CARR-BILT SPECIFICATIONS

NAME: **STORAGE BUILDING**
MODEL: **SSB-100120**
SIZE: 10'-0" x 12'-0" x 8'-10"
Revised: January 2010

SCOPE

Contractor to furnish a pre-assembled precast concrete storage building. Building to be delivered and placed on owner's prepared site in accordance with manufacturer's recommendations. Precast building to be manufactured by Carr Concrete Corporation, Waverly, WV. Building to be provided by manufacturer with all necessary openings as specified by contractor in conformance with manufacturer's structural requirements.

The work of this section consists of prefabrication, on-site delivery, off loading and placement of a precast concrete storage building at a prepared site.

MANUFACTURER CRITERIA

A. ACI-318-02, "Building Code Requirements for Reinforced Concrete". Concrete Reinforcing Institute, "Manual of Standard Practice".
B. ANSI/ASCE-7-02 "Building Code Requirement for Minimum Design Loads in Buildings and Other Structures".
C. Include provisions of the 2006 IBC Code.
D. Concrete Reinforcing Institute, "Manual of Standard Practice".
E. Fabricator must be plant certified by The Precast/Prestressed Concrete Institute (PCI) and the National Precast Concrete Association (NPCA).
F. Building fabricator must have a minimum of 10 years experience manufacturing and setting transportable precast concrete buildings.
G. No alternate building designs to the CARR-BILT® building will be allowed unless pre-approved by the owner 10 days prior to the bid date.
H. Building shall come with a 10-year warranty.

STANDARD STORAGE

DESIGN CRITERIA

Standard model dimensions

A. Floor Plan: 10'-0"W, 12'-0"L.
B. Exterior Elevation: 8'-10"H including floor slab.
C. Roof shall have a minimum 2 1/2" overhang along all sides of the building.
D. Roof, floor, and wall panels must each be produced as individual monolithic panels. No roof, floor, horizontal or vertical wall joints will be allowed, except at corners. Wall panels shall be set on top of and attached to the floor panel.
E. Roof, floor and wall panel thickness are determined by design loads, engineering calculations and exterior finishes for a sustainably designed building.

(Optional) gabled roof shall have a minimum 3:12 pitch from the centerline of the building towards the short wall. The roof shall have a minimum 12 inch overhang along all sides of the building. Building shall come standard with either a simulated metal ribbed or a simulated cedar shake exterior roof finish.

Design loads

A. Wall Wind Load:	103 mph minimum
B. Roof Live Load:	30 psf
C. Floor Live Load:	100 psf
D. Earthquake:	Withstand the effects of a seismic group 1 seismic design category E Earthquake

Higher loadings are available as required by local building codes.

SUBMITTALS

A. Engineering calculations that are designed and sealed by a professional engineer, licensed to practice in the state where the project is located, shall be submitted for approval.
B. Product literature shall be provided for all plumbing, electrical and miscellaneous installed fixtures demonstrating compliance with these specifications.
C. Sample copy of 10-year warranty must be submitted.

PRODUCT

Materials

A. Portland Cement: ASTM C150, Type 1.

B. Concrete: Steel-reinforced, 5000-PSI minimum 28-day compressive strength, air-entrained (ASTM C260).
    a. All concrete is to be cast in environmentally controlled conditions.
    b. Color additives will conform to ASTM C979.A.
    c. The same brand and type of color additive will be used throughout the manufacturing process
    d. All ingredients will be weighed and the mixing operation will be adequate to ensure uniform dispersion of the color pigment throughout the concrete mix.
C. Aggregates: ASTM C33 or C330.
D. Water: Potable and free of deleterious substances.
E. Admixtures:
    a) Air-entraining: ASTM C260.
    b) Water reducing, retarding, accelerating, high range water reducing: ASTM C494.
F. Compressive strength of concrete shall be a minimum of 5,000 PSI in 28 days unless other strengths are otherwise specified.
G. Reinforcing Bars: Deformed Billet-steel: ASTM A615.
H. Welded Wire Fabric: ASTM A185.
I. Caulking: Joint between building and floor slab shall be caulked on the exterior and interior surface of the joints. Caulking shall be SIKAFLEX-1A elastic sealant or equal.
J. Panel Connections: The panels are bolted together with 1/4" thick steel brackets and 1/2" coil thread bolts. The steel brackets are cold galvanized to resist rusting.

Finishes

A. All interior building wall surfaces shall have a smooth concrete finish.
B. All exterior building walls shall be a exposed Indiana limestone texture (*optional textures available*).
C. All exterior surfaces of the roof panels will be smooth concrete (*optional textures available*).
D. Interior floor slabs shall have a smooth finish (*optional broom finish available*).

VENTS

All material and fixture quantities are as shown on plan view of model drawing.

A. Provide screened aluminum passive vents to allow air to flow into the storage area.

DOOR HARDWARE

All material and fixture quantities are as shown on plan view of model drawing.

Door

A. Door and frames shall comply with or exceed Steel Door Institute "Recommended Specifications for Standard Steel doors and Frames" (ANSI/SDI-100-1985).
   1. Doors shall be 18-gauge 1-3/4" thick, 1 ½ hour fire-rated, grade II heavy-duty metal door with polyurethane foam core.
   2. Door frame shall be minimum 16 gauge steel.
   3. Door hinges will be three (3) per door 4-1/2" x 4-1/2", adjustable tension, automatic closing, spring hinges with non-removable hinge pins.
   4. 2" Aluminum drip cap.
   5. Adjustable door sweep to be provided at the bottom of door.
   6. Stainless steel push-pull plate.

Dead bolt

A. Dead bolt shall have a double cylinder, 2 ¾" backset, and US26D finish.
   1. Locked or unlocked by key from outside and by turn on inside.
   2. Dead bolt automatically deadlocks when fully extended.

EXECUTION

Site preparation requirements (Manufacturer's recommendation)

A. CARR-BILT® building as a minimum shall bear fully on a level, compacted crushed stone base that is at least one foot larger than the length and width of building.
B. Stone shall be a minimum of 6" thick or down to firm sub-grade. The vertical soil capacity under stone shall be compacted to have minimum bearing of 1,500 pounds per square foot. Stone shall be 3/8" or smaller and must be screeded level within ¼" in both directions. Stone shall be placed within a perimeter form with flat and level top edge for screeding. Forming material shall remain around stone until after the building is set.
C. The crushed stone base shall be kept within the confines of the soil or perimeter form. Do not allow the stone base to become unconfined so that it may wash, erode, or otherwise be undermined.

OR

A. If building is placed on pavement or concrete slab, substrate below pavement or slab must have a vertical soil capacity of 1,500 pounds per square foot. Place stone or sand to 1" above highest point of area where building will be placed and at least 1'-0" wide all around the building footprint. Retain stone or sand with a perimeter form to prevent the material from washing out.
B. Provide positive drainage for the fill, concrete pad, or slab as required.
C. Site preparation is the responsibility of owner.

STANDARD STORAGE

INSTALLATION

Scope of work
Work specified under this Section relates to the placement of the CARR-BILT® unit on a customer prepared site.

A. Install building in accordance with approved manufacturer's instructions.

Location
It's the responsibility of the customer to:

1. Provide exact location by stakes or other approved method.
2. Provide clear and level site free of overhead and/or underground obstructions.
3. Provide access to the site from truck delivery and sufficient area for the crane to install and the equipment to perform the contract requirements.

Access to site
Contractor must provide a level unobstructed area large enough for a crane and a tractor-trailer to park adjacent to the pad. Crane must be able to place outriggers within 5'-0" of edge of pad and truck and crane must be able to get side by side under their own power. Clearance from overhead lines should follow OSHA guidelines for dimensions. Firm roadbed with turns that allow 65' low bed tractor-trailer must be provided directly to site. A minimum of 24" clearance is required between this building and adjacent buildings (to allow removal of lifting attachments), check with local building codes for additional requirements.

WARRANTY

Carr Concrete shall provide a warranty against defects in material or workmanship for a period of ten (10) years on all concrete components manufactured at our Waverly, WV location. The warranty is valid only when concrete is used within the specified loadings. Furthermore, said warranty includes only the related material necessary for the construction and fabrication of said concrete components. If found defective, Carr Concrete will, at its option, repair or replace any concrete component of the building. Upon receipt and approval of the delivered building – troubleshooting, installation, repair and shipping are the responsibility of the end user, unless otherwise agreed upon in writing between Carr Concrete and end user.

Non-concrete components are defined as any item not manufactured by Carr Concrete and include, but are not limited to, the following categories: electrical equipment, interior finishing, flooring, air circulation, security or entry. Any non-concrete component found to be defective shall be covered by the manufacturer's standard warranty of said non-concrete component. All troubleshooting, installation, repair and shipping of non-concrete components are the responsibility of the end user.