

Otter Tail Power Company – Big Stone Plant

RUN-ON RUN-OFF CONTROL PLAN

January 2024



1. GENERAL

This revised Run-on Run-off Control Plan (Plan) has been written for Otter Tail Power Company (OTP) Big Stone Plant Ash Disposal Area (ADA), or landfill, to maintain compliance with 40 CFR 257.81(c). This Plan documents how run-on and run-off control systems have been designed and constructed. The plan was revised to reflect a partial closure of the landfill which occurred in 2023.

2. RUN-ON RUN-OFF CONTROL SYSTEMS § 257.81(c)(1)

The landfill is located in a region that has a type II rainfall distribution. According to Soil Conservation Service precipitation maps, a 24-hour, 25-year storm event yields 4.5 inches of rainfall for the geographic location of the landfill.

Run-on

Run-on from non-landfill areas is diverted away from the active fill area by berms and dikes located on the east, west, and north sides of the landfill. The south side of the active landfill area is bounded by closed landfill areas which acts as a berm and also sheds water to the south away from the active landfill area.

Run-off

The current open area of the landfill is approximately 20 acres. Stormwater falling within this footprint is contained in the ash reclaim pond located within the permitted landfill area. The ash reclaim pond is approximately 6 acres in size. A 24-hour, 25-year storm event yielding 4.5 inches of rainfall would result in 7.5 acre-feet of water over the footprint of the open landfill area as detailed in the calculation below:

$$(4.5 \text{ inches}) / (12 \text{ inches per foot}) * (20 \text{ acres}) = 7.5 \text{ acre-feet.}$$

A minimum five-foot freeboard is maintained on the reclaim pond dikes to ensure ash contact water is retained within the landfill area. This five-foot freeboard is equivalent to 30 acre-feet. Therefore, the storage capacity in the active landfill area is adequate for containing stormwater from the prescribed storm event.

3. AMENDMENT OF RUN-ON RUN-OFF CONTROL PLAN § 257.81(c)(2) and (4)

If any event or change affects the plan, a modified Run-on Run-off Control Plan will be prepared and included in the facility's operating record and posted on the CCR website. At a minimum, the Run-on Run-off Control Plan will be reviewed and updated every five years by a professional engineer.

4. CERTIFICATION OF RUN-ON RUN-OFF CONTROL PLAN § 257.81(c)(5)

I attest that I am familiar with the requirements and provisions of § 257.81, that this this plan has been prepared in accordance with good engineering practice and with the requirements of the CCR Rule.

Name: Paul Vukonich

Title: Manager, Environmental Compliance

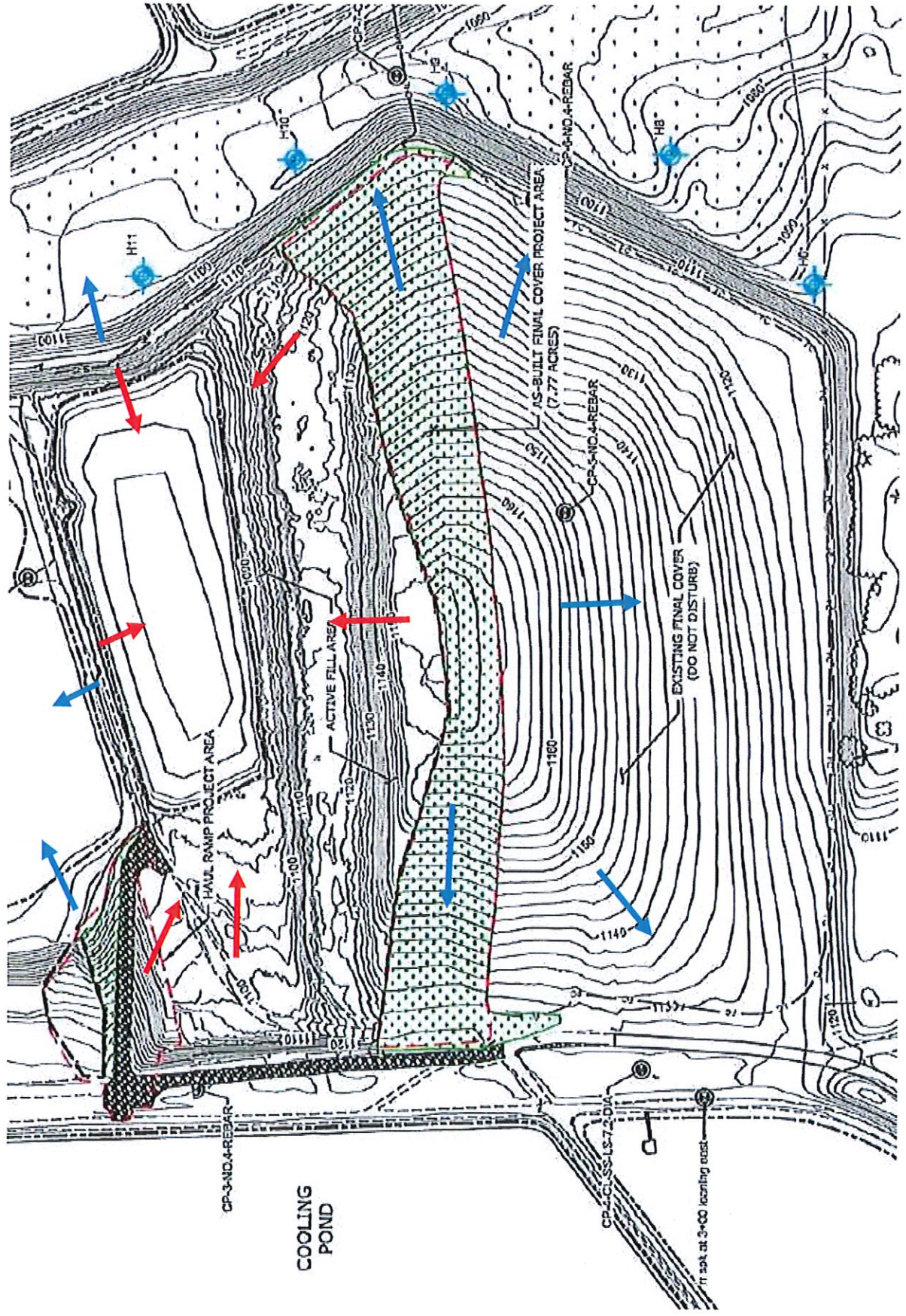
Registration Number: 13547

State: South Dakota

Signature: 

Date: January 3, 2024

North ↑



-  Water away from Active Area
-  Water in Active Area