Bald Eagle Lake
Iron-Enhanced Sand Filter
Public Open House

December 18, 2019
Presentation Outline

• Project Location
• Bald Eagle Lake
  – Water Quality Summary
  – Previous Projects in the Watershed
• What is an Iron-Enhanced Sand Filter?
• Preliminary Plan Review
• Water Quality Benefits
• Project Partners & Funding Sources
• Construction Schedule & What to Expect
Project Location
Bald Eagle Lake Water Quality

Bald Eagle Lake, Mean Secchi Depth

State Standard

Secchi Depth (m)


Alum Treatments

-4 -3.5 -3 -2.5 -2 -1.5 -1 -0.5 0
Bald Eagle Lake Water Quality

Bald Eagle Lake, Mean TP and Chl-a

- Total Phosphorus
- Chlorophyll a

State Standards

Total Phosphorus / Chlorophyll-a (ug/L)

Alum Treatments

Bald Eagle Lake Phosphorus Loading

Source: Bald Eagle Lake TMDL, 2012
Previous Watershed Projects

2003: Hwy 61 Stormwater
Ponds on RWJD 1

2014: Oneka Ridge Golf Course
Stormwater Reuse Irrigation

2015: Bald Eagle Lake Dam
Replacement

2014/2016: Bald Eagle Lake
Alum Treatment

2017: West Ave Boat Launch
Raingarden & Shoreline Restoration

2018: Barry Lane Stormwater
Pond Reconstruction

Numerous Raingardens &
Shoreline Restorations
What is an Iron-Enhanced Sand Filter (IESF)?

Short answer...

“It’s a project that cleans stormwater and protects the lake.”

Long answer...

“It’s complicated.”
What is an Iron-Enhanced Sand Filter (IESF)?

Hansen Park IESF, New Brighton
What is an Iron-Enhanced Sand Filter (IESF)?

Oasis Pond IESF, Roseville
What is an Iron-Enhanced Sand Filter (IESF)?

Control Panel

Valves, Vaults & Pipes

Pump
What will residents see in 2020?

What will construction look like?
Eagle Street Culvert Replacement

Ramsey County Project – Spring 2020
IESF Preliminary Plan Review – Site Layout

NEW POND

IESF BED

IESF BED
PUMP

Sand mix includes 5% iron by weight

18” sand/iron mix
6” pea rock
12” coarse rock
6” drain tile
Project Benefits

• **Water Quality Improvements**
  – Reduces phosphorus loading to Bald Eagle Lake by **43 pounds** annually *(4-10 tons of algae growth eliminated!)*
  – Eliminates an estimated 1.4 tons of sediment from reaching Bald Eagle Lake via RCD 11 annually.

• **Habitat Improvements**
  – The new pond and native plantings surrounding the project will provide unique habitats for both aquatic and terrestrial plants and animals.

• The RCWD will likely need to re-excavate the pond as it fills up with sediment... around 15-20 years from now, maybe longer.
Project Partners & Funding

$392,000 grant from BWSR Clean Water Fund

$98,000 local match from RCWD (includes cash & staff time)

VALUABLE contribution of land by White Bear Township – 0.75 acres total
Tentative Construction Schedule

• Jan 2020: Final plans complete & project out for bidding

• May-Jun 2020: Ramsey County completes Eagle Street work

• Jul-Aug 2020: Pond excavation and grading for IESF project
  – Specific timing of individual project components is unknown at this time

• Fall 2020: Restoration & revegetation underway

• Spring 2021: Project operation begins full-time!
What to Expect...

• This project will involve heavy construction equipment!
  – There will be noise associated with this operation!
    (Backhoes, Skid Steers, Bulldozers, Large Trucks, etc.)

• Trucks will be hauling material from the site on and off for 2-3 weeks...
  Eagle - Park - Hugo - Buffalo – Hwy 61

• Tree clearing around pond location (south) and specific trees on north side of site.

• Work hours consistent with City Code, generally
  Mon-Sat, 7:00a-7:00p
Input Needed From You…

• Are we missing information used to define the public drainage system?
• Concerns about loss of drainage benefit (e.g., if we abandon a portion of the system)?
• If and how your land drains to the public system
• Concerns / issues associated with public system crossing your property.
• Do you have any questions about the Iron-Enhanced Sand Filter?