

**ENGINEERED WOOD I JOIST  
PROCEDURES  
& APPLICATION GUIDELINES**



**CITY OF**  
**NORTH LAS VEGAS**  
*Your Community of Choice*

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# Engineered Wood I Joist Procedures & Application Guidelines

## TABLE OF CONTENTS

- I. DEFINITIONS
- II. SUBMITTAL REQUIREMENTS
- III. ENGINEERED CONSTRUCTION METHOD PROCEDURES
- IV. CONVENTIONAL CONSTRUCTION METHOD PROCEDURES
- V. SUBSTANTIAL DESIGN CHANGES
- VI. I JOIST REPAIRS AND/OR FIXES
- VII. CHANGE OF ENGINEER
- VIII. REFERENCES
- IX. WOOD I JOIST WAIVER (DEFERRED WOOD I JOIST FORM)

# City of North Las Vegas

## Engineered Wood I Joist PROCEDURES & APPLICATION GUIDELINES

This guide will assist in outlining the requirements for *Engineered Wood I Joists*. The City of North Las Vegas Building and Fire Safety Division requires wood I joist engineering for all residential, multi-family, industrial, and commercial projects to be reviewed prior to issuance of permits. All projects must submit prior to issuance of permits or fill out the Wood I Joist Waiver Form.

### I. DEFINITIONS

A. **Engineered** - Items such as plans, calculations, and documents prepared by a Nevada registered engineer or design professional.

B. **Wood I Joist**- Unitary pre-fabricated floor or roof framing items.

C. **Wood I Joist Package** - Includes a I joist placement plan, engineered joist design drawings, and engineered calculations.

D. **Engineered Construction Method** - Structural frame of the building has been designed by an appropriately licensed design professional and is based on an engineered analysis of the structure.

E. **Conventional Construction Method** - Prescriptive construction method for light-framed wood construction that does not require an engineering analysis. International Building Code (IBC) Section 2308 allows this method to be used for limited applications.

### II. SUBMITTAL REQUIREMENTS

A. An engineered wood joist package must be included with the submittal of required plans and documents as part of the application for a building permit. This joist package shall include all generic joist repair calculations.

B. I joists are typically prefabricated and engineered by registered engineers working for the fabricator. The building frame is typically designed by engineers or other design professionals, depending on the construction method selected.

### III. ENGINEERED CONSTRUCTION METHOD PROCEDURES

A. Two (2) sets of the following documents shall be delivered to the licensed design professional of record for review:

- \_\_\_\_\_ 1. Final I joist placement plans
- \_\_\_\_\_ 2. Engineered, wet sealed joist design drawings and calculations

B. The building designer shall review the I joist design drawings, calculations, and placement plans for conformance with the construction design documents. Upon acceptance, the licensed design professional shall:

- \_\_\_\_\_ 1. Place a signed and dated “shop drawing review” stamp on the I joist package; **OR**
- \_\_\_\_\_ 2. Issue a signed letter of approval for a dated I joist calculation package

C. The items reviewed by the Building and Fire Safety Division include:

- \_\_\_\_\_ 1. Nevada professional engineer’s seal, signature and date on the I joist design drawings and calculations
- \_\_\_\_\_ 2. “Shop drawing review” stamp or signed letter of approval from the licensed design professional of record on the project
- \_\_\_\_\_ 3. I joist placement for general conformance to the submitted plans
- \_\_\_\_\_ 4. Location of the I joist bearing points for consistency with bearing walls, beams, headers, posts, etc.
- \_\_\_\_\_ 5. Location and magnitude of concentrated gravity loads for consistency with the design documents
- \_\_\_\_\_ 6. Location and magnitude of lateral/drag loads for consistency with the design documents
- \_\_\_\_\_ 7. Verification that the fabricator is approved by Clark County as I joist manufacturer or with approved and current ICC report.
- \_\_\_\_\_ 8. Design and calculations for “generic I joist repairs”

#### IV. CONVENTIONAL CONSTRUCTION METHOD PROCEDURES

When the structure is not designed by a licensed design professional and the design utilizes conventional light-frame construction methods from the International Building Code, Building and Fire Safety staff will review the engineered wood I joist package for the following items in addition to the normal plan review items:

- \_\_\_\_\_ 1. Nevada professional engineer’s seal, signature and date on the I joist design drawings and calculations. An I joist placement plan must also be provided.
- \_\_\_\_\_ 2. I joist placement for general conformance to the submitted plans

- \_\_\_\_\_ 3. Location of the I joist bearing points for consistency with bearing walls, beams, headers, post, etc.
- \_\_\_\_\_ 4. Top chord dead and live loads used in the design of the I joists
- \_\_\_\_\_ 5. Bottom chord dead and live loads used in the design of the I joists
- \_\_\_\_\_ 6. Location and magnitude of concentrated gravity loads imposed on I joists or framing
- \_\_\_\_\_ 7. Verification that the fabricator is approved by Clark County as I joist manufacturer or with approved and current ICC report
- \_\_\_\_\_ 8. The engineered I joist package will be stamped "approved" by Building and Fire Safety staff and will be included with the building permit documents provided to Building Records

#### V. SUBSTANTIAL DESIGN CHANGES

When substantial design changes occur after the review is completed and modifications to the I joists are made due to framing plan changes, the Building and Fire Safety Division shall require submittal of revised plans, calculations, and I joist design as appropriate.

#### VI. I JOIST REPAIRS AND/OR FIXES

When repairs or fixes are required, the applicant shall submit the appropriate documentation to the city building inspectors. The city building inspectors will determine if the repair or fix is substantial enough to require additional plan review by the Building and Fire Safety staff. The city building inspectors will then approve the repairs and/or fixes and forward copies to the construction site and the Building Records Office, or the applicant will be sent to the Building and Fire Safety Division for approval.

Generic I joist repairs may be submitted at the time of initial plan review.

#### VII. CHANGE OF ENGINEER

When an engineer other than the original engineer prepares or modifies I joist plans and calculations for final construction, a complete I joist design package must be resubmitted with the new engineer's stamp and signature. This submittal shall follow the procedures above and will be processed as a revision and assessed hourly fees as allowed in the City of North Las Vegas Administrative Code.

\_\_\_\_\_

Date

Valarie Evans M.C.P Building Official  
Land Development and Community Services  
Building and Fire Safety Division  
2250 Las Vegas Blvd North  
North Las Vegas, NV. 89030

Plan Check # \_\_\_\_\_  
Project Name \_\_\_\_\_  
Project Address \_\_\_\_\_  
\_\_\_\_\_

Dear Ms. Evans,

**PREMANUFACTURED WOOD I JOISTS**

The undersigned, in consideration of being issued permits for construction prior to Final I Joist approval, hereby assumes all risk, financially and otherwise, for any construction performed that may need to be removed once the I joist calculations and layout are reviewed if they are not appropriate to the structure.

I understand that final I joist approval may take up to ten working days (or longer if there are problems) from the date of submission.

\_\_\_\_\_  
(Signature of owner, principal, or authorized agent)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name of above Person & Title

\_\_\_\_\_  
Printed Name of Company

\_\_\_\_\_  
Printed Address of Company

\_\_\_\_\_  
Telephone Number & Fax Number