GENERAL NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH MECHANICAL, ELECTRICAL, CIVIL, AND ARCHITECTURAL DRAWINGS.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2012 ONTARIO BUILDING CODE (LATEST EDITION), AND STRUCTURAL COMMENTARIES (PART 4 OF THE 2015 NATIONAL BUILDING CODE).
3. ALL DIMENSIONS, ELEVATIONS, OPENINGS FOR PIPES, SLEEVES, EQUIPMENT LOCATIONS AND THE LIKE SHALL BE CHECKED WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, AND ELECTRICAL, DRAWINGS. REPORT ANY DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING WITH THE WORK.
4. PROVIDE ALL NECESSARY PROFESSIONAL ENGINEER CERTIFIED SHORING, SCAFFOLDING AND UNDERPINNING TO EXECUTE THE PROJECT SAFELY.
5. MAKE GOOD ANY DAMAGES DONE DURING CONSTRUCTION.
6. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE SITE CONDITIONS AND CHECK AND VERIFY THE LOCATION OF ANY UNDERGROUND UTILITIES OR OTHER EXISTING SERVICES WHICH MAY INTERFERE WITH THE WORK OF THIS PROJECT AND COORDINATE WITH THE OWNER, ENGINEER OR OTHER AUTHORITIES AS MAY BE REQUIRED FOR THEIR RELOCATION, REMOVAL, OR TEMPORARY SUPPORT. PROTECT EXISTING UNDERGROUND UTILITIES, AND OTHER EXISTING CONDUITS, PIPING OR UTILITY SERVICES DURING CONSTRUCTION. MAKE GOOD ANY DAMAGE RESULTING FROM WORK ON THIS PROJECT TO THE SATISFACTION AND FULL INDEMNIFICATION OF THE OWNER AND ENGINEER.
7. THE CONTRACTOR SHALL SUPPLY, REMOVE AND TAKE RESPONSIBILITY FOR ALL TEMPORARY BRACING, EXCAVATION SUPPORT SYSTEM AND DEWATERING NECESSARY TO UNDERTAKE THE WORK.
8. DO NOT SCALE THESE DRAWINGS.
9. OMITTED DIMENSIONS ON FRAMING PLANS AND ELEVATIONS SCHEMATICS INDICATE MEMBERS EQUALLY SPACED BETWEEN DEFINED LINES.

EXCAVATIONS

1. PROVIDE ADEQUATE MEANS OF DEWATERING TO ENSURE EXCAVATIONS ARE DRY AT ALL TIMES. PLACEMENT OF CONCRETE SHALL ONLY BE MADE IN DRY EXCAVATIONS. THE METHOD OF DEWATERING SHALL BE SUCH AS TO PREVENT SETTLEMENT OF, AND ANY DAMAGE TO, ADJACENT STRUCTURES, UTILITIES, OR SERVICES.
2. THE CONTRACTOR SHALL TAKE THE RESPONSIBILITY FOR SHORING THE EXCAVATION TO PREVENT UNDERMINING OF ADJACENT EXISTING FOUNDATIONS.

CONSTRUCTION

1. FORMWORK SHALL CONFORM TO THE REQUIREMENTS OF C.S.A. SPECIFICATION A23M AND A.C.I. SP.4.
2. FORMWORK SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER OF THE PROVINCE OF ONTARIO, TO WITHSTAND ALL SUPERIMPOSED LOADS DURING CONSTRUCTION.
3. SHORING, RE-SHORING, AND CONSTRUCTION LOADS SHALL BE CONTROLLED TO ENSURE THAT NO STRUCTURAL ELEMENT IS OVERSTRESSED.
4. MAKE NECESSARY ALLOWANCE FOR FORMWORK CREEP AND DEFLECTION AND ADJUST ACCORDINGLY TO ACHIEVE THE ELEVATION FOR THE COMPLETION OF THE JOB.
5. CONSTRUCTION JOINTS SHALL BE MADE AND LOCATED SO AS NOT TO IMPAIR THE STRENGTH OF THE STRUCTURE.
6. THE CONTRACTOR SHALL MAKE NECESSARY ALLOWANCE FOR ANY VARIATION AND/OR ANY REVISIONS MADE ON ACCOUNT OF SUB-TRADES AND PRODUCT SELECTION FOR THE COMPLETION OF THE PROJECT.

FOUNDATIONS

1. ALL PERTAINING SOILS INFORMATION AS PER GEOTECHNICAL REPORT PROJECT NO.BRM-00604892-A0 DATED NOVEMBER 26, 2018 BY EXP, AND SUBSEQUENT REVISIONS, SHALL BE USED.
2. REMOVAL OF ALL TOP SOIL, FILL, ORGANIC AND LOOSE MATERIAL FROM THE BUILDING ENVELOPE AS DIRECTED BY GEOTECHNICAL ENGINEER.
3. ANY OVER EXCAVATION DUE TO ERROR OR NECESSITATED BY LOCAL SOFT AREAS, FRACTURED BEARING STRATA OR OTHER DETERIORATED CONDITIONS SHALL BE MADE GOOD WITH 10 MPa CLASS N CONCRETE OR PROPERLY COMPACTED ENGINEERED STRUCTURAL FILL.
4. ENGINEERED STRUCTURAL FILL SHALL BE INSTALLED ABOVE THE EXPOSED AND APPROVED NATIVE SOILS. INSTALL ENGINEERED STRUCTURAL FILL IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. ENGINEERED STRUCTURAL FILL SHOULD COMPRISE OF APPROVED GRANULAR MATERIAL SUCH AS OPSS.PROV 1010 GRANULAR 'B' PLACED IN MAXIMUM 300mm LAYERS AND COMPACTED TO 100% SPMDD. ENGINEERED FILL SHOULD EXTEND AT LEAST 3 METERS BEYOND THE OUTSIDE OF THE BUILDING.
5. ALL EXTERIOR AND INTERIOR FOOTINGS SHALL BE CARRIED DOWN AT LEAST 1200mm BELOW FINISHED GRADE FOR FROST PROTECTION UNLESS NOTED OTHERWISE.
6. PROTECT FOUNDATIONS, WALLS, SLABS ON GRADE, GRADE BEAMS, FOOTINGS AND ADJACENT SOIL AGAINST FREEZING AND FROST ACTION AT ALL TIMES DURING CONSTRUCTION.
7. ALL FOOTINGS SHALL BE PLACED ON UNDISTURBED NATIVE SOIL OR ENGINEERED STRUCTURAL FILL AS INDICATED AND AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE UNDISTURBED NATIVE SOIL OR ENGINEERED STRUCTURAL FILL AT THE UNDERSIDE OF THE FOOTINGS SHALL HAVE A MINIMUM GEOTECHNICAL BEARING RESISTANCE OF:

   150 kPa SERVICEABILITY LIMIT STATES (SLS)
   225 kPa ULTIMATE LIMIT STATES (ULS)

   BEARING ELEVATION MUST BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER BEFORE PLACING FOOTINGS.
8. DO NOT BACKFILL AGAINST WALLS RETAINING EARTH UNTIL ELEMENTS PROVIDING LATERAL SUPPORT ARE COMPLETED. PLACE BACKFILL SIMULTANEOUSLY ON BOTH SIDES OF WALLS BELOW GRADE.
9. ALL COLUMNS, PIERS, AND WALL FOOTINGS SHALL BE CENTERED ON THE COLUMN, PIER, OR WALL, RESPECTIVELY UNLESS NOTED.
10. REFER TO ARCHITECTURAL, CIVIL, ELECTRICAL AND MECHANICAL DRAWINGS FOR DIMENSIONS, ELEVATIONS, DETAILS AND LOCATIONS OF SLAB DEPRESSIONS, SLOPES, TRENCHES, ETC.
11. PROVIDE A 75mm THICK CONCRETE SLAB (MUD SLAB) UNDER FOOTINGS WHEN SOIL AND WEATHER CONDITIONS CREATE A MUDDY SURFACE ON THE SITE.
12. PROVIDE A 20mm CHAMFER AT EXPOSED CORNERS.
13. PROVIDE TEMPORARY SHORING, ETC., ADEQUATE TO SUPPORT EXISTING STRUCTURES DURING CONSTRUCTION.
14. DO NOT POUR CONCRETE UNTIL ALL ELECTRICAL, CIVIL, AND MECHANICAL CONDUITS, PIPING OR OTHER EMBEDDED SERVICES ARE INSTALLED AND VERIFIED.

CONCRETE

1. CONCRETE CONSTRUCTION SHALL CONFORM TO ALL C.S.A. A23 SERIES STANDARDS.
2. CONCRETE STRENGTH AFTER 28 DAYS SHALL BE AS FOLLOWS:

TYPE	STRENGTH	CLASS OF EXPOSURE
LEAN CONCRETE FILL, MUD SLAB	10 MPa	N
FOOTINGS	25 MPa	N
PIERS, FOUNDATION WALLS. AND CONCRETE WALLS	25 MPa	F-2
OFFICE - INTERIOR SLAB ON GRADE, CONCRETE ON DECK, AND TOPPINGS	25 MPa	N
GARAGE - INTERIOR SLAB ON GRADE	35 MPa	C-1
EXTERIOR SLAB ON GRADE	35 MPa	C-1

3. MINIMUM CONCRETE COVER TO REINFORCING BARS:

EXPOSURE CONDITION	N	F-2	C-1
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	75mm	75mm	75mm
BEAMS AND PIERS	30mm	40mm	60mm
SLABS, WALLS, JOISTS, SHELLS, AND FOLDED PLATES	30mm	40mm	60mm
RATIO OF COVER TO NOMINAL BAR DIAMETER	1.0	1.5	2.0
RATIO OF COVER TO NOMINAL MAXIMUM AGGREGATE SIZE	1.0	1.5	2.0

4. HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE WALLS ARE NOT PERMITTED EXCEPT WHERE SHOWN ON THESE DRAWINGS. LEAVE CHASES AND POCKETS IN WALLS FOR SEATING OF SLABS AND BEAMS.
5. NO OPENINGS OTHER THAN THOSE INDICATED ON STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE WALLS, COLUMNS, BEAMS AND SLABS WITHOUT PRIOR REVIEW BY THE CONSULTANT. SUBMIT DRAWINGS INDICATING ADDITIONAL OPENINGS TO THE CONSULTANT FOR REVIEW BEFORE PROCEEDING WITH THE WORK.
6. REINFORCE ALL SIDES OF OPENINGS IN CONCRETE WALLS AND SLABS AS INDICATED BELOW UNLESS NOTED OTHERWISE ON THE DRAWINGS:

   WALLS
   - LENGTH OF BARS EQUAL TO OPENING DIMENSION PLUS 600mm BOTH SIDES.
   - USE 2-15M BARS FOR WALL THICKNESS UP TO 200mm.
   - USE 2-20M BARS FOR WALL THICKNESS OVER 200mm.

   SLABS
   - ADD ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING EQUAL TO 50% OF INTERRUPTED BARS AND EXTEND THEM 800mm BEYOND OPENINGS.
7. JOINT CHAMFER: ALL FLUSH CONCRETE SURFACES MEETING AT JOINTS IN VISIBLE LOCATIONS SHALL BE FORMED WITH A 'V' SHAPED REGLET AT FACE (20mm DEEP).
8. FILL AND REFINISH ALL VOIDS. FORM-WIRE LOCATIONS ETC.
9. USE PORTLAND TYPE GU FOR ALL CONCRETE UNLESS NOTED OTHERWISE.
10. STRUCTURAL GROUT UNDER BASE PLATES SHALL BE NON-SHRINK, NON-METALLIC, AND HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 50 MPa.
11. BONDING AGENT FOR POURING NEW CONCRETE AGAINST EXISTING, APPLY THE EPOXY BONDING ADHESIVE TO EXPOSED EXISTING SURFACES IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. USE SIKADUR 32 HI-MOD BY SIKA OR ENGINEER APPROVED EQUAL.
12. DOWELLING INTO EXISTING CONCRETE:
    FOR DOWELLING REINFORCING STEEL BARS INTO THE EXISTING CONCRETE, DRILL AND PREPARE A CONCRETE HOLE, 3mm LARGER THAN THE BAR DIAMETER. SET THE BAR INTO THE SPECIFIED HOLE USING THE EPOXY BONDING ADHESIVE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. USE HIT HY 200 ADHESIVE BY HILTI OR ENGINEER APPROVED EQUAL.
13. COORDINATE THE PLACEMENT OF ALL CONCRETE INSERTS AND ANCHOR BOLTS SUPPLIED BY OTHERS.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL BE IN ACCORDANCE WITH C.S.A. G30.18M - GRADE 400.
2. REINFORCING BARS SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS AND ELEVATION VARIATIONS UNLESS NOTED. CONTINUOUS BARS SHALL BE FULLY DEVELOPED BYLAPPING WHERE SPLICED.
3. DETAIL, BEND, PLACE, AND SUPPORT REINFORCING STEEL IN CONFORMANCE WITH RSIO MANUAL OF STANDARD PRACTICE, UNLESS NOTED OTHERWISE.
4. ALL TENSION SPLICES ARE CLASS 'B'.

SLAB-ON-GRADE

1. SEE PLAN FOR SLAB THICKNESS AND REINFORCEMENT.
2. SLAB ON GRADE SHALL BE PLACED ON A 150mm BASE COURSE OF GRANULAR 'A' BACKFILLED AS PER OPSS.PROV 1010 COMPACTED TO 100% SPMDD MINIMUM. ALL INFILLING BELOW THE GRANULAR 'A' SHOULD BE WELL GRADED FREE DRAINING GRANULAR 'B' TYPE I BACKFILL AS PER OPSS.PROV 1010 COMPACTED TO A MINIMUM OF 100% SPMDD. ALL ENGINEERED FILL MUST BE INSPECTED, APPROVED AND COMPACTION VERIFIED BY THE GEOTECHNICAL ENGINEER.
3. PRIOR TO PLACING GRANULAR FILL MATERIALS, PROOF-ROLL EXISTING SUB-GRADE TO IDENTIFY INCONSISTENCIES OR SOFT AREAS. PROCEED WITH GRANULAR PLACEMENT ONLY AFTER THESE AREAS HAVE BEEN RE-WORKED AND COMPACTED TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
4. DO NOT POUR CONCRETE UNTIL ALL ELECTRICAL AND MECHANICAL CONDUITS, PIPING OR OTHER EMBEDDED SERVICES ARE INSTALLED, AND VERIFIED.
5. MAINTAIN SLAB THICKNESS INDICATED ON THE DRAWINGS IN ALL CASES.
6. PROVIDE SLAB ON GRADE THICKENING UNDER ALL NON-LOADBEARING MASONRY WALLS UNLESS NOTED OTHERWISE.
7. AGREE TO LOCATIONS OF CONSTRUCTION JOINTS WITH ENGINEER PRIOR TO CONSTRUCTION.
8. PROVIDE SAW-CUT CONTROL JOINTS OF 30 X t (t = SLAB THICKNESS) MAXIMUM SPACING WITHIN 18 HOURS AFTER CONCRETE POUR (FOR JOINTED FLOORS) UNLESS NOTED OTHERWISE.
9. PROVIDE INTERIOR COLUMN ISOLATION JOINTS AND SAW-CUTTING AS PER DETAILS.
10. PERFORM SAW-CUTTING FOR CONTROL JOINTS USING DRY METHOD (SOFT-CUT SAW) AS SOON AS POSSIBLE AFTER CONCRETE PLACEMENT WITHOUT LEAVING TREAD MARKS. DISLODGING AGGREGATE AND BEFORE UNCONTROLLED SHRINKAGE OCCURS. FILL CONTROL JOINTS, AS SPECIFIED, NO SOONER THEN 120 DAYS AFTER CONCRETE POUR.
11. PROVIDE SLAB ON GRADE THICKENING TO SUIT ANY ANCHORS OR INSERTS AS REQUIRED, UNLESS NOTED.
12. HARDENER: FOR ALL SLAB AREAS EXPOSED TO VEHICULAR TRAFFIC (INTERIOR VEHICLE BAY, EXTERIOR APRON SLABS, EXTERIOR GARBAGE CONTAINER SLAB), APPLY A HEAVY DUTY APPLICATION OF FLOOR HARDENER AT A RATE OF 7-8 kg/m2 (140-160 lbs. PER 100sf) OF FLOOR AREA, IN ACCORDANCE WITH THE SPECIFICATIONS.
13. FOR FLOOR FINISHES SEE THE SPECIFICATIONS.

MASONRY

1. ALL MASONRY RELATED DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING CAN/CSA STANDARDS:
   - S304.1 DESIGN OF MASONRY STRUCTURES
   - A165 SERIES STANDARDS ON CONCRETE MASONRY UNITS
   - A179 MORTAR AND GROUT FOR UNIT MASONRY
   - A370 CONNECTORS FOR MASONRY
   - A371 MASONRY CONSTRUCTION FOR BUILDINGS
   - G30.18 BILLET STEEL BARS FOR CONCRETE REINFORCING
   - G30.3 COLD DRAWN STEEL WIRE FOR CONCRETE REINFORCING
   - G164 HOT DIP GALVANIZING OF IRREGULARLY SHAPED ARTICLES
2. CONCRETE BLOCK SHALL BE NORMAL WEIGHT, METRIC MODULAR, MOISTURE CONTROLLED UNITS TO CSA A165.1, TYPE H/15/A/M WITH A MINIMUM COMPRESSIVE STRENGTH OF 15 MPA BASED ON THE NET AREA.
3. TYPE 'S' MORTAR TO BE USED THROUGHOUT.
4. REINFORCING SHALL BE NEW HI-BOND DEFORMED BARS WITH MINIMUM Fy=400 MPa. MINIMUM LAP FOR REINFORCING TO BE 36X BAR DIA.
5. HORIZONTAL MASONRY REINFORCEMENT TO BE AS PER CONCRETE BLOCK WALL REINFORCING SCHEDULE. USE APPROVED STANDARD LADDER DESIGN, GALVANIZED CONTINUOUS REINFORCEMENT. USE DUR-O-WAL DW 100 STANDARD (3.66mm DIA. WIRES) OR APPROVED EQUAL. IT MUST BE PLACED HORIZONTALLY IN THE JOINTS AT NOT MORE THAN 400mm C/C VERTICALLY. REINFORCEMENT SHALL BE INSTALLED IN THE FIRST AND SECOND BED JOINTS 200mm APART, IMMEDIATELY ABOVE LINTELS AND BELOW SILLS. REINFORCEMENT IN THE SECOND BED JOINT ABOVE LINTELS AND BELOW SILLS SHALL EXTEND 600mm. BEYOND THE JAMB. ALL OTHER REINFORCEMENT SHALL BE CONTINUOUS AND SIDE RODS SHALL BE LAPPED FOR 200mm MIN.
6. REINFORCING SHALL BE PLACED IN THE CENTRE OF THE BLOCK CORES UNLESS INDICATED OTHERWISE. ALL VERTICAL BARS ARE TO HAVE MATCHING LAPPING DOWELS, 1300mm LONG, EMBEDDED 650mm INTO THE FOUNDATION WALLS.
7. GROUT SHALL BE COARSE WITH MIN. 28 DAY COMPRESSIVE STRENGTH OF 20 MPa. GROUT SLUMP TO BE 200mm TO 250mm. GROUTING SHALL BE DONE IN LOW LIFTS WITH VIBRATING OR "RODDING" GROUT TO ENSURE THAT ALL VOIDS ARE FILLED AND REINFORCING IS FULLY ENCASED.
8. ALL MASONRY UNDER CONCENTRATED LOADS SHALL HAVE VOIDS FILLED WITH 20 MPa CONCRETE FOR DEPTH AND WIDTH EQUAL TO 3 TIMES THE LENGTH OF BEARING.
9. ALL MASONRY WALLS SHALL BE PROPERLY SHORED DURING CONSTRUCTION UNTIL STRUCTURAL STEEL AND/OR SLABS ARE IN PLACE.
10. ALL MASONRY WALLS TO BE CONSTRUCTED WITH FULL MORTAR JOINTS.
11. PROVIDE VERTICAL MASONRY CONTROL JOINTS AT MAX. SPACING OF 2X WALL HEIGHT OR 6m O.C. WHICHEVER IS LESS. REFER TO DRAWINGS FOR SPECIAL EQUIREMENTS. PLACE CONTROL JOINTS AT EDGES FOR WINDOWS OR DOORS WHERE POSSIBLE OR FEASIBLE.
12. INTERSECTING MASONRY BLOCK WALLS OR PARTITIONS SHALL BE BONDED BY OVERLAPPING HALF OF THE UNITS OF ONE WALL WITH THE UNITS IN THE OTHER WALL FOR A MINIMUM DISTANCE EQUAL TO THE THICKNESS OF THE THINNER WALL.
13. HORIZONTAL AND VERTICAL LATERAL SUPPORT ANCHORS SPACING AS PER A370 "CONNECTORS FOR MASONRY" STANDARD AND/OR INFORMATION SHOWN ON DRAWINGS.
14. PROVIDE LINTELS AS SPECIFIED OVER ALL OPENINGS IN MASONRY WALL AS SHOWN OR AS REQUIRED. REFER TO DRAWINGS FOR SIZES AND LOCATIONS OF OPENINGS AND RECESSES. WHERE LINTELS ARE NOT SHOWN PROVIDE THEM IN ACCORDANCE WITH STANDARD SCHEDULE.
15. STEEL BEAMS AND LINTELS SHALL HAVE 200mm MIN. END BEARING ON MASONRY UNLESS INDICATED OTHERWISE.
16. FOR MASONRY OPENINGS NOT SHOWN ON THE DRAWINGS, PROVIDE ONE ANGLE, L 89 X 89 X 6.4 FOR EACH 100mm THICKNESS OF MASONRY, FOR OPENINGS UP TO 1200mm.
17. ALL LINTEL ASSEMBLIES IN EXTERIOR WALLS SHALL BE HOT-DIPPED GALVANIZED.
18. VERTICAL REINFORCING IN FULLY GROUTED CORE FOR WALLS SHALL BE AT THE SPACINGS DESIGNATED, AND IN ADDITION, SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS; PROVIDE ONE VERTICALLY REINFORCED CELL WITH 1-15M, FULL HEIGHT, EACH SIDE OF DOOR JAMBS, EACH SIDE OF WALL OPENINGS OR WINDOW OPENINGS, EACH SIDE OF A CORNER, EACH SIDE OF A WALL INTERSECTION, AND EACH SIDE OF A CONTROL JOINT. PROVIDE TWO VERTICALLY REINFORCED CELLS WITH 1-15M PER CELL, FULL HEIGHT, AT A WALL END. ALL 15M VERTICAL BARS ARE TO HAVE MATCHING, LAPPING, 15M DOWELS, 1300mm LONG, EMBEDDED 650mm INTO THE FOUNDATION WALLS.
19. BOND BEAM COURSES WITH VERTICAL REINFORCING INTERSECTING, SHALL CONSIST OF STANDARD UNITS WITH SAW-CUT WEBS TO ACCOMMODATE HORIZONTAL REINFORCING BARS. ALL BOND BEAMS TO HAVE 1-15M BAR MINIMUM, IN A FULLY GROUTED BOND BEAM COURSE. PROVIDE BOND BEAMS AT THE FOLLOWING LOCATIONS FOR ALL LOADBEARING WALLS; TOP OF WALL, AT ANCHORED ANGLE FOR STEEL DECK SUPPORT, BOTTOM OF WALL, AT OTHER LOCATIONS SHOWN ON THE DRAWINGS, AND AT A MINIMUM OF EVERY 2400mm VERTICALLY.
20. CONCRETE MASONRY BLOCK WALLS ARE TO BE REINFORCED AS NOTED ABOVE, AND AS FOLLOWS:

    LOADBEARING EXTERIOR WALLS
    (ALL WALLS TO HAVE HORIZONTAL JOINT REINFORCEMENT EVERY SECOND COURSE)

    190mm BLOCK EXTERIOR WALL
    15M BARS VERTICAL AT 600mm O.C. MINIMUM.

    240mm BLOCK EXTERIOR WALL
    15M BARS VERTICAL AT 600mm O.C. MINIMUM.

    LOADBEARING EXTERIOR WALL AT GABION BASKET WALL
    (ALL WALLS TO HAVE HORIZONTAL JOINT REINFORCEMENT EVERY SECOND COURSE)

    190mm BLOCK EXTERIOR WALL
    15M BARS VERTICAL AT 600mm O.C. MINIMUM.
    FULLY GROUT ENTIRE WALL.

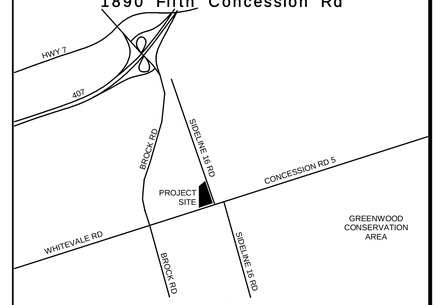
    NON-LOADBEARING INTERIOR PARTITION WALLS
    (ALL WALLS TO HAVE HORIZONTAL JOINT REINFORCEMENT EVERY SECOND COURSE)

    190mm BLOCK INTERIOR WALL
    15M BARS VERTICAL AT 1200mm O.C. MINIMUM.

    240mm BLOCK INTERIOR WALL
    15M BARS VERTICAL AT 1000mm O.C. MINIMUM.

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.

1890 Fifth Concession Rd



KEY PLAN

CONSULTANT REVISIONS

NO.	DATE.	NAME	REVISIONS

PRIME CONSULTANT

AECOM

AECOM Canada Ltd.
50 Sportsworld Crossing Road, Suite 290
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LICENSED PROFESSIONAL ENGINEER
K.T.D. DUONG
100055126
9/22/2021
PROVINCE OF ONTARIO

SUB CONSULTANT

DESIGN BY: D.S.	SCALE:
DRAWN BY: R.E.	DATE: 03/31/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

CONTRACT REVISIONS

NO	DATE	NAME	REVISIONS
1	09/22/21		ISSUED FOR TENDER

DURHAM REGION

THE REGIONAL MUNICIPALITY OF DURHAM

WORKS DEPARTMENT

DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

GENERAL NOTES AND LOADING - SHEET 1 OF 2

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-100	

BIM 360:/BP-AMER (CAN) 60611569-Seaton RDPS/60611569-Seaton RDPS-S.rvt

STRUCTURAL STEEL

1. THE CONTRACTOR SHALL FIELD CHECK AND VERIFY ALL CONDITIONS AND MEASUREMENTS AT THE SITE AND REPORT TO THE CONSULTANT ANY DISCREPANCIES OR UNSATISFACTORY CONDITIONS WHICH MAY ADVERSELY AFFECT THE PROPER COMPLETION OF THE WORK BEFORE PROCEEDING WITH THE WORK.
2. ALL SHOP CONNECTIONS SHALL BE WELDED. ALL FIELD CONNECTIONS SHALL BE WELDED OR BOLTED USING HIGH TENSILE BOLTS. BEARING TYPE CONNECTIONS SHALL BE C.I.S.C. DOUBLE ANGLE BEAM CONNECTIONS OR SHEAR PLATES USING A325 BOLTS AND E49XX FILLET WELDS, MINIMUM SIZE OF BOLTS – 20mm DIAMETER. THEY SHALL BE CAPABLE OF SUPPORTING 50% OF THE TOTAL UNIFORM LOAD CAPACITY CALCULATED USING UNIFORM LOAD CONSTANTS FOR BEAMS LATERALLY SUPPORTED EXCEPT WHERE SPECIFICALLY NOTED OR DETAILED.
3. ALL HSS SECTIONS MUST HAVE OPEN ENDS CAPPED OR WELDED SOLID ALL AROUND AT CONNECTION POINT.
4. ALL COLUMN ENDS SHALL BE SAW-CUT AND WELDED TO BASE PLATES.
5. ALL COLUMNS TO HAVE CLOSURE PLATES, TEES ANGLES OR OUTRIGGERS AT ROOF AND FLOOR LEVELS TO SUPPORT STEEL DECK WHERE REQUIRED AND TO PREVENT CONCRETE LOSS. (ELEVATED FLOORS)
6. PROVIDE AND TAKE RESPONSIBILITY FOR ALL TEMPORARY BRACING AND SHORING REQUIRED. DO NOT REMOVE THEM UNTIL COMPLETION OF CONSTRUCTION.
7. PROVIDE WELDED STIFFENER PLATES ON BOTH SIDES, UNLESS NOTED, OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOAD INCLUDING BEAMS SUPPORTING COLUMNS OR RUNNING OVER TOP OF COLUMNS. MINIMUM STIFFENER PLATE THICKNESS SHALL BE 10mm OR FLANGE THICKNESS OF COLUMNS ABOVE OR BELOW, WHICHEVER IS GREATER. MINIMUM SIZE OF WELD SHALL BE 5mm DOUBLE FILLET WELD, OR SHALL BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE STIFFENER, WHICH EVER IS GREATER.
8. FOR LOCATIONS OF DOOR FRAMES, WALL OPENINGS, AND ROOF OPENINGS, ETC. AND RELATED DETAILS, SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.
9. PERIMETER ROOF ANGLES SHALL BE CONTINUOUS AND BUT WELDED TOGETHER AT JOINTS.
10. GIRTS SHALL HAVE END CONNECTIONS CAPABLE OF SUPPORTING 50% OF THE MEMBERS CAPACITY ABOUT THE MAJOR AXIS, CALCULATED IN THE SAME MANNER AS FOR BEAMS. EACH WEB OF BUILT-UP MEMBERS SHALL HAVE THEIR ENDS CONNECTED AS SPECIFIED ABOVE.
11. THE MINIMUM END CONNECTION OF ANY MEMBER SHALL BE MADE WITH TWO(2) A325 BOLTS OR EQUIVALENT WELD.
12. GUSSET PLATES FOR DIAGONAL BRACING SHALL BE CONNECTED TO ALL INTERSECTING MEMBERS UNLESS NOTE OTHERWISE, AND BE IN LINE WITH CENTERLINE OF MEMBERS.
13. IN ADDITION TO STRENGTH WELDS, STRUCTURAL STEEL EXPOSED TO WEATHER SHALL HAVE CONTINUOUS SEAL WELDS AT ALL JOINTS (INCLUDING ALL CONNECTION MATERIAL).
14. ALL STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH CSA G40.21M GRADE 300W, UNLESS NOTED.
15. ALL STRUCTURAL STEEL `W' SHAPES SHALL CONFORM TO CSA G40.21M GRADE 350W.
16. ALL HOLLOW STRUCTURAL STEEL SECTIONS SHALL CONFORM TO CSA G40.21M GRADE 350W - CLASS H.
17. FABRICATION, ERECTION AND WORKMANSHIP SHALL CONFORM TO CAN/CSA S16-01.
18. ALL WELDING SHALL CONFORM TO CSA S16-01 AND THE LATEST VERSION OF W59 AND SHALL BE PERFORMED BY A WELDER QUALIFIED UNDER THE LATEST VERSION OF CSA W47.
19. WELDING ELECTRODES SHALL BE E49XX.
20. SURFACES TO BE WELDED SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER INCLUDING PAINT FILM.
21. ALL JOINTS SHALL BE WELDED USING E49XX ELECTRODES OR BEARING TYPE CONNECTIONS USING M20 ASTM A325M HIGH STRENGTH BOLTS, UNLESS NOTED.
22. PROVIDE FOR MASONRY CONVENTIONAL ANCHORS AT MAX. 4X WALL THICKNESS O.C. FOR ALL COLUMNS NEXT TO MASONRY WALLS, UNLESS NOTED. PROVIDE FOR MASONRY CONVENTIONAL ANCHORS FOR ALL STEEL BEAMS NEXT TO NEW CONVENTIONAL MASONRY WALLS AT MAX. 10X WALL THICKNESS O.C. UNLESS NOTED. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS.
23. SUBMIT SHOP DRAWINGS TO THE CONSULTANT FOR REVIEW AND APPROVAL. SHOP DRAWINGS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO.
24. ALL EXTERIOR (PERMANENTLY EXPOSED) STRUCTURAL STEEL MUST BE HOT DIP GALVANIZED TO CONFORM TO CSA G164 AND TO HAVE A MINIMUM ZINC COATING OF 600 g/m2.
25. FOR PRIME PAINTING AND/OR PAINTING OF THE STRUCTURAL, STEEL REFER TO THE SPECIFICATIONS.

OPEN WEB STEEL JOISTS AND LONG SPAN JOISTS FOR THE VEHICLE GARAGE ROOF

1. ----DENOTES (IF SHOWN) SUGGESTED TOP AND BOTTOM CHORD BRIDGING LOCATIONS; RECOMMENDED MINIMUM LOCATIONS ONLY. FINAL DESIGN AND LOCATIONS BY OWSJ DESIGNER.
2. X DENOTES (IF SHOWN) SUGGESTED X-BRIDGING LOCATIONS; RECOMMENDED MINIMUM LOCATIONS ONLY. FINAL DESIGN AND LOCATIONS BY OWSJ DESIGNER.
3. MANUFACTURED OPEN WEB STEEL JOISTS SHALL CONFORM TO THE LATEST EDITIONS OF CAN/CSA-S16-01 AND CISC “RECOMMENDED PRACTISE”.
4. REFER TO THE DRAWINGS FOR ALL LOADINGS AND DEFLECTION REQUIREMENTS.
5. PROVIDE DETAILED JOIST FABRICATION SHOP DRAWINGS AND CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO. THE JOIST MANUFACTURER SHALL INDICATE DETAILS, MATERIALS, UNIFORM AND CONCENTRATED DESIGN LOADS, BRIDGING, AND ACCESSORIES.
6. DESIGN JOIST FOR THE LOADINGS SHOWN ON THE DRAWINGS, PLUS AN ADDITIONAL LIVE LOAD POINT LOAD APPLIED ANYWHERE ALONG THE BOTTOM CHORD AS FOLLOWS:
   - 2 kN FOR LONG SPAN JOISTS FOR THE VEHICLE GARAGE ROOF
   - 1 kN FOR ALL OTHER OWSJ'S
7. CONNECT JOISTS TO SUPPORTING MEMBERS BY WELDING ONLY. BEARING ENDS OF JOISTS SHALL HAVE THE FOLLOWING JOIST SHOE DEPTHS:
   - 125mm DEEP JOIST SHOE FOR LONG SPAN JOISTS FOR THE VEHICLE GARAGE ROOF
   - 100mm DEEP JOIST SHOE FOR ALL OTHER OWSJ'S
8. JOISTS TO BE WELDED CONSTRUCTION. NO HOLES ARE TO BE DRILLED FOR HANGERS.
9. EXTEND THE BOTTOM CHORD AT THE END OF JOISTS, WHEREVER THE JOISTS LINE UP WITH CENTER LINE OF A COLUMN, AND AT OTHER LOCATIONS INDICATED ON THE PLANS.
10. ALL JOISTS SHALL HAVE HOT ROLLED DOUBLE ANGLE TOP AND BOTTOM CHORDS.
11. EXTEND JOIST TOP CHORDS TO SUPPORT DECK AND SIDING WHERE REQUIRED.
12. CAMBER JOISTS FOR 0.002 OF THE SPAN (L/500).
13. ATTACHMENTS FOR MECHANICAL, ELECTRICAL, AND OTHER SERVICES SHALL BE MADE BY USING APPROVED CLAMPING DEVICES OR U-BOLT TYPE CONNECTIONS TO THE TOP CHORD ONLY. CONNECTIONS TO THE BOTTOM CHORD TO BE PERMITTED ONLY AT PANEL POINTS. OTHER CONNECTION POINTS ONLY IF APPROVED BY THE CONSULTANT.

METAL DECK

1. ALL METAL DECK TO BE NEW AND SHALL BE DESIGNED, FABRICATED AND INSTALLED TO CONFORM TO THE REQUIREMENTS OF CAN/CSA-S136 COLD FORMED STEEL STRUCTURAL MEMBERS AND THE REQUIREMENTS OF THE CANADIAN SHEET STEEL BUILDING INSTITUTE.
2. ALL ROOF AND FLOOR DECK INFORMATION IS SHOWN ON FRAMING PLANS AND DETAIL DRAWINGS.
3. SPAN DECK UNITS OVER THREE OR MORE SUPPORTS FOR INCREASED RIGIDITY.
4. PLACE DECK IN ACCORDANCE WITH MANUFACTURER'S SHOP DRAWINGS. END LAPS SHALL ALWAYS OCCUR OVER SUPPORTS. SIDE LAPS SHALL BE ON HALF CORRUGATION. MINIMUM ROOF DECK END LAP IS 50mm FOR ATTACHMENT.
5. FIELD CUTTING OF DECK UNITS SHALL BE DONE IN WORKMANLIKE MANNER. CUT OPENINGS AND REINFORCE EDGES AS REQUIRED FOR PIPES, DUCTS, ETC. THE MAXIMUM SIZE OF AN UNREINFORCED OPENING IS 200mm SQUARE OR IN DIAMETER. ROOF OPENING LARGER THE 450mm SHALL BE SUPPORTED BY STEEL FRAMING.
6. PIPING, DUCTWORK, SUSPENDED EQUIPMENT AND ANY SIMILAR INSTALLATION SHALL NOT BE SUPPORTED OR FASTENED DIRECTLY TO THE METAL DECK.
7. ROOF DECK: DESIGNED AS A DIAPHRAGM FOR THE LATERAL LOAD RESISTING SYSTEM. ROOF DECK SHALL BE GALVANIZED CORRESPONDING TO Z275, AND MINIMUM 3 SPANS CONTINUOUS. WELD DECK TO SUPPORTING STEEL WITH 20mm DIA. PLUG WELDS AT 300mm O/C MAXIMUM, SIDES BUTTON PUNCHES AT 600mm O/C MAXIMUM, MARGINAL WELDS AT 900mm MAXIMUM, OR EQUIVALENT ENGINEER APPROVED MECHANICAL FASTENING SYSTEM.
   - ROOF DECK SHALL BE 38mm (1.5”) X 0.91mm (0.036”),
   - MINIMUM 3 SPANS CONTINUOUS.
8. SUBMIT DETAILED SHOP DRAWINGS INDICATING DECKING LAYOUT PLANS, TYPE OF DECK, GAUGES, SHEET LOCATION AND SIZES, CUTTING WORK, OPENING LOCATIONS, BEARING CONDITIONS, METHOD OF ATTACHMENT AND SPACING OF FASTENERS, COVER AND CLOSURE PLATES.

ANCHOR TYPES

1. ANCHOR BOLTS FOR THE COLUMN BASEPLATES SHALL CONFORM TO ASTM A307.
2. SET-IN-PLACE ANCHOR TYPES:

   ANCHORS SHALL BE HILTI ANCHOR SYSTEM INSTALLED IN STRICT ACCORDANCE WITH THE HILTI SPECIFICATIONS, FOR THE LOAD INDICATED, OR ENGINEER APPROVED EQUAL.

   ANCHOR TYPE 1: (TO CONCRETE)
   HILTI KWIK BOLT 3 EXPANSION ANCHOR SYSTEM, USING 16mm DIAMETER ANCHORS WITH A 80mm EMBEDMENT, FOR AN ALLOWABLE (UNFACTORED) SHEAR LOAD OF 35 kN AND TENSION LOAD OF 15 kN PER ANCHOR.

   ANCHOR TYPE 2: (TO CONCRETE)
   HILTI HIT-HY 200 ADHESIVE ANCHOR SYSTEM, USING 19mm DIAMETER HAS-E RODS WITH A 170mm EMBEDMENT, FOR AN ALLOWABLE (UNFACTORED) SHEAR LOAD OF 35 kN AND TENSION LOAD OF 40 kN PER ANCHOR.

   ANCHOR TYPE 3: (TO HOLLOW BLOCK)
   HILTI HIT-HY70 ADHESIVE ANCHOR SYSTEM, USING 13mm DIAMETER THREADED RODS, BASED ON A HIT SHORT 51mm EMBEDMENT INTO THE CENTRE OF THE BLOCK FACE SHELL, FOR AN ALLOWABLE (UNFACTORED) SHEAR LOAD OF 3.0 kN PER ANCHOR.

   ANCHOR TYPE 4: (TO FULLY GROUTED BLOCK)
   HILTI HIT HY 150/HIT-ICE INJECTION ADHESIVE ANCHOR SYSTEM, USING 13mm DIAMETER HAS-E THREADED ROD ANCHOR, BASED ON A 108mm EMBEDMENT INTO THE FULLY GROUTED BLOCK, FOR AN ALLOWABLE (UNFACTORED) SHEAR LOAD OF 10 kN AND TENSION LOAD OF 8 kN PER ANCHOR.

   ANCHOR TYPE 5: (TO FULLY GROUTED BLOCK)
   HILTI HIT HY 150/HIT-ICE INJECTION ADHESIVE ANCHOR SYSTEM, USING 19mm DIAMETER HAS-E THREADED ROD ANCHOR, BASED ON AN 168mm EMBEDMENT INTO THE FULLY GROUTED MASONRY BLOCK, FOR AN ALLOWABLE (UNFACTORED) SHEAR LOAD OF 24 kN AND TENSION LOAD OF 16 kN PER ANCHOR.

DESIGN LOADS

1. ENVIRONMENTAL LOADS FOR PICKERING, ONTARIO:
2. BUILDING IMPORTANCE CATEGORY: POST-DISASTER.

   LIVE LOAD DUE TO SNOW (1/50):

   Is = 1.25 FOR ULTIMATE LIMIT STATES (ULS)
   Is = 0.90 FOR SERVICEABILITY LIMIT STATES (SLS)
   Ss = 1.0 kPa, Sr = 0.4 kPa, NOMINAL ROOF SNOW; S = 1.20 kPa

   SNOW ACCUMULATION TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2012 (LATEST EDITION), AND THE NATIONAL BUILDING CODE 2015 STRUCTURAL COMMENTARIES (PART 4).

3. ONE DAY RAIN (1/50): 92mm
4. LIVE LOAD DUE TO WIND:

   Iw= 1.25 FOR ULTIMATE LIMIT STATES (ULS)
   Iw = 0.75 FOR SERVICEABILITY LIMIT STATES (SLS)
   q(1/10) = 0.37 kPa, q(1/50) = 0.48 kPa, INTERNAL PRESSURE CATEGORY 2.

   WIND PRESSURES ARE TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2012 (LATEST EDITION), AND PRESSURE COEFFICIENTS FROM THE NATIONAL BUILDING CODE 2015 STRUCTURAL COMMENTARIES (PART 4).

5. LIVE LOAD DUE TO SEISMIC:

   Ie = 1.5 FOR ULTIMATE LIMIT STATES (ULS)
   Sa(0.2) = 0.219, Sa(0.5) = 0.117, Sa(1.0) = 0.060,
   Sa(2.0) = 0.029, Sa(5.0) = 0.0071, Sa(2.0) = 0.0028, PGA = 0.140, PGV = 0.094

   SOIL SITE CLASS 'C'

   SEISMIC FORCE MODIFICATION FACTORS:
   CONVENTIONAL CONSTRUCTION OF:
   STEEL MOMENT-RESISTING FRAMES; Rd = 1.5, Ro = 1.3
   STEEL BRACED FRAMES; Rd = 1.5, Ro = 1.3

   BUILDING LOADS (UNFACTORED U.N.O.):

6. EXTERIOR WALL COMPONENTS, INCLUDING OVERHEAD DOORS, DESIGNED FOR A MINIMUM UNFACTORED NET WIND PRESSURE OF ± kPa.
7. ROOF DEAD LOAD:

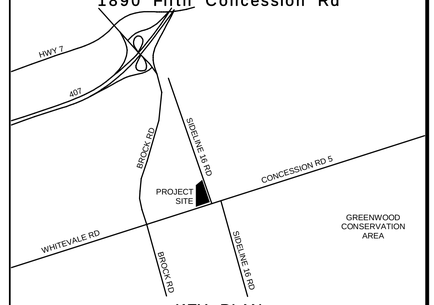
ROOFING ASSEMBLY	0.86 kPa
STEEL DECK	0.15 kPa
ROOF STEEL	0.48 kPa
ELECT/MECH	0.24 kPa
SOLAR PANEL ALLOWANCE	0.48 kPa
TOTAL DL:	2.21 kPa

   MAXIMUM LL DEFLECTION OF L/360

8. LIVE LOAD VEHICLE GARAGE GROUND FLOOR = 12.0 kPa
9. LIVE LOAD ALL OFFICE AREAS (UNO) = 4.8 kPa
10. LIVE LOAD FOR OPERATIVE WALL SYSTEM
    SUPERIMPOSED LIVE LOAD = 0.75 kPa
    (LOAD BASED ON SURFACE AREA OF WALL. DESIGN SUPPORTS FOR LOAD DISTRIBUTION BASED ON SYSTEM STACKING AT DESIGNATED END)
11. MECHANICAL ROOF TOP UNIT ERV-1;
    DIMENSIONS: 4318 mm LONG X 1829 mm WIDE X 1950 mm HIGH (INCLUDING CURB).
    (170" L x 72" W x 77" H)
    OPERATING WEIGHT: 20.3 kN (4553 lbs)
12. VEHICAL BAY CEILING CIRCULATING FAN WEIGHT: 1 kN

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.

1890 Fifth Concession Rd



KEY PLAN

CONSULTANT REVISIONS

NO.	DATE.	NAME	REVISIONS

PRIME CONSULTANT

AECOM

AECOM Canada Ltd.
50 Sportsworld Crossing Road, Suite 290
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www.aecom.com

LICENSED PROFESSIONAL ENGINEER
K.T.D. DUONG
100055126
9/22/2021
PROVINCE OF ONTARIO

SUB CONSULTANT

DESIGN BY: D.S.	SCALE:
DRAWN BY: R.E.	DATE: 03/31/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

CONTRACT REVISIONS

NO	DATE	NAME	REVISIONS
1	09/22/21		ISSUED FOR TENDER

THE REGIONAL MUNICIPALITY OF DURHAM

WORKS DEPARTMENT

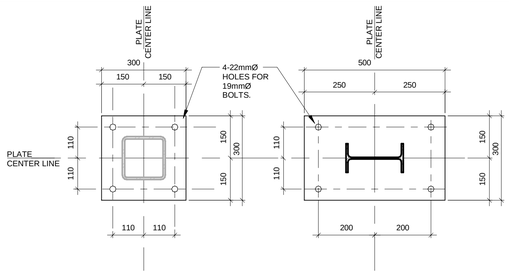
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

GENERAL NOTES AND LOADING - SHEET 2 OF 2

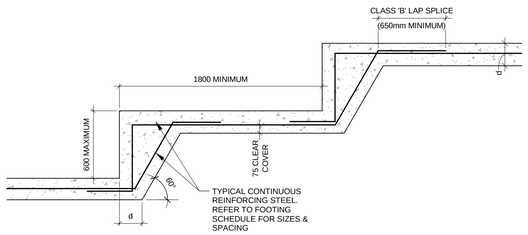
PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-101	

BIM 360://BP-AMER (CAN) 60611569-Seaton RDPS/60611569-Seaton RDPS-S.rvt



1 S-102 COLUMN BASEPLATE

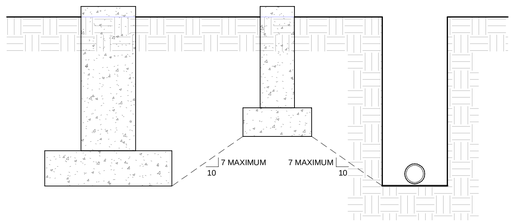
1 : 10



d = FOOTING DEPTH

2 S-102 TYPICAL STEP FOOTING

1 : 25

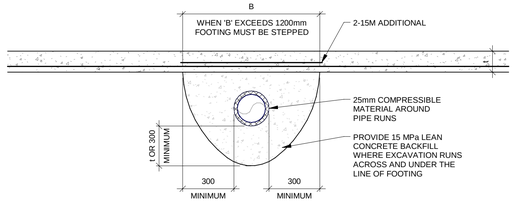


NOTES:

1. MAINTAIN MAXIMUM 7 IN 10 SLOPE (UNLESS NOTED OTHERWISE) BETWEEN ADJACENT FOOTINGS, BURIED SERVICES, AND OTHER EXCAVATIONS, INCLUDING ANY EXISTING CONSTRUCTION. ADJUST FOOTING ELEVATIONS INDICATED ON DRAWINGS IF NECESSARY.

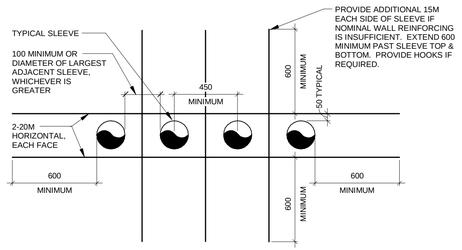
3 S-102 ADJACENT FOOTINGS AND EXCAVATIONS

1 : 25



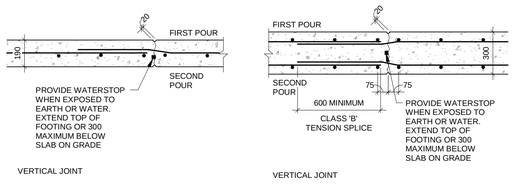
4 S-102 FOOTING OVER PIPE

1 : 20



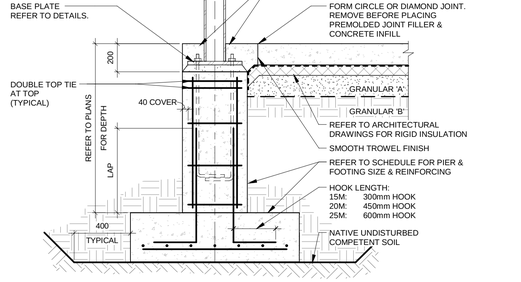
5 S-102 PIPE SLEEVES THROUGH FOUNDATION WALL

1 : 20



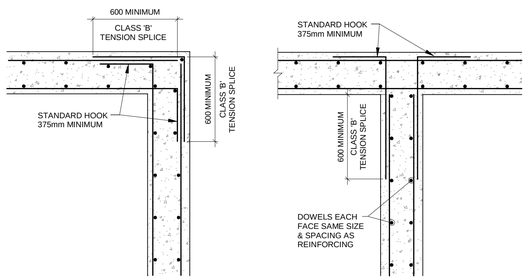
6 S-102 WALL CONSTRUCTION JOINT

1 : 20



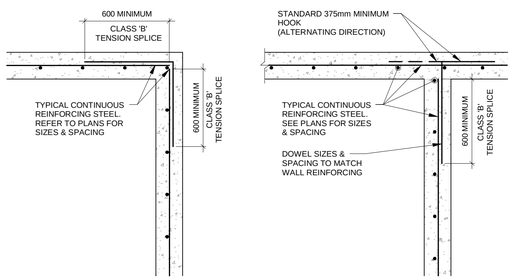
7 S-102 EXTERIOR COLUMN FOUNDATION

1 : 20



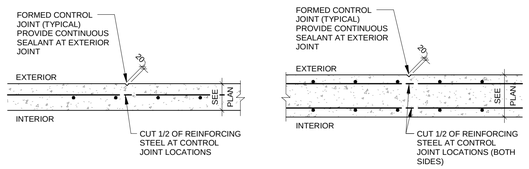
8 S-102 TWO LAYER WALL REINFORCING1

1 : 20



9 S-102 ONE LAYER WALL REINFORCING

1 : 20



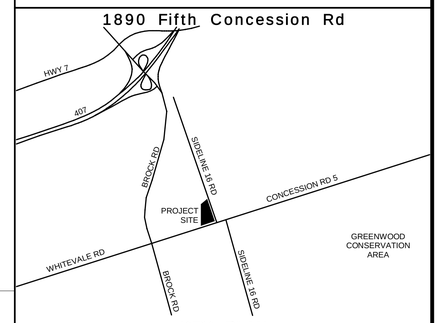
NOTE:

MAXIMUM SPACE BETWEEN CONTROL JOINTS IN FOUNDATION WALL IS 8.0m. THE CONTRACTOR SHALL SUBMIT EXACT LOCATION TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION.

10 S-102 WALL CONTROL JOINT

1 : 20

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



KEY PLAN

CONSULTANT REVISIONS

NO.	DATE.	NAME	REVISIONS

PRIME CONSULTANT

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AECOM Canada Ltd.
50 Sportsworld Crossing Road, Suite 290
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519 650 5313 tel 519 650 3424 fax
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LICENSED PROFESSIONAL ENGINEER
K.T.D. DUONG
100055126
9/22/2021
PROVINCE OF ONTARIO

SUB CONSULTANT

DESIGN BY: D.S.	SCALE: As indicated
DRAWN BY: R.E.	DATE: 03/31/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

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THE REGIONAL MUNICIPALITY OF DURHAM

WORKS DEPARTMENT

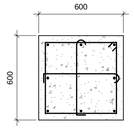
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

DETAILS SHEET 1 OF 7

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-102	

BIM 360://BP-AMER (CAN) 60611569-Seaton RDPS/60611569-Seaton RDPS-S.rvt

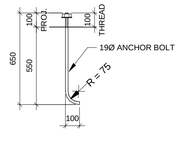


P1

NOTES:

1. ALL VERTICAL REINFORCING STEEL IS 20M.
2. ALL TIES ARE 10M AT 300 O.C.
3. DOUBLE TIES AT TOP AT 50 O.C. TYPICAL
4. REFER TO FOUNDATION PLAN FOR PIER ORIENTATION.
5. DOWELS AT BASE OF PIERS TO BE 20M BARS. SPACING & LOCATION TO MATCH VERTICAL REINFORCING STEEL IN PIERS.
6. BUILD PIER INTO FOUNDATION WALLS AS APPLICABLE. RUN FOUNDATION WALL REINFORCING THROUGH PIER CONTINUOUSLY.

1 / S-103 — 'P1' PIER — 1 : 20

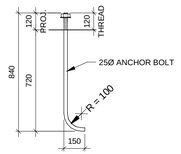


NOTES:

1. BOLT MATERIAL TO BE A307 MINIMUM.
2. GROUT ALLOWANCE TO BE 40mm MINIMUM.
3. ALL ANCHOR BOLTS TO BE SUPPLIED WITH HEAVY HEX NUTS & WASHERS.

AB1

2 / S-103 — 'AB1' ANCHOR BOLT — 1 : 20

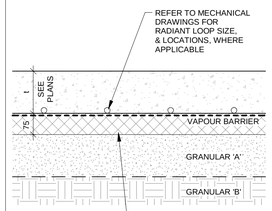


NOTES:

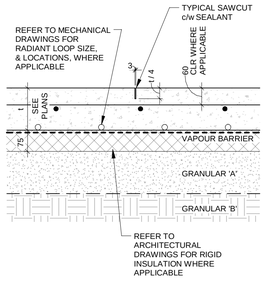
1. BOLT MATERIAL TO BE A307 MINIMUM.
2. GROUT ALLOWANCE TO BE 40mm MINIMUM.
3. ALL ANCHOR BOLTS TO BE SUPPLIED WITH HEAVY HEX NUTS & WASHERS.

AB2

3 / S-103 — 'AB2' ANCHOR BOLT — 1 : 20

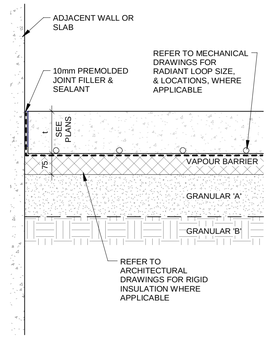


4 / S-103 — SLAB ON GRADE — 1 : 10



DENOTED S.C. ON PLAN

5 / S-103 — SAW CUT — 1 : 10



6 / S-103 — ISOLATION JOINT — 1 : 10

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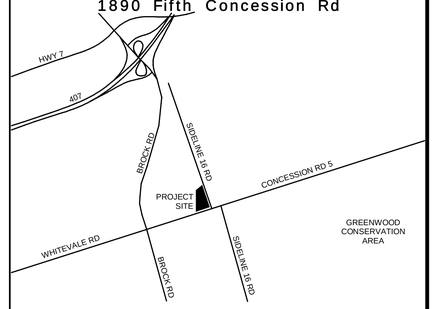
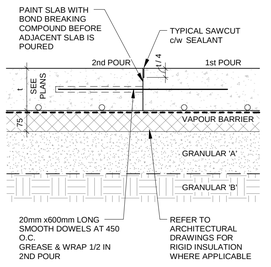
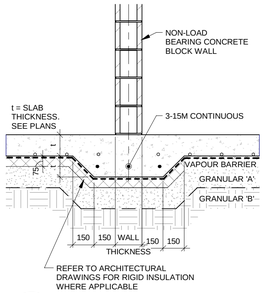


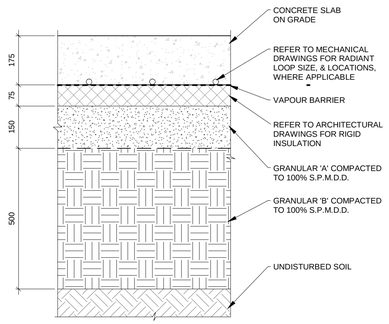
KEY PLAN



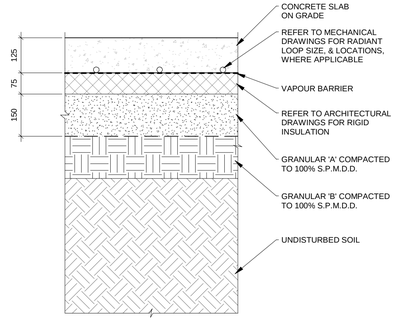
7 / S-103 — CONSTRUCTION JOINT — 1 : 10



8 / S-103 — THICKENED SLAB — 1 : 20



9 / S-103 — SLAB ON GRADE ASSEMBLY FOR VEHICLE BAY — 1 : 10



10 / S-103 — SLAB ON GRADE ASSEMBLY FOR ADMINISTRATION BUILDING — 1 : 10

CONSULTANT REVISIONS			
NO.	DATE.	NAME	REVISIONS

PRIME CONSULTANT

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LICENSED PROFESSIONAL ENGINEER
K.T.D. DUONG
100055126
9/22/2021
PROVINCE OF ONTARIO

SUB CONSULTANT

DESIGN BY: D.S.	SCALE: As indicated
DRAWN BY: R.E.	DATE: 03/31/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

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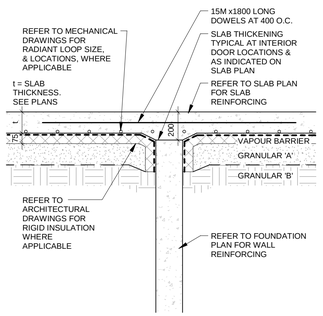
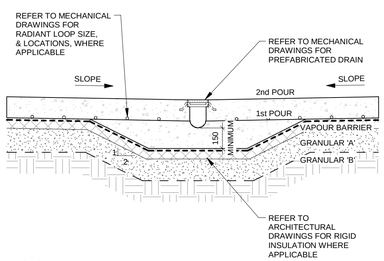
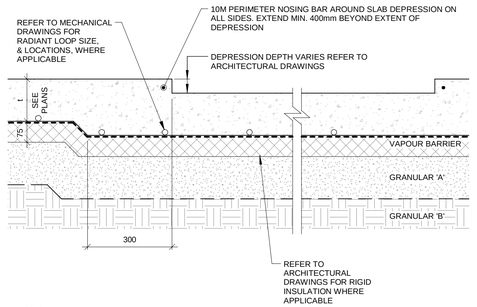
NO	DATE	NAME	REVISIONS



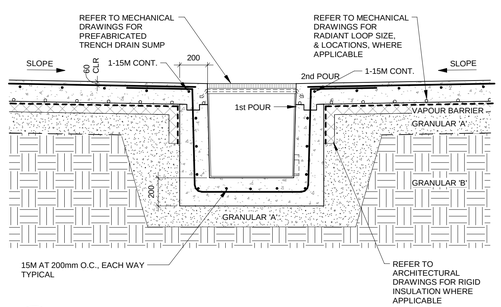
11 / S-103 — INTERIOR DOOR OPENING — 1 : 20



12 / S-103 — TRENCH DRAIN — 1 : 20



13 / S-103 — TYPICAL SLAB DEPRESSION — 1 : 10



14 / S-103 — TRENCH DRAIN SUMP — 1 : 20

THE REGIONAL MUNICIPALITY OF DURHAM

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DETAILS SHEET 2 OF 7

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		P061-18-01
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T-1160-2021	S-103	

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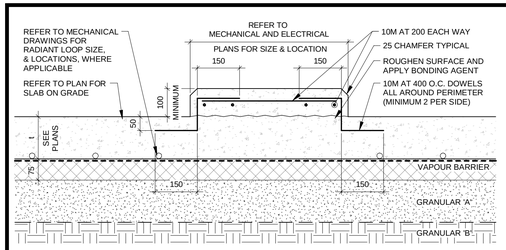
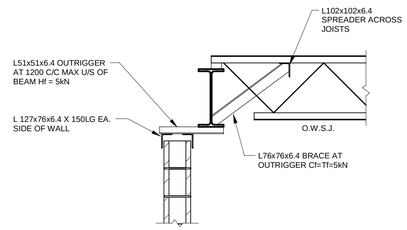


NOTES:

1. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL FOR PADS NOT SHOWN ON STRUCTURAL DRAWINGS. WHERE SLAB PREVIOUSLY POURED DRILL AND EPOXY GROUT USING HILTI EPOXY SYSTEM.
2. HOUSEKEEPING PAD ON SLAB-ON-GRADE SHOWN. FOR HOUSEKEEPING PAD ON SLAB ON DECK, USE ASSOCIATED STRUCTURAL DETAILS.

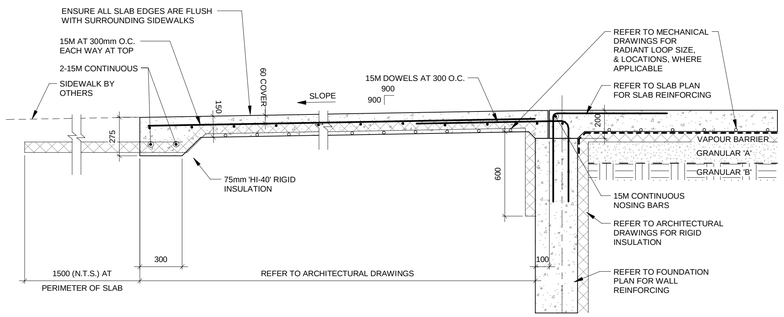
1 / S-104 — HOUSEKEEPING PAD

1 : 10



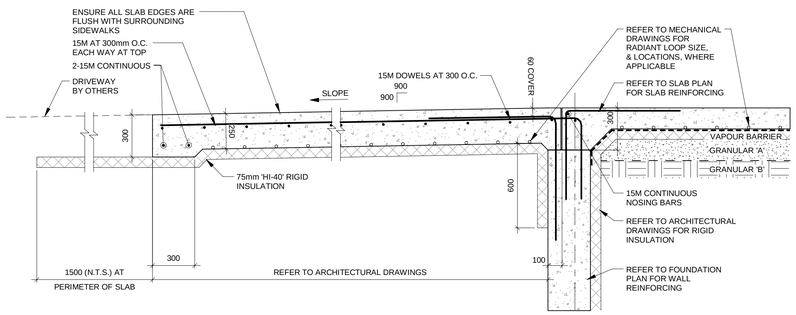
2 / S-104 — PARTITION WALL OFFSET FROM BEAM

1 : 20



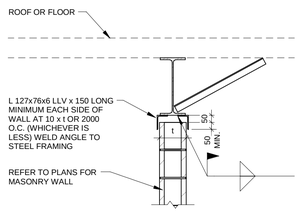
3 / S-104 — EXTERIOR ENTRANCE MANDOOR SLAB

1 : 20

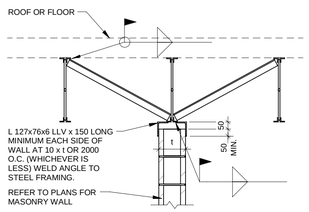


4 / S-104 — EXTERIOR OVERHEAD DOOR APRON SLAB

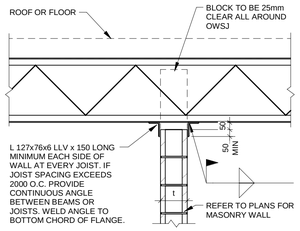
1 : 20



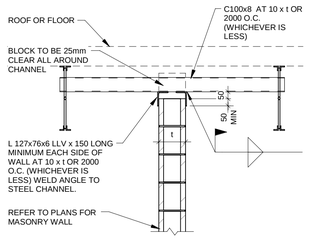
PARTITION WALL AT UNDERSIDE OF BEAMS



PARTITION WALL AT UNDERSIDE OF JOISTS



PARTITION WALL PERPENDICULAR TO JOIST OR BEAM



PARTITION PARALLEL TO JOISTS OR BEAMS

NOTES:

1. PROVIDE 150x6 PL. AS REQUIRED FOR THICKER WALLS UNDER JOISTS OR BEAMS.
2. FILL GAPS WITH COMPRESSIBLE MATERIAL AS INDICATED ON ARCHITECTURAL DRAWINGS.
3. DEFLECTION GAP 50 OR SPAN OF JOIST/360.

5 / S-104 — LATERAL SUPPORT FOR TOP WALLS AT NON-LOADBEARING MASONRY

1 : 20

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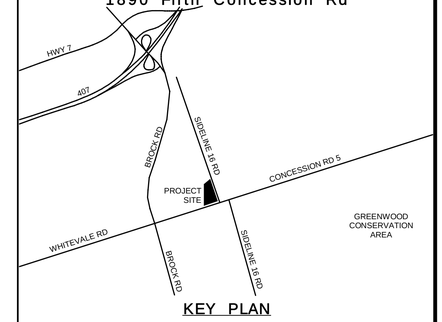
1890 Fifth Concession Rd



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NEW PARAMEDICS STATION - SEATON

DETAILS SHEET 3 OF 7

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T-1160-2021	S-104	

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STEEL LINTELS ON CONCRETE BLOCK WALLS

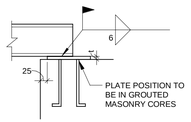
MARK	WALL THICKNESS	WALL TYPE	DESCRIPTION	BEARING PLATE	DETAIL
L1	190mm	INTERIOR	2-L 89x89x6.4	NONE	190
L2	190mm	INTERIOR & EXTERIOR	W200x27 + 6mm x 180mm PLATE	BP1	REFER TO RefAIL 190
L3	190mm	INTERIOR	W200x36 + 6mm x 180mm PLATE	BP2	REFER TO RefAIL 190
L4	240mm	INTERIOR	W200x36 + 6mm x 230mm PLATE	BP2	REFER TO RefAIL 240

NOTES:

1. BEARING LENGTH: 200mm MINIMUM AT EACH END (ANGLED LINTEL) ON FILLED OR SOLID MASONRY U.N.O.
2. CONNECT BACK TO BACK ANGLES AT 450 O.C. BY WELDING
3. ALL ANGLES ARE LONG LEG VERTICAL (LLV) U.N.O.
4. COORDINATE ALL ADDITIONAL REQUIRED OPENINGS WITH ALL DISCIPLINES.
5. FOR MASONRY OPENINGS LESS THAN OR EQUAL TO 300mm WIDE, USE A 8mm THICK STEEL PLATE LINTEL THE EDGE OF THE PLATE SHALL BE RECESSED 6mm FROM EACH WALL FACE. PROVIDE 150mm BEARING EACH SIDE.
6. STEEL LINTELS ARE NOT REQUIRED FOR OPENINGS LESS THEN 150mm.
7. FOR LINTEL "L1", PROVIDE MINIMUM BEARING OF SOLIDLY GROUTED BLOCK TWO COURSES DEEP.
8. LINTELS "L2" TO "L4", PROVIDE BEAM BEARING PLATES (REFER TO BEARING PLATE SCHEDULE) INTO SOLIDLY GROUTED REINFORCED CORES, TWO COURSES DEEP. LOCATE BEARING PLATES MINIMUM 25mm FROM EDGE OF OPENING.
9. ALL STEEL LINTEL BEAM ASSEMBLIES IN EXTERIOR WALLS ARE TO BE HOT-DIPPED GALVANIZED.
10. REFER TO MECHANICAL DRAWINGS FOR MECHANICAL WALL OPENINGS REQUIREMENTS NOT SHOWN ON STRUCTURAL DRAWINGS.

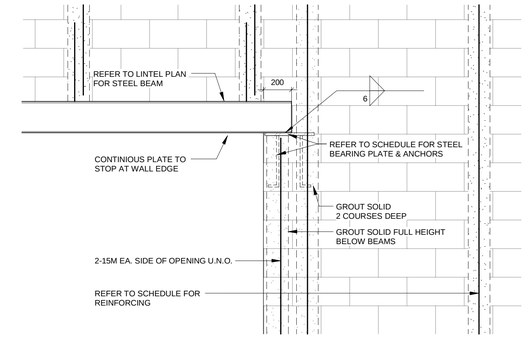
BEARING PLATE SCHEDULE

MARK	BEAM MAX FLANGE WIDTH	BEAM SIZE	PLATE SIZE (MM) T x W x L	ANCHORS REQUIRED
BP1	150mm	SEE PLANS	16 x 170 x 300	2-19mmØ
BP2	175mm	SEE PLANS	16 x 190 x 300	2-19mmØ
BP3	STEEL DECK	STEEL DECK	6 x 100 CONTINIOUS	1 - 16mmØ AT 400mm O.C.

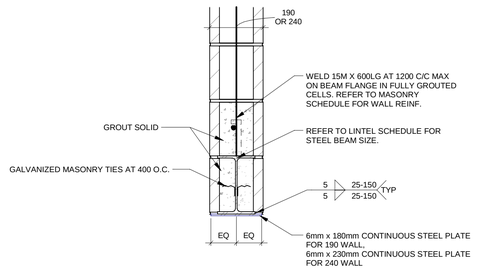


NOTES:

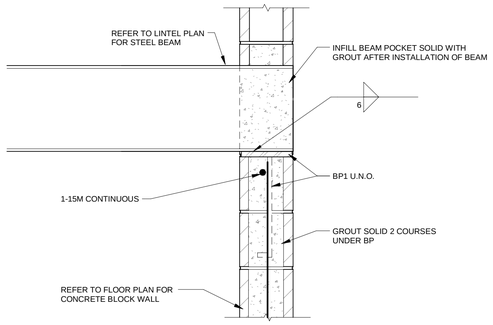
1. BEAM BEARING LENGTH (L) MUST MATCH BASE PLATE DIMENSION.
2. ANCHORS SHALL BE FULLY WELDED TO THE BEARING PLATE:
   16mm DIA. x 150mm LONG w/ 50mm HOOK; 550mm LONG FOR ROOF LEVEL.
   19mm DIA. x 350mm LONG w/ 50mm HOOK.
3. SEE DETAILS ON THIS SHEET FOR WALL REINFORCING UNDER BEARING PLATE LOCATIONS.
4. REFER TO LINTEL SCHEDULE FOR REQUIRED BEARING PLATES AT LINTEL LOCATIONS.



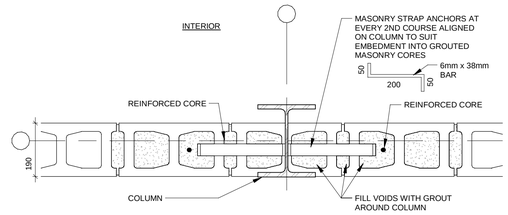
1 / S-105 — STEEL LINTEL ON MASONRY WALL DETAIL
1 : 20



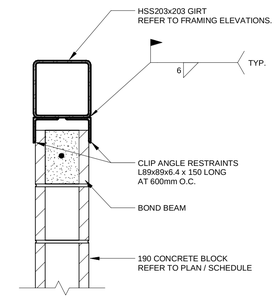
2 / S-105 — TYPICAL STEEL BEAM LINTEL
1 : 10



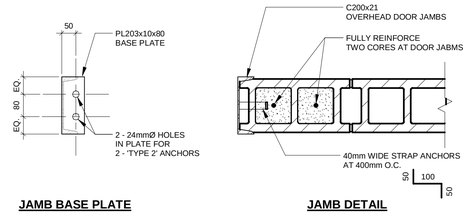
3 / S-105 — PERPENDICULAR SUPPORT
1 : 10



4 / S-105 — MASONRY WALL ANCHORAGE AT COLUMN
1 : 10



5 / S-105 — TYPICAL DETAILS - EXTERIOR MASONRY WALL AT GIRT
1 : 10



JAMB BASE PLATE DETAIL

JAMB DETAIL

6 / S-105 — TYPICAL DETAIL - OVERHEAD DOOR JAMB AT BLOCK
1 : 10

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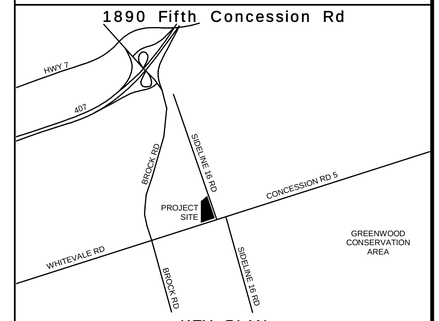

KEY PLAN

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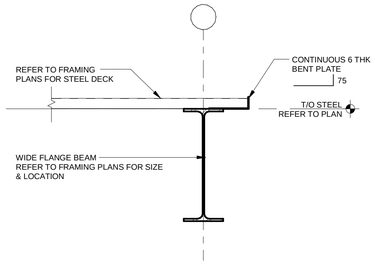
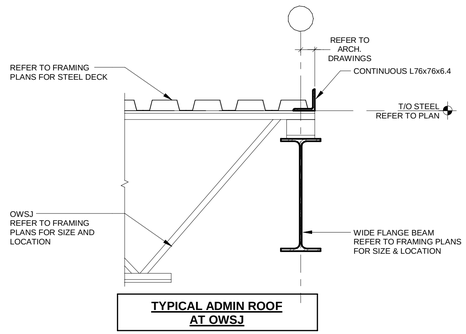


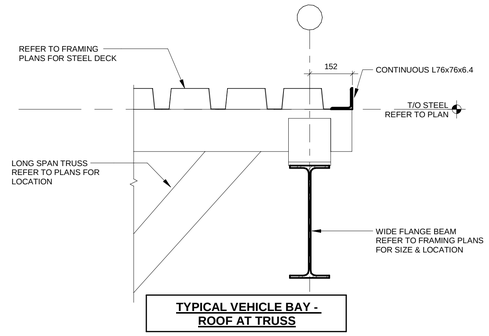
TYPICAL ADMIN ROOF AT BEAM
TYPICAL VEHICLE BAY ROOF AT BEAM

1 S-106 EDGE OF DECK DETAIL
1 : 10



TYPICAL ADMIN ROOF AT OWSJ

2 S-106 EDGE OF DECK DETAIL
1 : 10



TYPICAL VEHICLE BAY - ROOF AT TRUSS

3 S-106 EDGE OF DECK DETAIL
1 : 10

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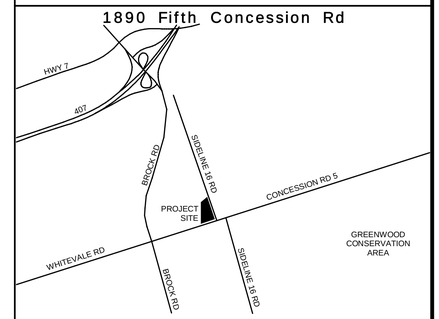
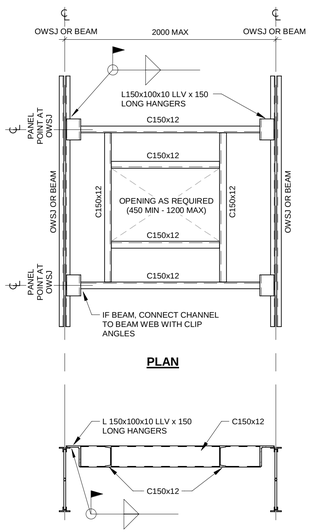


KEY PLAN



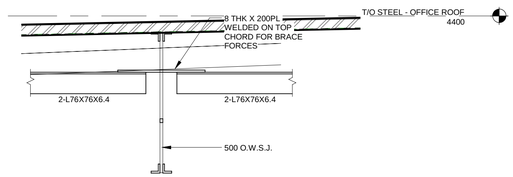
PLAN

SECTION

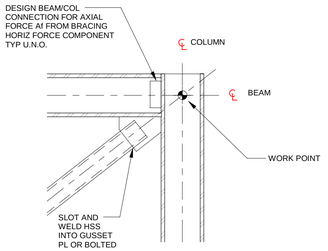
NOTES:

1. DECK REINFORCEMENT FOR OPENINGS LESS THAN 450x450 TO BE PROVIDED BY DECK MANUFACTURER.
2. TOP OF STEEL OPENING FRAMING TIGHT TO UNDERSIDE OF DECK U.N.O.
3. LOCATION WEIGHT AND SIZE OF ALL MECHANICAL UNITS AND OPENINGS THROUGH DECK SHALL BE VERIFIED BY CONTRACTOR WITH MECHANICAL DRAWINGS AND MANUFACTURER PRIOR TO FABRICATION.
4. STRUCTURAL STEEL ERECTION DRAWINGS SHALL SHOW LOCATION AND SIZE OF OPENINGS AND MECHANICAL UNITS INCLUDING WEIGHTS.
5. DESIGN OWSJ FOR ADDITIONAL WEIGHT OF MECHANICAL UNITS AND SNOW BUILD UP.

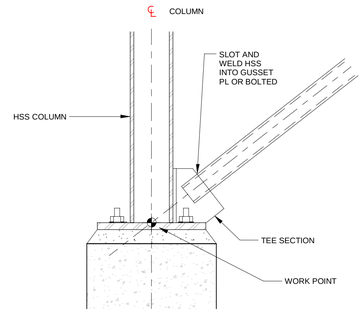
4 S-106 STEEL DECK/ROOF OPENING FRAMING
1 : 20



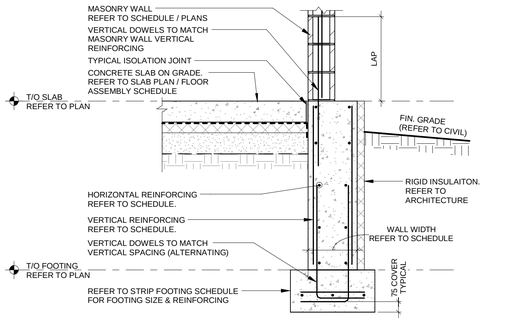
5 S-203 S-106 TYPICAL TOP CHORD BRACE SECTION
1 : 10



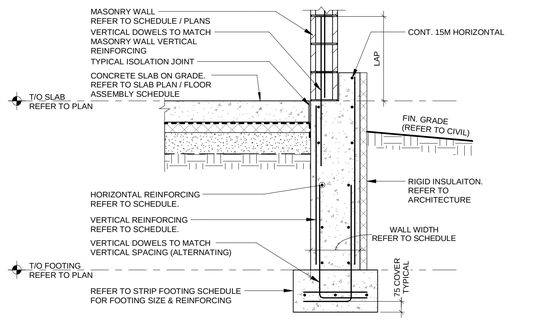
6 S-106 BRACING CONNECTION AT TOP
1 : 10



7 S-106 BRACING CONNECTION AT BASE
1 : 10



8 S-106 TYP. EXTERIOR FOUNDATION WALL - VEHICLE BAY OR ADMIN
1 : 20



9 S-106 TYP. EXT'R FDN. WALL w/ CURB - VEHICLE BAY OR ADMIN
1 : 20

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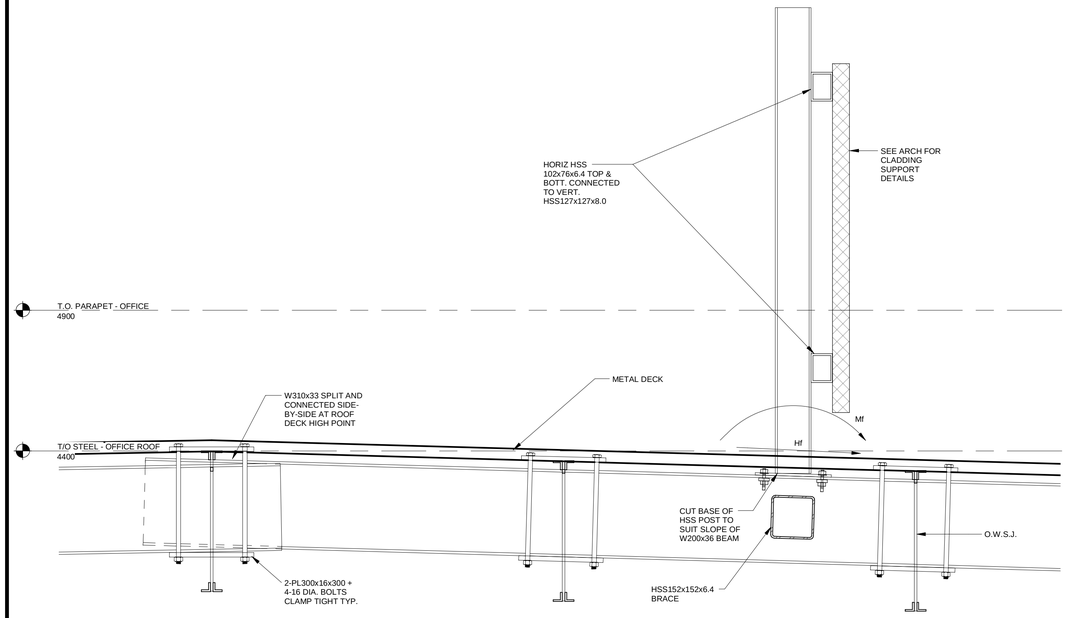
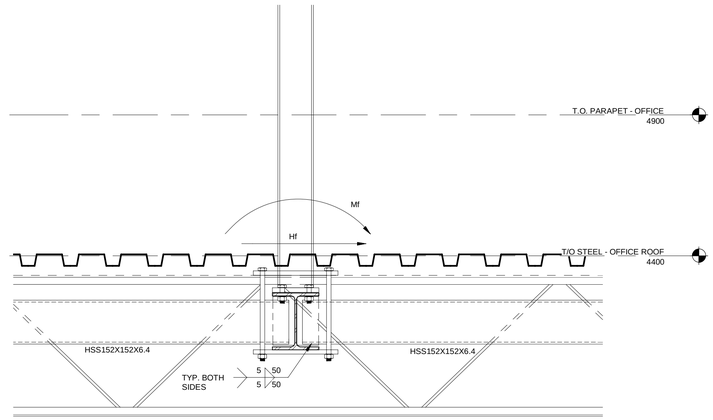


1 S-203 S-107 — SCREEN POST SUPPORT DETAIL

1 : 10

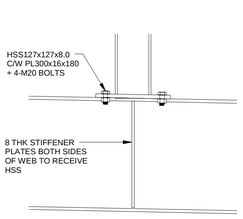


NOTES:

1. WHERE SCREEN SUPPORT IS CLAMPED TO O.W.S.J., DESIGN O.W.S.J. FOR AN ADDITIONAL VERTICAL LOAD OF 20kN (UPWARD AND DOWNWARD).
2. DESIGN O.W.S.J. FOR AN ADDITIONAL LOAD OF Mf = 20kN.m AND Hf = 15kN (BOTH DIRECTIONS).

2 S-203 S-107 — SCREEN POST SUPPORT DETAIL

1 : 10

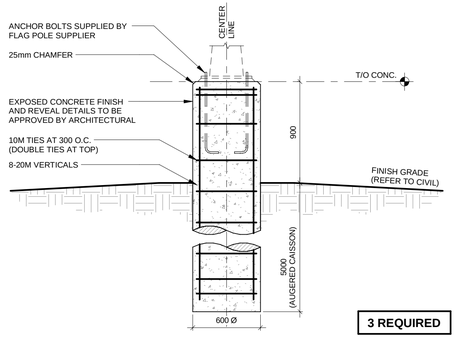


A S-107 S-107 — SECTION

1 : 10

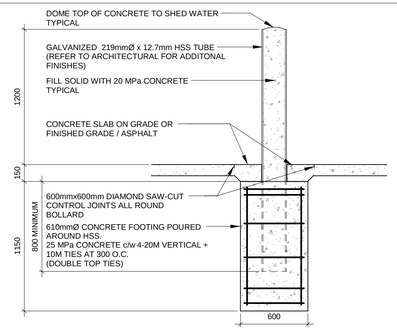
3 S-203 S-107 — SCREEN POST SUPPORT DETAIL

1 : 10



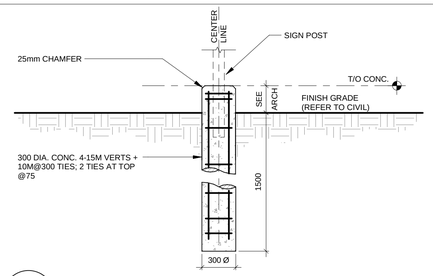
4 S-107 — TYPICAL FLAG POLE AND FOUNDATION

1 : 25



5 S-107 — TYPICAL BOLLARD AND FOUNDATION

1 : 25



6 S-107 — TYPICAL TRAFFIC SIGN FOUNDATION

1 : 25

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1890 Fifth Concession Rd

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LICENSED PROFESSIONAL ENGINEER
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100055126
9/22/2021
PROVINCE OF ONTARIO

SUB CONSULTANT

DESIGN BY: D.S.	SCALE: As indicated
DRAWN BY: R.E.	DATE: 03/31/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

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DURHAM REGION

THE REGIONAL MUNICIPALITY OF DURHAM

WORKS DEPARTMENT

DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

DETAILS SHEET 6 OF 7

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-107	

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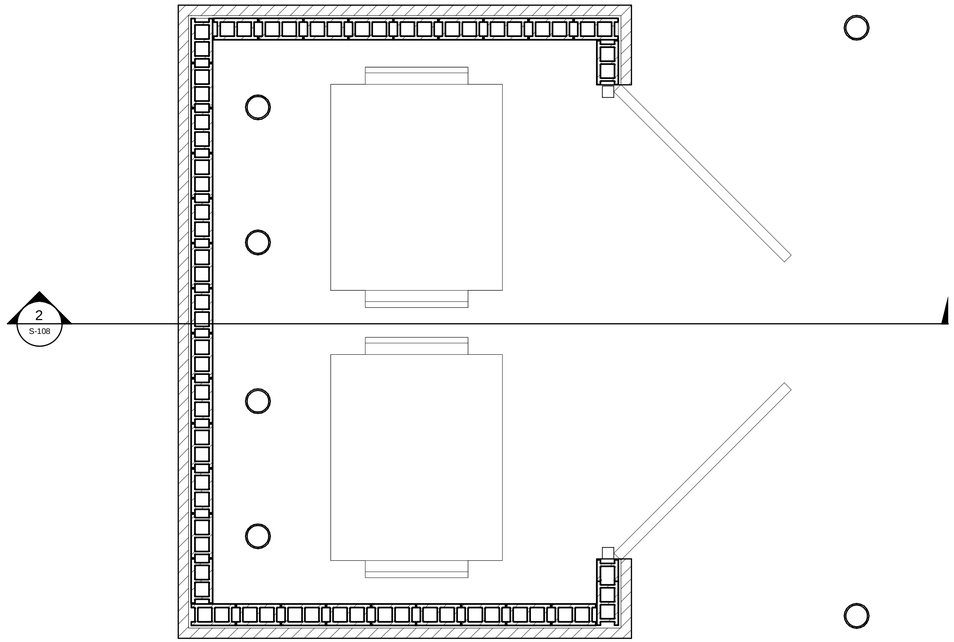
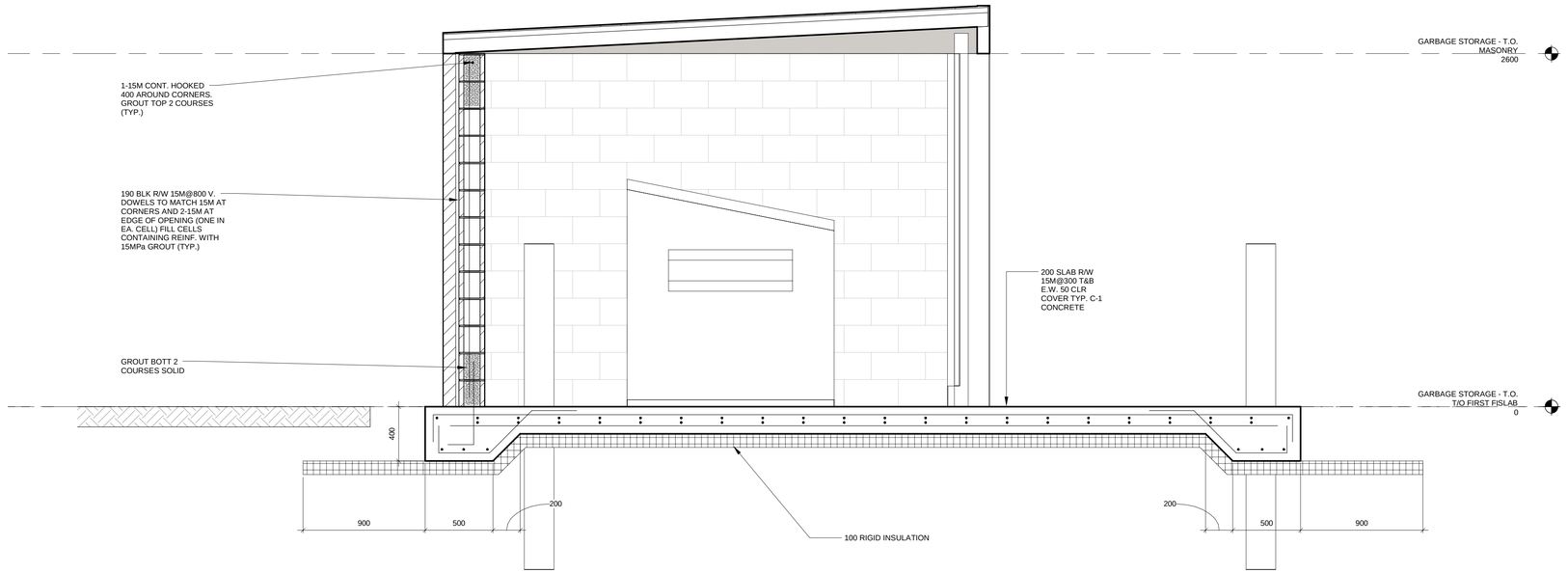


1 GARBAGE ENCLOSURE PLAN
S-401 S-108
1 : 25



2 SECTION
S-108 S-108
1 : 20

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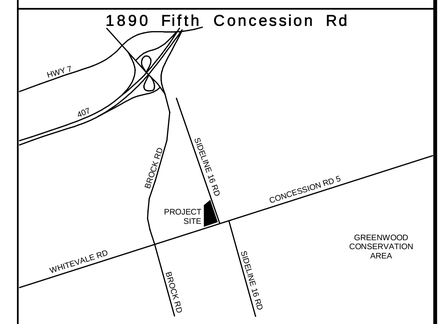

KEY PLAN

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NEW PARAMEDICS STATION - SEATON

DETAILS SHEET 7 OF 7

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-108	

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FOUNDATION PLAN - GENERAL NOTES

NOTES:

1. TOP OF FOOTINGS ARE AT EL. -1200, UNLESS NOTED AS PER SYMBOL LEGEND.
2. SCHEDULES AND LEGENDS IN REGARDS TO FOUNDATION PLANS ARE TO BE READ IN CONJUNCTION WITH SCHEDULES.
3. ALL CONTINUOUS WALL STRIP FOOTINGS ARE TO BE CENTERED ON THE ASSOCIATED WALL, EXCEPT WHERE OTHERWISE DIMENSIONED.
4. 'S.F.' DENOTES APPROXIMATE LOCATIONS OF STEP FOOTING. REFER TO TYPICAL DETAILS. CONTRACTOR TO LOCATE TO SUIT CONSTRUCTION CONDITIONS.
5. ALL SPREAD FOOTINGS ARE TO BE CENTERED ON THE COLUMN GRID LINES, EXCEPT WHERE OTHERWISE DIMENSIONED.
6. MECHANICAL SERVICES ARE SHOWN FOR REFERENCE AND INTERFACE WITH FOUNDATION ELEMENTS. FINAL LOCATION, SIZE AND COMPOSITION ARE TO BE COORDINATED WITH OTHER DISCIPLINES AS NOTED.

LEGEND

- SDF — DENOTES APPROXIMATE LOCATION OF TYPICAL STEP DOWN FOOTING
- C.J — DENOTES APPROXIMATE LOCATION OF TYPICAL FOUNDATION CONTROL JOINT
- ### FF — TOP OF FOOTING RELATIVE TO TOP OF FINISHED GROUND FLOOR CONCRETE SLAB
- TYPICAL 200mm DROP IN FOUNDATION WALL AT OPENING

STRUCTURAL CONCRETE WALL SCHEDULE - PHASE 1

TYPE MARK	WALL WIDTH	USE	REINFORCING
CW-200	200	FOUNDATION	15M@300 V & H
CW-240	240	FOUNDATION	15M@400 V.E.F. + 10M@300 H.E.F.
CW-310	310	FOUNDATION	15M@400 V.E.F. + 10M@300 H.E.F.
CW-315	315	FOUNDATION	15M@400 V.E.F. + 10M@300 H.E.F.
CW-345	345	FOUNDATION	15M@400 V.E.F. + 10M@300 H.E.F.
CW-400	400	FOUNDATION	15M@400 V & H.E.F.
CW-430	430	FOUNDATION	15M@350 V & H.E.F.
CW-500	500	FOUNDATION	15M@350 V & H.E.F.
CW-650	650	FOUNDATION	15M@300 V & H.E.F.
CW-750	750	FOUNDATION	15M@300 V & H.E.F.

STRUCTURAL PIER SCHEDULE - PHASE 1

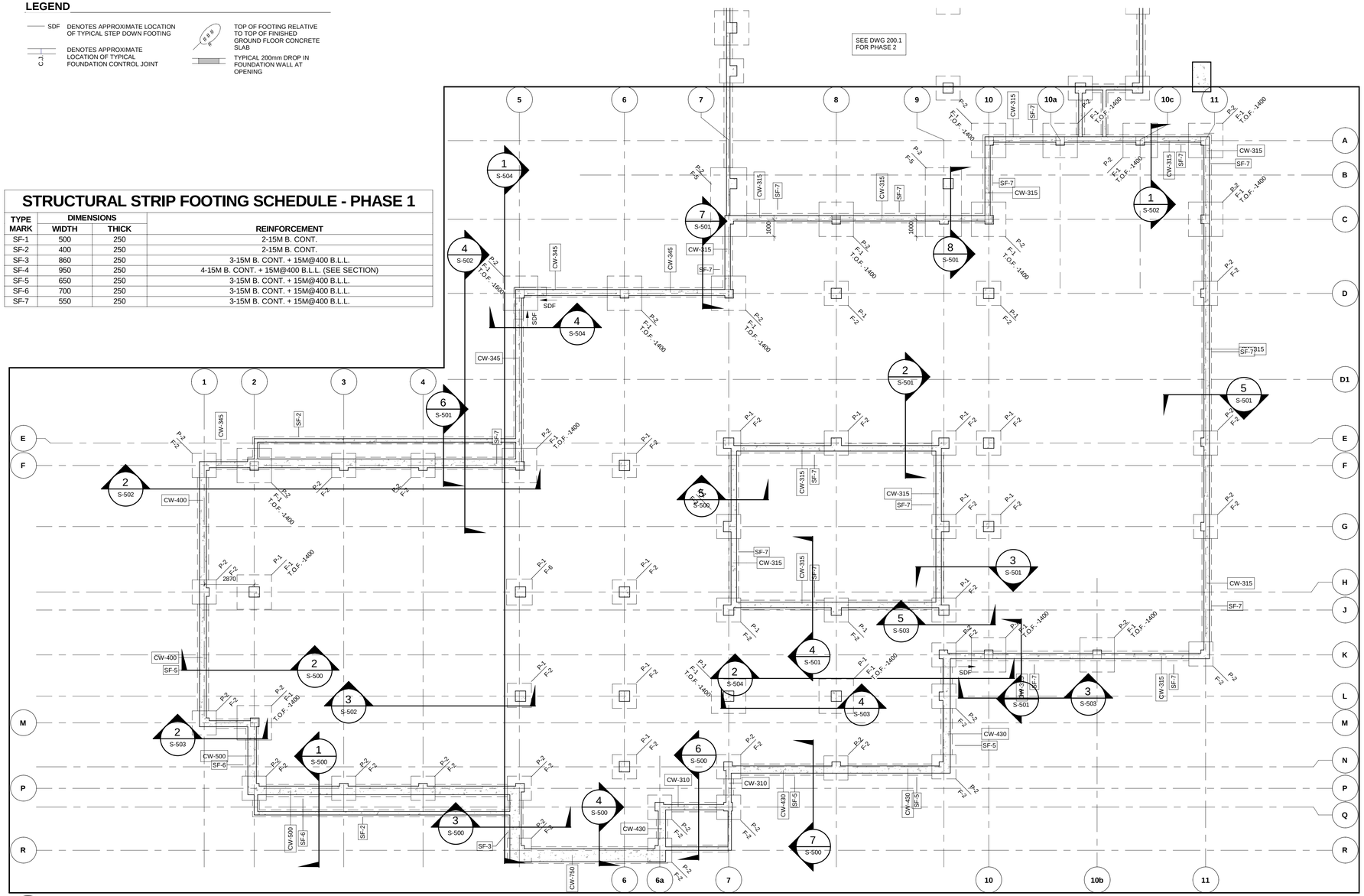
TYPE MARK	DIMENSIONS		REINFORCEMENT
	WIDTH	LENGTH	
P-1	600	600	8-20M VERT. W/ 10M TIES @ 300 o/c
P-2	500	500	8-20M VERT. W/ 10M TIES @ 300 o/c

STRUCTURAL SPREAD FOOTING SCHEDULE - PHASE 1

TYPE MARK	DIMENSIONS			REINFORCEMENT
	LENGTH	WIDTH	THICK	
F-1	2000	2000	350	
F-2	1400	1400	350	5-15M B.E.W.
F-4	1730	1065	1200	
F-5	4000	2100	400	8-20M T.U.L. + 15M@300 T.S.W. | 8-20M B.U.L. + 20M@300 B.S.W.
F-6	1500	1500	350	5-15M B.E.W.

STRUCTURAL STRIP FOOTING SCHEDULE - PHASE 1

TYPE MARK	DIMENSIONS		REINFORCEMENT
	WIDTH	THICK	
SF-1	500	250	2-15M B. CONT.
SF-2	400	250	2-15M B. CONT.
SF-3	860	250	3-15M B. CONT. + 15M@400 B.L.L.
SF-4	950	250	4-15M B. CONT. + 15M@400 B.L.L. (SEE SECTION)
SF-5	650	250	3-15M B. CONT. + 15M@400 B.L.L.
SF-6	700	250	3-15M B. CONT. + 15M@400 B.L.L.
SF-7	550	250	3-15M B. CONT. + 15M@400 B.L.L.



1 / S-401 S-200 — 00 FOUNDATION PLAN - PHASE 1

1 : 125

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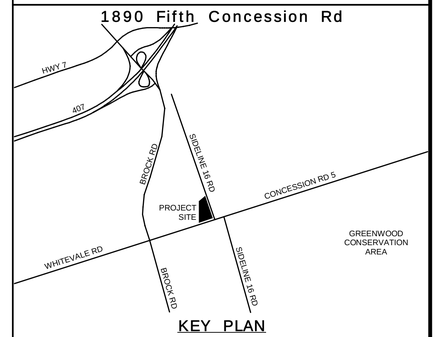

KEY PLAN

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LICENSED PROFESSIONAL ENGINEER — K.T.D. DUONG — 100055126 — 9/22/2021 — PROVINCE OF ONTARIO

SUB CONSULTANT

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THE REGIONAL MUNICIPALITY OF DURHAM

WORKS DEPARTMENT

DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

FOUNDATION PLAN

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-200	

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MAIN FLOOR SLAB PLAN - GENERAL NOTES

NOTES:

1. TOP OF MAIN FLOOR SLAB ON GRADE (H.P.) IS AT EL. 0.00m, UNLESS NOTED AS PER SYMBOL LEGEND.
2. SCHEDULES AND LEGENDS IN REGARDS TO SLAB ON GRADE PLANS ARE TO BE READ IN CONJUNCTION WITH DRAWING _____.
3. TOP OF PIERS ARE **-200mm** BELOW TOP OF MAIN FLOOR DATUM, UNLESS NOTED AS PER SYMBOL LEGEND.

SLAB PLAN SYMBOL LEGEND

- SC — DENOTES TYPICAL SAW CUT
- XXX — DENOTES OFFSET OF TOP OF PIER FROM TOP OF SLAB ON GRADE REFERENCE.
- TYPICAL 200mm DROP IN FOUNDATION WALL AT MANDOOR OPENING
- TYPICAL 300mm DROP IN FOUNDATION WALL AT O/H DOOR OPENING

STRUCTURAL NON-LOAD BEARING MASONRY WALL SCHEDULE

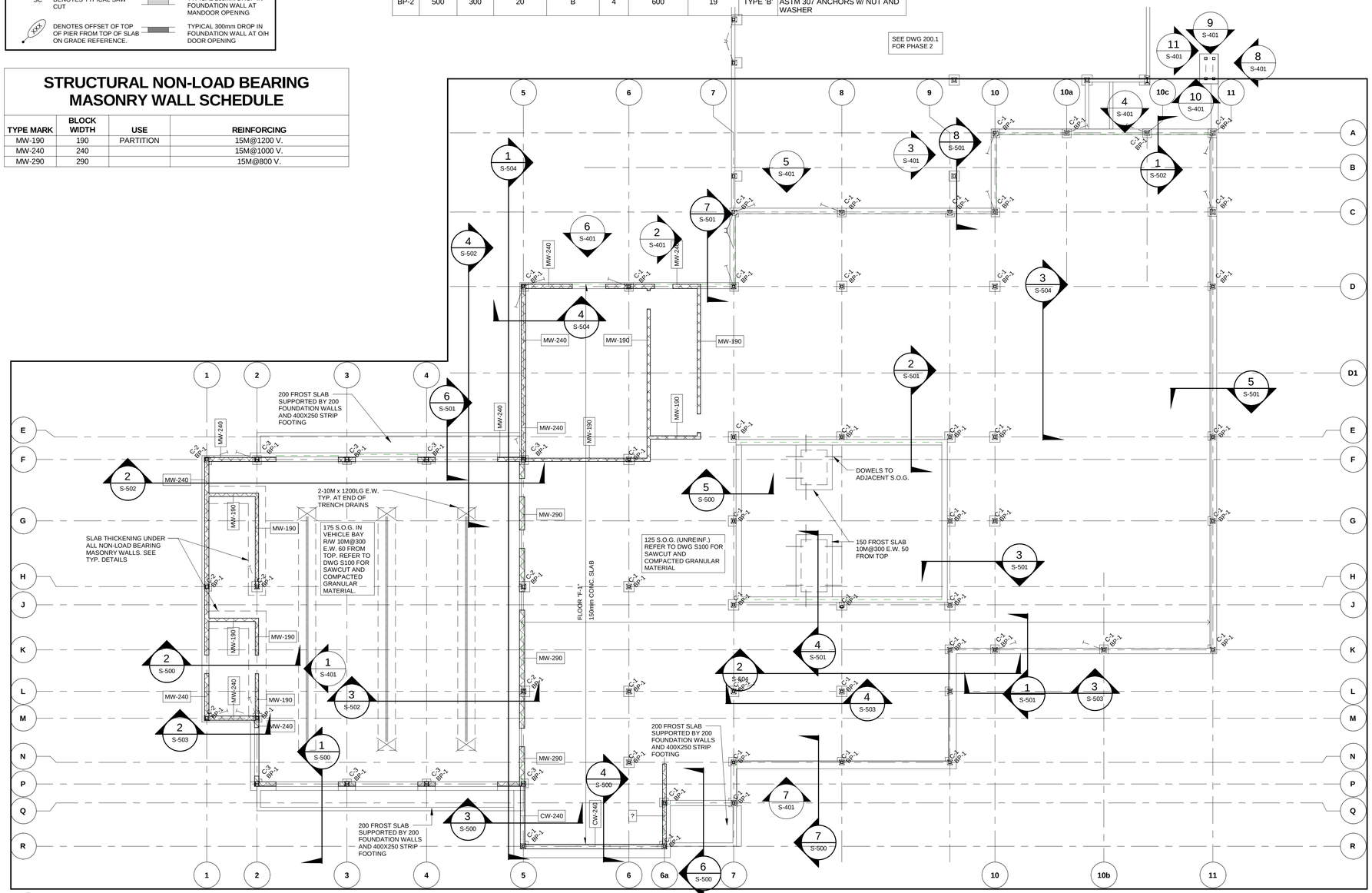
TYPE MARK	BLOCK WIDTH	USE	REINFORCING
MW-190	190	PARTITION	15M@1200 V.
MW-240	240		15M@1000 V.
MW-290	290		15M@800 V.

STRUCTURAL COLUMN SCHEDULE - PHASE 1

TYPE MARK	SECTION DESCRIPTION	REMARKS
C-1	HS152x152x6.4	
C-2	HS178x178x6.4	
C-3	W200x59	
C-4	W310X52	

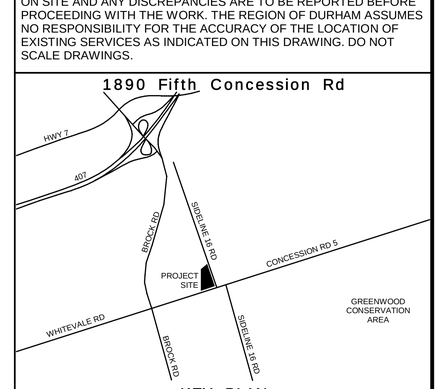
STRUCTURAL BASEPLATE SCHEDULE - PHASE 1

Type Mark	PLATE DIMENSIONS (mm) WIDTH (B)	LENGTH (H)	PLATE THICKNESS	BASEPLATE TYPE	ANCHOR DIMENSIONS QTY.	MIN. EMBED (mm)	ANCHOR BOLT HOLE Ø (mm)	ANCHOR TYPE	ANCHOR BOLT DESCRIPTION
BP-1	300	300	20	A	4	400	19	TYPE 'A'	ASTM 307 ANCHORS w/ NUT AND WASHER
BP-2	500	300	20	B	4	600	19	TYPE 'B'	ASTM 307 ANCHORS w/ NUT AND WASHER



2 / S-401 S-201 SLAB ON GRADE PLAN
1 : 125

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



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WORKS DEPARTMENT

DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

FLOOR SLAB PLAN

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-201	

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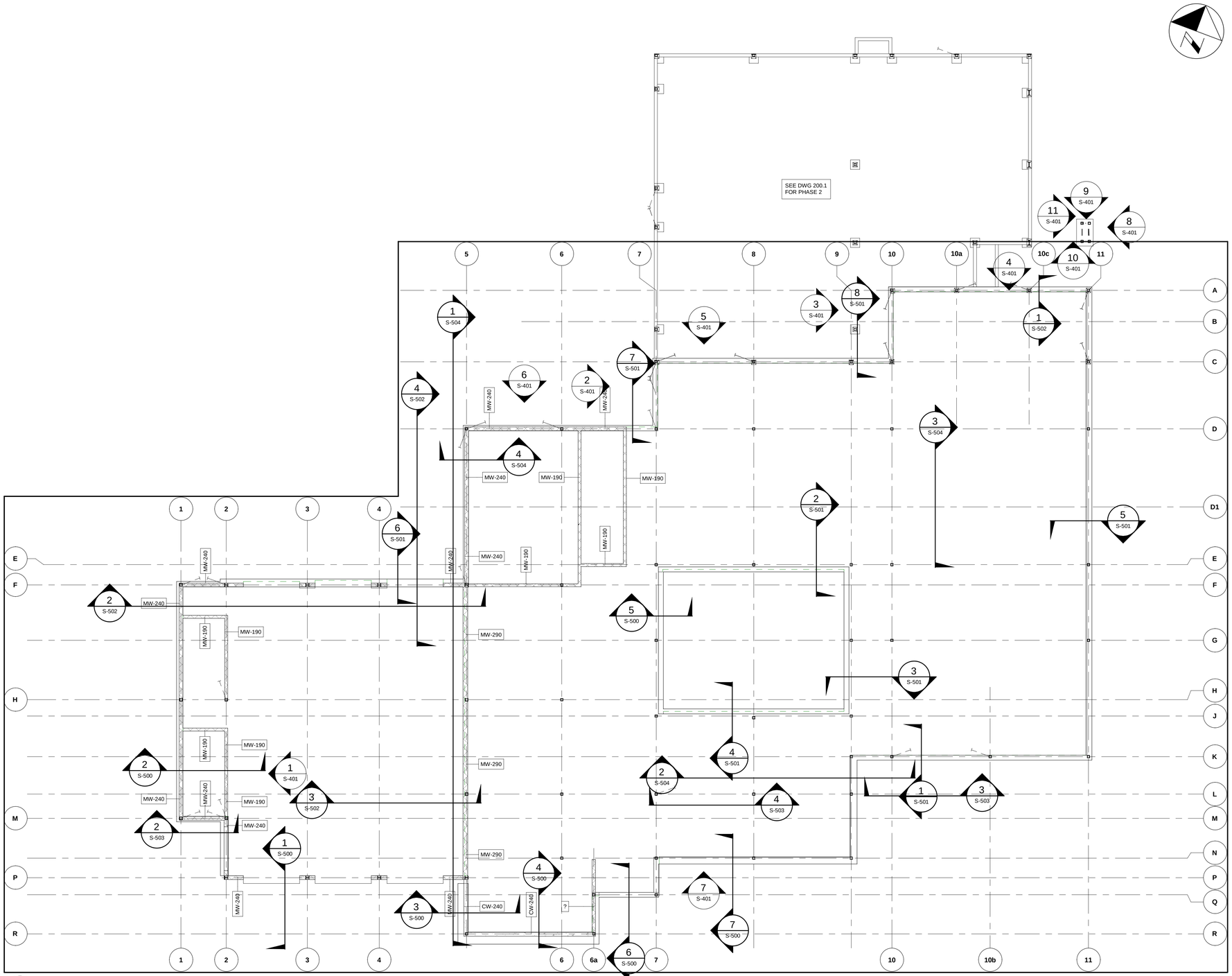

1 S-401 S-202 MASONRY LINTEL PLAN - MAIN FLOOR
1 : 125

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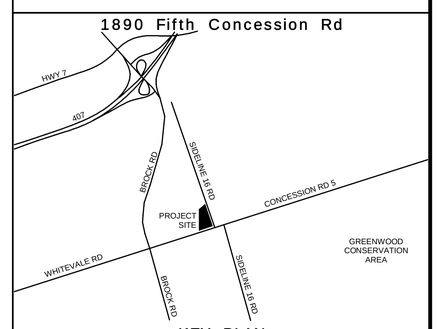

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MASONRY LINTEL PLAN

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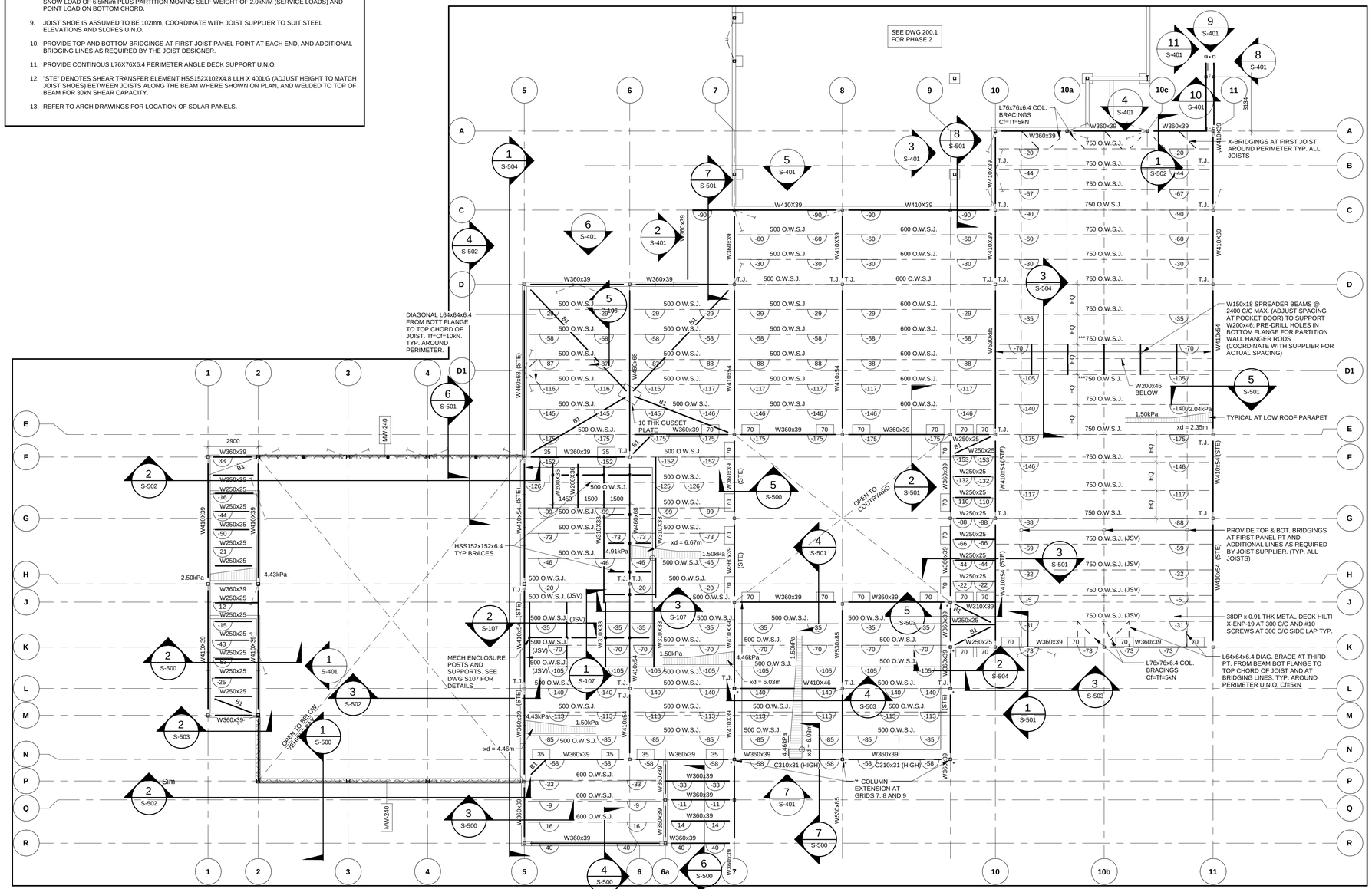
OFFICE ROOF
FRAMING PLAN - GENERAL NOTES

NOTES:

1. TOP OF STEEL FOR ROOF FRAMING IS AT REFERENCE DATUM **EL. 4400 = 0.0**, UNLESS NOTED AS PER SYMBOL LEGEND. REFER TO ARCH DRAWINGS FOR ROOF SLOPES.
2. SCHEDULES AND LEGENDS IN REGARDS TO ROOF FRAMING PLANS ARE TO BE READ IN CONJUNCTION WITH DRAWING ____.
3. UNDERSIDE OF DECK IS AT SAME LEVEL AS TOP OF STEEL, UNLESS NOTED AS PER SYMBOL LEGEND.
4. INTERMEDIATE BEAMS AND/OR OWSJs ARE TO BE EVENLY SPACED BETWEEN GRID LINE MEMBERS, UNLESS NOTED OTHERWISE.
5. MEMBER FORCES, WHERE SHOWN, ARE FACTORED FORCES IN kN, UNLESS NOTED OTHERWISE.
6. ** DENOTES JOIST TO BE DESIGNED FOR LIVE LOAD DEFLECTION OF SPAN /720.
7. B1 DENOTES 2L-102X102X8.0, Cf = Tf = 100kN U.N.O.
8. *** EXTEND JOIST BOTTOM CHORD AT EACH END FOR FOLDING PARTITION SUPPORTING STEEL. DESIGN JOISTS FOR MAX. DFLECTION OF 25mm (TO BE CONFIRMED BY SUPPLIER) FOR ROOF D.L. + SNOW LOAD OF 6.5kN/m PLUS PARTITION MOVING SELF WEIGHT OF 2.0kN/M (SERVICE LOADS) AND POINT LOAD ON BOTTOM CHORD.
9. JOIST SHOE IS ASSUMED TO BE 102mm, COORDINATE WITH JOIST SUPPLIER TO SUIT STEEL ELEVATIONS AND SLOPES U.N.O.
10. PROVIDE TOP AND BOTTOM BRIDGINGS AT FIRST JOIST PANEL POINT AT EACH END, AND ADDITIONAL BRIDGING LINES AS REQUIRED BY THE JOIST DESIGNER.
11. PROVIDE CONTINOUS L76X76X6.4 PERIMETER ANGLE DECK SUPPORT U.N.O.
12. "STE" DENOTES SHEAR TRANSFER ELEMENT HSS152X102X4.8 LLH X 400LG (ADJUST HEIGHT TO MATCH JOIST SHOES) BETWEEN JOISTS ALONG THE BEAM WHERE SHOWN ON PLAN, AND WELDED TO TOP OF BEAM FOR 30kN SHEAR CAPACITY.
13. REFER TO ARCH DRAWINGS FOR LOCATION OF SOLAR PANELS.

ROOF FRAMING PLAN SYMBOL LEGEND

XXX — TOP OF STEEL OFFSET FROM REFERENCE DATUM REFER TO GENERAL PLAN NOTES FOR DATUM ELEVATION.	FLOOR / ROOF DESCRIPTION — FLOOR / ROOF TYPE EXTENT AND SPAN DIRECTION REFER TO ASSEMBLY LEGEND.
MOMENT CONNECTION (FORCES SHOWN Mf, Vf)	R.A. — ROOF ANCHOR LOCATION. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS
FMC — FULL MOMENT CONNECTION	T.J. — TIE JOIST BOTTOM CHORD CONNECTED TO COLUMN
VERTICAL BRACING REFER TO FRAMING ELEVATIONS	JSV — DENOTES JOIST SHOE HEIGHT VARIES
70 — DESIGN CONNECTION FOR FACTORED AXIAL FORCE Tf, Cf (kN)	



1 FRAMING PLAN - OFFICE ROOF
S-106 S-203 1 : 125

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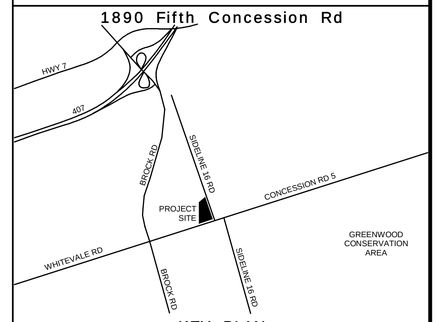

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NEW PARAMEDICS STATION - SEATON

ROOF FRAMING PLAN - OFFICE

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T - 1160 - 2021	S - 203	

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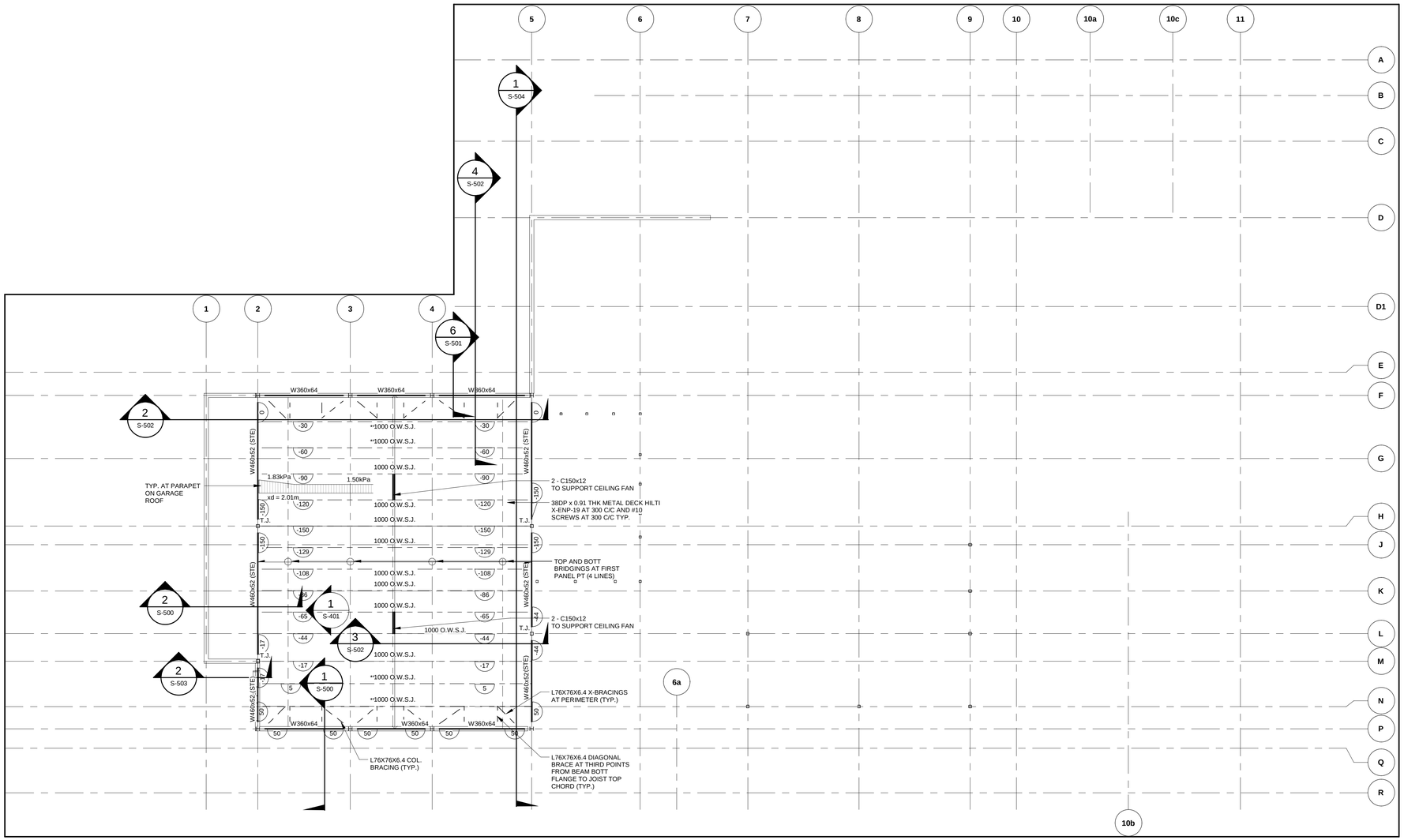
VEHICLE BAY ROOF
FRAMING PLAN - GENERAL NOTES

NOTES:

1. TOP OF STEEL FOR ROOF FRAMING IS AT REFERENCE DATUM **EL. 6400 = 0.0**, UNLESS NOTED AS PER SYMBOL LEGEND. REFER TO ARCH DRAWINGS FOR ROOF SLOPES.
2. SCHEDULES AND LEGENDS IN REGARDS TO ROOF FRAMING PLANS ARE TO BE READ IN CONJUNCTION WITH SECTIONS AND DETAILS.
3. UNDERSIDE OF DECK IS AT SAME LEVEL AS TOP OF STEEL, UNLESS NOTED AS PER SYMBOL LEGEND.
4. INTERMEDIATE BEAMS AND/OR OWSJs ARE TO BE EVENLY SPACED BETWEEN GRID LINE MEMBERS, UNLESS NOTED OTHERWISE.
5. MEMBER FORCES, WHERE SHOWN, ARE FACTORED FORCES IN kN, UNLESS NOTED OTHERWISE.
6. ** DENOTES JOISTS TO BE DESIGNED FOR LIVE LOAD DEFLECTION OF SPAN /720.
7. "STE" DENOTES SHEAR TRANSFER ELEMENT HSS152X102X4.8 LLV X 400LG (ADJUST HEIGHT TO MATCH JOIST SHOES) BETWEEN JOISTS ALONG THE BEAM WHERE SHOWN ON PLAN, AND WELDED TO TOP OF BEAM FOR 30kN SHEAR CAPACITY.

ROOF FRAMING PLAN SYMBOL LEGEND

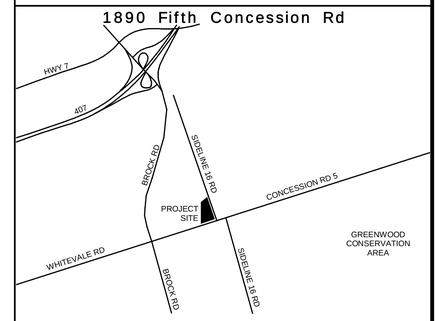
XXX	TOP OF STEEL OFFSET FROM REFERENCE DATUM REFER TO GENERAL PLAN NOTES FOR DATUM ELEVATION.	FLOOR / ROOF DESCRIPTION	FLOOR / ROOF TYPE EXTENT AND SPAN DIRECTION REFER TO ASSEMBLY LEGEND.
	MOMENT CONNECTION (FORCES SHOWN Mf, Vf)	R.A.	ROOF ANCHOR LOCATION. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS
FMC	FULL MOMENT CONNECTION	T.J.	TIE JOIST BOTTOM CHORD CONNECTED TO COLUMN
	VERTICAL BRACING REFER TO FRAMING ELEVATIONS	JSV	DENOTES JOIST SHOE HEIGHT VARIES
70	DESIGN CONNECTION FOR FACTORED AXIAL FORCE Tf, Cf (kN)		



1 (S-401 S-204) FRAMING PLAN - VEHICLE BAY ROOF

1 : 125

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.



KEY PLAN

CONSULTANT REVISIONS

NO.	DATE.	NAME	REVISIONS

PRIME CONSULTANT

AECOM

AECOM Canada Ltd.
50 Sportsworld Crossing Road, Suite 290
Kitchener, Ontario, N2P 0A4
519 650 5313 tel 519 650 3424 fax
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LICENSED PROFESSIONAL ENGINEER
K.T.D. DUONG
100055126
9/22/2021
PROVINCE OF ONTARIO

SUB CONSULTANT

DESIGN BY: D.S.	SCALE: As indicated
DRAWN BY: R.E.	DATE: 03/31/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

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THE REGIONAL MUNICIPALITY OF DURHAM

WORKS DEPARTMENT

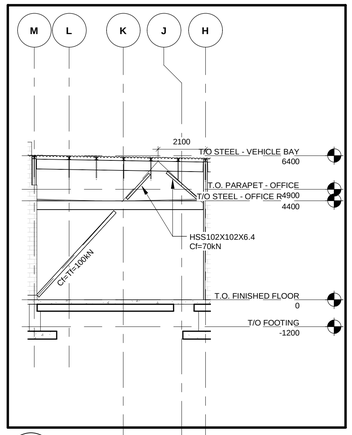
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

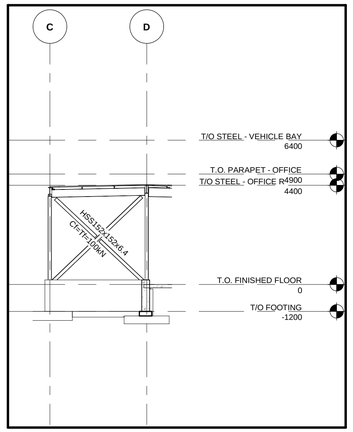
ROOF FRAMING PLAN - VEHICLE BAY

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	**DRAWING NO.**	**SHEET NO.**
T-1160-2021	S-204	

BIM 360://BP-AMER (CAN) 60611569-Seaton RDPS/60611569-Seaton RDPS-S.rvt



1 S-201 S-401 FRAMING ELEVATION - GRID '2'
1 : 125 (LOOKING EAST)



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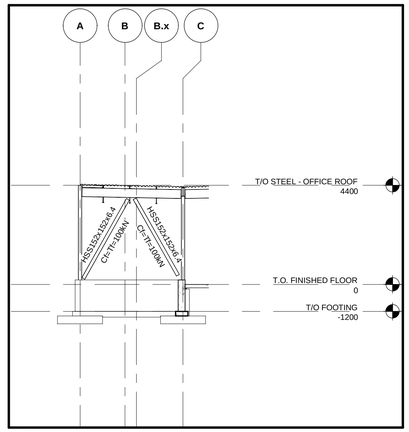

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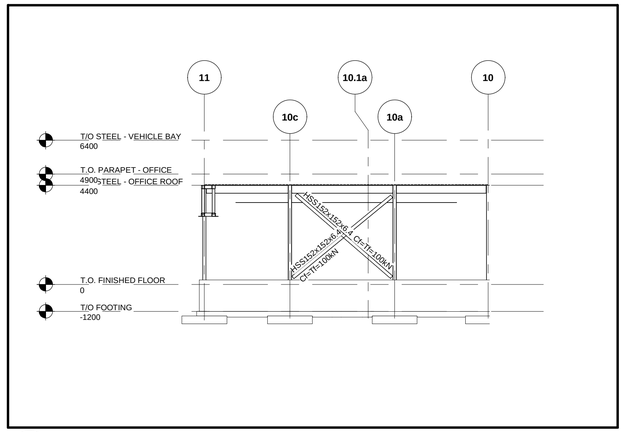

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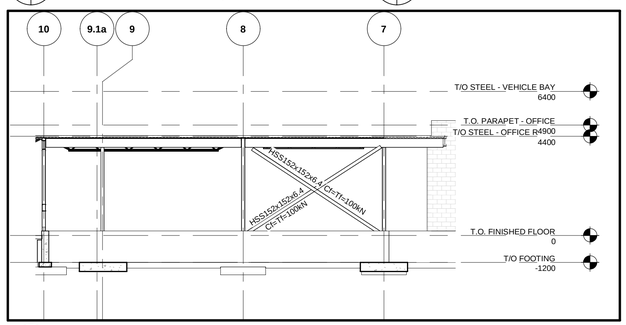

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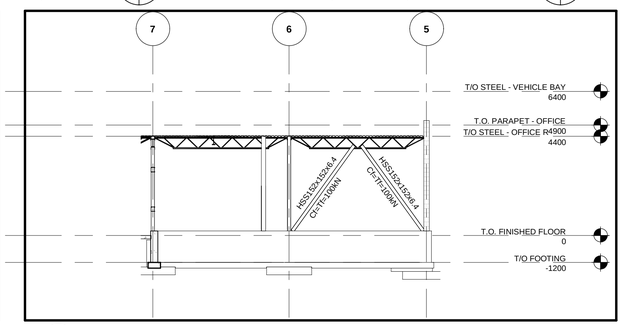
1 : 125 (LOOKING SOUTH)



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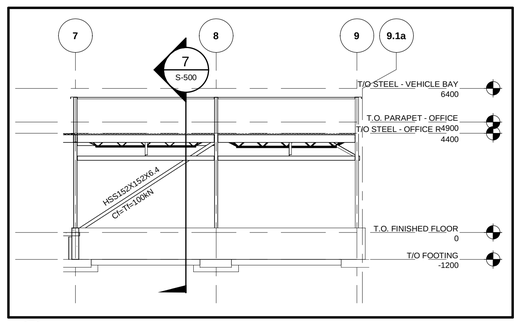

7 S-201 S-401 FRAMING ELEVATION - GRID 'L'
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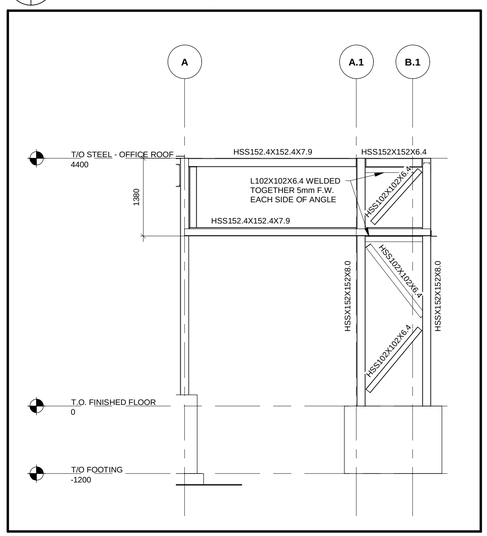

8 S-201 S-401 PORTAL FRAMING ELEVATION WEST
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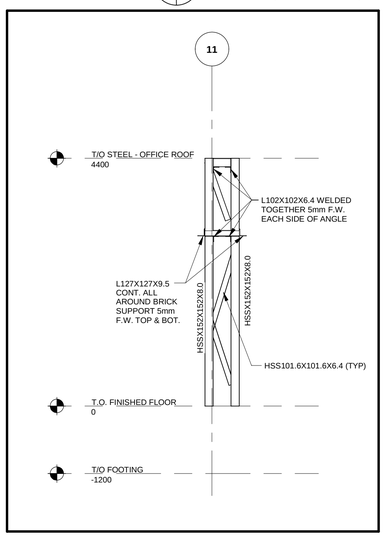
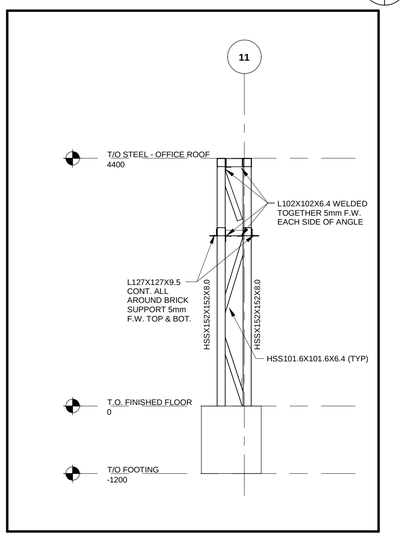
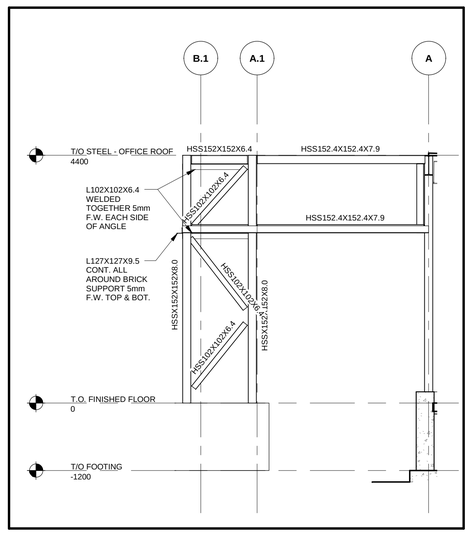


9 S-201 S-401 PORTAL FRAMING ELEVATION SOUTH
1 : 50



10 S-201 S-401 PORTAL FRAMING ELEVATION NORTH
1 : 50



11 S-201 S-401 PORTAL FRAMING ELEVATION EAST
1 : 50

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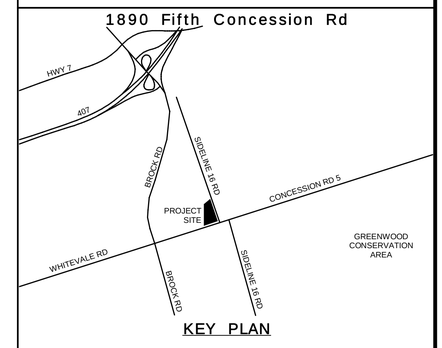

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APPROVED BY: K.D.	CLIENT FILE No.: 811/20

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THE REGIONAL MUNICIPALITY OF DURHAM
WORKS DEPARTMENT
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

FRAMING ELEVATIONS

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-401	

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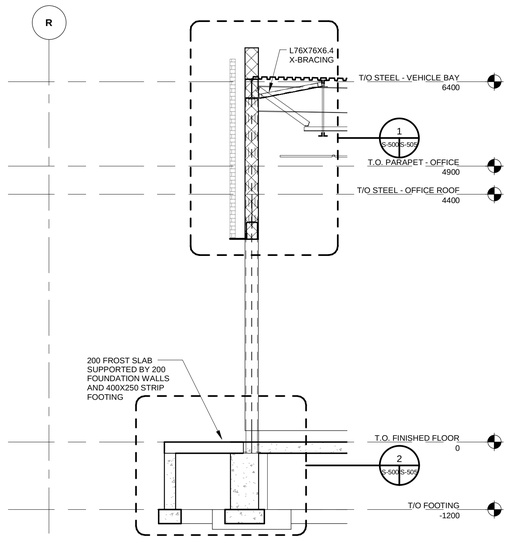

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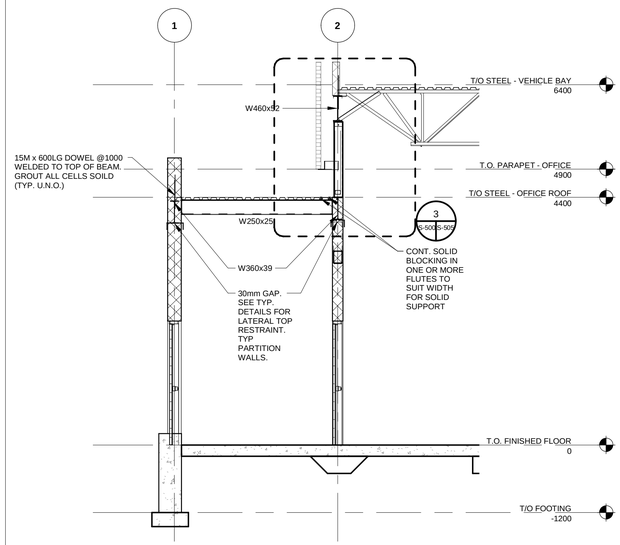
S-200 S-500 1 : 50



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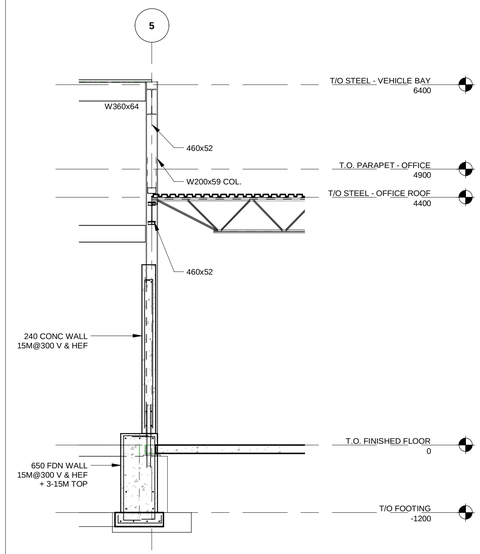

3 SECTION
S-200 S-500 1 : 50

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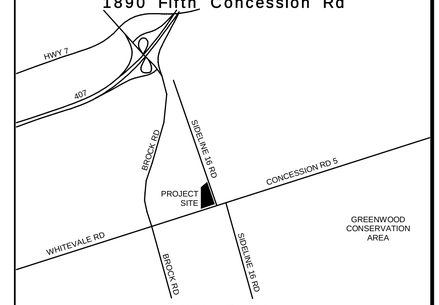
1890 Fifth Concession Rd



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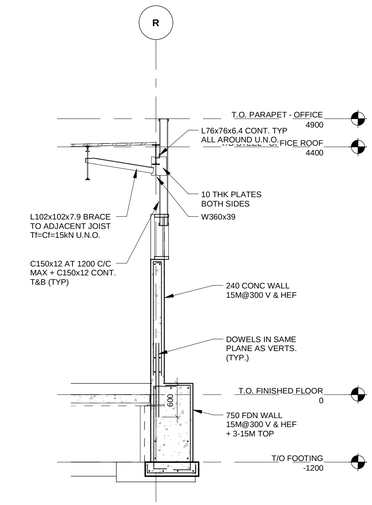

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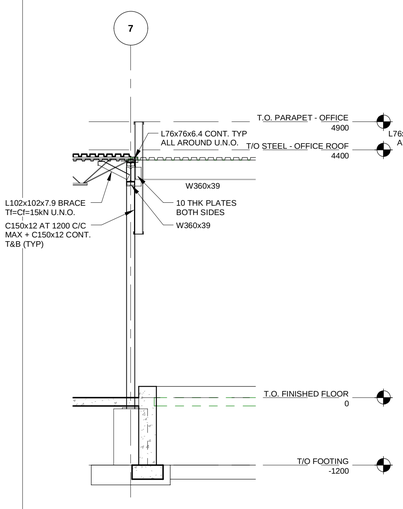
S-200 S-500 1 : 50



5 SECTION
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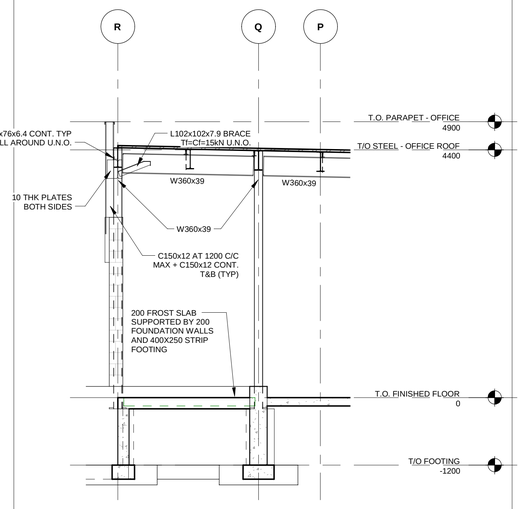

6 SECTION
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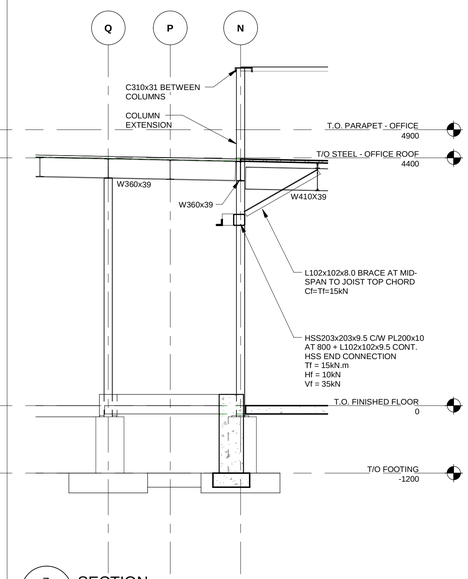

7 SECTION
S-200 S-500 1 : 50

DESIGN BY: D.S.	SCALE: 1 : 50
DRAWN BY: R.E.	DATE: 03/31/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

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WORKS DEPARTMENT

DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

SECTIONS SHEET 1 OF 6

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-500	

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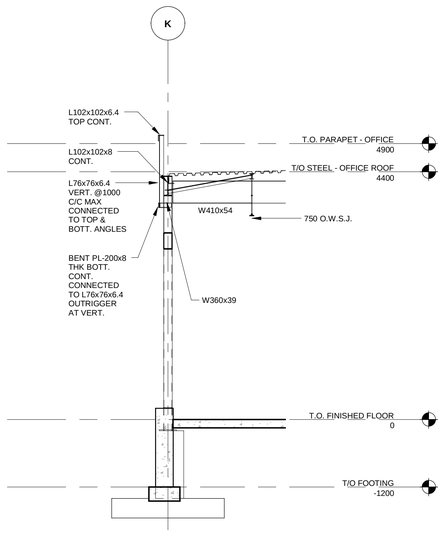

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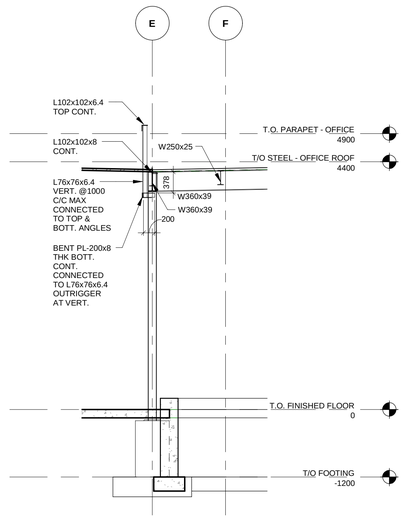

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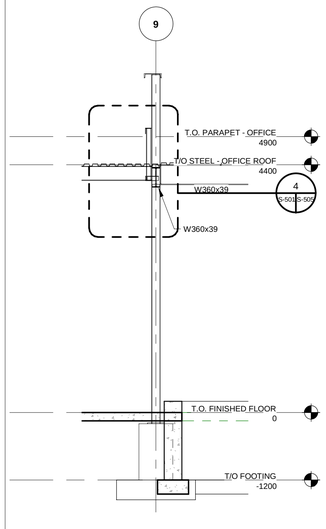

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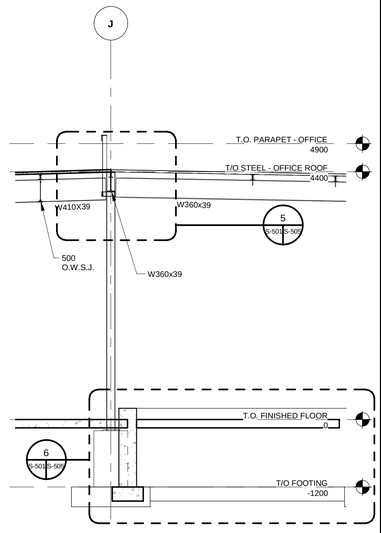

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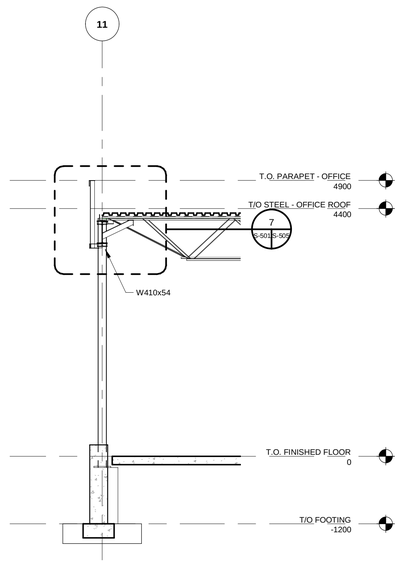

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S-200 S-501
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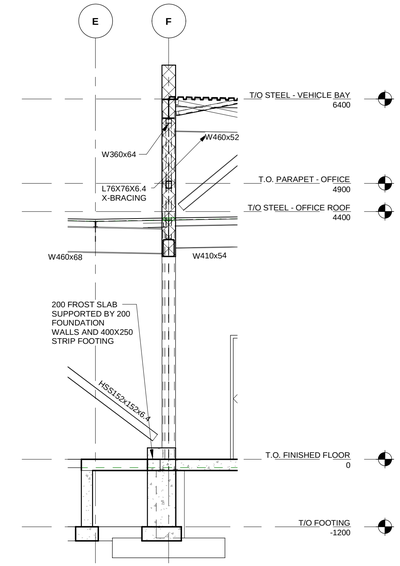

6 SECTION
S-200 S-501
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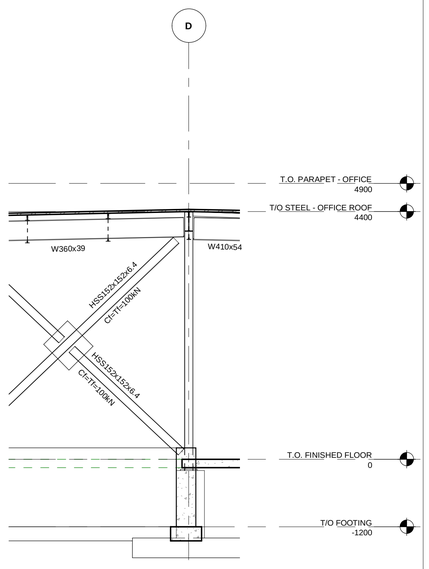

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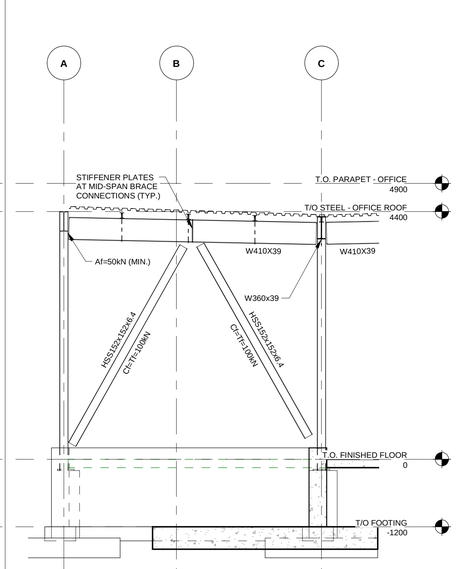

8 SECTION
S-200 S-501
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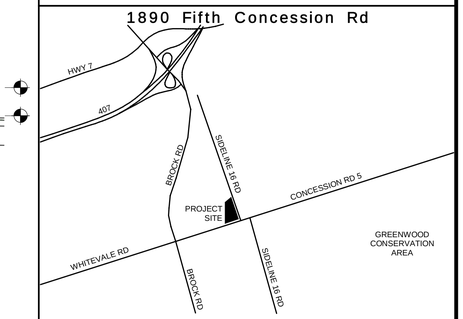

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NEW PARAMEDICS STATION - SEATON

SECTIONS SHEET 2 OF 6

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-501	

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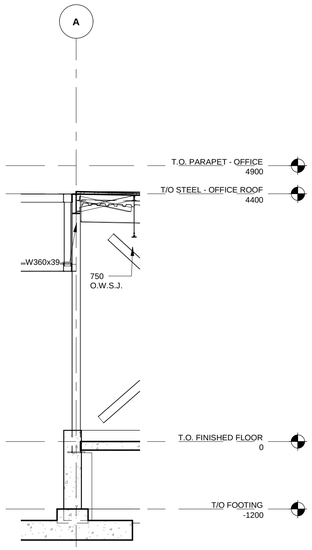

1 SECTION
S-200 S-502
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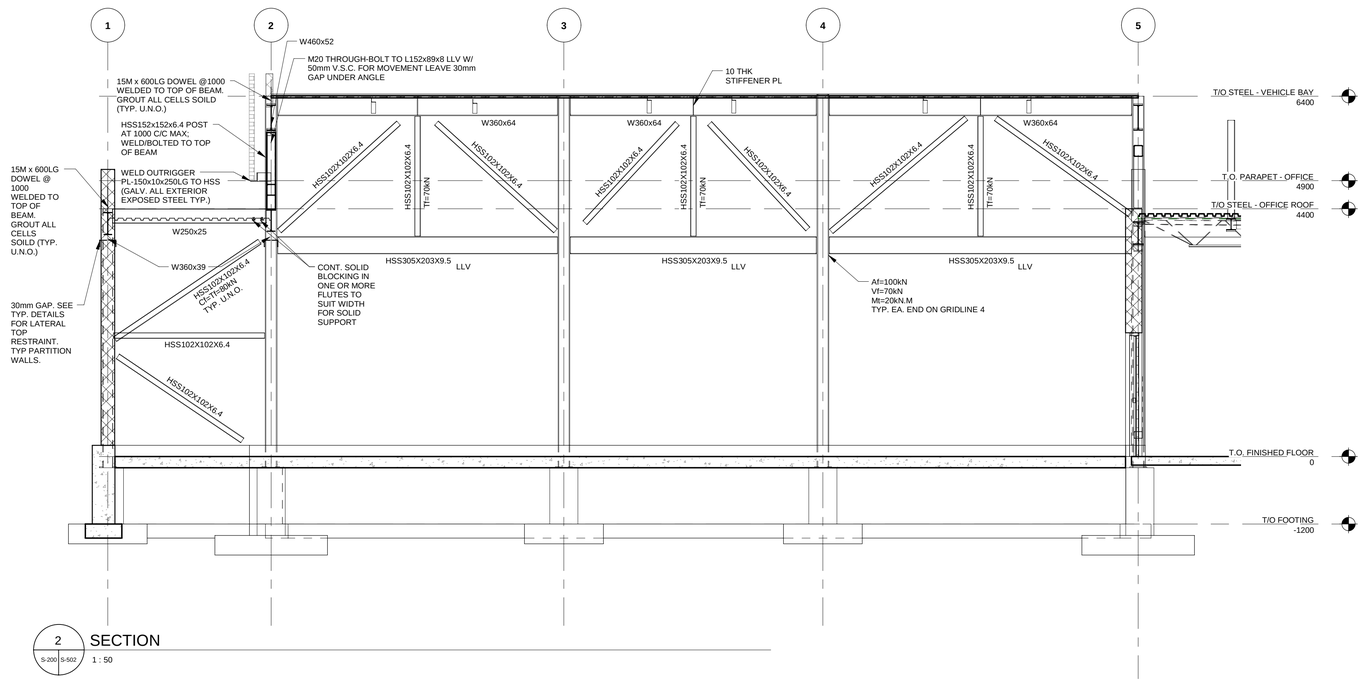

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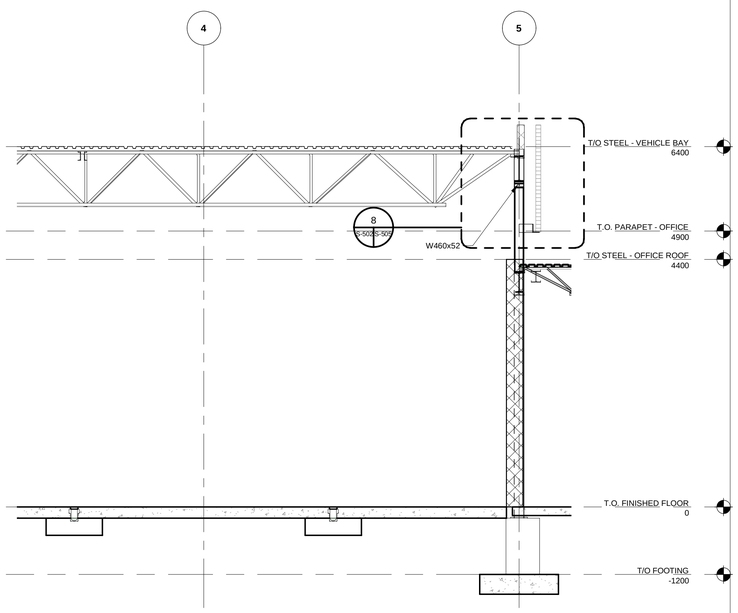
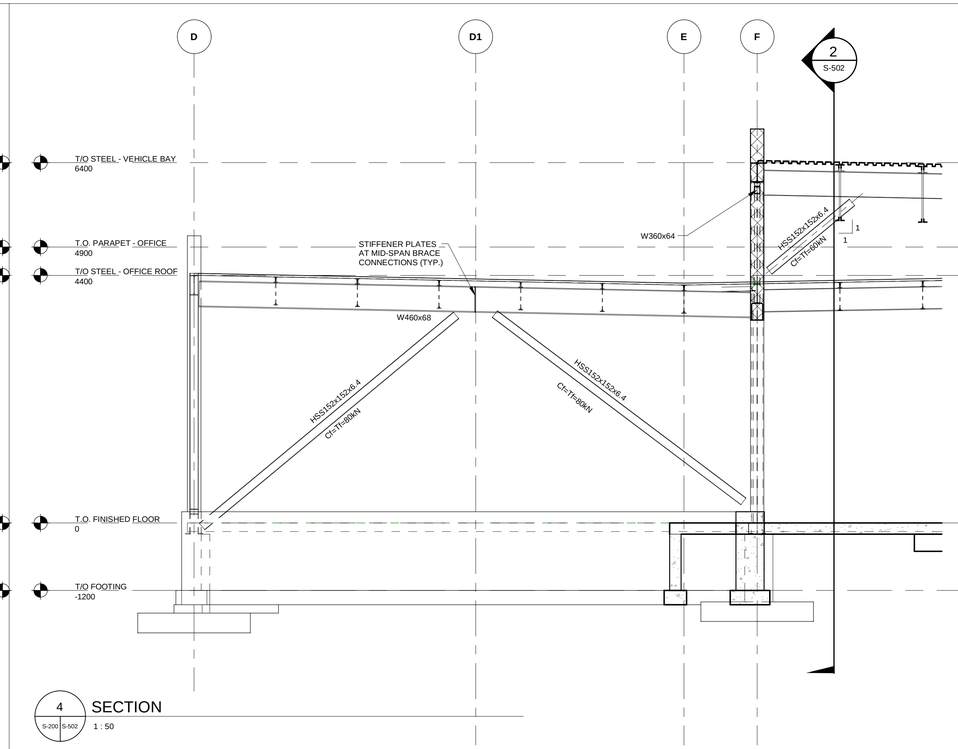


3 SECTION
S-200 S-502
1 : 50



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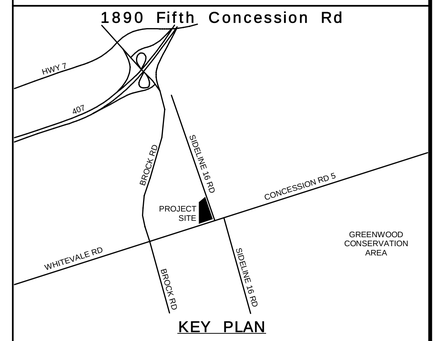

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Kitchener, Ontario, N2P 0A4
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LICENSED PROFESSIONAL ENGINEER
K.T.D. DUONG
100055126
9/22/2021
PROVINCE OF ONTARIO

SUB CONSULTANT

DESIGN BY: D.S.	SCALE: 1 : 50
DRAWN BY: R.E.	DATE: 03/31/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

CONTRACT REVISIONS

NO	DATE	NAME	REVISIONS
1	09/22/21		ISSUED FOR TENDER

THE REGIONAL MUNICIPALITY OF DURHAM

WORKS DEPARTMENT

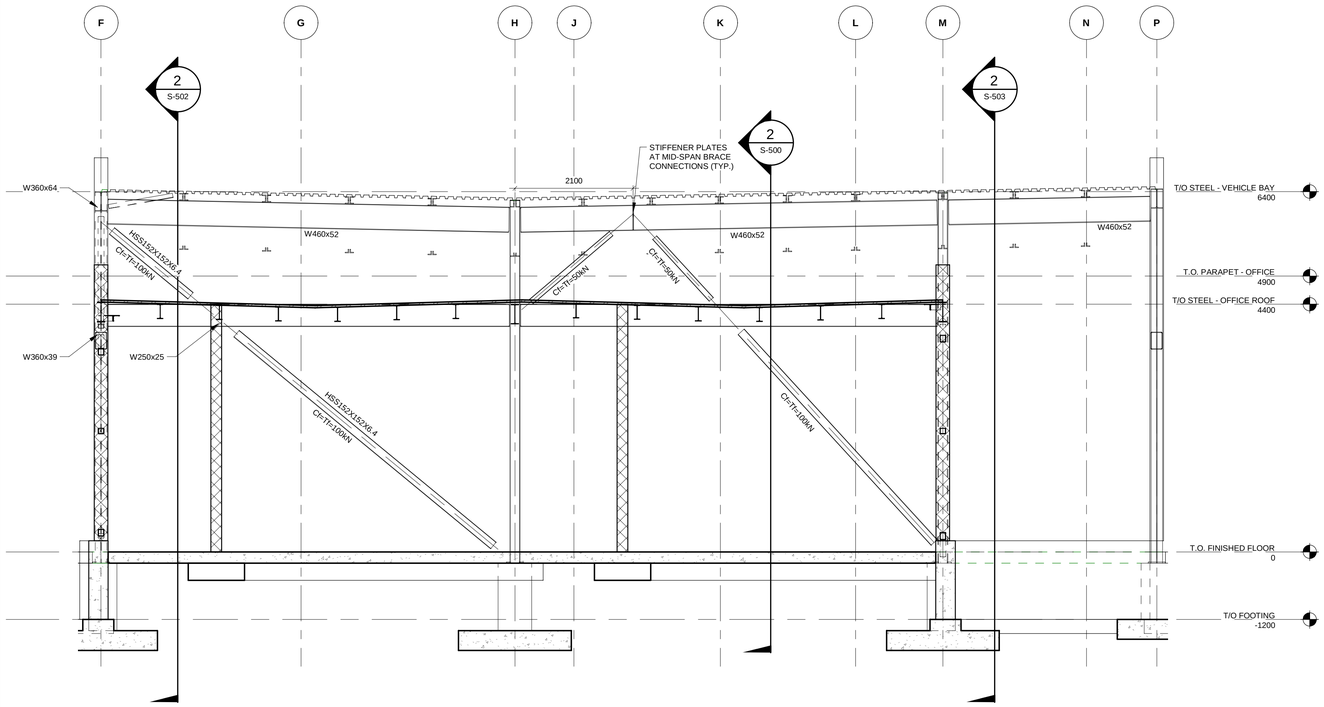
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

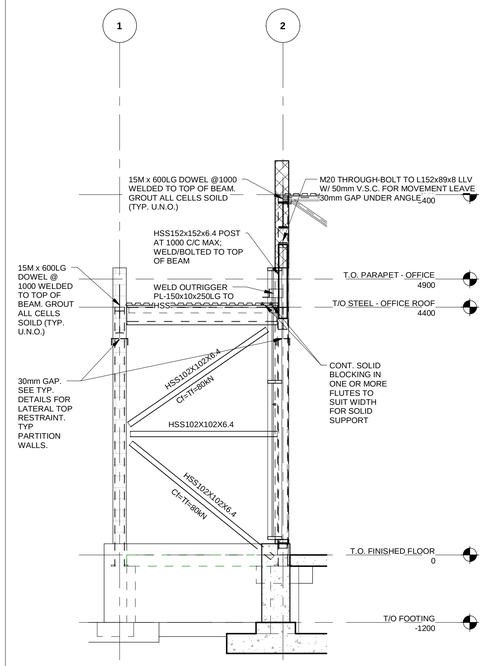
SECTIONS SHEET 3 OF 6

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-502	

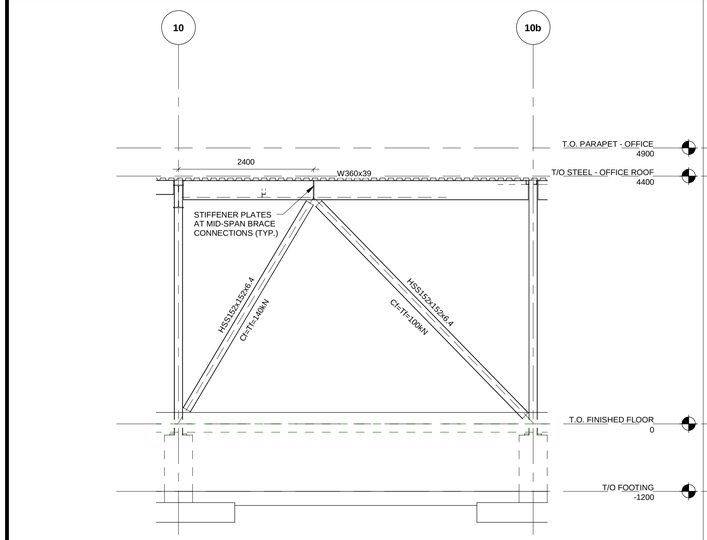
BIM 360:/BP-AMER (CAN) 60611569-Seaton RDPS/60611569-Seaton RDPS-S.rvt



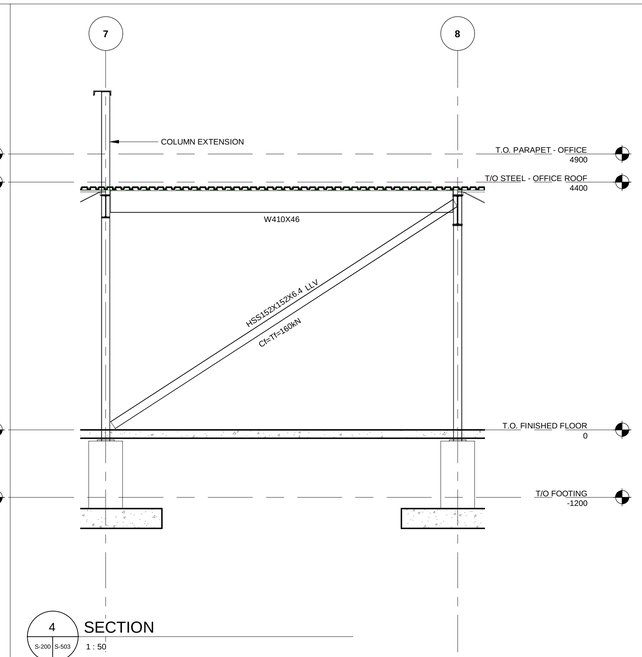
1 S-503 SECTION
1 : 50



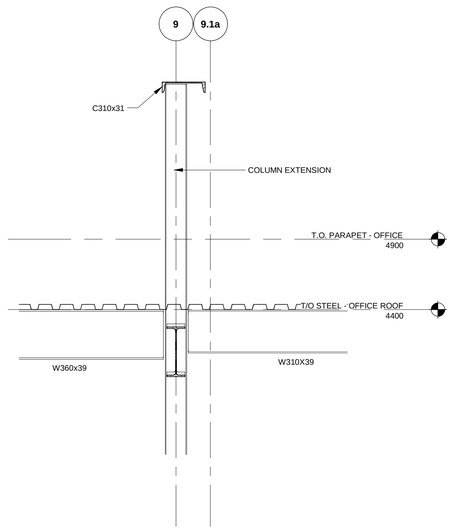
2 S-200 S-503 SECTION
1 : 50



3 S-200 S-503 SECTION
1 : 50



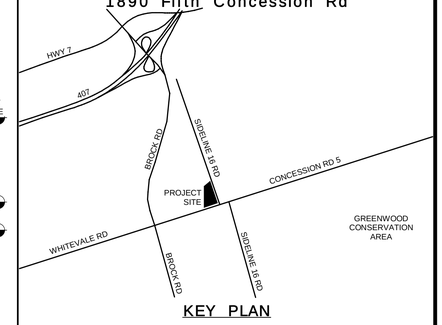
4 S-200 S-503 SECTION
1 : 50



5 S-200 S-503 SECTION
1 : 20

ALL MEASUREMENTS ARE TO BE VERIFIED BY THE CONTRACTOR ON SITE AND ANY DISCREPANCIES ARE TO BE REPORTED BEFORE PROCEEDING WITH THE WORK. THE REGION OF DURHAM ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE LOCATION OF EXISTING SERVICES AS INDICATED ON THIS DRAWING. DO NOT SCALE DRAWINGS.

1890 Fifth Concession Rd



KEY PLAN

CONSULTANT REVISIONS

NO.	DATE.	NAME	REVISIONS

PRIME CONSULTANT

AECOM

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DRAWN BY: R.E.	DATE: 03/31/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

CONTRACT REVISIONS

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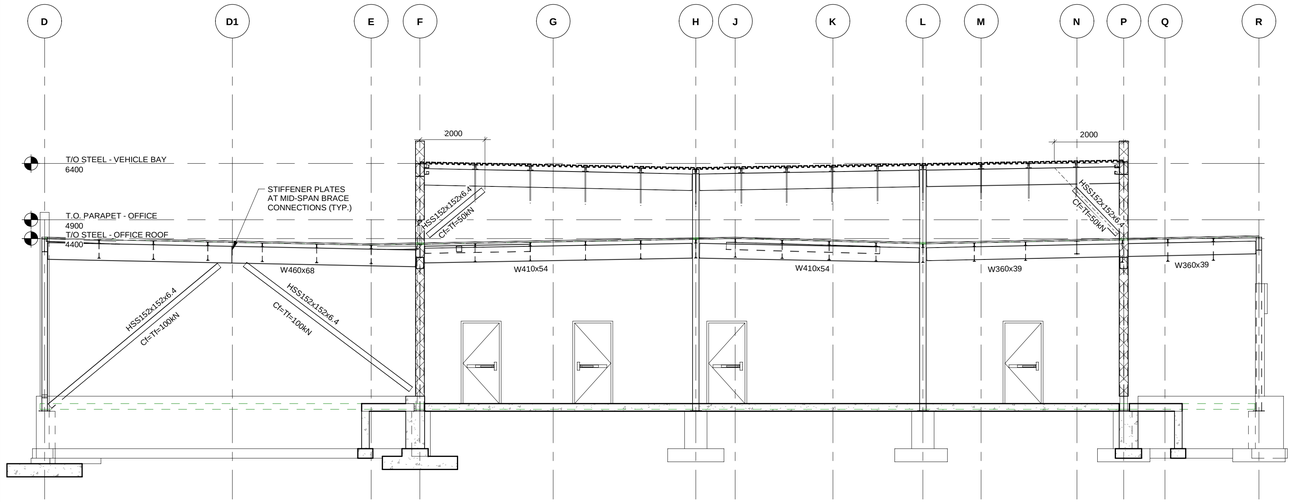
THE REGIONAL MUNICIPALITY OF DURHAM
WORKS DEPARTMENT
DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

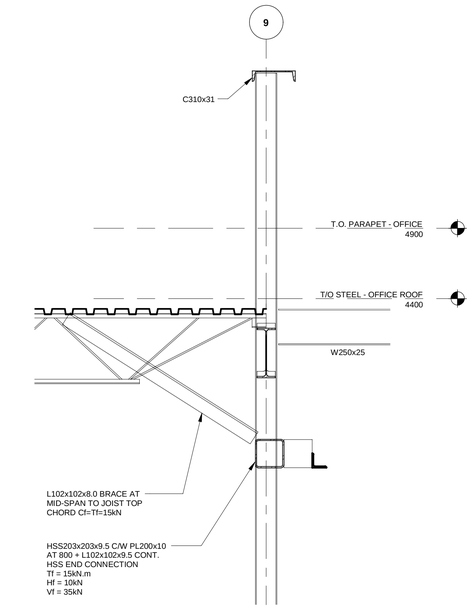
SECTIONS SHEET 4 OF 6

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-503	

BIM 360://BP-AMER (CAN) 60611569-Seaton RDPS/60611569-Seaton RDPS-S.rvt



1 S-200 S-504 SECTION
1 : 75



2 S-200 S-504 SECTION
1 : 20

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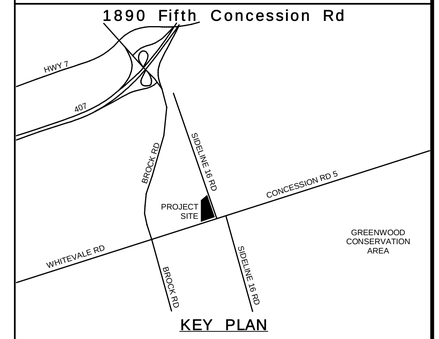

KEY PLAN

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CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

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THE REGIONAL MUNICIPALITY OF DURHAM

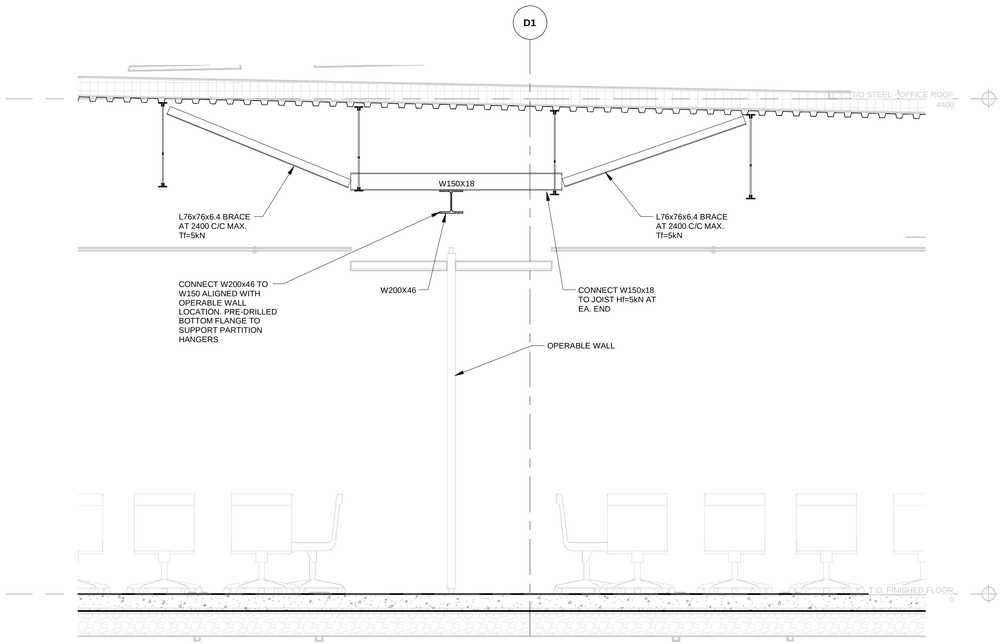
WORKS DEPARTMENT

DESIGN, CONSTRUCTION & ASSET MANAGEMENT

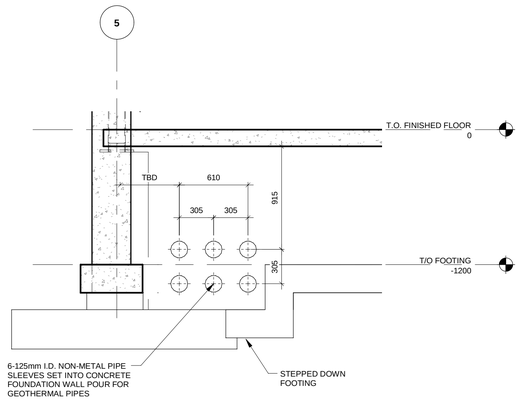
NEW PARAMEDICS STATION - SEATON

SECTIONS SHEET 5 OF 6

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-504	

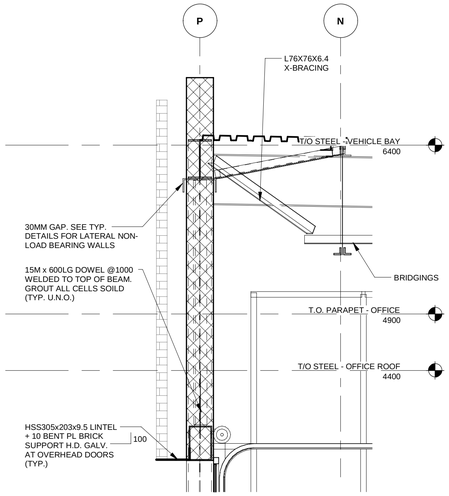


3 S-201 S-504 OPERABLE WALL SUPPORT SECTION
1 : 25

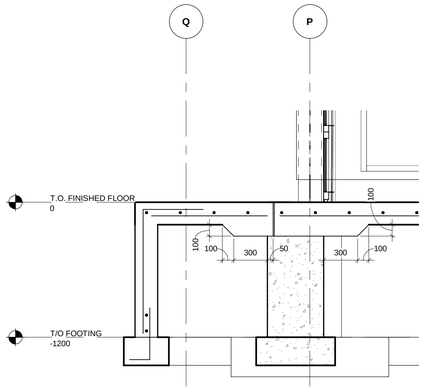


4 S-200 S-504 GEOTHERMAL PIPES THROUGH FOUNDATION WALL @ GRIDS 'D' AND '5' SECTION
1 : 25

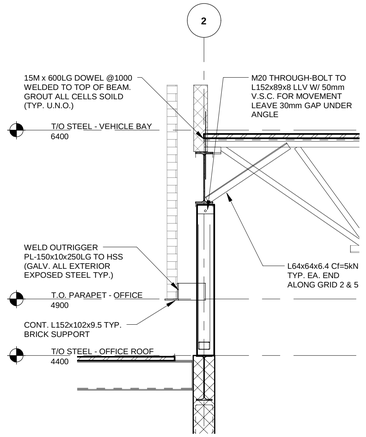
BIM 360://BP-AMER (CAN) 60611569-Seaton RDPS/60611569-Seaton RDPS-S.rvt



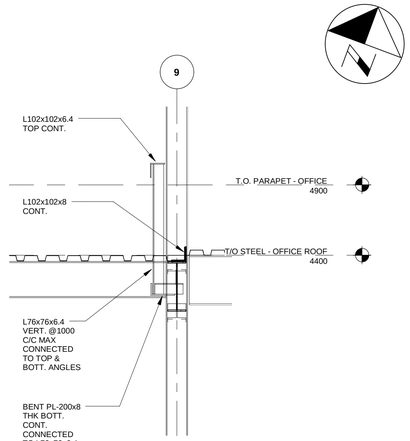
1 SECTION
S-500 S-505
1 : 25



2 SECTION
S-500 S-505
1 : 25



3 SECTION
S-500 S-505
1 : 25

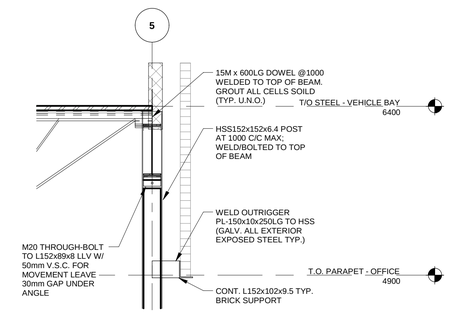


4 SECTION
S-501 S-505
1 : 20

5 SECTION
S-501 S-505
1 : 20

6 SECTION
S-501 S-505
1 : 25

7 SECTION
S-501 S-505
1 : 20



8 SECTION
S-502 S-505
1 : 25

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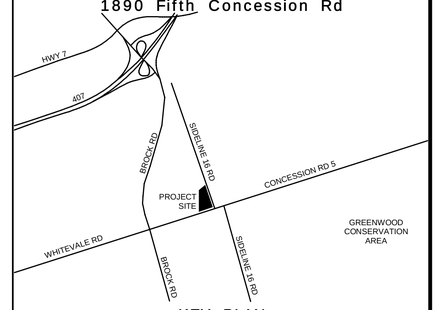

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DESIGN BY: D.S.	SCALE: As indicated
DRAWN BY: R.E.	DATE: 06/14/21
CHECKED BY: C.Y.	CONSULTANT PROJECT NO. 60611569
APPROVED BY: K.D.	CLIENT FILE No.: 811/20

CONTRACT REVISIONS

NO	DATE	NAME	REVISIONS
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THE REGIONAL MUNICIPALITY OF DURHAM

WORKS DEPARTMENT

DESIGN, CONSTRUCTION & ASSET MANAGEMENT

NEW PARAMEDICS STATION - SEATON

SECTIONS SHEET 6 OF 6

PROPERTY NO.	FACILITIES CODE	FACILITIES PROJECT NO.
		P061-18-01
CONTRACT NO.	DRAWING NO.	SHEET NO.
T-1160-2021	S-505	

BIM 360://BP-AMER (CAN) 60611569-Seaton RDPS/60611569-Seaton RDPS-S.rvt