### A10. A9. All contractors are required to examine the drawings and specifications carefully, visit the site and fully inform themselves as to all existing conditions and limitations, prior to submitting their bid. Failure to visit the site and familiarize themselves with the existing conditions and limitations will in no way relieve the successful bidder from furnishing any materials or performing any work in accordance with drawings and specifications (with no additional cost to the Owner). Except where noted on the structural drawings, see architectural drawings for dimensions and locations of new materials. Alternate connection details may be used if such details are submitted to PSE for review and written acceptance is granted. However, PSE shall be the sole judge of acceptability and the contractor's bid shall anticipate the use of those specific details shown on the drawings. The contractor shall be responsible for the design of any alternate details which he proposes. Work not indicated on a part of the drawings but reasonably implied to be similar to that shown at corresponding places, shall be included. Do not scale from drawings. Contractor(s) shall provide experienced jobsite supervision to ensure that components are installed in accordance with the structural drawings and standards of quality workmanship. The information shown on the structural drawings is intended for this project only and shall not be used for any other purpose. Changes to structural documents (including notes, details, plans, and specifications) shall not be made without written approval from Price Structural Engineers, Inc. (PSE). The structural design of the building is based on the full interaction of all its connected parts, including all reinforced concrete. No provisions have been made for any temporary conditions that may arise during construction prior to the completion of the structure. The contractor shabe responsible for adequate design and construction of all forms, shoring and temporary bracing during the progress of the project. The structural documents for this project (including notes, details, drawings, and specifications) are interdependent. Use of some but not all of the structural documents or changes to structural documents without the written approval of PSE is not permitted. The contractor shall be completely responsible for the safety of adjacent structures, property, and the public. The contractor shall comply with all Federal, State, and Local requirements. STRUCTURAL NOTES

Where conflicts exist between codes, specifications, or drawings, the more stringent requirements shall govern. Notify PSE immediately when such conflicts are discovered. Fire code provisions are not contained on structural drawings. Coordinate fire code requirements with owner, code official, and architect. See other project documents for requirements. Substitutions for specified manufactured materials shall not be made without written approval rom PSE. Manufactured materials shall be installed in accordance with manufacturer's equirements and recommendations.

Stored materials shall be stacked on pallets in a manner that prevents distortion or damage, above the ground, covered and kept in a dry condition. New materials shall be installed plumb, level and square, unless noted otherwise.

Details indicating existing conditions are based on assumptions, some of which have not yet been field verified. It is critical that the contractor verify actual existing conditions prior to purchasing or fabricating new materials and notify the engineer immediately if actual conditions differ from those indicated on the structural details.

At areas where existing structural components are uncovered and found to be inadequate, the contractor shall either properly reinforce the components or contact the Engineer (PSE) for the structural design of the modifications.

# REINFORCING FOR CONCRETE

All welded wire fabric (w.w.f.) shall conform to ASTM A-185. W.W.F. shall be provided in sheets. All concrete reinforcing bars shall conform to ASTM A615, Grade 60 except where noted. reinforcing bars to be welded shall conform to ASTM A706.

All laps in W.W.F. shall be 1 1/2 mesh spaces or 1'-0", whichever is larger, and shall be wired together. Provide all necessary accessories to hold reinforcing securely in position. Reinforcement supports shall be spaced not more than 4'-0" on center and shall consist of pre-manufactured chairs.

Concrete protection for reinforcement shall be provided as follows (UON): Reinforcing bars may not be welded except where designated by the structural engineer.

Surfaces cast against and permanently exposed to earth . . . . 3 inches (clear)

All hooks shown on drawings shall be standard hooks unless noted otherwise. Rotate hooks where necessary to provide adequate concrete cover. See ACI 318 for conditions not listed. 

Where continuous bars are called for, they shall run continuously around corners and lapped at necessary splices, or hooked at discontinuous ends. Lap lengths shall be as given in the splice and development table. Lap beam top bars at mid—span and beam bottom bars at supports, unless noted otherwise.

Minimum lap splice for #4 and #5 bars shall be 2'-0" (UON)

## FOUNDATIONS

SCREEN OR SIEVE SIZE PERCENT FINER BY WEIGHT

0% - 5%	0% - 30%	25% - 90%	90% - 100%
NO. 200	N 300	1/4 IIIGI	3 inch

Crushed stone shall consist of conform to MDOT 703.22 Type clean angular fragments of quarried rock with uniform quality and C. Maximum stone size shall be 1".

Where foundation elements are to have fill on both sides, each side shall be filled and compacted simultaneously, maintaining a common elevation such that compacted fill on one side of the foundation does not exceed more than 12" above the compacted fill on the other side. Unless otherwise noted, all fou dation units shall be centered under supported members.

Remove existing foundations to Contractor shall provide continuous drainage by mechanical methods to control surface and underground water as required during construction, so that all excavations are dry. Water level shall be maintained at 12 inches below bottom of excavations at all times. at least 3 feet below bottom of proposed slabs and foundation

All holes in foundation walls shall have plastic sleeves. Coordinate size and locations of sleeves prior to placing concrete. Sleeves larger than 10" diameter shall have additional (2) #4 x 5'-0" rebar on 4 sides of sleeves.

C9.

Shoring, bracing, or sheeting used to provide lateral support of excavations shall remain in place until all permanent structural systems at and below ground level are complete. through footings. Lower wall footings by stepping to avoided to the state of the st

When excavating for new footings, contractor shall take the necessary precautions to avoid disturbing existing utilities which may exist below grade. Contractor shall take necessary precautions to avoid disturbing existing soil beneath footings. a minimum, a smooth edge bucket shall be used for excavation at these areas.

For locations ASTM C-150 All concrete work shall conform to the latest edition of the ACI Building Code (ACI 318), Specifications for Structural Concrete for Buildings (ACI 301) and to the 2003 IBC. In case of conflict, the more stringent requirements shall govern.

For locations listed below, concrete shall have 3/4" agaregate. 4" to 4 1/2" slump. Type I or II

C-150 Portland Cement and designated compressive strength (fc) in 28 days as follows:	gnated compress	sive strength (fc) in	28 days as follows:	
Location	f'c (psi)	Air Entrainment	Polypropolene l Fibers	Polypropolene Max. Water: Cement Fibers Ratio
ings ining Walls, Foundation Walls, Piers for Slabs on Grade (UON) ellaneous Concrete	3000 4000 4000 3000	None 4% - 7% None 4% - 7%	None None 1 5. lb / c.y.	.51 .42 .51

All footings shall be placed monolithically. See typical details for construction joint requirements. Pipes or conduits placed in slabs on grade shall not be placed closer than 3 diameters on center and shall have an outside diameter less than 1/3 of the slab thickness.

All keys shall be 2" x 4" (nominal) unless otherwise shown on the drawings.

All exposed edges of concrete members shall be chamfered 3/4" unless shown otherwise on drawings.

E4.

All exposed edges of concrete drawings.

Calcium chloride, aluminum or copper con shall be placed in slabs on metal deck. door and window openings, drips, washes, reglet, concrete finishes, ellaneous embedded plates, bolts, anchors, angles, etc. Refer to drawings for other embedment requirements. ponents shall not be placed in concrete. No conduits

Embedments in concrete, including anchor bolts for columns, shall be firmly secured by tie wire (or other means) to prevent movement during concrete placement. Welding of embedments is not permitted. ment and forms shall be free from frost or debris.

E10.

E9.

E8.

**E7**. **E**6.

Concrete shall be maintained above 50 degrees F, and in moist condition for at least the first seven days after placement. Contractor shall provide blankets, tenting, and heat as necessary to ensure this condition exists. Contractor shall keep two operable concrete thermometers on site throughout concrete construction when temperatures are predicted to be less than 40 degrees F. Consolidate all concrete with a vibrator or other means recommended by ACI 301. Honeycombed surfaces will not be permitted. Consolidate all concrete with a surfaces will not be permitted. ocations of floor drains.

Control joints in slabs on grade walls, basement walls, and retai ocations of floor drains. Slope slabs uniformly to drains (UON). are mandatory. See typical details. Control joints in foundationing walls are mandatory. See typical details.

E15.

E13.

Slabs on grade shall contain ASTM C1116, Type III,  $\frac{\kappa}{2}$  — 1  $\frac{\kappa}{2}$  long polypropolene fibers at a rate of 1.5 pounds (min.) per cubic yard unless steel reinforcement is specified.

Coordinate concrete finish on flo Concrete slabs, including those of exceeds thickness specified on d where supported by beams or tr floor slabs with owner's requirements and specifications.

be on steel deck, shall be placed so that slab thickness equals or n drawings. This will require that slabs may not be dead level trusses with camber.

Isolation joints in concrete slab and top 1/2" of joint shall cor shall be 3/8" thick pre-formed, closed, cell foam joint material stain sealant with tooled joint surface. slabs on grade and elevated slabs is a minimum. Add additional up to a maximum of 3/4—inch more than specified slab depth.

Footings shall not bear on bedr pinned to bedrock surface with embedment into bedrock, and u

ock if bedrock slope exceeds 4:1 (Horiz.: Vert.) unless footing is #4 rebar © 24" o.c. Provide 90° hook in rebar at top, 5" use anchoring cement approved by PSE.

0 Portland Cement and designated compressive strength (fc) in 28 days as follows:  1 Cation  1 C	ignated compress	gregate, 4" to 4 1/2 ive strength (fc) in Air	28 days as follows: Polypropolene	 
Location	f°c	Air	Polypropolene l	Polypropolene Max. Water: Cement
	(psi)	Entrainment	Fibers	Fibers Ratio
Walls, Foundation Walls, Piers		None 4% — 7%	None None	
ubs on Grade (UON)	<b>4</b> 000	None	1 5. lb / c.y.	.42
wus Concrete	3000	4% - 7%	None	.51

Adjust setting of nail guns such that top of nail head does not penetrate below surface of APA rated sheathing. Mhere columns are shown, contractor shall install additional studs (equal to the same width as the column) directly below the columns on each floor and between floors such that continuous support for the column extends to the foundation.

 $\bigcirc$ 

Wall plates shall be face—nailed to each stud (and each individual 2x at built—up columns) with (2) 16d nails, typical (UON). Where joists (or rafters) are framed to the sides of beams, the gap between the ends of joists (or rafters) and the beam to which they are connected shall not exceed 1/16 inch.

All floors shall have solid bridging between joists spaced at not more than 8'-0" on center. Adjacent blocking may be offset 1.5" so that blocking can be face-nailed to joists at both ends landrail assemblies, guardrail systems, and anchorage at supports shall be designed to resist a oad of 20 lb/ft in any direction at the top rail or a single 200 lb. load in any direction at the top rail. See Architectural drawings and building code for additional requirements.

Fill all empty holes in existing joist hangers with 16d nails (use 10d nails if 16d is to large. Contractor shall provide temporary lateral bracing as needed during construction since removal of interor wall finshes reduce the building's resistance to lateral loads.

ROUGH CARPENTRY

ABBR

T OF VIATIONS

 a. Pressure Treated (PT) lumber shall be Southern Yellow Pine (SYP), Number 1 grade.
 b. Except as noted above, lumber (including lumber used for studs, beams, lintels, wall plates jambs, king studs, and columns and posts shall be No. 2 grade Spruce (or better), Pine, Fir (SPF). Lumber and wood in exterior applications, at sills, at porches and in contact with concrete and masonry shall be pressure treated using preservative with a minimum net retention of 0.40 pcf, or equivalent pressure treating system. I fasteners (including nails, lag screws, and bolts) for pressure treated lumber shall be hot—dip Ilvanized. If ACQ preservative is used, fasteners shall either be stainless steel or be clearly ecified as having a G185 galvanized coating and joist / beam hangers shall have additional Ilvanizing suitable for ACQ.

Fabricate horizontal and inclined members, units of less than 1:1 slope, with natural convex bow (crown) up to provide camber. As a minimum, carpentry work shall comply with AFPA's "National Design Specification for Wood Construction," 2001 Edition. Wood components shall be securely attached with sound connections and without splitting. As a minimum, wood fasteners shall conform to IBC 2003, Table 2304.9.1, "Fastening Schedule." Contractor shall be aware that more stringent requirements are specified within these documents.

Cut ends of pressure treated lumber and timber posts and sills shall be dipped in a preservative treatment for a minimum of fifteen minutes. Where pressure treated members must otherwise be cut during erection, apply a field treatment preservative to comply with AWPA M4.

All plywood and sheathing shall conform to APA "Plywood Spcification Grade Guide" and Product Standard PS-1. Plywood construction shall conform to APA Design/Construction Guide — Residential and Commercial, Form E308 for required applications.

Sheathing end joints for floors and roof shall be staggered. Plywood shall be placed such that plywood surface grain is transverse to truss, joist or rafter span (3 span minimum). Floor sheathing shall be glued to top of supports with 3/8" diameter continuous bead of "PL400 Subfloor Adhesive," manufactured by OSI Sealants, Inc. or other adhesive conforming to APA AFG-01 and ASTM D3498.

. 8

Plywood for roofs shall be 5/8" thick, APA rated sheathing with 40/20 span rating. Install "H" clips at sheathing midspan. Fasten plywood with 10d common nails at 6" on center along supported edges and 12" on center elsewhere. Wall sheathing shall be 7/16" thick, APA rated plywood or OSB sheathing suitable for exterior use (UON). Use full size sheets as much as possible. All edges of wall sheathing shall be supported by lumber framing (nominal 2" thick); add blocking as necessary. Wall sheathing shall be fastened to studs with galvanized 8d common nails having 4" spacing at supported edges and 6" spacing elsewhere (U.O.N.) except that all wall sheathing at "shearwalls" shall have nail spacing reduced to 4" o.c. at all edges. Wall sheathing shall be applied at all exterior walls and at interior walls where designated on drawings. Sheathing for floors shall be 3/4" thick Tongue & Groove APA rated plywood with 48/24 span rating or "Advantec" (by Huber Corp.). Fasten plywood floor sheathing with 10d nails at 6" o.c. sloong supported edges and 12" o.c. elsewhere. Drywall screws will not be permitted.

Reference to "Simpson" on Drawings indicates metal connectors manufactured by Simpson Strong—Tie. Reference to "Paralam" and "LVL" on Drawings indicates materials manufactured by Trus Joist MacMilan. These materials shall be installed in strict accordance with Trus Joist requirements.

b. Members connected with Simpson double joist hangers.
Holes through framing members shall be drilled through middle third of lumber and shall not exceed 1" diameter. Contact Structural Engineer if larger holes are required. Floor and roof framing around chase openings for mechanical ducts shall consist of the following (unless noted otherwise): a. Double floor length joists each side of openings with joist depth same as adjacent floor framing.

Double top plate at exterior and load-bearing walls shall be lapped a minimum of 4'-0" and be fastened together with not less than (2) rows of 16d nails spaced at 6" on center (total of 18 nails). Spike together all framing members which are built up using two rows of 16d nails at 12" O.C. staggered. Provide double top plate in all exterior walls and all interior bearing walls with lapped connection at wall intersections. All nails shall be "common" unless noted otherwise. Pre-drill holes as necessary to prevent splitting. Nail spacing shall not be less than 2" o.c. (UON).

Provide Simpson connection post caps and post bases at posts and columns.

The threaded portion of all lag screws shall be placed in predrilled holes which are one—half the nominal diameter of the lag screw. Bolts and lag screw shanks shall be installed in predrilled holes which are not more than 1/32 inch larger in diameter than the nominal bolt diameter.

Anchor bolts for bottorn wall plates shall be installed in predrilled holes which are not more than 1/4" larger in diameter than the nominal bolt diameter. Wood framing shall be a minimum of 2" clear from masonry chimneys and 6" clear from flue openings. This distance shall be increased where specified by codes or other requirements having jurisdiction.

To avoid popping nails and minor cracking in drywall finishes, drywall shall not be placed until framing has dried to a moisture content less than 14 percent (verified by calibrated moisture meter). Where any interior walls are parallel with floor joists below for more than half the joist span, add one additional floor joist directly below interior wall centerline (additional joist may be omitted if joist already exists at this location). If wall is less than half the joist span, add transverse blocking between joists to support the wall. Blocking shall be at wall ends and at 48" o.c.

All holes in joist and rafter hangers shall have one 10d nail unless larger nails are specified by Simpson or on drawings. Use Simpson 10d  $\times$  1 1/2 nails at hangers mounted to 1 1/2" thick lumber. All holes in beam hangers shall have one 16d nail unless otherwise specified by Simpson or on drawings.

Contractor shall inspect existing wood sills on foundation and notify owners/engineer if evidance of mildew or decay is observed.(typical at sills and other areas prone to decay)

Existing sills (and other areas prone to decay) shall be coated with "TIMBOR" BORATE SOLUTION (TELEPHONE# 1-410-288-1179) applied per manufacture's recomendations.

# SYMBOL

Drawing Numbe where Detail is

### ISSUED FOR CONSTRUCTION

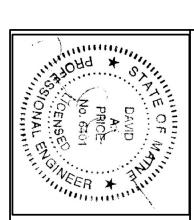
General Structural Notes

Drawn by: TDP Date: 11/4/08 11/4/08

File Name: Alfond\S1.0 Project No. 121-08

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