

PART E
SPECIFICATIONS

PART E - SPECIFICATIONS

GENERAL

E1. APPLICABLE SPECIFICATIONS, STANDARD DETAILS AND DRAWINGS

- E1.1 *The City of Winnipeg Standard Construction Specifications* in its entirety, whether or not specifically listed on Form B: Prices, shall apply to the Work.
- E1.1.1 *The City of Winnipeg Standard Construction Specifications* is available in Adobe Acrobat (.pdf) format on the Information Connection page at The City of Winnipeg, Corporate Finance, Materials Management Division internet site at <http://www.winnipeg.ca/matmgt>.
- E1.1.2 Further to GC:2.4(d), Specifications included in the Bid Opportunity shall govern over *The City of Winnipeg Standard Construction Specifications*.
- E1.2 The following Drawings are applicable to the Work:

Drawing Title	Drawing No.	File Name	Size
Cover Sheet	C0001	143-2004_Drawing_C0001-R0.pdf	594 mm x 841 mm
Legend Sheet and Drawing List	C0002	143-2004_Drawing_C0002-R0.pdf	594 mm x 841 mm
Camiel Sys Street Plan/ Profile-STA.3+30 to STA.5+00	C0003	143-2004_Drawing_C0003-R0.pdf	594 mm x 841 mm
Camiel Sys Street Plan/ Profile-STA.5+00 to STA.6+50	C0004	143-2004_Drawing_C0004-R0.pdf	594 mm x 841 mm
Camiel Sys Street Plan/ Profile-STA.6+50 to STA.8+00	C0005	143-2004_Drawing_C0005-R0.pdf	594 mm x 841 mm
Camiel Sys Street Plan/ Profile-STA.8+00 to STA.9+50	C0006	143-2004_Drawing_C0006-R0.pdf	594 mm x 841 mm
Camiel Sys Street Plan/ Profile-STA.9+50 to STA.11+00	C0007	143-2004_Drawing_C0007-R0.pdf	594 mm x 841 mm
Camiel Sys Street Plan/ Profile-STA.11+00 to STA.12+50	C0008	143-2004_Drawing_C0008-R0.pdf	594 mm x 841 mm
Camiel Sys Street Plan/ Profile-STA.12+50 to STA.14+00	C0009	143-2004_Drawing_C0009-R0.pdf	594 mm x 841 mm
Camiel Sys Street Plan/ Profile-STA.14+00 to STA.15+50	C0010	143-2004_Drawing_C0010-R0.pdf	594 mm x 841 mm

Drawing Title	Drawing No.	File Name	Size
Camiel Sys Street Plan/ Profile-STA.15+50 to STA.16+70	C0011	143-2004_Drawing_ C0011- R0.pdf	594 mm x 841 mm
Camiel Sys Street Plan/ Profile-STA.16+70 to STA.17+75	C0012	143-2004_Drawing_ C0012- R0.pdf	594 mm x 841 mm
DeBaets Street Plan/ Profile-STA.0+00 to STA.1+20	C0013	143-2004_Drawing_ C0013- R0.pdf	594 mm x 841 mm
DeBaets Street Plan/ Profile-STA.1+20 to STA.2+75	C0014	143-2004_Drawing_ C0014- R0.pdf	594 mm x 841 mm
DeBaets Street Plan/ Profile-STA.2+75 to STA.3+63.90	C0015	143-2004_Drawing_ C0015- R0.pdf	594 mm x 841 mm
Sections and Details	C0016	143-2004_Drawing_ C0016- R0.pdf	594 mm x 841 mm

E2. OFFICE FACILITIES

- E2.1 The Contractor shall supply office facilities meeting the following requirements:
- (a) The field office shall be for the exclusive use of the Contract Administrator.
 - (b) The building shall be conveniently located near the site of the Work.
 - (c) The building shall have a minimum floor area of 20 square metres, a height of 2.4 m with two windows for cross ventilation and a door entrance with a suitable lock.
 - (d) The building shall be suitable for all weather use. It shall be equipped with an electric heater and air conditioner so that the room temperature can be maintained between either 16-18°C or 24-25°C.
 - (e) The building shall be adequately lighted with fluorescent fixtures and have a minimum of three wall outlets.
 - (f) The building shall be furnished with one desk, one drafting table, table 3m X 1.2m, one stool, one four drawer legal size filing cabinet, and a minimum of 8 chairs.
 - (g) A portable toilet shall be located near the field office building. The toilet shall have a locking door and be for the exclusive use of the Contract Administrator and other personnel from the City.
 - (h) The field office building and the portable toilet shall be cleaned on a weekly basis immediately prior to each site meeting. The Contract Administrator may request additional cleaning when he deems it necessary.
- E2.2 The Contractor shall be responsible for all installation and removal costs, all operating costs, and the general maintenance of the office facilities.
- E2.3 The office facilities will be provided from the date of the commencement of the Work to the date of Total Performance.

E3. PROTECTION OF EXISTING TREES

- E3.1 The Contractor shall take the following precautionary steps to prevent damage from construction activities to existing boulevard trees within the limits of the construction area:
- a) The Contractor shall not stockpile materials and soil or park vehicles and equipment on boulevards within 2 metres of trees.
 - b) Trees identified to be at risk by the Contract Administrator are to be strapped with 25 x 100 x 2400mm wood planks, or suitably protected as approved by the Contract Administrator.
 - c) Excavation shall be performed in a manner that minimizes damage to the existing root systems. Where possible, excavation shall be carried out such that the edge of the excavation shall be a minimum of 1.5 times the diameter (measured in inches), with the outcome read in feet, from the closest edge of the trunk. Where roots must be cut to facilitate excavation, they shall be pruned neatly at the face of excavation.
 - d) Operation of equipment within the dripline of the trees shall be kept to the minimum required to perform the work required. Equipment shall not be parked, repaired, refuelled; construction materials shall not be stored, and earth materials shall not be stockpiled within the driplines of trees. The dripline of a tree shall be considered to be the ground surface directly beneath the tips of its outermost branches. The Contractor shall ensure that the operations do not cause flooding or sediment deposition on areas where trees are located.
 - e) Work on-site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to branches does occur, they shall be neatly pruned.
- E3.2 All damage to existing trees caused by the Contractor's activities shall be repaired to the requirements and satisfaction of the Contract Administrator and the City Forester or his designate.
- E3.3 No separate measurement or payment will be made for the protection of trees.
- E3.4 Elm trees cannot be trimmed between April 1 and July 31, inclusive.

E4. TRAFFIC CONTROL

- E4.1 Further to clauses 3.6 and 3.7 of CW 1130-R1:
- (a) Where directed, the Contractor shall construct and maintain temporary asphalt ramps to alleviate vertical pavement obstructions such as manholes and planing drop-offs to the satisfaction of the Contract Administrator. No measurement for payment will be made for this work.
 - (b) In accordance with the Manual of Temporary Traffic Control, the Contractor ("Agency" in the manual) shall make arrangements with the Traffic Services Section of the City of Winnipeg to place all temporary regulatory signs. The Contractor shall bear all costs associated with the placement of temporary traffic control devices by the Traffic Services Section of the City of Winnipeg in connection with the works undertaken by the Contractor.

E5. TRAFFIC MANAGEMENT

E5.1 Further to clause 3.7 of CW 1130-R1:

E5.1.1 The Contractor shall schedule construction activities to meet the following:

- (a) At least one lane for local access traffic shall be maintained along Camiel Sys Street during construction.

E6. WATER USED BY CONTRACTOR

E6.1 Further to clause 3.7 of CW 1120-R1, the Contractor shall pay for all costs associated with obtaining water in accordance with the Waterworks By-law. Sewer charges will not be assessed for water obtained from a hydrant.

E7. COMMERCIAL SITE SUBGRADE CONSTRUCTION

DESCRIPTION

E7.1 General

E7.1.1 This specification covers the construction of a suitable subgrade for the development of the commercial lot located in the northeast corner of Camiel Sys Street and DeBaets Street. The area requiring possible subgrade construction is approximately 6,900 m².

E7.1.2 Referenced Standard Construction Specifications

- (a) CW 3170 – Earthwork and Grading.
- (b) CW 3130 – Supply and Installation of Geotextile Fabrics.

MATERIALS

E7.2 Testing and Approval

E7.2.1 All materials supplied under this Specification shall be subject to inspection and testing by the Contract Administrator or by the Testing Laboratory designated by the Contract Administrator. There shall be no charge to the City for any materials taken by the Contract Administrator for testing purposes.

E7.2.2 The Contract Administrator shall approve all materials at least ten (10) Working Days before any construction is undertaken. If, in the opinion of the Contract Administrator, such materials, in whole or in part, do not conform to the Specification detailed herein, then such material shall be rejected by the Contract Administrator and replaced by the Contractor at his own expense.

E7.3 Fill Material

E7.3.1 Fill material for subgrade construction shall be obtained from Site excavation for roadway construction.

E7.3.2 Approved clay fill material shall consist of low to medium plastic clays or mixtures of sand clay, uniform in texture and suitable for compaction.

E7.4 Geotextile Material

E7.4.1 Geotextile material will be supplied in accordance with Section 2 of CW 3130.

CONSTRUCTION METHODS

E7.5 Clearing and Grubbing

E7.5.1 Clearing and grubbing shall be in accordance with CW 3010.

E7.6 Excavation

E7.6.1 Complete topsoil excavation in accordance with Section 2 of CW 3170 as marked out by the Contract Administrator.

E7.6.2 Once topsoil excavation has been completed and approved by the Contract Administrator, the subgrade shall be proof rolled. Proof rolling shall consist of passing a heavy rubber-tired roller 20 (twenty) times over the sub-grade. The roller shall have four tires abreast with each tire loaded to 13,600 kg (30,000 pounds) and tires inflated to 1000 kPa (150 psi). Materials in the subgrade or underlying materials indicated unacceptable by the proof rolling shall be removed and replaced with acceptable materials as directed by the Contract Administrator.

E7.6.3 Existing subgrade materials considered unacceptable are to be excavated to a depth of 0.6m below the original grade and disposed of in accordance with Section 3.4 of CW 1130.

E7.7 Geotextile Fabric Installation

E7.7.1 Compact subgrade to a minimum of 95% Standard Proctor Density.

E7.7.2 Place separation/reinforcement geotextile fabric in accordance with Specification CW 3130 in areas where unacceptable subgrade materials have been removed.

E7.8 Supply and Placement of suitable fill material

E7.8.1 Supply of suitable fill material shall be in accordance with Section 9.2b (Common Excavation) of CW 3170.

E7.8.2 Placement of suitable fill material shall be in accordance with Sections 9.6 (Embankment) and 9.7 (Compaction) of CW 3170, with one exception. Each layer shall be compacted to a minimum of ninety-eight (98%) percent of Standard Proctor Density.

MEASUREMENT AND PAYMENT

E7.9 Topsoil Excavation

E7.9.1 Measurement and Payment of Topsoil Excavation shall be in accordance with Section 12.1 and 13.1 of CW 3170.

E7.10 Geotextile Fabric Installation

E7.10.1 Measurement and Payment of Geotextile Fabric shall be in accordance with Section 4 of CW 3130.

E7.11 Placement of Suitable Fill Material

E7.11.1 Measurement and Payment of Placement of suitable fill material shall be in accordance with Section 12.2a) and 13.3a) of CW 3170.

E7.12 Clearing and Grubbing

E7.12.1 Measurement and payment for clearing and grubbing shall be on a lump sum basis for the entire commercial site.

E8. EXCAVATION

DESCRIPTION

E8.1 General

E8.1.1 This specification complements CW 3110-R7.

E8.1.2 Referenced Standard Construction Specifications

(a) CW 3110-R7 – Sub-Grade, Sub-Base and Base Course Construction.

MATERIALS

E8.2 Suitable Site Subbase Material

E8.2.1 Suitable site subbase material shall be obtained from Site excavation. Approved clay fill shall consist of low to medium plastic clays, uniform in texture and suitable for compaction.

CONSTRUCTION METHODS

E8.3 Excavation

E8.3.1 Complete excavation in accordance with Section 3.2 of CW 3110-R7.

E8.3.2 Excavation shall include all material removed from within the right-of-way to provide consistent grades from the existing prairie elevation to the top of the proposed curb. Excavation will also include all material removed to accommodate installation of the pavement structure.

E8.3.3 Excavated soil shall be placed outside the right-of-way on future developable lands. The soil shall be placed on adjacent lands to a maximum fill of 0.3 m. The soil shall be bladed and compacted to provide a smooth, uniform surface.

E8.4 Placing Suitable Site Subbase Material

E8.4.1 Suitable site subbase material shall be placed on existing low points, including existing ditches, in accordance with Specification CW 3110-R7.

MEASUREMENT AND PAYMENT

E8.5 Excavation

E8.5.1 Measurement and Payment for Excavation shall be in accordance with CW 3110-R7 and will include placement of material on adjacent lands.

E8.6 Placing Suitable Site Material

E8.6.1 Measurement and Payment for Placing the Suitable Site Material shall be in accordance with CW 3110-R7.

E9. SIDEWALK GRANULAR BASE

E9.1 Granular base used for sidewalk support shall be supplied and placed in accordance with CW 3110-R7. No separate measurement or payment will be made for sidewalk granular base course. It will be paid at the contract unit price for "Supplying and Placing Base Course Material."