



THE CITY OF WINNIPEG

SPECIFICATIONS

TENDER NO. 490-2024

COLLÈGE BÉLIVEAU TRACK REFURBISHMENT

TABLE OF CONTENTS

Pages

DIVISION 01 - GENERAL REQUIREMENTS

Section 01 10 00 - General Instructions	10
Section 01 11 00 - Summary of Work	3
Section 01 35 43 - Environmental Protection.....	1
Section 01 56 00 - Temporary Barriers And Enclosures	2
Section 01 74 11 - Cleaning.....	2
Section 01 74 21 - Construction/Demolition Waste Management and Disposal	3

DIVISION 02 - EXISTING CONDITIONS

Section 02 41 13 - Selective Site Demolition	4
--	---

DIVISION 31 - EARTHWORK

Section 31 22 13 - Rough Grading	2
Section 31 23 33 - Excavating, Trenching And Backfilling	3

DIVISION 32 – EXTERIOR IMPROVEMENT

Section 32 01 90.33 - Tree and Shrub Preservation	3
Section 32 18 23.39 Synthetic Running Track Surface	5
Section 32 33 00 - Site Furnishings	2

END OF TABLE

1.1 REFERENCES

- .1 Refer to City of Winnipeg Bid Opportunity No. 490-2024, Section D3 Scope of Work.
- .2 National Building Code of Canada (NBC) 2020, including all amendments to tender closing date.

1.2 DESCRIPTION OF WORK

- .1 Work under this Contract comprises the furnishing of all labour, materials, equipment and supervision required for the refurbishment of the College Beliveau Track, in Winnipeg, Manitoba, as specified herein and as shown on the Drawings. Notwithstanding anything called for in these tender documents, the contractor shall comply with all applicable code requirements whether shown, called for, or not.
- .2 Drawings and specification sections more completely describe all aspects of work and material requirements.
- .3 This specification is written in a condensed format, within the guidelines of the CSC/CSI Master Format Master List of titles and Numbers for the Construction Industry. This specification groups sections of related trades/materials into one section or various sections. Specification information may also be on the drawings. It is the sole responsibility of the contractor(s)/suppliers to read and understand all aspects of the specifications and drawings for all work required.
- .4 In general terms, in accordance with drawings, this work includes, but is not limited to the following:

The project involves site demolition of the existing granular track, followed by the installation of a 4-lane, 300m long athletic track surface over a base of asphalt. The scope of work also includes site grading, subsurface drainage system and connection to an existing catch basin, installation of topsoil and sod, and installation of soccer goal posts.

1.3 EXAMINATION, PLANS, SPECIFICATIONS AND SITE OF WORK

- .1 The submission of a bid shall be considered prima facie evidence that the bidder has made an investigation of the work areas and has become familiar with the site and conditions to be encountered in performing the work and the requirements of the plans and specifications.

1.4 DOCUMENTS REQUIRED

- .1 Maintain at the job site, one copy each of the following:
 - .1 Contract Drawings
 - .2 Specifications
 - .3 Addenda
 - .4 Reviewed shop drawings
 - .5 Change Orders
 - .6 Other modifications to Contract
 - .7 Copy of approved work schedule
 - .8 Manufacturer's installation and application instructions
 - .9 Health and Safety Plan and Other Safety Related Documents.
 - .10 Other documents as specified.

1.5 WORK SCHEDULE

- .1 On award of Contract, submit construction schedule for the work indicating anticipated progress stages within the time of completion shown in tender documents.
- .2 When schedule has been approved by Contract Administrator and City, take necessary measures to complete work within the scheduled time. Do not change schedule without Contract Administrator approval.

1.6 POST AWARD MEETING

- .1 After award of the Contract, the Contractor shall attend a meeting with the Contract Administrator and City to arrange a starting date and receive instructions as may be necessary.

1.7 CODES AND STANDARDS

- .1 Throughout the various sections and sub-sections of this specification, reference is made to domestic, national and international standards. These standards shall be considered an integral part thereof and shall be read in conjunction with the drawings and specification as if they were reproduced herein. The Contractor shall, therefore, be fully familiar with their contents and requirements. The latest editions of all standards shall be applicable unless a specifically dated edition is mentioned.
- .2 Perform all work in accordance with National Building Code of Canada and any other code of provincial or local application provided that in any case of conflict or discrepancy, the more stringent requirements shall apply.
- .3 Perform all work in accordance with the City's property management requirements and where any discrepancy arises between these requirements and the construction documents, notify Contract Administrator before proceeding.

1.8 WORKMANSHIP

- .1 Workmanship shall be of a uniformly high quality and in strict accordance with the very best standard practice as interpreted by the Contract Administrator. Mediocre or inferior workmanship shall be replaced by work of first-class quality without cost to the City, when so ordered by the Contract Administrator.

1.9 PROJECT MEETINGS

- .1 The Contractor will arrange project meetings and assume responsibility for setting times and recording and distributing minutes.

1.10 PROJECT CONTROL

- .1 Contractor will designate a competent and qualified supervisor to be on site at all times during work, and act upon Contract Administrator's instructions.

1.11 SCAFFOLDING

- .1 Construct and maintain scaffolding in a rigid, secure and safe manner. Erect independent of walls. Remove promptly when no longer required.
- .2 Design and construct scaffolding in accordance with CAN/CSA S269.2.

1.12 FIRES

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

1.13 ROUGHING-IN

- .1 Be responsible for obtaining manufacturer's literature and for correct roughing-in and hook-up of equipment and fixtures.

1.14 LOCATION OF EQUIPMENT AND FIXTURES

- .1 Location of apparatus, equipment, fixtures, outlets, etc. indicated or specified are to be considered as approximate. Actual locations shall be as directed and required to suit conditions at time of installation and as is reasonable. Before installation, inform Contract Administrator of impending installation and consult with Contract Administrator for actual location.
- .2 Locate equipment, fixtures and distribution systems to provide minimum interference and maximum usable space, and in accordance with manufacturer's recommendations for safety, access and maintenance.

1.15 EXISTING SERVICES

- .1 Where Work involves working in occupied areas or breaking into or connecting to existing services, carry out work at times directed by authorities having jurisdiction, with minimum of disturbance to pedestrian and vehicular traffic and to occupants and function of existing building.
- .2 Protect, relocate or maintain existing active services as required. Where unknown services are encountered, immediately advise Contract Administrator and confirm findings in writing. Cap-off inactive services in a manner approved by authorities having jurisdiction over the services.
- .3 Submit schedule to and obtain approval from Contract Administrator for any shut-down or closure of active service or facility including power and communications services. Adhere to approved schedule and provide notice to affected parties.
- .4 It will be the Contractor's responsibility to investigate the presence of, locate and protect in accordance with the General Conditions, existing, pipes or ducts forming a part of sewer, water, drainage, power, telephone and gas system and also other underground or above-ground structures or man-made obstacles which the Contractor's forces may encounter during the course of construction.
- .5 Measurements and locations of the existing underground piping and structures shown on the drawings are compiled from the most reliable information available, but are not guaranteed to be accurate and must be verified by the Contractor prior to proceeding with construction.
- .6 Before commencing work, establish location and extent of service lines in area of work by obtaining dig permits from various utility departments.

1.16 PROTECTION OF EXISTING FACILITIES

- .1 The Contractor shall take all necessary precautions to ensure against damage to existing facilities. Any damage to such facilities as a result of the Contractor's operations shall be repaired or replaced by the Contractor at the Contractor's own expense.

1.17 ADDITIONAL DRAWINGS

- .1 Contract Administrator may furnish additional drawings to assist the proper execution of work. These will be issued for clarification purposes only. These additional drawings shall have the same meaning and intent as if they were included with plans referred to in Contract documents.

1.18 SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND SITE PHOTOGRAPHS

- .1 General. Submit to Contract Administrator for review of shop drawings, product data and samples required by specification section.
- .2 Until submission is reviewed, work involving the relevant product will not proceed.
- .3 Shop Drawings. Drawings to be prepared by contractor, sub-contractor, supplier or distributor, which illustrate appropriate portion of work showing fabrication, layout, setting or erection details as specified in appropriate sections.
 - .1 Identify details by reference to drawings and detail numbers shown on contract drawings.
- .4 Product Data. Certain specification sections specify that manufacturer's standard schematic drawings, catalogue sheets, diagrams, schedules, performance charts, illustrations and other standard descriptive data will be accepted in lieu of shop drawings.
 - .1 The above will only be accepted if they conform to the following:
 - .1 Delete information which is not applicable to project. Add applicable information.
 - .2 Show dimensions and clearances required.
 - .3 Show performance characteristics and capacities.
 - .4 Show required wiring diagrams and controls.
- .5 Samples. Submit samples in sizes and quantities specified in relevant sections.
 - .1 Approved samples will become standards of workmanship and material against which installed work will be checked on project.
- .6 Contractor's Responsibilities. Review shop drawings, product data and samples prior to submission.
 - .1 Verify:
 - .1 Field measurements.
 - .2 Field construction criteria.
 - .3 Catalogue numbers and similar data.
 - .2 Coordinate each submission with requirements of work and contract documents.
 - .3 Responsibility for errors and omissions in submissions is not relieved by Contract Administrator's review of submissions.
 - .4 Responsibility for deviations from requirements of contract documents is not relieved by Contract Administrator's review of submissions unless Contract Administrator gives written acceptance of specified deviations.
 - .5 Notify Contract Administrator, in writing at time of submission, of deviations from requirements of contract documents.
 - .6 After Contract Administrator's review, distribute copies.
- .7 Submission Requirements. Make shop drawing submissions immediately after contract award and allow at least 10 days for review.
 - .1 Submit digital copies of shop drawings and/or product data as PDFs.
 - .2 Accompany submission with transmittal letter, in duplicate, containing:
 - .1 Date.
 - .2 Project title and file number.
 - .3 Contractor's name and address.

- .4 The number of each shop drawing, product data and sample submitted.
- .3 Submissions shall include:
 - .1 Date and revision of dates.
 - .2 Project title and number.
 - .3 Names of contractors, suppliers and manufacturers.
 - .4 Field dimensions clearly identified as such.
 - .5 Specification section and paragraph number.
 - .6 Applicable standards such as CSA or CGSB numbers.
 - .7 Contractor's stamp, initialled or signed, certifying review of submittal, verification of field measurements and compliance with contract documents.
- .4 Provide one digital set of pre-construction, progress and final photographs to Contract Administrator.
 - .1 Photographs provided on digital format are acceptable and can be presented utilizing CD, DVD, or USB Flash Drive.
 - .2 Provide photographs of existing buildings and Site features during progress of Work.

1.19 SAFETY REQUIREMENTS

- .1 General. The Contractor shall be responsible to take all necessary steps to protect personnel (workers, visitors, general public) and property from any harm during the course of the contract.
- .2 Construction Safety Measures. Observe and enforce construction safety measures required by National Building Code of Canada, Provincial Government, Workers Compensation Board and Municipal Statutes and Authorities.
 - .1 In the event of conflict between any provisions of above authorities, the most stringent provision will apply.
- .3 Work procedures and equipment will be in accordance with legislated standards.
- .4 Barricade dangerous work sites.
- .5 Unguarded Work Sites. When work sites are left unguarded, especially overnight, powered equipment must be left at zero energy potential, material must be positioned and stacked, and portable ladders leading to elevated work platforms removed and secured.
- .6 Safety Personal and Responsibility:
 - .1 The Contractor shall supply competent personnel to implement their safety program and ensure that provincial safety and health standards are being complied with.
 - .2 Consult shall periodically monitor to ensure safety requirements are met and safety records are properly kept and maintained. Initial disregard for safety standards will cause the Contract to be reviewed and a written record of the review will become part of the Contract document.
 - .3 The Contractor will report to the Contract Administrator and City any accident or incident involving Contractor or public and/or property arising from the Contractor's execution of work.
- .7 Hazardous Materials:

- .1 Material Safety Data Sheets must be provided to the Contract Administrator for any controlled product being brought onto project site.
- .2 Contractor personnel will have been trained in Workplace Hazardous Material legislation as contained in Occupational Health and Safety Regulations of the Canadian Labour Code.
- .8 Delay Due to Health and Safety Regulations Infractions:
 - .1 The Contractor will include all provisions of the Contract in any agreement with sub-contractors and hold all sub-contractors equally responsible for safe work performances.
 - .2 If the Contractor is responsible for a delay in the progress of the work due to an infraction of the legislated health and safety requirements, the Contractor will, without additional cost to the City, work such overtime, acquire and use equipment or materials for the execution as deemed necessary in the opinion of the Contract Administrator to avoid delay in the final completion of the work or any operation thereof.
- .9 Fire Safety Requirements:
 - .1 The Fire Commissioner shall be allowed unrestricted access to the work site.
 - .2 The Contractor shall cooperate with the Fire Commissioner during routine inspections of work site.
 - .3 The Contractor shall immediately remedy all unsafe fire situations identified by the Fire Commissioner.
 - .4 The Contractor shall not close any access without prior notification to the Fire Commissioner.
- .10 Overloading. No part of the work shall be loaded to the point which will endanger its safety.
- .11 Solvent and Adhesives. Take suitable fire precautions. Use in well ventilated areas only. Do not dispose of volatile wastes, paint thinners, etc., in storm or sanitary sewers. Smoking is not permitted in the working area.

1.20 MATERIALS

- .1 General: Use new materials unless otherwise specified.
- .2 Manufacturer's Instructions: Unless otherwise specified, comply with manufacturers' latest printed instructions for materials and installation methods to be used.
 - .1 Notify Contract Administrator in writing of any conflict between these specifications and manufacturers' instructions, so that Contract Administrator can designate which specification is to be followed.
- .3 Fastenings: Provide metal fastenings and accessories in the same texture, colour and finish as base metal in which they occur. Prevent electrolytic action between dissimilar metals. Use non-corrosive fasteners, anchors and spacers for securing exterior work.
 - .1 Space anchors within limits of load bearing or shear capacity and ensure that they provide positive permanent anchorage. Wood plugs not acceptable.
 - .2 Keep exposed fastenings to minimum, space evenly and lay out neatly.
 - .3 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.
- .4 Delivery and Storage: Deliver, store and maintain packaged materials with manufacturers' seals and labels intact.

- .1 Prevent damage, adulteration and soiling of materials during delivery, handling and storage. Immediately remove rejected materials from site.
- .2 Store materials in accordance with suppliers' instructions.
- .3 Deliveries are restricted to after normal business hours to avoid disruption to other tenants.

1.21 CLEANING

- .1 General: Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
 - .1 Store volatile wastes in covered metal containers and remove from premises daily.
 - .2 Prevent accumulation of wastes which create hazardous conditions. Do not conceal waste material in hidden spaces.
 - .3 Provide adequate ventilation during use of volatile or noxious substances.
- .2 Materials: Use only cleaning materials recommended by manufacturer of surface to be cleaned and as recommended by cleaning material manufacturer.
- .3 Cleaning during Construction: Maintain project grounds and public properties free from accumulations of waste material and rubbish.
- .4 Provide on-site containers for collection of waste materials and rubbish and remove from site.
- .5 Final Cleaning: In preparation for substantial completion or occupancy, conduct final inspection of sight-exposed interior and of concealed spaces.
 - .1 Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from sight-exposed interior and exterior finished surfaces including glass.
 - .2 Broom clean hard surfaces; vacuum carpets, rake exterior work areas.
 - .3 Leave entire work area neat, clean.

1.22 RECORD DRAWINGS

- .1 Provide Contract Administrator with two sets of record drawings on which clearly mark, as the job progresses, all changes and deviations from shown on the contract documents so that on completion of the job, the exact "as-built" location will be recorded.
- .2 Drawings shall be marked with Red ink to show deviations.

1.23 HOURS OF WORK

- .1 The Contractor shall follow City of Winnipeg By-laws for allowable construction work hours.
- .2 NOTE: Deliveries to be coordinated to not interfere with child drop-off and pick-up times.

1.24 DUMPING

- .1 Excavated/demolished material shall be hauled and dumped off-site. The location of which will be the Contractor's responsibility.

1.25 REUSABLE MATERIAL OR STRUCTURES

- .1 All structures and materials affixed to the work areas are the property of the City.

- .2 Structures or materials claimed by the City shall be placed in storage, stockpiled or disposed of in those locations, in such manner, as may be designated by the City.

1.26 MAINTENANCE MANUAL

- .1 On the completion of the project, submit to the Contract Administrator three (3) copies of Operations and Maintenance Manual, made up as follows:
 - .1 Bind data in vinyl hard covered, 3-ring loose leaf binder for 215 x 280mm (8 ½ x 11 inch) size paper.
 - .2 Enclose title sheet, labelled "Operations and Maintenance Manual", project name, date and list of contents.
 - .3 Organize contents into applicable sections of work to parallel project specification breakdown. Mark each section by labelled tabs protected with celluloid covers fastened to hard paper dividing sheets.
- .2 Include following information:
 - .1 Description, operation and maintenance instructions for equipment and systems, including complete list of equipment and parts list. Indicate nameplate information such as make, size, capacity, serial number.
- .3 Names, addresses and phone numbers of sub-contractors and suppliers.
- .4 Guarantees, warranties and bonds showing:
 - .1 Name and address of projects.
 - .2 Guarantee commencement date (date of Final Certificate of Completion).
 - .3 Duration of guarantee.
 - .4 Clear indication of what is being guaranteed and what remedial action will be taken under guarantee.
- .5 Additional material used in project listed under various sections showing name of manufacturer and source of supply.
- .6 Neatly type lists and notes. Use clear drawings, diagrams or manufacturer's literature.
- .7 Include one complete set of final approved shop drawings (bound separately) indicating corrections and changes made during fabrication and installation.

1.27 MAINTENANCE MATERIALS

- .1 Where supply of maintenance materials are specified, deliver to City as follows:
 - .1 Material in unbroken cartons or, if not supplied in cartons, strongly packaged.
 - .2 Clearly mark content.
 - .3 If applicable, give colour, room number or area where material used.

1.28 AS BUILT DRAWINGS

- .1 The General Contractor will be responsible for supplying the City "as built" drawings, including landscape architectural, that must be submitted at the completion of construction. The City requires two (2) complete bound sets of hardcopy (landscape architectural) as built drawings that indicate all construction information, as well as two (2) electronic copies in pdf format on flash drives. Submit to the Contract Administrator, one (1) bound set of hardcopies (landscape architectural) as built drawings that indicate all construction information, as well as one (1) electronic copy in pdf format on a flash drive.

- .2 Cost to obtain drawing files in AutoCAD shall be set at \$100.00 per drawing and the Contractor will be required to sign a waiver to be eligible to obtain the drawings for use as electronic As-Builts.
- .3 Operation and maintenance manuals (2 sets for City). Manual shall include instructions for all equipment supplied and technical data such as part lists, operating instructions, maintenance instructions, etc.

1.29 BUILDING SMOKING ENVIRONMENT

- .1 No smoking allowed.

1.30 INSPECTION AND DECLARATION

- .1 Contractor's Inspection: Contractor and all Subcontractors shall conduct an inspection of the Work, identify deficiencies and defects; repair as required to conform to Contract Documents.
 - .1 Request a Contract Administrator's Inspection.
 - .2 Contract Administrator's representative shall witness any tests conducted. Give 48 hours notice in advance of tests.
- .2 Completion: submit a written certificate that the following has been performed:
 - .1 Work has been completed and inspected for compliance with Contract Documents
 - .2 Defects have been corrected and deficiencies have been completed,
 - .3 Operation of systems have been demonstrated to City's personnel, and
 - .4 Work is complete and ready for Final Inspection.
- .3 Inspection for Substantial Completion: when items noted above are completed, request a Substantial Completion Inspection of the Work by City, Contract Administrators, and Contractor and do so allowing a 7 working day Notice. If Work is deemed incomplete by Contract Administrator, complete outstanding items and request a re-inspection. IF THERE ARE COSTS INCURRED BY THE CITY AND CONTRACT ADMINISTRATORS DUE TO INCOMPLETE WORK RESULTING IN ADDITIONAL RE-INSPECTIONS, THE COSTS WILL BE PAID BY THE CONTRACTOR BY WAY OF A CHANGE ORDER, REMOVING THE FUNDS FROM THE CONTRACT.
- .4 Declaration of Substantial Performance: when Contract Administrators consider deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance.
- .5 Commencement of Lien and Warranty Periods: date of Certificate of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of the Place of the Work.
- .6 Declaration of Total Performance: when Contract Administrators consider final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed, make application for certificate of Total Performance. If Work is deemed incomplete by Contract Administrator, complete outstanding items and request re-inspection.
- .7 Final Payment: following completion of lien period, submit claim for final payment in accordance with General Conditions.
- .8 Payment of Holdback: After issuance of certificate of Substantial Performance of Work, submit an application for payment of holdback amount.

- .9 Final Inspection: when items noted above are completed, request final inspection of Work by the Contract Administrator. If Work is deemed incomplete by the Contract Administrator, complete outstanding items and request reinspection.

END OF SECTION

Part 1 General

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- .1 Refer to City of Winnipeg Bid Opportunity No. 490-2024, Section D3 Scope of Work.
- .2 Work of this Contract comprises refurbishment of College Beliveau Track; and further identified as 24.755.

1.2 WORK BY OTHERS

- .1 Co-operate with other Contractors in carrying out their respective works and carry out instructions from Contract Administrator.
- .2 Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Contract Administrator, in writing, any defects which may interfere with proper execution of Work.

1.3 WORK SEQUENCE

- .1 Construct Work to accommodate City's intermittent continued use of premises during construction.
- .2 Co-ordinate Progress Schedule and co-ordinate with City Occupancy during construction. Maintain fire access/control.

1.4 CONTRACTOR USE OF PREMISES

- .1 Limit use of premises for access, for Work, for storage, to allow:
 - .1 City occupancy.
 - .2 Public usage.
- .2 Co-ordinate use of premises under direction of Contract Administrator.
- .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
- .4 Remove or alter existing work to prevent injury or damage to portions of existing work which remain.
- .5 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Contract Administrator.
- .6 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

1.5 CITY OCCUPANCY

- .1 City will occupy premises during entire construction period for execution of normal operations.
- .2 Co-operate with City in scheduling operations to minimize conflict and to facilitate City usage.

1.6 PARTIAL CITY OCCUPANCY

- .1 Schedule and substantially complete designated portions of Work for City's occupancy prior to Substantial Performance of entire Work.
- .2 City will occupy designated areas for purpose of storage of furnishings and equipment installation of equipment.
- .3 Execute Certificate of Substantial Performance for each designated portion of Work prior to City occupancy. Contractor shall allow:
 - .1 Access for City personnel.
 - .2 Use of parking facilities.
 - .3 Operation of HVAC and electrical systems.
- .4 On occupancy, City will provide for occupied areas:
 - .1 Operation of HVAC and electrical systems.
 - .2 Maintenance.
 - .3 Security.
- .5 Execute Partial Interim Certificate of Completion for each designated portion of Work prior to City occupancy. Contractor shall allow:
 - .1 Access for City personnel.
 - .2 Use of parking facilities.
 - .3 Operation of HVAC and electrical systems.

1.7 CITY FURNISHED ITEMS

- .1 City Responsibilities:
 - .1 Arrange for delivery of shop drawings, product data, samples, manufacturer's instructions, and certificates to Contractor.
 - .2 Deliver supplier's bill of materials to Contractor.
 - .3 Arrange and pay for delivery to site in accordance with Progress Schedule.
 - .4 Inspect deliveries jointly with Contractor.
 - .5 Submit claims for transportation damage.
 - .6 Arrange for replacement of damaged, defective or missing items.
 - .7 Arrange for manufacturer's field services; arrange for and deliver manufacturer's warranties and bonds to Contractor.
- .2 Contractor Responsibilities:
 - .1 Designate submittals and delivery date for each product in progress schedule.
 - .2 Review shop drawings, product data, samples, and other submittals. Submit to Contract Administrator notification of observed discrepancies or problems anticipated due to non-conformance with Contract Documents.
 - .3 Receive and unload products at site.
 - .4 Inspect deliveries jointly with City; record shortages, and damaged or defective items.
 - .5 Handle products at site, including uncrating and storage.
 - .6 Protect products from damage, and from exposure to elements.
 - .7 Assemble, install, connect, adjust, and finish products.
 - .8 Provide installation inspections required by public authorities.

.9 Repair or replace items damaged by Contractor or subcontractor on site (under his control).

.3 Refer to Drawings for City furnished items:

1.8 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING

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

Part 2 Products

2.1 NOT USED

.1 Not used.

Part 3 Execution

3.1 NOT USED

.1 Not used.

END OF SECTION

1 General

1.1 FIRES

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

1.2 DISPOSAL OF WASTES

- .1 Do not bury rubbish and waste materials on site.
- .2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.3 POLLUTION CONTROL

- .1 Control emissions from equipment and plant to local authorities' emission requirements.
- .2 Prevent sandblasting and other extraneous materials from contaminating air beyond application area, by providing temporary enclosures.
- .3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.

1.4 SMOKING ON THE SITE

- .1 There will be no smoking allowed on the site or within the school/daycare grounds.

2 Products (not applicable)

3 Execution (not applicable)

END OF SECTION

Part 1 General

1.1 HOARDING AND SITE FENCING

- .1 Erect and maintain hoarding as required to protect the public, workers, public and private property from injury or damage.
- .2 Short term work that can be completed in same working day can make use of impermeable temporary dust containment partitions consisting of min. 6mil polyurethane sheet sealed at the floor and ceiling with adjustable poles where approved by City.
 - .1 Where deemed appropriate by the Contract Administrator, the composition of the hoarding may be modified to suit time, space, or impact constraints.
 - .2 All partitions to have required signage to warn the public of the nature of work and the dangers attributed to such work.
 - .3 Protect air-handling equipment.
- .3 Site Enclosure Fence:
 - .1 Before construction operations begin, provide site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.
 - .2 Modular welded wire fencing, minimum 1.8 metres high. Use privacy screening/scrim which is approved by the fencing manufacturer where public may be exposed to dust or debris, the protection of adjacent building finishes is required, or where City/Contractor privacy conditions are required.
 - .3 Provide a lockable truck entrance gate and at least one pedestrian door as directed and conforming to applicable traffic restrictions on adjacent streets. Equip gates with locks and keys.
 - .4 Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to City. Ensure gate is locked after work hours
 - .5 Provide concrete barriers when diverting public traffic.
- .4 Erect and maintain pedestrian walkways including roof and side covers, complete with signs and electrical lighting as required by law.
- .5 Provide barriers around trees and plants designated to remain. Protect from damage by equipment and construction procedures.

1.2 GUARD RAILS AND BARRICADES

- .1 Provide secure, rigid guard rails and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs.

1.3 WEATHER ENCLOSURES

- .1 Provide weather tight closures to unfinished door and window openings, tops of shafts and other openings in floors and roofs.
- .2 Close off floor areas where walls are not finished; seal off other openings; enclose building interior work for temporary heat.
- .3 Design enclosures to withstand wind pressure and snow loading.

1.4 DUST TIGHT SCREENS

- .1 Provide dust tight screens or [insulated] partitions to localize dust generating activities, and for protection of workers, finished areas of Work and public.
- .2 Maintain and relocate protection until such work is complete.

1.5 ACCESS TO SITE

- .1 Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to Work.

1.6 PUBLIC TRAFFIC FLOW

- .1 Provide and maintain competent signal flag operators, traffic signals, barricades and flares, lights, or lanterns as required to perform Work and protect public.

1.7 FIRE ROUTES

- .1 Maintain access to property including overhead clearances for use by emergency response vehicles.

1.8 PROTECTION FOR OFF-SITE AND PUBLIC PROPERTY

- .1 Protect surrounding private and public property from damage during performance of Work.
- .2 Be responsible for damage incurred.

1.9 PROTECTION OF BUILDING FINISHES

- .1 Provide protection for finished and partially finished building finishes and equipment during performance of Work.
- .2 Provide necessary screens, covers, and hoardings.
- .3 Confirm with Contract Administrator locations and installation schedule 3 days prior to installation.
- .4 Be responsible for any damage incurred due to lack of or improper protection.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 PROJECT CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, other than including that caused by City or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Contract Administrator. Do not burn waste materials on site, unless approved by Contract Administrator.
- .3 Clear snow and ice from access to building, bank/pile snow in designated areas only or remove from site as required by City.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 Provide on-site containers for collection of waste materials and debris.
- .6 Provide and use marked separate bins for recycling. Refer to Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
- .7 Dispose of waste materials and debris off site.
- .8 Clean interior areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.
- .9 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .10 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.
- .11 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.
- .12 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.2 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
- .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
- .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
- .4 Remove waste products and debris including that caused by City or other Contractors.
- .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Contract Administrator. Do not burn waste materials on site, unless approved by Contract Administrator.
- .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

- .7 Clean and polish glass, mirrors, hardware, wall tile, stainless steel, chrome, porcelain enamel, baked enamel, plastic laminate, and mechanical and electrical fixtures. Replace broken, scratched or disfigured glass.
- .8 Remove stains, spots, marks and dirt from decorative work, furniture fitments, walls.
- .9 Clean lighting reflectors, lenses, and other lighting surfaces.
- .10 Seal or prepare floor finishes, as recommended by manufacturer.
- .11 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.
- .12 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
- .13 Remove dirt and other disfiguration from exterior surfaces.
- .14 Clean and sweep roofs, gutters, areaways, and sunken wells.
- .15 Sweep and wash clean paved areas.
- .16 Clean equipment and fixtures to sanitary condition; clean or replace filters of mechanical equipment.
- .17 Clean roofs, downspouts, and drainage systems.
- .18 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.
- .19 Remove snow and ice from access to building.

1.3 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials for reuse and/or recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management And Disposal.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 NOT USED

- .1 Not Used.

END OF SECTION

Part 1 General

1.1 DEFINITIONS

- .1 Recyclable: ability of product or material to be recovered at end of its life cycle and re-manufactured into new product for reuse.
- .2 Recycle: process by which waste and recyclable materials are transformed or collected for purpose of being transferred into new products.
- .3 Recycling: process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for purpose of using in altered form. Recycling does not include burning, incinerating, or thermally destroying waste.
- .4 Reuse: repeated use of product in same form but not necessarily for same purpose.
Reuse includes:
 - .1 Salvaging reusable materials from re-modelling projects, before demolition stage, for resale, reuse on current project or for storage for use on future projects.
 - .2 Returning reusable items including pallets or unused products to vendors.
- .5 Salvage: removal of structural and non-structural materials from deconstruction/disassembly projects for purpose of reuse or recycling.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 10 00 General Instructions.

1.3 WASTE PROCESSING SITES

- .1 Contractor is responsible to research and locate waste diversion resources and service providers. Salvaged materials are to be transported off site to approved and/or authorized recycling facilities or to users of material for recycling.

1.4 STORAGE, HANDLING AND PROTECTION

- .1 Store, materials to be reused, recycled and salvaged in locations as directed by Contract Administrator.
- .2 Recycle all recyclable materials. Provide on-site facilities and containers for collection and storage of reusable and recyclable materials.
- .3 Unless specified otherwise, materials for removal become Contractor's property.
- .4 Protect, stockpile, store and catalogue salvaged items.
- .5 Separate non-salvageable materials from salvaged items. Transport and deliver non-salvageable items to licensed disposal facility.
- .6 Protect structural components not removed and salvaged materials from movement or damage.
- .7 Support affected structures. If safety of building is endangered, cease operations and immediately notify Contract Administrator.
- .8 Protect surface drainage, mechanical and electrical from damage and blockage.
- .9 Separate and store materials produced during project in designated areas.

- .10 Prevent contamination of materials to be salvaged and recycled and handle materials in accordance with requirements for acceptance by designated processing facilities.
 - .1 On-site source separation is recommended.
 - .2 Remove co-mingled materials to off site processing facility for separation.
 - .3 Obtain waybills, receipts and/or scale tickets for separated materials removed from site.
 - .4 Materials reused on-site are considered to be diverted from landfill and as such are to be included in all reporting.

1.5 DISPOSAL OF WASTES

- .1 Do not bury rubbish or waste materials.
- .2 Do not dispose of oil, volatile materials, mineral spirits, paint thinner, waste into waterways, storm, or sanitary sewers.
- .3 Keep records of construction waste including:
 - .1 Number and size of bins.
 - .2 Waste type of each bin.
 - .3 Total tonnage generated.
 - .4 Tonnage reused or recycled.
 - .5 Reused or recycled waste destination.
- .4 Remove materials on-site as Work progresses.

1.6 SCHEDULING

- .1 Co-ordinate Work with other activities at site to ensure timely and orderly progress of Work.

Part 2 Products

2.1 NOT USED

- .1 Not Used.

Part 3 Execution

3.1 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.
- .3 Waste Management: separate waste materials for reuse, recycling and salvage.
 - .1 Remove recycling containers and bins from site and dispose of materials at appropriate facility.
 - .2 Source separate materials to be reused/recycled into specified sort areas.

3.2 DIVERSION OF MATERIALS

- .1 Separate recyclable materials from general waste stream and stockpile in separate piles or containers, as reviewed by Contract Administrator, and consistent with applicable fire regulations.
 - .1 Mark containers or stockpile areas.
 - .2 Provide instruction on disposal practices.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Assessment Act (CEAA), 1995, c. 37
 - .2 Canadian Environmental Protection Act, 1999 (CEPA), c. 33
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS)
- .3 Transport Canada (TC)
 - .1 Transportation of Dangerous Goods Act, 1992 (TDGA), c. 34

1.2 DEFINITIONS

- .1 Demolition: rapid destruction of building following removal of hazardous materials.
- .2 Hazardous Materials: dangerous substances, dangerous goods, hazardous commodities and hazardous products, may include but not limited to: asbestos PCB's, CFC's, HCFC's poisons, corrosive agents, flammable substances, ammunition, explosives, radioactive substances, or other material that can endanger human health or well being or environment if handled improperly.

1.3 SUBMITTALS

- .1 Submittals in accordance with Section 01 10 00 - General Instructions.

1.4 QUALITY ASSURANCE

- .1 Regulatory Requirements: ensure Work is performed in compliance with CEPA, CEAA, TDGA, and applicable Provincial/Territorial regulations.
- .2 Site Meetings
 - .1 Convene pre-installation meeting one week prior to beginning work of this Section to:
 - .1 Verify project requirements.
 - .2 Review installation and substrate conditions.
 - .3 Co-ordination with other building subtrades.
 - .4 Review installation instructions and warranty requirements.
 - .2 Arrange for site visit with Contract Administrator to examine existing site conditions adjacent to demolition work, prior to start of Work.
 - .3 Hold project meetings every 2 weeks.
 - .4 Ensure site supervisor, project manager, subcontractor representatives attend.
 - .5 Contract Administrator will provide written notification of change to meeting schedule established upon contract award 24 hours prior to scheduled meeting.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Storage and Protection.

- .1 Protect in accordance with Section 31 23 33 - Excavating, Trenching and Backfilling.
- .2 Protect existing items designated to remain and items designated for salvage. In event of damage to such items, immediately replace or make repairs to approval of Contract Administrator and at no cost to Contract Administrator.
- .3 Remove and store materials to be salvaged, in manner to prevent damage.
- .4 Store and protect in accordance with requirements for maximum preservation of material.
- .5 Handle salvaged materials as new materials.

1.6 SITE CONDITIONS

- .1 Site Environmental Requirements.
 - .1 Ensure that selective demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.
 - .2 Do not dispose of waste of volatile materials including but not limited to, mineral spirits, oil, petroleum based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers.
 - .1 Ensure proper disposal procedures are maintained throughout the project.
 - .3 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers or onto adjacent properties.
 - .4 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authorities.
 - .5 Protect trees, plants and foliage on site and adjacent properties where indicated.
- .2 Existing Conditions.
 - .1 Remove contaminated or hazardous materials as directed by Contract Administrator from site, prior to start of demolition Work, and dispose of at designated disposal facilities in safe manner in accordance with TDGA and other applicable regulatory requirements.

1.7 SCHEDULING

- .1 Employ necessary means to meet project time lines without compromising specified minimum rates of material diversion.
 - .1 Notify Contract Administrator in writing when unforeseen delays occur.

Part 2 Products

2.1 EQUIPMENT

- .1 Leave machinery running only while in use, except where extreme temperatures prohibit shutting machinery down.

Part 3 Execution

3.1 PREPARATION

- .1 Review site with Contract Administrator and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.
- .2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.
- .3 Notify and obtain approval of utility companies before starting demolition.
- .4 Disconnect and Cap Mechanical Services.
 - .1 Natural Gas Supply Lines: remove as reviewed by Contract Administrator.
 - .2 Sewer and Water Lines: remove as directed by Contract Administrator and securely plug to form watertight seal.
 - .3 Other Underground Services: remove and dispose of as reviewed by Contract Administrator.

3.2 REMOVAL OF HAZARDOUS WASTES

- .1 Remove contaminated or dangerous materials defined by authorities having jurisdiction, relating to environmental protection, from site and dispose of in safe manner to minimize danger at site or during disposal.

3.3 REMOVAL OPERATIONS

- .1 Remove items as indicated. Refer to Drawings L1.1 Existing Conditions & Demolition Plan.
- .2 Do not disturb items designated to remain in place.
- .3 Removal of Pavements, Curbs and Gutters:
 - .1 Square up adjacent surfaces to remain in place by saw cutting or other method approved by Contract Administrator.
 - .2 Protect adjacent joints and load transfer devices.
 - .3 Protect underlying and adjacent granular materials.
- .4 Prevent contamination with base course aggregates, when removing asphalt pavement for subsequent incorporation into hot mix asphalt concrete paving,
- .5 Remove only designated trees during demolition.
 - .1 Obtain written approval of Contract Administrator prior to removal of trees not designated.
- .6 Stockpile topsoil for final grading and landscaping.
 - .1 Provide erosion control and seeding if not immediately used.
- .7 Disposal of Material.
 - .1 Dispose of materials not designated for salvage or reuse on site at authorized facilities approved in Waste Management Workplan.
 - .2 Trim disposal areas to approval of Contract Administrator.

3.4 STOCKPILING

- .1 Label stockpiles, indicating material type and quantity.
- .2 Designate appropriate security resources/measures to prevent vandalism, damage and theft.
- .3 Locate stockpiled materials convenient for use in new construction to eliminate double handling wherever possible.
- .4 Stockpile materials designated for alternate disposal in location which facilitates removal from site and examination by potential end markets, and which does not impede disassembly, processing, or hauling procedures.

3.5 REMOVAL FROM SITE

- .1 Remove stockpiled material as reviewed by Contract Administrator, when it interferes with operations of project.
- .2 Remove stockpiles of like materials by alternate disposal option once collection of materials is complete.
- .3 Dispose of materials not designated for alternate disposal in accordance with applicable regulations.

3.6 RESTORATION

- .1 Restore areas and existing works outside areas of demolition to conditions that existed prior to beginning of Work.
- .2 Use soil treatments and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.

3.7 CLEANING

- .1 Remove debris, trim surfaces and leave work site clean, upon completion of Work
- .2 Use cleaning solutions and procedures which are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or ground water.

END OF SECTION

1 General

1.1 RELATED SECTIONS

- .1 Section 31 23 33 – Excavation, Trenching and Backfilling.

1.2 REFERENCES

- .1 American Society for Testing and Materials (ASTM)
 - .1 ASTM D698-[07e1], Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (600 kN-m/m³).

1.3 EXISTING CONDITIONS

- .1 Known underground and surface utility lines and buried objects are indicated on the Landscape Site Plan and shall be site verified by contractor prior to construction.
- .2 Refer to dewatering in Section 31 23 33.01 - Excavation Trenching and Backfilling.

1.4 PROTECTION

- .1 Protect and/or transplant existing fencing, trees, landscaping, natural features, bench marks, buildings, pavement, surface or underground utility lines which are to remain as directed by Contract Administrator. If damaged, restore to original or better condition unless directed otherwise. Maintain access roads to prevent accumulation of construction related debris on roads.

2 Products

2.1 MATERIALS

- .1 Fill material: In accordance with Section 31 23 33 Excavating Trenching and Backfilling.
- .2 Excavated or graded material existing on site may be suitable to use as fill for grading work if approved by Contract Administrator.

3 Execution

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for rough grading installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate.
 - .2 Inform Contract Administrator of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied.

3.2 STRIPPING OF TOPSOIL

- .1 Do not handle topsoil while in wet or frozen condition or in any manner in which soil structure is adversely affected as determined by Contract Administrator.
- .2 Commence topsoil stripping of areas after area has been cleared of brush, weeds, and grasses and removed from site.
- .3 Strip topsoil to depths as indicated. Avoid mixing topsoil with subsoil.

- .4 Stockpile in locations which have been previously cleared of plant material on the property but away from the extent of construction as designated by the City. Stockpile height not to exceed 2 m.

3.3 GRADING

- .1 Rough grade to levels, profiles, and contours allowing for surface treatment as indicated.
- .2 Rough grade to following depths below finish grades:
 - .1 100 mm for grassed areas.
 - .2 250 mm for asphalt paving.
 - .3 Min. 400 mm for running track.
- .3 Slope rough grade away from building 1:50 minimum.
- .4 Grade ditches to depth as indicated, required for maximum run-off.
- .5 Prior to placing fill over existing ground, scarify surface to depth of 150mm before placing fill over existing ground. Maintain fill and existing surface at approximately same moisture content to facilitate bonding.
- .6 Compact filled and disturbed areas to Standard Proctor Density to ASTM D698, as per the Geotechnical Report, as follows:
 - .1 85% under landscaped areas.
 - .2 98% under running tracks areas.
- .7 Do not disturb soil within branch spread of trees or shrubs to remain.

3.4 TESTING

- .1 Inspection and testing of soil compaction will be carried out by testing laboratory designated by ULC. Costs of tests will be paid under a Cash Allowance. Refer to Section 01 45 00 - Quality Control.
- .2 Submit testing procedure, frequency of tests, testing laboratory as designated by ULC or certified testing personnel to Contract Administrator for approval.

3.5 SURPLUS MATERIAL

- .1 Remove surplus material and material unsuitable for fill, grading or landscaping off-site, in accordance with local authorities having jurisdiction.

3.6 PROTECTION

- .1 Protect existing fencing, trees, landscaping, natural features, bench marks, buildings, pavement, surface or underground utility lines, which are to remain, as indicated on Drawings or directed by Contract Administrator. If damaged, restore to original or better condition unless directed otherwise.
- .2 Maintain access roads to prevent accumulation of construction related debris on roads.

END OF SECTION

PART 1 GENERAL

1.1 REFERENCES

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

1.3 PROTECTION

- .1 Protect bottoms of excavations from softening. Should softening occur, remove softened soil and replace with compacted Type 5 Fill.
- .2 Protect bottoms of excavations from freezing.
- .3 Construct banks in accordance with local by laws.
- .4 Provide protection to ensure no damage to existing facilities and equipment situated on site.
- .5 Effect approved measures to minimize dust as result of work.
- .6 Do not stockpile excavated material to interfere with site operation or drainage.

1.4 COMPACTION DENSITIES

- .1 Compaction densities are percentages of maximum densities obtainable from ASTM D698-70 and correct as noted.

1.5 UNSATISFACTORY SOIL CONDITIONS

- .1 Any unsatisfactory or questionable soil conditions revealed during excavation shall be reported immediately to the Contract Administrator.
- .2 All foundation and sub-structural work shall cease until the condition has been examined and approval to proceed has been issued.

1.6 MATERIAL UNSUITABLE FOR BACKFILL

- .1 The Contractor shall be responsible for all costs associated with the excavation and removal of all materials unsuitable for backfill.

1.7 WATER

- .1 Keep excavation free from water at all times. Provide drainage trenches and sumps as necessary and pump water well away from excavation. Do not discharge water onto private property.

1.8 INSPECTION AND TESTING

- .1 Testing of materials and compaction will be carried out by testing laboratory designated by Contract Administrator and as described in Division 0.
- .2 Sieve analysis: Proposed fill materials will be tested to confirm suitability for intended use and conformity with specifications.
- .3 Frequency of Tests
 - .1 Excavated surfaces: When undisturbed excavated surface is being prepared, make a series of 3 test of surface for each 500m² area.
 - .2 Fills under floor or other slabs on grade: Make 3 tests for every 2 lifts of compacted fill.

PART 2 MATERIALS

2.1 GRANULAR MATERIALS:

- .1 Refer to City of Winnipeg CW3110-R22 Sub-Grade, Sub-base and Base Course Construction.

PART 3 EXECUTION

3.1 EXCAVATING

- .1 Excavate to elevations and dimensions indicated for installation, construction and inspection of work specified.
- .2 Excavate to well defined lines to minimize quantity of fill material required.
- .3 Earth bottoms of excavations to be dry undisturbed soil, level, free from loose or organic matter.
- .4 Excavation must not interfere with normal 45 degree splay of bearing from bottom of any footing.
- .5 Dispose of surplus and unsuitable excavated material off site.

- .6 Earth bottoms of excavations to be undisturbed soil, level, free from loose, soft or organic matter.
- .7 Notify Contract Administrator when soil at bottom of excavation appears unsuitable and proceed as directed by Contract Administrator.
- .8 Obtain Contract Administrator approval of completed excavation.
- .9 Remove unsuitable material from trench bottom to extent and depth directed by Contract Administrator.
- .10 Correct unauthorized excavation at no extra cost as follows:
 - .1 Fill under bearing surfaces and footings with concrete specified.
 - .2 Fill for trenching with Type 4 fill compacted to minimum of 95% maximum dry density to ASTM D698-78.
 - .3 Fill under other areas with Type 2 fill compacted to 100% maximum dry density to ASTM 0698-78.
- .14 Remove concrete, rubble and other obstructions encountered in the course of excavation. Excavate trenches to lines and grades shown to a minimum of 150 mm below underside of pipe, conduit, cable. Provide recesses for bell and spigot pipe to ensure bearing will occur along barrel of pipe.
- .15 Cut trenches 300 mm wider than maximum pipe, conduit, cable, diameter. Trim and shape trench bottoms and leave free of irregularities, lumps or projections.
- .16 Hand trim, make firm and remove loose material and debris from excavations. Where material at bottom of excavation is disturbed, compact foundation soil to density at least equal to undisturbed soil.
- .17 Provide shoring to Provincial Safety Standards.

3.2 BACKFILLING

- .1 Do not commence backfilling until areas of work to be backfilled have been inspected and approved by Contract Administrator.
- .2 Areas to be backfilled shall be free from debris, snow, ice, water or frozen ground. Backfill and filling material shall not be frozen or contain ice, snow or debris.
- .3 Do not backfill around or over cast-in-place concrete within 2 days of placing.
- .4 Backfill simultaneously each side of walls and other structures to equalize soil pressure.
- .5 Where temporary unbalanced earth pressures are liable to develop on walls or other structures, erect bracing or shoring to counteract unbalance, and leave in place until removal is approved by Contract Administrator.
- .6 Place and compact fill materials in continuous horizontal layers not exceeding 300 mm loose depth. Use methods to prevent disturbing or damaging buried services, insulation, dampproofing. Make good any damage.
- .7 Do not use frozen material for backfilling or filling.

END OF SECTION

Part 1 General

1.1 RELATED SECTIONS

- .1 Section 31 22 13 – Rough Grading

1.2 REFERENCE STANDARDS

- .1 ASTM International
 - .1 ASTM A1064/A1064M-[13], Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete.
- .2 CSA Group
 - .1 CSA G30.18-[09], Carbon Steel Bars for Concrete Reinforcement.
- .3 Health Canada - Pest Management Regulatory Agency (PMRA)
 - .1 National Standard for Pesticide Education, Training and Certification in Canada (1995).
- .4 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .5 Department of Justice Canada (Jus)
 - .1 Canadian Environmental Protection Act (CEPA), 1999, c. 33.
 - .2 Fertilizers Act (R.S. 1985, c. F-10).
 - .3 Fertilizers Regulations (C.R.C., c. 666).
 - .4 Transportation of Dangerous Goods Act (TDGA), 1992, c. 34.

1.3 DEFINITIONS

- .1 Mycorrhiza: association between fungus and roots of plants. This symbiosis, enhances plant establishment in newly landscaped and imported soils.

1.4 SUBMITTALS

- .1 Make submittals in accordance with Section 01 10 00 – General Instructions.
- .2 Product Data:
 - .1 Provide monthly written reports on maintenance during warranty period, to Contract Administrator identifying:
 - .2 Maintenance work carried out
 - .3 Development and condition of plant material.
 - .4 Preventative or corrective measure required which are outside Contractor's responsibility.
- .3 Submit WHMIS MSDS reports for pesticide and fertilizers used during maintenance in accordance with City standards.

1.5 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:

- .1 Store materials off ground and in a dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
- .2 Store and protect tree and shrub preservation materials from nicks, scratches, and blemishes.
- .3 Replace defective or damaged materials with new.

1.6 MAINTENANCE DURING WARRANTY PERIOD

- .1 From time of acceptance by Contract Administrator to end of warranty period, perform following maintenance operations.
 - .1 Water to maintain soil moisture conditions for optimum growth and health of plant material without causing erosion.
 - .2 Apply pesticides in accordance with National Standard for Pesticide Education, Training and Certification in Canada, Federal, Provincial and Municipal regulations as and when required to control insects, fungus and disease. Obtain product approval from Contract Administrator prior to application.
 - .3 Apply fertilizer in early spring at manufacturer's suggested rate.
 - .4 Remove dead, broken or hazardous branches from plant material. Dispose of debris through mulching.

Part 2 Products

- .1 Fill:
 - .1 Type (A): clean, natural river sand and gravel material, free from silt, clay, loam, friable or soluble materials and organic matter.
 - .2 Type (B): pervious soil, free from roots, rocks larger than 75 mm, building debris, and toxic ingredients (salt, oil, etc). Excavated material shall be approved by Contract Administrator before use as fill.
- .2 Coarse washed stones: 35-75 mm diameter clean round hard stone.
- .3 Unamended Peatmoss:
 - .1 Derived from partially decomposed species of Sphagnum Mosses.
 - .2 Elastic and homogeneous.
 - .3 Free of wood and deleterious material which could prohibit growth.
 - .4 Shredded minimum particle size: 5 mm.
 - .5 To have a natural pH and is not to be amended with lime.
- .4 Shredded Wood Mulch:
 - .1 Mulch to be either hardwood or softwood, shredded wood mulch, with the capacity to knit together and will have no chunks larger than 50mm in diameter.
- .5 Fertilizer:
 - .1 To Canada Fertilizer Act and Fertilizers Regulations.
 - .2 Complete, commercial, slow release with 35% of nitrogen content in water-insoluble form.
- .6 Anti-desiccant: commercial, wax-like emulsion.
- .7 Filter Cloth:
 - .1 Type 1: 100 % non-woven needle punched polyester, 2.75 mm thick, 240 g/m² mass.
 - .2 Type 2: biodegradable burlap.

- .8 Board Cladding: to consist of 50 x 100 mm lumber secured around the perimeter of tree trunks with plastic strapping or other means which will not damage the tree.
- .9 Tree Barriers: steel T-rail posts 40 x 40 x 5 x 2440 mm, at 1800 mm O.C., with 1200 mm high orange polyethylene mesh fencing attached to posts with 9 gauge wire, or wire ties and longitudinal bracing for all end or corner post.

Part 3 Execution

3.1 IDENTIFICATION AND PROTECTION

- .1 Tree protection to be installed prior to the start of any on site work.
- .2 Identify plants and limits of root systems to be preserved as approved by Contract Administrator.
- .3 Protect plant and root systems from damage, compaction and contamination resulting from construction as approved by Contract Administrator.
- .4 Ensure no root pruning is done inside drip line. If pruning inside drip line is required consult an arborist or Canadian Certified Horticultural Technician (CCHT) as approved by Contract Administrator.

3.2 TRUNK PROTECTION

- .1 Install board cladding vertically around the perimeter of designated deciduous trees within the active work zone.

3.3 ANTI-DESICCANT

- .1 Apply anti-desiccant to foliage where applicable and as directed by Contract Administrator.

3.4 PROTECTION OF TREES AND TREE STANDS

- .1 During construction activities, apply 75mm depth shredded wood mulch on the ground around the tree, from trunk to drip line. In the case of tree stands, mulch entire stand from outermost drip line to inner most tree. Ensure mulch does not completely cover tree trunks.
- .2 Install orange snow fencing around all individual trees, tree stands and hedge rows that are to remain. Ensure snow fence is installed at drip line and is maintained throughout construction. Install as per manufacturer's instructions.

3.5 MAINTENANCE DURING CONSTRUCTION PERIOD

- .1 Shredded wood mulch shall be maintained to a depth of 75mm throughout construction period. Mulch and placement shall be monitored on a weekly basis.
- .2 Orange snow fencing shall be maintained, stand upright and be secure throughout construction period. Shall be monitored on a weekly basis and any breeches shall be corrected immediately.
- .3 Prune any dead or damages branches from trees and shrubs, maintain all plant material in a healthy growing condition and rectify and damage that occurs as a result of construction activities.

END OF SECTION

Part 1 General

1.1 REFERENCES

- .1 IAAF Track and Field Facilities Manual (latest edition)

1.2 SUMMARY

- .1 The contractor shall furnish all materials, labor, tools, and equipment necessary for the installation of the synthetic track surface and line markings on all areas detailed in the contract drawings

1.3 CODES AND STANDARDS

- .1 A. Codes and standards follow the current guidelines set forth by the National Federation of State High School Associations (NFHS), the National Collegiate Athletic Association (NCAA) and the International Association of Athletics Federations (IAAF).

1.4 SUBMITTALS

- .1 Submit manufacturer's product data sheets including installation guidelines and maintenance instructions.
- .2 Submit three (3) representative track samples in the color of surfacing to be installed.
- .3 Submit test reports that verify the manufacturer's specifications (data) for the product to be installed.
- .4 Submit documentation that verifies that the synthetic surfacing material does not contain any toxic or hazardous substance, which exceeds limits set forth by the EPA.
- .5 Submit Safety Data Sheets (SDS) for all individual components of the product being installed.
- .6 Provide a letter stating that the surfacing contractor has reviewed the asphalt specification and accepts the specification as correct. Furthermore, the surfacing contractor shall provide a letter after checking the asphalt accepting it for synthetic surface installation. Should areas be found that do not meet specifications, they shall be repaired by asphalt contractor prior to the synthetic surfacing contractor issuing its letter of acceptance.
- .7 The synthetic surfacing material manufacturer shall submit a letter stating that the surfacing contractor is qualified to install its synthetic surface system.
- .8 Submit a detailed drawing showing location and color of all lane lines, start, finishes and all related markings for the City to review at least two weeks prior to their application.
- .9 Submit evidence that the synthetic surfacing contractor holds the necessary contractor's license to install synthetic surfacing.
- .10 Submit evidence that the material manufacturer is ISO 9001 certified.

1.5 WARRANTY

- .1 Provide to the Louis Riel School Division a Five (5) Year Warranty against faulty workmanship and materials for the synthetic surface. The warranty period shall commence at final completion of the surfacing. Warranties shall cover quality of workmanship, defects in materials, excessive color change, delamination or separation

from adjacent surfaces and any quality that is deemed to be not ordinary wear for a rubber track surface.

- .2 A one (1) Year Warranty shall be provided for the line markings.

1.6 QUALITY ASSURANCE

- .1 Provide a certificate of accuracy from a registered engineer, land surveyor or certified track builder by ASBA, that the track measures 300 meters in all lanes from start to finish.
- .2 Provide, as a part of the Warranty, documents stating that the materials applied conform to the manufacturer's specifications and that the material will not separate from the asphalt or concrete base, blister, bubble, fade, crack or wear excessively during the life of the warranty.
- .3 The materials will not foam, thus causing air bubbles and reduce the life expectancy of the surface.
- .4 The synthetic surfacing contractor and City will annually walk and inspect the synthetic surface during the life of the warranty.
- .5 Warranty issues will be repaired and for non-warranty items a method for correction will be presented.
- .6 The synthetic surfacing contractor shall maintain a clean and orderly job site. All excess materials shall be removed from the construction area and properly disposed of. Scrap shall be removed in the same manner.

Part 2 Products

2.1 SYNTHETIC SURFACING

- .1 The synthetic surfacing shall be a 13 mm thick, permeable, structural spray system, with a paved in place rubber granule and polyurethane binder base layer. Two coats minimum of a mixture of colored polyurethane and EPDM rubber granules are structurally sprayed onto the base to form a textured finish.
- .2 Color: Red.

2.2 PREQUALIFIED PRODUCT

- .1 STOCKMEIER Urethanes USA, Inc ; STOBITAN® SC: Base mat and Spray Coat System
- .2 Contact: Graham Kjargaard (Ocean Marker Sport Surfaces)
 - .1 Phone: 604-760-0612
 - .2 E-mail: graham@runningtrack.com
- .3 Or approved equal

2.3 PROPERTIES

- .1 PHYSICAL PROPERTY REQUIREMENT
 - .1 Force Reduction (IAAF) 35-50%
 - .2 Modified Vertical Deformation (IAAF) 0.6-2.5 mm
 - .3 Friction (wet) (IAAF) > 0.5
 - .4 Friction (dry) (DIN) < 1.1
 - .5 Tensile Strength (IAAF) > 0.5 N/mm²

- .6 Elongation (IAAF) > 40%
- .7 Thickness (DIN) > 13.5 mm
- .8 Spike Resistance (DIN) Class 1

Part 3 Execution

3.1 ASPHALT BASE ACCEPTANCE

- .1 With the Contract Administrator present, a review of the asphalt base will be undertaken to confirm that the planarity requirements are met. The requirements are 4 mm or less of deformity under a 4000mm straight edge in any direction, 3 mm or less of deformity under a 1000mm straight edge in any direction, and 1 mm or less of deformity under a 300mm straight edge in any direction at all tested locations. In addition, in the presence of both the Contract Administrator and paving contractor, complete a flood test to confirm there are no areas containing isolated bird baths, greater than 3 mm in depth, and that positive drainage is achieved off of all asphalt surfaces.
- .2 All areas to receive synthetic surfacing are to be clean and free of any loose particles or foreign substances such as dirt, oil, grease, etc. prior to installation.

3.2 SYSTEM COMPONENTS

- .1 Polyurethane Primer is used prior to installation of polyurethane coating. Primer is also used to prime cured polyurethane prior to the application of a new layer, when necessary.
- .2 Polyurethane Binder– shall be a single component, 100% polyurethane, moisture curing, middle viscosity polyurethane binding agent based on MDI/TDI. The level of the toluene diisocyanate monomer is very low, less than ½ of 1%. Importantly the binder contains no solvents and no extenders (plasticizer).
- .3 Polyurethane Structural Spray –Shall be a single component spray coating.
- .4 SBR Rubber – SBR rubber granules shall be recycled black rubber that is processed and graded to 1-4 mm in size containing no fiber or metal and contains less than 4% dust.
- .5 EPDM Rubber – EPDM colored virgin rubber granules that are processed and graded to 0.5 – 1.5 mm in size unless otherwise specified. The rubber shall contain a minimum of 20% EPDM and be approved by the resin manufacturer. The specific density shall be 1.60 +/- 0.08 and Shore A hardness of 60.

3.3 INSTALLATION OF SURFACING

- .1 Install surfacing as per manufacturer's instruction.

3.4 PROTECTION

- .1 Ensure that construction fencing prevents trespassing across the construction site and protects the running track from damage or movement during installation.

3.5 PREPARATION

- .1 Accurately survey and layout the specified work according to the specifications and drawings.

3.6 LINE MARKINGS

- .1 All line marking paint is to be approved by the synthetic surfacing manufacturer.

- .2 All markings will be in accordance with the desires of the City.
- .3 Line and event markings paint to be pigmented two-component polyurethane paint manufactured specifically for the application of lines on the installed product. Paint must be opaque and completely block out the synthetic surfacing beneath it so that only the uniform line or event marking can be seen.
- .4 Track lane lines, start and finish lines, lane numbers, and event markings shall all be accurately positioned and marked in accordance with the current rules of the IAA, AM, and these specifications and shall be straight and true without distortions. All line edges are to be crisp and distinct. Where a double application of paint is required, the first coat of paint must be completely dry prior to the second application of paint.
- .5 Colours to be as per the IAAF 400m (adapted to 300m track) standard marking plan, the specifications herein, and as directed by the Contract Administrator.
- .6 All lane and competition event marking lines shall be 50mm in width unless otherwise stated herein or in the IAAF specifications. All start and finish lines are to have a double coating of paint.
- .7 All paint shall be applied to give an even coverage. Any excess paint, over-spray or spill shall be removed immediately using a solvent or fluid that will not affect in any manner the synthetic running track surface.
 - .1 If the Contract Administrator determines that a paint spill or overspray repair does not match the majority of the running track, at the contractors' sole expense, that area must be ground down and new EPDM granules and new paint applied.
- .8 Painting shall be COMPLETELY OPAQUE, even in hue and tone regardless of the colour below it and adhere to the surface. Materials used must be compatible in terms of hardness and durability with the properties of the synthetic running track surfacing. Paints must not change the yield, sliding properties, or surface texture of synthetic running track surfacing.
- .9 Lane numbers are to be a minimum 1000mm high and 800mm wide and are to have shadow numbers painted which are offset from the main numbers by 100mm both down and to the right. Numbers are to be centred in their lanes and are to be parallel to the lane lines. Adjacent numbers to have their bases in the same plane.
- .10 Note the following.
 - .1 This is a four-lane track 300 mm in length with one straight away.
- .11 Required Lines and Event Markings:
 - .1 Any discrepancies or omissions in this section, or any doubt as to the meaning of any portion of this section must be brought to the attention of the Contract Administrator prior to close of tender. Submission of a tender for this Work is deemed acceptance of the requirements of this section and acceptance that the interpretation of all work in this section during the course of the Work rests solely with the Contract Administrator.
 - .2 Line markings to include all IAAF markings as well as the following:
 - .1 Age class hurdle position marks indicated only by a mark on either side of the track (lanes one and four). The events are as follows (followed by number of hurdle marks, distance to first hurdle, distance between hurdles, distance from the last hurdle to the finish line, and colour of marks).
 - .1 80 metre hurdles (8, 12, 7.5, 15.5, white).
 - .2 80 metre hurdles (8, 12, 7, 19, black).

- .3 80 metre hurdles (8, 12, 8, 12, grey).
- .4 100 metre hurdles (10, 13, 8, 15, orange)
 - .1 The Event Labels for these events are to provide the race distance and the distance from the last hurdle to the finish line, at the last hurdle mark (i.e., "80H – 19 TF") and only at the first hurdle position mark (or second if there is insufficient room).
 - .2 Except for the (8, 12, 8, 12, grey) 80 metres hurdles event, all age class hurdle position marks need only be placed in lane one and lane four.
- .2 Lane numbers to be located as per IAAF requirements
- .3 Start lines and Event Label for 300 metre hurdles.
- .4 Start lines and Event Label for 300 meters in all lanes.
- .5 Start lines and Event label indicating the start of the 150m in all lanes for both finish lines.

3.7 SPECIFIC SLOPES

- .1 Track oval – running direction 0.1%; lateral slope, 1% NCAA and IAAF.

END OF SECTION

1 General

1.1 RELATED SECTIONS

- .1 Section 01 10 00 - General Instructions.
- .2 Section 01 74 21 - Waste Management and Disposal.

1.2 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate waste materials in accordance with Section 01 74 21 - Waste Management and Disposal.
- .2 Remove from site and dispose of packaging materials at appropriate recycling facilities.
- .3 Collect and separate for disposal packaging material in appropriate on-site bins for recycling in accordance with Waste Management Plan.
- .4 Separate and place in designated containers waste in accordance with Waste Management Plan.
- .5 Fold up metal banding, flatten and place in designated area for recycling.

1.3 SUBMITTALS

- .1 Provide in accordance with Section 01 10 00 - General Instructions.
- .2 Product Data:
 - .1 Provide manufacturer's instructions, printed product literature and data sheets for furniture and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
 - .1 Submit shop drawings indicating dimensions, sizes, assembly, anchorage and installation details for each furnishing specified.
- .4 Provide maintenance data for care and cleaning of site furnishings for incorporation into manual. .

2 Products

2.1 SOCCER GOAL POSTS

- .1 Acceptable Material: Permanent Soccer Goal
 - .1 Size: Senior Goal 8' height x 24' width
 - .2 Frame Colour: Powdercoat steel, white
 - .3 Installation: In-ground
 - .4 Supplier: Blueimp
 - .5 Contact: Debbie Rusk
drusk@blueimp.com

3 Execution

3.1 PREPARATION

- .1 Locate and protect utility lines.

- .2 Notify and acquire written acknowledgement from utility authorities before beginning installation Work

3.2 INSTALLATION

- .1 Assemble furnishings in accordance with manufacturer's written recommendations.
- .2 Install true and plumb, as indicated.
- .3 Touch-up damaged finishes to approval of Contract Administrator.

END OF SECTION