

**Part 1 General**

**1.1 RELATED SECTIONS**

- .1 Section 32 11 16.01 – Granular Sub-Base.
- .2 Section 32 11 23 – Aggregate Base Courses.
- .3 Section 32 12 16 – Asphalt Paving.
- .4 Section 32 16 15 – Sidewalks, Curbs and gutters.

**1.2 REFERENCES**

- .1 *Cahier des charges et devis généraux*, Infrastructures routières – construction et réparation, Édition 2015, Québec, MTQ.
- .2 *Ontario Provincial Standard Specifications*, Ontario Ministry of Transportation.
- .3 ASTM D4791-05e1, Standard Test Method for Flat Particles, Elongated Particles, or Flat and Elongated Particles in Coarse Aggregate.

**1.3 INCLUSIONS**

- .1 Costs associated with the work described in this section must be included in the general lump sum portion of the contract under the fixed price item “Approach Road Works”. It shall not be measured.

**1.4 SAMPLES**

- .1 Submit samples in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Allow continual sampling by the Departmental Representative during production.
- .3 Provide the Departmental Representative with access to source and processed material for sampling.
- .4 Install sampling facilities at discharge end of production conveyor, to allow the Departmental Representative to obtain representative samples of items being produced. Stop conveyor belt when requested by the Departmental Representative to permit full cross section sampling.
- .5 Pay cost of sampling and testing of aggregates which fail to meet specified requirements.
- .6 Provide water, electric power and propane to the Departmental Representative laboratory trailer at production site.

**1.5 WASTE MANAGEMENT AND DISPOSAL**

- .1 Divert unused granular materials from landfill to local facility as approved by the Departmental Representative.

**Part 2 Projects**

**2.1 MATERIALS**

- .1 Aggregate quality: sound, hard, durable material free from soft, thin, elongated or

laminated particles, organic material, clay lumps or minerals, or other substances that would act in deleterious manner for use intended.

- .2 Flat and elongated particles of coarse aggregate: to ASTM D 4791.
  - .1 Greatest dimension to exceed five times least dimension.
- .3 Fine aggregates satisfying requirements of applicable section to be one, or blend of following:
  - .1 Natural sand;
  - .2 Manufactured sand;
  - .3 Screenings produced in crushing of quarried rock, boulders, gravel or slag.
- .4 Coarse aggregates satisfying requirements of applicable section to be one of or blend of following:
  - .1 Crushed rock.
  - .2 Gravel and crushed gravel composed of naturally formed particles of stone.
  - .3 Light weight aggregate, including slag and expanded shale.

## **2.2 SOURCE QUALITY CONTROL**

- .1 Inform the Departmental Representative of proposed source of aggregates and provide access for sampling at least 4 weeks prior to commencing production.
- .2 If, in opinion of the Departmental Representative, materials from proposed source do not meet, or cannot reasonably be processed to meet, specified requirements, locate an alternative source or demonstrate that material from source in question can be processed to meet specified requirements.
- .3 Advise the Departmental Representative 4 weeks in advance of proposed change of material source.
- .4 Acceptance of material at source does not preclude future rejection if it fails to conform to requirements specified, lacks uniformity, or if its field performance is found to be unsatisfactory.

## **Part 3 Execution**

### **3.1 PREPARATION**

- .1 Handling
  - .1 Handle and transport aggregates to avoid segregation, contamination and degradation.
- .2 Stockpiling
  - .1 Stockpile aggregates on site in locations as indicated unless directed otherwise by the Departmental Representative. Do not stockpile on completed pavement surfaces.
  - .2 Stockpile aggregates in sufficient quantities to meet Project schedules.
  - .3 Stockpiling sites to be level, well drained, and of adequate bearing capacity and

stability to support stockpiled materials and handling equipment.

- .4 Except where stockpiled on acceptably stabilized areas, provide compacted sand base not less than 300 mm in depth to prevent contamination of aggregate. Stockpile aggregates on ground but do not incorporate bottom 300 mm of pile into Work.
- .5 Separate different aggregates by strong, full depth bulkheads, or stockpile far enough apart to prevent intermixing.
- .6 Do not use intermixed or contaminated materials. Remove and dispose of rejected materials as directed by the Departmental Representative within 48 h of rejection.
- .7 Stockpile materials in uniform layers of thickness as follows:
  - .1 Max 1.5 m for coarse aggregate and base course materials.
  - .2 Max 1.5 m for fine aggregate and sub-base materials.
  - .3 Max 1.5 m for other materials.
- .8 Uniformly spot-dump aggregates delivered to stockpile in trucks and build up stockpile as specified.
- .9 Do not cone piles or spill material over edges of piles.
- .10 Do not use conveying stackers.
- .11 During winter operations, prevent ice and snow from becoming mixed into stockpile or in material being removed from stockpile.

### **3.2 CLEANING**

- .1 Leave aggregate stockpile site in tidy, well drained condition, free of standing surface water.
- .2 Leave any unused aggregates in neat compact stockpiles as directed by the Departmental Representative.

**END OF SECTION**