
**Washroom Buildings Recapitalization
Buildings 32, 34 & 38
Newman Sound Campground
Terra Nova National Park, NL
Proj. No.: R.079272.001**

Issued April 4, 2016

Section 03 10 00 – Concrete Forming and Accessories

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PART 1 **GENERAL**

1.1 **RELATED SECTIONS**

- .1 Section 03 20 00 - Concrete Reinforcing.
- .2 Section 03 30 00 - Cast-in-place Concrete.

1.2 **REFERENCES**

- .1 Canadian Standards Association (CSA)
 - .1 CAN/CSA-A23.1/A23.2, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.
 - .2 CSA-O86S1, Supplement No. 1 to CAN/CSA-O86-01, Engineering Design in Wood.
 - .3 CSA O121, Douglas Fir Plywood.
 - .4 CSA O151, Canadian Softwood Plywood.
 - .5 CSA S269.1, Falsework for Construction Purposes.
 - .6 CAN/CSA-S269.3, Concrete Formwork.

1.3 **SUBMITTALS**

- .1 Indicate method and schedule of construction, shoring, stripping and re-shoring procedures, materials, arrangement of joints, ties, liners, and locations of temporary embedded parts. Comply with CSA S269.1, for falsework drawings. Comply with CAN/CSA-S269.3, for formwork drawings.
- .2 Indicate formwork design data, such as permissible rate of concrete placement, and temperature of concrete, in forms.
- .3 Indicate sequence of erection and removal of formwork/falsework as directed by Departmental Representative.
- .4 Each shop drawing submission shall bear stamp and signature of qualified professional engineer licensed in Province of Newfoundland and Labrador, Canada.

PART 2 **PRODUCTS**

2.1 **MATERIALS**

- .1 Formwork materials:

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- .1 For concrete without special architectural features, use wood and wood product formwork materials to CSA-O121.
- .2 Tubular column forms: round, spirally wound laminated fiber forms, internally treated with release material. Spiral pattern to show in hardened concrete.
- .3 Form ties:
 - .1 For concrete not designated 'Architectural', use removable or snap-off metal ties, fixed or adjustable length, free of devices leaving holes larger than 25 mm dia. in concrete surface.
- .4 Form liner:
 - .1 Plywood: medium density overlay Douglas Fir to CSA O121, Canadian Softwood Plywood to CSA O151, T and G thickness as indicated.
- .5 Form release agent: chemically active release agents containing compounds that react with free lime in concrete resulting in water insoluble soaps, non-toxic, biodegradable.
- .6 Falsework materials: to CSA-S269.1.
- .7 Sealant: to Section 07 90 00 - Joint Sealing.

PART 3 **EXECUTION**

3.1 **FABRICATION AND ERECTION**

- .1 Verify lines, levels and centres before proceeding with formwork/falsework and ensure dimensions agree with drawings.
- .2 Fabricate and erect falsework in accordance with CSA S269.1.
- .3 Do not place shores and mud sills on frozen ground.
- .4 Provide site drainage to prevent washout of soil supporting mud sills and shores.
- .5 Fabricate and erect formwork in accordance with CAN/CSA-S269.3, to produce finished concrete conforming to shape, dimensions, locations and levels indicated within tolerances required by CSA-A23.1/A23.2.
- .6 Align form joints and make watertight. Keep form joints to minimum.
- .7 Locate horizontal form joints for exposed columns 2400 mm above finished floor elevation.

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- .8 Use 25 mm chamfer strips on external corners and/or 25 mm fillets at interior corners , joints, unless specified otherwise.
- .9 Form chases, slots, openings, drips, recesses, expansion and control joints as indicated.
- .10 Build in anchors, sleeves, and other inserts required to accommodate Work specified in other sections. Ensure that all anchors and inserts will not protrude beyond surfaces designated to receive applied finishes, including painting.
- .11 Clean formwork in accordance with CSA-A23.1/A23.2, before placing concrete.

3.2 REMOVAL AND RESHORING

- .1 Leave formwork in place for following minimum periods of time after placing concrete.
 - .1 3 days for walls and sides of beams.
 - .2 5 days for columns.
 - .3 1 day for footings and abutments.
- .2 Provide all necessary reshoring of members where early removal of forms may be required or where members may be subjected to additional loads during construction as required.
- .3 Space reshoring in each principal direction at not more than 3000 mm apart.
- .4 Re-use formwork and falsework subject to requirements of CSA-A23.1A23.2.

END OF SECTION