

SAPS

SAFETY ANCHOR POST SYSTEM

Safety Anchor Post OEM, Site-Specific Safety Equipment and Innovation

Instructional Manual

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**Manufacturer: Safety Anchor Posts System,
9630 Bruceville Rd. #160, Elk Grove, CA**

**95757. Phone: (800) 377-1632,
www.safetyanchorpost.com,**

info@safetyanchorpost.com

Anchors for embedment in cast-in-place concrete.

ADMINISTRATIVE REQUIREMENTS

Product Data: Manufacturer's data sheets on each product to be used, including:
Preparation instructions and recommendations.
Storage and handling requirements and recommendations.
Installation methods.

Shop Drawings: Drawings showing plans, elevations, sections and details of components. Show member sizes and part identification, fasteners, anchors, fittings and evidence of compliance with structural performance requirements.

PROJECT CONDITIONS

Field Measurements: Where handrails and railings are indicated to fit to other construction, check actual dimensions of other construction by accurate field measurements before fabrication.

PREPARATION

Clean surfaces thoroughly prior to installation.

Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

DELIVERY, STORAGE, AND HANDLING

Deliver materials to the job site in good condition and adequately protected against damage.

Inspect rail sections for damage before signing the receipt from the trucking company. Truck driver must note damaged goods on the bill of lading if damaged product is found.

When using post installed anchors on Post Tension slabs deck they should be scanned first to avoid damaging any existing strands.

INSTALLATION

Install in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.

When using thin slab anchors TEK screws must be installed per manufactures recommendations.

Tie spider anchors to rebar mat to hold location. Do not wet set anchors.

PROTECTION

Protect installed products until completion of project.

Touch-up, repair or replace damaged products before Substantial Completion.

WARRANTY

Warranty: Provide manufacturer's limited two year warranty.

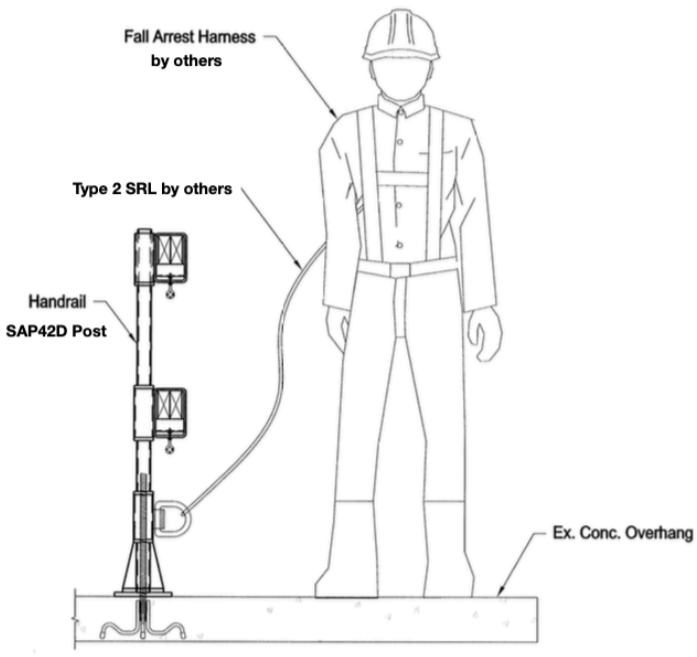
Safety Anchor Post System (SAPS) is an Active Fall Protection System requires Training. This manual specifically list a detail engineered drawing with General Notes; Clearly labels the "D-ring" Only dedicated Point of Tie-Off Single Person. Clearly illustrates recommendation (Type-2 SRL) training requirements for individuals using the Safety Anchor Post System. Safety Anchor Post System shall only be used with anchors 1 ft (0.3 m) from any slab edge.

SAPS system Safety Guidelines and Procedures: Each Safety Anchor Post shall be inspected prior to installation by a competent person in accordance with the manufacturer's recommendations. And shall be inspected not less than twice annually by a competent person. The date of each inspection shall be documented. Shall be inspected prior to each use for wear, damage, and other deterioration, and defective components shall be removed from service.

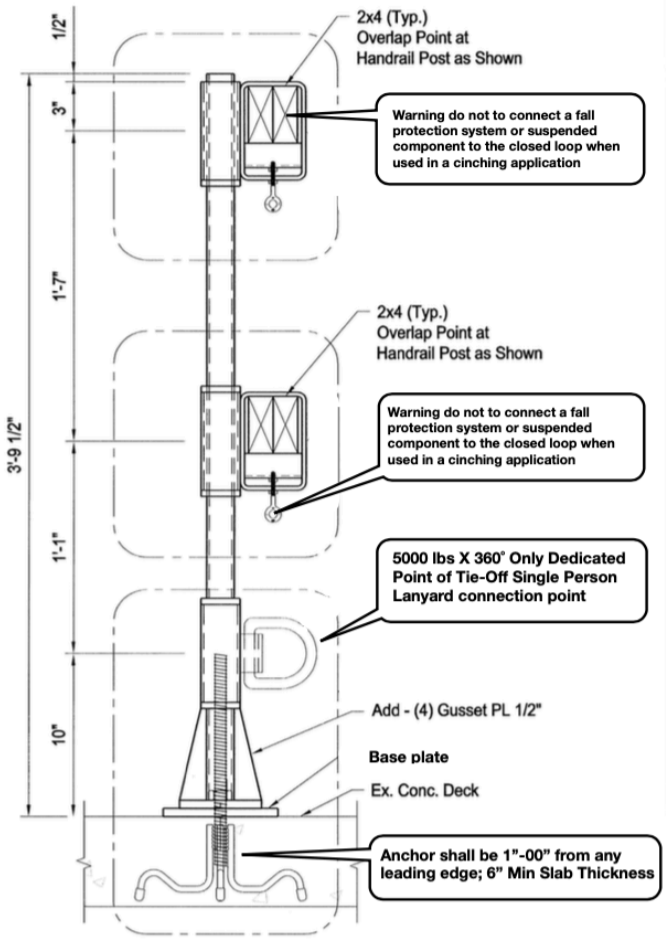
Emergency Response Protocols: Contractor shall ensure adequate vertical clearance from ground, or other impact point, for fall arrest system to take up life line deflection, lanyard elongation, and worker height. The employer shall provide for prompt rescue of employees in the event of a fall or shall assure that employees are able to rescue themselves. If any Safety Anchor Post is ever compromised removed by trained personnel or competent individuals responsible for inspecting and replacing safety equipment.

Visual Aids: SAPS engineered with wire-rope rail members are listed in a diagram with minimum and maximum configurations listed. CLT Engineering is listed; Q-Decking engineering is listed; Please refer to www.safetyanchorpost.com for all listings.

Regular Updates: All Safety Anchor Posts as of 2024 will include a QR code; Trained personnel or competent individuals responsible for inspecting and replacing safety equipment should scan Qr Code for the lates of SAPS updates.



1 Overall Handrail Elevation
01



2 Typical Handrail Section View
01

- GENERAL NOTES:**
- Pipe shall be ASTM A53 Gr.B. Tube Steel shall be ASTM A500 Gr.B, Fy=46 ksi. All structural steel shall be ASTM A36 U.N.O.
 - Meets ANSI Z359.18-2017 Safety Requirements for Anchorage Connectors for Active Fall Protection Systems
 - Warning not to connect a fall protection system or suspended component to the closed loop when used in a cinching application
 - Life line designed to support (1) worker equipped with a shock absorbing lanyard which limits fall arrest force to 1,000 lbs. for worker.
 - Contractor shall ensure adequate vertical clearance from ground, or other impact point, for fall arrest system to take up life line deflection, lanyard, lanyard elongation, and worker height.
 - Coil rod shall be Williams 3/4"Ø B7S or equal with matching heavy hex nut welded continuously to 5" X 5" X 1/2" plate. The Coil rod shall be installed into the B-75 Wall brace with full engagement per manufactures requirements.
 - Meadow Burke B-75 Wall Brace inserts (Item Number 251EE003) shall be used and installed prior to placing concrete, and concrete minimum strength at time of handrail use shall be 2500 psi.
 - 5/8" D-Ring Assembly with weld on clips and a WLL of 6,000-lb shall be used Ken Forge
 - Design Loads:
Guardrail = 200-lb. ultimate load
Maximum Fall Arrest Force at Tie-Off point: 1000 lb;
5:1 Safety Factor
 - Design References:
AISC Manual of Steel Construction, ASD
29 CFR 1926.502 OSHA Fall Protection Systems



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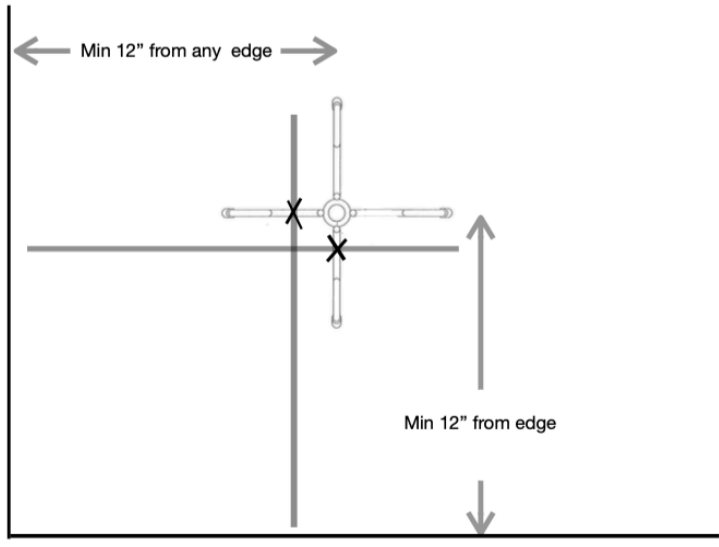
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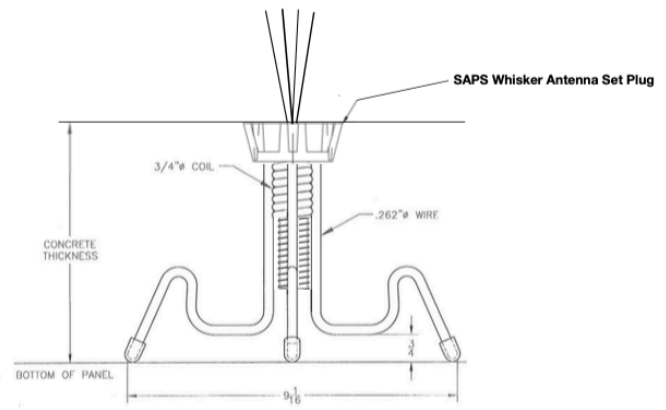
VAK Construction Engineering Services, LLC
8285 SW Nimbus Avenue, Suite 104
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www.vakengineering.com

SAP HANDRAIL Handrail Evaluation Elevation and Typical Section View	
Drawn By: JRS	Date: 05/09/2013
Designer: VAK	Checked By: VAK
Status: AS NOTED	Drawing Number: 13-080A-01
Rev: 0	

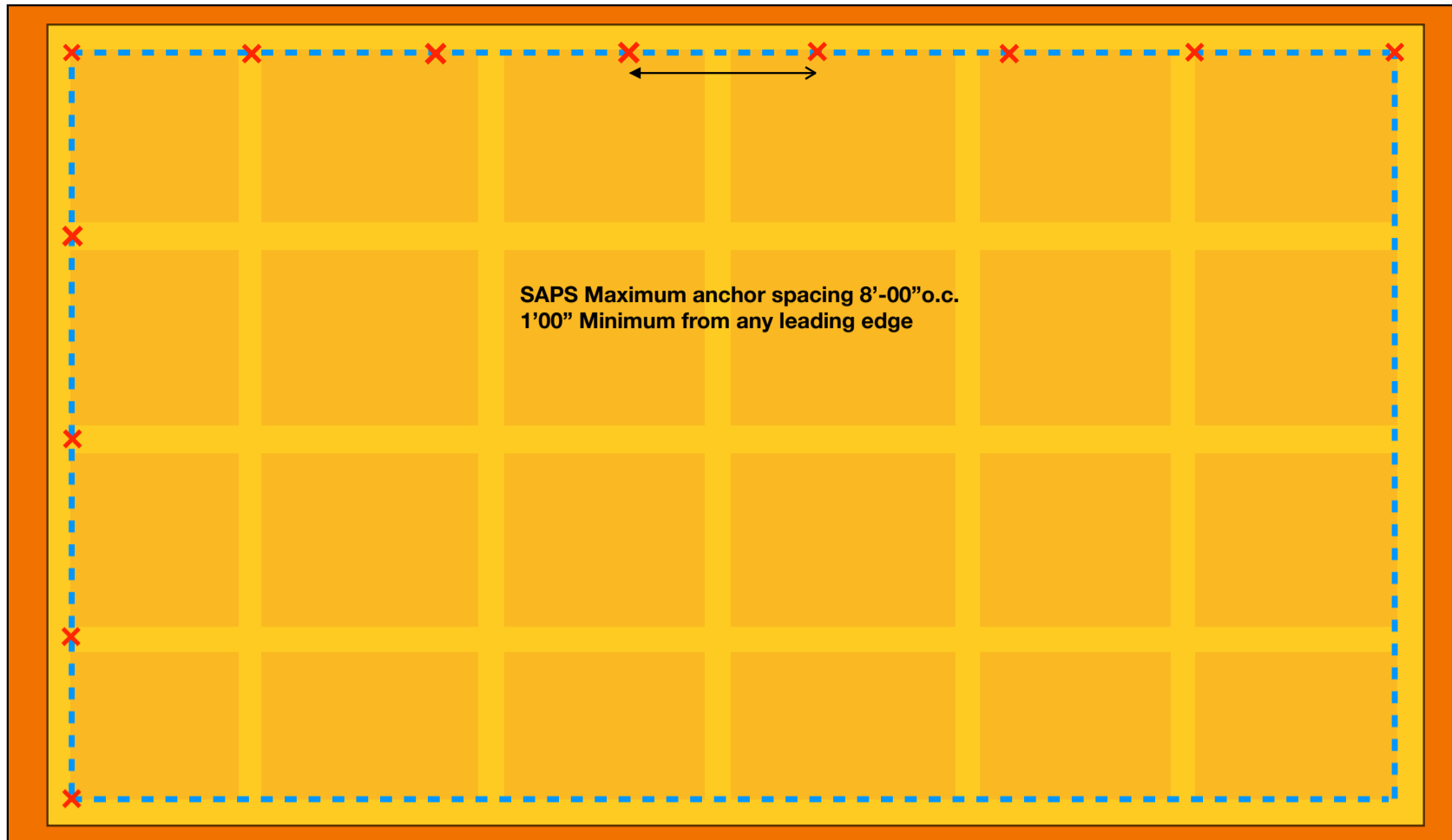
Each Safety Anchor Post shall be inspected prior to installation by a competent person in accordance with the manufacturer's recommendations. And shall be inspected not less than twice annually by a competent person. The date of each inspection shall be documented.



Place spider anchor in desired location and tie to rebar to ensure anchor does not move during the pour.



Use whisker set plugs for ease of locating anchors after pouring concrete. Set top of plug at top of slab to ensure easy removal. Whisker Set Plug must be greased with Lithium White Grease prior to installation.



- Step One - Elevated Shoring Formwork
- Step Two - Perimeter Edge of Deck Formwork
- Step-Three - Snap Chalk-Line (Layout for Spider Anchors for SAPS Stanchions) Min 1'-00" from Leading Edge
- Step Four - Install Steel Reinforcement mats & Post Tension Cables
- Step Five - Install spider anchors over chalk-line and space at 8'-00" O.C. ; Tie-wire spider anchors to rebar mat to prevent unintentional movement. Do not wet set anchors.
- Step Six - Before placing concrete, verify that installation of concrete forms, accessories, and reinforcement, and embedded items is complete.

Safety Anchor Post System (SAPS) with anchors sized to fit slabs ranging from 6 to 24 in. (152 to 610 mm) in thickness. By using an embedded anchor, the SAPS system protects reinforcing bars and post-tensioning tendons from damage that might occur if anchors were installed in drilled holes instead.

Installation and Use of SAPS Anchors in Concrete Construction

In the construction industry, the proper installation and use of SAPS (Surface-Adhered Post-Tensioning System) anchors are crucial for ensuring the structural integrity and stability of concrete elements. According to industry standards, SAPS anchors must be installed with specific guidelines to ensure their effectiveness.

Installation Guidelines:

Placement: SAPS anchors must be installed no closer than 1 ft (0.3 m) from the slab edge. This distance is necessary to prevent any potential edge effects that could compromise the anchoring system's performance.

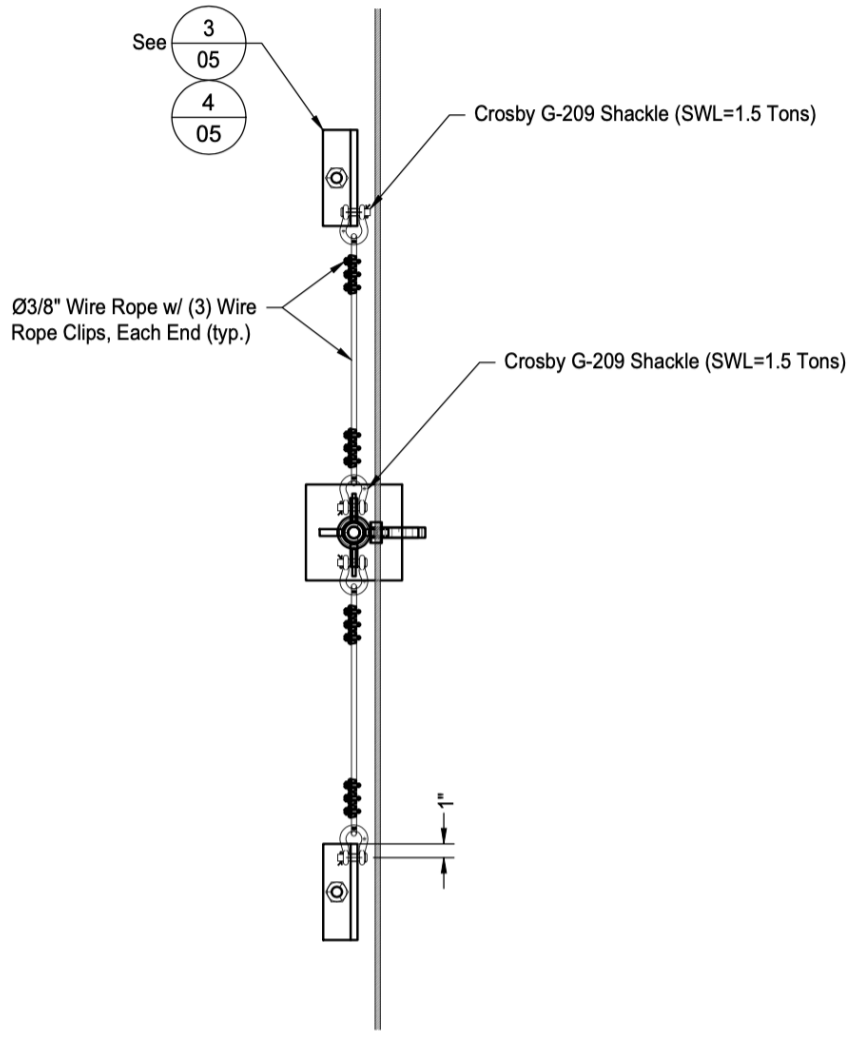
Spacing: The anchors should be spaced at no more than 8 ft (2.4 m) on center. This spacing ensures adequate distribution of the post-tensioning forces throughout the concrete element, enhancing its load-bearing capacity.

Concrete Placement Process: Once the reinforcing bars, post-tensioning tendons, and SAPS anchors are securely fastened to the formwork according to design specifications, concrete placement can commence. It is essential to follow a systematic approach to ensure that all components are properly integrated into the concrete structure.

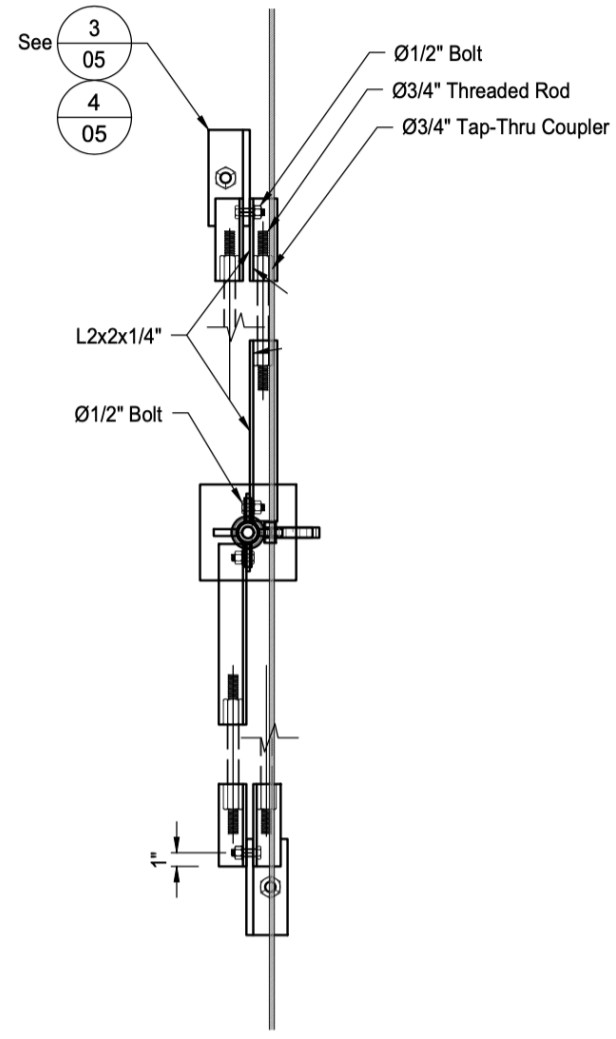
Anchor Utilization Criteria: The SAPS anchors are considered ready for use once the concrete reaches a compressive strength of 2500 psi (17 MPa). This threshold indicates that the concrete has achieved sufficient strength to effectively transfer and distribute loads through the post-tensioning system anchored by SAPS devices.

By adhering to these installation guidelines and utilization criteria, construction professionals can optimize the performance and durability of SAPS anchors in concrete structures, thereby enhancing overall safety and structural reliability.

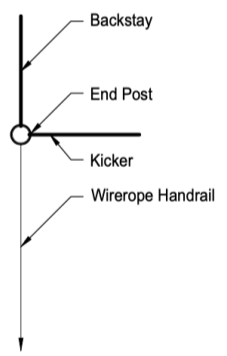
SAPS Wire-rope set-up



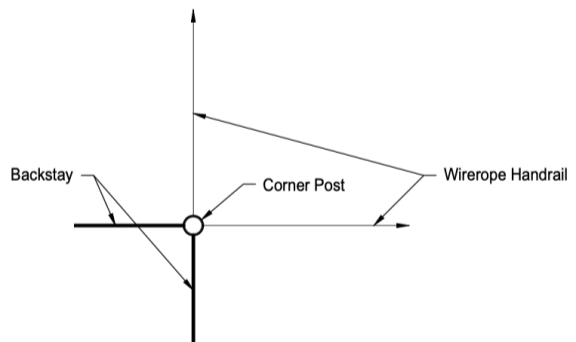
1 Handrail Plan View (Cable Backstay)
03 Scale: 1" = 1'-0"



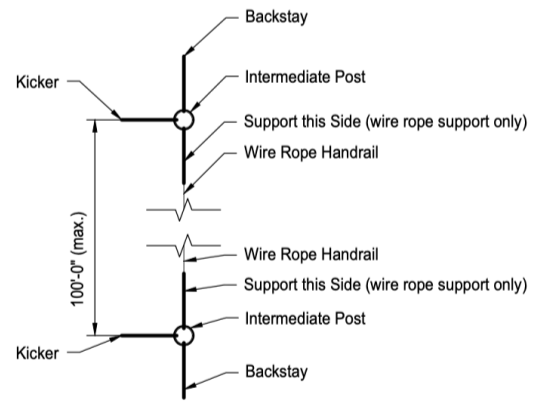
2 Handrail Plan View (Angle Backstay)
03 Scale: 1" = 1'-0"



End Post

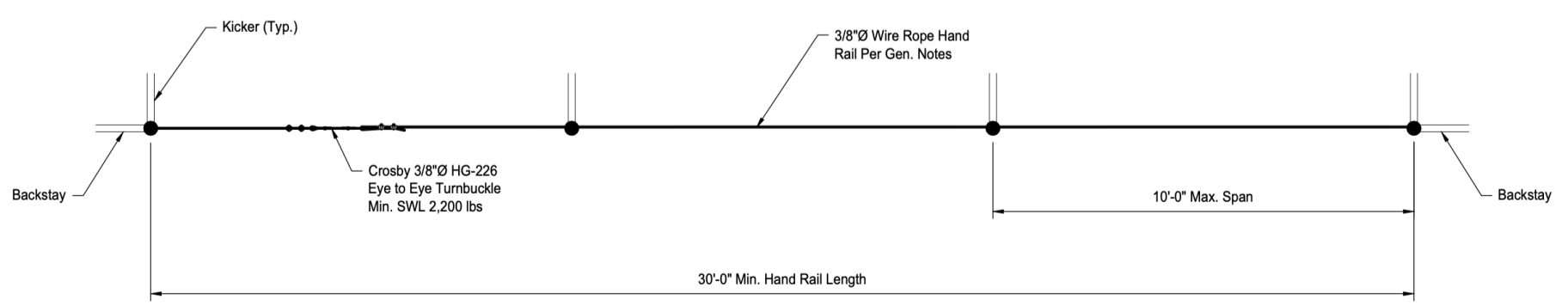


Corner Post

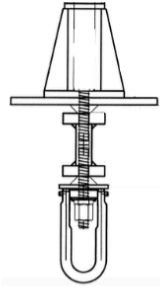


Handrail

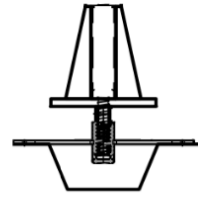
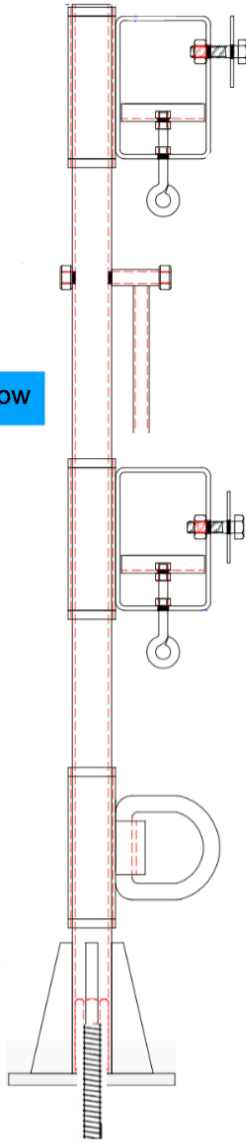
1 Brace Configuration - Details
07 Scale: N.T.S.



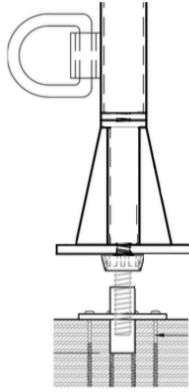
SAP42DEX Endless Capabilities



Dualie Anchor , Tie-off on working floor and below

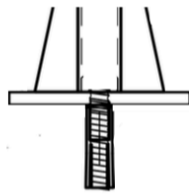
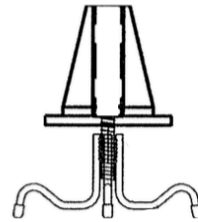


Thin Slab Metal Deck (Q-Deck)

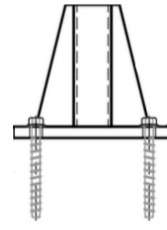


CLT Structure

Spider Anchor Ideal for PT Cable

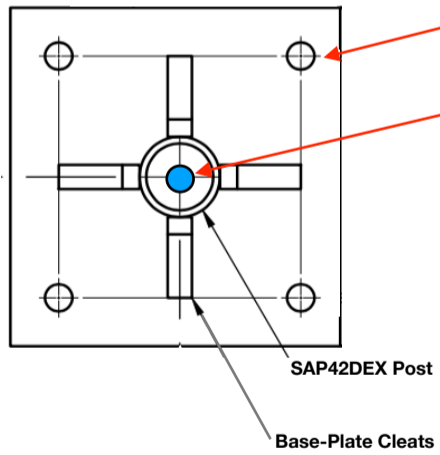
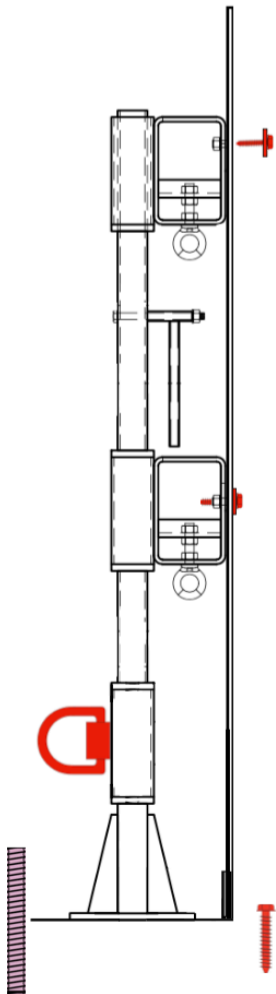


Single DropIn Wedge Anchor Hiti / Simpson

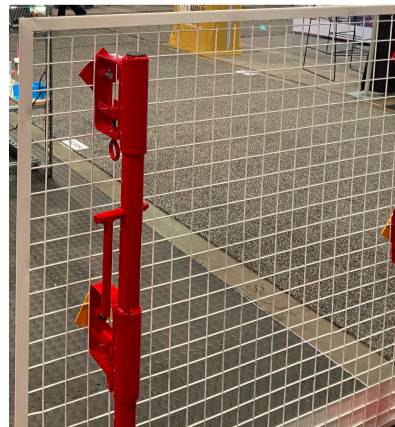


HD Titan Anchor Bolt

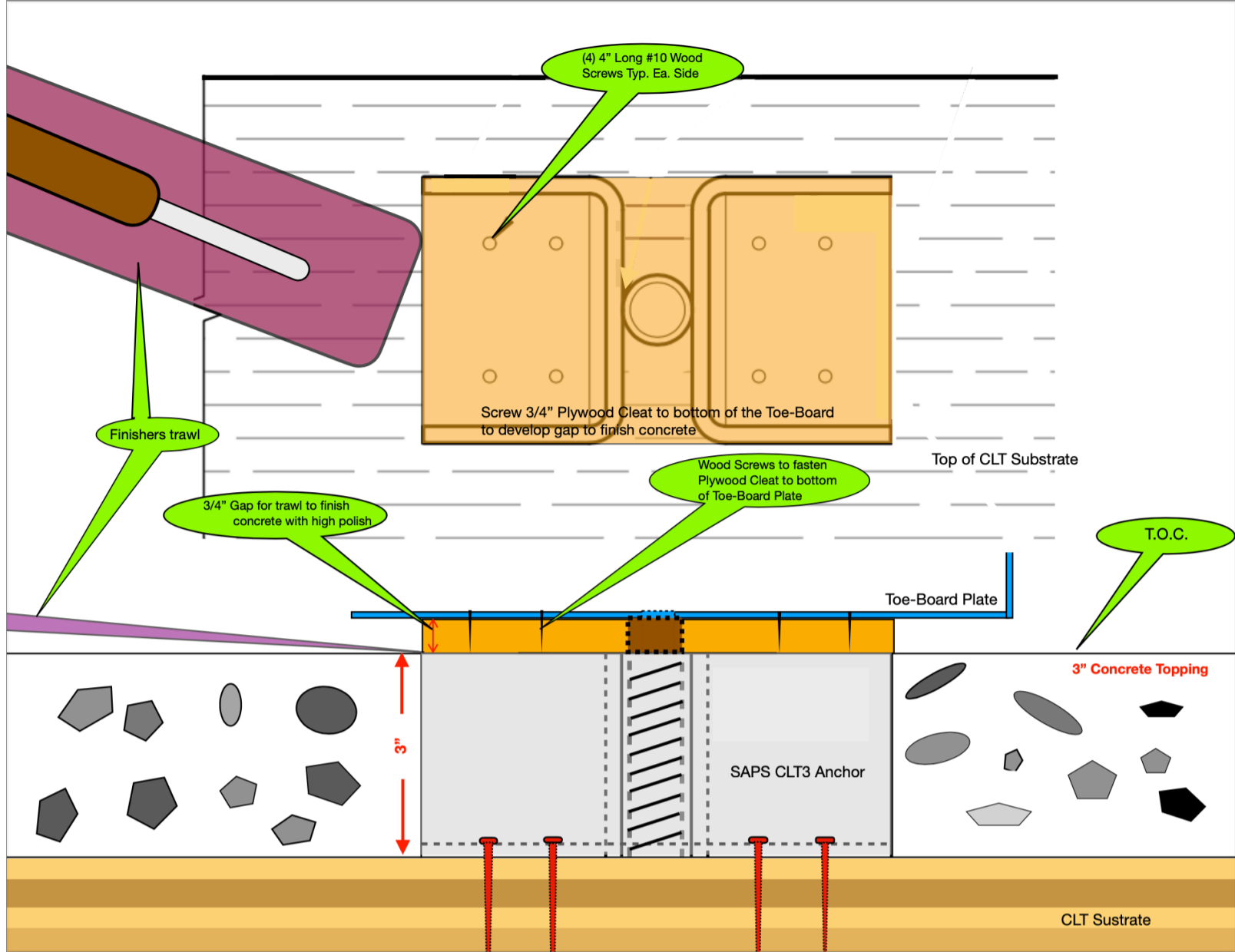
Removable Coil rod



- SAP42DEX The Coil-Rod is removable at center
- Base Plate has (4) 9/16" holes for (4) HD Titan Anchors near the corners
- Toe-Board Plate has total of (5) 7/8" holes to accommodate either combination

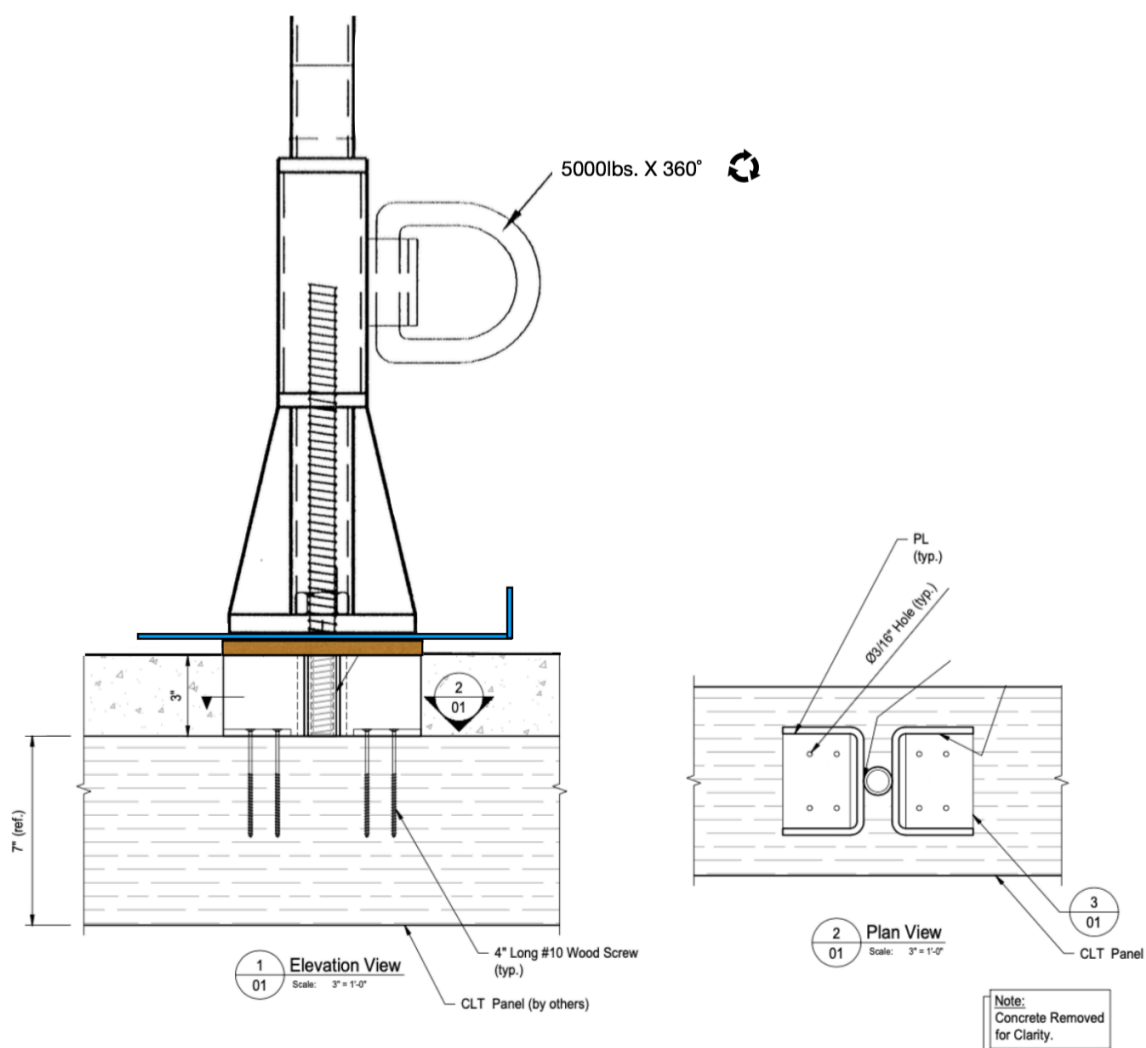


Install w/ Coil-rod or Anchor Bolt



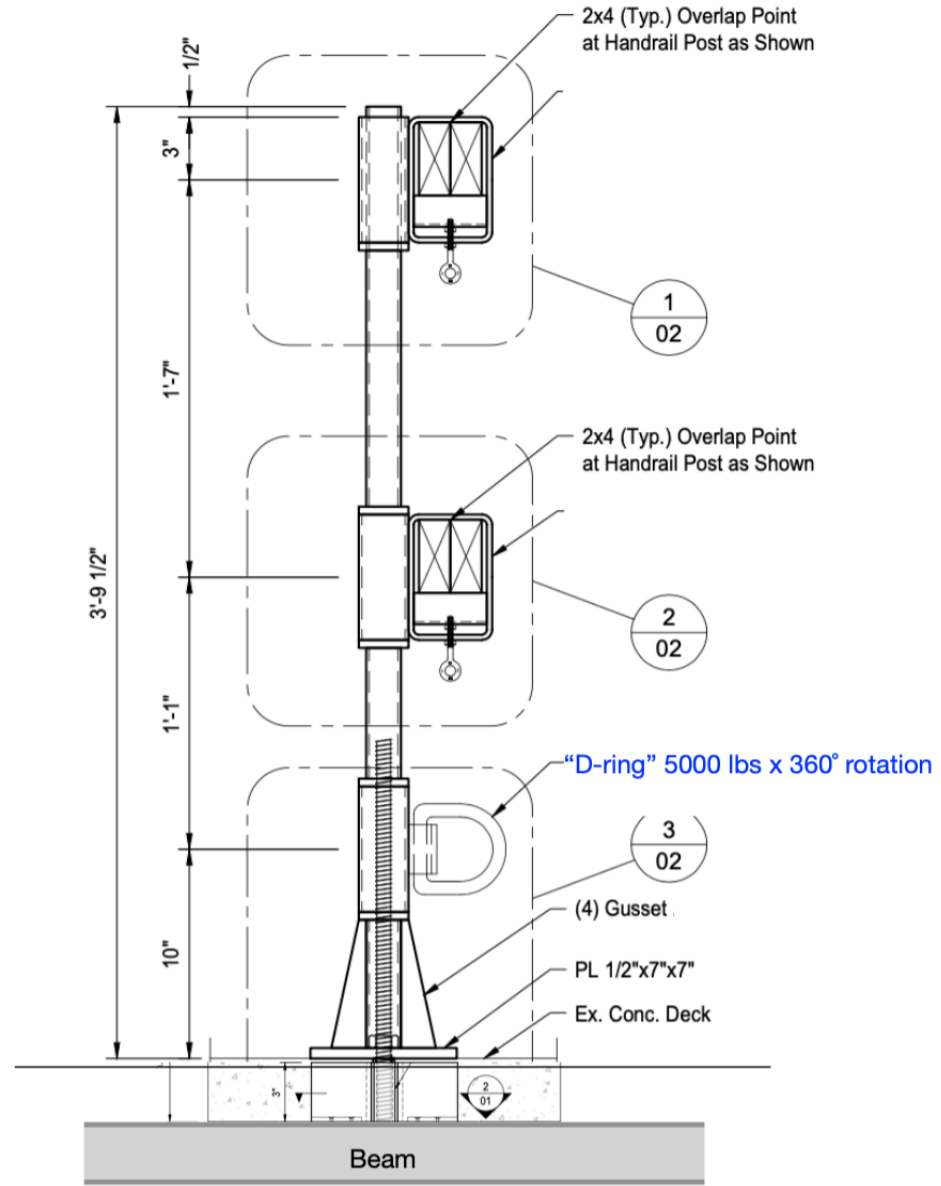
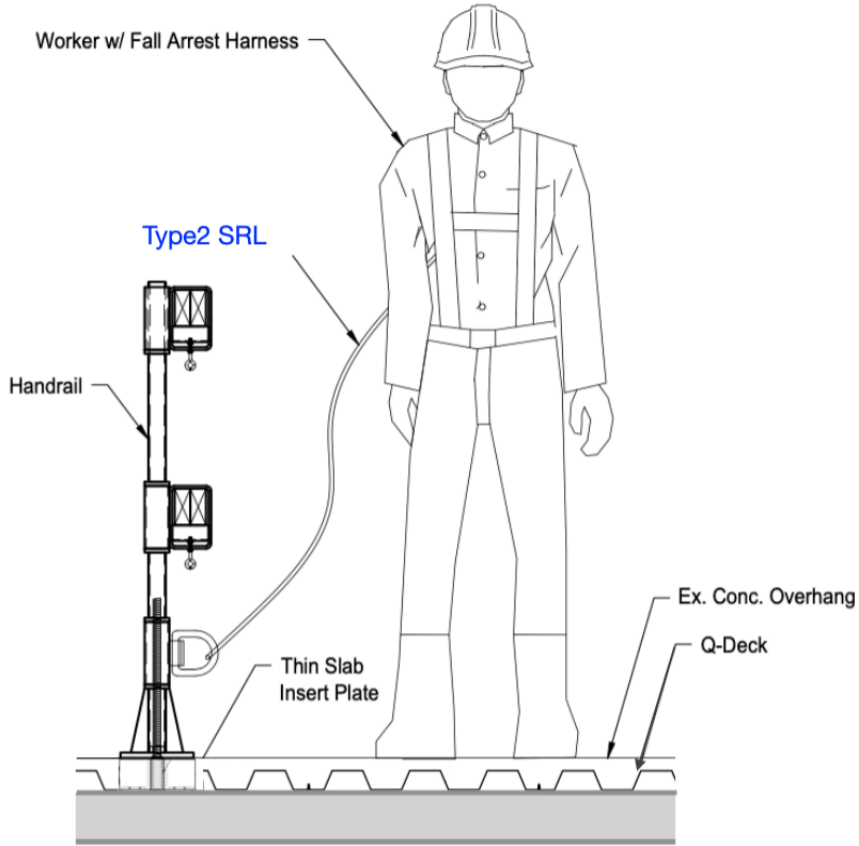
SAPS CLT3 Anchors: Engineered for CLT Panels with Thin Polished Concrete Slab and Inbound Guardrail

- Fire Topping Utilizes (8) standard 3-inch wood screws
- Cross-Laminated Timber Construction 3-Inch Fire Stop Concrete



SAP42DM 100% REUSABLE UNLIKE ANGLE IRON STANCHIONS ONE-LIFE CYCLE

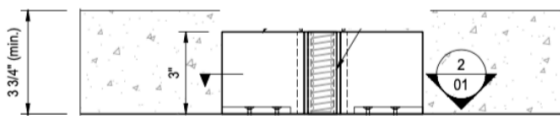
- Meets:
- * ANSI Z359.18-2017 Safety requirements for anchorage connectors for active fall protection systems
 - * ANSI Z359.14-2021 Tie-off above and below the Dorsal D-ring Type2 SRL
 - * 29 CFR 1926.502 OSHA Fall Protection Systems



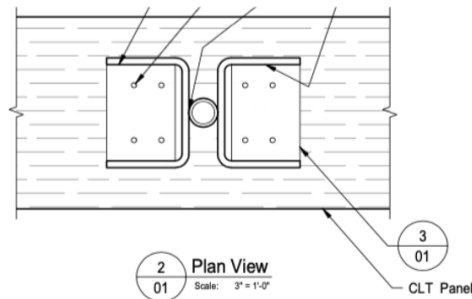
CLT5 anchor welds onto Structural Beam

CLT5 Anchor

S.A.F.E. - Secure Anchor For Everyone

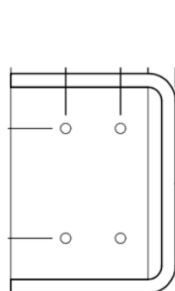


CLT3 Anchor welds to Beam, nail holes only apply to CLT Panels; Anchor size 4" x 7.5" Height TBD by project Min. H is 3"

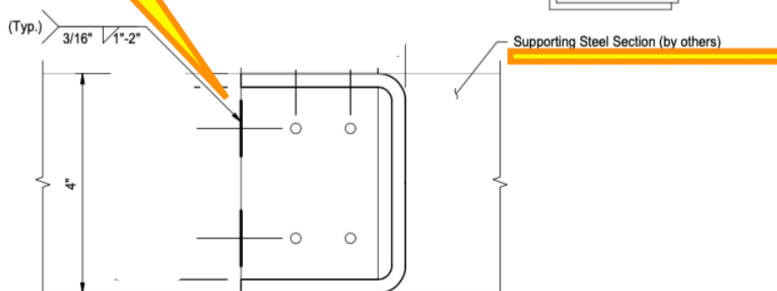


Note: Concrete Removed for Clarity.

(4) total welds Typ, (2) on ea. side



3 Typ. Detail Scale: 6" = 1'-0"



4 Welded Detail Scale: 6" = 1'-0"

Optional: Weld the Outer Edge of the Clip to a Steel Beam with a Minimum Width of 4". (by others)