



**Archer Daniels Midland Company  
Clinton Cogeneration**

<b>Standard Operating Procedure</b>			
GY9.20.DOC.002 - Solid By-Product (Ash) Management Plan			
<b>Date Issued</b> 2023-06-16	<b>Document #</b> See Title	<b>Version</b> 5	<b>Group</b> GY9 – All

**Reviewed By:**  
**BOBBY PEROPAT (346 ENVIRONMENTAL MANAGER)**

**Approved By:**  
**KEVIN DUFFY (SITE MANAGER)**



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**ADM Clinton  
Cogeneration Facility  
Solid By-Product Management Plan**



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**I. General Information**

Ash generated by:

ADM Cogeneration  
1800 South 5<sup>th</sup> Street  
Clinton, IA 52732

Available ash reuse (Iowa):

Beneficial Technologies  
2265 260<sup>th</sup> Avenue  
DeWitt, IA 52742

AMSCO, Inc.  
5401 Victoria Avenue  
Davenport, IA 52807-2991

Ag lime usage:

Biomass Renewable Technologies (BRT)  
KV Mudcreek Inc.  
24956 20<sup>th</sup> Avenue  
Stockton, IA 52769

**II. Sources**

ADM Cogeneration is an electricity and steam generating facility which, through the combustion of coal and alternative fuels in the form of waste water treatment biomass, agricultural seed, and tire-derived fuel (TDF) in its three CFB boilers, produces large amounts of Coal Combustion Byproduct (CCB), or ash.

**III. Usage**

CCB is approved for use in the following:

- A Beneficial Use Determination is approved for Beneficial Technologies for fly and bed at their quarry site near Goose Lake, Iowa.
- A Beneficial Use Determination is approved for AMSCO, Inc for use of CCB as fill material at the Linwood Mine site located near Buffalo, Iowa.
- Bed ash is approved for use as agricultural lime by Biomass Renewable Technologies, Stockton, Iowa.
- Bed ash may be landfilled at Prairie Hills Landfill in Morrison, Illinois.



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- Bed ash may be used as fill material in ILD, LLC’s Viper Mine in Elkhart, Illinois.

In 2021, CCB was used under a BUD by Beneficial Technologies. The table below shows the amount of material that was used by Beneficial Technologies and all other outlets:

Material	Receiving Facility	Tons	%
Fly Ash	BenTech	62,745	87.1
Bed Ash	Viper Mine	9,263	12.9

**IV. Testing**

Testing of CCB is completed quarterly and follows EPA testing methods. Testing methods include :

- Toxicity Characteristics Leaching Procedure (TCLP – EPA Method 1311)
- Synthetic Precipitation Leaching Procedure (SPLP – EPA Method 1312)
- Total Metals Testing, including Thallium, consistent with statewide standards for soil pursuant to 567-Chapter 137. (EPA Methods 6010, 6020, 7470, 7471)

The ash is also tested for pH.

Testing is completed by a certified lab and final reports of results are provided to the facility electronically via email. The Plant Manager, Plant Superintendent, Assistant Superintendent, and Environmental Manager are included in this communication.

Upon receipt of the final report, results are reviewed to determine if CCB is acceptable under the BUD. This is done by reviewing the summary table at the end of the report which lists the state standards. If it is determined that CCB is outside of state standards, direction is given immediately to shift supervision to cease loading out CCB to any outlet utilizing a BUD until further notice. At that time, CCB may only be loaded out to the approved landfill in which ADM has an approved profile or to Biomass Renewable Technologies (BRT). Loading out of CCB may not resume to BUD outlets until the issue is resolved by either correcting analytical issues with the lab or obtaining results from a new sample that are within state standards.

Additionally, for any parameter that is found to be out of compliance, monthly testing of that parameter will be required for the following quarter.



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**V. Storage**

Ash is stored in one of two concrete silos at the cogeneration facility. The two silos service all three boilers. The silos are part of the storage and load out facility that receives ash from the boilers 24 hours a day, seven days per week.

The maximum inventory that can be stored is approximately 280,000 ft<sup>3</sup> of ash assuming a conservative space availability of 90%. The usable spaces of the silos are 54' in diameter and 42' in diameter and both are 88' high.

Run-on and run-off is not seen as an issue in this situation as all ash is stored and loaded out within enclosed, concrete silos. The facility has an NPDES General Permit #1 storm water permit in place to manage issues related to storm water.

Several measures are in place to minimize the uncontrolled dispersion of ash:

- The concrete silos are equipped with bag filters to control particulate in the air stream that pulls the ash from the baghouses and boilers to the silos.
- The unloading chute is fitted with a blower to create a vacuum, which pulls in fugitive ash during the loading of trucks and transfers the captured ash back to the top of the silo.

Maximum storage time of fly ash is approximately 12-14 days at maximum production. Bed ash storage time is considerably longer, and is typically stored for up to 4-6 weeks. The ash is continuously added to the silos and trucks are loaded out with ash 5 days per week.



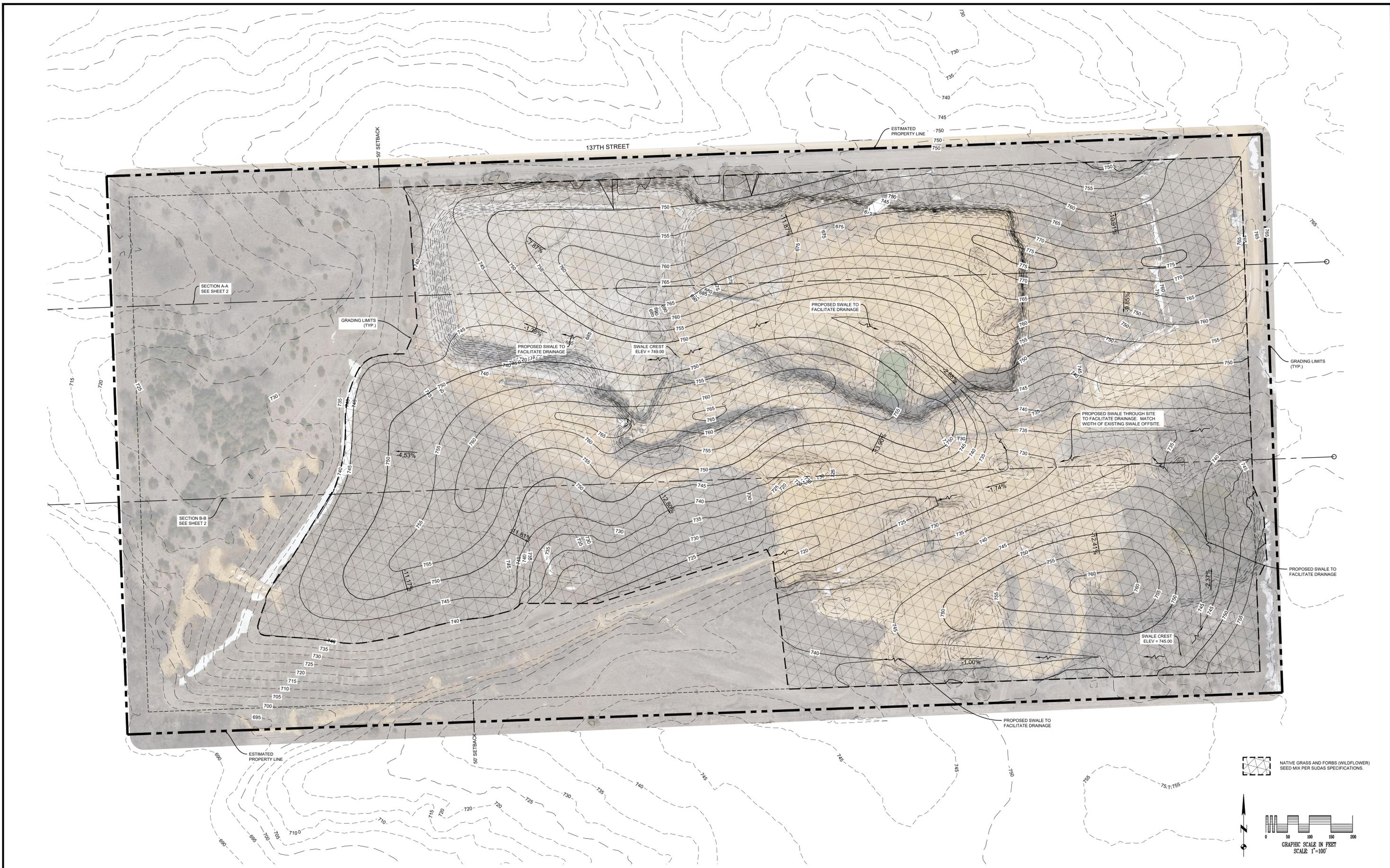
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	REVISION DESCRIPTION		DATE


**WENDLING**  
 HEADQUARTERS    CONTACT  
 2647 225th St    ☎ 563-659-9181  
 DeWitt, Iowa 52742    ✉ 563-659-3393

**GOOSE LAKE QUARRY**  
 3715 137th St., Goose Lake, IA 52750

JAN. 5TH, 2026 SURFACE TOPOGRAPHY  
 GENERAL SURVEY

CAD File C:\Users\kyle\OneDrive - wendlingquarries.com\Documents\ Carlson Vorens\Chilton\Goose Lake General Survey Project\Goose Lake General Survey.dwg Date Plotted: January 14, 2026 - 8:08 AM Plotted By: Kyle Emery



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 IN CLINTON COUNTY, IA

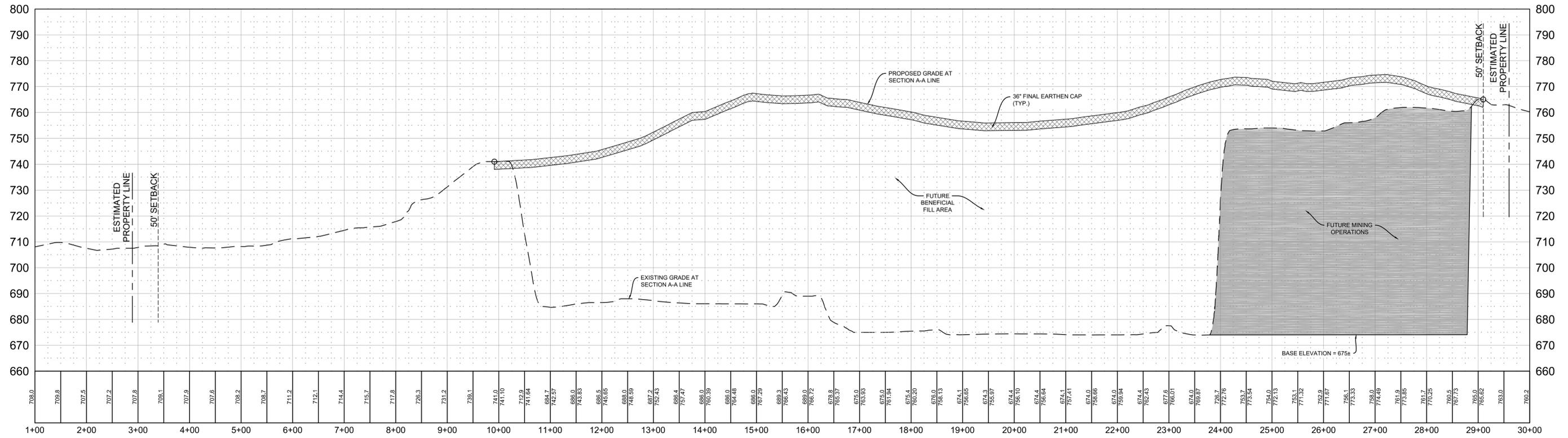
PROPOSED GRADING AND  
 SURFACE RESTORATION PLAN

PROJECT NO: 20346

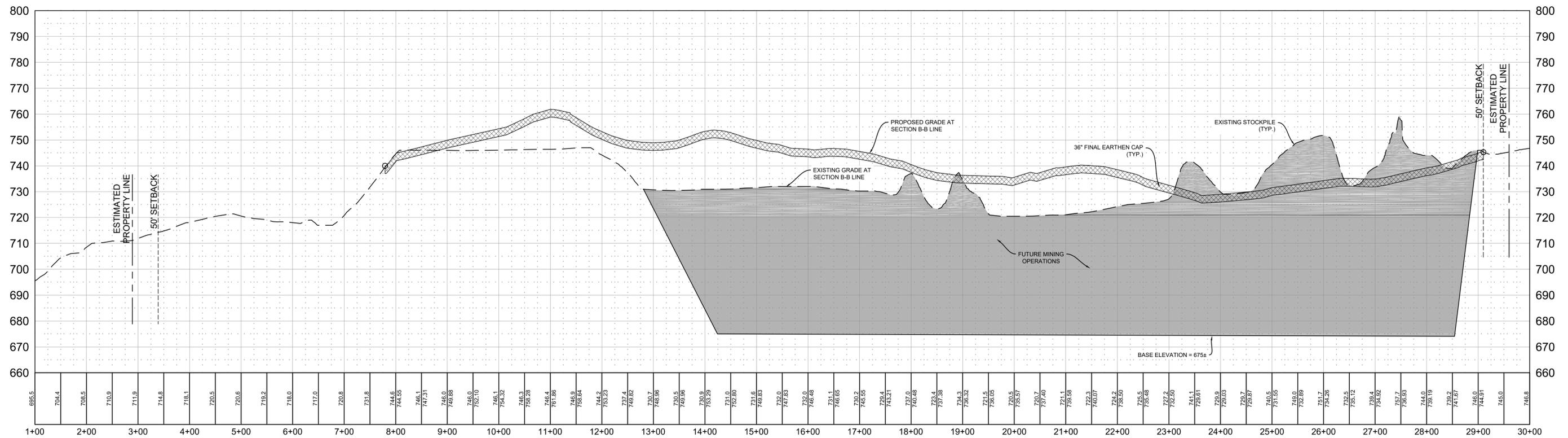
SHEET  
**1**

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### SECTION A-A



### SECTION B-B



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FIELD BOOK: XXX	NO.	REVISION DESCRIPTION	APPROVED DATE

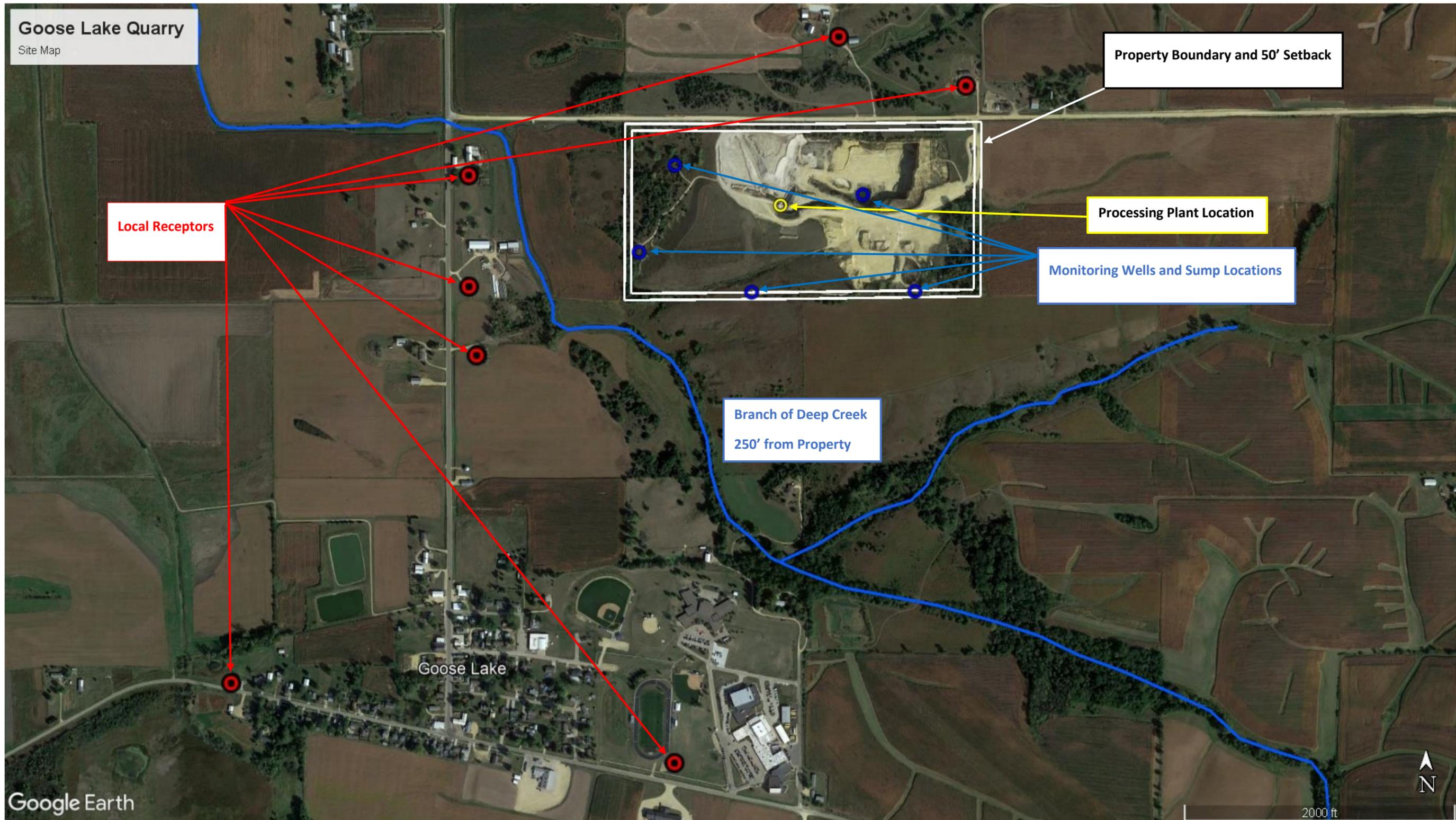
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WENDLING QUARRIES  
 GOOSE LAKE  
 IN CLINTON COUNTY, IA

SECTION VIEWS

PROJECT NO: 20346

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# Beneficial Technologies, LLC

2647 225<sup>th</sup> Street, P.O. Box 230

DeWitt, IA 52742-0230

Phone: (563) 659-9181 Fax: (563) 659-2695

February 24, 2026

Beneficial Technologies  
Iowa DNR Beneficial Use Determination  
Goose Lake Quarry  
ID #23-BUD-15-03

## Site Reclamation Plan

This detailed Site Reclamation Plan will fulfil requirements of Section VIII. Special Conditions (3) and (8) of Beneficial Technologies' Iowa DNR Beneficial Use Determination.

### Project Scope:

Beneficial Technologies LLC (Ben Tech), a subsidiary of Wendling Quarries, Inc. (WQI), is beneficially reusing coal combustion residual (CCR) by-products from Archer Daniels Midland Company's (ADM) Cogeneration Plant in Clinton, IA for reclamation purposes at WQI's Goose Lake Quarry in Goose Lake, IA. Goose Lake Quarry meets all local and state planning, zoning, and regulatory requirements for a mining facility as well as a beneficial use project. Since 1987, WQI operates approximately 100 aggregate quarries and sandpits in 14 counties throughout eastern Iowa and western Illinois while employing more than 200 workers. The Iowa Department of Agriculture and Land Stewardship (IDALS) requires all mines and quarries in Iowa must be reclaimed after completion of mining operations and WQI has a separate Quarry Development Department to address those requirements. By beneficially reusing CCR by-products that would otherwise be landfilled, Ben Tech and WQI are economically backfilling Goose Lake Quarry so that the affected land can be returned to its natural elevation and meet all IDALS mine reclamation requirements. Reclaiming Goose Lake Quarry with CCR by-products will provide for the conservation of the land affected by the mining of limestone, preserve natural resources, protect and preserve the taxable value of the property, and protect and promote the health, safety and general welfare of the people of the state. After the project is complete at Goose Lake Quarry steep slopes will have been removed to limit falls and the property will likely be returned to productive agriculture ground or used as some kind of recreation and/or conservation area. On January 23, 2008, under ID #23-BUD-15-03X, the Iowa DNR authorized and approved Ben Tech to beneficially use CCR by-products for reclamation purposes at Goose Lake Quarry. To date the total amount of CCR by-product utilized for the project is shown in Table 1.

No problems were encountered in 2025 during reclamation activities at Goose Lake Quarry.

Table 1: Total CCR by-product tons utilized at Goose Lake Quarry	
Year	Tons
2008	8,333
2009	8,177
2010	55,270
2011	69,573
2012	91,277
2013	82,829
2014	81,614
2015	73,499
2016	66,869
2017	64,415
2018	66,747
2019	74,465
2020	68,440
2021	66,705
2022	53,793
2023	53,325
2024	70,397
2025	71,206
	<b>Total: 1,076,937</b>

**Fill Progression/Schedule:**

Figure 1 is a map showing the property boundary and 50-foot separation distance from the property line. The CCR fill boundary will not go beyond that 50 foot setback. The property boundary and 50 foot setback has been surveyed and staked to ensure minimum separation distances are maintained throughout reclamation operations. Figure 2 is a map outlining where Goose Lake Quarry has been backfilled with CCR since 2008 and how many tons of CCR were used in that area. WQI continues to mine limestone aggregate to the east; Ben Tech will backfill the quarry with CCR from west to east. As the cogeneration process becomes more efficient and refined, it is anticipated that the tons of CCR utilized for the project will follow the last 5 year trend in Table 1. Attachment 1 of this Site Reclamation Plan is a site map depicting current contour elevations of the property. Attachment 2 is a site map of the anticipated final project contour elevations for the Goose Lake Quarry property and outlines the entire reclamation area authorized under this BUD, including cross sections for the reclamation area. Ben Tech will use the current contour elevation map (Attachment 1) as a baseline to measure and document yearly fill progression as required by Section VIII. Special Conditions (8) of the BUD. A new contour elevation map will be submitted annually with the Solid By-Product Management Plan (SBMP) to show progress toward meeting the final contour elevations in Attachment 2. This will show Iowa DNR and IDALS how site conditions progress toward meeting final project grades and estimate remaining project life.

Considering the 5-year average CCR tons utilized for project reclamation, current project elevations, and remaining volume available to reach final project grades, we estimate there are 20 years remaining at Goose Lake Quarry before the final project grades depicted in Attachment 2 will be reached.

**Goose Lake Quarry**

Figure 1  
Property Boundary & 50' setback



*Figure 1: Property Boundary and 50' Setback*

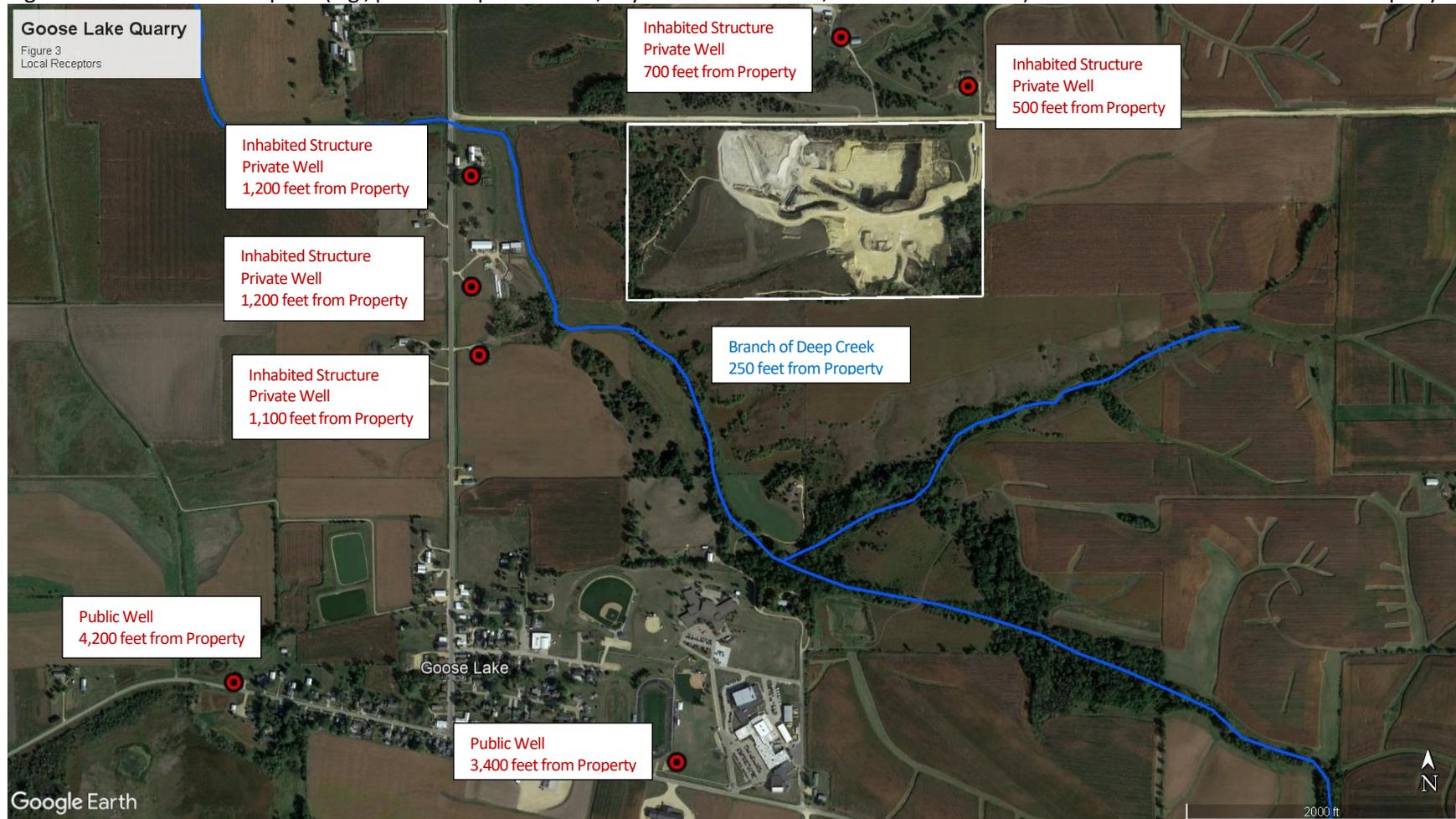
**Goose Lake Quarry**

Figure 2  
CCR Fill Areas



Figure 2: CCR Fill Areas

Figure 3 identifies local receptors (e.g., public and private wells, any waters of the state, inhabited structures) and shows the distances from the Property:



**Reclamation, Final Cap Design, and Vegetative Cover:**

Iowa Code Chapter 27-60.80(208), administered by IDALS, requires reclamation upon completion of mining operations. Ben Tech/WQI, upon filing a mine report indicating the conclusion of all mining activities, will have a period of three years to complete all reclamation activities on the Property. All lands affected by the mining process will be graded by Ben Tech and/or WQI to slopes having a maximum one (1) foot vertical rise for every four (4) feet horizontal distance or graded to blend with the surrounding terrain. Ben Tech/WQI will grade all remaining affected lands, except aggregate stockpiles and processing areas, to allowable slopes within six months following the filing of the final report. Aggregate stockpiles and processing areas will be graded or the material exported from the site within one year following the final report. In grading the Property all mining-related waste products and machinery incompatible with the care and growth of vegetation will be removed from the site and disposed of in a manner consistent and acceptable with state law. Seeding of an area with grasses and legumes will be done within three months following the conclusion of all earthwork, weather permitting. Erosion control methods will be used where necessary to prevent rill and gully formation. Ben Tech/WQI will plant a ground cover of acceptable species of grass, legume, or crop. The vegetation will be allowed at least one growing season to become established prior to the filing of a release request by Ben Tech/WQI. If necessary, additional seedings will be performed to establish a viable vegetative cover. Attachment 2 details the final cap design, vegetative cover, and is designed to blend with the surrounding terrain.

**Fill Practices:**

Processing of the CCR at Goose Lake Quarry begins with it being dumped from semi-trailers into the silo of the processing plant. The silo's total capacity is approximately 90 tons. An electronic sensor is built into the system that reads the material level to prevent overfilling. The silo is designed to maintain a vacuum to aid in dust control. An enclosure around the trailer is used to control fugitive dust emissions from the handling of the CCR. The CCR is then fed through a knife gate into a variable speed rotary vane feeder that will control the feed rate in relation to the metered water incorporation rate. Both are adjustable to insure a proper balance of moisture in the final product. The water and CCR are then processed through a dual auger mixer. If a mechanical failure were to occur with the feeding system a bypass is built into the system to allow material from the silo to bypass the feeder system and dump directly into the pug mill for processing. A tertiary system is present with water spray bars installed at the exit chute to insure that minimally the CCR is wetted prior to deposition in the reclamation area. All CCR is processed immediately upon arrival at Goose Lake Quarry and is never stockpiled.

At no time will the final 10 feet of final fill at Goose Lake Quarry have any total metal contaminant levels above the Statewide Standards for Contaminants in Soil as defined in 567 IAC 137. The final three feet will consist of clean topsoil as final cover to reclaim the area and will be in place within ninety days of completion of reclamation activities. This is a deep fill where only the surface will serve as growing media. As such, at a minimum the top three feet of clean topsoil shall have a pH greater than or equal to 5 and less than or equal to 8. Clean topsoil will be tested for pH compliance before it is placed as final cover. Fill material below the top 3 feet shall have a pH greater than or equal to 5 and less than or equal to 12. CCR accepted and processed at Goose Lake Quarry is tested quarterly for pH compliance. Periodically, lime is mixed with the CCR to maintain pH levels and amounts are recorded by site personnel.

The CCR is being placed at least five feet above the groundwater table. In 2006 before reclamation activities began, one temporary monitoring well was installed in the active quarry floor and one permanent monitoring well was installed on the quarry rim. It was determined the static water level of the groundwater table was 2.8 feet beneath the surface of the quarry floor. 5 feet of clean fill material was backfilled on the quarry floor to ensure the 5 foot separation distance was maintained. Currently the base elevation for all fill areas is 674.8' ASL. The CCR is not placed in a waterway, wetland, or any waters of the state. Hydric soils, wetland vegetation, and wetland hydrology are not present on the Property. Figure 4 is the National Wetlands Inventory map provided by the United States Fish and Wildlife Service. The CCR is not placed within the 100-year floodplain. Figure 5 is the 100-year floodplain map in relation to the Property. The CCR is not placed closer than 200 feet to a sinkhole or to a well that is being used or could be used for human or livestock water consumption (See Figure 3). The CCR is not putrescible.

Per Section VIII. Special Conditions (15) of the BUD Ben Tech will:

- a. Control, minimize, or eliminate to the maximum extent feasible, post-closure infiltration of liquids into the deposited CCR and cover material and releases of material or contaminated runoff to the ground or surface waters or to the atmosphere.
- b. Preclude the probability of future impoundment of water or sediment. All diversion and drainage structures will be maintained to prevent run-on and runoff erosion, or other damage to the final cover.
- c. Include measures that provide for slope stability to prevent sloughing or movement of the final cover system. Where applicable, slopes will have a maximum one (1) foot vertical rise for every four (4) feet horizontal distance or graded to blend with the surrounding terrain. The integrity and effectiveness of the final cover system will be maintained to original specifications by making repairs as necessary to correct the effects of seeps, settling, subsidence, erosion, ponding, or other damaging events.
- d. Minimize the need for further maintenance of the closed reclamation area. The vegetative cover will be reseeded as necessary to maintain good vegetative growth. Any invading vegetation whose root system could damage the final cover will be removed or destroyed as soon as possible. Upon closure, Ben Tech/WQI will monitor the final cover and vegetation on a monthly basis for the first year, until vegetation is well established. Documentation of monthly inspections will be maintained by Ben Tech/WQI and be made available at all reasonable times for inspection by the DNR.
- e. A notation will be filed with the county recorder showing in perpetuity, for the purposes of title abstract, the existence of a beneficial fill project consisting of the above-referenced by-product, and that closure activities were performed in accordance with the Iowa DNR BUD and the reclamation regulations administered by IDALS. Ben Tech/WQI will submit a copy of the executed notation to the DNR within 90 days of the completion of reclamation activities.



U.S. Fish and Wildlife Service, National Standards and Support Team | wetlands\_team@fws.gov

March 22, 2018

**Wetlands**

- |   |                                |   |                                   |   |          |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland       |  | Lake     |
|  | Estuarine and Marine Wetland   |  | Freshwater Forested/Shrub Wetland |  | Other    |
|   |                                |  | Freshwater Pond                   |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)  
This page was produced by the NWI mapper

Figure 4. National Wetlands Inventory map

