Building code analysis

IBC 2009

Existing Building Description:
The Lower Gondola Terminal is a 60,876 s.f. Structure containing two buildings separated by a two-hour fire separation wall. The North building is 37,554 s.f. With a basement and three floors. The South building is 24,322 s.f. With no basement and three floors. The North building basement is at the same elevation as the South building first floor. Both buildings have been classified as Type 5-B, NFPA 13 fire sprinkled system.

Proposed:
Addition of 380 s.f. uncovered outdoor deck area for climbing wall (provided by owner).
Occupancy group : A-5
TABLE 503, Area unlimited.
TABLE 508.4 No separation requirement.

VICINITY MAP

PROJECT LOCATION

R C R B D

RECORD SET

2305 Mt Werner Cir,
Steamboat Springs, CO 80487

PROJECT TEAM

OWNER:

STEAMBOAT SKI & RESORT CORP. SSRC
2305 MT. WERNER CIRCLE
STEAMBOAT SPRINGS, CO 80487
970 871 5436
MICHAEL GUMBINER

ARCHITECTS/PLANNERS:

ESA ARCHITECTURE -- PLANNING
1919 7TH STREET
BOULDER, CO 80302
303.442-5458

600 S. LINCOLN AVE. #201,
STEAMBOAT SPRINGS CO 80487
970 879 5458

PROJECT MANAGER:
LEE FISCHER
Lee@esapc.com

STRUCTURAL ENGINEER:

Alpenglow Engineering Solutions
1901 Pine Grove Road, Suite 202
P.O. Box 773501
Steamboat Springs, Co 80477
(970) 879-1181
BEN SCHUTT
ben@alpengloweng.com

SHEET INDEX

PJ2406-1
Fire Prevention
In: 05/10/2017
Out: 05/12/2017

MAY-05-17

SSRC-GONDOLA CLIMBING WALL

LOWER GONDOLA TERMINAL
STEAMBOAT SPRINGS, COLORADO

ERIC SMITH ASSOCIATES, P.C.
1919 SEVENTH STREET
BOULDER, COLORADO, 80302
(303) 442-5458, (303) 442-4745 FAX

Job Number:	17009
Date:	MAY-05-17
Drawn By:	Author
Checked By:	Checker

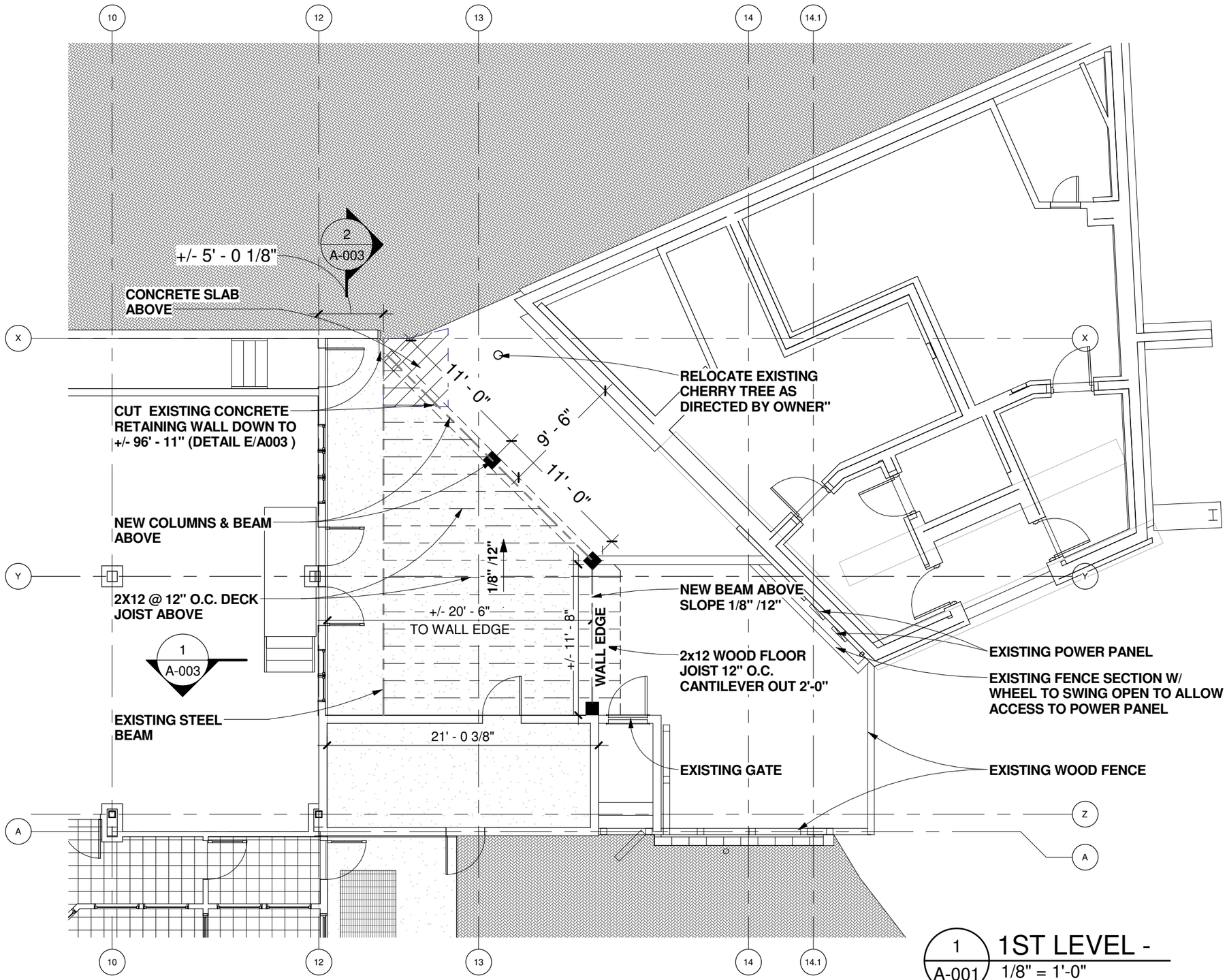
Project Phase
CONSTRUCTION DOCUMENT

Sheet Title
COVER SHEETS

Sheet Number
001

R C R B D

RECORD SET



1 / A-001 **1ST LEVEL -** 1/8" = 1'-0"

0' 2' 4' 8' 16'

NOTE: ALL ELEVATIONS & DIMENSIONS ARE APPROXIMATE.

SSRC-GONDOLA CLIMBING WALL

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BOULDER, COLORADO, 80302
(303) 442-5458, (303) 442-4745 FAX

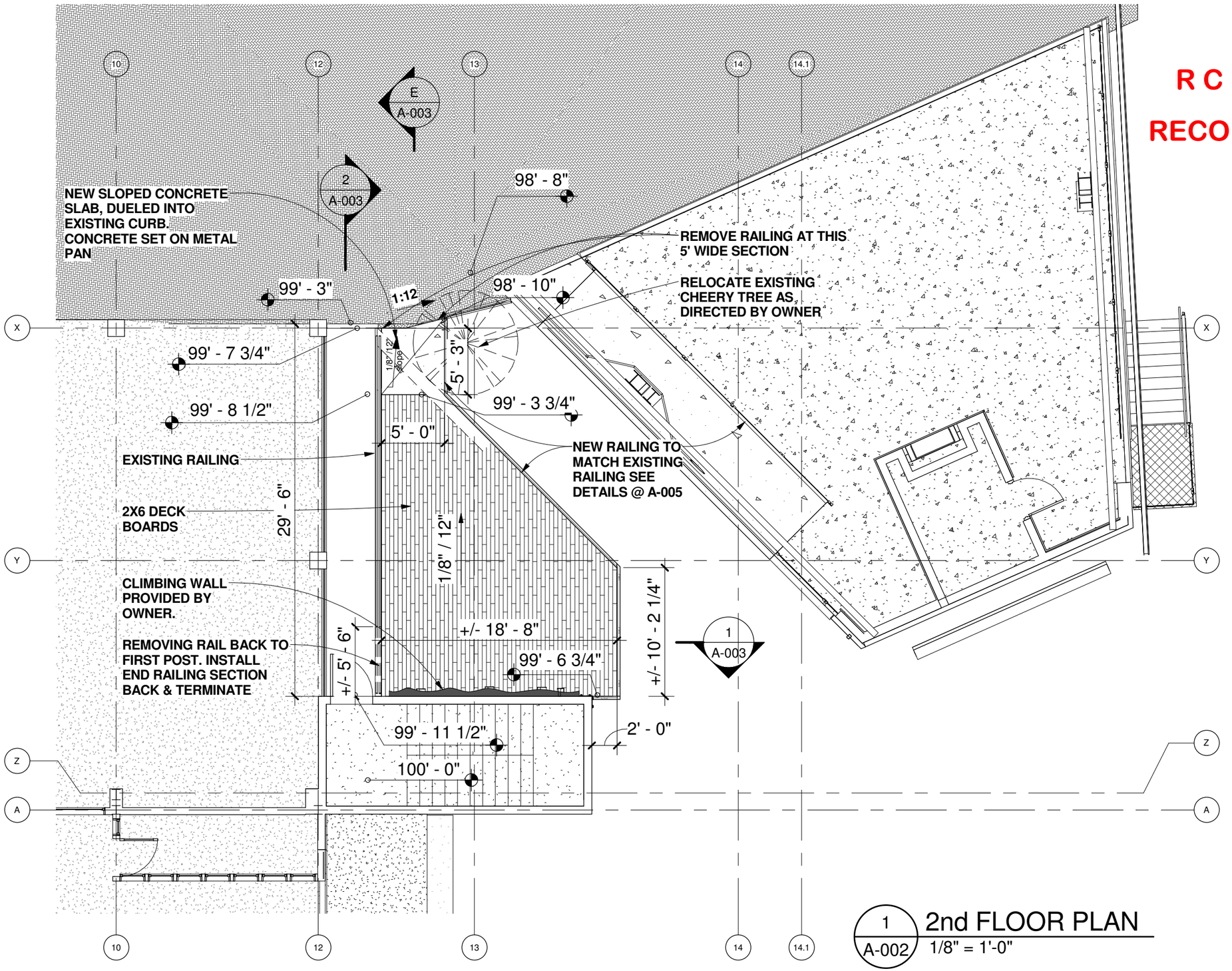
Job Number:	17009
Date:	MAY-05-17
Drawn By:	J.M.
Checked By:	L.F.

Project Phase
CONSTRUCTION DOCUMENT

Sheet Title
1ST LEVEL PLAN

Sheet Number
A-001

MAY-05-17



1 A-002 **2nd FLOOR PLAN**

1/8" = 1'-0"

0' 2' 4' 8' 16'

NOTE: ALL ELEVATIONS & DIMENSIONS ARE APPROXIMATE.

R C R B D

RECORD SET

SSRC-GONDOLA CLIMBING WALL

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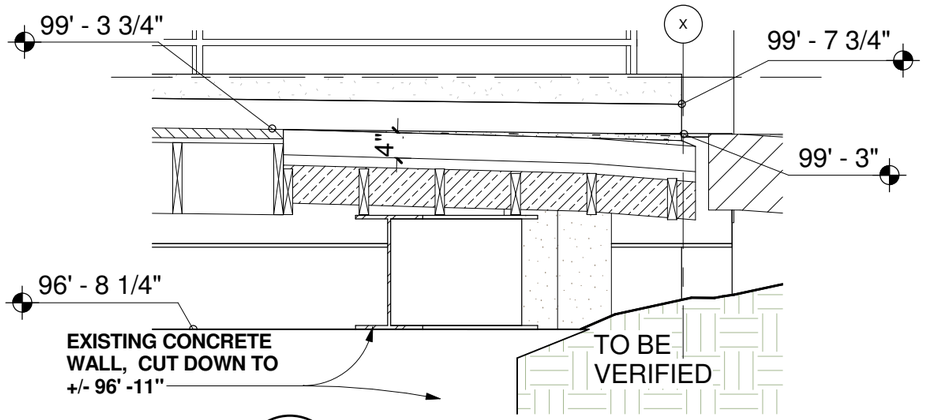
Date:	MAY-05-17
Drawn By:	J.M.
Checked By:	L.F.

Project Phase
CONSTRUCTION DOCUMENT

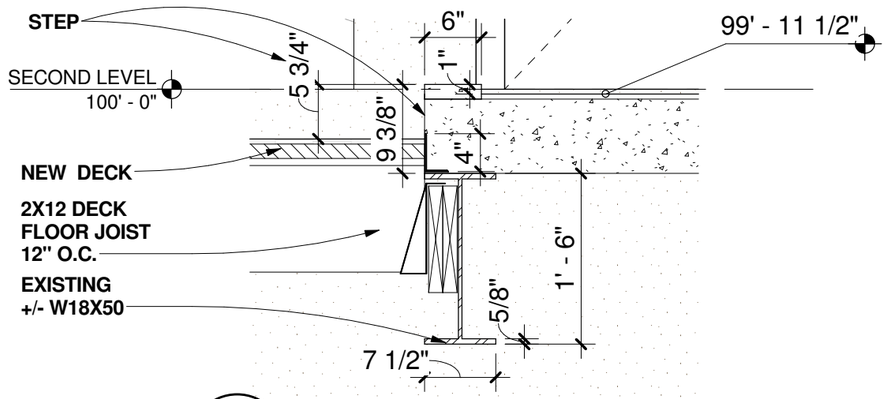
Sheet Title
2ND LEVEL PLAN

Sheet Number
A-002

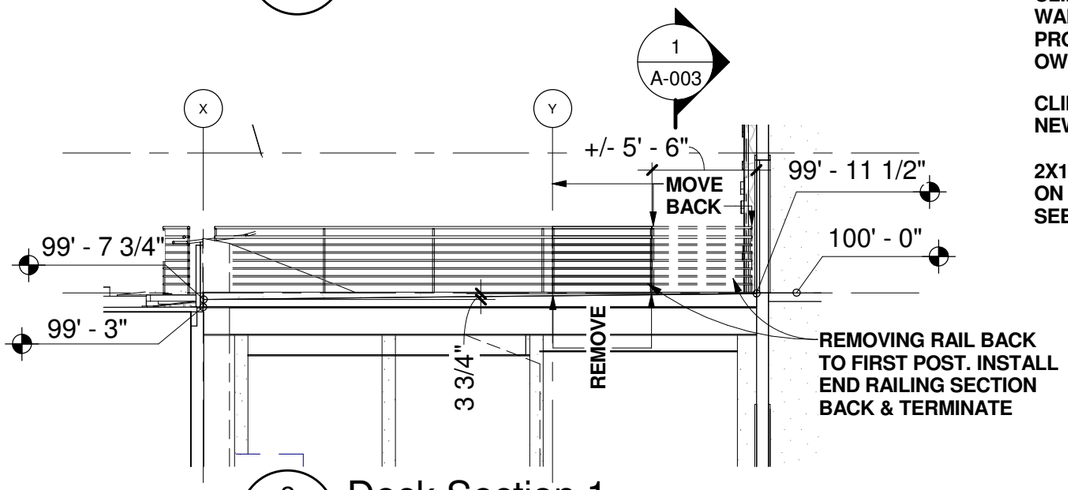
MAY-05-17



E / A-003 **Deck DETAIL E**
1/2" = 1'-0"



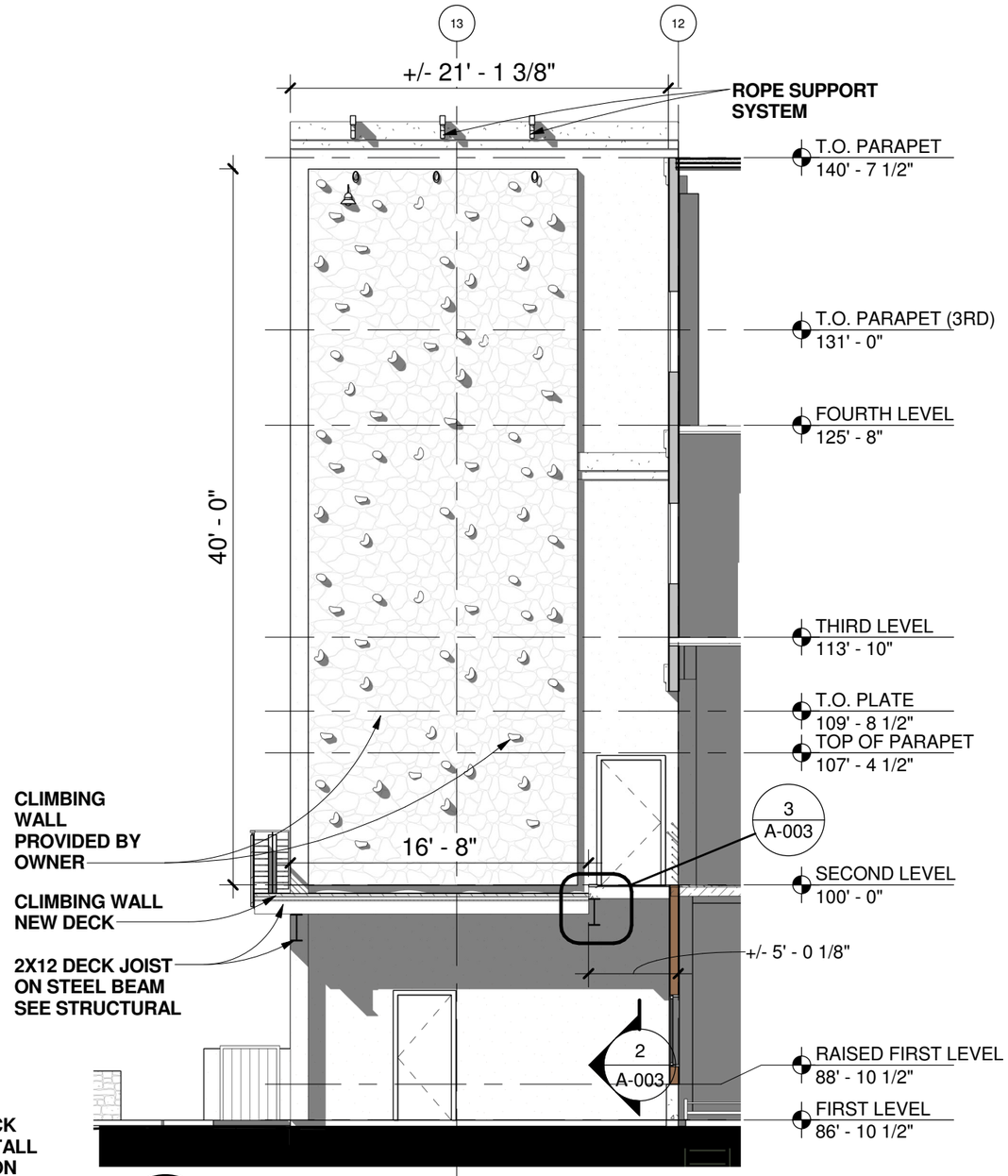
3 / A-003 **CLIMBING WALL BEAM**
3/4" = 1'-0"



2 / A-003 **Deck Section 1**
1/8" = 1'-0"

R C R B D

RECORD SET



1 / A-003 **CLIMBING WALL ELEVATION**
1/8" = 1'-0"

NOTE: ALL ELEVATIONS & DIMENSIONS ARE APPROXIMATE.

0' 2' 4' 8' 16'

MAY-05-17

SSRC-GONDOLA CLIMBING WALL

LOWER GONDOLA TERMINAL
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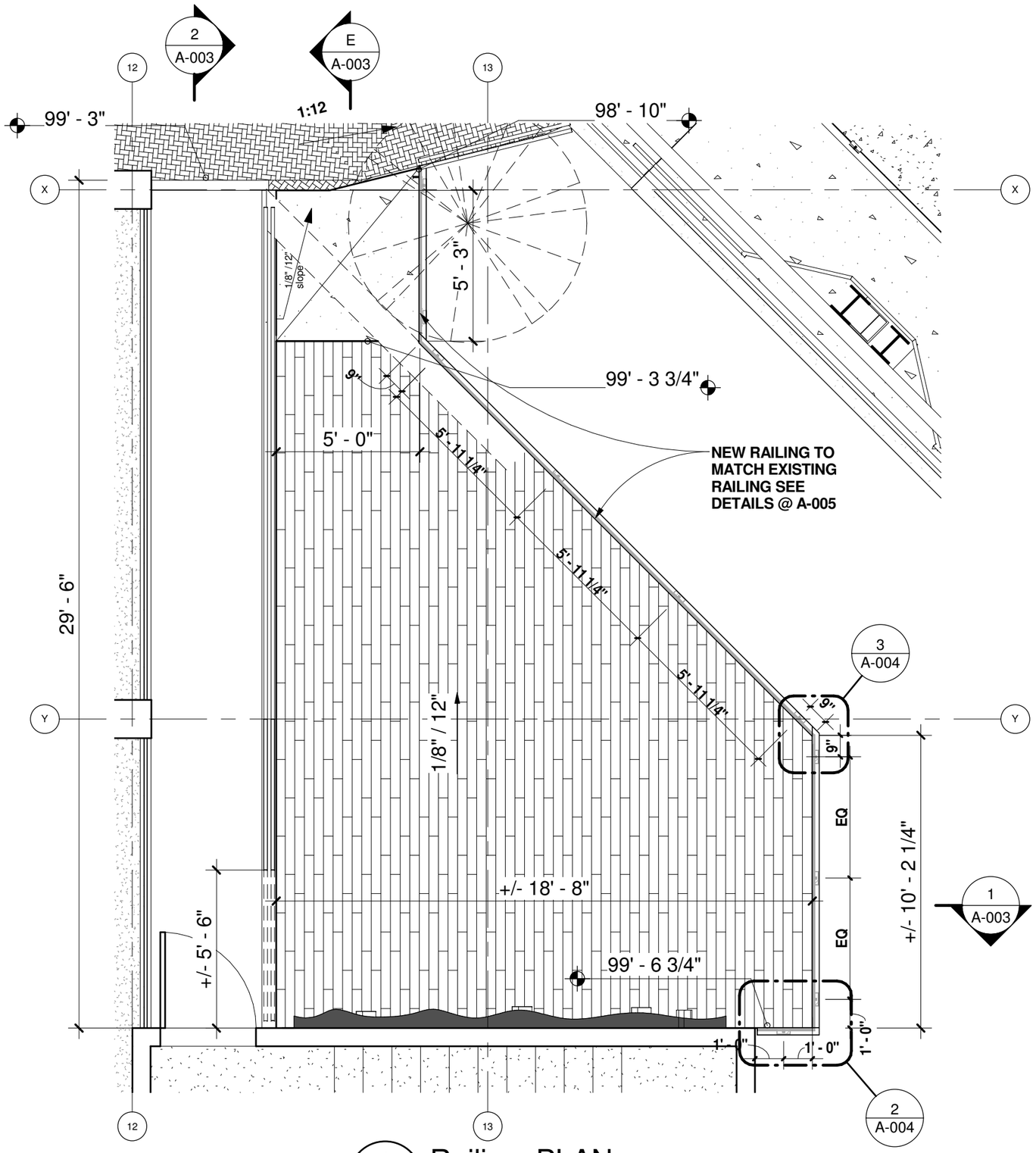
Project Phase
CONSTRUCTION DOCUMENT

Sheet Title
ELEVATION & SECTION

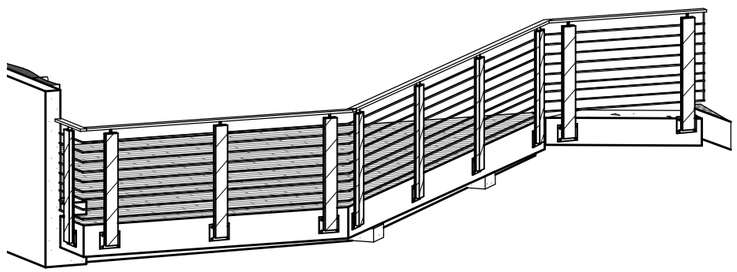
Sheet Number
A-003

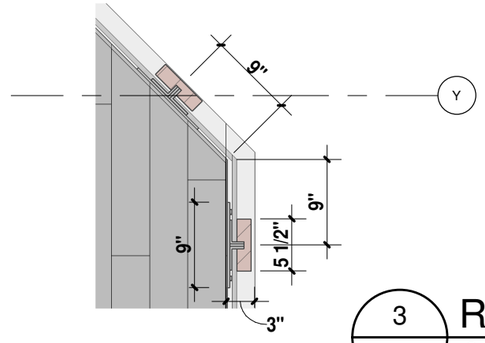


1 A-004 **Railing PLAN**
1/4" = 1'-0"

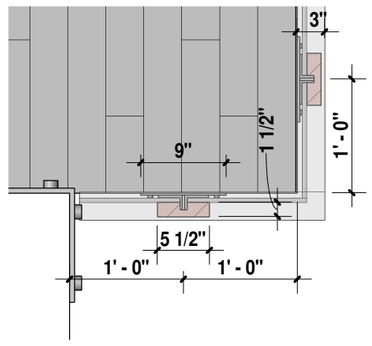
R C R B D

RECORD SET





3 A-004 **Railing - Callout 2**
3/4" = 1'-0"



2 A-004 **Railing - Callout 1**
3/4" = 1'-0"

MAY-05-17

SSRC-GONDOLA CLIMBING WALL

LOWER GONDOLA TERMINAL
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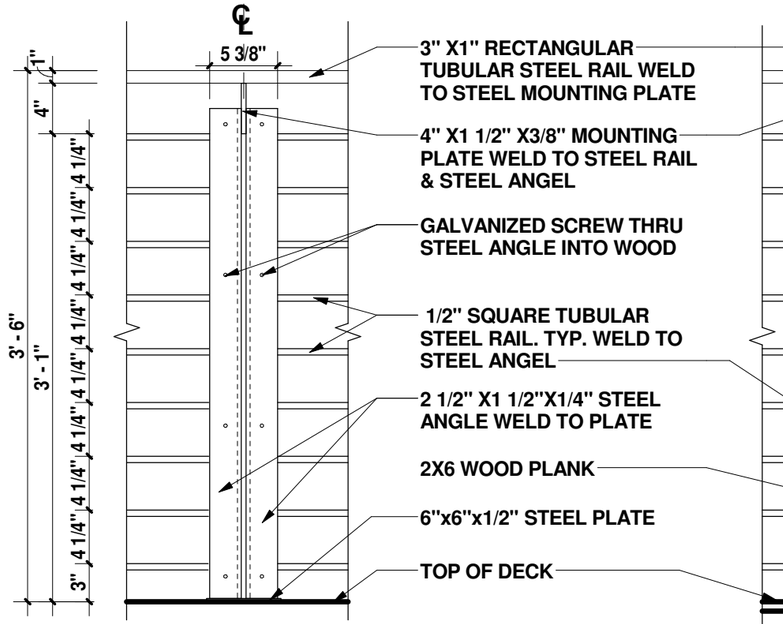
Job Number:	17009
Date:	MAY-05-17
Drawn By:	J.M.
Checked By:	L.F.

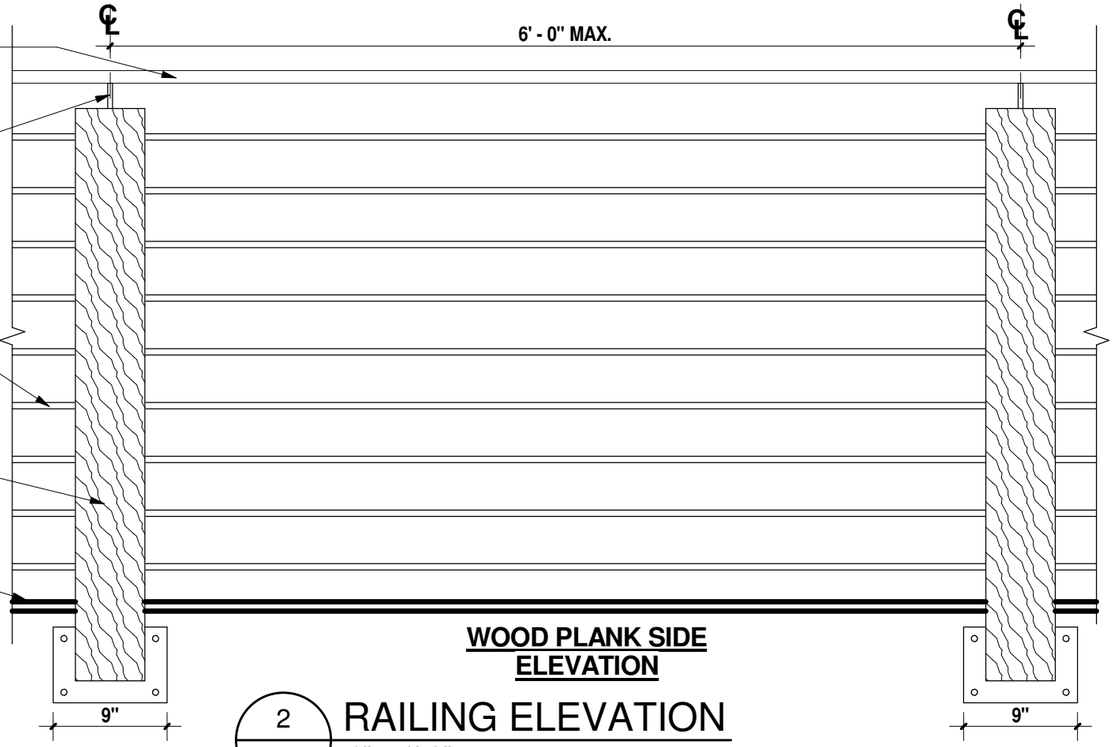
Project Phase
CONSTRUCTION DOCUMENT

Sheet Title
RAILING PLAN

Sheet Number
A-004

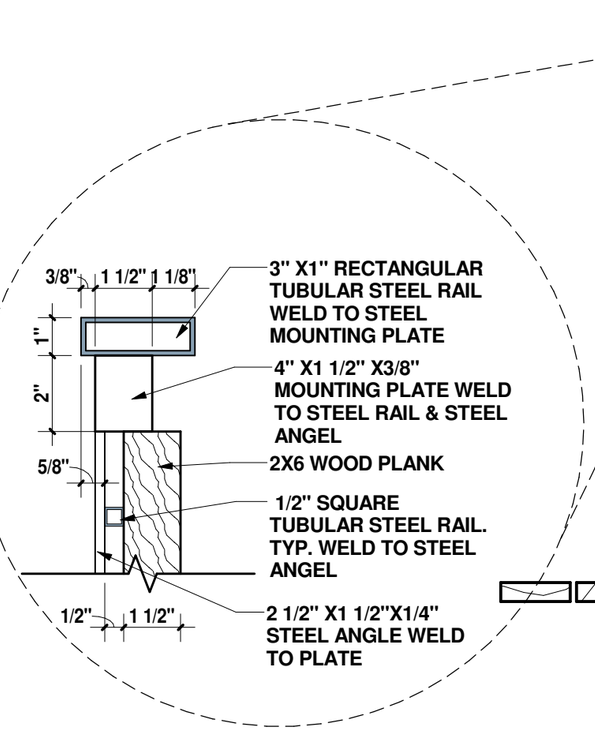


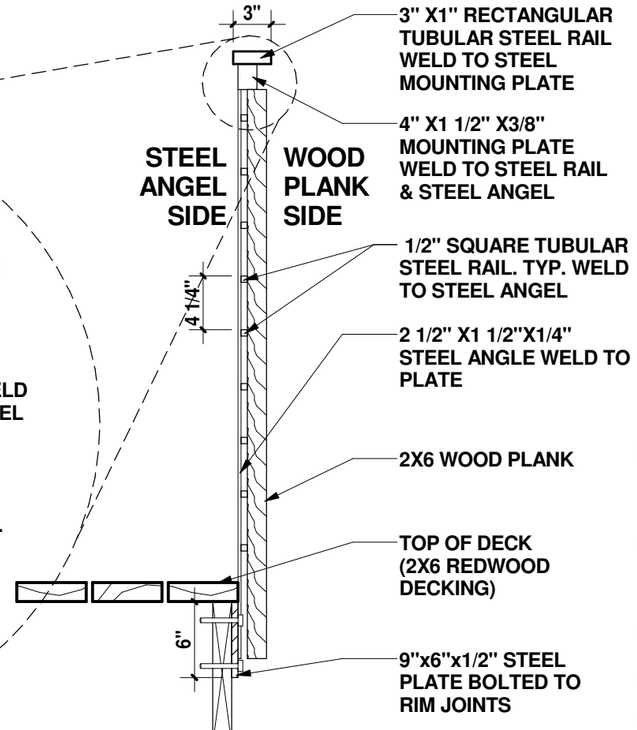
STEEL ANGEL SIDE ELEVATION



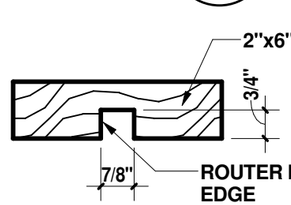
WOOD PLANK SIDE ELEVATION

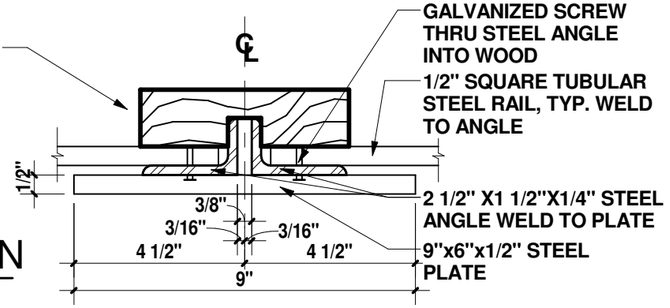
2 / A-005 RAILING ELEVATION
1" = 1'-0"





3 / A-005 RAILING SECTION
1" = 1'-0"





1 / A-005 RAILING PLAN
3" = 1'-0"

NOTES:

1. REFERENCE SPECIFICATIONS FOR METAL TYPE & FINISH.
2. CONTRACTOR SHALL PROVIDE SHOP DRAWING OF RAILING & WELDS FOR APPROVAL BY OWNER'S REP. PRIOR TO CONSTRUCTION. DESIGN OF CONNECTIONS & WELDS BY FABRICATOR, UNLESS OTHERWISE NOTED.
3. DRAWING TO REFLECT DESIGN INTENT. CONTRACTOR SHALL DEVELOP PROPOSED FABRICATION UNIT SECTION AND INTERFACING CONNECTION, AND PROVIDE ALL NECESSARY ACCESSORIES, ATTACHMENTS, & WELDS.
4. ALL GUARDRAILS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE CODES AND STANDARDS.
5. CONTRACTOR SHALL GRIND AND SMOOTH EDGES TO MINIMIZE BURRS AND POINT.
6. CONTRACTOR TO COORDINATE WITH OWNERS REP. STEEL PLATE LOCATION PRIOR TO ANY CONCRETE POURING RELEVANT TO GUARDRAIL /HANDRAIL LOCATIONS.
7. GUARDRAIL SHALL BE LEVEL AND PLUMB.

R C R B D

RECORD SET

SSRC-GONDOLA CLIMBING WALL

LOWER GONDOLA TERMINAL
STEAMBOAT SPRINGS, COLORADO

ERIC SMITH ASSOCIATES, P.C.
1919 SEVENTH STREET
BOULDER, COLORADO, 80302
(303) 442-5458, (303) 442-4745 FAX

Job Number:	17009
Date:	MAY-05-17
Drawn By:	J.M.
Checked By:	L.F.

Project Phase
CONSTRUCTION DOCUMENT

Sheet Title
RAILING DETAILS

MAY-05-17

Sheet Number
A-005

GENERAL NOTES

DESIGN LIVE LOADS

a. Deck..... 100 psf
b. Wind..... 90 mph (3 sec gust), Exposure "B"
c. Seismic..... IBC Design Category B

FOUNDATION DESIGN

a. Design of footings is based on a maximum allowable bearing pressure of 2000 psf dead load plus live load placed on the natural undisturbed soils below frost depth.

REINFORCED CONCRETE

a. Structural concrete shall have a minimum 28 day compressive strength of 3000 psi Type I.
b. Reinforcing bars shall conform to ASTM Specification A615-79 and shall be Grade 60.
c. All anchor bolts are to meet ASTM Specification F1554 Grade 36.
d. At splices, lap bars 38 diameters. At corners and intersections, make horizontal bars continuous or provide matching corner bars. Around openings in walls and slabs, provide 2-#5, extending 2'-0" beyond edge of opening.

STRUCTURAL STEEL

a. Structural steel rolled shapes shall conform to ASTM A572, Grade 50. Plates and angles shall conform to ASTM A36. Tube shapes shall conform to ASTM A500 Grade B., 46 ksi yield. Pipe shapes shall conform to ASTM A53, Grade B.
b. All bolts shall conform to ASTM Specification A307.
c. Expansion bolts called for on the drawings shall be "WEG-IT", "RED HEAD", or approved wedge type, with the following minimum embedments: 5/8" diameter bolts - 2 3/4", 1/2" diameter bolts - 2 1/4".
d. All welding shall be done by a certified welder.

STRUCTURAL WOOD FRAMING

a. Except where noted otherwise, all 2" lumber shall be Douglas Fir-Larch S4S No.2 or better, and all solid timber beams and posts shall be Douglas Fir-Larch No. 1. Grade shall be as approved by TPI in accordance with ASTM D-3957-84.
b. Except as noted otherwise, minimum nailing shall be provided as specified in Table 2304.9.1 "Fastening Schedule" of the I.B.C., 2009 edition.
c. Where light gage framing anchors are shown or required, they shall be Simpson "Strong Tie" or equal ICBO approved connectors and shall be installed with the number and type of nails recommended by the manufacturer to develop the rated capacity.

EPOXY ADHESIVE ANCHORING SYSTEM

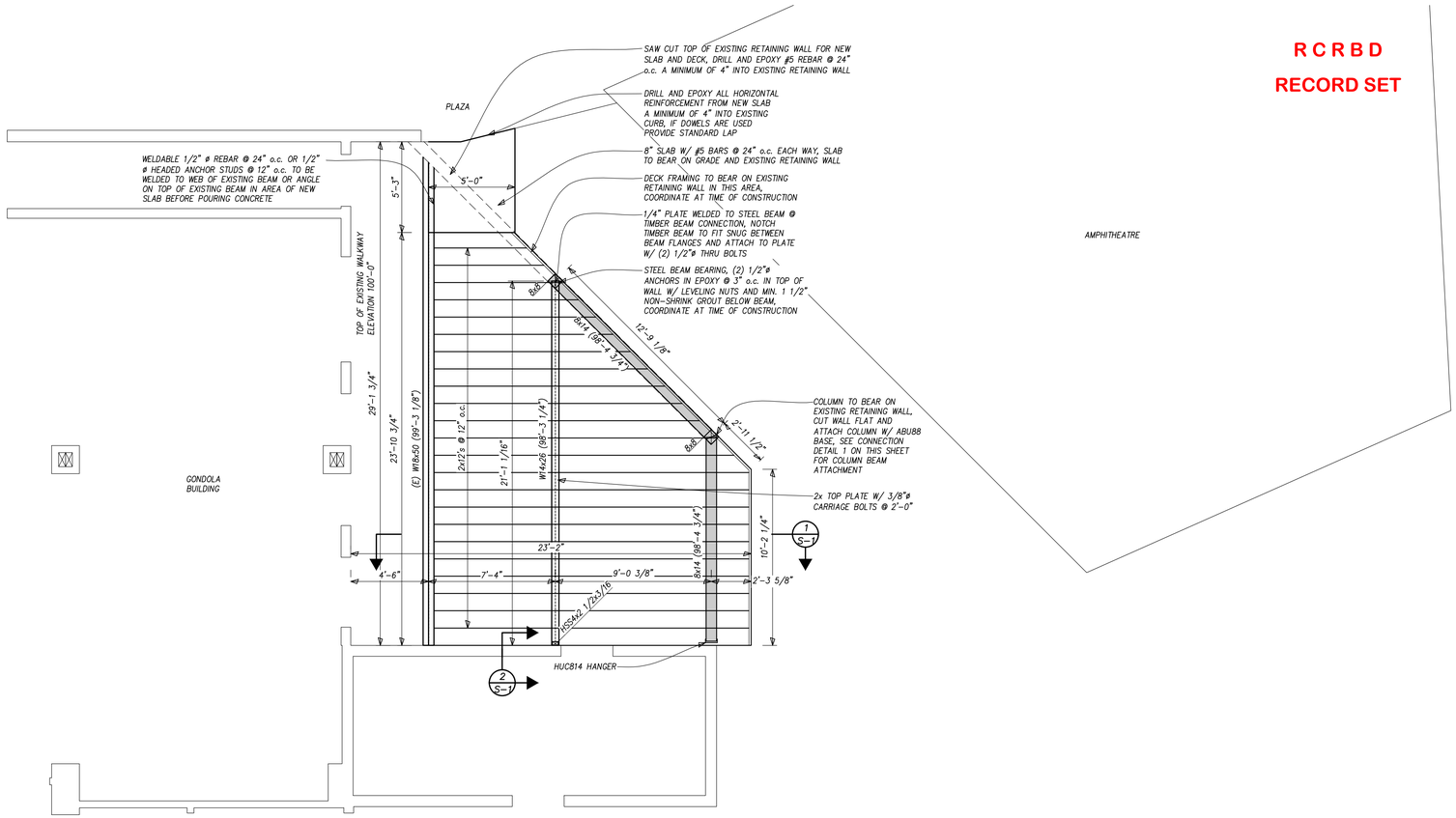
a. Epoxy adhesive anchoring system shall be 1/2"ø HILTI HIT HY 150 MAX anchors w/ HAS threaded rods or approved equal.
b. Anchor rods shall be furnished with chamfered ends so that either end will accept a nut and washer and meet the requirements of ISO 898 Class 5.8.
c. Anchors shall have the following minimum embedments: 3/4"ø - 6 3/4", 5/8"ø - 5 5/8", 1/2"ø - 4 1/2".

STRUCTURAL ERECTION AND BRACING REQUIREMENTS

a. The structural drawings illustrate the completed structure with all elements in their final positions, properly supported and braced.
b. The Contractor, in the proper sequence, shall provide proper shoring and bracing as may be required during construction to achieve the final completed structure.
c. The Contractor shall submit a shoring plan for approval prior to construction and all shoring shall be inspected and approved by Engineer prior to demolition.

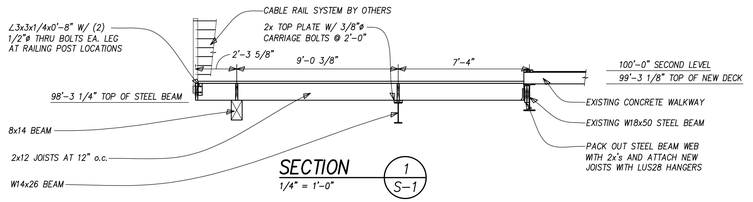
MASONRY

a. Hollow load-bearing concrete masonry shall be normal weight units conforming to ASTM C90, Grade N. Minimum ultimate compressive strength (fm) = 1900 psi.
b. Mortar shall be Type S consisting of a mixture of portland cement, hydrated lime and aggregate conforming to the proportion specifications of IBC Table 2103.7(1) or the property specifications of IBC Table 2103.7(2) and conforming to ASTM C270. Masonry cement shall not be used. Admixtures shall not be added for any reason unless approved by the Architect. Minimum 28-day cube strength = 1800 psi.
c. Grout used in masonry walls and block cells shall be coarse grout conforming to proportion specifications of IBC Table 2103.10 or as defined by ATSM C476. Grout shall be placed by vibrating or puddling, if grout lifts exceed 4'-0" in height clean-out holes shall be provided in each grouted cell. Minimum cube strength = 2000 psi.
d. Use continuous joint reinforcing in all masonry walls with a maximum vertical spacing of 16".
e. Except for lintels, band beam units shall be produced from standard vertically voided units with pre-cut knock-out cross walls.
f. Reinforcing shall be grade 60. Stagger splices in the same block course by 4'-0" minimum and lap bars in all splices a minimum of 48 diameters. At corners and intersections, make horizontal bars continuous or provide matching corner bars. Provide dowels from the foundation to match size and location of all vertical reinforcing in walls.
g. Special Inspection is required for all structural masonry construction.

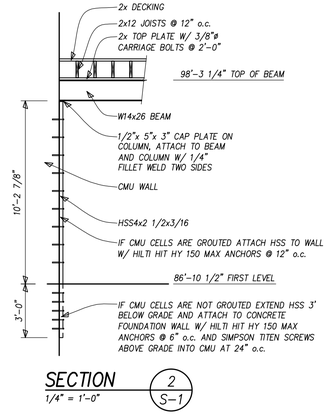


RCRBD

RECORD SET



SECTION 1 S-1
1/4" = 1'-0"



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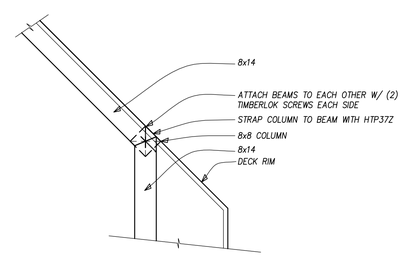

CONNECTION DETAIL 1
1/2" = 1'-0"

ALPENGLOW
ENGINEERING SOLUTIONS, INC.
Consulting Structural Engineers
1901 Pine Grove Rd. Suite 202, P.O. Box 773501
Steamboat Springs, CO 80477
970.879.1181 alpengloweng.com

DATE	REVISIONS

DATE	5/5/17
PROJECT	#17-023
DRAWN	DPJ
CHECKED	BFS
FILE	SSRC Condola Plaza Climbing Wall.dwg
SCALE	1/4" = 1'-0"

ESA

NEW DECK FRAMING PLAN
STEAMBOAT SKI RESORT GONDOLA CLIMBING WALL
2305 MT. WERNER CIR.
STEAMBOAT SPRINGS, COLORADO 80487

SHEET
S-1
1 OF 1