(HARDY FRAME MOMENT FRAME NOTES CONTINUED)

FIELD WELDING (AS OCCURS FOR FILLET/FLARE BEVEL WELDS ON HSS BEAMS TO SIDE PLATES)

Field welding shall comply fully with the requirements outlined in section "Shop Welding."

PREPARATION

1. The fabricator employs A distortion control program to address control of distortion and weld shrinkage, including maintenance of dimensional accuracy.
2. Base metal surface preparation: surfaces on which weld metal is to be deposited, including but not limited to column flange tips (i.e., column flange-to-side plate Ⓐ attachment), beam radii, and thermal cut edges are smooth, uniform, and free from loose or thick scale, slag, rust, moisture, grease and other foreign material that would prevent proper welding.
3. Thermal cutting:
   a) The roughnesses of all thermal-cut surfaces are not greater than an ANSI surface roughness value of 1000 micro-inches. roughness exceeding this value, and notches or gouges not more than 3/16 inch deep, on otherwise satisfactory surfaces are removed by machining or grinding.
   b) Flame cut surfaces are free of globules and loose slag. the thermal cutting equipment is so adjusted and manipulated as to avoid cutting beyond (inside) the prescribed lines.
   c) Thermal cutting processes are limited to plasma arc-cutting or oxyfuel gas processes.
4. Web/Flange Fillet area (K-Line):
   a) Horizontal shear plates Ⓓ fitted to columns have their corners sufficiently clipped at a 45-degree angle to avoid the K-Line between web and flange. the dimensions of the clipped corner are such that the plate dimension making contact with the web is equal to the 't' distance as defined in the AISC LRFD manual for steel construction.
   b) In no case is a weld tie-in of weld [3] allowed across the clipped corner of horizontal shear plate Ⓓ at the K-Line between web and flange.

QUALITY CONTROL

1. Hardy frames, inc or their subcontractors are responsible for quality control and provide in-process visual inspection of all fabrication activities to ensure that materials and workmanship meet the requirements of the design. GC inspection includes hold points for post-weld visual inspection of fillet weld [2] prior to insertion of beam to verify weld integrity.

   As occurs, field welding quality control is the responsibility of the purchaser (see "UT inspection" section).

2. FILLET WELD FITT-UP TOLERANCES:

   The parts to be joined by fillet and flare-bevel welds are brought into as close contact as practicable, using as necessary suitable clamping means. The root opening (i.e., the fit-up gap) does not exceed 3/16 inch. for fillet or flare-bevel weld root gaps greater than 1/16 inch, the leg size (i.e., the specified size) of fillet or flare-bevel weld is increased by the amount of the root opening.

3. EXPOSURE LIMITATIONS ON FCAW ELECTRODES:

   After removal from protective packaging, the permissible atmospheric exposure time of fcaw elctrodes is limited as follows:

   a) Exposure does not exceed the electrode manufacturer's guidelines.

QUALITY ASSURANCE

1. A quality assurance plan in accordance with ibc section 1705 and 1706 has been reviewed and approved by a licensed structural engineer for the detailing, fabrication and inspection of the hardy frame moment frame.
2. For field welding of fillets and/or flare bevel welds, continuous inspection is required and magnetic particle testing is required both by qualified independent inspectors.

WARNING SIGN

1. A warning sign is attached to the plastic hinge zone (also know as the "protected zone") in accordance with the provisions of ladbs standard quality assurance plan, section iv.6 and detail 15. the sign covers the full limits of the plastic hinge zone.

NON-SHRINK GROUT

1. Use non-shrink grout with design compressive strength of 5,000 psi, min.
2. Grout pad thickness shall be approximately 1-1/2 inches (-1", +1/2") thick, measured from top of foundation to bottom of base plate.
3. Follow manufacture's instructions for application, mixing and curing.

Epoxy Anchors

A hydraulic cylinder shall be used to apply the tension test load to the anchor with the cylinder supported on a loading plate having a hole diameter equal to 1.5 to 2.0 times the anchor hole diameter (confined configuration) unless otherwise approved by OSHPD.

Exception: Anchors that are de-bonded over their upper length may be tested with wide supports (unconfined testing).

Required test loads shall be the greater of twice the maximum allowable tension load or one and a half times the maximum design strength of anchors as provided in ICC-ESR. Tension test load need not exceed 80% of the nominal yield strength of the anchor element ($= 0.8\ A_{se}\ F_{ya}$).

Exception: Where it is intended that the embedment develop the yield strength of the bolt or reinforcing bar, the test load shall not be less than $0.8A_{se}\ F_{ya}$

Acceptance Criteria:

Anchors shall maintain the test load for a minimum of 15 seconds and shall exhibit no discernable movement during the tension test, e.g., as evidenced by loosening of the washer under the nut or by continuous loss of jacking pressure. Where other than bond is being tested, the testing device shall not restrict the concrete shear cone type failure mechanism from occurring.

All anchors shall be tested as follows: (Hardrock f'c=3000psi).

ANCHOR — WEDGE (HILTI KB-TZ ICC ESR-1917)

DIA. (in.)	LOAD (LBS)	TORQUE (FT-LBS)
3/8 (2" EMBED.)	2204 (Carbon Steel) 2272 (Stainless Steel)	25
1/2 (2"EMBED.)	2334 (Carbon Steel) 2656 (Stainless Steel)	40
1/2 (3 1/4"EMBED.)	4772 (Carbon Steel) 4836 (Stainless Steel)	40
5/8 (3 1/8"EMBED.)	4560	60
5/8 (4"EMBED.)	6602 (Carbon Steel) 5670 (Stainless Steel)	60
3/4 (3 3/4"EMBED.)	5994 (Carbon Steel) 7874 (Stainless Steel)	110
3/4 (4 3/4"EMBED.)	8544	110

ANCHOR — UNDERCUT (HILTI HDA ICC ESR-1546)

DIA. (in.)	LOAD (LBS)	TORQUE (FT-LBS)
M10: 3/4 (3.94" EMBED.)	8730	37
M12: 0.83" (4.92" EMBED.)	10914	59

HILTI HIT-RE 500-SD ADHESIVE ANCHOR (ICC ESR-2322)

ANCHOR

DIA. (in.)	LOAD (LBS)
#4 REBAR: 1/2 (3" EMBED.)	5570
#5 REBAR: 5/8 (3 1/4" EMBED.)	7732
#6 REBAR: 3/4 (3 1/2? EMBED.)	9226

Minimum edge distance are as follows:

Bolt Diameter (d)	3/8"	1/2"	5/8"	3/4"	0.83"
Min. Edge Distance (10xd)	3-3/4"	5"	6-1/4"	7-1/2"	8-1/2"

Notes:

1. Reaction loads from test fixtures may be applied close to the anchor being tested, if the anchor is not restrained from withdrawing by the fixture(s).
2. Test equipment (including torque wrenches) shall be calibrated by an approved testing laboratory in accordance with recognized standard procedures.
3. Testing shall occur a minimum of 24 hours after installation of the subject anchors.
4. All tests shall be preformed in the presence of the special inspector/ Inspector of Record.

SYMBOL:

HOUSEKEEPING PAD

Detail - - - - - - -

Section - - - - - -

Elevation - - - - -

Bld'g. Section- - -

Wall Section - - -

ABBREVIATIONS

ø	Diameter
#	Number or pounds
@	At
A.B.	Anchor Bolt
Det.	Detail
Dwg.	Drawing
(E)	Existing
G.L.B.	Glue-Lam Beam
Reinf.	Reinforcing
U.N.O.	Unless Noted Otherwise
Wt.	Weight
W/	With

GENERAL NOTES (CONTINUED)

NONE 1

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CONSULTANT SEAL

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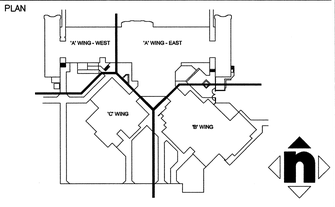
KEY PLAN



AGENCY APPROVAL

IDENTIFCATION STAMP
DIV. OF THE STATE ARCHITECT
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AC____ FLS____ SS____
DATE____

PROJECT TITLE

RAMONA-ALESSANDRO ELEMENTARY SCHOOL
MODERNIZATION
670 RAMONA AVENUE
SAN BERNARDINO, CA 92411

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NO.	REVISIONS	DATE	NO.	REVISIONS	DATE
1	DSA ADDENDUM # 1				2/10/10

DRAWING TITLE

ARCHITECT SEAL

REGISTERED ARCHITECT JOHN C. CAMPBELL C-18759 REN. 02-24-2010 STATE OF CALIFORNIA

DESIGNED JC	PROJECT NO. 3137117
DRAWN AM	SCALE AS NOTED
CHECKED TT	DRAWING NO. S1.1
DATE 19 MAR 2004	

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