RECLAMATION

Managing Water in the West

Linderman Dam (Teton) Restoration

U.S. Department of the Interior
Bureau of Reclamation

Background & History

- Located approx. 7 miles upstream of Teton Dam on the Teton River, just past the Milk Creek confluence
- Initiated and designed by Shayne Linderman
- Built in the late 1950's early 1960's largely by locals
- Original structure included a 10 foot hydraulic drop, water pooled 3,600 ft upstream

Background & History

- Reclamation acquired the dam from Shayne and Bette Linderman
- Largely dismantled to make way for the Teton Dam in 1972
- Surface elevation pre 1972 = 5165
- Surface elevation now = 5161
  - Approx. 4 foot drop in upstream pool

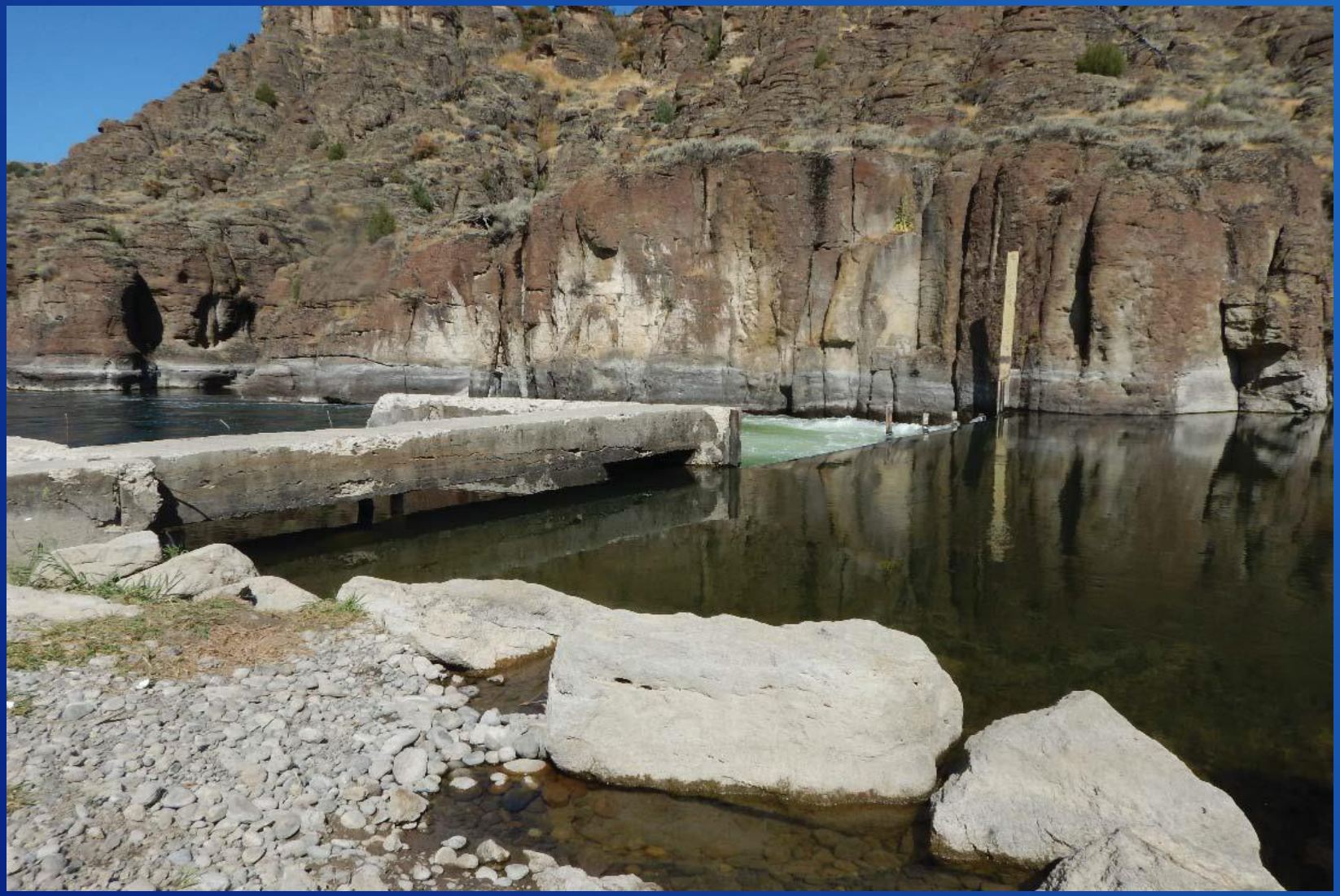
Original Construction

P549-100-973 A privately-constructed low dam was put across the Teton River in 1960-61 by Mr. Lindermann. The purpose of the dam is to develop hydraulic pumping power to lift irrigation water to Mr. Lindermann's farmland lying along the south canyon rim. This dam is below the north fork of the Teton River. Teton Basin Project, ID. FAC1/Other Structures. BR photo by D.L. Crandall. Spring 1961.

Linderman Dam 1970s

Linderman Dam Present

Linderman Dam Present



Project Drivers

1. **SAFETY, SAFETY, SAFETY ...**
   - The remaining structure causes significant undercurrents and can be dangerous to boaters
   - Multiple events in the last couple years have highlighted the need to modify and or remove the existing structure

2. **Habitat, river and canyon restoration**

3. **Maintain pool elevation for irrigation pumps onsite**

Current Signage

- In process of replacing work “portage” with “exit river” for more common understanding
- 4 signs in place
  - 1 at Spring Hollow
  - 2 upstream of Linderman Dam
  - 1 at Linderman Dam

Previous Scope of Work/Design

(presented 9.2019)

- Modify and/or remove portions of the remaining structure
- Fill the estimated 30 foot hole downstream of the structure with large boulders/fill material
- Construct a more natural riffle at the current dam location
  - Improve boater access/safety
  - Improve fish habitat
  - Maintain upstream pool elevation for irrigation pumps
- Construction to be completed by Reclamation forces summer/fall 2020

Previous Scope of Work/Design

(presented 9.2019)

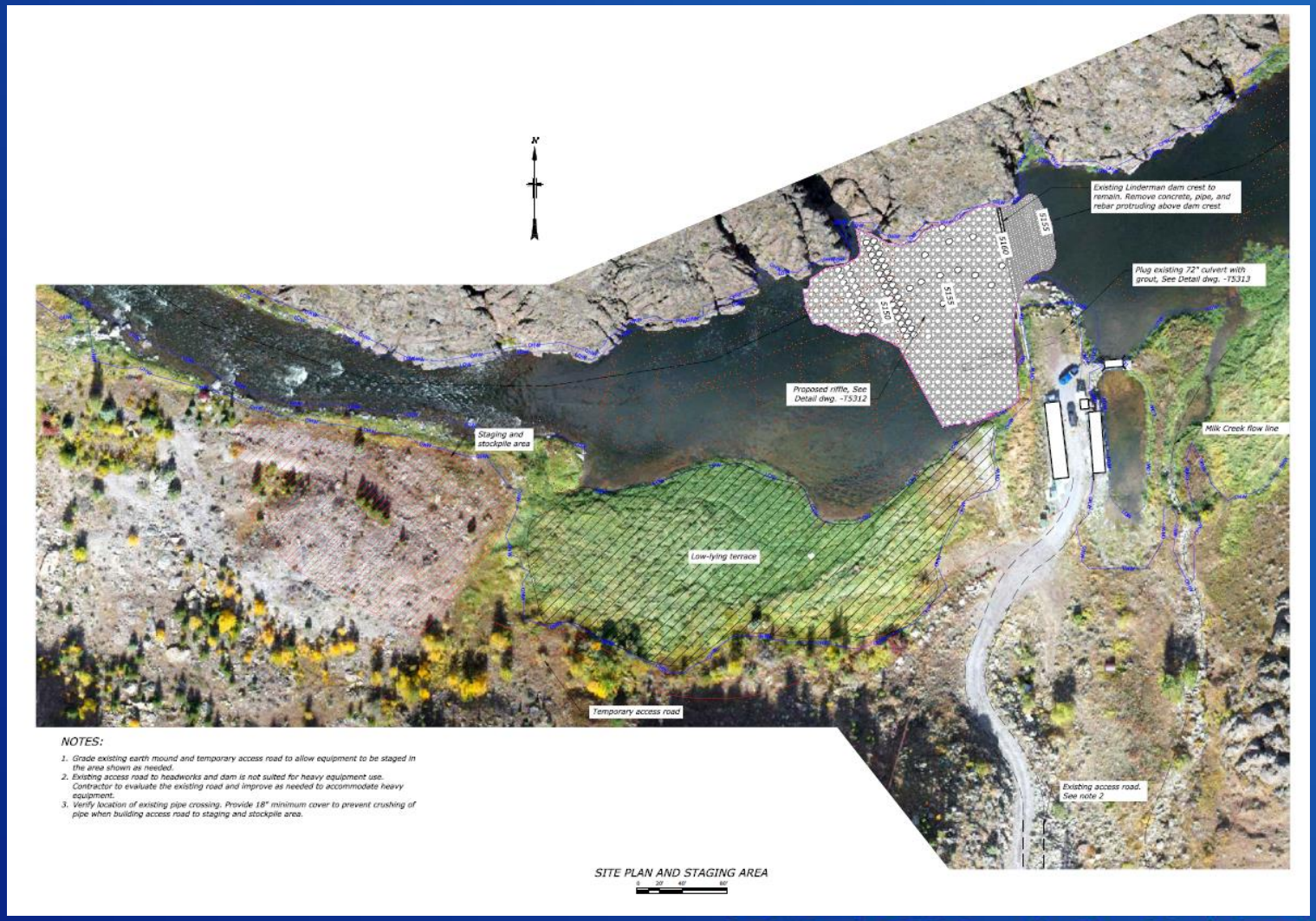
- Construction will occur in the “wet”
  - Coffer dams can not be used due to depth and flows

- Materials/Riprap (contract)
  - Approx. 12,000 tons
  - As needed repairs to private road from highway to staging location
  - Dust prevention 1000 ft near residence

- Access road maintenance and repairs
  - Prior to construction, completed by Reclamation forces

Previous Scope of Work/Design

(presented 9.2019)



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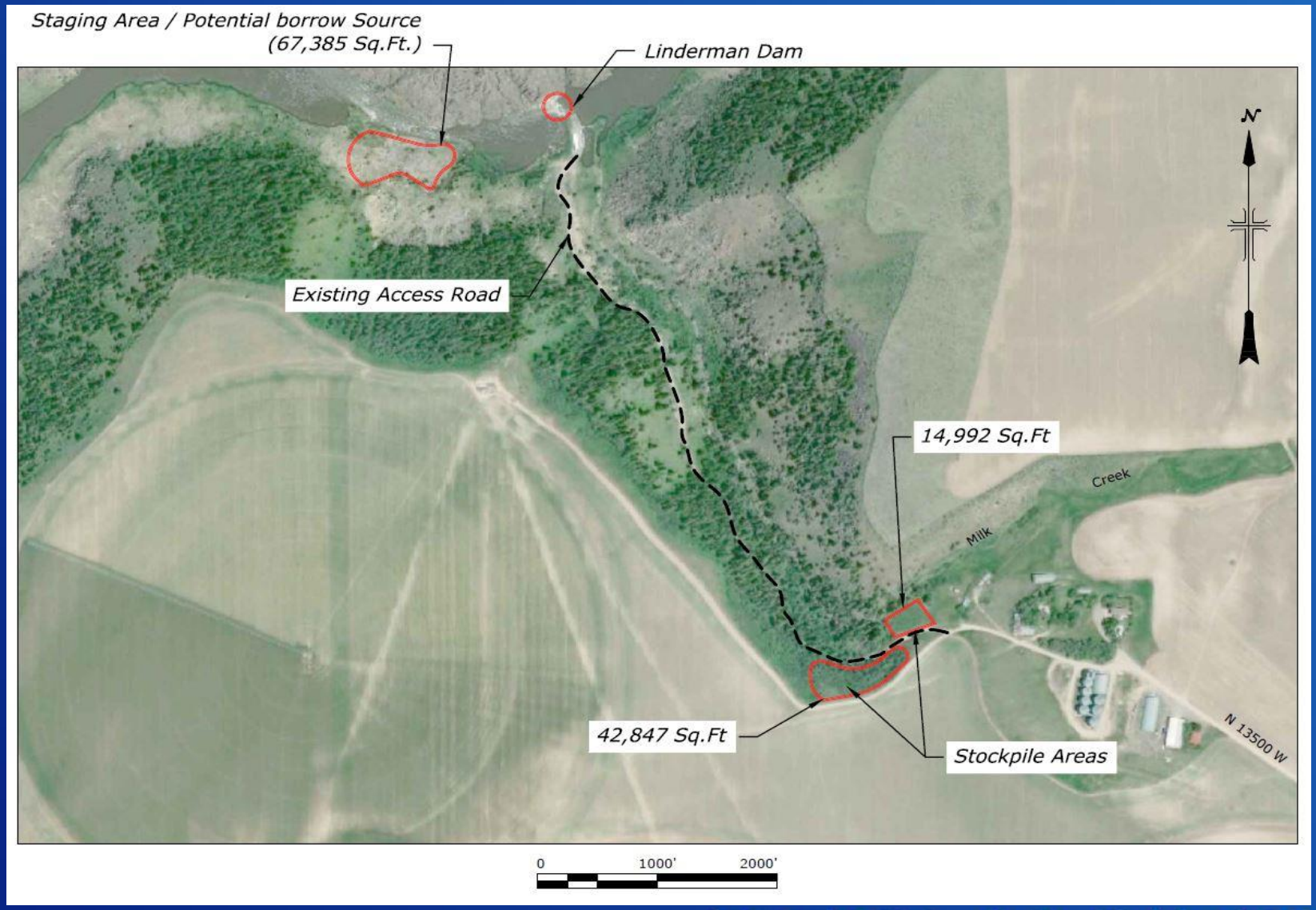
Riprap Staging Locations



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NEW Scope of Work & Design

- Modify and/or remove portions of the remaining structure
- Construct a more natural riffle downstream of the current dam location
  - Improve boater access/safety
  - Improve fish habitat
  - Maintain upstream pool elevation for irrigation pumps
- Construction to be completed by Reclamation forces summer/fall 2020

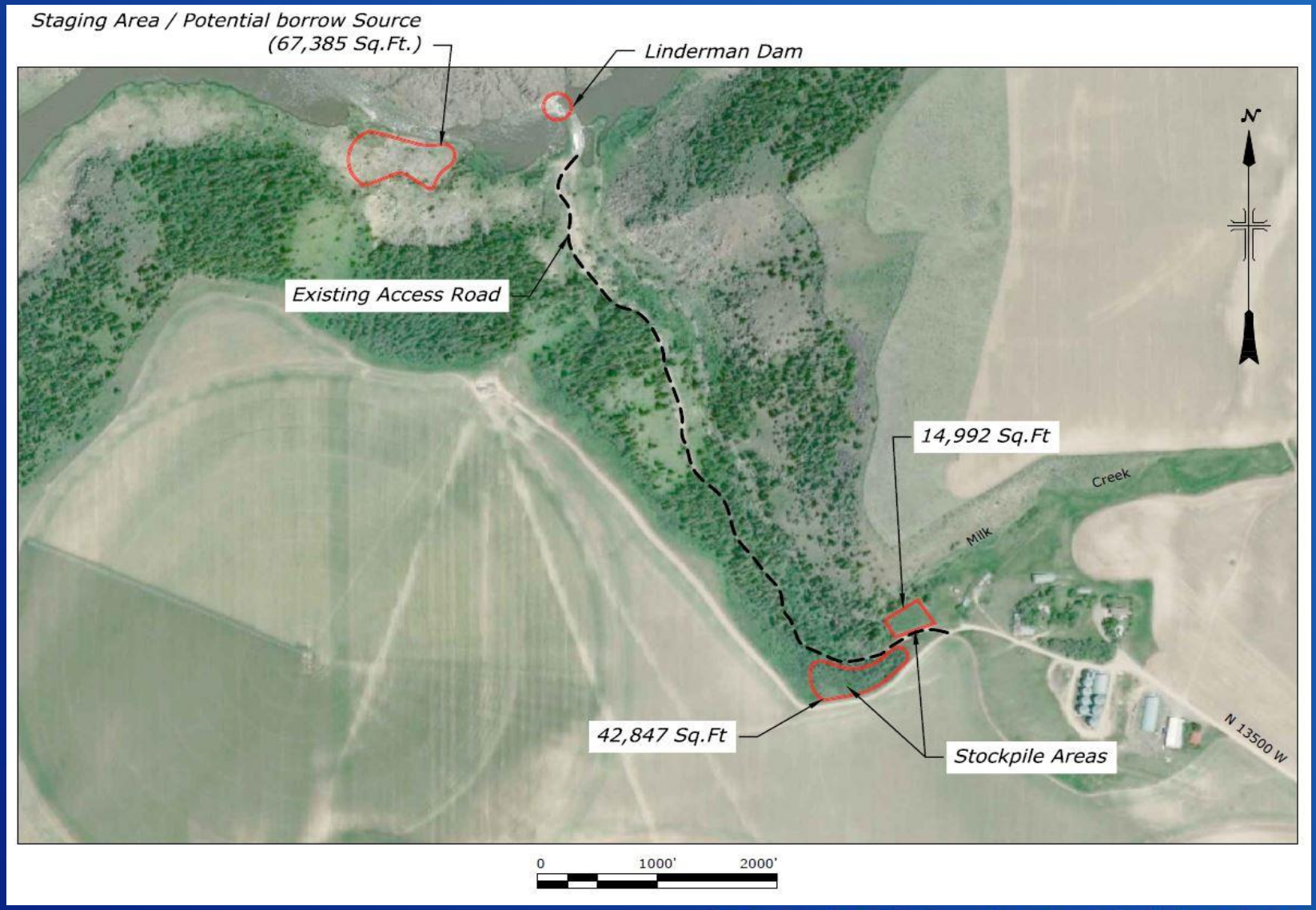
NEW Scope of Work & Design

- Construction will occur in the “wet”
  - Coffer dams can not be used due to depth and flows

- Materials/Riprap (contract)
  - Approx. 6100 ton (all materials)
  - As needed repairs to private road from highway to staging location
  - Dust prevention 1000 ft near residence
  - Coordinate with Teton County and residents

- Access road maintenance and repairs
  - Prior to construction, completed by Reclamation forces

Riprap Staging Locations



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Schedule

- July 2019 – Original 60% design complete
- September 2019 – Cooperator meeting
- September 2019 – (Original) Materials SOW completed
- October 2019 – Begin NEPA (EA), 401/404 permitting
- October 2019 – Dive (Reclamation) & design walk through
- October 2019 – Value Engineering Study (VE Study)
- December 2019 – Final VE Study Report received
- January 2020 – Review and decision of VE Study
- February 2020 – Follow-up cooperator meeting (present new design)
- February 14, 2020 – Revised 60% design complete
- February 28, 2020 – Revised 60% design review complete

Schedule

- March 2020 – 90% design and spec complete
- April 2020 – 90% design review complete
- May 2020 – Final design
- May 2020 – Final hydraulic design model complete
- May-July 2020 – Materials delivered to site

<u>Milestones below may be shifted to 2021**</u>**

- August 2020 – Tentative construction start date (Reclamation forces)
- October 2020 – Construction completed
- March 2021 – Closeout complete

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Constraints

- Construction occurs in the “wet”, coffer dams can not be used with the flows through Linderman Dam site

- Environmental requirements
  - EA (NEPA) process
  - 401/404/IDWR permitting

- Compressed construction schedule due to water flows (spring/summer) and inclement weather (fall/winter)

- Maintaining upstream pool elevation through irrigation season

Constraints

- Access road into Teton Canyon will need modified prior to construction beginning
  - Rock trucks
  - Large equipment
- Materials/rip rap have to be staged prior to construction beginning
- Nematode exposure risk and work processes to avoid

Considerations

- Recreators/outfitters/river access during construction
- Location of staging area for materials (rip rap)
- Maintain private road into Linderman during and after construction
  - Statement of work includes “as needed” repairs
  - Dust prevention near residences (1000 ft approx.)
  - Coordinate with Teton County on this SOW

Coordination/Cooperators

- **Corp of Engineers (USACE) –** 401/404 permitting
- **IDWR** – stream channel permitting *if required
- **IDEQ** – Water Quality
- **BLM –** Project coordination, outfitter notification/meetings, possible lands nearby
- **IDFG –** Fisheries and wildlife considerations

Coordination/Cooperators

- **Local government agencies**
- **Local interest groups, entities and individuals**
  - Friend of the Teton River, Teton River outfitters, recreators, local government, irrigation districts
- **Onsite irrigation pumps and adjacent land owner**
  - Skyline Farms (Conn Crapo)
  - Coordination w/Fremont Madison Irrigation District (FMID) as needed

Reclamation Point of Contacts

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Questions?

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