



Sunnyside Cogeneration Associates

DIV. OF OIL, GAS & MINING

#4685

P.O. Box 10, East Carbon, Utah 84520 • (435) 888-4476 • Fax (435) 888-2538

September 11, 2014

Daron Haddock
Division of Oil, Gas & Mining
1594 W. North Temple, Suite 1210
Salt Lake City, Utah 84116

RE: Sunnyside Cogeneration Associates
Regarding Notice of Violation #12148
Star Point Waste Fuel C/007/042

Dear Mr. Haddock:

Please find enclosed three copies of SCA's amendment regarding a Notice of Violation (NOV) which was issued on August 18, 2014. The NOV was a result of a Division inspection on August 13, 2014. The citation was written due to SCA's failure to properly maintain diversion ditch culverts.

The on-site repairs to the diversion ditches and culverts have been completed and are ready for an inspection. The amendment application includes C1/C2 forms, updated Text, Maps 731.720a, 731.720b and 534.100e, Tables 742b and 742d, and a copy of citation #12148.

As part of the repairs to abate the NOV and future on-going site maintenance, SCA removed several culverts within the diversions that are no longer needed. The revised maps and tables reflect those changes.

We would like to ask the Division to consider "Good Faith Points" when determining SCA's penalty for citation #12148. Please consider SCA's rapid compliance in resolving the issue with the diversion culverts. Also consider the fact that there was zero discharge outside the permit boundary and all flows discharged into appropriate sedimentation ponds.

Please approve the revised text, maps and tables. If you have any questions or if further clarification is needed please contact Rusty Netz or myself at (435) 888-4476.

Thank You,

A handwritten signature in blue ink, appearing to read "Gerald Hascall". The signature is fluid and cursive, with a large initial "G".

Gerald Hascall
Agent for
Sunnyside Cogeneration Associates

cc. Rusty Netz
Plant File

APPLICATION FOR COAL PERMIT PROCESSING

Permit Change New Permit Renewal Exploration Bond Release Transfer

Permittee: Sunnyside Cogeneration Associates

Mine: Star Point Waste Fuel

Permit

C/007/042

Number:

Title: Culvert removal - Responding to NOV # 12148

Description, Include reason for application and timing required to implement:

Site needs have changed and several culverts are no longer needed.

Instructions: If you answer yes to any of the first eight (gray) questions, this application may require Public Notice publication.

- | | | |
|---|--|---|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 1. Change in the size of the Permit Area? Acres: _____ Disturbed Area: _____ <input type="checkbox"/> increase <input type="checkbox"/> decrease. |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 2. Is the application submitted as a result of a Division Order? DO# _____ |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 3. Does the application include operations outside a previously identified Cumulative Hydrologic Impact Area? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 4. Does the application include operations in hydrologic basins other than as currently approved? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 5. Does the application result from cancellation, reduction or increase of insurance or reclamation bond? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 6. Does the application require or include public notice publication? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 7. Does the application require or include ownership, control, right-of-entry, or compliance information? |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 8. Is proposed activity within 100 feet of a public road or cemetery or 300 feet of an occupied dwelling? |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 9. Is the application submitted as a result of a Violation? NOV # <u>12148</u> |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 10. Is the application submitted as a result of other laws or regulations or policies?
<i>Explain:</i> _____ |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 11. Does the application affect the surface landowner or change the post mining land use? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 12. Does the application require or include underground design or mine sequence and timing? (Modification of R2P2) |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 13. Does the application require or include collection and reporting of any baseline information? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 14. Could the application have any effect on wildlife or vegetation outside the current disturbed area? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 15. Does the application require or include soil removal, storage or placement? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 16. Does the application require or include vegetation monitoring, removal or revegetation activities? |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 17. Does the application require or include construction, modification, or removal of surface facilities? |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 18. Does the application require or include water monitoring, sediment or drainage control measures? |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | 19. Does the application require or include certified designs, maps or calculation? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 20. Does the application require or include subsidence control or monitoring? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 21. Have reclamation costs for bonding been provided? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 22. Does the application involve a perennial stream, a stream buffer zone or discharges to a stream? |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | 23. Does the application affect permits issued by other agencies or permits issued to other entities? |

Please attach four (4) review copies of the application. If the mine is on or adjacent to Forest Service land please submit five (5) copies, thank you. (These numbers include a copy for the Price Field Office)

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments, undertakings, and obligations, herein.

<p><u>Gerald Hascall</u> Print Name</p>	<p><u>Gerald Hascall Plant Manager</u> Sign Name, Position, Date</p> <p style="text-align: right;"><u>SEPT 10, 2014</u></p>
<p>Subscribed and sworn to before me this <u>10th</u> day of <u>September</u>, 20<u>14</u></p>	
<p><u>Jody Hansen</u> Notary Public</p>	
<p>My commission Expires: <u>December 23, 2015</u></p>	
<p>Attest: State of <u>Utah</u> } ss: County of <u>Carbon</u> }</p>	



For Office Use Only:	Assigned Tracking Number:	Received by Oil, Gas & Mining
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Form DOGM- C1 (Revised March 12, 2002)



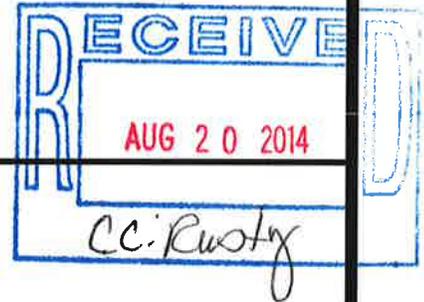
Citation for Non-Compliance
Utah Coal Regulatory Program
 1594 West North Temple, Salt Lake City, UT 84114
 Phone: (801) 538-5340 Fax: (801) 359-3940

Citation #: 12148
Permit Number: C0070042
Date Issued: 08/18/2014

NOTICE OF VIOLATION **CESSATION ORDER (CO)** **FAILURE TO ABATE CO**

Permittee Name: SUNNYSIDE COGENERATION ASSOCIATES	Inspector Number and ID: 49 KHOUSKEE
Mine Name: STAR POINT REFUSE	Date and Time of Inspection: 08/13/2014 11:00 am
Certified Return Receipt Number: 7008 0150 0002 0896 3720	Date and Time of Service: 08/18/2014 1:00 pm

Nature of condition, practice, or violation:
 Failure to maintain Diversions.



Provisions of Act, regulations, or permit violated:
 R645-301-732.300

This order requires Cessation of ALL mining activities. (Check box if appropriate.)

Condition, practice, or violation is creating an imminent danger to health or safety of the public.

Permittee is/has been conducting mining activities without a Permit.

Condition, practice, or violation is causing or can reasonably be expected to cause significant, imminent environmental harm to land, air, or water resources.

Permittee has failed to abate Violation(s) included in Notice of Violation or Cessation Order within time for abatement originally fixed or subsequently extended.

This order requires Cessation of PORTION(S) of mining activities.

Mining activities to be ceased immediately: Yes No

Abatement Times (if applicable).

see actions required.

Action(s) required: Yes No

Maintenance work on Diversions needs to be completed by September 17, 2014.

RUSTY NETZ

(Print) Permittee Representative

KARL HOUSKEEPER

(Print) DOGM Representative

mailed certified/return receipt
 Permittee Representative's Signature - Date 8/18/14

Karl H. Houskeeper 8/18/14
 DOGM Representative's Signature - Date

SEE REVERSE SIDE Of This Form For Instructions And Additional Information

IMPORTANT – READ CAREFULLY

Pursuant to the Utah Coal Mined Land Reclamation Act, Utah Code Ann. § 40-10-1 et. seq. (Act), the undersigned authorized representative of the Division of Oil, Gas, and Mining (DOGM) has conducted an inspection and found that a Notice of Violation or Cessation Order must be issued.

This order shall remain in effect until it is modified, terminated or vacated by written notice of an authorized representative of DOGM.

1. PENALTIES.

Proposed assessment. DOGM assesses fines based upon a proposed recommendation by an assessment officer. If there is additional information you wish DOGM to consider regarding the cessation order and proposed fine, please submit that to DOGM within *15 days of the date this notice or order is served on you or your agent*. Such information will be used by the assessment officer in determining facts surrounding the violation(s) and amount of penalty. Once DOGM has determined the proper penalty, it will serve the proposed assessment on you or your agent, no later than 30 days of the issuance of this notice or order. See Utah Admin. Code R645-401-600 et. seq.

The penalty will be final unless you or your agent file, within 15 days of receipt of the proposed assessment, a written request for an informal hearing before the assessment officer.

Assessment. For each violation included in this notice, a penalty of up to \$5,000 may be assessed for each separate day the violation continues.

If you fail to abate any violation within the time set for abatement or for meeting any interim step, you will be assessed an additional minimum penalty of \$750 for each day of continuing violation beyond the time set for abatement. You will be issued a Cessation Order requiring cessation of surface coal mining operations or the portion of the operations relevant to the violation.

2. INFORMAL PUBLIC HEARING.

On the reverse side of this page, an authorized representative has made a finding as to whether or not this notice requires cessation of mining. If this order or notice requires cessation of mining, expressly or in practical effect, you may request that an informal public hearing be held at or near the mine site. If you wish an informal public hearing be held, please contact an authorized representative from DOGM. See Utah Admin. Code R645-400-350 et seq. Once an informal public hearing is scheduled, you will be notified of the date, time, and location of the hearing.

If this notice requires cessation of mining, it will expire within 30 days from the date you are notified unless an informal public hearing is held or waived, or the condition, practice, or violation is abated within the 30-day period.

3. FORMAL REVIEW AND TEMPORARY RELIEF.

You may appeal this notice or order to the Board of Oil, Gas, and Mining by submitting an application for hearing within 30 days of receipt of this notice or order. See Utah Admin. Code R645-300-164.300. Please submit the application for hearing to:

Secretary
Board of Oil, Gas, and Mining
1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801

If applying for a formal board hearing, you may submit with your petition for review a request for “*temporary relief*” from this notice. Procedures for obtaining a formal board hearing are contained in the Board’s Rules of Practice and Procedure and in Utah Admin. Code R645-401-800 et. seq.

4. EFFECT ON PERMIT.

The permit may be suspended or revoked if it is determined that a pattern of violations of the Act, regulations or permit conditions exists, and that the violations were caused by an unwarranted or willful failure to comply.

For further information, consult Utah Code Ann. § 40-10-20 through 40-10-23 and Utah Admin. Code R645-400-300 et. seq. and R645-401 et. seq., or contact the Division of Oil, Gas, and Mining at (801) 538-5340.

sediment ponds and diversion ditches. Details (including design drawings and calculations) for all sediment control ponds and diversion ditches are included in Chapter Seven, Section 720. All sediment ponds will be inspected as outlined for impoundments in Section 514. All impoundments meet or exceed the permanent program performance standards.

526.400. Air Pollution Control Facilities.

SCA will continue its programs in the SCA - Star Point Permit Area to comply with the requirements of the Clean Air Act and other applicable air quality laws and regulations, as well as health and safety standards. A copy of the SCA Air Quality permit is included in Exhibit 421a.

To control fugitive dust, roads around the main complex which are being used by mobile equipment will be treated with calcium chloride, potassium chloride, or other acceptable biodegradable, organic wetting agents or sprayed with water as required during dry periods as required by SCA's Air Quality Permit.

527. TRANSPORTATION FACILITIES.

527.100-200. Road Classification.

All transportation facilities are shown on Map 521.100a and 521.100b. Photos are included in Exhibit 526.112a. Three classifications of roads exist within the SCA Star Point Permit Area. These are as follows:

Primary Roads – roads within the permit area with frequent, long-term heavy use. Typically this includes the haul road for transport of the fuel being mined. Design information is included in the permit for these roads and includes plan, profile and cross section information.

Ancillary Roads – roads within the permit area with infrequent, limited or short-term use not intended for hauling of the fuel being mined. Typically, these roads include access roads to ponds, reference areas, monitoring sites, disposal areas, etc. Design information is included in the permit for these roads and includes plan, profile and cross section information.

Pit Roads – roads in the active mining section of the refuse pile. The locations of these roads change as mining progresses and may or may not be shown on current maps. Typically these roads do not include design criteria in the plan.

The primary and ancillary roads within the SCA Star Point Permit Area are identified on maps 534.100a through 534.100h and are labeled roads D, F, G, H, K, L, M, and P (Haul Road). Road M is a future road that is not anticipated to exist until hauling of Refuse Pile B and C. Road K is also a future road that is not anticipated to exist until reclamation time. Primary and ancillary roads are further discussed in Sections 527.210 and 534.

Table 527.100a Road Classification

Road	Type and Frequency and Duration of Use
Ancillary Road G to Pond 6	Occasional Access through Life of mine
Ancillary Road H to Pond 5	Occasional Access through Life of mine
Primary Road D	Regular use by haul trucks to access refuse pile
Primary Road F	Infrequent Regular use by haul trucks to access refuse pile
Primary Road L	Regular use by haul trucks to access refuse pile
Future Primary Road K to Subsoil Area	Not in existence until reclamation then 2-3 months earthwork equipment during reclamation
Future Primary Road M to Refuse Pile B and C	Not in existence until hauling Refuse Pile B and C materials
Primary <u>Road P (Haul Road)</u>	In Frequent Fuel Hauling-. <u>May have haul use in the future through Life of mine</u>

Railroad systems near to the SCA - Star Point Permit Area consist of spur lines and main rail lines owned by Utah Railway Company (URC). A small portion of railroad passes near the southeast corner of the SCA - Star Point Permit Area east of the refuse pile. SCA does not control any trackage of any of the rails.

527.210. Design and Specifications.

Ancillary Road G (Access to Pond 6) – The access road to Pond 6 is called Road G. The road is approximately 10 to 12 feet wide and the grade ranges from 0 to 15%. This road is dirt. Between stations 109+00 to 122+00 where grades are steeper, water bars are spaced at approximately 40 feet.

Ancillary Road H (Access to Pond 5) – The access road to Pond 5 is called Road H. The road is approximately 10 to 12 feet wide and the grade ranges from 0.8 to 12.2%. This road is dirt.

Primary Road D (Access to Refuse Pile A) – This access road is intended for regular use by haul trucks to provide access to the northeasterly point of Refuse Pile A. The 20'-60' wide road will have a gravel or road base surface and a grade that ranges from 0% to 10%. This road will also facilitate loading of excavated material from the refuse pile. ~~Construction on this primary road will begin within 1-2 years following DOGM approval.~~

Primary Road F (Access to Refuse Pile A) – This access road is intended to provide an access road to the refuse pile at a more gentle grade than the Primary Road P (Haul Road) and facilitates more efficient travel. The 15-35 ft road ~~will have~~has a maximum grade of 5% and crosses portions of old asphalt parking lot and also has a gravel surface. Use is currently infrequent, but may have increased use in the future.

Primary Road L (Access to Refuse Pile A and Disposal Area) – The one way access road to the middle of Refuse Pile A and the Disposal Area is called Road L. The road is approximately 15 to 30 feet wide and the grade ranges from 0% to 6.2%. This road is surfaced with gravel or road base. The road provides additional access

to the south side of Pond 9. ~~Construction efforts to upgrade this ancillary road to the primary road are expected to begin within 1-2 years following DOGM approval.~~

Future Primary Road K (Access to Subsoil Area) – The access road to the Subsoil Area is called Road K. The proposed road is approximately 10 to 25 feet wide and the grade ranges from 13% to 23%. Water bars are spaced at approximately 40 feet where grades are steeper between Stations 2+00 and Station 3+70.80. This road will be a dirt road. Prior to construction of Road K, topsoil will be salvaged in accordance with the plan outlined in Section 232.

Future Primary Road M (Access to Refuse Pile B and C) – The access road to Refuse Pile B and C is called Road M. The proposed road is approximately 10 to 24 feet wide and the grade ranges from 0% to 10.9%. This road will be a dirt road.

Primary Road P (Haul Road) – This is ~~formerly~~ the preferred access road to the coal refuse pile. The road is approximately 12 to 30 feet wide and the grade ranges from 0 to 11%. This road is dirt with some gravel surfacing. Use is currently infrequent, but may have increased use in the future

527.220. Relocation of a Natural Drainageway.

No natural drainage will be relocated because of roads.

527.230. Maintenance and Repairs.

All roads will be maintained in safe condition. If a road is damaged it will be repaired as soon as practical.

527.240. Geotechnical Analysis.

No alternative specifications are required.

528. HANDLING AND DISPOSAL OF COAL, OVERBURDEN, EXCESS SPOIL, AND COAL MINE WASTE.

528.100. Coal Removal, Handling, Storage, Cleaning, and Transportation Areas and Structures.

All coal refuse, which is to be mined, is located within the permit boundary. The coal refuse will be excavated as explained in Section 523. All processing of the coal refuse will be completed in an approved manner outside of this SCA - Star Point Permit Area. Coal Refuse that is unusable (rejects) will be discarded in the disposal area as shown in Map 521.100a. Normally coal mine wastes would be disposed of in a refuse pile. However, due to the nature of this operation, that of excavating the existing refuse piles for fuel, disposal of rejects back on the refuse pile where they came from would impede the ability to continue the excavation.

533.600-700. MSHA Impoundments.

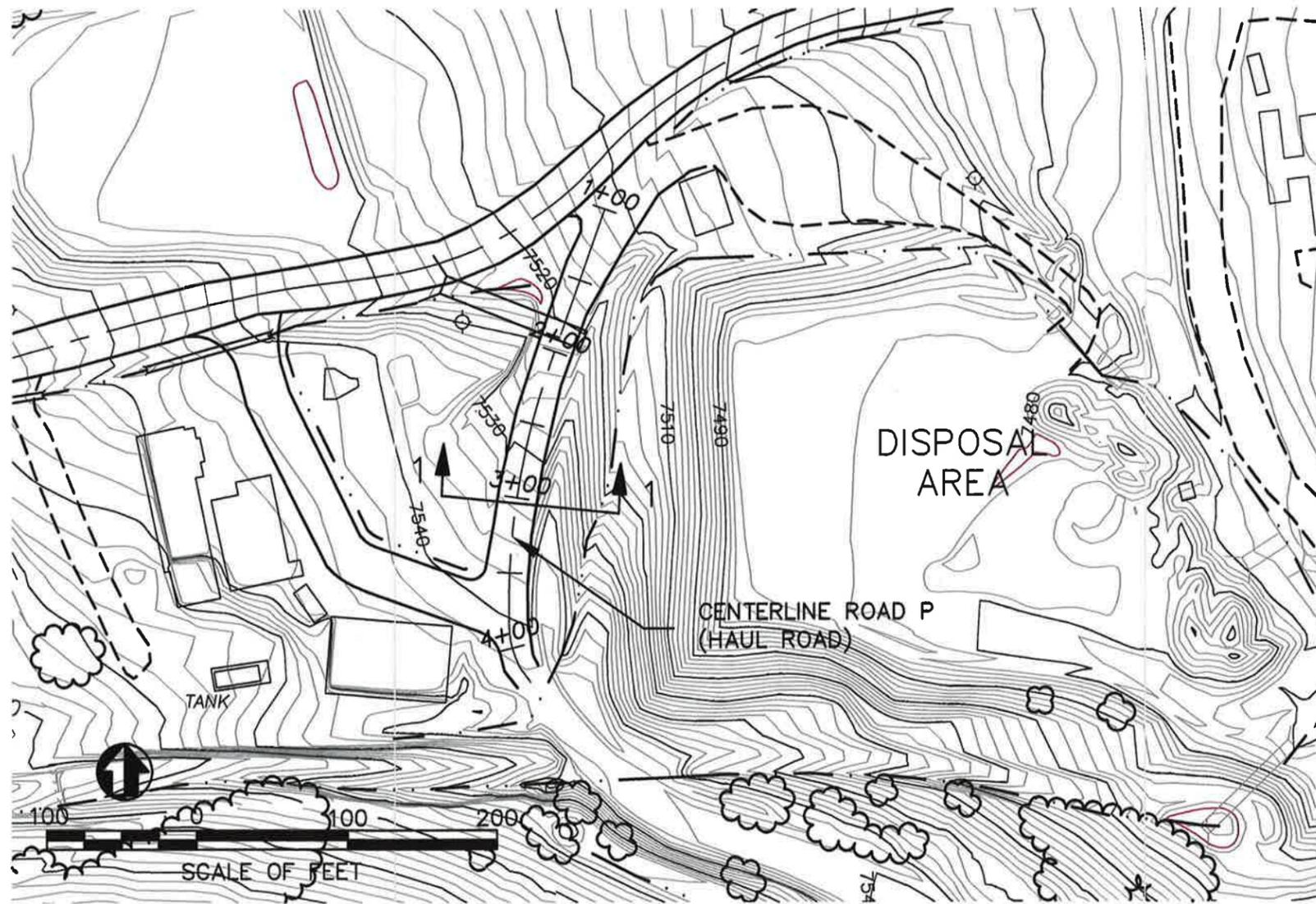
There are no impoundments that meet or exceed 30 CFR 77.216(a) criteria. Also, See Exhibit 513.

534. ROADS.

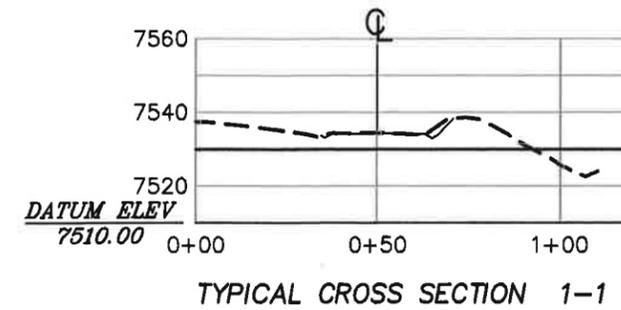
There are two ancillary roads, Road G, and Road H, which are within the SCA - Star Point Permit Area. In addition, there are four existing primary roads, ~~the Road P~~ (Haul Road) and Roads D, F and L, and two proposed primary roads, Road K to access the Subsoil Area and Road M to access Refuse Pile B and C. The plan, profile, and cross section of Roads D, F, G, H, K, L, M and ~~the Road P~~ (Haul Road) are shown on Maps 534.100a through 534.100h. All other roads are temporary pit roads, which may change with the progress of excavation. Existing access roads are in place to the Subsoil Area, additional roads may be desired at the time of reclamation to improve the operation of hauling soil material. Prior to construction of Road K, topsoil will be salvaged in accordance with the plan outlined in Section 232. Additional design and sediment control facilities for these roads if needed will be provided prior to construction of new roads. Road specifications can be found on Table 534.200a, Road Specifications. Exhibit 534 includes the calculation of the road embankments meeting the safety factor of 1.3 or greater.

TABLE 534.200a. Road Specifications

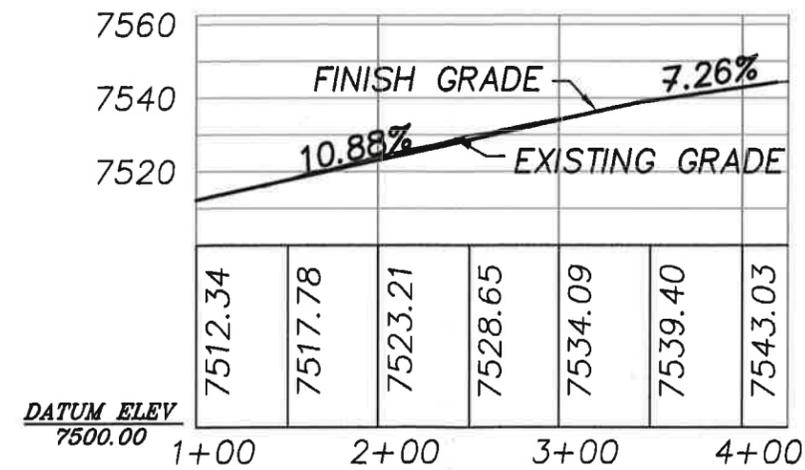
ROAD*	SURFACE TYPE	SURFACE WIDTH	LENGTH	MAXIMUM GRADE %	MINIMUM GRADE %	AVERAGE GRADE %
D	Gravel or Road Base	20'-60'	0.1 miles	10	0	5
F	Gravel or pavement	15'-35'	0.05 miles	5	0	2.5
G'	Dirt & Gravel	10-12'	0.4 miles	14.6	0	4.7
H	Dirt & Gravel	12-24'	0.6 miles	12.24	0.83	3.8
K	Dirt & Gravel	12-24'	0.05 miles	22.6	11.5	17.3
L	Gravel or Road Base	15-30'	0.11 miles	6.2	0	4.4
M	Dirt & Gravel	10-24'	0.05 miles	10.9	0	8.5
P (Haul Road)	Dirt & Gravel	12-30'	0.16 0.09miles	10.88	0	4.6



ROAD P (HAUL ROAD) PLAN
SCALE: HORIZ: 1" = 100'

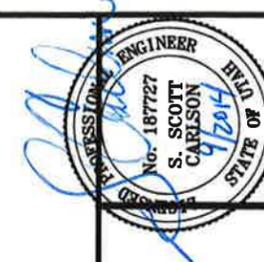


TYPICAL CROSS SECTION 1-1
SECTION ROAD P (HAUL ROAD)
SCALE: HORIZ: 1" = 50' VERT: 1" = 50'



PROFILE P (HAUL ROAD)
SCALE: HORIZ: 1" = 100' VERT: 1" = 50'

NOTE:
MAINTAIN EXISTING SURFACES OF ROAD P (HAUL ROAD) CONSISTING OF INTERMITTANT PAVEMENT AND GRAVEL SURFACES.



SCA / STAR POINT WASTE FUEL
ROAD P (HAUL ROAD)
PLAN AND PROFILE



**Table 742b
Culvert Peak Flow Design Data**

Culvert	Drainage Area (mi ²)	Drainage Area (m ²)	CCN	S ¹ (in.)	Basin Length, L (ft)	Fash Average Grade (%)	L ₁ (hr)	Overall Storm Presip., P (in.)	Overall Storm Runoff, R ₁ (in.)	Time of Concentration, T _c (hr)	U.H. Time to Peak, T _p (hr)	Design Peak Flow, Q _p (cfs)
81	14.4	0.0225	70	4.29	1,134	2.6	0.29	2.0	0.24	0.49	0.32	2.30
82	7.1	0.0111	71	4.08	1,176	11	0.14	2.0	0.27	0.24	0.16	1.60
15A						Used calculated flows for Ditch 15A						
15B						Used calculated flows for Ditch 15B						
16A						Used calculated flows for Ditch 16A						
16Ba						Used calculated flows for Ditch 16Ba						
16F						Used calculated flows for Ditch 16E						
33A						Used combined calculated flows for Ditch 8 and Ditch 33						
33B						Used calculated flows for Ditch 8						
72A						Used calculated flows for Ditch 72A						
72B						Used calculated flows for Ditch 72B						
72C						Used calculated flows for Ditch 72C						
74B						Used calculated flows for Ditch 74A						
7E						Used calculated flows for Ditch 7H						
7Ea	3.4	0.0053	77	3.07	891	17	0.08	2.1	0.48	0.13	0.09	2.01
7F						Used calculated flows for Ditch 7G						
80A						Used calculated flows for Ditch 7E						
80B						Used calculated flows for Ditch 80A						
8A						Used calculated flows for Ditch 8						

Table 742d

Culvert Design Criteria

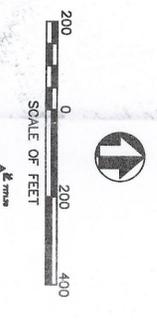
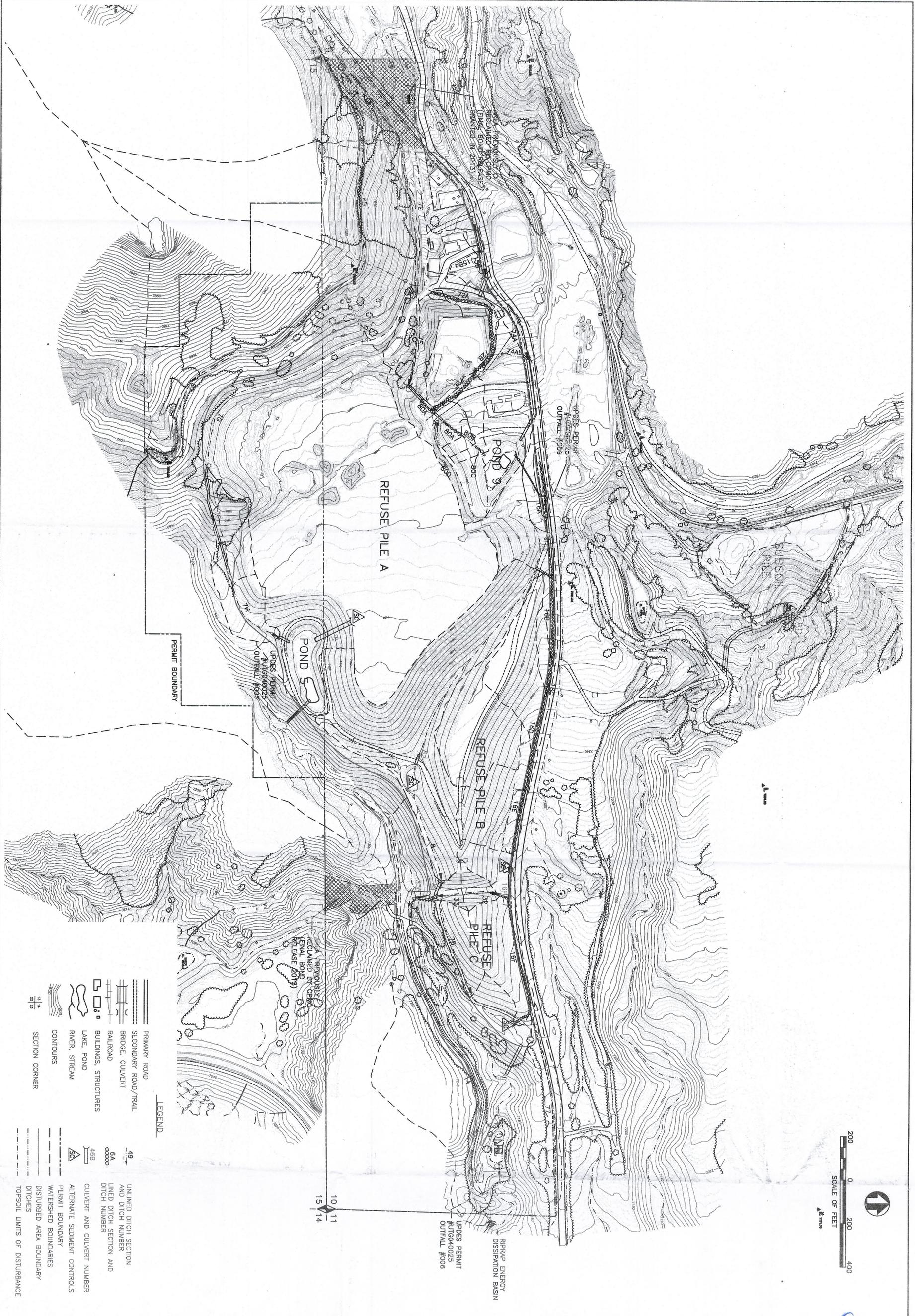
Orifice Coefficients
 C = 0.49804 (projecting inlet, from nomograph)
 C = 0.555 (mitered inlet, from nomograph)

Culvert No.	Design Flow, Q (cfs)	Manning's Roughness, S ₀ n ²	Diameter, D (in.)	Length, L (ft)	Area, A (ft ²)	Hydraulic Radius, R _h (ft)	Available H/W Ratio	Available HW (ft)	Flow Capacity (cfs)		Avg Velocity, v (ft/s)	Comments
									Pipe Flow	Inlet Control		
81	2.30	0.013	27	200	3.98	6.75	2.2	5.00	139.50	31.28	13.04	Projecting steel inlet/outlet
82	1.60	0.013	27	42	3.98	6.75	2.3	5.23	57.10	32.18	6.29	Projecting steel inlet/outlet
15A	2.21	0.013	14	82	1.07	3.50	2.1	2.48	17.41	5.89	11.16	Projecting steel inlet/outlet; D50 < 0.5 ft - monitor for erosion.
15B	2.46	0.024	15	80	1.23	3.75	2.1	2.63	10.34	6.94	6.94	Projecting inlet/outlet
16A	0.75	0.024	18	180	1.77	4.50	1.6	2.45	17.81	9.21	4.89	Projecting inlet/outlet
16Ba	0.46	0.024	30	17	4.91	7.50	1.0	2.50	22.22	21.93	1.81	Projecting inlet/outlet
16F	5.10	0.024	18	130	1.77	4.50	2.5	3.80	14.61	12.93	7.53	Projecting inlet/outlet
33A	2.45	0.024	24	41	3.14	6.00	1.6	3.10	53.00	20.28	8.98	Mitered inlet; monitor outlet for erosion.
33B	2.45	0.024	24	40	3.14	6.00	2.7	5.45	17.33	26.49	3.90	Projecting inlet/outlet
72A	4.68	0.024	18	80	1.77	4.50	2.3	3.50	15.06	11.71	7.47	Projecting inlet; monitor outlet for erosion.
72B	4.65	0.024	32	80	5.59	9.00	2.2	6.83	73.22	47.95	7.93	Projecting inlet; D50 < 0.5 ft - monitor outlet for erosion.
72C	4.68	0.024	18	102	1.77	4.50	3.1	4.70	16.09	14.04	7.89	Projecting inlet; D50 < 0.5 ft - monitor outlet for erosion.
74B	2.25	0.024	24	400	3.14	6.00	3.3	6.50	21.57	29.45	4.44	Projecting inlet; D50 < 0.5 ft - monitor outlet for erosion.
7E	5.09	0.024	24	40	3.14	6.00	3.1	6.10	31.95	28.36	7.44	Projecting inlet; rocks placed in Pond 5.
7Ea	2.01	0.024	24	80	3.14	6.00	3.3	6.60	12.25	29.45	2.86	Projecting inlet
7F	3.94	0.024	12	480	0.79	3.00	1.5	1.50	8.41	3.14	10.53	Projecting inlet; D50 = 1.5 ft.
80A	3.52	0.013	24	67	3.14	6.00	2.1	4.10	113.11	22.11	16.23	Projecting steel inlet/outlet; D50 = 1.5 ft.
80B	11.39	0.013	30	55	4.91	7.50	2.2	5.50	192.39	40.45	21.26	Projecting steel inlet/outlet; D50 = 1.5 ft.
8A	2.45	0.024	24	60	3.14	6.00	4.4	8.70	69.32	38.83	10.36	Mitered inlet; D50 < 0.5 ft - monitor outlet for erosion.
18A	1.90	0.024	12	54	0.79	3.00	2.0	2.00	2.40	4.28	9.60	Projecting inlet/Outlet Val < 5.0 fps
18B	2.10	0.024	12	20	0.42	4.50	3.5	5.25	11.70	16.70	5.00	Projecting inlet/Outlet to DSO=0.5 ft
18C	2.20	0.024	12	160	0.79	3.00	1.3	1.30	24.4 (7)	3.13	9.80	Projecting inlet/Outlet Val < 5.0 fps
18D	0.91	0.024	15	20	1.23	3.75	1.0	1.25	8.30	4.32	4.80	Projecting inlet/Outlet Val < 5.0 fps
18E	0.79	0.024	12	20	0.79	3.00	1.7	1.70	5.10	3.83	4.70	Projecting inlet/Outlet Val < 5.0 fps

NOTE: All culverts made of corrugated metal pipe (CMP) unless otherwise indicated as steel.

¹ If pipe flow not adequate to convey design flow, then inlet control assumed. Average velocity based on design flow.
² Full flow conditions assumed.

³ Manning's roughness, n, assumed 0.024 and 0.013 for corrugated metal pipe (CMP) and steel pipe respectively.



LEGEND

	PRIMARY ROAD		LINED DITCH SECTION AND DITCH NUMBER
	SECONDARY ROAD/TRAIL		LINED DITCH SECTION AND DITCH NUMBER
	BRIDGE, CULVERT		DITCH NUMBER
	RAILROAD		CULVERT AND CULVERT NUMBER
	BUILDINGS, STRUCTURES		ALTERNATE SEDIMENT CONTROLS
	LAKE, POND		PERMIT BOUNDARY
	RIVER, STREAM		WATERSHED BOUNDARY
	CONTOURS		DISTURBED AREA BOUNDARY
	SECTION CORNER		DITCHES
	SECTION CORNER		TOPSOIL LIMITS OF DISTURBANCE

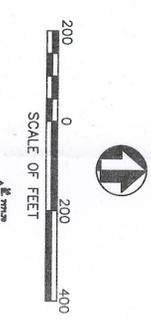
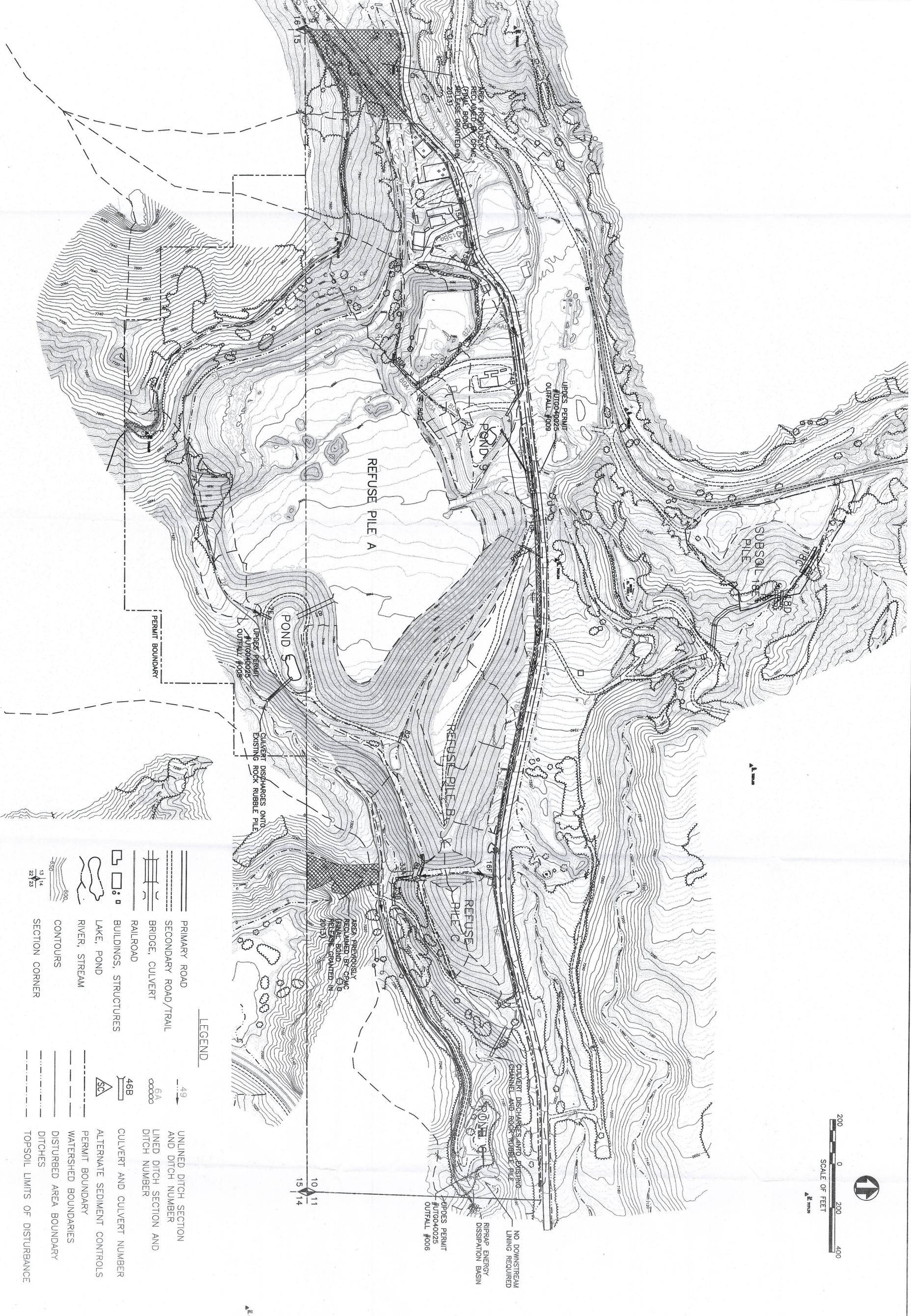
DATE: SEPT 2014
DATE: 03 September 2014
731.720a

TWIN PEAKS
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SCA / STAR POINT WASTE FUEL
 REFUSE PILE SURFACE WATER
 DRAINAGES AND DIVERSIONS



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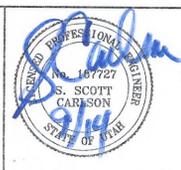


LEGEND

- | | | | |
|--|-----------------------|--|--|
| | PRIMARY ROAD | | UNLINED DITCH SECTION AND DITCH NUMBER |
| | SECONDARY ROAD/TRAIL | | LINED DITCH SECTION AND DITCH NUMBER |
| | BRIDGE, CULVERT | | CULVERT AND CULVERT NUMBER |
| | RAILROAD | | ALTERNATE SEDIMENT CONTROLS |
| | BUILDINGS, STRUCTURES | | PERMIT BOUNDARY |
| | LAKE, POND | | WATERSHED BOUNDARIES |
| | RIVER, STREAM | | DISTURBED AREA BOUNDARY |
| | CONTOURS | | DITCHES |
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SCA / STAR POINT WASTE FUEL
 REFUSE PILE SURFACE WATER
 CULVERTS



DATE: MAY 2014
 DRAWN BY: 03/Schiffelbecker
 SHEET: 731.720b