Routt County
Planning Department
P.O. Box 773749
Steamboat Springs, CO 80477
(970) 879-2704
fax (970) 879-3992

Memorandum

To: Planning Commission

From: Alan Goldich

Date: July 5, 2018

Subject: Phase 1 of permit enforcement focusing on the solidification basin

Attachments:
- Letter from the Colorado Department of Health and Environment Hazardous Materials and Waste Management Division letter dated May 1, 2018
- Map of operation

PERMITTING AND AUTHORIZATION

Under state statute (Solid Waste Act, 30-20-100.5, et seq. C.R.S.), the siting, permitting and regulation of solid waste disposal sites and facilities is an area of **dual jurisdiction**; that is, both the Colorado Department of Health and Environment's Hazardous Materials and Waste Management Division (HMWMD) and Routt County have assigned roles and responsibilities. The HMWMD Permitting Unit reviews all permit applications for solid waste sites to determine if the proposed facility complies with the regulations pertaining to Solid Waste Sites and Facilities (6 CCR 1007-2, Pert 1) and is protective of human health and the environment. It also works with local governing bodies, such as counties, to permit solid waste facilities. The HMWMD Compliance Assurance Unit conducts compliance inspections (site visits and document reviews) at facilities that manage, treat, recycle, reuse and/or dispose of solid wastes. This unit also investigates complaints alleging mismanagement of solid waste. The Routt County Department of Environmental Health (RCDEH), and specifically the RCDEH Director, serves as the designated landfill regulator for the County and works closely with the HMWMD to help ensure compliance with the landfill's Engineering, Design, and Operations Plan[1] (EDOP).

Routt County issues a **Certificate of Designation (CD)** authorizing use of land for a solid waste disposal site or facility. The CD contains approved landfill uses within a specific boundary and can only be issued by the County once the State has determined that the minimum standards per State regulations can be met. Upon approval of the Board of County Commissioners, Routt County issues a **Special Use Permit (SUP)**, with conditions, that allows a landfill to utilize a parcel of land for waste disposal. RCDEH and the County Planning Department work closely to ensure

[1] The EDOP includes the analysis and design work prepared for construction, operation and closure of a solid waste disposal site or facility. It contains a preliminary report of design specifications, maps and plans drawn to a convenient and common scale, site or facility operation plans and site or facility closure plans, and contains all information and data otherwise specified by these regulations.

compliance with conditions of the SUP. Both the CD and SUP include approved boundaries for which landfill activities may take place. Amendments and enforcement actions are completed through requests to amend the CD/SUP or through enforcement of the SUP per Planning Department regulations.

HISTORY AND COMPLIANCE STATUS:

The current site south of Milner has been used for landfill operations since 1970. The first SUP was issued in 1984. The permit has been amended several times, with the most current version being issued in 2015. In 2004 the landfill (Twin) acquired approval from the County and HMWMD to accept liquid wastes following construction of a solidification basin. The solidification basin is used to solidify liquid wastes by mixing the liquids with a dry medium (typically fly ash hauled from the Hayden Power Plant) before final disposal in the landfill. In 2009, Twin applied to HMWMD to begin accepting exploration and production (EP) wastes[2]. On December 21, 2010 HMWMD provided a letter to Routt County, recommending approval of an amendment to the CD for allowing the acceptance of EP waste. The letter states, *"It is the determination of the Division that the CD Amendment can comply with the technical, environmental, and public health standards in the Act and corresponding Solid Waste Regulations* ***if the solidification basin and composting facilities are constructed, operated, and monitored as detailed in the documents pertaining to the CD Amendment,*** (emphasis added) *with the modification to the Solidification Basin Design, Operations, and Closure Plan Amendment as set forth herein."* Since acceptance of liquid waste was already allowed by the CD, an amendment to the CD specific to EP wastes was not pursued by the County. A number of issues have been identified by the HMWMD. In summary, the basin has not been operated or monitored according to the requirements set forth in the approved work plan (Section 5.4 of the EDOP).

On August 3, 2017, Twin entered into a Compliance Order on Consent (Order) with the State. The Order resulted from a Compliance Advisory issued by HMWMD on August 8, 2016, which was in response to an inspection that took place in May of 2016. Twin is currently working through compliance requirements outlined in the Order. An additional Compliance Advisory was issued on October 2, 2017 following a May 2017 inspection. HMWMD has stated that it does not expect to issue a second compliance order as it appears that deficiencies from the October 2017 advisory are being addressed either through onsite adjustments or through updates to the EDOP. The Order originally required a revised EDOP be submitted by January 30, 2018. Twin requested an extension to that deadline based on issues with the engineering contractor hired to update the EDOP. The State approved an extension of the deadline to April 30, 2018 which Twin was able to meet. The updated portions of the submitted EDOP are currently under review for completeness and technical adequacy.

On March 5, 2018 HMWMD issued a letter to Twin describing determinations, requirements, and a schedule for binging the solidification basin into regulatory compliance. In the letter HMWMD determined the solidification basin's liner and leak detection system must be upgraded and listed specific requirements for bringing the basin into compliance. These requirements were to be incorporated into a revised solidification basin EDOP required pursuant to Paragraphs 35 and 37 of the Consent Order. The State also set deadlines for continued acceptance of EP and other incompatible wastes, and for when upgrades to the basin's liner and leak detection system must be

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[2] Exploration and Production waste is a byproduct of oil and gas well development. The EPA granted an exemption to the Resource Conservation Recovery Act (RCRA) for certain EP wastes that would otherwise be considered hazardous. Since, EP wastes have remained exempt and are controlled under less stringent RCRA regulations. The exemption does not mean these wastes could not present a hazard to human health and the environment if improperly managed. The landfill currently accepts EP wastes.

completed in order to continue to accept those wastes. Following a request from Twin to extend the deadline for completion of the upgrades, the State issued another letter on May 1, 2018 revising the schedule for updating the Solidification Basin EDOP and for bringing the solidification basin into compliance. HMWMD has also expanded reporting requirements for the basin.

SPECIAL USE PERMIT REVIEW:

As stated above, and based on State regulations, it is the local jurisdiction (Routt County) that ultimately authorizes waste disposal through issuance of a CD and SUP. HMWMD provides guidance on acceptable operational practices and enforces compliance with State regulations and the approved work plan/EDOP. A series of complaints, compliance advisories, and the Order prompted review of the SUP and subsequent notification to Twin regarding violations to the County issued permit.

Based upon the County's permit authority, the requirements and timelines from the May 1st letter must be considered for inclusion into the SUP's conditions of approval since there is an immediate and high risk of contamination of ground water and soil and a potential threat to downstream drinking water supplies. Since the Zoning Regulations do not grant staff the ability to add conditions of approval to a permit, authorization must come from the Board of County Commissioners following a recommendation from the Planning Commission. The Commission, Board, and public should also be informed of operational practices and permitting changes at the landfill. Once the EDOP is completed and approved by HMWMD, the SUP will again be amended and the CD updated so that it is consistent with the EDOP.

GENERAL STAFF COMMENTS:

- This hearing is limited to items pertaining to solidification basin operations only. Once the updated portions of the EDOP have been reviewed and approved by HMWMD, any other changes or compliance issues will be addressed through subsequent review of the SUP and will be brought back in front of Planning Commission and the Board of County Commissioners.
- The permittee has agreed to all of the new operational requirements mandated by HMWMD as referenced in the May 1, 2018 letter. Staff is requesting that these requirements be included in the SUP. The May 1st letter is included with this memo.
- The two Compliance Advisories, the Compliance Order, and the original approval letter for accepting EP wastes from 2010 are available upon request.

PLANNING COMMISSION / BOARD OF COUNTY COMMISSIONERS OPTIONS:

1. **No violation(s) exist(s)** and the permittee has complied with the condition of approval.
2. **Violation(s) exist(s)** and the permittee shall **cease operation** of the solidification basin.
3. **Violation(s) exist(s)** and the permittee can **continue operation** of the solidification basin.
4. **Table this review** if additional information is required to fully evaluate whether permittee has complied with the conditions of approval. Give specific direction to the petitioner and staff.

FINDINGS OF FACT

Violation(s) exists and the permittee can **continue operation:**

1. The operation of the solidification basin is not in compliance with Sections 6.1.3 (Local, State, and Federal Regulations and Standards), 6.1.5 (Industry Standards), 6.1.7.E (Water Quality and Quantity), 6.7 (Mitigation Techniques to Reduce Water Quality and Quantity Impacts) of the Zoning Regulations.

2. The permittee has not operated the solidification basin in compliance with the conditions of approval #3, #6, and #15 of permit PL-15-1016.

   3. Any complaints or concerns which may arise from this operation may be cause for review of the SUP, at any time, and amendment or addition of conditions, or revocation of the permit if necessary.

   6. This approval is contingent upon any required federal, state and local permits being obtained and complied with; the operation shall comply with all federal, state and local laws. Copies of permits or letters of approval shall be submitted to the Routt County Planning Department prior to operations.

   15. All applicable standards set forth by the Colorado Department of Health and the Routt County Department of Environmental Health shall be complied with. The operation shall comply with all federal, state, and local laws. All applicable conditions of the Regulations Pertaining to Solid Waste Disposal Sites and Facilities by the Colorado Department of Health shall be complied with. Biannual or more frequent inspections will be conducted by the Routt County Department of Environmental Health.

3. The permittee has not operated the solidification basin in compliance with CDPHE HMWMD regulations, as evidenced by the Compliance Advisories, Consent Order, and the May 1, 2018 letter regarding updated requirements for continued operations of the solidification basin.

4. The HMWMD has determined that the solidification basin's liner and leak detection system must be upgraded.

5. The existing polypropylene liner is not compatible with exploration and production (EP) wastes and other wastes containing petroleum products and organic solvents.

6. The permittee is working with HMWMD to remedy the violations outlined in the Compliance Advisories and Consent Order, and has submitted a revised EDOP currently under review by the HMWMD. A revised EDOP for the solidification basin is forthcoming depending on how Twin chooses to operate in the long-term and what type of wastes they will accept. The County should allow this process to take its course.

CONDITIONS that may be appropriate may include the following:

General Conditions:

1. The ~~Administrative Amendment of the~~ SUP is contingent upon compliance with the applicable provisions of the Routt County Zoning Regulations including but not limited to Sections 4, 5, and 6.

2. The ~~Administrative Amendment of the~~ SUP is limited to uses and facilities presented in the approved project plan. Any additional uses or facilities must be applied for in a new or amended application.

3. Any complaints or concerns which may arise from this operation may be cause for review of the SUP, at any time, and amendment or addition of conditions, or revocation of the permit if necessary.

4. In the event that Routt County commences an action to enforce or interpret this SUP, the substantially prevailing party shall be entitled to recover its costs in such action including, without limitation, attorney fees.

5. No junk, trash, or inoperative vehicles shall be stored on the property, unless stored in approved areas.

6. This approval is contingent upon any required federal, state and local permits being obtained and complied with; the operation shall comply with all federal, state and local laws. Copies of permits or letters of approval shall be submitted to the Routt County Planning Department prior to operations.
7. Fuel, flammable materials, and hazardous materials shall be kept in a safe area and shall be stored in accordance with the state and local environmental requirements.
8. Prior to the issuance of the permit, the Permittee shall provide evidence of liability insurance in the amount of no less than $1,000,000 per occurrence with either unlimited aggregate or a policy endorsement requiring notice to Routt County of all claims made. Routt County shall be named as an additional insured on the policy. Certificate of liability insurance shall include all permit numbers associated with the activity.
9. Accessory structures/uses associated with this permit may be administratively approved by the Planning Director, without notice.
10. The permits/approval shall not be issued until all fees have been paid in full. Failure to pay fees may result in revocation of this permit. Permits/Approvals that require an ongoing review will be assessed an Annual Fee. Additional fees for mitigation monitoring will be charged on an hourly basis for staff time required to review and/or implement conditions of approval.
11. Transfer of this ~~Administrative Permit~~ **SUP** may occur only after a statement has been filed with the Planning Director by the transferee guaranteeing that they will comply with the terms and conditions of the permit. If transferee is not the landowner of the permitted area, Transferee shall submit written consent to the transfer by the landowner. Failure to receive approval for the transfer shall constitute sufficient cause for revocation of the permit if the subject property is transferred. Bonds, insurance certificates or other security required in the permit shall also be filed with the Planning Director by the transferee to assure the work will be completed as specified. Any proposal to change the terms and conditions of a permit shall require a new permit.
12. The Permittee shall prevent the spread of weeds to surrounding lands, and comply with the Colorado Noxious Weed Act as amended in 2013 and Routt County noxious weed management plan.

Specific Conditions:

13. The Special Use Permit is valid for the life of use.
14. The operations will be reviewed annually by Planning staff to ensure compliance with permit conditions, with recommendations to Planning Commission as appropriate.
15. All applicable standards set forth by the Colorado Department of Health and the Routt County Department of Environmental Health shall be complied with. The operation shall comply with all federal, state, and local laws. All applicable conditions of the Regulations Pertaining to Solid Waste Disposal Sites and Facilities by the Colorado Department of Health shall be complied with. Biannual or more frequent inspections will be conducted by the Routt County Department of Environmental Health.
16. Permittee shall be responsible for any additional winter maintenance and other regular road maintenance above and beyond that normally conducted by the Road and Bridge Department on roads affected by this SUP during the life of the operations and shall obtain all necessary permits to do so. Routt County shall meet with the permittee periodically to assess necessary maintenance resulting from use of the road. Maintenance shall be determined by the Routt County Road and Bridge Department in its sole discretion and at permittee's expense. Maintenance may include, but is not limited to, grading and graveling of roadways, restoration of roadway crown, sweeping or cleaning access points, soft spot/damage repair and application

of a dust palliative as approve by the Routt County Road and Bridge Director and Routt County Department of Environmental Health.

17. Continued road inspections shall be conducted by the Routt County Road and Bridge and/or Planning Departments and shall occur on a bi-annual basis or with more frequency, should weather dictate. If tracking of mud onto County Road 205 is still occurring, the permittee shall work with the Routt County Road and Bridge Department to formulate preventative sediment tracking measures. The permittee shall be responsible for the installation and all costs associated with the installation of such measures. Installation shall occur within six (6) months of second written warning that the road has been impacted.
18. If preventative sediment tracking measures have not been installed, the permittee shall install such measures within six (6) months of completion of the new shop and recycle building.
19. Routt County has the authority to close any county road at its sole discretion of damage to the road may occur by its use. To the extent that a road closure may affect permittee's operations, Routt County will cooperate with Permittee to allow operation to be continued in a safe and practical stopping point.
20. Permittee shall secure all necessary permits including but not limited to State of Colorado Air Quality Permit, applicable USCOE permits, Routt County Grading and Excavation Permits, Routt County access permits, and Routt County ROW permit.
21. The semi-annual Groundwater Monitoring Report submitted to the Colorado Department of Health and Environment shall also be submitted to the Department of Environmental Health. Routt County Environmental Health officials may take samples from the wells or surface water at any time to verify monitoring data.
22. All regular reports required by the Colorado Department of Health and Environment shall also be submitted to the Routt County Planning and Environmental Health Departments.
23. The operator is responsible for keeping trash covered as provided in the State statute. Trash shall only be deposited in accordance with the approved landfill plan. Twin Landfill shall be responsible for removal of trash blowing off site and shall monitor adjacent properties on a periodic basis depending on the weather conditions. In addition, the permittee shall be responsible for maintenance of 6' sheep fencing on the east side of the pit for the length of the area that is being used.
24. Landfill dumping area/working face and associated equipment shall be substantially screened from Highway 40 and will not skyline from Milner and the United States Highway 40 view sheds. Screening berms will be constructed by placing a narrow, 10-to-12 foot high refuse lift at the north end of a given waste lift and perpendicular to the line of sight being screened. Interim cover will be placed on the berm as the berm is constructed so that the exposed refuse is minimal. The refuse lift will then be constructed behind the berm with the working face typically facing south away from visual corridors. Screening berms, interim slopes, and final slopes visible from Highway 40 shall be revegetated as soon as possible. If revegetation does not adequately mitigate visual impacts after six months, the Planning Director may require additional seeding and/or the use of temporary irrigation. This condition becomes effective June 1, 2006.
25. If at any time proper coverage of the trash cannot be achieved, the operator shall immediately contact the Routt County Department of Environmental Health by telephone with a plan of action to remedy the situation.
26. Lighting shall be downcast and opaquely shielded. All exterior lighting shall be turned off between 8:00 p.m., or when the maintenance building is not in use, whichever is earlier, and 7:00 a.m. Necessary motion-sensitive, safety, and/or security lighting is excluded. Exterior lighting shall be limited to two exterior lights and one motion sensor light.

27. There shall be no exterior lighting at the above ground leachate holding tank except necessary, motion-sensitive, safety and/or security lighting.
28. No maintenance or repair of vehicles and equipment shall be allowed in the new equipment storage structure.
29. Hours of operation for general public access shall be limited to daylight hours for the Home Resource Center. This should not be construed as a limitation for commercial haulers, special projects, or operators of the landfill.
30. The permittee shall not allow any member of the public into a structure in the Home Resource Center until that structure has received its final inspection.
31. Approval is contingent upon Building Department verification that all existing structures used in conjunction with this SUP have received any necessary building permits and final inspection. Permittee shall obtain all necessary building and grading and excavation permits as required for the structures in the Home Resource Center by.
32. All new structures shall be painted a neutral color.
33. All loose materials salvaged for recycling shall be contained within the new recycling building. There shall be no outdoor storage of loose recyclables. All baled recyclables shall be stored in a holding area or recycling area properly screened or fenced.
34. Disturbed areas associated with gravel mining shall not exceed 4.0 acres at any time. Disturbed areas are those not covered by water or substantially noxious weed free vegetation.
35. Gravel stockpile sizes and heights shall be maintained in conformance with the Mining and Reclamation Plan (Plate 3) submitted with the application. Planning Director may require reductions in stockpile size or height if necessary to limit visual impacts from Highway 40. Gravel crushing operations shall be limited to 8:00 a.m. through 5:00 p.m.
36. Prior to any excavation of Mine Area 2, Knoll 1, Permittee shall obtain approval of the Planning Director. Approval will be contingent on completion of reclamation of Mine Area 1 and substantial progress in the reclamation of Mine Area 2, Knoll 2.
37. Revegetation of disturbed areas shall occur within one growing season with a seed mix which avoids the use of aggressive grasses. See the Colorado State University Extension Office for appropriate grass seed mixes.
38. Permittee shall implement the following bulleted items as listed in the Conclusions and Recommendations on Page 9 of the July 11, 2005 Sun Terra, Inc. 'Milner Landfill Subsidence Evaluation':
    1. We recommend that geogrid be considered for subgrade soil reinforcement either during subgrade preparation or immediately prior to placing the first layer of the 3-foot-thick moisture conditioned clay liner in the sump areas of the Expansion Area.
    2. We recommend that a qualified Geotechnical Engineer be on-site to observe soil and ground conditions related to subsidence potential during subgrade inspection.
39. **The Certificate of Designation shall be amended to include acceptance of EP waste.**
40. **The permittee may operate the solidification basin under the existing State approved Solidification Basin Engineered Design and Operation Plan (SPEDOP) until October 31, 2018. The existing SBEDOP is no longer valid after October 31, 2018. The permittee shall not operate the solidification basin without an approved SBEDOP.**
41. **If the permittee wishes to continue to accept EP waste, and other waste that contains petroleum products and organic solvents, construction of improvements to the solidification basin liner in accordance with a revised State-approved SBEDOP,**

including construction completion reporting and post-construction State approval must be completed by October 31, 2018.

42. **If the permittee wishes to continue operating the solidification basin with a reduced list of approved liquid waste streams, a revised SBEDOP must be submitted to the State and County for review and approval by August 31, 2018. Under this option, the revised SBEDOP, with a reduced list of liquid waste streams, would become effective upon State and County approval and would expire on October 31, 2019.**

43. **If the permittee wishes to continue operation of the solidification basin for any liquid waste streams after October 31, 2019, solidification basin liner improvements conducted in accordance with a revised, State-approved SBEDOP, including construction completion reporting and post-construction State approval, must be completed by October 31, 2019.**

44. **The permittee shall submit a report detailing solidification basin operations every quarter. The reports shall be submitted on April 1, July 31, October 31, and January 31. Such reports shall include the following information:**

    a. **Total volume of each liquid waste stream received during the quarter.**

    b. **Total volume of sorbent material (coal ash) received during the quarter.**

    c. **Total volume of sorbent material (coal ash) used during the quarter.**

    d. **Total volume of solidified waste removed, transported, and disposed of at the landfill.**

    e. **Copies of all laboratory analytical tests performed during the quarter, including analyses performed on random waste samples, and analyses performed on solidification basin leachate.**

    f. **Copies of all liquid waste profile forms, including corresponding completed waste manifests for wastes received during the quarter.**

    g. **Copies of all solidification basin operation logs completed during the quarter.**

    h. **Copies of all paint filter test data sheets for tests performed during the quarter.**

    i. **Copies of all reactivity test data sheets for tests performed during the quarter.**

    j. **A summary of all pH test results performed during the quarter.**

    k. **A summary of weekly leachate measurements taken during the quarter. More frequent measurements may be required depending upon whether leachate was removed.**

    l. **A summary of leachate removal volume and frequency performed during the quarter.**

    m. **A summary of quarterly ash storage area monitoring and maintenance, including stormwater management and Posi-Shell applications pursuant to Section 3.0 of the approved SBEDOP revision dated May 29, 2015.**

    n. **A summary of housekeeping activities performed during the quarter to remove any ash or other sorbent material that gets tracked onto the ground surface outside of the solidification basin.**

COLORADO
Department of Public
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

May 1, 2018

Mr. Marlin Mullet, Chief Executive Officer
Twin Enviro Services
P.O. Box 774362
Steamboat Springs, CO 80477

RE: **Revised Requirements and Schedule for Bringing the Solidification Basin into Regulatory Compliance, Milner Landfill, Routt County, Colorado**

SW/RTT/MIL 2.2

Dear Mr. Mullet:

The Colorado Department of Public Health and Environment ("CDPHE" or "Department"), Hazardous Materials and Waste Management Division ("HMWMD" or "Division") reviewed the following three documents related to the solidification basin at Milner Landfill and provided its determinations, requirements, and schedule for bringing the solidification basin into regulatory compliance in its letter dated March 5, 2018.

> *"Professional Opinion on Twin Enviro Services, Milner Site Solidification Basin, Effectiveness in Preventing Impacts to Groundwater, Milner Landfill, Routt County, Colorado;"* prepared by Golder Associates ("Golder"); dated September 12, 2017; received September 12, 2017; prepared for Twin Enviro Services ("Twin"); referred to herein as the "Professional Opinion."
>
> *"Milner Landfill Engineering Design and Operations Plan, Solidification Basin;"* prepared by Weaver Consultants Group ("Weaver"); dated November 15, 2017; received November 15, 2017; prepared for Twin Enviro Services ("Twin"); referred to herein as the "SBEDOP."
>
> *"Annual Solidification Basin Report - 2017;* undated; received March 1, 2018; prepared by Twin Landfill Corporation ("Twin"); referred to herein as the "2017 Annual Report."

As described in the Division's March 5, 2018 letter, the Division reviewed these three documents to determine their compliance with requirements contained in: (1) Sections 30-20-100.5 to 123, C.R.S. of the Colorado Solid Wastes Disposal Sites and Facilities Act ("the Act"), (2) the Regulations Pertaining to Solid Waste Sites and Facilities, 6 CCR 1007-2, Part 1 ("the

Regulations"), (3) the site's approved Engineering Design and Operations Plan ("EDOP") dated December 13, 2003, including subsequent amendments, and (4) Compliance Order on Consent Number 17-08-01-01 ("Consent Order") effective August 3, 2017. Additionally, the Division, Routt County, and Twin have held numerous meetings and conference calls during the past couple of years to discuss requirements for bringing the solidification basin into compliance with the Act, Regulations, EDOP, and Consent Order. As described in the Division's March 5, 2018 letter, the Division has determined that the solidification basin's liner and leak detection system must be upgraded. The Division's determination has not changed. However, via email dated March 26, 2018, Twin requested an extension to the Division's deadline of October 31, 2018 for completing liner upgrades. After considering Twin's request and consulting with Routt County staff, the Division is hereby revising its requirements and schedule for bringing the solidification basin into regulatory compliance. The Division's revised requirements and schedule are provided below.

Please note that the Division's determinations, requirements, and schedule described in this letter do not preclude Routt County from taking independent review action.

1. Section 5.4.4.5 of the approved solidification basin EDOP includes the following requirement: *"A seamed sacrificial liner coupon is installed immediately above the existing solidification basin liner. This coupon is periodically tested per the specifications listed in Section 5.4.1.4 to determine any liner deterioration. If testing indicates that the liner has deteriorated beyond specifications, the liner will be replaced prior to any potential release through the liner."* The coupon testing presented in the Professional Opinion shows that the coupon seam failed to meet requirements for shear strength. Notwithstanding the failed seam test, the Professional Opinion concludes that the liner is still strong enough to withstand the stresses that would be applied to the basin. The Division agrees with this conclusion; therefore, in lieu of liner replacement as required by the EDOP, the Division has determined that the existing solidification basin composite liner system is appropriate for use as a secondary liner in a double-liner system described in Section 17.3.1(A)(3) of the Regulations. A new primary liner must be designed and installed, and must consist of HDPE with a minimum thickness of 60 mils.

2. The Professional Opinion also concludes that the leachate detection pipe is designed such that it is of limited value in identifying leaks. The Division agrees with this conclusion; therefore, the Division has determined that the existing leachate detection pipe must be abandoned and replaced with a leak detection system that is incorporated into the interstitial space between liners in a double liner system as described in Section 17.3.1(C)(2). The existing leachate collection layer can be utilized as the leak detection layer.

3. The Division has determined that Twin may operate the solidification basin under its existing Division-approved SBEDOP until October 31, 2018. The existing SBEDOP is no longer valid after October 31, 2018. Twin shall not operate the solidification basin without an approved SBEDOP.

4. The existing polypropylene liner is not compatible with exploration and production ("E&P") wastes and other wastes containing petroleum products and organic solvents.

Therefore, should Twin wish to continue uninterrupted acceptance of E&P waste and other waste that contains petroleum products and organic solvents, construction of solidification basin liner improvements conducted in accordance with a revised Division-approved SBEDOP, including construction completion reporting and post-construction Division approval, must be completed by October 31, 2018.

5. Twin has indicated that it may wish to operate the solidification basin after October 31, 2018 with a reduced list of approved liquid waste streams, to include only those wastes that are compatible with the existing polypropylene liner (i.e., non-E&P, non-petroleum containing, and non-solvent containing wastes). If Twin wishes to pursue this option, a revised SBEDOP must be submitted to the Division for review and approval by August 31, 2018. Under this option, the revised SBEDOP, with a reduced list of liquid waste streams, would become effective upon Division approval and would expire October 31, 2019.

6. Should Twin wish to continue uninterrupted operation of the solidification basin for any liquid waste streams after October 31, 2019, solidification basin liner improvements conducted in accordance with a revised, Division-approved SBEDOP, including construction completion reporting and post-construction Division approval, must be completed by October 31, 2019.

7. As part of the return-to-compliance requirements and schedule described in this letter, the Division requires quarterly reporting of solidification basin operations. The initial quarterly reporting period is the first quarter of 2018 (i.e., January 1, 2018 to March 31, 2018). The initial quarterly report is due May 31, 2018. Subsequent quarterly reports are due at the end of the month following each quarter (i.e., April 30, July 31, October 31, and January 31). Quarterly solidification basin reports must include the following information:

    a. Total volume of each liquid waste stream received during the quarter.
    b. Total volume of sorbent material (e.g., coal ash) received during the quarter.
    c. Total volume of sorbent material (e.g., coal ash) used during the quarter.
    d. Total volume of solidified waste removed, transported, and disposed at the landfill.
    e. Copies of all laboratory analytical tests performed during the quarter, including analyses performed on random waste samples, and analyses performed on solidification basin leachate - Note: The approved SBEDOP requires random waste sampling on at least 1% of vehicles delivering liquid wastes or at least one per year. The approved SBEDOP requires annual testing of solidification basin leachate for Appendix IA and IB constituents.
    f. Copies of all liquid waste profile forms, including corresponding completed waste manifests for wastes received during the quarter.
    g. Copies of all solidification basin operation logs completed during the quarter.
    h. Copies of all paint filter test data sheets for tests performed during the quarter.
    i. Copies of all reactivity test data sheets for tests performed during the quarter.
    j. A summary of all pH test results performed during the quarter.
    k. A summary of weekly leachate measurements taken during the quarter - Note: The approved SBEDOP requires leachate removal whenever a 6-inch depth of

leachate is measured. Therefore, measurements more frequently than weekly may be required.

l. A summary of leachate removal volume and frequency performed during the quarter.

m. A summary of quarterly ash storage area monitoring and maintenance, including stormwater management and Posi-Shell applications pursuant to Section 3.0 of the approved SBEDOP revision prepared by Golder Associates dated May 28, 2015 (see CDPHE Approval with Modifications letter dated May 29, 2015).

n. A summary of housekeeping activities performed during the quarter to remove any ash or other sorbent material that gets tracked onto the ground surface outside of the solidification basin.

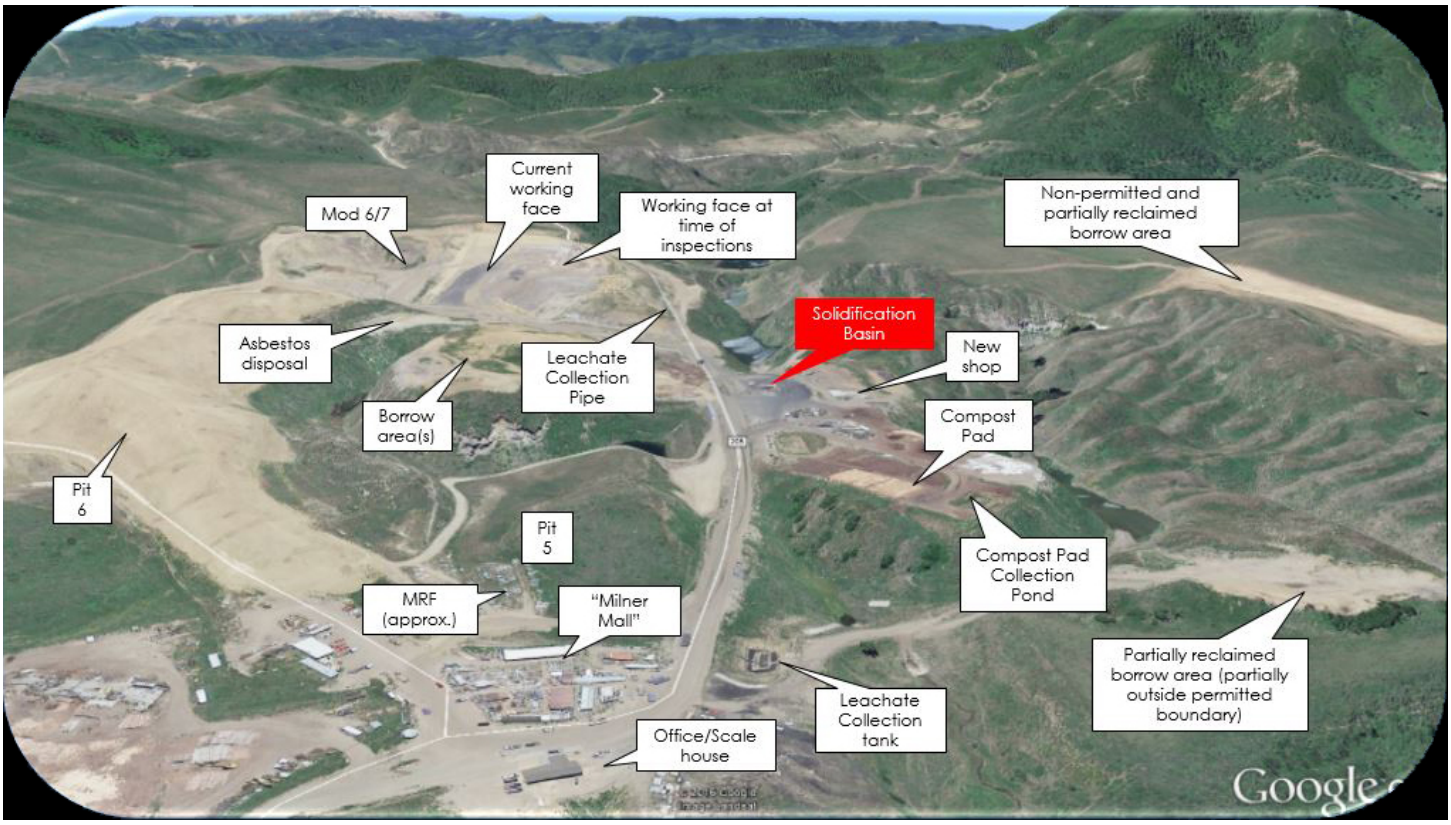
The Department is authorized to bill for its review of technical submittals at a rate of $125 per hour pursuant to Section 1.7 of the Regulations. An invoice for the Division's review of the above-referenced document will be transmitted under separate cover.

Should you have questions about this letter please call me at (303) 692-2295 or email me at curtis.stovall@state.co.us.

Sincerely,

Curt Stovall, P.E.
Solid Waste Permitting Unit
Solid Waste and Materials Management Program
Hazardous Materials and Waste Management Division

ec: Scott Cowman - Routt County, Director Environmental Health Department
Alan Goldich - Routt County Planning Department
Jerry Henderson - HMWMD, Solid Waste Permitting Unit Leader
Eric Jacobs, PG - HMWMD, Solid Waste Permitting Unit
Les Liman - Twin Enviro Services, Chairman of the Board
Brian Long - HMWMD, Solid Waste Compliance Assurance Unit
Mark McClain, PE - Golder Associates
Marlin Mullet - Twin Enviro Services, Chief Executive Officer
Luke Schneider - Twin Landfill Corporation, Compliance Officer
Dan Weinheimer - Deputy County Manager



Above: Google Earth photo of the landfill with important features labeled. This photo is looking south. US Highway 40 is behind the viewer.

Left: Aerial photo of the solidification basin.