

## 1. REQUIREMENTS

- .1 A Separate Price is the price difference for addition of a specified product or portion of the Work to the Work. Separate Prices are to be indicated as an ADDITION TO the base bid.
- .2 Coordinate affected related work and modify surrounding work to integrate the Work under each Separate Price.
- .3 Submit complete and accurate prices for each Separate Price, including overhead and profit, all labour and materials, and all costs for Work by all Sub-contractors whose Work is affected. Include Manitoba Retail Sales Tax (MRST, also known as PST) in separate prices. Do not include GST.
- .4 Separate Prices submitted are deemed to be complete prices and therefore, claims for extras to the Contract due to the addition of a Separate Price will not be accepted.

## 2. AWARD/SELECTION OF SEPARATE PRICES

- .1 The Separate Prices described herein **ARE TO BE INCLUDED IN THE TOTAL BID PRICE**, indicated as the Lump Sum on the Form B: Prices. The Lump Sum shall be the sum of the base bid and the Separate Price items.
- .2 The Owner reserves the right to accept any or none of the Separate Prices and to employ the Separate Prices to determine the successful bidder.

## 3. SEPARATE PRICES

- .1 Provide separate price as follows:

### .1 Separate Price No. 1

Supply and install two (2) channel letter signs as indicated on Drawing L1.2 complete with wiring and connection for LED illumination as indicated on Drawing E2.0. Relocate existing luminaire as indicated in Drawings. Supply and install new LED luminaire as indicated on Drawing E2.0.

**END OF SECTION**

**Part 1 General**

**1.1 RELATED REQUIREMENTS**

- .1 Section 10 14 00 – Signage
- .2 Section 32 15 51 – Rip Rap & Stone Mulch

**1.2 REFERENCE STANDARDS**

- .1 Americans with Disabilities Act (ADA)1.ATBCB ADAAG – Americans with Disabilities Act Accessibility Guidelines
- .2 Canadian Standards Association CAN/CSA B651-18 Accessible Design for Built Environment
- .3 City of Winnipeg Accessibility Design Standard – Third Edition, 2015
- .4 City of Winnipeg Brand Manual
- .5 Underwriters Laboratory (UL)1.UL94 – Tests for flammability of Plastic Materials  
2.UL723 – Surface Burning characteristics of Interior finish materials and systems

**1.3 ADMINISTRATIVE**

- .1 Submit to Contract Administrator submittals listed for review. Submit promptly and in orderly sequence to not cause delay in Work. Failure to submit in ample time is not considered sufficient reason for extension of Contract Time and no claim for extension by reason of such default will be allowed.
- .2 Do not proceed with Work affected by submittal until review is complete.
- .3 Present shop drawings, product data, samples and mock-ups in SI Metric units.
- .4 Where items or information is not produced in SI Metric units converted values are acceptable.
- .5 Review submittals prior to submission to Contract Administrator. This review represents that necessary requirements have been determined and verified, or will be, and that each submittal has been checked and co-ordinated with requirements of Work and Contract Documents. Submittals not stamped, signed, dated and identified as to specific project will be returned without being examined and considered rejected.
- .6 Notify Contract Administrator, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.
- .7 Verify field measurements and affected adjacent Work are co-ordinated.
- .8 Contractor's responsibility for errors and omissions in submission is not relieved by Contract Administrator review of submittals.
- .9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Contract Administrator review.
- .10 Keep one reviewed copy of each submission on site.

## **1.4 SHOP DRAWINGS AND PRODUCT DATA**

- .1 The term "shop drawings" means drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are to be provided by Contractor to illustrate details of a portion of Work.
- .2 Submit drawings stamped and signed by professional engineer registered or licensed in Manitoba, Canada.
- .3 Indicate materials, methods of construction and attachment or anchorage, erection diagrams, connections, explanatory notes and other information necessary for completion of Work. Where articles or equipment attach or connect to other articles or equipment, indicate that such items have been co-ordinated, regardless of Section under which adjacent items will be supplied and installed. Indicate cross references to design drawings and specifications.
- .4 Allow ten (10) days review of each submission by Contract Administrator.
- .5 Adjustments made on shop drawings by Contract Administrator are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Contract Administrator prior to proceeding with Work.
- .6 Make changes in shop drawings as Contract Administrator may require, consistent with Contract Documents. When resubmitting, notify Contract Administrator in writing of revisions other than those requested.
- .7 Accompany submissions with transmittal letter, containing:
  - .1 Date.
  - .2 Project title and number.
  - .3 Contractor's name and address.
  - .4 Identification and quantity of each shop drawing, product data and sample.
  - .5 Other pertinent data.
- .8 Submissions include:
  - .1 Date and revision dates.
  - .2 Project title and number.
  - .3 Name and address of:
    - .1 Subcontractor.
    - .2 Supplier.
    - .3 Manufacturer.
  - .4 Contractor's stamp, signed by Contractor's authorized representative certifying approval of submissions, verification of field measurements and compliance with Contract Documents.
  - .5 Details of appropriate portions of Work as applicable:
    - .1 Fabrication.
    - .2 Layout, showing dimensions, including identified field dimensions, and clearances.
    - .3 Setting or erection details.

- .4 Capacities.
  - .5 Performance characteristics.
  - .6 Standards.
  - .7 Operating weight.
  - .8 Wiring diagrams.
  - .9 Single line and schematic diagrams.
  - .10 Relationship to adjacent work.
- .9 After Contract Administrator's review, distribute copies.
- .10 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Contract Administrator may reasonably request.
- .11 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Contract Administrator where shop drawings will not be prepared due to standardized manufacture of product.
- .12 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Contract Administrator.
- .1 Report signed by authorized official of testing laboratory that material, product or system identical to material, product or system to be provided has been tested in accord with specified requirements.
  - .2 Testing must have been within [3] years of date of contract award for project.
- .13 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Contract Administrator.
- .1 Statements printed on manufacturer's letterhead and signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements.
  - .2 Certificates must be dated after award of project contract complete with project name.
- .14 Submit electronic copies of manufacturer's instructions for requirements requested in specification Sections and as requested by Contract Administrator.
- .1 Pre-printed material describing installation of product, system or material, including special notices and Material Safety Data Sheets concerning impedances, hazards and safety precautions.
- .15 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Contract Administrator.
- .16 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- .17 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Contract Administrator.

- .18 Delete information not applicable to project.
- .19 Supplement standard information to provide details applicable to project.
- .20 If upon review by Contract Administrator, no errors or omissions are discovered or if only minor corrections are made, electronic copies will be returned and fabrication and installation of Work may proceed. If shop drawings are rejected, noted copy will be returned and resubmission of corrected shop drawings, through same procedure indicated above, must be performed before fabrication and installation of Work may proceed.

## **1.5 SAMPLES**

- .1 Submit for review samples as requested in respective specification Sections. Label samples with origin and intended use.
- .2 Deliver samples prepaid to Contract Administrator's business address.
- .3 Notify Contract Administrator in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- .4 Where colour, pattern or texture is criterion, submit full range of samples.
- .5 Adjustments made on samples by Contract Administrator are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Contract Administrator prior to proceeding with Work.
- .6 Make changes in samples which Contract Administrator may require, consistent with Contract Documents.
- .7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

## **1.6 PHOTOGRAPHIC DOCUMENTATION**

- .1 Submit electronic copy of colour digital photography in jpg format, standard resolution as directed Contract Administrator.
- .2 Project identification: name and number of project and date of exposure indicated.
- .3 Number of viewpoints: 2 locations.
  - .1 Viewpoints and their location as determined by Contract Administrator.
- .4 Frequency of photographic documentation: weekly.
  - .1 Upon completion of Work, as directed Contract Administrator.

**END OF SECTION**

**Part 1            General**

**1.1                REFERENCES**

- .1            City of Winnipeg *General Conditions for Construction* (Revision 2019-09-01)

**1.2                INSPECTION AND DECLARATION**

- .1            Contractor's Inspection: Contractor and Subcontractors: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
  - .1            Notify Contract Administrator in writing of satisfactory completion of Contractor's Inspection and that corrections have been made.
  - .2            Request Contract Administrator's Inspection.
- .2            Contract Administrator's Inspection: Contract Administrator and Contractor will perform inspection of Work to identify obvious defects or deficiencies. Contractor to correct Work accordingly.
- .3            Completion: submit written certificate that following have 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            Work is complete and ready for final inspection.
- .4            Final Inspection: when items noted above are completed, request final inspection of Work by Consultant. If Work is deemed incomplete by Contract Administrator, complete outstanding items and request re-inspection.
- .5            Declaration of Substantial Performance: when Contract Administrator considers deficiencies and defects have been corrected and it appears requirements of Contract have been substantially performed, make application for certificate of Substantial Performance. Refer to *General Conditions for Construction* for specifics to application.
- .6            Commencement of Lien and Warranty Periods: date of City of Winnipeg's acceptance of submitted declaration of Substantial Performance shall be date for commencement for warranty period and commencement of lien period unless required otherwise by lien statute of Place of Work.
- .7            Final Payment: when Contract Administrator considers final deficiencies and defects have been corrected and it appears requirements of Contract have been totally performed, make application for final payment. If Work is deemed incomplete by Contract Administrator, complete outstanding items and request re-inspection.
- .8            Payment of Holdback: after issuance of certificate of Substantial Performance of Work, submit an application for payment of holdback amount in accordance with *General Conditions for Construction*.

**1.3                CLEAN UP**

- .1            The Contractor shall maintain the Work in a safe and tidy condition and free from the accumulation of waste products and debris, other than that caused by the City of Winnipeg, other contractors or their employees.
- .2            Before applying for Substantial Performance of the Work, the Contractor shall remove waste products and debris, other than that resulting from the work of the City of

Winnipeg, other contractors or their employees, and shall leave the Site clean and suitable for use or occupancy by the City of Winnipeg. The Contractor shall remove products, tools, construction equipment, and temporary work not required for the performance of the remaining work.

- .3 Prior to application for the final payment, the Contractor shall remove any remaining products, tools, construction equipment, temporary work, and waste products and debris, other than those resulting from the work of the City of Winnipeg, other contractors or their employees.

**END OF SECTION**

## **Part 1 General**

### **1.1 SECTION INCLUDES**

- .1 Signage of the following types:
  - 1. Backlit monument facility sign;
  - 2. Programmable LED electronic message boards;
  - 3. Backlit channel letter signage (Separate Price No. 1)

### **1.2 REFERENCES**

- .1 Americans with Disabilities Act (ADA)1.ATBCB ADAAG – Americans with Disabilities Act Accessibility Guidelines (latest);
- .2 Canadian Standards Association CAN/CSA B651-18 Accessible Design for Built Environment (latest);
- .3 City of Winnipeg Accessibility Design Standard – Third Edition, 2015;
- .4 City of Winnipeg Brand Manual (latest);
- .5 Underwriters Laboratory (UL)1.UL94 – Tests for flammability of Plastic Materials  
2.UL723 – Surface Burning characteristics of Interior finish materials and systems (latest).

### **1.3 SUBMITTALS**

- .1 Submit under provisions of Section 01 33 00 – Submittal Procedures.
- .2 Product Data: Manufacturer's illustrated product literature and specifications to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.
- .3 Shop Drawings: Submit detailed drawings of products and assemblies.
- .4 Selection Samples: For each finish product specified, two (2) complete sets of colour chips representing manufacturer's full range of available colours and patterns.
- .5 Verification Samples: For each finish product specified, two (2) samples, minimum size 6 inches (150 mm) square representing actual product, colour, and patterns.

### **1.4 QUALITY ASSURANCE**

- .1 Manufacturer Qualifications: All sign fabrication within this section to be performed by a manufacturer with a minimum experience of producing 10,000

compliant signs as specified in the Americans with Disabilities Act Accessibility Guidelines (ADAAG).

- .2 Sourcing: All signage shall be manufactured by one manufacturer.
- .3 Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  1. Finish areas designated by Contract Administrator.
  2. Do not proceed on remaining work until workmanship is approved by Contract Administrator.
  3. Rework mock-up area as required to produce acceptable work.
- .4 Signage shall comply with the City of Winnipeg Accessibility Design Standard where applicable. Characters and graphics, including but not limited to, copy height, letter stroke, symbols, materials, and finishes indicated on the Drawings are intended as guidelines for compliance. Implement each applicable standard. Should conflicts arise, notify the Contract Administrator before proceeding.

## **1.5 DELIVERY, STORAGE, AND HANDLING**

- .1 Deliver and store products, away from direct sunlight, in manufacturer's unopened packaging until surfaces are ready for installation.
- .2 Inspect materials at delivery to verify.

## **1.6 PROJECT CONDITIONS**

- .1 Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

## **1.7 SEQUENCING**

- .1 Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

## **1.8 WARRANTY**

- .1 Manufacturer's Warranty: Signage is guaranteed for the Life of the Property against defects in materials and workmanship.

## **Part 2 Products**

### **2.2 BACKLIT MONUMENT FACILITY SIGN**

- .1 Free-standing cabinet of aluminum sheeting on concrete base with wording router-cut on Lexan backing, with internal structure of three (3) 6" x 6" (150mm x 150mm) hollow structural section (HSS) posts and base plates anchored to cast-in-place concrete piles.
- .2 LED illumination on interior of cabinet.

- .3 Raised vinyl lettering and arrows for directional wayfinding on bottom half of sign structure.
- .4 Digital artwork to be provided by Contract Administrator.
- .5 Colours as indicated on Drawings.
- .6 Signage must comply with all requirements outlined in Winnipeg Zoning By-Law No. 200/2006 (latest edition) and the City of Winnipeg Accessibility Design Standard (latest edition).

### **2.3 PROGRAMMABLE LED ELECTRONIC MESSAGE BOARD**

- .1 Two (2) light-emitting diode (LED) message board cabinets integrated into monument sign as indicated on Drawings, complete with programmable hardware and software.
- .2 Message board must:
  - 1. have the ability to hold displayed message for minimum of sixty (60) seconds with a maximum transition time of 0.25 seconds;
  - 2. not exceed a brightness level of 0.3 foot-candles above ambient light conditions;
  - 3. utilize automatic dimming; and
  - 4. comply with all requirements outlined in Winnipeg Zoning By-Law No. 200/2006 (latest edition) and the City of Winnipeg Accessibility Design Standard (latest edition).

### **2.4 BACKLIT CHANNEL LETTER SIGNAGE (SEPARATE PRICE NO. 1)**

- .1 Channel lettering complete with LED illumination to sizes indicated on Drawings to be mounted to building facades.
- .2 Digital artwork to be provided by Contract Administrator.
- .3 Colours as indicated on Drawings.
- .4 Signage must comply with all requirements outlined in Winnipeg Zoning By-Law No. 200/2006 (latest edition) and the City of Winnipeg Accessibility Design Standard (latest edition).

## **Part 3 Execution**

### **3.1 EXAMINATION**

- .1 Do not begin installation until substrates have been properly prepared.

- .2 If substrate preparation is the responsibility of another installer, notify Contract Administrator of unsatisfactory preparation before proceeding.
- .3 Complete all finishing operations, including paint curing, before beginning installation of signage systems.

### **3.2 PREPARATION**

- .1 Clean surfaces thoroughly prior to installation.
- .2 Verify mounting heights and comply with referenced standards

### **3.3 INSTALLATION**

- .1 Install in accordance with manufacturer's instructions and in proper relationship to adjacent construction.
- .2 Locate the signage system as indicated on drawings for the appropriate substrate and in accordance with manufacturer's installation instructions and in proper relationship to adjacent construction.
- .3 Install signs level, plumb and at heights indicated, with sign surfaces free from distortion. Where otherwise not dimensioned, install signs where best suited to provide a consistent appearance throughout the Project. When exact position, angle, height or location is in doubt, contact the Contract Administrator for clarification.
- .4 At completion of installation, clean exposed sign surfaces and adjoining surfaces.

### **3.4 PROTECTION**

- .1 Protect installed products until completion of Project.
- .2 Signs shall be free of glue, fingerprints, dirt, grease and any other imperfections
- .3 Touch-up, repair or replace damaged products before Substantial Performance.

### **3.5 MAINTENANCE**

- .1 Sign manufacturer shall provide maintenance for a period of five (5) years from date of acceptance. Cost of maintenance is to be included in Bid Price.

**END OF SECTION**

## **26 00 00 GENERAL REQUIREMENTS**

1. The specification covering the General Conditions of the Contract, Supplementary Conditions, General and Safety Requirements, Instructions to Bidders, and all sections form an integral part of this specification and shall be read in conjunction herewith.

### **1.1 SCOPE**

1. Provide all materials, labour, plant and equipment required for a complete and working installation as herein specified and as shown on the drawings.
2. The installation shall be in accordance with the current edition of the Provincial and Municipal codes and regulations.
3. All equipment supplied under this Contract shall be new and C.S.A. approved.
4. Arrange for, and coordinate, rough-in and final inspections with inspection authority and Contract Administrator.
5. In the event of conflict between contract documents and Codes, the more stringent requirement shall be adhered to at no additional cost.
6. Engineering Site Reviews: Contractor's work shall be periodically reviewed by the Contract Administrator for determining general quality of installation. Guidance will be offered as to interpretation of contract documents and to assist in performing the installation. Inspections, reviews and directives issued in no way relieve the Contractor, his agents, employees or subtrades from contractual obligations, conformance to codes or safe and recognized practices.
7. Apply for and pay for all required permits, licenses, inspections and fees.
8. Indicate all permit numbers on all progress draws.
9. Co-ordinate all telephone and cablevision conduit runs with Internet Service Provider before installation begins.

### **1.2 SHOP DRAWINGS**

1. Submit electronic shop drawings for review by the Contract Administrator prior to ordering equipment and commencing work. Shop drawings shall be specific to the equipment and materials for this project. Changes to location and arrangement shall be reviewed prior to installation. Review of shop drawings by the Contract Administrator is for the sole purpose of ascertaining conformance to design intent. Contractor retains responsibility for all aspects of installation, performance and coordination.
2. Shop Drawing Procedures are as follows:
  1. General Contractor and Sub-Contractor shall review, approve and stamp submittals prior to sending to Contract Administrators for review. Submittals without contractor stamps will be rejected.
  2. A transmittal listing each item of equipment shall accompany each submission.
  3. Equipment must be labeled appropriately. Each item of equipment must bear the identifier used on the drawings.
  4. Data sheets must clearly indicate model and options being utilized. All information that does not apply must be crossed off.
  5. Allow Contract Administrators Ltd. five (5) full working days to review all shop drawings.
  6. Send electronic shop drawing submittals (.PDF only) to Contract Administrator.
  7. All deviations from specified equipment shall be highlighted by contractor.

### **1.3 ACCURACY OF DATA**

1. Drawings are schematic; exact locations, distances, levels and other dimensions shall be governed by the architectural and/or interior design drawings.
2. Devices or equipment shall be moved to any point within a 3m (10'-0") radius for coordination purposes or when the Contract Administrator requests relocation before the work has been substantially completed, without additional cost.
3. Provide a typical mock-up of one area, if requested.
4. Drawings and specifications establish scope of work only and are not detailed installation instructions. Follow manufacturer's recommendations and adhere to all current and applicable Codes.
5. The Contract Administrator shall have the final say in matters of interpretation.
6. Branch circuit wiring shall be installed with circuits arranged exactly as shown on the drawings. Conduit and cable runs shall be modified to suit the installation.

### **1.4 EXAMINATION**

1. Examine entire contract document package to ensure that the work under this Contract can be satisfactorily carried out. Report any discrepancies to the Contract Administrator prior to submission of Tender.
2. Examine the site, local conditions and all existing apparatus if any to be re-used and verify that the condition of this equipment is suitable for its intended use in the new construction.

### **1.5 WORKMANSHIP**

1. Install equipment in a workmanlike manner to present a neat appearance to the satisfaction of the Contract Administrator. Install equipment parallel and perpendicular to building lines. Install neatly and group to present a tidy appearance.
2. Install equipment and apparatus including but not limited to junction boxes, adjustment or eventual replacement with adequate clearances and accessibility for same. Accessibility is deemed to be within 600mm (24") of accessible drywall ceiling opening and no more than 1m (39") above ACT.
3. Include in the work, all requirements shown on the shop drawings or manufacturers' installation instructions.
4. Replace work unsatisfactory to the Contract Administrator without extra cost.
5. Equipment exposed to exterior weather and / or moisture shall be corrosion and UV protected.
6. Only skilled and qualified licensed tradesperson shall perform the work. Tradesperson shall provide proof of registered status when requested.
7. Contractor is responsible to carefully examine conditions at the intended place of work. Verify all services, connection points, and all access openings to permit installation of new equipment.
8. All conduits shall be clipped to structure by means of anchors or supported by unistrut hangers as close to underside of structure as possible. Tie wraps for wire hanging and fastening or perforated strapping is not acceptable.
9. All support material for all luminaires, outlet boxes, junction boxes, etc. in a non-combustible building shall be of non-combustible material. Wood is not acceptable.

### **1.6 COORDINATION**

1. Contractor shall co-ordinate all aspects of the installation with all other trades. There shall be no change notices issued nor changes to the building design (i.e. lowering ceiling heights) due to routing conflicts amongst trades or lack of coordination. When required, discuss the proposed routing with the Contract Administrator prior to installation. Final responsibility remains with the Contractor.

2. Connect to equipment specified in other sections, installed by other Contractors or the City of Winnipeg.
3. Supply access doors or rated doors to match fire rating, at all service points for equipment. Indicate on project record documents the location of all access doors.
4. Openings shall be coordinated with the General Contractor. Opening sizes shall be kept to a minimum
5. Contractor shall pay for professional trade to patch openings and install all finishing materials (i.e. drywall, brick, etc.). Openings with potential to compromise the structure shall be approved by a licensed Structural Engineer prior to starting the opening. The contractor shall contact the structural Contract Administrator for instructions prior to cutting or coring. Contractor is to scan structure before making openings and advise General Contractor and Contract Administrator of any obstructions found prior to cutting or coring.

#### **1.7 SUPERVISION**

1. Supervise the work at all times through a responsible and competent qualified tradesperson.
2. Full co-operation shall be shown with other trades to facilitate installations and to avoid delays in carrying out the work.
3. Replace site supervisor and/or foreman when requested by Contract Administrator.

#### **1.8 CHANGE TO CONTRACT**

1. Contractor change pricing shall include a complete breakdown of items of material, labour hours, labour rates and markups. This review period will start when all information indicated above is received.
2. General Contractor shall review and approve all contractor change pricing and credits prior to submitting to Contract Administrator. Submission to the Contract Administrator indicates General Contractor believes the pricing is fair and reasonable.

#### **1.9 PROGRESS CLAIMS**

1. Contractor progress claims will only be reviewed if they provide a complete breakdown by trade and sub trade and list all major equipment and labour complete with costs.

#### **1.10 PROJECT CLOSE OUT**

##### **1. PROJECT RECORD DOCUMENTS**

1. Maintain accurate Project Record Documents and current on site and same shall be present for review at each site review. Submit these Project Record Documents in electronic format of same program and version of original contract documents and PDF for review at the completion of the project. Note that changes to architectural, and structural and civil floor plans must be included.
2. Transfer changes to electronic disc AutoCAD file. Submit disc and hard copy for final review and submission to Owners.
3. After acceptance of Project Record Documents by the Contract Administrator, provide one (1) complete set of AutoCAD and PDF Project Record Documents on three (3) CD-ROM and one (1) set of hard copy design prints and one (1) set of hard copy red line contractor markups.
  1. Electrical shall include:
    1. Circuiting of all new and existing equipment to remain;
    2. Accurate dimensions of all underground or in slab conduit or feeders;
    3. Identify all feeder / branch circuits and conduit routing and size including major junction box locations; and
    4. Any relocated or added equipment shall be identified.

4. The use of white out (liquid or tape) shall be used for correcting contractor red line errors ONLY.
5. DO NOT use white out to delete original contract drawings deleted items shall be crossed out in red ink.
2. OPERATION AND MAINTENANCE MANUALS
  1. Prior to requesting any Substantial Performance site review, all aspects of the installed system shall be complete and operational. Testing shall be complete along with device and equipment identification, equipment startups.
  2. At the completion of work submit three (3) electronic media storage devices and one (1) hard covered loose leaf binder showing all major components and divided by trade sections. Manuals shall be complete with all warranty information, instructions for operation, maintenance and replacement parts as required. Include copies of reviewed shop drawings, Contract Administrator contact information, Contractor and Sub-contractor information. Include copies of valve tag lists, all inspection certificates, and balancing reports. The Contract Administrator may not perform final inspections nor certify for occupancy until the O&M Manuals are received, reviewed and approved.
    1. Provide manufacturers start-up reports and letters of certification that the following equipment and systems are started, commissioned and working correctly:
      1. Submit a Certificate of Inspection from the local Inspection Authority upon completion of work and include with Project Record Documents.
    3. Each of the Contractors shall instruct the Owners Operating Staff on the operation, maintenance, and adjustment of equipment and/or system that they have installed or set. Provide sign off sheets for training indicating who was trained and number of hours of training.
3. CERTIFICATION REQUIREMENTS
  1. The installation shall be completely tested demonstrating that the equipment and systems installed perform in the manner intended.
  2. Prior to electrical final inspection or certification provide the following:
    1. Fire Alarm Verification Report;
    2. Copies of manufacturer's startup or certification reports;
    3. Training sign off sheets; and
    4. Copy of the Electrical Permit

#### **1.11 WARRANTY**

1. The satisfactory operation of all work and equipment shall be warrantied for a minimum of twelve (12) calendar months after substantial completion, unless otherwise noted.

#### **1.12 WORK IN EXISTING BUILDING**

1. The building shall remain open and in normal operation during the construction period of this contract.
2. Where existing services such as power, fire alarm, HVAC, plumbing or fire protection are required to be disrupted and/or shutdown coordinate the shut-downs with the City of Winnipeg and carry out the work at a time and in a manner acceptable to them. Carefully schedule all disruptions and/or shutdowns and ensure that the duration of same is kept to a minimum. Submit for approval, a written schedule of each disruption at least 72 hours in advance of performing work and obtain City of Winnipeg written consent prior to implementing.
3. Should any connections be required to maintain services during work in the existing building, supply and install all necessary material and equipment and provide all labour at no extra cost. Should any existing system be damaged, make full repairs without extra cost, and to the satisfaction of the City of Winnipeg.

4. Contractor shall ensure that any coring of holes through the deck floors, walls and grade beams, etc. will not penetrate existing conduits, cables or mechanical equipment in or under the concrete. Contractor shall be responsible to take any and all action as deemed necessary by the Building Engineer to correct any such penetrations at his cost. No coring shall be undertaken unless permission is given by the Building Engineer.
5. When painting is to commence, existing devices are to be temporary removed and reinstalled upon completion of painting unless otherwise noted.
6. The drawings indicate major items of equipment to be deleted or relocated but do not indicate every item of equipment to be deleted or relocated. Be responsible for determining which existing equipment is to be deleted or relocated by examining the site and Construction Documents. Reflect information on project record documents.
7. Where existing devices (receptacles, switches) mounted on a wall which will be covered with a new finish, provide an extension ring, coverplate, etc. as required to mount the device to the new wall.
8. Existing junction boxes shall remain accessible.
9. Refer to contract documents for phasing and staging of work and adhere to that program. Comply with instructions regarding working hours necessary to maintain the building in operation.
10. All existing cables and conduits required to remain in an area of renovation must be repaired, re-secured or clipped to meet specification and CEC standards.
11. Confirm time frame with owner for all jack hammering or coring of slab

**END OF SECTION**

## 26 00 10 BASIC MATERIAL AND METHODS

### 1.1 GROUNDING

1. The entire installation shall be grounded in accordance with the Canadian Electrical Code.

### 1.2 TEST

1. The electrical installation shall be completely tested demonstrating that the equipment and systems installed perform in the manner intended.

### 1.3 IDENTIFICATION OF EQUIPMENT

1. All equipment shall be identified with engraved lamacoid nameplates secured with self-adhesive backing. Lamacoid shall identify equipment designation, voltage, phasing and fed from.
2. The utilization of Dynamo Rhino Industrial 6000, P-Touch is acceptable for receptacles.
3. Wording for coverplates shall be confirmed by Contract Administrator.
4. All coverplates and junction boxes shall be identified with system and/or Panel/Voltage on cover.

### 1.4 USE OF EQUIPMENT BEFORE OCCUPANCY BY OWNERS

1. The Contractor may operate equipment for testing and balancing only. The use of equipment for any other purpose must be approved by the City of Winnipeg in writing prior to use. Approval must indicate who is paying for utilities used.
2. Any equipment that is placed in use for any reason prior to the beginning of the guarantee period shall be cleaned and provided with maintenance and repairs as required, to ensure conditions are equal to that of new equipment, or shall be replaced, at no cost to the City of Winnipeg.

### 1.5 WIRING METHODS

1. Unless otherwise shown on the drawings, all wires shall be copper, minimum #12 AWG with 90°C x-link insulation. Wiring shall be installed in conduit.
2. Wiring in concrete or masonry construction shall be in steel electrical metallic tubing (EMT). Provide a separate grounding conductor in EMT conduit runs embedded in concrete slabs. Conduits installed in areas exposed to moisture shall have watertight fittings.
3. All wiring in finished areas shall be concealed. Conduits shall be run at right angles to the building lines.
4. Conduit and wiring shall be grouped where possible and clipped in a neat and workmanlike manner.
5. AC-90 cable to be used for drops from conduit systems to recessed lighting fixtures in accessible ceilings or outlet boxes in steel stud walls only. Home runs shall be in conduit. Maximum run of AC-90 in accessible ceiling space shall be 5'-0".
6. Existing AC-90 runs to base building panels shall be removed and replaced with conduit and wire within this Contract.
7. Liquid tight flexible metal conduit or Teck cable shall be utilized for all motor and transformer connections with approved Teck connectors.
8. All unused communication and power wiring in ceiling space shall be removed.
9. Each circuit for computer equipment shall have a separate neutral conductor.
10. Conduit runs shall be installed and inspected before AC-90 runs are installed to ensure conformance with Item 5 herein.

11. Soft wiring NMD-7 may be utilized in all wood construction where same meets Code.  
Conduit shall be installed to central junction box for NMD-7 cable termination.
12. All wiring in health care facilities shall be run in conduit.
13. The use of electrical non-metallic tubing (ENT) shall be limited to in-slab installations only.

1.6 MOUNTING

- .1 Mounting height of equipment is from finished floor to centreline of equipment unless specified or indicate otherwise.
- .2 Mounting height of equipment shall be as per Architectural clarifications.

**END OF SECTION**

**26 05 35 OUTLET BOXES**

1. Outlet, junction and switch boxes shall be galvanized pressed steel of size and type to suit each individual application.
2. All outlet boxes exposed to damp locations shall be sealed FS/FD or RAB style.
3. Sectional boxes shall not be utilized.
4. Surface mounted outlet boxes accessible to public spaces shall be completely sealed free of knock outs.

**END OF SECTION**

## **26 06 22 MISCELLANEOUS APPARATUS AND APPLIANCES**

### **1.1 GENERAL**

1. Provide all required electrical devices, components, conduits, fittings, wiring, disconnects, and miscellaneous equipment to make all connections to equipment.
2. Be familiar with the apparatus being supplied and carefully coordinate and cooperate with the supplier/installer to ensure a proper and complete installation.

### **1.2 ILLUMINATED SIGNS**

1. Wire and connect all illuminated signs. Provide a disconnect at each sign.
2. Utilize water-tight wiring methods.

**END OF SECTION**

## **26 27 26 WIRING DEVICES**

1. Colours of receptacles, switches, outlets and coverplates shall be confirmed with Architect, Interior Designer or Contract Administrator.
2. Receptacles shall be 15 ampere, 125 VAC, ivory, parallel slot, U-ground, side and back wiring screw terminate. Approved manufacturers are: Hubbell No. 5262, Arrow Hart No. 5262, Bryant No. 5262 or equal.
3. Wet location covers shall be equal to Cooper, Metal WeatherBox While-In-Use protective covers, WIUMV-1 for vertical mounting and WIUMH-1 for horizontal mounting. Plastic covers will not be accepted.

**END OF SECTION**

**26 50 00 LIGHTING**

1. Supply and install all luminaires complete with lamps. All new luminaires shall be provided with Driver, Manitoba Hydro Lighting program approved.
2. Install luminaires supplied by the City of Winnipeg, as indicated.
3. Clean and Re-lamp all fixtures to be re-used.
4. Any unused fixtures above the ceiling must be removed and circuits terminated. Turn fixtures over to the building City of Winnipeg.
5. Lighting shall adhere to the Manitoba Hydro Lighting Program.

**END OF SECTION**

## **26 50 10 LIGHTING CONTROLS**

1. Switches shall be totally enclosed in moulded housing, 15AC1 or 20AC1 series, 15 amps or 20 amps, 125 VAC as indicated equal to Hubbell No. 1201, P & S No. 15AC1, or Bryant No. 4801.
2. Screw in LED lamp dimmer controls shall be Lutron or Leviton and shall be rated to meet the requirement of the lamp.
3. Hard wired dimmable LED luminaires shall be provided with 0-10V driver with compatible dimmer control. Approved dimmers are Lutron or Leviton.
4. Provide a dedicated neutral for all electronic dimming and driver controls.
5. Provide line voltage and control wiring in independent conduit systems as necessary for operational systems. Refer to Manufacturer's wiring diagrams.

**END OF SECTION**

**Part 1      General**

**1.1      SECTION INCLUDES**

- .1      Protection of existing trees within the limits of the construction site. Special care is required to protect the foliage, branches, trunk and roots from damage that could result from construction operations.
- .2      The Contractor shall be responsible for preventing the following types of damage.
  - .1      Compaction in root zone caused by foot and vehicular traffic or material storage.
  - .2      Trunk damage and branch damage caused by equipment operations, material storage, or nailing and bolting.
  - .3      Trunk and branch damage caused by ropes or guy wires.
  - .4      Root poisoning from spilled solvents, gasoline, paint, and other noxious materials.
  - .5      Branch damage due to improper pruning or trimming.
  - .6      Damage from alteration of soil pH factor caused by depositing lime, concrete, plaster, or other waste materials near roots.

**1.2      RELATED SECTIONS**

- .1      Section 31 11 01 – Sitework Demolition

**1.3      DAMAGE ASSESSMENT**

- .1      Trees Below 100 mm Caliper and 3m Height.
  - .1      Deciduous trees below 100 mm caliper and coniferous trees below 3m height destroyed or badly damaged as a result of construction operations shall be removed and replaced with trees of the same size, species, and variety. Replacement trees are to be reviewed and approved by the Consultant prior to installation.
- .2      Trees Over 100 mm Caliper and 3m Height.
  - .1      Deciduous trees over 100 mm caliper and coniferous trees over 3m height badly damaged or destroyed by construction operations will be appraised according to the current International Society of Arboriculture evaluation procedure presently in use by the City of Winnipeg Urban Forestry Branch. It will be at the Consultant's discretion to apply this appraised value toward the landscape development or to deduct it from the Contract amount.

**Part 2      Products**

**2.1      MATERIALS**

- .1      Burlap fabric.

- .2 Dimension lumber for strapping: 19 x 140 x 2400 mm.
- .3 Steel wire, 9 to 12 gauge.

### **Part 3 Execution**

#### **3.1 GENERAL**

- .1 All tree protection is to be in place prior to start of site works and stay in place until construction completion.
- .4 All trees within the project area are to remain and be protected from damage, except for trees designated to be removed.
- .5 Obtain approval from Consultant of all proposed protection materials, methods and locations prior to construction commencement.
- .6 Ensure that all construction activity, including but not limited to the storage of materials and equipment, disposal of debris and the parking, maintenance and re-fuelling of all vehicles, shall not be carried out within the drip line of trees designated to remain or inside of any barrier erected for the protection of vegetation.
- .7 Where damage to a tree does occur, the Contractor shall notify the Consultant and arrange for a certified arborist to prune and dress the wound(s). More substantial damage to trees not designated for removal will invoke the conditions under Item 1.3 Damage Assessment.

#### **3.2 STRAPPING**

- .1 Apply timber strapping to tree trunks in close proximity to moving equipment and construction work. Timber strapping may be required for trees protected only by temporary barriers as directed by Consultant.
- .2 Wrap trunk with a layer of burlap.
- .3 Install 19 x 140x 2400 or approved alternate dimensioned lumber, placed vertically, spaced 50 mm apart around the circumference of the mature tree trunks. Smaller trees shall be strapped with appropriately sized lumber.
- .4 Secure with steel wire.

**END OF SECTION**

## **Part 1        General**

### **1.1            DESCRIPTION**

- .1        This Specification shall supplement CW 3010, CW 3110, CW 3235, and CW 3240 and shall cover the requirements for demolition, salvage, removal and disposal wholly or in part of various items designated to be removed or partially removed and for backfilling resulting trenches, holes and pits.
- .2        The Work under this Specification shall include the following items as shown within the limit of Work on the Drawings or otherwise directed by the Contract Administrator:
  - (a) Removal of existing pylon facility signage (to be turned over to Owner);
  - (b) Removal of sod and topsoil at new monument sign location;
  - (c) Excavation for piles for monument sign;
  - (d) Trenching for electrical connections and rough-ins.
- .3        Work will occur on City of Winnipeg property.

### **1.2            STORAGE AND PROTECTION**

- .1        Perform all work in accordance with *General Conditions for Construction* (Revision 2019-09-01).
- .2        Existing buried utilities and structures:
  - (a) Size, depth and location of existing utilities and structures as indicated are for guidance only. Completeness and accuracy are not guaranteed.
  - (b) Prior to commencing any excavation work, notify applicable Owner or authorities having jurisdiction, establish location and state of use of buried utilities and structures. Clearly mark such locations to prevent disturbance during work.
  - (c) Confirm locations of buried utilities by careful test excavations.
  - (d) Maintain and protect from damage, water, sewer, gas, electric, telephone and other utilities and structures encountered or as indicated. Fibre optic lines shall be protected in accordance with requirements of Bell MTS.
  - (e) Where utility lines or structures exist in area of excavation, obtain direction of utility company.
  - (f) Record location of maintained, re-routed and abandoned underground lines.
- .3        Protect existing surface features that may be affected by the work. In event of damage to such items, immediately replace or make repairs to approval of Consultant at no cost to Owner.
- .4        In all circumstances ensure that demolition work does not adversely affect adjacent watercourses, groundwater and wildlife, or contribute to excess air and noise pollution.

- .5 Do not dispose of waste or volatile materials such as mineral spirits, oil, petroleum-based lubricants, or toxic cleaning solutions into watercourses, storm or sanitary sewers. Ensure proper disposal procedures are maintained throughout the project.
- .6 Do not pump water containing suspended materials into watercourses, storm or sanitary sewers or onto adjacent properties.
- .7 Control disposal or runoff of water containing suspended materials or other harmful substances in accordance with local authorities.
- .8 Protect trees, plants and foliage on site and adjacent properties where indicated.

## **Part 2 Products**

### **2.1 EQUIPMENT**

- .1 Equipment and heavy machinery used to meet or exceed all applicable emission requirements and operate in compliance with MVSA.
- .2 The size, weight, and destructive capabilities of the equipment shall be matched to the type of removal to be done.

### **2.2 MATERIALS**

- .1 Backfill Material: in accordance with CW 2030 – R7, Class 1.
- .2 Sub-base material: in accordance with CW 3110, clay borrow or approved alternate. Crushed limestone will not be accepted.

## **Part 3 Execution**

### **3.1 FEES AND PERMITS**

- .1 The Contractor shall obtain and pay for all licenses and permits necessary for the demolition work.

### **3.2 SAFETY PRECAUTIONS**

- .1 The Contractor shall provide flagpersons, barricades, railings, and whenever necessary, warning signs at excavation holes, plywood access ramps and /or other construction necessary to secure the safety of workers, the public, and personnel alike and shall comply with all Provincial Statutes applicable to the Work of this nature. The Contractor shall provide all other protective measures as may be required by any law in force in Manitoba.

### **3.3 PREPARATION OF SITE**

- .1 Inspect Site and verify with Consultant items designated for removal, disposal, salvage and items to remain.

- .2 Locate and protect utility lines. Preserve in operating condition active utilities traversing site.
- .3 Notify utility companies before starting demolition. Utilities to provide clearance before any excavation is done.
- .4 **Notify Geomatics Service Branch at (204) 986-4826 to obtain clearance and mark survey infrastructure minimum of 72 hours before any excavation.**

### **3.4 REMOVALS**

- .1 Remove items as indicated on the Drawings and as directed by the Consultant. Do not disturb adjacent items designated to remain in place.
- .2 Remove miscellaneous concrete slabs and structures in accordance with CW 3235.
- .3 In removal of pavements:
  - (a) curbs designated for replacement shall be removed to the nearest control or construction joint;
  - (b) square up adjacent surface to remain in place by saw-cutting or other method approved by Consultant;
  - (c) protect adjacent joints and load transfer devices; and
  - (d) protect underlying granular materials.

### **3.5 DISPOSAL OF MATERIALS**

- .1 The Contractor shall promptly dispose of materials not designated for salvage or re-use in Work, off-site.
- .2 Trim disposal areas to approval of Consultant.

### **3.6 BACKFILL**

- .1 Backfill in areas as indicated in accordance with Excavation Bedding and Backfill - CW 2030.

### **3.7 RESTORATION**

- .1 Restore areas and existing works outside areas of demolition to match condition of adjacent, undisturbed areas.

### **3.8 CLEANUP**

- .1 Upon completion of work, remove debris, trim surfaces and leave work site clean.
- .2 Use only cleaning solutions and procedures that are not harmful to health, are not injurious to plants, and do not endanger wildlife, adjacent water courses or groundwater.

**END OF SECTION**

**Part 1 General**

**1.1 REFERENCES**

- .1 City of Winnipeg Standard Construction Specification: CW 3110-R13 Sub-Grade, Sub-Base & Base Course Construction; most recent edition.
- .2 American Society for Testing and Materials (ASTM)
  - .1 ASTM C117-95, Standard Test Methods for Material Finer Than 0.075 mm Sieve in Mineral Aggregates by Washing.
  - .2 ASTM C131-96, Standard Test Method for Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
  - .3 ASTM C136-96a, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
  - .4 ASTM D422-63(1998), Standard Test Method for Particle-Size Analysis of Soils.
  - .5 ASTM D698-00a, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400ft-lbf/ft<sup>3</sup>) (600kN-m/m<sup>3</sup>).
  - .6 ASTM D1557-00, Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000ft-lbf/ft<sup>3</sup>) (2,700kN-m/m<sup>3</sup>).
  - .7 ASTM D1883-99, Standard Test Method for CBR (California Bearing Ratio) of Laboratory Compacted Soils.
  - .8 ASTM D4318-[00], Standard Test Methods for Liquid Limit, Plastic Limit and Plasticity Index of Soils.
- .3 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.

**1.2 WASTE MANAGEMENT AND DISPOSAL**

- .1 Separate and recycle waste materials in accordance the requirements of authorities having jurisdiction.
- .2 Divert unused granular material from landfill to local facility as approved Contract Administrator.

**Part 2 Products**

**2.1 GRANULAR MATERIALS**

- .1 Sub-base: Class C aggregate, in accordance with City of Winnipeg standard construction specifications.
- .2 Base: Class A aggregate, in accordance with City of Winnipeg standard construction specifications.

**Part 3 Execution**

**3.1 PLACING**

- .1 Place geotextile over approved subgrade if required.
- .2 Place granular sub-base after subgrade and geotextile is inspected and approved by Contract Administrator.
- .3 Construct granular sub-base and base to depth and grade in areas indicated.
- .4 Ensure no frozen material is placed.
- .5 Place material only on clean, unfrozen surface, free from snow or ice.
- .6 Begin spreading base material on crown line or high side of one-way slope.
- .7 Place granular sub-base, base and sand materials using methods which do not lead to segregation or degradation.
- .8 For spreading and shaping material, use spreader boxes having adjustable templates or screeds which will place material in uniform layers of required thickness.
- .9 Place material to full width in uniform layers not exceeding 150 mm compacted thickness. Contract Administrator may authorize thicker lifts (layers) if specified compaction can be achieved.
- .10 Shape each layer to smooth contour and compact to specified density before succeeding layer is placed.
- .11 Remove and replace portion of layer in which material has become segregated during spreading.
- .12 Rake finished sand court and remove all debris.

**3.2 COMPACTION**

- .1 Compact granular sub-base to density of not less than 98% corrected maximum dry density.
- .2 Compact granular base to density of not less than 100% corrected maximum dry density.
- .3 Shape and roll alternately to obtain smooth, even and uniformly compacted base.
- .4 Apply water as necessary during compaction to obtain specified density.
- .5 In areas not accessible to rolling equipment, compact to specified density with mechanical tampers approved by Contract Administrator.
- .6 Correct surface irregularities by loosening and adding or removing material until surface is within specified tolerance.

**3.3 SITE TOLERANCES**

- .1 Finished base surface to be within 10 mm of elevation as indicated but not uniformly high or low.

**3.4 PROTECTION**

- .1 Maintain finished base in condition conforming to this section until succeeding base is constructed, or until granular base is accepted by Contract Administrator.

**END OF SECTION**

**Part 1        General**

**1.1        DESCRIPTION**

- .1        This Specification shall cover the supply and installation of geotextile filter fabric, bedding material, and granite boulder and field stone mulch.

**1.2        SAMPLES**

- .1        Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2        Submit to Contract Administrator samples of each type of mulch at least 2 weeks prior to commencing work.
- .3        Mark samples as to type.

**Part 2        Products**

**2.1        GENERAL**

- .1        Decorative mulch materials shall be free of organic matter and accepted by the Contract Administrator prior to placement.

**2.2        MATERIALS**

- .1        Field Stone Mulch: Hard, unbroken 300 – 500 diameter round washed field stone. Material is to match as closely as possible stone mulch materials already on site.
- .2        Pea Gravel: Clean, washed stone, 4.75 – 9.5 mm diameter, free of excess fines, dirt, and other foreign matter.
- .3        Geotextile Filter Fabric: woven separation/reinforcement fabric to CW 3130.

**Part 3        Execution**

**3.1        PREPARATION**

- .1        Prepare subgrade and base in accordance with Section 32 11 16 – Granular Base & Sub-base.

**3.2        PLACEMENT OF GEOTEXTILE FILTER FABRIC**

- .1        The Contractor shall ensure the area to receive filter fabric is clean and free of any sharp objects or debris prior to placing the filter fabric. Install a single continuous piece unless otherwise directed by Contract Administrator. Extend fabric 50mm up sides of the block out. Trim edges neatly, ensuring fabric will be completely hidden by mulch and pea gravel.

**3.3 PLACEMENT OF FIELD STONE OR GRANITE BOULDER MULCH**

- .1 Install stone to grades and depths indicated on the Drawings, using approved placement methods.
- .2 Set stone into pea gravel bedding course, and arrange so that larger stones are uniformly distributed, smaller stones fill voids. Sufficient handwork shall be undertaken to ensure a neat and consistent appearance, to the satisfaction of the Contract Administrator.

**END OF SECTION**