

# Cargo Containers

#### City of San Diego Development Services Department

INFORMATION BULLETIN

149

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The purpose of this information bulletin is to explain permitting requirements for using cargo containers as buildings. Cargo containers are also known as metal cargo containers, steel cargo containers, shipping containers, freight containers, portable storage containers, cargo boxes or sea vans. Container construction includes the use of intermodal shipping containers as structural elements.

A cargo container is an industrial, standardized, reusable portable vessel that was originally, specifically or formally designed for use in the packing, shipping or transportation of goods or commodities, and designed to be mounted on rail car, truck or ship.

#### I. PERMIT REQUIREMENTS

All cargo containers, whether HCD-approved or non HCD-approved, shall comply with the permitting requirements stated in this section, as well as applicable provisions of the governing edition of the California construction codes, the City of San Diego Land Development Code, regulations and ordinances.

- A. A building permit must be obtained to install cargo containers on a site except for the following conditions:
  - 1. Where used temporarily on a site for contractor's office, hauling away debris, and for storage of construction equipment/tools/materials during grading or construction of a building having a valid building permit.
  - 2. Where used for storage of equipment/tools/props during a permitted special event.
- B. A separate electrical, mechanical and/or plumbing permit are required when a cargo container is supplied with electric, gas, water, or sewer utilities, whether installed on a temporary or permanent basis.
- C. The use of a cargo container may require a discretionary permit prior to the issuance of a building permit if located in the Coastal Overlay Zone, a Planned District or on a site with Environmentally Sensitive Lands.

#### D. Historical Review

If there is a structure 45 years old or older on this site, the project is subject to Potential Historical Resource Review. Please refer to Information Bulletin 580, "Potential Historical Resource Review". If the site is designated by the Historical Resources Board as individually significant, or it is located within the boundaries of adopted historical districts, or it is determined eligible for or listed in the California or National Registers, the project is subject to Designated Historical Resource Review. Please refer to Information Bulletin 581, "Designated Historical Resource Review."

#### **II. SUBMITTAL REQUIREMENTS**

All new applications are required to be submitted electronically. To apply for a permit and for information on digital submittal process refer to Department's <u>website</u>. For information on the submittal requirements, refer to the Project Submittal Manual.

#### A. Forms to Complete

All cargo container plans must be submitted with the following forms:

- **1.** A General Application (Form DS-3032)
- 2. Water Meter Data Card (if the container contains any plumbing fixtures Form DS-16)
- **3.** Hazardous Materials Reporting (Form DS-165)

- **4.** San Diego Regional Hazardous Materials Questionnaire (Form HM-9171)
- **5.** Storm Water Requirements Applicability Check List (Form DS-560)
- 6. Owner-Builder Verification if owner is applying for the permit (Form DS-3042)

#### **B.** Drawings, Calculations, and Reports

A cargo container installation project must include the following drawings and calculation:

- 1. Site Plan and Vicinity Map per Information Bulletin 122.
- 2. Foundation plan and details.
- **3.** Floor plan showing all plumbing fixtures.
- **4.** Elevations with dimensions.
- **5.** Landscape plan.
- **6.** Geotechnical Investigation Report where required per San Diego Municipal Code, Chapter 14, Article 5, Division 18.
- 7. Title 24 Energy calculations (if used as habitable space).

#### C. Information on Title Sheet

The following information shall be provided in a table format on the first sheet of the plans:

- 1. Scope of Work. Briefly describing the scope of work of the project. For example: Scope of work includes installation of one detached metal cargo container for use as storage shed. If HCD-approved containers are proposed to be used, the scope of work on the title sheet of construction plans must clearly state "Cargo containers used for this project are approved by the California Department of Housing and Community Development (HCD)."
- 2. Sheet Index. List of all the sheets included in the plan package.
- **3.** Project Team. List name, address, and phone number of all design professionals including engineers, architects, and designers involved with the project.
- **4.** Legal description and Assessor Parcel Number(s) for the property on which the development is proposed.
- **5.** Owner's name (s) and address(es).
- 6. Proposed use.
- 7. Zoning designation and/or overlay zone designations (Coastal, Coastal Height Limit, Airport Influence Area, etc.).
- **8.** Any approved development permits (discretionary permits) for the project.
- **9.** Type of Construction. Cargo containers are classified as Type V-B construction unless specified otherwise.
- **10.**Occupancy Classification (s) per the California Building Code (CBC).
- 11. The Building Code year edition used for the design of the project.
- **12.**The number of containers stacked (for example; single or double).
- **13.**The overall height of the container from top of adjacent grade to the highest point of elevation.
- **14.**The gross floor area and floor area ratio (if applicable).
- **15.**Condition of soil (undisturbed, compact fill, or loose fill) when the proposed construction includes new Foundation system, with a reference to the project geotechnical investigation report.
- **16.**Landscape area square footage for water conservation purposes.
- **17.**Total area of disturbance. For more information, refer to Section 2 of the Land Development Manual, Volume I, Chapter 1, Project Submittal Requirements.

#### D. Accessibility

Cargo containers utilized as privately-funded covered multifamily dwellings and, as public buildings, public accommodations, commercial buildings, or public housing are subject to the accessibility standards of the CBC, Chapter 11A or Chapter 11B as applicable. Cargo containers utilized as combination of privately-funded and publicly-funded multifamily dwellings shall comply with the most restrictive accessibility standards specified in CBC Chapter 11A and 11B.

#### E. Foundation System

A permanent foundation system is required to support containers when containers are stacked (multi-level), containers are used for residential occupancy, or when containers are supplied with electrical, water, gas, or sewer utilities. A foundation plan showing an engineered foundation system including specifications, connection and sectional details shall be provided. This foundation plan shall bear the approval stamp of a California registered civil or structural engineer, or a California licensed architect, signature and date.

**Exceptions:** Single cargo containers may be placed on even grade (not sloping more than ¼ inch per foot) without a supporting foundation system, provided:

- 1. Grade is level with suitable material for supporting such containers and
- **2.** Cargo container is not supplied with electric, water, gas, or sewer utilities.

#### F. Roof Assembly and Coverings

Roof assembly and roof coverings shall be Class A, and listed in accordance with ASTM E108 or UL 790. Specifications and detail for proposed roof assembly shall be shown on roof plan.

#### G. Fire Sprinkler Systems

- 1. Containers used for residential occupancy are required to be equipped with an automatic residential sprinkler system, unless exempted. For detailed information describing the procedures and requirements related to a fire sprinkler permit for a single family home, duplex or townhome, see Information Bulletin 124.
- **2.** Containers used for multi-dwelling units, transient lodging, or non-residential occupancy may be required to be equipped with an automatic sprinkler system. For detailed information describing the procedures and requirements related to a fire sprinkler permit, see Information Bulletin 139.

#### H. Stamp and Signature of Licensed Professional on Plans

Cargo containers specified on plans are not considered conventional construction. Their use must be specified by a California licensed design professional. Therefore, all sheets of construction plans and first sheet of structural calculations shall be stamped and signed by a California licensed architect or a registered Civil or Structural engineer.

**Exception:** Sheets of plans approved and bear stamp of approval by the California Department of Housing and Community Development (HCD).

# III. USE OF CONTAINERS APPROVED BY CALIFORNIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT (HCD)

In addition to the requirements stated in Section I and II above, HCD-approved cargo containers reviewed and approved by the California Department of Housing and Community Development (HCD) are accepted by the City as approved for the stated occupancy and intended purpose. Projects using factory-built container-based units or structures must be certified through HCD's Factory-Built Housing Program. Each HCD approved cargo container shall bear a State of California insignia which identifies the container as a container approved for the specified use and occupancy. When HCD-approved cargo containers are used for the project:

- **A.** The scope of work on the title sheet of construction plans must clearly state "Cargo containers used for this project are approved by the California Department of Housing and Community Development (HCD)."
- **B.** HCD factory-built units shall comply with the requirements specified in Information Bulletin 241 Factory-built Housing which is incorporated here by reference.

## IV. USE OF CONTAINERS <u>NOT APPROVED BY CALIFORNIA DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT (HCD)</u>

In addition to the requirements stated under in Section I and II above, containers that are not HCD-approved are also subject to the following. Cargo container conversions NOT approved by the California Department of Housing and Community Development (HCD) shall comply with the following specific requirements:

#### A. Safety Standard Notes on Plans

The following safety standard notes shall be added on the cover sheet or on the floor plan by the design architect of record. The sheet of plan showing the following notes shall be stamped and signed by the California licensed architect of record:

- **1.** Containers used in this project shall meet or exceed applicable industry safety standards for the intended use and purpose as proposed, be free of any chemical hazards, and be fit for human use and occupancy.
- **2.** Cargo containers specified on the construction drawings and to be converted to building modules in the project shall be standard dry cargo containers and used for one-way transportation of dry goods only.
- **3.** Containers used in the project shall have not been used for transporting hazardous materials.
- **4.** Containers used in the project shall have not been painted with products containing lead.
- **5.** Containers will be visually inspected and verified by the design architect or structural design engineer of record, or by a Licensed Marine Surveyor as undamaged and have had no previous repairs.
- **6.** A City registered welding special inspector shall visually inspect and verify all weldments throughout each container to be in structurally sound condition in accordance with governing AWS Standards.
- **7.** The existing plywood floor sheathing, if to remain in place, shall be inspected and be free of any signs of damage, delamination, dry rot, or deterioration.
- **8.** All items requiring to have repairs due to damage or failure shall be reported to the structural design engineer of record for remedy. All repair details and specifications shall be shown on plans for review and approval.
- **B.** A written evaluation and structural observation report prepared by the design architect or structural design engineer of record shall be submitted to the building official addressing all of the issues stated in Section IV-A .

#### C. Structural Calculations

Structural calculations shall be provided for the following conditions to justify for adequacy of structural capacity of cargo containers:

- **1.** Cargo containers altered such as by removal of any part of the exterior walls, floors, or roof plane, addition of doors, windows or skylights.
- **2.** Multiple cargo containers connected together by welding or bolted connections.
- **3.** Cargo containers stacked.

#### D. Testing

- 1. The design strengths and permissible stresses for the material of the container shall be established by tests as provided for in Section 1707 of the CBC when such material properties cannot be identified by the manufacturer's designation as to manufacture and mill test.
- **2.** When construction of cargo containers are altered or modified, in situ load test shall be required in accordance with Section 1709 of the CBC. For additional information refer to Technical Bulletin 17-6, Testing and Inspections for Proof of Compliance.

#### E. Stacking

Cargo containers may be stacked. A complete and comprehensive structural calculation providing justification for vertical load demand and lateral load demand for the entire system and connection details shall be submitted, given considerations to all applicable loads prescribed per CBC. Such stacked cargo containers shall be supported on a foundation system.

### V. USE OF SINGLE-LEVEL CARGO CONTAINERS NOT APPROVED BY HCD FOR RESIDENTIAL AND COMMERCIAL BUILDINGS

Containers that are not approved by HCD may be used for residential or commercial buildings provided they comply with all of the following prescriptive requirements:

- **A.** Containers shall be single-unit and not to exceed one-level above grade plane. Stacking of containers are not allowed. Multi-level containers are not allowed.
- **B.** Containers may be used for residential occupancy Group (R-1, R-2 or R-3) or non-residential occupancy Group (B, M, S, U).
- **C.** Containers shall be located and supported on grade. Consideration shall be given to separation of wood floor sheathing from top of grade due to deterioration by providing 18 inches minimum clearance or providing pressure-treated wood floor sheathing.
- **D.** Containers must be detached and independent of any adjacent buildings or structures Multiple single-unit containers may be placed horizontally and connected together.
- **E.** Containers shall be standard sized and their original manufactured physical dimensions (width, length, and height) shall not be altered.
- **F.** Roof and walls of containers may be altered for the purpose of adding openings for sky lights, windows, or doors, provided structural vertical load and lateral load strength capacity of the containers are maintained and verified by the California registered civil/engineer (structural design engineer of record). Such openings must be framed with steel elements. Details of framing around openings shall be shown on plans. Structural engineering design calculations and testing are not required.
- **G.** Containers shall comply with all other requirements stated in Sections I, II and IV in this bulletin.
- **H.** Roof of containers shall not be occupied or used for any purpose.
- **J.** Containers shall be positively anchored at each of their four corners to the support foundation. Details of foundation and anchorage shall be provided on plans.
- **K.** All sheets of plans and specifications shall be stamped and signed by the California licensed architect or a registered civil/structural engineer of record.

#### VI. FEES

The following fees will be applied to Cargo Container projects:

- **A. Building Permit Fees.** Refer to Information Bulletin 501, "Fee Schedule, Construction Permits Structures".
- **B.** Mechanical/Plumbing/Gas, Electrical Fees. Refer to Information Bulletin 103, "Fee Schedule for Mechanical, Electrical, Plumbing/ Gas Permits".
- **C.** Water and Sewer Fees. Water and sewer capacity fees are due when the container contains plumbing fixtures and/ or the property will be irrigated. For more information, refer to Information Bulletin 501, "Fee Schedule For Construction Permits Structures".
- **D. School Fees.** Cargo containers are subject to school fees in accordance with Section 65995 of the California Government Code, and as authorized under Section 17620 of the Education Code. Refer to Information Bulletin 146 for detailed information.

#### **Documents referenced in this Information Bulletin**

- California Building Code (CBC)
- California Residential Code (CRC)
- Information Bulletin 103 Fee Schedule for Mechanical, Electrical, Plumbing/Gas Permits
- <u>Information Bulletin 122</u> How to prepare a site Plan and Vicinity Map
- <u>Information Bulletin 124</u> Residential Fire Sprinklers
- <u>Information Bulletin 139</u> Fire Sprinkler Systems
- <u>Information Bulletin 146</u> School Fees
- <u>Information Bulletin 191</u> Standard Notes for Building Permits
- <u>Information Bulletin 241</u> Factory-built Housing
- <u>Information Bulletin 501</u> Fee Schedule For Construction Permits Structures
- Information Bulletin 580 Potential Historical Resource Review
- <u>Information Bulletin 581</u> Designated Historical Resource Review
- <u>Technical Bulletin 17-6</u> Testing and Inspections for Proof of Compliance