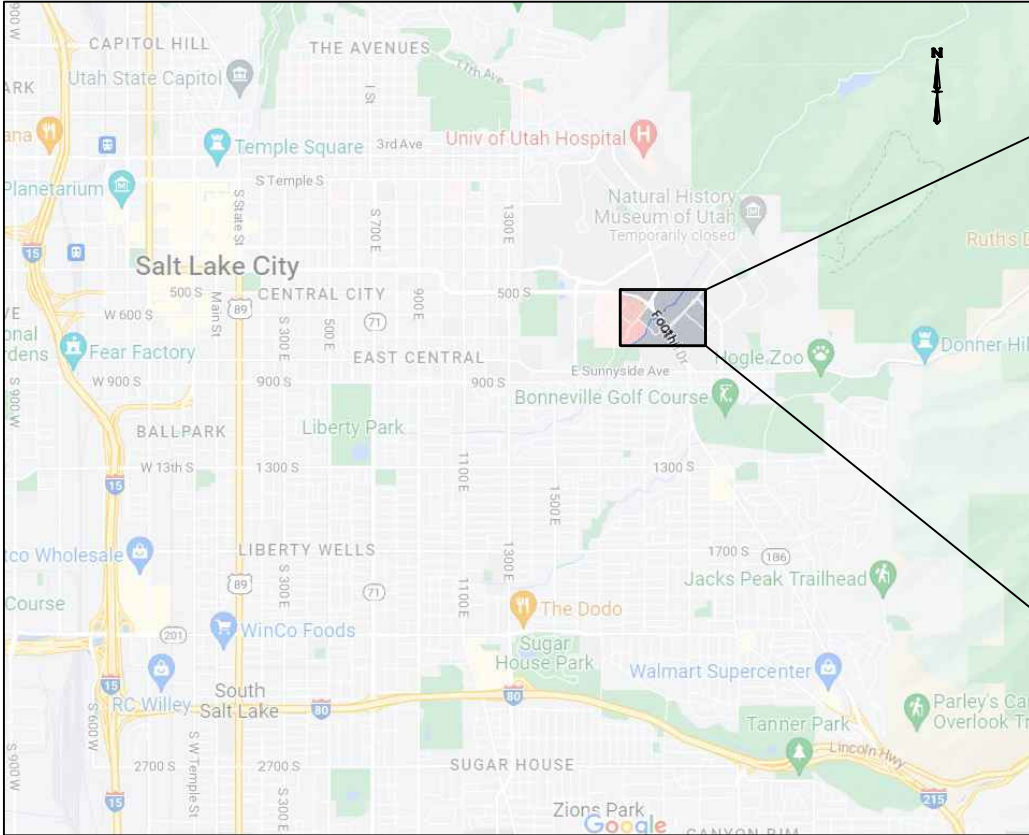


RED BUTTE CREEK PEDESTRIAN OVERPASS

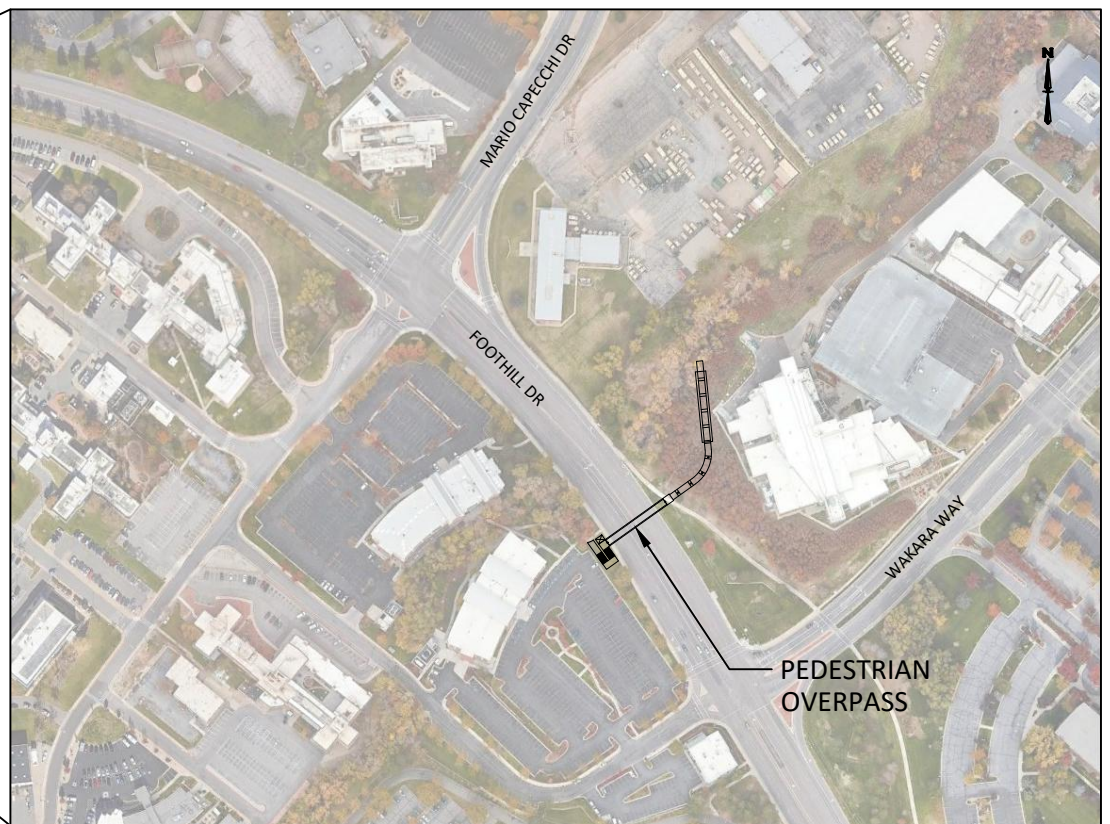
PRELIMINARY DESIGN PROJECT NUMBER: 4910.23.1.4

FOOTHILL DRIVE BETWEEN MARIO CAPECCHI AND WAKARA WAY
SALT LAKE CITY, UT

VICINITY MAP



LOCATION MAP



SHEET INDEX	
SHEET NUMBER	DESCRIPTION
C101	COVER SHEET
A101	PLAN VIEW, PARCEL INFO, DEVELOPED ELEVATION
A102	UTILITY AND LANDSCAPE DETAILS
S101	ELEVATION AND PLAN VIEWS
S102	STRUCTURE AND FOUNDATION DETAILS
S103	LOAD SCHEDULE AND SOIL BORING LOG

Disclaimer:
The study described herein is associated with the courses CvEEN 4900 and 4910 Professional Practice & Design conducted at the University of Utah, 2022-23. As such, it is intended for academic use only. Engineering opinions and descriptions provided are likewise only for academic use.



JOHN AND MARCIA PRICE
COLLEGE OF ENGINEERING
THE UNIVERSITY OF UTAH

Notes:

NOTES



Client
Salt Lake City

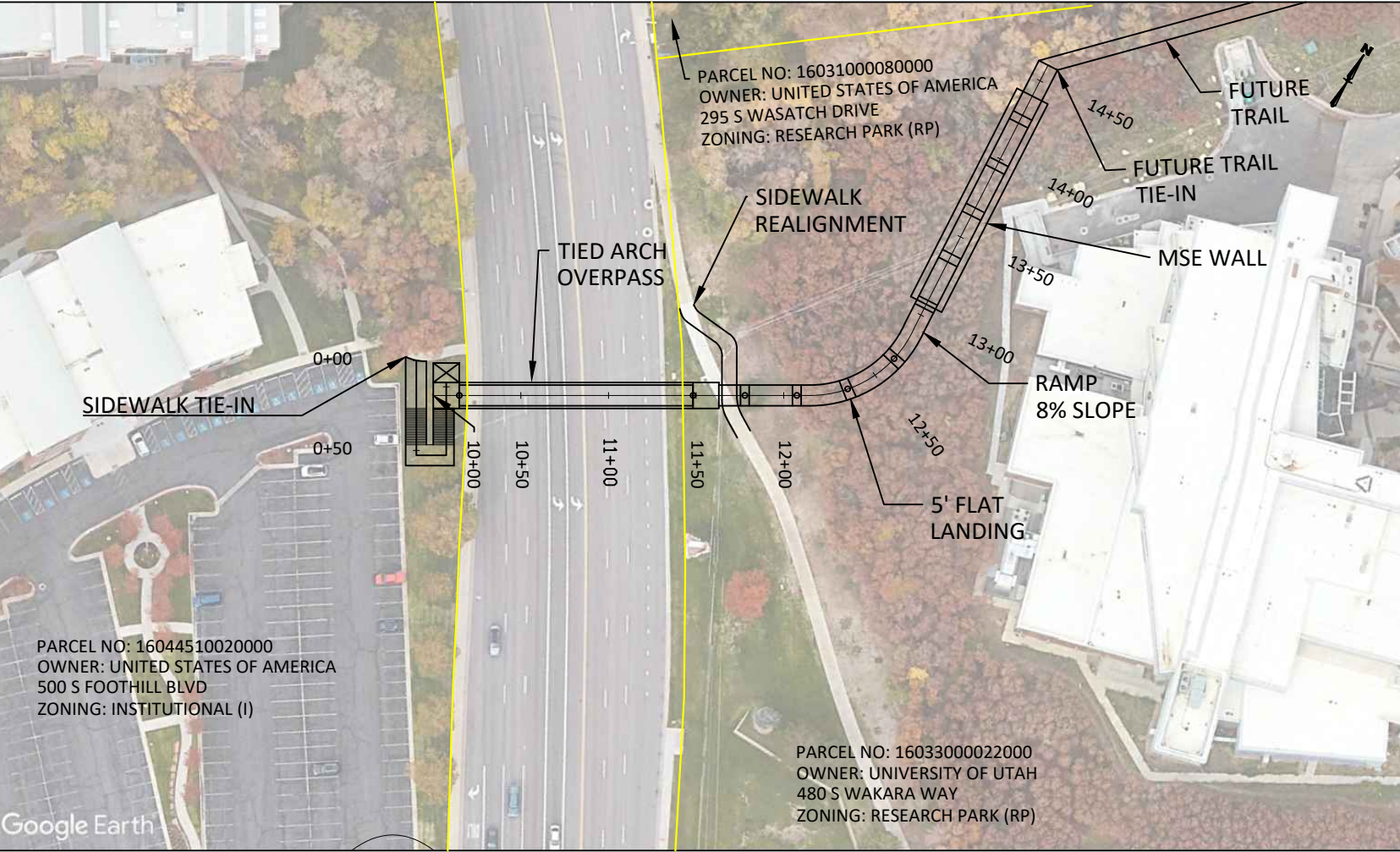
Project Name
Red Butte Creek

Site
4910.23.1.4

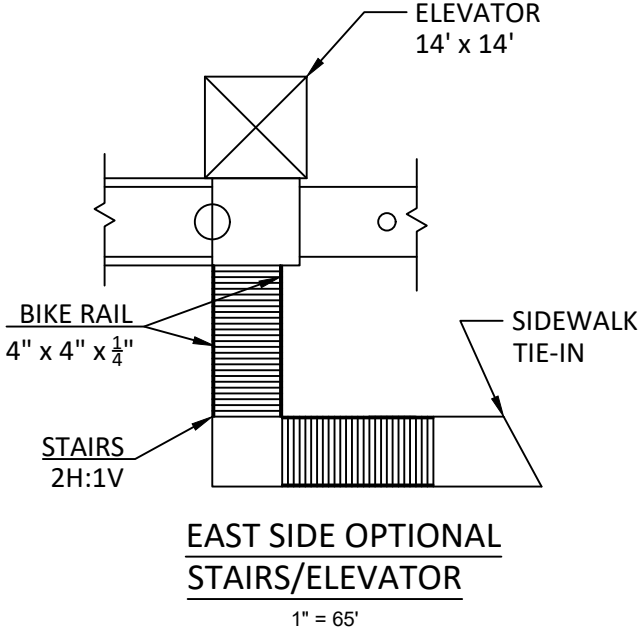
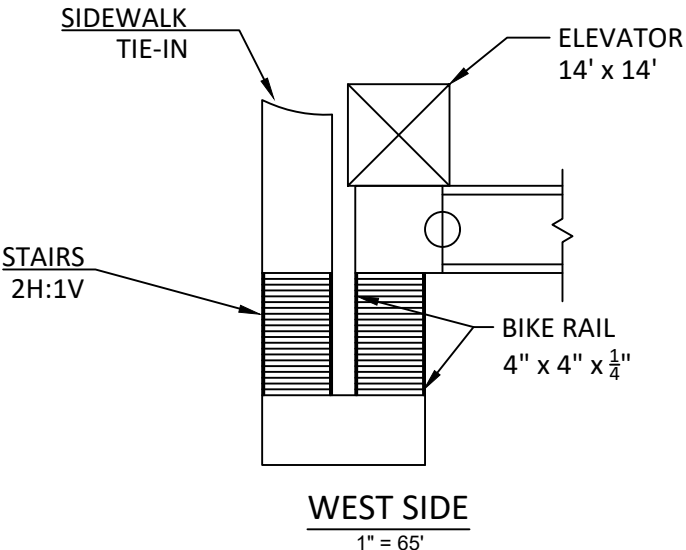
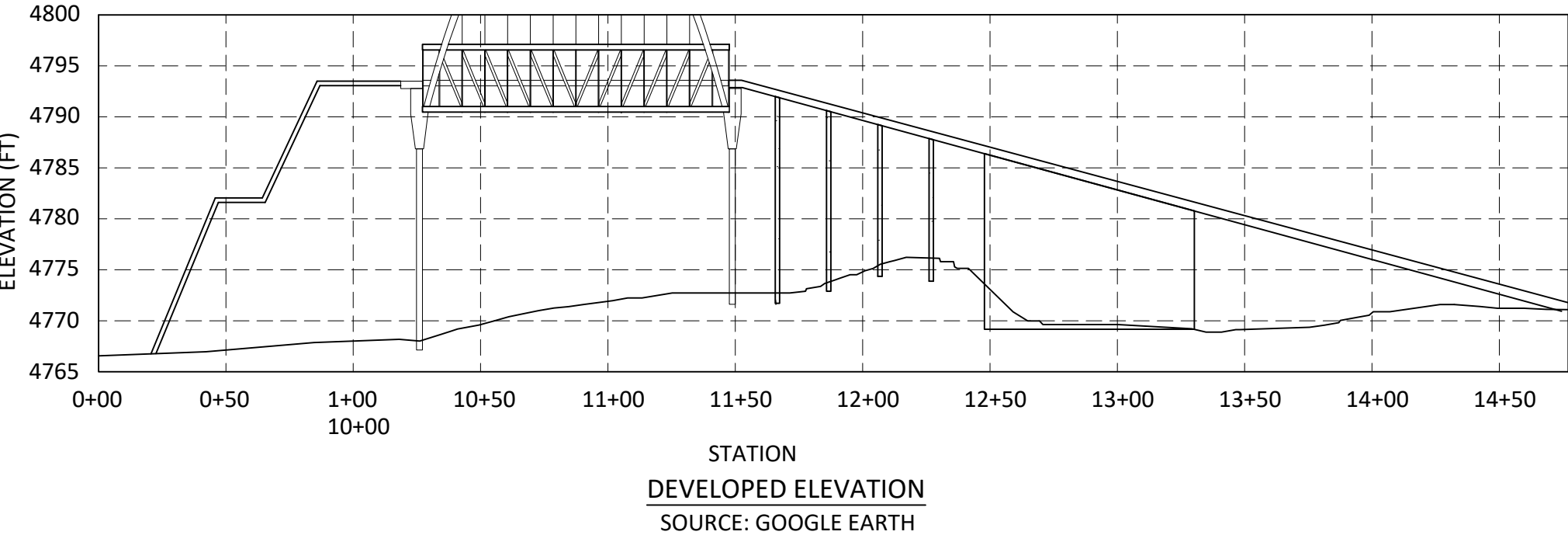
Drawn By
Justin Wilstead

Scale	Date	Revision
Varies	3/30/23	A

Project No. 4910.23.1.4
Drawing No. C101



STRUCTURE AREA: 2120 SQ FT
MSE FILL SUPPORTED AREA: 2340 SQ FT
ELEVATED SLAB AREA: 1200 SQ FT
WEST STAIR AREA: 1116 SQ FT





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THE UNIVERSITY OF UTAH

Notes:

NOTES



Client

Salt Lake City

Project Name

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Site

4910.23.1.4

Drawn By

Justin Wilstead

Scale	Date	Revision
Varies	3/30/23	A

Project No.

4910.23.1.4

Drawing No.

A101



FOR ACADEMIC USE ONLY




SCALE: 1" : 70'

- TREE REMOVAL AREA
- EXISTING/PROPOSED UTILITY POLE
- EXISTING/PROPOSED SEWER LINE
- NO DISTURBANCE AREA
0-25 feet from AHWL (Annual High Water Line)
Permit required for stairs, pathways and low impact stream crossings.
- STRUCTURE LIMIT AREA
25-50 feet from AHWL
No permit required for stairs and elevation related pathways. Permit required to replace existing structures.
- BUFFER TRANSITION AREA
50-100 feet from AHWL
All construction allowed except leach fields, retention ponds, detention basins and commercial parking lots.

Notes:

NOTES




Student Engineer

IszaBella Kemp

u1155304

3/27/2023



University of Utah

Client
Salt Lake City

Project Name
Red Butte Creek

Site
4910.23.1.4

Drawn By
IszaBella Kemp

Scale	Date	Revision
Varies	3/27/23	A

Project No.
4910.23.1.4

Drawing No.

A102

Notes:

NOTES



Client
Salt Lake City

Project Name
Red Butte Creek

Site
4910.23.1.4

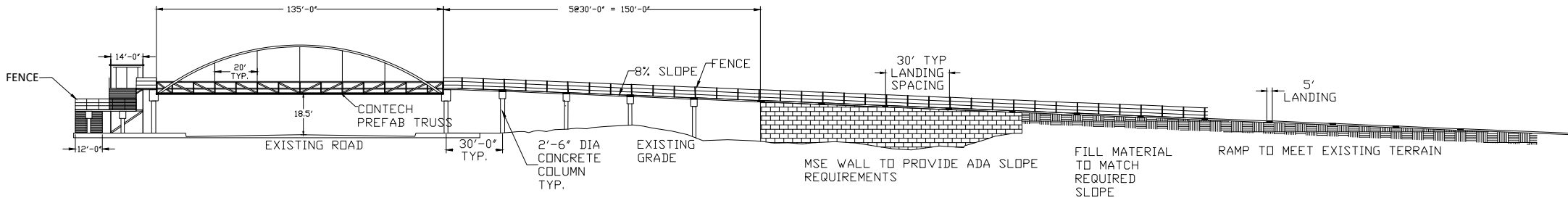
Drawn By
BRADEN MILES

Scale	Date	Revision
Varies	3/30/23	A

Project No.
4910.23.1.4

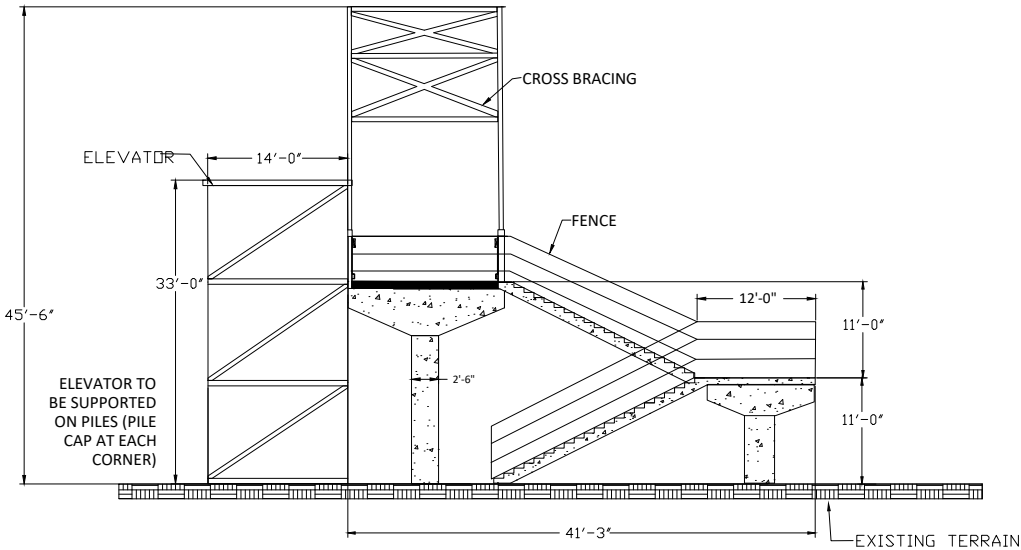
Drawing No.

S101



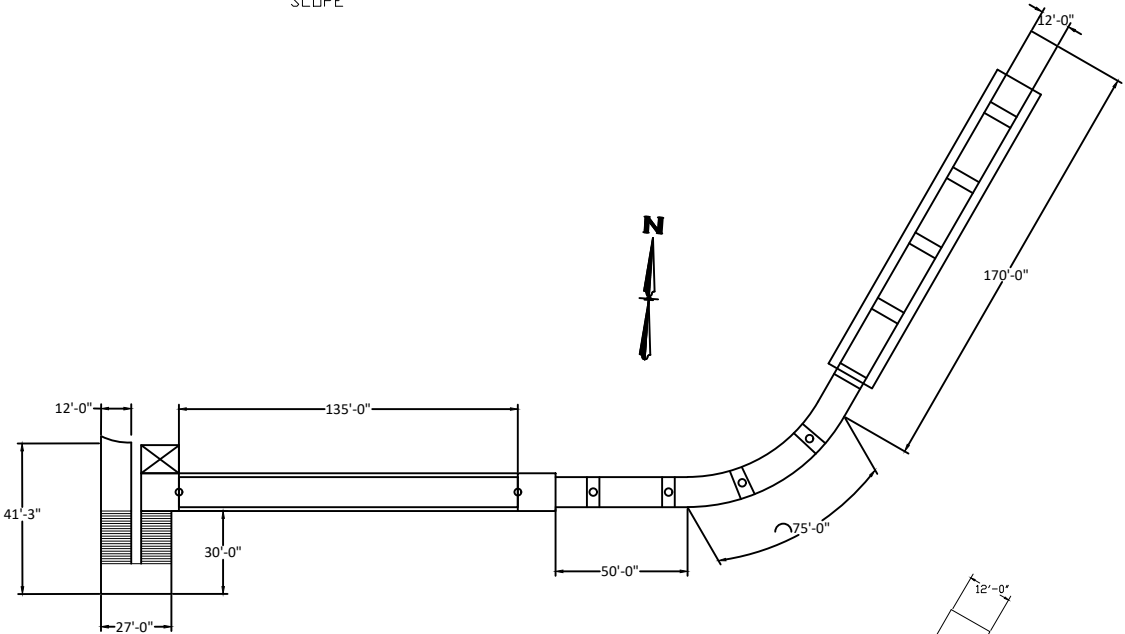
DEVELOPED ELEVATION VIEW

SCALE 1" = 65.5'



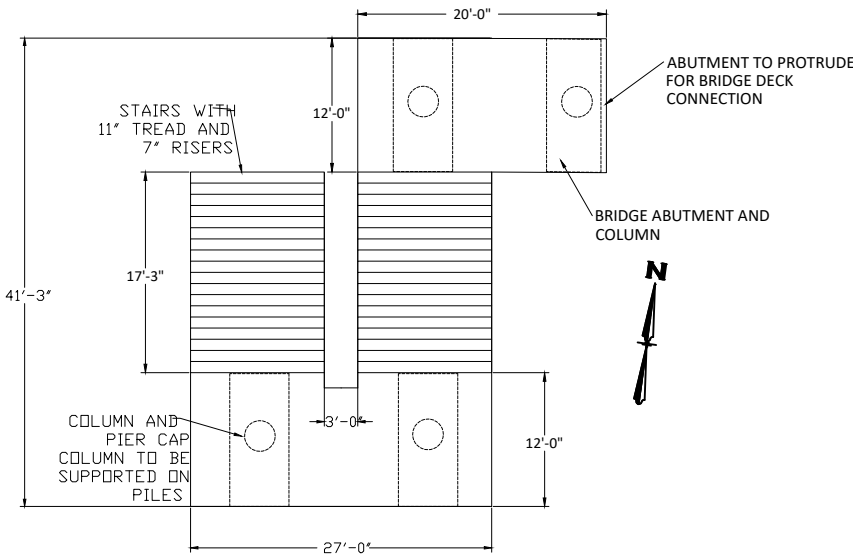
ELEVATION VIEW OF WEST STAIRS

SCALE 1" = 17.5'



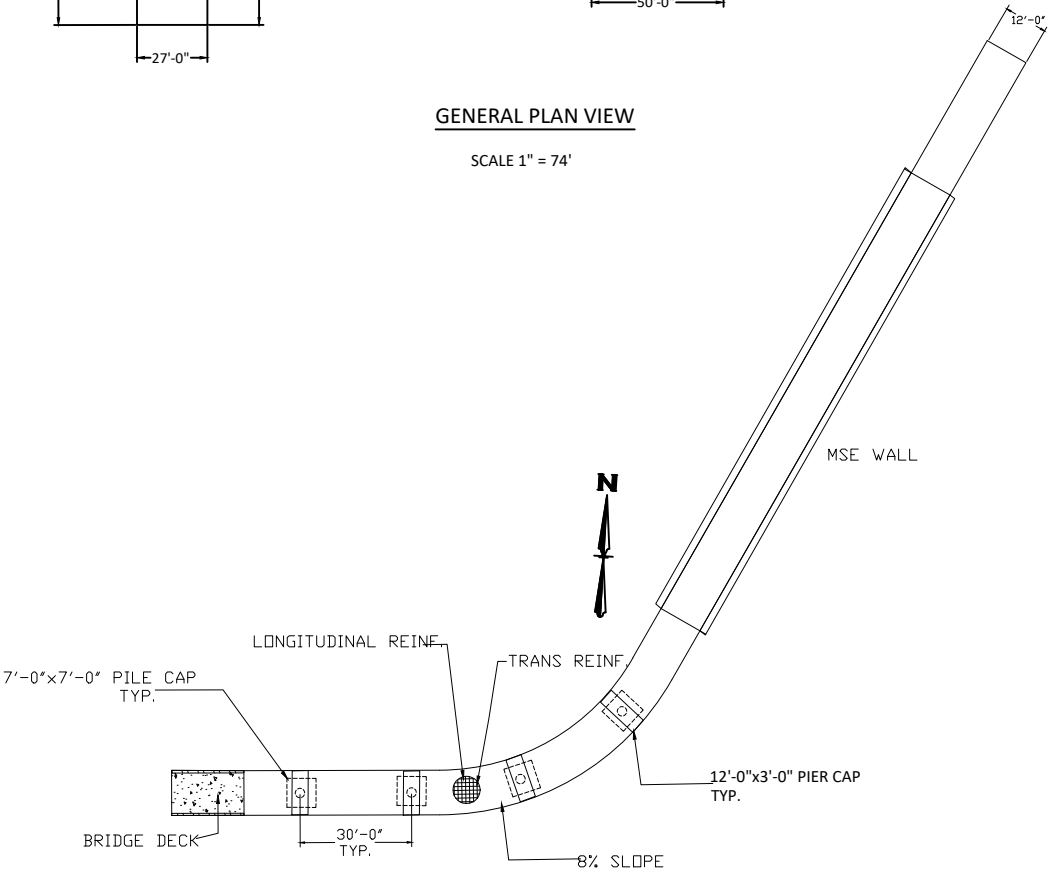
GENERAL PLAN VIEW

SCALE 1" = 74'



PLAN VIEW OF WEST STAIRS

SCALE 1" = 15'

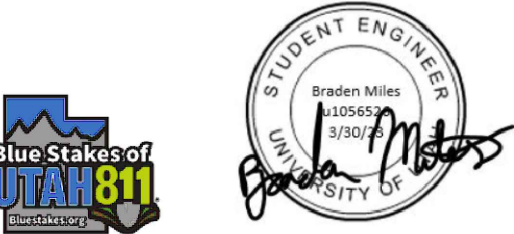


PLAN VIEW OF EAST SIDE RAMP

SCALE 1" = 51'

Notes:

NOTES



Client
Salt Lake City

Project Name
Red Butte Creek

Site
4910.23.1.4

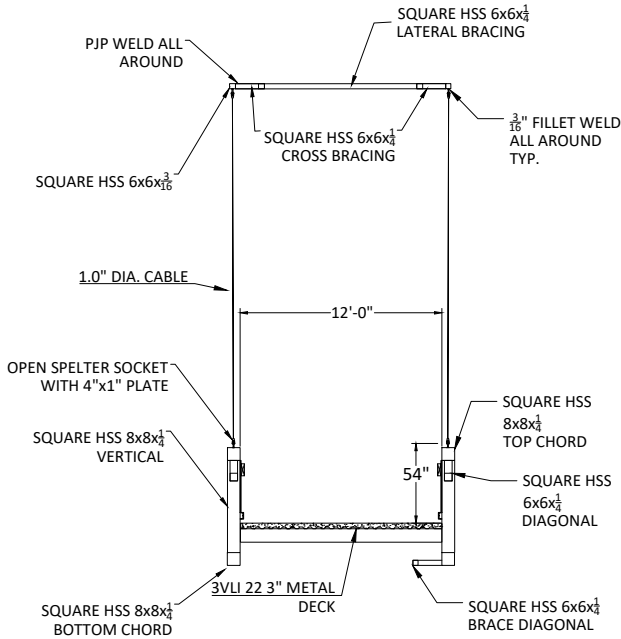
Drawn By
BRADEN MILES

Scale	Date	Revision
1"=11.5'	3/30/23	A

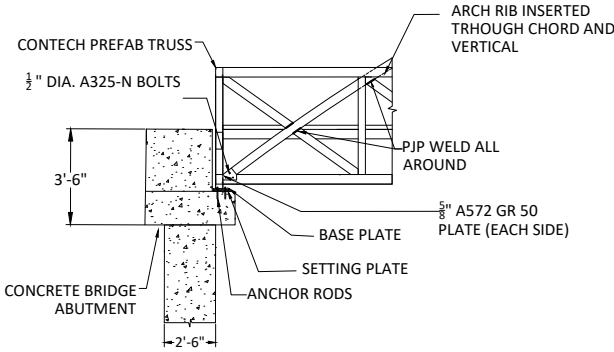
Project No.
4910.23.1.4

Drawing No.
S102

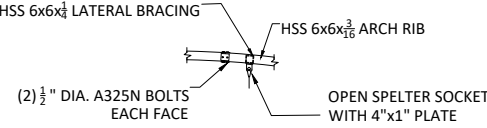
FOR ACADEMIC USE ONLY



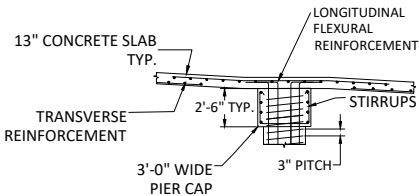
STRUCTURE CROSS-SECTION



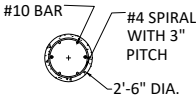
ARCH RIB TO TIE CONNECTION



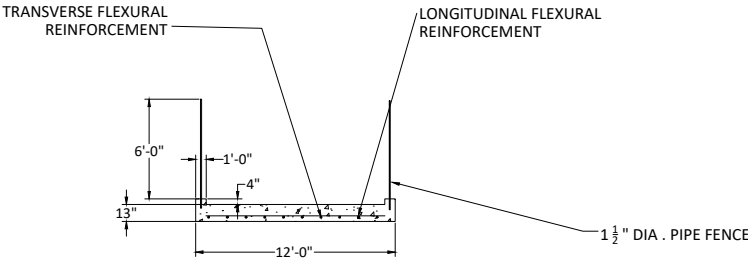
TYPICAL ARCH RIB SPLICE



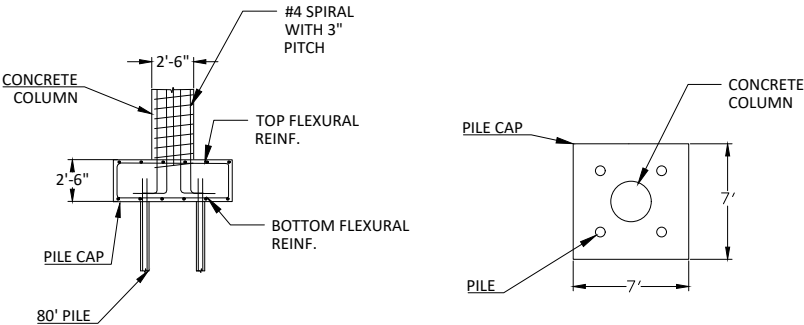
TYPICAL COLUMN TO SLAB CONNECTION
LONGITUDINAL SECTION



TYPICAL COLUMN CROSS-SECTION



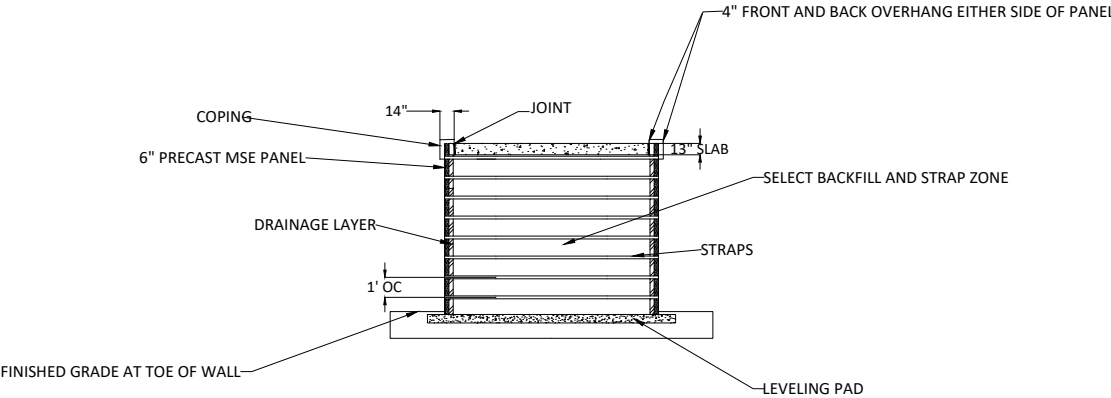
TYPICAL RAMP CROSS-SECTION



LONGITUDINAL PROFILE SECTION

PLAN VIEW

TYPICAL PILE FOUNDATION DETAIL



CROSS-SECTION OF MSE WALL

Notes:

NOTES



Client
Salt Lake City

Project Name
Red Butte Creek

Site
4910.23.1.4

Drawn By
BRADEN MILES

Scale	Date	Revision
N/A	3/30/23	A

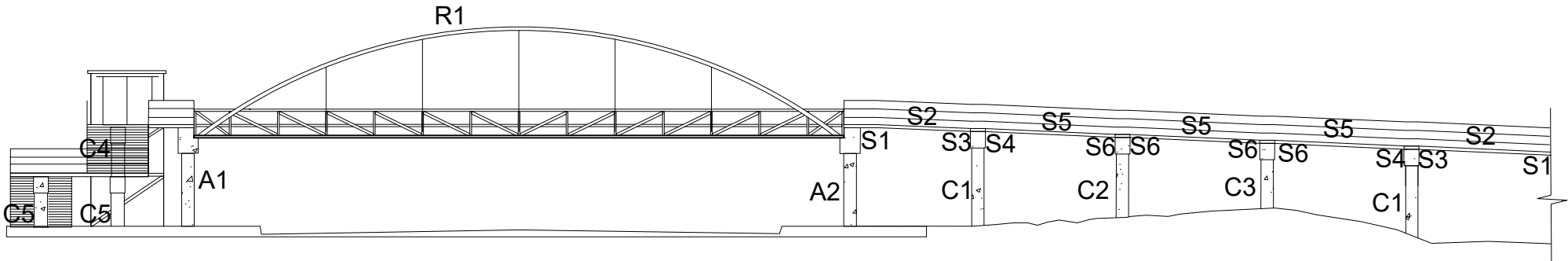
Project No. 4910.23.1.4
Drawing No. S103

LOAD SCHEDULE												
	FORCE (k)						MOMENT (k-ft)					
CRITERIA	AASHTO LRFD											
LOAD TYPE	DEAD	LIVE	SNOW	WIND	SEISMIC	GOVERNING LOAD	DEAD	LIVE	SNOW	WIND	SEISMIC	GOVERNING LOAD
A1	74.0	93.0	24.7	0.0	-15.0	284.0	73.5	138.0	36.7	2.5	77.5	475.0
A2	83.0	91.0	26.3	0.0	-17.0	307.0	54.6	126.0	33.5	2.5	77.5	425.0
R2	7.1	0.0	0.0	0.0	-1.4	8.6	0.0	0.0	0.0	0.0	0.0	0.0
CRITERIA	ASCE 7-16 LRFD											
LOAD TYPE	DEAD	LIVE	SNOW	WIND	SEISMIC	GOVERNING LOAD	DEAD	LIVE	SNOW	WIND	SEISMIC	GOVERNING LOAD
C1	70.8	36.0	9.6	0.0	-14.5	147.4	0.0	0.0	0.0	2.5	77.5	77.5
C2	67.2	36.0	9.6	0.0	-13.7	143.0	0.0	0.0	0.0	1.4	43.6	43.6
C3	63.7	36.0	9.6	0.0	-13.0	138.8	0.0	0.0	0.0	0.6	19.4	19.4
C4	51.8	22.4	6.0	0.0	-10.6	101.0	80.9	44.6	11.9	2.5	94.0	193.5
C5	52.0	26.6	7.1	0.0	-10.6	108.5	80.9	44.6	11.9	0.8	39.9	174.4

SIGN CONVENTION:
FORCES: DOWNWARD POSITIVE
MOMENTS: MULTIDIRECTIONAL

ACI 318 SECTION 6.5 SLAB LOADS		
MARK	MOMENT (k-ft)	SHEAR (k)
S1	-15.9	4.7
S2	18.1	0.7
S3	-25.4	5.4
S4	-23.1	4.7
S5	15.9	0.5
S6	-23.1	4.7

SIGN CONVENTION:
MOMENTS: CONCAVE UP POSITIVE



STRUCTURE REFERENCE FOR LOADING

BORING LOG DATA								
DEPTH (Ft)	BLOW COUNT (.5 Ft Intervals)	SAMPLE TYPE	MOISTURE	FIRMNESS	PERCENT FINE (%)	PERCENT GRAVEL (%)	PLASTIC	NOTES
0 to 2	6, 17, 20, 30	MC	Moist	Hard/Dense	25	25	Low	Fill
2 to 4	20, 30, 20, 34	MC	Moist	Hard/Dense	25	25	Low	Fill
4 to 6	5, 2, 9, 20	MC	Moist	Hard/Dense	15	15	Low	Fill
6 to 8	8, 12, 16, 22	MC	Moist	Firm	15	10	Low	Fill
8 to 10	12, 15, 22, 34	GC, GM	Dry	Firm	15	65	Low	Native Soil @9 Ft
10 to 12	10, 12, 34, 49	GC, GM	Dry	Firm	15	65	Low	Native Soil