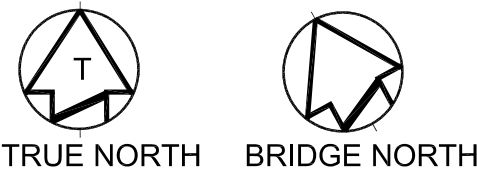
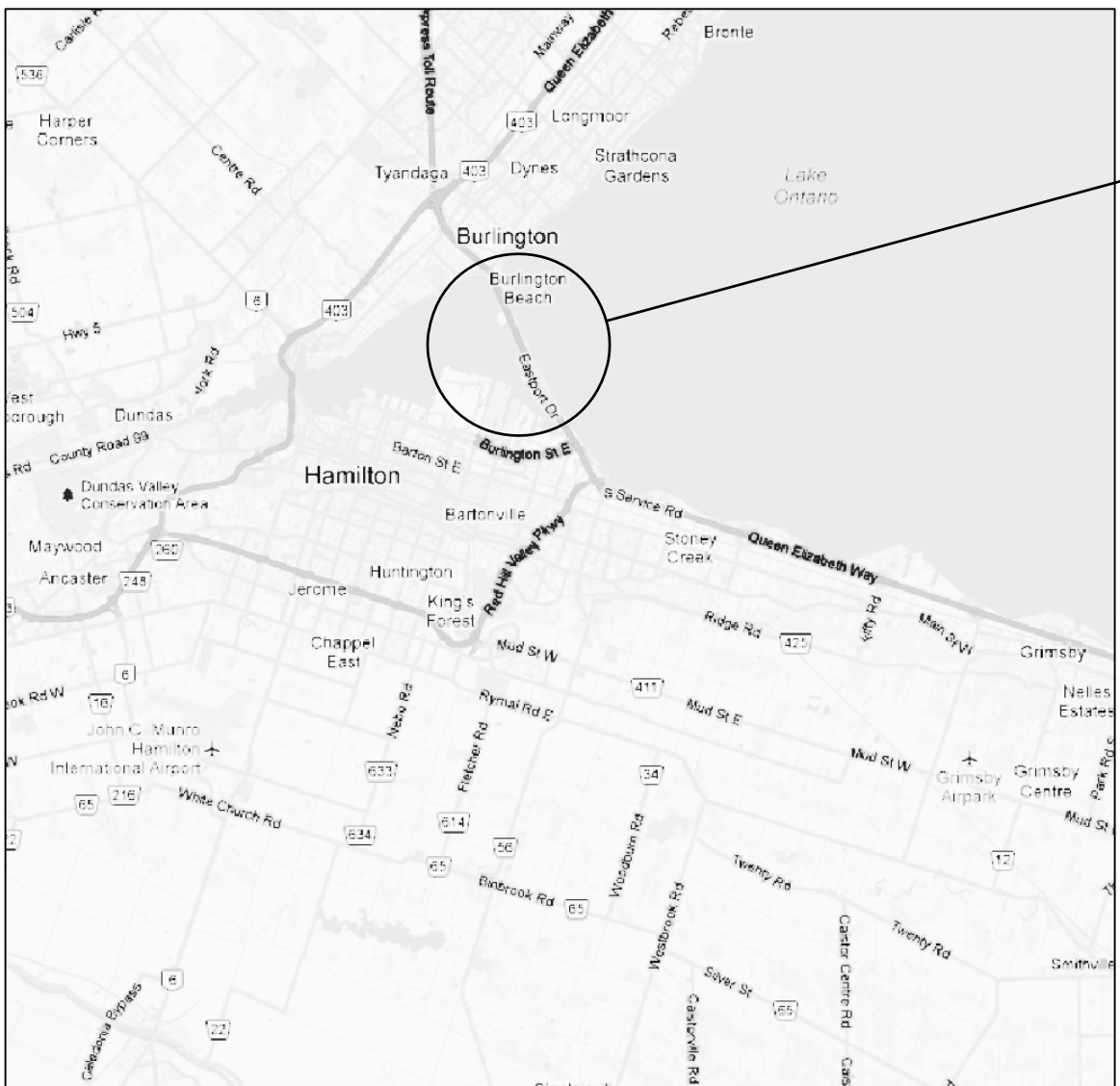




PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

ONTARIO REGION



PROJECT LOCATION

KEY PLAN

BURLINGTON CANAL VERTICAL LIFT BRIDGE
1157 Beach Boulevard – Hamilton, Canada L8H 6Z9
REPLACEMENT OF CONTROLS,
DRIVES, AND OVERHEAD CABLES

Canada PWGSC Proj. No.: R.012641.001

LIST OF DRAWINGS

FOR TENDER



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GENERAL

- GL COVER SHEET
- GL-01 INDEX OF SHEETS
- GL-02 ABBREVIATIONS

ELECTRICAL

- E-01 ELECTRICAL SYMBOLS 1
- E-02 ELECTRICAL SYMBOLS 2
- E-03 NOT USED
- E-04 ELECTRICAL KEY PLAN AND ELEVATION
- E-05 ELECTRICAL SITE PLAN
- E-06 ELECTRICAL ONE LINE DIAGRAM 1
- E-07 ELECTRICAL ONE LINE DIAGRAM 2
- E-08 ELECTRICAL DEMOLITION PLAN NORTH MACHINERY ROOM
- E-09 ELECTRICAL DEMOLITION PLAN SOUTH MACHINERY ROOM
- E-10 ELECTRICAL DEMOLITION PLAN CONTROL HOUSE
- E-11 ELECTRICAL DEMOLITION PLAN ROADWAY
- E-12 ELECTRICAL EQUIPMENT LAYOUT PLAN SOUTH MACHINERY ROOM
- E-13 ELECTRICAL EQUIPMENT LAYOUT PLAN NORTH MACHINERY ROOM
- E-14 ELECTRICAL PLANS, ELECTRICAL ROOM, AND CONTROL ROOM
- E-15 CP-2 SCHEMATIC DIAGRAM 1
- E-16 CP-1 & CP-2 SCHEMATIC DIAGRAM 2
- E-17 CP-1 & CP-2 SCHEMATIC DIAGRAM 3
- E-18 CP-1, CP-2, CP-5 & CP-6 SCHEMATIC DIAGRAM 4
- E-19 CP-1 & CP-2 SCHEMATIC DIAGRAM 5
- E-20 CP-5 SCHEMATIC DIAGRAM 6
- E-21 CP-5 SCHEMATIC DIAGRAM 7
- E-22 CP-1, CP-2, CP-5 & CP-6 SCHEMATIC DIAGRAM 8
- E-23 CP-3 SCHEMATIC DIAGRAM 9
- E-24 CP-3 SCHEMATIC DIAGRAM 10
- E-25 CP-3 SCHEMATIC DIAGRAM 11
- E-26 CP-4 SCHEMATIC DIAGRAM 12
- E-27 CP-4 SCHEMATIC DIAGRAM 13
- E-28 CP-4 SCHEMATIC DIAGRAM 14
- E-29 GATES SCHEMATIC DIAGRAM 15
- E-30 SIGNALS SCHEMATIC DIAGRAM 16
- E-31 SIGNALS SCHEMATIC DIAGRAM 17
- E-32 MCC SOUTH TOWER SCHEMATIC DIAGRAM 18
- E-33 MCC NORTH TOWER SCHEMATIC DIAGRAM 19
- E-34 DRIVE SOUTH TOWER SCHEMATIC DIAGRAM 20
- E-35 DRIVE SOUTH TOWER SCHEMATIC DIAGRAM 21
- E-36 DRIVE NORTH TOWER SCHEMATIC DIAGRAM 22
- E-37 DRIVE NORTH TOWER SCHEMATIC DIAGRAM 23
- E-38 DIFFERENTIAL LOCK SCHEMATIC DIAGRAM 24
- E-39 CONTROL CABLE TRANSFER SCHEMATIC DIAGRAM 25
- E-40 NOT USED
- E-41 NOT USED
- E-42 NOT USED
- E-43 NOT USED
- E-44 OPERATION SEQUENCE
- E-45 PLC LADDER DIAGRAM 1: GENERAL, PERMISSIVES, GATES
- E-46 PLC LADDER DIAGRAM 2: GATES
- E-47 PLC LADDER DIAGRAM 3: GATES
- E-48 PLC LADDER DIAGRAM 4: GATES
- E-49 PLC LADDER DIAGRAM 5: GATES, LOCKS
- E-50 PLC LADDER DIAGRAM 6: LOCKS, SPAN SEATED, SKEW, OVERSPEED

ELECTRICAL (CONT'D)

- E-51 PLC LADDER DIAGRAM 7: DRIVES
- E-52 PLC LADDER DIAGRAM 8: DRIVES, BRAKES
- E-53 PLC LADDER DIAGRAM 9: BRAKES
- E-54 PLC LADDER DIAGRAM 10: BRAKES, SPAN SPEED, GATE GROUP RAISE
- E-55 PLC LADDER DIAGRAM 11: SKEW
- E-56 PLC LADDER DIAGRAM 12: SKEW
- E-57 NOT USED
- E-58 NOT USED
- E-59 NOT USED
- E-60 PLC ARCHITECTURE DIAGRAM
- E-61 PLC I/O SCHEDULE 1
- E-62 PLC I/O SCHEDULE 2
- E-63 NOT USED
- E-64 NOT USED
- E-65 NOT USED
- E-66 GATE DETAILS 1
- E-67 GATE DETAILS 2
- E-68 MAIN CONTROL CONSOLE LAYOUT AND DETAILS
- E-69 TRAFFIC CONTROL AND NAVIGATION LIGHT CONSOLE LAYOUT AND DETAILS
- E-70 NOT USED
- E-71 NOT USED
- E-72 NOT USED
- E-73 NOT USED
- E-74 LIMIT SWITCH DEVELOPMENT
- E-75 NOT USED
- E-76 ELECTRICAL EQUIPMENT ELEVATIONS
- E-77 EXISTING NORTH AND SOUTH BRIDGE ELECTRICAL OPERATING SYSTEM DIAGRAM
- E-78 BRIDGE ELECTRICAL CONDUIT DIAGRAM NORTH SIDE
- E-79 BRIDGE ELECTRICAL CONDUIT DIAGRAM SOUTH SIDE
- E-80 BRIDGE MOTOR ROOM CONDUIT ROUTING SOUTH SIDE
- E-81 BRIDGE MOTOR ROOM CONDUIT ROUTING NORTH SIDE
- E-82 CONTROL BUILDING CONDUIT ROUTING
- E-83 BRIDGE ELEVATION AND PLAN CONDUIT ROUTING
- E-84 CONTROL BUILDING ELEVATION CONDUIT ROUTING
- E-85 AERIAL CABLE DETAILS
- E-86 CONDUIT AND CABLE SCHEDULE 1
- E-87 CONDUIT AND CABLE SCHEDULE 2
- E-88 CONDUIT AND CABLE SCHEDULE 3
- E-89 CONDUIT AND CABLE SCHEDULE 4
- E-90 ELECTRICAL PANEL SCHEDULE 1
- E-91 ELECTRICAL PANEL SCHEDULE 2
- E-92 ELECTRICAL EQUIPMENT LIST 1
- E-93 ELECTRICAL EQUIPMENT LIST 2
- E-94 ELECTRICAL DETAILS 1
- E-95 ELECTRICAL DETAILS 2
- E-96 ELECTRICAL DETAILS 3

STRUCTURAL

- S-01 STRUCTURAL NOTES, ABBREVIATIONS AND INDEX OF DRAWINGS
- S-02 GENERAL PLAN AND ELEVATIONS
- S-03 DEMOLITION DETAILS 1
- S-04 DEMOLITION DETAILS 2
- S-05 DEMOLITION DETAILS 3
- S-06 DEMOLITION DETAILS 4
- S-07 DEMOLITION DETAILS 5
- S-08 MACHINERY ROOM FLOOR PLAN AND SLAB DETAILS
- S-09 SHEAVE ROOM WALL DETAILS
- S-10 GATE SUPPORT DETAILS
- S-11 MISCELLANEOUS DETAILS
- S-12 ABUTMENT PLANS
- S-13 LOAD TABLES AND DETAILS

MECHANICAL

- H-01 MECHANICAL KEY PLAN AND ELEVATION
- H-02 MECHANICAL DEMOLITION PLAN MACHINERY ROOMS
- H-03 NEW MECHANICAL EQUIPMENT LAYOUT PLAN
- H-04 MECHANICAL EQUIPMENT ELEVATIONS/SECTIONS
- H-05 MOTOR PEDESTAL DETAILS
- H-06 GEARBOX/PEDESTAL DETAILS
- H-07 MECHANICAL EQUIPMENT GEARBOX DETAILS
- H-08 MECHANICAL EQUIPMENT GENERAL DETAILS 1 OF 2
- H-09 MECHANICAL EQUIPMENT GENERAL DETAILS 2 OF 2




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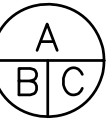


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B drawing no. — where detail required
dessin no. — où détail exigé
C drawing no. — where detailed
dessin no. — où détaillé

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HAMILTON ONTARIO
BURLINGTON CANAL
VERTICAL LIFT BRIDGE
REPLACEMENT OF CONTROLS,
DRIVES AND OVERHEAD CABLES

drawing title
titre du dessin

INDEX OF SHEETS

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GL-01

ABBREVIATIONS

A: AMPERES.
AB: ANCHOR BOLT.
ABBR: ABBREVIATIONS.
AC: ALTERNATING CURRENT.
A/C: AIR CONDITIONER.
AEC: ARCHITECTURALLY EXPOSED CONCRETE.
AESS: ARCHITECTURALLY EXPOSED STRUCTURAL STEEL.
AF: FACTORED AXIAL LOAD IN KIPS (KN)(+ INDICATES TENSION, – INDICATES COMPRESSION).
AFF: ABOVE FINISHED FLOOR.
AL: ALUMINUM.
ALT: ALTERNATE.
APPROX: APPROXIMATE.
ANOD: ANODIZED.
ARCH: ARCHITECTURE.
AROD: ANCHOR ROD.
ATS: AUTOMATIC TRANSFER SWITCH.
AUTO: AUTOMATIC.
AUX: AUXILIARY.
AVG: AVERAGE.
AWG: AMERICAN WIRE GUAGE.

B: BASE.
BCP: BORED CONCRETE PILE.
BET: BETWEEN.
BEW: BOTTOM EACH WAY.
BG: BARRIER GATE.
BKR: BREAKER.
BL: BLOWER.
BLL: BOTTOM LOWER LAYER.
BLDG: BUILDING.
BLK: BLOCK.
BLKD: BULKHEAD.
BLR: BLOWER.
BM: BEAM.
BOC: ELEVATED BOTTOM OF CAISSON (BORED CONCRETE PILE).
BOF: ELEVATED BOTTOM OF FOOTING.
BOP: ELEVATED BOTTOM OF PILE.
BOT: BOTTOM.
BP: BEARING/BASE PLATE.
BRG: BEARING.
BSMT: BASEMENT.
BUL: BOTTOM UPPER LAYER.
BUP: BOTTOM OF UNDERPINNING.

C: CONDUIT.
CA: COLUMN ABOVE ONLY (NO COLUMN BELOW).
CAB: CABINET.
CAM: CAMBER.
CANTIL: CANTILEVER.
CB: CIRCUIT BREAKER.
CB: COLUMN BELOW.
CC: CENTRE TO CENTRE.
CEL: CUT OFF ELEVATION FOR PILES.
CF: CONCRETE FIREPROOFED.
CIP: CAST-IN-PLACE.
CHAN: CHANNEL.
CJ: CONSTRUCTION JOINT.
CK: CORK.
CKT: CIRCUIT.
CL: CENTRELINE.
CLR: CLEAR.
CNT: STEEL DECK CORE NOMINAL THICKNESS.
COL: COLUMN.
CONC: CONCRETE.
CONT: CONTINUOUS.
CONT J: CONTROL JOINT.
COMP: COMPOSITE.
COMPL: COMPLETE.
CM: CENTIMETRE (NURSERY STOCK).
CP: CONTROL PANEL.
CP: CONNECTION PLATE.
CR: CONTACT RELAY.
CT: CERAMIC TILE.
CU: COPPER.
CUR: CURRENT.
CVT: CONDUCTIVE VINYL TILE.
C/W: COMPLETE WITH.

D: DEEP.
DC: DIRECT CURRENT.
DCA: DRILLED CONCRETE ANCHOR.
DEG: DEGREE.
DET: DETAIL.
DEV: DEVICE.
D.F–L: DOUGLAS FIR–LARCH.
DIA: DIAMETER.
DIFL: DIFFERENTIAL LOCK
DIM: DIMENSION.
DISC: DISCONNECT.
DISTR: DISTRIBUTION.
DL: DEAD LOAD.
DMA: DRILLED MASONRY ANCHOR.
DN: DOWN.
DO: DITTO.
DP: DEEP.
DS: DISCONNECT SWITCH.
DWG: DRAWING.
DWL: DOWEL.

E: ENCODER.
EA: EACH.
EC: EMPTY CONDUIT.
ECR: EPOXY COATED REINFORCEMENT.
EE: EACH END.
EF: EACH FACE.
EL/ELEV: ELEVATION.
ELEC: ELECTRIC.
ELEV: ELEVATOR.
EM: EMERGENCY.
EMBED: EMBEDMENT.
EMT: ELECTRIC METALLIC TUBING.
ENCL: ENCLOSURE.
EQ: EQUAL.
EQPT: EQUIPMENT.
EXH: EXHAUST.
EXIST: EXISTING.
EXPJ/EJ: EXPANSION JOINT.
EXP STRUCT: EXPOSED STRUCTURE.
E–STOP: EMERGENCY STOP.

FBO: FURNISH BY OTHERS.
FC: COMPRESSIVE STRENGTH OF CONCRETE IN MPA.
FD: FLOOR DRAIN.
FDN: FOUNDATION.
FDR: FEEDER.
FF: FAR FACE.
FIN: FINISH.
FL: FLOOR.
FLD: FIELD.
FLEX: FLEXIBLE.
FLUOR: FLUORESCENT.
FMC: FULL MOMENT CONNECTION.
FR: FRAME.
FRR: FIRE RESISTANCE RATING.
FS: FOOT SWITCH.
FTG: FOOTING.
FU: FUSE.
FUT: FUTURE.
FVNR: FULL VOLTAGE NON–REVERSING.
FVR: FULL VOLTAGE REVERSING.
FY: YIELD STRENGTH IN MPA.

G: GATE.
GA: GUAGE.
GALV: GALVANIZED STEEL.
GB: GRADE BEAM.
GC: GENERAL CONDITIONS.
GEN: GENERATOR.
GFCI: GROUND FAULT CIRCUIT INTERRUPTER.
GL: GRIDLINE.
GND: GROUND.
GT: GLASS TILE.
GSC: GALVANIZED STEEL CONDUIT.

H: HOT
HA: HAND AUTO.
HDG: HOT DIPPED GALVANIZED.
HDW: HARDWARE.
HDWD: HARDWOOD.
HEF: HORIZONTAL EACH FACE.
HH: HOOK–HOOK (HOOK EACH END).
HIC: HORIZONTAL IN CENTRE.
HK: HOOK.
HOA: HAND–OFF–AUTO
HOR: HORIZONTAL.
HPA: HAMILTON PORT AUTHORITY.
HR: HOUR.
HS: HAND SWITCH.
HSB: HIGH STRENGTH BOLT.
HT: HEIGHT.
HTR: HEATER.
HV: HIGH VOLTAGE.
HYD: HYDRANT.
HZ: HERTZ.

IBA: INTEGRITY BARS ADDED.
IBE: INTEGRITY BARS EXTERIOR.
IBI: INTEGRITY BARS INTERIOR.
ID: INSIDE DIAMETER.
IL: INDICATING LIGHT.
INCL: INCLINOMETER.
INS: INSULATION.
INTLK: INTERLOCK.
I/O: INPUT/OUTPUT.

K: KEY PAD/KEY OPERATED.

L: SINGLE ANGLE.
L: LATCHING.
LC: LOAD CENTRE.
LD: TENSION DEVELOPMENT LENGTH OF REBAR.
LDC: COMPRESSION DEVELOPMENT LENGTH OF REBAR.
LE: LEFT END.
LED: LIGHT EMITTING DIODE.
LFMC: LIQUIDTIGHT FLEXIBLE METAL CONDUIT.
LG: LONG/LENGTH.
LINO: LINOLEUM.
LL: LOWER LEVEL BM/JOIST; LIVE LOAD IN PSF.
LLH: LONG LEG HORIZONTAL.
LLV: LONG LEG VERTICAL.
LP: LIGHTING PANEL.
LP: LOW POINT.
LR: LATCHING RELAY.
LS: LIMIT SWITCH.
LSC: LIQUID–TIGHT FLEXIBLE METAL CONDUIT.
LSH: LONG SIDE HORIZONTAL.
LSV: LONG SIDE VERTICAL.
LT: LIGHT.
LTG: LIGHTING.
LUM: LUMINAIRE.

MA: MASTER.
MAB: MACHINERY BRAKE.
MAX: MAXIMUM.
MCC: MOTOR CONTROL CENTRE.
MCP: MOTOR CONTROL PANEL.
MCR: MOTOR CONTROL RELAY.
MACH: MACHINERY.
MECH: MECHANICAL.
MET: METAL.
MF: MOTOR FORWARD CONTACT.
MF: FACTORED MOMENT IN KIP FT.
MFR: MANUFACTURER.
MH: MAINTENANCE HOLE.
MIN: MINIMUM.
MISC: MISCELLANEOUS.
MLP: METAL LATH AND PLASTER.
MOB: MOTOR BRAKE.
MR: MOTOR REVERSE CONTACTOR.
MS: MOTOR STARTER.
MTD: MOUNTED.
MTF: FACTORED TORSION IN KIP FT.
MTG: MOUNTING.
MTR: MOTOR.
MVA: MEGAVOLT–AMPERE.
MW: MEGAWATT.

N: NEUTRAL.
NA: NOT APPLICABLE.
NBC: NATIONAL BUILDING CODE.
NC: NORMALLY CLOSED.
NE: NORTHEAST.
NEUT: NEUTRAL.
NF: NEAR FACE.
NFC: NATIONAL FIRE CODE.
NIC: NOT IN CONTRACT.
NMC: NON–METALLIC CONDUIT.
NO.: NUMBER.
NO: NORMALLY OPEN.
NTS: NOT TO SCALE.
NW: NORTHWEST.

OBC: ONTARIO BUILDING CODE.
OC: ON CENTRE.
OD: OUTSIDE DIAMETER.
OL: OVERLOAD.
OO: OUT TO OUT.
OPNG: OPENING.
OPR: OPERATOR.
OVHD: OVERHEAD.

P: PREFINISHED.
P: POINT LOAD IN KIPS.
P.A.: PUBLIC ADDRESS.
PB: PULL BOX.
PCC: PRECAST CONCRETE.
PE: PHOTOELECTRIC.
PG: PEDESTRIAN GATE.
PH: PHASE.
PL: PLATE.
PLC: PROGRAMMABLE LOGIC CONTROLLER.
PLYWD: PLYWOOD.
PNL: PANEL.
PR: PAIR.
PREFAB: PREFABRICATED.
PREFIN: PREFINISHED.
PRFL: PROFILE.
PS: POWER SUPPLY.
PSF: POUNDS PER SQUARE FOOT.
PT: PAINT.
PVC: POLYVINYL CHORIDE.
PWR: POWER.

R: RADIUS.
RA: ROCK ANCHOR.
RC: REINFORCED CONCRETE.
RCPT: RECEPTACLE.
RD: ROOF DRAIN.
REINF: REINFORCED/REINFORCING.
REL: RELEASE.
REQD: REQUIRED.
REQT: REQUIREMENT.
REV: REVISION.
RF: RIGHT FRAME.
RF: FACTORED VERTICAL REACTION IN KIPS.
RGS: RIGID HOT DIPPED GALVANIZED STEEL.
RHF: FACTORED HORIZONTAL REACTION IN KIPS.
RM: ROOM.

S: SMOKE DETECTOR.
SAN SEW: SANITARY SEWER.
SC: SHORT CIRCUIT.
SCA: STEEL COLUMN ABOVE (NO STEEL COLUMN BELOW).
SCHED: SCHEDULE.
SCRN: SCREEN.
SDF: STEP DOWN FOOTING IN DIRECTION OF ARROW.
SDT: STATIC DISSIPATIVE TILE.
SE: SOUTHEAST.
SECT: SECTION.
SHLD: SHIELD.
SIM: SIMILAR.
SJ: STEEL JOIST.
SL: SLAVE.
SL: SLAB.
SLR: SEALER.
SLS: SERVICEABILITY LIMIT STATE.
SM: SURFACE MOUNT.
SOG: SLAB ON GRADE.
SP: SPARE.
SPA: SPACES.
SPF: SPRUCE PINE FIR.
SPL: SPAN LOCK.
SPEC: SPECIFICATION.

SPSW: SPEED SWITCH.
SS: STAINLESS STEEL.
STD: STANDARD.
STIR: STIRRUP.
STIFF: STIFFENER.
STL: STEEL.
STL BM: STEEL BEAM.
STL FL DK: STEEL FLOOR DECK.
STL PL: STEEL PLATE.
STR: STRUCTURE OR STRUCTURAL.
SW: SOUTHWEST.
SWT: SWITCH
SWGR: SWITCHGEAR.

T: TOP.
T: THICKNESS.
TBR: TO BE REMOVED.
T&B: TOP AND BOTTOM.
TC: TERMINATION CABINET.
TEL: TELEPHONE.
TEW: TOP EACH WAY.
TG: TRAFFIC GATE.
THK: THICK.
THKNS: THICKNESS.
THR: THRESHOLD.
TJ: TIE JOIST.
TL: TRAFFIC LIGHT.
TLE: TOP LEFT END.
TLL: TOP LOWER LAYER.
TMPD: TEMPERED.
TOC: TOP OF CAISSON (BORED CONCRETE PILE).
TOF: TOP OF FOOTING.
TOP: TOP OF PILE.
TOPG: TOPPING.
TPC: TOP OF PILE CAP.
TR: TIME RELAY.
TRE: TOP RIGHT END.
TRANSF: TRANSFORMER.
TRANSV: TRANSVERSE.
TS: TEMPERATURE SWITCH/THERMOSTAT.
TSP: TWISTED SHIELDED PAIR
TUL: TOP UPPER LEVEL.
TWR: TOWER.
TYP: TYPICAL.

U: UNLATCHING.
UGRD: UNDERGROUND.
ULS: ULTIMATE LIMIT STATE.
U/N: UNLESS NOTED.
UNO: UNLESS NOTED OTHERWISE.
UOS: UNLESS OTHERWISE SPECIFIED.
UPS: UNINTERRUPTIBLE POWER SUPPLY.
UPT: UPTURNED.
U/S: UNDERSIDE.

V: VERTICAL.
U/S: UNDERSIDE.
VA: VOLTAGE AMPERE.
VAC: VOLTAGE ALTERNATING CURRENT.
VB: VERTICAL BRACING.
VERT: VERTICAL.
VERT EF: VERTICAL EACH FACE.
VF: FACTORED SHEAR IN KIPS.
VFD: VARIABLE FREQUENCY DRIVE.
VIC: VERTICAL IN CENTRE.
VSC: VERTICALLY SLOTTED CONNECTION TO ALLOW FOR DEFLECTION.
VSF: VINYL SHEET FLOORING.
VT: VINYL TILE.
VXB: VERTICAL "X" BRACING.

W: WATT.
W: WIDE FLANGE.
W/: WITH.
W/O: WITHOUT.
WC: WIND COLUMN.
WD: WOOD.
WDV: WOOD VENEER.
WH: WALL HYDRANT.
WHMIS: WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM.
WP: WATERPROOFING.
WR: WASHROOM.
WSIB: WORKPLACE SAFETY AND INSURANCE BOARD.
WT: WEIGHT.
WTP: WATER TREATMENT PLANT.
WWA: WINDOW WASHING ANCHORS.
WWF: WELDED WIRE FABRIC.

XFMR: TRANSFORMER.

ZI: POSITION CURRENT SWITCH.
ZRP: ZINC RICH PAINT.
ZS: POSITION LIMIT SWITCH.
ZT: POSITION TRANSMITTER
ZX: POSITION ELEMENT




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Name: Mark VanDeRee
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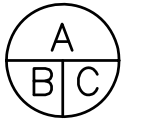
Collaborator: Zvonko Trajkovic, P. Eng.
Expiry Date : July 31, 2013
Association of Professional Engineers of Ontario

Mark VanDeRee 2013-07-08



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designed by
conc par
G. Patino/B. Crouthamel

approved by
approuvé par
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