UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
ONE CONGRESS STREET- SUITE 1100 (CPE)
BOSTON, MASSACHUSETTS 02114 - 2023

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT # MA0029297

PUBLIC NOTICE DATES: June 21, 2007 - July 20, 2007

NAME AND ADDRESS OF APPLICANT:

P.J. Keating Company
998 Reservoir Road
Lunenburg, MA 01462

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

P.J. Keating – Acushnet Facility
72 South Main Street
Acushnet, MA 02743

RECEIVING WATER: un-named tributary to Acushnet River

CLASSIFICATION: B

SIC CODES: 1491, 2951, 3272

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I. PROPOSED ACTION

The above named applicant has applied to the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) for the re-issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge water from stone processing/washing operations, quarry dewatering, vehicle and equipment rinsing/washing, various dust control measures, concrete production, Asphalt Plant Wash/Soap Rack runoff, dewatering from the Silt Material Storage Area and Stone Processing Plant, and storm water runoff over the entire site, including the Vehicle Fueling Area, into the designated receiving water. The permit, which was issued to P.J. Keating Company on May 11, 2004 (the Current Permit), became effective on July 10, 2004 and expired on July 10, 2006. EPA received a permit renewal application May 11, 2006 and supplemental storm water sampling results June 1, 2006. Since the permit renewal application was deemed complete by EPA, the permit has been administratively continued.

II. TYPE OF FACILITY

The P.J. Keating Company owns and operates an earth products processing facility in the town of Acushnet, Massachusetts. The facility manufactures crushed stone, ready-mix concrete (L&S Concrete), hot-mix asphalt (bituminous concrete), and construction sand and gravel from on-site granite rock. The site is located on roughly 200 acres just east of South Main Street and north of Tootle Lane (See Attachment A to this Fact Sheet – Site Map). Quarry activities at the site began in the 1920's. The facility was originally owned by Tilcon Capaldi, and was purchased in January of 2001 by P.J. Keating Company.

III. SUMMARY OF MONITORING DATA

A quantitative description of the discharges in terms of significant effluent parameters based on discharge monitoring reports (DMRs) submitted for the P.J. Keating Acushnet Facility during the time period from August 2004 to March 2006 was reviewed and used in the development of the draft National Pollutant Discharge Elimination System (NPDES) permit (Draft Permit). A summary of the DMR data is provided in Attachment B to this Fact Sheet.

IV. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMIT DERIVATIONS

The effluent limitations, monitoring requirements, and any implementation schedule, if required, may be found in Part 1 (Effluent Limitations and Monitoring Requirements) of the Draft Permit. The permit re-application is part of the administrative file (Permit No. MA0029297).

A. General Requirements

The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States without a NPDES permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. The draft permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. During development, EPA considered the most recent technology-based treatment requirements, water quality-based requirements, and all limitations and requirements in the current/existing permit. The regulations governing the EPA NPDES permit program are generally found at 40 CFR Parts 122, 124, 125, and 136. The general conditions of the draft permit are based on 40 CFR §122.41 and consist primarily of management requirements common to all permits. The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308(a) of the CWA in accordance with 40 CFR §122.41(j), §122.44(i), and §122.48.

1. Technology-Based Requirements

Subpart A of 40 CFR §125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and case-by-case determinations of effluent limitations under Section 402(a)(1) of the CWA.

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 CFR §125 Subpart A) to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically achievable (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must be complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989 [See 40 CFR §125.3(a)(2)]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by a NPDES permit.

EPA has promulgated technology-based National Effluent Guidelines for Crushed Stone (Standard Industrial Code 1429). This ELG contains an effluent limitation guideline of 6.0-9.0 SU for pH. EPA has not promulgated technology-based National Effluent Guidelines for Asphalt and Paving Mixture (SIC 2951) and Concrete Products (SIC 3272). In the absence of technology-based effluent guidelines, the permit writer is authorized under Section 402(a)(1)(B) of the CWA to establish effluent limitations on a case-by-case basis using Best Professional Judgement (BPJ).

The 2000 Multi-Sector General Permit for storm water discharges from industrial sources was reviewed to determine technology-based limitations for this facility. Sector J of the MSGP (Mineral Mining and Dressing) includes effluent limitations for SIC Code 1429 (25mg/L monthly average for TSS, 45 mg/L daily maximum for TSS, and 6.0-9.0 SU for pH). Sector D of the MSGP (Asphalt Paving and Roofing Materials and Lubricants) contains effluent limitations for SIC Code 2951, specifically for discharges from areas where production of asphalt paving and roofing emulsions occurs. These effluent limitations are 23.0 mg/L daily maximum and 15.0 mg/L 30-day average for TSS, 15.0 mg/L daily maximum and 10 mg/L 30-day average for oil & grease, and 6.0-9.0 SU for pH. Sector E of the MSGP (Glass Clay, Cement, Concrete, and Gypsum Products) for SIC Code 3272 contains benchmark monitoring cutoff concentrations of 100 mg/L for TSS and 1.0 mg/L for Total Recoverable Iron. Additionally, Sector E of the MSGP contains benchmark monitoring cutoff concentrations for Cement Manufacturing Facilities Material Storage Runoff of 50 mg/L daily maximum for TSS and an effluent limitation of 6.0-9.0 SU for pH.

2. Water Quality-Based Requirements

Water quality-based criteria are required in NPDES permits when EPA and the State determine that effluent limits more stringent than technology-based limits are necessary to maintain or achieve state or federal water-quality standards (See Section 301(b) (1)(C) of the CWA). Water quality-based criteria consist of three (3) parts: 1) beneficial designated uses for a water body or a segment of a water body; 2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s) of the water body; and 3) anti-degradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts State Water Quality Standards, found at 314 CMR 4.00, include these elements. The State Water Quality Regulations limit or prohibit discharges of pollutants to surface waters and thereby assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, be used unless site-specific criteria are established. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d).

Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts. The Commonwealth of Massachusetts (State) has a similar narrative criterion in their water quality regulations that prohibits such discharges [See Massachusetts Title 314 CMR 4.05(5)(e)]. The effluent limits established in the Draft Permit assure that the surface water quality standards of the receiving water are protected, maintained, and/or attained.

Section 303(d) of the Federal Clean Water Act (CWA) requires states to identify those water bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such require the development of total maximum daily loads (TMDL). The Final Massachusetts Year 2004 Integrated List of Waters states that the Acushnet River, down stream of the confluence with the un-named tributary, from the main street culvert

to the Coggeshall Street Bridge, is not attaining water quality standards due to priority organics, metals, nutrients, organic enrichment/low dissolved oxygen, and pathogens. Additionally, New Bedford Inner Harbor, downstream of the Acushnet River, from the Coggeshall Street Bridge to the Hurricane Barrier (Buzzards Bay River Basin MA95-42), is not attaining water quality standards due to priority organics, metals, nutrients, organic enrichment / low dissolved oxygen, and pathogens, and oil & grease.

The 2000 Buzzards Bay Watershed Water Quality Assessment Report indicates that the Acushnet River (MA95-33) and the New Bedford Inner Harbor (MA95-42) are impaired for the Primary and Secondary Contact Recreational Uses. Additionally, the Aesthetics Use is assessed as impaired in the two segments due to oil & grease, odor, color, trash and debris. Sources of impairment include CSO and urbanized high-density areas.

3. Anti-Backsliding

EPA's anti-backsliding provision as identified in Section 402(o) of the Clean Water Act and at 40 CFR §122.44(l) prohibits the relaxation of permit limits, standards, and conditions unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued. Anti-backsliding provisions apply to effluent limits based on technology, water quality, BPJ and State Certification requirements. Relief from anti-backsliding provisions can only be granted under one of the defined exceptions [See 40 CFR §122.44(l)(i)]. Since none of these exceptions apply to this facility, the effluent limits in the Draft Permit must be as stringent as those in the Current Permit.

4. Anti-Degradation

The Massachusetts Anti-Degradation Policy is found at Title 314 CMR 4.04. All existing uses of the un-named tributary and the Acushnet River must be protected. The un-named tributary is classified as a Class B water body by the State of Massachusetts and as such, is designated as habitat for fish, other aquatic life and wildlife and for primary and secondary contact recreation. Where designated they shall be suitable as a source of public water supply with appropriate treatment. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses. These waters shall have consistently good aesthetic value.

The Acushnet River is classified as a Class SB water body by the State of Massachusetts and as such, is designated as habitat for fish, other aquatic life and wildlife and for primary and secondary contact recreation. In approved areas, such as certain areas of the Acushnet River, they shall be suitable for shellfish harvesting with depuration (Restricted Shellfish Areas). These waters shall have consistently good aesthetic value. Additionally, the Acushnet is classified as affected by a Combined Sewer Overflow (CSO). A CSO is any intermittent overflow, bypass or other discharge from a municipal combined sewer system which results from a wet weather flow in excess of the dry weather carrying capacity of the system. This Draft

Permit is being reissued with allowable effluent limits as stringent as or more stringent than the Current Permit and accordingly will continue to protect the existing uses of the Acushnet River.

B. Description of the Facility

Principal operations at the site include: removing overburden (waste earth and rock covering a mineral deposit); trap rock (various dark-colored, heavy igneous rock) quarrying; stone processing; batch processing of hot-mix asphalt; and batch processing of ready-mix concrete (L&S Concrete). Neither P.J. Keating Company nor L&S Concrete are engaged in the production of cement or asphaltic emulsions. Refer to Attachment C to this Fact Sheet for the site layout.

Stone material is excavated onsite and conveyed via large trucks to one of the two on-site stone processing facilities, the Stone Processing Plant (labeled as Stone Processing West on the site layout) and the Recycled Asphalt Pavement (RAP) Crushing Plant. At the RAP Crushing Plant, asphaltic concrete that has been removed from existing pavement as well as recycled shingles are crushed in order to be recycled into hot-mix asphalt at the Asphalt Plant. The crushed material is stored in piles at the RAP Crushing Plant prior to transfer to the Asphalt Plant for recycle.

At the Stone Processing Plant, all stone material mined from the quarry is crushed to a maximum diameter of four inches and transported via conveyors, separated by a series of sieves according to size, and then stored in piles. A portion of the stone is further crushed, washed with water from Pond 1A and processed through the Sand Screw (a large screw capable of separating crushed stone material at a much smaller scale than the sieves). A product referred to as manufactured sand exits the screw at the top with a moisture content of about 8% and wastewater exits the bottom. The manufactured sand is allowed to dewater in large piles and the water seeps into the quarry. The manufactured sand and the crushed stone piles of various sizes are stored onsite in piles until they are either sold offsite or used onsite at the Asphalt Plant or Concrete Plant (L&S). The wastewater from the Sand Screw consists of a sludge of fines (very small crushed stone particles) and water which is discharged to the clarifier (a device which removes the fines from the water). Drufloc 20, a flocculent, is added to the water as it enters the clarifier in order to increase the settling rate of suspended solids. Silt that is removed by the clarifier is stored in a holding pen, and when dry, removed to the Silt Material Storage Area. The clarifier system is antiquated, with chain driven paddles, and 4 clarifiers in series (three of which are currently operating). The facility is planning to replace the solids removal process currently in use and the antiquated clarifiers with a new fines recovery system, or de-watering system, manufactured by Derrick. The new system will be a “centrifuge-type system” and will remove enough water from the silt to be able to handle it as a semi-solid, rather than a liquid, potentially eliminating the need for the clarifier. The facility plans to have the new system operational by April 1, 2007.

The Stone Processing Plant supplies the Asphalt Plant with crushed stone to use in the production of asphalt. The Asphalt Plant Wash/Soap Rack, located near the Asphalt Plant, uses

Liqui-Slip, a biodegradable asphalt release agent, as a truck bed liner prior to asphalt loading in order to prevent asphalt from hardening or sticking in the truck bed. Heating fuels including #2 heating oil and specification used fuel oil (used oil which is to be burned for energy recovery) are used to heat the aggregate dryer at the Asphalt Plant and are stored in above ground storage tanks within secondary containment at the Asphalt Plant.

Several wash areas are onsite, including: the Vehicle Wash Rack (labeled as Construction Tracking Pad on site layout); the Pressure Washer (labeled as Vehicle Washing on the site layout); and the Truck Bed Wash. The Vehicle Wash Rack consists of truck rinsing at a stone tracking pad located near the entrance to the facility. The Pressure Washer is located behind the Maintenance Garage (labeled as the Construction & Paving Garage on the site layout) and is infrequently used to wash vehicles. The Truck Bed Wash is located near Pond 2A and is used to rinse vehicle beds. Additionally, vehicle and equipment rinsing occur at the Concrete Plant (L&S). No additives, such as detergents, are used in any of the wash water.

The Concrete Plant is a ready-mix concrete batch processing plant that is located onsite and owned by L&S Concrete. Since discharges from this plant combine with those from P.J. Keating Company, they are included in this draft permit. The Concrete Plant uses a small constructed settling pond as a water recycling area called the Concrete Wash Water Pond. Waste water from vehicle and equipment washing and concrete block forming is conveyed via overland flow to the Concrete Wash Water Pond. No detergents or other additives are used in the wash water at the Concrete Plant. Concrete block forming consists of pouring excess concrete (ready-mix concrete returned to the facility) into molds to form concrete blocks. Discharge from this molding operation into the Concrete Wash Water Pond is estimated to be less than 50 gpd. The Concrete Wash Water Pond is cleaned weekly (or as necessary) to remove accumulated sediment and concrete wash-off and ensure sufficient storage volume. Number 2 heating oil used to run a steam boiler to process concrete during colder months is stored at the Concrete Plant in an above ground storage tank that has secondary containment.

Vehicle maintenance is performed within two on-site Maintenance Garages (labeled as the Construction & Paving Garage and Welding Garage on the site layout), neither of which contain floor drains. Waste oils are temporarily stored in above ground storage containers located inside each building. This waste oil is subsequently transported off-site for treatment and disposal. Cleaning agents and solvents are also stored inside the Maintenance Garages. The solvents do not combine with waste oils; rather, they are recycled, eliminating need for disposal. Vehicle Fueling is performed near the entrance to the site. Diesel fuel and gasoline are stored onsite in underground storage tanks in the vicinity of the Maintenance Garages.

Full-scale processing operations of removing overburden, trap rock quarrying, stone processing, batch processing of hot-mix asphalt, and batch processing of ready-mix concrete typically extend from March 15th through December 31st, depending on local weather conditions. In general, full-scale processing operations at the facility are conducted 5 days per week, 12 hours per day during the spring, summer and fall. Occasionally, to accommodate short-term delivery

schedules, the facility will operate 7 days per week, 24 hours per day. Although the facility continues to function as a supplier of crushed stone and concrete during the winter (these materials are available from stockpiles during winter months), major processing operations are significantly curtailed due to freezing temperatures. Operations typically suspended include: trap rock quarrying; stone processing; and asphalt batch processing.

C. Description of Discharge

The bulk of the facility's process water requirements are satisfied through surface water withdrawals from the on-site settling basins (Pond 1A, 1B, and Pond 2C). As shown on the facility's water balance diagram, operation of primary settling basins (Pond 1A and Pond 2A), secondary settling basins (Pond 1B and Pond 2B), and tertiary settling basins (Pond 1C and 2C) allows for recycle/reuse of water at the facility. Prior to off-site discharge or on-site recycle/reuse, all wastewater is treated via settling of suspended solids in the setting ponds. Wastewater is generated primarily from the stone processing/washing operations and from quarry dewatering. Secondary sources include: vehicle and equipment rinse/wash water, wastewater from various dust control measures used over the entire site, concrete production wastewater, Asphalt Plant Wash/Soap Rack runoff, and storm water runoff over the entire site. Specifically, discharges occur from the Stone Processing Plant, the RAP Crushing Plant, the Asphalt Plant, the Concrete Plant, the Silt Material Storage Area, and the vehicle wash areas. Refer to Attachment C to this Fact Sheet for the site layout which illustrates flows throughout the facility.

Water at the Stone Processing Plant is used for dust control purposes and stone crushing operations. The Stone Processing Plant is equipped with water nozzles and sprayers for all high dust areas, including the stone crushers. Selected conveyors and discharge points are equipped with strategically located spray nozzles to minimize dust emissions during stockpiling operations. The Stone Processing Plant discharges water used in stone crushing operations, runoff from dust control operations, and dewatering from the piles of manufactured sand to Pond 1A. A surface swale was constructed west of the Stone Processing Plant (in between the Stone Processing Plant and the vehicle wash area) to divert runoff to Pond 1A. The Stone Processing Plant also discharges waste water from the Sand Screw consisting of a mixture of silt and water to the clarifier, which passes through the clarifier to the clarifier pond and then to Pond 2A.

Water at the RAP Crushing Plant is used for dust control purposes. An above ground storage tank supplies the water used for the dust control and runoff flows to the quarry.

Runoff from the Asphalt Plant Wash/Soap Rack (which uses Liqui-slip) and runoff from dust control at the Asphalt Plant discharge to Pond 2B. No process water is discharged from the Asphalt Plant.

Discharges from the Concrete Plant include water from washing the interior of concrete trucks to remove residual concrete, water from rinsing the exterior of trucks to remove concrete or dust,

and excess water from concrete block forming. The waste water discharges to the Concrete Waste Water Pond and is recycled for reuse at the Concrete Plant. Any overflow from the Concrete Waste Water Pond flows to Pond 1A.

The Silt Material Storage Area, located adjacent to the recycle storage area, discharges runoff from piles of stored materials such as shingles awaiting recycling and concrete.

Water used in vehicle washing at the Vehicle Wash Rack combines with storm water flow from the entire site in the catch basin system which flows to Pond 1C. Tracking pad stones, the stones that fill the area on top of which vehicles are washed, are changed weekly. Water from the Pressure Washer also combines with storm water flow from the entire site in the catch basin system which flows to Pond 1C. The water from the Truck Bed Wash flows into Pond 2A.

Potable water for the QA/QC lab and front office building is obtained from the municipal water source. All sanitary wastewater is discharged to subsurface holding systems serving individual processing areas of the site. Three "closed tight tanks" are located onsite. The tanks collect sanitary wastewater discharge which is subsequently pumped offsite for treatment. One tank is located near the Concrete Plant, one is located east of the Construction and Paving Garage, and one is located at the Asphalt Plant. Additionally, a subsurface septic system is located on the west side of the front office building. There is no potential for sanitary wastewater to contaminate the process wastewater.

The facility's process water is treated via suspended solids settling in the on-site settling basins (Pond 1A, 1B, and Pond 2C). The current inputs to and discharges from the settling basins are as follows:

1. Pond 1A

Pond 1A is at a very low elevation compared to the other ponds. Pond 1A has a surface area of approximately 2.7 acres, an average depth of 40 feet, and has three silt curtains which extend from the surface of the pond to about 4 feet below the water surface. The silt curtains have been in place since Spring of 2006 and serve to decrease the velocity of the influent water, thereby increasing the solids settling time. No sediment has been removed from this pond.

Water from quarry dewatering is pumped to Pond 1A. No visible groundwater flow into the quarry occurs. Water is pumped from the quarry to Pond 1A on a timer, alternating every 12 hours from on to off. Pond 1A also receives process water from the Stone Processing Plant (the stone crushers and dust control rinse water), overflow from the Concrete Waste Water Pond, overflow from Pond 2C via gravity, and flow from Pond 1B via gravity.

Water from Pond 1A supplies the Stone Processing Plant (the stone crushers), the Sand Screw, and the dust control trucks. Discharge from Pond 1A to Pond 1B is possible via a gate valve. The large volume of Pond 1A and the significant withdrawals for reuse keep the pond from

overflowing. In the event of discharge, Pond 1A discharges to the last cell in Pond 1C for subsequent discharge through Outfall 001.

2. Pond 1B

Pond 1B has a surface area of approximately 0.1 acres with an average depth of 10 feet. Pond 1B receives runoff from various dust control measures and storm water runoff from the Concrete Plant. Pond 1A may discharge to Pond 1B via a pump, but not under normal operating conditions. Pond 1B supplies water to the Stone Processing Plant (the stone crushers) and the Vehicle Wash Rack.

Under normal operating conditions, Pond 1B flows to Pond 1A via gravity flow. Once Pond 1B reaches a certain elevation, or the valve to Pond 1A is closed, Pond 1B discharges to Pond 1C. The flow from the pond is redirected during periods of high flow to flow directly from Pond 1B to the last cell in Pond 1C for subsequent discharge through Outfall 001. The pond is dredged as needed and the excavated waste material is drained and then stored in the Silt Material Storage Area.

3. Pond 1C

Pond 1C has a surface area of approximately 0.1 acres and an average depth of 8 feet. A series of stone berms traverse the pond to provide increased detention time and filtering. A baffled pipe system connects the separate cells in Pond 1C. Additionally, silt curtains within the pond reduce the flow velocity, thus increasing solids settling. Runoff from the Pressure Washer, Vehicle Fueling area, and Vehicle Wash Rack join dust control runoff and storm water runoff from the surrounding site topography and flow into a series of catch basins that discharge into Pond 1C.

Overflow from Pond 2C into Pond 1C is possible via a gate valve, but does not occur under normal operating conditions. Pond 1C also receives storm water from the neighborhood to the south (Fairhaven) which flows in subsurface pipes beneath the facility. The following wastewater is added to this subsurface collection system from storm water catch basins located at the facility: on-site storm water runoff, Pressure Washer runoff, Vehicle Fueling area runoff, Vehicle Wash Rack runoff, and dust control runoff. The facility has constructed a weir system in order to try to reduce the storm water flow rate from Fairhaven. Storm water from the parking lot and area outside of the front office building first drain to an asphalt swale along South Main Street and then to a vault which discharges to the final cell in Pond 1C. Pond 1C also receives storm water from Pond 1B during a storm event. Pond 1C discharges through Outfall 001 into an un-named tributary to the Acushnet River.

4. Pond 2A

Pond 2A has a surface area of approximately 0.5 acres with an average depth of 8 feet. Sediment depth is visually monitored on a daily basis and excavated material is drained and then stored in the Silt Material Storage Area. Silt curtains within the pond enhance solids settling. The pond receives direct discharge from the clarifier pond, dewatering and runoff from the Silt Material Storage Area, storm water runoff from the Asphalt Plant, and runoff from the Asphalt Plant Wash/Soap Rack.

5. Pond 2B

Pond 2B has a surface area of approximately 0.1 acres and estimated average depth of 8 feet. The pond occasionally receives storm water runoff from the immediately surrounding area, including the Silt Material Storage Area. The pond also receives any overflow from the clarifier pond and from the Asphalt Plant Wash/Soap Rack. A silt curtain reduces the velocity of the water within the pond and aids in settling, prior to its discharge to Pond 2C.

6. Pond 2C

Pond 2C has a surface area of approximately 1.3 acres and estimated average depth of 8 feet. Water from this pond is recycled for reuse by discharge into Pond 1A after passing through primary and secondary settling in Ponds 2A and 2B, respectively. A pump house is located at the upstream side of the pond. Under normal operating conditions, water from Pond 2C does not flow to the catch basin system which drains to Pond 1C, although this is possible via an existing gate valve.

7. Outfall 001

All water from the site is discharged from Pond 1C, through Outfall 001, into an un-named tributary to the Acushnet River which flows to New Bedford Inner Harbor.

Flow to Outfall 001 consists of flow from Pond 1C. The possible gate valve overflow to Pond 1C from Pond 2C contributes water from Pond 2A and Pond 2B, which consists of discharge from the clarifier pond, dewatering and runoff from the Silt Material Storage Area, storm water runoff from the Asphalt Plant, runoff from the Asphalt Plant Wash/Soap Rack, runoff from the Truck Bed Wash, and storm water runoff from the immediate surrounding area. The storm water overflow to Pond 1C from Pond 1B consists of runoff from various dust control measures and storm water runoff from the Concrete Plant.

Under normal operating conditions, Pond 1B flows to Pond 1A via gravity flow. Once Pond 1B reaches a certain elevation, or the valve to Pond 1A is closed, Pond 1B discharges to the first cell in Pond 1C. Additionally, discharge from Pond 1A to Pond 1B is possible via a gate valve. The large volume of Pond 1A and the significant withdrawals for reuse typically keep the pond from

overflowing to the last cell in Pond 1C, except during and after large storm events or snow melt. Thus, during periods of high flow, Pond 1A and Pond 1B discharge directly to the last cell in Pond 1C for subsequent discharge though Outfall 001.

Discharge from Pond 1A consists of quarry dewatering, water from the Stone Processing Plant (the stone crushers and dust control rinse water), overflow from the Concrete Waste Water Pond, overflow from Pond 2C via gravity, and flow from Pond 1B via gravity. The overflow to Pond 1A from Pond 2C contributes water from Pond 2A and Pond 2B, which consists of discharge from the clarifier pond, dewatering and runoff from the Silt Material Storage Area, storm water runoff from the Asphalt Plant, runoff from the Asphalt Plant Wash/Soap Rack, runoff from the Truck Bed Wash, and storm water runoff from the immediate surrounding area. The overflow to Pond 1A from Pond 1B consists of runoff from various dust control measures and storm water runoff from the Concrete Plant.

D. Discharge Location

The discharge from Outfall 001 flows into a fresh water un-named tributary which flows to the tidally influenced Acushnet River. The facility discharge point is not influenced by the tidal cycle because of the facility's location and elevation. As the discharge from the facility is the only source of water to the un-named stream during dry weather conditions, the appropriate dilution factor is one. About three miles downstream, the Acushnet River flows to the New Bedford Inner Harbor.

The former occasional discharge from Outfall 002 flowed to a wetland and un-named brook, prior to reaching the Acushnet River (further downstream of the discharge from Outfall 001). All water is now directed to Outfall 001 and therefore discharges from Outfall 002 are prohibited in this permit.

E. Proposed Permit Effluent Limitations and Conditions

The sections are divided according to the effluent characteristic being regulated:

1. Outfall 001

a. Flow

The current permit monitoring requirements for both average monthly and maximum daily flow has been retained in the draft permit. Previous flow monitoring at the site reported a maximum average monthly flow rate of 11,200,000 gpd and a minimum average monthly flow rate of 804,000 gpd. The draft permit maintains the monitoring frequency requirement from the current permit of once per week. This shall be monitored by estimation and recorded for use in calculating the maximum daily and the average monthly value for the monthly DMR reports.

b. TSS

Heavy metals and polynuclear aromatic hydrocarbons are readily adsorbed onto particulate matter and the release of these compounds can be controlled, to an extent, by regulating the amount of suspended solids released into the environment. The current permit limit for TSS of 25 mg/L average monthly and 45 mg/L maximum daily has been changed in the draft permit. Based on the MSGP for SIC code 2951, BPJ limitations for TSS of 23.0 mg/L daily maximum and a 15.0 mg/L monthly average limit have been established in the draft permit. These limits are the most stringent of all applicable SIC code Technology Limits as discussed in Part IV.A.1 of this Fact Sheet.

TSS limits were exceeded during discharge under the current permit. The DMR data shows that the limits were exceeded three times for the daily maximum TSS limit of 45 mg/L, with a maximum exceedence of 104 mg/L and an average of the reported daily maximum values of 28 mg/L. The limits were exceeded five times for the average monthly limit of 25 mg/L, with a maximum exceedence of 65 mg/L and an average of the reported average monthly values of 20 mg/L. The sampling frequency for TSS will remain unchanged at twice per month.

c. pH

The pH limits are based on the Massachusetts Surface Water Quality Standards, 314 Code of Massachusetts Regulations ("CMR"), Inland Water, Class B at 4.05 (3)(b) 3. These standards require that the pH of the receiving water be in the range of 6.5 to 8.3 standard units and no more than 0.5 units outside the background range. There shall no change from background conditions that would impair any use assigned to this Class. The water quality criteria have been adopted as discharge limitations based on certification requirements under Section 401(a)(1) of the CWA, as described in 40 CFR 124.53 and 124.55.

Review of the DMR data reveals that the pH limit range was exceeded twice. Both exceedences were for violating the minimum endpoint, with pH levels of 5.0 and 6.3. The sampling frequency for pH will remain unchanged at twice per month.

d. Oil and Grease

The maximum daily limit for oil and grease is based on The Massachusetts Surface Water Quality Standards. These standards under 314 Code of Massachusetts Regulations ("CMR") 4.05(3)(b)(7), state:

> These waters shall be free from oil, grease and petrochemicals that produce a visible film in the surface of the water, to impart an oily taste to the water or an oily or other undesirable taste to the edible portions of aquatic life, coat the banks or bottom of the water course, or are deleterious or became toxic to aquatic life.

An effluent concentration of 15 mg/l is recognized as the concentration at which many oils produce a visible sheen and/or cause an undesirable taste in edible fish. An oil and grease limit of 15 mg/L has been retained in the draft permit to ensure compliance with state water quality standards and with anti-backsliding requirements found in 40 CFR §122.44(l). Additionally, based on the MSGP for SIC code 2951, an average monthly effluent limitation for oil and grease of 10 mg/L has been established in the draft permit.

Review of DMR data reveals that the oil and grease limit was exceeded twice, with concentrations of 27 mg/L and 58 mg/L. The sampling frequency for oil and grease will remain unchanged at twice per month.

e. Turbidity

Due to the nature of operation, which involves the treatment of fine solids washed from the rock, there is reasonable potential for turbidity in the discharge. In order to minimize this turbidity, a maximum daily limit of 25 NTU is included in the draft permit. This limit has been included for similar discharges in Massachusetts and has been retained in the draft permit in accordance with the anti-backsliding requirements found in 40 CFR §122.44(l).

Review of the DMR data reveals that the 25 NTU turbidity limit was exceeded 12 times, with a maximum turbidity of 76 NTU and the average of all turbidity measurements, 36 NTU, exceeding the limit. The sampling frequency for turbidity will remain unchanged at twice per month.

f. Sulfates, Total

There is a potential for sulfate to be present in the discharge as it is inherent in the Ready-mix product formulations. Since there are no technology based guidelines listed in Crushed Stone, Asphalt Paving and Mixture, or the Concrete Products Manufacturing Point Source Category, the daily maximum total sulfate monitoring requirement in the current permit was based on BPJ.

Review of the DMR data reveals that the maximum daily concentration for sulfates was 181 mg/L and the minimum daily concentration was 28 mg/L, with an average daily concentration of 54 mg/L. The maximum sulfate concentration of 181 mg/L is lower than even the secondary maximum contaminant level of 250 mg/L, which is based on the aesthetic effects for drinking water (http://www.epa.gov/safewater/contaminants/unregulated/sulfate.html). Based on review of the DMR data, EPA has determined that no reasonable potential exists for impact to the receiving water from the discharge of sulfates at the level recorded in the monitoring data. Therefore, the requirement to monitor for sulfate has thus been removed from the permit.

g. Nitrogen

Nitrogen compounds are used to blast the rock at the site. Nitrogen compounds are therefore mixed with storm water runoff and quarry dewatering. Since the Acushnet River down stream of

the confluence with the un-named tributary is not attaining water quality standards due to nutrients, the draft permit maintains the monitoring requirements of the current permit, with twice per month monitoring required for Ammonia as Nitrogen, Nitrate Nitrogen, Nitrite Nitrogen, and Total Kjeldahl Nitrogen (TKN).

Review of the DMR data reveals that the maximum daily concentration for Ammonia as Nitrogen was 430 mg/L, with an average of all daily measurements of 0.31 mg/L. The maximum daily concentration for Nitrate Nitrogen was 8.8 mg/L, with an average of all daily measurements of 4 mg/L. The maximum daily concentration for Nitrite Nitrogen was 5.2 mg/L, with an average of all daily measurements of 0 mg/L. The maximum daily concentration for TKN was 1.7 mg/L, with an average of all daily measurements of 1 mg/L.

Massachusetts Surface Water Quality Standards at 314 CMR 4.05(5)(c) state that "Unless naturally occurring, all surface waters shall be free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses and shall not exceed the site specific criteria developed in a TMDL or as otherwise established by the Department pursuant to 314 CMR 4.00." Therefore, upon completion of the TMDL for Nitrogen or other information demonstrating a need for limitations on nitrogen compounds, this permit may be modified to include appropriate limits based on the new information. The permittee is encouraged to implement all feasible source reduction alternatives in order to minimize nitrogen discharges.

h. Whole Effluent Toxicity

Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards include the following narrative statement and requires that EPA criteria established pursuant to Section 304(a)(1) of the CWA be used as guidance for interpretation of the following narrative criteria: All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.

National studies conducted by the EPA have demonstrated that point sources (rain water or ground water) contribute toxic constituents. These constituents include metals, chlorinated solvents, aromatic hydrocarbons and others. The Region's current policy is to include toxicity testing requirements in all permits, while Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts.

Based on the potential for toxicity resulting from storm water, in accordance with EPA national and regional policy, and in accordance with MassDEP policy, the draft permit includes acute and chronic toxicity limitations and monitoring requirements. (See Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants,50 Fed. Reg. 30,784 (July 24, 1985); EPA's Technical Support Document for Water Quality-Based Toxics Control" on September, 1991; and MassDEP's Implementation Policy for the Control of Toxic Pollutants in Surface Waters (February 23, 1990).

The draft permit requires that the permittee conduct two freshwater chronic (and modified acute) WET testing for the Outfall 001 effluent, one each during both the 2nd and 4th year of permit issuance. The chronic test may be used to calculate the acute LC_{50} at the 48 hour exposure interval. The permittee shall test the daphnid, Ceriodaphnia dubia, and fathead minnow, Pimephales promelas. Toxicity test samples shall be collected during the second week of July. The test results shall be submitted by the last day of the month following the completion of the test (August 31st). The tests must be performed in accordance with test procedures and protocols specified in Attachment 1 of the permit.

The toxicity test limits have been retained in the draft permit to ensure compliance with anti-backsliding requirements found in 40 CFR §122.44(l). Therefore, the LC_{50} limit remains in the permit as ≥ 100% and the C-NOEC limit remains in the permit as 100%. The monitoring frequency in the draft permit has been changed to twice during the effectiveness of the permit, based on the fact that the duration of the effectiveness of the permit is expected to be 5 years. The current permit required one toxicity test during the two year duration of the permit. Thus, requiring two toxicity tests in 5 years in the draft permit is comparable to requiring one test in 2 years, as in the current permit.

i. Naphthalene

Naphthalene is considered an important limiting pollutant parameter based upon the prevalence of this compound in petroleum products including gasoline (Potter, 1998) and its toxicity (i.e., naphthalene has been identified as a possible human carcinogen). Given the potential health concerns related to PAHs, the type of petroleum products stored at the facility, and the fact that priority organics were one of the "pollutants" identified by MassDEP contributing to the impairment of the Acushnet River, EPA will require the facility to monitor for naphthalene.

Monitoring twice per month for naphthalene shall be required in the draft permit as a PAH indicator compound due to storage of gasoline and fueling onsite. Monitoring will be required to achieve the Minimum Level (ML) of reporting for naphthalene of <0.2 µg/L.

j. Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX)

Monitoring for BTEX compounds is required in the draft permit based on fueling operations and fuel storage that occurs near the entrance to the site. Diesel fuel and gasoline are stored onsite in underground storage tanks adjacent to the Maintenance Garage.

Refined petroleum products contain numerous types of hydrocarbons. Individual components partition to environmental media on the basis of their physical/chemical properties (e.g., solubility, vapor pressure). Rather than attempt to establish effluent limits for every compound found in a petroleum release, limits are typically established for the compounds that would be most difficult to remove as well as demonstrate the greatest degree of toxicity. Generally, the

higher the solubility of a volatile organic compound (VOC) in water, the more difficult it is to remove.

VOCs such as benzene, toluene, ethylbenzene, and the three xylene compounds (BTEX) are normally found at relatively high concentrations in gasoline and light distillate products (e.g., diesel fuel). The traditional approach for limiting effluents contaminated with gasoline or other light distillates is to place limits on the individual BTEX compounds and/or the sum of total BTEX compounds. This approach stems from the petroleum-industry practice of determining the quality of fuels by measuring BTEX, which are highly variable among gasoline products. Another reason for limiting BTEX is that EPA and the State have promulgated water quality criteria for BTEX.

To better regulate the "potential" for gasoline and/or light distillates to come in contact with storm water via product spills during fueling operations, EPA included a monitoring requirement for each BTEX compound (benzene, toluene, ethylbenzene, and total xylenes) in the draft permit as well as a monitoring requirement for total BTEX. The monitoring frequency shall be twice per month.

2. Storm Water Pollution Prevention Plan

This facility engages in activities which could result in the discharge of pollutants to waters of the United States either directly or indirectly through storm water runoff. These operations include at least one of the following in an area potentially exposed to precipitation or storm water: material storage, in-facility transfer, material processing, material handling, or loading and unloading. To control the activities/operations, which could contribute pollutants to waters of the United States, potentially violating the State's Water Quality Standards, the Draft Permit requires the facility to develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) containing best management practices (BMPs) appropriate for this specific facility (See Sections 304(e) and 402(a)(1) of the CWA and 40 CFR §125.103(b)). Specifically, at this facility, the Silt Material Storage Area is an example of material storage operations, the Stone Processing Plant is an example of processing operations, and transporting of crushed stone throughout the site is an example of handling operations that shall continue to be included in the SWPPP.

The goal of the SWPPP is to reduce, or prevent, the discharge of pollutants through the storm water system. The SWPPP requirements in the Draft Permit are intended to provide a systematic approach by which the permittee shall at all times, properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit. The SWPPP shall be prepared in accordance with good engineering practices and identify potential sources of pollutants, which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. The SWPPP, upon implementation, becomes a supporting element to any numerical effluent limitations in the Draft Permit. Consequently, the SWPPP is as equally enforceable as the numerical limits.

This process involves the following four main steps:

(1) Forming a team of qualified facility personnel who will be responsible for developing and updating the SWPPP and assisting the plant manager in its implementation;
(2) Assessing the potential storm water pollution sources;
(3) Selecting and implementing appropriate management practices and controls for these potential pollution sources; and
(4) Reevaluating, periodically, the effectiveness of the SWPPP in preventing storm water contamination and in complying with the various terms and conditions of the Draft Permit.

3. Additional Requirements and Conditions

These effluent monitoring requirements have been established to yield data representative of the discharge under the authority of Section 308(a) of the CWA in accordance with 40 CFR §122.41(j), §122.44(i) and §122.48.

The remaining conditions of the draft permit are based on the NPDES regulations, Part 122 through 125 and consist primarily of management requirements common to all permits.

V. ENDANGERED SPECIES ACT

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) typically administer Section 7 consultations for bird, terrestrial, and freshwater aquatic species.

EPA has reviewed the federal endangered or threatened species of fish, wildlife, or plants to see if any such listed species might potentially be impacted by the issuance of this NPDES permit. The review has focused primarily on freshwater aquatic species since the discharge is into an un-named tributary to the Acushnet River. EPA believes that effluent limitations and other permit conditions which are in place in the draft permit should preclude any adverse effects should there be any incidental contact with listed species either in the un-named tributary of in the Acushnet River. During the public comment period, EPA has provided a copy of the draft permit and fact sheet to USFWS.

VI. ESSENTIAL FISH HABITAT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. § 1801 et seq. (1998)), EPA is required to consult with NMFS if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat" (EFH). The Amendments define EFH as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity," (16 U.S.C. § 1802(10)). "Adverse impact" means any impact which reduces the quality and/or quantity of EFH (50 C.F.R. 600.910 (a)). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. Id.

Essential fish habitat is only designated for species for which federal fisheries management plans exist (16 U.S.C. § 1855(b)(1)(A)). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

A review of the relevant essential fish habitat information provided by NMFS indicates that essential fish habitat has been designated for 20 managed species within the NMFS boundaries encompassing the outfall location. The area supports 12 of the 20 listed species during three or more of the life stage categories (i.e. eggs, larvae, juveniles, adults, and spawning adults). A copy of the managed species within the EFH is included in Attachment D to this Fact Sheet. EPA has concluded that adverse effects to EFH from this permitted discharge have been minimized. This conclusion is based on the amount and frequency of the discharge, as well as effluent limitations and other permit requirements that are identified in this Fact Sheet. These factors are designated to be protective of all aquatic species, including those with EFH designations.

EPA has determined that no EFH consultation with NMFS is required at this time. The effluent limitations and other permit requirements that are identified in this fact sheet are designated to be protective of all aquatic species. If adverse effects are detected as a result of this permit action, NMFS will be notified and an EFH consultation will promptly be initiated. During the public comment period, EPA has provided a copy of the Draft Permit and Fact Sheet to NMFS.

VII. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless the MassDEP certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Surface Water Quality Standards or unless state certification is waived. The staff of the MassDEP has reviewed the draft permit and advised EPA that the limitations are adequate to protect water quality. EPA has requested permit certification by the State pursuant to 40 CFR §124.53 and expects that the draft permit will be certified.

VIII. ADMINISTRATIVE RECORD, PUBLIC COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISION

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Office of Ecosystem Protection Attn: Nicole Kowalski, 1 Congress Street, Suite 1100 (CIP), Boston, Massachusetts 02114-2023 or via email to kowalski.nicole@epa.gov. The comments should reference the name and permit number of the facility for which they are being provided.

Any person, prior to such date, may submit a request in writing to EPA and the States Agency for a public hearing to consider the draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston Office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within thirty (30) days following the notice of final permit decision, permits may be appealed to the Environmental Appeals Board in the manner described at 40 CFR § 124.19.

IX. EPA & MassDEP CONTACTS

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from the EPA and MassDEP contacts below:

Nicole Kowalski, EPA New England – Region 1
1 Congress Street, Suit 1100 (CIP)
Boston, Massachusetts 02114-2023
Telephone: (617) 918-1746 FAX: (617) 918-0746
email: kowalski.nicole@epa.gov

Paul Hogan, Massachusetts Department of Environmental Protection
Division of Watershed Management, Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608
Telephone: (508) 767-2796 FAX: (508) 791-4131
email: paul.hogan@state.ma.us

_____
Date

Stephen S. Perkins, Director
Office of Ecosystem Protection
U.S. Environmental Protection Agency

X. ATTACHMENTS

A. Site Map

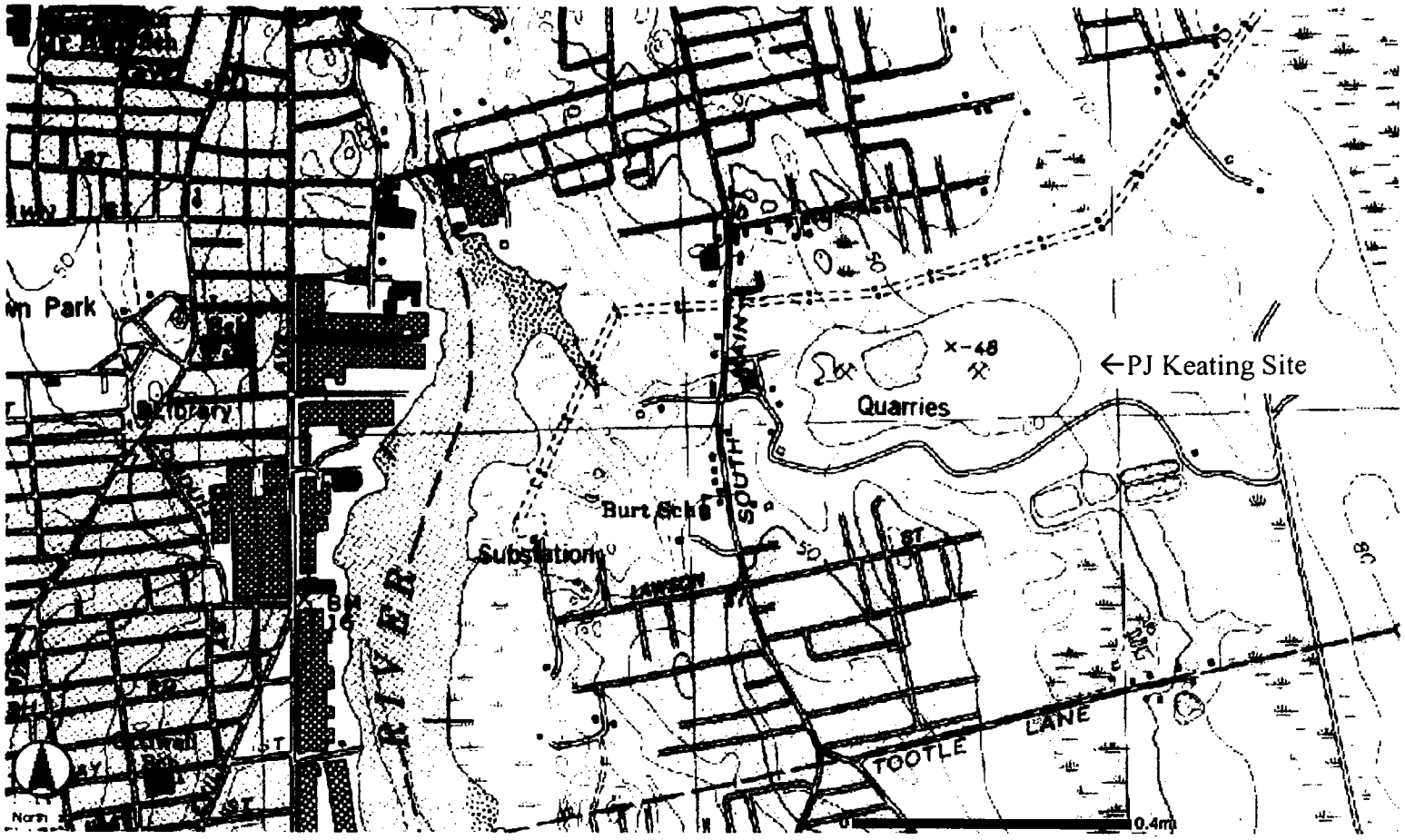
B. DMR Data

C. Site Layout

D. EFH Designation

ATTACHMENT A

SITE MAP


Park
Library
Quarries
←PJ Keating Site
Burt St
Substation
SOUTH
MAIN
RIVER
TOOTLE
LANE
0.4mi

ATTACHMENT B

DMR DATA

PJ Keating
DMR DATA
OUTFALL 001

DATE	Flow gpd	Turbidity NTU	max TSS mg/L	min TSS mg/L	O&G mg/L	pH min SU	pH max SU	Ammonia Nitrogen mg/L	Nitrite Nitrogen mg/L	Nitrate Nitrogen mg/L	TKN mg/L	Sulfates mg/L
31-Mar-06	1802000	12.2	8	<6.0	<5.0	6.9	7.6	<0.13	<0.01	2.8	0.41	39.3
28-Feb-06												
31-Jan-06	2615000	22.3	12	9	<5.00	6.3	6.9	0.39	<0.010	2.1	0.506	27.7
31-Dec-05	2190000	31.8	15	12.5	<5	6.8	7.2	0.23	0.077	4.2	1.01	33.5
30-Nov-05[1]		38.4	58	33	7.96	6.9	7.2	430	5.2	4.81	1.16	40
31-Oct-05	1900000	37.7	33	21	<5	6.5	6.9	0.093	0.088	4.42	1.09	29.8
30-Sep-05	879750	11.2	7	6.5	<5	7.1	7.7	0.603	0.16	6.58	0.722	53.5
31-Aug-05	401000	9.38	6	4.9	<5	6.7	7.8	0.253	0.138	8.84	0.744	65.5
31-Jul-05	114000	10.6	37	21	27	7.3	7.7	0	0.0343	4.32	0	74
30-Jun-05	1033000	31	22	21	0	7.2	7.5	0.57	0.22	5.83	1.7	45.2
30-May-05	2200000	49	7.6	7	58	7	7.6	0.49	0.14	3.46		
30-Apr-05	1410000	76	104	64.5	0	7.1	7.4	0.8	0.21	2.41	0.71	35.3
31-Mar-05	1960000	56	33	16.5	0	6.8	7.1	0.174	0	2.1	0	39
28-Feb-05	1328682	57.6	14		0		7.1	0.14	0	2.06	0	181
31-Jan-05	1955571	11	0	0	0	5	7.6	0	0	2.18	0.78	33
31-Dec-04	2208357	76	55	31.5	6.81	7	7.1	0.31	0	4.96	0.88	45.8
30-Nov-04	838123	30.55	35	26	0	6.9	7.05	0.23	0	2.34	1.01	
31-Oct-04	580499				0		7.1	0.29			1.04	46.4
30-Sep-04	273000	29.7	18				7.5	0.353	0.054	6.5	0.833	67.5
31-Aug-04	804000	65.5	40	28.5	0	7.7	8.1	0.43	0.12	8.69	0.998	68
AVERAGE	1360721	36	28	20	8	6.8	7.4	0.31	0	4	1	54
MAXIMUM	2615000	76	104	64.5	58	7.7	8.1	430	5.2	8.84	1.7	181
MINIMUM	114000	9.38	0	0	0	5.0	6.9	0	0	2.06	0	27.7
Previous limits	Report	25	45maxday	25avemonth	15	6.5	8.3	Report	Report	Report	Report	Report
# exceedences	N/A	12	3	5	2	2	0	N/A	N/A	N/A	N/A	N/A

Notes:

1. Ammonia Nitrogen data on these dates appears anamolous and was not included in statistical calculations.

ATTACHMENT C

SITE LAYOUT

SITE LAYOUT

STORMWATER POLLUTION PREVENTION PLAN
P.J. KEATING COMPANY
72 SOUTH MAIN STREET
ACUSHNET, MASSACHUSETTS 02743

SCALE:	DATE:	PROJECT NUMBER:
not to scale	OCTOBER 2006	05427-006

ENSR | AECOM

ENSR CORPORATION
WESTFORD, MASSACHUSETTS 01886
PHONE: (978) 589-3000
FAX: (978) 589-3100
WEB: HTTP://WWW.ENSR.AECOM.COM

DESIGNED BY:	
DRAWN BY:	EJM
CHECKED BY:	CH
APPROVED BY:	MW

REVISIONS

NO.	DESCRIPTION	DATE	BY
1	PIPING REVISION	04/12/07	EJM

DRAWING NUMBER

SHEET NUMBER

ATTACHMENT D

EFH DESIGNATION

10' x 10' Square Coordinates:

Boundary	North	East	South	West
Coordinate	41° 40.0' N	70° 50.0' W	41° 30.0' N	71° 00.0' W

Square Description (i.e. habitat, landmarks, coastline markers): Waters within Buzzards Bay within the Atlantic Ocean within the square affecting the following: south of Dartmouth, MA., New Bedford, MA., and Fairhaven, MA., from Sconticut Neck and the western part of West Island to Slocum Neck and Barney's Joy Point in Dartmouth, MA. Also affected are: Wilkes Ledge Mishaum Pt., Round Hill Pt., Smith Neck, Dumpling Rocks, Negro Ledge, Great Ledge, Phinney Rock, Pawn Rock, White Rock, Hussey Rock, Apponagansett Bay, Ricketson Pt. in South Dartmouth, MA., Apponagansett, MA., Clarks Cove, Clarks Pt., in Fairhaven, MA., Butler Flats, Mosher Ledge, Wilbur Pt. on Sconticut Neck, Bents Ledge, Middle Ledge, and West Ledge. These waters are also within western Nasketucket Bay, east of Sconticut Neck and north of West I., and within New Bedford Harbor.

Species	Eggs	Larvae	Juveniles	Adults
Atlantic cod *(Gadus morhua)*	X	X	X	X
haddock *(Melanogrammus aeglefinus)*	X	X		
pollock *(Pollachius virens)*				
whiting *(Merluccius bilinearis)*				
offshore hake *(Merluccius albidus)*				
red hake *(Urophycis chuss)*		X	X	X
white hake *(Urophycis tenuis)*				
redfish *(Sebastes fasciatus)*	n/a			
witch flounder *(Glyptocephalus cynoglossus)*				
winter flounder *(Pleuronectes americanus)*	X	X	X	X
yellowtail flounder *(Pleuronectes ferruginea)*				
windowpane flounder *(Scopthalmus aquosus)*	X	X	X	X
American plaice *(Hippoglossoides platessoides)*			X	X
ocean pout *(Macrozoarces americanus)*				
Atlantic halibut *(Hippoglossus hippoglossus)*				
Atlantic sea scallop *(Placopecten magellanicus)*				
Atlantic sea herring *(Clupea harengus)*			X	X
monkfish *(Lophius americanus)*				
bluefish *(Pomatomus saltatrix)*			X	X
long finned squid *(Loligo pealei)*	n/a	n/a	X	X

short finned squid *(Illex illecebrosus)*	n/a	n/a		
Atlantic butterfish *(Peprilus triacanthus)*	X	X	X	X
Atlantic mackerel *(Scomber scombrus)*	X	X	X	X
summer flounder *(Paralicthys dentatus)*	X	X	X	X
scup *(Stenotomus chrysops)*	X	X	X	X
black sea bass *(Centropristus striata)*	n/a	X	X	X
surf clam *(Spisula solidissima)*	n/a	n/a	X	X
ocean quahog *(Artica islandica)*	n/a	n/a		
spiny dogfish *(Squalus acanthias)*	n/a	n/a		
tilefish *(Lopholatilus chamaeleonticeps)*				
king mackerel *(Scomberomorus cavalla)*	X	X	X	X
Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X
cobia *(Rachycentron canadum)*	X	X	X	X
sandbar shark *(Charcharinus plumbeus)*				X
bluefin tuna *(Thunnus thynnus)*			X	