NOTE TO CONSULTANTS: Edit with Track Changes turned on, any text in this section that appears in bold and italics then turn off the bold and italics for the final approved version. (Remove this Note).

PART 1 - GENERAL

1.01 Description: Construct all formwork systems to provide only those lines and delineations indicated, unless otherwise approved by the Engineer, construct formwork to allow erection in proper sequence and to permit removal without damage to the finished concrete surfaces. Construct all formwork to the shapes, lines and dimensions of concrete members with specified tolerances.

1.02 Regulations: Conform to requirements of the IBC and the Seattle Building Code as it pertains to structural cast-in-place concrete, except as supplemented and modified herein.

1.03 Reference Standards: Conform to requirements of the following Reference Standards as the Engineer judges them applicable and as modified and supplemented herein.

A. ACI Specifications for Structural Concrete for Buildings, ACI 301.

B. ACI Recommended Practice for Concrete Formwork, ACI 347.

1.04 Related Sections:

Section 32 13 13 - Concrete Paving
Section 03 20 00 - Concrete Reinforcement
Section 03 30 00 - Cast in Place Concrete
Section 03 35 00 - Concrete Finishing

1.05 Quality Assurance:

A. Special Inspection: Notify the Engineer at least 48 hours before inspection of forms will be required.

B. Inspection by Other Trades: Where items, such as anchors, fastenings, conduit, piping and other items are supplied by other trades and specified elsewhere in these specifications, in the forms, obtain approval of their placement prior to placing any concrete.

1.06 Handling:

A. Protection of Forms: Design, construct, and erect all forms for reuse; withdraw projecting nails or other objects from contact surfaces before reusing; clean and completely recondition all forms prior to reuse; repair any damage to forming surfacing cause during previous usage. Obtain approval for each reuse; formwork with patches or repairs affecting appearance of the concrete surfaces will not be permitted.

B. In order that reused forms will not contain patches resulting from alterations, reuse forms on identical sections only; reuse no forms showing excessive surface wear or other imperfections impairing quality of finish of concrete surface.

C. Precautions: Contractor is responsible for the strength and suitability of the formwork.

PART 2 - PRODUCTS

2.01 Forms: For Footings and Concrete Slabs: Fabricate forms of MDO plywood, metal or plastic as judged best suited for shapes. Construct with a minimum of joints, sufficiently tight to prevent leakage.

2.02 Inserts/Sleeves: As required by Manufacturer's specifications.

2.03 Form Release Agents: Release agent with non-staining and non-interference characteristic with bonding capabilities of paints, plasters, adhesives, other surface coatings or materials. Contractor shall guarantee proper bonding of such subsequent coatings or materials applied over concrete.

PART 3 - EXECUTION

3.01 Design and Construction:

A. Erect forms to conform accurately to the shapes, dimensions, locations and profiles indicated; fit joints between adjacent assembled panels and components tightly and seal with gasket material. Inspect all contact surfaces prior to concrete placement; verify that surfaces are clean, smooth, and free from foreign matter or imperfections affecting appearance of finished concrete.

B. Camber: Design and erect formwork for anticipated deflection due to weight and pressure of fresh concrete. Provide positive means for adjustment of shores and struts to take up settlement during placement.

3.02 Form Treatments: Before erection of forming, plug and seal all cracks, holes, slits, gaps and other "telegraphing" imperfections in contact surfaces. Apply bond-breaking coating in amounts that will leave surfaces in proper condition to receive subsequent material application. Contractor shall be responsible for being certain that bond release coatings are applied only in amounts that will leave surfaces in proper condition to receive subsequent material application.

3.03 Form Removal:

A. Formwork designed for easy removal without damaging or marring finished surfaces of the concrete. Prying against face of concrete will not be permitted; where

mechanical means are necessary to release forms, use wood wedges only and then only if approved by the Engineer.

B. Removal Strength: Formwork for footings shall remain in place until concrete has hardened sufficiently to resist damage from the removal operations. Determine concrete removal strength based on test cylinders, field cured under the most unfavorable conditions prevailing for any portion of the work represented, or as approved by the Engineer.

END OF SECTION