

**FOCUSED FEASIBILITY STUDY REPORT  
FOR  
40TH AVENUE PROJECT AREA  
IN THE ST. LOUIS RIVER AREA OF CONCERN**

**August 28, 2015**

**APPENDIX B. 40TH AVENUE WEST EXISTING SHORELINE PHOTO LOG**

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40th Avenue West  
Remediation-To-Restoration Project  
Shoreline Photo Log



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for:

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Twin Cities Ecological Services Field Office  
4101 American Boulevard East, Bloomington, MN 55425

On behalf of the St. Louis River Area of Concern

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SHORELINE PHOTO LOG  
FOR  
40TH AVENUE PROJECT AREA  
IN THE ST. LOUIS RIVER AREA OF CONCERN**

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**TABLE OF CONTENTS**

---

Section 1 - Introduction .....	2
Section 2 – Shoreline Photos .....	3

**SCHEDULE OF ATTACHMENTS**

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ATTACHMENT A 40TH AVE. EXISTING SHORELINE COMPOSITION MAP

## **SECTION 1 - INTRODUCTION**

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Jewell completed a topographic survey of the 40th Avenue West Complex Project Area over several days in June and September of 2014. The shoreline was both surveyed and photographed starting at the swing bridge at the south project limits and ending at the Hallet Dock property at the north project limits. This photo log summarizes those photos.

Although many photographs were taken, 47 photos were chosen for this photo log. Selection was based on quality of the photograph, how representative the photo was to the given shoreline habitat, and often if a landmark, such as the Bong Bridge, was located in the background to give a sense of place.

A map of the surveyed shoreline can be found in Attachment A. Photo locations are indicated on the map.

**SECTION 2 - SHORELINE PHOTOS**

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**Figure 1 - Map of 40<sup>th</sup> Ave. Existing Shoreline Composition**



**Photo 1 – Riprap - Concrete Rubble and Medium to Large Crushed Stone – West of Swing Bridge**



**Photo 2 – Concrete Dock (Owned by MN Power, Utilized by New Page)**

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**Photo 3 – Concrete Dock (New Page)**



**Photo 4 – Concrete Wall (New Page)**



**Photo 5 – Medium Stone at West Extent of New Page Dock**



**Photo 6 – Natural Shoreline – Alder Thicket and Sparse Trees**



**Photo 7 – Natural Shoreline – Alder Thicket and Sparse Trees between New Page Dock and MN Power Peninsula**



**Photo 8 – Natural Shoreline – Alder Thicket and Sparse Trees**

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**Photo 9 – Large Stones along Entry Road to MN Power**



**Photo 10 – Large Stones along Entry Road to MN Power**



**Photo 11 – Medium to Large Stones along South Side of MN Power Peninsula**



**Photo 12 – Medium Stones along South Side of MN Power Peninsula**



**Photo 13 – Riprap/Angular Stones at MN Power Point under Bong Bridge**



**Photo 14 – Riprap/Angular Stones at MN Power Point under Bong Bridge**



**Photo 15 – Riprap/Angular Stones at MN Power Point under Bong Bridge**



**Photo 16 – Medium Stones along North Side of MN Power Peninsula**

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**Photo 17 – Medium Stones along North Side of MN Power Peninsula**



**Photo 18 – Natural Shoreline - Alder Thicket and Sparse Trees along North Side of MN Power Peninsula**

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**Photo 19 – Natural Shoreline - Alder Thicket and Sparse Trees along North Side of MN Power Peninsula**



**Photo 20 – Natural Shoreline - Alder Thicket and Sparse Trees along MN Power Peninsula**



**Photo 21 – Rip Rap – Angular Stone along MN Power Peninsula at Outfall**



**Photo 22 – Alder Thicket and Spare Trees - Northwest side of MN Power Peninsula**



**Photo 23 – Floating Boom near MN Power Outfall**



**Photo 24 – Rip Rap – Angular Stone along NW Side of MN Power Peninsula**



**Photo 25 – Rip Rap – Angular Stone along Northwest Side of MN Power Peninsula – Aquatic Plants Growing Within**

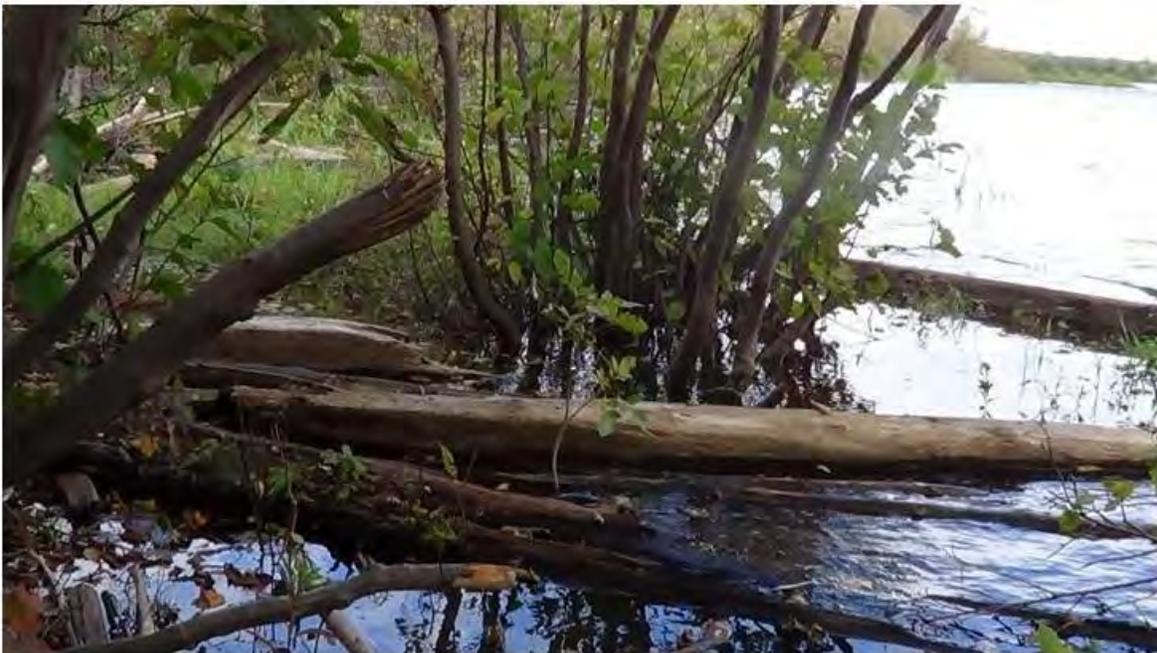


**Photo 26 – Natural Vegetated Shoreline - Alder Thicket and Sparse Trees North of MN Power, South of Bong Bridge**

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**Photo 27 – Wet Meadow - Rocky with Vegetation North of MN Power, South of Bong Bridge**



**Photo 28 – Natural Shoreline - Alder Thicket and Sparse Trees North of MN Power, South of Bong Bridge**

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**Photo 29 – Natural Shoreline - Alder Thicket and Sparse Trees North of MN Power, South of Bong Bridge**



**Photo 30 – Shallow Marsh: *Typha X glauca* - Outlet Channel from Ponds under Bong Bridge (“Ponds Behind Erie Pier”)**

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**Photo 31 –Outlet Channel from Ponds behind Erie Pier at Railroad Bridge/Wood Trestle**



**Photo 32 – Wet Meadow - Sand and Gravel under Bong Bridge Facing East**



**Photo 33– Wet Meadow - Sand and Gravel under Bong Bridge Facing Northeast at Erie Pier**



**Photo 34 –Natural Shoreline - Wet Meadow - Sand and Gravel**



**Photo 35– Natural Shoreline - Alder Thicket, Sparse Trees North of Bong Bridge**



**Photo 36 – Natural Shoreline - Alder Thicket, Sparse Trees North of Bong Bridge (Facing south from Erie Pier)**

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**Photo 37 – Large Stones on South Erie Pier Shoreline**



**Photo 38 – Rip Rap on South Side of Erie Pier, West of Dock.**



**Photo 39 – Concrete Wall - Sheet Pile Retaining Wall at West End of Erie Pier Dock**



**Photo 40 – Concrete Dock - Erie Pier Southeast Corner**



**Photo 41 – Concrete Dock at Erie Pier Southeast Corner**



**Photo 42– Concrete Rubble & Boulders at Erie Pier East Shoreline**



**Photo 43 – Rip Rap along East Side of Erie Pier**



**Photo 44– Rip Rap along North Side of Erie Pier.**



**Photo 45 – Shallow Marsh: *Typha X glauca* northwest corner of Erie Pier**



**Photo 46 – Shallow Marsh: *Typha X glauca* near Hallet Dock Property**



**Photo 47 – Shallow Marsh: *Typha X glauca* along Hallet Dock Property**



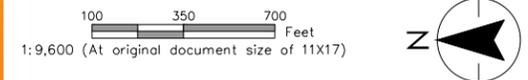


Figure No. **APPENDIX B - ATTACHMENT A**  
 Title **40<sup>TH</sup> AVE. EXISTING SHORELINE COMPOSITION**

Client/Project  
 U.S. Fish and Wildlife Service  
 40th Avenue West  
 Remediation to Restoration Project  
 St. Louis River Estuary

Project Location  
 T49N, R14W, S07; 08; 17; 18  
 C of Duluth, St. Louis Co., MN

Prepared by MIS  
 Technical Review by EGL



- Legend**
- █ Alder Thicket, Sparse Trees
  - █ Common Reed (Phragmites)
  - █ Concrete Wall or Dock
  - █ Floating Boom at Power Plant Intake
  - █ Power Plant Intake
  - █ Rock, Riprap and Rubble
  - █ Sand With Heavy Driftwood
  - █ Sand
  - █ Shallow Marsh: Typha X glauca
  - █ Wet Meadow/Sand-Gravel
  - █ Wet Meadow/Rocky
  - █ Wood Trestle
  - # Photo Log Location



**Notes**  
 1. Coordinate System: NAD83 MN State Plane North

