

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 No. Drawing

D.27-B Dellwood Green Proposed Lighting & Related Works

GENERAL REQUIREMENTS

E2. SITE ACCESS

- E2.1 Access to the Site will be determined at the pre-construction meeting. This access area shall be provided and maintained by the Contractor at his own expense and approved by the Contract Administrator.
- E2.2 The Contractor shall be restricted to the Site access location and route only so that there is a minimum of disturbance to the existing ground surface. Damage to areas beyond the marked route shall be repaired by and at the expense of the Contractor to the satisfaction of the Contract Administrator.

E3. PERMITS, NOTICES, LICENSES, CERTIFICATES, LAWS AND RULES

- E3.1 Further to GC:6.12, the Contractor shall give all necessary notices, obtain all necessary permits and pay all fees in order that the Work may be carried out. The Contractor shall submit all plans required by any inspection authority and obtain approval of same before proceeding with the Work, and pay any cost attached to the inspection of such plans.
- E3.2 The Contractor shall comply with all laws, ordinances, rules and regulations that would relate to the Work.
- E3.3 All notices, consents, approvals, statements, authorizations, documents or other communications to the City shall be submitted to the Contract Administrator.
- E3.4 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Act.
- E3.5 All Work shall be performed in compliance with the Manitoba Workplace Health and Safety Fall Protection guidelines.

E3.6 The Contractor and Subcontractors must be fully aware of all Work involving hazardous materials. All Work must be performed in compliance with the Manitoba Department of Labour Workplace Health and Safety Guidelines and all other applicable codes. The Contractor is responsible for the immediate notification to the Contract Administrator of his/her encountering of suspected hazardous material during their course of Work.

E4. DAMAGE TO EXISTING STRUCTURES AND PROPERTY

E4.1 Further to GC: 17, all necessary precautions shall be exercised by the Contractor so as not to remove, disturb, or damage any existing trees, shrubs, sod, pavements, streets, roads, boulevards, poles, hydrants, water pipes, gas pipes, electrical wires, cables, conduits, sewers or other existing facilities and equipment at the Site of the Work. For all damage incurred thereto in the performance of the Work, the Contractor shall upon instructions from and to the satisfaction of the Contract Administrator and the owners thereof, either replace and repair such damage, whichever may be deemed necessary in the opinion of, and acceptable to, the Contract Administrator and the owners thereof. The cost of which shall be borne entirely by the Contractor.

E4.2 The Contractor shall also indemnify and save harmless the City from all claims made directly or indirectly against it in respect to any such damage.

E4.3 The Contractor's operations shall be limited to the minimum area necessary for undertaking the Work and he shall be responsible for all damage resulting from his work on private property. The Contractor shall take such measures as are necessary to ensure safe and convenient pedestrian ingress and egress is maintained to private properties while he is working near them.

E4.4 Any damage caused by the negligence of the Contractor or his Sub-Contractors to the adjacent works or properties, shall be promptly repaired by him at his own expense, to the satisfaction of the Contract Administrator.

E5. TEMPORARY UTILITIES

E5.1 Further to GC:6.12, the Contractor shall make his own arrangements in connection with the temporary use of lighting, power, gas, sewer, water or other utilities, and pay all costs in connection therewith.

E5.2 All necessary permits, fees and other like expenses as well as the cost of temporary connections to existing facilities shall be arranged and paid for by the Contractor.

E6. LAYOUT OF WORK

E6.1 The Contractor will set control lines and bench marks by means of stakes, buoys or marks and the Contractor shall make the completed works conform to the lines and marks thus indicated. The Contractor shall furnish all other lines and levels required. The Contractor shall be responsible for the careful preservation of all stakes and marks so set whether relating to his own or to other Work. Care must be taken that the Contract Administrator be notified immediately of the disturbance of any such stakes or marks; the cost of correcting any errors arising out of neglect of the Contractor or his agent or his employees, to so notify the Contractor Administrator shall be borne entirely by the Contractor, as well as the cost of replacing any disturbed stakes or marks.

E6.2 All layout Work shall be inspected and approved by the Contract Administrator prior to construction.

E6.3 Before commencing work the contractor shall satisfy himself as to the meaning and correctness of all stakes and marks and no claims shall be entertained by the City of Winnipeg on account

of any alleged inaccuracies. If any error is suspected in the plans, specifications or the directions of the Contract Administrator, work shall be discontinued until the errors are rectified, but no claims shall be made on account of any delay occasioned thereby.

E7. SITE RESTORATION

E7.1 Total Performance of the Work shall not be attained until the Contractor has cleaned up the Site and has removed all plant, tools, equipment, waste, debris and surplus foundation earth to the satisfaction of the Contract Administrator. Unless otherwise specified, the Contractor shall restore all areas of the Site beyond the established limit of Work, which have been disturbed by the Contractor's operations to as good as or better than the original condition to the satisfaction of the Contract Administrator. The Contractor shall pay all costs associated with this Work.

E8. SITE LIGHTING

E8.1 This Specification shall cover the furnishing of labour, new material, equipment and services necessary for the complete installation of Site Lighting

E8.2 The major components of the Work involved, but not limited to are

- (a) Connection to Power Supply and Co-ordination with Manitoba Hydro
- (b) Trenching and Installation of Conduit & Electrical Conductor Cable
- (c) Pole Installation (Including Concrete Base)
- (d) Lighting Fixture, mounting, attachments and lamps

E8.3 The Contractor shall supply and install Site Lighting as shown on Construction Drawings and according to specifications listed below

- (a) Light Pole shall be 4.57 m (15') high, 127 mm (5") round, steel, and powder coated same colour as luminaire
- (b) Luminaire shall be as follows:
 - (i) Prisma by SDL

MODEL	IES DISTRIBUTION	WATTAGE	COLOUR	CAGES
VP 80	LR5	150 S	Black	8 Guards

(c) Photocell location shall be on light pole as determined on site prior to installation

E8.4 Electrical Contractor is to provide CSA approved wiring in accordance with the Canadian Electrical Code.

E8.5 Electrical installation shall be done in accordance with the current edition of the Canadian Electrical Code, Provincial, and Municipal and other codes and regulations. Municipal and Provincial codes and regulations will take precedence over all other codes.

E8.6 Grounding shall be done in accordance with the latest edition of the Canadian Electrical Code

E8.7 Contractor is to coordinate with Manitoba Hydro to determine the required service for new lighting and provide service in conjunction with Manitoba Hydro. Make all arrangements with Manitoba Hydro and pay all associated costs.

E8.8 Prepare and submit to the proper authorities all necessary permits and pay all fees.

- E8.9 Upon completion and before final payment is made, present to the City's Contract Administrator a Certificate of Approval for all electrical Work for the inspection of the department having jurisdiction.
- E8.10 The Electrical Contractor shall guarantee the satisfactory operation of all work and apparatus included and installed under this section of the Specification for a period of 12 months.
- E8.11 Conduits in direct contact with earth or in concrete shall be 50 mm low-density black polyethylene.
- E8.12 Install designatory lettering on all electrical equipment
- E8.13 Fixtures are to be installed to manufacturer's specifications.
- E8.14 Wire and cable shall be copper of standard AWG sizes with 600V(90 Degree C) insulation. Insulation shall be X-Link Polyethylene unless otherwise noted on drawings or prohibited by regulations. Aluminium conductors will not be accepted. Minimum wire size shall be # 10 AWG.
- E8.15 Measurement and Payment shall be as itemized
- (a) Lump Sum Price for co-ordination with Manitoba Hydro and hooking up to power supply. Price shall be payment in full for supply of all materials and performing all operations herein described and for all other items incidental to the Work included in this Specification.
 - (b) Lump Sum Price for the Supply and Installation of all Underground Electrical trenching, conduit and cable. Price shall be payment in full for supply of all materials, trenching, conduit and cable installation, wiring, backfilling, sod restoration and performing all operations herein described and for all other items incidental to the Work included in this Specification.
 - (c) Lump Sum Basis for the Supply and Installation of the lighting including; the luminaire, light standard, concrete base, base plate, photo-cell, anchors bolts, all fasteners and applicable electrical Work. Price shall be payment in full for supply of all materials and performing all operations herein described and for all other items incidental to the Work included in this Specification.

E9. TOPSOIL AND SODDING

- E9.1 Topsoil & Sodding shall be done in accordance with City of Winnipeg Standard Construction Specification CW 3540 – R2 and CW 3510- R7 respectively
- E9.2 The Contractor shall supply turf grass sod with a mineral soil layer containing a minimum of 70% inorganic soil. Salinity rating shall be less than 2.5mmhos/cm. The pH range shall be between 6.0 – 8.0 .Sod supplied shall have been sown in nursery fields with Canada Certified No.1 or Canada Certified No. 2 grass seed meeting the following certified seed blends or mixtures.
- (a) A blend composed of one hundred percent (100%) Kentucky Bluegrass (100% Class 2 cultivators as specified below
 - (b) A mixture of ninety five percent (95%) Kentucky Bluegrass (100% Class 2 cultivators as specified below) and five percent (5%) Creeping Red fescue

Class 2 Cultivators – specified blend of Class 2 cultivators shall consist of equal proportions of any three of the following

Absolute Allure Apollo ArcadiaAscot Award Baronie

Baronie	Bartitia	Baruzo	Blacksburg	Caliber	Cardiff
Challenger	Champagne	Chateau	Chicago	Classic	Compact
Conni	Coventry	Dragon	Eclipse	Estate	Fortina
Glade	Haga	Huntsville	Impact	Jefferson	Kenblue
Liberator	Lipoa	Livingston	Limousine	Marquis	Moonlight
Northstar	Nustar	Odyssey	Park	Pepaya	Platini
Rambo	Raven	Rugby	Rubgy II	Seabring	Sidekick
SR1200	SR2109	Touchdown	Washington	Wildcat	

- E9.3 Any variations to the above referenced seed blends or mixtures shall be approved by the Contract Administrator
- E9.4 On embankments and berms, sod shall be placed lengthwise across the face of the slope. On slopes of 1 vertical to 3 horizontal (18 degrees) or steeper, in every second row on the slope and at the foot of the slope, each piece of sod shall be pegged with two minimum 250 mm long wooden pegs driven into the soil layer of the sod. On slopes of 1 vertical to 2 horizontal (26 degrees) or steeper, each piece of sod in every row shall be pegged with two minimum 250 mm long wooden pegs driven into the soil layer of the sod.
- E9.5 Sodding operations shall be completed within two days (48 hours) after placing the sod. This shall be deemed to include watering, rolling, and repairing any visible joints and low, bare or dead spots within the sodded area.
- E9.6 Sod will be accepted after the termination of 30 day maintenance period providing it meets the following requirements
- (a) The Work Site is clean and the sodded area is free of any visual obstructions such as leaves
 - (b) The sod is free of dead and bare spots and without more than 10 broadleaf weeds per 50 square metres
 - (c) Grass roots are well anchored into the underlying topsoil and the sodded area has established into a healthy, vigorously growing condition.
 - (d) Sodded areas are free of visible joints.
 - (e) The sod has sufficient shoot density that no surface soil is visible when the grass has been cut to a height of 50 – 60 mm
 - (f) Sodded area has been cut to a height of 50 – 60 mm within 48 hours before the final inspection.
 - (g) Sodded area is free of any turf damaging insects.
- E9.7 Any deficient, damaged or vandalized areas may have to be resodded by the Contractor within three (3) Working Days after receiving notification from the Contract Administrator and the area so resodded.
- E9.8 Contractor will be responsible to carry out scheduled as specified in 9.8 of CW3510 – R7
- E9.9 Topsoil & Sodding will be measured on an area basis and paid at the Contract Unit Price per square metre for "Topsoil & Sodding" The area to be paid for will be the total number of square metres placed and maintained in accordance with this Specification, accepted and measured by the Contract Administrator. Topsoil & Sodding shall be done in accordance with City of Winnipeg Standard Construction Specification CW 3540 – R2 and CW 3510- R7 respectively

E10. PROTECTION OF TREES

- E10.1 The Contractor shall take the following precautionary steps to avoid damage from his 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) Contract Administrator shall identify the mature tree trunks that shall be strapped with 25 x 150 x 2400 (1" x 6" x 8') wood planks. Smaller trees shall be similar protected using appropriately sized wood planks.
 - (c) Excavations shall be carried out in such a manner so as to minimize damage to existing tree branches. Where roots must be cut to facilitate an excavation they shall be neatly pruned at the face of the excavation and coated with an appropriate wound dressing to prevent infection.
 - (d) Work on Site shall be carried out in such a manner so as to minimize damage to existing tree branches. Where damage to tree branches does occur, the Contractor shall have a certified Manitoba Arborist prune the damaged branches and coat them with an appropriate wound dressing which cost shall be paid for by the contractor.
- E10.2 All damage to existing trees caused by the Contractor's construction activities shall be repaired to the requirements and satisfaction of the City of Winnipeg, Public Works, Parks and Open Space Division, Forestry Branch.
- E10.3 No separate measurement or payment will be made for protection of trees. It shall be considered incidental to the contract work

E11. SITE CLEANUP

- E11.1 All pathways, streets, approaches, driveways and properties near the Work Site shall be kept clean at all times by the Contractor
- E11.2 Upon completion of the project, the Contractor shall immediately remove all excess materials and debris from the Work Site.

E12. SAFETY

- E12.1 Safety and Health Regulations
- E12.1.1 The Contractor shall comply with the following:
- a) The City of Winnipeg's Safety in the Workplace Policy for Alcohol or any Mood or Mind Altering Drug in the Workplace;
 - b) The City of Winnipeg Safety Manual;
 - c) The Public Works Department's Safety Regulations;
 - d) The Province of Manitoba Workplace, Safety and Health Act.
- E12.1.2 The Contract Administrator and the City of Winnipeg, Public Works Department's Safety Officer has the authority to enforce all the above listed safety and/or health regulations.
- E12.1.3 The Contractor is advised that these safety regulations are available for viewing by contacting the Contract Administrator.
- E12.2 Site Safety Procedures

- E12.2.1 The Contractor shall be solely responsible for construction and public safety at the Site and for securing the Site at all times to prevent public access.
- E12.2.2 The Contractor shall, at his own expense, do whatever is necessary to ensure that when Work is stopped and the Contractor leaves the Site for whatever reason, the Site and Work is made safe, including but not limited to:
- a) The removal and/or safe storage of all construction equipment and materials;
 - b) The equipment installed and/or in the process of installation be completed or secured to ensure that no public hazards exist;
 - c) That all open excavations be filled; and
 - d) That all construction debris and surplus excavation material be removed from the Site.
- (b) The Contract Administrator's satisfaction, that the Bidder's equipment and facilities are adequate to perform the Work.