

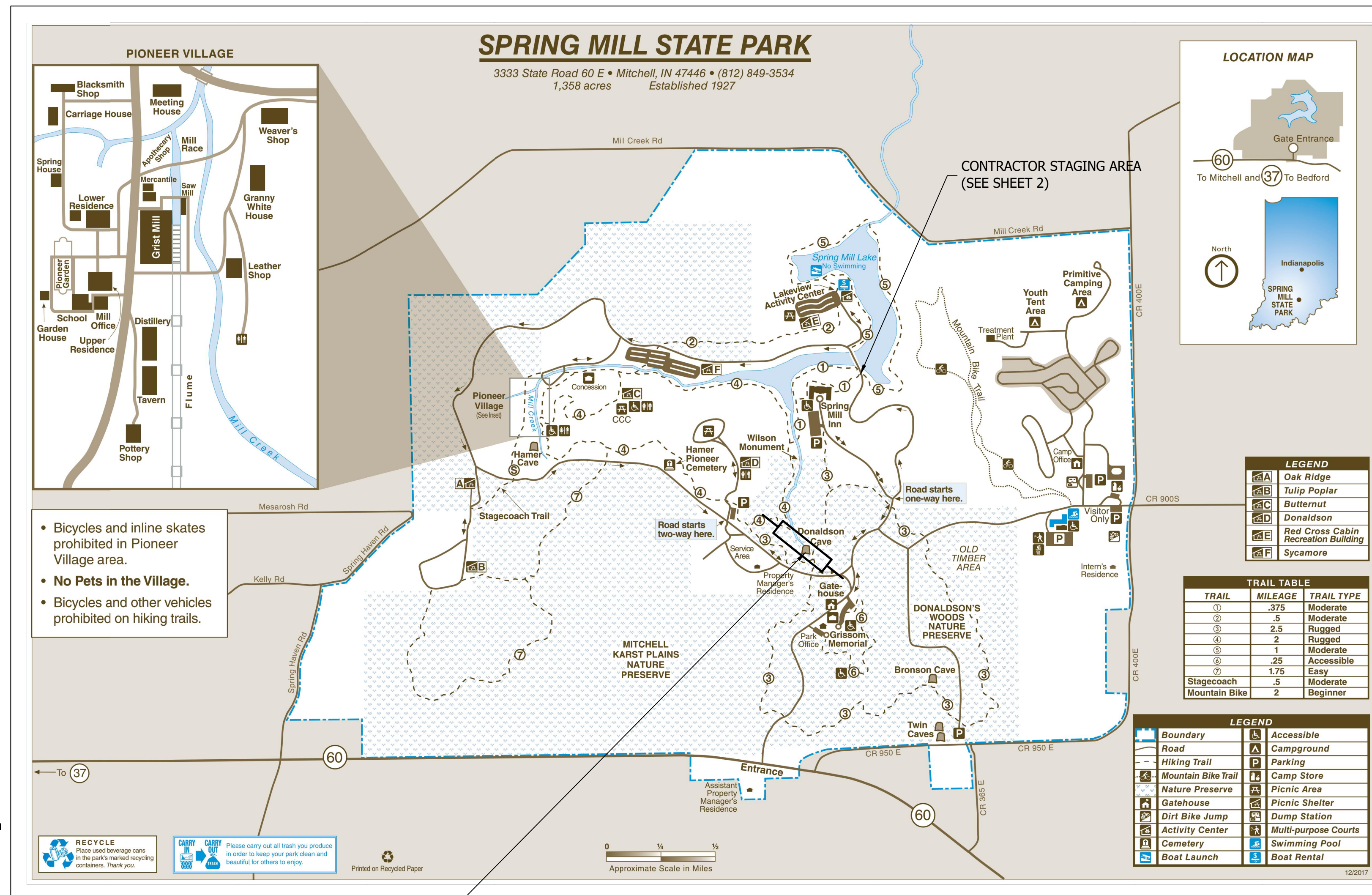
# INDIANA DEPARTMENT OF ADMINISTRATION PUBLIC WORKS DIVISION

## PUBLIC WORKS PROJECT NO. ENG1903740475 DNR - SPRING MILL STATE PARK DONALDSON CAVE WALKWAY



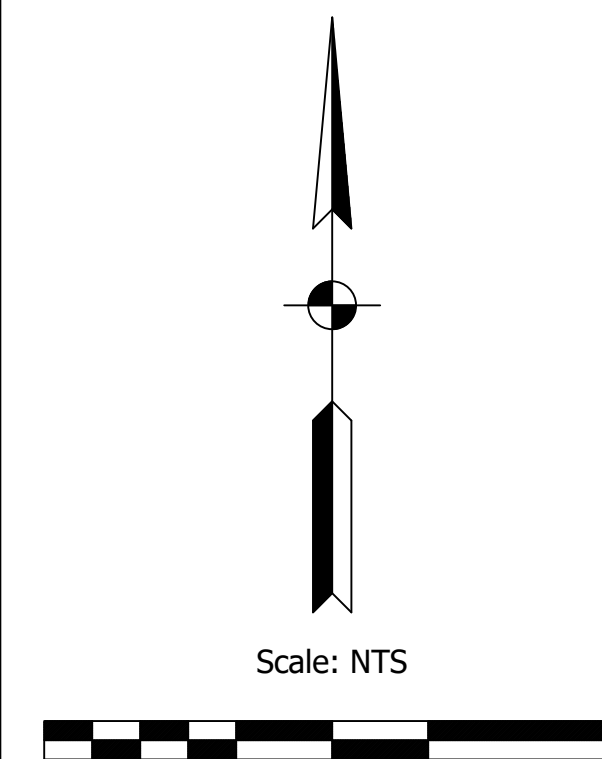
### UTILITY NOTES

- NOTE 1: All utilities depicted are at "Quality Level B" and "Quality Level C".
- NOTE 2: "Quality Level B" utility locates are based on markings provided by others. There is no guarantee as to the accuracy or completeness of these markings. Existing utility depths shown on profiles and cross sections are shown for reference purposes only and are based on what may be considered standard bury depths. The exact depth of existing utilities is uncertain and should be field verified by the contractor as needed.
- NOTE 3: "Quality Level C" utility locates are based on visible surface features which have been surveyed such as hydrants, valve boxes, meter boxes or other items related to a utility.
- NOTE 4: Utility quality level designations are based on ASCE 38-02 (Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data).



### Sheet List Table

Sheet Number	Sheet Title
1	TITLE SHEET
2	LOCATION MAP
3	DESIGN SURVEY AND GENERAL PLAN
4	PLAN AND PROFILE (1 OF 2)
5	PLAN AND PROFILE (2 OF 2)
6	CROSS-SECTIONS (1 OF 8)
7	CROSS-SECTIONS (2 OF 8)
8	CROSS-SECTIONS (3 OF 8)
9	CROSS-SECTIONS (4 OF 8)
10	CROSS-SECTIONS (5 OF 8)
11	CROSS-SECTIONS (6 OF 8)
12	CROSS-SECTIONS (7 OF 8)
13	CROSS-SECTIONS (8 OF 8)
14	DETAILS (1 OF 2)
15	DETAILS (2 OF 2)



### PROJECT LOCATION

This project is located near the Gate House. Approximately 1.25 mi from the South entrance to Spring Mill State Park, Indiana.

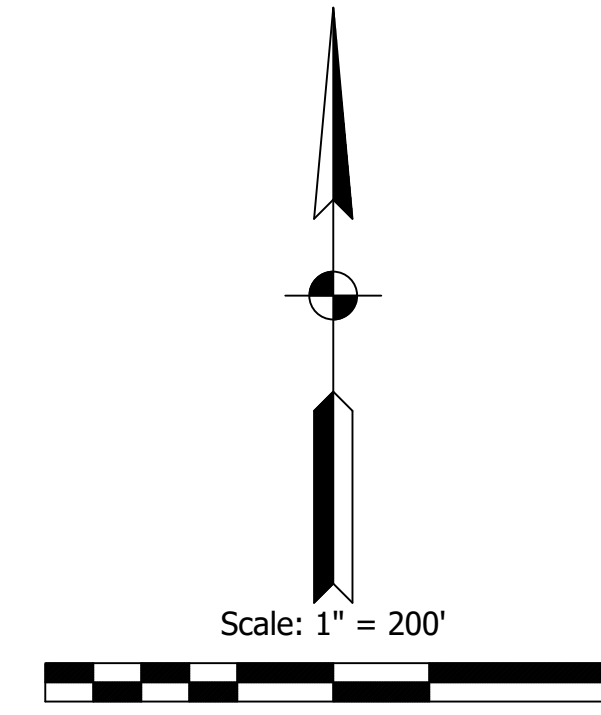
PLANS PREPARED BY:

**FPBH, Inc.**  
Engineers • Surveyors • Planners • Inspectors  
Offices in North Vernon, Seymour, & New Castle

72 Henry Street, PO Box 47  
North Vernon, IN 47265  
P: (812) 346-2045 Toll Free: 1-866-ENG-FPBH  
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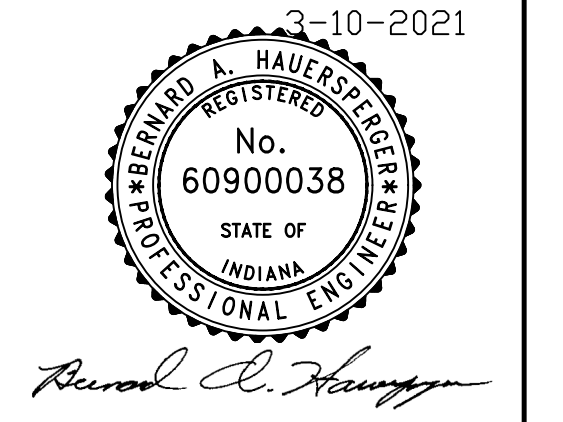
PREPARED FOR: DNR  
PROJECT DESCRIPTION: SPRINGMILL STATE PARK - DONALDSON CAVE WALKWAY  
FILE NUMBER: 19-11352  
DATE: MARCH 10, 2021  
DESIGN PHASE: BIDDING PLANS  
PAPER SIZE: PLOT SHEETS TO SCALE ON ANSI D 22" X 34"



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SCALE: 1" = 10'  
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 CHECKED BY: BRB/BAH  
 DATE: MARCH 10, 2021

Revision	Drawn By	Date

FILE NO: 19-11352  
 CLIENT NAME:  
 DNR

PROJECT DESCRIPTION:  
 SPRING MILL DONALDSON CAVE  
 WALK-WAY

SHEET TITLE:  
 LOCATION MAP

DESIGN PHASE:  
 BIDDING PLANS

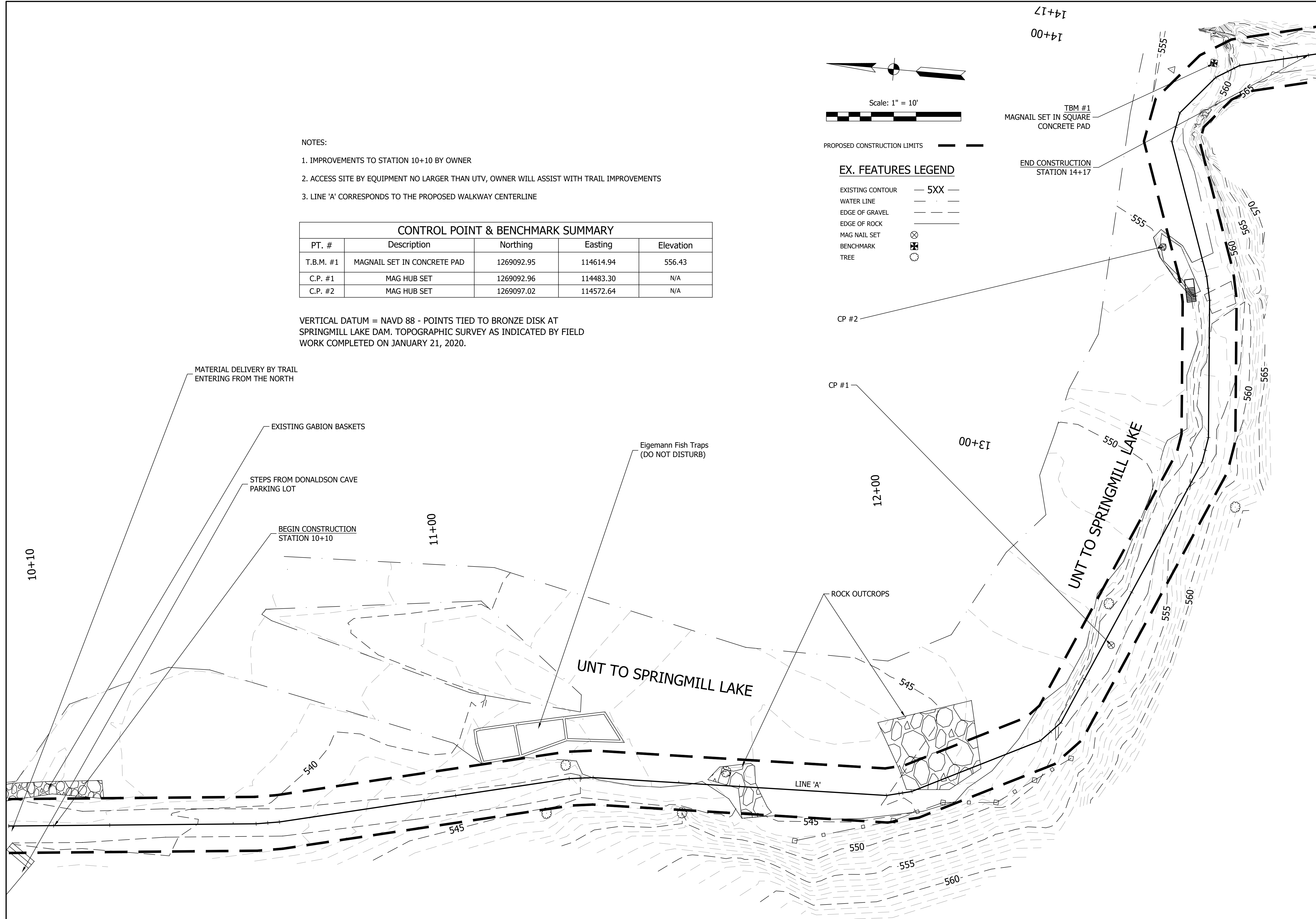
SHEET NUMBER:  
**2**

**NOTES:**

1. IMPROVEMENTS TO STATION 10+10 BY OWNER
2. ACCESS SITE BY EQUIPMENT NO LARGER THAN UTV, OWNER WILL ASSIST WITH TRAIL IMPROVEMENTS
3. LINE 'A' CORRESPONDS TO THE PROPOSED WALKWAY CENTERLINE

CONTROL POINT & BENCHMARK SUMMARY				
PT. #	Description	Northing	Easting	Elevation
T.B.M. #1	MAGNAIL SET IN CONCRETE PAD	1269092.95	114614.94	556.43
C.P. #1	MAG HUB SET	1269092.96	114483.30	N/A
C.P. #2	MAG HUB SET	1269097.02	114572.64	N/A

VERTICAL DATUM = NAVD 88 - POINTS TIED TO BRONZE DISK AT SPRINGMILL LAKE DAM. TOPOGRAPHIC SURVEY AS INDICATED BY FIELD WORK COMPLETED ON JANUARY 21, 2020.



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3-10-2021  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 60900038  
 STATE OF INDIANA  
*Reverend C. Heung*

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DATE: MARCH 10, 2021		
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FILE NO: 19-11352  
 CLIENT NAME: DNR

PROJECT DESCRIPTION: SPRING MILL DONALDSON CAVE WALK-WAY

SHEET TITLE: DESIGN SURVEY AND GENERAL PLAN

DESIGN PHASE: BIDDING PLANS

SHEET NUMBER:  
3

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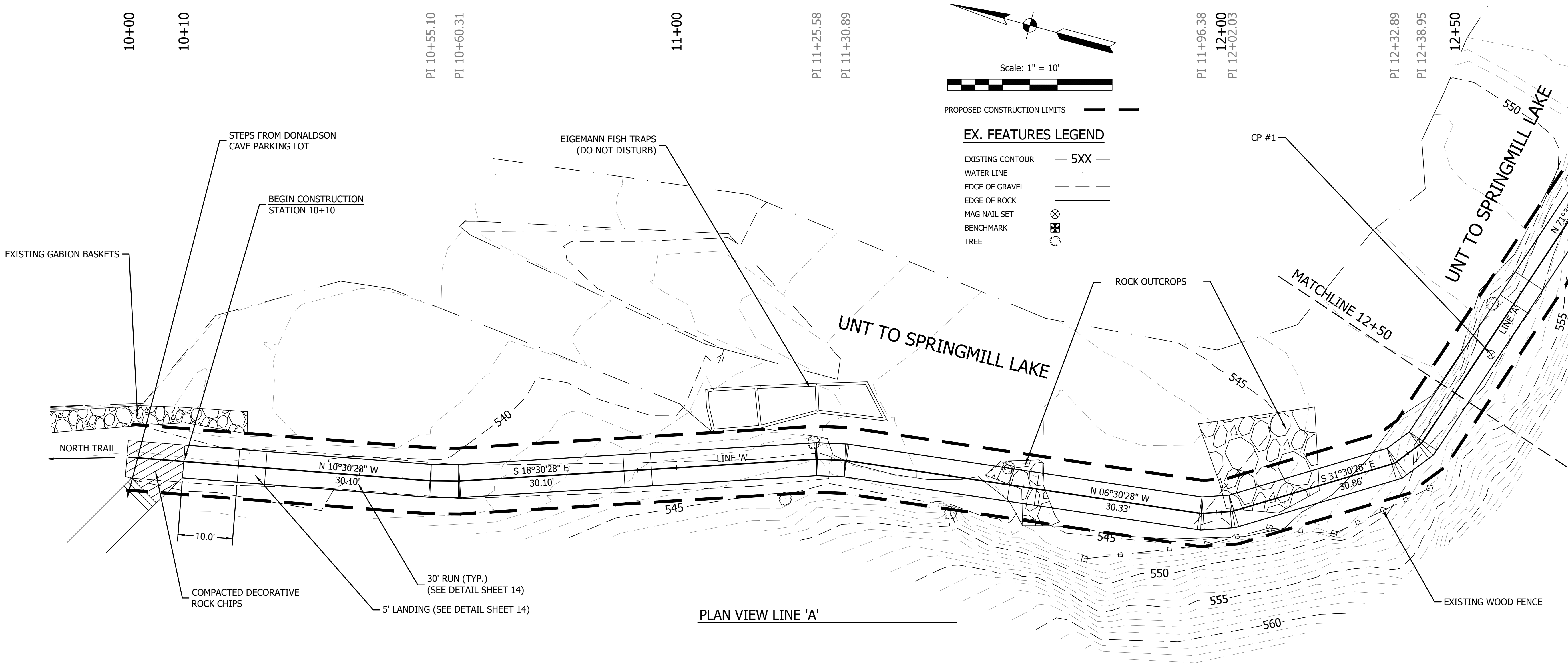


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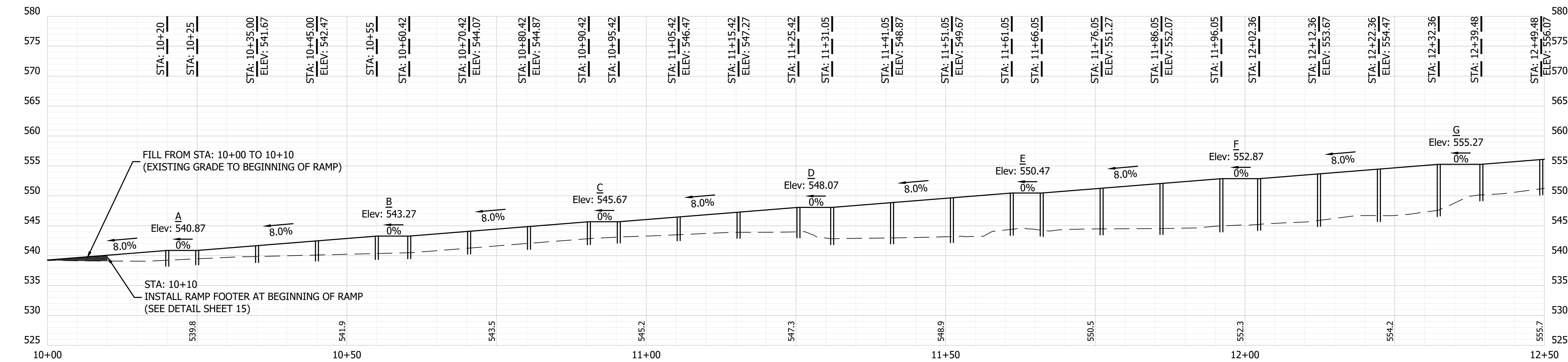
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FILE NO: 19-11352  
 CLIENT NAME: DNR  
 PROJECT DESCRIPTION: SPRING MILL DONALDSON CAVE WALK-WAY  
 SHEET TITLE: PLAN AND PROFILE (1 OF 2)  
 DESIGN PHASE: BIDDING PLANS

SHEET NUMBER:  
**4**

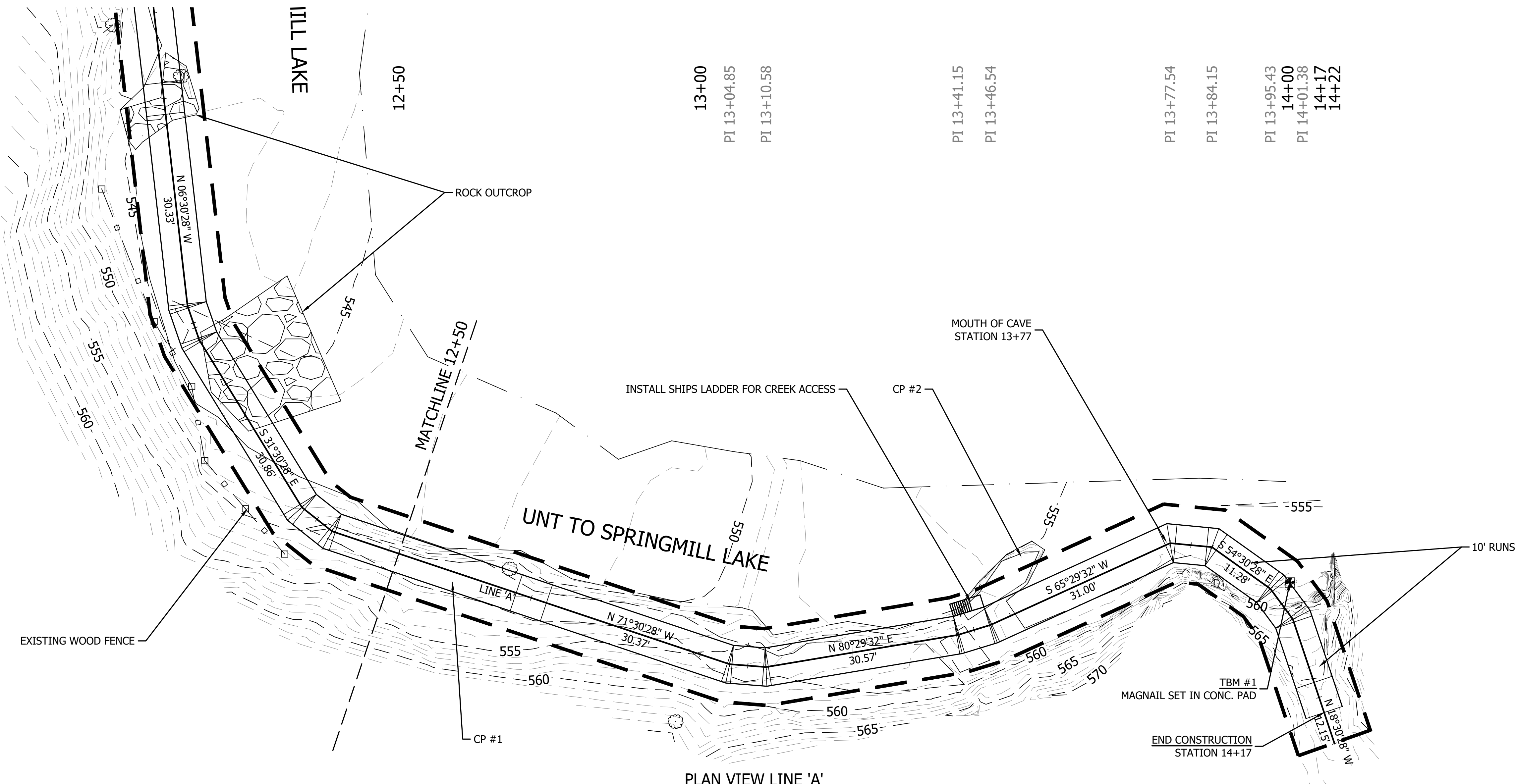


PLAN VIEW LINE 'A'

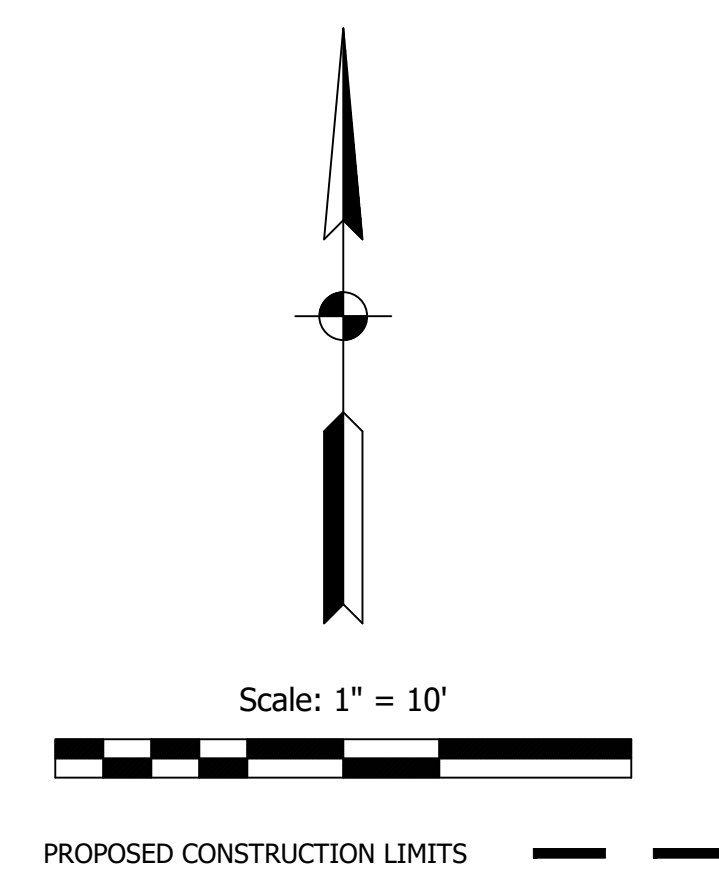


PROFILE VIEW LINE 'A'  
 HORIZONTAL SCALE: 1" = 10'  
 VERTICAL SCALE: 1" = 10'

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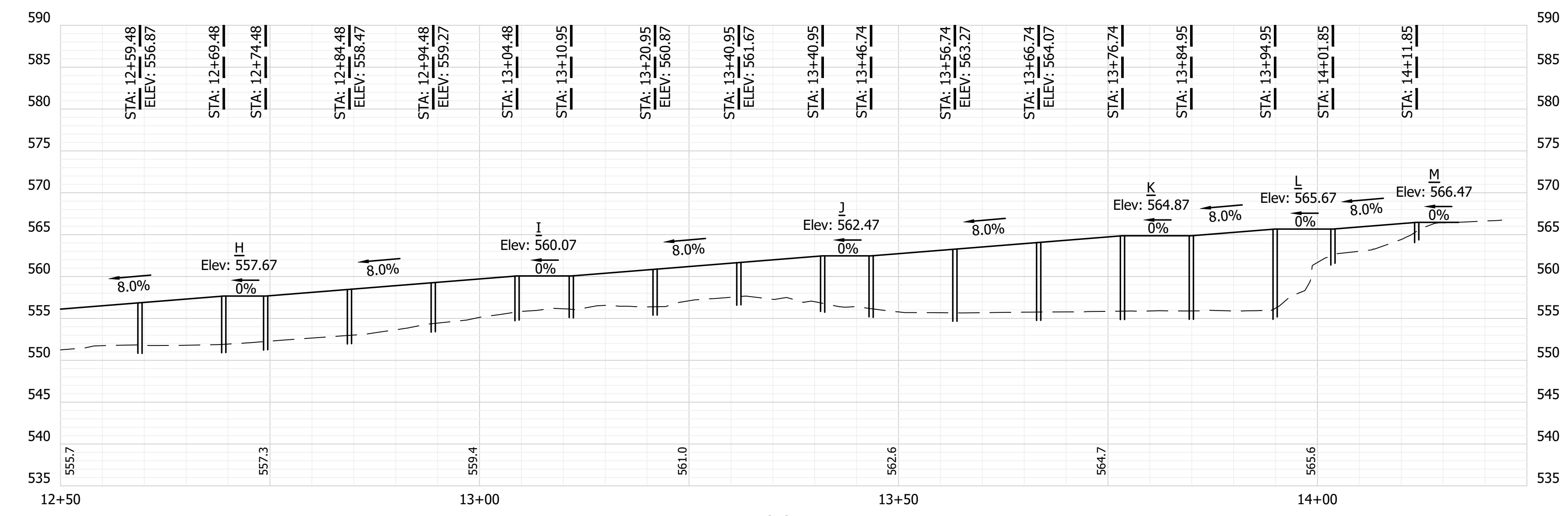
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 PI 13+95.43  
 14+00  
 PI 14+01.38  
 14+17  
 14+22



**EX. FEATURES LEGEND**

- EXISTING CONTOUR — 5XX —
- WATER LINE ————
- EDGE OF GRAVEL - - - - -
- EDGE OF ROCK ————
- MAG NAIL SET ⊗
- BENCHMARK ⊕
- TREE ○

**PLAN VIEW LINE 'A'**



**PROFILE VIEW LINE 'A'**  
 HORIZONTAL SCALE: 1" = 10"  
 VERTICAL SCALE: 1" = 10"

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3-10-2021  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 60900038  
 STATE OF INDIANA  
*Arnold C. Heung*

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PROJECT DESCRIPTION:  
 SPRING MILL DONALDSON CAVE WALK-WAY

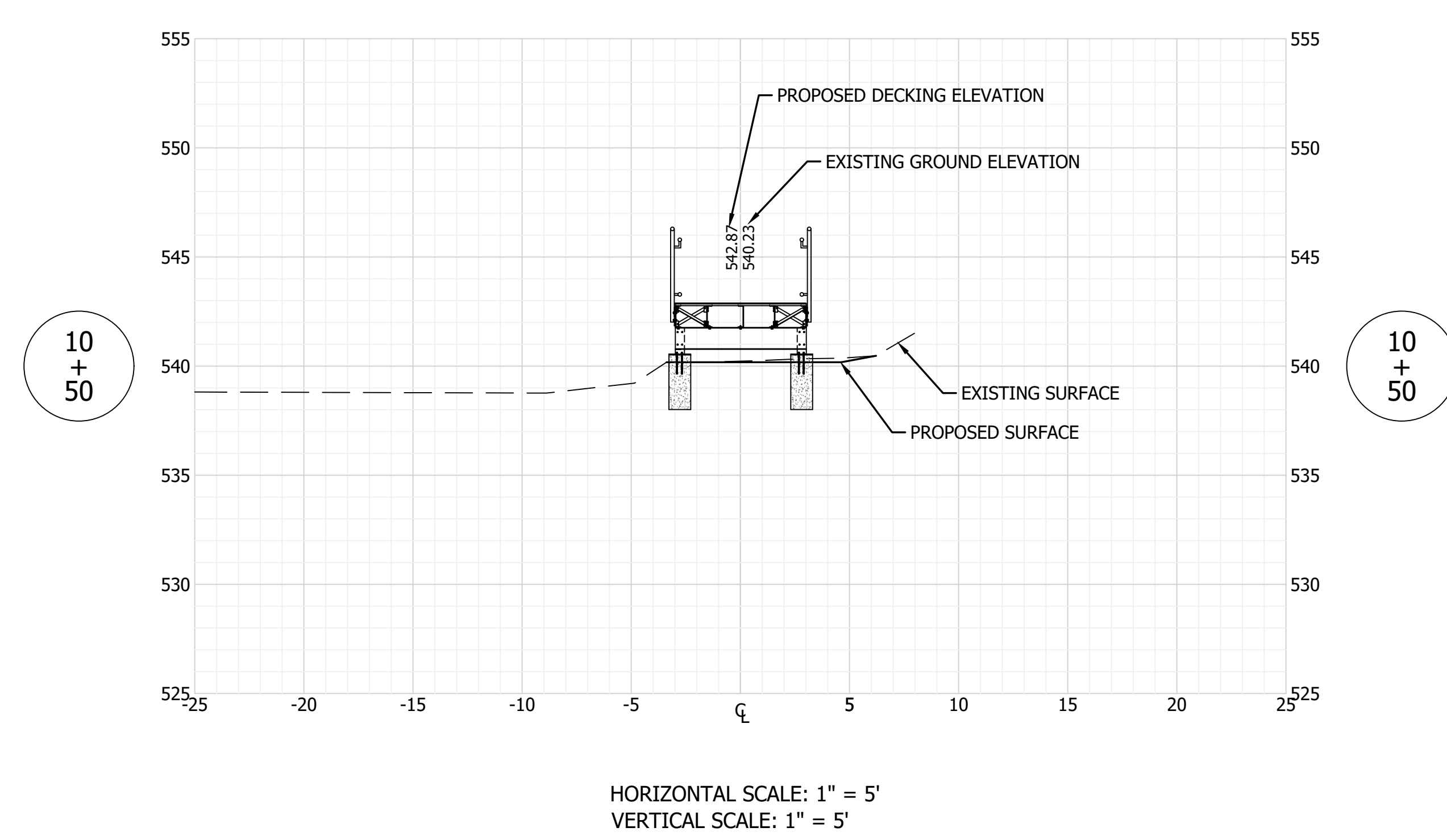
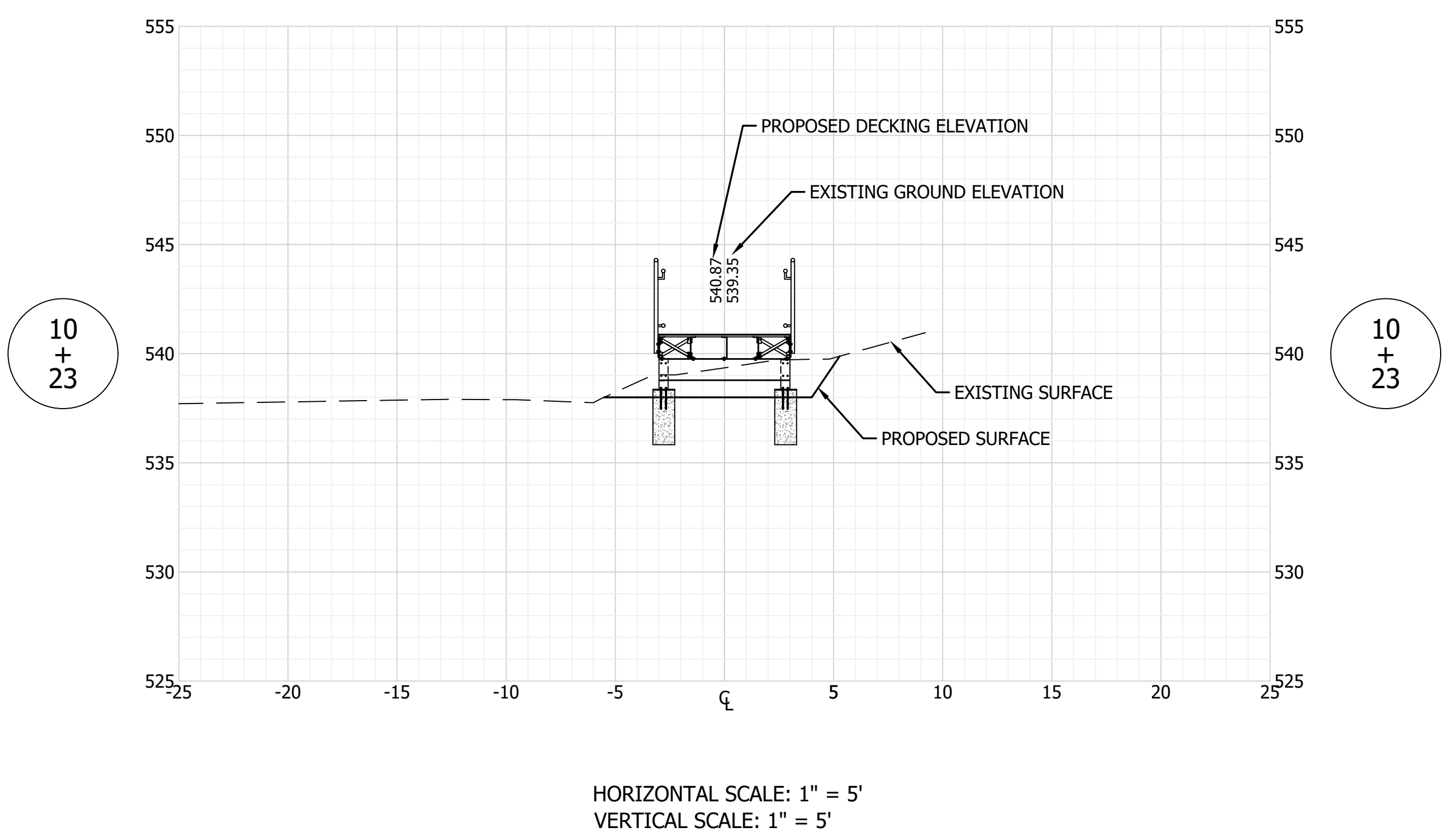
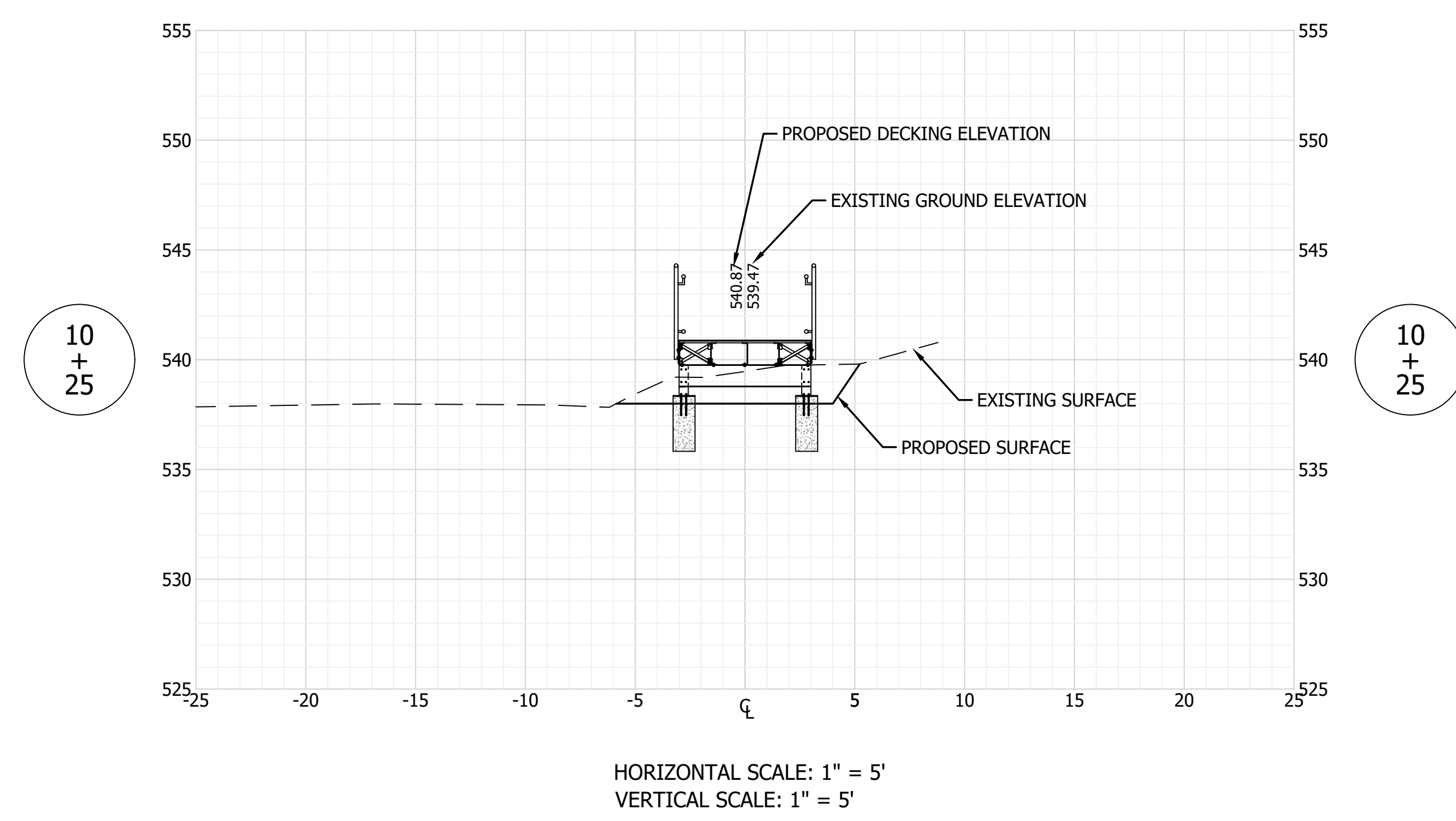
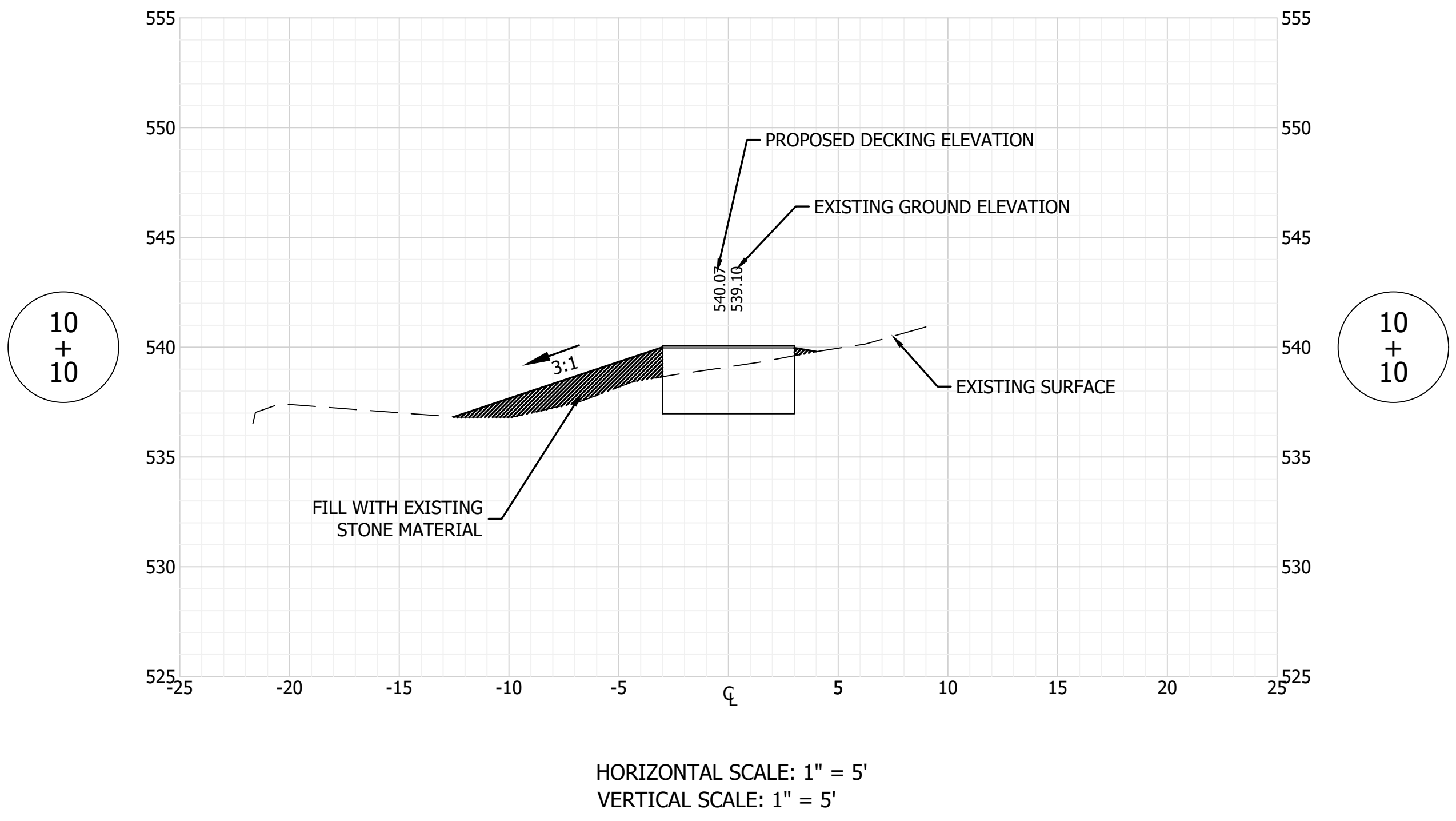
SHEET TITLE:  
 PLAN AND PROFILE (2 OF 2)

DESIGN PHASE:  
 BIDDING PLANS

SHEET NUMBER:  
**5**

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DNR

PROJECT DESCRIPTION:  
SPRING MILL DONALDSON CAVE  
WALK-WAY

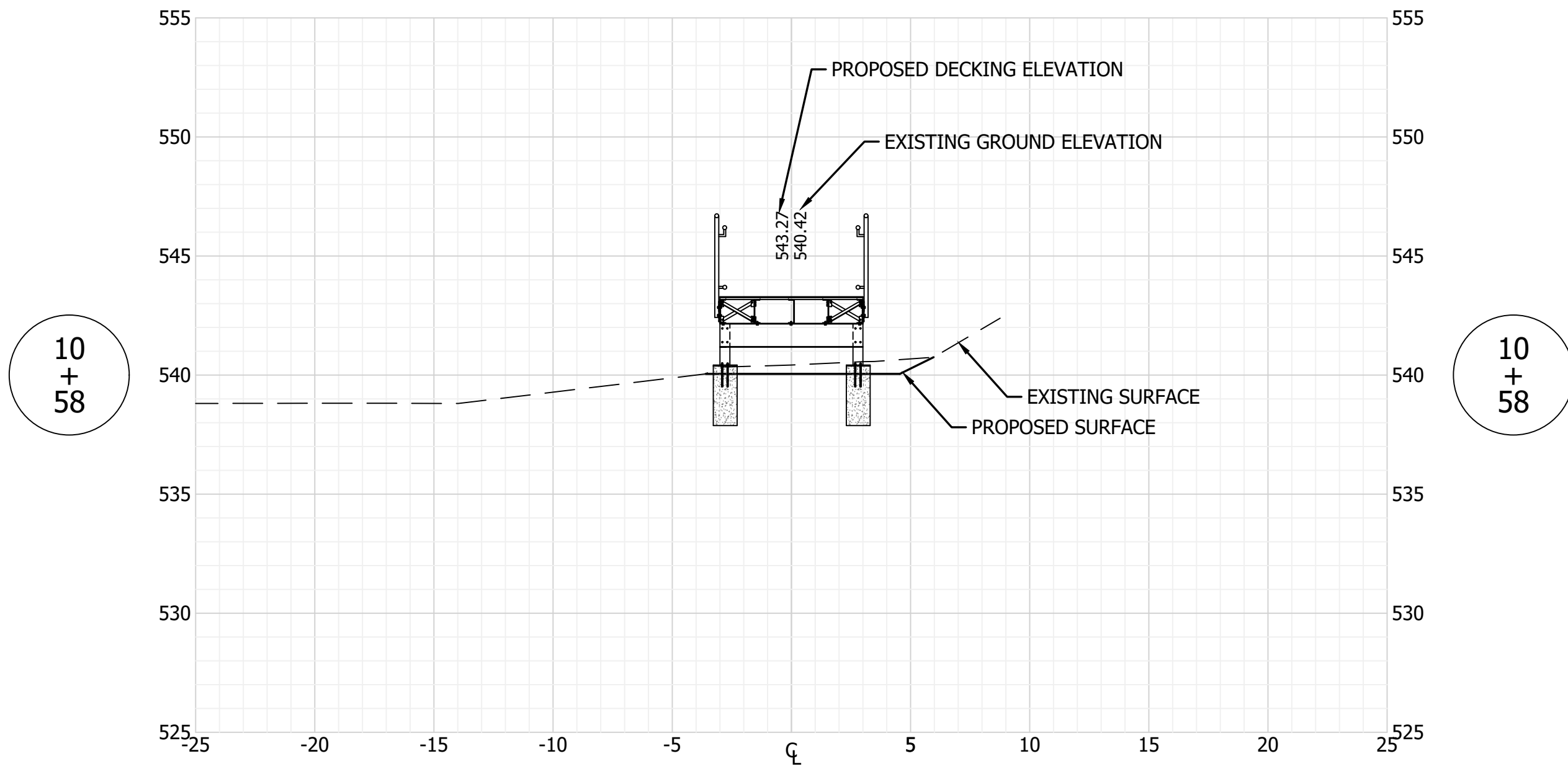
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CROSS-SECTIONS (1 OF 8)

DESIGN PHASE:  
BIDDING PLANS

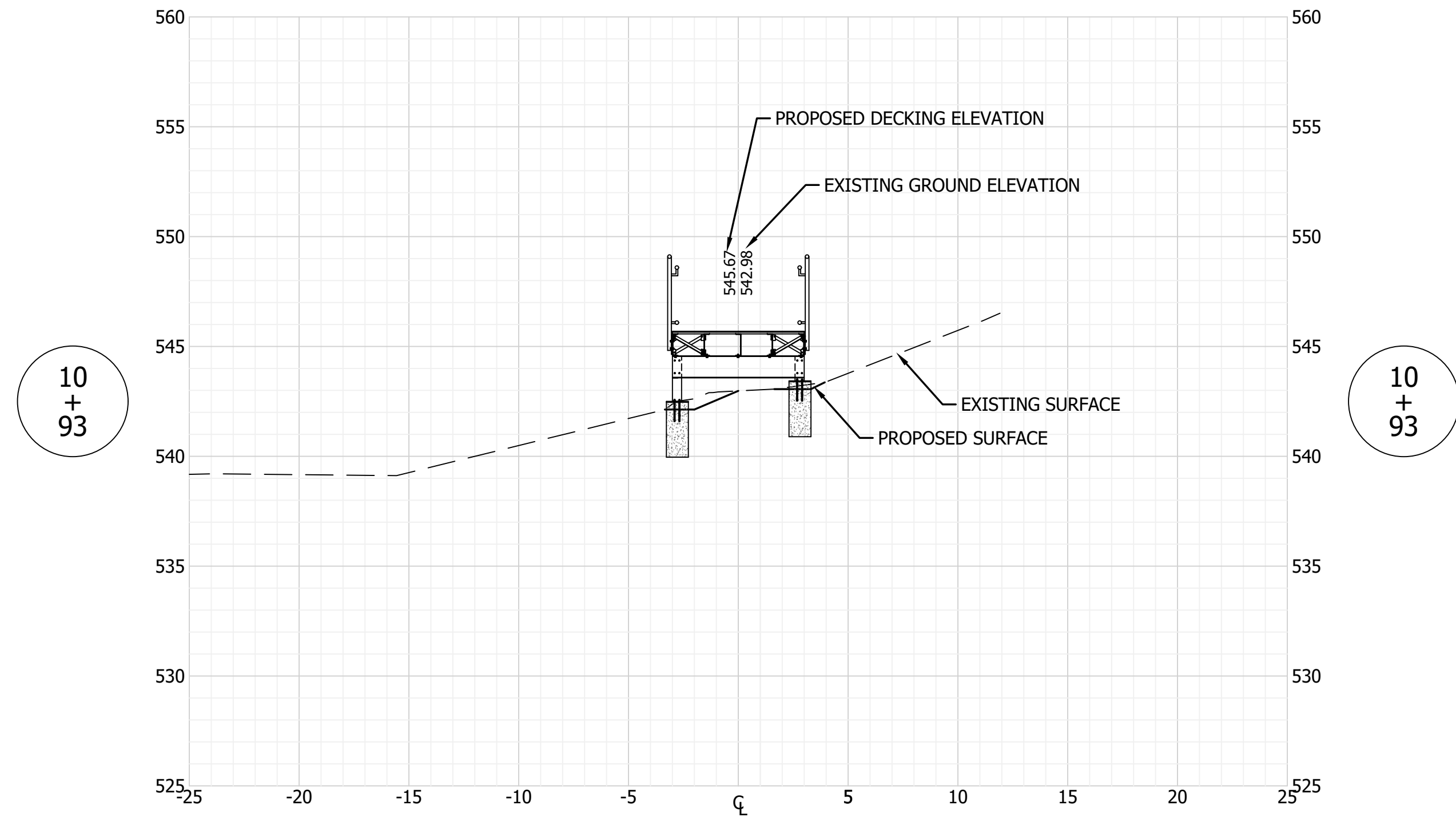
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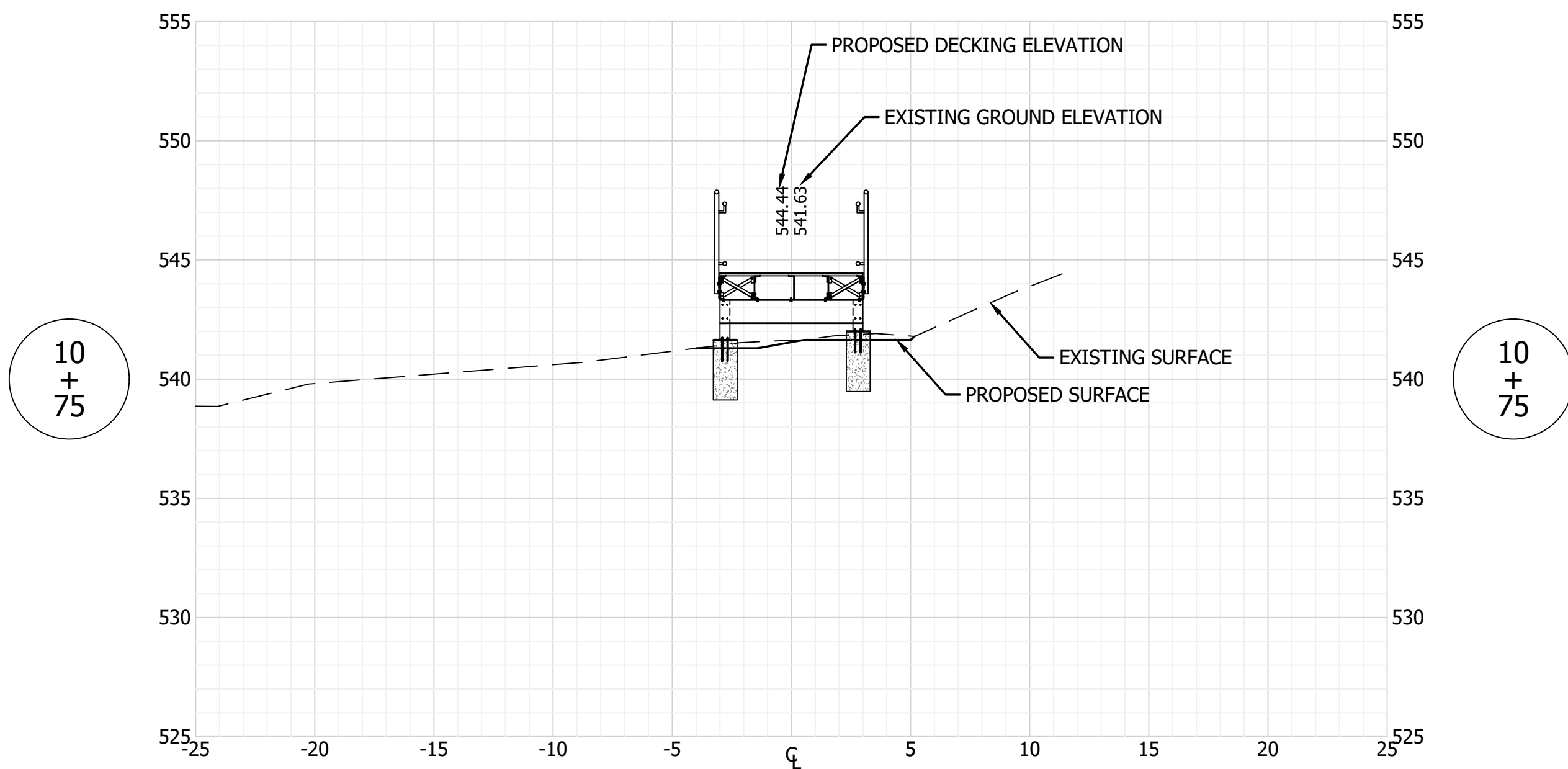
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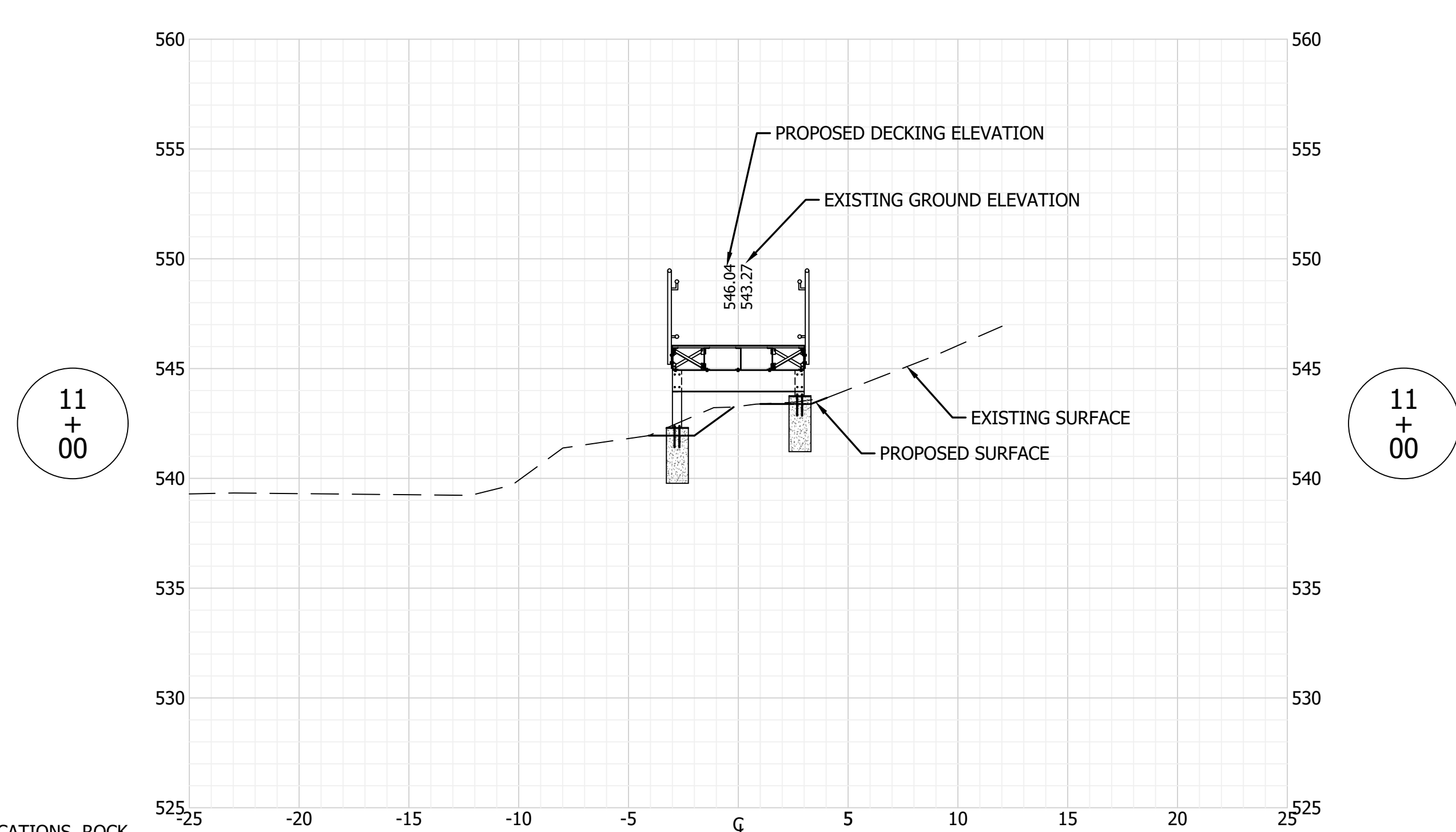
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 VERTICAL SCALE: 1" = 5'



HORIZONTAL SCALE: 1" = 5'  
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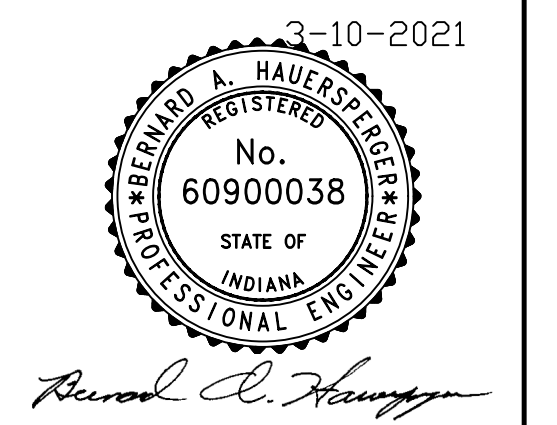
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Revision	Drawn By	Date

FILE NO: 19-11352  
 CLIENT NAME:  
 DNR

PROJECT DESCRIPTION:  
 SPRING MILL DONALDSON CAVE  
 WALK-WAY

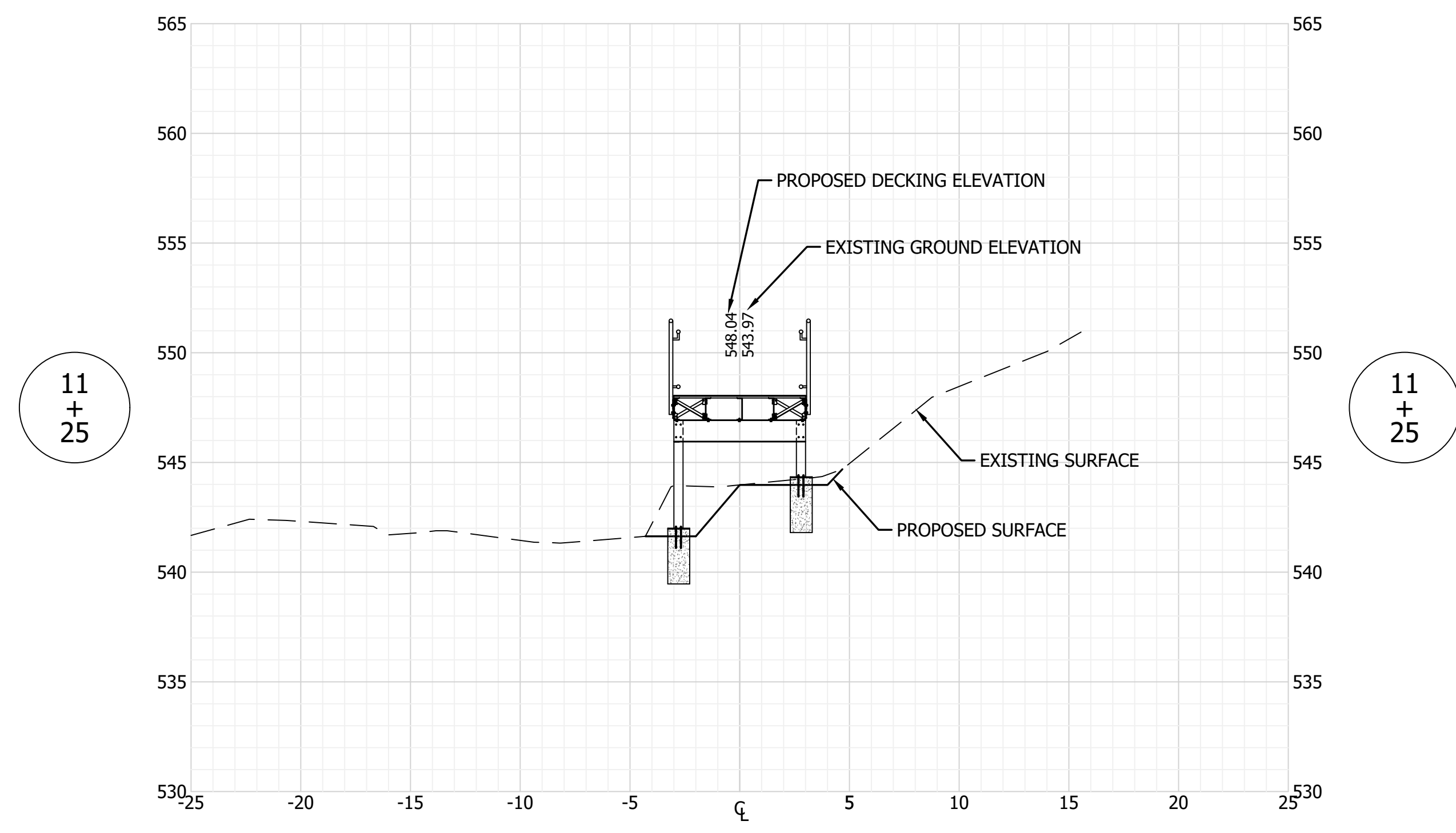
SHEET TITLE:  
 CROSS-SECTIONS (2 OF 8)

DESIGN PHASE:  
 BIDDING PLANS

SHEET NUMBER:  
**7**

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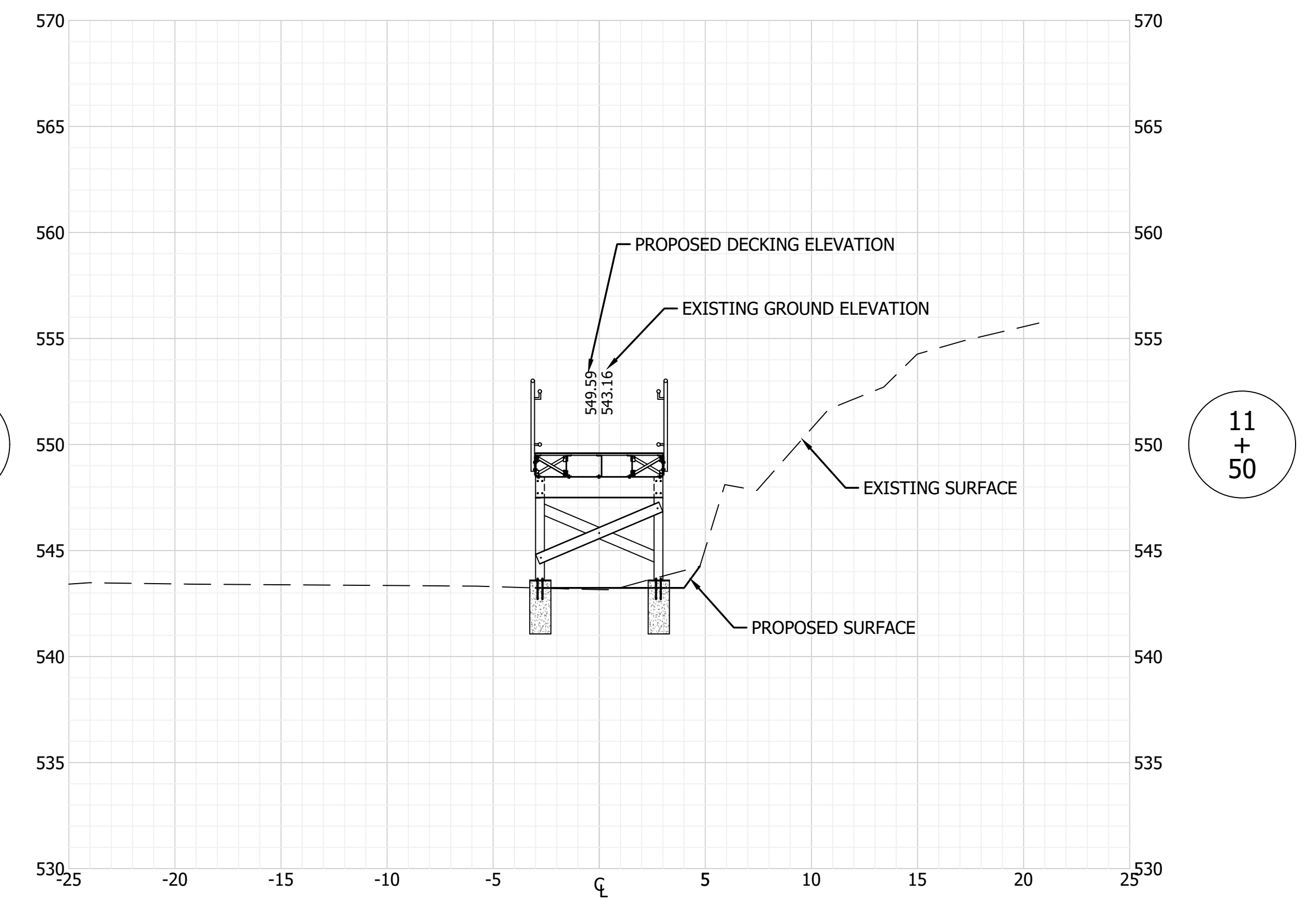
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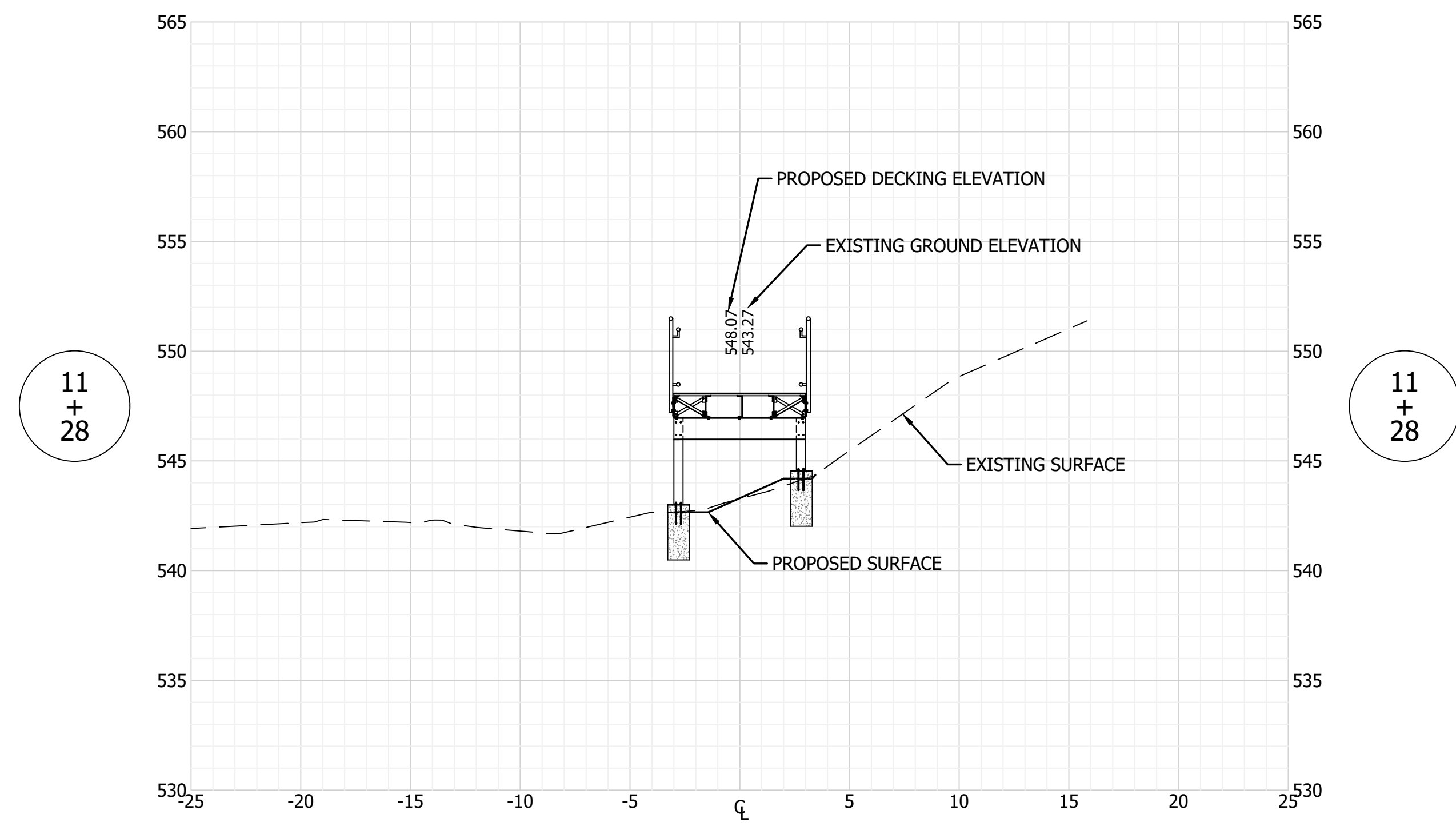
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+  
25

11  
+  
25



HORIZONTAL SCALE: 1" = 5'  
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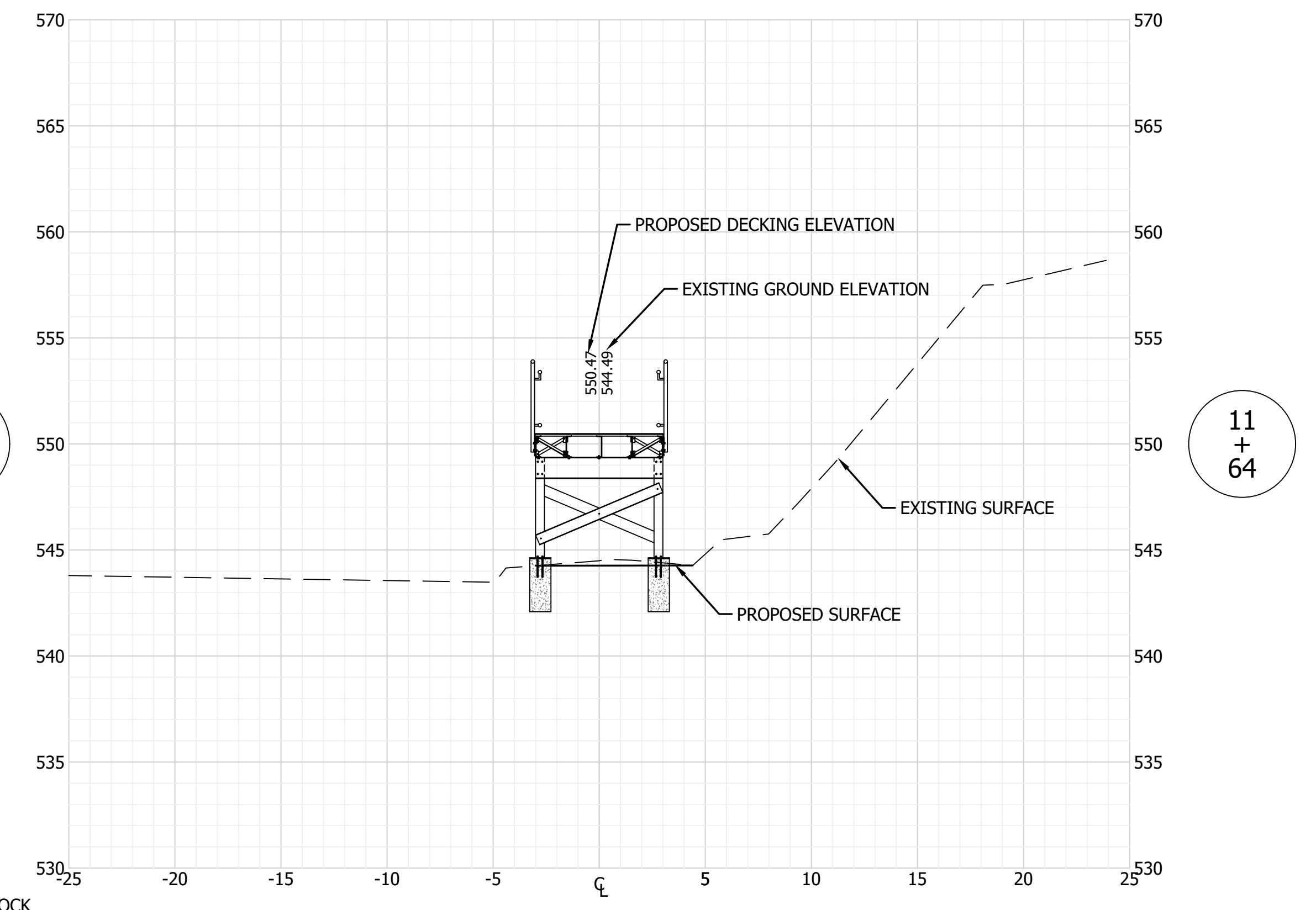
11  
+  
50



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 VERTICAL SCALE: 1" = 5'

11  
+  
28

11  
+  
64

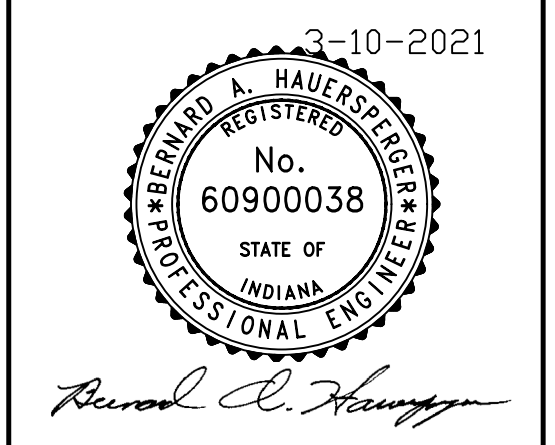


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11  
+  
64

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FILE NO: 19-11352  
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 DNR

PROJECT DESCRIPTION:  
 SPRING MILL DONALDSON CAVE  
 WALK-WAY

SHEET TITLE:  
 CROSS-SECTIONS (3 OF 8)

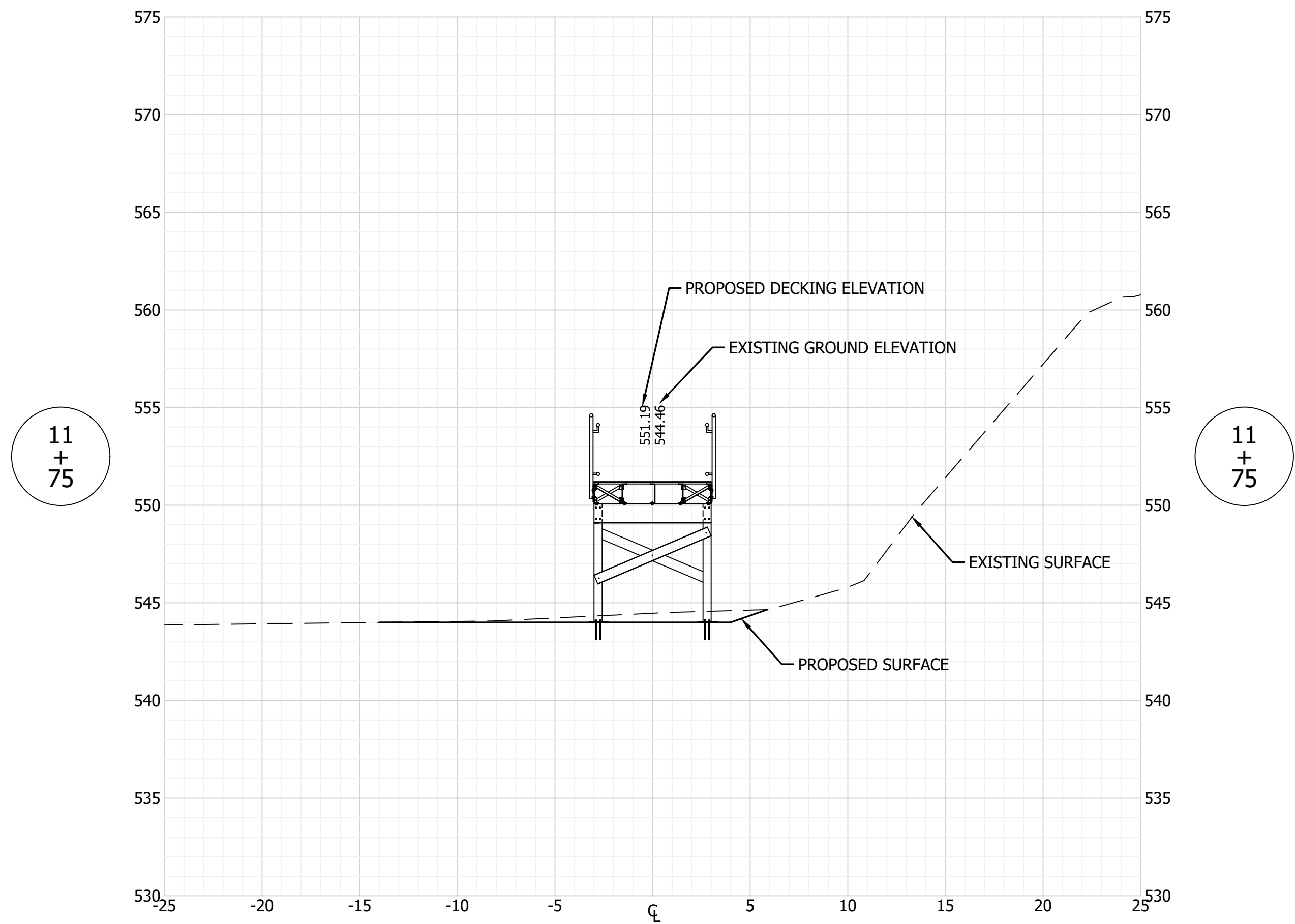
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**8**

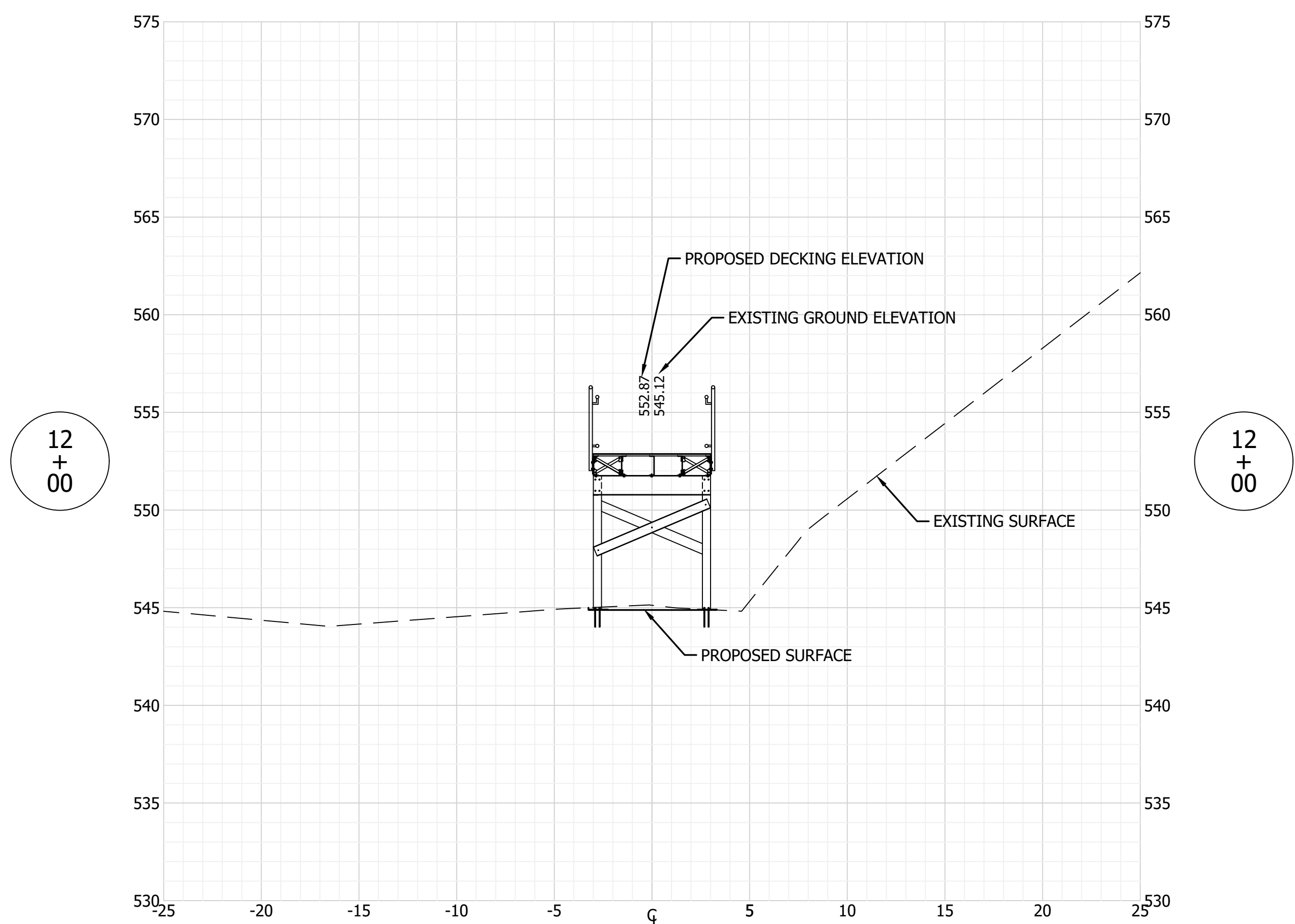


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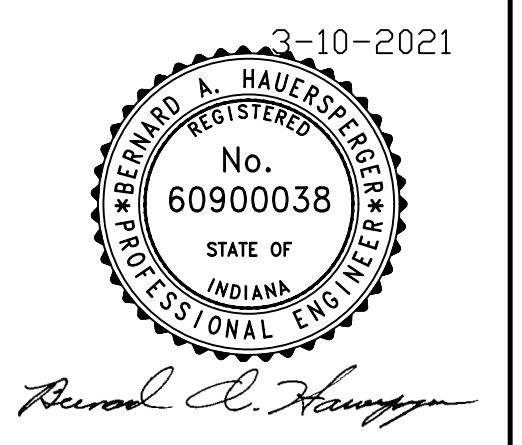
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 CLIENT NAME: DNR

PROJECT DESCRIPTION: SPRING MILL DONALDSON CAVE WALK-WAY

SHEET TITLE: CROSS-SECTIONS (4 OF 8)

DESIGN PHASE: BIDDING PLANS

SHEET NUMBER:  
**9**

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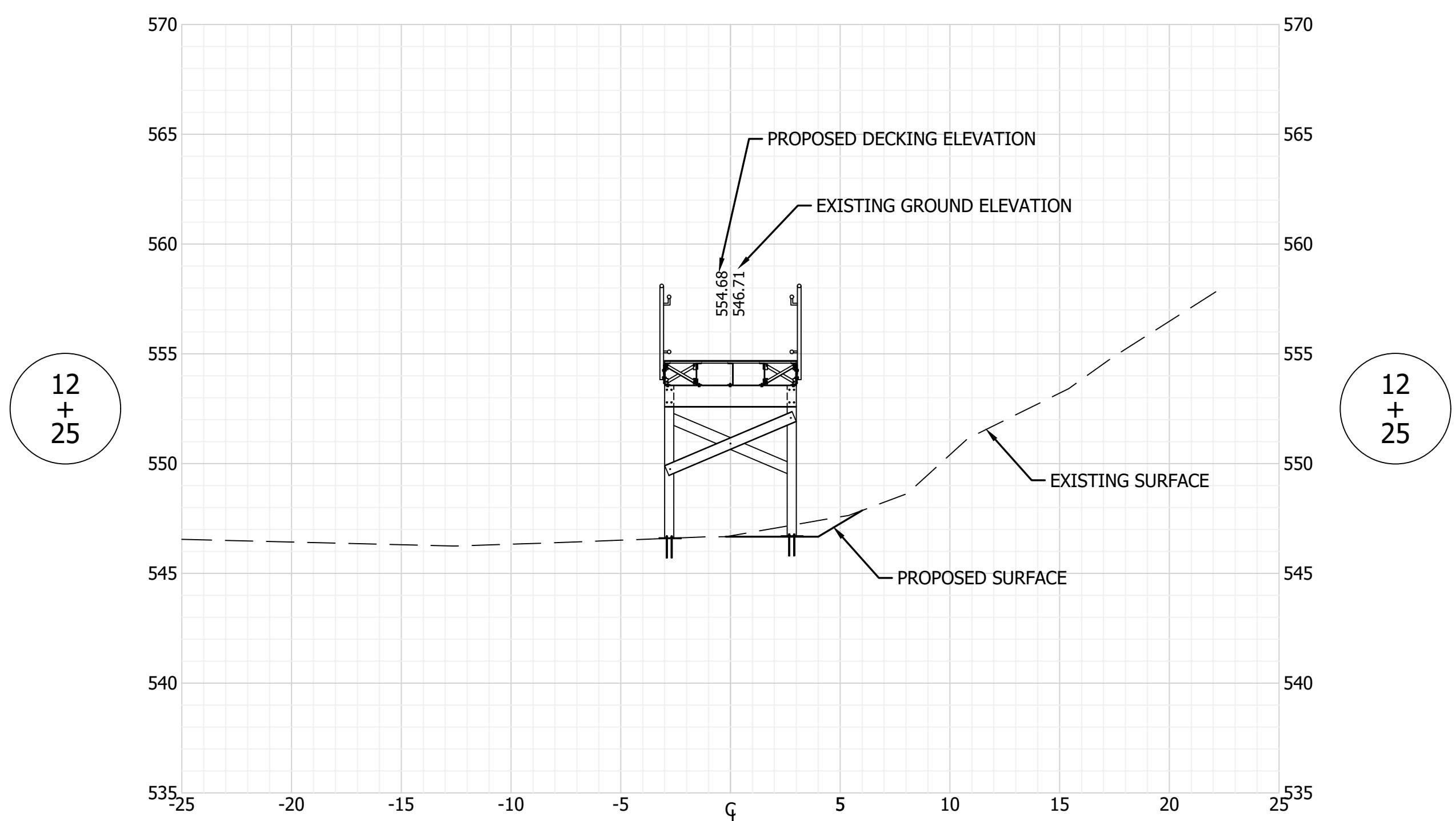
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 SPRING MILL DONALDSON CAVE  
 WALK-WAY

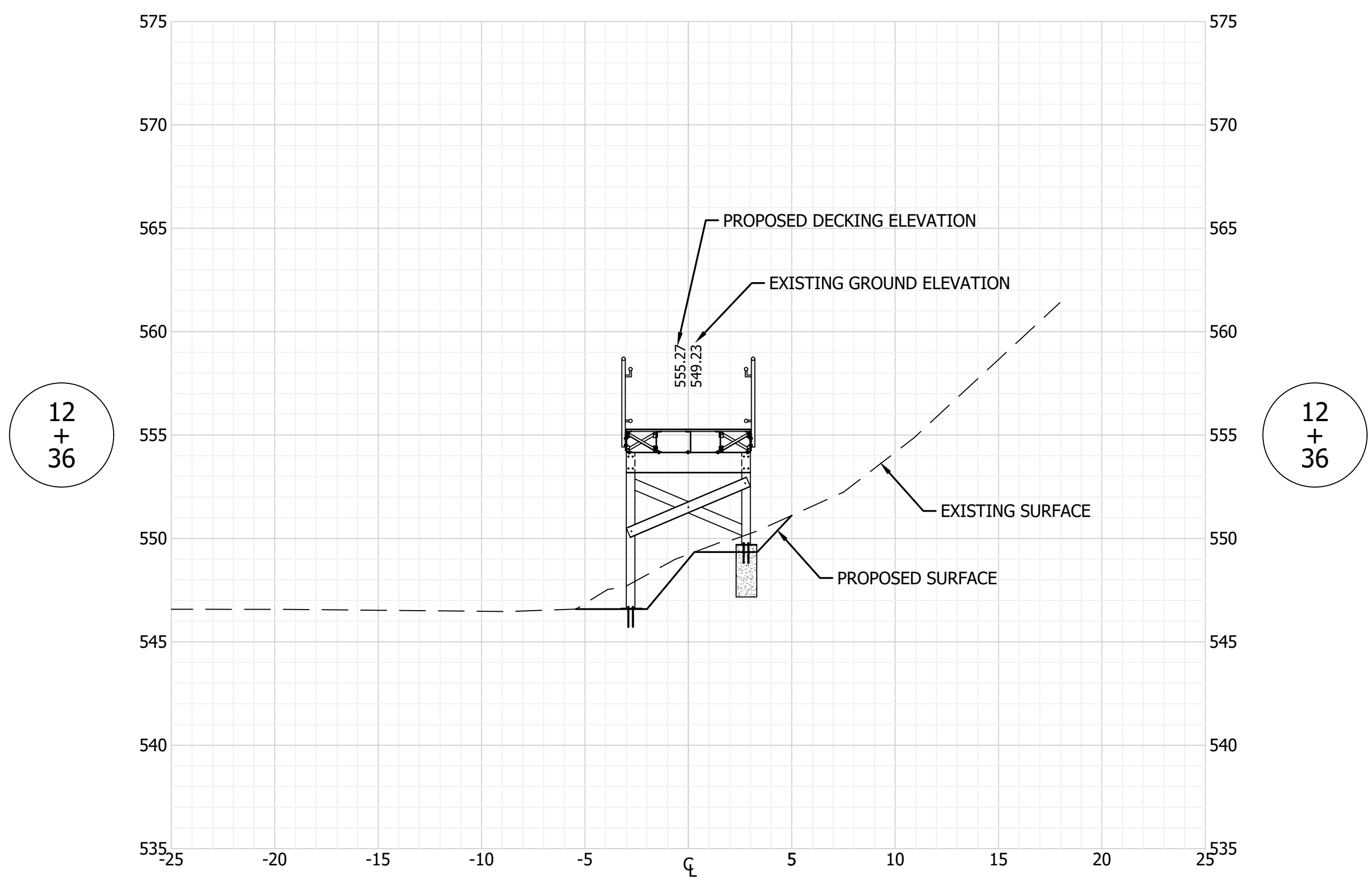
SHEET TITLE:  
 CROSS-SECTIONS (5 OF 8)

DESIGN PHASE:  
 BIDDING PLANS

SHEET NUMBER:  
**10**

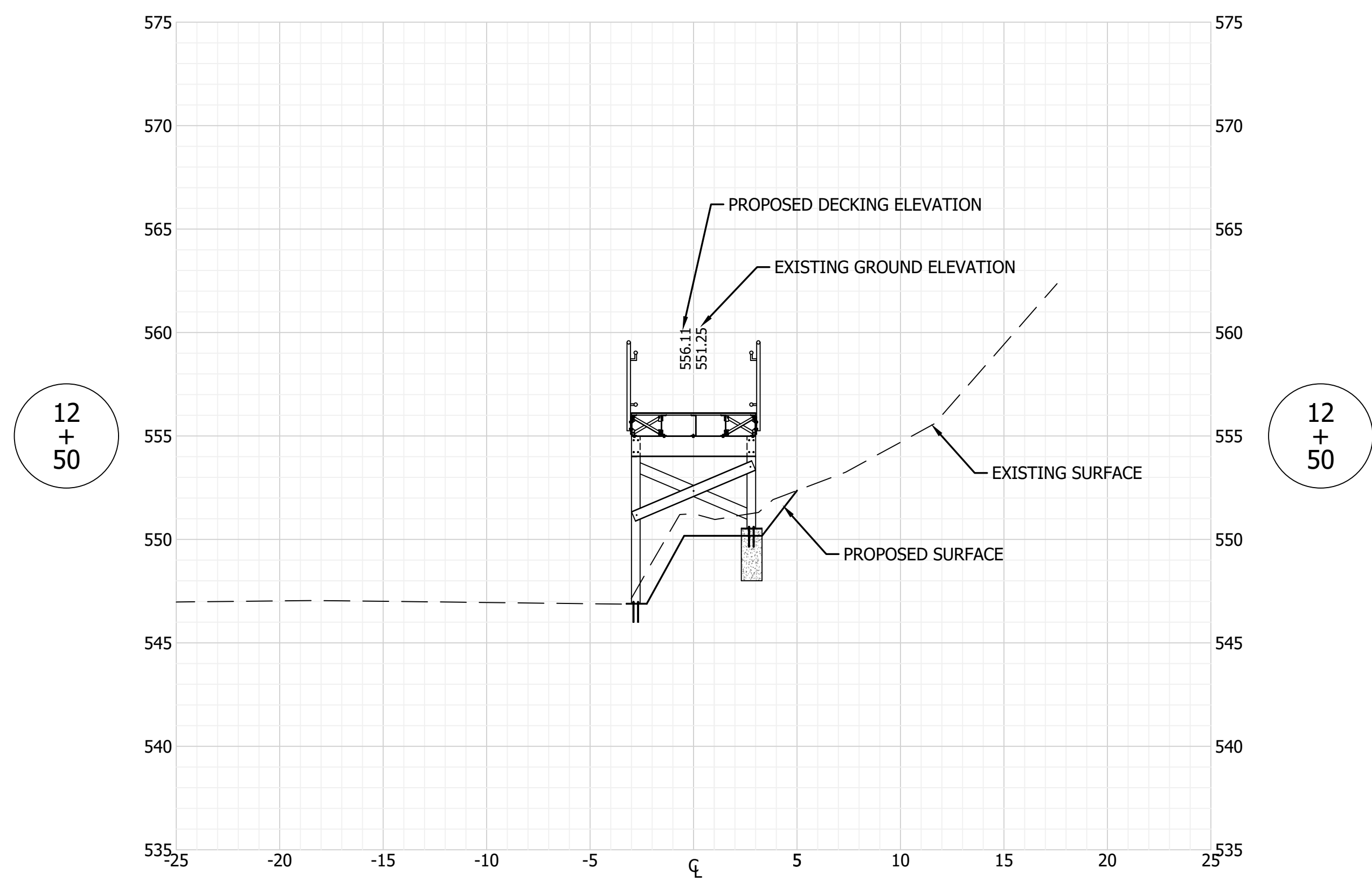


HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'

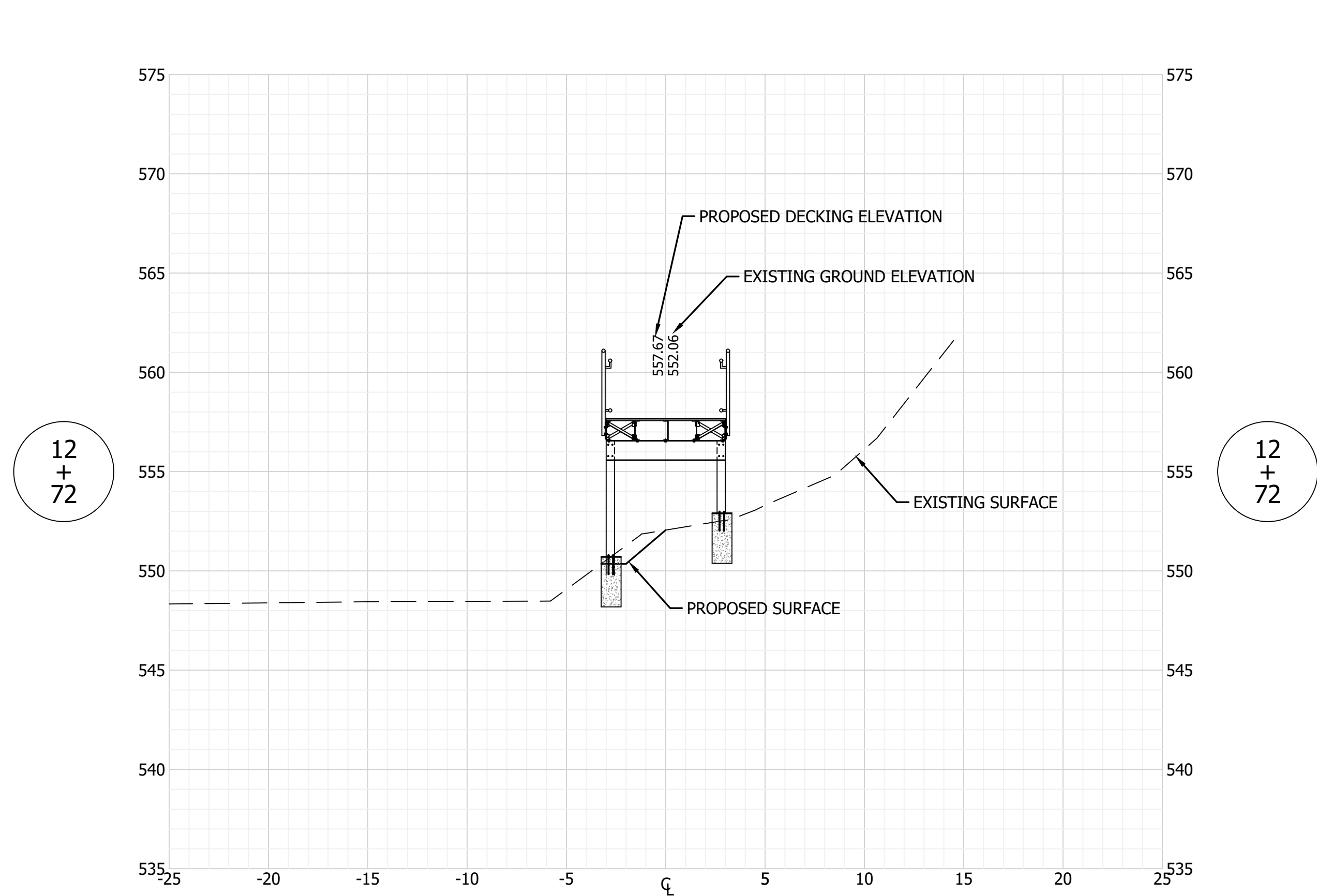


HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'

NOTE: FIELD VERIFY ROCK DEPTH AT COLUMN LOCATIONS, ROCK DEPTH WILL BE DETERMINING FACTOR FOR ANCHORS. IF ROCK DEPTH IS GREATER THAN 30", FOOTERS WILL BE CONSTRUCTED (SEE SHEET 14 FOR FOOTER DETAIL)



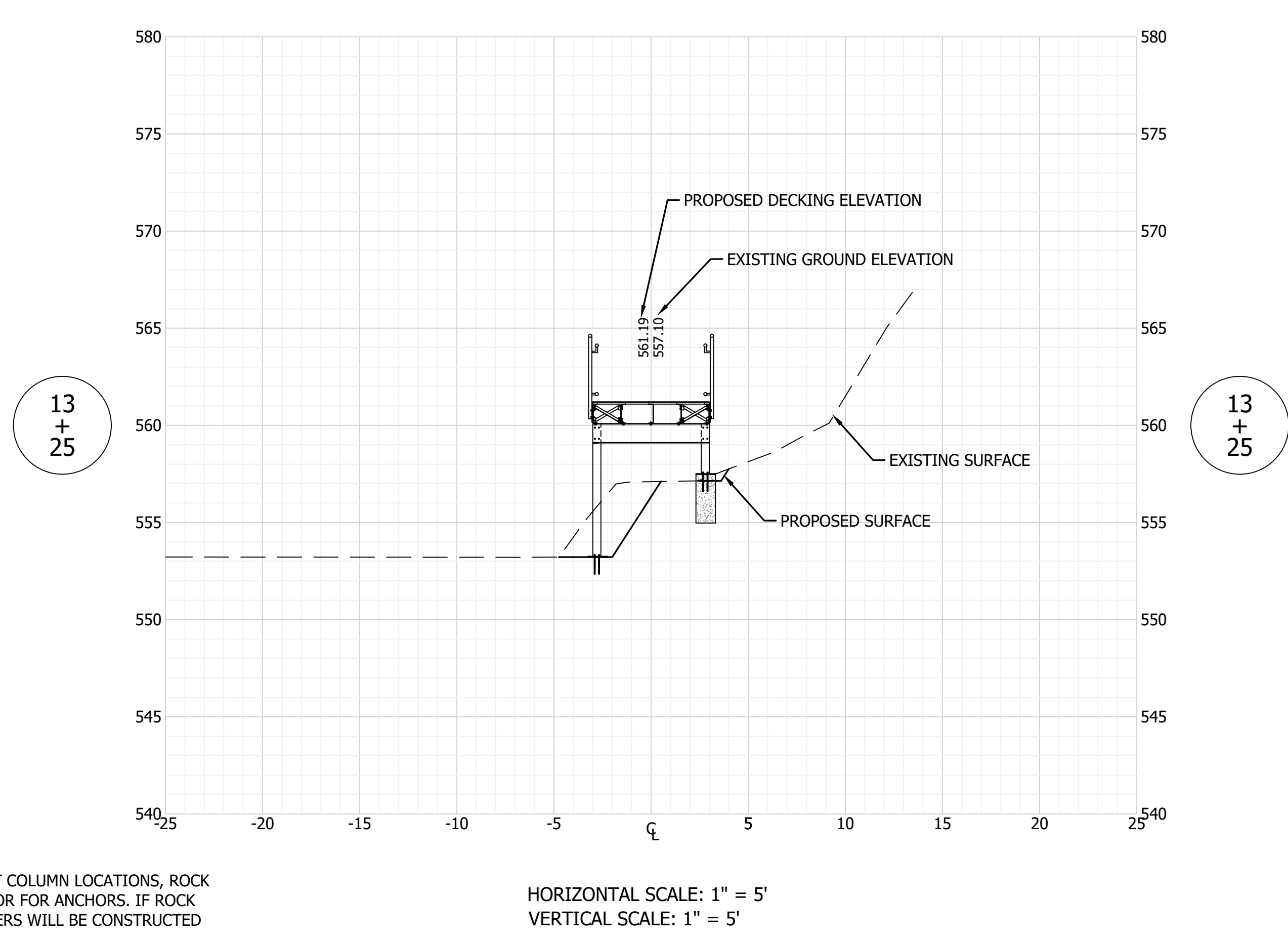
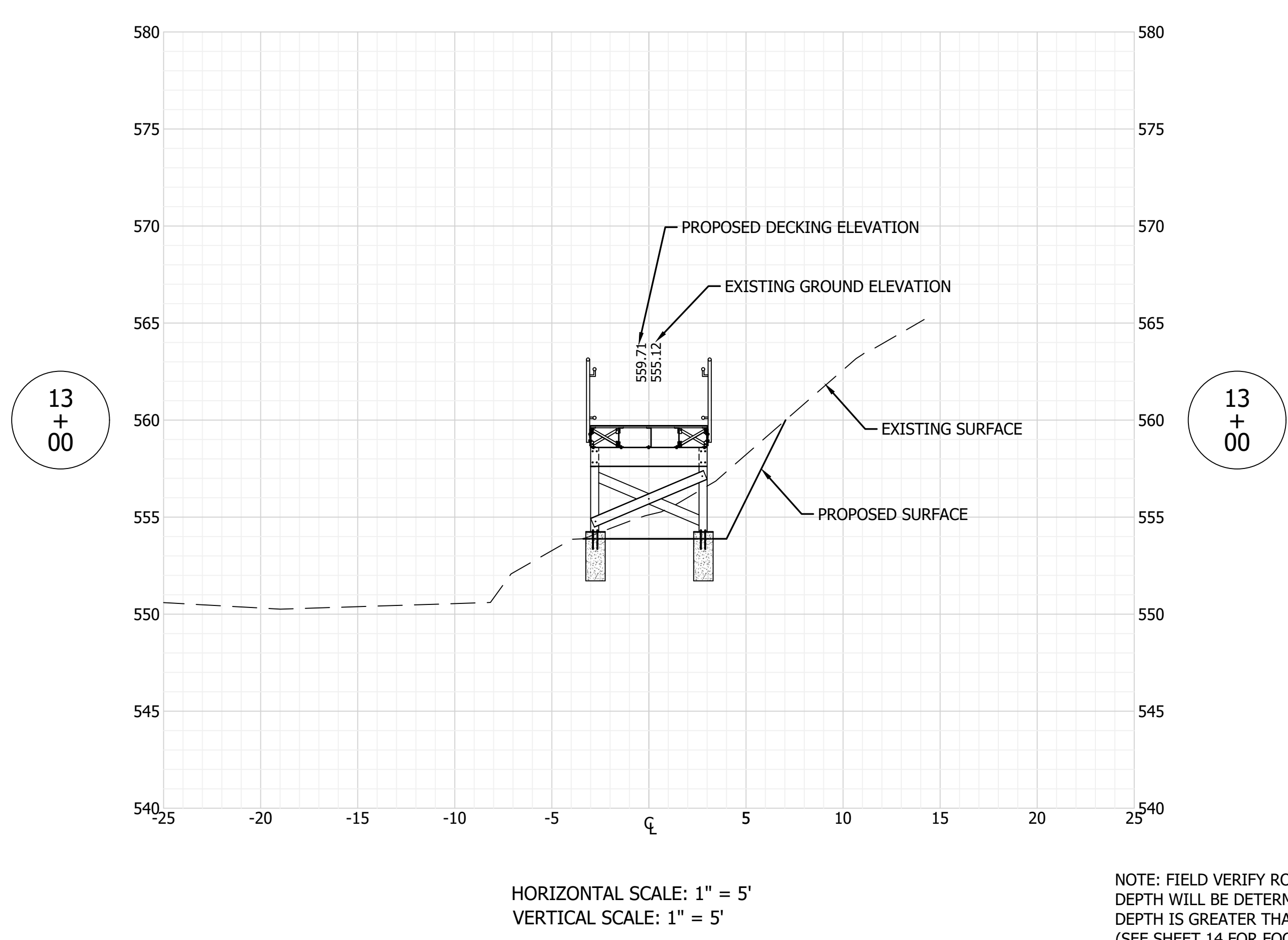
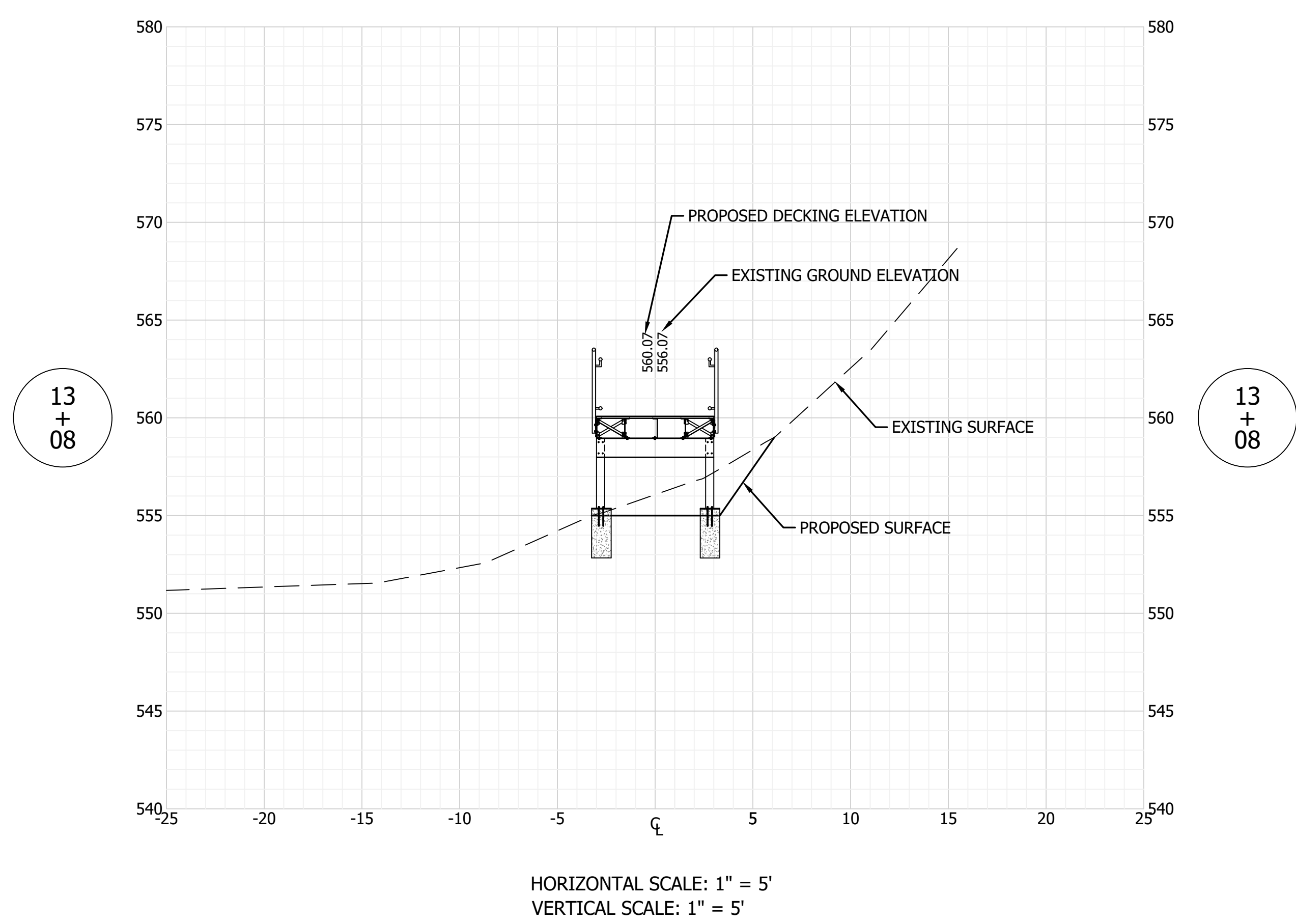
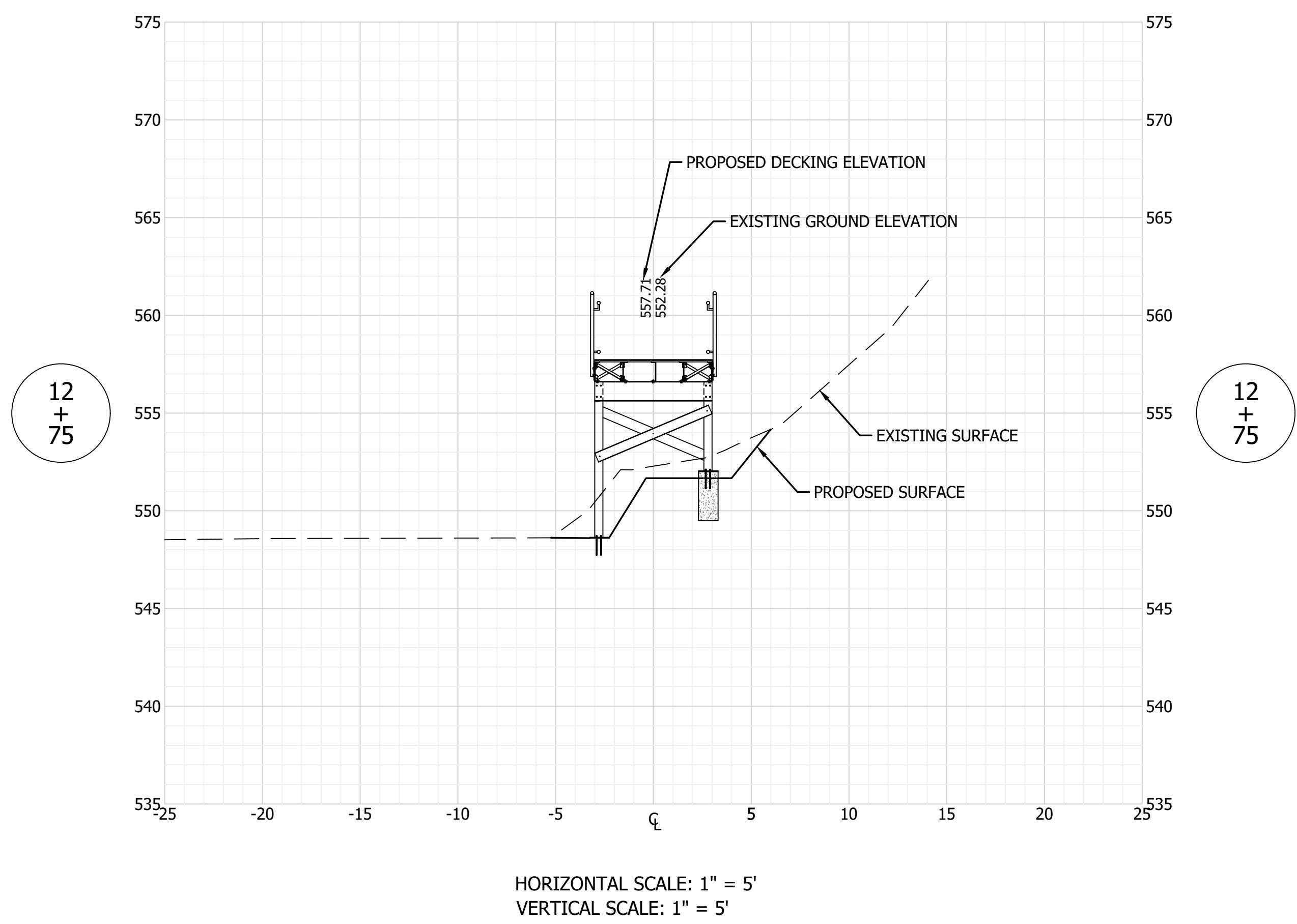
HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'



HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'

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**NOTES:**  
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SCALE: 1" = 10'  
 DRAWN BY: ARC  
 CHECKED BY: BRB/BAH  
 DATE: MARCH 10, 2021

Revision	Drawn By	Date

FILE NO: 19-11352  
 CLIENT NAME:  
 DNR

PROJECT DESCRIPTION:  
 SPRING MILL DONALDSON CAVE  
 WALK-WAY

SHEET TITLE:  
 CROSS-SECTIONS (6 OF 8)

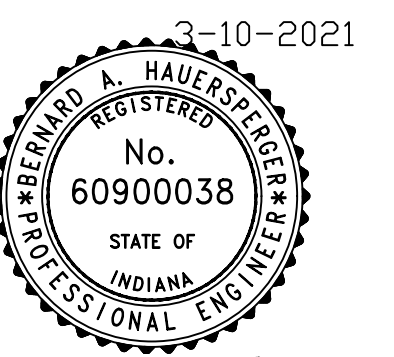
DESIGN PHASE:  
 BIDDING PLANS

SHEET NUMBER:  
**11**

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3-10-2021  
*Leonard A. Halpern*

SCALE: 1" = 10'		
DRAWN BY: ARC		
CHECKED BY: BRB/BAH		
DATE: MARCH 10, 2021		
Revision	Drawn By	Date

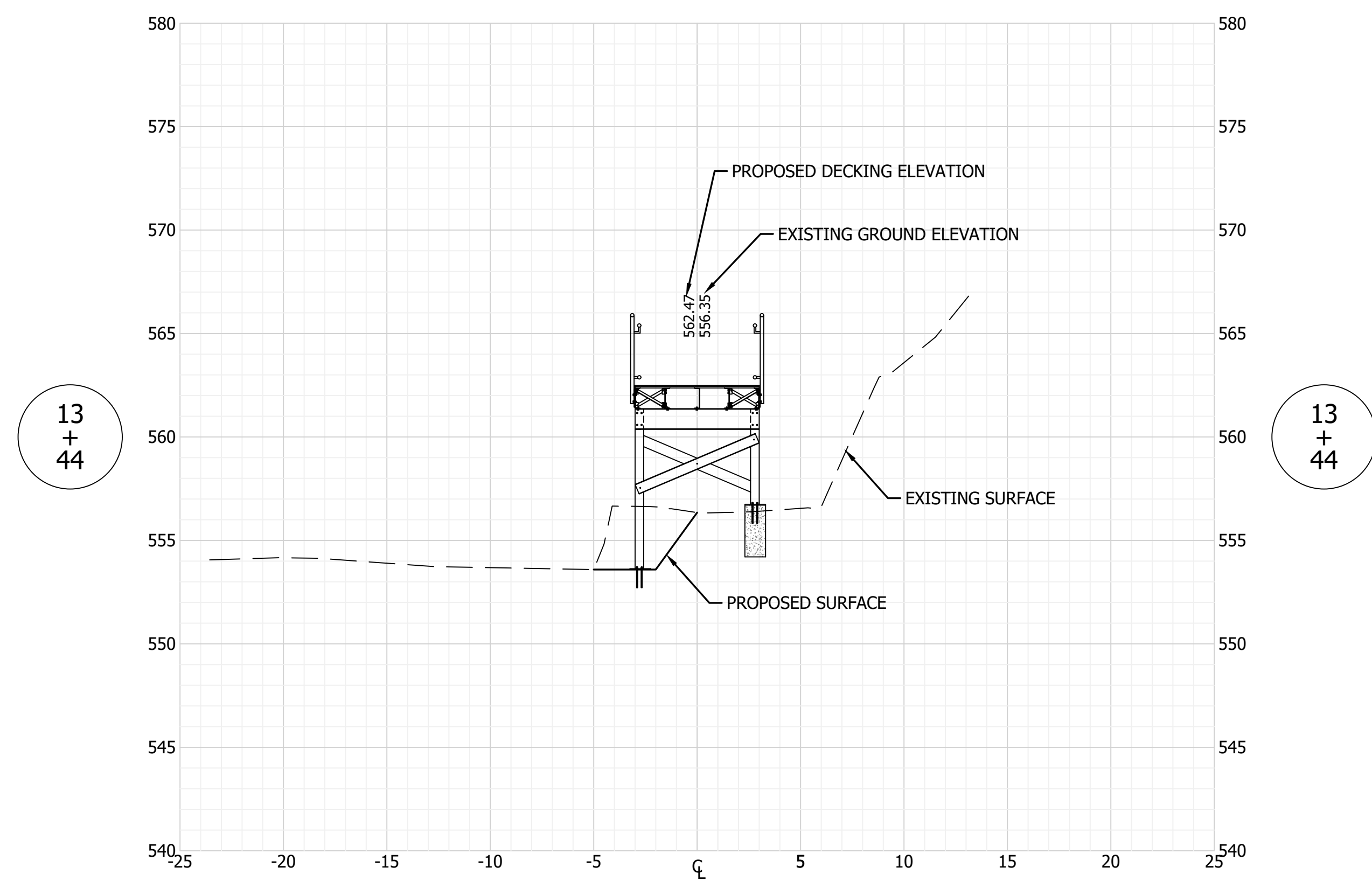
FILE NO: 19-11352  
 CLIENT NAME:  
 DNR

PROJECT DESCRIPTION:  
 SPRING MILL DONALDSON CAVE  
 WALK-WAY

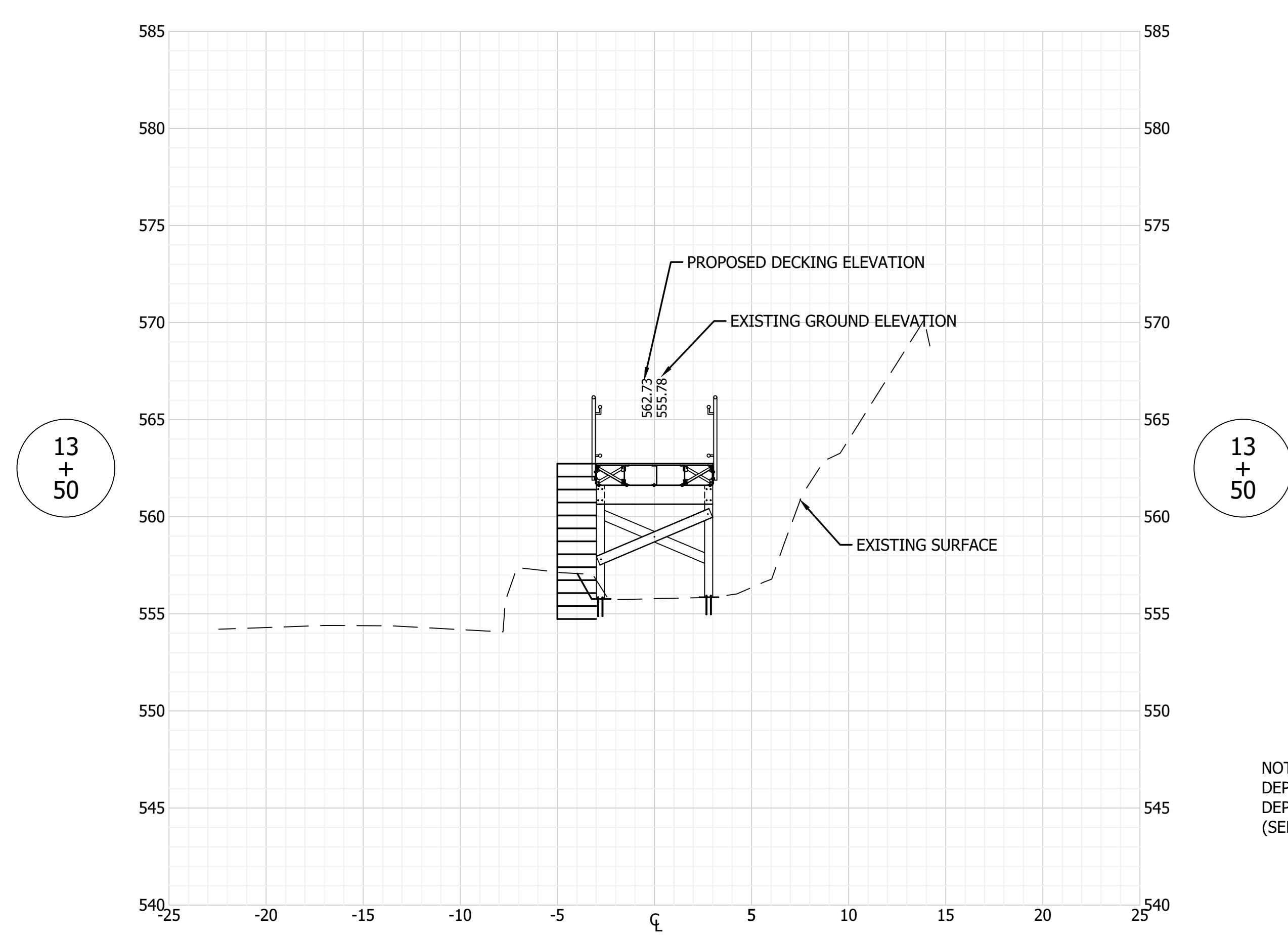
SHEET TITLE:  
 CROSS-SECTIONS (7 OF 8)

DESIGN PHASE:  
 BIDDING PLANS

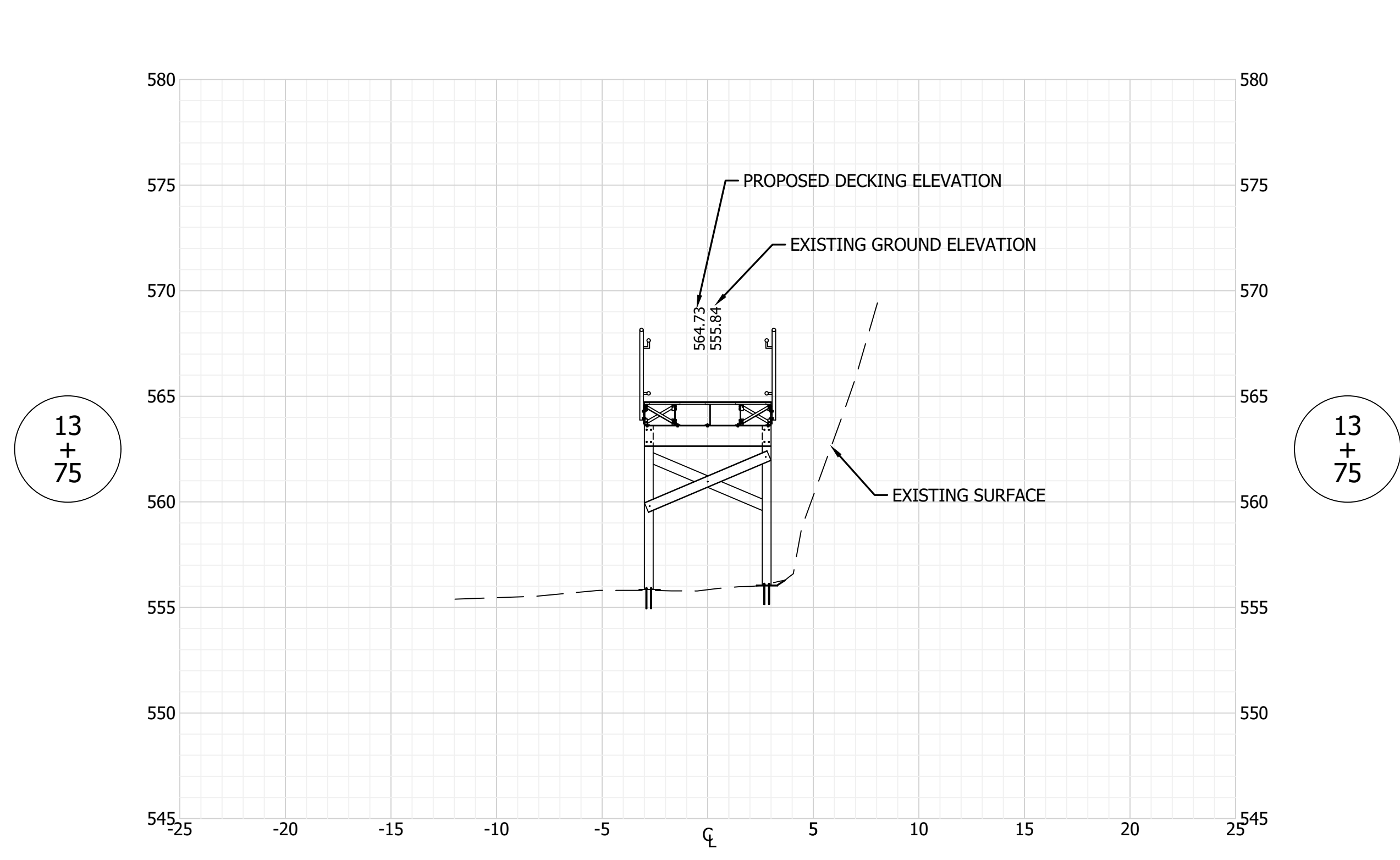
SHEET NUMBER:  
**12**



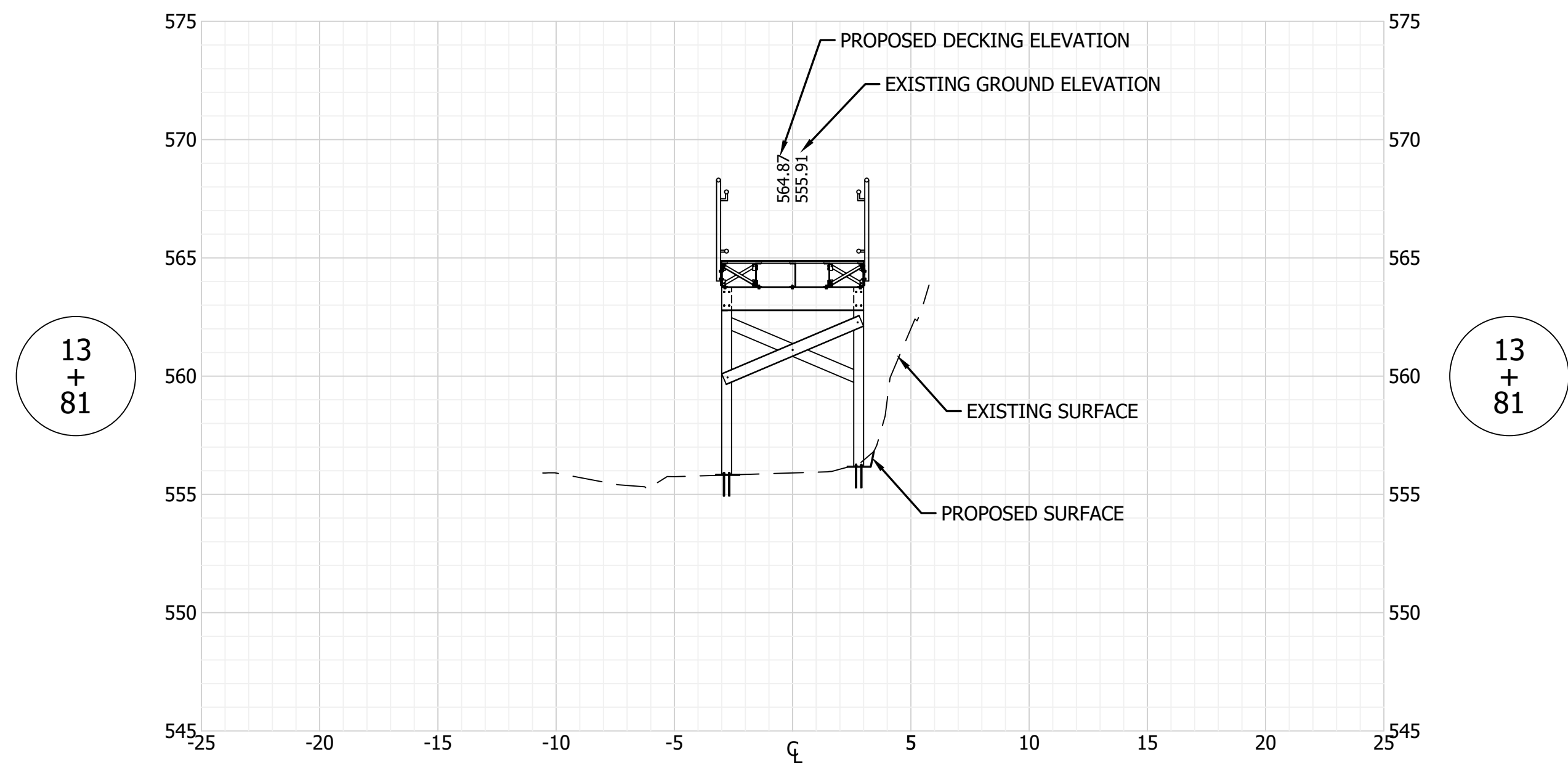
HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'



HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'



HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'



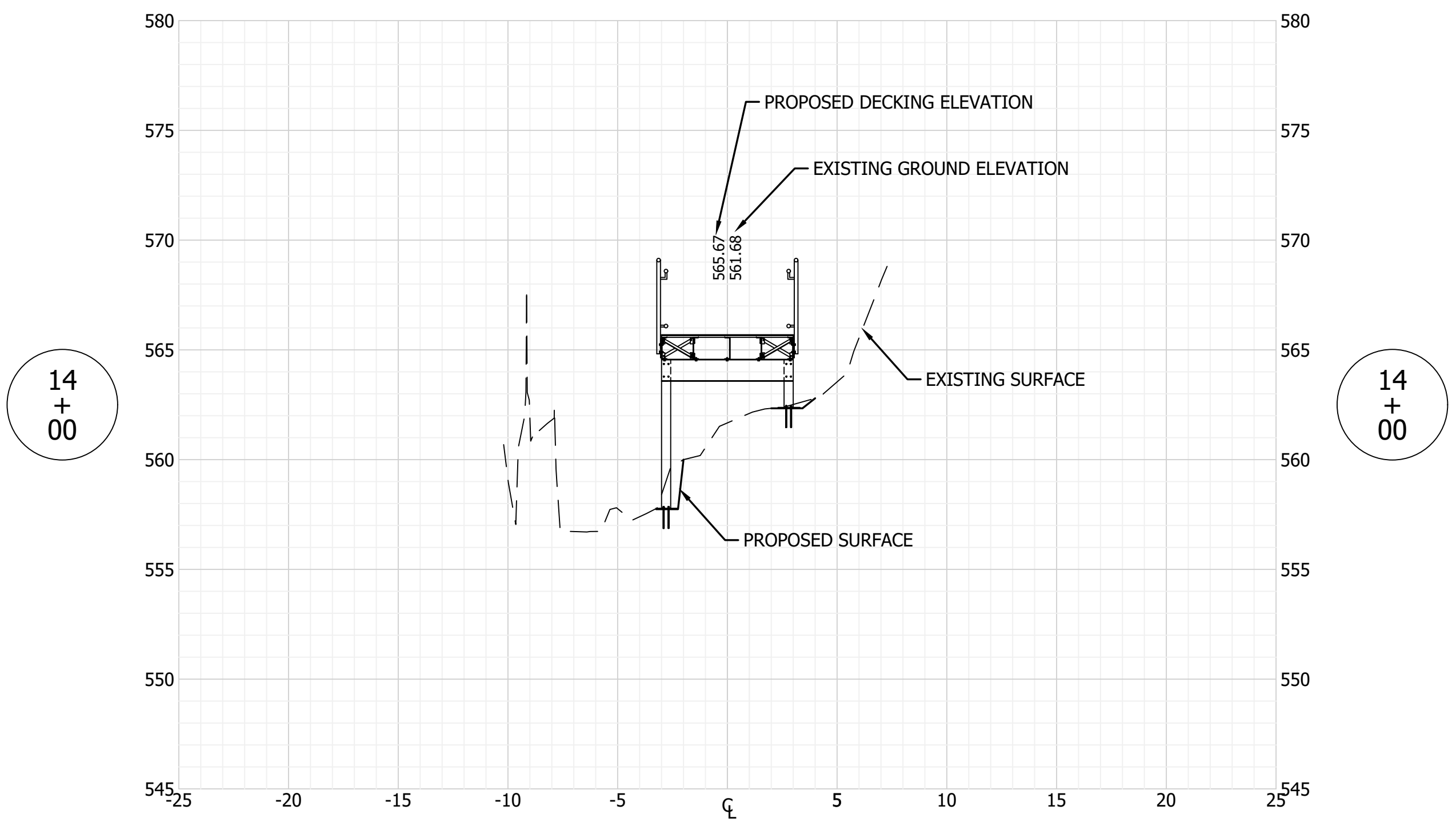
HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'

NOTE: FIELD VERIFY ROCK DEPTH AT COLUMN LOCATIONS, ROCK DEPTH WILL BE DETERMINING FACTOR FOR ANCHORS. IF ROCK DEPTH IS GREATER THAN 30", FOOTERS WILL BE CONSTRUCTED (SEE SHEET 14 FOR FOOTER DETAIL)

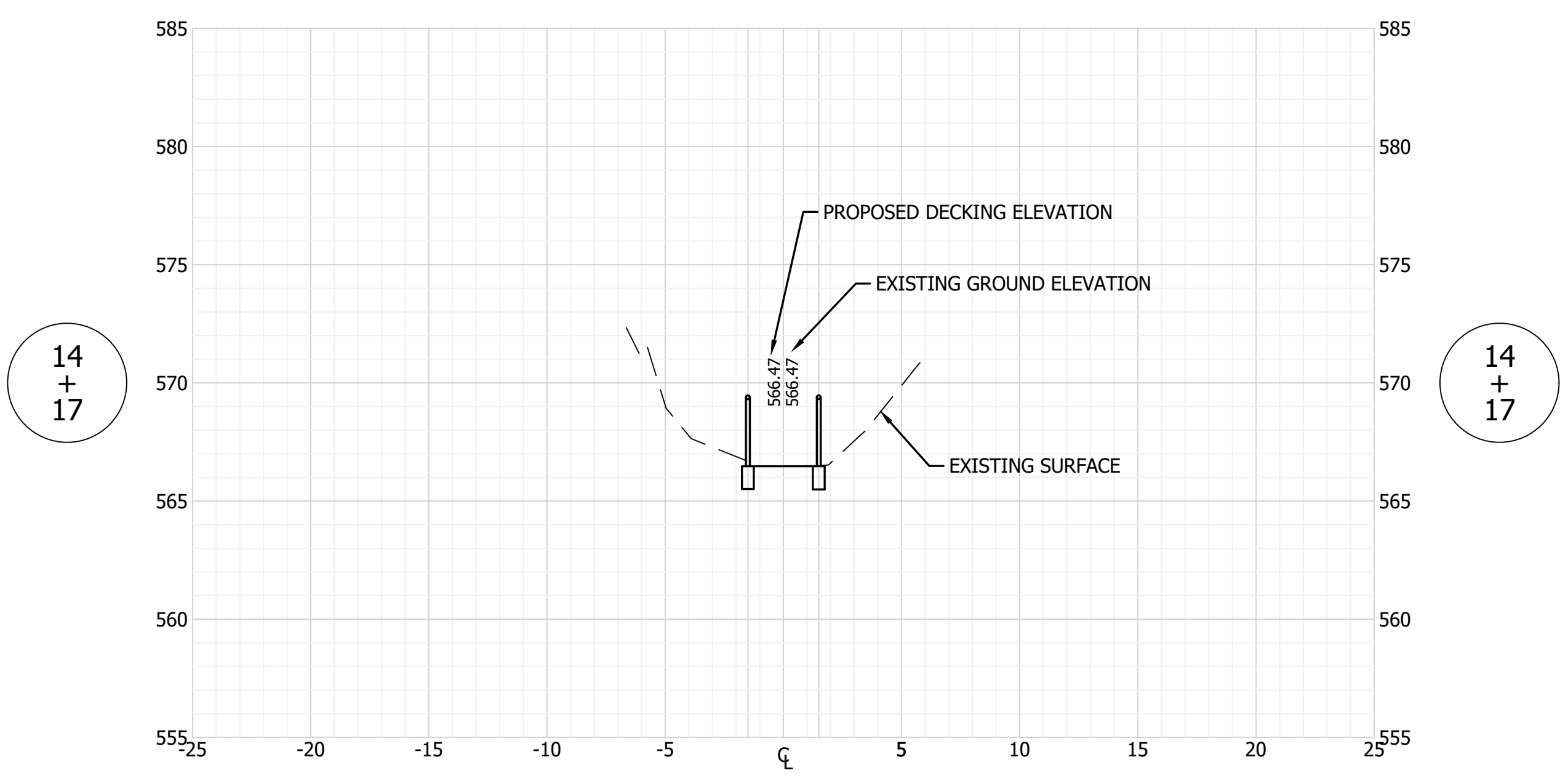
**GENERAL NOTE:**  
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HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'



HORIZONTAL SCALE: 1" = 5'  
 VERTICAL SCALE: 1" = 5'

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SCALE: 1" = 10'  
 DRAWN BY: ARC  
 CHECKED BY: BRB/BAH  
 DATE: MARCH 10, 2021

Revision	Drawn By	Date

FILE NO: 19-11352  
 CLIENT NAME: DNR

PROJECT DESCRIPTION:  
 SPRING MILL DONALDSON CAVE WALK-WAY

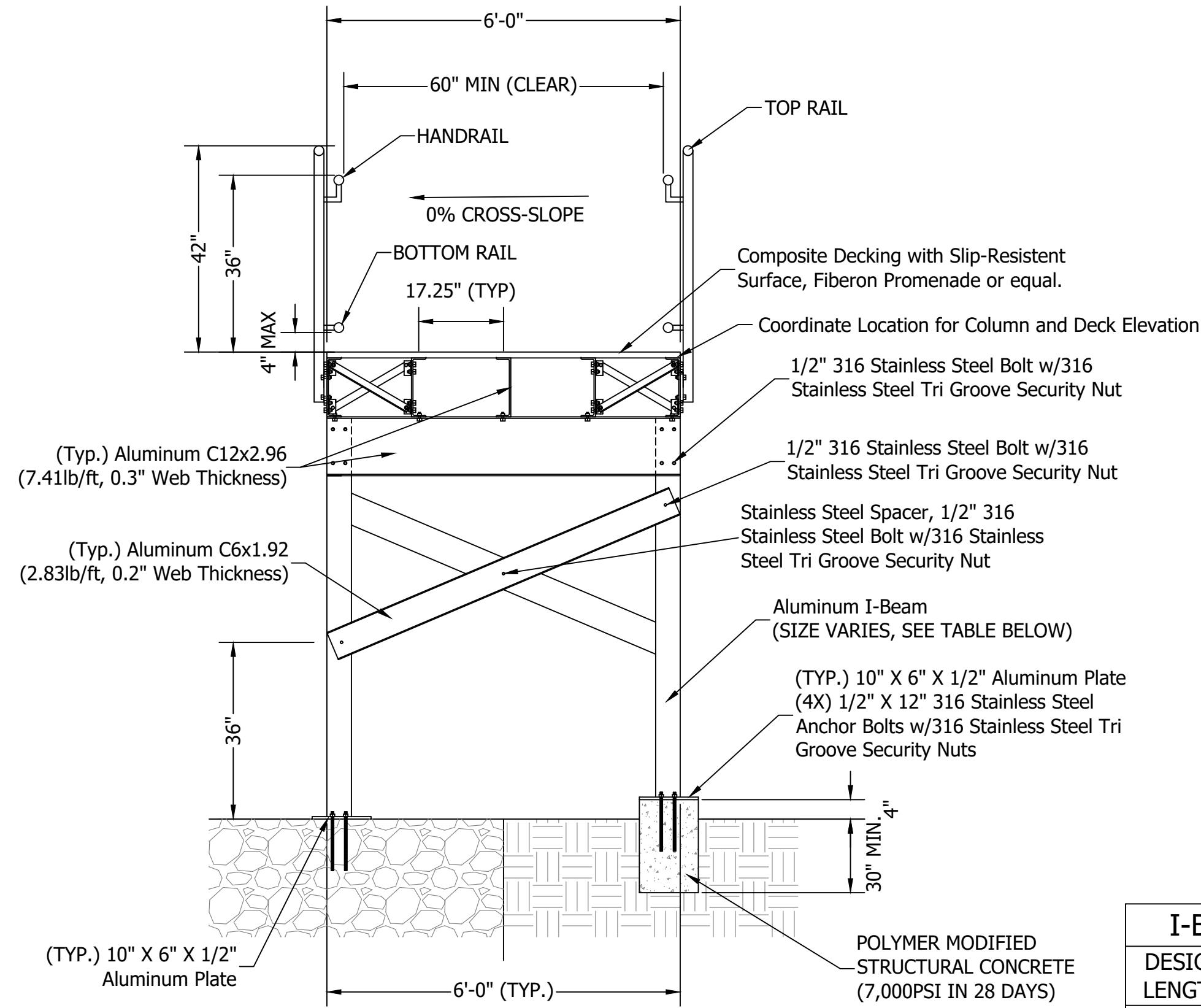
SHEET TITLE:  
 CROSS-SECTIONS (8 OF 8)

DESIGN PHASE:  
 BIDDING PLANS

SHEET NUMBER:  
**13**

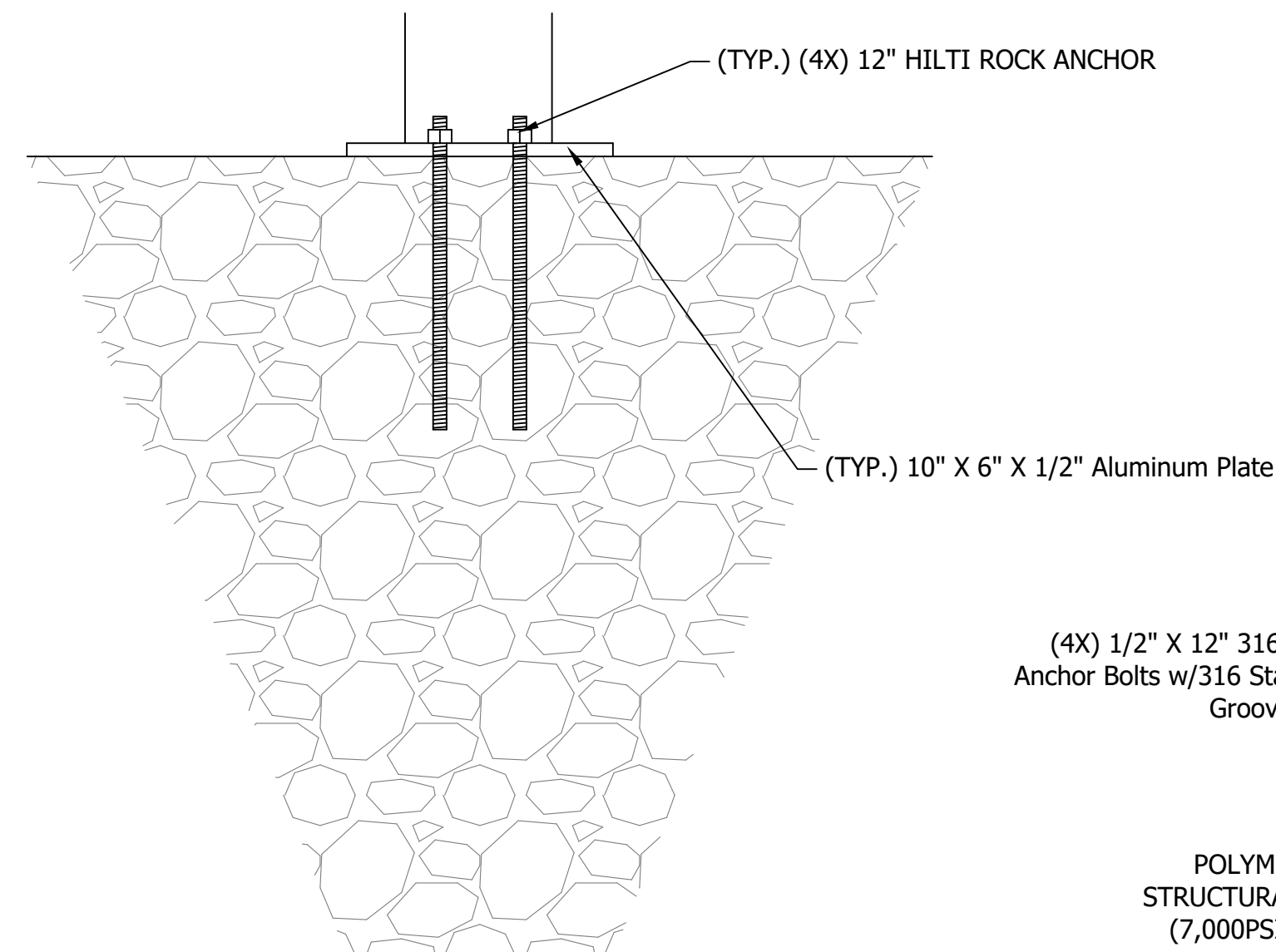
- NOTES:
1. SOLID COMPOSITE DECKING WITH SLIP RESISTANT COATING, FIBERON PROMENADE OR EQUAL
  2. 10' MAX LENGTH TO ANY PIECE DELIVERED TO SITE BY UTV.
  3. CONTRACTOR TO CORE AND SET ALL FOOTERS AND PREP SURFACE OF ROCK FOR 1/2" ALUMINUM BASE PLATE, PLACE I BEAM VERTICAL SUPPORTS AND CUT TO LENGTH TO MEET PLATFORM GRADE. I BEAMS TO BE WELDED TO 1/2" ALUMINUM BASE PLATE.
  4. ALL COMPONENTS PREFABRICATED AND ASSEMBLED AND FASTENED ON SITE.
  5. MATERIALS - ALUMINUM WITH STAINLESS STEEL HARDWARE

NOTE:  
TAPER LANDING INTO UPPER LEVEL OF CAVE (STATION 14+12) TO A MIN CLEAR WIDTH OF 32" OR AS NEEDED TO ENSURE CLEARANCE FROM ROCK SIDE SLOPES

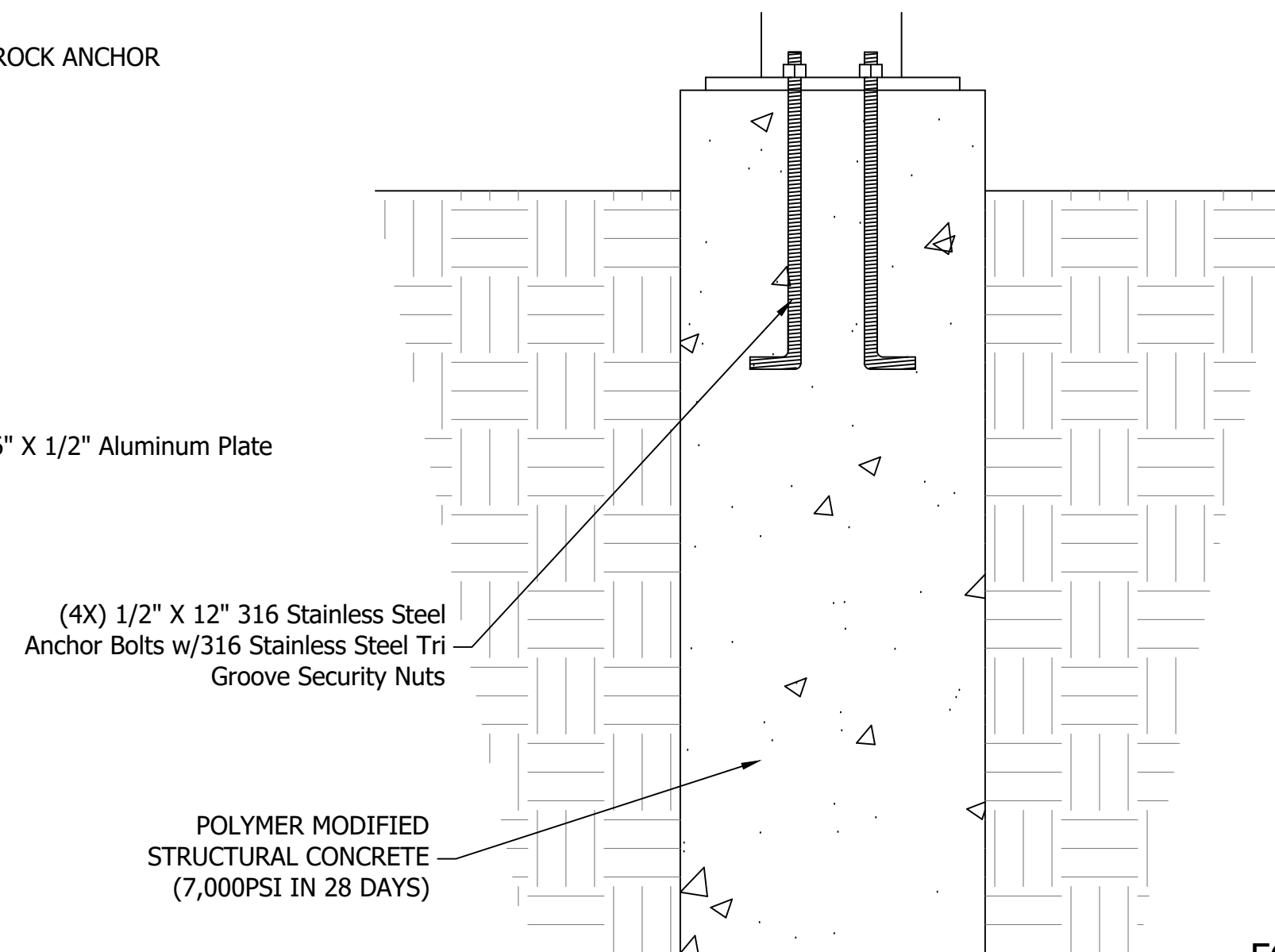


WALKWAY SECTION  
NTS

I-BEAM STRUCTURAL TABLE	
DESIGN LENGTH	DESCRIPTION
6' OR LESS	W6X4 (4.03LB/FT)
8'	W7X4.5 (5.8LB/FT)
10'	W8X5 (6.18LB/FT)

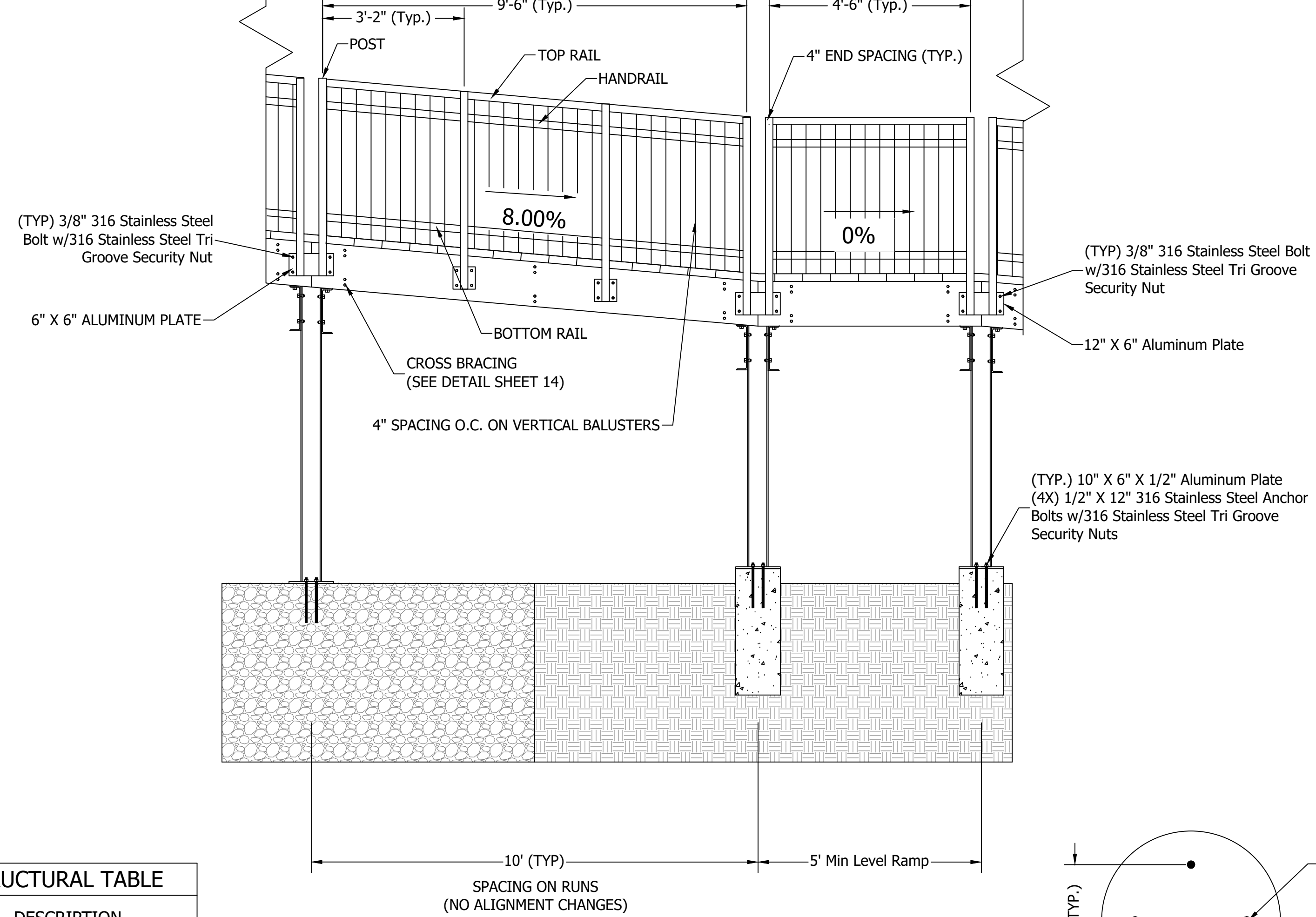


ROCK ANCHOR DETAIL  
NTS

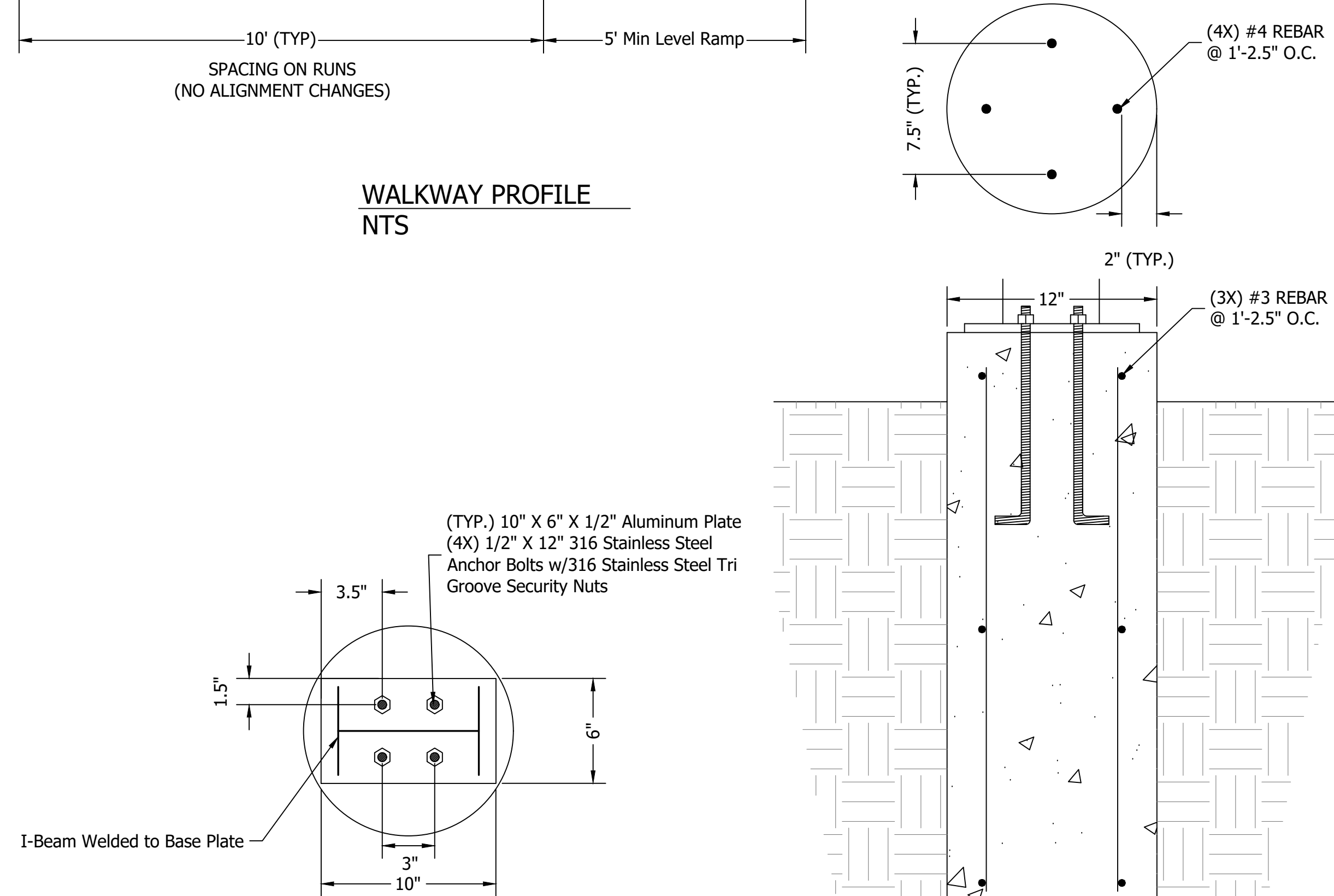


FOOTER ANCHOR DETAIL  
NTS

- NOTES:
1. 30' MAX RUN @ 8.33% MAX BETWEEN LANDINGS
  2. 2.5' MAX ELEVATION DIFFERENCE BETWEEN LANDINGS
  3. LANDINGS (0% SLOPE) AT ALL CHANGES IN ALIGNMENT WITH VARIABLE INSIDE AND OUTSIDE DIMENSIONS



WALKWAY PROFILE  
NTS



FOOTER REBAR DETAIL  
NTS

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3-10-2021  
REGISTERED PROFESSIONAL ENGINEER  
No. 60900038  
STATE OF INDIANA  
*Arnold C. Heunggen*

SCALE: AS SHOWN  
DRAWN BY: ARC  
CHECKED BY: BRB/BAH  
DATE: MARCH 10, 2021

Revision	Drawn By	Date

FILE NO: 19-11352  
CLIENT NAME: DNR

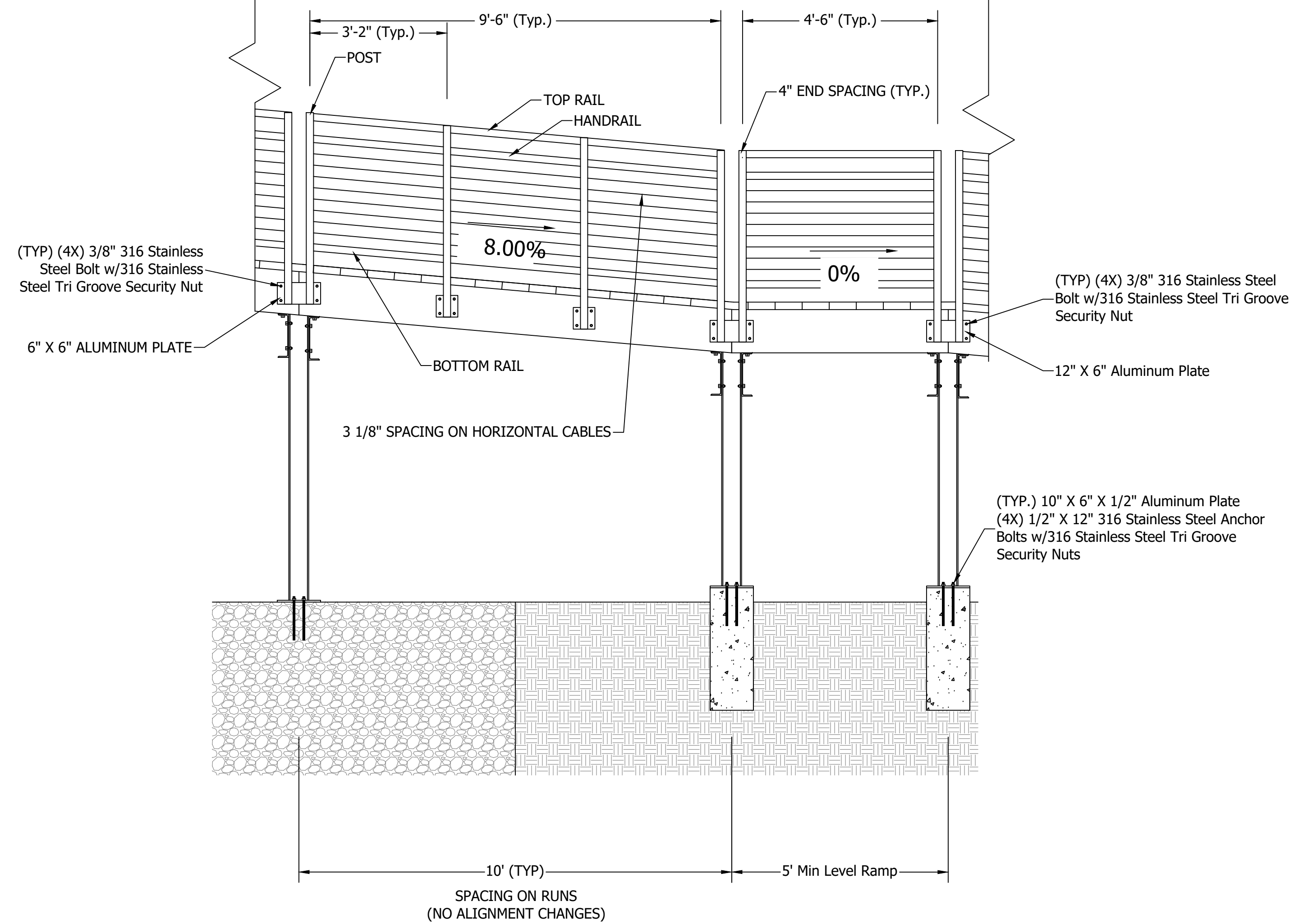
PROJECT DESCRIPTION:  
SPRING MILL DONALDSON CAVE  
WALK-WAY

SHEET TITLE:  
DETAILS (1 OF 2)

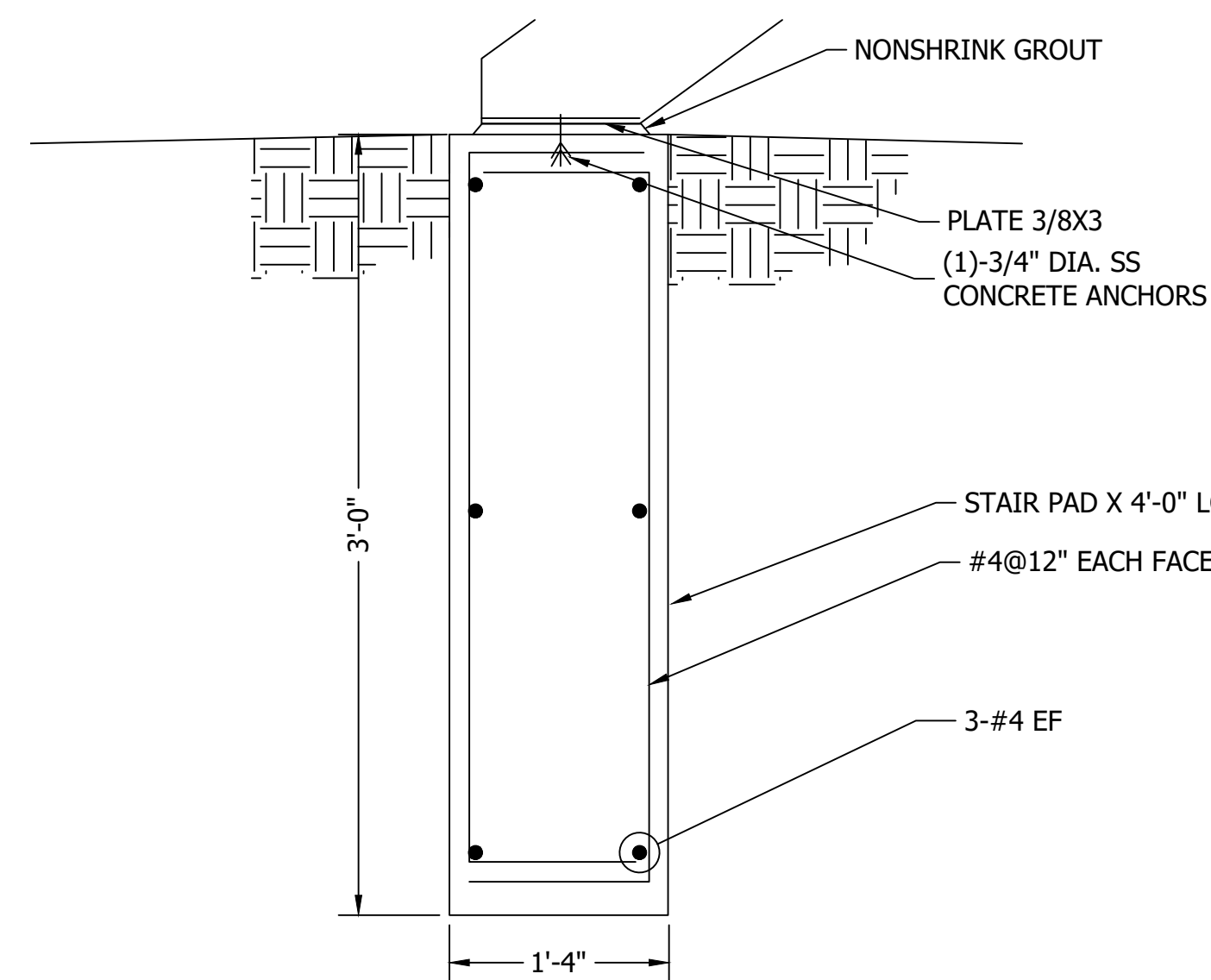
DESIGN PHASE:  
BIDDING PLANS

SHEET NUMBER:  
**14**

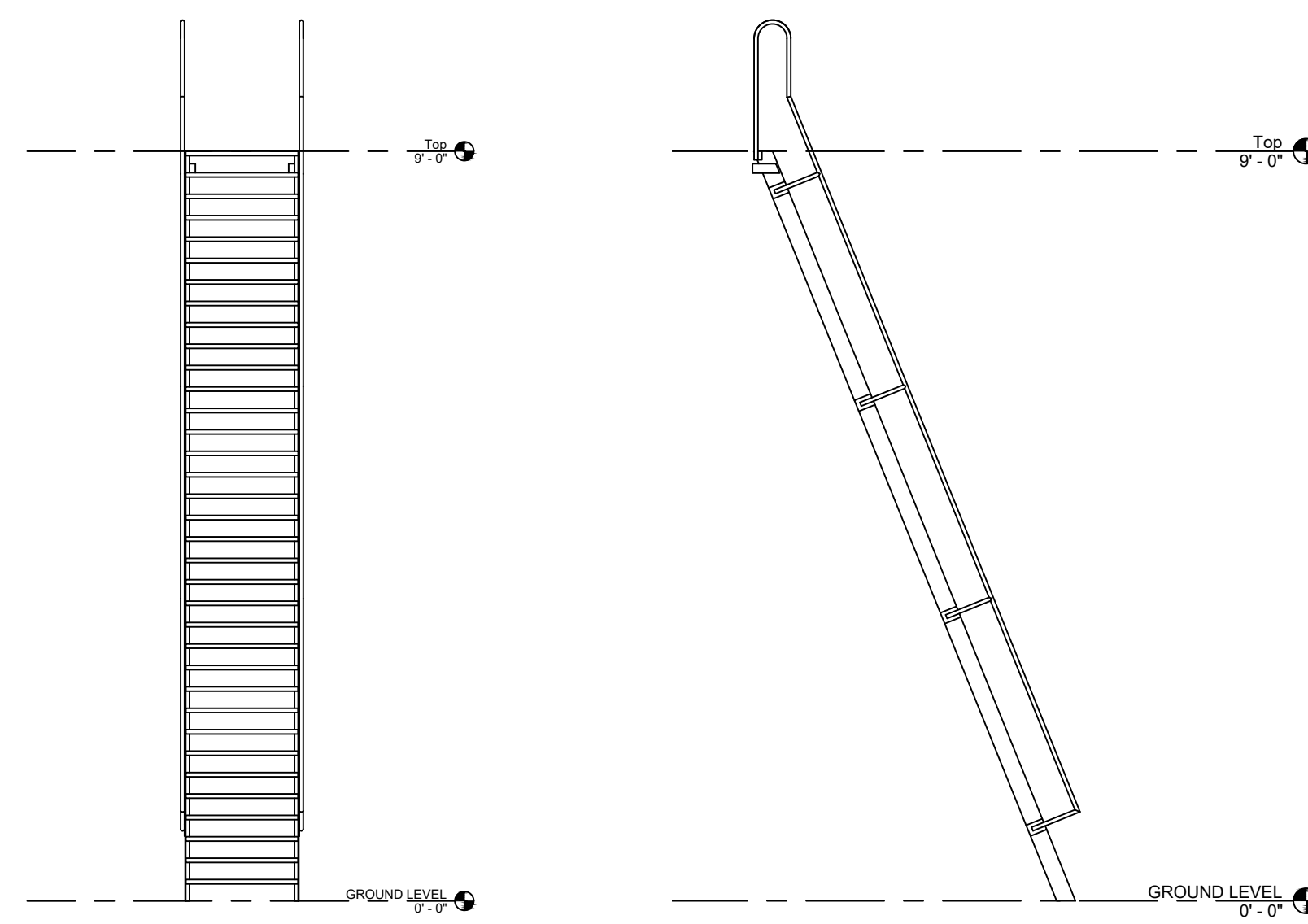
- NOTES:  
 1. 30' MAX RUN @ 8.33% MAX BETWEEN LANDINGS  
 2. 2.5' MAX ELEVATION DIFFERENCE BETWEEN LANDINGS  
 3. LANDINGS (0% SLOPE) AT ALL CHANGES IN ALIGNMENT WITH VARIABLE INSIDE AND OUTSIDE DIMENSIONS



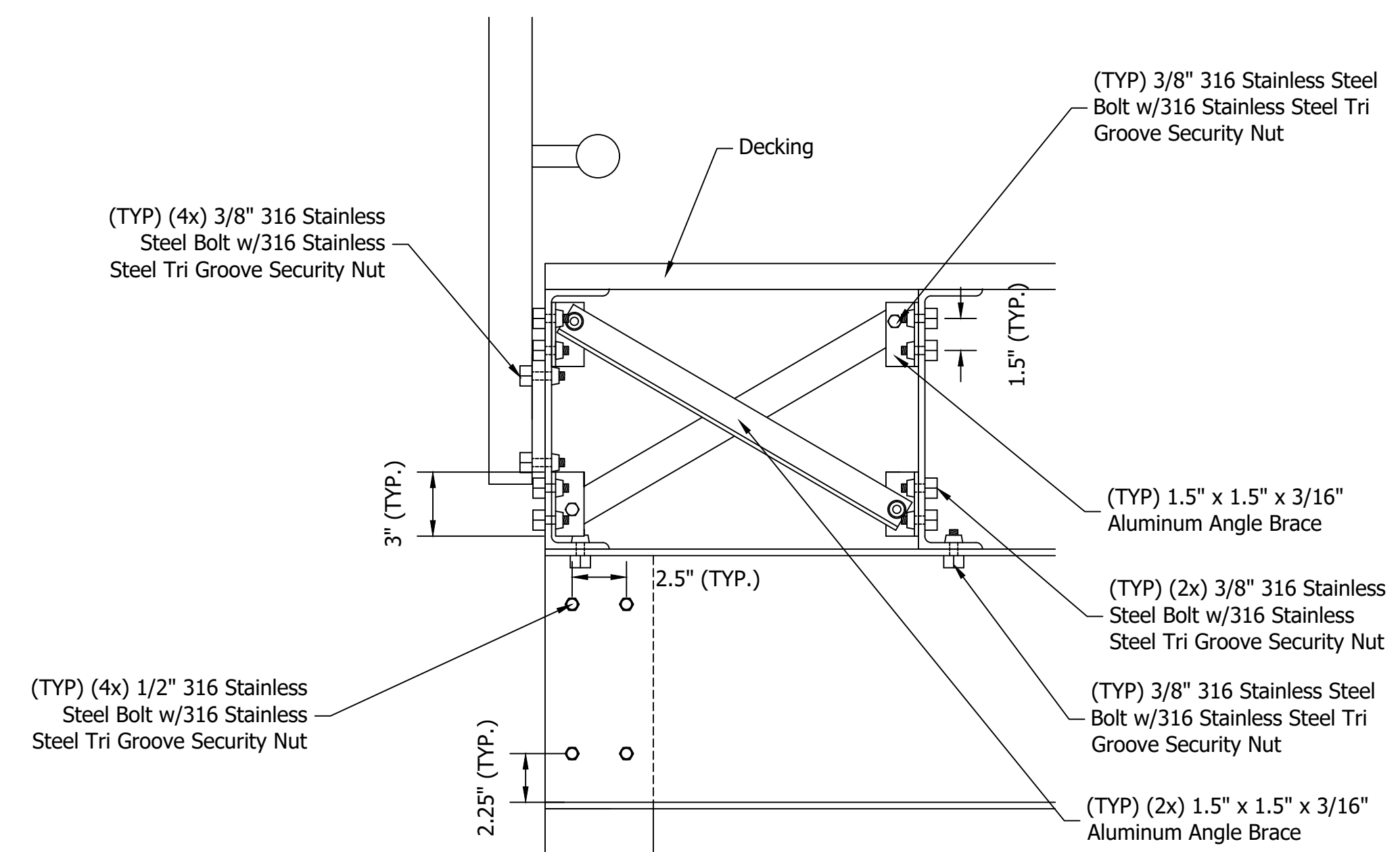
WALKWAY PROFILE (ALTERNATE RAILING)  
NTS



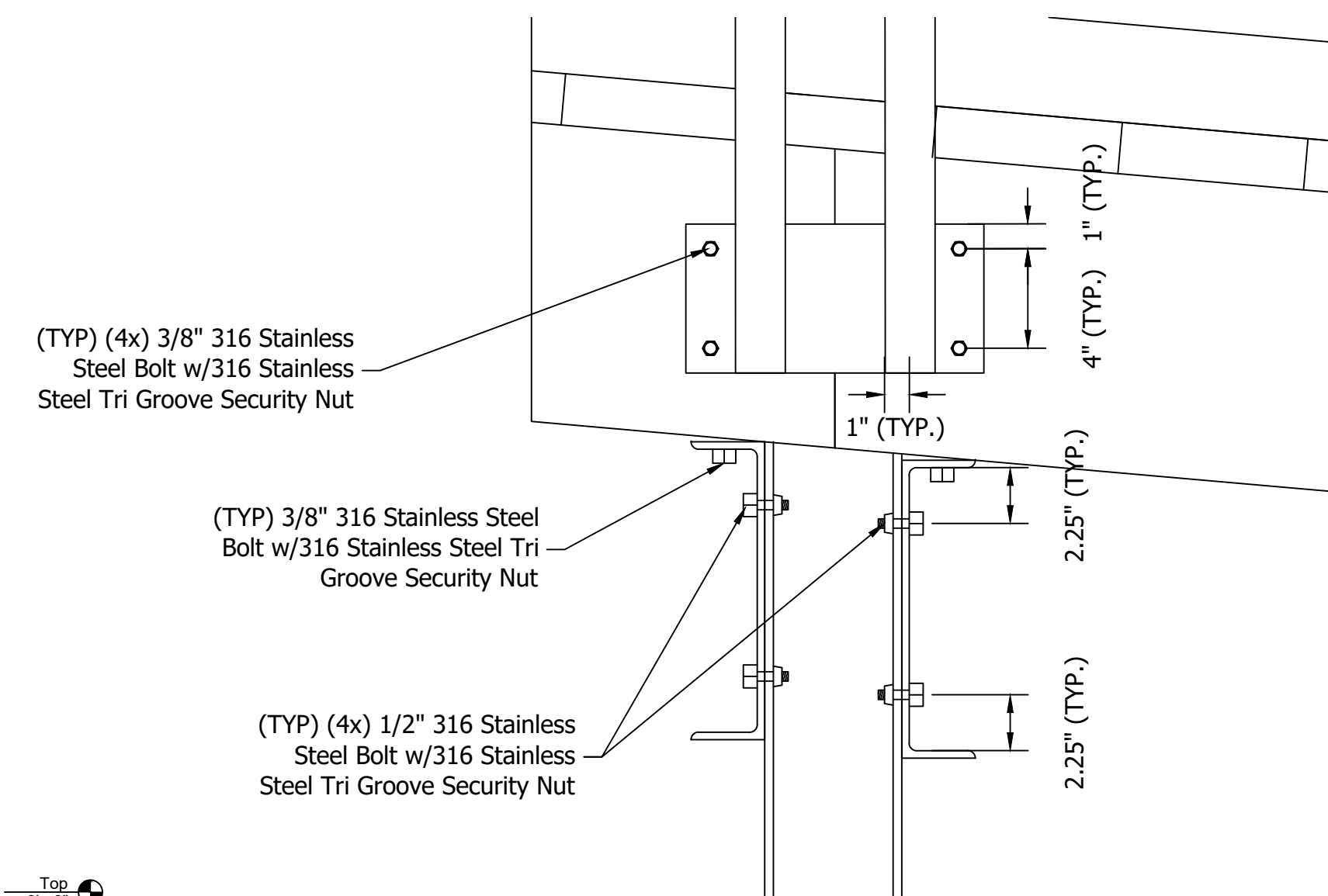
WALKWAY RAMP FOOTER  
NTS



SHIPS LADDER DETAIL  
NTS



WALKWAY SECTION (BOLTED CONNECTIONS)  
NTS



WALKWAY PROFILE (BOLTED CONNECTIONS)  
NTS

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3-10-2021  
 REGISTERED PROFESSIONAL ENGINEER  
 No. 60900038  
 STATE OF INDIANA  
*Arnold C. Huggins*

SCALE: AS SHOWN  
 DRAWN BY: ARC  
 CHECKED BY: BRB/BAH  
 DATE: MARCH 10, 2021

Revision	Drawn By	Date

FILE NO: 19-11352  
 CLIENT NAME: DNR

PROJECT DESCRIPTION:  
 SPRING MILL DONALDSON CAVE  
 WALK-WAY

SHEET TITLE:  
 DETAILS (2 OF 2)

DESIGN PHASE:  
 BIDDING PLANS

SHEET NUMBER:  
**15**