EVALUATION REPORT Number: 461

Originally Issued: 07/21/2017 Revised: 07/20/2026 Valid Through: 07/31/2027

HARDY FALL PROTECTION SYSTEMS, INC.
6 Via Monarca St.
Dana Point, California 92629
(949) 636-1255
http://www.hardyfps.com
mark@hardyfps.com

HARDY TIE BACK DEVICES, HARDY TIE BACK SADDLES, AND HARDY OUTRIGGER SYSTEMS

CSI Sections:
05 50 00 Metal Fabrications
06 05 23 Wood, Plastic, and Composite Fastenings
11 81 29 Facility Fall Protection

1.0 RECOGNITION

The Hardy Fall Protection Systems, Inc. Hardy Tie Back Devices, Hardy Tie Back Saddles, and Hardy Outrigger Systems, recognized in this report, have been evaluated for use as roof-level tie-back systems and scaffolding supports. The structural and durability properties of the Hardy Tie Back Devices, Hardy Tie Back Saddles, and Hardy Outrigger Systems comply with the intent of the provisions of the following codes and regulations:

- 2024, 2021, 2018, 2015, and 2012 International Building Code® (IBC)
- Code of Federal Regulations Title 29, Subtitle B, Chapter XVII, Subpart I, Part 1910, April 3, 2026 (OSHA)
- 2025 and 2022 California Building Code (CBC) – attached Supplement
- California Code of Regulations Title 8, dated November 26, 2024 (CAL/OSHA) – attached Supplement
- 2026 and 2023 City of Los Angeles Building Code (LABC) – attached Supplement

2.0 LIMITATIONS

Use of the Hardy Tie Back Devices, Hardy Tie Back Saddles, and Hardy Outrigger Systems, recognized in this report, is subject to the following limitations:

2.1 The Hardy Tie Back Devices, Hardy Tie Back Saddles, and Hardy Outrigger Systems shall be manufactured, identified, and installed in accordance with the manufacturer's published installation instructions and this report. A copy of the instructions shall be available at the job site continuously during installation. If there is a conflict between this report and the manufacturer's published installation instructions, the more restrictive prevails.

2.2 Calculations showing compliance with this report shall be submitted to the building official. The calculations shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

2.3 The Hardy Tie Back Devices, Hardy Tie Back Saddles, and Hardy Outrigger Systems shall be designed for installation on a specific building roof framing system by a registered design professional and approved by the building official.

2.4 Connected wood members and fasteners shall comply with Sections 4.2.2 and 4.2.3 of this report, respectively.

2.5 The Hardy Tie Back Devices, Hardy Tie Back Saddles, and Hardy Outrigger Systems shall not be used simultaneously for two different setups.

2.6 Each Hardy Tie Back Device and Hardy Tie Back Saddle shall be designed to support one worker only.

2.7 Use of Hardy Tie Back Devices, Hardy Tie Back Saddles, and Hardy Outrigger Systems with fire-retardant-treated or preservative-treated lumber shall be in accordance with Section 4.2.1 of this report. The use of fasteners with fire-retardant-treated or preservative-treated lumber shall be in accordance with Section 4.2.3 of this report.

2.8 The Hardy Tie Back Devices, Hardy Tie Back Saddles, and Hardy Outrigger Systems are fabricated in Santa Ana, California, and Houston, Texas.

3.0 PRODUCT USE

3.1 Hardy Tie Back Devices

3.1.1 General: The Hardy Tie Back Devices are roof tie backs used for fall protection or for anchoring workers or suspended scaffolding when access to the building's exterior façade is necessary or required for maintenance. Fall protection anchors, tie back anchors, or suspended scaffold supports shall comply with OSHA and the jurisdictional statute requirements for project-specific anchor locations. Each system consists of devices and fasteners. The device is fastened to wood, concrete, or steel members. Fastening methods include screws, bolts, or weldments placed through or attached to the device into the supporting structure.

3.1.2 Design:

3.1.2.1 Capacity: When installed in accordance with this report, the Hardy Tie Back Devices and Hardy Tie Back Saddles achieve a 5,000-pound (22.2 kN) peak load without

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with Section 104.2.3 of the 2024 IBC and Section 104.11 of previous editions. This document shall only be reproduced in its entirety.

Produced by International Association of Plumbing and Mechanical Officials. All rights reserved. Printed in the United States. Ph: 1-877-4IESRPT • Fax: 909.472.4171 web: www.uniform-es.org • 4755 East Philadelphia Street, Ontario, California 91761-2816 – USA

permanent deformation, in the vertical and horizontal directions. This result complies with ASME A120.1-2014, Safety Requirements for Powered

Platforms and Traveling Ladders and Gantries for Building Maintenance, Section 5.1, Window Cleaning Safety, Section 9.1, and the Code of Federal Regulations, Title 29, Subtitle B, Chapter XVII, Subpart I, Part 1910.140(c)(13)(i). When used as a component of a fall protection system, the design, installation, and usage shall comply with Code of Federal Regulations Title 29, Subtitle B, Chapter XVII, Subpart I, Part 1910.140(c)(13)(ii).

3.1.2.2 Allowable Stress Design (ASD): In compliance with 2024 IBC Section 1607.12.4, 2021 IBC Section 1607.11.4, 2018 IBC Section 1607.10.4, 2015 IBC Section 1607.9.4, and Section 4.6.5 of ASCE/SEI 7-22 and -16, the ASD level strength for the Hardy Tie Back Device and Hardy Tie Back Saddle is 3,100 pounds (13.8 kN) maximum in the horizontal and vertical directions. The eyebolt shall be oriented parallel or perpendicular to the horizontal load. When placed on and fastened to the structural supports, the device shall be designed to develop the 3,100 pounds (13.8 kN) ASD strength. Supporting members (wood, steel, concrete, and concrete masonry) shall the designed for strength and size to resist the adding loadings from the devices.

3.1.2.2.1 Wood Supports: Fastening to wood is based on $C_D = 1.5$ for a 30-minute duration of load as recommended by the US Occupational Safety and Health Administration (OSHA) in accordance with the ANSI/AWC National Design Specification for Wood Construction (ANSI/AWC NDS). The design shall comply with IBC Chapter 23 and ANSI/AWC NDS. For the HTB-B24 Device, the minimum wood member size shall be 3.5 inches (89 mm).

3.1.2.2.2 Steel Supports: The design shall comply with IBC Chapter 22 and AISC 360. The minimum torque to secure the LNA BY1G16 clamp is 177 ft-lb (240 N-m).

3.1.2.2.3 Concrete Supports: The design shall comply with IBC Chapter 19 and ACI 318. For cast-in anchors, the minimum anchor embedment into concrete is 5 inches (127 mm), and the minimum concrete thickness is 8 inches (203 mm). The minimum anchor edge distance is 4 inches (102 mm).

3.1.2.2.4 Concrete Masonry Supports: The design shall comply with IBC Chapter 21 and TMS 402. The minimum anchor embedment into grouted cells is 3.5 inches (89 mm). and the minimum masonry thickness is 7.625 inches (194 mm). The minimum anchor edge distance is 8 inches (203 mm).

3.1.3 Installation:

3.1.3.1 General: The Hardy Tie Back Devices shall be installed in accordance with this report, the IBC, ASME A120.1-14, and the manufacturer's installation instructions. Where conflicts occur, the more restrictive shall govern. Installation shall be performed only by qualified installers approved by Hardy Fall Protection Systems, Inc. The Hardy Tie Back Device locations shall be determined by a registered design professional. In addition, placing the device at the center of the roof allows it to be used from each side of the roof. The Hardy Tie Back (HTB) devices are available with post heights from 3 inches (76 mm) to 24 inches (610 mm). The design and installation requirements for intermediate and shorter post heights shall be based on the next highest post height shown in Table 1 of this report. The eyelet may be oriented parallel or perpendicular to the structural framing.

3.1.3.2 Existing Construction: Existing wood framing and decking shall be repaired or replaced if damaged. Where portions of the roofing are altered to allow installation of the Hardy Tie Back Devices or Hardy Tie Back Saddles, these areas shall be repaired. Wood species and grades shall be verified as complying with provisions in Section 4.2.2 and Table 1 or Table 2 of this report.

3.1.3.3 Fastening: The Hardy Tie Back Devices shall be fastened either by screws, bolts, embedded anchors, or welding directly to the supporting wood framing, steel, or concrete members. Table 1 and Table 2 of this report provide the fastening-to-wood framing schedule. Fastener installation shall conform to Section 11.1 of the ANSI/AWC National Design Specification for Wood Construction (ANSI/AWC NDS) and, as applicable, the evaluation report for the fastener.

3.2 Hardy Outrigger System

3.2.1 General: The Hardy Outrigger System consists of inboard and outboard saddle bases, two post extensions, and a horizontal beam. The system is used singly or in pairs to suspend working platforms or scaffolding from a building as necessary for maintenance. Building heights are limited to 130 feet (39.6 m) maximum above the grade plane. The saddle bases are fastened to wood members. Fasteners include screws or bolts placed through the base holes into the supporting structure.

3.2.2 Design:

3.2.2.1 Capacity: When installed in accordance with this report, the Hardy Outrigger System achieves a 5,000-pound (22.2 kN) peak load applied at the end of the beam without permanent deformation, in the vertical downward directions when installed on a level plane and a maximum three percent slope. This result complies with ASME A120.1-2014, Safety Requirements for Powered Platforms and Traveling Ladders and Gantries for Building Maintenance Section 5.1.1, and Code of Federal Regulations Title 29, Subtitle B, Chapter XVII, Subpart I, Part 1910.140(c)(13)(i). When used as a component of a fall protection system, the design, installation, and usage shall comply with Code of Federal Regulations Title 29, Subtitle B, Chapter XVII, Subpart I, Part 1910.140(c)(13)(ii). The Hardy Outrigger System resists

a 1,250 pounds (5.6 kN) peak lateral load applied to the inward and outward posts.

3.2.2.2 Allowable Stress Design (ASD): In compliance with Code of Federal Regulations Title 29, Subtitle B, Chapter XVII, Part 1926, Subpart L, Section 1926.451(d)(1), the maximum rated load for the hoist supported by the Hardy Outrigger System is 1,250 pounds (5.6 kN) in the vertically downward direction, based on a safety factor of four and the maximum stall load of the hoist is 3,100 pounds (13.8 kN). These loads comply with 2024 IBC Section 1607.12.3, 2021 IBC Section 1607.11.3, 2018 IBC Section 1607.10.3, and 2015 IBC Section 1607.9.3. When placed on and fastened to the structural supports, the outboard base shall be designed to develop a minimum 5,210 pounds (23.2 kN) downward ASD strength, and the inboard base shall be designed for a minimum 2,130 pounds (9.5 kN) downward load and a minimum 2,130 pounds (9.5 kN) upward load. Fastening to wood is based on C_D = 1.5 for a 30-minute duration of load as recommended by the US Occupational Safety and Health Administration (OSHA), in accordance with the ANSI/AWC NDS. The design shall comply with IBC Chapter 23 and ANSI/AWC NDS. The beam shall be either aluminum and designed in accordance with Chapter 20 of the IBC, or steel and designed in accordance with Chapter 22 of the IBC. The beam shall be supplied by others and designed by a design professional to develop the required strengths, subject to approval by the building official. The beam connections to the work platform or scaffolding and supporting members are beyond the scope of this report and shall be approved by the building official.

3.2.3 Installation:

3.2.3.1 General: The Hardy Outrigger System shall be installed in accordance with this report, the IBC, ASME A120.1-14, and the manufacturer's installation instructions. Where conflicts occur, the more restrictive shall govern. Installation shall be performed only by qualified installers approved by Hardy Fall Protection Systems, Inc. Beam projections beyond the face of the outboard base are limited to six feet (1828.8 mm) maximum. The distance between the inboard base and the outboard beam segment shall be at least 1½ times the beam projection length from the outboard base. Each base shall be connected to the structure in accordance with the approved plans. Available post-extension heights range from 14 inches (355.6 mm) to 66 inches (1676.4 mm). Each post extension shall be inserted over the tube element of the saddle base to line up the bolt holes, and a ¾ inch (19 mm) diameter clevis and cotter pin with a lanyard shall be inserted into the hole and secured. The horizontal beam is then inserted through the openings in the post extensions and secured in place in accordance with the approved plans. The work platform or scaffolding connections shall comply with approved plans.

3.2.3.2 Existing Construction: Existing wood framing and decking shall be repaired or replaced if damaged. Where portions of the roofing are altered to allow installation of the Hardy Outrigger System, these areas shall be repaired. Wood species and grades shall be verified as complying with provisions in Section 4.2.2 and Table 1 or Table 2 of this report.

3.2.3.3 Fastening: The Hardy Outrigger System shall be fastened either by screws or bolts directly to the supporting wood framing. Tables 1 and 2 of this report provide the fastening-to-wood framing schedule. Fastener installation shall conform to Section 11.1 of the ANSI/AWC National Design Specification for Wood Construction (ANSI/AWC NDS) and, as applicable, the evaluation report for the fastener.

3.3 Periodic Inspection and Testing: Where required by the building official or structural designer in accordance with IBC Section 1705.1.1, a program for annual inspection and on-site proof loading at intervals as determined by the structural designer, including after any major modification to the equipment, and after any damage has occurred, shall be prepared and conform to the following minimum requirements:

1. Frequency of inspection and proof loading.
2. Proof test procedures shall be prescribed by a registered design professional.
3. In-situ tests shall be performed by an approved agency under the direction of the registered design professional and in accordance with IBC Section 1708.
4. Proof loads shall be 2,500 pounds (11.1 kN) and maintained for a minimum period of five minutes.
5. Proof loads shall be in vertical or horizontal directions.
6. A certification record shall be kept for each inspection and test.
7. In the event of failure to achieve proof load, the device shall be removed from service.

4.0 PRODUCT DESCRIPTION

4.1 General: The Hardy Tie Back Devices (HTB) described in this report are available in five different groups.

4.1.1 Hardy Saddle Tie Back
4.1.1.1 HTB-S12: The HTB-S12 is depicted in Figure 2 of this report
4.1.1.2 HTB-S18: The HTB-S18 is depicted in Figure 3 of this report.
4.1.1.3 HTB-S24: The HTB-S24 is depicted in Figure 4 of this report.
4.1.1.4 HTB-T24: The HTB-T24 is depicted in Figure 5 of this report.

4.1.2 Hardy Adjustable Cap and Flush Mount Tie Back
4.1.2.1 HTB-SADJCM-3: The HTB-SADJCM-3 is depicted in Figure 6 of this report
4.1.2.2 HTB-SADJCM-6: The HTB-SADJCM-6 is depicted in Figure 6 of this report
4.1.2.3 HTB-SADJCM-9: The HTB-SADJCM-9 is depicted in Figure 6 of this report

4.1.2.4 HTB-SADJFM-0: The HTB-SADJFM-0 is depicted in Figure 8 of this report.
4.1.2.5 HTB-SADJU-3: The HTB-SADJU-3 is depicted in Figure 9 of this report.
4.1.2.6 HTB-SADJU-6: The HTB-SADJU-6 is depicted in Figure 9 of this report.
4.1.2.7 HTB-SADJU-9: The HTB-SADJU-9 is depicted in Figure 9 of this report.
4.1.2.8 HTB-SADJFM-12: The HTB-SADJFM-12 is depicted in Figure 9 of this report.

4.1.3 Hardy Wall Mount Anchor
4.1.3.1 HTB-WMB: The HTB-WMB is depicted in Figure 10 of this report.
4.1.3.2 HTB-WMB: The HTB-WMBCMU is depicted in Figure 11 of this report.

4.1.4 Hardy Bolted Tie Back
4.1.4.1 BTB-B24: The HTB-B24 is depicted in Figure 12 of this report.

4.1.5 Hardy Post
4.1.5.1 HTB-P24: The HTB-P24 is depicted in Figure 13 of this report.

4.1.6 Hardy Saddle Outrigger System
4.1.6.1 HTB-SORB-1: The HTB-SORB-1 is depicted in Figure 14 of this report.
4.1.6.2 HTB-SORB-2: The HTB-SORB-2 is depicted in Figure 15 of this report.
4.1.6.3 HTB-ORX-1: The HTB-ORX-1 is depicted in Figure 16 of this report.
4.1.6.4 HTB-ORX-2: The HTB-ORX-2 is depicted in Figure 17 of this report.
4.1.6.5 HTB-S EWP: The HTB-S EWP is depicted in Figure 18 of this report.

4.2 Materials

4.2.1 Steel: All Hardy Fall Protection Devices described in this report are manufactured from plain steel plates complying with ASTM A36, and plain steel extra-strong pipe complying with ASTM A53.

The ORX-1 and ORX-2 posts described in this report are manufactured from plain steel round and rectangular HSS tubes complying with ASTM A500 Grade B.

The aluminum outrigger I-beams described in this report shall be structural shapes complying with ASTM B209 Alloy 6061-T6.

The steel outrigger I-beams described in this report shall be plain steel structural shapes complying with ASTM A992.

The steel assemblages are provided with a batch hot-dipped galvanized coating in accordance with ASTM A123, with a minimum G60 coating total for both sides for the exposed post, pipe, eye bolt, and cap plate components. Alternatively, a powder coating system may be provided, subject to the approval of the building official. The unexposed plates and skirts are provided with a paint system.

The holder of this report (Hardy Fall Protection Systems, Inc.) or lumber treater shall be contacted for recommendations on minimum corrosion resistance of steel in contact with specific proprietary preservative-treated or fire-retardant-treated lumber.

Steel members to which the Hardy Tie Back Devices and Hardy Tie Back Saddles are connected shall be structural steel complying with IBC Sections 2202.1 and 2205.1, and AISC 360.

4.2.2 Wood: Wood members to which the Hardy Tie Back Devices and Hardy Tie Back Saddles are connected shall be either sawn lumber or engineered lumber complying with IBC Section 2303.1.1 or 2303.1.10, and ANSI/AWC National Design Specification for Wood Construction and its Supplement (ANSI/AWC NDS). Sawn Lumber shall be a minimum 0.42 specific gravity and engineered lumber shall be of equivalent specific gravity for bolting or 0.50 for SDS screws. Lumber receiving screws or bolts shall be a minimum 4 by 10. The thickness (depth) of the wood main member shall be equal to or greater than the length of the fasteners specified by the calculations unless the reduced penetration effect on the load calculation in accordance with the ANSI/AWC NDS is considered, or as required by the wood member design, whichever is greater.

4.2.3 Concrete: Concrete members to which the Hardy Tie Back Devices and Hardy Tie Back Saddles are connected shall be normalweight concrete complying with IBC Sections 1901.2 and 1903, and ACI 318. The minimum f'_c is 3,000 psi (20.7 MPa) and the maximum f'_c is 10,000 psi (68.9 MPa).

4.2.4 Concrete Masonry: Concrete masonry members to which the Hardy Tie Back Devices and Hardy Tie Back Saddles are connected shall be fully grouted and comply with IBC Section 2103 TMS 402. The minimum f'_m is 2,000 psi (13.8 MPa).

4.2.5 Fasteners:

4.2.5.1 General: For all fasteners, evidence of compliance shall be submitted to the building official for approval. The evidence may be in the form of evaluation reports issued by approved sources.

4.2.5.2 Wood: SDS screws shall comply with IBC Section 2306.1 and ANSI/AWC NDS Section 12.1.5. Bolts shall comply with ANSI/ASME B18.2.1 and ASTM A307 when used with the Hardy Roof Tie Back System described in this report and shall have a ⅞ inch (22.2 mm) shank diameter, and a ¾ inch (19.1 mm) diameter for the outrigger base to post connection.

Fasteners used in contact with fire-retardant-treated or preservative-treated lumber shall comply with 2024 and 2021 IBC Section 2304.10.6, 2018 or 2015 IBC Section 2304.10.5, or 2012 IBC Section 2304.9.5, as applicable. The report holder or lumber treater shall be contacted for recommendations on minimum corrosion resistance and connection capacities of fasteners used with the specific proprietary preservative-treated or fire-retardant-treated lumber.

4.2.5.3 Steel: Steel-to-steel clamps shall be Type BY2G16 by LNA Solutions. Anchor Rods shall be ASTM A325 with a minimum tensile strength, f_u, of 120 ksi (827 MPa). Anchor diameter shall be ⅝ inch (15.9 mm).

4.2.5.4 Concrete: Cast-in anchorage shall be ⅝ inch (15.9 mm) diameter headed studs complying with AWS D1.1 Article 9 or ⅝ inch (15.9 mm) diameter anchor bolts complying with ASTM F1554, minimum Grade 36. For wall mounting, Anchor Bolts shall be ASTM F1554, minimum Grade 36. Anchor diameter shall be ¾ inch (19.1 mm).

4.2.5.5 Concrete Masonry: Anchor Bolts shall be ASTM F1554, minimum Grade 36. Anchor diameter shall be ¾ inch (19.1 mm).

5.0 IDENTIFICATION

The Hardy Tie Back Devices are color-coded according to height and identified by the Hardy Fall Protection Systems, Inc. name and trademark, product name, the number of bolts and screws, and the evaluation report number (IAPMO UES ER-461). In addition to the above, each unit will be labeled with the serialized label that will also include the IAPMO UES ER-461 evaluation report number. The Hardy Tie Back Devices identification may also use either of the IAPMO Uniform Evaluation Service Marks of Conformity as shown below:

or

IAPMO UES ER-461

6.0 SUBSTANTIATING DATA

6.1 Manufacturer's descriptive literature and installation instructions.

6.2 Reports of physical and mechanical property testing.

6.3 Reports of load tests in accordance with the Code of Federal Regulations Title 29.

6.4 Test reports are from laboratories in compliance with ISO/IEC 17025.

6.5 Engineering calculations.

6.6 Quality documentation.

7.0 STATEMENT OF RECOGNITION

This evaluation report describes the results of research completed by IAPMO Uniform Evaluation Service on the Hardy Tie Back Devices to assess their conformance to the codes shown in Section 1.0 of this report and documents the product's certification. Products are manufactured at the location noted in Section 2.8 of this report under a quality control program with periodic inspections under the surveillance of IAPMO UES.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org

TABLE 1 - HARDY DEVICE FASTENING REQUIREMENTS[2,9]

Device[2]	Fastener	Fastener Diameter (inch)	Minimum Fastener Length (inch)	No. of Fasteners per opposing skirt (total)	No. of Bolts or Threaded Rods	Minimum wood member size (inch)	Minimum Lumber Specific Gravity	Minimum Edge Distance (inch)[3]	Minimum End Distance[3,4]		Eye Loop Type
HTB-S12[1,6,7]	SDS Screw[5]	0.185	2½	16 (32)	N/A	5¼	0.50	1½	3	4	Steel Plate [10]
HTB-S18[1,6,7]	SDS Screw[5]	0.185	2½	20 (40)	N/A	5¼	0.50	1½	3	4	Steel Plate [10]
HTB-S24, HTB-SORB-1, and SORB-2[1,6,7]	SDS Screw[5]	0.185	2½	26 (52)	N/A	5¼	0.50	1½	3	4	Steel Plate [10]
HTB-T24	SDS Screw[5]	0.185	3	27 (52)	N/A	5¼	0.50	2 ½	3	4	Steel Plate [10]
HTB-SADJCM[6,7]	SDS Screw[5]	0.185	2½	16 (32)	N/A	5¼	0.50	1½	3	4	Steel Plate [10]
HTB-SADJFM[6,7]	SDS Screw[5]	0.185	2½	16 (32)	N/A	5¼	0.50	1½	3	4	Steel U-Ring [11]
HTB-WMB[8]	Bolts / Threaded Rod	1/2	4	N/A	4	3½	0.50	N/A	N/A	N/A	Steel Plate [10]
HTB-WMBE[12]	Threaded Rod	3/4	3½	N/A	4	N/A	N/A	N/A	N/A	N/A	Steel Plate [10]
HTB-B24[8]	Bolts / Threaded Rod	5/8	5½	N/A	4	3½ x 5½	0.50	N/A	N/A	N/A	Steel Plate [10]
HTB-P24	Welded	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Steel Plate [10]

For SI: 1 inch = 25.4 mm

[1] HTB-S Saddles shall be placed upon a 5¼ inch minimum width structural framing member with eyelet oriented perpendicular or parallel and fastened to the framing through the saddle.

[2] Wood blocking and strapping shall be installed on the structural framing adjacent to the device and perpendicular to the structural framing as specified by the structural design professional.

[3] Edge distances and end distances may be increased, as applicable, to prevent wood splitting.

[4] End distance is for loading perpendicular to grain (⊥) or parallel to grain (∥).

[5] SDS screw connection resists the 3,100 pounds (13.8 kN) ASD strength as referenced in Section 3.2.2 of this report.

[6] All HTB-S Saddles are available for wood beams from 5¼ to 12 inches wide. The HTB-S Saddles may be installed on double trusses and are designated as HTB-SDT. The HTB-SDT saddle width is 6 ¾ inches and the minimum fastener length shall be increased to 3 inches.

[7] A solid ⅜ inch thick plywood filler may be used with a 5¼ inch wide wood member to accommodate an HTB-S base. The solid plywood filler shall be fastened to the 5¼-inch-wide wood member. Three-inch-long (3-inch-long) by ¼ inch diameter SDS screws are used in place of the specified screws on the filler side only, as illustrated in Figure 18 of this report.

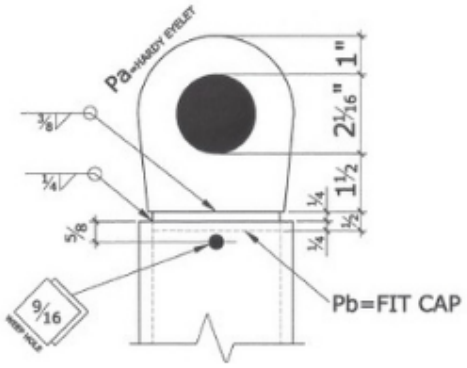
[8] The HTB-WMB, HTB-B24, and HTB-UB24 may be welded to a steel member. The member thickness shall be equal to or greater than the thickness of the HTB device to be welded. All welding to be designed by the structural design professional.

[9] All structural framing, wood blocking, and strapping size and type shall be designed by the structural design professional.

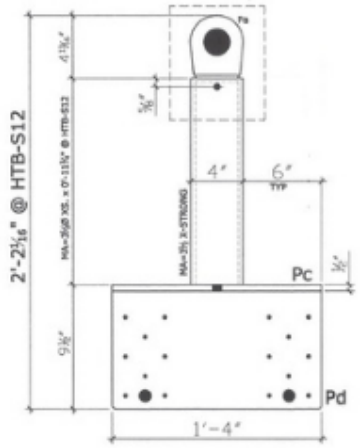
[10] The standard eye loop is depicted in Figure 1 of this report.

[11] The flush mount eye loop is depicted in Figure 7 of this report.

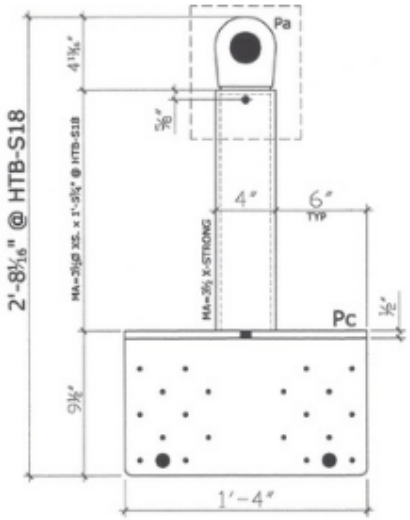
[12] The HTB-WMBE may be installed vertically in concrete or CMU or may be installed horizontally in a concrete slab.



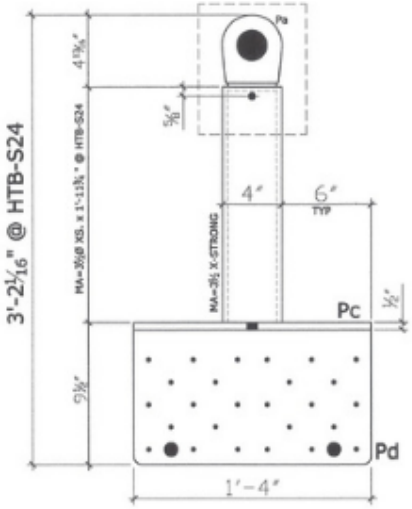
STANDARD EYE LOOP
FIGURE 1



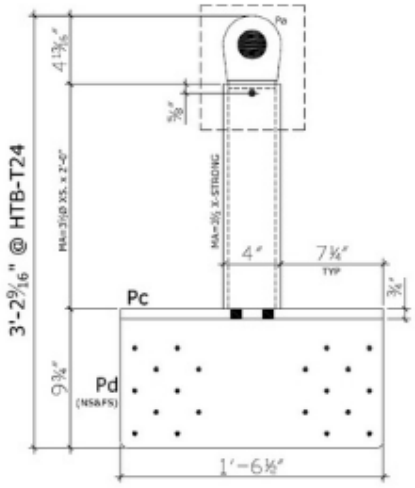
HTB-S12 - FIGURE 2



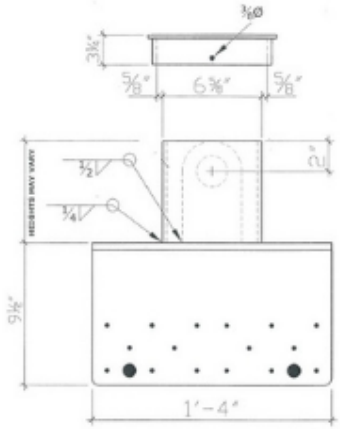
HTB-S18 - FIGURE 3



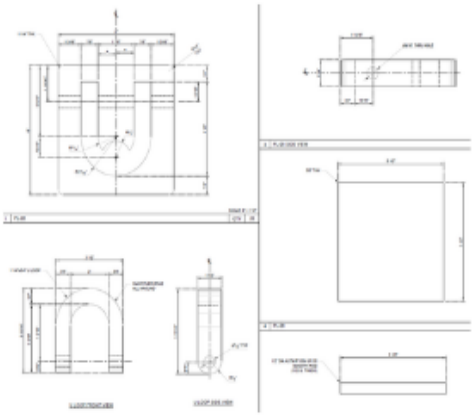
HTB-S24 - FIGURE 4



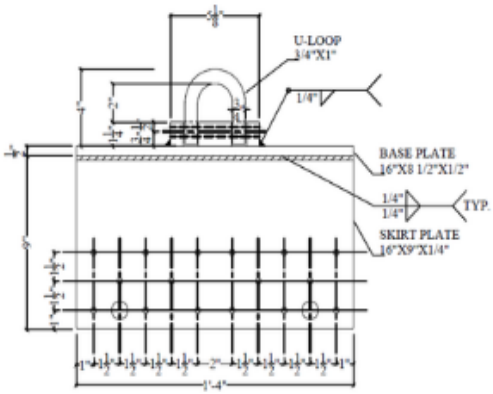
HTB-T24 - FIGURE 5



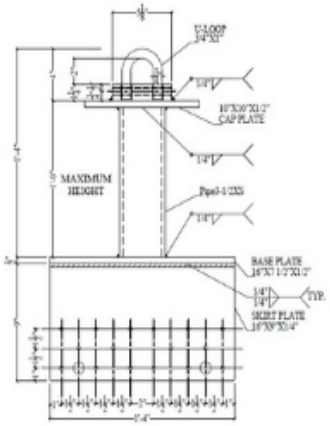
HTB-SADJCM-3, 6, & 9
FIGURE 6



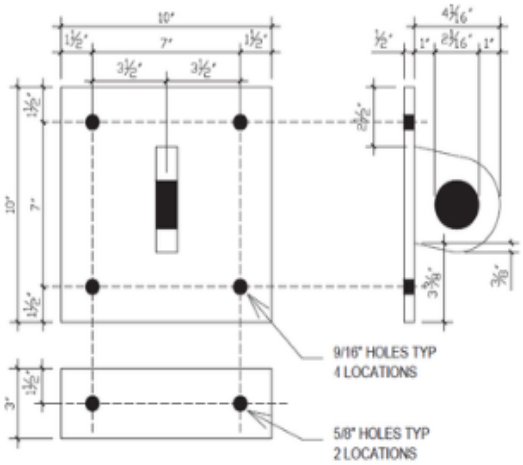
FLUSH MOUNT EYE LOOP
FIGURE 7



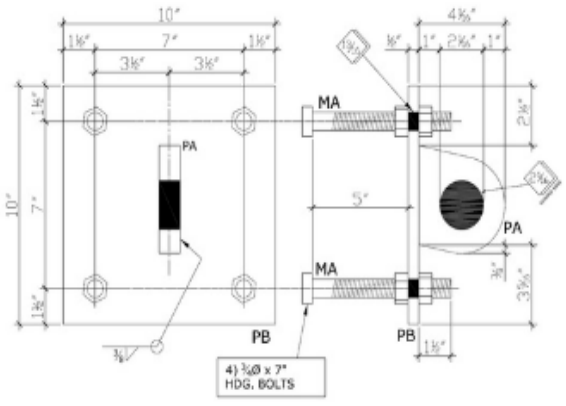
HTB-SADJFM-0
FIGURE 8



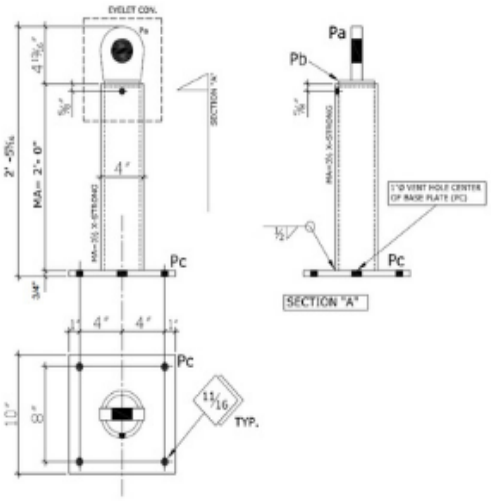
HTB-SADJFM-3, 6, 9, &12
FIGURE 9



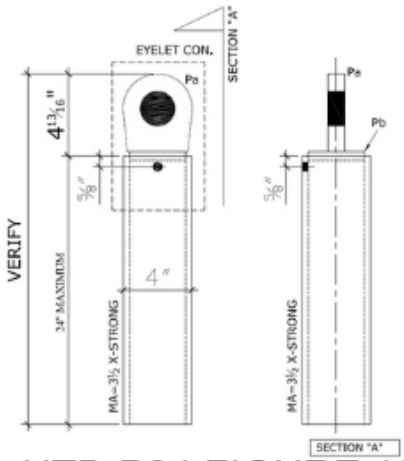
HTB-WMB FIGURE 10



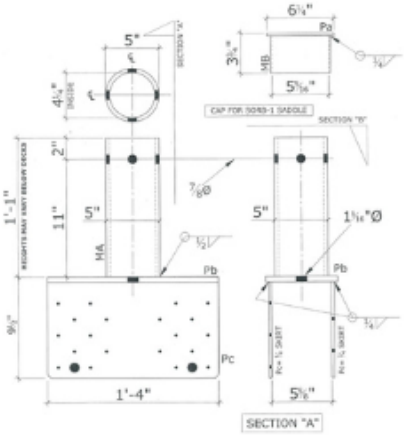
HTB-WMBE FIGURE 11



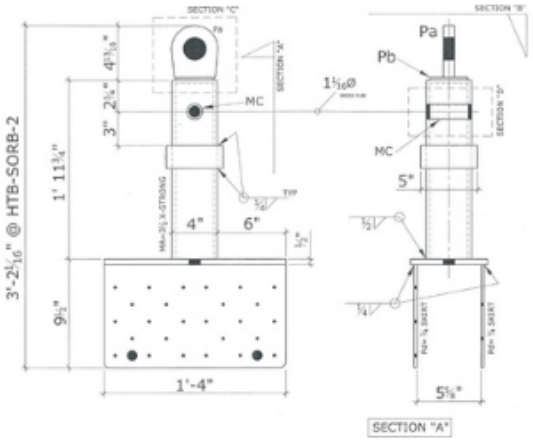
HTB-B24 FIGURE 12



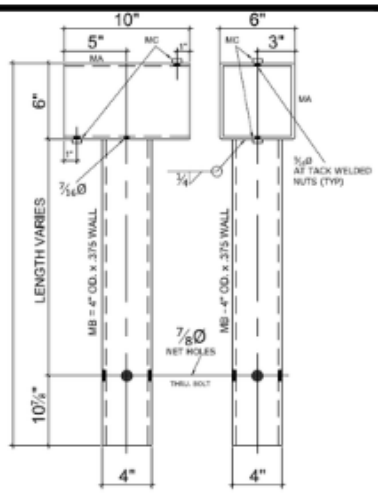
HTB-P24 FIGURE 13



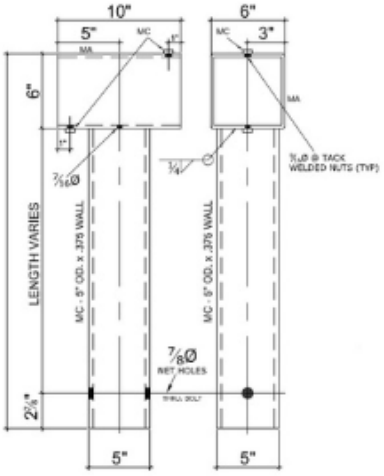
HTB-SORB-1 FIGURE 14



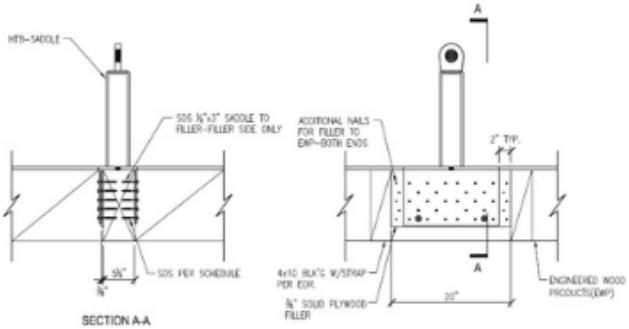
HTB-SORB-2 FIGURE 15



HTB-ORX-1 FIGURE 16



HTB-ORX-2 FIGURE 17



HTB-S EWP BEAM FIGURE 18

CALIFORNIA SUPPLEMENT

HARDY FALL PROTECTION SYSTEMS, INC.
6 Via Monarca St.
Dana Point, California 92629
(949) 636-1255
http://www.hardyfps.com
mark@hardyfps.com

HARDY TIE BACK SYSTEMS

CSI Sections:
05 50 00 Metal Fabrications
06 05 23 Wood, Plastic, and Composite Fastenings
11 81 29 Facility Fall Protection

1.0 RECOGNITION

The Hardy Fall Protection Systems, Inc. Hardy Tie Back Devices, as evaluated and represented in IAPMO UES Evaluation Report ER-461, and with changes as noted in this supplement, are satisfactory alternatives for use in buildings built under the following codes and regulations:

- 2025 and 2022 California Building Code (CBC)
- California Code of Regulations Title 8, dated November 26, 2024 (CAL/OSHA)

2.0 LIMITATIONS

Use of the Hardy Fall Protection Systems, Inc. Hardy Tie Back Devices, recognized in this report, is subject to the following limitations:

2.1 Hardy Fall Protection Systems, Inc., Hardy Tie Back Devices, shall comply with the provisions in IAPMO UES ER-461 applicable to the 2024 IBC for the 2025 CBC, or applicable to the 2021 IBC for the 2022 CBC.

2.2 Loadings described in Section 3.1.1.2.1 of IAPMO UES ER-461 comply with Sections 1607.11.4 and 1607A.11.4 of the 2022 CBC and the CAL/OSHA California Code of Regulations Title 8, Chapter 4, Subchapter 7, Article 5, Section 3291 (f) (2) (C) and Article 6, Appendix C, Section I (10). The design shall comply with CAL/OSHA California Code of Regulations Title 8, Chapter 4, Subchapter 7, Article 6, Appendix C, Section I (10).

2.3 In addition to the provisions of Sections 3.1.3 of IAPMO UES ER-461, installations shall comply with the CBC, and the CAL/OSHA California Code of Regulations Title 8, Chapter 4, Subchapter 7, Article 5, Section 3291 (f).

2.4 Loadings described in Sections 3.2.2.1 and 3.2.2.2 of IAPMO UES ER-461 comply with Sections 1607.11.3 and 1607A.11.3 of the 2022 CBC and the CAL/OSHA California Code of Regulations Title 8, Chapter 4, Subchapter 7, Article 5, Sections 3291 (f) (2) (C) and 3291 (d) (1), and Article 6, Appendix C, Section I (10). The design shall comply with California Code of Regulations Title 8, Chapter 4, Subchapter 7, Article 6, Appendix C, Section I (10).

2.5 In addition to the provisions of Section 3.3 of IAPMO UES ER-461, periodic testing and inspection shall be provided in accordance with the CAL/OSHA California Code of Regulations, Title 8, Chapter 4, Article 6, Section 3296(b), and Appendix C Section I (f).

2.6 This supplement expires concurrently with IAPMO UES ER-461.

CITY OF LOS ANGELES SUPPLEMENT

HARDY FALL PROTECTION SYSTEMS, INC.
6 Via Monarca St.
Dana Point, California 92629
(949) 636-1255
http://www.hardyfps.com
mark@hardyfps.com

HARDY TIE BACK SYSTEMS

CSI Sections:
05 50 00 Metal Fabrications
06 05 23 Wood, Plastic, and Composite Fastenings
11 81 29 Facility Fall Protection

1.0 RECOGNITION

The Hardy Fall Protection Systems, Inc. Hardy Tie Back Devices, as evaluated and represented in IAPMO UES Evaluation Report ER-461, and with changes as noted in this supplement, are satisfactory alternatives for use in buildings built under the following codes (and regulations):

- 2026 and 2023 City of Los Angeles Building Code (LABC) – Supplement to this evaluation report

2.0 LIMITATIONS

Use of the Hardy Fall Protection Systems, Inc. Hardy Tie Back Devices, Hardy Tie Back Saddles, and Hardy Outrigger Systems recognized in this report is subject to the following limitations:

2.1 Hardy Fall Protection Systems, Inc., Hardy Tie Back Devices shall comply with the provisions applicable to the 2022 CBC in the California Supplement for the 2023 LABC, or the 2022 CBC in the California Supplement for the 2023 LABC.

2.2 Computations and details shall be submitted to the Department of Building and Safety for approval. In accordance with LABC Section 106.3.3.2, computations and drawings shall be prepared, stamped, and signed by a California registered design professional except as otherwise permitted by the Department of Building and Safety.

2.3 Design, installation, and inspection shall be in accordance with Chapters 16 and 17 of the LABC, as applicable, due to local amendments to these chapters.

2.4 This supplement expires concurrently with IAPMO UES ER-461.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org