

Public Works and Government Services Canada	CBSA Port of Entry Replacement Willow Creek, Monchy, West Poplar and Coronach, Saskatchewan	Addendum No. 2 Page 1 of 2
Project No.: R.065922.001		January 23, 2014

The following changes to the tender documents are effective immediately and will form part of the contract documents:

1. Remove section "01 35 29.06 Health and Safety Requirements" from the contract documents.
2. Replace section "01 14 00 Work Restrictions" with the attached version. The change is the addition of item 1.4.5 regarding two general contractors being on the same site at the same time.
3. Replace section "01 35 43 Environmental Procedures" with the attached version. The change is that item 1.1.2.1 has been removed.
4. Add in section "31 23 33 01 Excavating, Trenching and Backfilling" as it was noted as missing from the original tender package.
5. Questions have been received from a contractor. The questions and answers are attached.
6. Note the changes shown in "bubbles" on the following drawings that will be incorporated into the Issued for Construction drawings:
  - a. Drawing C-006: Addition of a note discussing phasing.
  - b. Drawing C-007: Addition of a note discussing phasing.
  - c. Drawing C-008: Addition of a note discussing phasing.
  - d. Drawing C-009: Addition of a note discussing phasing.
  - e. Drawing C-010: Notes updated for clarification.
  - f. Drawing C-011: Notes updated for clarification.
  - g. Drawing C-013: Notes updated for clarification.
  - h. Drawing C-014: Notes updated for clarification.
  - i. Drawing C-015: Addition of privacy fencing between the proposed parking lot and existing building and notes updated for clarification.
  - j. Drawing C-016: Notes updated for clarification.
  - k. Drawing C-017: Changes to proposed fencing construction and addition of privacy fencing between the proposed parking lot and existing building and notes updated for clarification.
  - l. Drawing C-018: Paint color added to bollards.
  - m. Drawing C-019: Fence detail has been updated.
  - n. Drawing S-001: Datum elevation referring to 100.00m elevation has been updated to reflect actual elevations. Conduit sleeves to be installed within the concrete have been added. Additional notes added for clarification.

- o. Drawing S-002: Datum elevation referring to 100.00m elevation has been updated to reflect actual elevations. Conduit sleeves to be installed within the concrete have been added. Additional notes added for clarification.
  - p. Drawing S-003: Datum elevation referring to 100.00m elevation has been updated to reflect actual elevations. Conduit sleeves to be installed within the concrete have been added. Additional notes added for clarification.
  - q. Drawing S-004: Datum elevation referring to 100.00m elevation has been updated to reflect actual elevations. Conduit sleeves to be installed within the concrete have been added. Additional notes added for clarification.
  - r. Drawing S-005: Note updated for clarification.
  - s. Drawing S-006: Note updated for clarification.
  - t. Drawing S-007: Note updated for clarification.
  - u. Drawing S-008: Note updated for clarification.
7. Replace "Appendix A – Scope and Schedule of Work" with the attached version. Changes made are the addition of fence construction for West Poplar and also the order of priority of the 4 sites. This priority has been changed back to:
- 1. West Poplar
  - 2. Willow Creek
  - 3. Monchy
  - 4. Coronach

END OF ADDENDUM NO. 2

## Questions and Answers

Q1. The Phasing schedule on the Drawings is different in Appendix A with regard to demolishing the buildings. Which one are we to follow?

A1. Appendix A scheduling is to be followed. Different phases shown on the Drawings can be done simultaneously and in an order that best suits the project and best allows the contractor to adhere to Appendix A scheduling. The Drawings will be updated to clarify this in Addendum No. 2.

Q2. The Specification states that we need to provide a Departmental Representative office with a private washroom. Is this required for this project?

A2. The contractor will be required to provide one sanitary facility for all workers (including Departmental Representative). This is to ensure that workers will not be using the facilities within the existing customs buildings.

Q3. The current design that has been provided seems to require an excessive amount of excavation due to the footing and foundation wall being 8' deep. We have done similar style buildings with cast in place piles or screw piles. Would you consider this change to the foundation of the buildings?

A3. No, we cannot change the foundation designs of the buildings. The design is following recommendations provided within each sites geotechnical study.

Q4. Regarding the Arc Flash study: can this be done in-house, or will we need to bring in the Schneider or GE reps to do this?

A4. Reps will need to be brought in to complete the study as required.

Q5. Is there an actual elevation for construction 100.00? We have been unable to find it on the Drawings.

A5. These elevations will be updated in Addendum No. 2.

Q6. As we are being asked to demolish the existing build and foundations, what is the existing foundation? Are there as-built drawings for the current buildings that we could have access to?

A6. There are no available as-built drawings for the current buildings. Due to this, exact information on the existing foundations cannot be provided.

Q7. Regarding the break/load test: can this be done in-house, or will it need to be done on-site?

A7. The load test will have to be completed on site by the generator representative at each location. We will require someone on site with a knowledge of the supplied system and whom has completed a full load building test before. The representative will provide a full report and if there are issues with the generator or its installation they will provide a complete itemized list with corrections.

Q8. How are the tie-ins for the services to be accomplished? The new buildings do not have any room for a crawl space and there is only approximately 10" from finished grade to finished floor. This is of most concern for the sanitary connection.

A8. The shallow utility connections are to be made through conduits in the foundation that would lead to the space below the floor as shown in Addendum No. 2. Deep utilities are to be installed to a point far enough away from the foundation (during foundation construction) such that they can be connected to later during the remaining underground construction. This is specified within the design and scope of work.

Q9. What will the make and model of the fire alarm system be?

A9. Information on the proposed fire alarm systems for the new buildings is not available at this time.

Q10. In the phasing plan, with the exception of Willow Creek, as it has a temporary facility, the old buildings are to be removed after the Concrete and Roadwork. Although there is a two week overlap, this leaves virtually no time to replace the pavement that was damaged from the removal of the old building. How much deviation is allowed from the construction schedule that you have provided, and what are the penalties, if any, for exceeding the provided construction schedule?

A10. Phasing numbering is a general guide used to display different segments of the scope of work. Actual construction methods and approach to completion of the work should be done in such a way that the completion dates stipulated within the contract are met. Additional notes have been added to the phasing drawings to clarify this. The schedule is not flexible and must be met. While there is no specific penalty clause within this contract, the construction schedule will be closely monitored and should slippage occur, corrective action will be taken per the terms of the contract.

### **End of Questions and Answers**

**Part 1 General**

**1.1 USE OF SITE AND FACILITIES**

- .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Departmental Representative to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- .4 Closures: protect work temporarily until permanent enclosures are completed.

**1.2 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING**

- .1 Execute work with least possible interference or disturbance to building operations occupants, public and normal use of premises. Arrange with Departmental Representative to facilitate execution of work.

**1.3 EXISTING SERVICES**

- .1 Notify, Departmental Representative and utility companies of intended interruption of services and obtain required permission.
- .2 Where Work involves breaking into or connecting to existing services, give Departmental Representative 48 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.
- .3 Provide for personnel and vehicular traffic.
- .4 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

**1.4 SPECIAL REQUIREMENTS**

- .1 Carry out noise generating Work Monday to Friday from 7:00 to 19:00 hours and on Saturdays and Sundays.
- .2 Submit schedule in accordance with 01 32 16.07 - Construction Progress Schedule - Bar (GANTT) Chart.
- .3 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .4 Keep within limits of work and avenues of ingress and egress.
- .5 Work carefully and effectively with building contractor to allow for both contractors to complete their needed construction on time. Work carefully and effectively with building contractor to schedule phases of construction so work areas do not overlap or conflict.

**1.5 BUILDING SMOKING ENVIRONMENT**

- .1 Comply with smoking restrictions. Smoking is not permitted.

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**Part 2            Products**

**2.1                NOT USED**

.1            Not Used.

**Part 3            Execution**

**3.1                NOT USED**

.1            Not Used.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1    Definitions:
  - .1    Environmental Pollution and Damage: presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humans; or degrade environment aesthetically, culturally and/or historically.
  - .2    Environmental Protection: prevention/control of pollution and habitat or environment disruption during construction.
- .2    Reference Standards:
  - .1    U.S. Environmental Protection Agency (EPA)/Office of Water
    - .1    EPA 832/R-92-005-[92], Storm Water Management for Construction Activities, Chapter 3.
    - .2    EPA General Construction Permit (GCP) [2012].

**1.2                ACTION AND INFORMATIONAL SUBMITTALS**

- .1    Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2    Product Data:
  - .1    Submit manufacturer's instructions, printed product literature and data sheets for all products used and include product characteristics, performance criteria, physical size, finish and limitations.
  - .2    Submit 2 copies of WHMIS MSDS in accordance with Section 01 35 29.06 - Health and Safety Requirements.
- .3    Before commencing construction activities or delivery of materials to site, submit Environmental Protection Plan for review and approval by Departmental Representative.
- .4    Environmental Protection Plan must include comprehensive overview of known or potential environmental issues to be addressed during construction.
- .5    Address topics at level of detail commensurate with environmental issue and required construction tasks.
- .6    Include in Environmental Protection Plan:
  - .1    Names of persons responsible for ensuring adherence to Environmental Protection Plan.
  - .2    Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
  - .3    Names and qualifications of persons responsible for training site personnel.
  - .4    Descriptions of environmental protection personnel training program.
  - .5    Erosion and sediment control plan identifying type and location of erosion and sediment controls to be provided including monitoring and reporting

- requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.
- .6 Drawings indicating locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.
- .7 Traffic Control Plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather.
  - .1 Plans to include measures to minimize amount of material transported onto paved public roads by vehicles or runoff.
- .8 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use.
  - .1 Plan to include measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
- .9 Spill Control Plan to include procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
- .10 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- .11 Air pollution control plan detailing provisions to assure that dust, debris, materials, and trash, are contained on project site.
- .12 Contaminant Prevention Plan identifying potentially hazardous substances to be used on job site; intended actions to prevent introduction of such materials into air, water, or ground; and detailing provisions for compliance with Federal, Provincial, and Municipal laws and regulations for storage and handling of these materials.
- .13 Waste Water Management Plan identifying methods and procedures for management of discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines.
- .14 Historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands.
- .15 Pesticide treatment plan to be included and updated, as required.

### **1.3 FIRES**

- .1 Fires and burning of rubbish on site is not permitted.

### **1.4 DRAINAGE**

- .1 Undertake all work in accordance with Appendix C – Environmental Mitigation Measures.
- .2 Develop and submit erosion and Sediment Control Plan (ESC) identifying type and location of erosion and sediment controls provided. Plan to include monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations.

- .3 Storm Water Pollution Prevention Plan (SWPPP) to be substituted for erosion and sediment control plan.
- .4 Provide temporary drainage and pumping required to keep excavations and site free from water.
- .5 Ensure pumped water into waterways, sewer or drainage systems is free of suspended materials.
- .6 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authority requirements.

#### **1.5 SITE CLEARING AND PLANT PROTECTION**

- .1 Undertake all work in accordance with Appendix C – Environmental Mitigation Measures.
- .2 Protect trees and plants on site and adjacent properties as indicated.
- .3 Protect trees and shrubs adjacent to construction work, storage areas and trucking lanes, and encase with protective wood framework from grade level to height of 2 m minimum.
- .4 Protect roots of designated trees to dripline during excavation and site grading to prevent disturbance or damage.
  - .1 Avoid unnecessary traffic, dumping and storage of materials over root zones.
- .5 Minimize stripping of topsoil and vegetation.
- .6 Restrict tree removal to areas indicated by Departmental Representative.

#### **1.6 POLLUTION CONTROL**

- .1 Undertake all work in accordance with Appendix C – Environmental Mitigation Measures.
- .2 Maintain temporary erosion and pollution control features installed under this Contract.
- .3 Control emissions from equipment and plant in accordance with local authorities' emission requirements.
- .4 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

#### **1.7 NOTIFICATION**

- .1 Undertake all work in accordance with Appendix C – Environmental Mitigation Measures.
- .2 Departmental Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .3 Contractor: after receipt of such notice, inform Departmental Representative of proposed corrective action and take such action for approval by Departmental Representative.
  - .1 Take action only after receipt of written approval by Departmental Representative.

- .4 Departmental Representative will issue stop order of work until satisfactory corrective action has been taken.
- .5 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

**Part 2 Products**

**2.1 NOT USED**

- .1 Not Used.

**Part 3 Execution**

**3.1 CLEANING**

- .1 Undertake all work in accordance with Appendix C – Environmental Mitigation Measures.
- .2 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
  - .1 Leave Work area clean at end of each day.
- .3 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.
- .4 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .5 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
  - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.

**END OF SECTION**

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**Part 1        General**

**1.1        REFERENCES**

- .1 American Society for Testing and Materials International (ASTM)
  - .1 ASTM C117-[04], Standard Test Method for Material Finer than 0.075 mm (No.200) Sieve in Mineral Aggregates by Washing.
  - .2 ASTM C136-[05], Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
  - .3 ASTM D422-63[2002], Standard Test Method for Particle-Size Analysis of Soils.
  - .4 ASTM D698-[00ae1], Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup>) (600 kN-m/m<sup>3</sup>).
  - .5 ASTM D1557-[02e1], Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup>) (2,700 kN-m/m<sup>3</sup>).
  - .6 ASTM D4318-[05], Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- .2 Canadian General Standards Board (CGSB)
  - .1 CAN/CGSB-8.1-[88], Sieves, Testing, Woven Wire, Inch Series.
  - .2 CAN/CGSB-8.2-[M88], Sieves, Testing, Woven Wire, Metric.
- .3 Canada Green Building Council (CaGBC)
  - .1 LEED Canada-NC Version 1.0-[2004], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Package For New Construction and Major Renovations (including Addendum [2007]).
  - .2 LEED Canada-CI Version 1.0-[2007], LEED (Leadership in Energy and Environmental Design): Green Building Rating System Reference Guide For Commercial Interiors.
- .4 Canadian Standards Association (CSA International)
  - .1 CAN/CSA-A3000-[03], Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
    - .1 CSA-A3001-[03], Cementitious Materials for Use in Concrete.
  - .2 CSA-A23.1/A23.2-[04], Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
- .5 U.S. Environmental Protection Agency (EPA)/Office of Water
  - .1 EPA 832R92005, Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices.

## **1.2 DEFINITIONS**

- .1 Excavation classes: two classes of excavation will be recognized; common excavation and rock excavation.
  - .1 Rock : solid material in excess of 1.00 m<sup>3</sup> and which cannot be removed by means of heavy duty mechanical excavating equipment with 0.95 to 1.15 m<sup>3</sup> bucket. Frozen material not classified as rock.
  - .2 Common excavation: excavation of materials of whatever nature, which are not included under definitions of rock excavation.
- .2 Unclassified excavation: excavation of deposits of whatever character encountered in Work.
- .3 Topsoil:
  - .1 Material capable of supporting good vegetative growth and suitable for use in top dressing, landscaping and seeding.
  - .2 Material reasonably free from subsoil, clay lumps, brush, objectionable weeds, and other litter, and free from cobbles, stumps, roots, and other objectionable material larger than 25 millimeters in any dimension.
- .4 Waste material: excavated material unsuitable for use in Work or surplus to requirements.
- .5 Borrow material: material obtained from locations outside area to be graded, and required for construction of fill areas or for other portions of Work.

## **1.3 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal. Follow all environmental mitigation procedures according to Appendix C: Environmental Mitigation Measures.

## **1.4 EXISTING CONDITIONS**

- .1 Examine soil report within Appendix B – Geotechnical Investigations.
- .2 Buried services:
  - .1 Before commencing work verify location of buried services on and adjacent to site.
  - .2 Arrange with appropriate authority for relocation of buried services that interfere with execution of work: pay costs of relocating services.
  - .3 Remove obsolete buried services within 2 m of foundations: cap cut-offs.
  - .4 Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
  - .5 Prior to beginning excavation Work, notify applicable Departmental Representative authorities having jurisdiction establish location and state of use of buried utilities and structures. Authorities having jurisdiction to clearly mark such locations to prevent disturbance during Work.
  - .6 Confirm locations of buried utilities by careful soil hydrovac methods.

- .7 Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered].
- .8 Where utility lines or structures exist in area of excavation, obtain direction of Departmental Representative before re-routing.
- .9 Record location of maintained, re-routed and abandoned underground lines.
- .10 Confirm locations of recent excavations adjacent to area of excavation.
- .3 Existing buildings and surface features:
  - .1 Conduct, with Departmental Representative, condition survey of existing buildings, trees and other plants, lawns, fencing, service poles, wires, rail tracks, pavement, survey bench marks and monuments which may be affected by Work.
  - .2 Protect existing buildings and surface features from damage while Work is in progress. In event of damage, immediately make repair as directed by Departmental Representative

## **Part 2 Products**

### **2.1 MATERIALS**

- .1 Native Backfill and Pipe Zone Material to adhere to Section 31 05 16 – Aggregate Materials.

## **Part 3 Execution**

### **3.1 TEMPORARY EROSION AND SEDIMENTATION CONTROL**

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction and according to Appendix C: Environmental Mitigation Measures.
- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

### **3.2 SITE PREPARATION**

- .1 Remove obstructions, ice and snow, from surfaces to be excavated within limits indicated.
- .2 Cut pavement or sidewalk neatly along limits of proposed excavation in order that surface may break evenly and cleanly.
- .3 Follow all environmental mitigation procedures at all times according to Appendix C: Environmental Mitigation Measures.

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### **3.3 PREPARATION/PROTECTION**

- .1 Protect existing features in accordance with Section 01 56 00 - Temporary Barriers and Enclosures and applicable local regulations.
- .2 Keep excavations clean, free of standing water, and loose soil.
- .3 Protect natural and man-made features required to remain undisturbed. Unless otherwise indicated or located in an area to be occupied by new construction, protect existing trees from damage.
- .4 Protect buried services that are required to remain undisturbed.

### **3.4 STRIPPING OF TOPSOIL**

- .1 Begin topsoil stripping of areas as indicated after area has been cleared of brush, weeds, grasses and removed from site.
- .2 Strip topsoil to maximum depths while not mixing topsoil with subsoil.
- .3 Stockpile in locations as directed by Departmental Representative.
- .4 Dispose of unused topsoil off site.

### **3.5 STOCKPILING**

- .1 Stockpile fill materials in areas designated by Departmental Representative.
  - .1 Stockpile granular materials in manner to prevent segregation.
- .2 Protect fill materials from contamination.
- .3 Implement sufficient erosion and sediment control measures to prevent sediment release off construction boundaries and into water bodies.

### **3.6 DEWATERING AND HEAVE PREVENTION**

- .1 Keep excavations free of water while Work is in progress.
- .2 Protect open excavations against flooding and damage due to surface run-off.
- .3 Dispose of water in a manner not detrimental to public and private property, or portion of Work completed or under construction.
  - .1 Provide and maintain temporary drainage ditches and other diversions outside of excavation limits.
- .4 Provide flocculation tanks, settling basins, or other treatment facilities to remove suspended solids or other materials before discharging to storm sewers, watercourses or drainage areas.

### **3.7 EXCAVATION**

- .1 Excavate to lines, grades, elevations and dimensions as indicated
- .2 Remove concrete, paving, walks, demolished foundations and rubble and other obstructions encountered during excavation in accordance with Section 02 41 13 - Selective Site Demolition.

- .3 Excavation must not interfere with bearing capacity of adjacent foundations.
- .4 Do not disturb soil within branch spread of trees or shrubs that are to remain.
  - .1 If excavating through roots, excavate by hand and cut roots with sharp axe or saw.
- .5 For trench excavation, unless otherwise authorized by Departmental Representative] in writing, do not excavate more than 30 m of trench in advance of installation operations and do not leave open more than 10 m at end of day's operation.
- .6 Keep excavated and stockpiled materials safe distance away from edge of trench as directed by Departmental Representative.
- .7 Restrict vehicle operations directly adjacent to open trenches.
- .8 Dispose of surplus and unsuitable excavated material off site.
- .9 Do not obstruct flow of surface drainage or natural watercourses.
- .10 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.
- .11 Remove unsuitable material from trench bottom including those that extend below required elevations to extent and depth as directed by Departmental Representative.
- .12 Correct unauthorized over-excavation as follows:
  - .1 Fill under bearing surfaces and footings with fill concrete.
  - .2 Fill under other areas approved fill compacted to not less than 95 % of corrected Standard Proctor maximum dry density.
- .13 Hand trim, make firm and remove loose material and debris from excavations.
  - .1 Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil.
  - .2 Clean out rock seams and fill with concrete mortar or grout to approval of Departmental Representative.

### **3.8 FILL TYPES AND COMPACTION**

- .1 Compact as specified in Section 31 05 16 – Aggregate Materials.

### **3.9 BEDDING AND SURROUND OF UNDERGROUND SERVICES**

- .1 Place and compact granular material for bedding and surround of underground services as indicated
- .2 Place bedding and surround material in unfrozen condition.

### **3.10 BACKFILLING**

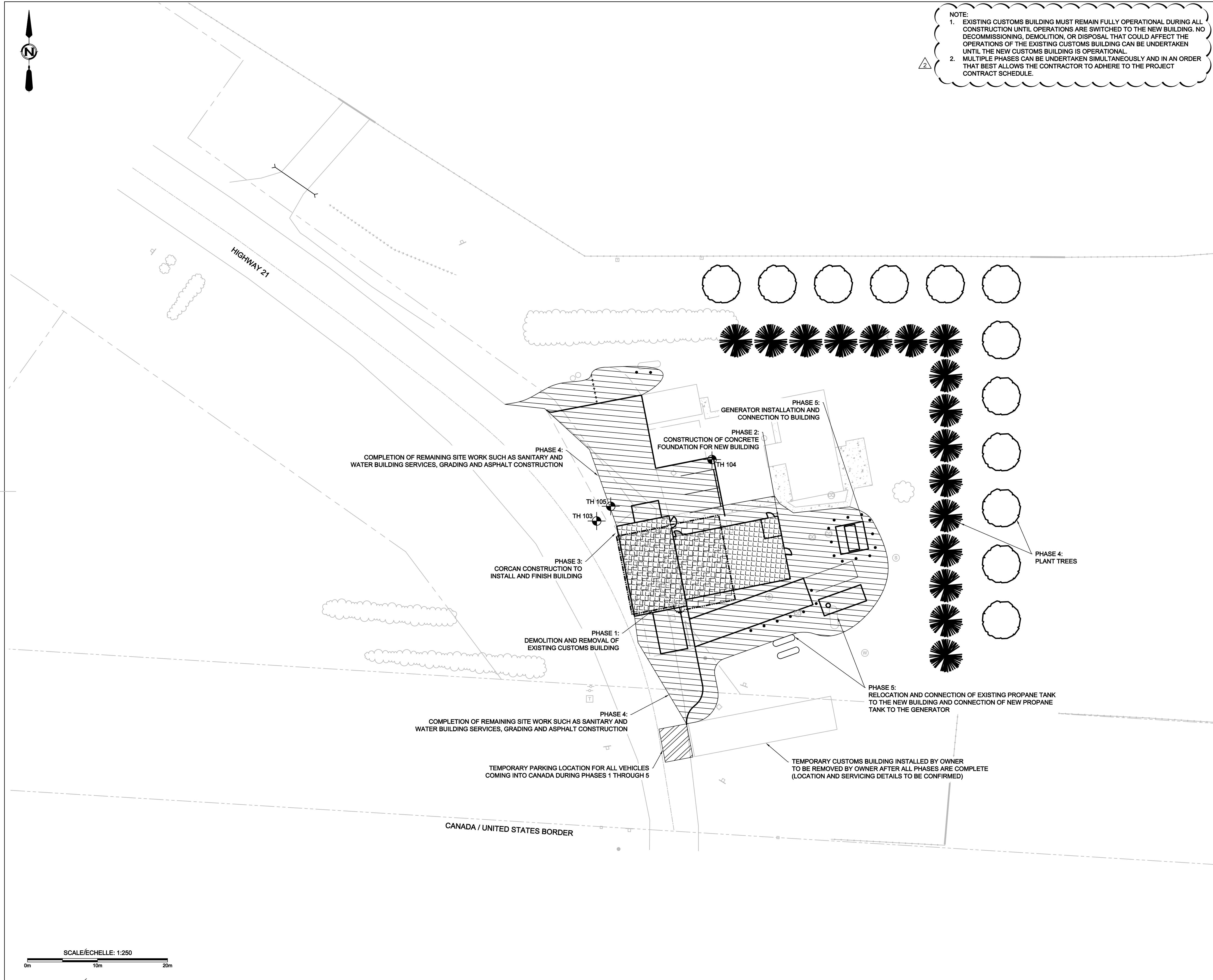
- .1 Do not proceed with backfilling operations until:
  - .1 Departmental Representative has inspected and approved installations.
- .2 Areas to be backfilled to be free from debris, snow, ice, water and frozen ground.

- .3 Do not use backfill material which is frozen or contains ice, snow or debris.
- .4 Place backfill material in uniform layers not exceeding 150 mm compacted thickness up to grades indicated. Compact each layer before placing succeeding layer.
- .5 Backfilling around installations:
  - .1 Place bedding and surround material as specified elsewhere.
  - .2 Do not backfill around or over cast-in-place concrete within 24 hours after placing of concrete.
- .6 Place fill in areas as indicated.
- .7 Consolidate and level unshrinkable fill with internal vibrators.

### **3.11 RESTORATION**

- .1 Upon completion of Work, remove waste materials and debris in accordance to Section 01 74 21 - Construction/Demolition Waste Management and Disposal, trim slopes, and correct defects as directed by Departmental Representative. Follow all environmental mitigation procedures according to Appendix C: Environmental Mitigation Measures.
- .2 Replace topsoil as indicated as directed by Departmental Representative.
- .3 Reinstall lawns to elevation as indicated.
- .4 Reinstall pavements and sidewalks disturbed by excavation to thickness, structure and elevation as indicated.
- .5 Clean and reinstall areas affected by Work as directed by Departmental Representative.
- .6 Protect newly graded areas from traffic and erosion and maintain free of trash or debris.

**END OF SECTION**



1. EXISTING CUSTOMS BUILDING MUST REMAIN FULLY OPERATIONAL DURING ALL CONSTRUCTION UNTIL OPERATIONS ARE SWITCHED TO THE NEW BUILDING. NO DECOMMISSIONING, DEMOLITION, OR DISPOSAL THAT COULD AFFECT THE OPERATIONS OF THE EXISTING CUSTOMS BUILDING CAN BE UNDERTAKEN UNTIL THE NEW CUSTOMS BUILDING IS OPERATIONAL.
2. MULTIPLE PHASES CAN BE UNDERTAKEN SIMULTANEOUSLY AND IN AN ORDER THAT BEST ALLOWS THE CONTRACTOR TO ADHERE TO THE PROJECT CONTRACT SCHEDULE.



Canada

Eng. Stamp  
Sceau de l'ingénieur



	EXISTING PROPERTY LINE
	EXISTING ROAD SHOULDER / EDGE OF GRAVEL
	EXISTING EASEL OF ASPHALT
	EXISTING CULVERT
	EXISTING $\epsilon$ DITCH
	EXISTING $\epsilon$ OF ROAD
	EXISTING FENCE
	EXISTING TREES
	EXISTING SIGN
	EXISTING POWER POLE
	EXISTING LIGHT POLE
	EXISTING FLAG POLE
	EXISTING PEDESTAL
	EXISTING SANITARY PUMP OUT
	EXISTING SEPTIC TANK
	EXISTING WATER WELL
	EXISTING BORDER MONUMENT
	EXISTING GAS METER
	EXISTING PROPANE TANK
	EXISTING CONCRETE





PROPOSED NORTHWEST POPLAR  
TREE



PROPOSED COLORADO SPRUCE  
TREE

**Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.**

2	ADDENDUM #2	14.01.21
1	ADDENDUM #1	14.01.16
0	ISSUED FOR TENDER	14.01.02
B	ISSUED FOR REVIEW	13.12.19
A	ISSUED AT 50% FOR REVIEW	13.11.19

revisions	description	date
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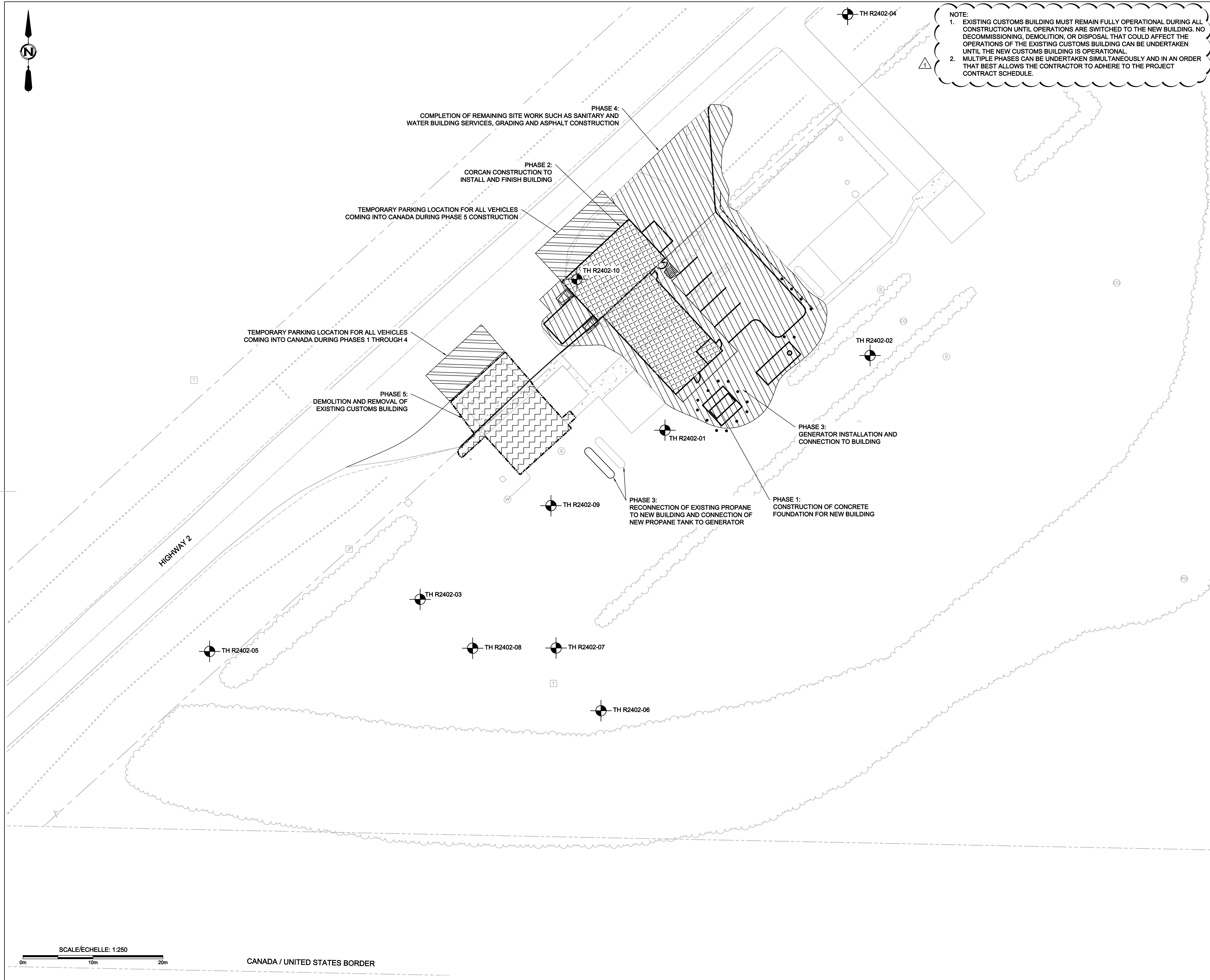
project	projet
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## CBSA PORT REPLACEMENTS

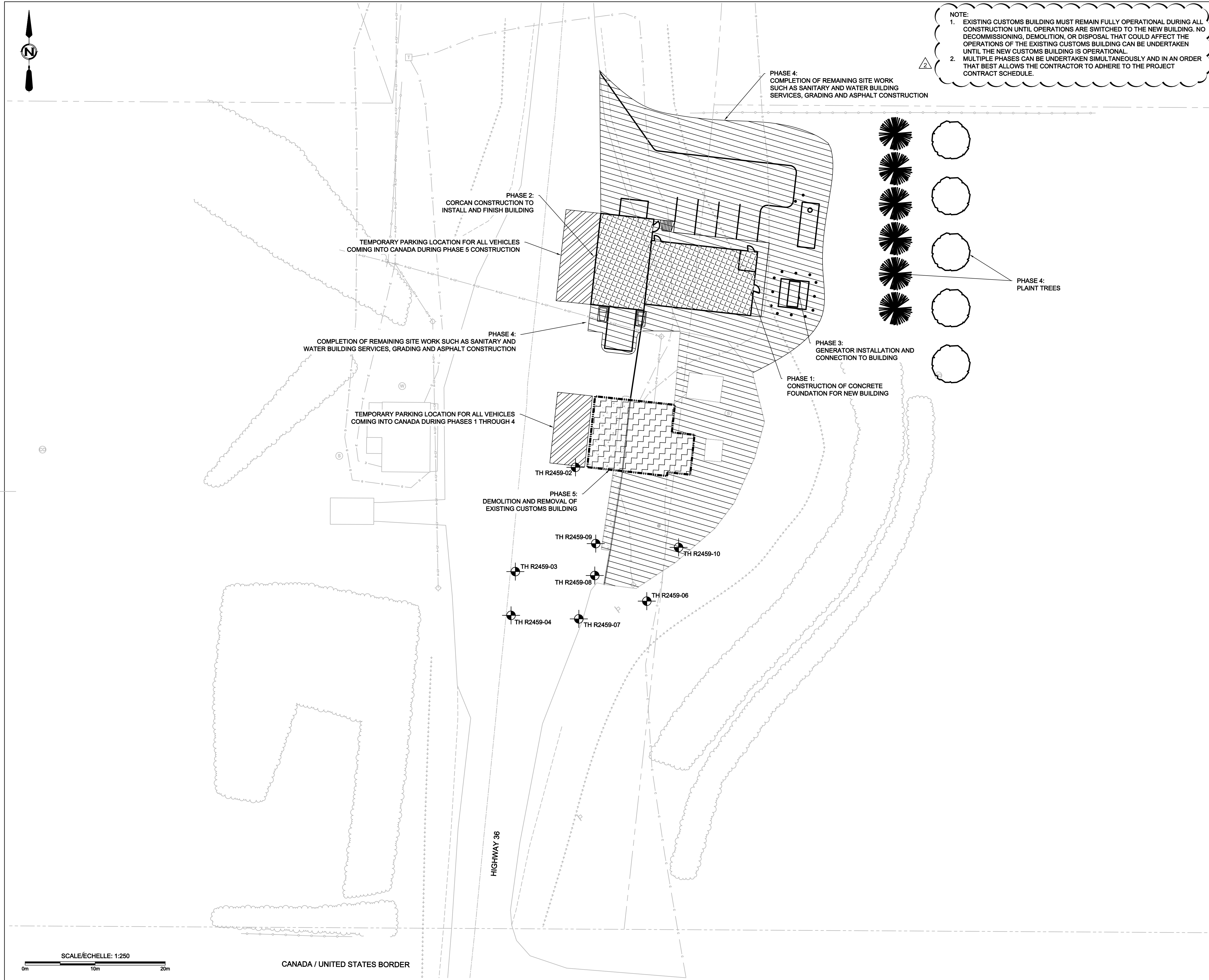
drawing	dessin
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# PROP CONSTRUCTION PHASING WILLOW CREEK, SASK.

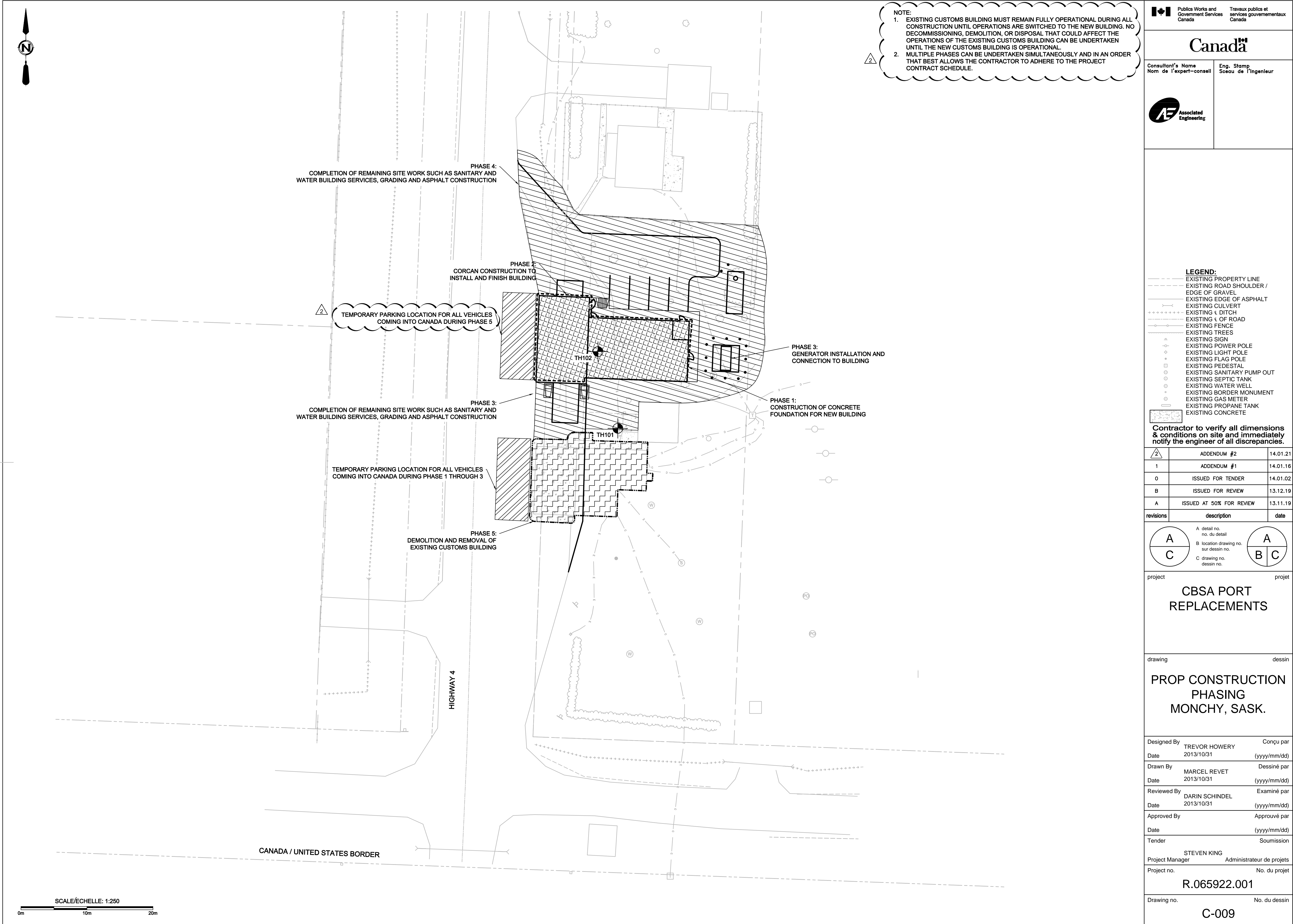
Designed By	TREVOR HOWERY	Conçu par
Date	2013/10/31	(yyyy/mm/dd)
Drawn By	MARCEL REVET	Dessiné par
Date	2013/10/31	(yyyy/mm/dd)
Reviewed By	DARIN SCHINDEL	Examiné par
Date	2013/10/31	(yyyy/mm/dd)
Approved By		Approuvé par
Date		(yyyy/mm/dd)
Tender		Soumission
Project Manager	STEVEN KING	Administrateur de projets
Project no.	No. du projet	
R.065922.001		
Drawing no.	No. du dessin	



<h1 style="margin: 0;">Canada</h1>	
<b>Consultant's Name</b> <b>Nom de l'expert-conseil</b>	<b>Eng. Stamp</b> <b>Sceau de l'ingénieur</b>
<p style="text-align: center;"><b>LEGEND:</b></p> <p>--- EXISTING PROPERTY LINE</p> <p>--- EXISTING ROAD SHOULDER /</p> <p>--- EDGE OF GRAVEL</p> <p>--- EXISTING EDGE OF ASPHALT</p> <p>--- EXISTING CULVERT</p> <p>--- EXISTING DITCH</p> <p>--- EXISTING OF ROAD</p> <p>--- EXISTING FENCE</p> <p>--- EXISTING TREES</p> <p>△ EXISTING SIGN</p> <p>⚡ EXISTING POWER POLE</p> <p>◇ EXISTING LIGHT POLE</p> <p>* EXISTING FLAG POLE</p> <p>□ EXISTING PEDESTAL</p> <p>○ EXISTING SANITARY PUMP OUT</p> <p>○ EXISTING SEPTIC TANK</p> <p>○ EXISTING WATER WELL</p> <p>⊙ EXISTING BORDER MONUMENT</p> <p>⊙ EXISTING GAS METER</p> <p>⊙ EXISTING PROPANE TANK</p> <p>⊙ EXISTING CONCRETE</p>	
<p><b>Contractor to verify all dimensions &amp; conditions on site and immediately notify the engineer of all discrepancies.</b></p>	
	<b>ADDENDUM #2</b>
0	ISSUED FOR TENDER
B	ISSUED FOR REVIEW
A	ISSUED AT 50% FOR REVIEW
revisions	description
date	date
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>A detail no. no. du détail</p> </div> <div style="text-align: center;"> <p>B location drawing no. sur dessin no.</p> <p>C drawing no. dessin no.</p> </div> </div>	
project	projet
<h2 style="margin: 0;">CBSA PORT REPLACEMENTS</h2>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">drawing</div> <div style="width: 45%;">dessin</div> </div>	
<h1 style="margin: 0;">PROP CONSTRUCTION PHASING</h1> <h2 style="margin: 0;">WEST POPLAR, SASK.</h2>	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">Designed By</div> <div style="width: 45%;">Conçu par</div> </div>	
<b>TREVOR HOWERY</b>	
Date	(yyyy/mm/dd)
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">Drawn By</div> <div style="width: 45%;">Dessiné par</div> </div>	
<b>MARCEL REVET</b>	
Date	(yyyy/mm/dd)
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">Reviewed By</div> <div style="width: 45%;">Examiné par</div> </div>	
<b>DARIN SCHINDEL</b>	
Date	(yyyy/mm/dd)
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">Approved By</div> <div style="width: 45%;">Approuvé par</div> </div>	
<b>STEVEN KING</b>	
Date	(yyyy/mm/dd)
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">Tender</div> <div style="width: 45%;">Soumission</div> </div>	
<b>STEVEN KING</b>	
Project Manager	Administrateur de projets
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">Project no.</div> <div style="width: 45%;">No. du projet</div> </div>	
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<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">Drawing no.</div> <div style="width: 45%;">No. du dessin</div> </div>	
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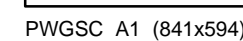
C-008




























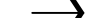





Designed By	TREVOR HOWERY	Conçu par
Date	2013/10/31	(yyyy/mm/dd)
Drawn By	MARCEL REVET	Dessiné par
Date	2013/10/31	(yyyy/mm/dd)
Reviewed By	DARIN SCHINDEL	Examiné par
Date	2013/10/31	(yyyy/mm/dd)
Approved By		Approuvé par
Date		(yyyy/mm/dd)
Tender		Soumission
	STEVEN KING	
Project Manager		Administrateur de projets
Project no.		No. du projet
R.065922.001		
Drawing no.		No. du dessin





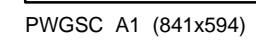
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	EXISTING ROAD SHOULDER / EDGE OF GRAVEL
	EXISTING EDGE OF ASPHALT
	EXISTING CULVERT
	EXISTING DITCH
	EXISTING C. OF ROAD
	EXISTING OVERHEAD POWER
	EXISTING FENCE
	EXISTING TREES
	EXISTING SIGN
	EXISTING POWER POLE
	EXISTING LIGHT POLE
	EXISTING FLAG POLE
	EXISTING PEDESTAL
	EXISTING SANITARY PUMP OUT
	EXISTING SEPTIC TANK
	EXISTING WATER WELL
	EXISTING BORDER MONUMENT
	EXISTING GAS METER
	EXISTING PROPANE TANK
	EXISTING CORNER WITH LABEL
	EXISTING TRAFFIC FLOW DIRECTION
	EXISTING CONCRETE HATCH
	PROPOSED FINISHED GRADE
	EXISTING BUILDING REMOVAL
	EXISTING CONCRETE REMOVAL
	PROPOSED FENCE

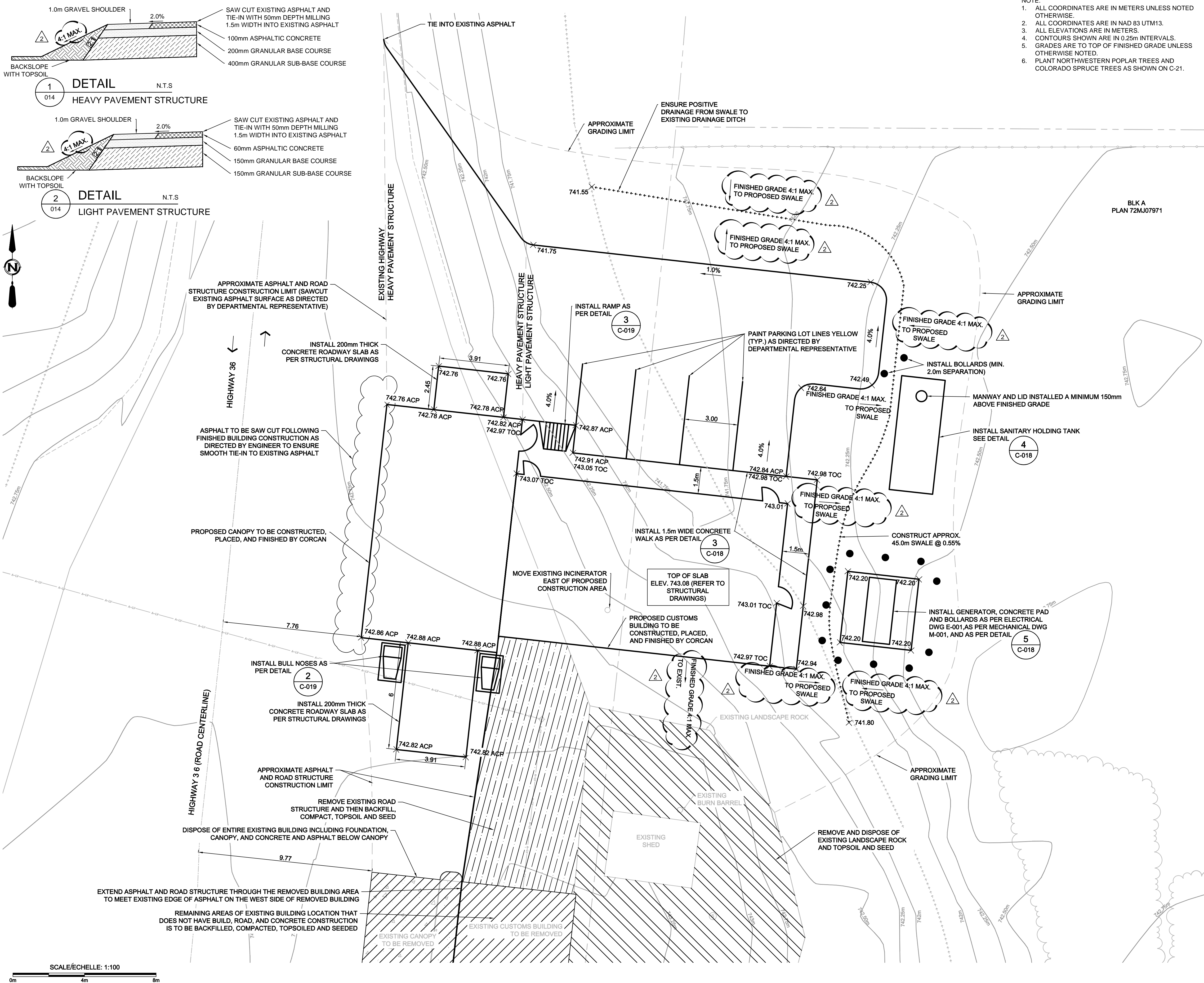
A detail no.  
no. du detail

B location drawing no.  
sur dessin no.


C drawing no.  
dessin no.

C-015





- NOTE:
1. ALL COORDINATES ARE IN METERS UNLESS NOTED OTHERWISE.
  2. ALL COORDINATES ARE IN NAD 83 UTM13.
  3. ALL ELEVATIONS ARE IN METERS.
  4. CONTOURS SHOWN ARE IN 0.25m INTERVALS.
  5. GRADES ARE TO TOP OF FINISHED GRADE UNLESS OTHERWISE NOTED.
  6. PLANT NORTHWESTERN POPLAR TREES AND COLORADO SPRUCE TREES AS SHOWN ON C-21.



Publics Works and  
Government Services  
Canada



Travaux publics et  
services gouvernementaux  
Canada

Canada

Consultant's Name  
Nom de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur



**LEGEND:**

- EXISTING PROPERTY LINE
- EXISTING ROAD SHOULDER / EDGE OF GRAVEL
- EXISTING EDGE OF ASPHALT
- EXISTING CULVERT
- EXISTING DITCH
- EXISTING OF ROAD
- EXISTING OVERHEAD POWER
- EXISTING FENCE
- EXISTING TREES
- EXISTING SIGN
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING FLAG POLE
- EXISTING PEDESTAL
- EXISTING SANITARY PUMP OUT
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- EXISTING WATER WELL
- EXISTING BORDER MONUMENT
- EXISTING GAS METER
- EXISTING PROPANE TANK
- EXISTING CONTOUR WITH LABEL
- EXISTING TRAFFIC FLOW DIRECTION
- EXISTING CONCRETE HATCH
- PROPOSED FINISHED GRADE
- EXISTING BUILDING REMOVAL
- EXISTING CONCRETE REMOVAL

**Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.**

	ADDENDUM #2	14.01.21
1	ADDENDUM #1	14.01.16
0	ISSUED FOR TENDER	14.01.02
B	ISSUED FOR APPROVAL	13.12.19
A	ISSUED AT 50% FOR REVIEW	13.11.19

revisions	description	date
A	A detail no.	
C	no. du detail	
B	B location drawing no.	
C	sur dessin no.	
C	C drawing no.	
	dessin no.	

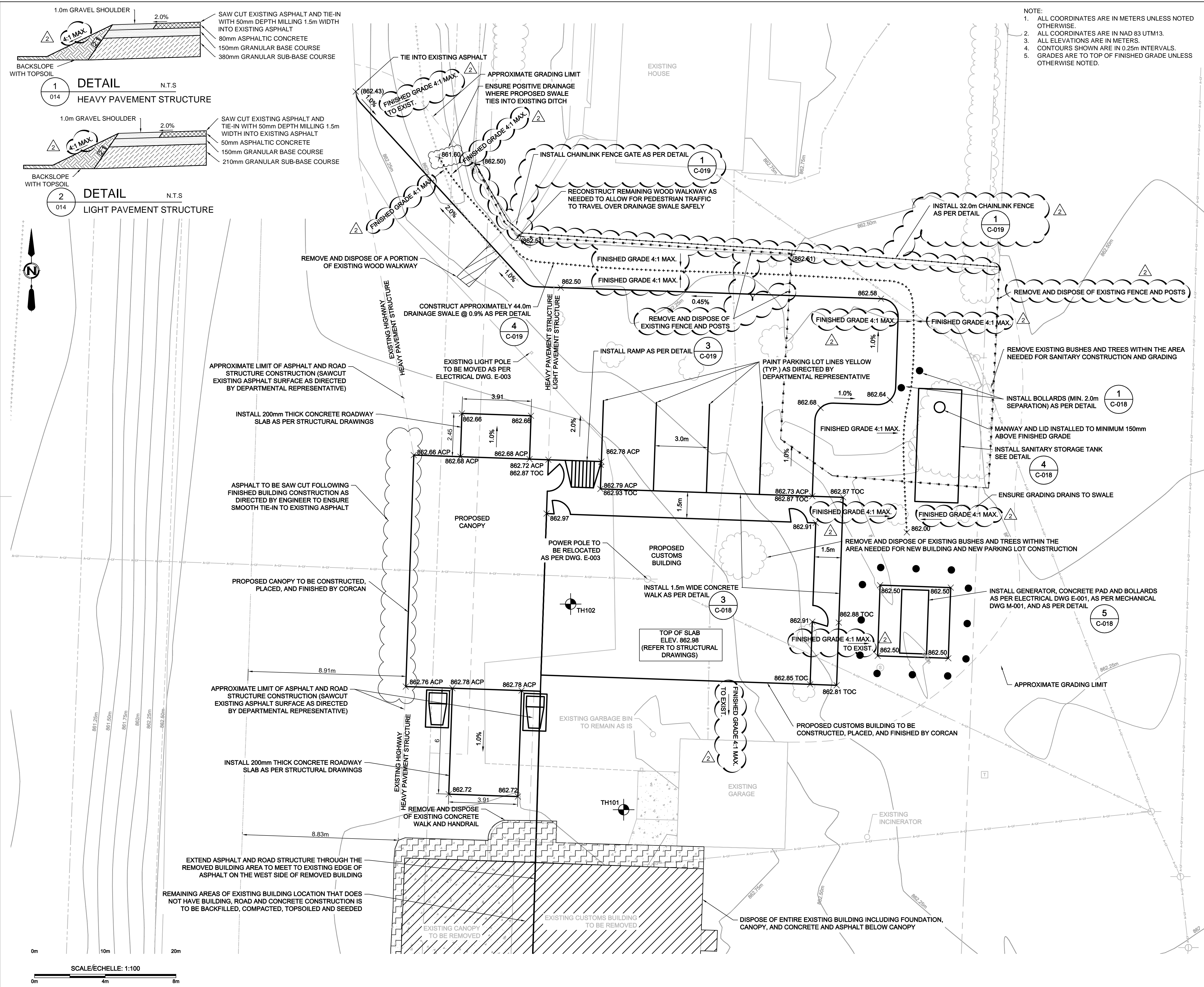
project project

## CBSA PORT REPLACEMENTS

drawing dessin

## GRADING PLAN CORONACH, SASK.

Designed By	TREVOR HOWERY	Conçu par	
Date	2013/10/31	(yyyy/mm/dd)	
Drawn By	MARCEL REVET	Dessiné par	
Date	2013/10/31	(yyyy/mm/dd)	
Reviewed By	DARIN SCHINDEL	Examiné par	
Date	2013/10/31	(yyyy/mm/dd)	
Approved By		Approuvé par	
Date		(yyyy/mm/dd)	
Tender		Soumission	
Project Manager	STEVEN KING	Administrateur de projets	
Project no.		No. du projet	
	R.065922.001		
Drawing no.		No. du dessin	
	C-016		



- NOTE:
1. ALL COORDINATES ARE IN METERS UNLESS NOTED OTHERWISE.
  2. ALL COORDINATES ARE IN NAD 83 UTM13.
  3. ALL ELEVATIONS ARE IN METERS.
  4. CONTOURS SHOWN ARE IN 0.25m INTERVALS.
  5. GRADES ARE TO TOP OF FINISHED GRADE UNLESS OTHERWISE NOTED.



Consultant's Name  
Nom de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur



- LEGEND:**
- EXISTING PROPERTY LINE
  - EXISTING ROAD SHOULDER / EDGE OF GRAVEL
  - EXISTING EDGE OF ASPHALT
  - EXISTING CULVERT
  - EXISTING DITCH
  - EXISTING  $\epsilon$  OF ROAD
  - EXISTING OVERHEAD POWER
  - EXISTING FENCE
  - EXISTING TREES
  - EXISTING SIGN
  - EXISTING POWER POLE
  - EXISTING LIGHT POLE
  - EXISTING FLAG POLE
  - EXISTING PEDESTAL
  - EXISTING SANITARY PUMP OUT
  - EXISTING SEPTIC TANK
  - EXISTING GAS METER
  - EXISTING PROPANE TANK
  - EXISTING CONTOUR WITH LABEL
  - EXISTING TRAFFIC FLOW DIRECTION
  - EXISTING CONCRETE HATCH
  - PROPOSED FINISHED GRADE
  - EXISTING BUILDING REMOVAL
  - EXISTING CONCRETE REMOVAL
  - EXISTING FENCE REMOVAL
  - PROPOSED FENCE

Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

revisions	description	date
1	ADDENDUM #2	14.01.21
0	ADDENDUM #1	14.01.16
0	ISSUED FOR TENDER	14.01.02
B	ISSUED FOR APPROVAL	13.12.19
A	ISSUED AT 50% FOR REVIEW	13.11.19

A	A detail no. no. du détail	A
C	B location drawing no. sur dessin no.	B
	C drawing no. dessin no.	C

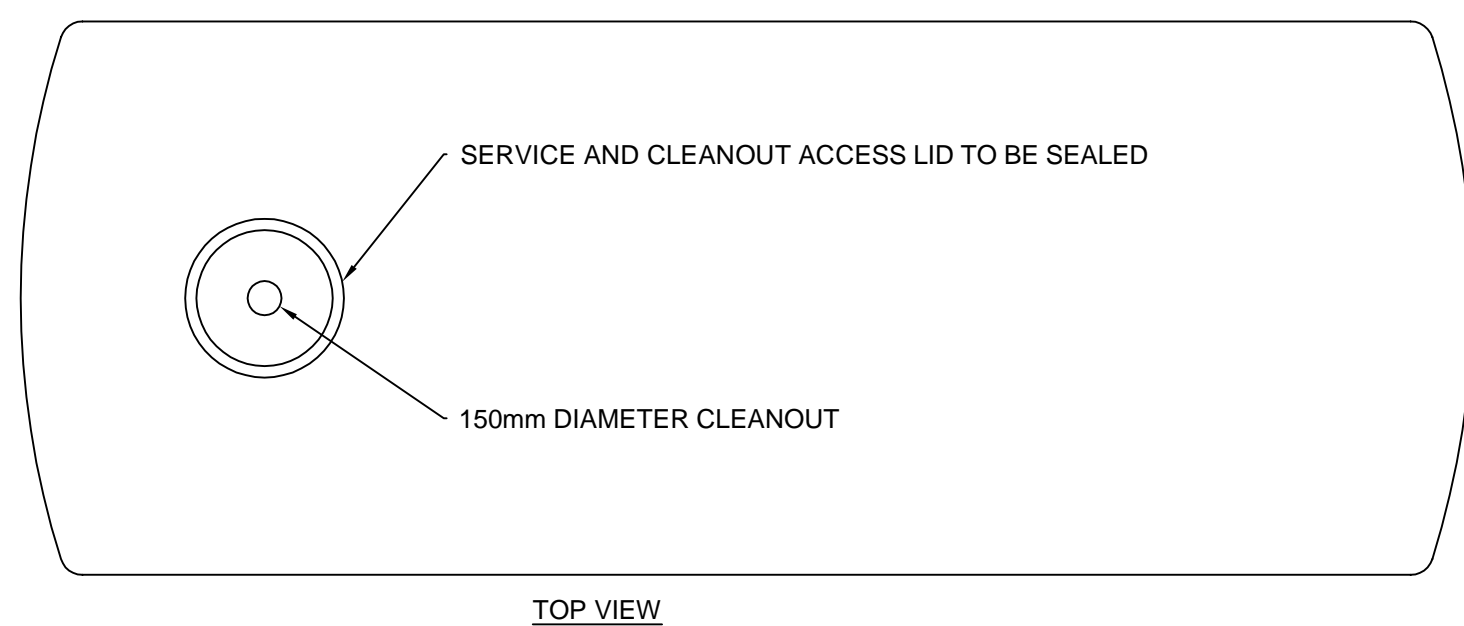
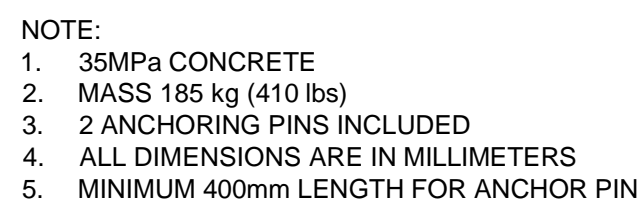
project project

## CBSA PORT REPLACEMENTS

drawing dessin

## GRADING PLAN MONCHY, SASK.

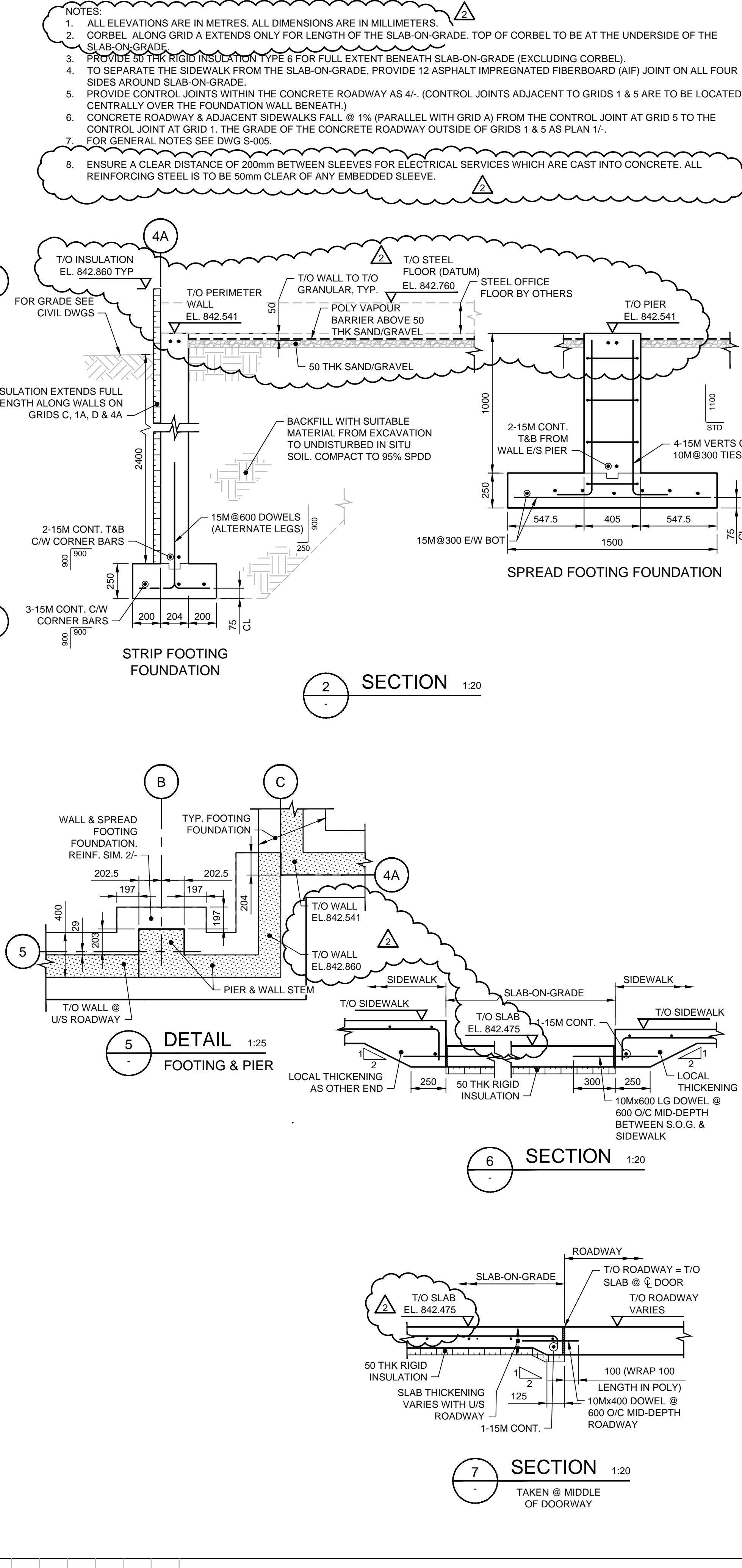
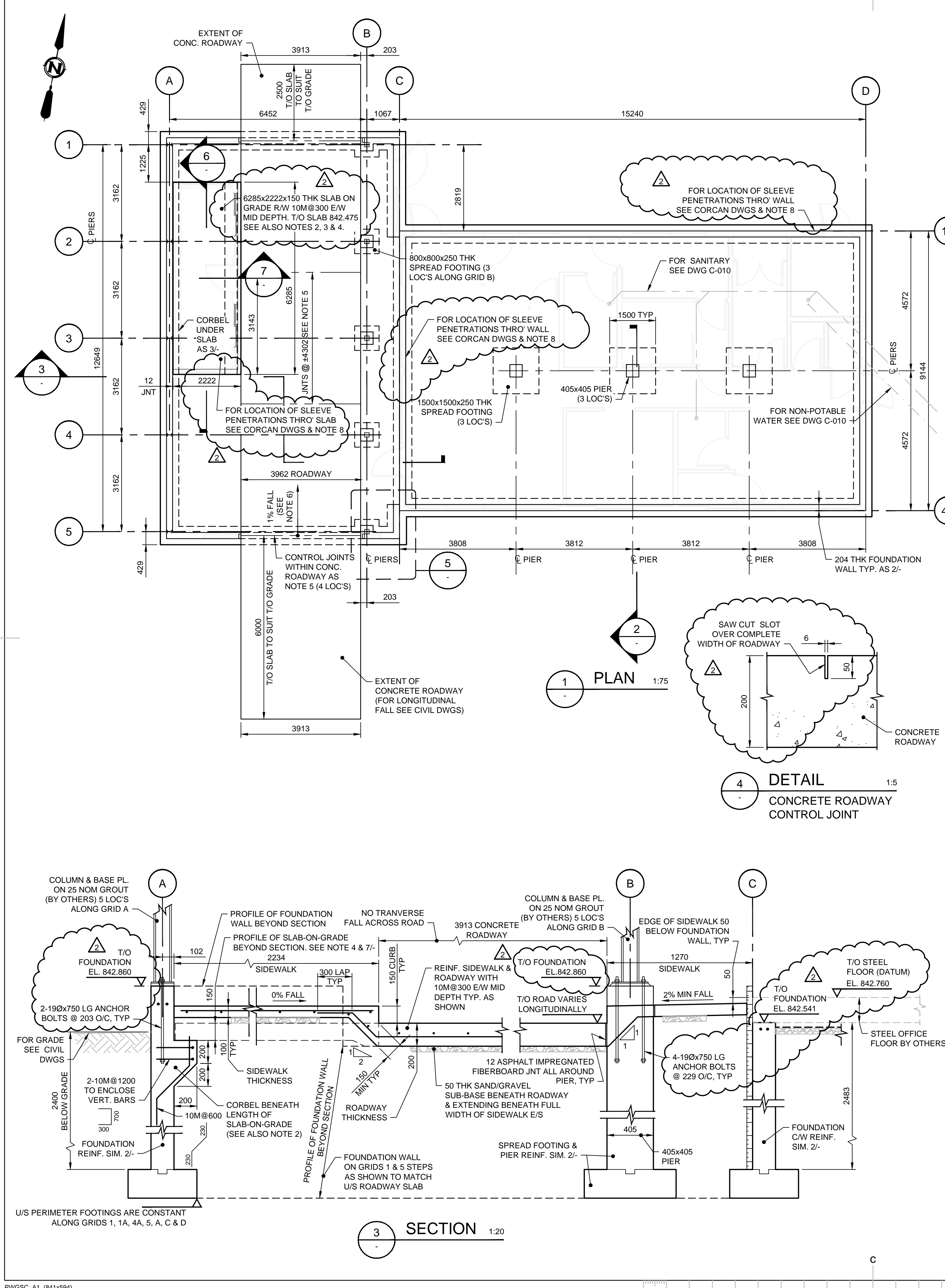
Designed By	TREVOR HOWERY	Conçu par	
Date	2013/10/31	(yyyy/mm/dd)	
Drawn By	MARCEL REVET	Dessiné par	
Date	2013/10/31	(yyyy/mm/dd)	
Reviewed By	DARIN SCHINDEL	Examiné par	
Date	2013/10/31	(yyyy/mm/dd)	
Approved By		Approuvé par	
Date		(yyyy/mm/dd)	
Tender	STEVEN KING	Soumission	
Project Manager	Administrateur de projets		
Project no.	No. du projet		
	R.065922.001		
Drawing no.	No. du dessin		
	C-017		



NOTE:  
CONTRACTOR TO PROVIDE DETAILED SHOP DRAWINGS  
FOR DEPARTMENTAL REPRESENTATIVE APPROVAL  
PRIOR TO CONSTRUCTION FOR TANK, MANWAY AND  
SANITARY SEWER CONNECTION



Drawing no.	No. du dessin
C-019	



Publics Works and Government Services Canada

Travaux publics et services gouvernementaux Canada

Canada

Consultant's Name  
Nom de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur

Associated Engineering

ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF SASKATCHEWAN  
CERTIFICATE OF AUTHORIZATION  
ASSOCIATED ENGINEERING (SASK.) LTD.  
NUMBER C116  
PERMISSION TO CONSULT HELD BY:  
DISCIPLINE SASK. REG. No. SIGNATURE

Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

2	ISSUE FOR ADDENDUM #2	14.01.21
1	ISSUE FOR ADDENDUM	14.01.17
0	ISSUE FOR TENDER	13.12.19
B	ISSUE AT 99% FOR REVIEW	13.12.13
A	ISSUE AT 50% FOR REVIEW	13.11.19
revisions	description	date

A detail no.  
no. du détail

B location drawing no.  
sur dessin no.

C drawing no.  
dessin no.

A

B

C

project CBSA PORT REPLACEMENTS projet

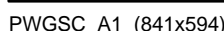
WILLOW CREEK, SASKATCHEWAN

drawing dessin

STRUCTURAL FOUNDATION FOR MODULAR BUILDING

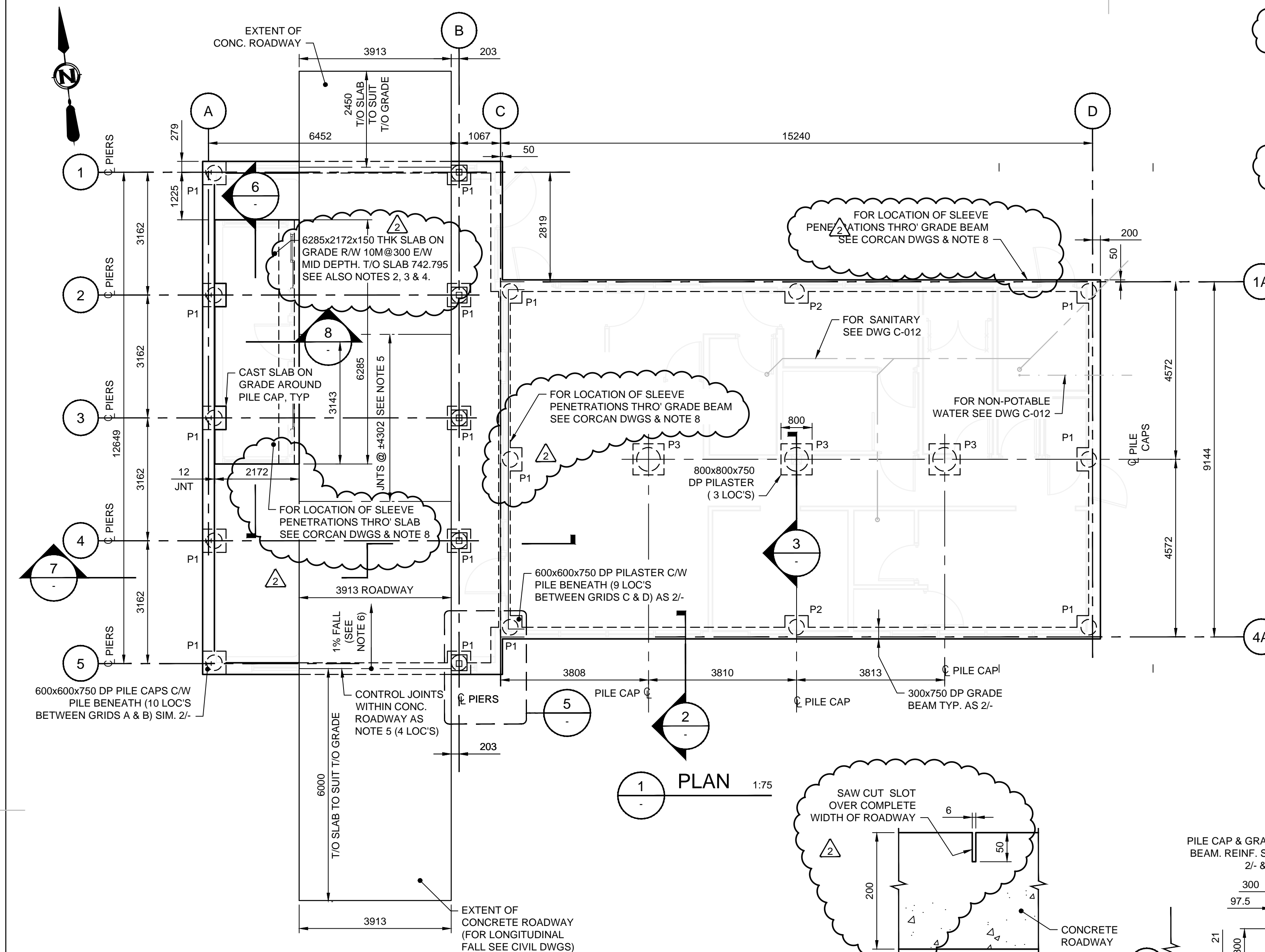
Designed By	GEOFF SARAZIN	Conçu par	
Date	2013/09/16	(yyyy/mm/dd)	
Drawn By	MALCOLM COOPER	Dessiné par	
Date	2013/09/16	(yyyy/mm/dd)	
Reviewed By	GEOFF SARAZIN	Examiné par	
Date	2013/10/02	(yyyy/mm/dd)	
Approved By		Approuvé par	
Date		(yyyy/mm/dd)	
Tender	TENDER STEVEN KING	Soumission	
Project Manager	Administrateur de projets		
Project no.		No. du projet	
	R.065922.001		
Drawing no.		No. du dessin	
	S-001		

PWGSC A1 (841x594) 0 10 20mm 40 60 80 100 120 140 160 180 200mm

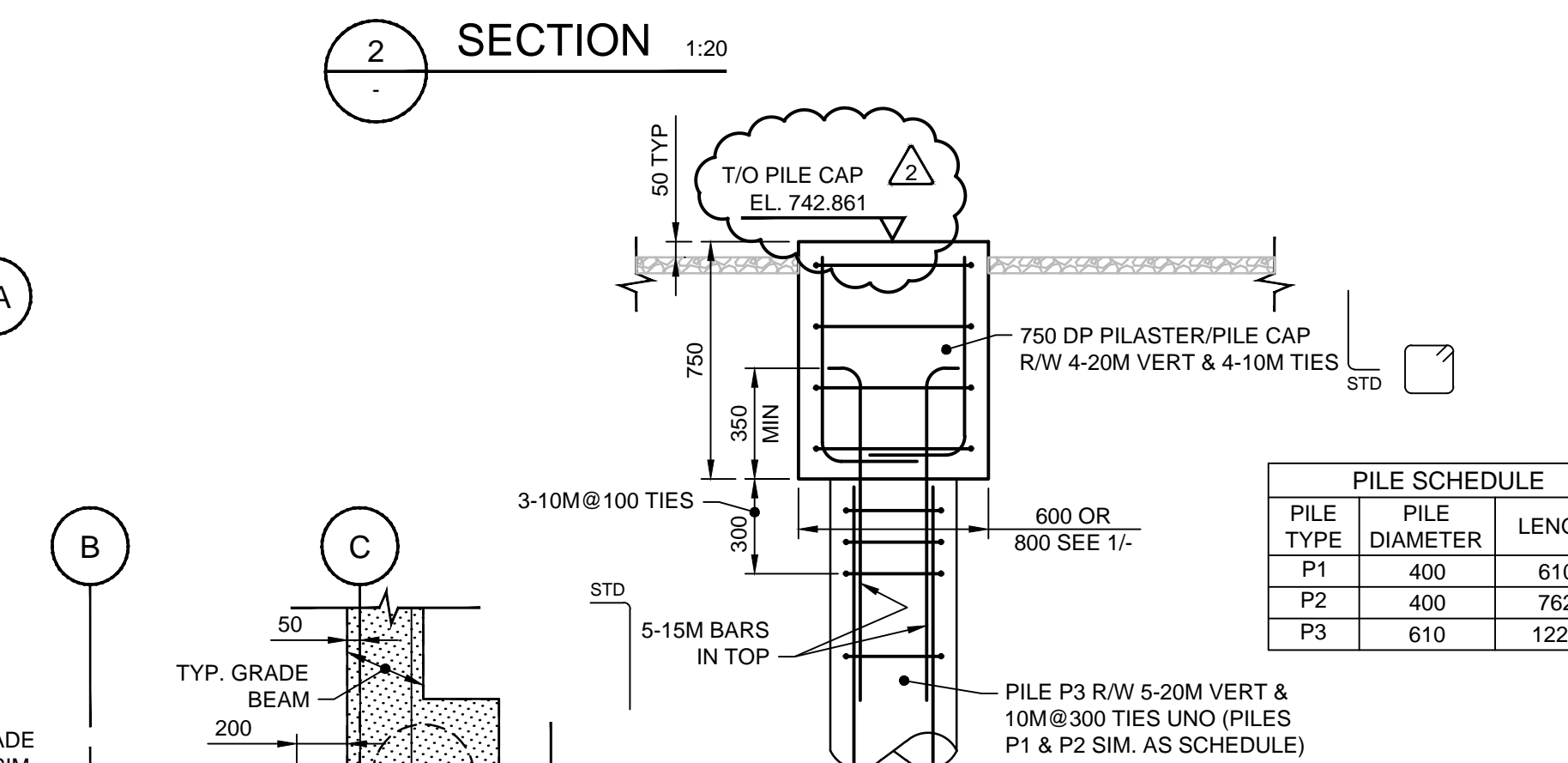
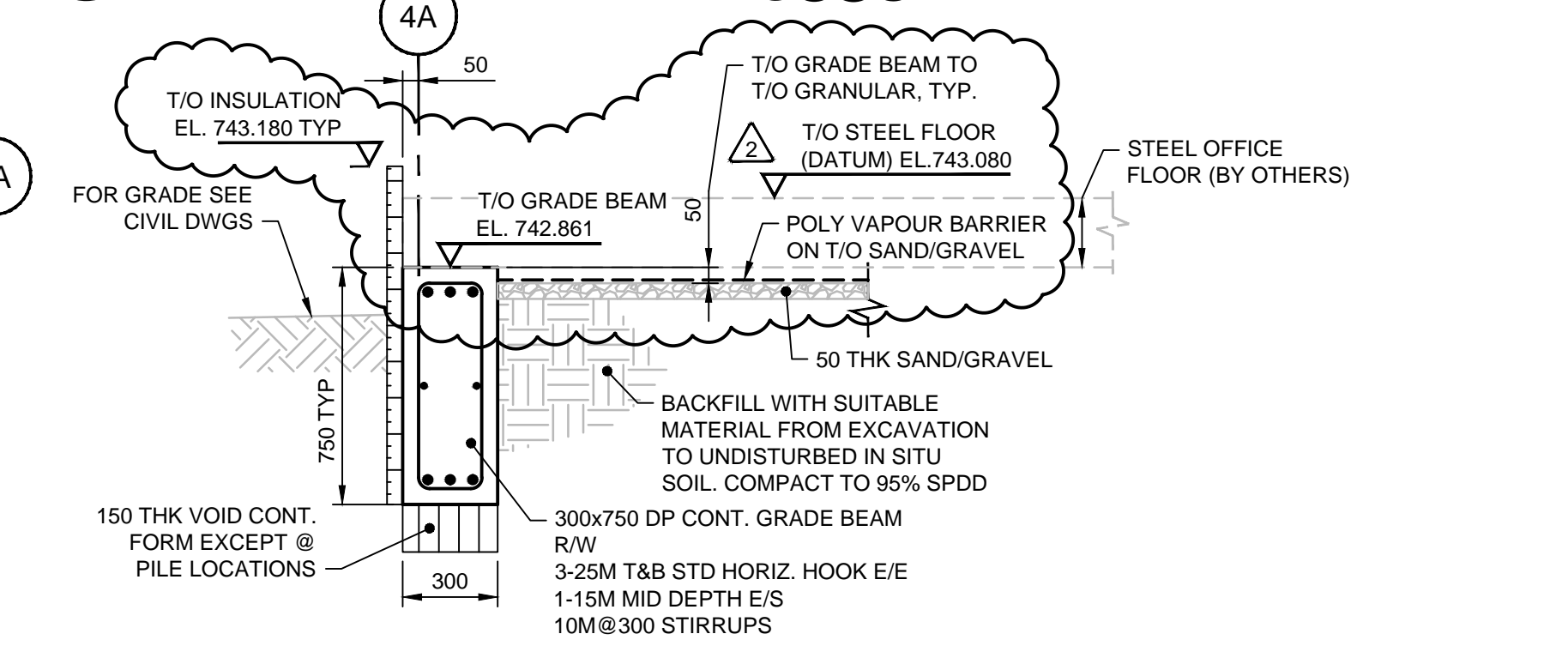


The image contains three architectural drawings of a doorway structure:

- 5 DETAIL 1:25 FOOTING & PIER**: A plan view showing the foundation and wall details. It includes dimensions for wall and footing widths (202.5, 197, 204), wall height (400), and reinforcement details. Labels include "WALL & SPREAD FOOTING FOUNDATION. REINF. SIM. 2/-", "TYP. FOOTING FOUNDATION", "T/O WALL EL. 874.201", "T/O WALL EL. 874.520", "PIER & WALL STEM", and "T/O WALL @ U/S ROADWAY".
- 6 SECTION 1:20**: A cross-section through the doorway. It shows the "T/O SLAB EL. 874.135", "SLAB-ON-GRADE", "SIDEWALK", "T/O SIDEWALK", "LOCAL THICKENING AS OTHER END", "50 THK RIGID INSULATION", "10Mx600 LG DOWEL @ 600 O/C MID-DEPTH BETWEEN S.O.G. & SIDEWALK", and "1-15M CONT.". It also indicates "T/O SIDEWALK" and "T/O ROADWAY" on the right side.
- 7 SECTION 1:20**: A cross-section through the middle of the doorway. It shows the "T/O SLAB EL. 874.135", "SLAB-ON-GRADE", "ROADWAY", "T/O ROADWAY = T/O SLAB @ C. DOOR", "T/O ROADWAY VARIES", "50 THK RIGID INSULATION", "SLAB THICKENING VARIES WITH U/S ROADWAY", "1-15M CONT.", "100 (WRAP 100 LENGTH IN POLY)", and "10Mx400 DOWEL @ 600 O/C MID-DEPTH ROADWAY".



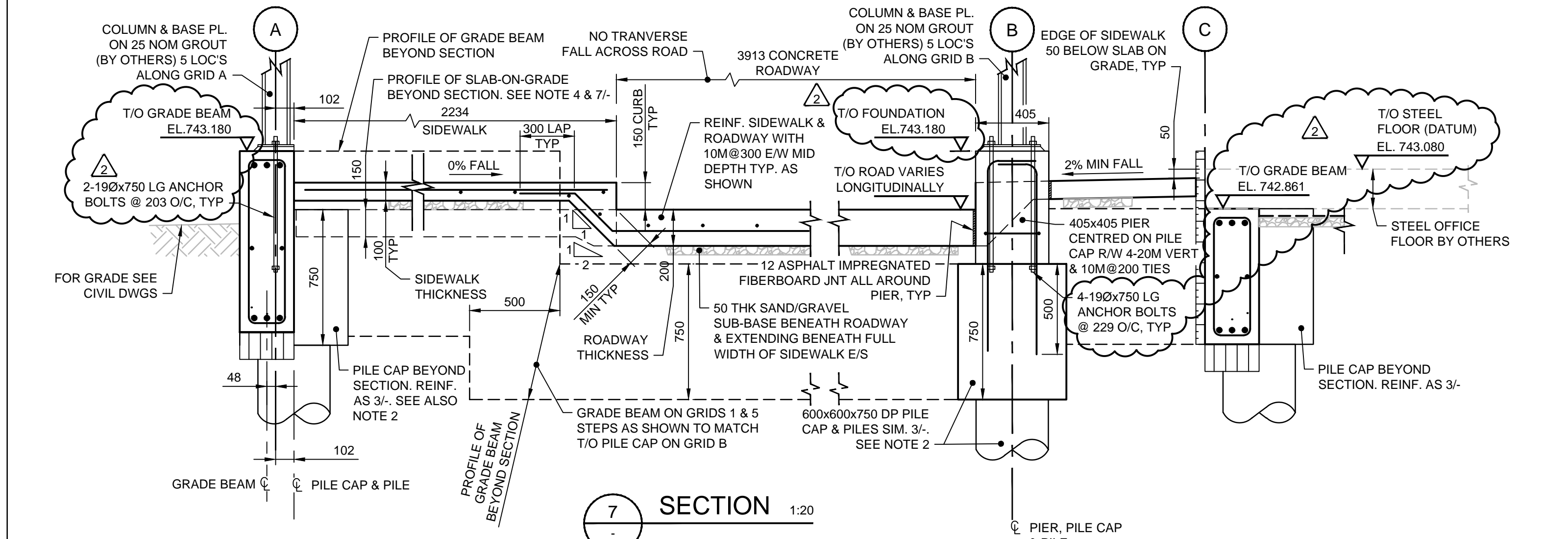
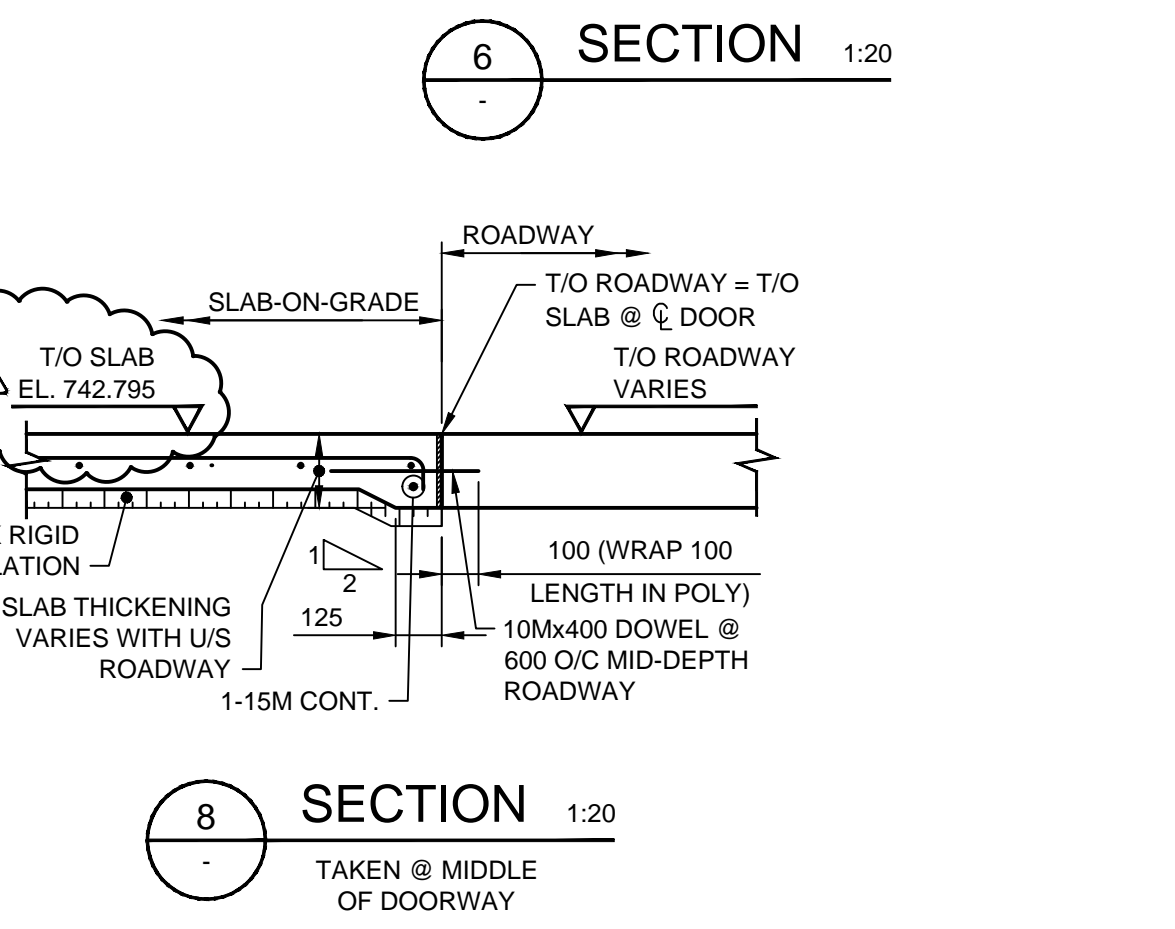
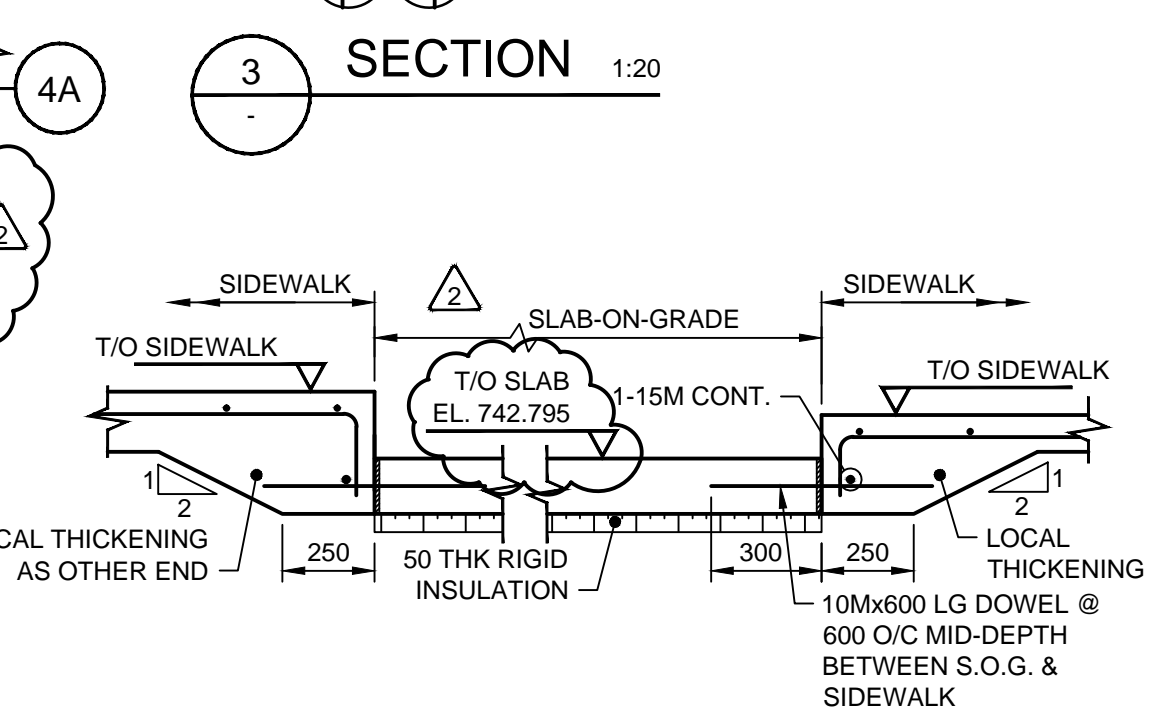
- NOTES:
1. ALL ELEVATIONS ARE IN METRES. ALL DIMENSIONS ARE IN MILLIMETERS.
  2. TOP OF PILE CAP ALONG GRID A IS EL.742.795 (BEING THE TOP OF THE SLAB-ON-GRADE). TOP OF PILE CAP ALONG GRID B IS EL.742.550.
  3. PROVIDE 50 THK RIGID INSULATION TYPE 6 FOR FULL EXTENT BENEATH SLAB-ON-GRADE (EXCLUDING PILE CAPS).
  4. TO SEPARATE THE SIDEWALK FROM THE SLAB-ON-GRADE, PROVIDE 12 ASPHALT IMPREGNATED FIBERBOARD (AIF) JOINT ON ALL FOUR SIDES AROUND SLAB-ON-GRADE.
  5. PROVIDE CONTROL JOINTS WITHIN THE CONCRETE ROADWAY AS 4/- (CONTROL JOINTS ADJACENT TO GRIDS 1 & 5 ARE TO BE LOCATED CENTRALLY OVER THE GRADE BAEM BENEATH.)
  6. CONCRETE ROADWAY & ADJACENT SIDEWALKS FALL @ 1% (PARALLEL WITH GRID A) FROM THE CONTROL JOINT AT GRID 5 TO THE CONTROL JOINT AT GRID 1. THE GRADE OF THE CONCRETE ROADWAY OUTSIDE OF GRIDS 1 & 5 AS PLAN 1/-.
  7. FOR GENERAL NOTES SEE DWG S-007.
  8. ENSURE A CLEAR DISTANCE OF 200mm BETWEEN SLEEVES FOR ELECTRICAL SERVICES WHICH ARE CAST INTO CONCRETE. ALL REINFORCING STEEL IS TO BE 50mm CLEAR OF ANY EMBEDDED SLEEVE.



PILE SCHEDULE		
PILE TYPE	PILE DIAMETER	LENGTH
P1	400	6100
P2	400	7620
P3	610	12200

4 DETAIL 1:5  
CONCRETE ROADWAY CONTROL JOINT

5 DETAIL 1:25  
GRADE BEAM & PILE CAP



Publics Works and Government Services Canada

Travaux publics et services gouvernementaux Canada

Consultant's Name  
Nom de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur

ASSOCIATION OF PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF SASKATCHEWAN  
CERTIFICATE OF AUTHORIZATION  
ASSOCIATED ENGINEERING (SASK.) LTD.  
NUMBER C116  
PERMISSION TO CONSULT HELD BY:  
DISCIPLINE SASK. REG. No. SIGNATURE

Contractor to verify all dimensions & conditions on site and immediately notify the engineer of all discrepancies.

revisions	description	date
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1	ISSUE FOR ADDENDUM	14.01.17
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B	ISSUE AT 99% FOR REVIEW	13.12.13
A	ISSUE AT 50% FOR REVIEW	13.11.19

A detail no.  
no. du detail

B location drawing no.  
sur dessin no.

C drawing no.  
dessin no.

projectCBSA PORT REPLACEMENTSproject

CORONACH, SASKATCHEWAN

drawingdessin

STRUCTURAL FOUNDATION FOR MODULAR BUILDING

Designed By	GEOFF SARAZIN	Conçu par
Date	2013/09/16	(yyyy/mm/dd)
Drawn By	MALCOLM COOPER	Dessiné par
Date	2013/09/16	(yyyy/mm/dd)
Reviewed By	GEOFF SARAZIN	Examiné par
Date	2013/10/02	(yyyy/mm/dd)
Approved By		Approuvé par
Date		(yyyy/mm/dd)
Tender	TENDER	Soumission
Project Manager	STEVEN KING	Administrateur de projets
Project no.		No. du projet
	R.065922.001	
Drawing no.		No. du dessin
	S-003	

PWGSC A1 (841x594) 0 10 20mm 40 60 80 100 120 140 160 180 200mm

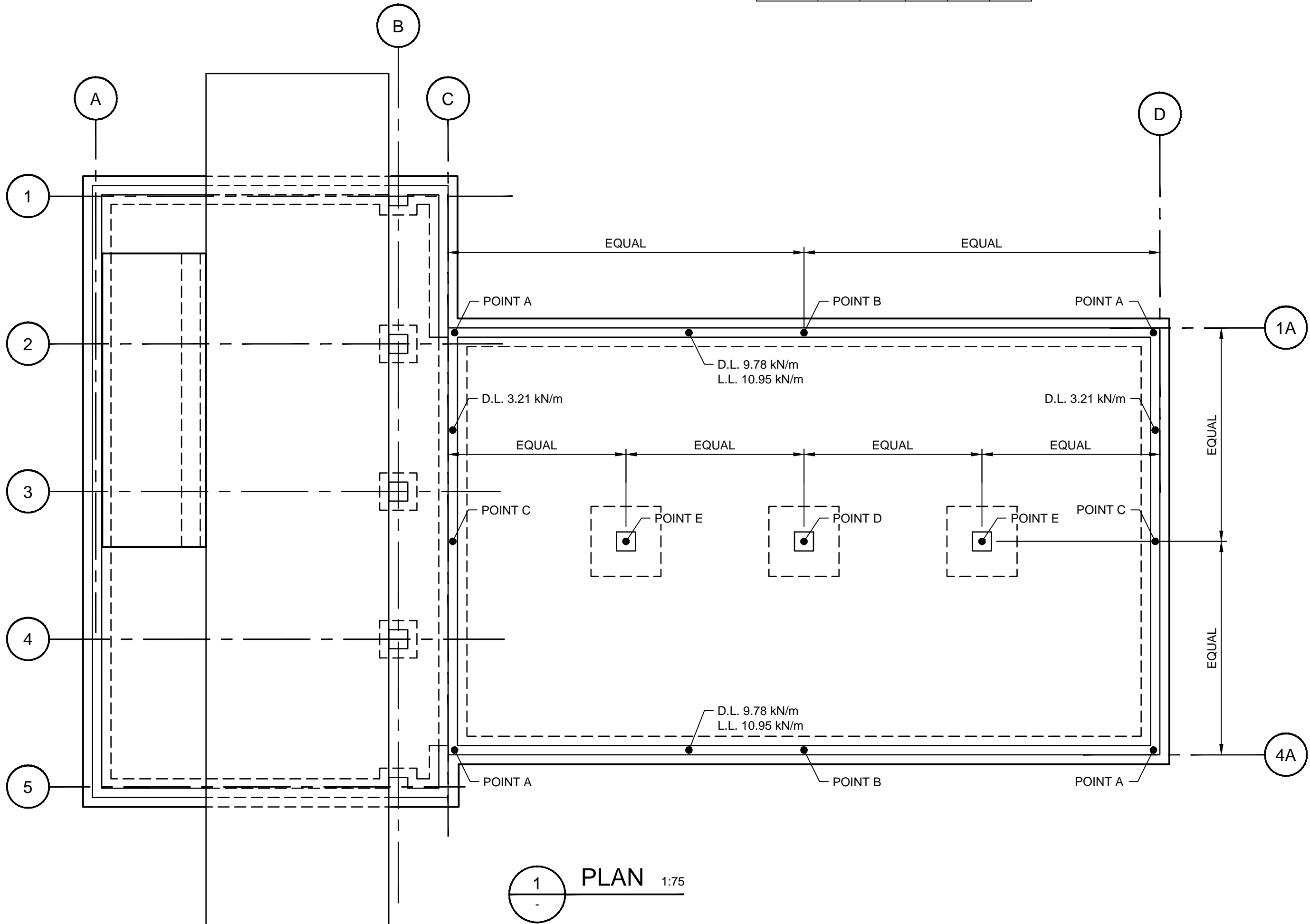


GENERAL NOTES:

- A. DESIGN LOADS (SPECIFIED)
- .1 DESIGN LOADS BY CORCAN ARE SHOWN IN ADJACENT PLAN & TABLES.
- B. FOUNDATIONS
- .1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY SUPPORTS AND BRACING FOR THE STABILITY OF THE NEW STRUCTURE DURING CONSTRUCTION.
- .2 FOUNDATION DESIGN IS BASED ON CONDITIONS OUTLINED IN THE GEOTECHNICAL REPORT R5240.2 DATED SEPTEMBER 27, 2013 PROVIDED BY CLIFTON ASSOCIATES LTD.
- .3 ALLOWABLE BEARING PRESSURE = 60 kPa
- C. EXCAVATION AND BACKFILL.
- .1 EXCAVATE AND BACKFILL TO THE DETAILS ON DRAWING S-001.
- D. CONCRETE
- .1 ALL CONCRETE WORK TO CSA A23.1-04 AND TO CSA A23.2-04.
- .2 MINIMUM 28 DAY COMPRESSIVE STRENGTH 32 MPa. CURE CONCRETE WORK FOR 7 DAYS MINIMUM.
- .3 SULPHATE RESISTANT TYPE HS CEMENT FOR ALL CONCRETE.
- .4 MAXIMUM W/C = 0.45.
- .5 SUBMIT AGGREGATE SIEVE ANALYSIS AND CONCRETE MIX DESIGN FOR REVIEW.
- .6 6 ± 1% AIR, SLUMP 70 ± 20 mm.
- .7 MAKE AND TEST THREE TEST CYLINDERS FOR EACH CONCRETE PLACEMENT (1 @ 7 DAYS, 2 @ 28 DAYS).
- .8 FAILURE TO MEET CONCRETE STRENGTH REQUIREMENTS
- .1 IF ANY OF THE CRITERIA IN THESE NOTES OR UNDER ANY SPECIFICATION CLAUSE IS NOT MET, THE ENGINEER MAY REQUIRE:
- a) CHANGES IN THE CONCRETE MIX PROPORTIONS FOR THE REMAINDER OF THE WORK;
- b) CORE TESTING FROM THE AREAS IN QUESTION IN CONFORMANCE WITH CSA. COST OF CORE TESTING TO BE BORNE BY THE CONTRACTOR; OR
- c) LOAD TESTING OF THE STRUCTURAL ELEMENT IN CONFORMANCE WITH NBC.
- .2 IF AFTER TESTING AS ABOVE, THE CONCRETE STRENGTH IS BELOW SPECIFIED STRENGTH, THE ENGINEER MAY REQUIRE A STRENGTHENING OR REPLACEMENT OF THE PORTIONS THAT FAILED TO DEVELOP SPECIFIED STRENGTH, AT THE EXPENSE OF THE CONTRACTOR. DESIGN REVIEWS INCURRED AS A RESULT OF DEFECTIVE MATERIALS SHALL BE PAID FOR BY THE CONTRACTOR.
- .3 ALL CONCRETE FALLING MORE THAN 15% BELOW SPECIFIED STRENGTH SHALL BE REJECTED AND SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- .4 NON-DESTRUCTIVE METHODS FOR TESTING CONCRETE SHALL BE IN ACCORDANCE WITH CAN/CSA\_A23.2. MAKE GOOD CONCRETE SURFACES AFTER COMPLETION OF TESTS.
- .5 INSPECTION OR TESTING BY ENGINEER WILL NOT AUGMENT OR REPLACE CONTRACTOR QUALITY CONTROL NOR RELIEVE THE CONTRACTOR OF THE CONTRACTOR'S CONTRACTUAL RESPONSIBILITY.
- .9 PREPARATION FOR COLD WEATHER, INCLUDING SPECIAL SUPPLEMENTARY EQUIPMENT, WHERE NECESSARY, SHALL BE DONE BEFORE COMMENCING CONCRETE PLACING. ENSURE THAT PROCEDURES AND METHODS USED DURING COLD WEATHER ARE REVIEWED AND AUTHORIZED BY THE ENGINEER.
- J. REINFORCING STEEL
- .1 TO CSA G30.12M
- .1 MAIN BARS AND DOWELS - GRADE 400R.
- .2 TIES & STIRRUPS - GRADE 400W.
- .2 SUBMIT SHOP DRAWINGS FOR REVIEW.
- K. VOID FORM
- .1 10 mm PLYWOOD AND 150 mm CARDBOARD BIODEGRADABLE VOID FORM. INSTALL 6 MIL POLY ON VOID FORM IN ACCORDANCE WITH INDUSTRY STANDARDS.
- .2 PREPARE EARTH BASE BY INSTALLING LEVELLING SAND TO ACHIEVE A FLAT BASE FOR VOID FORM INSTALLATION.
- L. MISCELLANEOUS STEEL
- .1 ANCHOR BOLTS TO ASTM A307.
- .2 FABRICATION TO CAN/CSA S16.1 AND CISC CODE OF STANDARD PRACTICE.
- M. COORDINATION
- .1 SITE CHECK ALL EXISTING DIMENSIONS AND ELEVATIONS. REPORT ANY DISCREPANCIES TO THE ENGINEER.
- .2 READ THIS DRAWING WITH THE BUILDING DRAWINGS.
- .3 DO THE WORK ACCORDING TO DRAWINGS, NBC, TO LOCAL CODES AND TO INDUSTRY STANDARDS. WHERE DETAILED INSTRUCTIONS ARE NOT INDICATED, OBTAIN CLARIFICATION FROM ENGINEER PRIOR TO COMPLETING INSTALLATIONS.
- .4 REFER TO CIVIL, BUILDING, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THE CONFIRMATION OF SIZE AND LOCATION OF ALL OPENINGS, PIPING AND INSERTS.
- .5 INSTALL ALL MECHANICAL AND ELECTRICAL EQUIPMENT AND ANCHOR BOLTS IN ACCORDANCE WITH CERTIFIED SHOP DRAWINGS SUPPLIED BY THE MANUFACTURER AND EXAMINED BY THE ENGINEER.
- N. HOLD DOWNS AND ANCHOR BOLTS
- .1 ALL HOLD DOWNS TO BE ANCHORED WITH CAST-IN-PLACE SSTB16 (SIMPSON) ANCHOR RODS.
- O. VAPOUR BARRIER
- .1 ALL MEMBRANE SHALL BE INSTALLED AT SURFACE AND AMBIENT TEMPERATURE OF 5°C OR ABOVE, IN DRY WEATHER CONDITIONS. FOR APPLICATIONS BELOW 5°C CONSULT MEMBRANE MANUFACTURER'S TECHNICAL REPRESENTATIVE FOR INSTRUCTIONS AND, OBTAIN CONSULTANT'S APPROVAL BEFORE PROCEEDING WITH WORK.
- .2 EXAMINATION AND PREPARATION
- a) VERIFY THAT SURFACES AND CONDITIONS ARE READY TO ACCEPT WORK OF THIS SECTION.
- b) ENSURE SURFACES ARE CLEAN, DRY, SOUND, SMOOTH, CONTINUOUS AND COMPLY WITH AIR BARRIER MANUFACTURER'S REQUIREMENTS.
- c) REMOVE LOOSE OR FOREIGN MATTER, WHICH MIGHT IMPAIR ADHESION OF MATERIALS.
- d) ENSURE SUBSTRATES ARE CLEAN OF OIL OR EXCESS DUST; MASONRY JOINTS STRUCK FLUSH, AND OPEN JOINTS FILLED; AND CONCRETE SURFACES FREE OF LARGE VOIDS, SPALLED AREAS OR SHARP PROTRUSIONS
- e) DO NOT INSTALL MATERIALS DURING RAIN OR SNOWFALL.
- f) REPORT UNSATISFACTORY CONDITIONS TO CONSULTANT IN WRITING.
- g) DO NOT START WORK UNTIL DEFICIENCIES HAVE BEEN CORRECTED.
- h) BEGINNING OF WORK IMPLIES ACCEPTANCE OF CONDITIONS.
- .3 INSTALLATION: SELF ADHERING SYSTEM
- a) APPLY PRIMER TO SUBSTRATES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- b) ALIGN AND POSITION SELF-ADHERING TRANSITION MEMBRANE, REMOVE PROTECTIVE FILM AND PRESS FIRMLY INTO PLACE. ENSURE MINIMUM 150 MM OVERLAP AT ALL END AND SIDE LAPS.
- c) CORNER DETAILS: DOUBLE COVER OUTSIDE AND INSIDE CORNERS, USE 300 MM WIDE INITIAL STRIP OF MEMBRANE CENTRED ON AXIS OF CORNER. FOLLOW WITH FULL WIDTH OF SHEET MEMBRANE TO COVER INITIAL STRIP COMPLETELY.
- d) CONSTRUCTION AND CONTROL JOINTS: INSTALL MEMBRANE IN DOUBLE THICKNESS OVER PROPERLY SEALED JOINTS, USE 300 MM WIDE INITIAL STRIP OF MEMBRANE CENTRED OVER JOINT. FOLLOW WITH FULL WIDTH OF SHEET MEMBRANE. ASSURE THAT JOINTS ARE PROPERLY SEALED; JOINT FILLER AND A COMPATIBLE SEALANT ARE INSTALLED.
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- g) INSPECT MEMBRANE INSTALLATION METICULOUSLY AND IMMEDIATELY. HOLES AND TEARS IN THE MEMBRANE MUST BE REPAIRED WITH AIR / VAPOUR BARRIER MEMBRANE MATERIAL. THE REPAIR MUST EXCEED THE AFFECTED SURFACE AREA BY A MINIMUM OF 150 MM. THE MEMBRANE PIECE APPLIED FOR THE REPAIR MUST BE SEALED AROUND ITS EDGES WITH MASTIC.

SERVICE POINT LOADS COLUMNS (kN)					
COLUMN	D	S	W↓	W↓	W→
A1,A5	3.87	34.65	5.25	6.94	5.56
A2,A3,A4	7.65	69.30	10.36	13.88	11.08
B1,B5	7.65	34.03	5.34	10.54	2.09
B2,B3,B4	6.45	68.06	10.68	21.04	3.69

SERVICE POINT LOADS (kN)					
	D	S	W↓	W↓	L
A	3.34	51.51	2.94	14.28	
B	11.17	154.49	9.79	28.82	
C	19.17	103.02	5.87	28.60	41.72
D	47.37	308.97	19.57	57.20	83.40
E	25.04				83.40



Canada

Consultant's Name  
Nom de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur



ASSOCIATION OF PROFESSIONAL ENGINEERS  
AND GEOSCIENTISTS OF SASKATCHEWAN  
CERTIFICATE OF AUTHORIZATION  
ASSOCIATED ENGINEERING (SASK.) LTD.

NUMBER C116

PERMISSION TO CONSULT HELD BY:

DISCIPLINE

SASK\_REG. No.

SIGNATURE

Contractor to verify all dimensions  
& conditions on site and immediately  
notify the engineer of all discrepancies.

1	ISSUE FOR ADDENDUM #2	14.01.21
0	ISSUE FOR TENDER	13.12.19
A	ISSUE AT 99% FOR REVIEW	13.12.13

revisions	description	date
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A	A detail no. no. du détail	A
C	B location drawing no. sur dessin no.	B C
	C drawing no. dessin no.	

project

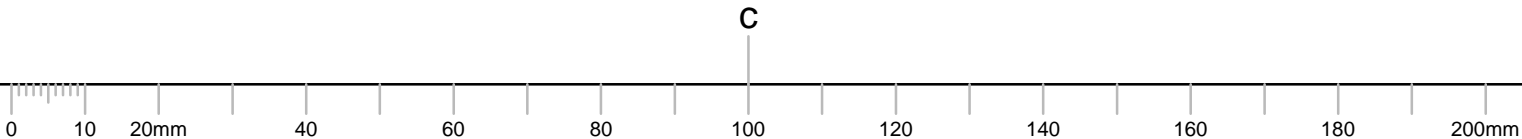
CBSA PORT  
REPLACEMENTS

WILLOW CREEK, SASKATCHEWAN

drawing

STRUCTURAL  
NOTES FOR  
MODULAR BUILDING

Designed By	GEOFF SARAZIN	Conçu par
Date	2013/09/16	(yyyy/mm/dd)
Drawn By	MALCOLM COOPER	Dessiné par
Date	2013/09/16	(yyyy/mm/dd)
Reviewed By	GEOFF SARAZIN	Examiné par
Date	2013/10/02	(yyyy/mm/dd)
Approved By		Approuvé par
Date		(yyyy/mm/dd)
Tender	TENDER	Soumission
Project Manager	STEVEN KING	Administrateur de projets
Project no.		No. du projet
R.065922.001		
Drawing no.		No. du dessin
S-005		

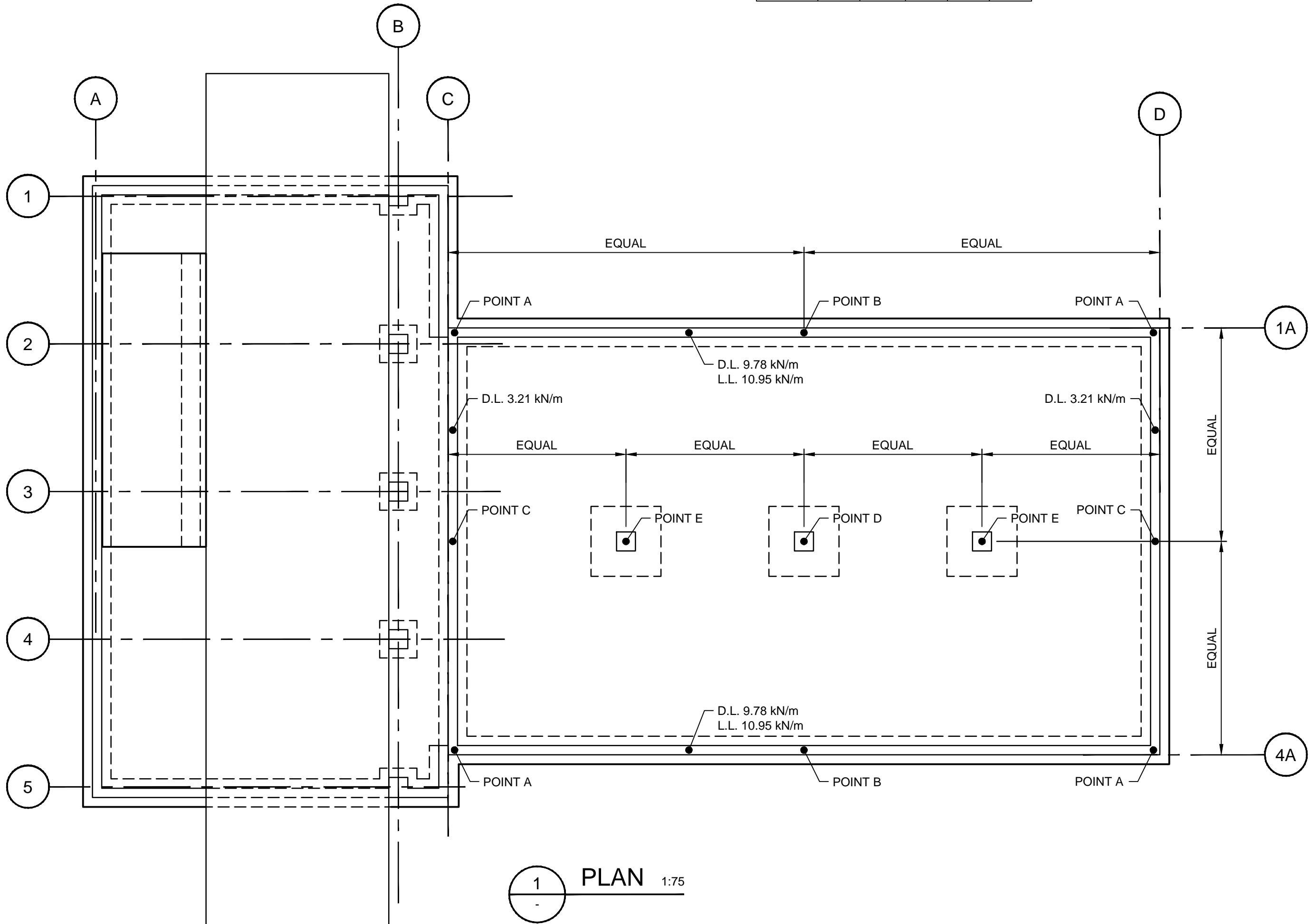


GENERAL NOTES:

- A. DESIGN LOADS (SPECIFIED)
- .1 DESIGN LOADS BY CORCAN ARE SHOWN IN ADJACENT PLAN & TABLES.
- B. FOUNDATIONS
- .1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY SUPPORTS AND BRACING FOR THE STABILITY OF THE NEW STRUCTURE DURING CONSTRUCTION.
- .2 FOUNDATION DESIGN IS BASED ON CONDITIONS OUTLINED IN THE GEOTECHNICAL REPORT R2402-660410 DATED JANUARY 2011 PROVIDED BY MDH ENGINEERED SOLUTIONS.
- .3 ALLOWABLE BEARING PRESSURE = 300 kPa
- C. EXCAVATION AND BACKFILL.
- .1 EXCAVATE AND BACKFILL TO THE DETAILS ON DRAWING S-002.
- D. CONCRETE
- .1 ALL CONCRETE WORK TO CSA A23.1-04 AND TO CSA A23.2-04.
- .2 MINIMUM 28 DAY COMPRESSIVE STRENGTH 32 MPa. CURE CONCRETE WORK FOR 7 DAYS MINIMUM.
- .3 SULPHATE RESISTANT TYPE HS CEMENT FOR ALL CONCRETE.
- .4 MAXIMUM W/C = 0.45.
- .5 SUBMIT AGGREGATE SIEVE ANALYSIS AND CONCRETE MIX DESIGN FOR REVIEW.
- .6 6 ± 1% AIR, SLUMP 70 ± 20 mm.
- .7 MAKE AND TEST THREE TEST CYLINDERS FOR EACH CONCRETE PLACEMENT (1 @ 7 DAYS, 2 @ 28 DAYS).
- .8 FAILURE TO MEET CONCRETE STRENGTH REQUIREMENTS
- .1 IF ANY OF THE CRITERIA IN THESE NOTES OR UNDER ANY SPECIFICATION CLAUSE IS NOT MET, THE ENGINEER MAY REQUIRE:
- a) CHANGES IN THE CONCRETE MIX PROPORTIONS FOR THE REMAINDER OF THE WORK;
- b) CORE TESTING FROM THE AREAS IN QUESTION IN CONFORMANCE WITH CSA. COST OF CORE TESTING TO BE BORNE BY THE CONTRACTOR; OR
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- .1 ANCHOR BOLTS TO ASTM A307.
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- d) ENSURE SUBSTRATES ARE CLEAN OF OIL OR EXCESS DUST; MASONRY JOINTS STRUCK FLUSH, AND OPEN JOINTS FILLED; AND CONCRETE SURFACES FREE OF LARGE VOIDS, SPALLED AREAS OR SHARP PROTRUSIONS
- e) DO NOT INSTALL MATERIALS DURING RAIN OR SNOWFALL.
- f) REPORT UNSATISFACTORY CONDITIONS TO CONSULTANT IN WRITING.
- g) DO NOT START WORK UNTIL DEFICIENCIES HAVE BEEN CORRECTED.
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- c) CORNER DETAILS: DOUBLE COVER OUTSIDE AND INSIDE CORNERS, USE 300 MM WIDE INITIAL STRIP OF MEMBRANE CENTRED ON AXIS OF CORNER. FOLLOW WITH FULL WIDTH OF SHEET MEMBRANE TO COVER INITIAL STRIP COMPLETELY.
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SERVICE POINT LOADS COLUMNS (kN)					
COLUMN	D	S	W↓	W↓	W→
A1,A5	3.87	34.65	5.25	6.94	5.56
A2,A3,A4	7.65	69.30	10.36	13.88	11.08
B1,B5	7.65	34.03	5.34	10.54	2.09
B2,B3,B4	6.45	68.06	10.68	21.04	3.69

SERVICE POINT LOADS (kN)					
	D	S	W↓	W↓	L
A	3.34	51.51	2.94	14.28	
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C	19.17	103.02	5.87	28.60	41.72
D	47.37	308.97	19.57	57.20	83.40
E	25.04				83.40



Canada

Consultant's Name  
Nom de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur



ASSOCIATION OF PROFESSIONAL ENGINEERS  
AND GEOSCIENTISTS OF SASKATCHEWAN  
CERTIFICATE OF AUTHORIZATION  
ASSOCIATED ENGINEERING (SASK.) LTD.

NUMBER C116

PERMISSION TO CONSULT HELD BY:

DISCIPLINE

SASK\_REG. No.

SIGNATURE

Contractor to verify all dimensions  
& conditions on site and immediately  
notify the engineer of all discrepancies.

1	ISSUE FOR ADDENDUM #2	14.01.21
0	ISSUE FOR TENDER	13.12.19
A	ISSUE AT 99% FOR REVIEW	13.12.13

revisions	description	date
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A	A detail no. no. du détail	A
C	B location drawing no. sur dessin no.	B C
	C drawing no. dessin no.	

project

## CBSA PORT REPLACEMENTS

WEST POPLAR, SASKATCHEWAN

drawing

dessin

## STRUCTURAL NOTES FOR MODULAR BUILDING

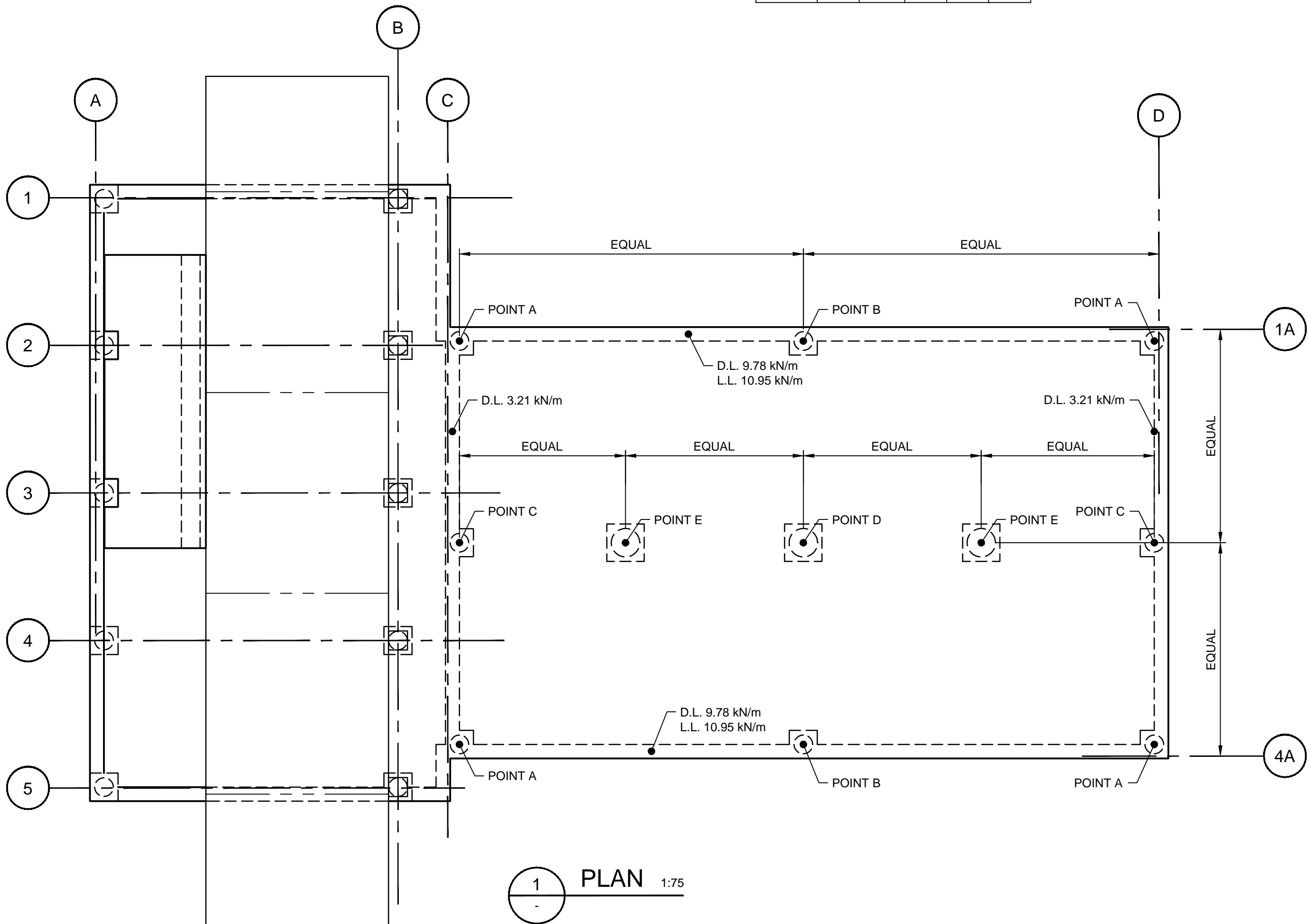
Designed By	GEOFF SARAZIN	Conçu par
Date	2013/09/16	(yyyy/mm/dd)
Drawn By	MALCOLM COOPER	Dessiné par
Date	2013/09/16	(yyyy/mm/dd)
Reviewed By	GEOFF SARAZIN	Examiné par
Date	2013/10/02	(yyyy/mm/dd)
Approved By		Approuvé par
Date		(yyyy/mm/dd)
Tender	TENDER	Soumission
Project Manager	STEVEN KING	Administrateur de projets
Project no.		No. du projet
R.065922.001		
Drawing no.		No. du dessin
S-006		

GENERAL NOTES:


- A. DESIGN LOADS (SPECIFIED)
- .1 DESIGN LOADS BY CORCAN ARE SHOWN IN ADJACENT PLAN & TABLES.
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- .1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY SUPPORTS AND BRACING FOR THE STABILITY OF THE NEW STRUCTURE DURING CONSTRUCTION.
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- .3 ALLOWABLE SKIN FRICTION = 25 kPa
- C. EXCAVATION AND BACKFILL.
- .1 EXCAVATE AND BACKFILL TO THE DETAILS ON DRAWING S-003.
- D. CONCRETE
- .1 ALL CONCRETE WORK TO CSA A23.1-04 AND TO CSA A23.2-04.
- .2 MINIMUM 28 DAY COMPRESSIVE STRENGTH 32 MPa. CURE CONCRETE WORK FOR 7 DAYS MINIMUM.
- .3 SULPHATE RESISTANT TYPE HS CEMENT FOR ALL CONCRETE.
- .4 MAXIMUM W/C = 0.45.
- .5 SUBMIT AGGREGATE SIEVE ANALYSIS AND CONCRETE MIX DESIGN FOR REVIEW.
- .6 6 ± 1% AIR, SLUMP 70 ± 20 mm.
- .7 MAKE AND TEST THREE TEST CYLINDERS FOR EACH CONCRETE PLACEMENT (1 @ 7 DAYS, 2 @ 28 DAYS).
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- .1 ANCHOR BOLTS TO ASTM A307.
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- b) ALIGN AND POSITION SELF-ADHERING TRANSITION MEMBRANE, REMOVE PROTECTIVE FILM AND PRESS FIRMLY INTO PLACE. ENSURE MINIMUM 150 MM OVERLAP AT ALL END AND SIDE LAPS.
- c) CORNER DETAILS: DOUBLE COVER OUTSIDE AND INSIDE CORNERS, USE 300 MM WIDE INITIAL STRIP OF MEMBRANE CENTRED ON AXIS OF CORNER. FOLLOW WITH FULL WIDTH OF SHEET MEMBRANE TO COVER INITIAL STRIP COMPLETELY.
- d) CONSTRUCTION AND CONTROL JOINTS: INSTALL MEMBRANE IN DOUBLE THICKNESS OVER PROPERLY SEALED JOINTS, USE 300 MM WIDE INITIAL STRIP OF MEMBRANE CENTRED OVER JOINT. FOLLOW WITH FULL WIDTH OF SHEET MEMBRANE. ASSURE THAT JOINTS ARE PROPERLY SEALED; JOINT FILLER AND A COMPATIBLE SEALANT ARE INSTALLED.
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SERVICE POINT LOADS COLUMNS (kN)					
COLUMN	D	S	W↓	W↓	W→
A1,A5	3.87	34.65	5.25	6.94	5.56
A2,A3,A4	7.65	69.30	10.36	13.88	11.08
B1,B5	7.65	34.03	5.34	10.54	2.09
B2,B3,B4	6.45	68.06	10.68	21.04	3.69

SERVICE POINT LOADS (kN)					
	D	S	W↓	W↓	L
A	3.34	51.51	2.94	14.28	
B	11.17	154.49	9.79	28.82	
C	19.17	103.02	5.87	28.60	41.72
D	47.37	308.97	19.57	57.20	83.40
E	25.04				83.40



Canada

Consultant's Name Nom de l'expert-conseil	Eng. Stamp Sceau de l'ingénieur
	

ASSOCIATION OF PROFESSIONAL ENGINEERS  
AND GEOSCIENTISTS OF SASKATCHEWAN  
CERTIFICATE OF AUTHORIZATION  
ASSOCIATED ENGINEERING (SASK.) LTD.

NUMBER	C116
PERMISSION TO CONSULT HELD BY:	
DISCIPLINE	SASK. REG. No.
	SIGNATURE

Contractor to verify all dimensions  
& conditions on site and immediately  
notify the engineer of all discrepancies.

1	ISSUE FOR ADDENDUM #2	14.01.21
0	ISSUE FOR TENDER	13.12.19
A	ISSUE AT 99% FOR REVIEW	13.12.13
revisions	description	date

A C	A detail no. no. du détail B location drawing no. sur dessin no. C drawing no. dessin no.	A B C
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project  
projet

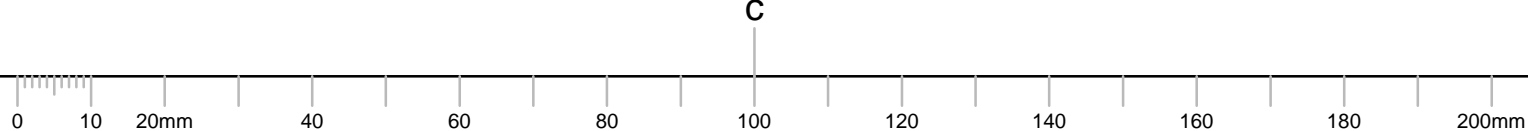
**CBSA PORT  
REPLACEMENTS**

CORONACH, SASKATCHEWAN

drawing  
dessin

**STRUCTURAL  
NOTES FOR  
MODULAR BUILDING**

Designed By Date	GEOFF SARAZIN 2013/09/16	Conçu par (yyyy/mm/dd)
Drawn By Date	MALCOLM COOPER 2013/09/16	Dessiné par (yyyy/mm/dd)
Reviewed By Date	GEOFF SARAZIN 2013/10/02	Examiné par (yyyy/mm/dd)
Approved By Date		Approuvé par (yyyy/mm/dd)
Tender Project Manager	TENDER STEVEN KING	Soumission Administrateur de projets
Project no.		No. du projet
	R.065922.001	
Drawing no.		No. du dessin
	S-007	

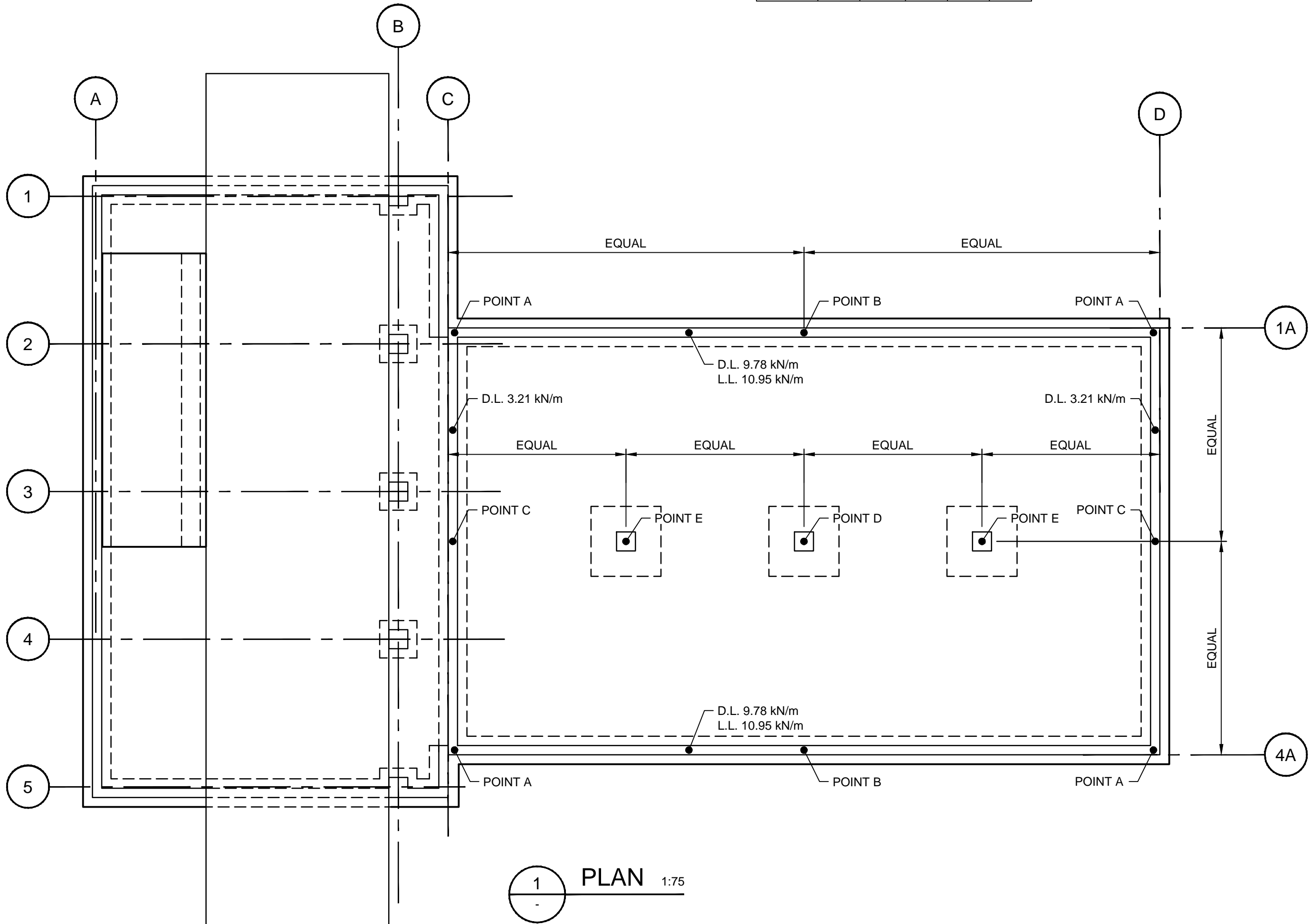


GENERAL NOTES:

- A. DESIGN LOADS (SPECIFIED)
- .1 DESIGN LOADS BY CORCAN ARE SHOWN IN ADJACENT PLAN & TABLES.
- B. FOUNDATIONS
- .1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY SUPPORTS AND BRACING FOR THE STABILITY OF THE NEW STRUCTURE DURING CONSTRUCTION.
- .2 FOUNDATION DESIGN IS BASED ON CONDITIONS OUTLINED IN THE GEOTECHNICAL REPORT R5240.1 DATED OCTOBER 22, 2013 PROVIDED BY CLIFTON ASSOCIATES LTD.
- .3 ALLOWABLE BEARING PRESSURE = 65 kPa
- C. EXCAVATION AND BACKFILL.
- .1 EXCAVATE AND BACKFILL TO THE DETAILS ON DRAWING S-004.
- D. CONCRETE
- .1 ALL CONCRETE WORK TO CSA A23.1-04 AND TO CSA A23.2-04.
- .2 MINIMUM 28 DAY COMPRESSIVE STRENGTH 32 MPa. CURE CONCRETE WORK FOR 7 DAYS MINIMUM.
- .3 SULPHATE RESISTANT TYPE HS CEMENT FOR ALL CONCRETE.
- .4 MAXIMUM W/C = 0.45.
- .5 SUBMIT AGGREGATE SIEVE ANALYSIS AND CONCRETE MIX DESIGN FOR REVIEW.
- .6 6 ± 1% AIR, SLUMP 70 ± 20 mm.
- .7 MAKE AND TEST THREE TEST CYLINDERS FOR EACH CONCRETE PLACEMENT (1 @ 7 DAYS, 2 @ 28 DAYS).
- .8 FAILURE TO MEET CONCRETE STRENGTH REQUIREMENTS
- .1 IF ANY OF THE CRITERIA IN THESE NOTES OR UNDER ANY SPECIFICATION CLAUSE IS NOT MET, THE ENGINEER MAY REQUIRE:
- a) CHANGES IN THE CONCRETE MIX PROPORTIONS FOR THE REMAINDER OF THE WORK;
- b) CORE TESTING FROM THE AREAS IN QUESTION IN CONFORMANCE WITH CSA. COST OF CORE TESTING TO BE BORNE BY THE CONTRACTOR; OR
- c) LOAD TESTING OF THE STRUCTURAL ELEMENT IN CONFORMANCE WITH NBC.
- .2 IF AFTER TESTING AS ABOVE, THE CONCRETE STRENGTH IS BELOW SPECIFIED STRENGTH, THE ENGINEER MAY REQUIRE A STRENGTHENING OR REPLACEMENT OF THE PORTIONS THAT FAILED TO DEVELOP SPECIFIED STRENGTH, AT THE EXPENSE OF THE CONTRACTOR. DESIGN REVIEWS INCURRED AS A RESULT OF DEFECTIVE MATERIALS SHALL BE PAID FOR BY THE CONTRACTOR.
- .3 ALL CONCRETE FALLING MORE THAN 15% BELOW SPECIFIED STRENGTH SHALL BE REJECTED AND SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- .4 NON-DESTRUCTIVE METHODS FOR TESTING CONCRETE SHALL BE IN ACCORDANCE WITH CAN/CSA\_A23.2. MAKE GOOD CONCRETE SURFACES AFTER COMPLETION OF TESTS.
- .5 INSPECTION OR TESTING BY ENGINEER WILL NOT AUGMENT OR REPLACE CONTRACTOR QUALITY CONTROL NOR RELIEVE THE CONTRACTOR OF THE CONTRACTOR'S CONTRACTUAL RESPONSIBILITY.
- .9 PREPARATION FOR COLD WEATHER, INCLUDING SPECIAL SUPPLEMENTARY EQUIPMENT, WHERE NECESSARY, SHALL BE DONE BEFORE COMMENCING CONCRETE PLACING. ENSURE THAT PROCEDURES AND METHODS USED DURING COLD WEATHER ARE REVIEWED AND AUTHORIZED BY THE ENGINEER.
- J. REINFORCING STEEL
- .1 TO CSA G30.12M
- .1 MAIN BARS AND DOWELS - GRADE 400R.
- .2 TIES & STIRRUPS - GRADE 400W.
- .2 SUBMIT SHOP DRAWINGS FOR REVIEW.
- K. VOID FORM
- .1 10 mm PLYWOOD AND 150 mm CARDBOARD BIODEGRADABLE VOID FORM. INSTALL 6 MIL POLY ON VOID FORM IN ACCORDANCE WITH INDUSTRY STANDARDS.
- .2 PREPARE EARTH BASE BY INSTALLING LEVELLING SAND TO ACHIEVE A FLAT BASE FOR VOID FORM INSTALLATION.
- L. MISCELLANEOUS STEEL
- .1 ANCHOR BOLTS TO ASTM A307.
- .2 FABRICATION TO CAN/CSA S16.1 AND CISC CODE OF STANDARD PRACTICE.
- M. COORDINATION
- .1 SITE CHECK ALL EXISTING DIMENSIONS AND ELEVATIONS. REPORT ANY DISCREPANCIES TO THE ENGINEER.
- .2 READ THIS DRAWING WITH THE BUILDING DRAWINGS.
- .3 DO THE WORK ACCORDING TO DRAWINGS, NBC, TO LOCAL CODES AND TO INDUSTRY STANDARDS. WHERE DETAILED INSTRUCTIONS ARE NOT INDICATED, OBTAIN CLARIFICATION FROM ENGINEER PRIOR TO COMPLETING INSTALLATIONS.
- .4 REFER TO CIVIL, BUILDING, MECHANICAL AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THE CONFIRMATION OF SIZE AND LOCATION OF ALL OPENINGS, PIPING AND INSERTS.
- .5 INSTALL ALL MECHANICAL AND ELECTRICAL EQUIPMENT AND ANCHOR BOLTS IN ACCORDANCE WITH CERTIFIED SHOP DRAWINGS SUPPLIED BY THE MANUFACTURER AND EXAMINED BY THE ENGINEER.
- N. HOLD DOWNS AND ANCHOR BOLTS
- .1 ALL HOLD DOWNS TO BE ANCHORED WITH CAST-IN-PLACE SSTB16 (SIMPSON) ANCHOR RODS.
- O. VAPOUR BARRIER
- .1 ALL MEMBRANE SHALL BE INSTALLED AT SURFACE AND AMBIENT TEMPERATURE OF 5°C OR ABOVE, IN DRY WEATHER CONDITIONS. FOR APPLICATIONS BELOW 5°C CONSULT MEMBRANE MANUFACTURER'S TECHNICAL REPRESENTATIVE FOR INSTRUCTIONS AND, OBTAIN CONSULTANT'S APPROVAL BEFORE PROCEEDING WITH WORK.
- .2 EXAMINATION AND PREPARATION
- a) VERIFY THAT SURFACES AND CONDITIONS ARE READY TO ACCEPT WORK OF THIS SECTION.
- b) ENSURE SURFACES ARE CLEAN, DRY, SOUND, SMOOTH, CONTINUOUS AND COMPLY WITH AIR BARRIER MANUFACTURER'S REQUIREMENTS.
- c) REMOVE LOOSE OR FOREIGN MATTER, WHICH MIGHT IMPAIR ADHESION OF MATERIALS.
- d) ENSURE SUBSTRATES ARE CLEAN OF OIL OR EXCESS DUST; MASONRY JOINTS STRUCK FLUSH, AND OPEN JOINTS FILLED; AND CONCRETE SURFACES FREE OF LARGE VOIDS, SPALLED AREAS OR SHARP PROTRUSIONS
- e) DO NOT INSTALL MATERIALS DURING RAIN OR SNOWFALL.
- f) REPORT UNSATISFACTORY CONDITIONS TO CONSULTANT IN WRITING.
- g) DO NOT START WORK UNTIL DEFICIENCIES HAVE BEEN CORRECTED.
- h) BEGINNING OF WORK IMPLIES ACCEPTANCE OF CONDITIONS.
- .3 INSTALLATION: SELF ADHERING SYSTEM
- a) APPLY PRIMER TO SUBSTRATES IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
- b) ALIGN AND POSITION SELF-ADHERING TRANSITION MEMBRANE, REMOVE PROTECTIVE FILM AND PRESS FIRMLY INTO PLACE. ENSURE MINIMUM 150 MM OVERLAP AT ALL END AND SIDE LAPS.
- c) CORNER DETAILS: DOUBLE COVER OUTSIDE AND INSIDE CORNERS, USE 300 MM WIDE INITIAL STRIP OF MEMBRANE CENTRED ON AXIS OF CORNER. FOLLOW WITH FULL WIDTH OF SHEET MEMBRANE TO COVER INITIAL STRIP COMPLETELY.
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Canada

Consultant's Name  
Nom de l'expert-conseil

Eng. Stamp  
Sceau de l'ingénieur



ASSOCIATION OF PROFESSIONAL ENGINEERS  
AND GEOSCIENTISTS OF SASKATCHEWAN  
CERTIFICATE OF AUTHORIZATION  
ASSOCIATED ENGINEERING (SASK.) LTD.

NUMBER C116

PERMISSION TO CONSULT HELD BY:

DISCIPLINE

SASK\_REG. No.

SIGNATURE

Contractor to verify all dimensions  
& conditions on site and immediately  
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0	ISSUE FOR TENDER	13.12.19
A	ISSUE AT 99% FOR REVIEW	13.12.13

revisions	description	date
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A	A detail no. no. du détail	A
C	B location drawing no. sur dessin no.	B C
	C drawing no. dessin no.	

project

CBSA PORT  
REPLACEMENTS

MONCHY, SASKATCHEWAN

drawing

STRUCTURAL  
NOTES FOR  
MODULAR BUILDING

Designed By GEOFF SARAZIN  
Date 2013/09/16

Conçu par  
(yyyy/mm/dd)

Drawn By MALCOLM COOPER  
Date 2013/09/16

Dessiné par  
(yyyy/mm/dd)

Reviewed By GEOFF SARAZIN  
Date 2013/10/02

Examiné par  
(yyyy/mm/dd)

Approved By  
Date (yyyy/mm/dd)

Tender TENDER  
Project Manager STEVEN KING

Soumission  
Administrateur de projets

Project no. No. du projet

R.065922.001

Drawing no. No. du dessin

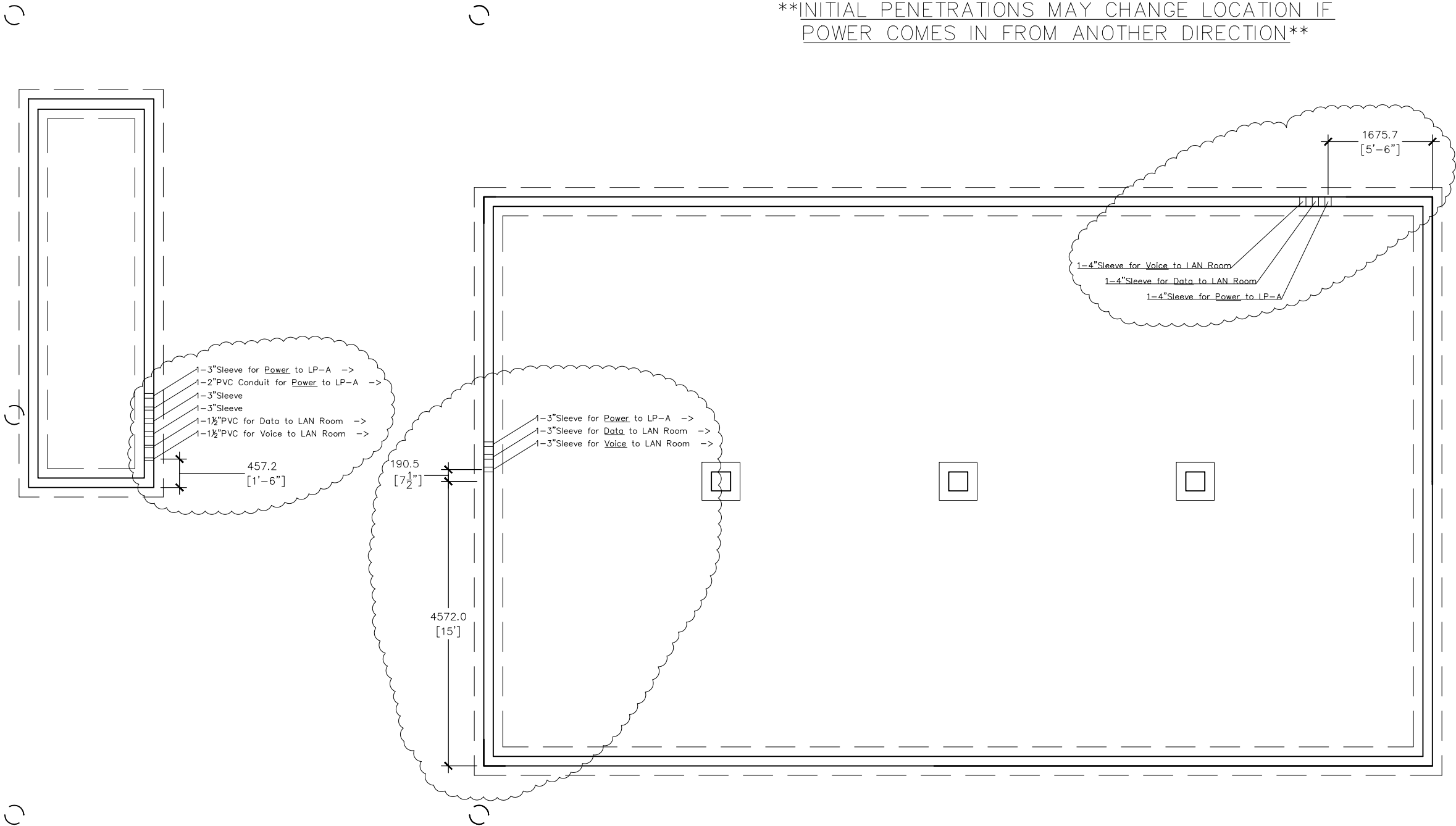
S-008

NOTES:

ALL UNDERGROUND BY GENERAL CONTRACTOR

(includes but not limited to services/foundation/penetrations, etc.)

\*\*INITIAL PENETRATIONS MAY CHANGE LOCATION IF  
POWER COMES IN FROM ANOTHER DIRECTION\*\*



ENGINEER'S STAMP

1	PRELIMINARY PLAN	31/08/12
No.	DESCRIPTION	DATE

REVISION OR ISSUE

PROJECT TITLE / TITRE DU PROJET

CBSA  
Uniform Small Port of Er

DRAWING TITLE / TITRE DU DESSIN

Electrical Underground

DRAWN BY / DESSINE PAR

DMx

DESIGNED BY / CONC PAR

MB/RS

APPROVED BY / APPROUVE PAR

\*\*

SCALE / ECHELLE

1: 75

PROJECT DATE / DATE DU PROJET

\*\*

PROJECT NUMBER / NOMBRE DU PROJET

32556

DRAWING NUMBER / NOMBRE DU DESSIN

E-8 of 8

## **Appendix A: Scope and Schedule of Work**

Work of this Contract comprises of construction related to the replacement of four border crossing customs buildings. The four buildings are at four Saskatchewan/Montana border crossings, namely Willow Creek, Monchy, West Poplar, and Coronach. The work at each site generally includes, but is not limited to, a concrete foundation, concrete sidewalks, site grading and road construction, removal of the existing sanitary septic system, installation of a sanitary holding tank, disconnection and reconnection of the water service, installation and connection of a backup generator, and the disposal of the existing customs building. The work is further identified in the following four sections. The required schedule and required milestone dates are identified in the Construction Schedule chart.

### **Section 1: Scope of work at West Poplar generally includes, but is not limited to:**

1. Concrete building foundation construction with water and sewer service installation from the building to 3m outside building envelope. This includes all required foundation insulation and exterior building parging from final grade to 0.10m above the final floor elevation
2. All concrete construction within building canopy area
3. Stripping topsoil in all areas of proposed construction and grading and stockpile onsite
4. All grading; dispose of any unused fill material offsite if there is excess or import fill material as needed if there is a shortage onsite
5. Place stockpiled topsoil and seed
6. Dispose of any unused topsoil offsite if there is excess or import topsoil as needed if there is a shortage onsite
7. Remove and dispose of existing asphalt using sawcutting at all tie-in locations
8. Remove and dispose of existing concrete
9. Excavate and stockpile existing gravel and subgrade material as required to be reused as fill material; dispose of any unused gravel or fill material offsite if there is excess
10. Construction of gravel base and asphalt road and parking lot
11. Construction of bollards and bullnoses
12. Construction of 1.5m wide concrete walk around building
13. Water connection from new building to existing water well
14. Installation of underground sanitary tank
15. Sanitary connection from new building to sanitary tank
16. Connection of existing residence sanitary to sanitary tank
17. Decommissioning of existing sanitary septic tank
18. Removal of surface portion of existing sanitary septic pump out pipe
19. Connect existing power source to new building
20. Reconnect underground power feeds to the existing garage and well pumps
21. Relocate one light standard and reconnect existing underground power feeds of both light standards to electrical panel in new facility (underground)
22. Connect existing propane tank to new customs building and to propane generator (underground)
23. Supply and install automatic transfer switch, disconnect, and propane generator including all electrical connections and concrete pad
24. Disconnect all utilities and dispose of entire existing customs building (including canopy, footings, foundation and concrete and asphalt below canopy), import backfill and compact, and import topsoil and seed
25. Disconnect and dispose of existing generator
26. Mobilize onto site and De-mobilize off of site as needed

27. Follow all environmental mitigation measures as stated in Appendix C: Environmental Mitigation Measures
28. Install privacy fence

**Section 2: Scope of work at Willow Creek generally includes, but is not limited to:**

1. Concrete building foundation construction with water and sewer service installation from the building to 3m outside building envelope. This includes all required foundation insulation and exterior building parging from final grade to 0.10m above the final floor elevation
2. All concrete construction within building canopy area
3. Stripping topsoil in all areas of proposed construction and grading and stockpile onsite
4. All grading; dispose of any unused fill material offsite if there is excess or import fill material as needed if there is a shortage onsite
5. Place stockpiled topsoil and seed
6. Dispose of any unused topsoil offsite if there is excess or import topsoil as needed if there is a shortage onsite
7. Remove and dispose of existing asphalt using sawcutting at all tie-in locations
8. Remove and dispose of existing concrete
9. Excavate and stockpile existing gravel and subgrade material as required to be reused as fill material; dispose of any unused gravel or fill material offsite if there is excess
10. Construction of gravel base and asphalt road and parking lot
11. Construction of bollards and bullnoses
12. Construction of 1.5m wide concrete walk around building
13. Water connection from new building to existing water well
14. Installation of underground sanitary tank
15. Sanitary connection from new building to sanitary tank
16. Connection of existing residence sanitary to sanitary tank
17. Decommissioning of existing sanitary septic tank
18. Removal of surface portion of existing sanitary septic pump out pipe
19. Connect existing power source to new building
20. Reconnect underground power feeds to the existing garage and well pumps
21. Relocate one light standard and reconnect existing underground power feeds of both light standards to electrical panel in new facility (underground)
22. Connect existing propane tank to new customs building and to propane generator (underground)
23. Supply and install automatic transfer switch, disconnect, and propane generator including all electrical connections and concrete pad
24. Disconnect all utilities and dispose of entire existing customs building (including canopy, footings, foundation and concrete and asphalt below canopy), import backfill and compact, and import topsoil and seed
25. Mobilize onto site and De-mobilize off of site as needed
26. Follow all environmental mitigation measures as stated in Appendix C: Environmental Mitigation Measures
27. Plant Northwest Poplar and Colorado Spruce trees

**Section 3: Scope of work at Coronach generally includes, but is not limited to:**

1. Concrete building foundation construction with water and sewer service installation from the building to 3m outside building envelope. This includes all required foundation insulation and exterior building parging from final grade to 0.10m above the final floor elevation
2. All concrete construction within building canopy area
3. Stripping topsoil in all areas of proposed construction and grading and stockpile onsite
4. All grading; dispose of any unused fill material offsite if there is excess or import fill material as needed if there is a shortage onsite
5. Place stockpiled topsoil and seed
6. Dispose of any unused topsoil offsite if there is excess or import topsoil as needed if there is a shortage onsite
7. Remove and dispose of existing asphalt using sawcutting at all tie-in locations
8. Remove and dispose of existing concrete
9. Excavate and stockpile existing gravel and subgrade material as required to be reused as fill material; dispose of any unused gravel or fill material offsite if there is excess
10. Construction of gravel base and asphalt road and parking lot
11. Construction of bollards and bullnoses
12. Construction of 1.5m wide concrete walk around building
13. Water connection from new building to existing water well
14. Installation of underground sanitary tank
15. Sanitary connection from new building to sanitary tank
16. Connection of existing residence sanitary to sanitary tank
17. Decommissioning of existing sanitary septic tank
18. Removal of surface portion of existing sanitary septic pump out pipe
19. Connect existing power source to new building
20. Reconnect underground power feeds to the existing garage and well pumps
21. Relocate one light standard and reconnect existing underground power feeds of both light standards to electrical panel in new facility (underground)
22. Connect existing natural gas to new customs building and to natural gas generator (underground)
23. Supply and install automatic transfer switch, disconnect, and natural gas generator including all electrical connections and concrete pad
24. Disconnect all utilities and dispose of entire existing customs building (including canopy, footings, foundation and concrete and asphalt below canopy), import backfill and compact, and import topsoil and seed
25. Disconnect existing in-road sensor from existing customs building and reconnect in similar fashion to new customs building
26. Mobilize onto site and De-mobilize off of site as needed
27. Follow all environmental mitigation measures as stated in Appendix C: Environmental Mitigation Measures
28. Plant Northwest Poplar and Colorado Spruce trees

**Section 4: Scope of work at Monchy generally includes, but is not limited to:**

1. Concrete building foundation construction with water and sewer service installation from the building to 3m outside building envelope. This includes all required foundation insulation and exterior building parging from final grade to 0.10m above the final floor elevation

2. All concrete construction within building canopy area
3. Fencing removal and construction
4. Stripping topsoil in all areas of proposed construction and grading and stockpile onsite
5. All grading; dispose of any unused fill material offsite if there is excess or import fill material as needed if there is a shortage onsite
6. Place stockpiled topsoil and seed
7. Dispose of any unused topsoil offsite if there is excess or import topsoil as needed if there is a shortage onsite
8. Remove and dispose of existing asphalt using sawcutting at all tie-in locations
9. Remove and dispose of existing concrete
10. Excavate and stockpile existing gravel and subgrade material as required to be reused as fill material; dispose of any unused gravel or fill material offsite if there is excess
11. Construction of gravel base and asphalt road and parking lot
12. Construction of bollards and bullnoses
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14. Water connection from new building to existing water well
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20. Connect existing power source to new building
21. Reconnect underground power feeds to the existing garage and well pumps
22. Relocate one light standard and reconnect existing underground power feeds of both light standards to electrical panel in new facility (underground)
23. Connect existing natural gas to new customs building and to natural gas generator (underground)
24. Supply and install automatic transfer switch, disconnect, and natural gas generator including all electrical connections and concrete pad
25. Disconnect all utilities and dispose of entire existing customs building (including canopy, footings, foundation and concrete and asphalt below canopy), import backfill and compact, and import topsoil and seed
26. Mobilize onto site and De-mobilize off of site as needed
27. Follow all environmental mitigation measures as stated in Appendix C: Environmental Mitigation Measures



## CBSA Port Replacements

### Construction Schedule