



Montana Department of  
**ENVIRONMENTAL QUALITY**

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November 25, 2013

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**RECEIVED**

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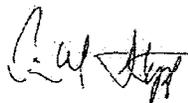
Ladies and Gentlemen:

To comply with the Administrative Rules of Montana (ARM), specifically ARM 17.4.607(2), 608, 609 and 610, the Department of Environmental Quality (DEQ) has prepared the enclosed Environmental Assessment (EA). This EA addresses the proposed licensure of a Class III Resource Recovery facility that will manage on-site by-products at the Western Sugar Cooperative sugar refinery for beneficial uses according to approved Beneficial Use Determinations (BUDs). The proposed facility is located at 3020 State Avenue on property owned by the applicant near the southeast edge of Billings. The quantity of by-products managed for annual recovery on 90 acres include 32,000 tons of beet flume soils, up to 32,000 tons of precipitated calcium carbonate, and up to 4,000 tons of coal combustion residues.

The purpose of this EA is to inform all interested governmental agencies, public groups and individuals of the proposed action and to present DEQ's findings on the proposal. Persons wishing to comment have until the close of business on December 25, 2013 to submit written comments concerning the proposal. DEQ will not make a licensing decision until after the comment period has ended. A complete color copy of the EA may be viewed on DEQ's website at <http://www.deq.mt.gov/ea/WasteMgt.mcp.x>.

If you wish to comment on this proposed action within the 30-day public comment period, please do so in writing by mailing your comments to the Waste and Underground Tank Management Bureau, Solid Waste Program, P.O. Box 200901, Helena, MT 59620-0901, or by E-mail to mailbox [wutbcomments@mt.gov](mailto:wutbcomments@mt.gov).

Sincerely,



Tim Stepp  
Solid Waste Program  
Waste & Underground Tank Management Bureau

Encl: Environmental Assessment—Proposed WSC Billings Class III Resource Recovery Facility

File: Yellowstone County\ Class III\Proposed -WSC Billings Resource Recovery Facility

## **MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY**

Permitting and Compliance Division

Waste and Underground Tank Management Bureau

Solid Waste Section

P.O. Box 200901

1520 E. Sixth Avenue

Helena, MT 59620-0901

### **ENVIRONMENTAL ASSESSMENT (EA)**

#### **SECTION 1.0 — DESCRIPTION OF PROJECT:**

The Western Sugar Cooperative, Inc. (WSC) submitted a solid waste management system license application to the Montana Department of Environmental Quality (DEQ) Solid Waste Program (SWP) for the proposed licensure of a Class III Resource Recovery facility (RRF). The submittal of the license application was in response to DEQ's enforcement action that resulted after the 2011 failure of the north slope of the Precipitated Calcium Carbonate (PCC) stockpile. The slope failure caused a landslide onto properties adjacent to the facility. The ongoing resource management and recovery activities associated with the waste generated at the WSC facility will be regulated by the SWP.

The proposed WSC Billings Class III RRF is located within the sugar refinery site at 3020 State Avenue in Billings (Figure 1-1). The WSC Billings sugar refinery facility encompasses approximately 160 acres at this location. Approximately 90 acres of the facility property will be used for all resource processing and recovery activities that are necessary to promote the beneficial use of by-products produced from the manufacture of the sugar products. The by-products resulting from sugar production at this facility include PCC, beet flume solids (BFS), and coal combustion residue (CCR), all of which are currently stockpiled at the site.

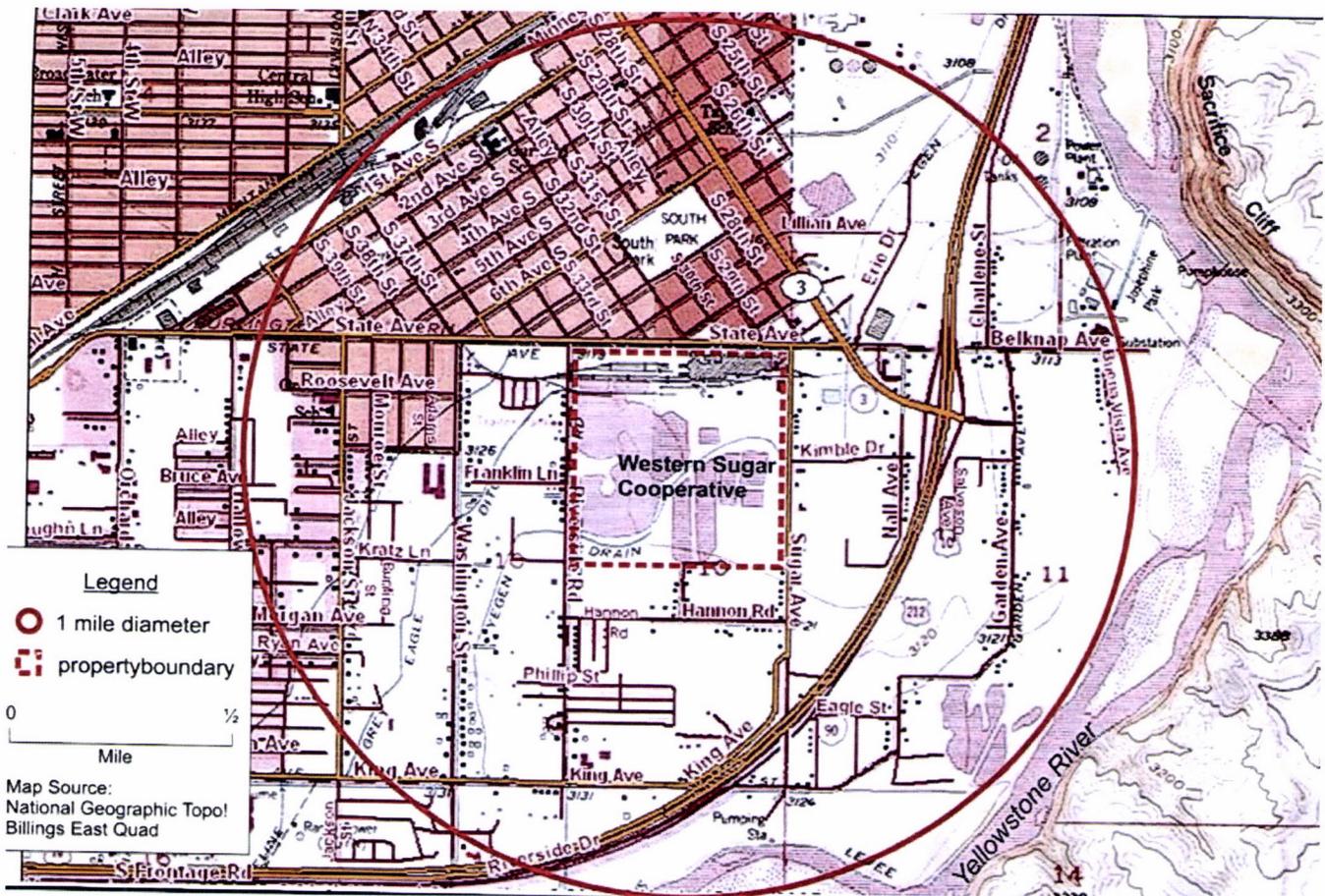
#### **Purpose of the Environmental Assessment:**

In accordance with section 75-1-102, Montana Code Annotated (MCA), the Montana Environmental Policy Act (MEPA) is procedural and requires the "adequate review of state actions in order to ensure that environmental attributes are fully considered by the legislature in enacting laws to fulfill constitutional obligations; and the public is informed of the anticipated impacts in Montana of potential state actions." According to MEPA, environmental assessments (EAs) are the procedural documents that communicate the process agencies follow in their decision-making. An EA does not result in a certain decision, but rather serves to identify the potential effect of a state action within the confines of existing laws and rules governing such proposed activities so that agencies can make balanced decisions. The MEPA process does not provide regulatory authority beyond the authority explicitly provided in existing statute.

The Montana Solid Waste Management Act laws (MSWMA) and rules establish the minimum requirements for the licensing, design, operation, and compliance of solid waste management systems. The EA is the mechanism that DEQ uses to integrate and disclose the process involving these four elements of environmental protection as follows:

- 1) Determine whether a proposed site meets the minimum requirements for compliance with the current laws and rules and is therefore licensable as proposed;
- 2) Assist the public in understanding the licensing laws of the SWP;
- 3) Identify and discuss the potential environmental effects on the proposed site if it is approved and becomes operational;

- 4) Discuss actions taken by the applicant and describe the enforceable measures and conditions designed to mitigate the effects identified by DEQ during the review of the application; and
- 5) Seek public input to ensure that DEQ has identified the substantive environmental impacts associated with the proposed solid waste management facility.



**Figure 1-1.** Location of the WSC Billings sugar refinery site in southeast Billings.

Benefits and Purpose of the Proposal:

The WSC Billings plant produces sugar and molasses from sugar beets. The by-products generated from this process include PCC, BFS, and CCR. DEQ recognizes that diverting non-hazardous industrial by-products for recycling and reuse saves disposal costs for the generator, decreases material costs for end users, and conserves natural resources by decreasing the demand for virgin materials. DEQ encourages the beneficial use of industrial by-products to protect the environment, conserve resources and energy, reduce greenhouse gases, and reduce or eliminate the need to otherwise dispose of these materials in licensed landfills. The primary objective of the proposal is to provide better management of the by-products generated at the WSC facility to facilitate the onsite processing and recovery for approved off-site beneficial uses.

Site Location:

The WSC Billings sugar refinery and proposed Class III RRF is located on property owned by the applicant at 3020 State Avenue on the southeast edge of Billings. The legal description of the location is the Northeast ¼ of Section 10, Township 1 South, Range 26 East, Yellowstone County, Montana. The

sugar refinery is bounded by State Avenue on the north, Riverside Road on the west, Bongard Avenue on the south, and Sugar Avenue on the east.

Site Geography – Topography, Vegetation, & Climate:

The sugar refinery is situated in the greater Northwestern Great Plains ecoregion, near the far western edge of the Montana Central Grasslands province and drained by the Upper Yellowstone watershed. The sugar refinery site occupies a wet alluvial terrace that was deposited by the Yellowstone River, the floodplain of which now lies approximately one-half mile south and east of the facility. The loamy soils are well drained to seasonally flooded, but entirely disturbed by operations throughout the existing sugar refinery site. Natural vegetation surrounding the site is dominated by cattails, reedgrass, and sedges in low seasonally wet areas and grasses with sagebrush or local cottonwoods when dry in surrounding open areas. Wetlands are absent throughout the refinery site. Common local land uses along the north terrace of the river in southeast Billings primarily include dense urban residential developments, extensive industrial and commercial activities, and construction services with scattered open areas of minor rangeland, cropland, hay, and recreation.

The sugar refinery site supports historic and ongoing sugar beet processing operations that have remained active since 1906. The historic and current by-product stockpiles and associated process ponds at the facility occupy a large part of the WSC Billings sugar refinery property (Figure 1-2). The elevation of the site ranges from 3,161 feet above mean sea level (amsl) at the top of the largest PCC stockpile to 3,120 feet amsl at the Yegen Drain irrigation ditch, with the majority of the remaining site being relatively flat beneath the other smaller stockpiles.

The climate in the Billings area is typical of the Montana high plains and is characterized by fluctuations and extremes. The seasonal climate regime is typically affected by the interaction between the air masses originating in the Gulf of Mexico and California, the northern Pacific Ocean, and the Arctic regions. The moist air from the south to southwest tends to dominate during the spring and early summer, but drier Arctic air dominates in the wintertime with moisture often carried by storms from the northwest Pacific coast. Temperatures in Billings are consequently coldest during December to January when the average daily high is only 27°F. During summer from July to August, the average daily high reaches 73°F. The mean annual temperature is 48°F with the average annual maximum at 60°F and minimum at 37°F. There are 125 to 130 frost-free days per year. Most precipitation falls during April to June when the peak daily maximum at 2.9 inches and the mean annual precipitation is 12.7 inches. The daily average wind speed is 11 mph.

Resource Recovery Facility Features:

The proposed Class III licensed facility boundaries will capture approximately 90 acres of by-product and resource management areas at the sugar refinery. If approved, the resource management area boundaries will surround the existing PCC, BFS, and CCR stockpiles (Figure 1-3). The processing and loading activities for each by-product material will be restricted to each of these areas. The BFS and CCR dewatering ponds are subject to regulation by DEQ's Water Protection Bureau (WPB) and are not included in the solid waste licensed area. The utilization of the PCC and BFS pond areas for dewatering is being phased out with the current installation of a filter-press to yield a dry-cake alternative to resource recovery for the development of beneficial offsite uses of those byproducts.

*By-product Stockpiles* — All newly generated by-products will continue to be segregated and placed within the existing stockpile areas after dewatering. The existing PCC stockpiles occupy most of the western half of the site and presently contain approximately 2,440,000 cubic yards (1,800,000 tons) of by-product covering 46 acres to an average height of 35 feet. The CCR stockpile presently covers approximately 4 acres and contains approximately 70,000 cubic yards (48,000 tons) of by-product; the BFS stockpile presently covers approximately 40 acres and contains approximately 25,000 tons. The CCR and BFS stockpiles lie at the northeast corner and southeast of the large PCC stockpile, respectively (Figure 1-3).



**Figure 1-2.** Aerial photo of industrial site features (factory, by-product stockpiles and process ponds) and groundwater monitoring wells (*e.g.* MW-1, EXT-1, OBS-1, *etc.*) at the WSC Billings sugar refinery.



Figure 1-3. Identification of the license boundary (yellow) for the proposed Class III WSC Billings Resource Recovery facility.

*Facility Access* — Entry to the facility is allowed through the WSC office located on State Avenue. Other entry points are provided for various deliveries and offsite transportation of recovered resources.

Operation and Maintenance Plan:

Operations at the WSC Billings Class III RRF will follow an approved Operations and Maintenance (O&M) Plan describing the procedures for stockpiling and storage, as well as all resource recovery activities based on the existing DEQ-approved Beneficial Use Determinations (BUDs, Appendix B) for management of the industrial by-products currently generated on site at the WSC sugar refinery. Facility controls on storm water runoff, air quality, and discharges to groundwater are regulated under other DEQ permits as briefly described below.

*Personnel* — The day-to-day administration and operation of the Class III RRF will at least initially be the responsibility of existing WSC staff that currently operate the active sugar refinery. Staff shall be trained as needed and as described in the facility Emergency Response Plan.

*Operating Hours* — The WSC Billings sugar plant is open for business on Monday through Friday from 7:00 a.m. to 3:30 p.m.

*Access Control* — Access to the sugar plant is controlled by WSC staff through the front office. The facility will be operated as a private Class III RRF and public access is restricted.

*Managed Resources* — Only industrial by-products associated with the production of sugar at the WSC Billings refinery will be allowed on site for resource recovery. The sugar production process annually generates approximately 32,000 tons each of PCC and BFS by-products and about 4,000 tons of CCR.

The limestone used in the processing of sugar beets is burned to generate quicklime (CaO) and carbon dioxide gas (CO<sub>2</sub>) for use during the purification process. This burnt lime is hydrated with water to produce the calcium hydroxide necessary for purification of the extracted beet juice. The CaO and CO<sub>2</sub> are mixed into the beet juice where they recombine into a solid precipitate and remove non-sugars (*e.g.* nitrates, *etc.*) from the juice to yield a refined sugar solution. This refining process generates PCC slurry as a by-product with essentially the same chemical composition as the limestone that is originally brought to the site. During past operations, this PCC slurry is typically discharged to the lime settling ponds where it is dewatered on top of the existing PCC stockpile. These lime ponds are now being phased out by using an on-site filter press to produce dry cake which will instead be stockpiled for resource recovery operations at the proposed on-site RRF.

The BFS are the organic and inorganic materials washed off the beets prior to slicing. The solids are generated in the flume that transports, washes, and cleans the beets. The beet wash water is directed to an above-ground clarifier, where the underflow is continuously withdrawn and typically pumped to the mud settling ponds for consolidation. These BFS ponds are now being phased out by using an on-site filter press to produce dry cake which will instead be stockpiled for resource recovery operations at the proposed on-site RRF.

Coal is used at the facility as the major heat source for the generation of steam, in the cogeneration of electricity for use in the facility, and to burn limestone in the kiln to generate the quicklime and CO<sub>2</sub>. The CCR produced by combustion consists of boiler bottom ash and off-gas wet scrubber solids. The wet scrubber system injects a water spray into the off-gas scrubber, capturing the particulates (solid material) in a mist that drops to the bottom of the scrubber to produce a slurry. This scrubber slurry is

combined with the boiler bottom ash and diverted to a settling pond. The CCR is dewatered during the off-season and stockpiled for later beneficial use. The results of the analysis of the CCR materials indicate that the tested characteristics favor their removal from the facility for several intended beneficial uses. The annual analysis of the CCR for parameters listed in the BUDs will validate ongoing uniformity of the by-products as proposed. The materials pass all tests for hazardous characteristics.

*Facility Equipment* — Existing refinery equipment (e.g. crawler, front-end loader, dump truck, etc.) will be utilized for the resource recovery operations. As noted, the new filter press operation has modified both the PCC and BFS dewatering process and was fully operational for the annual beet processing cycle in the fall 2013.

*Daily Operations* — The PCC, BFS, and CCR by-products are generated during the 140-day annual beet processing period that typically lasts from August through February. The BFS and CCR materials are actively managed during the period from March through July, once beet processing has been completed. Operations include dewatering, stockpiling, processing, and loading for offsite beneficial use as defined in the approved BUDs for each resource. The stockpiles, ponds, and resources recovery areas will be inspected on a weekly basis to monitor for unusual changes (e.g., tension cracks near crest of slopes, bulging slopes, seepage). Repairs will be made as necessary. The inspections and any subsequent repairs will be documented and maintained in the facility files.

WSC will maintain an inventory of by-products generated and submit an annual resource recovery report that includes (i) tonnage of each resource generated, (ii) tonnage of each resource material recovered and transported off-site for reuse, and (iii) tonnage and location of each by-product that remains on-site at the end of each calendar year. The report will also include the necessary analytical data associated with each by-product stream. The RRF operations log and completed inspection forms will be available at the on-site office for DEQ inspection and an annual report will be filed using DEQ forms as required by April 1 with the annual license renewal application.

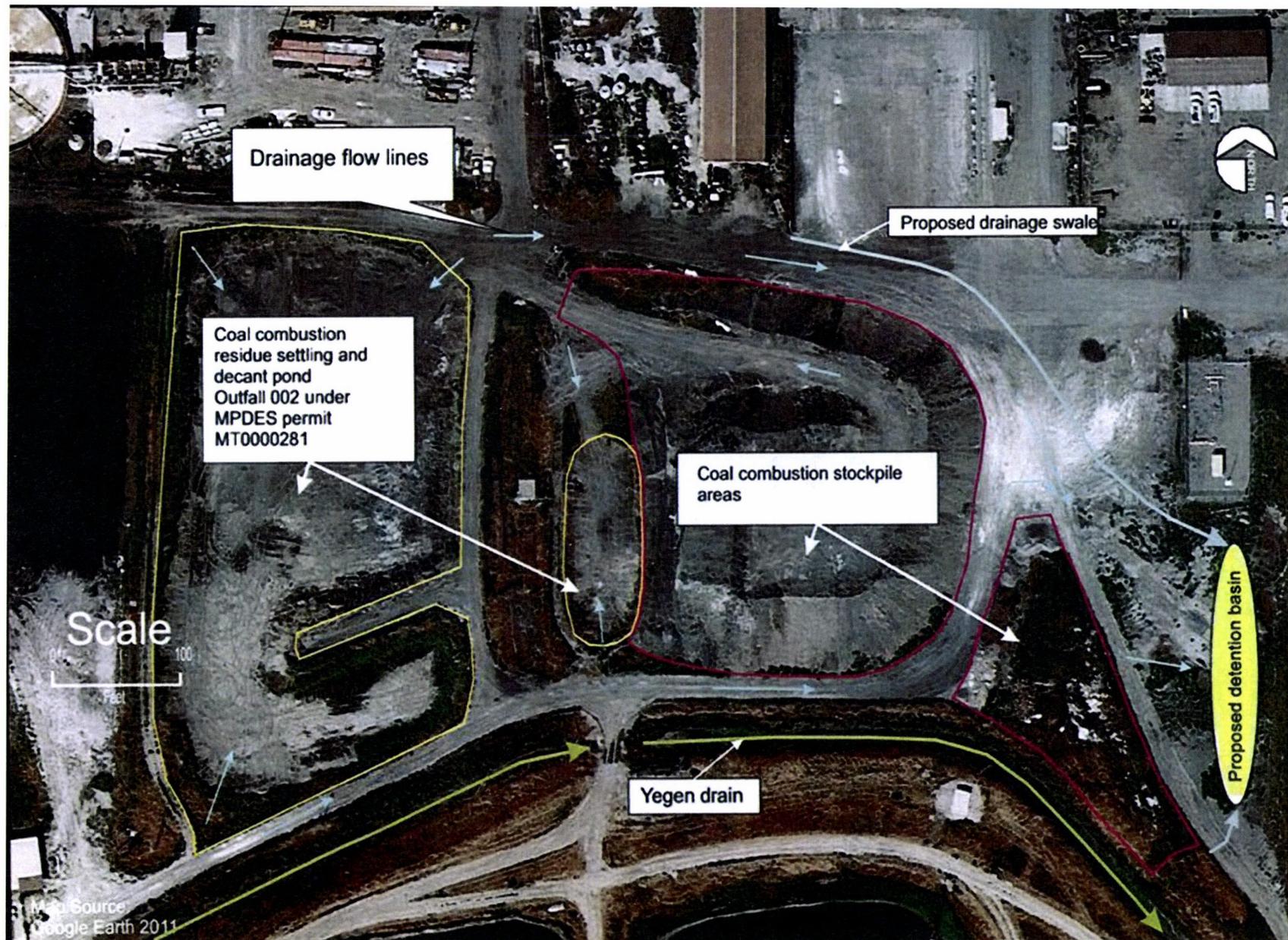
*Stockpile Stability* — The stability of the large PCC stockpile will be monitored and maintained as needed. Monthly inspections of stockpile slopes shall accompany the review of weekly inspection records to assess the stability of all inner and outer slopes. The *Structural Analysis Report* (dated 12/2012) concluded that PCC stockpile instability likely resulted from elevated internal moisture content near areas with steep slopes. Consequently, the historic practice of dewatering the PCC in unlined ponds on top of the stockpile is being phased out and replaced by a new filter press that instead yields a dry PCC cake stockpiled for resource recovery. This major operational change, combined with laying back the steep outer slopes, will help to ensure long term stability of the PCC stockpile.

*Storm Water Control* — Storm water control in the by-product stockpile and resource areas is already a routine practice at the facility utilizing best management practices (BMPs) identified in the Storm Water Pollution Prevention Plan (SWPPP) under a general permit regulated by DEQs WPB. Storm water BMPs include: (i) routing via ditches and berms that outfall to the ponds; and (ii) berms and vegetation to prevent runoff from reaching the Yegen drain. Most of the precipitation infiltrates the permeable granular PCC stockpile where the lime process ponds historically provided for the dewatering of spent lime slurry produced during sugar refining. As the ponds are phased out, any resulting internal runoff is controlled within the PCC by-product management areas by routing via ditches and berms to a new storm water detention pond adjacent to the CCR management area near the northeastern licensed boundary (Figure 1-4).

On-site combustion of coal during sugar refining produces boiler and flue ash slurry that is dewatered in an ash process pond. The resulting coal combustion residues will be stockpiled for recovery operations at the proposed on-site RRF. Runoff from the CCR stockpiles would also be routed eastward via ditches and berms to the new storm water detention pond adjacent to the CCR area near the eastern boundary. Runoff from the BFS is detained by berms along the eastern and western boundaries of the resource area.

*Dust Control* — Watering for dust control in the by-product stockpile and resource areas is already a routine practice during all operations at the sugar refinery under an operations permit regulated by DEQ Air Resources Management Bureau (ARMB). The excavation and loading of resources for offsite delivery will be added to the on-site sources of fugitive dust. End users will haul the by-products off site for beneficial use and all loads will be tarped.

*Emergency Response* — An approved emergency response plan (see Appendix A), as required in the BUDs for the by-product stockpiles, will be followed in the event of accidental impacts: either (1) slope failure; or (2) discharge from the process ponds. Appropriate corrective actions will be taken as described, including proper notification of DEQ. Ongoing training, inspections, documentation, and preventative actions are implemented during facility operations as described in the appropriate O&M Plan sections above.



**Figure 1-4.** Routing of runoff flows (blue) originating from the precipitated calcium carbonate (PCC) and coal combustion residue (CCR) management areas toward the east for capture in the new detention pond.

## SECTION 2.0 — ALTERNATIVES CONSIDERED

### Solid Waste Section Roles and Responsibilities:

DEQ's Solid Waste Section is responsible for ensuring compliance with current regulations by activities proposed for licensing under the MSWMA, the Septage Disposal Licensure Act, and the Motor Vehicle Disposal & Recycling Act.

### **The following provides a description of reasonable alternatives whenever alternatives are reasonably available and prudent to consider:**

A decision by DEQ is triggered when the applicant upholds his/her request for licensure of an active solid waste management system. The applicants may at any time, however, decide to withdraw the application by exercising the "no-action" alternative and continue their ongoing business operation at the existing facility site while considering other reasonable and viable options according to DEQ requirements. Three alternatives are involved in the evaluation of potential environmental impacts associated with DEQ's decision on licensing of the proposed WSC RRF.

Alternative A: The "no-action alternative". DEQ suspends its evaluation of the license application in the event the applicant decides to withdraw the proposal to locate a Class III RRF at the WSC Billings sugar refinery site. The applicant would then investigate other viable options for the management of by-products currently generated by the refinery. In this situation, however, the selection of this alternative is very unlikely for two reasons: (i) DEQ approval of three BUDs already supports their proposal for the recovery of resources from on-site PCC, BFS, and CCR by-products; and (ii) the applicant consented to obtain the license as part of the agreements necessary to resolve a DEQ enforcement action after a landslide from the north slope of the PCC stockpile. Any failure by the applicant to complete the application or to obtain the Class III RRF license would likely trigger penalties as provided in DEQ administrative order. Rather, the applicant will likely uphold its request for licensure of the proposed Class III RRF operation based on DEQ requirements for the improved management of newly generated by-product materials at this facility.

In the absence of the applicant's selection of the "no-action" alternative, and prior to DEQ's final decision, two other possible alternatives were considered during the preparation of this EA.

Alternative B: DEQ denies the license application for the proposed WSC Billings Class III RRF in the event the applicant fails to provide all information necessary to address any deficiencies identified during the application review and/or the public participation phase. Deficiencies could arise from an unforeseen shortfall of the proposal meeting all technical or resource recovery performance requirements, licensing or regulatory criteria, or particular legal restraints. If denied, the applicant could either seek alternatives to manage the by-products currently generated at the facility elsewhere or could re-apply for a license to implement other reasonable options more suitable to the sugar refinery operations.

Alternative C: Under this alternative, DEQ approves the application and issues a new license establishing the WSC Billings Class III RRF as proposed by the applicant and supported by the approved BUDs. This alternative does not include provisions for the on-site disposal of any PCC, BFS, or CCR by-products, but is only for the recovery of resources from the by-products produced on-site. Several factors support the viability of this option for the management of industrial by-products currently generated at the WSC Billings sugar refinery:

1. By-products will be diverted for approved beneficial uses, conserving resources and reduce landfilling costs.
2. Improved processes are now available that can be implemented to reduce handling costs and optimize by-product quality.
3. Existing beneficial uses support the recovery of by-products generated by ongoing production at the sugar refinery.
4. Resource recovery could generate income that will potentially offset some costs associated with the modifications necessary to optimize by-product management.
5. A significant reduction in the volume of all by-product stockpiled at the sugar refinery will assist in the mitigation of potential stability, erosional, or dust effects that are currently regulated under existing permits for the site.
6. The successful implementation of the proposed project, according to the approved BUDs, could ultimately provide for the substantial removal of by-product stockpiled at the sugar refinery site, which would significantly minimize site management risks upon final shutdown of the sugar refining operations.

In consideration of these alternatives, the potential environmental impacts of Alternative C were identified for the proposed project from the information provided by the applicant and from DEQ research and visit to the site and the surrounding area. The results of DEQ's evaluation of the potential environmental impacts related to licensure of the proposed facility are presented in Section 3.0.

## **SECTION 3.0 — ANALYSIS OF POTENTIAL IMPACTS**

This section evaluates the potential environmental effects that may occur on the physical and human environment if the license application is approved. Tables 3.1 and 3.2 identify the physical and human elements that may be affected by licensure of the proposed site. Each table is followed by a discussion of the potential impacts to the resources that might be affected by the proposal. The number on each underlined resource heading corresponds to a resource listed in the associated table. Generally, only those resources potentially affected by the proposal are discussed. If there is no effect on a resource, it may not be mentioned in the appendix.

Direct and indirect impacts are those effects that occur in or near the proposed project area and might extend over time. Often, the distinction between direct and indirect effects is difficult to define, thus in the following discussion, impact or effect means both types of effects.

Cumulative impacts are restricted to the net effects of the proposed project because no other known projects are proposed in this area. Secondary impacts are induced by a direct impact and occur at a later time or distance from the triggering action. No secondary impacts are expected.

**TABLE 3.1 - POTENTIAL IMPACTS ON THE PHYSICAL ENVIRONMENT**

<b>PHYSICAL ENVIRONMENT</b>	Major	Moderate	Minor	No	Unknown	Attached
1. SITE GEOLOGY & SOIL QUALITY - STABILITY & MOISTURE:				<b>X</b>		X
2. WATER QUALITY, QUANTITY & DISTRIBUTION:				<b>X</b>		X
3. AIR QUALITY:				<b>X</b>		X
4. DEMANDS ON ENVIRONMENTAL RESOURCES OR LAND, WATER, AIR OR ENERGY:				<b>X</b>		
5. TERRESTRIAL, AVIAN, AND AQUATIC LIFE AND HABITATS:				<b>X</b>		X
6. VEGETATION COVER, QUANTITY & QUALITY				<b>X</b>		X
7. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:				<b>X</b>		X
8. HISTORICAL AND ARCHAEOLOGICAL SITES:				<b>X</b>		X
9. AESTHETICS:				<b>X</b>		X

CUMULATIVE AND SECONDARY IMPACTS — Direct and indirect impacts are those effects that occur in or near the proposed project area and might extend over time. Often, the distinction between direct and indirect effects is difficult to define, thus in the following discussion, impact or effect means both types of effects. The proposed licensure of the Class III Resource Recovery facility will provide a negligible contribution to any cumulative impacts at the site, relative to the existing impacts of the ongoing *WSC Billings* sugar refinery operations. Secondary impacts are induced by a direct impact and occur at a later time or distance from the triggering action. There would be no recognizable secondary impacts.

## ANALYSIS OF TABLE 3.1 - POTENTIAL IMPACTS ON THE PHYSICAL ENVIRONMENT

### 1. Site Geology and Soil Quality - Stability and Moisture

The WSC sugar refinery is situated within the Upper Yellowstone River watershed, north of the Pryor Mountains. Sited at the southeast city limits of Billings, the facility sits just north of the Yellowstone River. Bedrock outcrops are absent within the facility and no fault zones are mapped in the immediate area.

All well logs from wells constructed on the site indicate the area is overlain by fill that consists of soil, PCC, mud, coal, coal cinders, and debris. Beneath this fill, nearly all logs note the presence of a 2- to 6-foot layer of silty clay, clayey silt, or lean clay that overlies a thick layer of coarse alluvium comprised of interbedded sand, gravel, and silt. Shale bedrock is encountered below the coarse alluvium at approximately 30 feet below the surface at the site. The extensive and continuous historic industrial activity at the site since 1906 has essentially disturbed the soils throughout the entire WSC Billings sugar refinery site. Native soils have been displaced over the course of the years by the "fill" that likely covers all areas of the site not currently occupied by processing ponds, by-product stockpiles, buildings, and roads. Consequently, the Department does not anticipate additional impacts to the site geology and soil quality resulting from the licensing action related to the historic and on-going activity.

### 2. Water Quality, Quantity and Distribution

#### *Surface Water*

The WSC facility is located at the southeast margin of Billings city limits on the low alluvial terrace where the Yellowstone River bends northward at Sacrifice Cliff to cut through the rimrocks of the Eagle sandstone that surround Billings. The site boundary is located approximately one-half mile north of the Yellowstone River levees, one-quarter mile north of the floodplain margin, and is less than 10 feet above the river channel elevation. The only significant on-site drainages are the historic Yegen Drain and Grey Eagle Ditch, both built for the local Irrigation District. There are no natural springs known within the immediate area of the site. Raw water is pumped from the river to the sugar refinery.

All storm water drainage is entirely controlled by manmade features at the WSC Billings sugar refinery site. Runoff is managed under the Storm Water Pollution Prevention Plan regulated by DEQ WPB. All outfalls from the stockpiles or process ponds to state waters must meet effluent limitations as regulated by the WPB general storm water permit.

No additional surface water impacts, beyond the current effects of the existing sugar refinery processes, are anticipated as a result of the SWP's licensure of the resource recovery operations. Potential improvements in runoff control and the capture of sediment from the by-product stockpile areas are anticipated upon construction of the new detention pond.

#### *Groundwater*

A shallow unconfined aquifer lies beneath the sugar refinery site where monitoring wells intercept the water table at 7.5 to 9.0 feet below ground surface (bgs) within the coarse alluvial deposits of the ancient Yellowstone River. This alluvial terrace aquifer is very productive with hydraulic conductivities ranging from the 100's to 1,000's feet per day. There is no evidence for useable quantities of groundwater located within the shallow shale bedrock beneath the facility.

Based on water levels in the facility monitoring wells, groundwater flow is generally from the west-southwest to east-northeast. The hydraulic gradient drops approximately 10 feet over 3000 feet lateral distance that gradually steepens significantly downgradient. Precipitation and process water infiltrate the PCC stockpile to gradually percolate into the underlying unconfined alluvial aquifer. The potentiometric surface of the underlying aquifer annually develops a mound within the PCC stockpile during annual refinery production cycles as a result of this infiltration. The 2011 failure of the north-slope embankment of the PCC stockpile was attributed to the combination of overly steep slopes and rapid rise in moisture content resulting from the excessive absorption of process water during a series of record precipitation events.

#### *Nearby Groundwater Supply Wells*

Based on a review of the Montana Bureau of Mines and Geology (MBMG) database, the unconfined alluvial aquifer of the Yellowstone River terrace located beneath the WSC facility is a significant source of drinking water for 274 private water wells and one public water supply well within one-mile radius of the proposed facility (1/2 mile across). According to the MBMG database, these shallow wells are completed at depths that vary between 10 to 80 feet bgs within that area surrounding the facility.

Regular and ongoing ground water monitoring beneath the sugar refinery is currently regulated by DEQ WPB under Montana Pollution Discharge Elimination System (MPDES) permit number MT0000281. Groundwater monitoring is not, however, required by the Solid Waste Program for Class III solid waste management system licenses. Consequently, any significant impacts to ground water quality from the cumulative and historic facility operations are regularly assessed by WPB under the MPDES permit authority.

### 3. Air Quality

The facility location is zoned Heavy Industrial where the adjacent City-County roads normally carry significant daily traffic including large truck haulage for pickup and delivery. Because the proposed resource recovery operations involve byproducts already generated on site, using raw materials that were delivered during normal plant operations, the only additional minor dust impact generated on surrounding roads would be from potential truck haulage for offsite beneficial use. The facility includes a rail spur utilized during operations for delivery of materials and for shipment of product or byproducts for offsite beneficial use.

In general, air quality concerns related to licensed resource recovery activities would involve the dust generated by the excavation and loading of stockpiled BFS, PCC, and CCR materials for processing and transport associated with offsite beneficial uses. Dust control measures, such as watering of the stockpile face during processing and load-out or using water sprinklers to control dust on roads, will be initiated as necessary. Air quality on site is currently regulated by DEQ ARMB according to the Air Quality Operating Permit #OP2912-05 which must be updated prior to the initiation of resource recovery operations. These proposed operations would be an insignificant fraction of the cumulative impacts from current and on-going sugar production activities. Thus, the proposed Class III Resource Recovery operations would contribute a minor impact to existing air quality at the sugar facility and on surrounding adjacent roads.

4. Demands on Environmental Resources of Water, Air and Energy

The primary demand on energy, water, or air resources is caused by continued operation of the sugar refinery at the site. There are no new additional demands on water and air resources anticipated as a result of the Solid Waste Program's licensure of the on-going activities at the site.

5. Terrestrial and Aquatic Life and Habitats

The WSC Billings sugar refinery has operated on the site at the southeast margin of Billings city limits since 1906. The facility is surrounded by subdivisions on the immediate northern boundary and a few blocks to the west. The immediate areas adjacent to the western, eastern, and southern boundaries are highly developed industrial zones interspersed with some vacant lots. The entire site is disturbed by industrial activities related to sugar production. The site lacks natural range or habitat that are conducive to transient populations of grazing large game, wandering predators, and burrowing small mammals or that could regularly accommodate any terrestrial or avian species. Based on existing habitat disturbance and displacement of animal species due to population pressure, surrounding industry, and continued refinery operations at the site, approval of the RRF license application would not result in new additional impacts to the terrestrial and aquatic life and habitats.

6. Vegetation Cover, Quantity and Quality

A search of the Montana Natural Heritage Program website found no plant species of concern in the area encompassed by Township 1 South, Range 26 East. Due to extensive and continuous disturbance by industrial activity, which has disrupted all plant habitats that occupied the site prior to the construction of the sugar refinery, no new impacts to these resources are anticipated as a result of the Solid Waste Program's licensure of the on-site resource management activities.

7. Unique, Endangered, Fragile or Limited Environmental Resources

A search of the Montana Natural Heritage Program website found a record of one special status species, 13 species of concern, and 6 potential species of concern in the 36-square mile block encompassed by Township 1 South, Range 26 East. The habitats for the diverse species identified in the search are typically open conifer and riparian forests, large rivers and lakes, prairie rivers and larger streams, small prairie rivers, wetlands, mountain streams, rivers, and lakes, cliffs and canyons, sagebrush, scrubland, and arid land, rock, and dry soils. The WSC facility has operated at the location since 1906, and consequently, none of the habitats necessary to support the mammals, avian, reptilian, aquatic, or invertebrate species remains within the site. Therefore, there is no new anticipated impact to these resources.

8. Historical and Archaeological Sites

The State Historic Preservation Office (SHPO) was contacted regarding the proposed RRF operations. SHPO searched their records and found that some of the Western Sugar Cooperative refinery buildings have been recorded as historic. SHPO also determined that there is a low likelihood that these refinery structures would be impacted by this project.

9. Aesthetics

The WSC facility is located within an area of historic and extended industrial disturbance associated with an active sugar refinery. The proposed resource recovery activities will likely have a positive impact on aesthetics due to the improved visual effects associated with the removal of by-product stockpiles for offsite beneficial use.

**TABLE 3.3 - POTENTIAL IMPACTS ON THE HUMAN ENVIRONMENT**

<u>HUMAN ENVIRONMENT</u>	Major	Moderate	Minor	No	Unknown	Attached
1. SOCIAL STRUCTURES & MORES:				X		
2. CULTURAL UNIQUENESS & DIVERSITY:				X		X
3. DENSITY & DISTRIBUTION OR POPULATION & HOUSING:				X		
4. HUMAN HEALTH & SAFETY:				X		X
5. COMMUNITY & PERSONAL INCOME:				X		
6. QUANTITY & DISTRIBUTION OF EMPLOYMENT:			X			X
7. LOCAL & STATE TAX BASE REVENUES:			X			X
8. DEMAND FOR GOVERNMENT SERVICES:				X		X
9. INDUSTRIAL, COMMERCIAL & AGRICULTURAL ACTIVITIES & PRODUCTION:				X		
10. ACCESS TO & QUALITY OF RECREATIONAL & WILDERNESS ACTIVITIES:				X		
11. LOCALLY ADOPTED ENVIRONMENTAL PLANS & GOALS:				X		
12. TRANSPORTATION:			X			X

CUMULATIVE AND SECONDARY IMPACTS — Direct and indirect impacts are those effects that occur in or near the proposed project area and might extend over time. Often, the distinction between direct and indirect effects is difficult to define, thus in the following discussion, impact or effect means both types of effects. The proposed Class III Resource Recovery facility would provide a negligible contribution to any cumulative impacts at the site, relative to the existing impacts of the ongoing WSC Billings sugar refinery operations. Secondary impacts are induced by a direct impact and occur at a later time or distance from the triggering action. The net potential impact of the proposed facility on the human environment would probably be very minor. Development and population surrounding the proposed site is significant. There would be no recognizable secondary impacts.

## **ANALYSIS OF TABLE 3.3 - POTENTIAL IMPACTS ON HUMAN ENVIRONMENT**

### **2. Cultural Uniqueness and Diversity**

SHPO searched their records and found an inventory of several historical buildings within the WSC Billings sugar refinery. However, SHPO also determined that there is a low likelihood that the project would affect existing cultural resources. Further, to date, no archaeological sites have been found within the WSC property. Therefore, there are no new impacts anticipated related to licensure of the facility.

### **4. Human Health and Safety**

The additional impacts to human health that could be caused by the proposed Class III RRF are limited to the minor effects of fugitive dust emissions during the preparation and loading of by-products for offsite delivery. The potential quantity of fugitive dust generated would strongly depend upon the volume of by-product processed on any given day. Sufficient dust control is however required during facility operations under the existing Air Quality Operating Permit as regulated by DEQ ARMB to protect customers and employees of the facility. Consequently this permit is regularly reviewed and updated by ARMB, so that no new additional impacts to human health are anticipated.

### **6. Quantity and Distribution of Employment**

Aggressive marketing and highly successful recovery of the PCC by-product stockpile for beneficial uses could possibly generate some additional employment at the sugar refinery after start-up, because approximately 2.44 million cubic yards of material are already available on site for processing. The anticipated increase in employment opportunity is probably very minor if operations are only limited to the newly generated PCC and CCR by-products.

### **7. Local and State Tax Base and Tax Revenue**

Since there would likely be a few additional workers hired after the initial establishment of the on-site RRF operations, the proposed facility could have a very minor positive effect on the local employment tax base and revenues.

### **8. Demands for Governmental Services**

The Yellowstone County Health Department and DEQ's Solid Waste Section will conduct periodic inspections at the site. No additional government services will be required.

### **12. Transportation**

Offsite haulage of by-product by a few more trucks per day during RRF operations would add little to local traffic flow, or demands for expanded transportation networks, relative to those effects from normal activities during routine refinery operations. The anticipated cumulative impact on these resources is minor.

## **SECTION 4.0 — CONCLUSIONS AND RECOMMENDATIONS**

### **A listing and appropriate evaluation of mitigation, stipulations and other controls enforceable by the agency or another government agency:**

DEQ analysis finds that all operations proposed for the WSC Billings Class III RRF will satisfy the minimum licensing requirements of both the MSWMA and the administrative rules governing solid waste resource recovery. In addition to these standard criteria for DEQ issuance of the Solid Waste Management System License, WSC shall comply with the following specific license conditions:

- (1) All precipitated calcium carbonate, beet flume soils, and coal combustion residue currently generated at the WSC Billings sugar refinery must be utilized for beneficial use as defined by the approved Beneficial Use Determination for each by-product material (Appendix B).
- (2) The additional stockpiling of these materials on site during resource recovery operations shall not exceed approved annual maximum volumes and their utilization (or removal from the site) shall proceed within reasonable approved timelines for each product.

### **Findings:**

DEQ finds that the level of impact identified with the proposed operations would be negligible relative to the historic and ongoing disturbances associated with the operation of the WSC sugar refinery at the Billings site.

### **Recommendations:**

DEQ recommendation is to distribute the EA to adjacent landowners and interested persons to satisfy the public notification and participation requirements of MEPA.

### **If an EIS is needed, and if appropriate, explain the reasons for preparing the EA:**

DEQ finds that an Environmental Impact Statement (EIS) is not necessary based on (i) appropriate mitigating factors enforced by the standard Solid Waste licensing criteria and (ii) approval of the applicant's complete proposal for operational compliance of the WSC Billings Class III RRF with all licensing requirements. Consequently, compliance by this industrial facility with the license would ensure, to a reasonable extent, that any potential contribution to direct or cumulative impacts on human health and the environment will be negligible.

### **If an EIS is not required, explain why the EA is an appropriate level of analysis:**

DEQ finds that on-site modifications associated with the proposed operation of the WSC Billings Class III RRF will not significantly affect the quality of the human environment both within the sugar refinery site and in the surrounding local area. The proposed project would be reasonably expected to have almost no new additional impacts on terrestrial life, vegetation, soils, water, or other aspects of the physical environment relative to the current industrial use of the site. Any removal of industrial by-products from the facility for offsite beneficial use will be an improvement relative to the historic and continuous stockpiling of these materials onsite. Based on these findings, the analysis provided in the EA document has adequately identified the relatively minor impacts that would result from licensure of the WSC Billings Class III RRF as proposed.

**Other groups or agencies contacted or which may have overlapping jurisdiction:**

Montana Department of Natural Resources and Conservation  
Montana Natural Heritage Program  
State of Montana Historic Preservation Office  
U.S. Geological Survey  
Montana Bureau of Mines and Geology  
U.S. Department of Agriculture - Natural Resource Conservation Service

**Individuals or groups contributing to this EA:**

Natural Heritage Program  
State Historic Preservation Office  
Hydrometrics Consulting Scientists and Engineers, Inc.  
U.S. Geological Survey  
Montana Bureau of Mines and Geology  
U.S. Department of Agriculture - Natural Resource Conservation Service

**EA prepared by:** Tim Stepp & Mary Louise Hendrickson, Montana Department of Environmental Quality, Solid Waste Program

**Date:** November 20, 2013

**REFERENCES:**

Hydrometrics, Inc., December 2012, *Western Sugar Cooperative Application for a Class III Solid Waste Management License.*

Hydrometrics, Inc., December 2012, *Precipitated Calcium Carbonate and Coal Combustion Residue Stockpiles Structural Analysis Report Western Sugar Cooperative.*

Hydrometrics, Inc., December 2012, *Western Sugar Cooperative Beneficial Use Determination Application for Precipitated Calcium Carbonate.*

Hydrometrics, Inc., December 2012, *Western Sugar Cooperative Beneficial Use Determination Application for Beet Flume Topsoil.*

Hydrometrics, Inc., December 2012, *Western Sugar Cooperative Beneficial Use Determination Application for Coal Combustion Residue.*

MBMG, 2010, Groundwater Information Center, Montana Bureau of Mines and Geology, website address: <http://mbmgwic.mtech.edu/sqlserver/v11/menus/menuData.asp>.

NRCS, 2010, United States Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>.

Woods, Alan J., Omernik, James M., Nesser, John A., Sheldon, J., Comstock, J.A., Azevedo, Sandra H., 2002 *Ecoregions of Montana*, 2<sup>nd</sup> edition. 1:1,500,000.

Zelt, Ronald B., et. al., 1999, USGS Water-Resources Investigations Report, 98-4269, *Environmental Setting of the Yellowstone River Basin, Montana, North Dakota, and Wyoming.*

APPENDIX A

PCC/ASH/TOPSOIL IMPOUNDMENT  
EMERGENCY RESPONSE PLAN

# PCC/ASH/TOPSOIL IMPOUNDMENT EMERGENCY RESPONSE PLAN PLAN

WESTERN SUGAR COOPERATIVE  
BILLINGS, MT FACILITY  
3020 State Ave.  
BILLINGS, MT 59101

EPA GENERATOR ID NUMBER MTD 006229223

OWNER  
WESTERN SUGAR COOPERATIVE  
7555 EAST HAMPDEN AVENUE, SUITE 600  
DENVER, CO 80231

APPROVED FOR  
ISSUE (DATE) 12-20-12  
BY 600-224-8777

## MANAGEMENT APPROVAL

As the manager responsible for the operation of this facility, I certify that the following Impoundment Emergency Response Plan has my approval, that the resources necessary to carry out the plan have been and will continue to be made available, and that I have the authority necessary to make this certification.

Signature: Ray Bode

Factory Manager: Ray Bode

Date: 12/20/12

**PRECIPITATED CALCIUM CARBONATE (PCC), ASH, TOPSOIL  
IMPOUNDMENT EMERGENCY RESPONSE PLAN  
FINAL DRAFT**

DATE: 1/3/2012

**PART 1.0 PLAN ADMINISTRATION**

**1.1 Introduction (Purpose)**

The purpose of this Precipitated Calcium Carbonate (PCC), Ash, Topsoil Impoundment Emergency Response Plan is to describe measures implemented by Western Sugar Cooperative to prevent discharges from occurring, and to prepare Western Sugar to respond in a safe, effective, and timely manner to mitigate the impacts of a discharge.

This Plan has been prepared to address requirements related to management of material in ponds at the Western Sugar Billings facility. This Plan is used as:

- a reference for PCC, Ash, Topsoil generation and storage information and testing records;
- a tool to communicate practices on preventing and responding to discharges with employees;
- reference for reporting spills (Appendix A);
- a guide to facility inspections; and
- a resource during emergency response.

The Plan includes the following basic steps and actions as part of Impoundment management.

**Inspections**

- Complete monthly site inspections by management as outlined in the Plan (Section 3) using the inspection checklists included in Appendix A. The monthly inspection will be used to determine progress with pond filling, evaluate remaining capacity and performance and recommend necessary changes.

Documented inspections will also occur every shift by supervisors to evaluate current operation, note which ponds are being used and note any concerns with operation or pond condition. This form is also provided in Appendix A.

**Training**

- Conduct annual employee training as outlined in the Plan (Section 3) and document on a log similar to that included in appendices.

**Plan Amendments**

Amend the Plan promptly whenever there is a change in facility design, construction, operation, or maintenance that materially affects the facility's spill potential. Review the Plan and document as appropriate but typically on at least an annual basis.

## PART 2.0 GENERAL FACILITY INFORMATION

### A. Facility Operator, Address and Telephone:

Western Sugar Cooperative (406) 245-6393  
3020 State Avenue  
Billings, CO 80701

### B. Facility Owner, Address and Telephone (Corporate Headquarters):

Western Sugar Cooperative (303) 830-3939  
7555 E. Hampden Ave., Suite 600  
Denver, CO 80231

### C. Type of Facility:

Sugar beet processing and sugar manufacturing facility.

### D. Date of Initial Operations:

The Billings factory was originally constructed in 1906 by Great Western Sugar. Western Sugar Cooperative purchased the facility from The Western Sugar Company (Tate & Lyle) in 2002.

## 2.1 Facility Contacts

The inspector, watchman or other personnel will notify the following personnel to determine if a spill is reportable:

	<u>Office</u>	<u>Mobile</u>
1. Factory Manager – Ray Bode	406-247-8023	406-861-3067
2. V.P. Operations – Scott Winn	970-304-6011	970-381-5700
3. Maintenance Manager Jeff Leffers	406-247-8033	406-861-3065
3. Environmental Mgr. - Shawn Sullivan	970-304-6027	303-249-9773
4. Production Manager- Brad Zitterkopf	460-247-8028	406-861-3062
5. Agriculture Manager. – Randall Jobman	406-247-8018	406-861-7655
6. Director of Risk Management – Oscar Solis	303-813-3545	303-304-4045

The following will be notified as necessary or appropriate (if the factory manager is unable to reach any of the above).

1. National Response Center/US Coast Guard 800-424-8802
2. EPA Region VIII Office 303-312-6839  
Oil Program Coordinator
3. Montana Disaster & Emergency Services 406-841-3911
4. Montana DEQ 406-431-0014
5. Montana Highway Patrol 911
6. City of Billings (406) 657-8346 911

Notification will also occur according to the facility MPDES discharge permit (MT0000281) or storm water permit MTR000103 as appropriate. The facility general emergency response plan and Spill Prevention Control and Countermeasure (SPCC) plan are also resources for additional response and notification actions.



## PART 3.0 EMERGENCY RESPONSE

The following describes actions to prevent and identify issues with pond management at the Billings facility.

### A. Inspections

Outside personnel working in the area should be aware of pond and overall conditions in order to quickly observe any changes. During daily activities, all personnel should observe outer banks of ponds and reporting any unusual wet areas, leaks, damage to banks, significant changes, rodent activity or other concerns.

Formal daily site inspections using the inspection checklist included in Appendix A should be evaluated by supervisory personnel. This will include discussion with management of all concerns along with review of water levels in ponds, status of interior banks and review of storm events that have occurred during the period. An additional documented inspection should be conducted for significant storm events (generally more than 1" precipitation in 24 hours) or when any concerns are noted. Outside personnel will be contacted for technical expertise if appropriate.

Monthly inspections will be conducted by Western Sugar Management to document progress in addition to period review of daily site inspections. When appropriate and conditions allow, the upper banks of the ponds (PCC especially) should be inspected to confirm daily observations.

### B. Training

Conduct annual employee training on the Plan and document on a log similar to that included in appendices. This will be conducted prior to campaign period for management and supervisory staff and employees responsible for pond management. The training will include review of the following:

- Response Plan including figures,
- Location and layout of ponds,
- Potential discharge locations off site,
- Emergency contacts,
- Equipment and materials available to stop or divert discharges,
- Emergency Response possible actions and
- Safety and environmental concerns related to materials.

### C. Plan Amendments

Amend the Plan promptly whenever where is a change in facility design, construction, operation, or maintenance that materially affects the facility's spill potential.

### 3.1 Emergency Response Actions

Several emergency response actions are possible when a spill occurs and should be evaluated as necessary.

- ✓ Evaluate spill location and magnitude. Respond with repairs using available equipment if safe and practical. Topsoil, PCC, ash and limestone are possible items available to contain spills or temporarily repair leaks.
- ✓ Notifications to City, State, EPA
- ✓ Spill Response Materials
  - Topsoil, PCC, limestone, ash, etc.
  - Equipment
    - Loaders
    - Trucks
    - Personnel, shovels
    - Pumps
    - Spill kits
    -
- ✓ Diversions from Drains
  - Topsoil to redirect
  - Noted likely locations on figures
  - Drain covers
- ✓ Observations / Sampling
  - Daily inspections of pond and banks
  - Monitoring of pond water height

**APPENDIX A  
Spill Reporting Form**

1. Name and Location of Facility \_\_\_\_\_  
\_\_\_\_\_
2. Date of Spill: \_\_\_\_\_
3. Time and Duration of Spill: \_\_\_\_\_
4. Location of Spill: \_\_\_\_\_  
\_\_\_\_\_
5. Type and Quantity of Material Spilled: \_\_\_\_\_
6. Manner in which Spill Occurred: \_\_\_\_\_  
\_\_\_\_\_
7. Quantity of Material that Reached Receiving Water, if any, and name of Receiving Water: \_\_\_\_\_  
\_\_\_\_\_
8. Steps Taken to Correct Spill: \_\_\_\_\_  
\_\_\_\_\_
9. Method(s) Used to Recover Spill: \_\_\_\_\_  
\_\_\_\_\_
10. Environmental Harm Resulting From Spill (e.g., sheen or deterioration of water, fish kill, discoloration of river bank) \_\_\_\_\_  
\_\_\_\_\_
11. Names of Persons at Agencies and within Western Sugar to Whom the Spill Was Reported: \_\_\_\_\_  
\_\_\_\_\_
12. Steps Being Taken to Prevent a Recurrence of a Spill: \_\_\_\_\_  
\_\_\_\_\_
13. Proposed Revisions to SPCC Plan: \_\_\_\_\_  
\_\_\_\_\_

Printed Name \_\_\_\_\_ Signature \_\_\_\_\_

Title \_\_\_\_\_ Date \_\_\_\_\_

*Complete this form in conjunction with reporting and maintain record of incident.*

**APPENDIX A  
Spill Reporting Form**

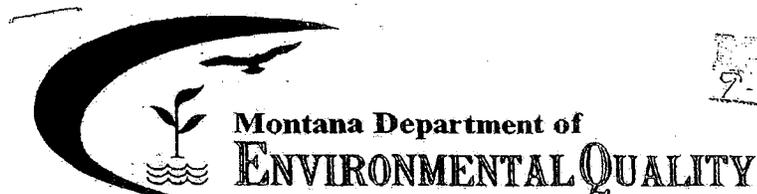
1. Name and Location of Facility \_\_\_\_\_  
\_\_\_\_\_
2. Date of Spill: \_\_\_\_\_
3. Time and Duration of Spill: \_\_\_\_\_
4. Location of Spill: \_\_\_\_\_  
\_\_\_\_\_
5. Type and Quantity of Material Spilled: \_\_\_\_\_
6. Manner in which Spill Occurred: \_\_\_\_\_  
\_\_\_\_\_
7. Quantity of Material that Reached Receiving Water, if any, and name of Receiving Water: \_\_\_\_\_  
\_\_\_\_\_
8. Steps Taken to Correct Spill: \_\_\_\_\_  
\_\_\_\_\_
9. Method(s) Used to Recover Spill: \_\_\_\_\_  
\_\_\_\_\_
10. Environmental Harm Resulting From Spill (e.g., sheen or deterioration of water, fish kill, discoloration of river bank) \_\_\_\_\_  
\_\_\_\_\_
11. Names of Persons at Agencies and within Western Sugar to Whom the Spill Was Reported: \_\_\_\_\_  
\_\_\_\_\_
12. Steps Being Taken to Prevent a Recurrence of a Spill: \_\_\_\_\_  
\_\_\_\_\_
13. Proposed Revisions to SPCC Plan: \_\_\_\_\_  
\_\_\_\_\_

Printed Name \_\_\_\_\_ Signature \_\_\_\_\_

Title \_\_\_\_\_ Date \_\_\_\_\_

*Complete this form in conjunction with reporting and maintain record of incident.*

APPENDIX B  
BENEFICIAL USE DETERMINATION



Montana Department of  
**ENVIRONMENTAL QUALITY**

RECEIVED  
9-25-13

Steve Bullock, Governor  
Tracy Stone-Manning, Director

P. O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • Website: [www.deq.mt.gov](http://www.deq.mt.gov)

September 23, 2013

Mr. Raymond Bode  
WESTERN SUGAR COOPERATIVE  
3020 State Avenue  
Billings, MT 59101

**RE: BENEFICIAL USE DETERMINATION APPLICATION - APPROVAL**

Dear Raymond:

The Solid Waste Program (SWP) has reviewed the Beneficial Use Determination (BUD) applications, submitted on your behalf by Hydrometrics, Inc., for the use of Precipitated Calcium Carbonate (PCC), coal-combustion residue (CCR), and Beet Flume Solids (BFS). These products are all generated at the Western Sugar Cooperative's (WSC) Billings sugar refinery.

Based upon the information provided in the BUD applications, the SWP has determined that the proposed use of the PCC, CCR, and BFS as proposed is beneficial and approves the applications with the following conditions:

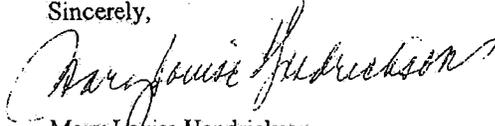
1. WSC will maintain records of byproduct transporters and end users that also includes:
  - a. A description of where and how each byproduct has been used, and,
  - b. The volume or tonnage removed from the WSC facility for each off-site use;
2. Laboratory analysis of the byproducts will be conducted annually as follows:
  - a. PCC will be analyzed annually for pH, Conductivity, Percent Moisture, Percent Organic Matter, Percent Lime, Common Ions, Acid Base Characteristics, and Nutrients.
  - b. CCR will be analyzed annually for pH, Conductivity, Percent Moisture, Percent Organic Matter, Percent Lime, Common Ions, Acid Base Characteristics, Nutrients, and SPLP extractable metals including aluminum, barium, cobalt, and iron.
  - c. BFS will be analyzed annually for pH, Conductivity, Percent Moisture, Percent Organic Matter, Common Ions, and Nutrients.
3. Prior to transportation for off-site uses, all PCC, CCR, and BFS loads will be tarped.
4. WSC will submit an annual report, by April 1<sup>st</sup> of each year, to the Department's SWP summarizing the use of each byproduct material during the prior calendar year that includes the following:
  - a. Tons of each byproduct material used off-site the prior calendar year;
  - b. Description of the end use of each byproduct; and,
  - c. Copies of all required analytical results.
5. This BUD applies only to the off-site use of the PCC, CCR, and BFS materials.
6. A request for the modification of any of the conditions of this approval must be submitted to the SWP for review and approval at least 30-days prior to the implementation of a proposed modification.

The SWP's approval of the BUD exempts the regulation of the off-site uses of the subject material as a solid waste as long as the user maintains compliance with the conditions for the approved use. At the present time, the U.S. EPA is evaluating the necessity of regulations specific to the management of coal combustion wastes. The EPA has stated that it does not anticipate impacts to beneficial uses. However, depending upon the results of that evaluation, management of the subject material may be further regulated by EPA and/or the State of Montana. The SWP will contact you if we determine that EPA's decision impacts the approved use provided herein.

Finally, because the scope of a BUD approval by the SWP does not extend beyond the exemption from classification as a waste for the specific uses outlined in the applications, any updates to facility operational plans, or modifications to other permits or licenses as a result of the SWP's approval of the BUD must be approved by the permitting authority.

I have enclosed a copy of the Beneficial Use Determination Annual Reporting Form for your use. If you have any questions related to the SWP's decision on the WSC BUD applications, please do not hesitate to contact me directly in the Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Solid Waste Section.

Sincerely,



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