PART 1 - GENERAL

1.1 Related Work:

.1	Geotechnical Report	Section 02119
.2	Excavation, Backfill, Compaction and Grading	Section 02223
.3	Concrete Reinforcement	Section 03200
.4	Cast-in-Place Concrete	Section 03300
.5	Pre-Cast Architectural Concrete	Section 03400

1.2 References:

.1 Do concrete formwork in accordance with CAN/CSA-A23.1-M94, except where specified otherwise.

.2 Do falsework in accordance with CSA S269.1, except where specified otherwise.

PART 2 - MATERIALS

2.1 Materials:

.1 Architectural finishes: all visible wall surfaces paperfaced plywood form finish unless otherwise noted on drawings. Re-use formwork only with written approval of the Contract Administrator. All surfaces that are not exposed (i.e. back filled) may be formed with plywood.

.2 Concrete finishes not exposed to view: Plywood 19mm Douglas-Fir G1S Grade, square-edged and wood formwork materials to CAN3-086.1 and CAN/CSA-A23.1-M90.

.4 Falsework materials: to CSA S269.1.

.5 Form ties: removable or snap-off concrete type metal ties, fixed or adjustable length, free of devices leaving depressions larger than 25mm diameter in concrete surface. Washer snap ties placed symmetrically about any section, in a uniform and consistent pattern to be used in exposed architectural concrete. Form tie pattern to follow Architectural elevation drawings.

.6 Form release agent: Chemically active release agents containing compounds that react with free lime present in concrete to provide water insoluble soaps, preventing concrete from sticking to forms. Form release agent is to leave no residual staining on concrete.

.7 Form stripping agent: colourless mineral oil, free of kerosene.

PART 3 – EXECUTION

3.1 Erection:

.1 Verify lines and levels before proceeding with formwork and ensure dimensions agree with drawings.

.2 Obtain *Contract Administrator's* approval for use of earth forms.

.3 Hand trim sides and bottoms and remove loose earth from earth forms before placing concrete.

.4 Construct falsework in accordance with CSA S269.1.

.5 Prior to constructing formwork for architectural concrete (formed surfaces exposed to view), review all details of formwork including panel sizes, joint locations, tie spacing and location, joint sealing, and other formwork details before proceeding.

.6 Construct forms to produce finished concrete conforming to shape, dimensions, locations, and levels indicated within the following tolerances. Tolerances shall not be cumulative.

.1 Deviation from vertical line - 6mm in 3000mm, 9mm in 6000mm, and 18mm in 12000mm or more.
.2 Deviation from flat surface, for walls and floors - 3mm in 3000mm.
.3 Deviation from horizontal - 6mm in 3000mm.
.4 Deviation in cross sectional dimensions of columns or beams, or in thickness of slabs and wall plus or minus 6mm.

.7 Obtain *Contract Administrator's* permission before framing any openings not indicated on drawings.

.8 Align form joints and make watertight using tape or other approved methods to maintain leak-free seal during concrete placement. Keep form joints to minimum.

.9 Form chases, slots, openings, drips, recesses, expansion and control joints as indicated.

.10 Clean formwork in accordance with CAN/CSA-A23.1 before placing concrete.

PART 3.1 – EXECUTION (Cont.)

.11 Leave formwork in place for following minimum periods of time after placing concrete.

.1 3 days for walls and sides of beams.
.2 3 days for columns.
.3 3 days for footings and abutments.

.12 Wall, side forms shall not be removed until concrete has achieved 10 MPa minimum strength and form removal will not damage concrete.

.14 Re-use of plywood formwork and falsework subject to the requirements of CAN/CSA-A23.1.