

SPECIFICATION LIST

DIVISION 01 – GENERAL REQUIREMENTS

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DRAWING LIST

<u>Drawing No.</u>	<u>Date</u>	<u>Title</u>
A1	October 2023	Key Map, Building and Roof Layout
A2.1	October 2023	Condition Pictures and Design Notes
A2.2	October 2023	Condition Pictures and Design Notes
A3	October 2023	Building Elevations
A4	October 2023	Wall Section Details
A5	October 2023	Wall Section Details and General Notes
A6	October 2023	Safety Ladder and Miscellaneous Details

1. **GENERAL**

1.1 **Related Requirements**

Not used.

1.2 **Work Covered By Contract Documents**

1.2.1 Work of this Contract for the metal siding replacement and masonry wall repair, which is located at 922 N Park Drive, Brampton. The scope of work generally includes the following:

- .1 Provide modular security fence, tree protection and other protection measures.
- .2 Concrete foundation wall and masonry foundation wall repair.
- .3 Masonry wall repair.
- .4 Metal siding replacement.
- .5 New roof ladder.
- .6 Miscellaneous works per drawings, specifications and contract documents as necessary to complete the project.

1.3 **Work Sequence**

1.3.1 Coordinate and manage construction sequence under this contract to accommodate Owner's overall construction progress and schedules

1.4 **Construction Schedule**

1.4.1 In conjunction with and in a form acceptable to the Consultant and the Owner's Representative, provide within ten (10) working days after award of contract a detailed schedule indicating the following parameter:

- .1 Start date and completion date for each stage and each item of the contract work.

1.4.2 The construction schedule shall reflect completion of all work under the Contract within the specified time and in accordance with these Specifications.

1.4.3 If the Contractor desires to make a major change in the method of operation after commencing construction, or if the schedule fails to reflect the actual progress, the Contractor shall submit to the Consultant a revised construction schedule in advance of beginning revised operation.

1.5 **Site Examination**

1.5.1 All dimensions and elevations taken from the Drawings are to be confirmed on site prior to the start of work. Contractor is to be responsible for the correctness of such measurements and report to the Consultant in writing all discrepancies between measurements on site and those shown on drawings prior to commencing work.

1.5.2 All pre-existing conditions on site are to be reviewed and confirmed prior to submitting a bid price. No changes or extra will be entertained due to existing site conditions after the bid closing.

1.6 **Contractor Use Of Premises**

1.6.1 Limit use of premises for Work, storage and access to allow:

- .1 Periodic occupancy by the Owner's facility maintenance personnel.
- .2 Co-ordinate use of premises under direction of Owner's Project Manager.
- .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 Consultant.
- .6 At completion of operations condition of existing work: equal to or better than that which existed before new work started.

1.7 **Owner Occupancy**

- 1.7.1 Not used.

1.8 **Existing Services**

- 1.8.1 Notify Consultant and utility companies of intended interruption of services and obtain required permission.
- 1.8.2 Provide alternative routes for personnel, pedestrian and vehicular traffic, as deemed necessary by the Consultant or Owner.
- 1.8.3 Establish location and extent of service lines in area of work before starting Work. Notify Consultant of findings.
- 1.8.4 Submit schedule to and obtain approval from Consultant/Owner 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.
- 1.8.5 Where unknown services are encountered, immediately advise Consultant and confirm findings in writing.
- 1.8.6 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- 1.8.7 Record locations of maintained, re-routed and abandoned service lines.
- 1.8.8 Construct barriers, in accordance with the applicable standards, as required for execution of this project.

1.9 **Documents Required**

- 1.9.1 Maintain at job site, one copy each document as follows:
- .1 Contract Drawings.
 - .2 Specifications.
 - .3 Addenda.
 - .4 Reviewed Shop Drawings.
 - .5 List of Outstanding Shop Drawings.
 - .6 Change Orders.

- .7 Other Modifications to Contract.
- .8 Field Test/Inspection Reports.
- .9 Copy of Approved Work Schedule.
- .10 Health and Safety Plan and Other Safety Related Documents.
- .11 Other documents as specified.

2. **PRODUCTS**

2.1 **Not Used**

3. **EXECUTION**

3.1 **Not Used**

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **Access And Egress**

1.2.1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders and scaffolding, independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.

1.3 **Use of Site And Facilities**

1.3.1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Owner to facilitate work as stated.

1.3.2 Maintain existing services to building and provide for personnel and vehicle access.

1.3.3 Where security is reduced by work provide temporary means to maintain security.

1.4 **Alterations, Additions or Repairs to Existing Building**

1.4.1 Execute work with least possible interference or disturbance to occupants, public and normal use of premises. Arrange with Owner to facilitate execution of work.

1.5 **Existing Services**

1.5.1 Notify, Owner of intended interruption of services and obtain required permission.

1.5.2 Where Work involves breaking into or connecting to existing services, give Owner 72 hours of notice for necessary interruption of mechanical or electrical service throughout course of work. Keep duration of interruptions to a minimum. Carry out interruptions after normal working hours of occupants, preferably on weekends.

1.5.3 Construct barriers in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

1.6 **Special Requirements**

1.6.1 Carry out dust and/or noise generating Work per owner's requirements and in compliance with local by-laws.

1.6.2 Submit schedule in accordance with Section 01 32 16.07 - Construction Progress Schedule - Bar (GANTT) Chart.

1.6.3 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, environment, traffic and security regulations.

1.6.4 Keep within limits of work and avenues of ingress and egress.

1.6.5 Deliver materials outside of work day hours of 08:00 to 05:00 unless otherwise approved by Owner.

1.6.6 Do not over load road and parking area.

1.7 **Security**

1.7.1 Where security has been reduced by Work of Contract, provide temporary means to maintain security.

1.7.2 Security clearances:

.1 Personnel employed on this project will be subject to security check. Obtain clearance, as instructed, for each individual who will require to enter premises.

.2 Obtain requisite clearance, as instructed, for each individual required to enter premises.

1.8 **Building Smoking Environment**

1.8.1 Comply with smoking restrictions. Smoking is not permitted.

2. **PRODUCTS**

2.1 **Not Used**

2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **Administrative**

1.2.1 Coordinate with prime consultant regarding schedule and project meetings throughout the progress of the work at bi-weekly intervals.

1.2.2 Coordinate with prime consultant regarding preparation of agenda for meetings.

1.2.3 Coordinate with prime consultant regarding distribution of written notice of each meeting four days in advance of meeting date to Owner and Consultant.

1.2.4 Provide physical space and make arrangements for meetings.

1.2.5 Preside at meetings.

1.2.6 Coordinate with prime consultant regarding recording the meeting of minutes. Include significant proceedings and decisions. Identify actions by parties.

1.2.7 Coordinate with prime consultant regarding reproduction and distribution copies of minutes within three days after meetings and transmit to meeting participants and, affected parties not in attendance.

1.2.8 Consultant, representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.

1.3 **Preconstruction Meeting**

1.3.1 Within 15 days after award of Contract, coordinate with prime consultant request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.

1.3.2 Senior representatives of Departmental Representative, Consultant, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.

1.3.3 Coordinate with prime consultant regarding established time and location of meeting and notify parties concerned minimum 5 days before meeting.

1.3.4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.

1.3.5 Agenda to include:

.1 Appointment of official representative of participants in the Work.

.2 Schedule of Work: in accordance with Section 01 32 16.07 - Construction Progress Schedules - Bar (GANTT) Chart.

.3 Schedule of submission of shop drawings, samples, colour chips. Submit submittals in accordance with Section 01 33 00 - Submittal Procedures.

.4 Requirements for temporary barriers and enclosures in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

.5 Site security in accordance with Section 01 56 00 - Temporary Barriers and Enclosures.

.6 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.

.7 Owner provided products.

.8 Record drawings in accordance with Section 01 33 00 - Submittal Procedures.

.9 Maintenance manuals in accordance with Section 01 78 00 - Closeout Submittals.

- .10 Take-over procedures, acceptance, warranties in accordance with Section 01 78 00 - Closeout Submittals.
- .11 Monthly progress claims, administrative procedures, photographs, hold backs.
- .12 Appointment of inspection and testing agencies or firms.
- .13 Insurances, transcript of policies.

1.4 **Progress Meetings**

- 1.4.1 During course of Work and weeks prior to project completion, schedule progress meetings bi-weekly.
- 1.4.2 Contractor, major Subcontractors involved in Work and Departmental Representative, consultant and Owner are to be in attendance.
- 1.4.3 Notify parties minimum 5 days prior to meetings.
- 1.4.4 Record minutes of meetings and circulate to attending parties and affected parties not in attendance within 3 days after the meeting.
- 1.4.5 Agenda to include the following:
 - .1 Review, approval of minutes of previous meeting.
 - .2 Review of Work progress since previous meeting.
 - .3 Field observations, problems, conflicts.
 - .4 Problems which impede construction schedule.
 - .5 Review of off-site fabrication delivery schedules.
 - .6 Corrective measures and procedures to regain projected schedule.
 - .7 Revision to construction schedule.
 - .8 Progress schedule, during succeeding work period.
 - .9 Review submittal schedules: expedite as required.
 - .10 Maintenance of quality standards.
 - .11 Review proposed changes for affect on construction schedule and on completion date.
 - .12 Other business.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

- 3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **Definitions**

1.2.1 Activity: element of Work performed during course of Project. Activity normally has expected duration, and expected cost and expected resource requirements. Activities can be subdivided into tasks.

1.2.2 Bar Chart (GANTT Chart): graphic display of schedule-related information. In typical bar chart, activities or other Project elements are listed down left side of chart, dates are shown across top, and activity durations are shown as date-placed horizontal bars. Generally Bar Chart should be derived from commercially available computerized project management system.

1.2.3 Baseline: original approved plan (for project, work package, or activity), plus or minus approved scope changes.

1.2.4 Construction Work Week: Monday to Friday, inclusive, will provide five day work week and define schedule calendar working days as part of Bar (GANTT) Chart submission.

1.2.5 Duration: number of work periods (not including holidays or other nonworking periods) required to complete activity or other project element. Usually expressed as workdays or workweeks.

1.2.6 Master Plan: summary-level schedule that identifies major activities and key milestones.

1.2.7 Milestone: significant event in project, usually completion of major deliverable.

1.2.8 Project Schedule: planned dates for performing activities and the planned dates for meeting milestones. Dynamic, detailed record of tasks or activities that must be accomplished to satisfy Project objectives. Monitoring and control process involves using Project Schedule in executing and controlling activities and is used as basis for decision making throughout project life cycle.

1.3 **Requirements**

1.3.1 Ensure Master Plan and Detail Schedules are practical and remain within specified Contract duration.

1.3.2 Plan to complete Work in accordance with prescribed milestones and time frame.

1.3.3 Limit activity durations to maximum of approximately 10 working days, to allow for progress reporting.

1.3.4 Ensure that it is understood that Award of Contract or time of beginning, rate of progress, Interim Certificate and Final Certificate as defined times of completion are of essence of this contract.

1.4 **Action And Informational Submittals**

1.4.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.4.2 Submit to Consultant within 5 working days of Award of Contract Bar (GANTT) Chart as Master Plan for planning, monitoring and reporting of project progress.

1.4.3 Submit Project Schedule to Owner's Project Manager within 5 working days of receipt of acceptance of Master Plan.

1.5 **Project Milestones**

1.5.1 Project milestones form interim targets for Project Schedule:

.1 Provide most expedient Project Schedule for this Work.

1.6 **Master Plan**

- 1.6.1 Structure schedule to allow orderly planning, organizing and execution of Work as Bar Chart (GANTT).
- 1.6.2 Owner and Consultant will review and return revised schedules within 5 working days.
- 1.6.3 Revise impractical schedule and resubmit within 5 working days.
- 1.6.4 Accepted revised schedule will become Master Plan and be used as baseline for updates.

1.7 **Project Schedule**

- 1.7.1 Develop detailed Project Schedule derived from Master Plan.
- 1.7.2 Ensure detailed Project Schedule includes as minimum milestone and activity types as follows:
 - .1 Award.
 - .2 Shop Drawings, Samples.
 - .3 Mobilization.
 - .4 Demolition.
 - .5 Temporary Barriers & Enclosures.
 - .6 Phasing, staging, barriers, signage & enclosures.
 - .7 Concrete repairs and FRP reinforcement.
 - .8 Deck waterproofing, traffic coating and line painting.
 - .9 electrical and mechanical work.
 - .10 Progress Meetings.
 - .11 Substantial Completion.

1.8 **Project Schedule Reporting**

- 1.8.1 Update Project Schedule on bi-weekly basis reflecting activity changes and completions, as well as activities in progress.
- 1.8.2 Include as part of Project Schedule, narrative report identifying Work status to date, comparing current progress to baseline, presenting current forecasts, defining problem areas, anticipated delays and impact with possible mitigation.

1.9 **Project Meetings**

- 1.9.1 Discuss Project Schedule at regular site meetings, identify activities that are behind schedule and provide measures to regain slippage. Activities considered behind schedule are those with projected start or completion dates later than current approved dates shown on baseline schedule.
- 1.9.2 Weather related delays with their remedial measures will be discussed and negotiated.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not used.

3. **EXECUTION**

3.1 **Not Used**

3.1.1 Not used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **References**

1.2.1 Not Used.

1.3 **Administrative**

1.3.1 Submit to Consultant 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.

1.3.2 Do not proceed with Work affected by submittal until review is complete.

1.3.3 Present shop drawings, product data, samples and mock-ups in SI Metric units.

1.3.4 Where items or information is not produced in SI Metric units converted values are acceptable.

1.3.5 Review submittals prior to submission to Consultant. 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.

1.3.6 Notify Consultant, in writing at time of submission, identifying deviations from requirements of Contract Documents stating reasons for deviations.

1.3.7 Verify field measurements and affected adjacent Work are co-ordinated.

1.3.8 Contractor's responsibility for errors and omissions in submission is not relieved by Consultant's review of submittals.

1.3.9 Contractor's responsibility for deviations in submission from requirements of Contract Documents is not relieved by Consultant review.

1.3.10 Keep one reviewed copy of each submission on site.

1.4 **Progress Payment**

1.4.1 Refer to Owner's Contract Agreement.

1.4.2 All payment submittals (i.e progress draws) are to be complete with valid copies of Statutory Declaration and WSIB and sent to the consultant for approval. Consultant to send payment submittal along with consultant's payment certificate to owner's representative.

1.5 **Shop Drawings and Product Data**

1.5.1 Refer to the Construction Agreement.

1.5.2 Accompany submissions with transmittal letter.

1.5.3 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 Relationship to adjacent work.
- 1.5.4 After Consultant's review, distribute copies.
- 1.5.5 Submit electronic copy of shop drawings for each requirement requested in specification Sections and as Consultant may reasonably request.
- 1.5.6 Submit electronic copies of product data sheets or brochures for requirements requested in specification Sections and as requested by Consultant where shop drawings will not be prepared due to standardized manufacture of product.
- 1.5.7 Submit electronic copies of test reports for requirements requested in specification Sections and as requested by Consultant.
 - .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.
- 1.5.8 Submit electronic copies of certificates for requirements requested in specification Sections and as requested by Consultant.
 - .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.
- 1.5.9 Submit electronic copies of manufacturer's instructions for requirements requested in specification Sections and as requested by Consultant.
 - .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.
- 1.5.10 Submit electronic copies of Manufacturer's Field Reports for requirements requested in specification Sections and as requested by Consultant.
- 1.5.11 Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.
- 1.5.12 Submit electronic copies of Operation and Maintenance Data for requirements requested in specification Sections and as requested by Consultant.
- 1.5.13 Delete information not applicable to project.
- 1.5.14 Supplement standard information to provide details applicable to project.

- 1.5.15 If upon review by Consultant, no errors or omissions are discovered or if only minor corrections are made, 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.

1.6 **Samples**

- 1.6.1 Submit for review samples in duplicate as requested in respective specification Sections. Label samples with origin and intended use.
- 1.6.2 Deliver samples prepaid to Consultant's office.
- 1.6.3 Notify Consultant in writing, at time of submission of deviations in samples from requirements of Contract Documents.
- 1.6.4 Where colour, pattern or texture is criterion, submit full range of samples.
- 1.6.5 Adjustments made on samples by Consultant are not intended to change Contract Price. If adjustments affect value of Work, state such in writing to Consultant prior to proceeding with Work.
- 1.6.6 Make changes in samples which Consultant may require, consistent with Contract Documents.
- 1.6.7 Reviewed and accepted samples will become standard of workmanship and material against which installed Work will be verified.

1.7 **Photographic Documentation**

- 1.7.1 Submit electronic copy of colour digital photography in "jpg" format, fine resolution weekly with progress statement for demolition and new construction and as directed by Consultant.
- 1.7.2 Project identification: name and number of project and date of exposure indicated.
- 1.7.3 Number of viewpoints: 2 locations.
.1 Viewpoints and their location as determined by Consultant.
- 1.7.4 Frequency of photographic documentation: weekly.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

- 3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **References**

1.2.1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations

1.2.2 Province of Ontario

.1 Occupational Health and Safety Act and Regulations for Construction Projects, R.S.O. 1990, c.0.1, as amended and O. Reg. 213/91 as amended.

1.3 **Action and Informational Submittals**

1.3.1 Submit in accordance with Section 01 33 00 - Submittal Procedures.

1.3.2 Submit site-specific Health and Safety Plan: Within 14 days after date of Notice to Proceed and prior to commencement of Work. Health and Safety Plan must include:

.1 Results of site specific safety hazard assessment.

.2 Results of safety and health risk or hazard analysis for site tasks and operation.

1.3.3 Submit two copies of Contractor's authorized representative's work site health and safety inspection reports to Owner and Consultant weekly.

1.3.4 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.

1.3.5 Submit copies of incident and accident reports.

1.3.6 Owner and Consultant will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 5 days after receipt of plan. Revise plan as appropriate and resubmit plan to same within 5 days after receipt of comments from same.

1.3.7 Review of Contractor's final Health and Safety plan should not be construed as approval and does not reduce the Contractor's overall responsibility for construction Health and Safety.

1.3.8 Medical Surveillance: where prescribed by legislation, regulation or safety program, submit certification of medical surveillance for site personnel prior to commencement of Work, and submit additional certifications for any new site personnel to Consultant.

1.3.9 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.

.1 Contact building staff.

1.4 **Filing of Notice**

1.4.1 File Notice of Project with Provincial authorities prior to beginning of Work.

1.4.2 Contractor shall install proper site separation and identification in order to maintain time and space at all times throughout life of project.

1.5 **Safety Assessment**

1.5.1 Perform site specific safety hazard assessment related to project.

1.6 **Meetings**

1.6.1 Schedule and administer Health and Safety meeting with Owner and Consultant prior to commencement of Work.

1.7 **Regulatory Requirements**

1.7.1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.

1.8 **Project/Site Conditions**

1.8.1 Work at site may involve contact with Designated Hazardous Materials.

1.9 **General Requirements**

1.9.1 Develop written site-specific Health and Safety Plan based on hazard assessment prior to beginning site Work and continue to implement, maintain, and enforce plan until final demobilization from site. Health and Safety Plan must address project specifications.

1.9.2 Consultant may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.

1.10 **Responsibility**

1.10.1 Be responsible for health and safety of persons on site, safety of property on site and for protection of persons adjacent to site and environment to extent that they may be affected by conduct of Work.

1.10.2 Contractor will be responsible and assume the role Constructor as described in the Ontario Occupational Health and Safety Act and Regulations for Construction Projects.

1.10.3 Comply with and enforce compliance by employees with safety requirements of Contract Documents, applicable federal, provincial, territorial and local statutes, regulations, and ordinances, and with site-specific Health and Safety Plan.

1.10.4 Contractor to conduct daily job hazard analysis with trades. Keep a record of the daily job hazard analysis.

1.10.5 Safety is the top priority for this project. Contractor to conduct weekly (and prior to new trades entering the project site) toolbox talk with all trades. Keep a record of the safety toolbox talk.

1.11 **Compliance Requirements**

1.11.1 Comply with Ontario Occupational Health and Safety Act, R.S.O. 1990, c. 0.1 and Ontario Regulations for Construction Projects, O. Reg. 213/91.

1.11.2 Comply with Canada Labour Code, Canada Occupational Safety and Health Regulations.

1.11.3 This is a heritage facility with the observed and unforeseen hazards found inside and outside of the facility. Strictly follow the Safe Working Procedures (SWP) stipulated by the Owner's Facilities Management Operations and Projects Management Office when entering, working and exiting the facility.

1.12 **Unforeseen Hazards**

1.12.1 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, follow procedures in place for Employee's Right to Refuse Work in accordance with Acts and Regulations of Province having jurisdiction and advise Consultant verbally and in writing.

1.12.2 When unforeseen or peculiar safety-related factor, hazard, or condition occur during performance of Work, advise Safety Officer and follow procedures in accordance with Acts and Regulations of Province having jurisdiction and advise Consultant verbally and in writing.

1.13 **Posting of Documents**

1.13.1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province having jurisdiction, and in

consultation with Consultant.

1.14 **Correction of Non-Compliance**

- 1.14.1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Consultant.
- 1.14.2 Provide Consultant with written report of action taken to correct non-compliance of health and safety issues identified.
- 1.14.3 Consultant may stop Work if non-compliance of health and safety regulations is not corrected.

1.15 **Blasting**

- 1.15.1 Blasting or other use of explosives is not permitted.

1.16 **Powder Actuated Devices**

- 1.16.1 Use powder actuated devices only after receipt of written permission from Owner.

1.17 **Work Stoppage**

- 1.17.1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not used.

3. **EXECUTION**

3.1 **Not Used**

- 3.1.1 Not used.

END OF SECTION

1. **General**

1.1 **Description**

1.1.1 This section specifies the environmental protection controls and devices required by the Work.

1.2 **Related Work**

1.2.1 Site Preparation, Demolition and Removals: Section 02 41 13

1.2.2 Site Protection: Section 01 89 13

1.2.3 Cleaning and Waste Processing: Section 01 74 11

1.3 **References**

1.3.1 Management and Disposal of Waste: OPSS 180

1.4 **Scope of Work**

1.4.1 Providing environmental protection is considered incidental to the Work and is the Contractor's responsibility. All costs associated with abiding by these requirements shall not be paid for separately and shall be included in the prices bid for the Work.

1.4.2 Should the Contractor be negligent of his duties as required herein, or should the Consultant deem that the controls emplaced by the Contractor are insufficient to provide the sufficient environmental protection and Owner forces are required to satisfactorily provide environmental protection, the cost of performing these obligations on behalf of the Contractor will be deducted from the monies owing the Contractor.

1.5 **Fires**

1.5.1 Fires and burning of rubbish or cleared materials on site is not permitted.

1.6 **Disposal of Wastes**

1.6.1 Do not bury rubbish and waste materials on site.

1.6.2 Do not dispose of waste or volatile materials, such as mineral spirits, oil or paint thinner into waterways, storm or sanitary sewers.

1.7 **Drainage**

1.7.1 Provide temporary drainage and pumping as necessary to keep excavations and site free from water at all times.

1.7.2 Do not pump water containing suspended materials into sewer, drainage systems or waterways.

1.7.3 Organize and carry out all operations to keep the site dewatered and prevent construction delays.

1.7.4 Any damage to earth surfaces, subgrade or finished areas as a result of inadequate site de-watering or site drainage, will be rectified by the Contractor at no additional cost to the contract.

1.8 **Site Clearing and Plant Protection**

1.8.1 Protect trees on site and adjacent properties where indicated.

1.8.2 Wrap in burlap trees adjacent to construction work and storage areas, and encase

with protective fencing or as per OPSD 220.01 and 971.101. Layout as directed by the Consultant.

- 1.8.3 Protect roots of designated trees to remain to dripline during excavation and site grading to prevent disturbance or damage. Avoid unnecessary traffic, dumping and storage of materials over root zones.

1.9 **Pollution Control**

- 1.9.1 Control emissions from equipment and plant to local authorities emission requirements.
- 1.9.2 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads and all site construction. Monitor sites and provide post control to avoid construction interruptions and delays.

1.10 **Sediment Control**

- 1.10.1 Take precautions as required by the Owner, the Ministry of the Environment, or other jurisdictional agency, with respect to filling or grading, planting and other silt causing, and around the existing storm sewer systems, existing drainage courses, wetlands and waterways. Erect and maintain approved sediment control systems as per the construction details to the approval of above agencies and Owner's Representative, if required to protect sediment from being deposited into storm sewer systems, existing drainage courses, wetlands and waterways.
- 1.10.2 Maintain sediment control systems during construction and remove accumulated deposits until completion of the Contract. Flush and clean any contamination to storm sewer systems including catch basins and manholes to the approval of the Owner's Representative prior to completion of the contract. Notify the Consultant upon completion of finishing for inspection.
- 1.10.3 Remove sediment control systems by the completion of the contract.

1.11 **Mud Tracking onto Existing Roads**

- 1.11.1 The Contractor is required to control vehicles leaving the Place of the Work and accessing existing roads adjacent to the Place of Work such that no mud, soils or other deleterious materials are tracked onto existing roads, driveways and parking areas. The Contractor is responsible to ensure that all vehicles hauling excavated material, cement, sand, stone, topsoil, fill granulars or other loose materials from or to the Place of the Work, have their loads trimmed and their bodies tight to ensure that no spillage of loads occur on existing roads. The Contractor is responsible for immediately/regularly cleanup of any spillage on existing roads, driveways and parking area.

2. **Products**

- 2.1 **Not Used**

3. **Execution**

- 3.1 **Not Used**

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **References And Codes**

1.2.1 Perform Work in accordance with Ontario Building Code including amendments up to tender closing date and other codes of provincial or local application provided that in case of conflict or discrepancy, more stringent requirements apply.

1.2.2 Meet or exceed requirements of:

.1 Contract documents.

.2 Specified standards, codes and referenced documents.

1.3 **Building Smoking Environment**

1.3.1 Smoking and Vaping is not allowed onsite.

2. **PRODUCTS**

2.1 **Not Used**

2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **References**

1.2.1 Owner's Construction Agreement.

1.3 **Inspection**

1.3.1 Owner's Construction Agreement.

1.3.2 Allow Owner and Consultant access to Work. If part of Work is in preparation at locations other than Place of Work, allow access to such Work whenever it is in progress.

1.3.3 Give timely notice requesting inspection if Work is designated for special tests, inspections or approvals by Consultant instructions, or law of Place of Work.

1.3.4 If Contractor covers or permits to be covered Work that has been designated for special tests, inspections or approvals before such is made, uncover such Work, have inspections or tests satisfactorily completed and make good such Work.

1.3.5 Consultant will order part of Work to be examined if Work is suspected to be not in accordance with Contract Documents. If, upon examination such work is found not in accordance with Contract Documents, correct such Work and pay cost of examination and correction.

1.4 **Independent Inspection Agencies**

1.4.1 Independent Inspection/Testing Agencies will be engaged by Owner for purpose of inspecting and/or testing portions of Work. Cost of such services will be borne by the Allowances.

1.4.2 Employment of inspection/testing agencies does not relax responsibility to perform Work in accordance with Contract Documents.

1.4.3 If defects are revealed during inspection and/or testing, appointed agency will request additional inspection and/or testing to ascertain full degree of defect. Correct defect and irregularities as advised by Consultant at no cost to Owner. Pay costs for re-testing and re-inspection.

1.5 **Access to Work**

1.5.1 Allow inspection/testing agencies access to Work, off site manufacturing and fabrication plants.

1.5.2 Co-operate to provide reasonable facilities for such access.

1.6 **Procedures**

1.6.1 Notify appropriate agency and Consultant in advance of requirement for tests, in order that attendance arrangements can be made.

1.6.2 Submit samples and/or materials required for testing, as specifically requested in specifications. Submit with reasonable promptness and in orderly sequence to not cause delays in Work.

1.6.3 Provide labour and facilities to obtain and handle samples and materials on site. Provide sufficient space to store and cure test samples.

1.7 **Rejected Work**

1.7.1 Refer to Owner's Construction Agreement.

1.7.2 Remove defective Work, whether result of poor workmanship, use of defective products or

damage and whether incorporated in Work or not, which has been rejected by Consultant as failing to conform to Contract Documents. Replace or re-execute in accordance with Contract Documents.

- 1.7.3 Make good other Contractor's work damaged by such removals or replacements promptly.
- 1.7.4 If in opinion of Consultant it is not expedient to correct defective Work or Work not performed in accordance with Contract Documents, Owner will deduct from Contract Price difference in value between Work performed and that called for by Contract Documents, amount of which will be determined by Consultant.

1.8 **Reports**

- 1.8.1 Submit 4 copies of inspection and test reports to Consultant.
- 1.8.2 Provide copies to subcontractor of work being inspected or tested.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

- 3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **References**

1.2.1 Not used

1.3 **Action And Informational Submittals**

1.3.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.4 **Installation And Removal**

1.4.1 Provide temporary utilities controls in order to execute work expeditiously.

1.4.2 Remove from site all such work after use.

1.5 **Dewatering**

1.5.1 Provide temporary drainage and pumping facilities to keep site free from standing water.

1.6 **Water Supply**

1.6.1 Potable water is not available for this site. Contractor will provide his own supply of potable water for construction use.

1.7 **Temporary Heating And Ventilation**

1.7.1 Provide temporary heating required during construction period, including attendance, maintenance and fuel.

1.7.2 Provide temporary heat and ventilation in enclosed areas as required to:

.1 Facilitate progress of Work.

.2 Protect Work and products against dampness and cold.

.3 Prevent moisture condensation on surfaces.

.4 Provide ambient temperatures and humidity levels for storage, installation and curing of materials.

.5 Provide adequate ventilation to meet health regulations for safe working environment.

1.7.3 Ventilating

.1 Prevent accumulations of dust, fumes, mists, vapours or gases in areas occupied during construction.

.2 Provide local exhaust ventilation to prevent harmful accumulation of hazardous substances into atmosphere of occupied areas.

.3 Dispose of exhaust materials in manner that will not result in harmful exposure to persons.

.4 Ventilate storage spaces containing hazardous or volatile materials.

.5 Ventilate temporary sanitary facilities.

.6 Continue operation of ventilation and exhaust system for time after cessation of work process to assure removal of harmful contaminants.

1.7.4 Permanent heating system of building, not to be used when available. Be responsible for damage to heating system.

1.7.5 Pay costs for maintaining temporary heat.

- 1.7.6 Maintain strict supervision of operation of temporary heating and ventilating equipment to:
- .1 Conform with applicable codes and standards.
 - .2 Enforce safe practices.
 - .3 Prevent abuse of services.
 - .4 Prevent damage to finishes.
 - .5 Vent direct-fired combustion units to outside.
- 1.7.7 Be responsible for damage to Work due to failure in providing adequate heat and protection during construction.

1.8 **Temporary Power And Light**

- 1.8.1 Contractor will provide temporary power as required during construction.
- 1.8.2 Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.
- 1.8.3 Provide and maintain temporary lighting throughout project. Ensure level of illumination on all floor areas and exits is not less than 162 lx.

1.9 **Temporary Communication Facilities**

- 1.9.1 Provide and pay for temporary telephone, fax, data hook up, lines and equipment necessary for own use.

1.10 **Fire Protection**

- 1.10.1 Provide and maintain temporary fire protection equipment during performance of Work required by insurance companies having jurisdiction and governing codes, regulations and bylaws.
- 1.10.2 Burning rubbish and construction waste materials is not permitted on site.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

- 3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Division 1

1.2 **References**

1.2.1 The Owner's Construction Agreement

1.2.2 Canadian General Standards Board (CGSB)

.1 CAN/CGSB 1.189-00, Exterior Alkyd Primer for Wood.

.2 CGSB 1.59-97, Alkyd Exterior Gloss Enamel.

1.2.3 Canadian Standards Association (CSA International)

.1 CSA-A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.

.2 CSA-0121-M1978(R2003), Douglas Fir Plywood.

.3 CAN/CSA-S269.2-M1987 (R2003), Access Scaffolding for Construction Purposes.

.4 CAN/CSA-Z321-96(R2001), Signs and Symbols for the Occupational Environment.

1.3 **Action and Informational Submittals**

1.3.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.

1.4 **Installation and Removal**

1.4.1 Prepare site plan indicating proposed location and dimensions of area to be fenced and used by Contractor, number of trailers to be used, avenues of ingress/egress to fenced area and details of fence installation.

1.4.2 Prepare phasing and staging plans upon coordination with owner. Install and remove phasing and staging measures accordingly.

1.4.3 Prepare signage plans upon coordination with owner. Install and remove signage accordingly.

1.4.4 Indicate use of supplemental or other staging area.

1.4.5 Provide construction facilities in order to execute work expeditiously.

1.4.6 Remove from site all such work after use.

1.5 **Scaffolding**

1.5.1 Scaffolding in accordance with CAN/CSA-S269.2.

1.5.2 Provide and maintain scaffolding, ramps, ladders, swing staging, platforms, temporary stairs, and similar means of construction access.

1.6 **Hoisting**

1.6.1 Provide, operate and maintain hoists or cranes required for moving of workers, materials and equipment. Make financial arrangements with Subcontractors for their use of hoists.

1.6.2 Hoists or cranes to be operated by qualified operator.

1.7 **Elevators**

1.7.1 Not used.

1.8 **Site Storage/Loading**

1.8.1 The Owner' Construction Agreement

- 1.8.2 Confine work and operations of employees by Contract Documents. Do not unreasonably encumber premises with products.
- 1.8.3 Do not load or permit to load any part of Work with weight or force that will endanger Work.
- 1.9 **Construction Parking**
- 1.9.1 Parking will not be permitted on site, unless it is authorized by the Owner.
- 1.9.2 Provide and maintain adequate access to project site.
- 1.10 **Security**
- 1.10.1 Ensure adequate security measures are in place to guard site and contents of site after working hours and during holidays.
- 1.11 **Offices**
- 1.11.1 Provide office heated to 22 degrees C, lighted 750 lx and ventilated, of sufficient size to accommodate site meetings and furnished with drawing laydown table.
- 1.11.2 Provide marked and fully stocked first-aid case in a readily available location.
- 1.11.3 Subcontractors to provide their own offices as necessary. Direct location of these offices.
- 1.12 **Equipment, Tool and Materials Storage**
- 1.12.1 Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
- 1.12.2 Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with work activities.
- 1.13 **Sanitary Facilities**
- 1.13.1 Provide sanitary facilities for work force in accordance with governing regulations and ordinances.
- 1.13.2 Post notices and take precautions as required by local health authorities. Keep area and premises in sanitary condition.
- 1.13.3 Existing facilities may not be used by the contractor.
- 1.14 **Construction Signage**
- 1.14.1 Provide and erect project signs, warning signs and other signs required by owner, within two weeks of signing Contract, in locations designated by owner.
- 1.14.2 No advertisement signs are permitted on site.
- 1.14.3 Maintain approved signs and notices in good condition for duration of project, and dispose of off site on completion of project or earlier if directed by Consultant.
- 1.15 **Protection and Maintenance of Traffic**
- 1.15.1 Provide access and temporary relocated roads as necessary to maintain traffic.
- 1.15.2 Maintain and protect traffic on affected roads during construction period except as otherwise specifically directed by Owner's Representative
- 1.15.3 Provide measures for protection and diversion of traffic, provision of watch-persons and flag-persons, erection of barricades, placing of lights around and in front of equipment and work, and erection and maintenance of adequate warning, danger, and direction signs
- 1.15.4 Protect travelling public from damage to person and property.
- 1.15.5 Contractor's traffic on roads selected for hauling material to and from site to interfere as little as possible with public traffic.
- 1.15.6 Verify adequacy of existing roads and allowable load limit on these roads. Contractor:

responsible for repair of damage to roads caused by construction operations.

- 1.15.7 Construct access and haul roads necessary.
- 1.15.8 Haul roads: constructed with suitable grades and widths; sharp curves, blind corners, and dangerous cross traffic shall be avoided.
- 1.15.9 Provide necessary lighting, signs, barricades, and distinctive markings for safe movement of traffic.
- 1.15.10 Dust control: adequate to ensure safe operation at all times.
- 1.15.11 Location, grade, width, and alignment of construction and hauling roads: subject to approval by Consultant.
- 1.15.12 Lighting: to assure full and clear visibility for full width of haul road and work areas during night work operations.
- 1.15.13 Provide snow removal during period of Work.
- 1.15.14 Remove, upon completion of work, haul roads designated by Consultant.
- 1.16 **Clean-Up**
 - 1.16.1 Remove construction debris, waste materials, packaging material from work site daily.
 - 1.16.2 Clean dirt or mud tracked onto paved or surfaced roadways.
 - 1.16.3 Store materials resulting from demolition activities that are salvageable.
 - 1.16.4 Stack stored new or salvaged material not in construction facilities.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not Used.

3. **EXECUTION**

3.1 **Temporary Sedimentation Control**

- 3.1.1 Provide temporary erosion and sedimentation control measures to prevent discharge of debris-bearing water runoff or airborne dust to adjacent watercourses, properties, walkways and existing storm/sanitary drains, according to requirements of authorities having jurisdiction.
- 3.1.2 Inspect, repair, and maintain sedimentation control measures during construction until the project is complete.
- 3.1.3 Remove sedimentation controls and restore and stabilize areas disturbed during construction.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **Installation and Removal**

1.2.1 Provide temporary controls in order to execute Work expeditiously.

1.2.2 Remove from site all such work after use.

1.3 **Access to Site**

1.3.1 Provide and maintain access routes and fire exit routes as may be required for access to Work.

1.4 **Protection of Building Finishes**

1.4.1 Provide protection for finished and partially finished work and equipment during performance of Work.

1.4.2 Provide necessary screens, covers, and hoardings.

1.4.3 Confirm with Owner locations and installation schedule 14 days prior to installation.

1.4.4 Be responsible for damage incurred due to lack of or improper protection.

1.5 **Waste Management and Disposal**

1.5.1 Separate waste materials for reuse and recycling where possible.

2. **PRODUCTS**

2.1 **Not Used**

2.1.1 Not Used.

3. **EXECUTION**

3.1 **Electrical Equipment Protection**

3.1.1 Protect exposed live equipment during construction for personnel safety.

3.1.2 Shield and mark all live parts "LIVE 120 VOLTS", or with appropriate voltage, in English with black letters on yellow background.

3.1.3 Provide inspection of installed masking/ hoarding at Electrical Equipment by licensed Electrician for compliance with access to switches, breakers and shut-offs for emergency and maintenance requirements. Keep these access locations closed except when under direct supervision of electrician.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **References**

1.2.1 The Owner's Construction Agreement

1.2.2 Within text of each specifications section, reference may be made to reference standards.

1.2.3 Conform to these reference standards, in whole or in part as specifically requested in specifications.

1.2.4 If there is question as to whether products or systems are in conformance with applicable standards, Consultant reserves right to have such products or systems tested to prove or disprove conformance.

1.2.5 Cost for such testing will be borne by Owner in event of conformance with Contract Documents or by Contractor in event of non-conformance.

1.3 **Quality**

1.3.1 The Owner's Construction Agreement

1.3.2 Permanent labels, trademarks and nameplates on products are not acceptable in prominent locations, except where required for operating instructions, or when located in mechanical or electrical rooms.

1.4 **Availability**

1.4.1 Immediately upon signing Contract, review product delivery requirements and anticipate foreseeable supply delays for items. If delays in supply of products are foreseeable, notify Consultant of such, in order that substitutions or other remedial action may be authorized in ample time to prevent delay in performance of Work.

1.4.2 In event of failure to notify Consultant at commencement of Work and should it subsequently appears that Work may be delayed for such reason, Consultant reserves right to substitute more readily available products of similar character, at no increase in Contract Price or Contract Time.

1.5 **Storage, Handling and Protection**

1.5.1 Handle and store products in manner to prevent damage, adulteration, deterioration and soiling and in accordance with manufacturer's instructions when applicable.

1.5.2 Store packaged or bundled products in original and undamaged condition with manufacturer's seal and labels intact. Do not remove from packaging or bundling until required in Work.

1.5.3 Store products subject to damage from weather in weatherproof enclosures.

1.5.4 Store cementitious products clear of earth or concrete floors, and away from walls.

1.5.5 Keep sand, when used for grout or mortar materials, clean and dry. Store sand on wooden platforms and cover with waterproof tarpaulins during inclement weather.

1.5.6 Store sheet materials, lumber and cladding on flat, solid supports and keep clear of ground. Slope to shed moisture.

1.5.7 Store and mix paints in heated and ventilated room. Remove oily rags and other combustible debris from site daily. Take every precaution necessary to prevent spontaneous combustion.

1.5.8 Remove and replace damaged products at own expense and to satisfaction of Consultant.

- 1.5.9 Touch-up damaged factory finished surfaces to Consultant's satisfaction. Use touch-up materials to match original. Do not paint over name plates.

1.6 **Transportation**

- 1.6.1 Pay costs of transportation of products required in performance of Work.
- 1.6.2 Transportation cost of products supplied by Owner will be paid for by Owner. Unload, handle and store such products.

1.7 **Manufacturer's Instructions**

- 1.7.1 Unless otherwise indicated in specifications, install or erect products in accordance with manufacturer's instructions. Do not rely on labels or enclosures provided with products. Obtain written instructions directly from manufacturers.
- 1.7.2 Notify Consultant in writing, of conflicts between specifications and manufacturer's instructions, so that Consultant will establish course of action.
- 1.7.3 Improper installation or erection of products, due to failure in complying with these requirements, authorizes Consultant to require removal and re-installation at no increase in Contract Price or Contract Time.

1.8 **Quality of Work**

- 1.8.1 Ensure Quality of Work is of highest standard, executed by workers experienced and skilled in respective duties for which they are employed. Immediately notify Consultant if required Work is such as to make it impractical to produce required results.
- 1.8.2 Do not employ anyone unskilled in their required duties. Consultant reserves right to require dismissal from site, workers deemed incompetent or careless.
- 1.8.3 Decisions as to standard or fitness of Quality of Work in cases of dispute rest solely with Consultant, whose decision is final.

1.9 **Co-Ordination**

- 1.9.1 Ensure co-operation of workers in laying out Work. Maintain efficient and continuous supervision.
- 1.9.2 Be responsible for coordination and placement of openings, sleeves and accessories.

1.10 **Concealment**

- 1.10.1 In finished areas conceal pipes, ducts and wiring in floors, walls and ceilings, except where indicated otherwise.
- 1.10.2 Before installation inform Consultant if there is interference. Install as directed by Consultant.

1.11 **Remedial Work**

- 1.11.1 Refer to the Owner's Construction Agreement and Section 01 73 00 - Execution Requirements.
- 1.11.2 Perform remedial work required to repair or replace parts or portions of Work identified as defective or unacceptable. Co-ordinate adjacent affected Work as required.
- 1.11.3 Perform remedial work by specialists familiar with materials affected. Perform in a manner to neither damage nor put at risk any portion of Work.

1.12 **Location of Fixtures**

- 1.12.1 Consider location of fixtures, outlets, and mechanical and electrical items indicated as approximate.
- 1.12.2 Inform Consultant of conflicting installation. Install as directed.

1.13 **Fastenings**

- 1.13.1 Provide metal fastenings and accessories in same texture, colour and finish as adjacent materials, unless indicated otherwise.
- 1.13.2 Prevent electrolytic action between dissimilar metals and materials.
- 1.13.3 Use non-corrosive hot dip galvanized steel fasteners and anchors for securing exterior work, unless stainless steel or other material is specifically requested in affected specification Section.
- 1.13.4 Space anchors within individual load limit or shear capacity and ensure they provide positive permanent anchorage. Wood, or any other organic material plugs are not acceptable.
- 1.13.5 Keep exposed fastenings to a minimum, space evenly and install neatly.
- 1.13.6 Fastenings which cause spalling or cracking of material to which anchorage is made are not acceptable.

1.14 **Fastenings - Equipment**

- 1.14.1 Use fastenings of standard commercial sizes and patterns with material and finish suitable for service.
- 1.14.2 Use heavy hexagon heads, semi-finished unless otherwise specified. Use No. 304 stainless steel for exterior areas.
- 1.14.3 Bolts may not project more than one diameter beyond nuts.
- 1.14.4 Use plain type washers on equipment, sheet metal and soft gasket lock type washers where vibrations occur. Use resilient washers with stainless steel.

1.15 **Protection of Work In Progress**

- 1.15.1 Prevent overloading of parts of building. Do not cut, drill or sleeve load bearing structural member, unless specifically indicated, without written approval of Consultant.

1.16 **Existing Utilities**

- 1.16.1 When breaking into or connecting to existing services or utilities, execute Work at times directed by local governing authorities, with minimum of disturbance to Work, and/or building occupants.
- 1.16.2 Protect, relocate or maintain existing active services. When services are encountered, cap off in manner approved by authority having jurisdiction. Stake and record location of capped service.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

- 3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Division 01 and associated sections

1.2 **References**

1.2.1 The Owner's Construction Agreement

1.3 **Qualifications Of Surveyor**

1.3.1 Qualified registered land surveyor, licensed to practice in Place of Work, acceptable to Consultant.

1.4 **Survey Reference Points**

1.4.1 Existing base horizontal and vertical control points are to be established by the Surveyor.

1.4.2 Locate, confirm and protect control points prior to starting site work. Preserve reference points during construction.

1.4.3 Make no changes or relocations without prior written notice to Consultant.

1.4.4 Report to Consultant when reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

1.4.5 Require surveyor to replace control points are lost or damaged.

1.5 **Existing Elevations and Dimensions**

1.5.1 Before commencing work, establish existing elevations of all existing low points, high points, storm drains, gratings, concrete pads, sidewalks, ramps, access to stairs and elevators for parking levels 2, 3 and 4 (Market Street Bridge) and notify Consultant of findings.

1.5.2 Before commencing work, establish existing elevations and dimensions of the entire parking structure.

1.6 **Location Of Equipment And Fixtures**

1.6.1 Location of equipment, fixtures and outlets indicated or specified are to be considered as approximate.

1.6.2 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.

1.6.3 Inform Consultant of impending installation and obtain approval for actual location.

1.6.4 Submit field drawings to indicate relative position of various services and equipment when required by Consultant.

1.7 **Records**

1.7.1 Maintain a complete set of survey work of existing elevations and dimensions.

1.7.2 Maintain a complete, accurate log of control and survey work as it progresses.

1.8 **Action And Informational Submittals**

1.8.1 Submit name and address of Surveyor to Consultant.

1.8.2 On request of Consultant, submit documentation to verify accuracy of field work.

1.8.3 Submit certificate signed by surveyor certifying and noting those elevations and locations

of completed Work that conform and/or do not conform with Contract Documents.

2. **PRODUCTS**

2.1 **Not Used**

2.1.1 Not Used

3. **EXECUTION**

3.1 **Not Used**

3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **Action and Informational Submittals**

1.2.1 Submittals: in accordance with Section 01 33 00 - Submittal Procedures.

1.2.2 Submit written request in advance of cutting or alteration which affects:

- .1 Structural integrity of elements of project.
- .2 Integrity of weather-exposed or moisture-resistant elements.
- .3 Efficiency, maintenance, or safety of operational elements.
- .4 Visual qualities of sight-exposed elements.
- .5 Work of Owner or separate contractor.

1.2.3 Include in request:

- .1 Identification of project.
- .2 Location and description of affected Work.
- .3 Statement on necessity for cutting or alteration.
- .4 Description of proposed Work, and products to be used.
- .5 Alternatives to cutting and patching.
- .6 Effect on Work of Owner or separate contractor.
- .7 Written permission of affected separate contractor.
- .8 Date and time work will be executed.

1.3 **Materials**

1.3.1 Required for original installation.

1.3.2 Change in Materials: Submit request for substitution in accordance with Section 01 33 00 - Submittal Procedures.

1.4 **Preparation**

1.4.1 Inspect existing conditions, including elements subject to damage or movement during cutting and patching.

1.4.2 After uncovering, inspect conditions affecting performance of Work.

1.4.3 Beginning of cutting or patching means acceptance of existing conditions.

1.4.4 Provide supports to assure structural integrity of work items and surroundings; provide devices and methods to protect other portions of project from damage.

1.5 **Execution**

1.5.1 Execute cutting, fitting, and patching to complete Work.

1.5.2 Fit several parts together, to integrate with other Work.

1.5.3 Uncover Work to install ill-timed Work.

1.5.4 Remove and replace defective and non-conforming Work.

1.5.5 Provide openings in non-structural elements of Work for penetrations of mechanical and electrical Work.

- 1.5.6 Execute Work by methods to avoid damage to other Work, and which will provide proper surfaces to receive patching and finishing.
- 1.5.7 Cut rigid materials using masonry saw or core drill. Pneumatic or impact tools not allowed on masonry work without prior approval.
- 1.5.8 Restore work with new products in accordance with requirements of Contract Documents.
- 1.5.9 Fit Work to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- 1.5.10 At penetration of fire rated wall, ceiling, or floor construction, completely seal voids with firestopping material, full thickness of the construction element.
- 1.5.11 Refinish surfaces to match adjacent finishes: Refinish continuous surfaces to nearest intersection. Refinish assemblies by refinishing entire unit.
- 1.5.12 Conceal pipes, ducts and wiring in floor, wall and ceiling construction of finished areas except where indicated otherwise.

2. **PRODUCTS**

2.1 **Not Used**

2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

3.1.1 Not Used.

END OF SECTION

1. **General**

1.1 **Section Includes**

1.1.1 Requirements and limitations for cutting and patching of Work.

1.2 **Related Sections**

1.2.1 Section 01 11 00 - Summary of Work.

1.2.2 Individual Product Specification Sections:

.1 Cutting and patching incidental to work of the section.

.2 Advance notification to other sections of openings required in Work of those sections.

.3 Limitations on cutting structural members.

1.3 **Submittals**

1.3.1 Submit written request in advance of cutting or alteration which affects:

.1 Structural integrity of any element of Project.

.2 Integrity of weather exposed or moisture resistant element.

.3 Efficiency, maintenance, or safety of any operational element.

.4 Visual qualities of sight exposed elements.

.5 Work of Owner or separate contractor.

1.3.2 Include in request:

.1 Location and description of affected Work.

.2 Necessity for cutting or alteration.

.3 Description of proposed Work and Products to be used.

.4 Alternatives to cutting and patching.

.5 Effect on work of Owner or separate contractor.

.6 Written permission of affected separate contractor.

.7 Date and time work will be executed.

2. **Products**

2.1 **Materials**

2.1.1 Primary Products: Those required for original installation.

3. **Execution**

3.1 **Examination**

3.1.1 Examine existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.

3.1.2 After uncovering existing Work, assess conditions affecting performance of work.

3.1.3 Beginning of cutting or patching means acceptance of existing conditions.

3.2 **Preparation**

- 3.2.1 Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of Project from damage.
- 3.2.2 Provide protection from elements for areas which may be exposed by uncovering work.

3.3 **Cutting**

- 3.3.1 Execute cutting and fitting including excavation and fill to complete the Work.
- 3.3.2 Uncover work to install improperly sequenced work.
- 3.3.3 Remove and replace defective or non-conforming work.
- 3.3.4 Remove samples of installed work for testing when requested.
- 3.3.5 Provide openings in the Work for penetration of mechanical and electrical work.
- 3.3.6 Employ original installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.
- 3.3.7 Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

3.4 **Patching**

- 3.4.1 Execute patching to complement adjacent Work.
- 3.4.2 Fit Products together to integrate with other Work.
- 3.4.3 Execute work by methods to avoid damage to other Work, and which will provide appropriate surfaces to receive patching and finishing.
- 3.4.4 Employ original installer to perform patching for weather exposed and moisture resistant elements, and sight-exposed surfaces.
- 3.4.5 Restore work with new Products in accordance with requirements of Contract Documents.
- 3.4.6 Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- 3.4.7 At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material, to full thickness of the penetrated element.
- 3.4.8 Refinish surfaces to match adjacent finish. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **References**

1.2.1 The Owner's Construction Agreement.

1.3 **Project Cleanliness**

1.3.1 Maintain Work in tidy condition, free from accumulation of waste products and debris caused by Contractor and its Trades.

1.3.2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Owner's representative. Do not burn waste materials on site, unless approved by Owner's representative.

1.3.3 Provide on-site dump containers for collection of waste materials and debris.

1.3.4 Dispose of waste materials and debris off site.

1.3.5 Clean areas prior to start of finishing work, and maintain areas free of dust and other contaminants during finishing operations.

1.3.6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.

1.3.7 Provide adequate ventilation during use of volatile or noxious substances. Use of building ventilation systems is not permitted for this purpose.

1.3.8 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

1.3.9 Schedule cleaning operations so that resulting dust, debris and other contaminants will not fall on wet, newly painted surfaces nor contaminate building systems.

1.4 **Final Cleaning**

1.4.1 Refer to the Owner's Construction Agreement.

1.4.2 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.

1.4.3 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.

1.4.4 Prior to final review remove surplus products, tools, construction machinery and equipment.

1.4.5 Remove waste products and debris caused by Contractor and its Trades.

1.4.6 Remove waste materials from site at regularly scheduled times or dispose of as directed by Owner's representative. Do not burn waste materials on site.

1.4.7 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.

1.4.8 Clean and polish surfaces and mechanical and electrical fixtures. Repair & replace broken, scratched or disfigured surfaces.

1.4.9 Remove stains, spots, marks and dirt from work, electrical and mechanical fixtures, furniture fitments, walls, ceilings and floors.

1.4.10 Clean lighting reflectors, lenses, and other lighting surfaces.

1.4.11 Inspect finishes, fitments and equipment and ensure specified workmanship and operation.

- 1.4.12 Clean equipment and fixtures to sanitary condition.
- 1.4.13 Clean drainage systems.
- 1.4.14 Remove debris and surplus materials from crawl areas and other accessible concealed spaces.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

- 3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **References**

1.2.1 The Owner's Construction Agreement.

1.3 **Administrative Requirements**

1.3.1 Acceptance of Work Procedures:

- .1 Contractor's Inspection: Contractor: conduct inspection of Work, identify deficiencies and defects, and repair as required to conform to Contract Documents.
 - .1 Notify Consultant in writing of satisfactory completion of Contractor's inspection and submit verification that corrections have been made.
 - .2 Request Consultant's inspection.
- .2 Consultant's Inspection:
 - .1 Consultant and Contractor to inspect Work and identify defects and deficiencies.
 - .2 Contractor to correct Work as directed.
- .3 Completion Tasks: submit written certificates in English that tasks have been performed as follows:
 - .1 Work: completed and inspected for compliance with Contract Documents.
 - .2 Defects: corrected and deficiencies completed.
 - .3 Equipment and systems: tested, adjusted and balanced and fully operational.
 - .4 Operation of systems: demonstrated to Owner's personnel.
 - .5 Work: complete and ready for final inspection.
- .4 Final Inspection:
 - .1 When completion tasks are done, request final inspection of Work by Consultant and Contractor.
 - .2 When Work incomplete according to Owner and Consultant, complete outstanding items and request re-inspection.
- .5 Declaration of Substantial Performance: when Consultant considers deficiencies and defects corrected and requirements of Contract substantially performed, make application for Certificate of Substantial Performance.
- .6 Commencement of Lien and Warranty Periods: date of Owner's acceptance of submitted declaration of Substantial Performance to 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:
 - .1 When Consultant considers final deficiencies and defects corrected and requirements of Contract met, make application for final payment.
 - .2 Refer to the Owner's Construction Agreement: when Work deemed incomplete by Consultant, complete outstanding items and request re-inspection.

- .8 Payment of Holdback: after issuance of Certificate of Substantial Performance of Work, submit application for payment of holdback amount in accordance with contractual agreement.

1.4 **Final Cleaning**

- 1.4.1 Clean in accordance with Section 01 74 00 - Cleaning.

- .1 Remove surplus materials, excess materials, rubbish, tools and equipment.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

- 3.1.1 Not Used.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **Administrative Requirements**

1.2.1 Pre-warranty Meeting:

- .1 Convene meeting one week prior to contract completion with contractor's representative, Owner and Consultant, in accordance with Section 01 31 00 - Project Meetings to:
 - .1 Verify Project requirements for Operating and Maintenance Manuals.
 - .2 Review manufacturer's warranty requirements.
- .2 Owner to establish communication procedures for:
 - .1 Notifying construction warranty defects.
 - .2 Determine priorities for type of defects.
 - .3 Determine reasonable response time.
- .3 Contact information for bonded and licensed company for warranty work action: provide name, telephone number and address of company authorized for construction warranty work action.
- .4 Ensure contact is located within local service area of warranted construction, is continuously available, and is responsive to inquiries for warranty work action.

1.3 **Action and Informational Submittals**

- 1.3.1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- 1.3.2 Two weeks prior to Substantial Performance of the Work, submit to the Consultant, four final copies of operating and maintenance manuals in English.
- 1.3.3 Provide spare parts, maintenance materials and special tools of same quality and manufacture as products provided in Work.
- 1.3.4 Provide evidence, if requested, for type, source and quality of products supplied.

1.4 **Format**

- 1.4.1 Organize data as instructional manual.
- 1.4.2 Binders: vinyl, hard covered, 3 'D' ring, loose leaf with spine and face pockets to suit letter size sheets.
- 1.4.3 When multiple binders are used correlate data into related consistent groupings.
 - .1 Identify contents of each binder on spine.
- 1.4.4 Cover: identify each binder with type or printed title 'Project Record Documents'; list title of project and identify subject matter of contents.
- 1.4.5 Arrange content by systems, under Section numbers and sequence of Table of Contents.
- 1.4.6 Provide tabbed fly leaf for each separate product and system, with typed description of product and major component parts of equipment.
- 1.4.7 Text: manufacturer's printed data, or typewritten data.
- 1.4.8 Drawings: provide with reinforced punched binder tab.
 - .1 Bind in with text; fold larger drawings to size of text pages.

- 1.4.9 Provide 1:1 scaled CAD files in dwg format on USB conforming to Owner's CADD Standard.

1.5 **Contents - Project Record Documents**

- 1.5.1 Table of Contents for Each Volume: provide title of project;
 - .1 Date of submission; names.
 - .2 Addresses, and telephone numbers of Consultant and Contractor with name of responsible parties.
 - .3 Schedule of products and systems, indexed to content of volume.
 - .4 New asset and equipment list in PDF format and Excel format.
 - .5 Approved submittals.
 - .6 Substantial performance and the publication.
 - .7 Vender reports.
 - .8 Test and inspection reports by third party consultant.
 - .9 Site visit/inspection reports by Consultant/subconsultants.
 - .10 Consultant general review letters.
 - .11 Certificate of total performance.
 - .12 Permit closeout confirmation.
- 1.5.2 For each product or system:
 - .1 List names, addresses and telephone numbers of subcontractors and suppliers, including local source of supplies and replacement parts.
- 1.5.3 Product Data: mark each sheet to identify specific products and component parts, and data applicable to installation; delete inapplicable information.
- 1.5.4 Drawings: supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.
- 1.5.5 Typewritten Text: as required to supplement product data.
 - .1 Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions specified in Section 01 45 00 - Quality Control.

1.6 **Materials and Finishes**

- 1.6.1 Building products, applied materials, and finishes: include product data, with catalogue number, size, composition, and colour and texture designations.
- 1.6.2 Instructions for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- 1.6.3 Moisture-protection and weather-exposed products: include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- 1.6.4 Additional requirements: as specified in individual specifications sections.

1.7 **Maintenance Materials**

- 1.7.1 Extra Stock Materials:
 - .1 Provide maintenance and extra materials, in quantities specified in individual specification sections.

- .2 Provide items of same manufacture and quality as items in Work.
- .3 Deliver to location as directed; place and store.
- .4 Receive and catalogue items.
 - .1 Submit inventory listing to Owner.
 - .2 Include approved listings in Maintenance Manual.
- .5 Obtain receipt for delivered products and submit prior to final payment.

1.8 **Delivery, Storage and Handling**

- 1.8.1 Store spare parts, maintenance materials, and special tools in manner to prevent damage or deterioration.
- 1.8.2 Store in original and undamaged condition with manufacturer's seal and labels intact.
- 1.8.3 Store components subject to damage from weather in weatherproof enclosures.
- 1.8.4 Store paints and freezable materials in a heated and ventilated room.
- 1.8.5 Remove and replace damaged products at own expense and for review by Consultant.

1.9 **Warranties and Bonds**

- 1.9.1 Develop warranty management plan to contain information relevant to Warranties.
- 1.9.2 Submit warranty management plan, 30 days before planned pre-warranty conference, to Consultant approval.
- 1.9.3 Warranty management plan to include required actions and documents to assure that Owner receives warranties to which it is entitled.
- 1.9.4 Provide plan in narrative form and contain sufficient detail to make it suitable for use by future maintenance and repair personnel.
- 1.9.5 Submit, warranty information made available during construction phase, to Consultant for approval prior to each monthly pay estimate.
- 1.9.6 Assemble approved information in binder, submit upon acceptance of work and organize binder as follows:
 - .1 Separate each warranty or bond with index tab sheets keyed to Table of Contents listing.
 - .2 List subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.
 - .3 Obtain warranties and bonds, executed in duplicate by subcontractors, suppliers, and manufacturers, within ten days after completion of applicable item of work.
 - .4 Verify that documents are in proper form, contain full information, and are notarized.
 - .5 Co-execute submittals when required.
 - .6 Retain warranties and bonds until time specified for submittal.
- 1.9.7 Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial Performance is determined.
- 1.9.8 Conduct joint 12 month warranty inspection, measured from time of acceptance, by Consultant.
- 1.9.9 Include information contained in warranty management plan as follows:
 - .1 Roles and responsibilities of personnel associated with warranty process, including

points of contact and telephone numbers within the organizations of Contractors, subcontractors, manufacturers or suppliers involved.

- .2 Provide list for each warranted equipment, item, feature of construction or system indicating:
 - .1 Name of item.
 - .2 Model and serial numbers.
 - .3 Location where installed.
 - .4 Name and phone numbers of manufacturers or suppliers.
 - .5 Names, addresses and telephone numbers of sources of spare parts.
 - .6 Warranties and terms of warranty: include one-year overall warranty of construction. Indicate items that have extended warranties and show separate warranty expiration dates.
 - .7 Cross-reference to warranty certificates as applicable.
 - .8 Starting point and duration of warranty period.
 - .9 Summary of maintenance procedures required to continue warranty in force.
 - .10 Cross-Reference to specific pertinent Operation and Maintenance manuals.
 - .11 Organization, names and phone numbers of persons to call for warranty service.
 - .12 Typical response time and repair time expected for various warranted equipment.
- .3 Contractor's plans for attendance at 12 month post-construction warranty inspections.
- .4 Procedure and status of tagging of equipment covered by extended warranties.
- .5 Post copies of instructions near selected pieces of equipment where operation is critical for warranty and/or safety reasons.

1.9.10 Respond in timely manner to oral or written notification of required construction warranty repair work.

1.9.11 Written verification to follow oral instructions.

- .1 Failure to respond will be cause for Owner to proceed with action against Contractor.

1.10 **Warranty Tags**

1.10.1 Tag, at time of installation, each warranted item. Provide durable, oil and water resistant tag approved by Consultant.

1.10.2 Attach tags with copper wire and spray with waterproof silicone coating.

1.10.3 Leave date of acceptance until project is accepted for occupancy.

1.10.4 Indicate following information on tag:

- .1 Type of product/material.
- .2 Model number.
- .3 Serial number.

- .4 Contract number.
- .5 Warranty period.
- .6 Inspector's signature.
- .7 Construction Contractor.

2. **PRODUCTS**

2.1 **Not Used**

- 2.1.1 Not Used.

3. **EXECUTION**

3.1 **Not Used**

- 3.1.1 Not Used.

END OF SECTION

1. **General**

1.1 **Description**

1.1.1 This Section specifies the requirements for site protection systems as required by the Work and to protect existing environment vegetation and trees to be incorporated into the Work.

1.2 **Related Work**

1.2.1 Environmental Protection: Section 01 35 43

1.2.2 Site Preparation, Demolition and Removals: Section 02 41 13

1.2.3 Cleaning and Waste Processing: Section 01 74 11

1.3 **References**

1.3.1 General Specifications for Management and Disposal of Waste: OPSS 180

1.3.2 Construction Specification for the Protection of Trees: OPSS 565

1.4 **Scope of Work**

1.4.1 Co-ordinate work in this section with work in all other sections.

1.4.2 Furnish all labour, materials and equipment necessary to install and maintain site protection systems as required by the Work and the Consultant. This work includes the installation and maintenance of temporary specified hoarding fencing around all woodlots, greenbelts, parks and natural areas to be preserved, structures to be preserved, and around all areas of construction prior to the initiation of any construction activities on site

2. **Products**

2.1 **Materials**

2.1.1 Stakes: new T-bar steel stakes, 40mm x 40mm x 5mm x 2,440mm.

2.1.2 Wire: 2.5 mm steel wire.

2.1.3 Plastic orange safety fence complete with T-bars steel stakes spaced at 2438mm (8ft) on centre buried at a minimum of 1m (3ft) into the ground.

2.1.4 All other materials/installations as per detail drawings and City requirements.

3. **Execution**

3.1 **Installation**

3.1.1 Contractor shall stake-out the location of the site protection hoarding for approval by the Consultant prior to installation.

3.1.2 Confine activities to a minimum of 3.0 metres away from all existing trees and shrubs unless approved by City. Notify the Consultant of all areas where encroachment of work within 3.0 metres is required.

3.1.3 Protect roots of trees to be preserved to beyond dripline during excavation and site grading to minimize disturbances or damage. Any traffic, dumping, and storage of materials over root zones of trees designated to remain is strictly prohibited.

3.1.4 Restrict tree removal to areas indicated on plans or designated by Consultant. Tree removal can only be initiated once the Consultant has approved the installation

of the protective fencing and the City's Tree Permit (if required) has been issued to the Contractor.

3.2 **Protection**

- 3.2.1 Maintain specified hoarding in good repair at all times. Inspect and repair on a daily basis to maintain the integrity of the system, protect the site and public safety.
- 3.2.2 No vehicles, construction materials or equipment shall be stored or temporarily placed beyond the limit of fencing, or below the dripline of existing trees to be preserved.
- 3.2.3 No soil removal or placement of fill will be accepted below the dripline of existing trees to be preserved.
- 3.2.4 Removal of existing trees to be preserved will not be accepted. Pruning of existing trees to be preserved must be approved by the Consultant prior to the pruning taking place and will be completed in accordance with standard horticultural practices.

3.3 **Re-instatement**

- 3.3.1 Protective fencing shall be removed upon final acceptance of the work by the Community
- 3.3.2 Services Representative unless otherwise directed.
- 3.3.3 Where directed by the Consultant, the Contractor shall replace all existing plant material damaged or destroyed during the course of construction to the satisfaction of the City of Toronto.

END OF SECTION

1. **General**

1.1 **Description**

1.1.1 This Section specifies the requirements for preparing the site of the work demolishing, salvaging, removing and disposing wholly or in part various items designated to be removed in advance of the new work or partially removed and for backfilling resulting trenches, holes, pits and excavations.

1.2 **Related Work**

1.2.1 Environmental Protection: Section 01 35 43

1.2.2 Site Protection: Section 01 89 13

1.2.3 Cleaning: Section 01 74 11

1.3 **References**

1.3.1 General Specifications for Management and Disposal of Waste: OPSS 180

1.4 **Scope of Work**

1.4.1 Co-ordinate work in this section with work in all other sections.

1.4.2 The Contractor shall clear the site of all rubbish, rocks, boulders, and all useless materials and shall remove and dispose of material off-site to a location arranged and paid for by the Contractor.

1.4.3 Any trees which must be removed will be as shown on the drawings or will be marked on site by the Consultant prior to commencement of site works.

1.4.4 The Contractor shall excavate existing materials designated for removal or not required by the new work including pavements, concrete curbing, granular base and sub-base and remove all materials from site to a location arranged and paid for by the Contractor.

1.4.5 Comply with all provincial regulations and the requirements of the MOE, MTO, the City of Toronto, the applicable Conservation Authority and any other authority having jurisdiction over the Work.

1.4.6 Do not burn or bury any debris.

1.4.7 All existing site services (Hydro, Gas, Cable, Bell, Water and Sanitary and Storm) within the contract limit, and shown as existing on the Drawings are to remain, unless otherwise indicated on the drawings.

1.5 **Site Condition**

1.5.1 The Contractor is responsible to establish the location of all underground services, sewers and utility lines before commencing any excavation or demolition work. Approximate locations for known underground sewer and utility lines are indicated on the drawings and must be confirmed and verified in the field by the Contractor.

1.5.2 All existing site services (Hydro, Bell, Water and Sanitary and Storm) within the contract limit, and shown as existing on the Drawings are to remain, unless otherwise indicated on the drawings.

1.6 **Site Preparation, Excavation and Disposal of Materials**

1.6.1 In preparation for new construction, dispose of off the site of the Work to an

approved waste disposal site all vegetable materials (sod, trees, bushes and plants), bituminous pavements, timber, pressure treated timber metal/plastic, polystyrene products, debris, concrete, rubble, granular not suitable for re-use or any other material not required by the new work and to the depths and profiles as required by the new work in accordance with the drawings and details.

1.6.2 The Contractor may dispose on site:

Suitable fill only, granular material encountered meeting the requirements of imported suitable fill.

1.6.3 Any existing material excavated as part of the work of this section and designated for re-use shall be certified as compliant with the specifications by the Geotechnical consultant.

1.6.4 Remove all surplus material from the site.

1.7 **Protection**

1.7.1 Protect in accordance with Environmental Protection - Section 01 35 43 and Site Protection - Section 01 89 13.

1.7.2 Protect existing items designated to remain. In event of damage to such items, immediately replace or make repairs to approval of Consultant and at no cost to Owner.

2. **Products**

2.1 **Not Used**

3. **Execution**

3.1 **Preparation**

3.1.1 Inspect site and verify with Consultant items designated for removal, disposal, salvage, re-use and items to remain.

3.1.2 Locate and protect utility lines. Preserve in operating condition active utilities traversing site.

3.1.3 Notify utility companies before starting demolition.

3.2 **Storm and Sanitary Drains**

3.2.1 Storm and sanitary mains to be abandoned or removed from operation shall be done so in a manner to suit the existing construction or as indicated on the drawings.

3.2.2 If removal is specified all materials shall be fully excavated removed and disposed of offsite. Restoration, backfill and compaction shall be in accordance with the specifications.

3.2.3 All services to be abandoned shall have all points of connection capped and securely plugged to form a watertight seal.

3.2.4 All maintenance holes or catch basins shall be removed and or filled in as indicated on the drawings.

3.3 **Removal**

3.3.1 Remove and dispose of items as indicated on drawings, as required by the Work

and as identified by the review with the Consultant.

3.3.2 Store salvage or re-use items for re-installation as indicated on the drawings or the individual technical specifications.

3.3.3 Do not disturb adjacent items designated to remain in place.

3.4 **Backfill**

3.4.1 Backfill all resulting holes, pits and trenches in accordance with appropriate individual specification sections.

3.5 **Restoration**

3.5.1 On completion of removals grade areas in an even grade preparation for the new work as shown on the drawings.

3.5.2 Restore all damaged areas to original condition to the approval of the Consultant.

3.6 **Site Cleanup**

3.6.1 Upon completion of work, remove debris, trim surfaces and leave work site clean.

END OF SECTION

1. **GENERAL**

1.1 **Related Requirements**

1.1.1 Not used.

1.2 **References**

1.2.1 CSA International CSA S350-R2003, Code of Practice for Safety in Demolition of Structures.

1.2.2 National Building Code of Canada (NBC), Part 8 – Safety Measures at Construction and Demolition Sites (2005) and local authority having jurisdiction.

1.3 **Action and Informational Submittals**

1.3.1 Submit in accordance with Section 01 33 00 - Submittal

1.3.2 Submit demolition drawings:

- .1 Submit for review and approval by Consultant shoring and underpinning drawings stamped and signed by professional engineer registered or licensed in the Province of Ontario Canada, showing proposed method.

1.4 **Site Conditions**

1.4.1 Review "Designated Substance Report" and take precautions to protect environment.

1.4.2 If material resembling spray or trowel-applied asbestos or other designated substance listed as hazardous be encountered, stop work, take preventative measures, and notify Consultant immediately.

- .1 Proceed only after receipt of written instructions has been received from Consultant.

1.4.3 Notify Consultant before disrupting building access or services.

2. **PRODUCTS**

2.1 **Not Used**

2.1.1 Not used.

3. **EXECUTION**

3.1 **Examination**

3.1.1 Inspect building and site with Consultant and verify extent and location of items designated for removal, disposal, alternative disposal, recycling, salvage and items to remain.

3.1.2 Locate and protect utilities. Preserve active utilities traversing site in operating condition.

3.1.3 Notify and obtain approval of utility companies before starting demolition.

3.1.4 Disconnect, cap, plug or divert, as required, existing public utilities within the property where they interfere with the execution of the work, in conformity with the requirements of the authorities having jurisdiction. Mark the location of these and previously capped or plugged services on the site and indicate location (horizontal and vertical) on the record drawings. Support, shore up and maintain pipes and conduits encountered.

- .1 Immediately notify Consultant and utility company concerned in case of damage to any utility or service, designated to remain in place.
- .2 Immediately notify the Consultant should uncharted utility or service be encountered, and await instruction in writing regarding remedial action.

3.2 **Preparation**

3.2.1 Temporary Erosion and Sedimentation Control:

- .1 Provide temporary sedimentation control measures to prevent discharge of debris-bearing water runoff or airborne dust to adjacent properties, walkways and onsite storm drains, according to: requirements of authorities having jurisdiction.
- .2 Inspect, repair, and maintain sedimentation control measures during demolition.
- .3 Remove sedimentation controls and restore and stabilize areas disturbed during removal after completion of demolition work.

3.2.2 Protection of In-Place Conditions:

- .1 Prevent movement, settlement, or damage to adjacent structures, utilities, landscaping features and parts of building to remain in place. Provide bracing and shoring required.
- .2 Keep noise, dust, and inconvenience to occupants to minimum.
- .3 Protect building systems, services and equipment.
- .4 Provide temporary dust screens, covers, railings, supports and other protection as required.
- .5 Do Work in accordance with Section 01 35 29.06 - Health and Safety Requirements.

3.2.3 Demolition/Removal:

- .1 Remove items as per drawings and as required to perform the work.

3.2.4 Remove parts of existing structure to permit new construction.

3.2.5 Trim edges of partially demolished building elements to tolerances as defined by Consultant to suit future use.

3.3 **Cleaning**

3.3.1 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.

END OF SECTION