

**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 The version in effect three (3) Business Days before the Submission Deadline shall apply.
- E1.1.3 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:

##### (a) Clifton Community Centre

<u>Drawing No.</u>	<u>Drawing</u>
A-L1	Existing Conditions, Removals & Relocation
A-L2	Concept, Layout & Planting Plan
A-L3	Details

##### (b) Minto Tot Lot:

<u>Drawing No.</u>	<u>Drawing</u>
B-L1	Existing Conditions
B-L2	Concept Plan
B-L3	Layout & Planting Plan
B-L4	Grading Plan
B-L5	Details

#### E2. DAMAGE TO EXISTING STRUCTURES AND PROPERTY

- E2.1 Further to Clause GC6.28(a) of the General Conditions, special care shall be taken to avoid damage to existing adjacent structures and properties during the course of the Work.
- E2.2 Any damage caused by the Contractor or his SubContractors to the adjacent structures or properties shall be promptly repaired by the Contractor at his own expense to the satisfaction of the Contract Administrator.

#### E3. SITE PREPARATION, REMOVALS & SALVAGE

##### E3.1 GENERAL

- E3.1.1 Description
- (a) This Specification shall cover all aspects of the Site Preparation, Removals and Relocation Work as described by Drawings, including, but not limited to the following:
- (i) equipment mobilization and demobilization

- (ii) erection and maintenance of safety fence
- (iii) removal and disposal of play structures, playground stone and sand, chain link and bollard fencing, timber edging, paving stone pathways, Site furniture, and vegetation
- (iv) salvage and relocation of chain link fencing, Site furniture, and plant material
- (v) construction access

## E3.2 EXECUTION

### E3.2.1 Mobilization and Demobilization

- (a) The mobilization and demobilization of all equipment necessary to complete the Work is covered under this Specification.

### E3.2.2 Site Access

- (a) The location of access points for the construction equipment and materials, and the methodology to facilitate construction shall be subject to the approval of the Contract Administrator.
- (b) Care shall be taken to prevent damage to existing trees, Site facilities, services and roads. In the event of damage to existing Site facilities or services caused by the Contractor's access and construction activities, the Contractor shall be held liable, and shall be required to provide appropriate restoration, to the satisfaction of the Contract Administrator.

### E3.2.3 Removals and Salvage

- (a) The Contractor shall load and haul all removed materials away from the Site, and dispose of these materials at dumps located by the Contractor and approved by the Contract Administrator. All removed material shall be disposed off Site immediately upon collection.
- (b) Salvaged materials (other than plant material) shall be stockpiled on Site in areas approved by Contract Administrator. Care shall be taken to protect existing trees when stockpiling material, as per Specification E4 – "Protection of Existing Trees".
- (c) Salvaged plant material shall not be stockpiled and shall be immediately replanted as per Specification E11 – "Planting – Trees, Shrubs, and Perennials".

## E3.3 METHOD OF MEASUREMENT

- (a) The Site preparation, removals and salvage will be measured on a lump sum basis, and shall include all Items of Work completed in accordance with this Specification and accepted by the Contract Administrator.

## E3.4 BASIS FOR PAYMENT

- (a) Site preparation, removals and salvage will be paid for at the Contract Lump Sum for each "Items of Work", listed below, which price shall be payment in full for supplying all materials and performing all operations herein described and all other items incidental to the Work included in this Specification.

### Items of Work:

- (i) Site Preparation, Removals & Salvage

## **E4. PROTECTION OF EXISTING TREES**

### **E4.1 GENERAL**

#### **E4.1.1 Description**

- (a) This Specification covers the protection of all existing trees. The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work hereinafter specified.

### **E4.2 EXECUTION**

#### **E4.2.1 Preservation**

- (a) Existing trees shall be protected and preserved as is.

#### **E4.2.2 Trunk Protection**

- (a) All trees will have a 1.0m (minimum) radius protective zone calculated from the circumference at the base of the trunk which will remain free of digging, trenching, grade changes, stock piling of materials and soil compaction throughout the duration of the Contract. Protective fencing around these areas is required. All trees within and immediately adjacent to, proposed construction areas will require 1x6x8' wood planks strapped to the tree trunk to completely protect the tree trunk from impact damage. (smaller trees will be similarly protected using proportionally sized wood planks).

#### **E4.2.3 Overhead Branch and Limb Protection**

- (a) Tree limbs and branches overhanging the construction area shall not be damaged. The Contractor shall be responsible for ensuring that the above ground portions of trees are not damaged during Work.

#### **E4.2.4 Excavation**

- (a) During all excavation a representative from the City of Winnipeg Forestry Branch shall be present at all times unless otherwise agreed upon by the Contract Administrator, Forestry Branch and Contractor prior to commencement of construction.

#### **E4.2.5 Notification**

- (a) The Contract Administrator is to be notified 48 hours in advance of any large equipment to be Working in the vicinity of existing trees. The Contractor shall provide adequate personnel on foot to supervise equipment operators in the vicinity of the trees to ensure that no damage occurs.
- (b) Special care is required during excavation to ensure existing tree root structure is not damaged. Should root pruning be required the Contractor must ensure proper root pruning techniques are employed by a licensed arbourist.

### **E4.3 METHOD OF MEASUREMENT**

- (a) No measurement will be made for protection of existing trees.

### **E4.4 BASIS FOR PAYMENT**

- (a) No separate payment will be made for protection of existing trees.

## **E5. EARTHWORK AND GRADING**

### **E5.1 GENERAL**

#### **E5.1.1 Description**

- (a) This Specification shall cover all Work associated with general Earthwork and Grading as described by Drawings. The Contractor shall furnish all superintendence, overhead, labour, materials, equipment, tools, supplies and all things necessary for and incidental to the satisfactory performance and completion of all Work hereinafter specified. This Specification shall supplement CW3170-R3.

### **E5.2 EXECUTION**

#### **E5.2.1 General**

- (a) The Contractor shall grade to the levels and contours allowing for surface treatment as shown on Drawings. Existing topsoil shall be stockpiled on-Site as directed by the Contract Administrator. Prior to placing any fill over existing ground the Contractor shall scarify surface of existing ground to a depth of 150mm. Moisture content of filling and existing surface material shall be the same in order to facilitate proper bonding.
- (b) All fill shall be clean fill.

#### **E5.2.2 Compaction**

- (a) Compact fill and undisturbed areas to Standard Proctor Density to ASTM D698-78 as follows:
  - (i) Landscaped Areas - 85%
  - (ii) Paved Areas - 95%

#### **E5.2.3 Approvals**

- (a) The Contractor shall stake grades and receive approval from the Contract Administrator prior to any construction.
- (b) The Contract Administrator shall approve grading Work prior to installation of topsoil and/or surfacing materials.

### **E5.3 METHODS OF MEASUREMENT**

- E5.3.1 Earthwork and Grading will be measured on a square meter basis. The amount to be paid for shall be the total number of square metres constructed in accordance with this Specification and as accepted by the Contract Administrator.

### **E5.4 BASIS OF PAYMENT**

- E5.4.1 Payment for Earthwork and Grading shall be paid for at the Contract unit price for the "Items of Work" listed below, which price shall include all costs of labour and material supply, including fill, and all other items incidental to the Work included in this Specification.

Items of Work:

- (i) Earthwork and Grading

## **E6. CHAIN LINK FENCING**

### **E6.1 GENERAL**

#### **E6.1.1 Description**

- (a) This Specification shall cover the supply and installation of New Galvanized Chain Link Fencing and New Coloured Vinyl-Covered Chain Link Fencing, as well as the installation of Salvaged Chain Link Fencing for areas indicated on the Drawing. The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all Work as specified and in accordance with CW 3550-R2 'Chain Link Fencing'.

### **E6.2 PRODUCTS**

#### **E6.2.1 Materials**

##### **(a) New Fencing Material**

- (i) New Galvanized Fencing Material shall conform to CW 3550-R2 'Chain Link Fencing', at a height described by Drawings, and include the following elements:
  - a) Terminal Posts
  - b) Line Posts
  - c) Top and Bottom Rails
  - d) Top and Bottom Rail Sleeve Couplings
  - e) Fabric
  - f) Fittings and Accessories
- (ii) New Coloured Vinyl-Covered Fencing Material shall conform to CW 3550-R2 'Chain Link Fencing' and include the following elements:
  - a) Top and Bottom Rails
  - b) Top and Bottom Rail Sleeve Couplings
  - c) Fabric
  - d) Fittings and Accessories

##### **(b) Salvaged Fencing Material**

- (i) Chain Link Fencing Material shall be salvaged and reinstalled as described by the Drawings.
- (ii) Material to be salvaged shall be as shown on the Drawings, deemed in good condition and approved by the Contract Administrator. Salvaged material shall include rails, top and bottom rail sleeve coupling, fabric, fittings and accessories, except terminal and line posts.

### **E6.3 EXECUTION**

#### **E6.3.1 General Requirements**

- (a) The Contractor shall install chain link fence in accordance with CW 3550-R2 'Chain Link Fencing'. Where any contradictions occur, this Specification shall take precedence.
- (b) Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

## E6.4 METHOD OF MEASUREMENT

### E6.4.1 New Chain Link Fencing

- (a) The supplying and installation of New Galvanized Chain Link Fencing and Coloured Vinyl-Covered Chain Link Fencing will be measured on a lineal metre basis. The area to be paid for shall be the total number of lineal metres of fence installed in accordance with Specification, and as accepted by the Contract Administrator

### E6.4.2 Salvaged Chain Link Fencing

- (a) The installation of Salvaged Chain Link Fencing will be measured on a lineal metre basis. The area to be paid for shall be the total number of lineal metres of fencing installed in accordance with Specification, and as accepted by the Contract Administrator

## E6.5 BASIS OF PAYMENT

### E6.5.1 New Chain Link Fencing

- (a) The supply and installation of New Galvanized and Coloured Vinyl-Covered Chain Link Fencing shall be paid for at the Contract Unit Price per lineal metre for the "Items of Work", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

### E6.5.2 Salvaged Chain Link Fencing

- (a) The installation of Salvaged Chain Link Fencing shall be paid for at the Contract Unit Price per lineal metre for the "Items of Work", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

#### Items of Work:

- (i) Galvanized Chain Link Fencing
- (ii) Coloured Vinyl-Covered Chain Link Fencing
- (iii) Salvaged Chain Link Fencing

## E7. CONCRETE SANDBOX AND PLAYSURFACE EDGING

### E7.1 GENERAL

#### E7.1.1 Description

- (a) This Specification shall cover the supply and installation of Concrete Playsurface Edging and Concrete Sandbox Edging for areas indicated on the Drawing. The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all Work as specified and in accordance with CW 3310-R8 'Portland Cement Concrete Pavement Works' and CW 3110-R5 'Sub-grade, Sub-base, and Base Course Construction'.

### E7.2 PRODUCTS

#### E7.2.1 General

- (a) All materials shall conform to CW 3310-R8 and this Specification. Where the two do not agree, this Specification shall take precedence.

E7.2.2 Granular Base Course

- (a) Granular base course for Concrete Edging shall conform to CW 3110-R5 'Sub-grade, Sub-base, and Base Course Construction' for crushed limestone base course material.

E7.2.3 Portland Cement Concrete

- (a) Portland Cement Concrete shall conform to CW 3310-R8.

E7.2.4 Sandbox Cedar Cap

- (a) Sandbox Cedar Cap shall be hand selected number 2 grade or better. Cedar shall be free of warps, knots, waness or splits.

E7.2.5 Fasteners

- (a) All fasteners shall be stainless steel.

E7.2.6 Reinforcing Steel

- (a) Reinforcing Steel shall conform to CW 3310-R8 and the Drawings.

E7.3 EXECUTION

E7.3.1 General

- (a) Locations, Heights and Dimensions of Concrete Sandbox and Play Surface Edging shall conform to those described in Drawings.
- (b) Construction methods shall conform to Specification CW 3310-R8 'Portland Cement Concrete Pavement Works' and CW 3110-R5 'Sub-grade, Sub-base, and Base Course Construction'.
- (c) Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

E7.3.2 Sub-Grade

- (a) Prepare compacted sub-grade to the lines and grades as shown on the Drawings. Contract Administrator is to review sub-grade preparation prior to placement of granular base.

E7.3.3 Granular Base

- (a) Place granular base material to the lines and grades as shown on the Drawings. Compact material to a minimum of 95 percent Standard Proctor Density.

E7.3.4 Concrete Edging

- (a) All concrete edging shall have edges, seams and joints ground smooth. Form marks, holes and surface imperfections shall be filled and rubbed smooth. Concrete shall be sack rubbed prior to full cure.

E7.3.5 Cedar Cap

- (a) The sandbox cedar cap shall be installed as shown on the drawings. The cap shall have all visible sides sanded smooth.

E7.4 METHOD OF MEASUREMENT

- (a) The supply and placing of Concrete Playsurface Edging and Concrete Sandbox Edging will be measured on a lineal metre basis. The area to be paid for shall be the total number of lineal metres of edging installed in accordance with this Specification and as accepted by the Contract Administrator



## E7.5 BASIS OF PAYMENT

- (a) The supplying and placing of Concrete Playsurface Edging and Concrete Sandbox Edging shall be paid for at the Contract Unit Price per lineal metre for the "Items of Work", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

### Items of Work:

- (i) Concrete Playsurface Edging A
- (ii) Concrete Playsurface Edging B
- (iii) Concrete Sand Box Edging

## E8. GRANULAR PLAY SURFACES

### E8.1 GENERAL

#### E8.1.1 Description

- (a) This Specification shall cover the supply and installation of Playground Stone Playsurface and Sandbox Sand for areas described on Drawings. The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all Work as specified and in accordance with CAN/CSA Z614-98 "Children's Playspaces and Equipment" section10: 'Surfacing'

### E8.2 PRODUCTS

#### E8.2.1 General

- (a) All materials shall conform to CAN/CSA Z614-98 and this Specification. Where the two do not agree, this Specification shall take precedence.

#### E8.2.2 Materials

- (a) Playground Stone Playsurface
- (i) Playground Stone shall be 6mm washed playstone as produced and supplied by the City of Winnipeg, Glacial Sand and Gravel Pit.
  - (ii) Playground Stone shall conform to CAN/CSA Z614-98 section10: 'Surfacing' for loose fill.
  - (iii) Playground Stone shall be clean and free of extraneous or deleterious material.
- (b) Sandbox Sand
- (i) Sandbox sand shall be fine aggregate sand clean and free of extraneous or deleterious material.
- (c) Samples of the specified materials shall be submitted for approval to the Contract Administrator a minimum of seven (7) calendar days prior to installation.

## E8.3 EXECUTION

### E8.3.1 General

- (a) Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

### E8.3.2 Playground Stone Playsurface

- (a) Installation of Playground Stone Surfacing shall conform to CAN/CSA Z614-98 "Children's Playspaces and Equipment" and be consistent with depths and locations shown on Drawings.
- (b) Areas to receive Playground Stone shall be free of debris, vegetation or other deleterious material.
- (c) The installation of Playground Stone shall commence immediately upon completion of playground equipment installation.

### E8.3.3 Sandbox Sand

- (a) Installation of Sand Box Sand shall be consistent with depths and locations shown on Drawings.
- (b) Areas to receive Sand Box Sand shall be free of debris, vegetation or other extraneous material.

## E8.4 METHOD OF MEASUREMENT

- (a) The supplying and installation of Playground Stone will be measured on a cubic metre basis. The area to be paid for shall be the total number of cubic metres of stone installed in accordance with this Specification and as accepted by the Contract Administrator.
- (b) The supplying and installation of Sandbox Sand will be measured on a cubic metre basis. The area to be paid for shall be the total number of square metres of sand installed in accordance with this Specification and as accepted by the Contract Administrator.

## E8.5 BASIS OF PAYMENT

- (a) The supply and installation of Playground Stone and Sandbox Sand shall be paid for at the Contract Unit Price per square metre for the "Items of Work", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

Items of Work:

- (i) Playground Stone
- (ii) Sand

## E9. ASPHALT PATHWAY

### E9.1 GENERAL

- (a) This Specification shall cover the supply and installation of asphaltic concrete paving, base course for pathway as indicated on the Drawings. The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies, and all other things necessary for and incidental to the satisfactory performance and completion of all Work as specified and in accordance with CW 3110-R5 'Sub-grade, Sub-base, and Base Course Construction' and CW 3410-R5 'Asphaltic Concrete Pavement Works'.

## E9.2 PRODUCTS

### E9.2.1 General

- (b) All materials shall conform to CW 3110-R5 and CW 3410-R5 and this Specification. Where the two do not agree, this Specification shall take precedence. All materials supplied under this Specification shall be of a type approved by the Contract Administrator, and shall be subject to inspection and testing by the Contract Administrator.

### E9.2.2 Materials

#### (a) Asphaltic Concrete Pavement

- (i) Asphaltic Concrete Pavement Installation shall conform to CW 3410-R5 'Asphaltic Concrete Pavement Works' and as specified for Type I paved surface.

#### (b) Granular Base Course

- (i) Granular base course for asphalt pathway shall conform to CW 3110-R5 'Sub-grade, Sub-base, and Base Course Construction' for crushed limestone base course material.

## E9.3 EXECUTION

### E9.3.1 General

- (a) Construction method shall conform to Specification CW 3110-R5 'Sub-grade, Sub-base, and Base Course Construction' and CW 3410-R5 'Asphaltic Concrete Pavement Works'. Installation shall be as for asphalt park pathway.
- (b) Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

### E9.3.2 Sub-Grade

- (a) Prepare compacted sub-grade to the lines and grades as shown on Drawings. Contract Administrator is to review sub-grade preparation prior to placement of granular base.

### E9.3.3 Granular Base

- (a) Place granular base material to the lines and grades as shown on Drawings. Extend base minimum 300mm beyond width of asphalt overlay (on side not bound by Concrete Playsurface Edging). Compact material to a minimum of 95 percent Standard Proctor Density.

### E9.3.4 Asphaltic Concrete Paving

- (a) Construction method shall conform to Specification CW 3410-R5 'Asphaltic Concrete Pavement Works' and shall conform to lines and grades as shown on Drawings.
- (b) The surface upon which new asphaltic concrete paving mix is to be placed shall be approved by the Contract Administrator prior to paving operations.

## E9.4 METHOD OF MEASUREMENT

- E9.4.1 The supplying and placing of Asphalt Pathway will be measured on an area basis. The area to be paid for shall be the total number of square meters of asphalt park pathway installed in accordance with this Specification, accepted by the Contract Administrator, and as computed from the layout shown on Drawings.

- E9.4.2 The preparation of sub-base, and supply and installation of granular base and all other Work associated for Asphalt Pathway is considered incidental to the Works and no separate measurement and payment will be made.

## E9.5 BASIS OF PAYMENT

E9.5.1 The supply and placement of Asphalt Pathway shall be paid for at the Contract Unit Price per square metre for the "Items of Work", measured as specified herein, which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

Items of Work:

- (i) Asphalt Pathway

## E10. PLANTING BED PREPARATION

### E10.1 GENERAL

#### E10.1.1 Work Included

- (a) This Specification shall cover planting bed preparation as described by Drawings. The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work as specified.

### E10.2 PRODUCTS

#### E10.2.1 Materials

- (a) Planting Soil
  - (i) Planting Soil shall consist of black top soil, a fertile friable natural loam containing by volume not less than 4% and no more than 25% of organic matter for clay loams, and not less than 2% and no more than 25% for sandy loams, with an acidity value ranging from pH 6.0 to 8.0 and capable of sustaining vigorous plant growth. Topsoil is to be free of any mixture of subsoil, clay lumps and free of stones and other extraneous matter. It is not to contain couch or crab grass rhizomes.
- (b) Tree Mulch
  - (i) Bark mulch shall be locally available tree mulch, free of soil, stones, debris and any other deleterious material.
- (c) Water
  - (i) Water shall be potable and free of minerals which may be detrimental to plant growth.
- (d) Fertilizer
  - (i) Fertilizer shall be complete synthetic slow release fertilizer with maximum 35% water-soluble nitrogen.

### E10.3 EXECUTION

#### E10.3.1 General

- (a) Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

#### E10.3.2 Planting Bed Preparation

- (a) Contractor shall co-ordinate Site excavation Works with landscaping to ensure minimal additional excavation for shrub beds. All remaining areas to be excavated shall be to the shape shown on the Drawings. Beds shall be excavated to the finished depth (including bark mulch) shown on Drawings.

- (b) Excavation shall be filled with soil mixture. After filling, excavation of top of bed shall be level with surrounding grade. Soil should be lightly compacted and indicated soil depths shall be depths after light compaction.
- (c) All areas and locations provided for planting shall be staked according to layout shown on the drawings. Excavation shall not proceed until the layout has been inspected and approved by the Contract Administrator. Excavation shall not be undertaken until all underground utilities have been located and protected.
- (d) The Contractor shall provide a planting bed with a crisp spade edge (where appropriate) around the existing shrubs and tree, topsoil and bark mulch as indicated on Drawings.

**E10.3.3 Installation of Mulch**

- (a) Bark mulch shall be spread to a consistent depth over entire planting bed area, taking care not to damage the plants.

**E10.4 METHOD OF MEASUREMENT**

- (a) Planting Bed Preparation will be measured on a square meter basis. The amount to be paid for shall be the total number of square metres constructed in accordance with this Specification and as accepted by the Contract Administrator.

**E10.5 BASIS OF PAYMENT**

- (a) Payment for Planting Bed Preparation shall be paid for at the Contract unit price for the "Items of Work" listed below, which price shall include all costs of labour and material supply, including fill, and all other items incidental to the Work included in this Specification.

Items of Work:

- (i) Planting Bed Preparation

**E11. PLANTING – TREES, SHRUBS AND PERENNIALS**

**E11.1 GENERAL**

- (a) This Specification shall cover the supply and installation of new trees, shrubs and perennials, as well as the installation of salvaged shrubs.
- (b) The Work to be done by the Contractor under this Specification shall include the furnishing of all superintendence, overhead, labour, miscellaneous materials, equipment, tools, supplies and all other things necessary for and incidental to the satisfactory performance and completion of all Work as hereinafter specified. All planting and replacements must be completed by June 15th of any given year.

**E11.1.1 Source Quality Control**

- (a) All new plant material shall be randomly inspected at the source upon request of the Contract Administrator.
- (b) Trees are to be grown in nurseries under proper cultural practices as recommended by the Canadian Nursery Trade Association.
- (c) Only those trees will be accepted which have been grown for at least the four (4) previous years in local Manitoba nurseries located in an Agricultural Canada Plant Hardiness Zone designation of 2(a or b) or 3(a or b), and within a 250 kilometres radius of Winnipeg. Trees that have grown in plant hardiness zones 1 and 4 or greater will be rejected.

### E11.1.2 Maintenance

- (a) The Contractor shall maintain and warrant planting of new plant material against any and all defects or deficiencies resulting from insect infestation, disease and mechanical damage due to improper handling, installation or maintenance, for a period of two (2) years from the date of the Certificate of Total Performance. Nursery stock damaged by vandalism or reasons beyond the control of the Contractor shall be replaced by the City.
- (b) End-of-Warranty inspection will be conducted by the Contract Administrator with representation by the City.
- (c) The Contract Administrator reserves the right to request material replacement or extend the Contractor's responsibilities for an additional one (1) year if, at the end of the Warranty Period, leaf development and growth are not sufficient to ensure future survival of the tree or shrub.
- (d) The Contractor shall be responsible for the maintenance of salvaged plant material for the duration of the Contract.

### E11.1.3 Replacements

- (a) During the Maintenance Period, the Contractor shall remove from Site any new plant material that has died or failed to grow satisfactorily as determined by the Contract Administrator and replace as per Specifications within a maximum thirty-day period from notification.
- (b) New plants found to be defective shall be replaced within three (3) days of notification to the Contractor.
- (c) The Contractor shall extend the Warranty on replacement tree for a period equal to the original Warranty Period.
- (d) The Contractor shall continue such replacement, Maintenance and Warranty until tree is acceptable.

## E11.2 PRODUCTS

### E11.2.1 Miscellaneous Materials

- (a) **Planting Soil** – as specified in CW 3540.
- (b) **Water** – Water is to be potable and free of minerals which may be detrimental to plant growth.
- (c) **Fertilizer** – Fertilizer is to be a slow release formulation of low nitrogen and high phosphorus e.g. 10-50-12. Apply quantities at rates stated by product manufacturer.
- (d) **Rootball burlap** shall be 150g, Hessian burlap, biodegradable.
- (e) **Anti-dessicant** shall be wax-like emulsion to provide film over plant surfaces reducing evaporation but permeable enough to permit transpiration.
- (f) **Wound dressing** shall be horticultural accepted non-toxic, non-hardening emulsion.
- (g) **Weed barrier** shall be Nilex product DeWitt Pro5 weed barrier or approved equal. The fabric shall be supplied to the Site in widths no less than 1.8 metres and free of defects.

### E11.2.2 Plant Material - New

- (a) All nursery stock supplied shall be Canadian Prairie nursery grown, and of species and sizes indicated in the plant list on the drawings. Its quality shall be in accordance with the "Guide Specification for Nursery Stock of the Canadian Nursery Trades Association".

- (b) Any nursery stock dug from native stands, wood lots, orchards, or neglected nurseries and which have not received proper cultural maintenance as advocated by the Canadian Nursery Trades Association shall be designated as "collected plants". The use of "collected plants" will not be permitted unless specified below. Nomenclature of specified nursery stock shall conform to the International Code of Nomenclature for Cultivated Plants and shall be in accordance with the approved scientific names given in the latest edition of Standardized Plant Names. The names of varieties not named therein are generally in conformity with the names accepted in the nursery trade.
- (c) All trees are to be supplied in accordance with the Work of this Contract and shall be inspected by the Contract Administrator at the nursery Site. At the time of inspection, the Contractor shall permanently tag a suitable branch of each tree with a distinct code clearly indicating that the City of Winnipeg will be the intended recipient of that tree. The tag and code must be approved at least two (2) weeks in advance of their use by the Contract Administrator.
- (d) The tag must be kept on the tree at the time of planting, and removed only when authorized in writing by the Contract Administrator. The Contract Administrator will reject each and every tree that has not been delivered with its tag intact at the planting Site.
- (e) Each tag will identify the species of the tree and its caliper at the time in which the tag is placed permanently on the tree. All trees tagging operation shall be conducted after Award of Contract. The use of trees requiring treatments as ordered by Agriculture Canada is prohibited.
- (f) Plants larger than specified may be used if approved by Contract Administrator. The use of such plants shall not increase the Contract Price.
- (g) All nursery stock shall be measured when the branches are in their normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip to root base or from branch tip to branch tip. Where trees are measured by caliper (cal), reference is made to the diameter of the trunk measured 300mm above ground as the tree stands in the nursery.
- (h) All nursery stock shall be well branched, densely foliated when in leaf, true to type, structurally sound, possess a well developed, undamaged root system and shall be free of disease, insect infestations, rodent damage, sun scald, frost cracks, and other abrasions or scars to the bark. All parts of the nursery stock shall be moist and show live, green cambium when cut. All trees shall have one sturdy, reasonably straight and vertical trunk and a well-balanced crown with fully developed leader. At least one plant of each variety supplied shall bear a tag showing both the botanical and common name of the plant.
- (i) Trees are to have been root pruned regularly, but not later than one growing season prior to arrival on Site. The Contractor may be required to furnish documentation to the City of Winnipeg on his root-pruning program. Trees in excess of 75 mm caliper are to have been half root pruned during each of two successive growing seasons, the latter at least, one growing season prior to arrival on Site.

E11.2.3 Plant Material – Salvaged

- (a) Shrubs to be salvaged shall be as shown on the Drawings.

E11.2.4 Tree Quantity and Size

- (a) Trees are to be planted at the quantities and calipers listed on the Plant List. Any variation from the specified quantity is to be clearly identified on the Schedule of Prices. Any variations to species, size or caliper of specified trees will require a request for approval from the Contract Administrator.

- (b) Any changes in planting locations shall be determined on-Site by the Contract Administrator.

QUANTITY	COMMON NAME / BOTANICAL NAME	SIZE AND REMARKS
<b>PART A - CLIFTON COMMUNITY CENTRE</b>		
<b>DECIDUOUS TREES</b>		
6	Basswood / <i>Tilia americana</i>	70mm caliper, min. 3200mm ht.,min. 950mm wide rootball, straight trunk, balanced head, two stakes per tree.
<b>SHRUBS</b>		
59	Dwarf Meyer Lilac / <i>Syringa meyeri</i> 'Palibin'	500mm height, 5 major basal stems, dense bushy plants, container.
<b>PART B - MINTO TOT LOT</b>		
<b>DECIDUOUS TREES</b>		
3	Basswood / <i>Tilia americana</i>	70mm caliper, min. 3200mm ht.,min. 950mm wide rootball, straight trunk, balanced head, two stakes per tree.
<b>SHRUBS</b>		
96	Dwarf European Cranberry / <i>Viburnum opulus</i> 'Nanum'	450mm height, 5 major basal stems, dense bushy plant, container.
<b>PERENNIALS</b>		
107	Daylily 'Stella d'Oro' / <i>Hemerocallis</i> 'Stella d'Oro'	2 year potted

- (c) Trees are to conform to the measurements specified in the Plant List, except that trees larger than specified may be used if approved by the Contract Administrator.
- (d) Trees are to be measured when the branches are in their normal position. Height dimensions specified are to refer to the main body of the tree and not from branch tip to root base. Where trees have been measured by caliper or diameter, reference is to be made to the diameter of the trunk measured 300 mm above the ground as the tree stands in the nursery prior to lifting. Caliper of tree shall be appropriately designed on a permanently fixed tag on one of the branches.



#### E11.2.5 Shipment and Pre-Planting Care

- (a) Shipment of trees and the excavation of holes shall be coordinated to ensure minimum time lapse between digging and planting.
- (b) Branches of trees shall be tied securely, and trees shall be protected against abrasion, exposure and extreme temperature change during transit. Avoid binding of trees with rope or wire which would damage bark, break branches or destroy natural shape of tree. Give full support to root ball of trees during lifting.
- (c) Tree foliage shall be covered with a tarpaulin, and bare roots shall be protected by means of dampened straw, peat moss, saw dust or other acceptable material to prevent loss of moisture during transit and storage.
- (d) Broken and damaged roots shall be removed with sharp pruning shears. Make clean cuts, and cover cuts over 10 mm diameter with a tree wound dressing.
- (e) Roots shall be kept moist and protected from sun and wind. Heel-in trees, which cannot be planted immediately in shaded areas, and water well.

#### E11.3 EXECUTION

##### E11.3.1 General

- (a) Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

##### E11.3.2 Workmanship

- (a) Location of trees shall be staked out or painted on Site by the Contractor. Locations shall be approved by the Contract Administrator prior to installation.
- (b) Anti-desiccant shall be applied in accordance with material manufacturer's instructions with prior approval of the Contract Administrator.
- (c) Coordinate operations. Keep Site clean and planting holes drained. Immediately remove soil or debris spilled onto street pavement, grass or sidewalk.

##### E11.3.3 Planting Time

- (a) Deciduous trees shall be planted during dormant period before buds have broken. Trees noted for spring planting only, must be planted in dormant period.
- (b) When permission has been obtained from the Contract Administrator to plant deciduous trees after buds have broken, plants shall be sprayed with anti-desiccant to slow down transpiration prior to transplanting.
- (c) Plant only under conditions that are conducive to health and physical conditions of trees.
- (d) Provide planting schedule to Contract Administrator. Extending planting operations over long period using limited crew will not be accepted.
- (e) The Contractor must obtain all above and belowground clearances from all the utilities as well as the appropriate District Operations Branch in a timely manner so as not to jeopardize the schedule of the complete tree-planting Contract.

##### E11.3.4 Excavation of Tree Pits

- (a) Excavation of planting pits shall be located as indicated by stakes or paint marks.
- (b) The Contractor must not commence excavation of any tree pits until the full extent of all buried utilities and services are located and protected.

- (c) The Contractor shall hand excavate all tree pits located over underground utility lines. Tree wells not located over underground utilities may be machine excavated. Tree wells shall be excavated with vertical sides to the full width of the surface area as shown on the Drawings. All excavated material shall be disposed of off Site.

#### E11.3.5 Planting of Nursery Stock

- (a) Each balled specimen shall be handled with great care so that the root balls shall not be broken. Burlap shall be folded back only at the top and sides.
- (b) Broken root balls or balls consisting of loose soil shall not be accepted and shall be replaced. Broken roots of deciduous stock shall be pruned back prior to planting.
- (c) Where the root ball of plant material is enclosed in wire baskets, the wire baskets shall be removed from the root ball once the tree has been located properly in the pit. Removal shall be by a min. of 4 vertical cuts equally spaced around the baskets without damaging the rootball. Cutting of the 2 lowest horizontal strands of the wire basket before placing the tree in the pit is acceptable provided that the bottom of the root ball will remain intact.

#### E11.3.6 Planting of Salvaged Material

- (a) When digging out salvaged shrubs, care shall be taken to ensure a minimum of 80% of the root ball is maintained. Damaged roots shall be cleanly cut.
- (b) Salvaged shrubs shall be heeled into planting beds or stockpiled topsoil immediately after removal. Shrubs shall be watered within one (1) hour of replanting.

#### E11.3.7 Planting Procedure

- (a) With balled and burlapped root balls and root balls in wire baskets, burlap shall be loosened and cut away from the top 1/3 without disturbing root ball. Burlap or rope shall not be pulled from under root ball. Non-biodegradable wrapping shall be removed.
- (b) After inserting the tree and tamping the root system with topsoil in layer of 150 mm, water shall be poured in until the pit is thoroughly soaked. Filling of the hole shall then be completed and the fill-in soil shall be packed firmly around the roots, leaving a concave surface for convenient watering. After filling, the planting shall be watered at frequent intervals. No tree pit shall be left open at the end of the Contractor's Work Day.
- (c) Each tree is to have an earth saucer at its base having a diameter as large as the excavation with a 10 cm lip formed at the perimeter of the saucer to retain water.
- (d) Planting shall be done during periods suitable to weather conditions and locally accepted practice. All nursery stock shall be set plumb in the centre of pits and at levels as shown on the planting details after settlement has taken place.
- (e) Nursery stock and salvaged material shall be faced to give the best appearance or relationship to adjacent structure and to the approval of the Contract Administrator or his representative. Trees shall be placed equal to depth they were originally growing in nursery.

#### E11.3.8 Weed Barrier Installation

- (a) The weed barrier shall be installed in tree pit, under Play Stone Playsurface as described by Drawings and in accordance with the manufacturer's recommended procedure. The weed barrier shall be laid smooth and free of tension, stress, folds, wrinkles or creases.
- (b) Joints in the weed barrier shall be overlapped not less than 0.5 metres.

- (c) Securing pins with washers shall be inserted through the fabric at intervals not greater than 1.5 metres along a line 100 mm from both the lowest and highest exterior edge of the weed barrier.
- (d) Additional pins shall be installed as necessary, regardless of location, to prevent any slippage of the fabric.
- (e) The supply and installation of the securing pins shall be incidental to the cost of the weed barrier.

E11.3.9 Fertilizing

- (a) When planting is completed, surface of planting saucer shall be fertilized, meeting the requirements of Specification. Fertilizer shall be mixed thoroughly with top layer of planting soil and watered in well.

E11.3.10 Pruning

- (a) All deciduous trees shall be pruned immediately after planting. The amount of pruning shall be limited to the minimum necessary to remove dead or injured branches and to compensate for the loss of roots as a result of transplanting operations. Pruning shall be done in such a manner as to preserve the natural character of the plants. Leaders shall not be removed. Only clean, sharp tools shall be used. All cuts shall be clean and flush, leaving no stubs. Cuts, bruises or scars on the bark shall be traced back to living tissue and removed. The affected areas shall be shaped so as not to retain water and all cuts of more than 25 mm (1") in diameter shall be painted within approved tree paint.

E11.3.11 Watering

- (a) Trees shall be watered during the planting procedure as described previously, and once a week thereafter, or more frequently if required.
- (b) A complete record shall be kept of each series of waterings for all planted trees, noting: 1) location, and 2) date of watering. This record shall be sent bi-weekly to the Contract Administrator – Fax: (204) 927-3443.
- (c) Forty (40) litres of water per 25 mm calliper per application shall be applied using deep root feeder or low/pressure nozzle and hose. The water stream shall not gouge out a hole in the soil and mulch.

E11.3.12 Staking

- (a) All trees shall be staked and tied in accordance with the Drawings.

E11.4 METHODS OF MEASUREMENT

- (a) Trees, Shrubs and Perennials shall be measured on a per unit basis. The amount to be paid for shall be the total number of new trees, shrubs and perennials supplied and installed, and the total number of salvaged shrubs installed in accordance with this Specification, Drawings and as accepted by the Contract Administrator.

## E11.5 BASIS OF PAYMENT

- (a) Payment for Trees, Shrubs and Perennials shall be paid for at the Contract unit price for the "Items of Work" listed below. New material price shall include all costs of labour and material supply, and all other items incidental to the Work included in this Specification.

### Items of Work:

- (i) Basswood
- (ii) Dwarf European Cranberry
- (iii) Daylily 'Stella d'Oro'
- (iv) Salvaged Dwarf European Cranberry

## E12. SITE FURNITURE

### E12.1 GENERAL

- (a) This Specification shall cover the supply and installation of new benches, picnic tables and waste receptacles, as well as the installation of salvaged picnic tables as described by Drawings. The Work to be done by the Contractor under this Specification shall include the furnishings of all superintendence, overhead, labour, materials, equipment, tools, supplies and all things necessary for and incidental to the satisfactory performance and completion of all Work hereinafter specified.

### E12.2 PRODUCTS

#### E12.2.1 General

- (b) Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

#### E12.2.2 Benches

- (a) Benches shall be City of Winnipeg 'Tache Type' Bench (SCD 120, Appendix A), as supplied by the City of Winnipeg, Public Work's Department. Benches can be purchased through the contact indicated in E12.2.7.

#### E12.2.3 Picnic Tables - New

- (a) New Picnic Tables shall be City of Winnipeg 'Metal Frame' Picnic Table (SCD 103, Appendix A), as supplied by the City of Winnipeg, Public Works Department. Picnic tables can be purchased through the contact indicated in E12.2.7.

#### E12.2.4 Picnic Tables - Salvaged

- (a) Salvaged picnic tables shall be as shown on the Drawings.

#### E12.2.5 Granular Pads

- (a) Granular pads shall be 150mm depth compacted 1/4DN Limestone.

#### E12.2.6 Waste Receptacle

- (a) Waste receptacle shall be standard City of Winnipeg Permanent 'Broadway Type' Waste Receptacle (SCD 100, see Appendix A), as supplied by the City of Winnipeg, Public Works department. Waste Receptacles can be purchased through the contact indicated in E.12.2.7.
- (b) Where indicated on Drawing, existing waste receptacles shall be relocated on Site.

E12.2.7 City of Winnipeg Contact:

Bill Dowbyhuz  
Supervisor of Central Repair / Manufacturing Facility  
Public Works Department  
215 Tecumeh.  
Winnipeg, Manitoba  
R2E 3S4

tel: (204) 986-5505  
fax: 783-1248

E12.3 EXECUTION

E12.3.1 General

- (a) Contractor shall visit the Site and verify all data and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

E12.3.2 Benches

- (a) The seat of each bench shall be horizontal along the length of the bench with the height from the middle of the bench (along its length and at the front of the seat) to be 450mm above the finished grade as taken from the center of the bench. Benches shall not slope with pathway grade.
- (b) Benches shall be installed as per SCD 120, see Appendix A.
- (c) Benches installed within sodded areas shall be installed on granular pads as described by Drawings.

E12.3.3 Picnic Tables - New

- (a) The seat of each picnic table bench shall be horizontal along the length of the bench with the height from the middle of each bench (along its length and at the front of the seat) to be 450mm above the finished grade as taken from the center of the bench. Picnic Tables shall not slope with finished grade.
- (b) Picnic Tables shall be installed as per SCD 103, see Appendix A.
- (c) Picnic Tables shall be installed on granular base pads as shown on Drawings.

E12.3.4 Waste Receptacle

- (a) Contractor shall ensure that New Waste Receptacles are installed so that they are straight and plumb.
- (b) Waste receptacle shall be installed as per SCD 100, Appendix A.

E12.4 METHOD OF MEASUREMENT

E12.4.1 New Benches, Picnic Tables, and Waste Receptacles

- (a) The supply and installation of benches, picnic tables, and waste receptacles will be measured on a unit basis. The number to be paid for shall be the total number of each supplied and installed in accordance with this Specification and Drawings and accepted by the Contract Administrator.

E12.4.2 Salvaged Items

- (a) The installation of salvaged picnic tables will be measured on a unit basis. The number to be paid for shall be the total number installed in accordance with this Specification and Drawings and accepted by the Contract Administrator.

- (b) The relocation of existing waste receptacles is considered incidental to the Works and no separate measurement will be made.

## E12.5 BASIS OF PAYMENT

### E12.5.1 New Benches, Picnic Tables, and Waste Receptacles

- (a) The supply and installation of new benches, picnic tables, and waste receptacles will be paid for at the Contract Unit Price for the "Items of Work" listed below, measured as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification.

### E12.5.2 Salvaged Items

- (a) The installation of salvaged picnic tables will be paid for at the Contract Unit Price for the "Items of Work" listed below, measured as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this Specification.
- (b) The relocation of existing waste receptacles is considered incidental to the Works and no separate payment will be made.

#### Items of Work:

- (i) Bench
- (ii) Picnic Table
- (iii) Waste Receptacle
- (iv) Salvaged Picnic Table

## E13. PLAYGROUND EQUIPMENT

### E13.1 GENERAL

- (a) This Specification shall cover the supply and installation of a variety of playground equipment as described by Drawings. The Contractor shall furnish all labour, materials, equipment and services necessary to perform the Work according to the Drawings and Specifications.

### E13.2 PRODUCTS

#### E13.2.1 General

- (a) The products supplied by Contractor shall be makes and models noted below or equal as approved by the Contract Administrator.

#### E13.2.2 Playground Equipment

- (a) A: Clifton Community Centre
  - (i) Slide: Stainless Steel, "Straight Chuter Slide", Model # 8681 from Crozier Agencies (or approved equal).
  - (ii) Play Structure: Play Sense Design, Model # 301 from Playgrounds-R-U's (or approved equal).
- (b) B: Minto Tot Lot
  - (i) Swing: "Double Toddler Swing" with 2 bucket seats, Model # 117962B from Playgrounds-R-U's (or approved equal).
  - (ii) Climber: "Double Humpty Climber", Model # 100037A from Playgrounds-R-U's (or approved equal).

- (iii) Play Structure: Play Sense Design, Model # 33 from Playgrounds-R-U's (or approved equal).
- (iv) Scoop: "SuperScoop", Model # 123831A from Playgrounds-R-U's (or approved equal).

### E13.2.3 Components

- (a) The following playground equipment components are included for information purposes only and should be referenced when selecting alternative play equipment to those listed above.
  - (i) Slide ("Straight Chuter Slide"):
    - a) One piece stainless steel construction
    - b) Posts with polyester powdercoated finish
    - c) 1.8m (6ft) high deck
    - d) Minimum area required: 4.6 x 8.7m (15ft 3in x 28ft 8in)
  - (ii) Play Structure (Play Sense Design, Model # 301):
    - a) Recommended for ages 2-5yrs.
    - b) Includes: double poly slide, belt bridge, wiggle ladder, slidewinder2 slide, loop arch climber, monkey barrier, turning bar, maze barrier, and wire barrier with wheel.
    - c) Minimum area required: 8.86 x 10.36m (29ft 1in x 34ft)
    - d) Maximum fall height: 1.2m (47in)
  - (iii) Play Structure (Play Sense Design, Model # 33):
    - a) Recommended for ages 5-12yrs.
    - b) Includes: double poly slide, wire barrier with wheel, turning bar, wiggle ladder, maze barrier, loop horizontal ladder, chinning bar, 2 vertical ladders, corkscrew climber, single wave poly slide, loop arch climber, and monkey barrier.
    - c) Minimum area required: 15.11 x 7.11m (49ft 7in x 23ft 4in)
    - d) Maximum fall height: 2.24m (92in)
  - (iv) Swing ("Double Toddler Swing"):
    - a) 5in diameter aluminium arch posts
    - b) TGIC polyester powdercoated finish
    - c) Available with 'TenderTuff' coated or uncoated chains
    - d) Minimum area required: 7.39 x 9.75m (24ft 3in x 32in)
    - e) Maximum fall height: 2.44m (96in)
  - (v) Climber ("Double Humpty Climber"):
    - a) 3.3cm (1.3in) O.D. rungs welded to 4.8cm (1.9in) O.D. galvanized steel side rails
    - b) TGIC polyester powdercoated finish
    - c) Minimum area required: 4.27 x 7.92m (14 x 26ft)
    - d) Maximum fall height: 2.24m (88in.)
  - (vi) Scoop ("SuperScoop"):
    - a) Oil-impregnated bearings to allow 360° pivotal rotation
    - b) Cast aluminium bucket
    - c) TGIC polyester powdercoated finish
    - d) Minimum area required: 0.91m (3ft) radius
    - e) Direct bury installation

#### E13.2.4 Concrete Foundations

- (a) Concrete footings or piles employed in the construction of underground Works shall conform to Specification CW 2160-R6 "Concrete Underground Structures and Works".
- (b) The specific concrete requirements shall be:
  - (i) Sulfate resistant, Type 50 Cement
  - (ii) 28 day compressive strength of 30 Mpa
  - (iii) maximum aggregate size of 40mm, nominal d) slump 90 20mm
  - (iv) maximum water/cement ratio 0.45

#### E13.3 EXECUTION

##### E13.3.1 General

- (a) Contractor shall visit the Site and verify all locations and dimensions and report any errors, omissions or discrepancies to the Contract Administrator prior to any installation.

##### E13.3.2 Installation

- (a) Play structures and other playground equipment shall be installed as per the Canadian Standards Association Guidelines, CAN/CSA Z614-98.
- (b) All playground equipment posts, bases and anchors are to be set in concrete footings or piles and conform to this Specification and CW 2160-R6 "Concrete Underground Structures and Works".
- (c) All posts and other vertical items shall be true to vertical. All decks shall be level.
- (d) Contractor shall notify the Contract Administrator at least 48 hours prior to installation of concrete footings, so that footings may be inspected in advance of concrete being poured.
- (e) Play equipment posts shall be centered in concrete footing and provide a minimum 2 band of concrete on all sides.
- (f) Top of concrete footings or piles shall be below finish grade of playground stone and have top corners rounded and all rough edges removed according to CAN/CSA Z614-98.
- (g) Concrete bases shall be sized appropriately to withstand constant stresses and prevent any shifting of the components. Bidders shall be prepared to supply detailed dimension and Specification for the concrete foundations/footings for all components.

#### E13.4 MAINTENANCE

##### E13.4.1 Maintenance Kits

- (a) All playground equipment shall include the supply of maintenance kits. Maintenance kits shall include maintenance manuals, complete manufacturer's parts lists, touch-up paint, PVC repair paint, 10% extra of each bolt, washer and any other hardware utilized on the play equipment, and all special tools necessary for assembly and maintenance.

#### E13.5 METHOD OF MEASUREMENT

- (a) The supply and installation of Playground Equipment and concrete foundation will be measured on a per unit basis. The number to be paid for will be the total number of items supplied and installed in accordance with this Specification, the Drawings and as accepted by the Contract Administrator.



## E13.6 BASIS OF PAYMENT

- (a) The supply and installation of Playground Equipment and Concrete Foundation will be paid for at the Contract Unit Price for the 'Items of Work' listed below, measured as specified herein, which price shall be payment in full for performing all operations herein described and all other items incidental to the Work included in this.

### Items of Work:

- (i) Straight Shooter Slide
- (ii) Play Sense Play Structure – Model #301
- (iii) Double Toddler Swing
- (iv) Double Humpty Climber
- (v) Play Sense Play Structure - Model #33
- (vi) SuperScoop

## E14. LANDSCAPE MAINTENANCE

### E14.1 GENERAL

- E14.1.1 This Specification shall cover the maintenance of trees and sod from the time of installation. Trees, Shrubs & Perennials shall be maintained for a period of two years from the date of Total Performance. Sod shall be maintained for a period of one year from the date of Total Performance. The Contractor shall furnish all labour, materials, equipment and services necessary to perform the Work according to the drawings and Specifications. In general, Work shall include:

- (a) Spring cleaning
- (b) Fertilizing
- (c) Watering
- (d) Mowing
- (e) Weed Control
- (f) Pest and disease control
- (g) Tree pruning
- (h) Winter preparation

### E14.1.2 Protection

- (a) Prevent damage to fencing, trees, plant material, landscaping, benches, buildings, pavement, surface and underground utility facilities.

### E14.1.3 Maintenance Schedule

- (a) The Contractor shall provide a complete written Maintenance Schedule to the Contract Administrator prior to the issuing of the Certificate of Substantial Performance.
- (b) All maintenance of trees to be supervised by a Manitoba Certified Arborist.

### E14.1.4 Documentation and Reporting

- (a) All maintenance personnel shall record in a logbook the operations carried out and any conditions that require attention or monitoring. The arborist shall submit a summary of the information as a Monthly Report to the Contract Administrator. Conditions requiring attention should be brought to the Contract Administrator's attention immediately.

- (b) The Contractor should review the Site regularly and adjust maintenance operations to suit observed conditions. A Site Maintenance Inspection Form (supplied by the Contract Administrator) should be used to record each Site visit. Copies of these forms shall be sent to the Contract Administrator biweekly.
- (c) Report in writing any major maintenance procedures intended, minimum one week in advance.
- (d) If any damage, dangerous or potentially dangerous situations are observed the Contractor shall notify the Contract Administrator immediately.

#### E14.1.5 Failure to Document and Report

- (a) If the Contractor fails to submit a monthly report it shall be assumed the Work was not performed for that time period. Payment for Landscape Maintenance shall be reduced by 1/6<sup>th</sup> for every month a report is not submitted.

#### E14.1.6 Qualifications

- (a) All landscape maintenance personnel shall be skilled in the tasks assigned to them.

#### E14.1.7 Certificate of Acceptance

- (a) The Certificate of Acceptance will be issued upon completion of the two (2) year Maintenance Period, provided that trees, shrubs, perennials are well established and rooted, properly pruned and showing vigorous growth satisfactory to the Contract Administrator.
- (b) Unacceptable trees, shrubs and sod shall be removed and replaced according to the required Specifications. Maintenance of replacement items shall be extended for a period equal to the original Maintenance Period as specified herein. The Contract Administrator shall make further inspection after the additional Maintenance Period.
- (c) Replacement and maintenance requirements shall continue until the material is accepted.

### E14.2 PRODUCTS

#### E14.2.1 General

- (a) Materials are to conform to the requirements of related Specification sections.

#### E14.2.2 Fertilizer

- (a) Sod - Fertilizer shall be complete synthetic slow release fertilizer with maximum 35% water soluble nitrogen. Composition of the fertilizer shall be formulated particularly for sod in conjunction with soil tests from a recognized testing facility. Fertilizer shall be approved by the City's Area Superintendent prior to application.
- (b) Trees, Shrubs, and Perennials - Fertilizer shall be complete synthetic slow release fertilizer with maximum 35% water soluble nitrogen. Composition of the fertilizer shall be formulated particularly for woody plant material in conjunction with soil tests from a recognized testing facility. Fertilizer shall be approved by the City's Area Superintendent prior to application.

#### E14.2.3 Bark Mulch

- (a) Bark mulch shall be locally available tree mulch, free of soil, stones, debris and any other deleterious material.

#### E14.2.4 Condition of Equipment

- (a) Contractor shall be responsible for the replacement of equipment under repair with equipment units of equal or larger size.

### E14.3 EXECUTION

E14.3.1 General

- (a) Program timing of operations to growth, weather conditions and use of Site.
- (b) Each operation shall be done continuously and complete within reasonable time period.
- (c) Store equipment and materials off Site.
- (d) Collect and dispose of debris or excess material on daily basis.

E14.3.2 Spring Cleaning

- (a) Any dead vegetation, leaves and debris shall be removed. Heavy raking shall be done with a flexible grass rake on areas with "snow mold". Roll lightly areas where grass plants have lifted due to frost action.

E14.3.3 Fertilizing - General

- (a) Soil testing shall be carried out by a recognized testing facility prior to fertilizer application to ensure a properly formulated program.
- (b) Fertilizer shall be spread evenly at frequency, ratio and rates as recommended by Manufacturer. Use approved mechanical spreading equipment. Check calibration to ensure specified rate is spread evenly. Water immediately after fertilizing. Rectify uneven spreading as soon as it becomes apparent.

E14.3.4 Watering – General

- (a) Water shall be applied as required to supplement rainfall and to maintain optimum growing conditions. In general, water once a week to achieve rates as indicated. Allow soil to adequately dry between watering to prevent over saturation without creating water stress.
- (b) Water shall be applied in a soft spray to avoid packing of soil.
- (c) Use of the installed irrigation system is prohibited unless approved by the Contract Administrator.
- (d) Do not impede use of sidewalk and other paved areas.
- (e) The Contractor shall assume a water source is not available at either of the Sites and shall therefore be responsible for all costs associated with providing same.

E14.3.5 Watering of Trees

- (a) Water every third day for first and second month after planting. Thereafter, water once per week between May 1 and October 15.
- (b) A complete record is to be kept of each series of watering for all planted trees noting: 1) location, and 2) date of watering. This record is to be given to the Contract Administrator when requested.
- (c) Apply 40 litres of water per 25mm calliper per application using deep root feeder or low-pressure open flow nozzle and hose. The water stream must not gouge out a hole in the soil and mulch.

E14.3.6 Weed Control

- (a) Surface of tree saucers and planting beds shall be maintained free of weeds. Do not allow weeds to establish for a period longer than one (1) week.
- (b) Obtain written approval of Contract Administrator prior to using any herbicides.
- (c) Do not use dicamba and picloram solutions near trees.

E14.3.7 Pests and Disease Control

- (a) Obtain written approval of Contract Administrator prior to using any pesticide.

- (b) Control pests and disease through pruning or application of pesticides. Use species specific pesticides where possible. Use only pesticides of low mammalian toxicity. Strictly follow manufacturer's written instructions.

E14.3.8 Cultivating Planting Beds and Tree Pits

- (a) Cultivate whenever required to keep top layer of soil, loose, friable and free from weeds. Any operation must be continuous without interruption.
- (b) Cultivate surface of planting bed, and soil areas around trees.
- (c) Remove weeds including their roots.
- (d) Take care not to damage roots of shrubs or flowers. Use small hand tools for areas of closely planted shrubs and/or perennials.
- (e) Collect and dispose of paper and refuse. Remove dead plants, leaves, branches, dead flowers and seed pods.
- (f) Clean, by hand, areas that are covered with mulch. Loosen top layer of mulch without mixing it with soil underneath.
- (g) Add mulch as required to maintain specified thickness.

E14.3.9 Tree Adjustment

- (a) Straighten any trees that are leaning.

E14.3.10 Tree Pruning

- (a) The Contractor shall provide a person with a valid Manitoba Arborist's License for each Work crew or Work Site.
- (b) Prune trees as required to remove dead, broken or damaged limbs. Prune back to healthy growth while maintaining balanced crown shape.
- (c) Employ clean sharp tools. Make cuts co-incident with the branch collar near the main stem or branch. Cuts must be smooth and sloping to prevent accumulation of water on cut. Do not leave little stumps ("horns") on trunks or main branches.

E14.3.11 Bark Mulch

- (a) Bark Mulch shall be installed at the locations and depths shown on the drawings. Mulch shall be installed at a uniform thickness and contained within the areas shown. Mulch spilled on pathways and sodded areas shall be removed.

E14.3.12 Maintenance of Sod

- (a) The Contractor shall mow the turf area at regular intervals to a height of between 50-60 mm. Do not cut more than thirty percent (30%) of the grass height at any one mowing. Remove clippings that will smother grassed areas.
- (b) The Contractor shall water sodded areas in sufficient quantities and at frequency required to maintain soil under sod continuously moist to a minimum depth of 100 mm. All costs to provide water for sodded areas shall be borne by the Contractor. These costs may include hydrant permit and meter rental fees.
- (c) The Contractor shall clean and remove all dead vegetation, leaves, debris and snowmold from turf areas to encourage healthy and uniform grass growth.
- (d) The Contractor shall apply herbicide when broadleaf weeds start developing in competition with grass. Apply herbicide in accordance with the manufacturer's instructions and the Manitoba Agriculture Guide to Crop Protection and Herbicide Recommendations for Landscape Applicators, latest editions and the following criteria:
  - (i) Use 2,4-D Amine or MCPA Amine herbicide for susceptible broadleaf weeds.

- (ii) Use a mixture containing 2,4-D Amine or MCPA Amine, Mecoprop and Dicamba for 2,4-D resistant plants.
  - (iii) Do not apply to newly seeded areas until after the second or third mowing.
  - (iv) Do not water within 24 hours after application.
  - (v) Apply when winds are less than 20 km/h and air temperature is above 10 degrees Celsius.
- (e) Avoid use of pure Dicamba solutions near trees and shrubs.
  - (f) Given the need for insect control, the Contractor shall have in his possession a Pesticide Applicator's License and a Pesticide Use Permit for pesticide applications related to this Specification. Use standard commercial products in accordance with the manufacturer's instructions and the Manitoba Agriculture Guide to Crop Protection (latest edition) for the particular insect/insects involved.
  - (g) Copies of the Pesticide Applicator's License and the Pesticide Use Permit must be submitted to the Contract Administrator prior to commencement of pesticide application.
  - (h) All persons handling insecticides shall be fully aware of toxicological rules and regulations governing their use.
  - (i) The Contractor shall inform the Contract Administrator immediately of any dangerous occurrence.

#### E14.3.13 Winter Preparation

- (a) Rake and assemble leaves after they have been shed by trees and remove from Site.
- (b) Protect trees from rodent damage using fine wire mesh or approved plastic protector beyond snow line or by applying rodent repellent sprays.
- (c) Ensure adequate moisture in root zones of trees material prior to freeze-up.
- (d) Apply anti-desiccant to evergreen trees susceptible to winter desiccation.

#### E14.4 MEASUREMENT AND PAYMENT

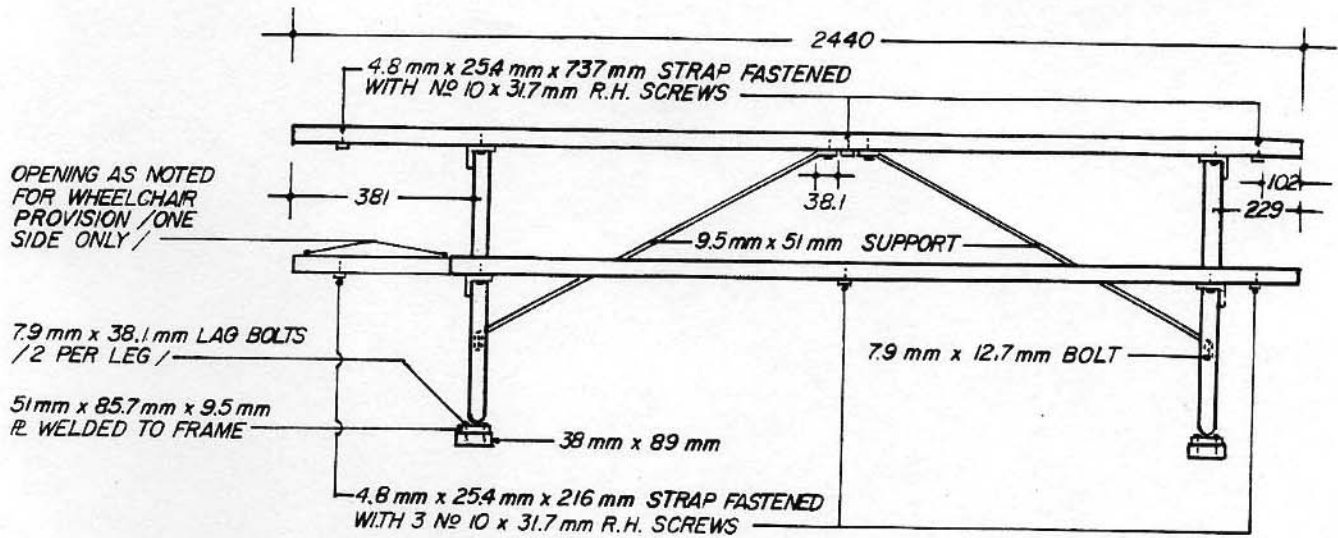
- (a) No measurement will be made for this Work. Landscape Maintenance shall be paid at the Contract Lump Sum Price for All Work which price shall be payment in full for supplying all materials and for performing all operations herein described and all other items incidental to the Work included in this Specification.

# APPENDIX A

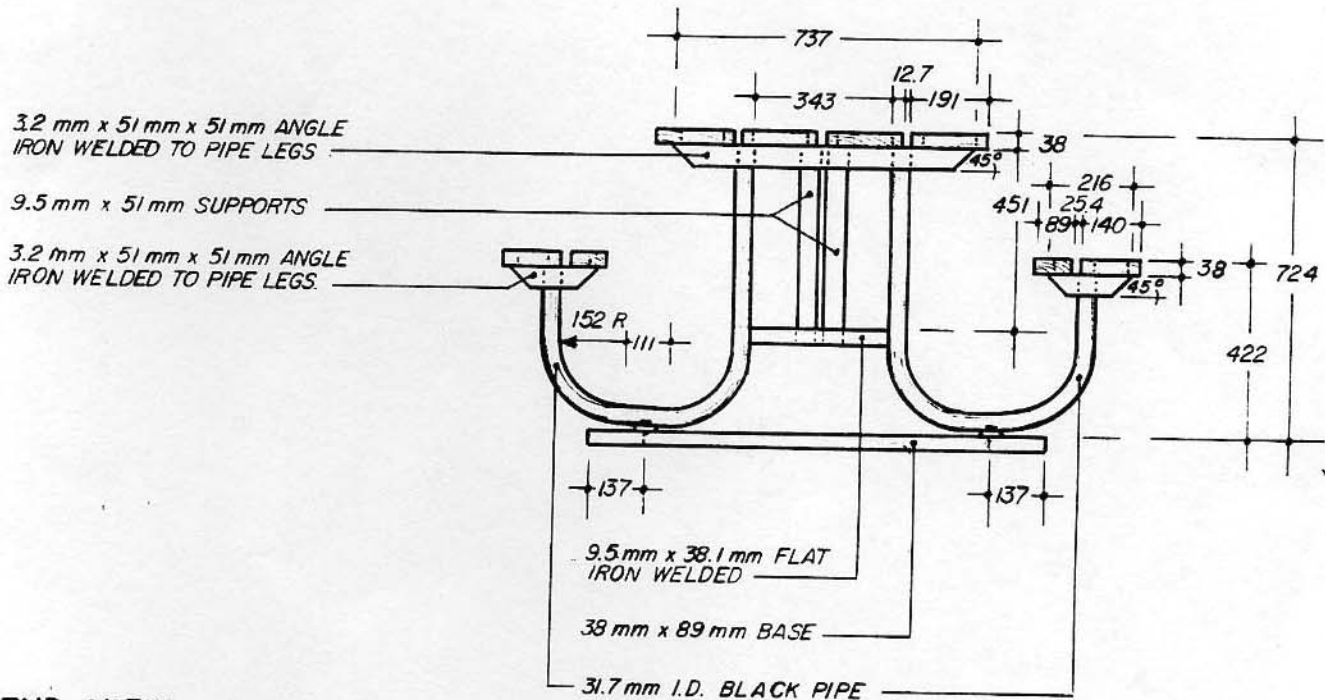
TITLE

# METAL FRAME PICNIC TABLE

SCD - 103



## FRONT VIEW



## END VIEW

### MATERIALS:

WOOD - VERTICAL GRAIN CLEAR SITKA SPRUCE OR B.C. RED CEDAR.

FINISH - OLYMPIC STAIN "REDWOOD" no. 704.

METAL - PRIME WITH RUSTOLEUM no. 769 FINISH WITH SAPOLIN BLACK WROUGHT FINISH.

### NOTE:

ALL WOOD TO BE FASTENED TO ANGLE IRONS WITH 7.9 mm x 38.1 mm LAG BOLTS.

THE CITY OF WINNIPEG

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Planning, Development & Central Services Division

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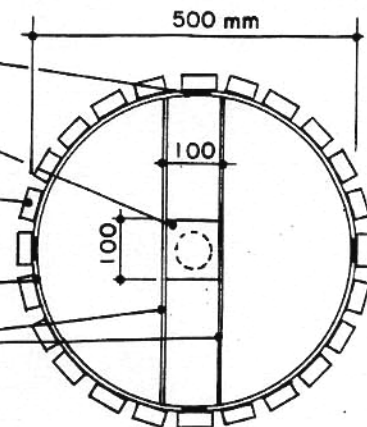


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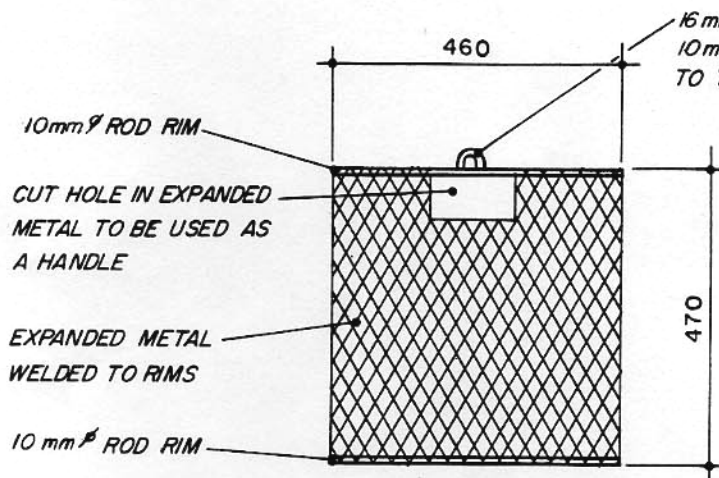
**WASTE RECEPTACLE  
BROADWAY TYPE**

SCD-100

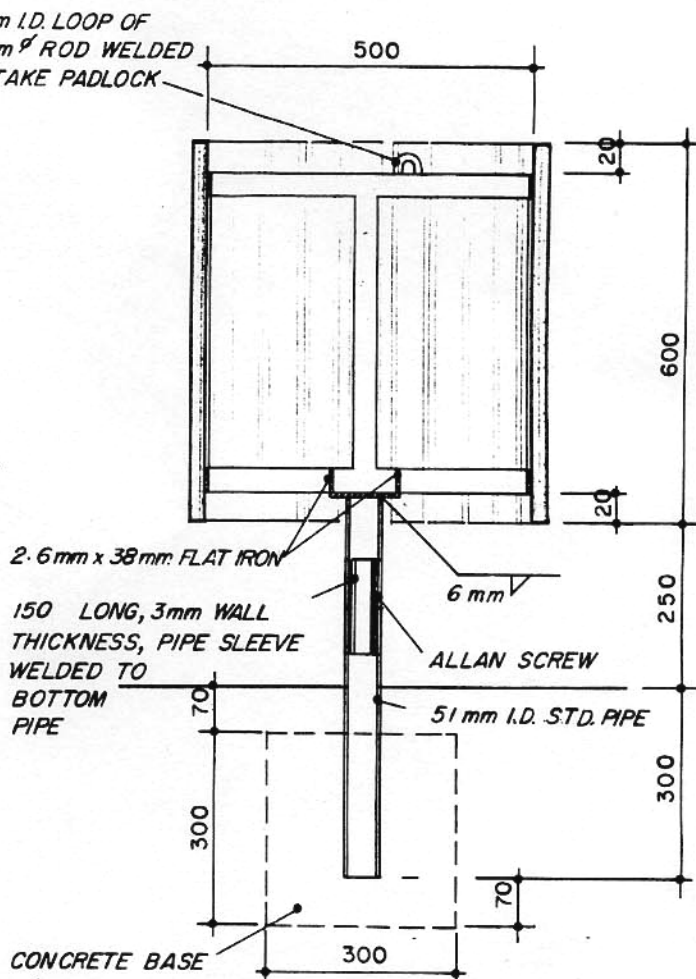
- 38 mm x 6 mm FLAT IRON (4 REQ'D) VERTICALS
- 13 mm PLATE WELDED TO 51mm I.D. STANDARD PIPE LEG
- 20 mm X 45 mm ACTUAL SIZE X 600mm SITKA SPRUCE SLATS  
FASTENED TO HOOPS WITH 6mm x 32 mm CARRIAGE BOLTS
- 38 mm x 6 mm X 500mm O.D. HOOPS
- 2-38 mm x 6 mm FLAT IRON



**PLAN**



**METAL BASKET**



**CROSS SECTION**

**NOTE:**

- DRILL 24 EQUALLY SPACED AROUND THE CIRCUMFERENCE OF EACH FLAT IRON HOOP FOR FASTENING THE WOOD SLATS WITH 6 mm x 32 mm CARRIAGE BOLTS.
- WOOD - VERTICAL GRAIN CLEAR SITKA SPRUCE OR B.C. RED CEDAR
- FINISH - OLYMPIC STAIN No. 704 METAL SHALL BE PRIMED WITH RUSTOLEUM No. 769, FINISH SHALL BE SAPOLIN BLACK WROUGHT FINISH.
- ALL DIMENSIONS ARE IN MILLIMETERS EXCEPT WHERE NOTED

ALL DIMENSIONS SHOWN ARE IN MILLIMETRES

m. w.

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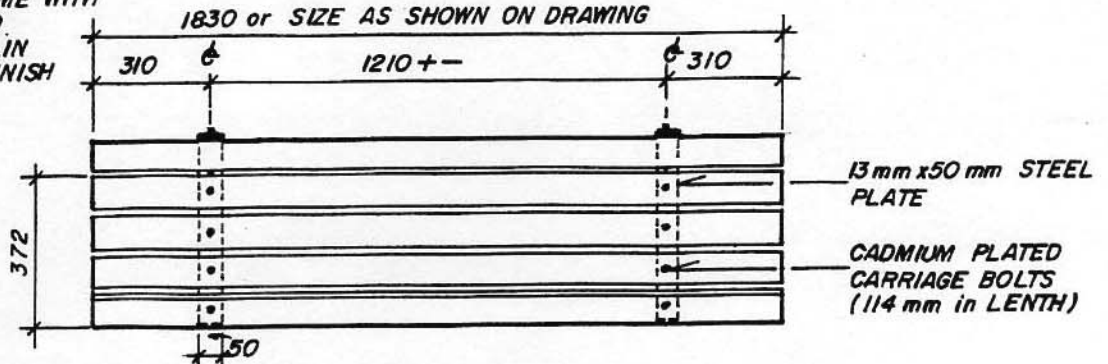
**MATERIALS:**

- WOOD-VERTICAL GRAIN CLEAR SITKA SPRUCE OR B.C. RED CEDAR
- FINISH - SIKKENS CETOL 1 no.078 NATURAL
- METAL FINISH - PRIME WITH RUSTOLEUM no.769 FINISH WITH SAPOLIN BLACK WROUGHT FINISH

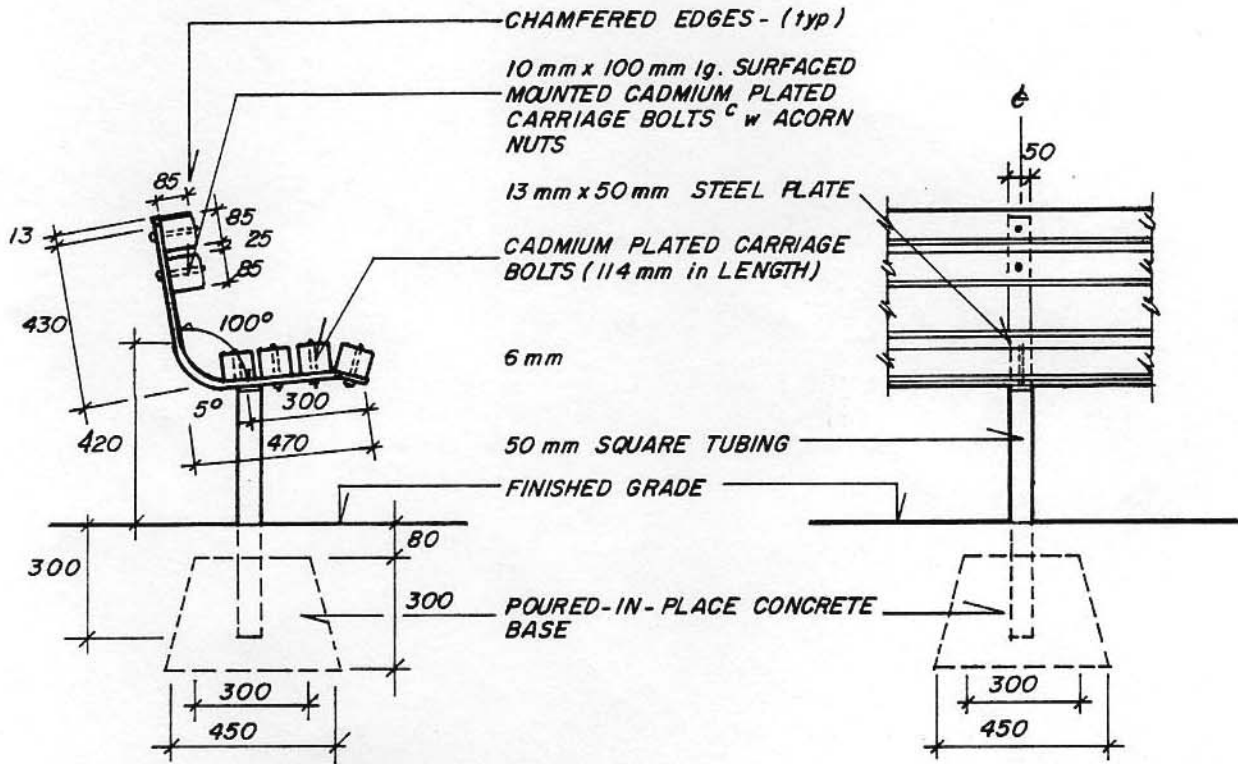
**TITLE**

**TACHE BENCH**

scd-120



**PLAN VIEW**



**SIDE ELEVATION**

**FRONT ELEVATION**

**NOTE:**

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE

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