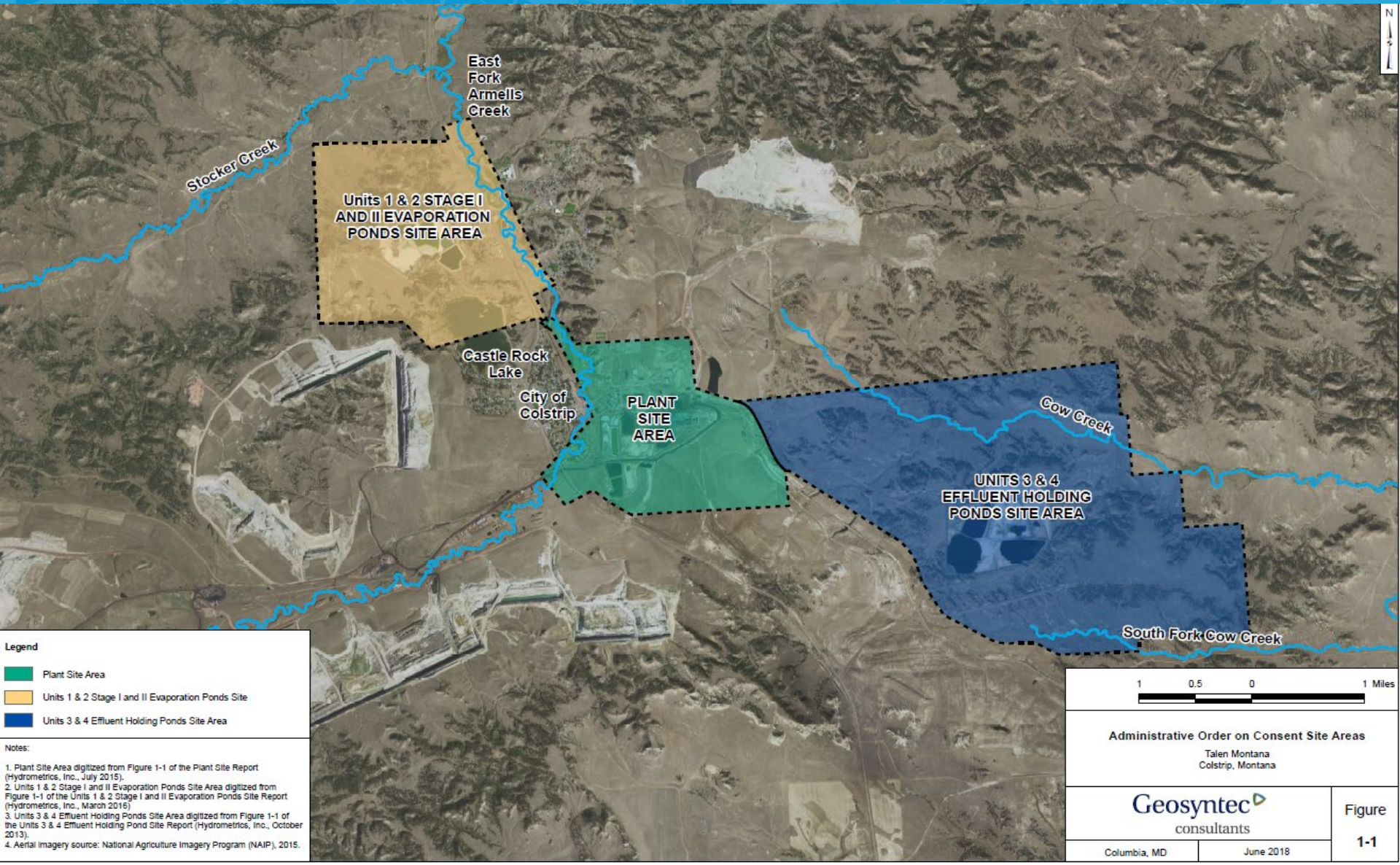
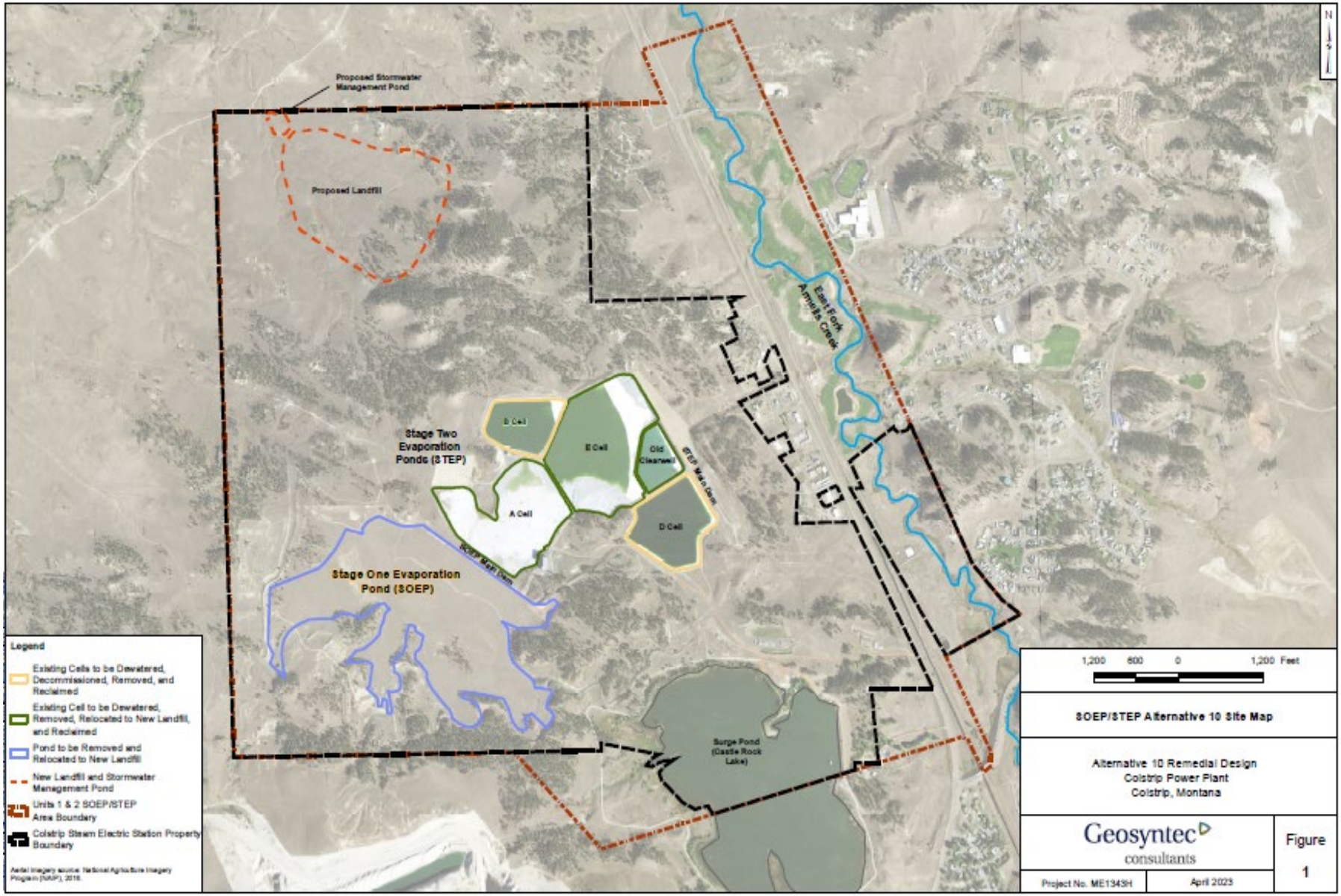
Colstrip 1&2 STEP CCR Rule Corrective Measures Assessment Public Meeting 2/15/24

Site Areas - Regional

Geosyntec consultants



1&2 STEP Area


Proposed Stormwater Management Pond
Proposed Landfill
East Fork Armells Creek
Stage Two Evaporation Ponds (STEP)
B Cell
E Cell
Old Clearwell
A Cell
D Cell
STEP Main Dam
SOEP Main Dam
Stage One Evaporation Pond (SOEP)
Surge Pond (Castle Rock Lake)
N
S
Legend
Existing Cells to be Dewatered, Decommissioned, Removed, and Reclaimed
Existing Cell to be Dewatered, Removed, Relocated to New Landfill, and Reclaimed
Pond to be Removed and Relocated to New Landfill
New Landfill and Stormwater Management Pond
Units 1 & 2 SOEP/STEP Area Boundary
Colstrip Steam Electric Station Property Boundary
Aerial imagery source: National Agriculture Imagery Program (NAIP), 2018.
1,200 600 0 1,200 Feet
SOEP/STEP Alternative 10 Site Map
Alternative 10 Remedial Design
Colstrip Power Plant
Colstrip, Montana
Geosyntec consultants
Project No. ME1343H
April 2023
Figure 1

Assessment of Corrective Measures – 1&2 STEP

- Placed on Colstrip CCR Public Website in May 2019
  - https://www.talenenergy.com/ccr-colstrip/
  - Analysis of effectiveness of potential corrective measures
    - Be protective of human health & environment
    - Attain groundwater protection standards
    - Identify time required to begin and complete remedy
    - Discuss results in a public meeting
- Wastewater AOC Remedy Evaluation Report provides requirements of the CCR Rule Assessment of Corrective Measures
  - https://deq.mt.gov/cleanupandrec/Programs/colstrip
  - MDEQ reviewed and approved the 1&2 STEP Integrated Remedy Evaluation Report November 2020
  - Included public comment period and public meeting
  - Selected Alternative 10 as the remedy for the 1&2 STEP area under the Colstrip Wastewater AOC

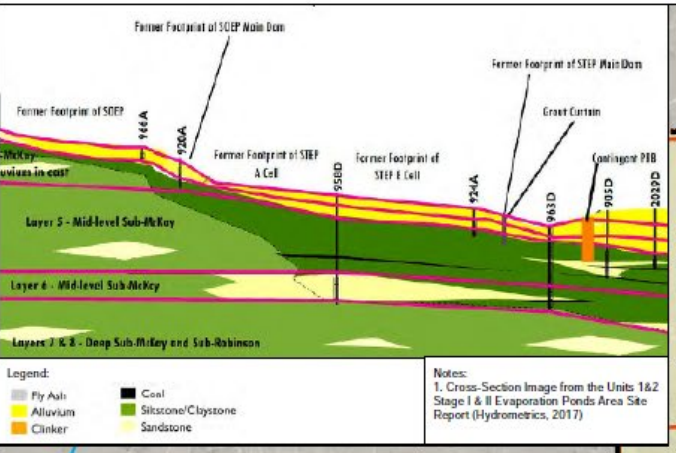
Remedy Evaluation Report – 1&2 STEP

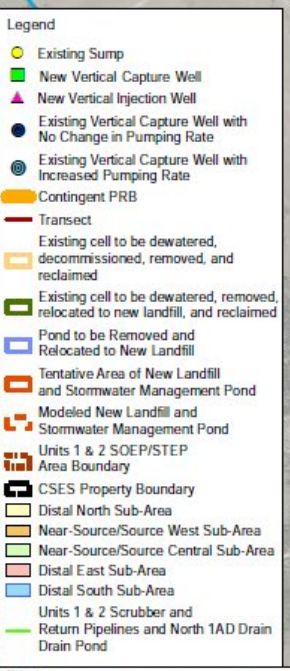
- Evaluated 11 Potential Corrective Measures (remedy alternatives)
  - MDEQ approved Alternative 10 for implementation
  - Included public comment period and public meeting

- Alt. 10 Source Control (Closure by Removal), Freshwater Flushing, Groundwater Capture, Permeable Reactive Barrier contingency, Monitored Natural Attenuation, Institutional Controls (if needed)
  - New CCR Rule compliant 91-acre landfill
  - 64 Freshwater Flushing wells
    - Small-scale Flushing starts in 2022 (11wells)
    - Large-scale flushing starts in 2031 after removal of ash from existing impoundments (53 wells)
  - 89 Groundwater Capture wells
  - Groundwater Capture Treatment System

1&2 STEP Remedy Layout

Geosyntec consultants





Notes:
1. Aerial imagery source: National Agriculture Imagery Program (NAIP), 2013.
2. Units 1 & 2 SOEP/STEP Area Boundary is approximate based on the Units 1 & 2 Stage I & II Evaporation Ponds Area Site Report (Hydrometrics, Inc., 2017).
3. Colstrip Steam Electric Station Property Boundary is approximate based on Figure 1 of the Units 1 & 2 Stage I & II Evaporation Ponds Area Cleanup Criteria and Risk Assessment Report (Marietta Canty, 2018).
4. The location of STEP Main Dam Sump is approximate based on the figure of Second Stage Evaporation Pond Finished Plan and Profile of Dam (Bechtel, 1982).
5. The schedule for planned source control upgrades/closures shown above is consistent with the schedule used in the fate and transport model (Appendix A).
6. The modeled location of the new landfill and stormwater pond, shown above, was identified for conceptual modeling purposes. The actual location of the new landfill and stormwater pond is subject to change during the detailed design, but would likely be within the tentative area shown above.

SOEP/STEP Alternative 10

Colstrip Steam Electric Station
Colstrip, Montana

Geosyntec consultants

Columbia, MD | September 2020

Figure 7-4

Remedy Evaluation Report – 1&2 STEP

- Alt. 10 - Source Control (closure by removal), new 91-acre CCR Rule compliant landfill, Freshwater Flushing, Groundwater Capture, Permeable Reactive Barrier contingency
  - Proposed Corrective Measures (Remedy)
  - Provides protection of human health & environment
  - Meets clean-up criteria and groundwater protection standards
  - Landfill construction scheduled to start 2025
  - CCR material relocation scheduled from 2026 – 2029
  - Landfill closure scheduled to be complete in 2032
  - Modeling indicates clean-up criteria met within 30 years
    - Most parameters sooner
  - Estimated cost $212m
  - Under CCR Rule, Corrective Measures (Remedy) to be selected no sooner than 30 days after public meeting