King County Container Home

Category: Building Envelope
Subcategory: Reclaimed Materials
Technique, Strategy, or Technology: Using a shipping container to create a livable, movable space
Project Title: Container Home
Owner: King County Parks Dept.
Builders: Jason Anglin & Bruce Benson
Intended location: Carnation, WA
Permitted by:
- John Harvey, Chief of Factory-Assembled Structures, Washington State Dept. of Labor and Industries
- Inspector Couet, Washington State Patrol

Abstract

The main structure of this house is a repurposed shipping container and is to be registered as an RV (recreational vehicle) travel trailer.

Narrative

This brilliant container home is a King County Parks Department project to use as a rental cabin in Carnation, Washington, but made to be readily moved anywhere in Washington State. The goal is to have an immediately usable ADA-compliant cabin that the public can affordably rent to get out in nature without having to buy a lot of expensive gear. It is also to provide an atmosphere of awareness for green building.

The container itself is a 24’ unit that was donated by Maersk that weighs about 6000 pounds now and will weigh about 10,000 when finished. Many of the building materials are reused from a deconstructed house that was located on King County park land, and great effort has been made to make sure this is genuinely a green project throughout. Soy-based insulation, low VOC paint, and infrared heating will be used as well as LED lighting to make this container house a safe and energy efficient retreat. As there will be both restrooms and cooking sites nearby, space that would otherwise be used for a kitchen and bathroom will be living space, alleviating plumbing and the concerns of cooking inside. To come up with a design the King County parks department held a contest, with the winning entry coming from Seattle-based HyBrid Architecture, a firm that has done extensive work and research into their aptly-coined cargotecture. It is being built by Jason Anglin and Bruce Benson, and the departments within the King
County Parks Department have all really pitched in with talent, resources, and labor to make this container house a reality.

Being as this is a non-standard project there have been a few hurdles. On the construction side the biggest hurdle so far has been that containers tend to be painted with lead-based paint, which was a major job to remove. As far as code approval requirements, the most significant hurdle has been that both the Department of Motor Vehicles and the Department of Labor and Industries asked that the other’s inspections be done prior to their own.

Permitting Process

The King County Parks Department has streamlined the permitting process a good bit in their choices for permitting and their design choices. Being as the container house is going to be on park land which is already zoned for use with RVs, it was a natural fit. The permitting process on this project is unique in that it is to be documented through the Washington State Department of Transportation and the Department of Motor Vehicles as an RV, and thus has to meet all the requirements of a travel trailer. In order to make it legal it would have to have axles, tail and clearance lights, brakes with a breakaway switch, license plate light, a tongue, and be inspected by the Washington State Patrol for it to be deemed road-worthy. This container house is meeting these requirements by having a chassis made on which the container will be mounted permanently. It would also have to meet all size requirements for a travel trailer, which a shipping container does by design as travel trailers and tractor-trailer combos have to meet the same restrictions to begin with. It would have to be a maximum of thirteen and a half feet tall, eight and a half feet wide, and 65 feet in length including the tow vehicle. Also, it has to be 400 square feet or less to be classified as an RV travel trailer. This works very well, as a large standard forty-foot shipping container would have a square footage of 340 square feet (40’ X 8.5’) and the container used for this project has a square footage of 204 square feet (24’ X 8.5’).

If you are planning on building a container house your needs might very well be different and there are options for permitting. Registering it as a park model trailer allows it to be semi-permanent, but it still has to meet all the aforementioned requirements. A park model is much like a mobile home, in that it sits on a foundation and can be hooked up to utilities. On a container home this might well be a good route to go as it wouldn’t have limitations on how long it could be on a site or how many days a month it could be lived in. The downside is that the zoning could potentially become difficult. Park models, like mobile homes, traditionally have to be on a site zoned for such, and the permitting might take more work to pass through.

Applicable Code Section

RCW 46.04.623
“‘Travel trailer’ means a trailer built on a single chassis transportable upon the public streets and highways that is designed to be used as a temporary dwelling without a permanent foundation and may be used without being connected to utilities.”

RCW 46.04.622

“"Travel trailer" has the meaning given in RCW 46.04.623. However, if a park trailer, as defined in RCW 46.04.622, has substantially lost its identity as a mobile unit by virtue of its being permanently sited in location and placed on a foundation of either posts or blocks with connections with sewer, water, or other utilities for the operation of installed fixtures and appliances, it will be considered real property and will be subject to ad valorem property taxation imposed in accordance with this title, including the provisions with respect to omitted property, except that a park trailer located on land not owned by the owner of the park trailer will be subject to the personal property provisions of chapter 84.56 RCW and RCW 84.60.040. “

Resources

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References

| Washington State Department of Licensing website: | http://www.dol.wa.gov/ |

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