

Part 1 General

1.1 RELATED REQUIREMENTS

- .1 Section 01 35 43, Environmental procedures.
- .2 Section 01 74 21, Construction/Demolition waste management and disposal.
- .3 Section 02 41 16.01, Structure demolition – short form.

1.2 REFERENCES

- .1 ASTM International
 - .1 ASTM D260, Standard Specification for Boiled Linseed Oil.
 - .2 ASTM D1751, Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non extruding and Resilient Bituminous Types).
- .2 Canadian General Standards Board (CGSB)
 - .1 CAN/CGSB-19.24, Multicomponent, Chemical-Curing Sealing Compound.
- .3 CSA International
 - .1 CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA A3000, Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).
 - .3 CAN/CSA-G30.18, Billet-Steel Bars for Concrete Reinforcement.

1.3 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Provide submittals in accordance with Section 01 33 00 - Submittal Procedures.
- .2 At least four (4) weeks prior to work inception, submit a certificate stating that the selected mix design will produce concrete of the quality, durability and performance called for, and that it will meet the requirements of CAN/CSA - A23.1/A23.2/A23.4.
- .3 Submit a certificate stating that the equipment and materials to be used for the manufacture of concrete meet the requirements of CAN/CSA-A23.1/A23.2/A23.4.

1.4 WASTE MANAGEMENT AND DISPOSAL

- .1 Separate and recycle waste materials in accordance with Section 01 74 21 – Construction/Demolition Waste Management Disposal.

Part 2 Products

2.1 MATERIALS

- .1 Cement: to CSA A3001, Type GU.
- .2 Water: to CSA A23.1/A23.2.
- .3 Reinforcing bars: to CAN/CSA-G30.18, Grade 400.
- .4 Welded steel wire fabric: to ASTM A185.
- .5 Joint filler:
 - .1 Bituminous impregnated fibreboard: to ASTM D1751.
- .6 Joint sealer/filler: grey to CAN/CGSB-19.24, Type 1, Class B.
- .7 Other concrete materials: to CSA A23.1/A23.2.

2.2 MIXES

- .1 28 day compressive strength: 30 MPa with a water-cement ration lower than 0.40.
- .2 Concrete preparation: to CSA-A23.1.
- .3 Slump: between 50 mm and 100 mm.
- .4 Air content: between 5% and 8%.
- .5 Nominal size of coarse aggregate: 20-5 mm to CSA-A23.1-00 (Table 11, Group 1).
- .6 Any aggregate used in concrete exposed to frequent wetting, moist atmosphere or de-icing salts must be non-reactive with cement alkalis (cf. CSA-A23.2-27A).

Part 3 Execution

3.1 PREPARATION

- .1 Provide Departmental Representative 24 hours notice before each concrete pour.
- .2 Place concrete reinforcing in accordance with as indicated on the drawings or as directed by the Departmental Representative.
- .3 During concreting operations:
 - .1 Development of cold joints not allowed.
 - .2 Ensure concrete delivery and handling facilitates placing with minimum of rehandling, and without damage to existing structure or Work.
- .4 Protect previous Work from staining.
- .5 Clean and remove stains prior to application of concrete finishes.

3.2 INSTALLATION/APPLICATION

- .1 Do cast-in-place concrete work in accordance with CSA A23.1/A23.2.

3.3 FINISHES

- .1 Pavements, walks, curbs and exposed site concrete:
 - .1 Screed to plane surfaces and use aluminum floats.
 - .2 Provide round edges and joint spacings using standard tools.
 - .3 Trowel smooth to provide lightly brushed non-slip finish.

3.4 EXPANSION AND ISOLATION JOINTS

- .1 Install premoulded joint filler in expansion and isolation joints to full depth of slab and flush with finished surface to CSA A23.1/A23.2.

3.5 CURING

- .1 Use curing compounds compatible with applied finish on concrete surfaces free of bonding agents and to CSA A23.1/A23.2.

3.6 SITE TOLERANCES

- .1 The tolerances of concrete slab finishes must comply with CSA A23.1/A23.2.

3.7 FIELD QUALITY CONTROL

- .1 Concrete testing: to CSA A23.1/A23.2 by testing laboratory designated and paid for by Departmental Representative.

3.8 CLEANING

- .1 Clean in accordance with Section 01 74 11 - Cleaning.
- .2 Use trigger operated spray nozzles for water hoses.
- .3 Designate cleaning area for tools to limit water use and runoff.
- .4 Cleaning of concrete equipment to be done in accordance with Section 01 35 43 Environmental Procedures.
- .5 Waste Management: separate waste materials for reuse and recycling in accordance with Section 01 74 21 - Construction/Demolition Waste Management and Disposal.
 - .1 Use excess concrete for: additional paving.
 - .2 Provide appropriate area on job site where concrete trucks can be safely washed.
 - .3 Do not dispose of unused admixtures and additive materials into sewer systems, into lakes, streams, onto ground or in other location where it will pose health or environmental hazard.

END OF SECTION