

Appendix B

Lake Walk/Boardwalk Construction Options

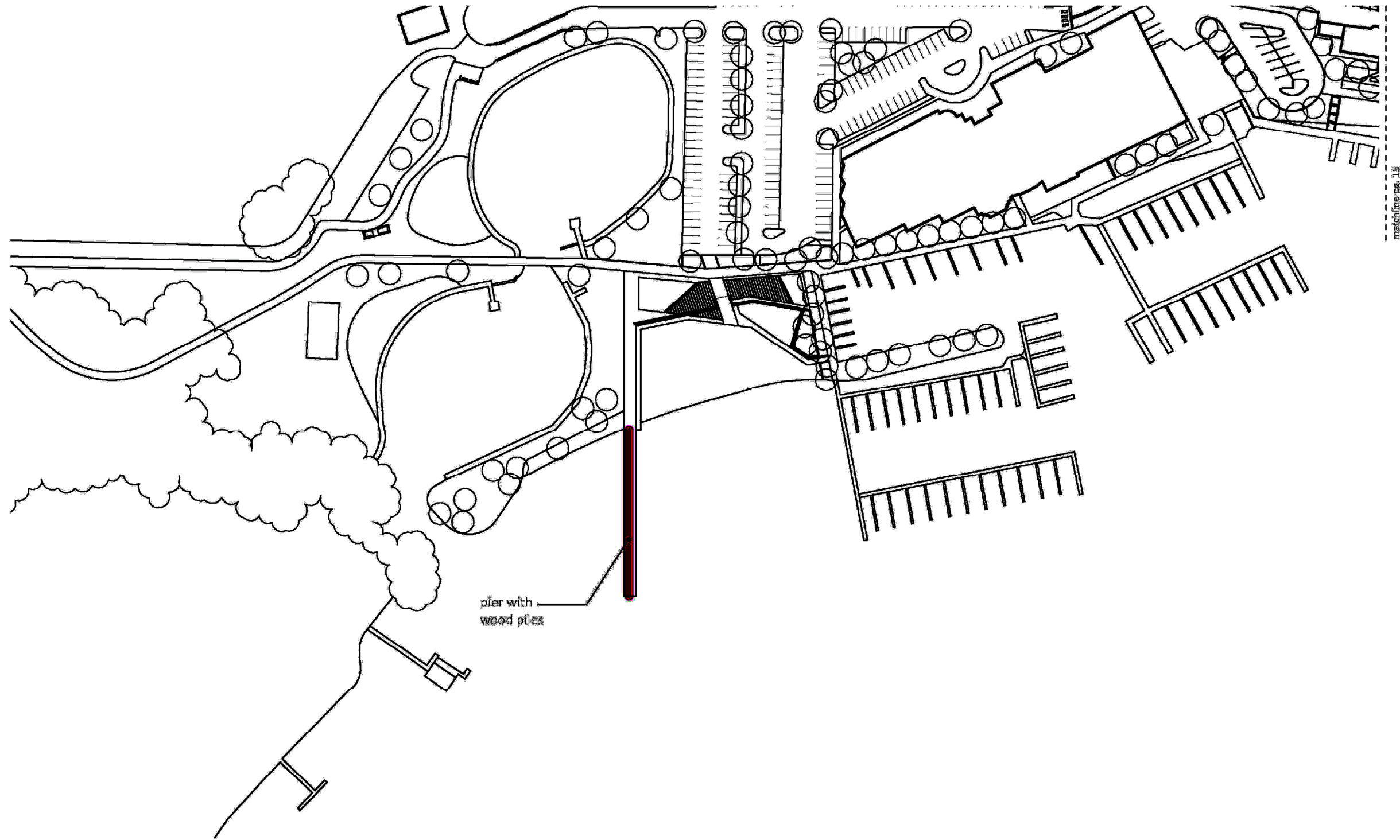
Figures

- B-1: Option B1 Boardwalk Wood Pile Plan – Beach Area
- B-2: Option B1 Boardwalk Wood Pile Plan – Lake Walk
- B-3: Option B1 Boardwalk Wood Pile Section
- B-4: Option B2 Boardwalk Concrete Pile Plan – Beach Area
- B-5: Option B2 Boardwalk Concrete Pile Plan – Lake Walk
- B-6: Option B2 Boardwalk Concrete Pile Section

Appendix B Lake Walk/Boardwalk Construction Options

Option B1. Boardwalk support – wood piles. Under this scenario, 8' wood piles would be placed along the outside edges of the boardwalks, spaced 5.5' apart, for the entire 2,217 lf, for a total of 512 wood piles (Figures B-1 and B-2). These piles would be driven into the lake bottom (Figure B-3).

Option B2. Boardwalk support – concrete pile. Under this scenario, concrete piers would be placed periodically along the boardwalk (Figures B-4 and B-5), for total of 19 piers. Each concrete pier would span the width of the boardwalk and extend into the lake bottom (Figure B-6).



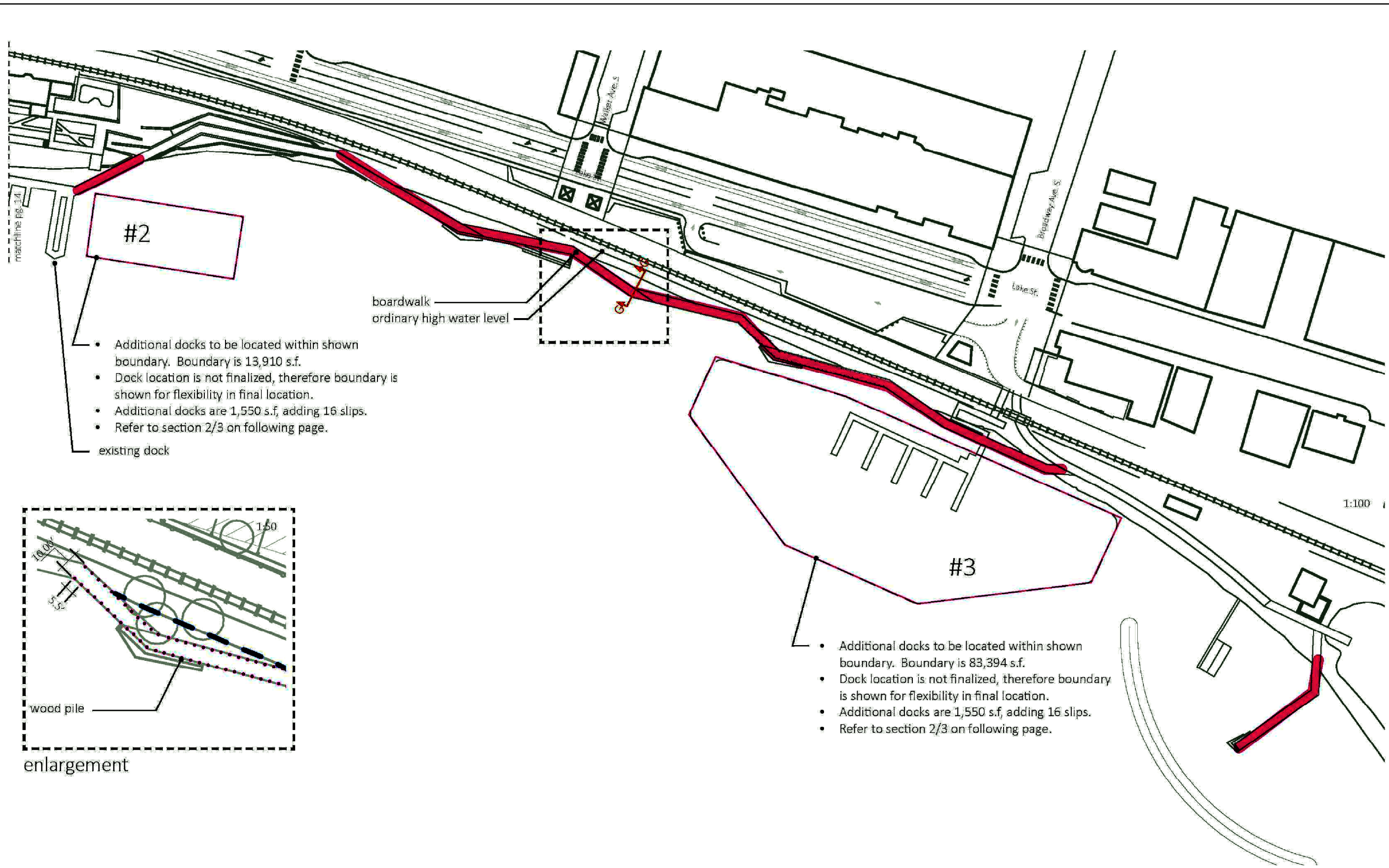
pier with
wood piles

WAYZATA LAKE EFFECT
Lake Edge Diagrams : Boardwalk Wood Pile Plan Diagram

OPTION B1 BOARDWALK WOOD PILE PLAN
WAYZATA LAKE EFFECT
WAYZATA, MINNESOTA

Project No:	
B1607634	
Drawing No.	
B1607634_FigB1	
Drawn By:	
CMF	
Date Drawn:	
01/20/2017	
Checked By:	
JBW	
Last Modified:	
2/9/17	
Sheet:	Fig.
1 of 1	B-1

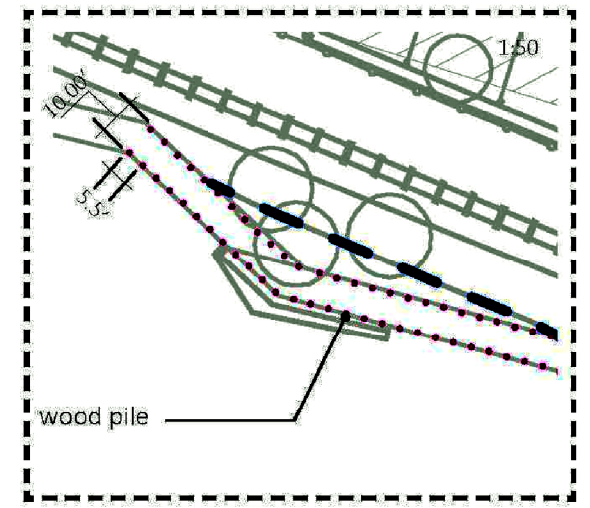
F:\2016\B1607634\GIS\EA\W Stuffs\B1607634_FigB1.mxd



OPTION B1 BOARDWALK WOOD PILE PLAN
 WAYZATA LAKE EFFECT
 WAYZATA, MINNESOTA

- #2
- Additional docks to be located within shown boundary. Boundary is 13,910 s.f.
 - Dock location is not finalized, therefore boundary is shown for flexibility in final location.
 - Additional docks are 1,550 s.f, adding 16 slips.
 - Refer to section 2/3 on following page.
- existing dock

- #3
- Additional docks to be located within shown boundary. Boundary is 83,394 s.f.
 - Dock location is not finalized, therefore boundary is shown for flexibility in final location.
 - Additional docks are 1,550 s.f, adding 16 slips.
 - Refer to section 2/3 on following page.



enlargement

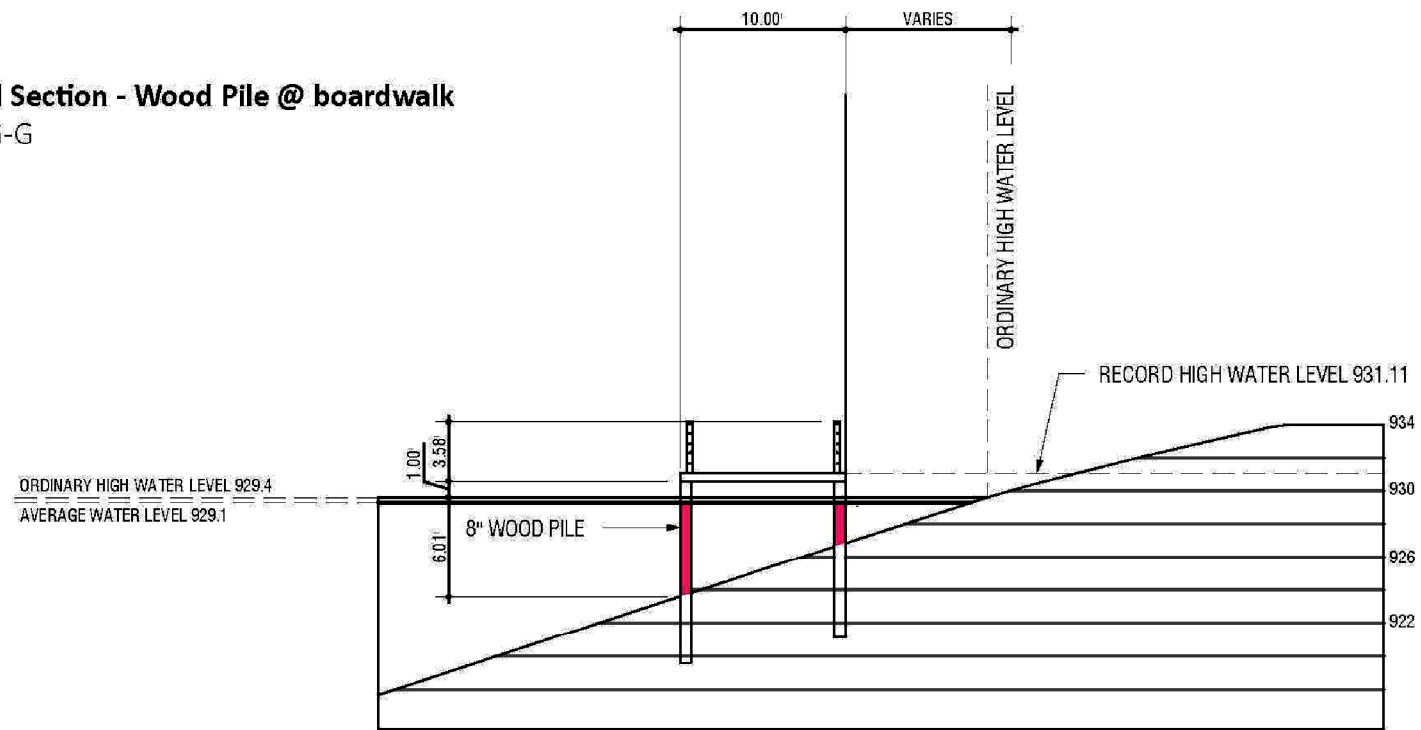
WAYZATA LAKE EFFECT
Lake Edge Diagrams : Boardwalk Wood Pile Plan Diagram



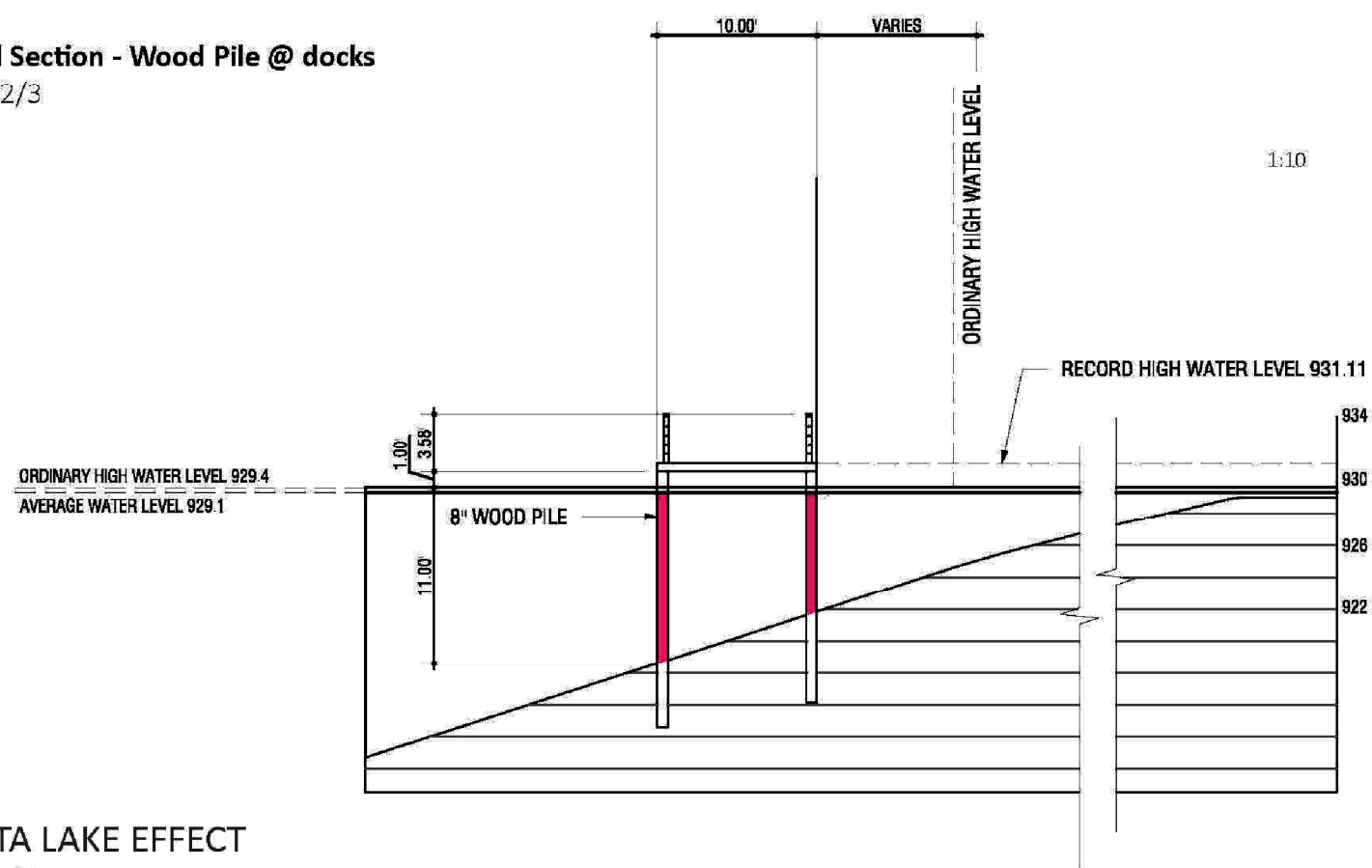
Project No:	B1607634
Drawing No:	B1607634_FigB2
Drawn By:	CMF
Date Drawn:	01/20/2017
Checked By:	JBW
Last Modified:	1/24/18
Sheet:	1 of 1
Fig:	B-2

F:\2016\B1607634\GIS\EA\W Stuffs\Updated_01242018\B1607634_FigB2.mxd

Technical Section - Wood Pile @ boardwalk
 Section G-G



Technical Section - Wood Pile @ docks
 Section #2/3



WAYZATA LAKE EFFECT
 Lake Edge Diagrams : Technical Sections

VOLUME CALCULATIONS

1. Wood Pile @ boardwalk

length of boardwalk = 1,405 lf
 wood pile radius = .34 ft
 average area = .35 sf
 average length = 3'
 volume = 1.05 (.35 x 3')

Lake Bottom Disturbance
 180 sf

1,405 (length of boardwalk) ÷ 5.5' (pile spacing) = 256 wood piles
 2 piles every 5.5' = 256x2 = 512

Volume = 538 cf (512x 1.05)

2. Wood Pile @ proposed docks

length of dock = 406 lf
 wood pile radius = .34 ft
 average area = .35 sf
 average length = 19' (includes both piles)
 volume = 6.65cf (.35 x 19')

406 (length of dock) ÷ 5.5' (pile spacing) = 74 wood piles

Volume = 493 cf (6.65x 74)

3. Wood Pile @ proposed docks

length of dock = 406 lf
 wood pile radius = .34 ft
 average area = .35 sf
 average length = 19' (includes both piles)
 volume = 6.65cf (.35 x 19')

406 (length of dock) ÷ 5.5' (pile spacing) = 74 wood piles

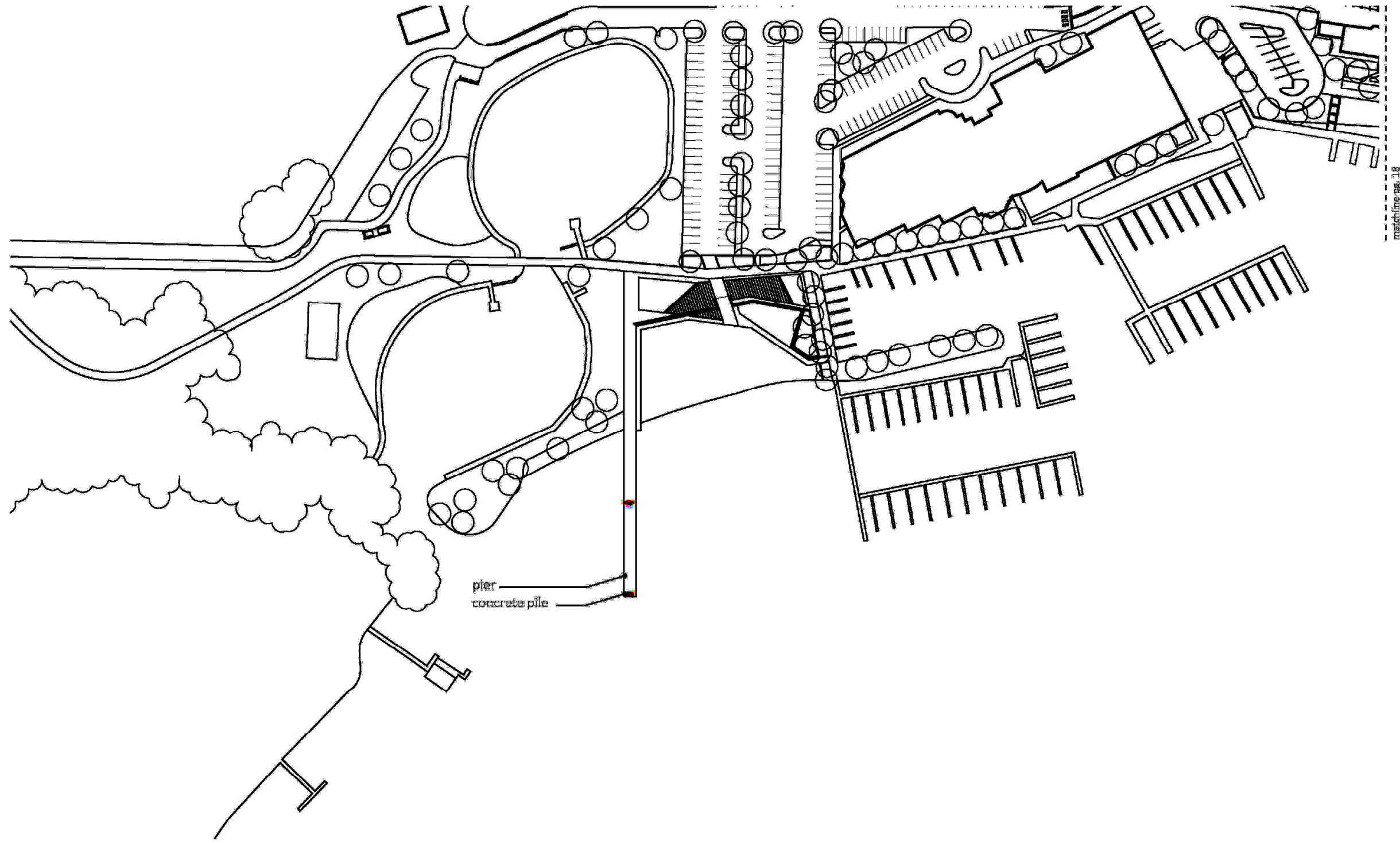
Volume = 493 cf (6.65x 74)

Volume (2/3 combined) = 986 cf

OPTION B1 BOARDWALK WOOD PILE SECTION
 WAYZATA LAKE EFFECT
 WAYZATA, MINNESOTA

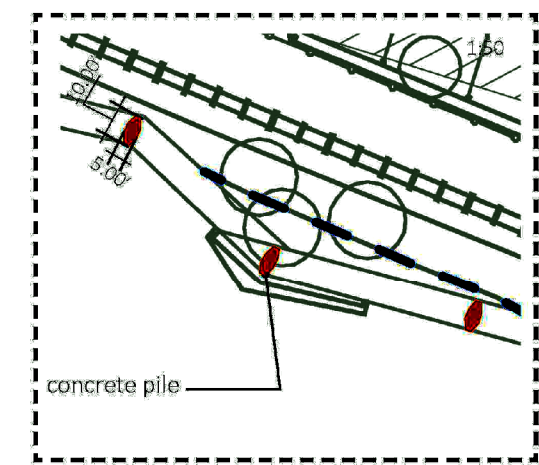
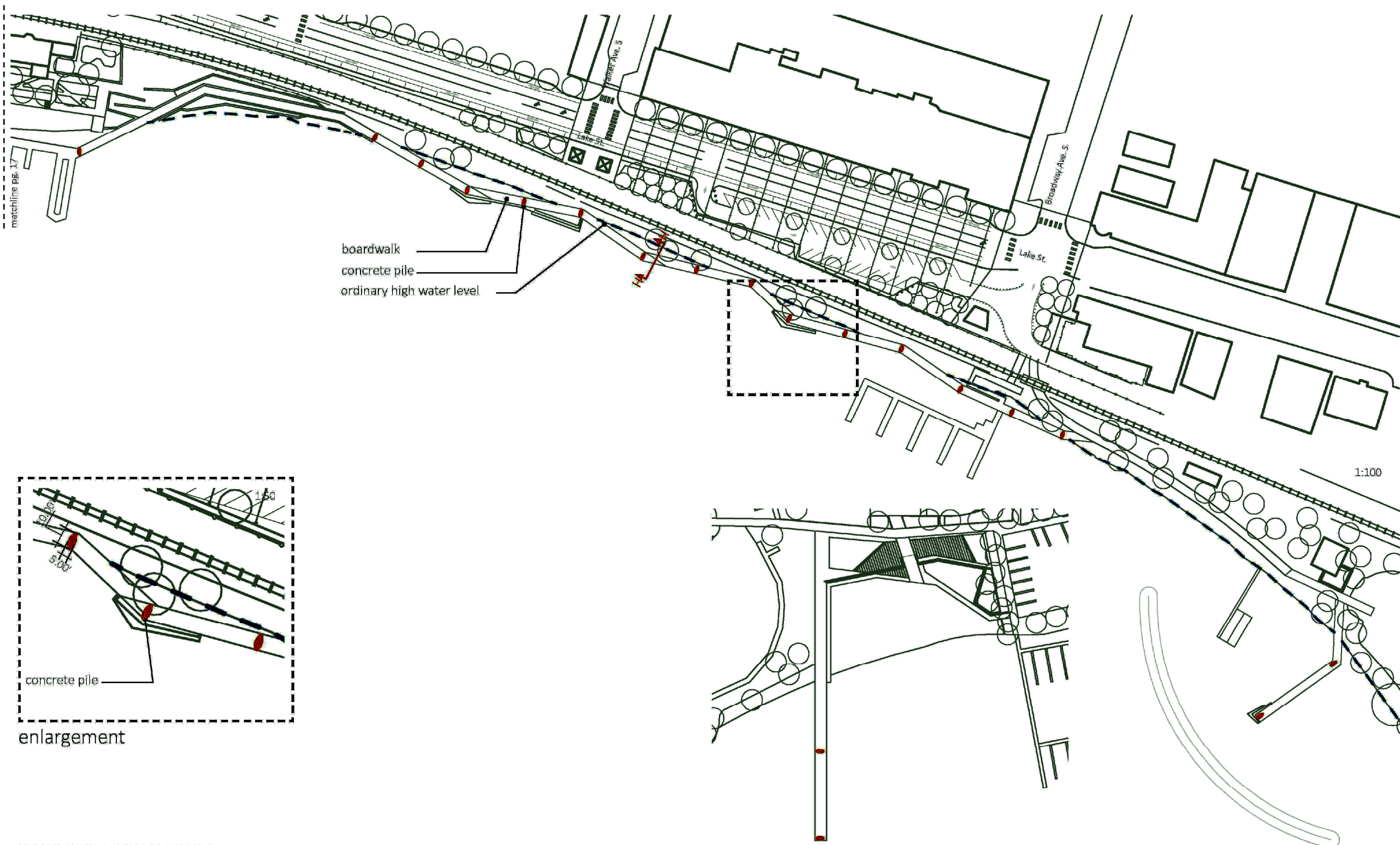
OPTION B2 BOARDWALK CONCRETE PILE PLAN
WAYZATA LAKE EFFECT
WAYZATA, MINNESOTA

Project No:	B1607634
Drawing No:	B1607634_FigB4
Drawn By:	CMF
Date Drawn:	01/20/2017
Checked By:	JBW
Last Modified:	2/9/17
Sheet:	1 of 1
Fig:	B-4



WAYZATA LAKE EFFECT
Lake Edge Diagrams : Boardwalk Wood Pile Plan Diagram

F:\2016\B1607634\GIS\EA\W Stuffs\B1607634_FigB4.mxd



enlargement

WAYZATA LAKE EFFECT
Lake Edge Diagrams : Boardwalk Concrete Pile Plan Diagram

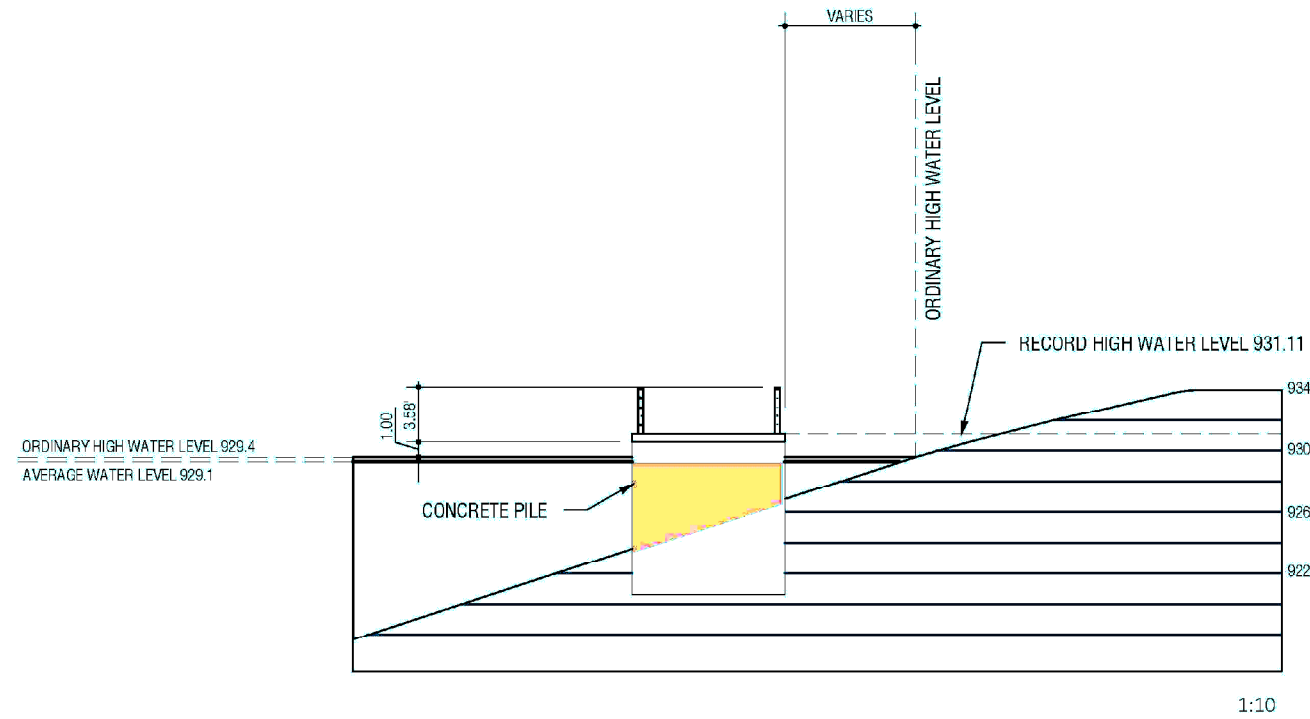
CIVITAS

OPTION B2 BOARDWALK CONCRETE PILE PLAN
WAYZATA LAKE EFFECT
WAYZATA, MINNESOTA

Project No:	
B1607634	
Drawing No.	
B1607634_FigB5	
Drawn By:	
CMF	
Date Drawn:	
01/20/2017	
Checked By:	
JBW	
Last Modified:	
2/9/17	
Sheet:	Fig.
1 of 1	B-5

F:\2016\B1607634\GIS\EA\W Stuff\B1607634_FigB5.mxd

Technical Section - Concrete Pile
Section H-H



VOLUME CALCULATIONS

1. Concrete Pile

number of piers = 19
area of pier = 40 sf
average depth = 4.42'
volume = 177 cf

Lake Bottom Disturbance
760 sf

Volume = 3,363 cf (19 x 177)

OPTION B2 BOARDWALK CONCRETE PILE SECTION
 WAYZATA LAKE EFFECT
 WAYZATA, MINNESOTA

WAYZATA LAKE EFFECT
Lake Edge Diagrams : Technical Sections

CIVITAS
19

Project No:		B1607634
Drawing No.		B1607634_FigB6
Drawn By:		CMF
Date Drawn:		01/20/2017
Checked By:		JBW
Last Modified:		2/9/17
Sheet:	Fig.	
1 of 1	B-6	