

Consultant for Review:

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Professional Engineer's Stamp:



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PART 1 - GENERAL

- 1.1 WORK COVERED BY CONTRACT DOCUMENTS .1 Work of this Contract comprises general construction of new asphalt paving & curb, located at the Joyceville Institution; and further identified as Sally Port.
- 1.2 WORK BY OTHERS .1 Co-operate with other Contractors in carrying out their respective works and carry out instructions from Department Representative.
- .2 Co-ordinate work with that of other Contractors. If any part of work under this Contract depends for its proper execution or result upon work of another Contractor, report promptly to Department Representative, in writing, any defects which may interfere with proper execution of Work.
- 1.3 WORK SEQUENCE .1 Construct Work in stages to accommodate Owner's continued use of premises during construction & one lane of vehicle access should remain open at all times.
- .2 Co-ordinate Progress Schedule and co-ordinate with Owner Occupancy during construction.
- .3 Required stages:
.1 Paving Operation - Entire Paving Project must be staged in a manner to allow uninterrupted traffic flow to the Sally Port.
- .4 Construct Work in stages to provide for continuous public usage. Do not close off public usage of facilities until use of one stage of Work will provide alternate usage.
- .5 Maintain fire access/control.
- 1.4 CONTRACTOR USE OF PREMISES .1 Limit use of premises for Work, and for access, to allow:
.1 Owner occupancy.
.2 Partial owner occupancy.
.3 Work by other contractors.
.4 Public usage.
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- 1.4 CONTRACTOR USE OF PREMISES
(Cont'd)
- .2 Co-ordinate use of premises under direction of Department Representative.
 - .3 Obtain and pay for use of additional storage or work areas needed for operations under this Contract.
 - .4 Repair or replace portions of existing work which have been altered during construction operations to match existing or adjoining work, as directed by Department Representative.
 - .5 At completion of operations condition of existing work: equal to or better than that which existed before new work started.
- 1.5 OWNER OCCUPANCY
- .1 Owner will occupy premises during entire construction period for execution of normal operations.
 - .2 Co-operate with Owner in scheduling operations to minimize conflict and to facilitate Owner usage.
- 1.6 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING
- .1 Execute work with least possible interference or disturbance to building operations occupants, public and normal use of premises. Arrange with Department Representative to facilitate execution of work.
- 1.7 EXISTING SERVICES
- .1 Notify Department Representative, and utility companies of intended interruption of services and obtain required permission.
 - .2 Provide alternative routes for personnel pedestrian and vehicular traffic.
 - .3 Establish location and extent of service lines in area of work before starting Work. Notify Department Representative of findings.
 - .4 Submit schedule to and obtain approval from Department Representative 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.
-

1.7 EXISTING
SERVICES
(Cont'd)

- .5 Provide adequate bridging over trenches which cross sidewalks or roads to permit normal traffic.
- .6 Where unknown services are encountered, immediately advise Department Representative, and confirm findings in writing.
- .7 Protect, relocate or maintain existing active services. When inactive services are encountered, cap off in manner approved by authorities having jurisdiction.
- .8 Record locations of maintained, re-routed and abandoned service lines.

1.8 DOCUMENTS
REQUIRED

- .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 Reports.
 - .9 Copy of Approved Work Schedule.
 - .10 Health and Safety Plan and Other Safety Related Documents.
 - .11 Other documents as specified.

PART 2 - PRODUCTS

- 2.1 NOT USED .1 Not used.

PART 3 - EXECUTION

- 3.1 NOT USED .1 Not used.

PART 1 - GENERAL

- 1.1 ACCESS AND EGRESS .1 Design, construct and maintain temporary "access to" and "egress from" work areas, including stairs, runways, ramps or ladders independent of finished surfaces and in accordance with relevant municipal, provincial and other regulations.
- 1.2 USE OF SITE AND FACILITIES .1 Execute work with least possible interference or disturbance to normal use of premises. Make arrangements with Department Representative, to facilitate work as stated.
- .2 Maintain existing services to building and provide for personnel and vehicle access.
- .3 Where security is reduced by work provide temporary means to maintain security.
- 1.3 ALTERATIONS, ADDITIONS OR REPAIRS TO EXISTING BUILDING .1 Execute work with least possible interference or disturbance to building operations occupants, public and normal use of premises. Arrange with Department Representative, to facilitate execution of work.
- 1.4 EXISTING SERVICES .1 Notify, Department Representative and utility companies of intended interruption of services and obtain required permission.
- 1.5 SPECIAL REQUIREMENTS .1 Ensure Contractor's personnel employed on site become familiar with and obey regulations including safety, fire, traffic and security regulations.
- .2 Keep within limits of work and avenues of ingress and egress.
-

1.6 SECURITY

.1 Refer to Section 01 35 13

1.7 BUILDING
SMOKING ENVIRONMENT

.1 Comply with smoking restrictions. Smoking is
not permitted.

PART 2 - PRODUCTS

2.1 NOT USED

.1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED

.1 Not Used.

PART 1 - GENERAL

Guaranteed Maintenance Period

The guaranteed maintenance period shall be a period of one (1) year from the date of Substantial performance in accordance with the General Conditions. During this period, the contractor shall maintain all work and carry out such repairs as directed by the Departments representative. Repairs directed by Department representative shall be undertaken with 24 hours of notification being given. If repairs have not been completed within 24 hours, the contractor will be billed for the repairs.

PART 1 - GENERAL

- 1.1 RELATED REQUIREMENTS .1 Particular requirements for inspection and testing to be carried out by testing laboratory designated by Department Representative
- 1.2 APPOINTMENT AND PAYMENT .1 Department Representative will appoint and pay for services of testing laboratory except follows:
.1 Inspection and testing required by laws, ordinances, rules, regulations or orders of public authorities.
.2 Where tests or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, pay costs for additional tests or inspections as required by Department Representative to verify acceptability of corrected work.
- 1.3 CONTRACTOR'S RESPONSIBILITIES .1 Provide labour, equipment and facilities to:
.1 Provide access to Work for inspection and testing.
.2 Facilitate inspections and tests.
.3 Make good Work disturbed by inspection and test.
.4 Provide storage on site for laboratory's exclusive use to store equipment and cure test samples.
.2 Notify Department Representative 48 hours minimum sufficiently in advance of operations to allow for assignment of laboratory personnel and scheduling of test.
.3 Where materials are specified to be tested, deliver representative samples in required quantity to testing laboratory.
.4 Pay costs for uncovering and making good Work that is covered before required inspection or testing is completed and approved by Department Representative
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PART 2 - PRODUCTS

2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

- 1.1 CLOSEOUT MEETING.1 Schedule and administer a project closeout meeting at the call of Department Representative
- .2 Prepare agenda for the meeting.
- .3 Distribute written notice of the meeting four days in advance of meeting date to Department Representative
- .4 Provide physical space and make arrangements for meetings.
- .5 Preside at meeting.
- .6 Record the meeting minutes. Include significant proceedings and decisions. Identify actions by parties.
- .7 Reproduce and distribute copies of minutes within three days after meeting and transmit to meeting participants and, Department Representative
- .8 Representative of Contractor, Subcontractor and suppliers attending meetings will be qualified and authorized to act on behalf of party each represents.
- .9 Department Representative to identify any outstanding deficiencies and timeline required for Contractor to correct.
- 1.2 PRECONSTRUCTION MEETING.1 Within 15 days after award of Contract, request a meeting of parties in contract to discuss and resolve administrative procedures and responsibilities.
- .2 Department Representative, Contractor, major Subcontractors, field inspectors and supervisors will be in attendance.
- .3 Establish time and location of meeting and notify parties concerned minimum 5 days before meeting.
- .4 Incorporate mutually agreed variations to Contract Documents into Agreement, prior to signing.
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1.2 PRECONSTRUCTION .5
MEETING
(Cont'd)

Agenda to include:

- .1 Appointment of official representative of participants in the Work.
- .2 Schedule of submission of shop drawings, samples, colour chips.
- .3 Proposed changes, change orders, procedures, approvals required, mark-up percentages permitted, time extensions, overtime, administrative requirements.
- .4 Owner provided products.
- .5 Record drawings in accordance with Section 01 33 00 - Submittal Procedures.
- .6 Monthly progress claims, administrative procedures, photographs, hold backs.
- .7 Appointment of inspection and testing agencies or firms.
- .8 Insurances, transcript of policies.

PART 2 - PRODUCTS

2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

1.1 PURPOSE .1 To ensure that both the construction project and the institutional operations may proceed without undue disruption or hindrance and that the security of the Institution is maintained at all times.

1.2 DEFINITIONS .1 "Contraband" means:

- .1 An intoxicant, including alcoholic beverages, drugs and narcotics.
- .2 Tobacco or associated tobacco products.
- .3 An igniting device, lighter or matches.
- .4 A weapon or a component thereof, ammunition for a weapon, and anything that is designed to kill, injure or disable a person or that is altered so as to be capable of killing, injuring or disabling a person, when possessed without prior authorization.
- .5 An explosive or a bomb or a component thereof.
- .6 Currency of any quantity when possessed by an inmate without prior authorization.
- .7 Any item not described in 2.1.1 and 2.1.6 that could jeopardize the security of a Penitentiary or the safety of persons, when that item is possessed without prior authorization.

.2 "Unauthorized smoking and related items" means all smoking items including, but not limited to, cigarettes, cigars, tobacco, chewing tobacco, cigarette making machines, matches and lighters.

.3 "Commercial Vehicle" means any motor vehicle used for the shipment of material, equipment and tools required for the construction project.

.4 "CSC" means Correctional Service Canada"

.5 "Construction Employees" means persons working for the General Contractor, the sub-contractors, equipment operators, material suppliers, testing and inspection companies and regulatory agencies.

.6 "Department Representative " means the project manager from Correctional Service Canada.

- 1.2 DEFINITIONS (Cont'd) .7 "Perimeter" means the fenced or walled area of the Institution that restrains the movement of the inmates.
- .8 "Construction Limits" means the area as shown on the contract drawings that the contractor will be allowed to work. This area may or may not be isolated from the security area of the Institution.
- 1.3 PRELIMINARY PROCEEDINGS .1 Prior to the commencement of work, the Contractor shall meet with the Department Representative or his/her representative to:
- .1 Discuss the nature and extent of all activities involved in the Project.
 - .2 Establish mutually acceptable security procedures in accordance with this instruction and the Institution's particular requirements.
- .2 Contractor shall:
- .1 Ensure that all Construction Employees are aware of the security requirements.
 - .2 Ensure that a copy of the security requirements is always prominently on display at the job site.
 - .3 Co-operate with institutional personnel in ensuring that security requirements are observed by all Construction Employees.
- 1.4 CONSTRUCTION EMPLOYEES .1 Submit to the Department Representative a list of the names with date of birth of all construction employees to be employed on the construction site and a security clearance form for each employee.
- .2 Allow two (2) weeks for processing of security clearances. Employees will not be admitted to the Institution without a valid security clearance in place and a recent picture identification such as a provincial driver's license. Security clearances obtained from other CSC Institutions are not valid at this Institution.
- .3 The Department Representative may require that facial photographs may be taken of construction Employees and these photographs may be displayed at appropriate locations in the Institution or in an electronic database for identification purposes. The Department Representative may require that Photo ID cards
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- 1.4 CONSTRUCTION .3 (Cont'd)
EMPLOYEES
(Cont'd)
- .4 be provided for all Construction Employees. ID cards will then be left at the designated entrance to be picked upon arrival at the institution and shall be displayed prominently on the Construction employees clothing at all times while construction employees are in the Institution.
- .4 Entry in to Institutional Property will be refused to any person there may be reason to believe may be a security risk.
- .5 Any person employed on the construction site will be subject to immediate removal from the Institutional Property if they:
- .1 Appear to be under the influence of alcohol, drugs or narcotics
 - .2 Behave in an unusual or disorderly manner.
 - .3 Are in possession of contraband.
- .6 Smoking is prohibited anywhere on CSC property.
- 1.5 VEHICLES .1 All unattended vehicles on CSC property shall have windows closed; doors and trunks shall be locked and keys removed. The keys shall be securely in the possession of the owner or an employee of the company that owns the vehicle.
- .2 The Department Representative may limit at any time the number and type of vehicles allowed within the Institution.
- .3 Drivers of delivery vehicles for material required by the project will not require security clearances but must remain with their vehicle the entire time that the vehicle is in the Institution. The Department Representative may require that these vehicles be escorted by institutional staff or commissionaires while in the Institution.
- .4 If the Department Representative permits trailers to be left inside the secure perimeter of the institution, these trailer doors will be locked at all times. All windows will be securely locked when left unoccupied. All trailer windows shall be covered with expanded metal mesh. All storage trailers inside and outside the perimeter shall be locked when not in use.
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1.6 PARKING .1 Parking area(s) to be used by construction employees will be designated by the Department Representative . Parking in other locations will be prohibited and vehicles may be subject to removal.

.2 Perimeter road inside Institution is a fire route. No parking is permitted on this roadway. Contractor is responsible to keep this roadway in good condition and clear of snow at all times.

1.7 SHIPMENTS .1 All shipments of project material, equipment and tools shall be addressed in the Contractor's name to avoid confusion with the Institution's own shipments. The contractor must have his/her own employees on site to receive any deliveries or shipments. CSC staff will NOT accept receipt of deliveries or shipments of any material, equipment or tools.

1.8 TELEPHONES .1 There will be no installation of telephones, Facsimile machines and computers with Internet connections permitted within the perimeter of the Institution unless prior approval of the Department Representative is received.

.2 The Department Representative will ensure that approved telephones, facsimile machine and computers with internet connections are located where they are not accessible to inmates. All computers will have an approved password protection that will stop an internet connection to unauthorized personnel.

.3 Wireless cellular and digital telephones, including but not limited to devices for telephone messaging, pagers, BlackBerries, telephone used as 2-way radios, are not permitted within the institution unless approved by the Department Representative
.1 If wireless cellular telephones are permitted, the user will not permit their use by any inmate.

.4 The Department Representative may approve but not limit the use of two way radios.

- 1.9 WORK HOURS .1 Work hours within the institution are: Monday to Friday 07:00 hrs to 16:00 hrs
- .2 Work will not be permitted during weekends and statutory holidays without the permission of the Department Representative. A minimum of seven days advance notice will be required to obtain the required permission. In case of emergencies or other special circumstances, this advance notice may be waived by the Department Representative.

- 1.10 OVERTIME WORK .1 No overtime work will be allowed without permission of the Department Representative. Give a minimum forty-eight (48) hours advance notice when overtime work on the construction project is necessary and approved. If overtime work is required because of an emergency such as the completion of a concrete pour or work to make the construction safe and secure, the contractor shall advise the director as soon as this condition is known and follow the directions given by the Department Representative. Costs to the crown for such events may be attributed to the Contractor.
- .2 When overtime work, weekend, or statutory holiday work is required and approved by the Department Representative, extra staff members may be posted by the Department Representative or his/her designate, to maintain the security surveillance. The Department Representative, may post extra staff for inspection of construction activities. The actual cost of this extra staff may be subject to reclamation by the Crown.

- 1.11 TOOLS AND EQUIPMENT .1 Make this inventory available for inspection when required. Submit tool list to Department Representative 24 hours prior to scheduled work start on site.
- .2 Throughout the construction project maintain up-to-date the list of tools and equipment specified above.
- .3 Keep all tools and equipment under constant supervision, particularly power-driven and cartridge-driven tools, cartridges, files, saw blades, rod saws, wire, rope, ladders and any sort of jacking device.
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- 1.11 TOOLS AND EQUIPMENT (Cont'd)
- .4 Store all tools and equipment in approved secure locations.
 - .5 Lock all tool boxes when not in use. Keys to remain in the possession of the employees of the Contractor. Scaffolding shall be secured and locked when not erected and when erected, will be secured in a manner agreed upon with the institutional designate.
 - .6 All missing or lost tools or equipment shall be reported immediately to the Department Representative.
 - .7 The Department Representative will ensure that the security staff members carry out checks of the Contractor's tools and equipment against the list provided by the Contractor. These checks may be carried out at the following intervals:
 - .1 At the beginning and conclusion of every construction project.
 - .2 Weekly, when the construction project extends longer than a one week period.
 - .3 The contractor may be subject to random checks by security staff to ensure proper storage and security of tools throughout the project.
 - .8 Certain tools/equipment such as cartridges and hacksaw blades are highly controlled items. The contractor will be given at the beginning of the day, a quantity that will permit one day's work. Used blades/cartridges will be returned to the Department Representative at the end of each day.
 - .9 If propane or natural gas is used for heating the construction, the institution will require that an employee of the contractor supervise the construction site during non-working hours.
 - .10 If torches or grinders are required tools to perform work, contractor must complete a Hot Work Permit as supplied by CSC. Completed original form(s) are copied and posted on the work site in a conspicuous location. Original documents are to remain with the Institutional Fire Chief.
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1.12 PRESCRIPTION .1
DRUGS

Employees of the contractor who are required to take prescription drugs during the workday shall obtain approval of the Department Representative to bring a one day supply only into the institution.

1.13 SMOKING .1
RESTRICTIONS

Contractors and construction employees are not permitted to smoke inside correctional facilities or outdoors within the perimeter of a correctional facility and must not possess unauthorized smoking items within the perimeter of a correctional facility.

.2 Contractors and construction employees who are in violation of this policy will be requested to immediately cease smoking or dispose of any unauthorized smoking items and, if they persist, will be directed to leave the institution.

.3 Smoking is only permitted outside the perimeter of a correctional facility in an area to be designated by the Department Representative.

1.14 CONTRABAND .1

Weapons, ammunition, explosives, alcoholic beverages, drugs and narcotics are prohibited on Institutional Property.

.2 Discovery of contraband on the construction site and the identification of the person(s) responsible for the contraband shall be reported immediately to the Department Representative.

.3 Contractors shall be vigilant with both their staff and the staff of their sub-contractors and suppliers that the discovery of contraband may result in cancellation of the security clearance of the affected employee. Serious infractions may result in the removal of the company from the Institution for the duration of the construction.

.4 Presence of arms and ammunition in vehicles of Contractors, sub-contractors and suppliers or employees of these will result in the immediate cancellation of security clearances for the driver of the vehicle.

- 1.15 SEARCHES .1 All vehicles and persons entering Institutional property may be subject to search.
- .2 When the Department Representative suspects, on reasonable grounds, that an employee of the contractor is in possession of Contraband or unauthorized items, he/she may order that person to be searched.
- .3 All employees entering the Institution may be subject to screening of personal effects for traces of Contraband drug residue.

- 1.16 ACCESS TO AND REMOVAL FROM INSTITUTION PROPERTY .1 Construction personnel and commercial vehicles will not be admitted to the Institution after normal working hours, unless approved by the Department Representative.

- 1.17 MOVEMENT OF VEHICLES .1 Escorted commercial vehicles will be allowed to enter or leave the construction area through the vehicle access gate as directed, and during the following hours:
- .1 08:00 hrs to 11:00 hrs
 - .2 13:00 hrs to 16:00 hrs
- .2 Construction vehicles shall not leave the Institution until an inmate count is complete.
- .3 The contractor shall advise the Department Representative twenty four (24) hours in advance to the arrival on the site of heavy equipment such as concrete trucks, cranes, etc.
- .4 Vehicles being loaded with soil or other debris or any vehicle considered impossible to search, must be under continuous supervision by CSC staff or Commissionaires working under the authority of the Department Representative.
- .5 Commercial vehicles will only be allowed access to Institutional Property when their contents are certified by the Contractor or his/her representative as being strictly necessary to the execution of the construction project.
- .6 Vehicles shall be refused access to Institutional Property if, in the opinion of
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1.17 MOVEMENT OF _____ .6

VEHICLES

(Cont'd)

(Cont'd)

the Department Representative, they contain any article which may jeopardize the security of the Institution.

.7

Private vehicles of construction employees will not be allowed within the security wall or fence of medium or maximum security Institutions without the permission of the Department Representative

.8

With the prior approval of the Department Representative, certain equipment may be permitted to remain on the construction site overnight or over the weekend. This equipment must be securely locked, with the battery removed. The Department Representative may require that the equipment be secured with a chain and padlock to another solid object.

1.18 MOVEMENT OF _____ .1

CONSTRUCTION

EMPLOYEES ON

INSTITUTIONAL

PROPERTY

Subject to the requirements of good security, the Department Representative will permit the Contractor and his/her employees as much freedom of action and

movement as possible.

.2

However, notwithstanding paragraph above, the Department Representative may:

.1 Prohibit or restrict access to any part of the Institution.

.2 Require that in certain areas of the Institution, either during the entire construction project or at certain intervals, Construction employees will only be allowed access when accompanied by a member of the CSC security staff.

.3

During the lunch and coffee/health breaks, all employees will remain within the construction site. Employees are not permitted to eat in the Officer's lounge and dining room.

1.19 SURVEILLANCE _____ .1

AND INSPECTION

Construction activities and all related movement of personnel and vehicles will be subject to surveillance and inspection by CSC security staff members to ensure that established security requirements are met.

1.19 SURVEILLANCE AND INSPECTION .2
(Cont'd)

The Department Representative will ensure that an understanding of the need to carry out surveillance and inspections, as specified above, is established among construction employees and maintained throughout the construction project.

1.20 STOPPAGE OF WORK .1

The Department Representative may request at any time that the Contractor, his/her employees, sub-contractors and their employees not enter or leave the work site immediately due to a security situation occurring within the Institution. The Contractor's site supervisor shall note the name of the staff member making the request and the time of the request and obey the order as quickly as possible.

.2 The Contractor shall advise the Department Representative, within 24 hours of this delay to the progress of the work.

1.21 CONTACT WITH INMATES .1

Unless specifically authorized, it is forbidden to come into contact with inmates, to talk with them, to receive objects from them or to give them objects. Any employee doing any of the above will be removed from the site and his/her security clearance revoked.

.2 It is forbidden to take pictures of inmates, of CSC staff members or of any part of the Institution other than those required as part of this Contract

1.22 COMPLETION OF CONSTRUCTION .1

Upon completion of the construction project or, when applicable, the takeover of a facility, the Contractor shall remove all remaining tools and equipment that are not specified to remain in the Institution as part of the construction contract.

PART 2 - PRODUCTS

2.1 NOT USED .1 Not Used

PART 3 - EXECUTION

3.1 NOT USED .1 Not Used

PART 1 - GENERAL

1.1 REFERENCES

- .1 Canada Labour Code, Part 2, Canada Occupational Safety and Health Regulations
- .2 Health Canada/Workplace Hazardous Materials Information System (WHMIS)
 - .1 Material Safety Data Sheets (MSDS).
- .3 Province of Ontario
 - .1 Occupational Health and Safety Act, R.S.O. 1990 Updated 2005.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit site-specific Health & Safety Plan within 7 days after date of Notice to proceed and prior to commencement of work. Health & 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.
 - .2 Submit two copies of Contractor's authorized representative's work site health and safety inspection reports to Department Representative.
 - .3 Submit copies of reports or directions issued by Federal, Provincial and Territorial health and safety inspectors.
 - .4 Submit copies of incident and accident reports.
 - .5 The Department Representative, will review Contractor's site-specific Health and Safety Plan and provide comments to Contractor within 7 days after receipt of plan. Revise plan as appropriate and resubmit plan to Department Representative, within 7 days after receipt of comments from Department Representative.
 - .6 The Department Representative's 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.
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- 1.1 REFERENCES .7 On-site Contingency and Emergency Response Plan: address standard operating procedures to be implemented during emergency situations.
(Cont'd)
- 1.3 FILING OF NOTICE .1 File Notice of Project with Provincial authorities prior to beginning of Work.
- 1.4 SAFETY ASSESSMENT .1 Perform site specific safety hazard assessment related to project.
- 1.5 MEETINGS .1 Schedule and administer Health and Safety meeting with Department Representative, prior to commencement of Work.
- 1.6 REGULATORY REQUIREMENTS .1 Do Work in accordance with Section 01 41 00 - Regulatory Requirements.
- 1.7 GENERAL REQUIREMENTS .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.
- .2 Department Representative may respond in writing, where deficiencies or concerns are noted and may request re-submission with correction of deficiencies or concerns.
- 1.8 RESPONSIBILITY .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.
- .2 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.
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- 1.9 COMPLIANCE REQUIREMENTS .1 Comply with Ontario Health and Safety Act, R.S.O.
- 1.10 UNFORSEEN HAZARDS .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 of Ontario having jurisdiction and advise Department Representative verbally and in writing.
- 1.11 POSTING OF DOCUMENTS .1 Ensure applicable items, articles, notices and orders are posted in conspicuous location on site in accordance with Acts and Regulations of Province of Ontario having jurisdiction, and in consultation with Department Representative .
- 1.12 CORRECTION OF NON-COMPLIANCE .1 Immediately address health and safety non-compliance issues identified by authority having jurisdiction or by Department Representative.
- .2 Provide Department Representative, with written report of action taken to correct non-compliance of health and safety issues identified.
- .3 Department Representative may stop Work if non-compliance of health and safety regulations is not corrected.
- 1.13 WORK STOPPAGE .1 Give precedence to safety and health of public and site personnel and protection of environment over cost and schedule considerations for Work.
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PART 2 - PRODUCTS

2.1 NOT USED .1 Not used.

PART 3 - EXECUTION

3.1 NOT USED .1 Not used.

PART 1 - GENERAL

1.1 REFERENCES

- .1 Definitions:
 - .1 Environmental Pollution and Damage:
presence of chemical, physical, biological elements or agents which adversely affect human health and welfare; unfavourably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade environment aesthetically, culturally and/or historically.
 - .2 Environmental Protection:
prevention/control of pollution and habitat or environment disruption during construction. Control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.
- .2 Reference Standards:
 - .1 Canadian Construction Documents Committee (CCDC)
 - .1 CCDC 2-2008 Stipulated Price Contract.

1.2 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Prior to commencing construction activities or delivery of materials to site, provide Environmental Protection Plan for review and approval by Department Representative.
 - .2 Ensure Environmental Protection Plan includes comprehensive overview of known or potential environmental issues to be addressed during construction.
 - .3 Address topics at level of detail commensurate with environmental issue and required construction tasks.
 - .4 Include in Environmental Protection Plan:
 - .1 Names of persons responsible for ensuring adherence to Environmental Protection Plan.
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- 1.1 REFERENCES (Cont'd)
- .4 (Cont'd)
- .2 Names and qualifications of persons responsible for manifesting hazardous waste to be removed from site.
- .3 Names and qualifications of persons responsible for training site personnel.
- .4 Descriptions of environmental protection personnel training program.
- .5 Erosion and sediment control plan identifying type and location of erosion and sediment controls to be provided including monitoring and reporting requirements to assure that control measures are in compliance with erosion and sediment control plan, Federal, Provincial, and Municipal laws and regulations, EPA 832/R-92-005, Chapter 3 requirements.
- .6 Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on site.
- .7 Traffic Control Plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Ensure plans include measures to minimize amount of mud transported onto paved public roads by vehicles or runoff.
- .8 Work area plan showing proposed activity in each portion of area and identifying areas of limited use or non-use. Ensure plan includes measures for marking limits of use areas and methods for protection of features to be preserved within authorized work areas.
- .9 Spill Control Plan including procedures, instructions, and reports to be used in event of unforeseen spill of regulated substance.
- .10 Non-Hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris.
- 1.3 POLLUTION CONTROL
- .1 Maintain temporary erosion and pollution control features installed under this Contract.
- .2 Control emissions from equipment and plant to local authorities' emission requirements.
- .3 Cover or wet down dry materials and rubbish to prevent blowing dust and debris. Provide dust control for temporary roads.
-

- 1.4 NOTIFICATION .1 Department Representative will notify Contractor in writing of observed noncompliance with Federal, Provincial or Municipal environmental laws or regulations, permits, and other elements of Contractor's Environmental Protection plan.
- .2 Contractor: after receipt of such notice, inform Department Representative of proposed corrective action and take such action for approval by Department Representative.
.1 Do not take action until after receipt of written approval by Department Representative
- .3 Department Representative will issue stop order of work until satisfactory corrective action has been taken.
- .4 No time extensions granted or equitable adjustments allowed to Contractor for such suspensions.

PART 2 - PRODUCTS

- 2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

- 3.1 CLEANING .1 Clean in accordance with Section 01 74 11 - Cleaning.
- .2 Ensure public waterways, storm and sanitary sewers remain free of waste and volatile materials disposal.

PART 1 - GENERAL

- 1.1 REFERENCES AND CODES .1 Perform Work in accordance with National Building Code of Canada (NBC) 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.
- .2 Meet or exceed requirements of:
.1 Contract documents.
.2 Specified standards, codes and referenced documents.
- 1.2 BUILDING SMOKING ENVIRONMENT .1 Comply with smoking restrictions and municipal by-laws.

PART 2 - PRODUCTS

- 2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

- 3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

1.1 PROJECT
CLEANLINESS

- .1 Maintain Work in tidy condition, free from accumulation of waste products and debris, including that caused by Department Representative or other Contractors.
- .2 Remove waste materials from site at daily regularly scheduled times or dispose of as directed by Department Representative. Do not burn waste materials on site, unless approved by Department Representative.
- .3 Clear snow and ice from access to building, remove from site.
- .4 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
- .5 All waste products are to be removed from the institution at the end of the each shift. Disposal of any removed material to be carried out using the highest standard in regards to landfill waste diversion, reusing, and recycling. Copies of any disposal bills may be requested by Department Representative.
- .6 Store volatile waste in covered metal containers, and remove from premises at end of each working day.
- .7 Use only cleaning materials recommended by manufacturer of surface to be cleaned, and as recommended by cleaning material manufacturer.

1.2 FINAL CLEANING

- .1 When Work is Substantially Performed remove surplus products, tools, construction machinery and equipment not required for performance of remaining Work.
 - .2 Remove waste products and debris other than that caused by others, and leave Work clean and suitable for occupancy.
 - .3 Prior to final review remove surplus products, tools, construction machinery and equipment.
-

- 1.2 FINAL CLEANING (Cont'd)
- .4 Remove waste products and debris including that caused by Department Representative or other Contractors.
 - .5 Remove waste materials from site at regularly scheduled times or dispose of as directed by Department Representative. Burning of waste materials is not allowed.
 - .6 Make arrangements with and obtain permits from authorities having jurisdiction for disposal of waste and debris.
 - .7 Broom clean and wash exterior walks, steps and surfaces; rake clean other surfaces of grounds.
 - .8 Remove dirt and other disfiguration from exterior surfaces.
 - .9 Sweep and wash clean paved areas.

PART 2 - PRODUCTS

- 2.1 NOT USED .1 Not Used.

PART 3 - EXECUTION

- 3.1 NOT USED .1 Not Used.

PART 1 - GENERAL

- 1.1 CONSTRUCTION & DEMOLITION WASTE
- .1 Provide on site facilities for collection, handling, and storage or anticipated quantities of reusable and/or recyclable materials and waste. Separate no salvageable materials from salvaged items. Handle waste materials not reused, salvaged, or recycled in accordance with appropriate regulations and codes.
 - .2 Locate waste and salvage bins on site as directed by Department Representative.
- 1.2 REFERENCES
- .1 Ontario Provincial Standards Specification OPSS 180.
- 1.3 CLEANING
- .1 Remove tools and waste materials on completion of Work, and leave work area in clean and orderly condition.
 - .2 Clean-up work area as work progresses.
 - .3 Source separate materials to be reused/recycled into specified sort areas.
- 1.4 CANADIAN GOVERNMENTAL DEPARTMENTS CHIEF RESPONSIBILITY FOR THE ENVIRONMENT
- .1 Schedule E - Government Chief Responsibility for the environment:

Department Representative Province Address

Generanal Iquires Fax Ontario

Ministry of Environment and Energy
135 St Clair Avenue West, Toronto, Ontario
Environment Canada, Toronto, Ontario

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS .1 Section 32 11 23 Aggregate Base Course & 32 12 16 Asphalt Paving.

1.2 MEASUREMENT AND PAYMENT .1 Measure granular sub-base in tonnes of material incorporated into Work and accepted by Department Representative.

PART 2 - PRODUCTS

2.1 MATERIALS .1 Granular B Type II: to Ontario Provincial Standard Specification 1010. Maximum size Granular B Type 2, 26.5mm.

PART 3 - EXECUTION

3.1 PLACING .1 Place on a clean surface, properly shaped and compacted and free from snow or ice.
.2 Place granular sub-base after subgrade is inspected and approved by Department Representative.
.3 Place material in layers not exceeding 150mm when compacted.
.4 Spread each layer uniformly using approved grading equipment and methods.
.5 Place granular sub-base materials using methods which do not lead to segregation or degradation.

3.2 COMPACTING .1 Compact each layer to minimum 100% Standard Proctor Density.
.2 Add water as required to maintain material at or near optimum moisture content while compacting.

- 3.3 FINISHING .1 Finished sub-base surface to be within 12 mm of established grade as indicated by a 3 m straightedge placed in any direction.
- .2 Correct irregularities greater than 12mm by loosening the surface and adding or removing material until surface is within specified tolerance.
- 3.4 FIELD QUALITY CONTROL .1 The Contractor will perform field and laboratory tests for control of moisture, Density (compaction) and aggregate gradation. results will control Contractor's operations.
- .2 Testing shall be carried out by the contractor, acceptable to the Department Representative

PART 1 - GENERAL

- 1.1 RELATED REQUIREMENTS .1 Section 32 11 16.01 Granular Sub-base & 32 12 16 Asphalt Paving.
- 1.2 MEASUREMENT AND PAYMENT .1 Measure granular base in tonnes of material incorporated into Work and accepted in writing by Department Representative .

PART 2 - PRODUCTS

- 2.1 MATERIALS .1 Granular A: to Ontario Provincial Standard Specification 1010. Maximum size Granular A 19.0mm.

PART 3 - EXECUTION

- 3.1 PLACEMENT .1 Place granular base after sub-base surface is inspected and approved in writing by Department Representative.
- .2 Place on a clean surface, properly shaped and compacted and free from snow and ice.
- .3 Place material in layers not exceeding 150mm when compacted.
- .4 Spread each layer uniformly using approved grading equipment and methods.
- .5 Place granular base materials using methods which do not lead to segregation or degradation.
- 3.2 COMPACTING .1 Compact each layer to minimum 100% Standard Proctor Density
- .2 Add water as required to maintain material at or near optimum moisture content while compacting.
-

3.3 FINISHING

- .1 Finish compacted surface to within 12mm of established grade as indicated by a 3m straightedge placed in any direction.
- .2 Correct irregularities greater than 12mm by loosening the surface and adding or removing material until surface is within specified tolerance.

3.4 FIELD QUALITY CONTROL

- .1 The Department Representative, may perform field and laboratory tests for control of moisture, density and aggregate gradation. Results will control Contractor's operations.

PART 1 - GENERAL

- 1.1 RELATED REQUIREMENTS .1 Section 32 11 16.01 Granular Sub-base & 32 11 23 Aggregate Base.
- 1.2 MEASUREMENT AND PAYMENT .1 Measure asphalt in tonnes of asphalt actually incorporated into Work.
- .2 Test and Evaluation Reports:
- .1 Submit manufacturer's test data and certification that asphalt cement meets specification requirements.
- .2 Submit manufacturer's test data and certification that hydrated lime meets specified requirements. Products used, including details of required percentages or recycled content materials and products, showing their costs and percentages of post-consumer and post-industrial content, and total cost of materials for project.
- .3 Submit evidence, when Supplementary Cementing Materials (SCMs) are used, to certify reduction in cement from Base Mix to Actual SCMs Mix, as percentage.
- .4 Regional Materials: submit evidence that project incorporates required percentage % of regional materials and products, showing their cost, distance from project to furthest site of extraction or manufacture, and total cost of materials for project.
- 1.3 DELIVERY, STORAGE AND HANDLING .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Deliver and stockpile aggregates in accordance with OPS standards and erosion and sedimentation control plan. Stockpile minimum 50 % of total amount of aggregate required before beginning asphalt mixing operation.
- .3 When necessary to blend aggregates from one or more sources to produce required gradation, do not blend in stockpiles.
-

PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Asphalt base course: to Ontario Provincial Standard Specification OPSS 1150, November 2010 for type HL8. Maximum size aggregate 19.0mm.
- .2 Asphalt surface course: to Ontario Provincial Standard Specification OPSS 1150, November 2010 for type HL3. Maximum size aggregate 13.2mm
- .3 Primer: emulsified asphalt to Ontario Provincial Standard Specification OPSS 103, November 2007 for rapid setting type.
- .4 Granular base: to Ontario Provincial Standard Specification OPSS 1010, for Granular A. maximum size 19.0mm
- .5 Granular Sub-base: to Ontario Provincial Standard Specification OPSS 1010, for Granular B. Maximum size 26.5mm.

2.2 PLACEMENT

- .1 Place asphalt courses after aggregate base course is inspected and approved in writing by the Department Representative.
- .2 Place on a clean surface, properly shaped and compacted and free from snow and ice.
- .3 Spread each layer uniformly using approved equipment and methods.
- .4 Place asphalt materials using methods which do not lead to segregation or degradation.
- .5 HL3 Surface Course Asphalt to be placed to a depth of 50mm.
- .6 HL8 Base Course Asphalt to be placed to a depth of 60mm

2.3 EQUIPMENT

- .1 Pavers: mechanical grade controlled self-powered pavers capable of spreading mix within specified tolerances, true to line, grade and crown indicated.
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- 2.3 EQUIPMENT
(Cont'd)
- .2 Rollers: sufficient number of type and weight to obtain specified density of compacted mix.
 - .3 Vibratory rollers:
 - .1 Drum diameter: 1200 mm minimum.
 - .2 Amplitude of vibration (machine setting): 0.5 mm maximum for lifts less than 40 mm thick.
 - .4 Haul trucks: sufficient number and of adequate size, speed and condition to ensure orderly and continuous operation and as follows:
 - .1 Boxes with tight metal bottoms.
 - .2 Covers of sufficient size and weight to completely cover and protect asphalt mix when truck fully loaded.
 - .3 In cool weather or for long hauls, insulate entire contact area of each truck box.
 - .4 Use only trucks which can be weighed in single operation on scales supplied.
 - .5 Hand tools:
 - .1 Lutes or rakes with covered teeth for spreading and finishing operations.
 - .2 Tamping irons having mass 12 kg minimum and bearing area not exceeding 310 cm² for compacting material along curbs, gutters and other structures inaccessible to roller. Mechanical compaction equipment, when approved by Department Representative, may be used instead of tamping irons.
 - .3 Straight edges, 4.5 m in length, to test finished surface.
 - .6 Plant testing facility: provide laboratory space at plant site for exclusive use of Department Representative, for performing tests, keeping records and making reports.
- 2.4 MIX DESIGN
- .1 Mix design to be approved in writing by Consultant
 - .2 Mix design to be developed by testing laboratory approved in writing by the consultant
 - .1 Do not change job-mix without prior approval of the consultant. When change in material source proposed, new job-mix formula to be approved by Department Representative.
-

PART 3 - EXECUTION

- 3.1 CLEANING
- .1 Remove dust, contaminates, loose and foreign materials, oil and grease in designated areas.
 - .2 Use rotary power brooms supplemented by hand brooming as required.
 - .3 Where directed, remove to existing pavement level, sealing compound which has protruded excessively and dispose of removed material as directed.
 - .4 Keep drainage system clear of loose and waste materials.
- 3.2 EXCAVATING
- .1 Excavate to elevations and dimensions indicated or required for construction of work.
 - .2 Make excavation to clean lines to minimize quantity of fill material required.
 - .3 Earth bottoms of excavations to be dry undisturbed soil, reasonably level, free from loose or organic material.
- 3.3 TRANSPORTATION OF MIX
- .1 Transport mix to job site in vehicles cleaned of foreign material.
 - .2 Paint or spray truck beds with limewater, soap or detergent solution, or non petroleum based commercial product, at least daily or as required.
 - .1 Raise truck bed and thoroughly drain, and ensure no excess solution remains in truck bed.
 - .3 Schedule delivery of material for placing in daylight, unless Department Representative, approves artificial light for night placing.
 - .4 Deposit mix from surge or storage silo to trucks in multiple drops to reduce segregation.
 - .1 Do not dribble mix into trucks.
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- 3.3 TRANSPORTATION OF MIX
(Cont'd)
- .5 Deliver material to paver at uniform rate and in an amount within capacity of paving and compacting equipment.
- .6 Deliver loads continuously in covered vehicles and immediately spread and compact.
- .1 Deliver and place mixes at temperature within range as directed by Department Representative, but not less than 135 degrees C.
- 3.4 PLACING
- .1 Obtain Department Representative approval of base and surface and tack coat prior to placing asphalt.
- .2 Place asphalt to thicknesses, grades and lines as directed by Department Representative.
- .3 Placing conditions:
- .1 Place asphalt mixtures only when air temperature is 5 degrees C minimum.
- .2 When temperature of surface on which material is to be placed falls below 10 degrees C, provide extra rollers as necessary to obtain required compaction before cooling.
- .3 Do not place hot-mix asphalt when pools of standing water exist on surface to be paved, during rain, or when surface is damp.
- .4 Place asphalt in compacted lifts of thickness as follows:
- .1 Lower course in one layer of 60 mm.
- .2 Surface course in one layer of 50 mm.
- .5 Where possible do tapering and levelling where required in lower lifts. Overlap joints by not less than 300 mm.
- .6 When using pavers in echelon, have first paver follow marks or lines, and second paver follow edge of material placed by first paver.
- .1 Work pavers as close together as possible and in no case permit them to be more than 30 m apart.
- .3 Maintain constant head of mix in auger chamber of paver during placing.
- .4 If segregation occurs, immediately suspend spreading operation until cause is determined and corrected.
- .5 Correct irregularities in alignment left by paver by trimming directly behind machine.
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- 3.4 PLACING .6 (Cont'd)
- (Cont'd)
- .6 Correct irregularities in surface of pavement course directly behind paver.
- .1 Remove excess material forming high spots using shovel or lute.
- .1 Fill and smooth indented areas with hot mix.
- .2 Do not broadcast material over such areas.
- .7 Do not throw surplus material on freshly screeded surfaces.
- .8 After placing and before rolling, check surface with templates and straightedges and correct irregularities.
- .9 Provide heating equipment to keep hand tools free from asphalt.
- .1 Control temperature to avoid burning material.
- .2 Do not use tools at higher temperature than temperature of mix being placed.
-
- 3.5 COMPACTING .1 Roll asphalt continuously using established rolling pattern for test strip and to density of not less than 100 % of maximum density determined for test strip.
- .2 Do not change rolling pattern unless mix changes or lift thickness changes.
- .1 Change rolling pattern only as directed by Department Representative.
- .2 Where rolling causes displacement of material, loosen affected areas at once with lutes or shovels and restore to original grade of loose material before re-rolling.
- .3 Finish rolling:
- .1 Accomplish finish rolling with two-axle or three-axle tandem steel wheeled rollers while material is still warm enough for removal of roller marks.
- .1 If necessary to obtain desired surface finish, use pneumatic-tired rollers as directed by Department Representative.
- .2 Conduct rolling operations in close sequence.
-

3.6 INSPECTION

- .1 Check graded subgrade for conformity with elevations and cross-sections before placing granular sub-base and granular base material.
- .2 Proof-roll subgrade sub-base and base surface with mass and type of roller approved by the Department Representative
 - .1 Check for unstaables areas.
 - .2 Check for areas requiring additional compaction.
- .3 Notify Department Representative of unsatisfactory conditions.
- .4 Do not begin paving work until such conditions have been corrected and are ready to receive paving.
- .5 When complete, have the Department Representative , inspect excavations to verify soil bearing capacity, depths and dimensions.
- .6 Excavation, beyond limits shown on drawings, if authorized in writing by Department Representative, will be paid for as extra to Contract Price in accordance with General Conditions. Quantities will be calculated in place, compaction included. Truck load measurements not acceptable.
- .7 Correct unauthorized excavation at no extra cost by filling with Granular A material.

3.7 ASPHALT COURSE

- .1 Apply primer at approximately 0.5L/m2
 - .2 Place compacted asphalt concrete surface course to thickness as indicated.
 - .3 Place compacted asphalt concrete base course to thinkness as indicated.
 - .4 Minimum 7 degrees celsius air temperature when placing mixture.
 - .5 Minimum 120 degrees celsius mixture temperature when spread.
 - .6 Minimum 149 degrees celsius mixture temperature at any time.
 - .7 Compact each course with roller when it can support roller mass without undue cracking or displacement.
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- 3.7 ASPHALT COURSE (Cont'd)
- .8 Roller, power driven, minimum mass 9 tonnes, minimum wheel width 600mm.
 - .9 Roll until roller marks are eliminated. Compact to 96% laboratory density.
 - .10 Keep roller speed slow enough to avoid mixture displacement.
 - .11 Moisten roller wheels to prevent mixture adhesion.
 - .12 Compact mixture with hot tampers in areas inaccessible to roller.
 - .13 Finish surface true to grade and free from deviations exceeding 1:1000 when measured in any direction with a 3m straight edge.
- 3.8 JOINTS
- .1 Cut back bituminous course to full depth in straight or curved lines as required to expose fresh vertical surfaces. Remove and broken or loose material.
 - .2 Paint exposed edge of asphaltic joints, edges of manholes and catch basin frames, curbs and similar items with asphalt primer prior to placing asphalt courses.
 - .3 Where paving comprises two courses overlap longitudinal joints not less than 600mm.
 - .4 Carefully place and compact hot asphaltic material against joints.

PART 1 - GENERAL

- 1.1 RELATED REQUIREMENTS .1 Section 32 11 23 Granular Base.

PART 2 - PRODUCTS

- 2.1 MATERIALS .1 Granular A base material to conform to Ontario Provincial Standard Specification OPSS 1010.
.2 Concrete Barrier Curb as per OPSD 600.110

PART 3 - EXECUTION

- 3.1 GRADE PREPARATION .1 Do grade preparation work in accordance with Section 32 11 23 Granular Base.
.2 Place fill in maximum 150 mm layers and compact to at least 100% of maximum dry density

- 3.2 GRANULAR BASE .1 Obtain Department Representative approval of subgrade before placing granular base.
.2 Place granular base material to lines, widths, and depths as indicated.
.3 Compact granular base in maximum 150 mm layers to at least 100% of maximum density

- 3.3 CONCRETE .1 Obtain Department Representative approval of granular base prior to placing concrete.
.2 Do concrete work in accordance with Ontario Provincial Standard Specification OPSS 1350

- 3.4 TOLERANCES .1 Finish surfaces to within 3 mm in 3 m as measured with 3 m straightedge placed on surface.
-

3.5 EXPANSION AND
CONTRACTION JOINTS

- .1 Install expansion joints as directed by Department Representative at intervals of 6m
- .2 When sidewalk is adjacent to curb, make joints of curb, gutters and sidewalk coincide.

3.6 ISOLATION
JOINTS

- .1 Install isolation joints around manholes and catch basins and along length adjacent to concrete curbs, catch basins, buildings, or permanent structure.
- .2 Install joint filler in isolation joints in accordance with OPSS 350.
- .3 Seal isolation joints with sealant approved by Department Representative.

3.7 CURING

- .1 For curing with burlap and water, the burlap shall be presoaked by immersing it in water for a period of 24 hours immediately prior to placing it. Two layers of burlap shall be applied to the surface of the concrete. Strips of burlap shall overlap 150mm and shall be held down without marring the surface, from 2m to 4m from finishing operation. The burlap shall be maintained continuously in a wet condition throughout 96 hour curing period. The burlap shall be covered with a layer of moisture vapour barrier in a manner which shall prevent deformation of the surface of the concrete.
- .2 For curing with only a moisture vapour barrier, the barrier shall be placed immediately after finishing of the concrete surface, from 2m to 4m from the finishing operation. Strips of moisture vapour barrier shall overlap a minimum of 150mm. The moisture vapour barrier shall be held down at the edges and at all laps to prevent displacement. The materail shall be left in place for a minimum curing time of 96 hours.

3.8 BACKFILL

- .1 Granular backfill construction shall be according to OPSS 314.
-

3.9 CLEANING

- .1 On completion and verification of performance of installation, remove surplus materials, excess materials, rubbish, tools and equipment.

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS .1 Section 32 92 23 Sodding.

1.2 MEASUREMENT PROCEDURES .1 Measure supplying, placing and spreading topsoil in cubic metres as determined from actual surface area covered and depth of approved by Department Representative , after settlement and consolidation as specified.

1.3 REFERENCES .1 Ontario Provincial Specification OPSS 802.

PART 2 - PRODUCTS

2.1 SOURCE QUALITY CONTROL .1 Advise Department Representative of sources of topsoil to be utilized.

2.2 TOPSOIL .1 Topsoil shall be a fertile loam material that is free from roots, vegetation, or other debris of a size and quantity that prevents proper placement of the topsoil. The topsoil shall not contain material greater than 25mm in size, such as stones and clods.
.2 Imported topsoil shall not have contaminants that adversely affect plant growth.
.3 Soil from swamps or muskeg areas may be used in place of topsoil, when approved by the Department Representative

PART 3 - EXECUTION

3.1 TEMPORARY
EROSION AND
SEDIMENTATION
CONTROL

- .1 Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to sediment and erosion control plan.
- .2 Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- .3 Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.2 PREPARATION OF
EXISTING GRADE

- .1 Areas where topsoil is to be placed shall be fine graded to a uniform surface according to OPSS 206. The surface shall be loosened to a depth of 25mm. It shall be free of all vegetation, debris, and stones which would not be covered by the depth of topsoil specified in the Contract.
- .2 These areas shall be maintained in the condition described above until the topsoil is placed.

3.3 PLACING AND
SPREADING OF
TOPSOIL/PLANTING
SOIL

- .1 Place topsoil after Department Representative has accepted subgrade.
- .2 Spread topsoil to a uniform depth of 50mm on areas specified in the Contract documents and up to the subgrade elevation of the roadway front slope.
- .3 Manually spread topsoil/planting soil around trees, shrubs and obstacles.

3.4 FINISH GRADING

- .1 Grade to eliminate rough spots and low areas and ensure positive drainage.
 - .1 Prepare loose friable bed by means of cultivation and subsequent raking.

- 3.4 FINISH GRADING .2 Consolidate topsoil to required bulk density using equipment approved by Department Representative.
(Cont'd) .1 Leave surfaces smooth, uniform and firm against deep footprinting.
- 3.5 ACCEPTANCE .1 Department Representative will inspect and test topsoil in place and determine acceptance of material, depth of topsoil and finish grading.
- 3.6 SURPLUS MATERIAL .1 Dispose of materials except topsoil not required where directed by Department Representative off site.
- 3.7 CLEANING .1 Upon completion of installation, remove surplus materials, rubbish, tools and equipment barriers.

PART 1 - GENERAL

- 1.1 RELATED REQUIREMENTS .1 Section 32 91 19.13 Topsoil Placement and Grading.
- 1.2 MEASUREMENT AND PAYMENT .1 Payment for sodding will be made at unit price bid of actual area surface measurements in square metres.
- 1.3 REFERENCES .1 Ontario Provincial Standards Specification OPSS 803.
- 1.4 ADMINISTRATIVE REQUIREMENTS .1 Scheduling:
.1 Schedule sod laying to coincide with preparation of soil surface.
.2 Schedule sod installation when frost is not present in ground.

PART 2 - PRODUCTS

- 2.1 MATERIALS .1 Commercial Grade Turf Grass Nursery:
.1 Mow sod at height directed by Department Representative within 36 hours prior to lifting, and remove clippings.
.2 Not more than 5 broadleaf weeds and up to 20% native grasses per 40 square metres.
- .2 Water:
.1 Water shall not have contaminants or impurities that would adversely affect the germination and growth of vegetation.
- .3 Fertilizer:
.1 To Canada "Fertilizers Act" and Fertilizers Regulations.
.2 Fertilizer shall be in granular form, dry, free flowing without lumps. Fertilizer shall be supplied with a minimum analysis of 16% nitrogen, 3% phosphorus, and 15% potash. the guaranteed analysis ratio shall be 3-1-2.
- .4 The total nitrogen component of the fertilizer shall be a minimum 30% water
-

2.1 MATERIALS .4 (Cont'd)
(Cont'd) insoluble nitrogen. (controlled, slow release nitrogen) by weight.

2.2 SOURCE QUALITY CONTROL .1 Obtain written approval from Department Representative of sod at source.

.2 When proposed source of sod is approved, use no other source without written authorization from Department Representative.

PART 3 - EXECUTION

3.1 PREPARATION .1 Topsoil shall be according to OPSS 802.

.2 Do not perform work under adverse field conditions such as frozen soil, excessively wet soil or soil covered with snow, ice, or standing water.

.3 All surface areas shall be uniformly cultivated to a minimum depth of 50mm.

.4 Remove and dispose of weeds; debris; stones 25 mm in diameter and larger; soil contaminated by oil, gasoline and other deleterious materials; off site

3.2 SOD PLACEMENT .1 Voids shall not be left between the soil portion of the sod and the underlying ground surface. Sod shall be securely placed lengthwise across the face of slopes and parallel to the centreline of ditches. End joints of adjacent sod pieces shall be staggered. The edges of adjacent sod pieces shall be placed tightly against one another without overlapping. Sod shall be countersunk to existing grade level at all edges. Joints shall be tamped to a uniform surface. Sod shall be placed up to the subgrade elevation of the roadway front slope.

.2 Sod shall not be separated from its mineral soil base and not damaged during transportation, handling, and placement.

-
- 3.2 SOD PLACEMENT (Cont'd) .3 Peg sod on slopes steeper than 3 horizontal to 1 vertical, within 1 m of catch basins and within 1 m of drainage channels and ditches
- 3.3 FERTILIZING .1 Fertilizer shall be applied uniformly to the surface area designated for sodding, a maximum of 48 hours prior to sod placement, at the rate specified on its bag by the manufacturer.
- 3.4 CLEANING .1 Progress Cleaning:
.1 Leave Work area clean at end of each day.
.2 Keep pavement and area adjacent to site clean and free from mud, dirt, and debris at all times.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment
.1 Clean and reinstate areas affected by Work.
- 3.5 PROTECTION BARRIERS .1 Protect newly sodded areas from deterioration with snow fence on rigid frame as directed by Department Representative
- .2 Remove protection after inspection as directed by Department Representative.
- 3.6 MAINTENANCE DURING ESTABLISHMENT PERIOD .1 Perform following operations from time of installation until acceptance. .1 Water sodded areas in sufficient quantities and at frequency required to maintain optimum soil moisture condition to depth of 75 to 100 mm.
.2 Cut grass to 50 mm when or prior to it reaching height of 75 mm.
.3 Maintain sodded areas weed free 95%.
.4 Fertilize areas in accordance with fertilizing program. Spread half of required amount of fertilizer in one direction and remainder at right angles.
.5 Temporary barriers or signage to be maintained where required to protect newly established sod.
-

3.7 ACCEPTANCE

- .1 Sodded Commercial Grade Turf Grass Nursery
Sod areas will be accepted by Department Representative provided that:
 - .1 Sodded areas are properly established.
 - .2 Sod is free of bare or dead spots and extent of weeds apparent in grass is acceptable.
 - .3 Sodded areas have been cut minimum 2 times prior to acceptance.
 - .4 Fertilizing in accordance with fertilizer program has been carried out at least once.
- .2 Areas sodded in fall will be accepted in following spring one month after start of growing season provided acceptance conditions are fulfilled.
- .3 When environmental conditions allow, all sodded areas showing shrinkage cracks shall be top-dressed and seeded with a seed mix matching the original.
- .4 Areas sodded in fall will be accepted in following spring one month after start of growing season provided acceptance conditions are fulfilled.

PART 1 - GENERAL

1.1 MEASUREMENT
AND PAYMENT

- .1 Supply and installation of sub-drainage including, trenching, backfill, bedding, granular filter material and geotextile will be measured horizontally from manhole face to manhole face in metres of each pipe size and

1.2 REFERENCES

- .1 Ontario Provincial Standards Specification OPSS 405.

1.3 ADMINISTRATIVE
REQUIREMENTS

- .1 Inform Department Representative, of proposed source of bedding and filter materials and provide access for sampling at least 4 weeks prior to commencing work.

1.4 ACTION AND
INFORMATIONAL
SUBMITTALS

- .1 Product Data: .1 Submit manufacturer's instructions, printed product literature and data sheets for pipes, pipe fittings, tiles, and aggregate and include product characteristics, performance criteria,

1.5 DELIVERY,
STORAGE AND
HANDLING

- .1 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:
.1 Store materials in accordance with manufacturer's recommendations.
.2 Store and protect pipes and tiles from damage.
.3 Replace defective or damaged materials with new.
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PART 2 - PRODUCTS

2.1 MATERIALS

- .1 Perforated plastic pipe and fittings: to OPSS 1840. Nominal pipe size 150 mm.
- .2 Bedding shall be in accordance with OPSS 1010.
- .3 Granular filter material in accordance with the appropriate text from Section 31 32 19.01 - Geotextiles and specify here.
- .4 Geotextile filter: In accordance with OPSS 1860

PART 3 - EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for sub-drainage piping installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Department Representative.
 - .2 Inform Department Representative, of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Department Representative.

3.2 TRENCHING

- .1 Do excavating and backfilling in accordance with contract documents.
- .2 Place bedding material after approval of excavation by Department Representative.

3.3 BEDDING

- .1 Place bedding to the depth specified in the Contract Documents or as per Department Representative's direction.
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3.4 INSTALLATION OF
PIPE SUB-DRAINS

- .1 Lay pipe drains on prepared bed, true to line and grade with inverts smooth and free of sags or high points.
 - .1 Ensure barrel of each pipe is in contact with bed throughout full length.
- .2 Pipe Installation shall be in accordance with OPSS 421
- .3 Begin laying at outlet and proceed in upstream direction.
- .4 Lay bell and spigot pipe with bell ends facing upstream.
 - .1 Do not mortar joints.
- .5 Make joints tight in accordance with manufacturer's instructions.
- .6 Surround pipe with bedding gravel and compact as directed by Department Representative.
- .7 Surround and cover drain with filter material in uniform 150 mm layers as indicated and compact to at least 100% maximum density.
- .8 Subdrain shall be wrapped with a knitted sock geotextile.
- .9 Do not place bedding surround and backfill materials in frozen condition.
- .10 Protect sub-drains against flotation during installation.

3.5 CONNECTIONS TO
MUNICIPAL
FACILITIES

- .1 Connect pipe sub-drains to maintenance holes, catch basins and ditch inlets by a 1m section of non-perforated pipe.

3.6 CLEANING

- .1 Progress Cleaning:
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment