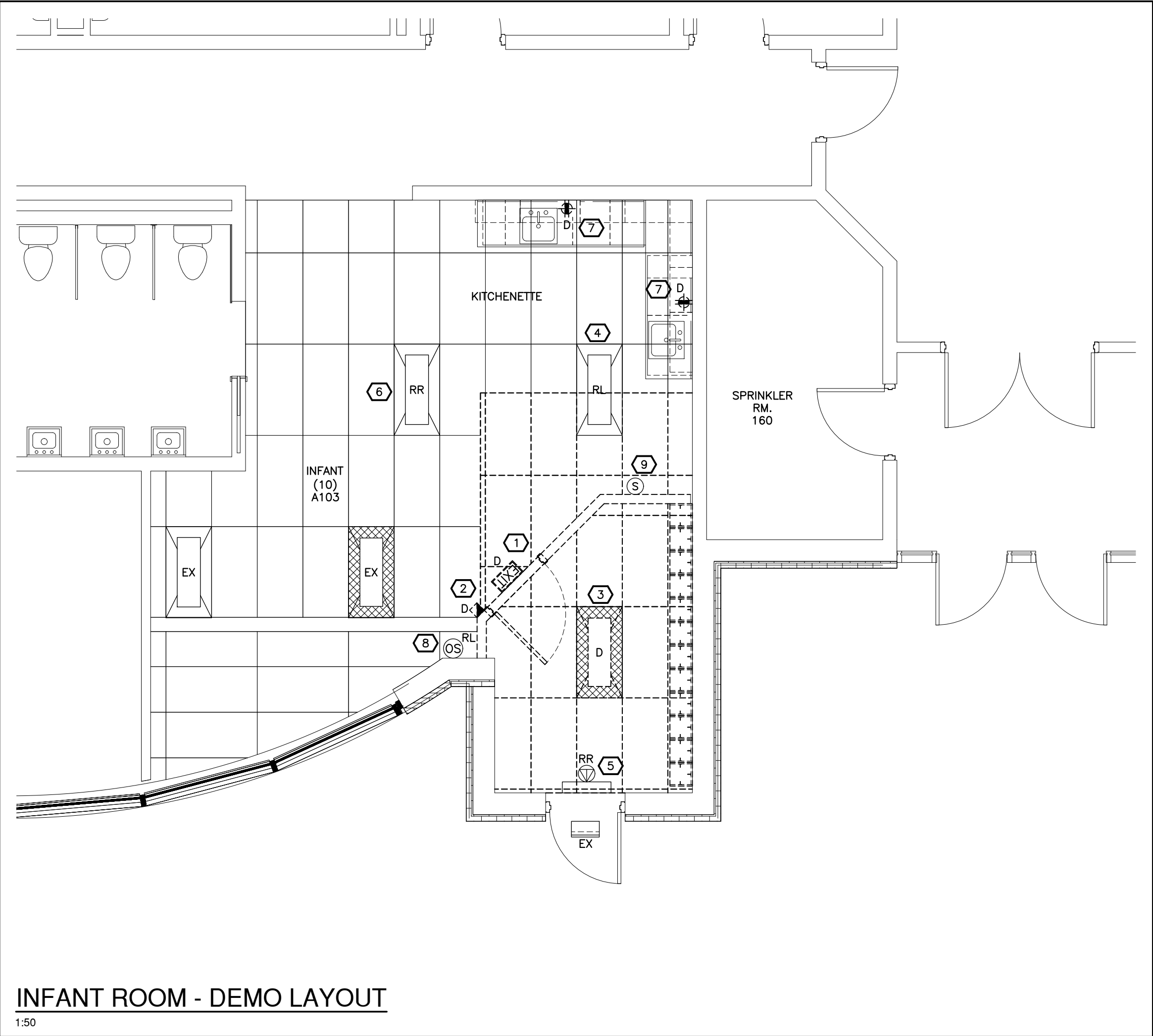
Checked By: -

Drawn By: -

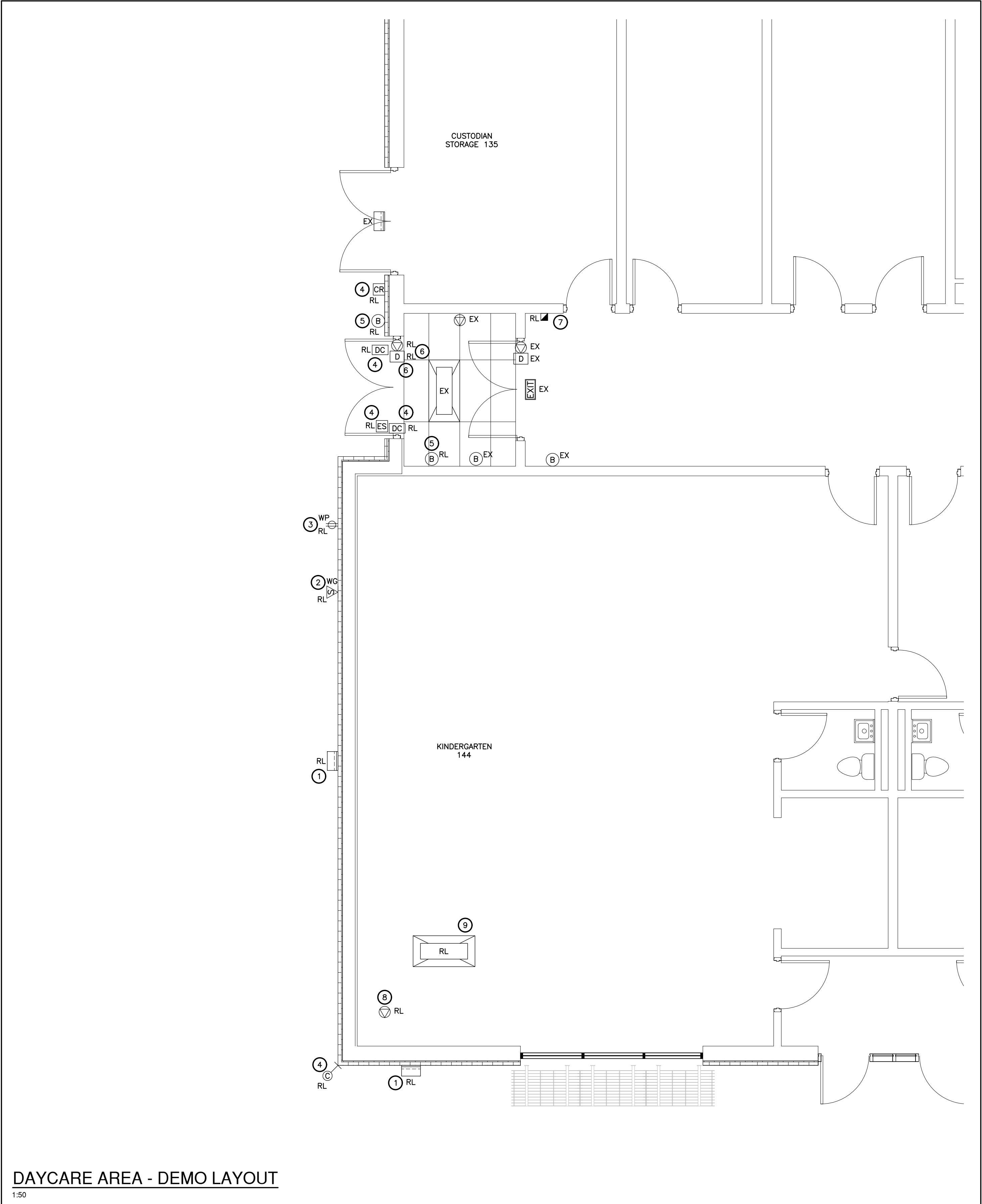
C

B

A



- INFANT ROOM DEMO WORKING NOTES:**
- 1 DISCONNECT AND REMOVE EMERGENCY DEVICE. REMOVE FEED BACK TO SOURCE.
  - 2 DISCONNECT AND REMOVE FIRE ALARM DEVICE. REMOVE FEED BACK TO SOURCE.
  - 3 DISCONNECT AND REMOVE EMERGENCY LIGHTING LUMINAIRE. REMOVE FEED BACK TO NEAREST JUNCTION BOX. TURN LUMINAIRE OVER TO OWNER.
  - 4 DISCONNECT AND REMOVE LUMINAIRE. RETAIN FOR RELOCATION.
  - 5 DISCONNECT AND REMOVE ELECTRIC FORCE FLOW HEATER. RETAIN FOR REINSTALLATION.
  - 6 DISCONNECT AND REMOVE LUMINAIRE. RETAIN FOR REINSTALLTION.
  - 7 DISCONNECT AND REMOVE EXISTING GFI RECEPTACLES. RELOCATE FEEDS TO SUIT NEW KITCHENETTE LAYOUT. EXTEND FEEDS AS REQUIRED. PROVIDE NEW TAMPER RESISTANT GFI RECEPTACLES.
  - 8 ALLOW FOR RELOCATION OF EXISTING OCCUPANCY SENSOR TO SUIT NEW ROOM LAYOUT.
  - 9 REMOVE BACK BOX AND CONDUIT FOR EXISTING SPACE SENSOR TO ALLOW FOR DEMOLITION OF EXISITING WALL.
- DAYCARE DEMO WORKING NOTES:**
- 1 DISCONNECT AND REMOVE EXTERIOR WALL MOUNTED LUMINAIRE. RETAIN FOR RELOCATION AND EXTEND FEED AS REQUIRED.
  - 2 DISCONNECT AND REMOVE PA HORN. RETAIN FOR RELOCATION AND EXTEND FEED AS REQUIRED.
  - 3 DISCONNECT AND REMOVE WEATHERPROOF RECEPTACLE. RETAIN FOR RELOCATION AND EXTEND FEED AS REQUIRED.
  - 4 DISCONNECT AND REMOVE SECURITY DEVICE. COORDINATE WITH SECURITY CONTRACTOR.
  - 5 DISCONNECT AND REMOVE BARRIER FREE PUSH BUTTON FOR POWERED DOORS. RETAIN FOR RELOCATION.
  - 6 DISCONNECT FEED FOR POWERED DOOR. RETAIN FOR RELOCATION. EXTEND AS REQUIRED.
  - 7 RELOCATE EXISTING PULL STATION TO SUIT NEW ENTRANCE/EXIT. PROVIDE COVER PLATE FOR BACK BOX.
  - 8 DISCONNECT AND REMOVE FEED FOR EXISTING HEAT PUMP. RETAIN FOR RELOCATION, EXTEND FEED AS REQUIRED.
  - 9 DISCONNECT AND REMOVE EXISTING LUMINAIRE. RETAIN FOR RELOCATION.



**AECOM**

**PROJECT**

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAYCARE EXPANSION PROJECT  
  
29 MEADOVALE RD  
SCARBOROUGH

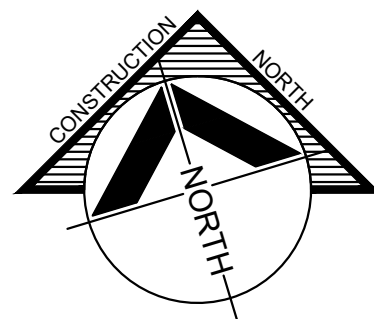
**CLIENT**

CONSEIL SCOLAIRE CATHOLIQUE  
MONAVENIR  
110 DREWRY AVENUE  
NORTH YORK, ON M2M 1C8  
416.397.6564 tel 416.397.6576 fax  
www.cscmonavenir.com

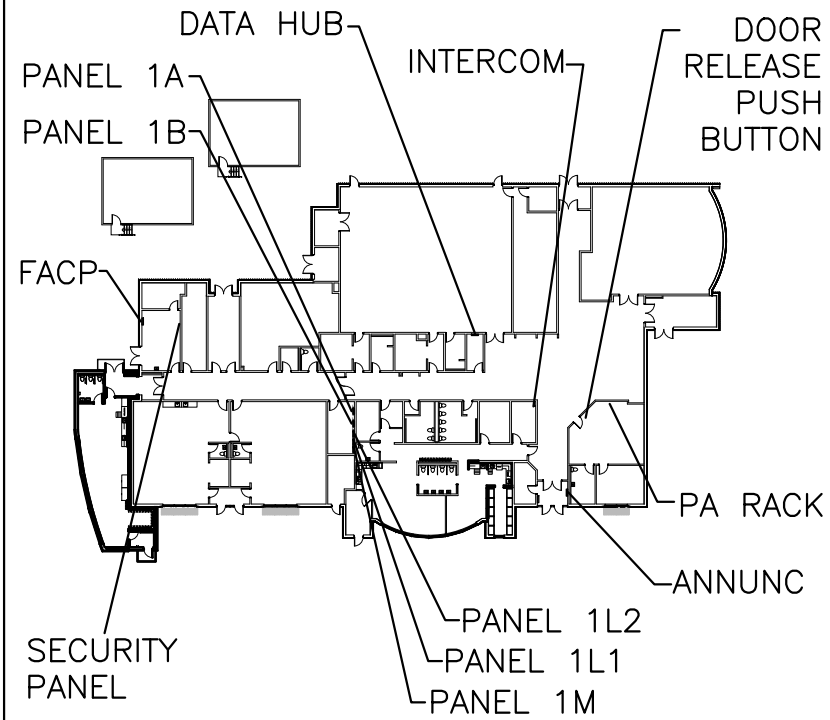
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DES JOB No.: 19-216 DWG SIZE: D



**KEYPLAN**



**ISSUE/REVISION**

I/R	DATE	DESCRIPTION
7	21-02-02	RE-ISSUED FOR TENDER
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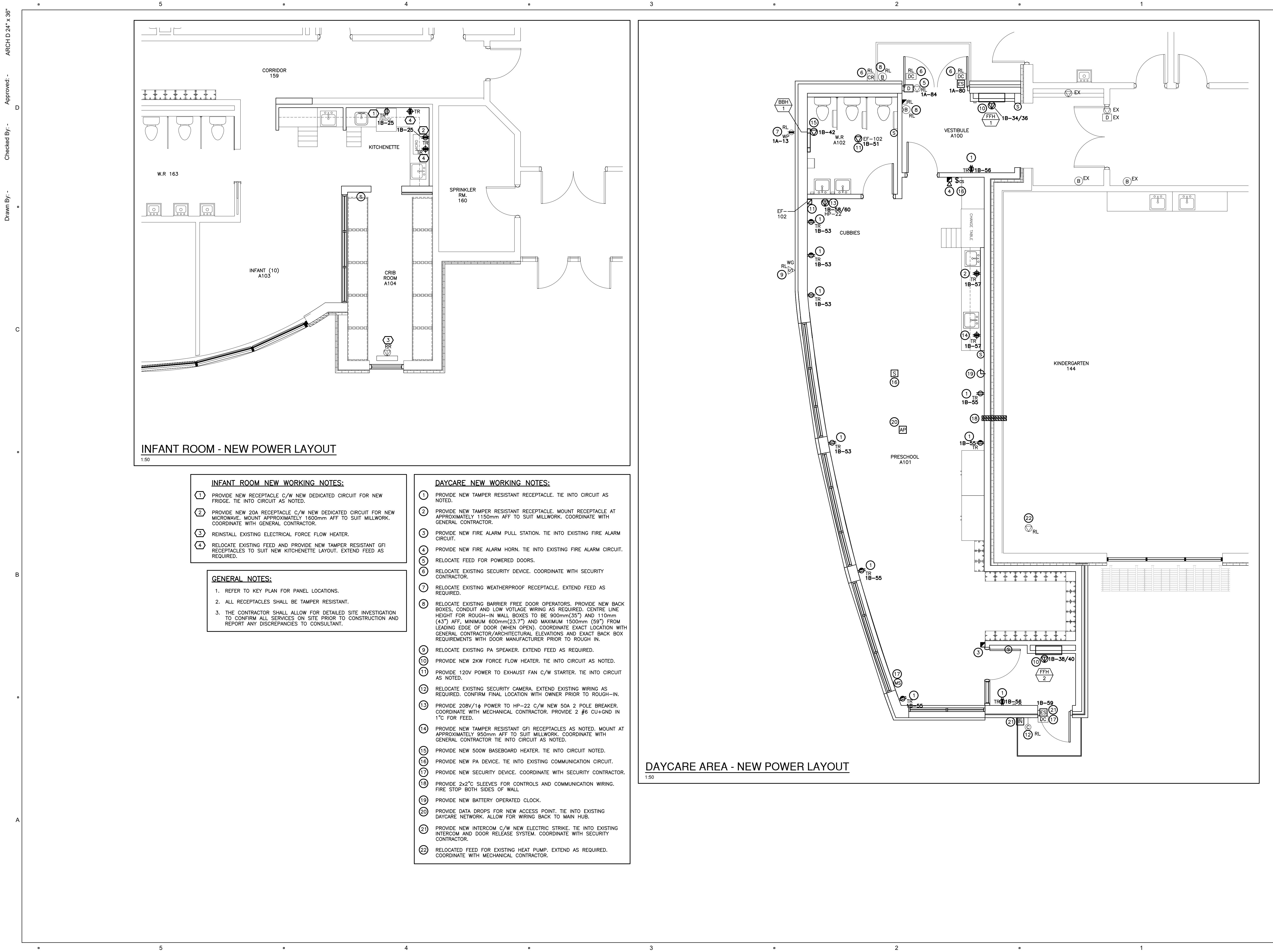
**SHEET TITLE**

DAYCARE & INFANT ROOM AREA  
DEMO ELECTRICAL LAYOUT

**SHEET NUMBER**

E102





PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAYCARE EXPANSION PROJECT

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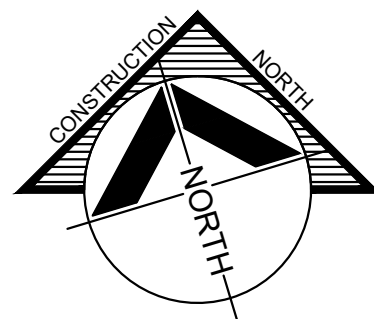
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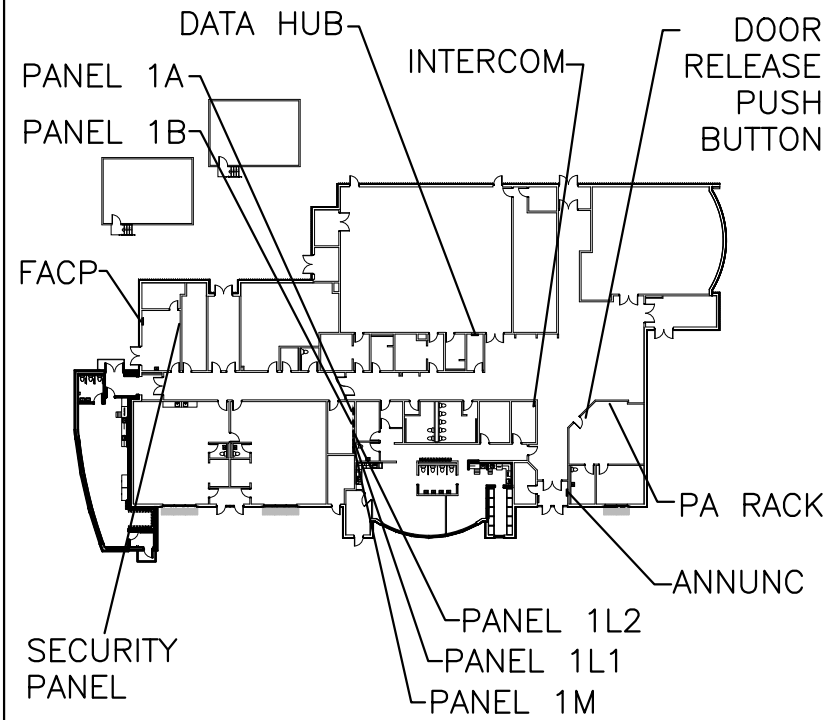
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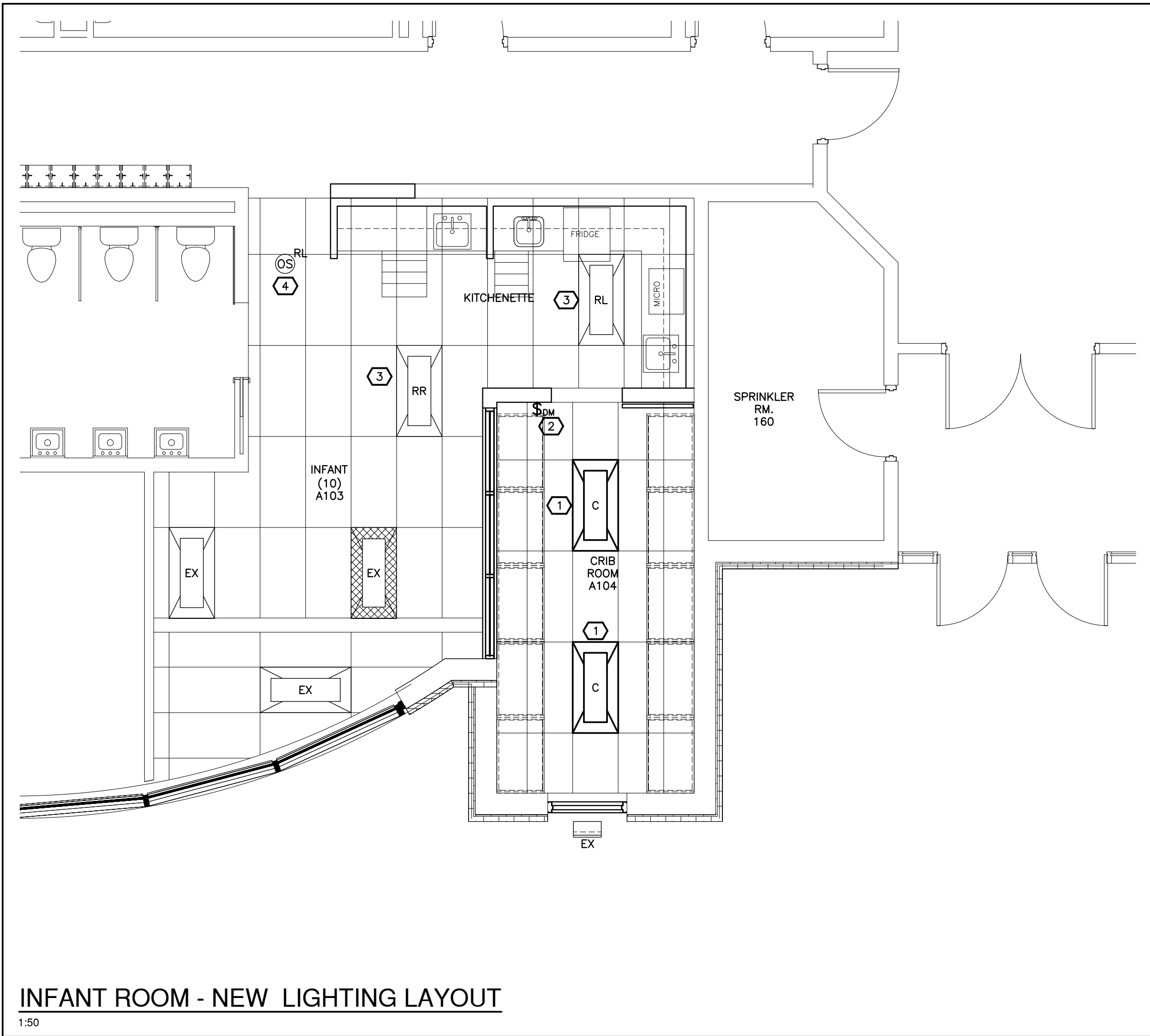
SHEET TITLE

NEW DAYCARE & INFANT ROOM  
NEW POWER LAYOUT

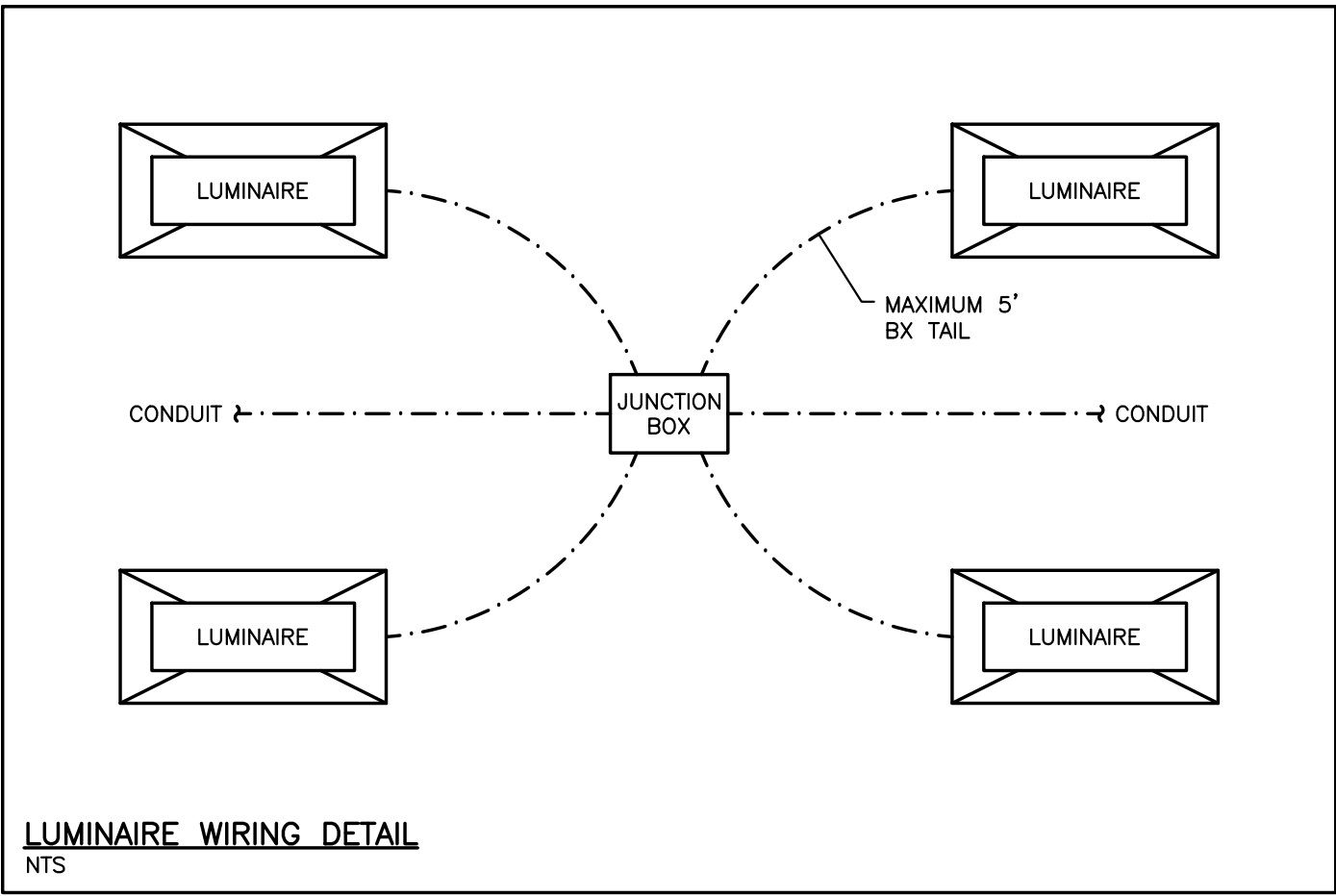
SHEET NUMBER

E201

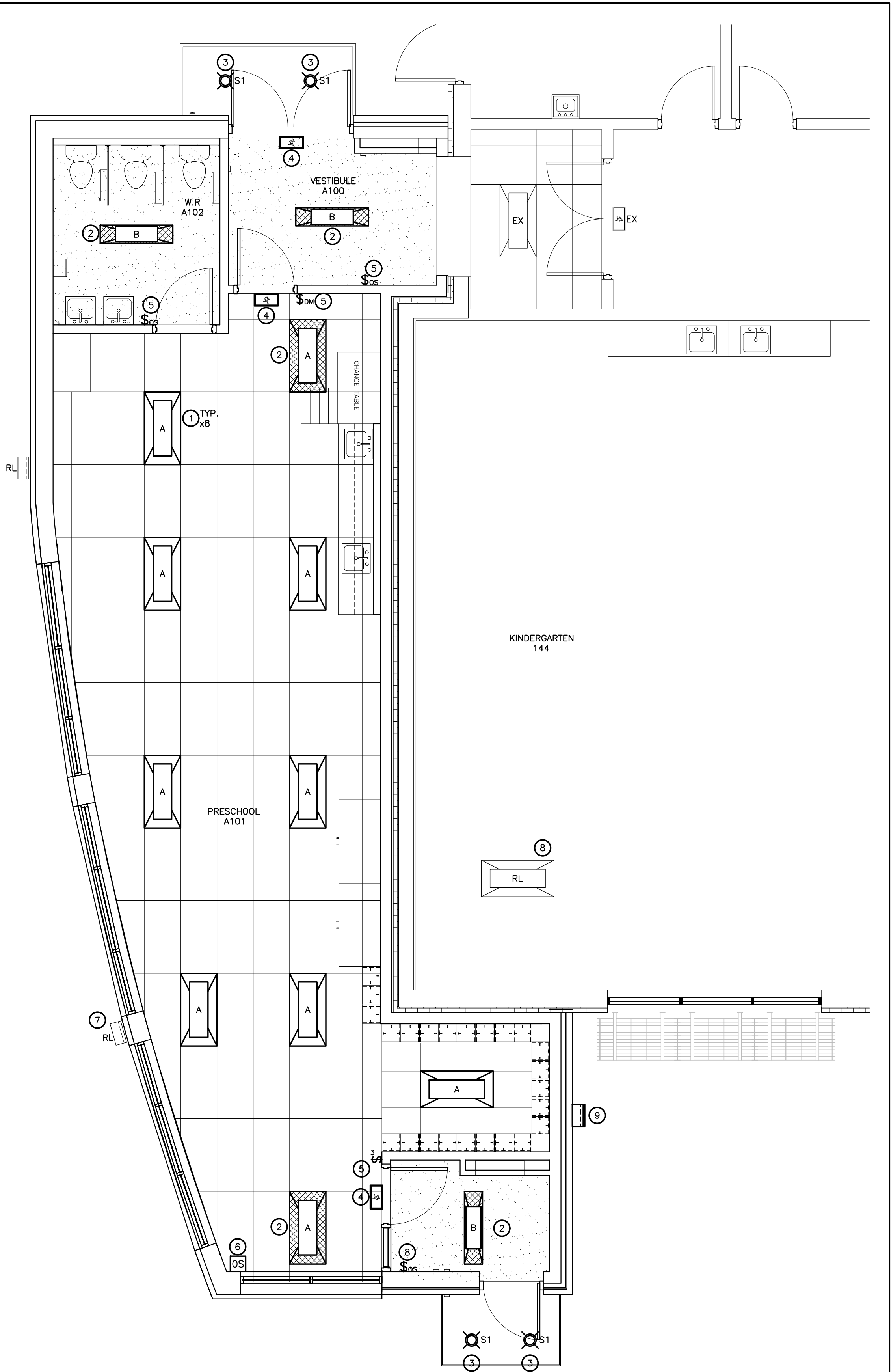




INFANT ROOM - NEW LIGHTING LAYOUT  
1:50



- INFANT ROOM NEW LIGHTING WORKING NOTES:**
- 1 PROVIDE NEW LUMINAIRE. REFER TO LUMINAIRE WIRING DETAIL. FEED FROM PANEL 1L2.
  - 2 PROVIDE NEW SWITCH AS NOTED FOR LIGHTING CONTROL.
  - 3 REINSTALL EXISTING LUMINAIRE.
  - 4 RELOCATE EXISTING OCCUPANCY SENSOR. EXTEND WIRING AS REQUIRED.



DAYCARE AREA - NEW LIGHTING LAYOUT  
1:50

- DAYCARE NEW LIGHTING WORKING NOTES:**
- 1 PROVIDE NEW LUMINAIRE. REFER TO LUMINAIRE WIRING DETAIL. FEED FROM PANEL 1L2.
  - 2 PROVIDE NEW LUMINAIRE. TIE INTO EXISTING EMERGENCY LIGHTING CIRCUIT.
  - 3 PROVIDE NEW CANOPY LIGHTING C/W NEW FEED FROM PANEL 1L1. TIE INTO EXISTING LIGHTING RELAY FOR CONTROL.
  - 4 PROVIDE NEW EMERGENCY DEVICE AS NOTED. TIE INTO EXISTING EMERGENCY LIGHTING CIRCUIT.
  - 5 PROVIDE NEW SWITCH AS NOTED FOR LIGHTING CONTROL.
  - 6 PROVIDE NEW OCCUPANCY SENSOR. REFER TO OCCUPANCY SENSOR AND PLUG LOAD WIRING SCHEMATIC LOCATED ON E801.
  - 7 RELOCATE EXISTING EXTERIOR LUMINAIRE. EXTEND FEED AS REQUIRED.
  - 8 RELOCATE EXISTING LUMINAIRE TO SUIT RELOCATION OF EXISTING HEAT PUMP. COORDINATE WITH MECHANICAL CONTRACTOR.
  - 9 PROVIDE NEW EXTERIOR LUMINAIRE. TIE INTO EXISTING EXTERIOR LUMINAIRE CIRCUIT. MOUNTING HEIGHT TO MATCH EXISTING EXTERIOR LUMINAIRES.

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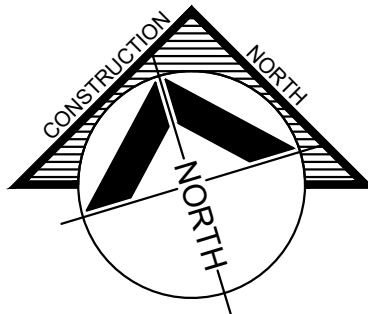
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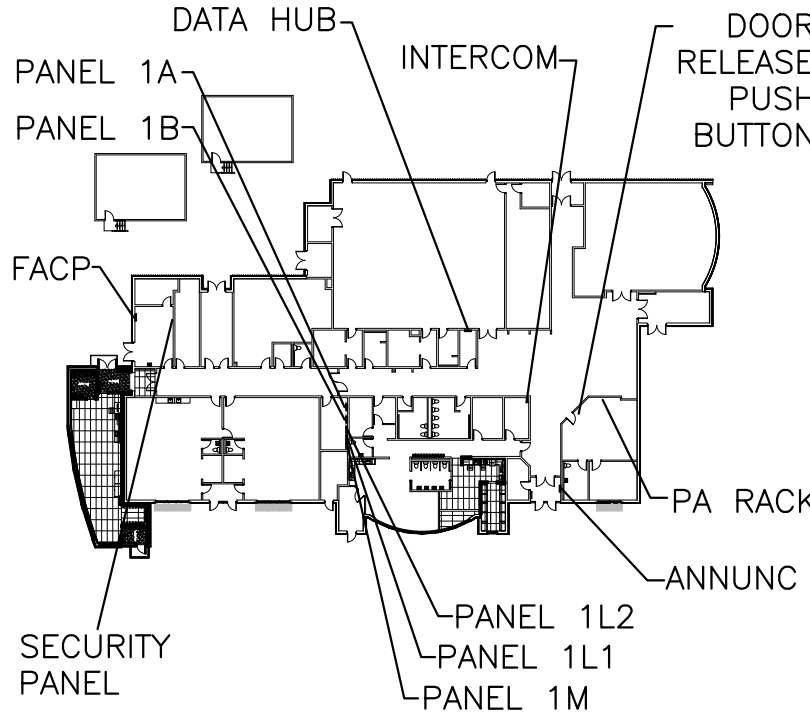
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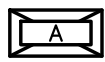
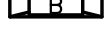
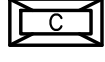

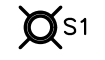


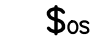

**SHEET TITLE**





NEW DAYCARE & INFANT ROOM  
NEW LIGHTING LAYOUT

**SHEET NUMBER**

E301







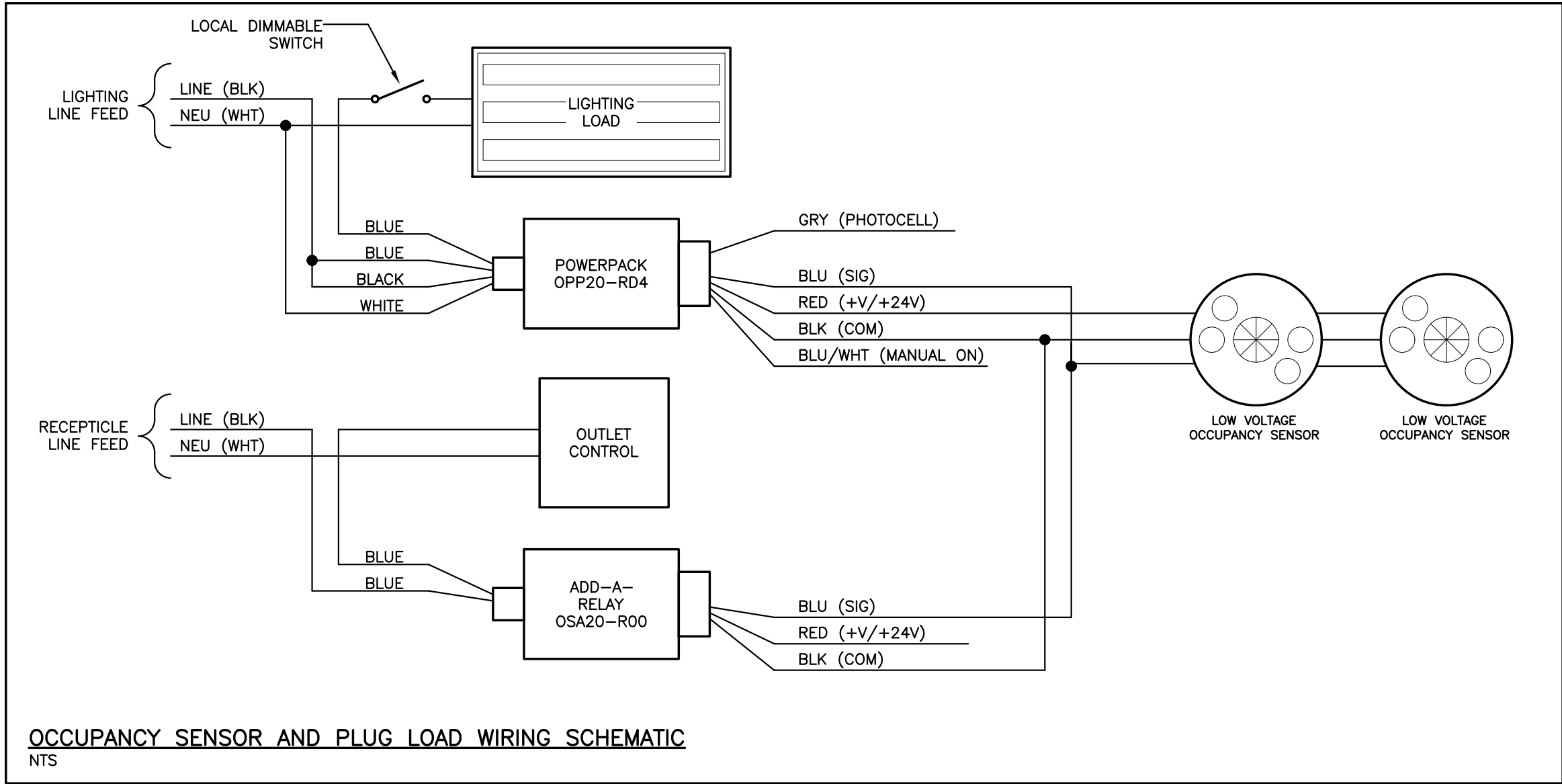
LIGHT FIXTURE SCHEDULE			
TAG	DESCRIPTION	MAKE / MODEL	ALTERNATE
	RECESSED 2x4 LED LUMINAIRE, #12 PATTERN ACRYLIC LENS, 4200 LUMENS, 4000K, 347V, 0-10V DIMMING DRIVER	SIGNIFY 2FXF42B840-4-DS-347-DIM	LITHONIA PEERLESS-ELECTRIC VISIONEERING
	DRYWALL RECESSED MOUNTED 1x4 LED FLAT PANEL, DIFFUSE LENS, 4200 LUMENS, 4000K, DIMMABLE DRIVER, 347V	SIGNIFY 1FXP38B840-4-DS-347-DIM C/W FMA14 ACCESSORY	LITHONIA PEERLESS-ELECTRIC VISIONEERING
	RECESSED T-GRID 2x4 LED LUMINAIRE, NOMINAL DIFFUSE LENS, 3200 LUMENS, 4000K, 347V, 0-10V DIMMING	SIGNIFY 2TG32L840-4-FS-02F-347-DM	LITHONIA PEERLESS-ELECTRIC VISIONEERING
	OUTDOOR WALL MOUNTED FULL CUT-OFF WALLPACK, 3000 LUMENS, TYPE 3, 4000K, LED, 347V	SIGNIFY 101L-16L-530-NW-G1-3-347	LITHONIA LSI SPAULDING STAN PRO
	OUTDOOR RECESSED 7"ø O.D. LED DOWN LIGHT, DIFFUSE LENS, 19W, 347V, 2000 LUMENS, 4000K. MOUNT IN OVERHANG.	CALCULITE 7RN3-C7L20840MU-C7RDLNMBK	LITHONIA LSI SPAULDING STAN PRO
	CEILING MOUNTED DUAL TECHNOLOGY LOW PROFILE OCCUPANCY SENSOR 24V, INCLUDE POWER PACKS AS REQUIRED	LEVITON OSC10-MDW	HUBBELL LEGRAND ACUITY CONTROLS
	WALL/CORNER MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR, WHITE, 24V	LEVITON OSW12-MDW	HUBBELL WATTSTOPPER ACUITY CONTROLS
	SWITCH PLATE MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR WITH BUTTON, WHITE, 24V	LEVITON ODS10-IDW	HUBBELL LEGRAND COOPER
	LUMINA RF DECORA 0-10V DIMMER SWITCH	LEVITON ZS057-30Z	HUBBELL LEGRAND COOPER

EMERGENCY LIGHTING SCHEDULE		
TAG	DESCRIPTION	MAKE / MODEL
  	ALL METAL EXIT SIGN, WHITE LED LIGHT SOURCE, FACTORY WHITE, GREEN RUNNING MAN WITH LEGEND PLATE AS NOTED, SINGLE FACE, UNIVERSAL MOUNTING (WALL, END OR CEILING), 120 TO 347VAC	EQUAL TO LUMACELL LS1WU00
	RECESSED LUMINAIRE ON EMERGENCY LIGHTING CIRCUIT	













APPROVED ALTERNATES: BEGHELLI, EMERGI-LITE, AMLITE, STAN PRO












NOTE:  
1. ## DENOTES BATTERY UNIT.  
2. 'DS' DENOTES DOUBLE SIDED.  
3. ALLOW 20% SAFETY ON BACK-UP BATTERY PACK SIZING.  
4. ALL UNITS TO BE CSA CERTIFIED.  
5. EMERGENCY LIGHTING LIGHT LEVELS ARE TO BE TAKEN IN FOOT CANDLES BY THE CONTRACTOR AFTER PROJECT COMPLETION. ADVISE CONSULTANT OF TEST DATE FOR WITNESS AND OWN READINGS.

FIRE ALARM LEGEND	
	FIRE ALARM PULL STATION WITH CLEAR, TAMPER-PROOF, POLYCARBONATE SHIELD THAT EMITS AN ALARM WHEN ACCESSED
	FIRE ALARM HORN
	FIRE ALARM CONTROL PANEL
	ANNUNCIATOR PANEL



OCCUPANCY SENSOR AND PLUG LOAD WIRING SCHEMATIC  
NTS

POWER LEGEND		
TAG	DESCRIPTION	MAKE/MODEL
	15A 120V 1PH GROUNDED DUPLEX RECEPTACLE TAMPER RESISTANT C/W STAINLESS STEEL COVER PLATE	HUBBELL BR15WHITR OR EQUAL
	20A 120V 1PH GROUNDED DUPLEX RECEPTACLE TAMPER RESISTANT C/W STAINLESS STEEL COVER PLATE	HUBBELL BR20WHITR OR EQUAL
	CONTROLLED 15A 120V 1PH GROUNDED DUPLEX TAMPER RESISTANT C/W STAINLESS STEEL COVER PLATE	HUBBELL BR15WHITR OR EQUAL
	20A 120V 1PH T-SLOT GROUNDED DUPLEX RECEPTACLE, TAMPER RESISTANT C/W STAINLESS STEEL COVER PLATE.	HUBBELL GFTR20W OR EQUAL
	20A 120V 1PH GROUNDED DUPLEX RECEPTACLE IN WEATHERPROOF ENCLOSURE	HUBBELL GFTR20W OR EQUAL C/W HUBBELL RW57300
	120V 1PH GROUNDED DIRECT EQUIPMENT CONNECTION	
	208V 1PH GROUNDED DIRECT EQUIPMENT CONNECTION	
	WALL CONTROL SENSOR BY MECHANICAL ELECTRICAL TO PROVIDE BACK BOX, EMPTY CONDUIT UP WALL C/W FULL STRING	
	POWER DOOR OPERATOR BY GENERAL CONTRACTOR. PROVIDE 120V POWER TO DOOR OPERATOR AND INTERLOCK WIRING BETWEEN OPERATOR AND WALL PUSH BUTTON	
	"PUSH TO OPEN" FOR BARRIER FREE OR REGULAR DOOR CONTROL BY GENERAL CONTRACTOR. PROVIDE CONCEALED CONDUIT UP WALL TO DOOR OPERATOR C/W INTERLOCK WIRING TO DOOR OPERATOR.	
	COMMERCIAL POWER PANEL	EXISTING
	MANUAL MOTOR STARTER. RATED TO SUIT LOAD C/W HAND/OFF/AUTO STARTER.	EQUAL TO SIEMENS SMFF671P

COMMUNICATIONS LEGEND		
TAG	DESCRIPTION	MAKE/MODEL
	P.A. CALL SWITCH	
	SECURITY CAMERA WALL MOUNTED	
	WALL MOUNTED P.A. HORN	
	CEILING MOUNTED P.A. SPEAKER	
	SURFACE MOUNTED, VANDAL RESISTANT, VIDEO DOORBELL	AIPHONE J0-DV
	ACCESS POINT	
	MOTION SENSOR	
	DOOR CONTACT	
	CARD READER	
	ELECTRIC STRIKE BY GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR TO PROVIDE WIRING.	
	BATTERY OPERATED CLOCK AT 7' ABOVE FLOOR	EQUAL TO PRIMEX OR SIMPLEX

ELECTRICAL ABBREVIATIONS	
EX	EXISTING TO REMAIN
D	EXISTING TO BE REMOVED C/W CONDUIT/WIRING BACK TO SOURCE
RL	EXISTING TO BE RELOCATED. EXTEND FEED AS REQUIRED.
RR	EXISTING TO BE REMOVED & REINSTALLED IN SAME LOCATION.
x#	QUANTITY OF DEVICES
AFF	ABOVE FINISHED FLOOR
C/W	COMPLETE WITH
WG	EXISTING WIRE GUARD



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5	20-04-14	ISSUED FOR PERMIT
4	20-01-31	ISSUED FOR TENDER
3	20-01-24	ISSUED FOR FINAL REVIEW
2	19-12-19	ISSUED FOR PERMIT
1	19-04-05	ISSUED FOR 60% REVIEW
I/R	DATE	DESCRIPTION

## PROJECT NUMBER

60593561  
TENDER# 2021-16

## SHEET TITLE

## LEGENDS

## SHEET NUMBER

E801



COMMUNICATIONS SCOPE OF WORK/SPECS:

- ELECTRICAL CONTRACTOR RESPONSIBLE FOR OBTAINING THE SERVICES OF A QUALIFIED COMMUNICATION CONTRACTOR TO CARRY OUT ALL WORK ASSOCIATED WITH TELEPHONE AND DATA SYSTEMS INCLUDING BUT NOT LIMITED TO DEVICES, WIRING, TESTING AND VERIFICATION.
- ELECTRICAL CONTRACTOR RESPONSIBLE FOR PROVIDING ALL INFRASTRUCTURE FOR COMMUNICATION CABLING INCLUDING BUT NOT LIMITED TO BACK BOXES, CONDUIT UP WALL WITH PULL STRING AND INSULATING BUSHINGS, AND CONDUIT INFRASTRUCTURE IN CEILING SPACE INCLUDING JUNCTION BOXES, CONDUIT STUBS AS REQUIRED.
- COMMUNICATION CONTRACTOR RESPONSIBLE FOR ALL DEMOLITION WORK. CONTRACTOR TO INVESTIGATE EXISTING SERVICES PRIOR TO DEMOLITION TO ENSURE DESIGN INTENT IS FEASIBLE. ADVISE CONSULTANT OF ANY ISSUES.
- ALL COMMUNICATION CABLING SHALL BE RUN USING J-HOOKS. SPACING AS PER MANUFACTURERS RECOMMENDATIONS.
- ALL CABLING MUST BE 24AWG CAT5 4 PAIR FT6 RATED. CATEGORY MARKING SHALL BE PRINTED EVERY FOOT. JACKET SHALL BE PRINTED WITH TRU-MARK 1000' TO 0' MARKING SYSTEM WITH BLUE OUTER SHEATH FOR DATA AND GREY OUTER SHEATH FOR VOICE.
- FACEPLATES SHALL BE ABLE TO MOUNT ONE/TWO/THREE/FOUR OR SIX JACKS IN A SINGLE GANG AND SIX OR NINE JACKS IN A DOUBLE GANG.
- JACKS SHALL BE 8-POSITIONED UN-KEYED WITH 94 VO RATING. ALL DROPS MUST BE CLEARLY LABELED ON THE PATCH PANEL AND CABLE BOX. PROVIDE YELLOW FOR VOICE AND GREEN FOR DATA.
- PROVIDE 4' AND 6' CAT6 PATCH CABLES AT WORK STATION END AS REQUIRED TO SUIT INSTALLATION. COORDINATE WITH MONAVENIR.
- INSTALL ALL TELEPHONE AND COMPUTER/DATA SYSTEM DEVICES I.E. JACKS, STAINLESS STEEL COVER PLATES AND WIRING TO MONAVENIR STANDARDS.
- COMMUNICATION CONTRACTOR TO PROVIDE ONE YEAR WARRANTY ON ALL MATERIAL AND LABOUR.
- PROVIDE NEW HOME RUN CABLE BACK TO MAIN HUB FOR EACH ACCESS POINT. COIL 5' IN CEILING SPACE TO ALLOW FOR RELOCATION BY OWNER. ACCESS POINT TO BE TERMINATED AS A FEMALE KEYSTONE. ACCESS POINT TO BE SUPPLIED AND INSTALLED BY MONAVENIR.
- CONTRACTOR TO TEST ALL DATA DROPS AND SUBMIT REPORT TO CONSULTANT AND INCLUDE MANUAL.

OCCUPANCY SENSOR SPECIFICATIONS:

- ALL SENSORS SHALL BE INSTALLED AS PER MANUFACTURERS RECOMMENDATIONS.
- ALL SENSORS SHALL BE 24V. PROVIDE POWER PACKS FOR ALL SENSORS.
- SWITCH PLATE SENSORS SHALL BE SINGLE TECHNOLOGY USING INFRARED DETECTION. CEILING MOUNTED OR WALL MOUNTED SENSORS SHALL BE DUAL TECHNOLOGY USING BOTH ULTRASONIC AND INFRARED.
- CEILING AND WALL MOUNTED SENSORS SHALL UTILIZE BOTH ULTRASONIC AND INFRARED TO VERIFY AND ACTIVATE LIGHTING SYSTEM. UPON VERIFICATION, DETECTION BY EITHER TECHNOLOGY SHALL HOLD LIGHTING ON.
- CEILING AND WALL MOUNTED SENSORS SHALL HAVE A RE-TRIGGER FEATURE IN WHICH DETECTION BY EITHER TECHNOLOGY SHALL RE-TRIGGER THE LIGHTING SYSTEM ON WITHIN 5 SECONDS OF BEING SWITCHED OFF.
- CEILING SENSORS SHALL BE FLAT, UNOBTUSIVE APPEARANCE AND PROVIDE 360' AND UP TO 2000 SQ.FT. OF COVERAGE. WALL MOUNTED SENSORS SHALL PROVIDE MINIMUM 110' FIELD OF VIEW AND 1200 SQ.FT. OF COVERAGE. SWITCH PLATE SENSORS SHALL PROVIDE 180' FIELD OF VIEW AND 900 SQ.FT. OF COVERAGE.
- CEILING AND WALL MOUNTED SENSORS SHALL HAVE BUILT-IN LIGHT SENSOR THAT OPERATES FROM 10 TO 300 FOOT-CANDLES.
- ULTRASONIC, INFRARED AND LIGHT SENSOR TECHNOLOGIES SHALL BE ADJUSTABLE.
- SENSORS SHALL HAVE TIME DELAY THAT IS ADJUSTED AUTOMATICALLY (AUTO MODE) OR SHALL HAVE A FIXED TIME DELAY OF 5 TO 30 MINUTES SET BY DIP SWITCHES. DEFAULT SETTING IS AUTO MODE.
- SENSORS SHALL HAVE WALK-THROUGH MODE. WHERE LIGHTING TURNS OFF 3 MINUTES AFTER AREA IS INITIALLY OCCUPIED IF NO MOTION IS DETECTED AFTER THE FIRST 30 SECONDS.
- SENSORS SHALL HAVE MINIMUM EIGHT OCCUPANCY LOGIC OPTIONS THAT GIVE END USER ABILITY TO CUSTOMIZE CONTROL TO MEET APPLICATION NEEDS.
- SENSORS SHALL HAVE NON-VOLATILE MEMORY SO THAT SETTINGS ARE NOT LOST DURING POWER OUTAGE.
- SENSORS SHALL HAVE ISOLATED RELAY FOR USE WITH HVAC SYSTEMS.
- EACH SENSING TECHNOLOGY SHALL HAVE LED INDICATOR.
- ALL CEILING AND WALL MOUNTED SENSORS, MOUNTED IN SPACES OTHER THAN CORRIDORS, SHALL HAVE A 2-POLE BYPASS SWITCH MOUNTED IN CEILING SPACE ABOVE CONTROL SWITCH(ES) AND IDENTIFIED. REFER TO WIRING DIAGRAM.
- SENSORS SHALL BE MANUFACTURED BY AN ISO 9002 CERTIFIED MANUFACTURING FACILITY AND HAVE A DEFECT RATE OF LESS THAN 1/3 OF 1%.
- SENSORS SHALL HAVE 5 YEAR WARRANTY AND BE UL AND CUL LISTED.
- COMMISSIONING: CONTRACTOR IS RESPONSIBLE FOR RETAINING THE SERVICES OF OCCUPANCY SENSOR MANUFACTURER TO SETUP AND CALIBRATE ALL NEW OCCUPANCY SENSORS. CONTRACTOR SHALL PARTICIPATE THROUGHOUT THE COMPLETE VERIFICATION PROCESS AND IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH VERIFICATION.
- ALTERNATE MANUFACTURERS OTHER THAN THOSE LISTED IN THE LUMINAIRE SCHEDULE MUST BE SENT TO THE CONSULTANT FOR REVIEW AND APPROVAL THROUGH ADDENDUM PROCESS.

P.A. SYSTEMS

- ELECTRICAL CONTRACTOR RESPONSIBLE FOR OBTAINING THE SERVICES OF A QUALIFIED PUBLIC ADDRESS SYSTEM CONTRACTOR TO CARRY OUT ALL WORK ASSOCIATED WITH THE P.A. SYSTEM INCLUDING BUT NOT LIMITED TO CONDUIT, WIRING, TESTING AND VERIFICATION. CONTRACTOR TO BE CERTIFIED SIMPLEX INSTALLER.
- ELECTRICAL CONTRACTOR RESPONSIBLE FOR PROVIDING ALL INFRASTRUCTURE FOR COMMUNICATION CABLING INCLUDING BUT NOT LIMITED TO BACK BOXES, CONDUIT UP WALL WITH PULL STRING AND INSULATING BUSHINGS, AND CONDUIT INFRASTRUCTURE IN CEILING SPACE INCLUDING JUNCTION BOXES, CONDUIT STUBS AS REQUIRED.
- ALL P.A. CABLING SHALL BE RUN WITHIN EXISTING COMMUNICATIONS CONDUIT/RACEWAYS WHERE POSSIBLE. WHERE NOT POSSIBLE CABLING SHALL BE RUN USING J-HOOKS. SPACING AS PER MANUFACTURERS RECOMMENDATIONS.
- ANY NEW DEVICES TO MATCH EXISTING SYSTEM. PROVIDE SHOP DRAWINGS FOR REVIEW.
- SPEAKERS SHALL MATCH EXISTING PA SYSTEM.
- ALL WIRING TO BE CAT3 FT4 RATED WITH WHITE OUTER SHEATH AND INSTALLED IN CONDUIT. WHERE IT IS NOT POSSIBLE TO INSTALL IN CONDUIT, PROVIDE J-HOOKS AND RUN FT6 RATED CABLE.
- ALL P.A. WIRING TO RUN BACK TO MAIN CONTROL PANEL AS NOTED. CONTRACTOR TO USE PROPER PUNCH DOWN TOOLS ON BIX PANEL FOR ALL WIRING.
- PROVIDE AS-BUILT MARKUPS OF ANY NEW DEVICES AND ANY NEW JUNCTION BOXES PROVIDED TO SUIT.
- CONTRACTOR TO ALLOW FOR MEETING ON SITE WITH MON AVENIR REPRESENTATIVE TO REVIEW ALL INSTALLATION REQUIREMENTS AT THE BEGINNING OF THE PROJECT.
- TESTING:
  - CONTRACTOR MUST PROVIDE INSPECTION, TESTING, REQUIRED ADJUSTMENTS, COMMISSIONING VERIFICATION AND CERTIFICATION OF THE SYSTEM. CONFIRM FINAL ROOM NUMBERS WITH MONAVENIR. SUBMIT REPORT TO CONSULTANT AND INCLUDE IN MANUAL. THIS MUST BE COMPLETED PRIOR TO OCCUPANCY GRANTED.
  - ALL LINES SHALL BE TESTED FOR CONTINUITY, GROUND AND SHORTS. IMPEDENCE TEST SHALL BE DONE ON EVERY SPEAKER AND INCLUDED IN REPORT.
  - CONTRACTOR SHALL TEST SYSTEM TO ENSURE PROPER OPERATION AND MAKE ANY CORRECTIONS TO THE SYSTEM AT NO COST TO THE OWNER.

FIRE ALARM SCOPE OF WORK:

- EXISTING FIRE ALARM CONTROL PANEL IS MIRCOW SERIES 1000.
- INSTALL NEW DEVICES OF TYPE AS INDICATED ON DRAWINGS.
- UPDATE EXISTING PASSIVE GRAPHIC TO REFLECT BUILDING LAYOUT CHANGES. OBTAIN THE SERVICES OF THE FIRE ALARM MANUFACTURER FOR ANY PROGRAMMING CHANGES. FIRE ALARM MANUFACTURER AND/OR CONTRACTOR TO PROVIDE TEMPORARY GRAPHIC. TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION AND THE CONSULTANT, IF THE NEW PERMANENT GRAPHIC WILL NOT BE COMPLETED AND POSTED FOR OCCUPANCY.
- ALL DEVICE AND SIGNAL CIRCUITS TO BE WIRED TO MATCH EXISTING.
- NEW END OF LINE RESISTORS TO BE MOUNTED BY FIRE ALARM CONTROL PANEL.
- PROVIDE ISOLATOR MODULES AT ALL FIRE SEPARATIONS INCLUDING BUT NOT LIMITED TO STAIRWELLS AND ELEVATOR SHAFTS. LOCATION AND QUANTITY OF ISOLATORS TO BE COORDINATED WITH MANUFACTURER.
- LABELING:
  - PAINT ALL FIRE ALARM JUNCTION BOXES RED. IDENTIFY EACH JUNCTION BOX AS EITHER SIGNAL OR INITIATING CIRCUIT.
  - LABEL ALL POWER JUNCTION BOXES WITH PANEL AND CIRCUIT NUMBER.
  - BREAKER FOR FACP AND FIRE COMMUNICATOR SHALL BE LOCKED AND PAINTED RED.
- TEST AND VERIFY THE FIRE ALARM SYSTEM IN CONFORMANCE WITH CAN/ULC-S537-M "STANDARD FOR THE VERIFICATION OF FIRE ALARM SYSTEMS" TO ENSURE SATISFACTORY OPERATION.
- TEST AND VERIFY ALL MAG LOCK RELEASES, DOOR RELEASE MECHANISMS, FAN SHUTDOWNS, FIRE ALARM DOORS AND ALL OTHER INTERLOCKS.
- PERFORM AUDIBILITY TESTS AS PER ONTARIO FIRE CODE (MINIMUM 65DBA, MAXIMUM 100DBA THROUGHOUT) AND PROVIDE REPORT TO THE CONSULTANT. ALL SPACES WITHIN THE PROJECT AREA MUST BE TESTED. DOORS SHALL BE CLOSED DURING TESTING.
- PROVIDE VERIFICATION REPORT AND AUDIBILITY TESTS TO THE CONSULTANT FOR REVIEW. SUBMIT FINAL COPY OF REPORT TO THE BUILDING DEPARTMENT/FIRE PREVENTION.

FIRE ALARM SPECIFICATIONS:

- THE CONTRACTOR SHALL RELOCATE OR FURNISH NEW LABOUR, SERVICES AND MATERIALS NECESSARY TO PROVIDE A COMPLETE, FUNCTIONAL LIFE SAFETY FIRE SYSTEM. THE SYSTEM SHALL COMPLY IN ALL RESPECTS WITH ALL PERTINENT CODES, RULES, REGULATIONS AND LAWS OF THE LOCAL JURISDICTION. THE SYSTEM SHALL COMPLY IN ALL RESPECTS WITH THE REQUIREMENTS OF THE SPECIFICATIONS, MANUFACTURER'S RECOMMENDATIONS AND UNDERWRITERS LABORATORIES OF CANADA (ULC) LISTINGS. ALL COMPONENTS SHALL BE ULC LISTED.
- THE EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE CURRENT PROVISIONS OF THE FOLLOWING CODES AND STANDARDS:
  - LOCAL AND PROVINCIAL BUILDING CODES
  - LOCAL AND PROVINCIAL FIRE CODES
  - LOCAL, PROVINCIAL AND CANADIAN ELECTRICAL CODES
  - NFPA 72 - NATIONAL FIRE ALARM CODE
  - NFPA 101 - LIFE SAFETY CODE
  - CAN/ULC-S524 AND OTHER APPLICABLE ULC STANDARDS
  - AUTHORITY HAVING JURISDICTION
- THE FIRE ALARM SYSTEM AS A WHOLE - INCLUDING BUT NOT LIMITED TO ALL INITIATING DEVICES, HORNS, STROBES AND ELECTRONICS, AND FIRE COMMUNICATOR WILL BE UNDER A FULL REPLACEMENT WARRANTY FOR A PERIOD OF TWO(2) YEARS REGARDLESS OF THE NUMBER OF FAILURES THAT ANY ONE DEVICE OR COMPONENT EXPERIENCES. THE WARRANTY WILL INCLUDE THE TOTAL COST OF THE SERVICE VISIT TO RETURN THE SYSTEM TO NORMAL OPERATION. THE TOTAL COST WILL INCLUDE BUT NOT LIMITED TO LABOUR, PARTS, TRUCK TIME, ADMINISTRATION, ETC. THE FIRE ALARM MANUFACTURER/INSTALLER WILL GUARANTEE SAME DAY SERVICE TO ALL CALLS PLACED DURING WARRANTY PERIOD.
- ALL SIGNAL DEVICES SHALL HAVE FIELD ADJUSTABLE DB SETTINGS FOR LOW, MEDIUM AND HIGH.
- DEVICE MOUNTING HEIGHT:
  - WALL MOUNTED AUDIBLE SIGNAL TO BE MOUNTED MINIMUM 6" (150mm) BELOW CEILING AND NO LESS THAN 90"(2300mm) A.F.F. TO THE TOP OF THE DEVICE
  - END OF LINE RESISTORS TO BE MOUNTED LESS THAN 70" (1800mm) A.F.F.
- FIRE DETECTOR MOUNTING:
  - FIRE DETECTORS SHALL NOT BE LOCATED CLOSER THAN 1000mm HORIZONTALLY FROM TIP OF A CEILING SUSPENDED (PADDL) FAN OR CEILING MOUNTED UNIT HEATER MEASURED TO THE EDGE OF THE DETECTOR.
  - FIRE DETECTORS SHALL NOT BE LOCATED CLOSURE THAN 450mm FROM ANY SUPPLY OUTLET OR EXHAUST OUTLET AS MEASURED TO THE EDGE OF THE DETECTOR.
- CONDUIT AND WIRE:
  - WIRING SHALL BE IN ACCORDANCE WITH LOCAL, PROVINCIAL AND NATIONAL CODES, AND AS RECOMMENDED BY THE MANUFACTURER OF THE FIRE ALARM SYSTEM.
  - NUMBER AND SIZE OF CONDUCTORS SHALL BE AS RECOMMENDED BY THE FIRE ALARM SYSTEM MANUFACTURER, BUT NOT LESS THAN 18 AWG (1.02 MM) FOR INITIATING DEVICE CIRCUITS AND SIGNALING LINE CIRCUITS, AND 14 AWG (1.63 MM) FOR NOTIFICATION APPLIANCE CIRCUITS.
  - ALL WIRE AND CABLE SHALL BE LISTED AND/OR APPROVED BY A RECOGNIZED TESTING AGENCY FOR USE WITH A PROTECTIVE SIGNALING SYSTEM.
  - ALL FIELD WIRING SHALL BE ELECTRICALLY SUPERVISED FOR OPEN CIRCUIT AND GROUND FAULT.
  - ALL WIRE SHALL BE INSTALLED IN CONDUIT. PROVIDE WIREMOLD FOR ALL WIRING IN EXPOSED AREAS; ALL SURFACE MOUNTED CONDUIT MUST BE APPROVED BY OWNER OR CONSULTANT PRIOR TO INSTALLATION.
  - WIRE AND CABLE NOT INSTALLED IN CONDUIT SHALL HAVE A FIRE RESISTANCE RATING SUITABLE FOR THE INSTALLATION AS INDICATED IN NFPA 70 (E.G., FPLR) AND AS PER OBC.
  - ALL JUNCTION BOXES SHALL BE PAINTED 'RED' AND IDENTIFIED AS SIGNAL OR INITIATING.
- ALL AIR HANDLING EQUIPMENT THAT CAN SUPPLY FRESH AIR SHALL BE TIED INTO FIRE ALARM CONTROL PANEL FOR FAN SHUT DOWN. SHUT DOWN BOTH SUPPLY AND RETURN AIR IF APPLICABLE. EXHAUST FANS DO NOT NEED TO BE SHUT DOWN. PROVIDE ALL COMPONENTS TO FACILITATE INTENT.

ELECTRICAL NOTES:

- ALL WORK SHALL CONFORM TO ESA REQUIREMENTS.
- PROVIDE CHAINS FOR ALL LIGHT FIXTURES. CHAINS SHALL BE PROVIDED AT ALL FOUR CORNERS.
- BOND ALL METALLIC WATER, DRAIN AND GAS PIPING AS PER ESA REQUIREMENTS.
- PROVIDE JUNCTION BOXES C/W COVERPLATES AS REQUIRED.
- COORDINATE INSTALLATION WITH ALL OTHER TRADES.
- REFER TO "EMT (ELECTRICAL METALLIC TUBING) vs. LIQUIDTIGHT vs. FLEXIBLE CABLE" FOR ACCEPTABLE USE OF EACH.
- EMT AND BOXES SHALL BE SIZED ACCORDING TO CODE REQUIREMENT BASED ON THE NUMBER OF CONDUCTORS.
- FOR EMT AND/OR CONDUITS BENDS GREATER THAN OR EQUAL TO 270°, A PULL BOX MUST BE PROVIDED.
- ALL EMT (ELECTRICAL METALLIC TUBING) SHALL BE FIRMLY FASTENED IN PLACE SO AS TO SUPPORT THE WEIGHT OF CONDUIT AND TO PREVENT ANY STRAIN OR STRESS AT TERMINATIONS ACCORDING TO ELECTRICAL CODE 12-1010.
- CONTRACTORS SHALL ATTEMPT TO FISH NEW FEEDS DOWN EXISTING WALLS WHERE THIS IS NOT POSSIBLE (ONLY), SURFACE INSTALLATION IS ACCEPTABLE ON EXISTING BLOCK WALLS IN FINISHED AREAS AS FOLLOWS:
  - BOXES SHALL BE SHALLOW WIRE MOLD BOX WITH NO KNOCKOUTS.
  - CONDUIT SHALL BE WIRE MOLD. COLOUR TO BE WHITE.
- CONCEAL ALL EMT (ELECTRICAL METALLIC TUBING) AND COMPONENTS IN CEILING SPACE OR WALLS. RUN TIGHT TO ROOF DECK OR FLOOR ABOVE WHERE CEILING IS EXPOSED. RUN TIGHT TO WALL OR COLUMN WHERE WALLS ARE EXPOSED.
- WHERE EMT RUNS HORIZONTALLY ACROSS WALL STUDS, NOTCHES SHOULD BE CUT AND PROTECTED BY STEEL PLATES.
- MOUNTING HEIGHTS
  - MOUNT NEW CONTROL DEVICES, INCLUDING BUT NOT LIMITED TO, P.A. CALL SWITCHES, OPERATORS, LIGHT SWITCHES OR SWITCH PLATE OCCUPANCY SENSORS NO LESS THAN 36" (900mm) A.F.F TO BOTTOM OF BOX AND 43"(1100mm) MAXIMUM A.F.F TO TOP OF BOX. UNLESS OTHERWISE NOTED.
  - MOUNT NEW RECEPTACLES 16" (400mm) A.F.F. UNLESS OTHERWISE NOTED.
  - CONTROL SENSORS AND/OR THERMOSTATS TO BE MOUNTED 47"(1200mm).
- RECEPTACLES LOCATED WITHIN 5'(1.5m) OF A DAMP OR WET LOCATION SHALL BE GROUND FAULT CIRCUIT INTERRUPTER TYPE.
- CONTRACTOR TO ALLOW FOR THE RELOCATION OF ANY RECEPTACLE OR DEVICE/EQUIPMENT CONNECTION WITHIN 10' OF LOCATION SHOWN AT NO EXTRA COST.
- DEVICE COVER PLATES SHALL BE STAINLESS STEEL IN ALL AREAS.
- BRANCH CIRCUIT BREAKER AMPERE INTERRUPTING CAPACITY TO MATCH BUS RATING. PROVIDE 10% SPARE FOR FUTURE.
- MAXIMUM VOLTAGE DROP IN BRANCH CIRCUITS TO BE 3%. CONDUCTORS SHALL BE OVERSIZED TO SUIT VOLTAGE DROP WHERE APPLICABLE.
- CONDUCTORS TO BE COPPER UNLESS OTHERWISE NOTED. CONDUCTORS IN RACEWAYS SHALL BE T75 NYLON (T90 ACCEPTABLE IF DERATED AS PER OESC). ALL CONDUCTORS SHALL BE MINIMUM #10AWG FOR EMERGENCY BATTERY CIRCUITS AND EXTERIOR LIGHTING, #14AWG FOR CONTROL WIRING AND MINIMUM #12AWG FOR ALL OTHER APPLICATIONS.
- ALL WIRE SIZES INDICATED ON DRAWINGS ARE BASED ON A 75°C TERMINATION TEMPERATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE TERMINATION TEMPERATURE OF EACH DEVICE AND MODIFY THE WIRE SIZE TO SUIT OR NOTIFY ENGINEER FOR DIRECTION.
- IDENTIFY EACH WIRE AND CABLE AT EVERY TERMINATION POINT. IDENTIFY ALL EMT AND/OR CONDUITS WITH "NEAT" COLOUR BANDS AT NO MORE THAN 25'(7.5m) INTERVALS AND ON BOTH SIDES OF WALLS & FLOOR.
- NON-CURRENT CARRYING METAL PARTS FOR FIXED EQUIPMENT SHALL BE BONDED TO GROUND. INSTALL SEPARATE BONDING IN LIQUIDTIGHT CONDUITS.
- DISCONNECT SWITCHES FOR HVAC EQUIPMENT MUST BE INSTALLED WITHIN 10' (3m).
- WHERE CEILING SPACE IS USED AS A RETURN AIR PLENUM, ALL WIRING SHALL CONFORM TO CODES FOR THIS APPLICATION.
- FIRE STOP ALL EXISTING AND NEW CONDUIT THROUGH FIRE SEPARATIONS.
- ARRANGE FOR ESA INSTALLATION PERMIT AND INSPECTION AND FORWARD A COPY OF THE ESA CERTIFICATE TO THE ENGINEER UPON ACCEPTANCE (INCLUDING FIRE ALARM LISTED AS A SEPARATE ITEM), ARRANGE AND PAY FOR OCCUPANCY PERMIT IF FINAL INSPECTION CANNOT BE SCHEDULED BY COMPLETION DATE SET FORTH IN TENDER DOCUMENTS.
- ALL PANEL BOARDS SHALL BE COMPLETE WITH HINGED DOORS. PROVIDE LOCKING DOORS IN PUBLIC AREAS OR CORRIDORS.
- CONTRACTOR IS RESPONSIBLE FOR LOAD BALANCING ALL DISTRIBUTION PANEL INSTALLATIONS. MEASURE PHASE CURRENT TO PANELBOARDS WITH NORMAL LOADS (LIGHTING) OPERATING AT TIME OF ACCEPTANCE. ADJUST BRANCH CIRCUIT CONNECTIONS AS REQUIRED TO OBTAIN BEST BALANCE OF CURRENT BETWEEN PHASES AND RECORD CHANGES. SUBMIT AT COMPLETION OF WORK, REPORT LISTING PHASE AND NEUTRAL CURRENTS ON PANELBOARDS, OPERATING UNDER NORMAL LOAD, STATE, HOUR AND DATE ON WHICH EACH LOAD WAS MEASURED, AND VOLTAGE AT TIME OF TEST.

SECURITY SYSTEMS

- ALL WORK ASSOCIATED WITH SECURITY SYSTEMS INCLUDING BUT NOT LIMITED TO DEVICES, WIRING, TESTING AND VERIFICATION IS TO BE COMPLETED BY BOARD SPECIFIED SECURITY CONTRACTOR UNDER CASH ALLOWANCE.
- ELECTRICAL CONTRACTOR RESPONSIBLE FOR PROVIDING ALL INFRASTRUCTURE FOR SECURITY SYSTEM INCLUDING BUT NOT LIMITED TO BACK BOXES, CONDUIT UP WALL WITH PULL STRING AND INSULATING BUSHINGS, AND CONDUIT INFRASTRUCTURE IN CEILING SPACE INCLUDING JUNCTION BOXES, CONDUIT STUBS AS REQUIRED.
- ALL SECURITY CABLING SHALL BE RUN WITHIN EXISTING COMMUNICATIONS CONDUIT/RACEWAYS WHERE POSSIBLE. WHERE NOT POSSIBLE CABLING SHALL BE RUN USING J-HOOKS. SPACING AS PER MANUFACTURERS RECOMMENDATIONS.
- ANY NEW DEVICES TO MATCH EXISTING SYSTEM. PROVIDE SHOP DRAWINGS FOR REVIEW.
- ALL WIRING TO RUN BACK TO SECURITY CONTROL PANEL AS NOTED.
- PROVIDE AS-BUILT MARKUPS OF ANY NEW DEVICES AND ANY NEW JUNCTION BOXES PROVIDED TO SUIT.
- INSTALL ALL SECURITY SYSTEM DEVICES AND WIRING TO MON AVENIR STANDARDS.
- CONTRACTOR MUST PROVIDE INSPECTION, INITIAL TEST, REQUIRED ADJUSTMENTS, COMMISSIONING VERIFICATION AND CERTIFICATION OF ALL EXISTING CIRCUITS MODIFIED AND ALL NEW CIRCUITS.
- SUBMIT REPORT TO CONSULTANT AND INCLUDE IN MANUAL.

GENERAL NOTES:

- THOROUGHLY REVIEW AND COORDINATE WITH SITE CONDITIONS AND COMPLETE DRAWING SET PRIOR TO PRICING AND INSTALLATION.
- OBTAIN, ARRANGE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.
- THE ELECTRICAL CONTRACTOR AND SUB-TRADES SHALL ATTEND ALL SITE MEETINGS.
- PROVIDE ELECTRONIC SHOP DRAWINGS IN PDF FORMAT TO CONSULTANT FOR REVIEW. ALL SHOP DRAWINGS MUST BE REVIEWED, STAMPED AND SIGNED BY THE ELECTRICAL CONTRACTOR PRIOR TO SUBMITTING TO THE CONSULTANT. REVIEW SHALL INCLUDE, BUT NOT LIMITED TO, VERIFYING VOLTAGE, RATING, DIMENSIONS AND CLEARANCES. SUBMIT SHOP DRAWINGS ELECTRONICALLY TO INFO@DURHAMENERGY.COM.
- INSTALL ALL WORK IN CONFORMANCE WITH MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS.
- MAINTAIN RECORD DRAWINGS ON AN ON-GOING BASIS. DRAWINGS SHALL BE AVAILABLE FOR PERIODIC REVIEW BY THE CONSULTANT DURING CONSTRUCTION.
- ALL WORK SHALL COMPLY WITH APPLICABLE CODES.
- REMOVE ALL REDUNDANT EQUIPMENT AND MATERIALS FROM SITE AND DISPOSE OF IN AN APPROVED MANNER. REDUNDANT EQUIPMENT AND MATERIALS SHALL NOT BE ABANDONED IN PLACE.
- ALL CUTTING, AND CORING SHALL BE BY THIS CONTRACTOR. COORDINATE PATCHING WITH GENERAL CONTRACTOR.
- ANY FEED TO NEW ROOFTOP EQUIPMENT SHALL BE INSTALLED WITH GOOSENECK STYLE PITCH POCKET EQUAL TO THALER METAL MEF-2A. SIZE AS REQUIRED TO SUIT FEED. COORDINATE ROOFING WORK WITH GENERAL CONTRACTOR OR OWNER AS REQUIRED PRIOR TO INSTALLATION.
- ALL CONDUIT SHALL BE CONCEALED AND ALL DEVICES RECESSED. ANY SURFACE MOUNTED CONDUIT MUST BE APPROVED BY OWNER OR CONSULTANT PRIOR TO INSTALLATION.
- MAINTAIN REQUIRED ACCESS AND CLEARANCE TO ALL EQUIPMENT AND SYSTEMS AS REQUIRED BY CODE AND AS PER MANUFACTURER'S REQUIREMENTS.
- LABEL ALL RECEPTACLES AND JUNCTION BOXES WITH PANEL AND CIRCUIT NUMBER. USE BLACK MARKER ON CONCEALED JUNCTION BOXES AND CLEAR ADHESIVE LABELS WITH BLACK WRITING ON RECEPTACLES. PAINT ALL JUNCTION BOXES RED FOR FIRE ALARM.
- THE CONTRACTOR SHALL ARRANGE FOR FIELD REVIEWS BY THE CONSULTANT PRIOR TO CEILINGS AND WALLS BEING CLOSED IN. WHERE THIS HAS NOT BEEN ARRANGED IT IS THE CONTRACTOR'S RESPONSIBILITY TO REMOVE CEILING TILES OR ACCESS DOORS FOR REVIEW AT THE DIRECTION OF THE CONSULTANT.
- ASSIST WITH START-UP AND COMMISSIONING OF ALL SYSTEMS AS REQUIRED.
- INSTRUCT AND TRAIN THE OWNER ON PROPER OPERATION OF THE SYSTEM.
- UPON COMPLETION OF THE PROJECT THE CONSULTANT WILL DO A FINAL REVIEW. UPON RECEIVING THE FINAL INSPECTION REPORT, THE CONTRACTOR MUST CORRECT AND SIGN BACK THE INSPECTION REPORT INDICATED ALL DEFICIENCIES ARE COMPLETED. A RE-INSPECTION WILL ONLY BE DONE ONCE THE CONSULTANT RECEIVES THIS IN WRITING. WHERE THE CONSULTANT PERFORMS THE RE-INSPECTION AND THE WORK IS NOT COMPLETE, THE CONTRACTOR IS RESPONSIBLE FOR REIMBURSING THE CONSULTANT FOR THE FIELD REVIEW. THE FEE FOR ADDITIONAL REVIEWS WILL BE AT THE CONSULTANT'S HOURLY RATES PLUS MILEAGE AND APPLICABLE TAXES TO BE PAID DIRECTLY TO THE CONSULTANT PRIOR TO PERFORMING THE NEXT FIELD REVIEW.
- PROVIDE ONE (1) YEAR WARRANTY ON ALL MATERIAL AND LABOUR FROM THE DATE OF SUBSTANTIAL COMPLETION.
- PROGRESS DRAWS SHALL INCLUDE MINIMUM \$1,500.00 FOR MANUALS AND AS-BUILT DRAWINGS. TOTAL AMOUNT SHALL REMAIN UNBILLED UNTIL MANUALS AND AS-BUILT DRAWINGS HAVE BEEN SUBMITTED AND APPROVED AND UNTIL ALL DES FIELD REVIEW REPORTS HAVE BEEN SIGNED AND RETURNED TO DES ALONG WITH PICTURES AS REQUESTED BY CONSULTANT.
- PROVIDE ONE(1) ELECTRONIC COPY OF CLOSE-OUT DOCUMENTATION INCLUDING CONTRACTOR INFORMATION, WARRANTY LETTER, ESA CERTIFICATE, FIRE ALARM VERIFICATION REPORT, EMERGENCY LIGHTING TEST REPORT, SHOP DRAWINGS, O&Ms, ANY OTHER REQUIRED REPORTS AND AS-BUILT DRAWINGS INCLUDING ALL PANEL SCHEDULES. AS-BUILT DRAWINGS SHALL INCLUDE COMPLETE ELECTRICAL DRAWING SET WITH ANY CHANGES MARKED CLEARLY AND NEATLY IN COLOUR.

EMT vs. LIQUIDTIGHT vs. FLEXIBLE CABLE

EMT (ELECTRICAL METALLIC TUBING) MUST BE USED IN THE FOLLOWING INDOOR APPLICATIONS:


- ALL EXPOSED AREAS (USE WIREMOLD ON EXPOSED WALLS IN FINISHED AREAS WHERE EXPOSED WIRING HAS BEEN APPROVED).
- T-BAR CEILING SPACES.
- VERTICAL DROPS TO DEVICES (I.E. SWITCHES RECEPTACLES, DATA/VOICE.)

LIQUIDTIGHT MUST BE USED IN THE FOLLOWING INDOOR AND OUTDOOR APPLICATIONS:

- LAST 5' (1.5m) FOR FINAL CONNECTION TO INDOOR MECHANICAL EQUIPMENT. LIQUID TIGHT CONDUIT IN CEILING SPACE MUST BE PLENUM RATED.
- ALL OUTDOOR WIRING.

FLEXIBLE CABLE IS ONLY ACCEPTABLE IN THE FOLLOWING INDOOR APPLICATIONS:

- LAST 5' (1.5m) FOR FINAL CONNECTION TO LIGHTING AND SMALL EQUIPMENT/COMPONENTS IN CEILING SPACES. DAISY CHAIN OF LUMINAIRES IS NOT ALLOWED.
- LAST 5'(1.5m) FOR FINAL CONNECTION TO MECHANICAL EQUIPMENT LOCATED IN CEILING SPACE OR ON ROOF.



PROJECT

SAINT MICHEL  
CATHOLIC ELEMENTARY SCHOOL  
DAYCARE EXPANSION PROJECT


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DES JOB No.: 19-216 DWG SIZE: D

KEYPLAN

ISSUE/REVISION

7	21-02-02	RE-ISSUED FOR TENDER
6	20-04-21	RE-ISSUED FOR TENDER
5	20-04-14	ISSUED FOR PERMIT
4	20-01-31	ISSUED FOR TENDER
3	20-01-24	ISSUED FOR FINAL REVIEW
2	19-12-19	ISSUED FOR PERMIT
1	19-04-05	ISSUED FOR 60% REVIEW
I/R	DATE	DESCRIPTION

PROJECT NUMBER

60593561  
TENDER# 2021-16

SHEET TITLE

NOTES

SHEET NUMBER

E802



ARCH D 24" x 36"

Approved: -

Checked By: -

Drawn By: -

5

4

3

2

1

PANEL '1L2'

EATON POW-R-LINE C TYPE PRL3A

100A, 36 CIRCUIT, 3ø, 4W, 347/600 VOLT SURFACE MOUNTED BOLT-ON CIRCUIT BREAKER

PANEL BOARD WITH MAIN LUGS ONLY & COPPER BUS

DESCRIPTION	BKR	CCT	S/N	CCT	BKR	DESCRIPTION
DAY CARE LIGHTING	20A	1		2	20A	RELAY PANEL
SPARE	20A	3		4	20A	SPARE
SPARE	20A	5		6	20A	SPARE
SPARE	20A	7		8		
		9		10		
		11		12		
		13		14		
		15		16		
		17		18		
		19		20		
		21		22		
		23		24		
		25		26		
		27		28		
		29		30		
		31		32		
		33		34		
		35		36		

ELECTRIC BASEBOARD HEATER SCHEDULE

TAG		BBH-1
SERVICE		WR A102
MOUNTING TYPE		WALL
MANUFACTURER		STELPRO
MODEL		SPR0501
HEATING CAPACITY	watts	500
ELECTRICAL	volt/ph	120/1
WEIGHT	KG	2.6 (5.7lbs)
COLOUR		WHITE

ELECTRIC FORCE FLOW HEATER SCHEDULE

TAG		FF-1/FF-2
SERVICE		VEST A100 & A101
MOUNTING TYPE		WALL RECESSED
MANUFACTURER		OUELLET
MODEL		OAC02008-T
AIR FLOW	I/S	76 (160cfm)
HEATING CAPACITY	watts	2000
FAN MOTOR	hp	FRACTIONAL
ELECTRICAL	volt/ph	208/1
WEIGHT	KG	10.9 (24 lbs)
COLOUR		WHITE

PANEL '1B'

EATON POW-R-LINE C TYPE PRL1A

225A, 60 CIRCUIT, 3ø, 4W, 120/208 VOLT SURFACE MOUNTED BOLT-ON CIRCUIT BREAKER

PANEL BOARD WITH MAIN LUGS ONLY & COPPER BUS

\*\* DENOTES 'ARC FAULT' BREAKER

DESCRIPTION	BKR	CCT	S/N	CCT	BKR	DESCRIPTION
HAND DRYER 164	15A	1		2	20A	161 GFI RECEPTACLES
CORRIDOR 159 RECEPTACLE	15A	3		4	15A**	164 GFI RECEPTACLES
OFFICE 158 RECEPTACLES	15A	5		6	20A	165 GFI RECEPTACLES
RECEPTACLES 161 CP	15A	7		8	20A 2P	HEATER VEST 166
RECEPTACLES 166 CP	15A	9		10		
120V SMOKE DETECTORS 161,166	15A	11		12	20A	RECEPTACLES 161, 166
		13		14	15A	RANGE HOOD
HEAT PUMP HP 2-2	20A 3P	15		16	40A 2P	RANGE
		17		18		
HEAT PUMP HP 2-3	20A 3P	19		20	15A	STAFF 157 COUNTER GFI
		21		22	15A	STAFF 157 FRIDGE
		23		24	20A	STAFF 157 COUNTER GFI
SPARE	15A	25		26	15A	STAFF 157 IG RECEPTACLE
		27		28	15A	OFFICE 158 INTERCOM
RANGE	40A 2P	29		30	15A	161, 165 RECEPTACLES
KITCHEN 153 GFI	20A	31		32	15A	SPARE
KITCHEN 153 FRIDGE	15A	33		34	15A	SPARE
KITCHEN 153 RECEPTACLE	20A	35		36	15A	SPARE
		37		38	15A	SPARE
DISHWASHER	60A 2P	39		40	15A	SPARE
STAFF WASHROOM 164	15A	41		42	15A	SPARE
		43		44	15A	RANGE HOOD
DRYER	30A 2P	45		46	15A	EXH. FAN EF-1
DAYCARE SMOKE DETECTOR	15A	47		48	15A	MICROWAVE
WASHER	15A	49		50	20A 2P	VEST 162 HEATER
SPARE	15A	51		52		
SPARE	15A	53		54	15A	ELECTRONIC FAUCETS
SPARE	20A	55		56	20A	SPARE
SPARE	20A	57		58		
SPARE	20A	59		60		

REVISED PANEL '1B'

EATON POW-R-LINE C TYPE PRL1A

225A, 60 CIRCUIT, 3ø, 4W, 120/208 VOLT SURFACE MOUNTED BOLT-ON CIRCUIT BREAKER

PANEL BOARD WITH MAIN LUGS ONLY & COPPER BUS

++ DENOTES NEW BREAKER REQUIRED  
\*\* DENOTES 'ARC FAULT' BREAKER

DESCRIPTION	BKR	CCT	S/N	CCT	BKR	DESCRIPTION
HAND DRYER 164	15A	1		2	20A	161 GFI RECEPTACLES
CORRIDOR 159 RECEPTACLE	15A	3		4	15A**	164 GFI RECEPTACLES
OFFICE 158 RECEPTACLES	15A	5		6	20A	165 GFI RECEPTACLES
RECEPTACLES 161 CP	15A	7		8	20A 2P	HEATER VEST 166
RECEPTACLES 166 CP	15A	9		10		
120V SMOKE DETECTORS 161,166	15A	11		12	20A	RECEPTACLES 161, 166
		13		14	15A	RANGE HOOD
HEAT PUMP HP 2-2	20A 3P	15		16	40A 2P	RANGE
		17		18		
HEAT PUMP HP 2-3	20A 3P	19		20	15A	STAFF 157 COUNTER GFI
		21		22	15A	STAFF 157 FRIDGE
		23		24	20A	STAFF 157 COUNTER GFI
FRIDGE TODDLER RM 165	15A	25		26	15A	STAFF 157 IG RECEPTACLE
		27		28	15A	OFFICE 158 INTERCOM
RANGE	40A 2P	29		30	15A	161, 165 RECEPTACLES
KITCHEN 153 GFI	20A	31		32	20A++	MICROWAVE TODDLER RM 165
KITCHEN 153 FRIDGE	15A	33		34	15A++ 2P	FFH-1
KITCHEN 153 RECEPTACLE	20A	35		36		
		37		38	15A++ 2P	FFH-2
DISHWASHER	60A 2P	39		40		
STAFF WASHROOM 164	15A	41		42	15A	BBH-1
		43		44	15A	RANGE HOOD
DRYER	30A 2P	45		46	15A	EXH. FAN EF-1
DAYCARE SMOKE DETECTOR	15A	47		48	15A	MICROWAVE
WASHER	15A	49		50	20A 2P	VEST 162 HEATER
EF 102	15A	51		52		
REC PRESCHOOL A101	15A	53		54	15A	ELECTRONIC FAUCETS
REC PRESCHOOL A101	15A++	55		56	20A	VEST REC A100 & A101
GFI PRESCHOOL A101	20A	57		58		
ELECTRIC STRIKE VEST A101	15A++	59		60	50A 2P	HP-22

PANEL '1A'

EATON POW-R-LINE C TYPE: PRL1A

400A, 120 CIRCUIT, 3ø, 4W, 120/208 VOLT SURFACE MOUNTED BOLT-ON CIRCUIT BREAKER

PANEL BOARD WITH MAIN LUGS ONLY & COPPER BUS

\* DENOTES BREAKER LOCK-ON DEVICE  
\*\* DENOTES 'ARC FAULT' BREAKER  
+ DENOTES MISLABELED CIRCUIT. CONTRACTOR TO VERIFY LOAD

DESCRIPTION	BKR	CCT	S/N	CCT	BKR	DESCRIPTION
CORRIDOR RECEPTACLES	20A	1		2	40A 2P	STOVE
CORRIDOR RECEPTACLES	20A	3		4		
RECEPTACLE AT DISPLAY CASE	15A	5		6	15A	STAGE
KIND 148 CP RECEPTACLE	20A	7		8	20A	STAFF KIT GFI RECEPTACLE
KIND 144 CP RECEPTACLE	20A	9		10	20A	STAFF KIT GFI RECEPTACLE
KIND 144/148 CP RECEPTACLES	15A	11		12	15A	STAFF KIT DISHWASHER
EXTERIOR RECEPTACLES	20A	13		14	15A 2P	HEATER
HAND DRYER W/R 155	20A**	15		16		
HAND DRYER W/R 155	20A**	17		18	15A	KIND 148 IG RECEPTACLES
HAND DRYER W/R 156	20A**	19		20	15A**	ELECTRONIC FAUCETS
HAND DRYER W/R 156	20A**	21		22	20A 2P	HEATER
WR 155, 156 GFI RECEPTACLES	15A	23		24		
HAND DRYER W/R 147	20A**	25		26	15A	CUST 136 IG RECEPTACLES
HAND DRYER W/R 150	20A**	27		28	15A	CUST 136 IG RECEPTACLES
ELECTRICAL RM RECEPTACLES	15A	29		30	15A	CUST 136 RECEPTACLES
ADMIN AREA RECEPTACLES	15A	31		32	15A	KIND 144 RECEPTACLES
ADMIN AREA RECEPTACLES	15A	33		34	15A	KIND 144/148 PROJECTOR REC
ADMIN AREA RECEPTACLES	15A	35		36	15A	KIND 144 IG RECEPTACLES
ADMIN CABLE TV OUTLET	15A	37		38	15A	CHANGE ROOM RECEPTACLES
STAFF W/R 110 BB HEATER	15A	39		40	15A	STAFF 129 DISHWASHER
STAFF W/R 110 GFI RECEPTACLE	15A	41		42	15A	STAGE RECEPTACLES
HAND DRYER FEMALE W/R 128	20A**	43		44	15A	PANEL
HAND DRYER MALE W/R 127	20A**	45		46	15A*	FACP
STAFF 129 RECEPTACLES	15A	47		48	15A*	FACP
HAND DRYER 129	20A**	49		50	15A	ELECTRIC STRIKE VEST 101
COPIER, ACADEMIC STORAGE 143	20A	51		52	15A	SPRINKLER ROOM RECEPTACLES
CARD ACCESS VENT 101	20A	53		54	15A	SPRINKLER ROOM HEATER
DOOR OPERATOR VEST 101	15A	55		56	15A	STAGE CP RECEPTACLE
		57		58	20A	DISPLAY CASE
VEST 101 HEATER	20A 2P	59		60	15A+	SPARE
RECEIPT	15A	61		62	15A	LAN RM RECEPTACLES
HAND DRYER STAFF WR 110	20A**	63		64	15A	LAN RM RECEPTACLES
SPARE	20A+	65		66	15A	GYM OFFICE IG RECEPTACLE
STAFF WR 128,127 RECEPTACLES	15A	67		68	15A	ADMIN AREA RECEPTACLES
STAFF 129 CP RECEPTACLE	15A	69		70	20A	ADMIN AREA COPIER
STAFF 129 RECEPTACLES	15A	71		72	15A	ADMIN DESK RECEPTACLES
GIGHN	15A	73		74	20A+	SPARE
RECEPTACLE AT PANEL	15A	75		76		
UNKNOWN	15A+	77		78		
SPARE	15A+	79		80	20A	VEST 108 ELECTRIC STRIKE
RANGEHOOD	15A	81		82	20A	DOOR OPEN DEVICES
SPARE	15A	83		84	20A	VEST 108 DOOR OPERATORS
UNKNOWN	15A	85		86	20A 2P	HEATER STORAGE
EMP PANEL	20A	87		88		
UNKNOWN	20A+	89		90	20A	STORAGE 152 RECEPTACLE
SIGN	20A	91		92		
SPARE	20A+	93		94		
ELECTRICAL RM RECEPTACLE	20A	95		96		
ELECTRICAL RM RECEPTACLE	15A	97		98		
		99		100		
		101		102		
		103		104		
		105		106		
		107		108		
		109		110		
		111		112		
		113		114		
		115		116		
		117		118		
		119		120		

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PROJECT

SAINT MICHEL

CATHOLIC ELEMENTARY SCHOOL

DAYCARE EXPANSION PROJECT

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TENDER# 2021-16

SHEET TITLE

PANEL & HEATER SCHEDULES

SHEET NUMBER

E803