





TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

WASHROOM RENEWALS SUMMER 2021



APPENDIX A: DETAILS
ARCHITECTURAL DETAILS
APPENDIX B: REFERENCE BOOKLET
STRUCTURAL DETAILS

TENDER AND BUILDING PERMIT

MAY 2021

APPENDIX A: DETAILS

DETAIL BOOKLET CONTENTS

Sheet Number	Sheet Name
DSK 00.1	Table of Contents
DSK 01.1	Abbreviations
DSK 01.2	Graphic Reference
DSK 01.4	Mounting Heights
DSK 01.5	Code Diagrams
DSK 03.1	Slab Remedial
DSK 04.1	Concrete Block Partitions
DSK 05.1	Corridor Lintel
DSK 05.2	Corridor Lintel
DSK 05.2A	Corridor Lintel Below Ceiling
DSK 05.3	Section Detail Typical Door Head
DSK 05.4	Block at Top of Wall - Glulam
DSK 06.0	MILLWORK General Information
DSK 06.1	BASE CABINET DETAILS
DSK 06.2	COUNTER DETAILS
DSK 06.3	UPPER CABINETS
DSK 07.1	Section Detail Head of CMU Wal
DSK 08.0	Doors
DSK 08.1	Door Frames Masonry
DSK 08.2	Door Frames Steel Stud
DSK 09.0	Partition Assemblies
DSK 09.1	Steel Stud Assemblies
DSK 09.2	Hoarding Wall Assembly
DSK 09.3	Ceiling Assemblies
DSK 09.10	Door Pocket Detail
DSK 09.11	Tile Trim Details
DSK 09.12	Base Details
DSK 10.1	Signage
DSK 10.10	Change Table Details
DSK 10.20	Typical Barrier Free Stall

APPENDIX B: REFERENCE BOOKLET

STRUCTURAL REFERENCE BOOKLET

COVER

D1	LINTEL DETAIL - ABOVE CORRIDOR CONDITION
D2	LINTEL DETAIL - BELOW CEILING CONDITION
D3	MASONRY INFILL DETAILS
D4	STEEL LINTEL DETAILS
D5	SLAB TRENCHING, SLAB THICKENING AND BACKFILL DETAILS
D5A	UNDERPINNING DETAILS OF BLOCK WALLS
D6	REINFORCING STEEL DEVELOPMENT LENGTH SCHEDULE
D7	NON-LOADBEARING MASONRY LINTELDETAILS AND HILTI ANCHOR SCHEDULE
D8	LATERAL SUPPORT OF EXISTING MASONRY WALLS
D9	LATERAL SUPPORT OF NEW AND EXISTING MASONRY WALLS
D10	HSS STEEL FRAME FOR ADULT CHANGE TABLE



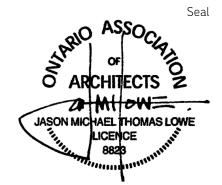
77 MAIN STREET HUNTSVILLE ONTARIO P1H 2B9

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Table of Contents

Sheet

DSK 00.1

ABBREVIATIONS

FEC FIRE EXTINGUISHER CABINET

MDF MEDIUM DENSITY FIBREBOARD

AL	DREVIATIONS								
ACT	ACOUSTIC CEILING TILE	FF	FINISHED FLOOR	MECH	MECHANICAL	RESIL	RESILIENT	UNFIN	UNFINISHED
ADJ	ADJUSTABLE	FFE	FINISHED FLOOR ELEVATION	MEMB	MEMBRANE	REV	REVISION, REVISED	UN0	UNLESS NOTED OTHERWISE
AFF	ABOVE FINISHED FLOOR	FHC	FIRE HOSE CABINET		MEZZANINE	RFG	ROOFING	UR	URINAL
ALU	ALUMINUM	FHVC	FIRE HOSE VALVE CABINET	MEP	MECHANICAL, ELECTRICAL, PLUMBING	RF	RESILIENT FLOORING	US	UNDERSLAB
ANOD	ANODIZED	FIN	FINISH(ED)	MFR	MANUFACTURER	RH	RIGHT HAND	UTIL	UTILITY
D/D	BACK TO BACK	FIXT FLEX	FIXTURE FLEXIBLE	MH MIN	MANHOLE MINIMUM	RM R0	ROOM ROUGH OPENING	VD	VINYL BASE
B/B BB	BULLETIN BOARD	FLR	FLOOR		MIRROR(ED)	ROW	RIGHT OF WAY	VB VCT	VINYL COMPOSITE TILE
BCT	BABY CHANGE TABLE	F0	FINISHED OPENING		MISCELLANEOUS	RTF	RUBBER TILE FLOOR	VDR	VAPOUR DIFFUSION RETARDER
BD.	BOARD	FP	FIRE PROTECTION		D MARKER BOARD	RVL	REVEAL	VENT	VENTILATION
BLDG	BUILDING	FS	FRAME SIZE	MO	MASONRY OPENING	RUB	RUBBER	VERT	VERTICAL
BLKG	BLOCKING	FT	FOOT, FEET	MP	MID POINT	RWL	RAIN WATER LEADER	VEST	VESTIBULE
ВМ	BEAM	FTG	FOOTING	MTD	MOUNTED			VIF	VERIFY IN FIELD
BSMT	BASEMENT	FURN	FURNITURE	MTG	MEETING	S	SOUTH	VOL	VOLUME
	0001150 011400	FURR	FURRING	MTL	METAL	SAB	SOUND ATTENUATION BATT	VNR	VENEER
CG	CORNER GUARD	C A	CHACE		MULLION MOVARIE	SAN	SANITARY	VVVC	VINYL TILE
CIP CJ	CAST IN PLACE CONTROL JOINT	GA GALV	GUAGE GALVANIZED	MVBL	MOVABLE	SC SCHED	SOLID CORE SCHEDULE	VWC	VINYL WALL COVERING
CL	CENTROL SOINT CENTRE LINE	GB	GRAB BAR	N	NORTH	SD	SOAP DISPENSER	W	WEST
CLR	CLEAR	GEN	GENERAL	N/A	NOT APPLICABLE	SEC	SECURITY	W/	WITH
CMU	CONCRETE MASONRY UNIT	GL	GLASS	NIC	NOT IN CONTRACT	SECT	SECTION	W/O	WITHOUT
CO	CLEANOUT	GWB	GYPSUM WALL BOARD	NO	NUMBER	SF	SQUARE FOOT, FEET	WC	WATER CLOSET, TOILET
COL	COLUMN			NOM	NOMINAL	SGL	SINGLE	WD	WOOD
	R CONSTRUCTION	Н	HIGH	NTS	NOT TO SCALE	SHR	SHOWER	WG	WALL GUARD
CONT	CONTINUOUS	НВ	HOSE BIBB			SHT	SHEET	WH	WATER HEATER
) COORDINATE	HDF	HIGH DENSITY FIBREBOARD	0/0	OUT TO OUT	SIGN	SIGNAGE	WIN	WINDOW
CORR			R HARDWARE	OA OC	OVERALL	SIM	SIMILAR	WM	WIRE MESH
CPT CT	CARPET CERAMIC TILE	HM	HARDWOOD HOLLOW METAL	OC OD	ON CENTRE OUTSIDE DIAMETER	SND SPDL	SANITARY NAPKIN DISPENSER SPANDREL	WP WPSF	WATERPROOFING WELDED PRESSED STEEL FRAME
CTR	CENTRE	H0	HOLD OPEN	OF	OUTSIDE BIAMETER OUTSIDE FACE	SPEC	SPECIFICATION	WT	WEIGHT
CU	CUBIC		HORIZONTAL	OFCI	OWNER FURNISHED-CONTRACTOR INSTALLED	SPKR	SPEAKER	WWF	WELDED WIRE FABRIC
	652.6	HP	HIGH POINT	OFOI	OWNER FURNISHED-OWNER INSTALLED	SPKLR	SPRINKLER	WWM	WELDED WIRE MESH
D	DEEP, DEPTH	HR	HOUR	OFD	OVERFLOW DRAIN	SQ	SQUARE		
DBL	DOUBLE	HT	HEIGHT	OFF	OFFICE	SS	STAINLESS STEEL	YD	YARD
DEG	DEGREE	HTG	HEATING	OH	OVERHEAD	SSM	SOLID SURFACE MATERIAL		
DEMO	DEMOLISH, DEMOLITION	HTR	HEATER	OPH	OPPOSITE HAND	STA	STATION	ZN	ZINC
DEPT	DEPARTMENT	HVAC	HEATING, VENTILATION, AIR CONDITIONING	OPNG	OPENING	STC	SOUND TRANSMISSION CLASS		
DET	DETAIL DENIGHE FOUNTAIN	HW	HOT WATER	OPP OTD	OPPOSITE	STD	STANDARD		
DF DIA	DRINKING FOUNTAIN DIAMETER	HYD	HYDRANT	OTB	OPEN TO BELOW	STL STN	STEEL STONE		
DIAG	DIAGONAL	ID	INSIDE DIAMETER	PA	PUBLIC ADDRESS	STOR	STORAGE		
DIFF	DIFFUSER	IN	INCH. INCHES	PBD	PARTICLE BOARD	STP	STANDPIPE		
DIM	DIMENSION		D INCANDESCENT	PB0	PROVIDED BY OWNER		STRUCTURAL		
DISP	DISPENSER	INCL	INCLUDED, INCLUDING	PC	PRE-CAST	SUSP	SUSPENDED		
DIV	DIVISION	INSUL	INSULATION	PCARB	POLYCARBONATE	SV	SHEET VINYL		
DO	DOOR OPENING	INT	INTERIOR	PERF	PERFORATED	SYM	SYMMETRICAL		
DWG	DRAWING	INV	INVERT	PERP	PERPENDICULAR	_			
DWV	DRAINAGE, WASTE AND VENT	1441	LANUTOR	PGBD	PEGBOARD	T	TREAD		
Е	EAST	JAN JT	JANITOR JOINT	PL PLAM	PLATE PLASTIC LAMINATE	T/O T/B	TOP OF TOP AND BOTTOM		
EA	EACH	JI	301111		PLYWOOD	T&G	TONGUE AND GROOVE		
ELEC	ELECTRICAL	KD	KNOCK DOWN	PME	PAINT TO MATCH EXISTING	TD	TOWEL DISPENSER		
	EMERGENCY	K0	KNOCK OUT	PNL	PANEL	TEL	TELEPHONE		
ENCL	ENCLOSURE	KPL	KICK PLATE	POL	POLISHED	TEMP	TEMPORARY		
EO	ELECTRICAL OUTLET			PR	PAIR	TERR	TERRAZZO		
EOS	EDGE OF SLAB	L	LONG, LENGTH	PREF	PREFINISHED	THK	THICK		
EP	ELECTRICAL PANEL	LAM	LAMINATED	PRKG	PARKING	TRHLD	THRESHOLD		
ETC	ETCETERA	LAV	LAVATORY	PROJ	PROJECT(ED)	TI	TENANT IMPROVEMENT		
E/W	EACH WAY EXCAVATION, EXCAVATE	LB(S) LF	POUND(S) LINEAR FOOT, FEET	PROP	PROPERTY	TKBD	TACKBOARD		
EXC EXH	EXHAUST	LH	LEFT HAND	PSF PSI	PRESSED STEEL FRAME POUNDS PER SQUARE INCH	TOC TOP	TOP OF CONCRETE TOP OF PARAPET		
EXIST	EXISTING		LOCKABLE	PT	PAINT(ED)	TOR	TOP OF ROOF		
EXP	EXPANSION	LKR	LOCKER	PTD	PAPER TOWEL DISPENSER	TOS	TOP OF STEEL		
EXP0	EXPOSED	LLH	LONG LEG HORIZONTAL	PTN	PARTITION	TMPD	TEMPERED		
EXT	EXTERIOR, EXTERNAL	LLV	LONG LEG VERTICAL	PVG	PAVING	TOP0	TOPOGRAPHIC		
		LP	LOW POINT			TPD	TOILET PAPER DISPENSER		
F/	FACE OF	LTG	LIGHTING	QT	QUARRY TILE	TRTD	TREATED		
F/F	FACE TO FACE	LVL	LEVEL	QTY	QUANTITY	TV	TELEVISION		
FA	FIRE ALARM	LVR	LOUVRE	_	THERMAL DEGICTATION	TWS	TACTILE WARNING STRIP		
FAAP	FIRE ALARM ANNUNCIATOR PANEL	LWC	LIGHT WEIGHT CONCRETE	R	THERMAL RESISTANCE	TYP	TYPICAL		
FAB FABR	FABRIC FABRICATE(ED)	m	METRE	RAD RB	RADIUS RUBBER BASE	U	HEAT TRANSFER COEFFICIENT		
FACP	FIRE ALARM CONTROL PANEL	m mm	MILLIMETRE	RCP	REFLECTED CEILING PLAN	UC	UNDER CABINET		
FC	FIRE CABINET		MAINTENANCE	RD	ROOF DRAIN	UCL	UNDER CABINET LIGHTING		
FD	FLOOR DRAIN	MAS	MASONRY	REC	RECESSED	UGND	UNDERGROUND		
FDN	FOUNDATION	MATL	MATERIAL	RECP	RECEPTACLE	UH	UNIT HEATER		
FE	FIRE EXTINGUISHER	MAX	MAXIMUM	REF	REFERENCE	ULC	UNDERWRITER'S LABORATORIES CANAD	Α	
				DE11/-	DELLEGRACE				

REINF REINFORCED

REQD REQUIRED

UNEXC UNEXCAVATED



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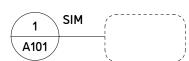
Abbreviations

Sheet

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GRAPHIC SYMBOL LEGEND

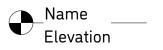
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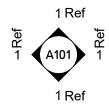
GRIDLINE



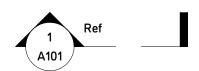
FLOOR LEVEL/ELEVATION



INTERIOR ELEVATION REFERENCE



SECTION REFERENCE



ROOM IDENTIFICATION

Room name 101

CEILING FINISH REFERENCES



DOOR IDENTIFICATION

(101)

CENTRE LINE

REVISION



PROJECT NORTH

SPOT ELEVATION

WALL/PARTITION TAG

(1t)

DRAWING TITLE

BREAKLINE

WALL CONSTRUCTION

KEYNOTE TAG

123456.TAG

TEXT ANNOTATION

NOTE —

WORKING/LAYOUT POINT

NEW-EXISTING TRANSITION LINE

EXIST NEW

View Name

NEW

EXISTING

DEMOLITION

View Scale



MATERIALS

CONCRETE BLOCK



WOOD



MASONRY



HORIZONTAL GRATING



VERTICAL GRATING



STRUCTURAL CONCRETE



EXISTING SOILS



PLYW00D



EXISTING CONSTRUCTION TO REMAIN



APPROXIMATE LINE OF CONCRETE SLAB CUTTING





ALUMINUM IN SECTION



GROUT/GYPSUM BOARD



STEEL IN SECTION



GRAVEL





RIGID INSULATION



DEMOLISHED CONSTRUCTION



TILE OR STONE IN SECTION

PLAN

DOOR ACTUATOR BUTTON (DAB)

PUSH TO LOCK BUTTON (PL)

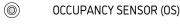
EMERGENCY CALL BUTTON (ECB)

ASSISTANCE REQUIRED LIGHTED SIGN (AR)

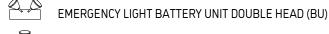
FA STROBE (FAS)

REFLECTED CEILING PLAN

FA SMOKE DETECTOR (SD)







PA SPEAKER (PA)



ELEVATION

DECORA STYLE SWITCH

RECEPTACLE

SWITCH

DATA/COMMUNICATIONS

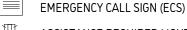
BLANK COVER PLATE HIDDEN RECEPTACLE

Ġ. DOOR ACTUATOR BUTTON (DAB)

PUSH TO LOCK BUTTON (PL)

EMERGENCY CALL BUTTON (ECB)

EMERGENCY CALL LIGHT (ECL)



ASSISTANCE REQUIRED LIGHTED SIGN (AR)

FA STROBE

DETAIL

SEALANT ON FOAM BACKER ROD

----- AIR BARRIER — VAPOUR BARRIER 16mm GYPSUM BOARD

16mm TILEBACKER BOARD

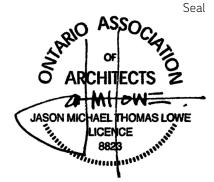


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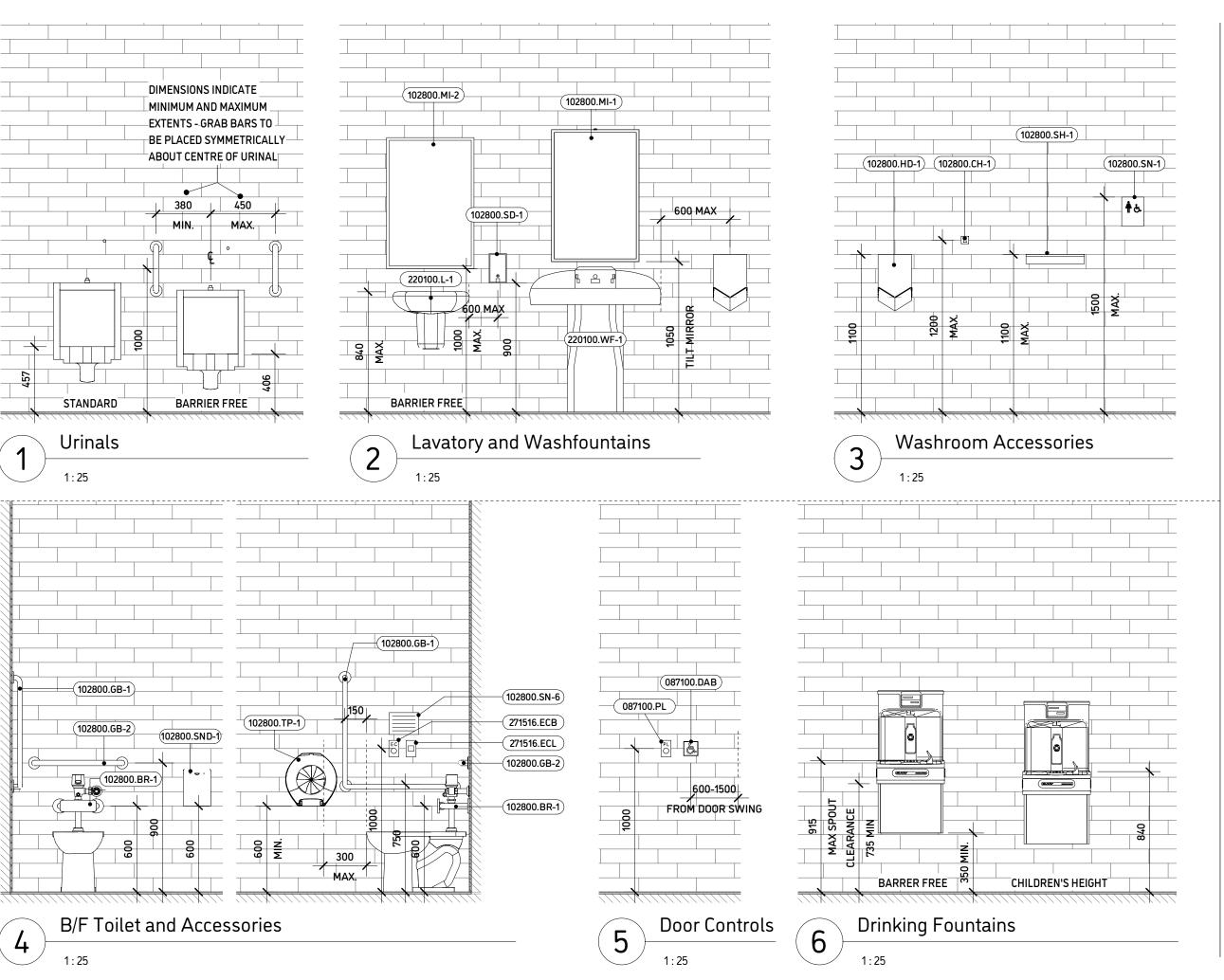
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Graphic Reference

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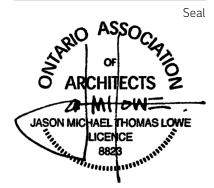


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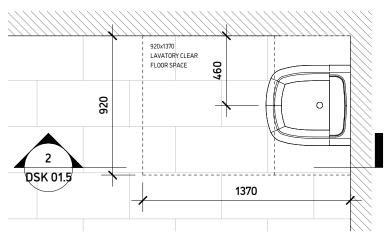
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Mounting Heights

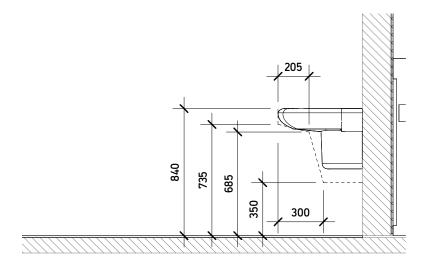
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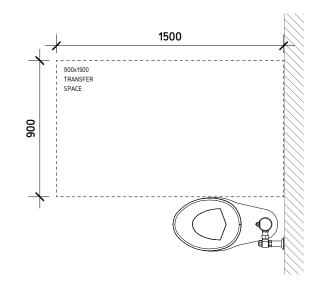


Lavatory Clearance

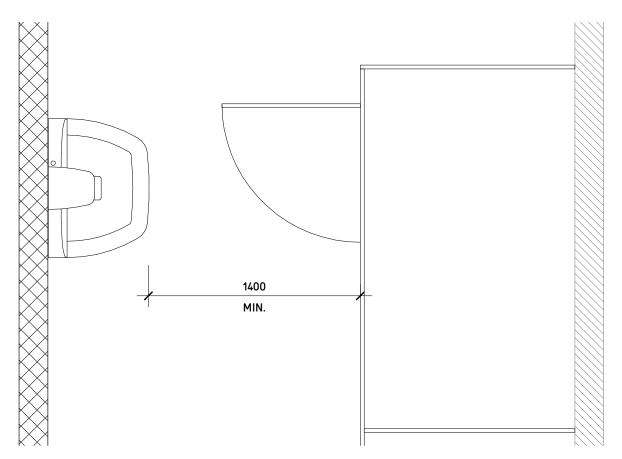
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2 Lavatory Wheelchair Clearances

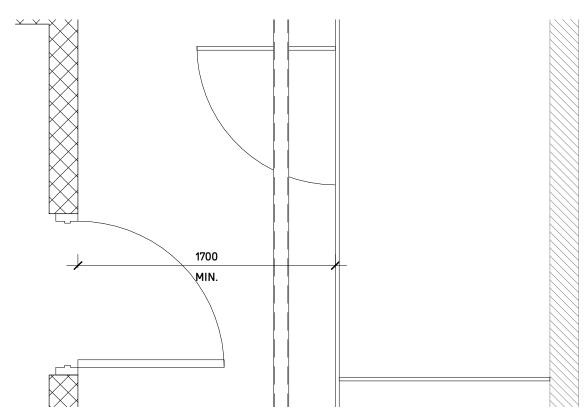


3 Toilet Transfer Space



Stall Clearance to Fixture

1:25



Stall Clearance to Inswing Door



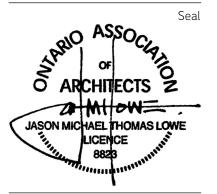
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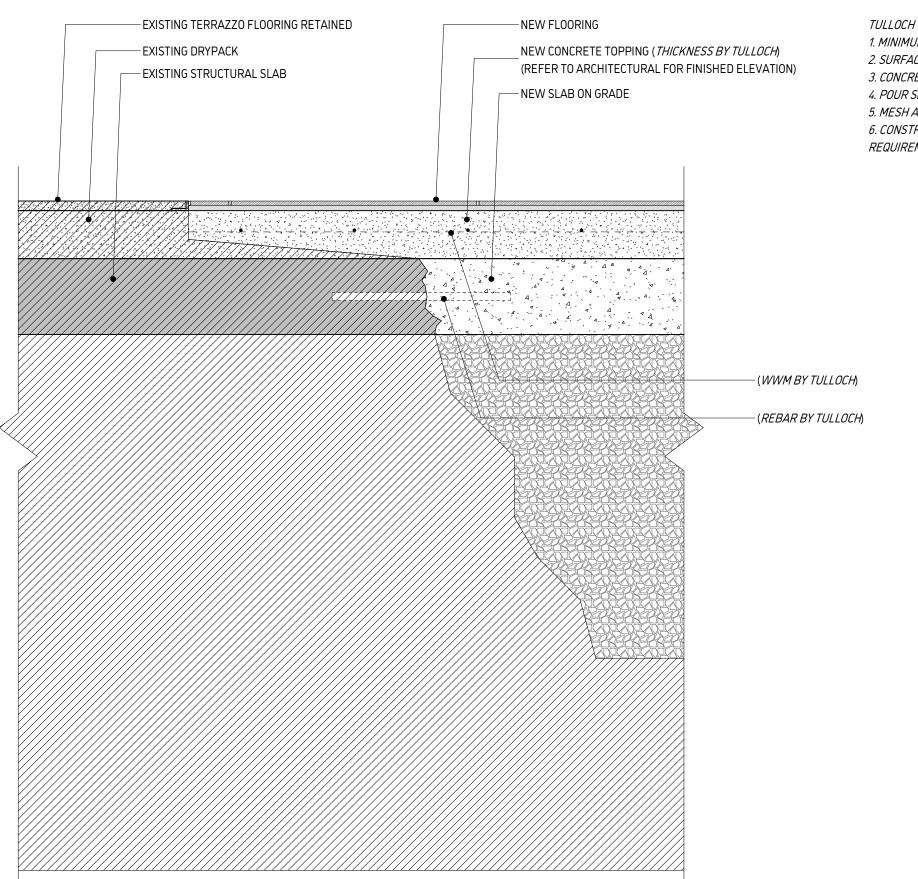
Code Diagrams

Sheet

DSK 01.5

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TULLOCH TO PROVIDE:

- 1. MINIMUM TOPPING THICKNESS
- 2. SURFACE PREP OF EXISTING SLAB
- 3. CONCRETE MIX DESIGN NEW SLAB AND TOPPING
- 4. POUR SEQUENCING (NEW SLAB, TOPPING)
- 5. MESH AND REBAR REQUIREMENTS
- 6. CONSTRUCTION, SAWCUT, ISOLATION JOINT

REQUIREMENTS



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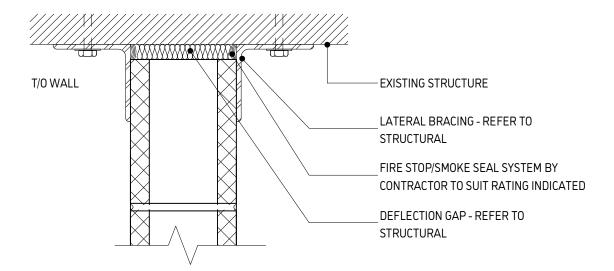
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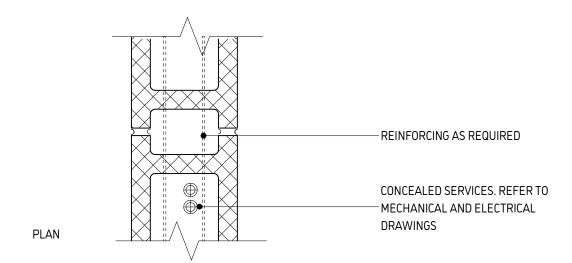
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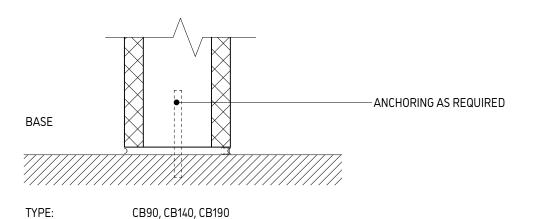
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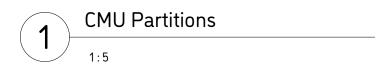
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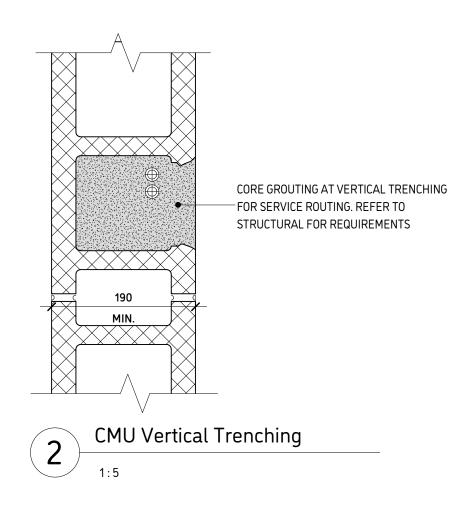
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JASON LOWE ARCHITECT

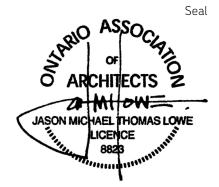
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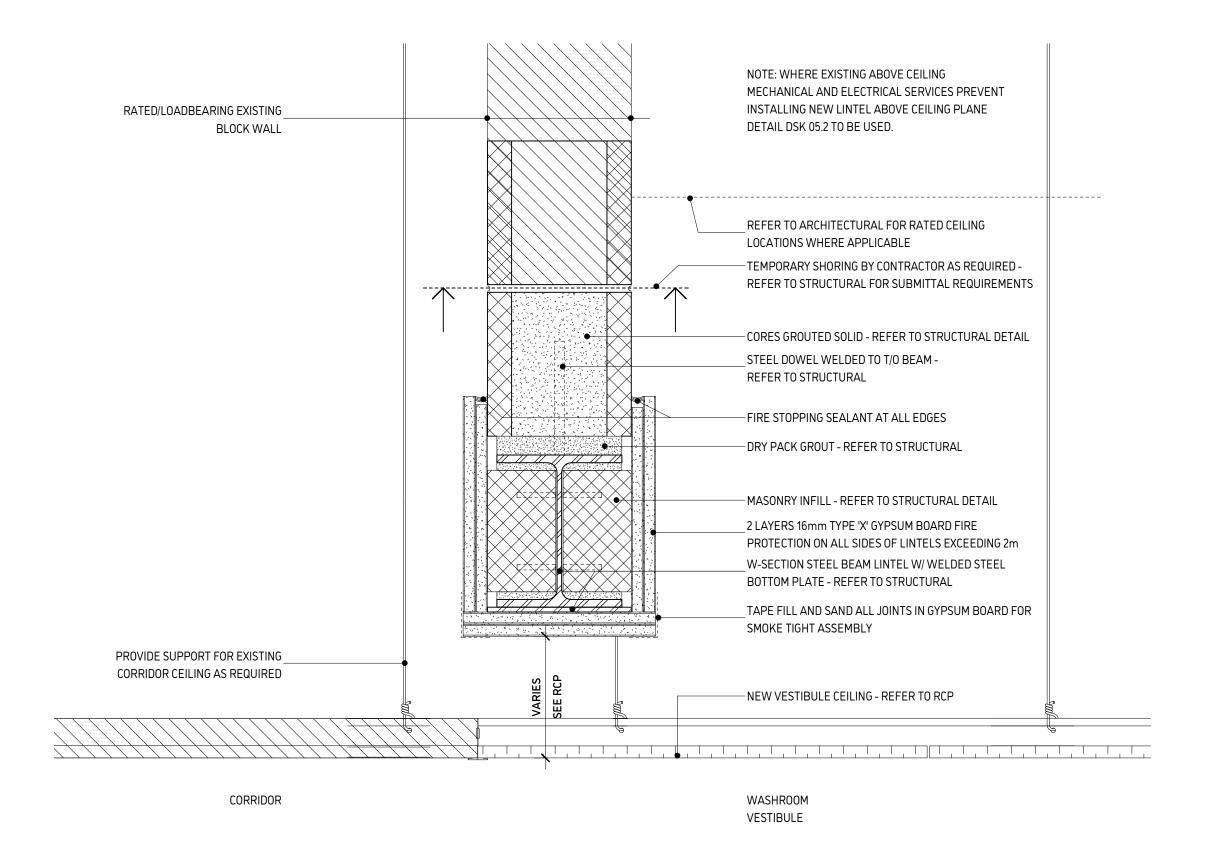
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Concrete Block

Partitions

Sheet

DSK 04.1



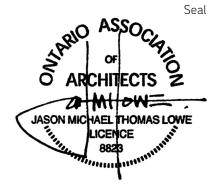




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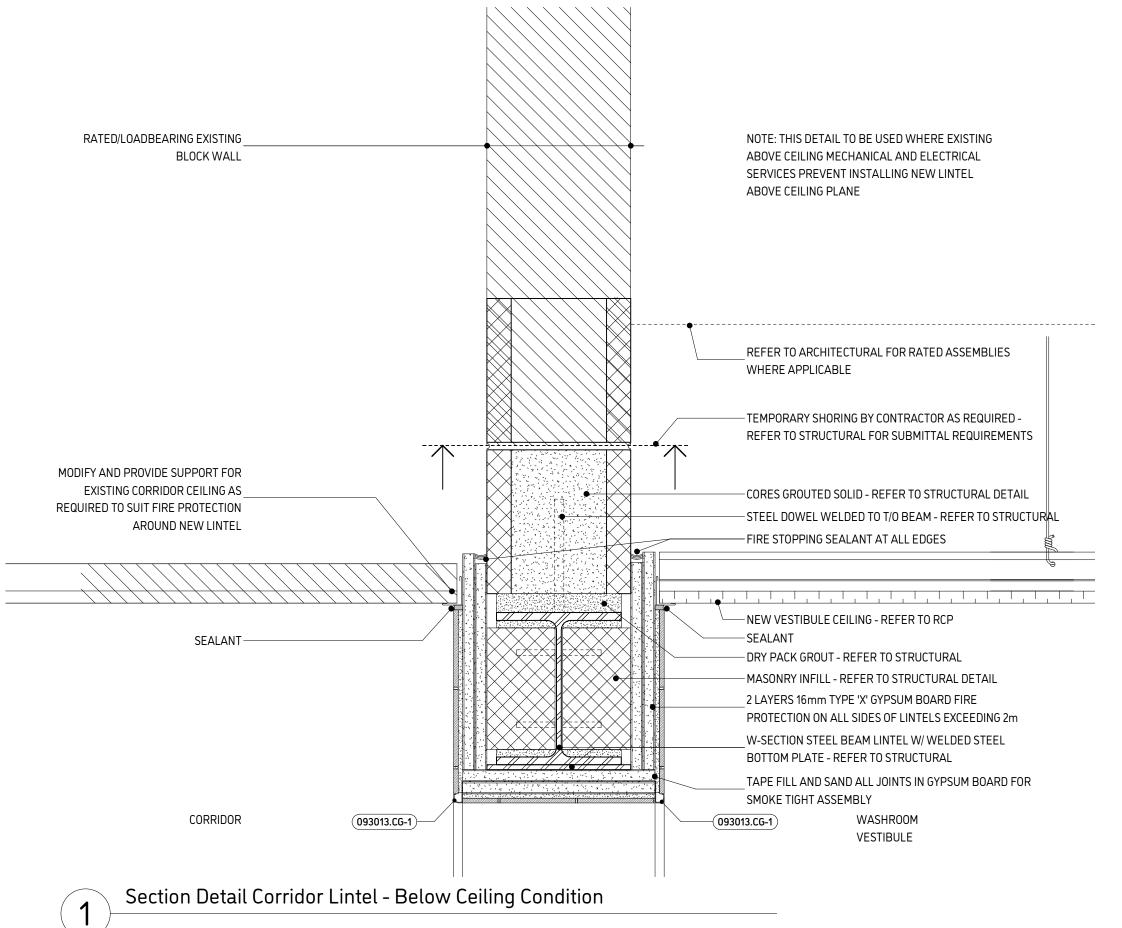
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Corridor Lintel

Sheet

DSK 05.1

Section Detail Corridor Lintel - Above Ceiling Condition

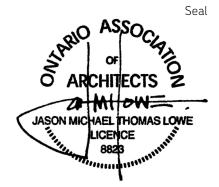




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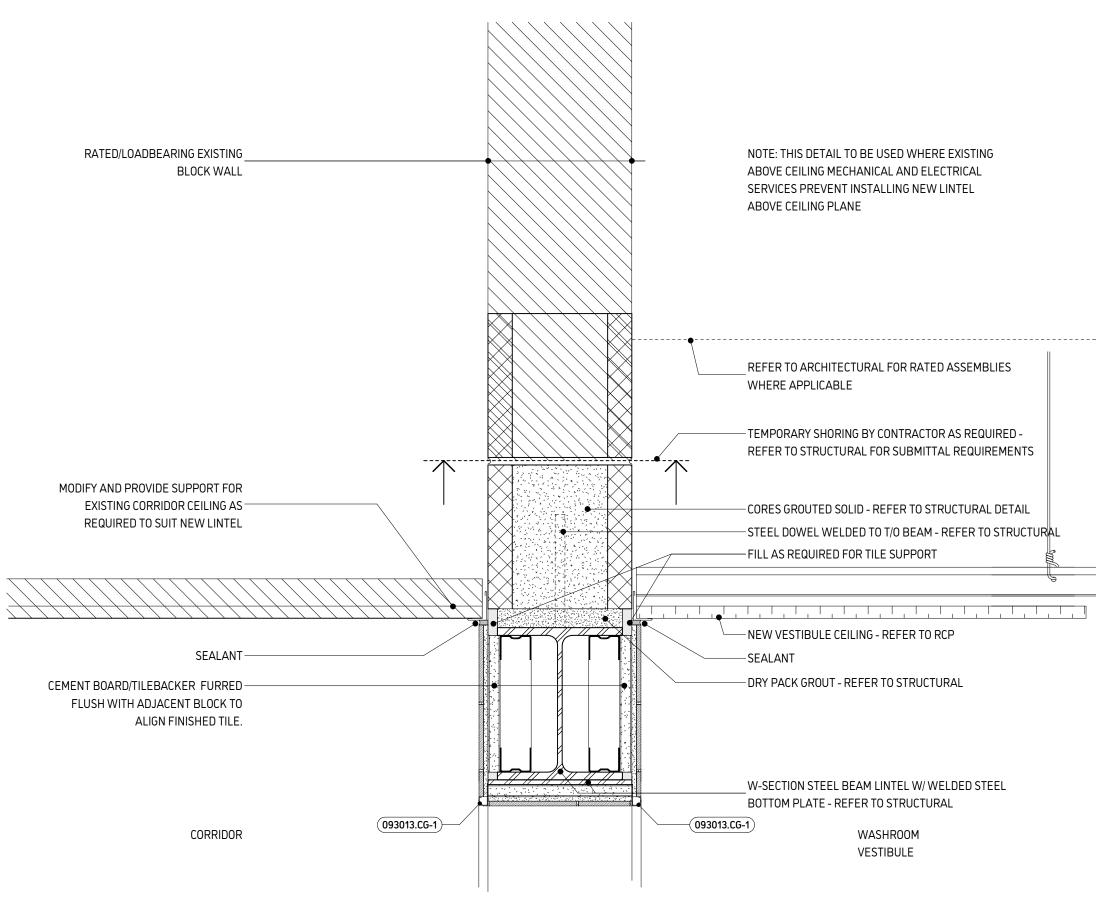
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Corridor Lintel

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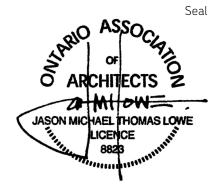




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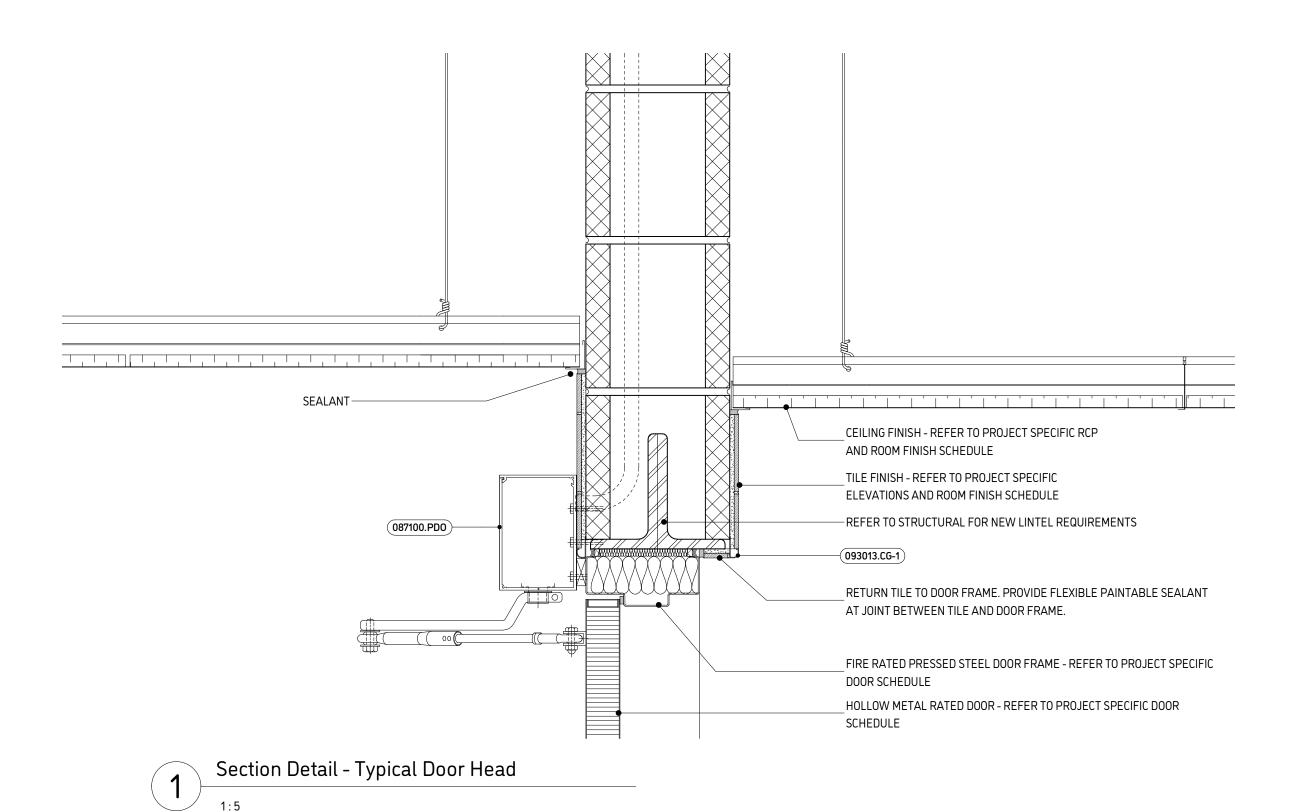
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Corridor Lintel Below Ceiling

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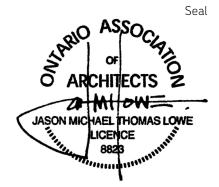




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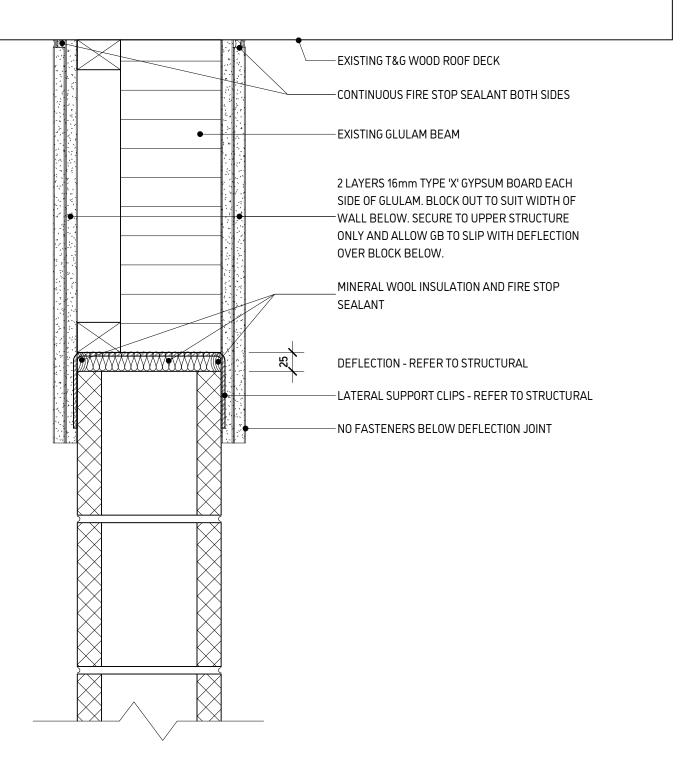
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Section Detail Typical Door Head

DSK 05.3





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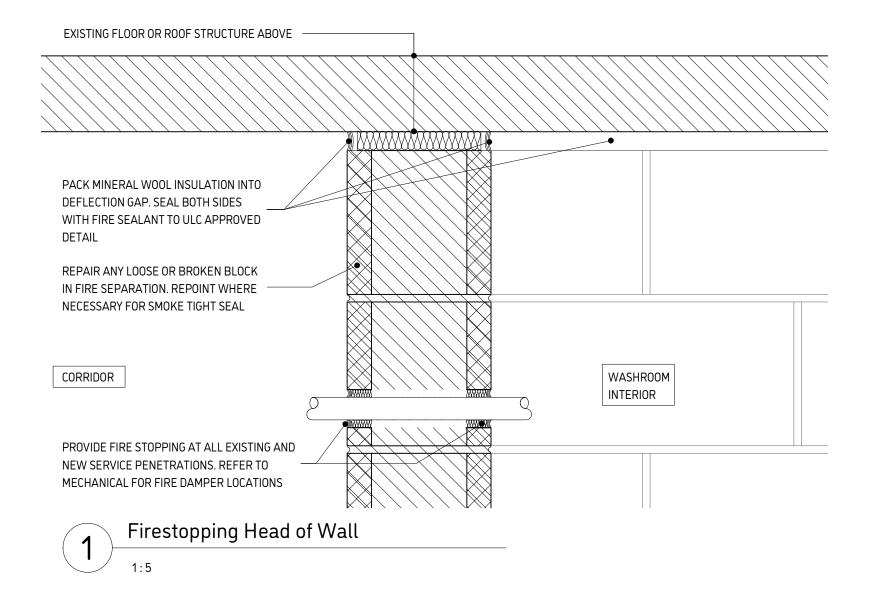
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Block at Top of Wall - Glulam

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DSK 05.4



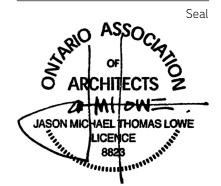




TLDSB WASHROOM RENEWALS SUMMER 2021

TENDER AND BUILDING PERMIT

MAY 2021



DATE: 5/17/2021 11:55:49 AM TLDSB 2021

PROJECT NO: DRAWN:

JMTL

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Revisions

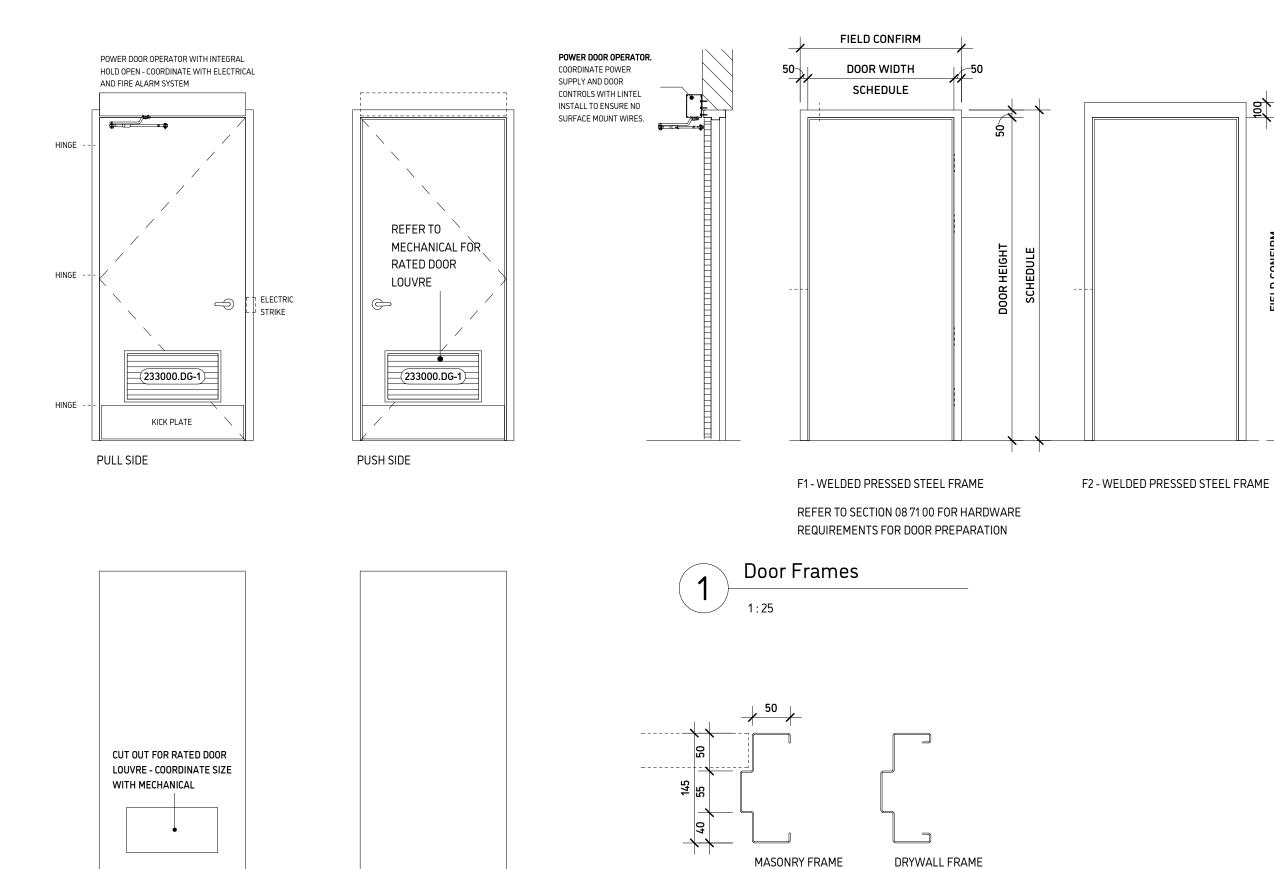
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Section Detail Head of CMU

Wall

Sheet

DSK 07.1



Door Frame Profiles

1:5

D1

D2



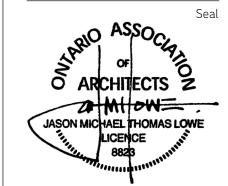
77 MAIN STREET HUNTSVILLE ONTARIO P1H 2B9

TLDSB WASHROOM **RENEWALS SUMMER** 2021

Various

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PROJECT NO: TLDSB 2021 DRAWN: **JMTL** JLA

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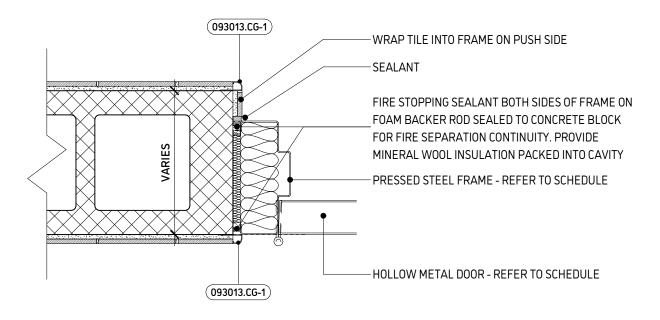
FIELD CONFIRM

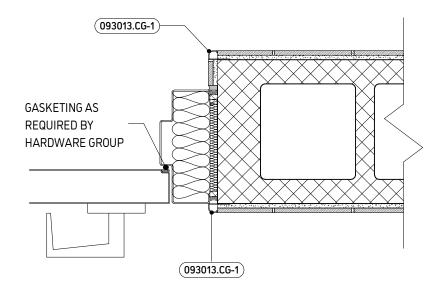
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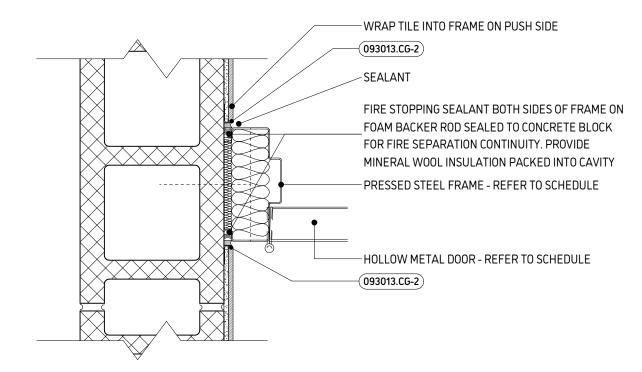
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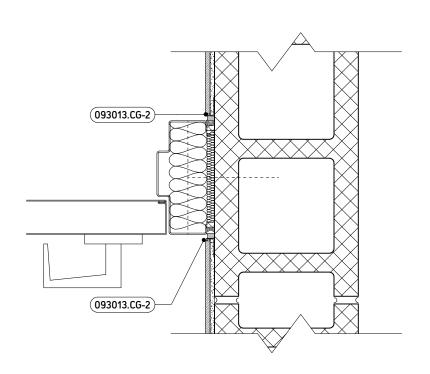
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DSK 08.0











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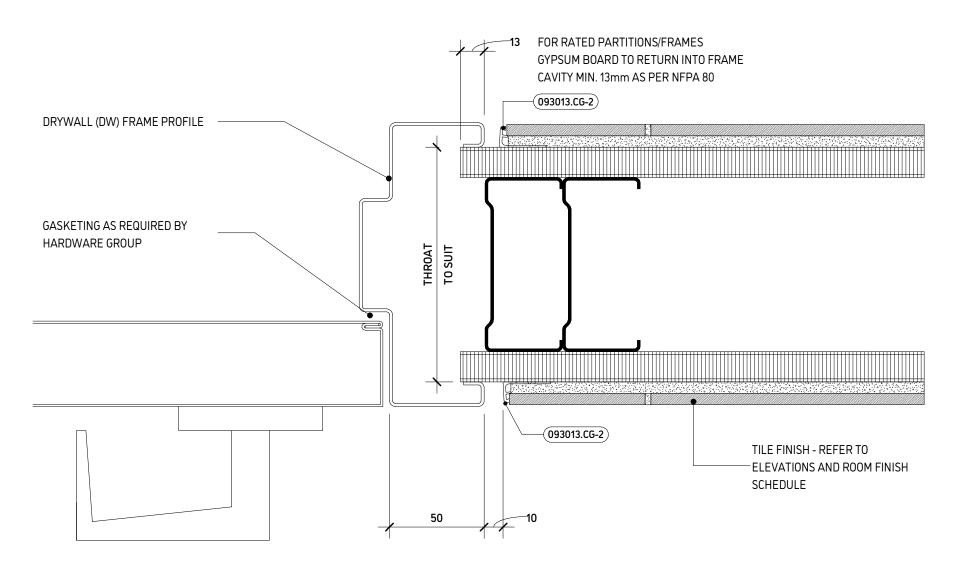
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Revisions

Door Frames Masonry

Sheet

DSK 08.1



Door Jamb Steel Stud 1:2



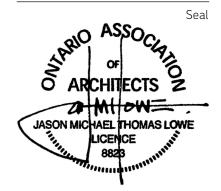
77 MAIN STREET HUNTSVILLE ONTARIO P1H 2B9

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Door Frames Steel Stud

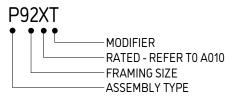
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DSK 08.2

GENERAL NOTES - ASSEMBLIES

- 1. Refer to Room Finish Schedule and elevations for interior finishes.
- 2. Ensure substrate tolerance requirements of subsequent finish trade are met or exceeded.
- 3. Painted gypsum board walls in a raking light from windows or interior electric light such as wall washing, valance or cove lighting are to receive skim coat to achieve uniform appearance and mitigate shadowing.
- 3. Extend and anchor all new walls to underside of structure above. Provide deflection track to suit anticipated structure deflection.
- 4. Fire separations:
- a) Are to extend to underside of structural roof deck/floor assembly above and,
- b) are to be sealed full perimeter to nearest adjacent fire rated assembly with ULC approved fire stop system to achieve a continuous uninterrupted system.
- 5. Glass matt reinforced gypsum board tile backer wallboard or cement board is to be used in all wet locations as substrate for wall tile installations. Note: all washrooms are considered wet locations.
- 6. Provide wood blocking within stud wall cavities in all locations to receive wall mounted accessories and equipment, coordinate with Div. 10, mechanical and electrical drawings, specifications and manufacturer's installation instructions for requirements.

PARTITION ASSEMBLY CODES



ASSEMBLY TYPES

- F FURRING
- P STEEL STUD PARTITION
- CB CONCRETE BLOCK

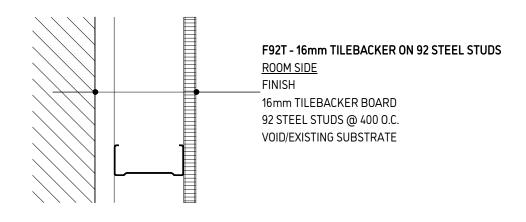
SIZES

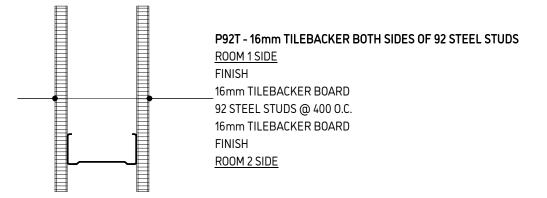
STEEL STUDS/FURRING

- 22 22mm FURRING CHANNEL
- 41 41mm/1-7/8" STEEL STUD
- 64 64mm/2-1/2" STEEL STUD
- 92 92mm/3-5/8" STEEL STUD
- 102 102mm/4" STEEL STUD
- 152 152mm/6" STEEL STUD
- 203 203mm/8" STEEL STUD

MODIFIERS

- A ACOUSTIC INSULATION
- HD HIGH IMPACT GYPSUM BOARD
- T TILEBACKER
- WR WATER RESISTANT











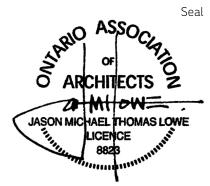
JASON LOWE ARCHITECT 77 MAIN STREET HUNTSVILLE ONTARIO P1H 2B9

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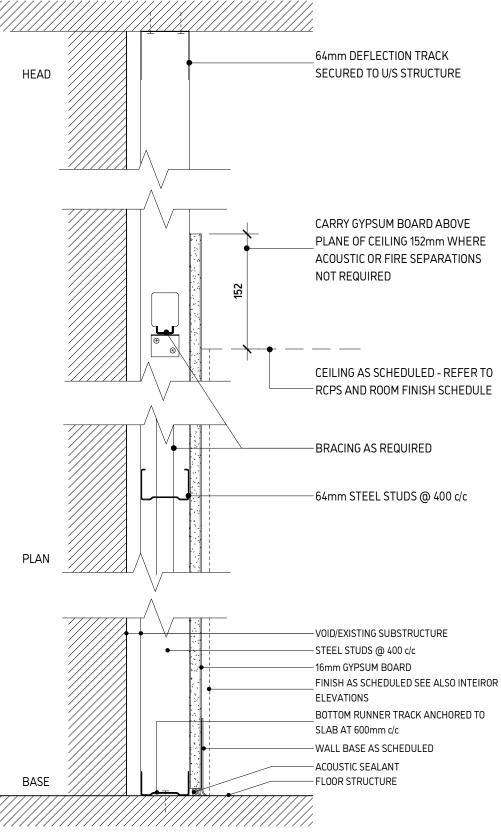
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Partition Assemblies

Sheet

DSK 09.0

1:5



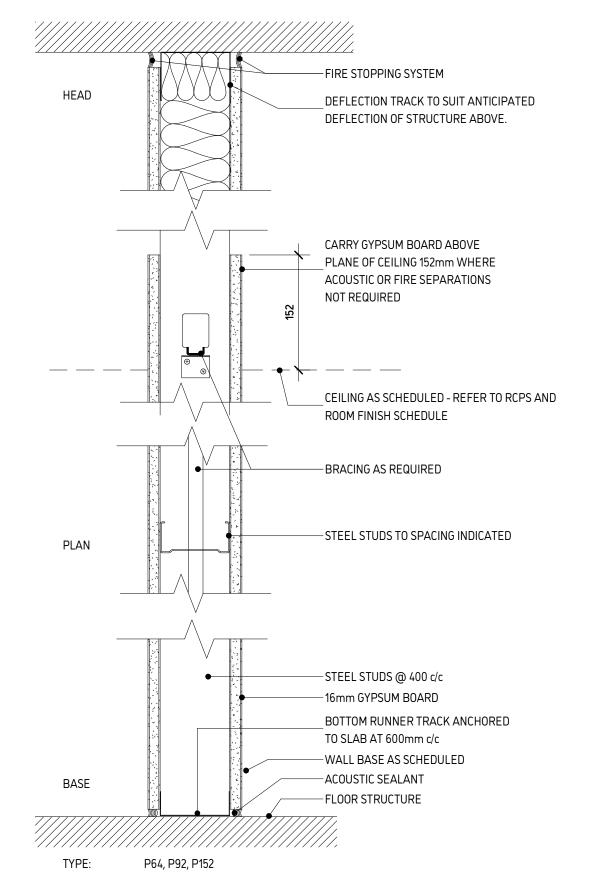
TYPE: F41/64/92/152 - FURRING WALL

ASSEMBLY: ROOM SIDE

16mm GYPSUM BOARD 64mm STEEL STUDS @ 400 c/c

VOID

EXISTING CONSTRUCTION



ASSEMBLY: ROOM A SIDE

16mm GYPSUM BOARD 92mm STEEL STUDS @ 400 c/c 16mm GYSPUM BOARD ROOM B SIDE



77 MAIN STREET HUNTSVILLE ONTARIO P1H 2B9

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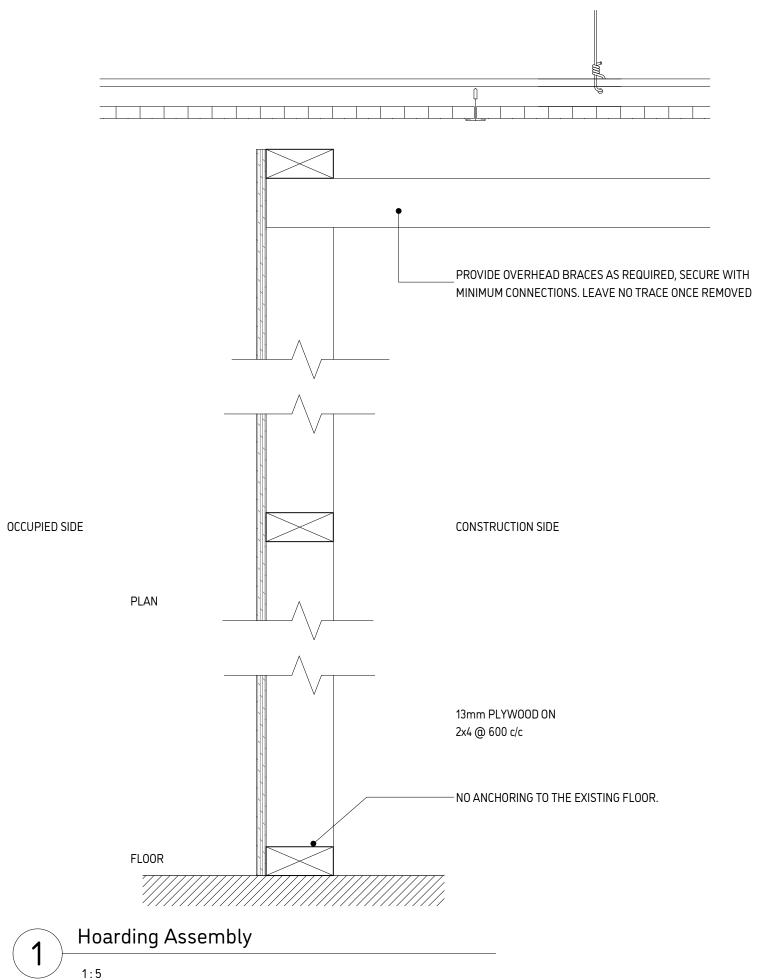
Revisions

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Steel Stud Assemblies

Sheet

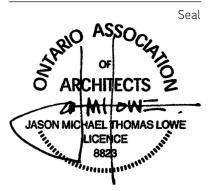




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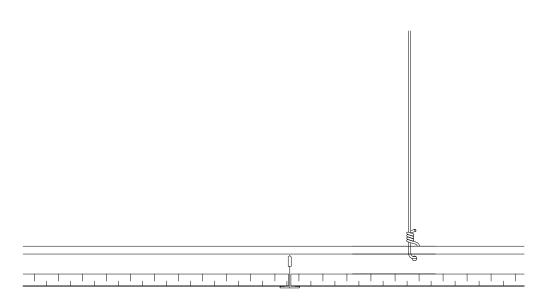
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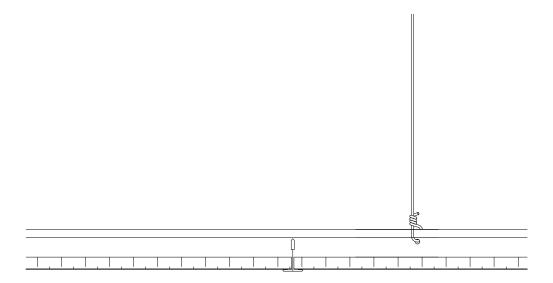
Revisions

Hoarding Wall Assembly

Sheet



ACT-1 600 x 600 ACOUSTIC TILE CEILING SUSPENDED FROM STRUCTURE ABOVE



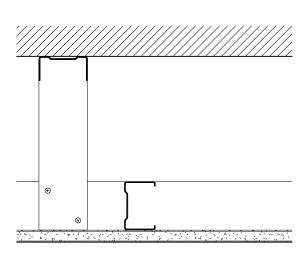
ACT-2 600 x 600 FIRE GUARD ACOUSTIC TILE CEILING SUSPENDED FROM STRUCTURE ABOVE



Ceiling Types

PGB-1

16mm TYPE 'X' GYPSUM BOARD ON 22mm FURRING CHANNEL SUSPENDED FROM 38mm CARRYING CHANNEL AND WIRE HANGERS FROM U/S OF FLOOR/ROOF ASSEMBLY ABOVE



PGB-2 BULKHEAD 64mm STEEL STUDS @ 400 c/c SUSPENDED BY STEEL STUD HANGERS TO U/S FLOOR/ROOF ASSEMBLY ABOVE



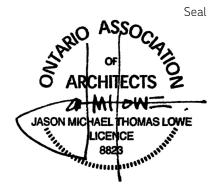
77 MAIN STREET HUNTSVILLE ONTARIO P1H 2B9

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JMTL JLA

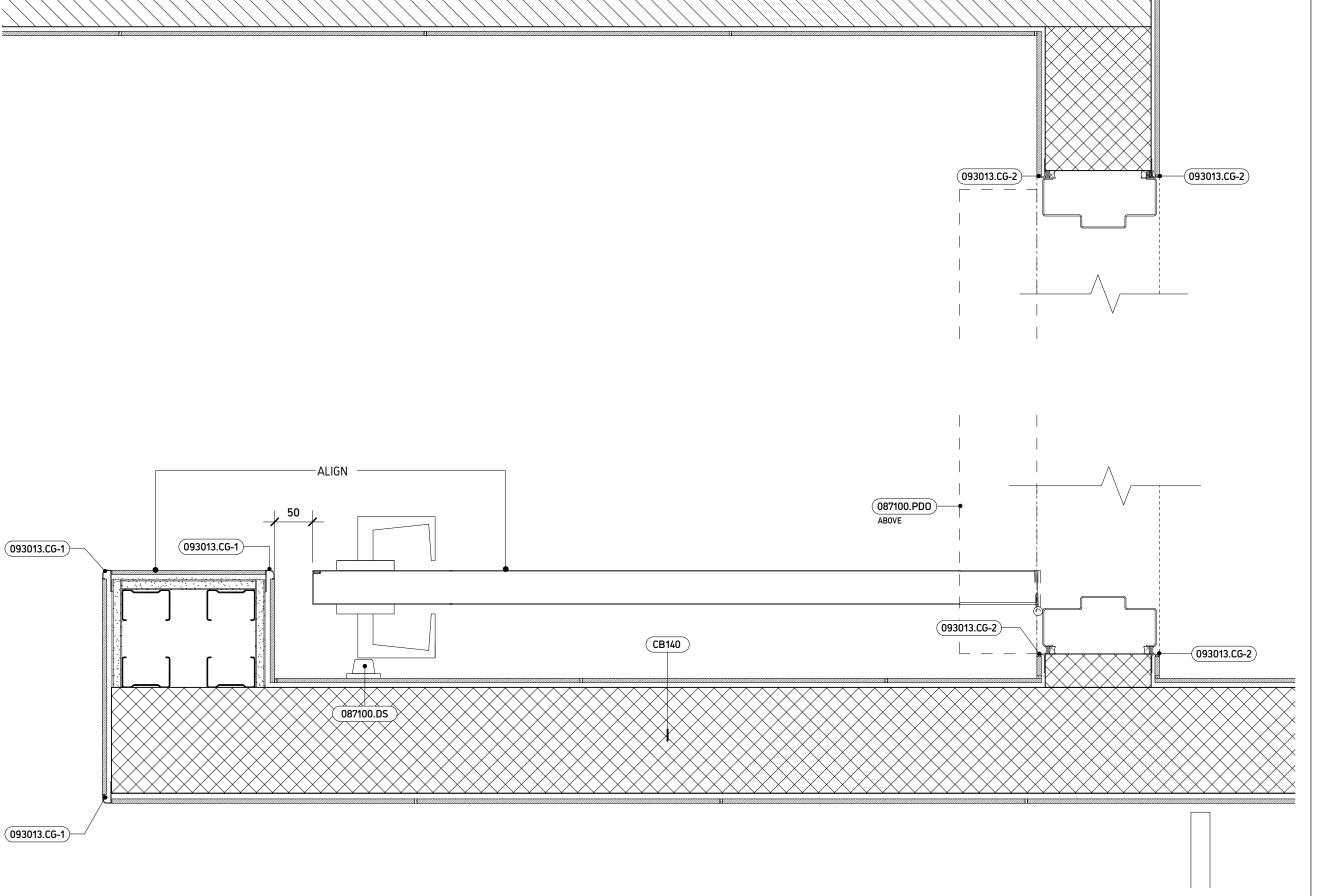
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Ceiling **Assemblies**

Sheet



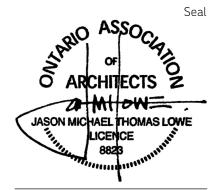


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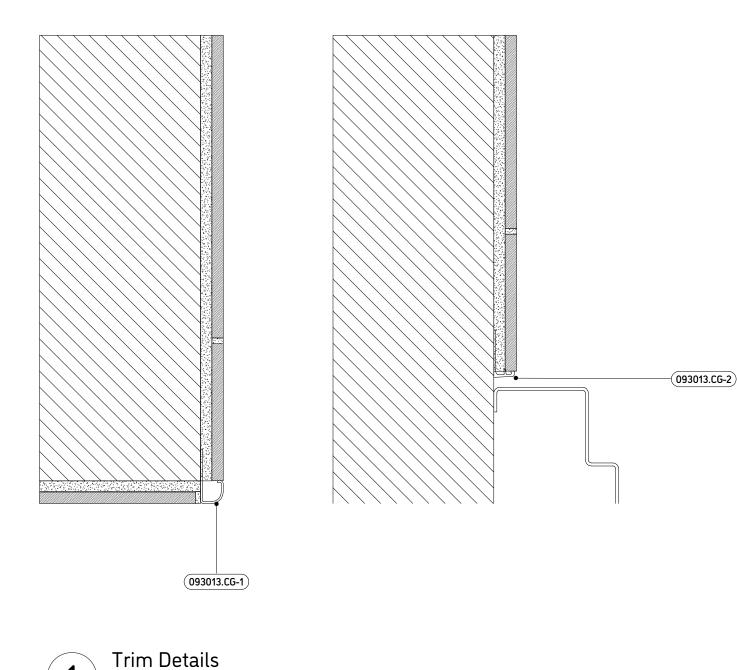
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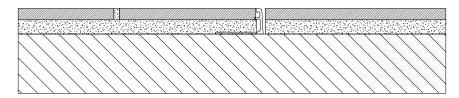
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Door Pocket Detail

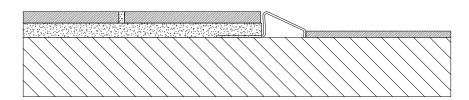
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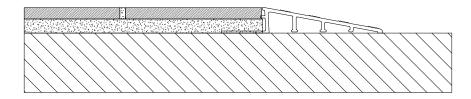
1:2



TS1 - SCHLUTER SCHIENE



TS2 - SCHLUTER RENO



TS3 - SCHLUTER RAMP



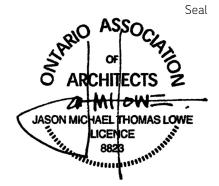
77 MAIN STREET HUNTSVILLE ONTARIO P1H 2B9

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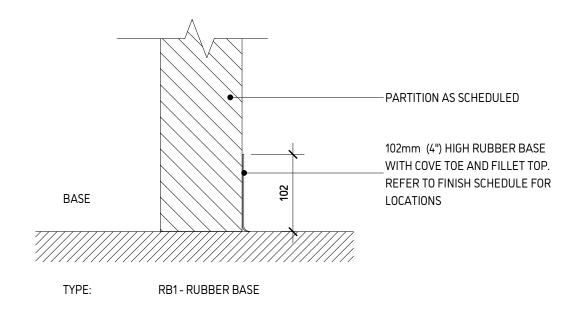
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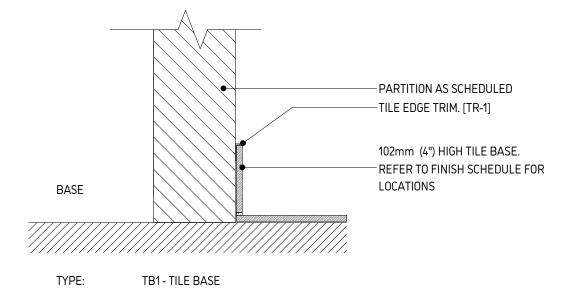
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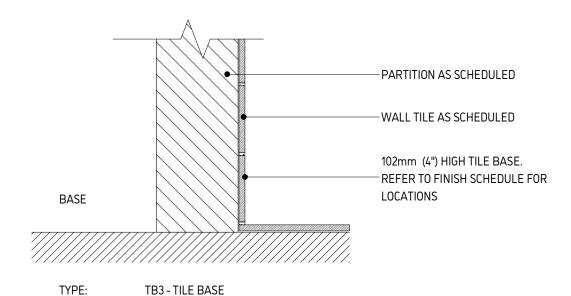
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Tile Trim Details

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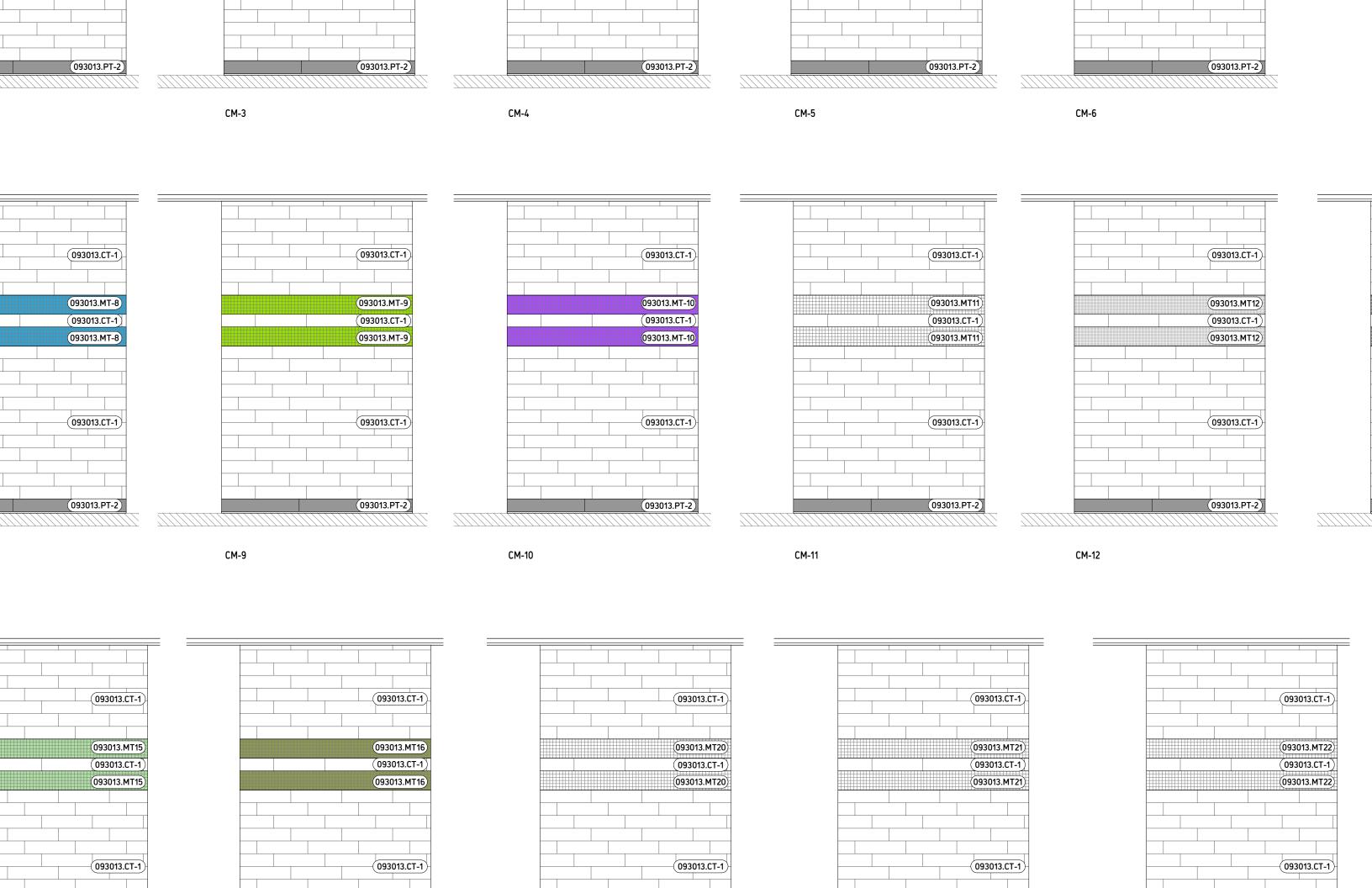
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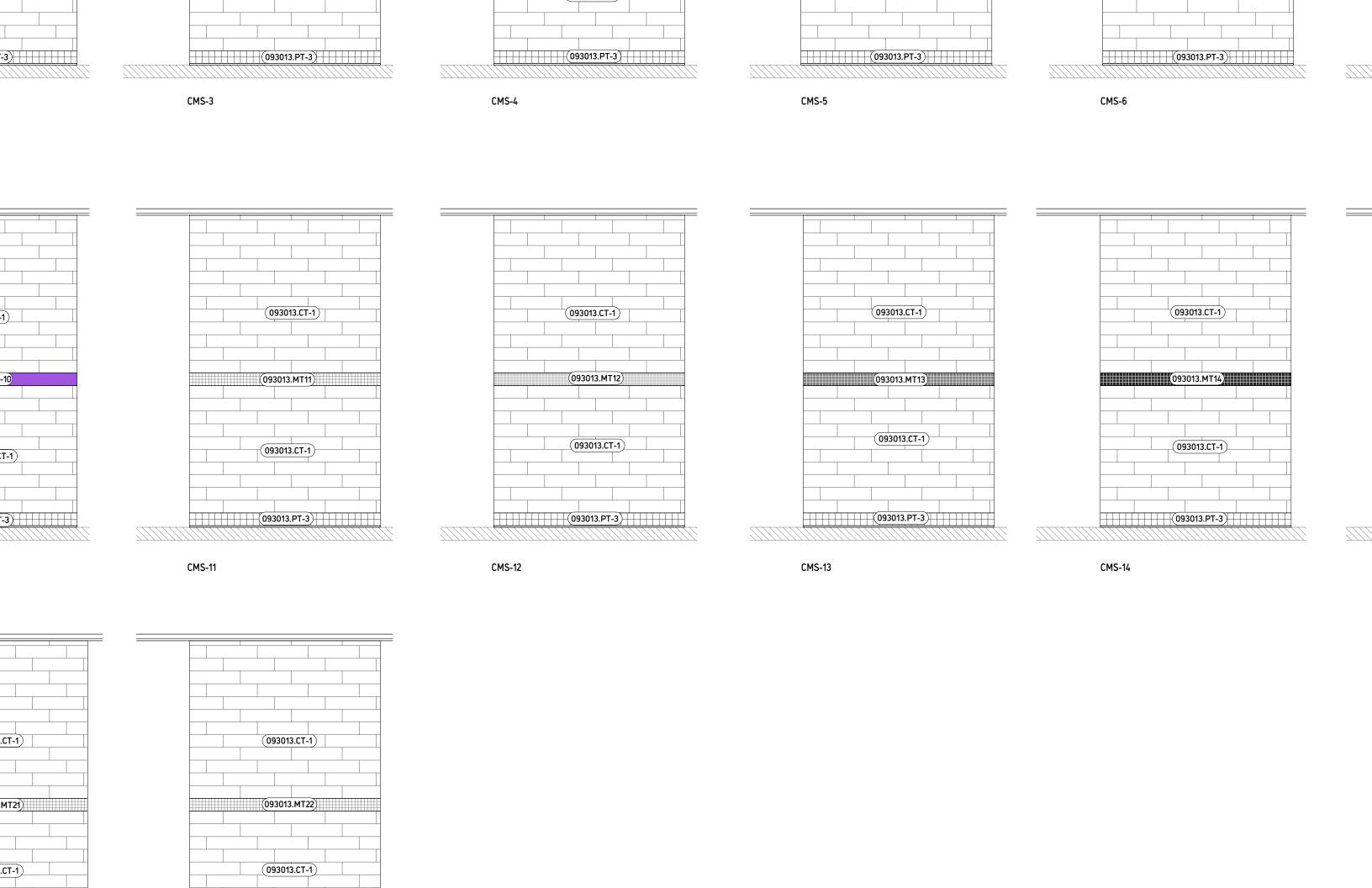
Revisions

JLA

Base Details

Sheet











WASHROOM SIGNAGE

REFER TO SPECIFICATION SECTION 10 14 00 SIGN DIMENSIONS: 150mm WIDE X 200mm TALL

SIGN COLOURS: BLACK MAIN FIELD

WHITE FIGURES
WHITE TEXT

WHITE TACTILE BRAILLE LETTERING

MOUNTING HEIGHT: TOP OF SIGN NOT TO EXCEED 1500mm AFF REFER TO

ELEVATIONS FOR OTHER DIMENSIONS.

MOUNTING METHOD: SELF ADHESIVE DOUBLE SIDED TAPE

SIGN TYPES:

SN-1: GIRL'S WASHROOM BARRIER FREE C/W TACTILE BRAILLE LETTERING

SN-1A: GIRL'S WASHROOM

SN-2: BOY'S WASHROOM BARRIER FREE C/W TACTILE BRAILLE LETTERING

SN-2A: BOY'S WASHROOM

SN-3: UNIVERSAL WASHROOM BARRIER FREE C/W TACTILE BRAILLE LETTERING
SN-4: FEMALE STAFF WASHROOM BARRIER FREE C/W TACTILE BRAILLE LETTERING

SN-4A: FEMALE STAFF WASHROOM

SN-5: MALE STAFF WASHROOM BARRIER FREE C/W TACTILE BRAILLE LETTERING

SN-5A: MALE STAFF WASHROOM

SN-6: GENDER NEUTRAL STAFF WASHROOM

SN-7: GENDER NEUTRAL WASHROOM BARRIER FREE C/W TACTILE BRAILLE LETTERING

SN-7A: GENDER NEUTRAL WASHROOM



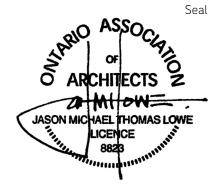
77 MAIN STREET HUNTSVILLE ONTARIO P1H 2B9

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Various

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DATE: 5/17/2021 11:55:53 AM PROJECT NO: TLDSB 2021

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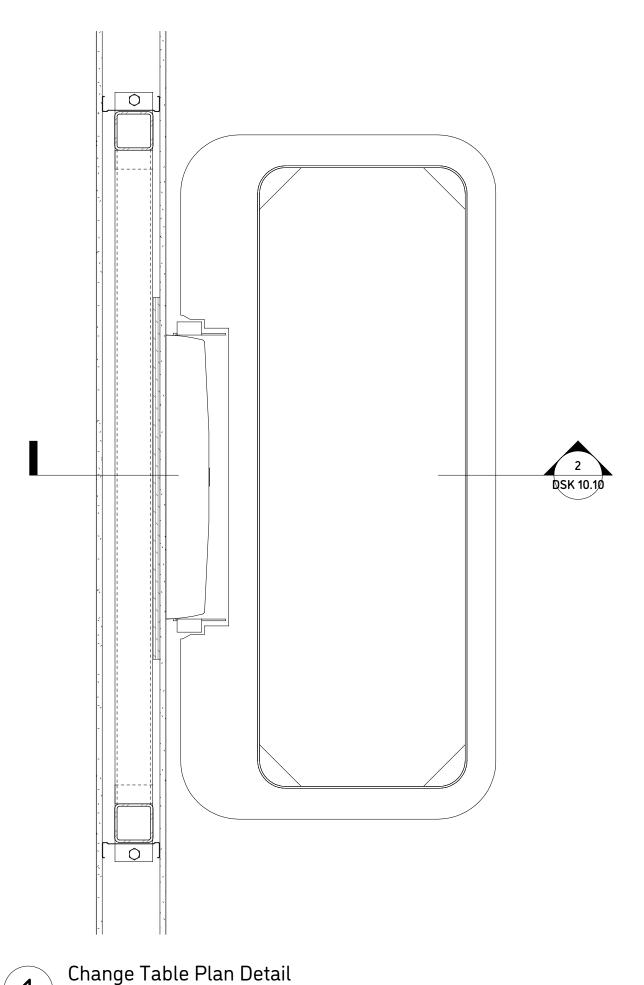
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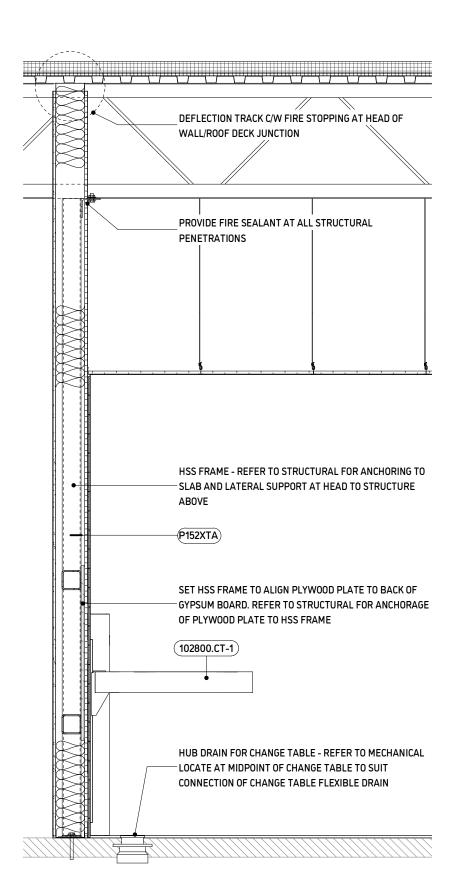
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DSK 10.1

1)-

Signage





Change Table Wall Section

1:20

JASON LOWE ARCHITECT

77 MAIN STREET HUNTSVILLE ONTARIO P1H 2B9

TLDSB WASHROOM RENEWALS SUMMER 2021

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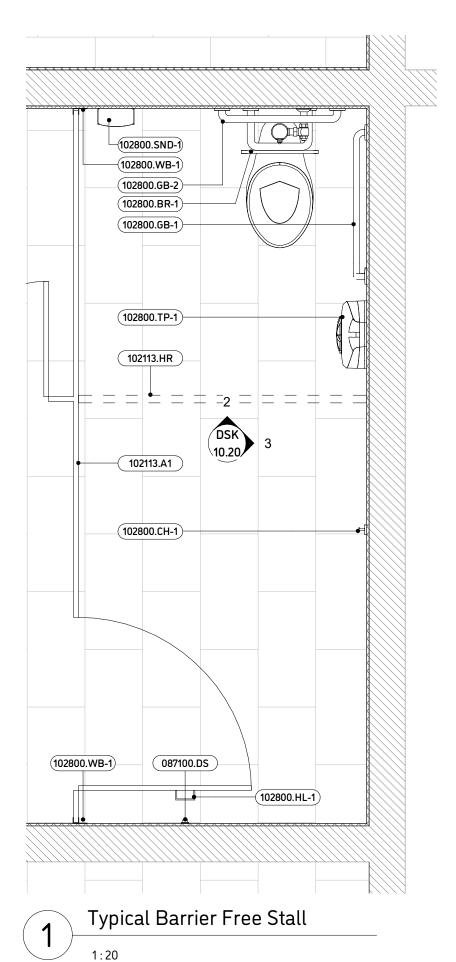
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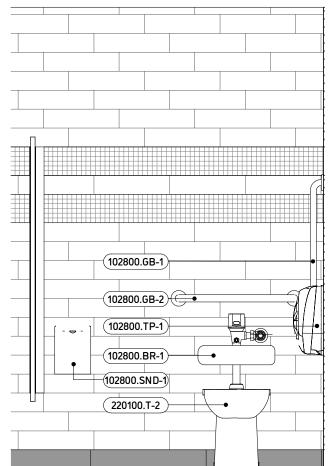
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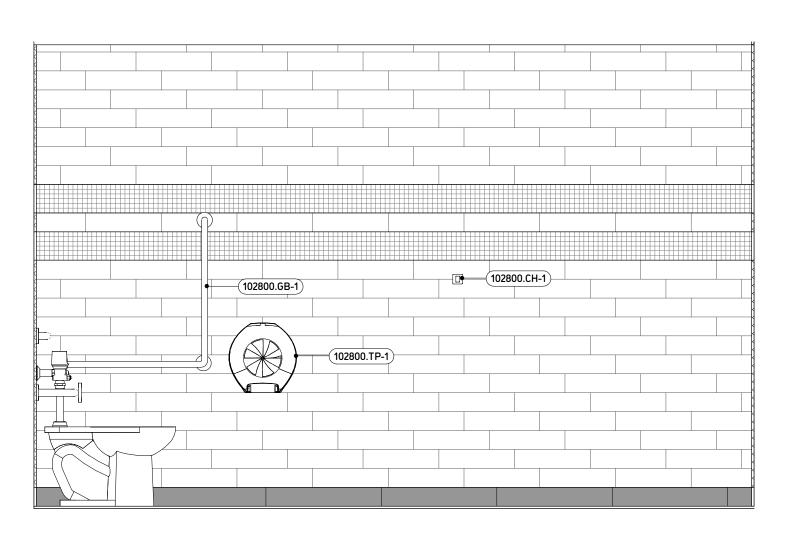
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DSK 10.10





	-				
Key Value	Keynote Text				
087100.DS	Door stop - wall mounted.				
102113.A1					
102113.HR	Headrail				
102800.BR-1	Back Rest				
102800.CH-1	Coat Hook				
102800.GB-1	Stainless Steel 90 Degree Grab Bar				
102800.GB-2	Stainless Steel 24" Straight Grab Bar				
102800.HL-1	Toilet Stall Door Handle				
102800.SND-1	Sanitary Napkin Disposal				
102800.TP-1	Toilet Paper Holder				
102800.WB-1	Toilet Partition Wall Bracket				
220100.T-2	Toilet T-2				





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Typical Barrier Free Stall

Sheet

DSK 10.20

TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD (TLDSB) SCHOOL UPGRADES AND REHABILITATION 2021

REFERENCE BOOKLET



TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD (TLDSB)

1271 CEDAR LANE BRACEBRIDGE, ONTARIO P1L 1N4 ph 1 (888) 526-5552



PROJECT No. 20-1636

STRUCTURAL CONSULTANT TULLOCH ENGINEERING INC.

80 MAIN STREET, WEST HUNTSVILLE, ONTARIO -P1H 1W9 ph (705) 789-7851 frank.palmay@tulloch.ca

GENERAL NOTES:

- READ STRUCTURAL DRAWINGS IN CONNECTION WITH OTHER CONTRACT DOCUMENTS
- THE CONTRACTOR IS TO CHECK AND VERIFY ALL DIMENSIONS ON THE STRUCTURE DRAWINGS WITH THE ARCHITECTURAL DRAWINGS BEFORE CONSTRUCTION. ANY DISCREPANCIES OR ERRORS MUST BE REPORTED TO THE ARCHITECT / ENGINEER PRIOR TO COMMENCING WORK
- DO NOT SCALE DRAWINGS
- DESIGN LIVE LOADS FOR EACH PORTION OF THE STRUCTURE ARE SHOWN. DO NOT EXCEED THESE LOADS DURING CONSTRUCTION.
- FEATURES OF CONSTRUCTION NOT FULLY SHOWN ARE OF THE SAME CHARACTER AS THOSE NOTED FOR SIMILAR CONDITIONS
- STRUCTURAL DESIGN IS BASED ON THE LATEST EDITION OF THE NATIONAL BUILDING CODE AND, SPECIFICALLY, DIV. B- PART 4 OF THE 2006 ONTARIO
- THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING FOR THE TESTING OF CONCRETE, COMPACTION, INSPECTION OF STRUCTURAL REINFORCING AND STRUCTURAL STEEL FOR ALIGNMENT, BOLTS AND WELDED CONNECTIONS, AND FOR THE PROMPT SUBMISSION OF ALL REPORTS TO THE PROJECT ENGINEER AND ARCHITECT.
- 8. ANY TEMPORARY SHORING REQUIRED TO CONSTRUCT THE WORKS NOT SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE THE RESPONSIBILITY OF
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT THE START OF THE PROJECT AND ARRANGE FOR ALL INSPECTIONS IN ACCORDANCE WITH CLAUSE 10.2 OF THE BUILDING CODE ACT AND DIV. C. PART 1 OF THE ONTARIO BUILDING CODE, PROVIDE MINIMUM 48 HOURS NOTICE WHEN AN INSPECATION IS REQUIRED. TULLOCH ENGINEER HUNTSVILLE MY BE CONTACTED BY PHONE AT (705)789-8751.
- 10. WHERE DEMOLITION OR RENOVATION OF EXISTING BUILDING IS INVOLVED, IT IS THE RESPONSIBILITY OF THE OWNER TO COMPLETE A DESIGNATED SUBSTANCE SURVEY, A COPY OF THE SURVEY SHALL BE FORWARDED TO THE ENGINEER AND TO THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION

STRUCTURAL STEEL:

- STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF CSA SPECIFICATIONS \$16.1 (LATEST EDITION) AND CSA SPECIFICATIONS G40.1 TYPE 350W (LATEST EDITION) FOR BEAMS AND 350W FOR HSS (CLASS C).
- THE WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE CSA W59 AND THE WEIDING COMPANY AND WEIDERS SHALL BE QUALIFIED LINDER THE REQUIREMENTS OF CSA W57 (LATEST EDITION) FOR THE APPROPRIATE
- PREPARE AND SUBMIT FOR APPROVAL, FULLY DETAILED AND DIMENSIONED DRAWINGS AND ERECTION DIAGRAMS, FOUR COPIES SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL, FABRICATION, AND ERECTION, DRAWINGS SHALL BE SEALED BY THE FABRICATORS ENGINEER. ADDITIONAL COPIES OF THE DRAWINGS SHALL BE PROVIDED AS REQUIRED.
- 4. BOLTED CONNECTIONS SHALL BE MADE USING FRICTION TYPE CONNECTIONS AND HIGH TENSILE STRENGTH BOLTS (A325 MINIMUM)
- PROVIDE AND REMOVE TEMPORARY BRACING NECESSARY TO KEEP THE STRUCTURE TRUE AND PLUMB DURING CONSTRUCTION.
- ALL CONNECTIONS TO BE STANDARD FRAME BEAM CONNECTORS AND ARE TO BE DESIGNED AND STAMPED BY THE FABRICATOR'S ENGINEER AS PER CSA
- STEEL SHALL BE THOROUGHLY CLEANED AND BE GIVEN ONE SHOP COAT OF ANTI-CORROSIVE PRIMER, AREAS EFFECTED BY WEATHERING, DAMAGE DUE TO HANDLING ETC., SHALL HAVE THE RUST REMOVED AND BE "TOUCHED UP"
- 8. ALL OF THE BASE PLATES FOR COLUMNS AND BEARING PLATES FOR THE BEAMS SHALL BE GROUTED WITH MINIMUM OF 38MM ($1\frac{1}{2}$ ") OF 35 MPA (5100 PSI) NON-SHRINK GROUT
- NO SPLICES IN BEAMS AND COLUMNS WILL BE ALLOWED WITHOUT WRITTEN APPROVAL BY THE ENGINEER, BUTT WELDS IN SPLICES AND MOMENT CONNECTIONS MUST BE ULTRASONICALLY TESTED OR X-RAYED AND PASSED BY AN INDEPENDENT TESTING COMPANY
- 10. CO-ORDINATE WITH MECHANICAL ENGINEER, ELECTRICAL ENGINEER, AND ALL SUB-TRADES WHOSE WORK AFFECTS THE DETAILING, FABRICATION AND ERECTION OF THE STRUCTURAL STEEL. DO NOT CUT OPENINGS IN STRUCTURAL STEEL MEMBERS WITHOUT ENGINEER APPROVAL
- 11. AN INDEPENDENT INSPECTION AND TESTING COMPANY IS TO BE ENGAGED BY THE CLIENT, TO ENSURE THAT SHOP AND FIELD WORK IS IN ACCORDANCE WITH DRAWINGS AND THESE SPECIFICATIONS, COPIES OF THE INSPECTION(S) ARE TO BE SENT TO THE CLIENT, THE ENGINEER, AND THE CHIEF BUILDING
- 12. ON SUPPORT WITH OWSJ FRAMING FROM ONE SIDE = THE CENTRE OF JOIST BEARING MUST SEAT WITHIN MIDDLE ONE-THIRD OF SUPPORT. FOR MASONRY WALL, JOISTS SHALL EXTEND A MINIMUM 150MM (8") INTO WALL.
- 13. JOIST SUPPLIER TO CHECK FOR WEIGHTS AND LOCATIONS OF ALL

- MECHANICAL UNITS THAT SIT ON OR HANG FROM THE ROOF, AND TO ENSURE ADEQUATE CLEARANCE IS PROVIDED FOR DUCTS THAT PASS THROUGH JOISTS.
- 14. JOIST SUPPLIER MUST PROVIDE ADEQUATE WEB REINFORCING UNDER CONCENTRATED ROOF LOADS. ALTERNATIVELY, PROVIDE TWO(2) L50X50X4.78 WEB REINFORCING UNDER EACH CONCENTRATED LOAD ON OWSJ TO BOTTOM CHORD PANEL POINT.
- 15. PROVIDE 40 X 50 X 525 LONG STRAP ANCHOR WITH 50MM BEND AT 800MM O.C. $(1\frac{1}{2}$ " X $\frac{3}{16}$ " X 21" LONG STRAP ANCHOR WITH 2" BEND AT 24" O.C.) TO ALL FACES PF COLUMNS ABUTTING MASONRY.
- 16. NO HOLES SHALL BE CUT IN THE BEAMS OR COLUMNS.

FOUNDATIONS:

- 1. FOUND ALL FOOTINGS ON NATURALLY CONSOLIDATED, UNDISTURBED SOIL CAPABLE OF SAFELY SUSTAINING 150 kPa (3000 psf). BEARING CAPACITY SHALL BE CONFIRMED BY CBO OR ENGINEER
- 2. NO FOOTINGS SHALL BE POURED UNTIL THE ENGINEER HAS APPROVED THE
- 3. THE LINE SLOPE BETWEEN ADJACENT FOOTINGS OR EXCAVATIONS OR ALONG STEPPED FOOTINGS SHALL NOT EXCEED A RISE OF 7 AND A RUN OF 10.
- 4. FOUND FOOTINGS WHICH ARE EXPOSED TO FREEZING WEATHER A MINIMUM OF 1200MM (4 FT) BELOW FINISHED GRADE UNLESS SPECIFIED OTHERWISE.
- 5. ERECT, MAINTAIN, AND IF REQUIRED, REMOVE A SUPPORTING SHORING SYSTEM ALONG THE SIDES OF THE EXCAVATION.
- 6. PROTECT SOIL FROM FREEZING ADJACENT TO AND BELOW ALL FOOTINGS.
- WHERE THERE IS GRADE ON BOTH SIDES, BACKFILL AGAINST FOUNDATION WALL IN SUCH A MANNER THAT THE LEVEL OF BACKFILLING ON ONE SIDE OF THE WALL IS NEVER MORE THAN 500MM (20") DIFFERENT FROM THE LEVEL ON THE OTHER SIDE OF THE WALL EXCEPT WHERE TEMPORARY SUPPORT FOR THE WALL IS PROVIDED OR WALLS ARE DESIGNED AS CANTILEVER WALLS.

CONCRETE:

1. CONCRETE IS SPECIFIED USING ALTERNATIVE NUMBER OF CSA A23.1 TABLE 2

AS FOLLOWS:		
7.5 1 0 2 2 5 4 5 .	EXTERIOR FOUNDATIONS	INTERIOR FLOOR SLAB
EXPOSED CLASS (TABLE 1)	C-1	N
AIR CONTENT CATEGORY (TABLE	1	N/A
MAX. W/C RATIO (TABLE 2)	0.40	0.55
CURING TYPE (TABLE 19)	2	1
MIN. COMPRESSIV STRENGTH @ 28 D	=	30 MPA

- 2. AT LEAST TWO (2) WEEKS PRIOR TO THE PLACEMENT OF CONCRETE THE CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE ENGINEER FOR
 - A VALID 'CERTIFICATE OF READY MIXED CONCRETE PRODUCTION FACILITIES' OD A VALID 'CERTIFICATE OF MOBILE MIX CONCRETE PRODUCTION FACILITIES' AS ISSUED BY THE 'READY MIXED CONCRETE ASSOCIATION OF ONTARIO' TO THE PLANT BEING USED.
 - A COMPLETED 'CONCRETE MIXED FINAL SUBMISSION FORM'
 - A QUALITY PLAN THAT DESIGNATES A SPECIFIED SLUMP OR SOME OTHER MEASURE OF WORKMANSHIP
 - TEST RESULTS TO SHOW COMPLIANCE WITH CSA A23.1 $\,$
 - AIR VOID SYSTEM OF HARDENED CONCRETE.
 - STATISTICAL STRENGTH TEST ANALYSIS TO CONFIRM THE STRENGTH LEVEL FOR EACH CLASS OF CONCRETE INCLUDING THE EXPECTED 7/28 DAY STRENGTH RATIO
- 3. FABRICATION AND PLACEMENT OF REINFORCING STEEL TO BE IN ACCORDANCE WITH CSA A23.1 AND THE REINFORCING STEEL INSTITUTE OF CANADA'S 'REINFORCING STEEL MANUAL OF STANDARD PRACTICE'.
- 4. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO CSA G30.18 M92, Fy=400 MPa (GRADE 400)
- CONCRETE SHALL NOT BE POURED UNTIL REBAR HAS BEEN INSPECTED BY THE
- 6. WHERE REBARS JOIN AT CORNERS PROVIDE CORNER BARS FOR LAPS, UNLESS NOTED OTHERWISE. 600MM (2 FT.)



- 7. CONCRETE COVER FOR REINFORCING STEEL AS PER TABLE 17 OF CSA A23.1 ALL CONCRETE CAST AGAINST FARTH 76MM
 - ALL CONCRETE CAST IN FORMS BUT EXPOSED TO EARTH OR WEATHER
 - BARS 20M AND SMALLER IN WALLS AND SLABS 32MM
- CONCRETE NOT EXPOSED TO EARTH AND WEATHER 25MM OR 1.5 NOMINAL BAR DIAMETER

- ALL REINFORCING BARS SHALL BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED BY PRECAST CONCRETE, ADDITION BARS, TIES, TIES OR APPROVED CHAIRS AGAINST DISPLACEMENT.
- CONTINUOUS AND TEMPERATURE REINFORCING BARS SPLICES TO BE LAPPED 40 BAR DIAMETERS OR A MINIMUM OF 300 AT SPLICES AND CORNERS, LINLESS OTHERWISE SHOWN ON SECTION OR TYPICAL DETAILS, LAP CONTINUOUS TOP BARS AT CENTRE BETWEEN SUPPORTS AND CONTINUOUS ENDS WITH STANDARD HOOKS.
- 10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL CONCRETE IS PLACED AND CURED IN CONFORMANCE WITH THE REQUIREMENT OF CSA A23.1-14. THE CONTRACTOR IS RESPONSIBLE FOR ALL HEATING AND HOARDING REQUIRED
- 11. ALL EXTERIOR EDGES TO BE CHAMFERED 19MM UNLESS NOTED OTHERWISE.

CEMENTITIOUS GROUT

CEMENTITIOUS GROUT UNDER BASE PLATES TO BE SIKAGROUT 212.

CONCRETE ANCHORS

- 1. ALL CONCRETE ANCHORS TO BE HILTI HAS ROD HOT DIPPED GALVANIZED (DIAMETER AS NOTED ON DRAWINGS)
- 2. ALL CONCRETE ANCHORS TO BE COMPLETE WITH HOT DIPPED GALVANIZED FLAT WASHERS, NUTS, LOCK NUTS, ETC. AS SPECIFIED ON THE DRAWINGS
- 3. ALL EPOXY ADHESIVE SHALL BE HILTI HIT-HY 200/HIT ICE.
- 4. INSTALL AS PER MANUFACTURE'S SPECIFICATIONS.

MASONRY

- 1. ALL MASONRY WORK SHALL CONFORM TO NATIONAL BUILDING CODE LATEST EDITION AND CSA STANDARDS S 304.1 - 'DESIGN OF MASONRY STRUCTURES',
- 2. ALL CONCRETE MASONRY UNITS SHALL CONFORM TO CAN/CSA A165 SERIES-04 EXCEPT WHERE OTHERWISE SPECIFIED. PROVIDE MASONRY BLOCK WITH A MINIMUM COMPRESSIVE STRENGTH OF 15 MPa
- 3. LINTELS OVER ALL OPENINGS IN NON LOAD BEARING MASONRY WALLS, UNLESS OTHERWISE SHOWN ON STRUCTURAL DRAWINGS.
- 4. ALL STEEL LINTELS TO HAVE MINIMUM OF 150MM (6") BEARING ON EACH SIDE OF OPENING
- 5. PROVIDE MINIMUM OF 2 COURSES OF 100% FILLED SOLID BLOCK 16" LONG MINIMUM FILLED WITH 20 MPa CONCRETE, CENTERED UNDER EACH BEAM AND JOIST BEARING PLATE.
- 6. MINIMUM BEAM BEARING PLATE UNLESS NOTED FOR JOIST OR BEAM SUPPLIED BY STEEL FABRICATOR
 - SP1 150MM CONC BLOCK 250 x 12 x 125 SP2 - 200MM CONC BLOCK - 250 x 12 x 178 EACH WITH 1-12MMØ ANCHORS
- 7. FILL BLOCKS SOLID BELOW BEARING PLATES TWO COURSES, AND ALL LINTEL BLOCKS WITH TYPE M MORTAR 17.5 MPa
- 8. LOAD BEARING AND NON-LOAD BEARING WALLS TYPE S MORTAR 12.5 MPa
- PROVIDE HORIZONTAL REINFORCING AT EVERY 2nd BLOCK COURSE USING HEAVY DUTY BLOCK-LOC LADDER REINFORCING



MASONRY

- 1. OVER ALL OPENING AND RECESSES IN MASONRY WALLS. INCLUDING THOSE FOR MECHANICAL AND ELECTRICAL SERVICES OR EQUIPMENT, PROVIDE AND INSTALL MASONRY OR STEEL LINTELS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LINTEL SCHEDULE
- 2. OBTAIN THE ENGINEERS'S PERMISSION FOR ALL OPENINGS, SLEEVES, AND SLOTS THROUGH STRUCTURAL COMPONENTS NOT SHOWN ON STRUCTURAL
- WHERE DOWELS, ANCHOR BOLTS, ETC., ARE SHOWN PROJECTING INTO MASONRY, GROUT THESE TIGHT INTO MASONRY VOIDS WITH CONCRETE OR
- 4. PROVIDE A MINIMUM OF 400MM (16") DEPTH OF 100% SOLID MASONRY UNITS FOR BEARING OF STEEL, CONCRETE, OR MASONRY LINTELS AND FOR MINIMUM OF 200MM (8") PAST BEARING PLATE EACH SIDE.
- 5. ALL MASONRY MUST BE SET WITH FULLY FILLED JOINTS USING MORTAR AS DEFINED IN THE NATIONAL BUILDING CODE AND/OR CSA A179M. MORTAR TO BE TYPE 'S' LINI ESS NOTED OTHERWISE
- 6. PROVIDE A MINIMUM OF 38MM (13") PORTLAND CEMENT GROUT UNDER ALL
- 7. GROUT SHALL ALSO BE SUPPLIED IN CONCRETE BLOCK WALLS WHEREVER

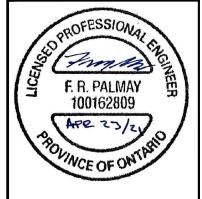
- SOLID WHEREVER GROUT IS REQUIRED.
- ALL MASONRY GROUT SHALL CONFORM TO CA/CSA A179-04 AND SHALL BE FINE TYPE GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 10
- 9. THE CONCRETE BLOCK SHALL CONFORM TO CSA STANDARD CAN3-A165
- 10. THE MASONRY WIRE REINFORCING SHALL CONFORM TO CSA A370-04.
- MASONRY VENEER CONNECTORS SHALL CONFORM TO AN BE INSTALLED IN
- 12. NO MASONRY WORK SHALL BE PERMITTED WITH TEMPERATURE BELOW 5 DEGREES CELSIUS UNLESS PROVISIONS ARE MADE FOR HEATING THE MATERIALS AND PROTECTING THE WORK WITHOUT WRITTEN APPROVAL OF
- 13. ALL MASONRY CONSTRUCTION SHALL CONFORM TO CSA STANDARDS A371-04
- 14. PROVIDE CONTINUOUS TRUSS TYPE JOINT REINFORCING AT 400MM (16") O.C. AND USE "CORNER-LOK" AT ALL WALL INTERSECTIONS. REINFORCING TO BE HOT DIP GALVANIZED AT ASTM A 153 CLASS B2. LONGITUDINAL WIRES TO BE 4.76MM ($\frac{3}{16}$ ") DIAMETER, AND DIAGONAL WIRES TO BE 3.66MM DIAMETER (9
- 15. ALL METAL ANCHORS TO BE SECURE WALLS EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED.
- 16. ANCHOR ALL MASONRY TO COLUMNS WITH STEEL STRAP PLATE 40 X 5 X 525MM, 50MM HOOKS AT 600MM O.C. (PLATE $1\frac{1}{2}$ " X $\frac{3}{16}$ " X 21", 2" HOOKS AT 24") UNLESS NOTED.
- 17. PROVIDED LINTELS PER LINTEL SCHEDULE.
- 18. VERTICAL REINFORCING SHALL BE CONTINUOUS. LAB BARS 450MM (18")
- 19. REINFORCE ALL OPENINGS THROUGH MASONRY WALLS WITH TWO (2) 15M VERTICAL BARS EACH SIDE OF THE OPENING AND EXTENDING 600MM (16") PAST OPENING.
- 20. PROVIDE ONE COURSE BOND BEAM COMPLETE WITH TWO (2) 15M CONTINUOUS FOR ALL BEARING WALLS UNDER ROOF STRUCTURES AND ALL FLOOR STRUCTURES.

METAL STUDS

- 1. ALL METAL STUDS SHALL CONFORM TO ASTM A 446 GRADE A, 228 MPa YEILD FOR STUD 1.14MM (18 GA) OR THINNER. ALL METAL STUDS SHALL CONFORM TO ASTM A446 GRADE D, 345 MPa (50,000 psi) YIELD FOR STUD 1.44MM (16 GA) OR THICKER
- THICKNESS OF STUD MUST BE DETERMINED BY SPECIALIST'S ENGINEER BUT MOST NOT BE LESS THAN THE FOLLOWING: ALL STRUCTURAL STUDS SHALL BE OF MINIMUM 1 22MM (18 GA) THICK FOR WALL BACKING MASONRY VENEER MINIMUM 1.52MM THICK FOR OTHER APPLICATION.
- 3. STUDS SHALL BE SPACED AT MAXIMUM 500MM (16") ON CENTRE, COMPLETE WITH DEFLECTION TRACKS AT TOP OF WALL.
- FOR EXTERIOR WALLS: ALL STUDS, BRIDGING AND TRACKS SHALL BE DESIGNED FOR A WIND LOAD ON THE WALL SYSTEM. TO CSA/CAN3-S136 AND IN ACCORDANCE WITH THE ONTARIO BUILDING CODE, MAXIMUM DEFLECTION LINDER WIND LOAD MUST NOT EXCEED SPAN/720 FOR STUD WALL BACKING MASONRY VENEER WALL, OTHERWISE, MAXIMUM DEFLECTION UNDER WIND LOAD MUST NOT EXCEED SPAN/360.
- FOR INTERIOR WALLS: ALL STUDS. BRIDGING AND TRACKS SHALL BE DESIGNED FOR A WIND LOAD OF 0.3KPa ON THE WALL SYSTEM. TO CSA/CAN3-S136 AND IN ACCORDANCE WITH THE ONTARIO BUILDING CODE. MAXIMUM DEFLECTION UNDER WIND LOAD MUST NOT EXCEED SPAN/360.
- ALL INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ALL CONNECTORS USED SHALL BE OF CORROSIVE RESISTANCE MATERIAL COMPATIBLE WITH GALVANIZED COATING OF STUDS
- METAL STUD CONTRACTOR IS FULLY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF THE STUD WALL SYSTEM AND ALL CONNECTION DETAILS, INCLUDING BRICK TIE CONNECTION AND ANCHOR DETAILS OF THE SYSTEM TO THE MAIN STRUCTURE SHOP DRAWINGS AND SITE REVIEW REPORTS OF THE STUD WALLS PREPARED BY THE CONTRACTOR'S SPECIALIST ENGINEER COMPLETE WITH P.ENG. SEAL SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND RECORD.



No.	DATE	REVISION
0	2021/03/05	ISSUED TO ARCHITECT
1	2021/03/25	ISSUED TO ARCHITECT
2	2021/04/23	ISSUED FOR TENDER





PROJECT ADDRESS:

TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

1271 CEDAR LANE

BRACEBRIDGE, ONT

STRUCTURAL UPGRADES & REPAIRS GENERAL NOTES

CHECKED DESIGNED CALE DATE (M/D/Y) AS NOTED 12/10/2020

ROJECT No. REVISION 20-1636

DRAWING

WOOD

- THE STRUCTURAL TIMBER AND LUMBER SHALL BE NO. 1 OR 2 GRADE SPECIES SPF OR BETTER UNLESS NOTED OTHERWISE.
- THE DESIGN OF THE BEAMS, COLUMNS AND LINTELS IS BASED ON THE LIMIT STATES DESIGN SPECIFIED UNDER CSA STANDARD 086. ANY SUBSTITUTIONS OF SPECIES, GRADE OR GROUP MUST BE APPROVED BY THE ENGINEER PRIOR TO THE COMMENCING OF WORK.
- 3. THE LUMBER WAS DESIGNED FOR A MOISTURE CONTENT GREATER THAN 15% AT THE TIME OF MANUFACTURE AND LESS THAN 15% IN SERVICE.
- 4. DURING CONSTRUCTION, ENSURE ALL MEMBERS ARE IN GOOD BEARING
- CONNECTION HARDWARE IS TO RECEIVE ONE COAT OF ZINC CHROMATE PRIMER OR EQUAL. ENSURE THAT ALL HARDWARE AND FASTENERS IN CONTACT WITH PRESSURE TREATED WORD ARE COMPATIBLE WITH THE PRESSURE TREATED CHEMICALS.
- ALL PLYWOOD JOINTS ARE TO BE STAGGERED. NAIL ALL FLOOR, ROOF AND WALL SHEATHING AT 150MM (6") O.C. AT EDGES AND 300MM (1') CENTRES ELSEWHERE UNLESS NOTED OTHERWISE.
- 7. PROVIDE SOLID BLOCKING IN THE EXTERIOR STUD WALLS AT THE LOCATION OF ALL JOINTS IN THE PLYWOOD AND AT MAXIMUM VERTICAL SPACING OF 1200MM ± (4FT ±), SECURELY NAIL AT A 1500MM (6") MAXIMUM SPACING THE PLYWOOD TO THE SOLID BLOCKING.
- 8. ALL PLYWOOD SHALL CONFORM TO CSA STANDARD 0121 OR 0151.
- THE ROOF TRUSSES ARE TO BE "FLAT" OWWJ OR PROFILED TRUSSES DESIGNED FOR THE SPECIFIED LOADS. THE SUPPLIER IS TO PROVIDE ERECTION AND MEMBER FABRICATION DRAWINGS STAMPED BE A PROFESSIONAL ENGINEER REGISTERED OR LICENSED IN THE PROVINCE OF ONTARIO. THE DRAWING MUST INDICATE DESIGN LOADS, TIMBER SPECIES, GRADES, BRACING AND CONNECTORS. ALL TRUSSES MUST BE ANCHORED WITH APPROPRIATE TIE-DOWN METAL ANCHORS TO RESIST UPLIFT AS CALCULATED AND SHOWN IN THE TRUSS DESIGN CALCULATIONS.
- 10. THE BEARING SHOWN ON THE DRAWINGS IS THE MAXIMUM WIDTH TO BE PROVIDED AND THE TRUSS MANUFACTURER MUST DESIGN THE TRUSSES TO SUIT THE BEARING WIDTH
- 11. PROVIDE STANDARD JOIST HANGERS AS REQUIRED BY SIMPSON, RSC OR APPROVED EQUIVALENT.
- 12. ALL WOOD IN CONTACT WITH CONCRETE SHALL BE PRESSURE TREATED.
- 13 MAXIMUM BRIDGING SPACING FOR SWAN LUMBER JOISTS SHALL BE 2300MM (7'-6") O.C..
- 14. SPIKE EACH LAMINATION OF BUILD-UP BEAMS @ 300MM (1') O.C. AS
 - 1 ROW OF 90MM (3½") LONG NAILS FOR 140MM (5½") DEPTH.
 - 2 ROWS OF 90MM (3¹/₇") LONG NAILS FOR GREATER DEPTH.
- 15. SPIKE AND GLUE BUILD-UP POSTS @22-MM (81") O.C. AS PER CODE AS FOLLOWS:
- 1 ROW FOR 38X89 (2"X4")
- 2 ROWS FOR LARGER SIZES
- 16 ALL PERMANENT BRACING FOR TRUSSES SHALL BE SECURELY ANCHORED BY BACK BRACING DIAGONALLY OR ATTACHING TO END WALLS ACCORDING TO GUIDELINES PUBLISHED BY THE CANADIAN WOOD TRUSS ASSOCIATION.
- 17. CONTINUITY OF POST MUST BE MAINTAINED TROUGH FLOORS BY SOLID
- 18. SHEAR WALLS SHALL BE CONSTRUCTED WHERE NOTED ON DRAWINGS USING $\frac{1}{2}"$ PLYWOOD AND MIN 2X3 SPF#2 STUDS SPACED AT 16" O.C. NAILED WITH $2^{\frac{1}{2}"}$ ARDOX NAILS SPACED AT 6" O.C. PROVIDE SIMPSON HD8A HOLD DOWN CLIPS

SUBMITTALS

- 1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE SUBMITTAL OF ALL REQUIRED SHOP OR FABRICATION DRAWINGS IN A TIMELY MANNER
- ALL STRUCTURAL SUBMITTALS SUBMITTED FOR REVIEW MUST FIRST BE REVIEW BY AND STAMPED BY THE GENERAL CONTRACTOR
- 3. THE FOLLOWING SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEWS

DRAWING	P.ENG. SEAL
A. REINFORCING STEEL B. CONCRETE MIX DESIGN C. STRUCTURAL STEEL (INCLUDING OWSJ) D. MATERIAL ROOF DECK E. EXTERIOR METAL STUD FRAMING F. OPEN WEB STEEL JOISTS G. WOOD ROOF TRUSS H. ENGINEERED LUMBER I. WOOD 'I' JOISTS J. TIMBER FRAME K. STRUCTURAL INSULATED PANELS (SIP'S)	NO NO YES YES YES YES YES YES YES YES

4. WHERE NOTED IN THE ABOVE TABLE, STRUCTURAL SUBMITTALS SHALL BEAR THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER LICENSED IN THE

- PROVINCE OF ONTARIO.
- ALL STRUCTURAL SUBMITTALS WILL BE REVIEWED BY THE ARCHITECT AND THE ENGINEER SOLELY FOR THE CONFORMANCE WITH THE DESIGN INTENT AND THE CONSTRUCTION DOCUMENTS
- ALL SUBMITTALS SHALL CONSIST OF ONE ELECTRONIC PDF COPY OR FOUR PRINTS. ONE COPY WILL BE RETAINED BY THE ENGINEER.

MATERIALS TESTING AND INSPECTION

THE CONTRACTOR SHALL INCLUDE COSTS TO ENSURE THAT THE FOLLOWING QUALITY CONTROL ACTIVITIES ARE UNDERTAKEN DURING THE COURSE OF WORK:

- 1. COMPACTION TESTING AS SPECIFIED ON THE DRAWINGS
- 2. REBAR INSPECTION PRIOR TO CONCRETE PLACEMENT.
- 3. CONCRETE TESTING IN ACCORDANCE WITH CSA A23.1 AND A23.2.

CONTACT TULLOCH ENGINEERING TO OBTAIN PRICING.

FINAL CLEAN UP

- AT THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES, THE BUILDING ERECTION CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE ALL WASTE CONSTRUCTION MATERIALS, DEBRIS, ETC. FROM THE SITE.
- 2. AT THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES, THE BUILDING CONTRACTOR SHALL BE RESPONSIBLE TO SWEEP, WIPE AND POWER WASH ALL SURFACES ON THE INTERIOR AND EXTERIOR OF THE BUILDING.

WALL CONSTRUCTION



DEMOLISHED CONSTRUCTION



NEW CONSTRUCTION: CONCRETE BLOCK



EXISTING MASONRY: CONSTRUCTION TO REMAIN

DIV

DIVISION

DOOR OPENING

LINE CONSTRUCTION

DEMOLITION REFERENCE

NEW LINTEL INDICATION



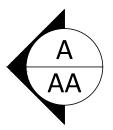
ABBREVIATIONS:

BREAKLINE

		טט	DOOK OPENING	INCL	- 11
ACT	ACOUSTIC CEILING TILES	DWG	DRAWING	INSUL	11
ADJ	ADJUSTABLE			INT	II.
AFF	ABOVE FINISHED FLOOR	E	EAST		
ALU	ALUMINUM	EA	EACH	JT	J(
ANOD	ANODIZED	ELEC	ELECTRICAL		
ANOD	ANODIZED	ENCL	ENCLOSURE	KD	K
В/В	BACK TO BACK	ETC	ETCETERA	ко	K
в/в BCT	BABY CHANGE TABLE	E/W	EACH WAY		
BLDG	BUILDING	EXC	EXCAVATION, EXCAVATE		
BLKG	BLOCKING	EXH	EXHAUST	L	L
		EXIST	EXISTING	LB(S)	P
BM	BEAM	EXT	EXTERIOR, EXTERNAL	LF.	LI
	CORNER CLIARS	L/(I	EXTERIOR, EXTERNAL	LH	LI
CG	CORNER GUARD	F/	FACE OF	LKBL	L
CIP	CAST IN PLACE	F/F	FACE TO FACE	LP	L
CJ	CONTROL JOINT			LVL	LI
CL	CENTRE LINE	FABR	FABRICATE(ED)	LVL	
CLR	CLEAR	FD	FLOOR DRAIN	М	N
CMU	CONCRETE MASONRY UNIT			MM	N
COL	COLUMN	FF	FINISHED FLOOR	MAX	N
CONSTR	CONSTRUCTION	FIN	FINISH(ED)	MDF	N
CONT	CONTINUOUS	FIXT	FIXTURE	FIBREBO	
COORD	COORDINATE	FLEX	FLEXIBLE	MFR	AND N
CORR	CORRIDOR	FLR	FLOOR	MIN	
CPT	CARPET	FO	FINISHED OPENING	MISC	V
CT	CERAMIC TILE			MO	N
CTR	CENTRE	GA	GAUGE	MP	N
CU	CUBIC	GALV	GALVANIZED	MTD	N
		GEN	GENERAL		N
D	DEEP, DEPTH	GWB	GYPSUM WALL BOARD	MTL	N
DBL	DOUBLE			MULL	N
DEG	DEGREE	Н	HIGH		
DEMO	DEMOLISH,	HDF	HIGH DENSITY FIBREBOARD	N	N
DEMOLITIO	ON	HDWR	HARDWARE	N/A	N
DET	DETAIL	HM	HOLLOW METAL	NIC	N
DF	DRINKING FOUNTAIN	HORIZ	HORIZONTAL	NO	N
DIA	DIAMETER	HP	HIGH POINT	NOM	N
DIAG	DIAGONAL	HT	HEIGHT	NTS	N
DIM	DIMENSION				
DISP	DISPENSER	ID	INSIDE DIAMETER	OA	0
				OC	0

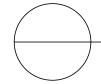
GRAPHIC SYMBOL LEGEND

CROSS SECTION REFERENCE



(CROSS SECTION DETAIL) (CORRELATING DRAWING OR SHEET NUMBER)

CROSS SECTION REFERENCE



INCH. INCHES

INSULATION

KNOCK DOWN

LONG, LENGTH

LINEAR FOOT, FEET

KNOCK OUT

POUND(S)

LOCKABLE

LOW POIN

MILLIMETRE

MEDIUM DENSITY

MANUFACTURER

MINIMUM MISCELLANEOUS

NOT APPLICABLE

NOT IN CONTRACT

MASONRY OPENING

MAXIMUN

MID POINT

MOUNTED

METAL

NORTH

NUMBER

NOMINAL

OVERALL

ON CENTRE

MULLION

LEVEL

MFTRF

INTERIOR

JOINT

INCLUDED, INCLUDING

(CROSS SECTION DETAIL) (CORRELATING DRAWING OR SHEET NUMBER)

OUTSIDE DIAMETRE

OUTSIDE FACE

OWNER

OWNER

FURNISHED-OWNER INSTALLED

FINISHED-CONTRACTOR INSTALLED

OVERHEAD

OPEN TO BELOW

PRE-CAST PERFORATED

PLYWOOD

PARTITION

QUANTITY

RADIUS

RECESSED

REFERENCE

REQUIRED

ROOM

REVEAL

SOUTH

SOLID CORE

SCHEDULE

SECTION

REINFORCED

REVISION, REVISED

ROUGH OPENING

SQUARE FOOT, FEET

PREFINISHED

PROVIDED BY OWNER

POUNDS PER SQUARE INCH

PAPER TOWEL DISPENSER

REFLECTED CEILING PLAN

OPENING

OFCI

OPNG

OTR

РВО

PC PERF

PLYWD

PREF

PSI

PTN

QTY

RAD

RCP

REC

REF

REINF

REQD

REV

RM

RO

RVL

SCHED

SECT

NORTH ARROW



ROOM IDENTIFICATION

RM IDEN

SIMILAR

SPECIFICATION

SOUARE FOOTAGE

SOLID SURFACE MATERIAL

STAINLESS STEEL

STANDARD

STRUCTURAL

SUSPENDED

TEMPORARY

THRESHOLD

TYPICAL

ULC UNDERWRIT LABORATORIES CANADA

TOP OF

SYMMETRICAL

TOP AND BOTTOM

TOWEL DISPENSER

TOP OF CONCRETE

UNDERWRITER'S

UNEXCAVATED

UNLESS NOTED

UNFINISHED

UNDER SLAB

VINYL BASE

VENTILATION

VERIFY IN FIELD

VERTICAL

VESTIBULE

VOLUME

VINYL COMPOSITE TILE

VAPOUR DIFFUSION

UTILITY

TOILET PAPER DISPENSER

STEEL

SPEC

SQ SS SSM

STD

STRUCT

SLISP

SYM

T/O

T/B

TD

TEMP

TRHID

TOC

TOS

TPD

TYP

UNEXC

UNFIN

OTHERWISE

RETARDER

UNO

US UTIL

VB

VCT

VFNT

VERT

VEST

VIF

VOL

STL

PROFESSIONA

REVISION

ISSUED TO ARCHITECT

ISSUED TO ARCHITECT

ISSUED FOR TENDER

No. DATE

2021/03/0

2021/03/2

2021/04/2



TLDSB 1271 CEDAR LANE BRACEBRIDGE, ONT

ROJECT ADDRESS:

VENEER

WEST

WITH

VINYL TILE

WITHOUT

WATER CLOSET

WATERPROOFING

WELDED WIRE FABRIC

WALL GUARD

WIRE MESH

WEIGHT

VT

W/

W/O

WC WG

WM

WWF

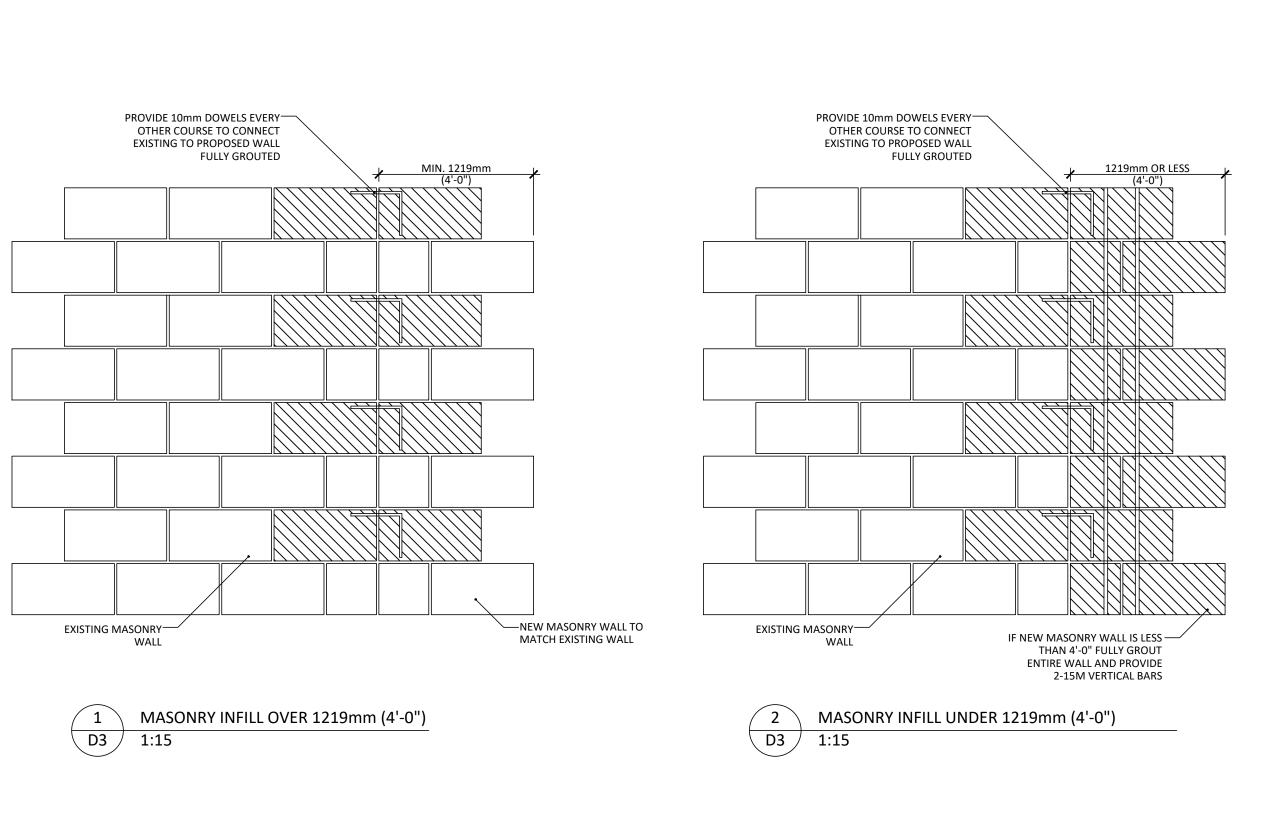
TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

DRAWING TITLE:

STRUCTURAL UPGRADES & REPAIRS GENERAL NOTES

DRAWN	DESIGNED	CHECKED	APPROVE
HD	FP	FP	FP
SCALE	•	DATE (M/D/	Y)
AS NOTED		12/10/2020	

ROJECT No. REVISION





No.	DATE	REVISION
0	2021/03/05	ISSUED TO ARCHITECT
1	2021/03/25	ISSUED TO ARCHITECT
2	2021/04/23	ISSUED FOR TENDER





PROJECT ADDRESS:

TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

DRAWING TITL

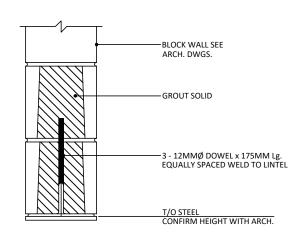
MASONRY INFILL DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED	
HD	FP	FP	FP	
SCALE		DATE (M/D/	Y)	
AS N	OTED	12/10/2020		

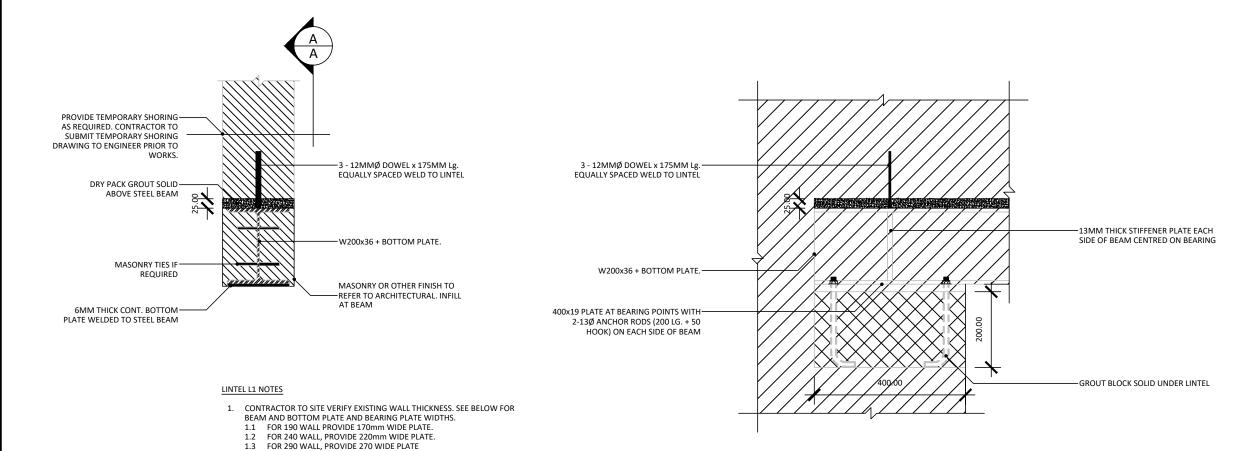
PROJECT No. 20-1636

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D3

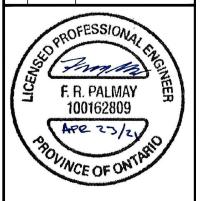








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0	2021/03/05	ISSUED TO ARCHITECT
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PROJECT ADDRESS:

TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

DRAWING TITI

STEEL LINTEL DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED	
HD	FP	FP	FP	
SCALE		DATE (M/D/Y)		
AS N	OTED	12/10	/2020	

ROJECT No. REVISION

20-1636

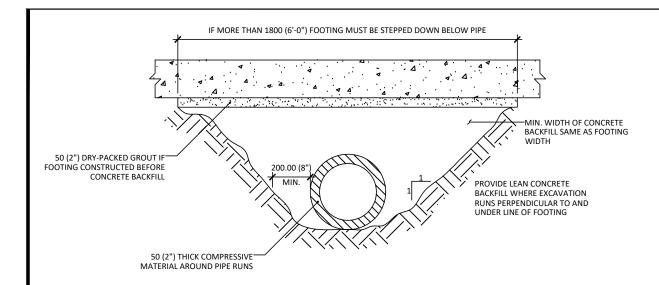
DRAWING

2 LINTEL NOTES 04 1:10

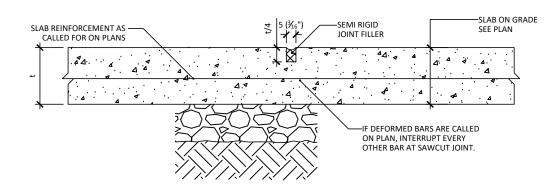
PROVIDE SHORING AND BRACING AS REQUIRED
 MAX. SPAN FOR W200x36 IS 3.65m (12'-0")

CONNECT BOTTOM PLATE TO BEAM WITH 6mm (1/4") WELDS x 50 (2") LG.
 @ 300 (12") MAX. LOCATE FIRST WELD MAX 75 (3") FROM END OF LINTEL.
 ALL OTHER CONNECTIONS TO BE 6mm (1/4") WELDS FULL LENGTH.

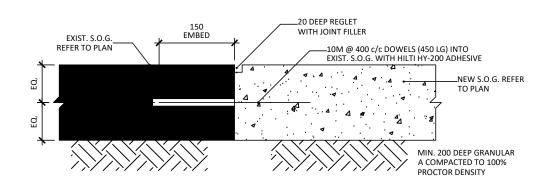
3 \ D4 / 1:10



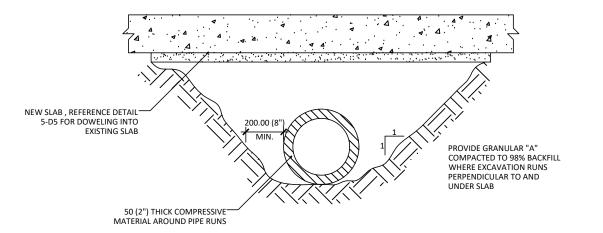
BACKFILL AROUND PIPE UNDER STRIP FOOTING D5 1:20



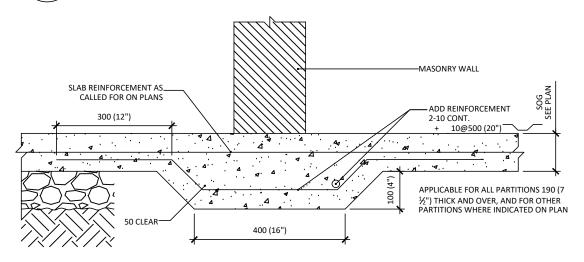
SAWCUT CONTROL JOINT IN SLAB ON GRADE D5 1:20



DOWEL TO EXIST SLAB ON GRADE D5 1:20



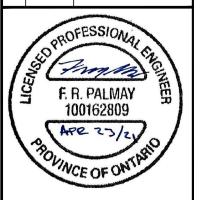
BACKFILL AROUND PIPE UNDER SLAB ON GRADE D5 1:20



SLAB ON GRADE THICKENING UNDER MASONRY PARTITIONS D5 1:20



No.	DATE	REVISION
0	2021/03/05	ISSUED TO ARCHITECT
1	2021/03/25	ISSUED TO ARCHITECT
2	2021/04/23	ISSUED FOR TENDER





PROJECT ADDRESS:

TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

DRAWING TITLE:

SLAB TRENCHING, SLAB THICKENING AND BACKFILL DETAILS

DRAWN	DESIGNED	CHECKED	APPROVED	
HD	FP	FP	FP	
SCALE		DATE (M/D/Y)		
AS N	OTED	12/10/2020		

PROJECT No. 20-1636

FOR CONCRETE STRENGTHS NOT SHOWN BETWEEN 25 TO 50, VALUES ARE TO BE INTERPOLATED FROM NEAREST VALUES PROVIDED IN TABLE BELOW.

TENSION DEVELOPMENT LENGTH FOR BAR GRADE 400 MPa, Ld, IN mm (in")

- BLACK BARS (IN MEMBERS CONTAINING MINIMUM TIES OR STIRRUPS, A MINIMUM SPACING OF 2.0d/b, AND CLEAR COVER OF A MINIMUM OF 1.0d/b; OR ALL SLABS AND WALLS)
- FOR EPOXY BARS MULTIPLY VALUES IN TABLE BY 1.5 EXCEPT THAT A MULTIPLIER OF 1.2 CAN BE USED WHEN CLEAR COVER IS MORE THAN 3x BAR DIAMETER AND CLEAR SPACING BETWEEN BARS IS MORE THAN 6x BAR DIAMETER.
- FOR SEMI LOW DENSITY CONCRETE MULTIPLY VALUES IN TABLE BY 1.2.
- FOR BUNDLED BARS, MULTIPLY VALUES IN TABLE BY 10% FOR A TWO BAR BUNDLE, 20% FOR A THREE BAR BUNDLE AND 33% FOR A FOUR BAR BUNDLE
- "TOP" MEANS THAT THERE IS MORE THAN 300 (12") OF CONCRETE BELOW, AND LESS THAN 300 (12") OF CONCRETE ABOVE THE HORIZONTAL BAR WITHIN THE INDIVIDUAL CONCRETE POUR.
- ALL VERTICAL BARS ARE CONSIDERED "BOTTÒM" WITH MINIMUM STIRRUPS OR TRANSVERSE RÈINFORCEMENT AND A MIN SPACING OF 2.0Db

BAR SIZE fc = 25		= 25	fc = 30		f'c = 35		fc = 40		fc = 50	
BAR SIZE	воттом	TOP	воттом	TOP	воттом	TOP	воттом	TOP	воттом	TOP
10	300 (12")	380 (15")	300 (12")	350 (14")	300 (12")	320 (13")	300 (12")	300 (12")	300 (12")	300 (12")
15	440 (17")	570 (23")	400 (16")	520 (21")	370 (14")	480 (19")	350 (14")	450 (18")	310 (12")	400 (16")
20	580 (23")	750 (30")	530 (21")	690 (27")	490 (19")	640 (25")	460 (18")	600 (24")	410 (16")	530 (21")
25	900 (36")	1170 (46")	830 (32")	1070 (42")	770 (30")	990 (39")	720 (28")	930 (37")	640 (25")	830 (33")
30	1080 (43")	1410 (55")	990 (39")	1290 (51")	920 (36")	1190 (47")	860 (34")	1110 (44")	770 (30")	1000 (39")
35	1260 (50")	1640 (65")	1160 (46")	1500 (60")	1070 (42")	1390 (55")	1000 (40")	1300 (52")	900 (35")	1160 (46")

CLASS B TENSION LAP SPLICES LENGTH FOR BAR GRADE 400 MPa IN mm (in")

- BLACK BARS (IN MEMBERS CONTAINING MINIMUM TIES OR STIRRUPS, A MINIMUM SPACING OF 2.0d/b, AND CLEAR COVER OF A MINIMUM OF 1.0d/b; OR ALL SLABS AND WALLS)
 FOR EPOXY BARS MULTIPLY VALUES IN TABLE BY 1.5 EXCEPT THAT A MULTIPLIER OF 1.2 CAN BE USED WHEN CLEAR COVER IS MORE THAN 3x BAR DIAMETER AND CLEAR SPACING BETWEEN BARS IS MORE THAN 6x BAR DIAMETER
- FOR SEMI LOW DENSITY CONCRETE MULTIPLY VALUES IN TABLE BY 1.2
- FOR BUNDLED BARS, MULTIPLY VALUES IN TABLE BY 10% FOR A TWO BAR BUNDLE, 20% FOR A THREE BAR BUNDLE AND 33% FOR A FOUR BAR BUNDLE
- "TOP" MEANS THAT THERE IS MORE THAN 300 (12") OF CONCRETE BELOW, AND LESS THAN 300 (12") OF CONCRETE ABOVE THE HORIZONTAL BAR WITHIN THE INDIVIDUAL CONCRETE POUR.
- ALL VERTICAL BARS ARE CONSIDERED "BOTTOM"

BAR SIZE	f'c =	: 25	f'c =	= 30	f'c =	= 35	f'c =	: 40	f'c =	= 50
BAN SIZE	воттом	TOP								
10	380 (15")	490 (19")	350 (14")	450 (18")	320 (13")	420 (17")	300 (12")	390 (15")	300 (12")	350 (14")
15	570 (23")	740 (29")	520 (21")	670 (27")	480 (19")	620 (25")	450 (18")	580 (23")	400 (16")	520 (20")
20	750 (29")	980 (39")	690 (27")	890 (35")	640 (25")	830 (33")	600 (24")	770 (30")	530 (21")	690 (27")
25	1170 (46")	1530 (61")	1070 (42")	1390 (55")	990 (39")	1290 (51")	930 (37")	1210 (48")	830 (33")	1080 (43")
30	1410 (56")	1830 (72")	1290 (51")	1670 (66")	1190 (47")	1550 (61")	1110 (44")	1450 (57")	1000 (39")	1300 (51")
35	1640 (65")	2130 (84")	1500 (60")	1950 (77")	1390 (55")	1800 (72")	1300 (52")	1690 (67")	1160 (46")	1510 (59")

MINIMUM TENSION EMBEDMENT LENGTH WITH STANDARD END HOOKS FOR BAR GRADE 400 MPa IN mm (in")

- FOR EPOXY BARS MULTIPLY VALUES IN TABLE BY 1.2
 FOR SEMI LOW DENSITY CONCRETE MULTIPLY VALUES IN TABLE BY 1.2
 - IF SIDE COVER (PERPENDICULAR TO THE PLANE OF THE HOOK) IS < 60 (2.5") DIVIDE VALUES IN TABLE BY 0.70.

BAR SIZE	f'c = 25	f'c = 30	f'c = 35	f'c = 40	f'c = 50
10	150 (6")	150 (6")	150 (6")	150 (6")	150 (6")
15	210 (8")	200 (8")	180 (7")	170 (7")	150 (6")
20	280 (11")	260 (10")	240 (10")	230 (9")	200 (8")
25	350 (14")	320 (13")	300 (12")	280 (11")	250 (9")
30	420 (17")	390 (16")	360 (14")	340 (14")	300 (11")
35	490 (20")	450 (18")	420 (17")	390 (16")	350 (13")

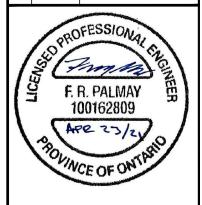
D6

TENSION DEVELOPMENT LENGTHS AND TENSION LAP SERVICES - BAR GRADE 400 MPa

NOT TO SCALE



No.	DATE	REVISION
0	2021/03/05	ISSUED TO ARCHITECT
1	2021/03/25	ISSUED TO ARCHITECT
2	2021/04/23	ISSUED FOR TENDER





PROJECT ADDRESS:

TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

BRACEBRIDGE, ONT

DRAWING TITLE:

REINFORCING STEEL **DEVELOPMENT LENGTH REQUIREMENTS**

DRAWN	DESIGNED	CHECKED	APPROVED	
HD	FP	FP	FP	
SCALE		DATE (M/D/Y)		
AS N	OTED	12/10	/2020	

PROJECT No. REVISION

ANCHOR TYPE					
ANCHOR SIZE	HILTI KB-TZ (IN CONCRETE)	HILTI HIT HY-150 MAX + HAS -E RODS (IN CONCRETE OR GROUTED MASONTY)			
12 (1/2")	83 (3 1/4")	114 (4 1/2")			
16 (5/8")	102 (4")	143 (5 5/8")			
19 (3/4")	121 (4 3/4")	172 (6 3/4")			
25 (1")	-	229 (9")			

NOTES

- 1. ALL ANCHORS TO HAVE STANDARD EMBEDMENT LENGTHS, UNLESS OTHERWISE SHOWN ON DRAWINGS.
- 2. FOLLOW INSTALLATION PROCEDURE AND USE TOOLS SPECIFIED IN HILTI INSTALLATION MANUALS.
- 3. IF HILTI HIT- HY 150 ANCHORS ARE INSTALLED IN GROUTED MASONRY, LOCATE MINIMUM 25 (1") CLEAR OF ANY VERTICAL MORTAR JOINT.
- 4. RELOCATE ANCHORS AS REQUIRED TO CLEAR REINFORCING BARS. FILL ABANDONED ANCHOR HOLES WITH MIN. 30 MPa GROUT. DO NOT TIGHTEN ADJACENT ANCHORS UNTIL GROUT IN ABANDONED HOLES REACHES 75% fc'. DO NOT CUT ANY REBARS.
- 5. IF HILTI- HIT HY 150 MAX ADHESIVE IS USED TO ANCHOR REBARS, SEE DRAWINGS FOR EMBEDMENT LENGTHS.



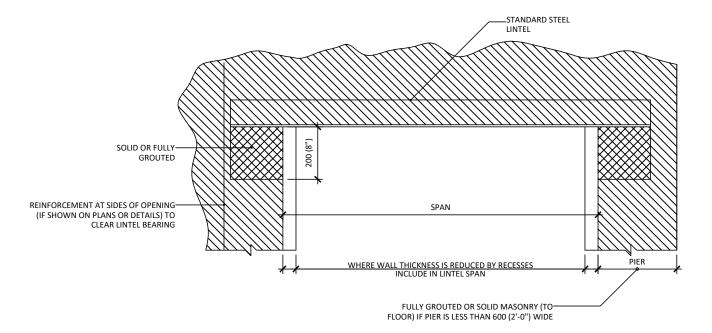
TYPICAL STEEL LINTEL LOAD BEARING MASONRY WALL

WALL THICKNESS	ANGLE SPAN	DETAIL
90 (4") VENEER	L152x89x13	<u> </u> 89
140 (6")	2-L127x76x13	76 76
190 (8")	2-L152x89x13	<u>[88]</u>
240 (10")	2-L178x102x13	102102
290 (12")	2-L203x152x19	152 152

WHEN EXISTING WALL HAS BOTH VENEER AND BLOCK BACKUP, PROVIDE LINTELS FOR BOTH VENEER AND BACKUP BLOCK

NOTES:

- 1. CONNECT BACK TO BACK DOUBLE ANGLES USING MIN. 16 (%) Ø BOLTS @ 450 (1'-6") MAX, OR BY WELDING @ TOP & BOTTOM USING 6mm (½") WELDS x 50 (2") LG. @ 450 (1'-6") MAX. LOCATE FIRST CONNECTION MAX. 75 (3") FROM END OF LINTEL.
- 2. PROVIDE STEEL PACKING AS REQUIRED TO ENSURE EVEN BEARING OF STEEL LINTELS.
- STANDARD LINTELS ARE NOT NECESSARILY SHOWN ON STRUCTURAL DRAWINGS, REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR OPENING LOCATIONS. SEE PLANS FOR SPECIAL LINTELS.



(2) D7)

TYPICAL STEEL LINTEL IN NON LOAD BEARING MASONRY WALLS

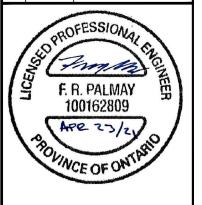
1:20

TYPICAL STEEL LINTEL NON-LOAD BEARING MASONRY WALL

WALL THICKNESS	SPAN	ANGLE SIZE	DETAIL	
	UP TO 1200 (4'-0")	L89x89x6.4	<u> </u>	
00 (41)	1200 (4'-0") TO 1800 (6'-0")	L127x89x6.4		
90 (4") VENEER	1800 (6'-0") TO 2400 (8'-0")	L127x89x6.4	<u>L</u>	
	2400 (8'-0") TO 3000 (10'-0")	L152x89x9.5	} 	
	UP TO 1200 (4'-0")	2- L64x64x6.4		
4.40 (011)	1200 (4'-0") TO 1800 (6'-0")	2 - L89x64x6.4	A A	
140 (6")	1800 (6'-0") TO 2400 (8'-0")	2 - L89x64x7.9 W/ 100x10 PLATE	64 64 100x10 (4"x3/8")	
	2400 (8'-0") TO 3000 (10'-0")		64 64 100x10 (4"x3/8") —/ STEEL PLATE	
	UP TO 1200 (4'-0")	2 - L76x89x6.4	l a	
400 (011)	1200 (4'-0") TO 1800 (6'-0")	2 - L89x89x6.4		
190 (8")	1800 (6'-0") TO 2400 (8'-0")	2 - L102x89x7.9	89 89	
	2400 (8'-0") TO 3000 (10'-0")	2 - L152x89x7.9	- 89 89	
	UP TO 1200 (4'-0")	2 - L76x102x6.4	0	
040 (401)	1200 (4'-0") TO 1800 (6'-0")	2 - L102x102x6.4		
240 (10")	1800 (6'-0") TO 2400 (8'-0")	2 - L102x102x9.5	102 102	
	2400 (8'-0") TO 3000 (10'-0")	2 - L152x102x7.9	102 102	
	UP TO 1200 (4'-0")	3 - L79x89x6.4		
200 (42")	1200 (4'-0") TO 1800 (6'-0")	3 - L89x89x6.4		
290 (12")	1800 (6'-0") TO 2400 (8'-0")	3 - L102x89x7.9		
	2400 (8'-0") TO 3000 (10'-0")	3 - L127x89x7.9	89 89 89	



No.	DATE	REVISION	
0	2021/03/05	ISSUED TO ARCHITECT	
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2	2021/04/23	ISSUED FOR TENDER	





PROJECT ADDRESS:

TRILLIUM LAKELANDS
DISTRICT
SCHOOL BOARD

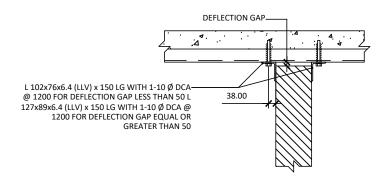
DRAWING TITLE:

NON- LOAD BEARING MASONRY LINTEL DETAIL 8 HILTI ANCHOR SCHEDULE

DRAWN	DESIGNED	CHECKED	APPROVED	
HD	FP	FP	FP	
SCALE		DATE (M/D/Y)		
AS NOTED		12/10/2020		

20-1636 REVISION DI

DRAWING D7



WALL PERPENDICULAR TO FLOOR DECK FLUTES

D8 1:20

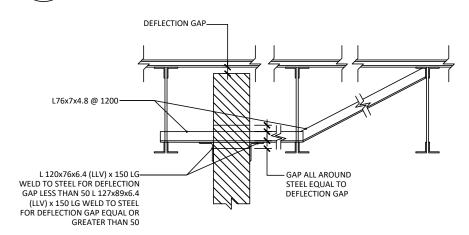
2-15 CONT.

DEFLECTION GAP— GAP ALL AROUND JOIST OR BEAMS-@ MAX 3200 GAP ALL AROUND STEEL EQUAL TO 400 DEEP BOND BEAM L 120x76x6.4 (LLV) x 150 LG WELD TO REINFORCED WITH

STEEL FOR DEFLECTION GAP LESS

THAN 50 L 127x89x6.4 (LLV) x 150 LG WELD TO STEEL FOR DEFLECTION GAP **EQUAL OR GREATER THAN 50**

WALL PERPENDICULAR TO ROOF JOISTS OR BEAMS 3 D8 1:20

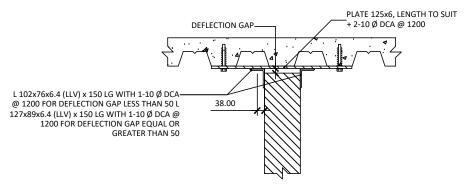


5

WALL PARALLEL TO ROOF JOISTS OR BEAMS

1:20

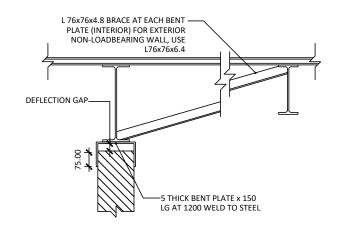
- DCA TO BE HILTI KB-3 WITH 64 EMBEDMENT
- PROVIDE 30mm DEFLECTION GAP TYPICAL U/N
 MINIMUM WALL THICKNESS IS 140 FOR INTERIOR WALLS AND 190 FOR EXTERIOR WALLS, WALL HEIGHT SHALL NOT EXCEED 36 TIMES WALL THICKNESS FOR INTERIOR WALLS AND 20 TIMES WALL THICKNESS FOR EXTERIOR WALLS.
- FOR EXTERIOR WALL LATERAL SUPPORT INCREASE 150 LG. ANGLE/BENT PLATE SHOWN IN THE DETAILS TO 250 LG. AND REPLACE 2-10 Ø DCA WITH 2-12 Ø DCA + INCREASE ALL BENT PLATES TO 6mm THICK.
- 5. FOR CONCEALED LATERAL SUPPORT REFER TO ARCH. SPEC. AND DRAWINGS



WALL PARALLEL TO FLOOR DECK FLUTES

D8

1:20



D8

WALL IN LINE WITH ROOD/FLOOR JOISTS OR BEAMS

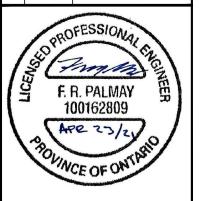
1:20

L 76x76x4.8 BRACE AT EACH BENT PLATE (INTERIOR) FOR EXTERIOR NON-LOADBEARING WALL, USE L76x76x6.4 DEFLECTION GAP-5 THICK BENT PLATE x 150 LG AT 1200 WELD TO STEEL

WALL OFFSET FROM ROOF/FLOOR JOISTS OR BEAM 1:20



No.	DATE	REVISION
0	2021/03/05	ISSUED TO ARCHITECT
1	2021/03/25	ISSUED TO ARCHITECT
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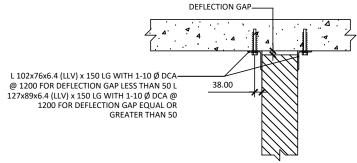
PROJECT ADDRESS:

TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

DRAWING TITLE:

LATERAL SUPPORT OF EXISTING **MASONRY WALLS**

DESIGNED	CHECKED	APPROVED	
FP	FP	FP	
SCALE		DATE (M/D/Y)	
AS NOTED		12/10/2020	
	FP	FP FP DATE (M/D/	



WALL AT CONCRETE SLAB

- NOTES:

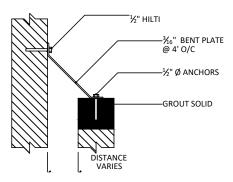
 1. DCA TO BE HILTI KB-3 WITH 64 EMBEDMENT
- PROVIDE 30mm DEFLECTION GAP TYPICAL U/N
- MINIMUM WALL THICKNESS IS 140 FOR INTERIOR WALLS AND 190 FOR EXTERIOR WALLS. WALL HEIGHT SHALL NOT EXCEED 36 TIMES WALL THICKNESS FOR INTERIOR WALLS AND 20 TIMES WALL THICKNESS FOR EXTERIOR WALLS.
- 4. FOR EXTERIOR WALL LATERAL SUPPORT INCREASE 150 LG. ANGLE/BENT PLATE SHOWN IN THE DETAILS TO 250 LG. AND REPLACE 2-10 Ø DCA WITH 2-12 Ø DCA + INCREASE ALL
- 5. FOR CONCEALED LATERAL SUPPORT REFER TO ARCH. SPEC. AND DRAWINGS



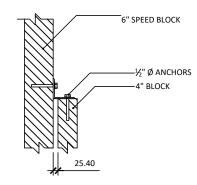
LATERAL SUPPORT OF NEW NON-LOADBEARING

D9 1:20

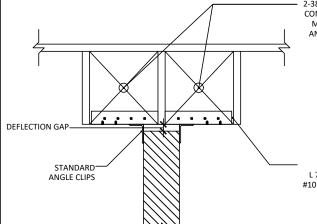




PARALLEL WALL SUPPORT D9 1:20

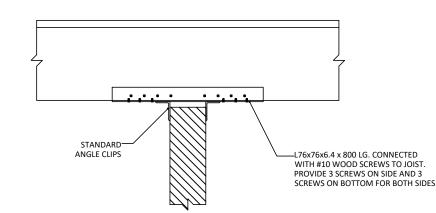


LATERAL WALL SUPPORT D9 1:20



2-38 THICK WOOD BLOCKING, LAMINATE TOGETHER WITH COMMON NAILS TOP AND BOTTOM @ 100 c/c, DEPTH TO MATCH EXISTING. PROVIDE COMMON NAILS AT JOIST AND DECK TOE NAILED BOTH SIDES AT 100 c/c. EXTEND BLOCKING AS REQUIRED FOR SUPPORT ANGLE.

DEFLECTION GAP-L 76x76x4.6 (LENGTH OF BLOCKING) CONNECTED WITH -STANDARD ANGLE #10 WOOD SCREWS TO BLOCKING; PROVIDE 4 SCREWS ON SIDE AND 2 SCREWS ON BOTTOM AT EDGES.



PERPENDICULAR TO WOOD JOIST D9 1:20



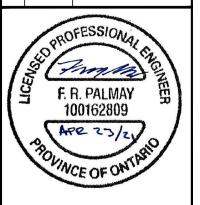
PARALLEL TO WOOD JOIST

1:20

- 1. PROVIDE STANDARD CLIP ANGLES AT 1200 c/c TYP. FOR DEFLECTION GAP LESS THAN 50 PROVIDE L 120x76x6.4 (LLV) x 150 LG. FOR DEFLECTION GAP EQUAL OR GREATER THAN 50 PROVIDE L 127x89x6.4 (LLV) x 150 LG. UNLESS NOTED OTHERWISE WELD CLIP TO SUPPORT ANGLE. DO NOT WELD NEAR WOOD STRUCTURE.
- PROVIDE 30mm DEFLECTION GAP TYP. UNO.
- MINIMUM WALL THICKNESS IS 140 FOR INTERIOR WALLS AND 190 FOR EXTERIOR WALLS. WALL HEIGHT SHALL NOT EXCEED 36 TIMES WALL THICKNESS FOR INTERIOR WALLS AND 20 TIMES WALL THICKNESS FOR EXTERIOR WALLS.
- 4. FOR CONCEALED LATERAL SUPPORT REFER TO ARCH SPEC AND DRAWINGS.



No.	DATE	REVISION		
0	2021/03/05	ISSUED TO ARCHITECT		
1	2021/03/25	ISSUED TO ARCHITECT		
2	2021/04/23	ISSUED FOR TENDER		





PROJECT ADDRESS:

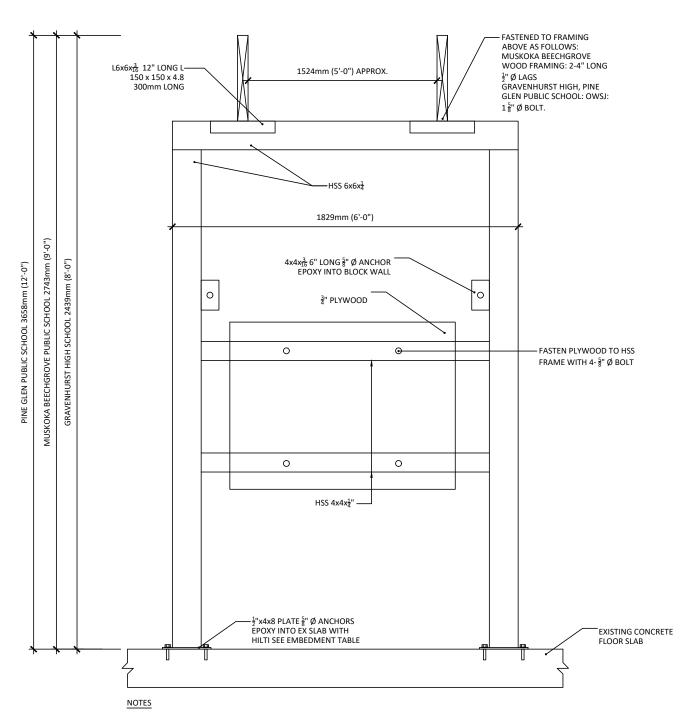
TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

DRAWING TITLE:

LATERAL SUPPORT OF **NEW AND EXISTING MASONRY WALLS**

DRAWN	DESIGNED	CHECKED	APPROVED	
HD	FP	FP	FP	
SCALE	SCALE		DATE (M/D/Y)	
AS NO	AS NOTED		12/10/2020	





- REFER TO GENERAL NOTES FOR STRUCTURAL STEEL REQUIREMENTS.
 CONTRACTOR TO CONFIRM ALL MEASUREMENTS ON SITE PRIOR TO FABRICATION OF FRAME.
- CONTRACT TO SUBMIT FULLY DETAILED SHOP DRAWINGS TO ENGINEER FOR REVIEW.

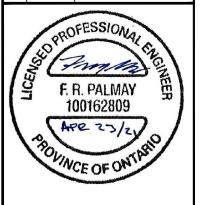
PERPENDICULAR TO FRAMING ABOVE

D10

1:20



No.	DATE	REVISION
0	2021/03/05	ISSUED TO ARCHITECT
1	2021/03/25	ISSUED TO ARCHITECT
2	2021/04/23	ISSUED FOR TENDER





PROJECT ADDRESS:

TRILLIUM LAKELANDS DISTRICT SCHOOL BOARD

BRACEBRIDGE, ONT

DRAWING TITLE:

HSS STEEL FRAME FOR ADULT CHANGE **TABLE**

DRAWN	DESIGNED	CHECKED	APPROVED
HD	FP	FP	FP
SCALE		DATE (M/D/Y)	
AS NOTED		12/10	/2020

REVISION

PROJECT No.