

PERMIT FEES

<i>Discharge Code</i>	<i>DSN Number</i>	<i>Annual Fee</i>
7080000	DSN 001-1 and DSN 301-1	\$2912.50

FOR NPDES DISCHARGES

Drainage basin Code: 3500

Water Quality Standard:A

FOR GROUNDWATER DISCHARGES

Drainage basin Code: 3500

Water Quality Standard: GA

NATURE OF BUSINESS GENERATING DISCHARGE

Tilcon Connecticut, Inc. performs stone quarrying operations

PROCESS AND TREATMENT DESCRIPTION (by DSN)

DSN 101-1:- This discharge is composed of mine dewatering water (stormwater runoff) from quarrying operations. The stormwater that accumulates in excavated areas flows by gravity into a detention basin where solids settling occurs prior to discharge. Best Management Practices (BMPs) shall be implemented in accordance with the Spill Prevention Control Plan/Stormwater Pollution Prevention Plan submitted with Application Nos. 201106708 and 201106707.

DSN 301-1:- This discharge is composed of mine dewatering water (stormwater runoff) infiltration into groundwaters from the detention basin.

RESOURCES USED TO DRAFT PERMIT

- Federal Effluent Limitation Guideline 40CFR 436, Subpart B (Mineral mining and processing)*
- Performance Standards*
- Federal Development Document*
- Treatability Manual*
- Department File Information*
- Connecticut Water Quality Standards*
- Anti-degradation Policy*
- Coastal Management Consistency Review Form*
- Other – Explain (Section 402 of the Clean Water Act; 2012 State of Connecticut Integrated Water Quality Report; 61 Fed. Reg. 43761 and the DEEP Geographic Information Systems (GIS) intranet.)*

BASIS FOR LIMITATIONS, STANDARDS OR CONDITIONS

- X Best Practicable Technology (BPT)
pH (MIL)
- X Case by Case Determination using Best Professional Judgment (See Other Comments)
- X In order to meet in-stream water quality (See General Comments)
Aquatic toxicity (MIL)
- X Anti-degradation policy

MIL: - Maximum Instantaneous Limit

GENERAL COMMENTS

Two applications were consolidated into one single document and submitted by the applicant. Application No. 201106708 is for discharge to surface water. Discharge DSN 101-1 will be covered under NPDES Permit No. CT0030597. Application No. 201106707 is for discharge to groundwater. Discharge DSN 301-1 will be covered under State Permit No. SP0002452.

In Application Nos. 201106708 and 201106707, Tilcon Connecticut, Inc. had requested to have two surface water discharge outfalls and a discharge to groundwater covered in these permits. DSN 101-1 comprises of quarry wastewater discharge to Apple Tree Meadow Brook. DSN 102-1 was supposed to comprise of overland flow from former sand and gravel excavation area into Quandock Brook and DSN 301-1 comprises of mine dewatering wastewater infiltration into groundwaters. Two site visits conducted by DEEP staff revealed that there was no discernable discharge location for DSN 102-1. During these site visits, there was no visual evidence of current or past mining activities in the DSN 102-1 drainage area identified in the permit applications, rather, the area was heavily wooded. DEEP staff decided that this discharge (if any) could not be categorized as mine dewatering wastewater and therefore was not included in Permit No. CT0030597. DEEP staff advised the Permittee to evaluate if an industrial stormwater permit will be required for that drainage area and also explained to the Permittee that if mining operations eventually start in the DSN 102-1 drainage area, the Permittee should request a permit modification to include the wastewater discharge from that drainage area.

DSN 101

The Department has historically equated the quality of mine dewatering discharges to that associated with stormwater discharges from mining operations and allowed mine dewatering discharges to be covered by the Industrial Stormwater General Permit (“GSI”). However, process generated wastewaters associated with quarrying operations have been and continue to be only authorized through an individual permit. More recently, the Department determined that mine dewatering discharges had not been sufficiently evaluated or publicly noticed for inclusion in the GSI and, when the GSI was reissued in October 2011, mine dewatering discharges were specifically excluded as a regulated discharge. Mining operations were then required to obtain individual NPDES permits for the discharge of mine dewatering wastewaters. The Applicant has represented that there are no process generated wastewaters produced from mining operations at this facility. Therefore, no process generated wastewaters are authorized by this permit. As applied in this permit and fact sheet, “mine dewatering”, as defined in 40 CFR 436.21(b), “...shall mean any water that is impounded or that collects in the mine and is pumped, drained or otherwise removed from the mine through the efforts of the mine operator” and “process generated waste water” as defined in 40 CFR 436.21(e), “...shall mean any wastewater used in the slurry transport of mined material, air emissions control, or processing exclusive of mining,” and “...shall also include any other water which becomes commingled with such waste water in a pit, pond, lagoon, mine, or other facility used for the treatment of such waste water.”

In the future if allowed under state and federal law, the Department may authorize mine dewatering discharges in a general permit. In the interim, the Department is issuing individual NPDES permits for mine dewatering discharges utilizing requirements similar in approach to those for regulating stormwater discharges under the GSI, such as benchmarks and the implementation of control measures identified in a Stormwater Pollution Prevention Plan, along with the pH limits required by 40 CFR 436. This approach, using best management practices in the form of a site-
Permit Nos. CT0030597 and SP0002452

specific Stormwater Pollution Prevention Plan, to regulate the discharge of stormwater, is consistent with 40 CFR 122.44(k) and EPA's Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits (61 Fed. Reg. 43761).

The discharge will be highly dependent on the frequency and intensity of storm events. Based on best professional judgment, numeric benchmarks for copper and zinc were incorporated into this permit, based on Connecticut's Water Quality Criteria using typical dilution rates and 50th percentile of historic stormwater discharge sampling data at industrial sites in Connecticut.

Benchmarks were also included for other parameters using 80th percentile of the cumulative relative frequency graphs developed from historic stormwater discharge sampling data at industrial sites in Connecticut.

As an additional control measure, a special condition in Section 6 of Permit Nos. CT0030597 and SP0002452 requires the Permittee to review its BMPs and perform required corrective actions immediately, or document why no corrective action is required or feasible, when the average of four consecutive monitoring values exceed the numeric benchmarks in Section 6(B) or when it appears inevitable that the average of four consecutive monitoring values would exceed the numeric benchmarks in Section 6(B).

DSN 301-1

DSN 301-1 is the discharge/infiltration to groundwater. The receiving groundwater is classified as GA and its designated uses are existing private and potential public or private supplies of water suitable for drinking without treatment; and baseflow for hydraulically-connected surface water bodies. Since numeric bench marks have been included for the surface water discharge, no monitoring or limits are required for the mine dewatering infiltration to groundwater. This is because the quality of wastewater that will infiltrate into groundwater is very similar to the quality of wastewater that will be discharged to surface water. The proposed numeric bench marks in Section 6(B) are lower than drinking water maximum contaminant levels for the listed pollutants in Permit No. CT0030597. So, the discharge should not prevent the groundwater from being suitable for drinking as defined in Connecticut Water Quality Standards (CTWQS) Sec. 22a-426-7(a)(3). Based on the conditions in these permits, mine dewatering wastewater is an allowable discharge consistent with Connecticut Water Quality Standards (CTWQS) Sec. 22a-426-7(a)(2)(A&D) and 22a-426-7(e).

The Department expects that compliance with the terms and conditions of this permit will be protective of groundwater and surface water resources.

OTHER COMMENTS

The minimum and maximum pH limitations are consistent with EPA Mineral mining and processing categorical limits (40 CFR 436, Subpart B).

Implementation of the Antidegradation Policy follows a tiered approach pursuant to the federal regulations (40 CFR 131.12) and consistent with the Connecticut Antidegradation Policy included in the Connecticut Water Quality Standards (CTWQS). Tier 1 Antidegradation review applies to all permitted discharge activities to all waters of the state. Tiers 1 and 2 Antidegradation reviews apply to all new or increased discharges to high quality waters and wetlands, while Tiers 1 and 3 Antidegradation reviews apply to all new or increased discharges to outstanding national resource waters.

Antidegradation analysis: Surface water discharge

Although this is a new permit, the discharge is an existing discharge that was previously covered under a stormwater general permit. The Permittee does not propose an increase in volume or concentration of constituents. Therefore, only the Tier 1 Antidegradation Evaluation and Implementation Review was conducted to ensure that existing and designated uses of surface waters and the water quality necessary for their protection are maintained and preserved, consistent with Connecticut Water Quality Standard, Sec.22a-426-8(a)(1). All narrative and numeric water quality standards, criteria and associated policies contained in the Connecticut Water Quality Standards are the basis for the evaluation considering the discharge or activity both independently and in the context of other discharges and activities in the affected water body and considering any impairment listed pursuant to Section 303d for the federal Clean Water Act or any TMDL established for the water body.

The receiving stream, Apple Tree Meadow Brook, has not yet been assessed in accordance with Section 305(b) of the Federal Clean Water Act. The Department has determined that the discharge or activity is consistent with the maintenance, restoration, and protection of existing and designated uses assigned to the receiving water body by considering all relevant available data.

Antidegradation analysis: Groundwater discharge

Based on the analysis for DSN 301-1, above, and since an increase in volume or concentration of constituent is not proposed for the mine dewatering wastewater infiltration into groundwater, the discharge is considered to be consistent with antidegradation standards under Sec. 22a-426-7(a)(6) of the CTWQS.

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