

AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Saint-Gobain Abrasives, Inc. and Saint-Gobain Ceramics & Plastics, Inc.

is authorized to discharge from a facility located at

**1 New Bond Street
P.O. Box 15008
Worcester, MA 01615-0008**

to the receiving water named **Weasel Brook**, a class B water, in accordance with effluent limitations, monitoring requirements, and other conditions set forth herein.

This permit shall become effective on the date of signature if no comments are received during public notice. If comments are received during public notice, this permit will become effective on the first day of the calendar month following sixty (60) days after the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on December 18, 2003.

This permit consists of 12 pages in Part I including effluent limitations, monitoring requirements, **Attachment A** (Freshwater Acute Toxicity Test Procedure and Protocol), **Attachment B** (storm water outfall locations) and 25 pages in Part II, Standard Conditions.

Signed this day of , 2009

Ken Moraff, Acting Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge non-contact cooling water from air compressor units and kiln cooling units, cooling tower blowdown, steam condensate, and storm water from outfall serial number 001 to Weasel Brook. Such discharges shall be limited and monitored by the permittee as specified below and apply during dry weather ¹ conditions:				
<u>EFFLUENT CHARACTERISTIC</u>		<u>EFFLUENT LIMITS</u>		<u>MONITORING REQUIREMENTS</u>
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE TYPE</u> ¹
Flow	60,480 GPD	Report GPD	Continuous	Recorder ²
pH Range ³	6.5 – 8.3 standard units		1/Month	Grab
Temperature	-----	83 °F	2/Month	Grab
Oil & Grease	-----	15 mg/l	1/Quarter	Grab
Dissolved Oxygen	Not less than 5.0 mg/l		1/Month	Grab
Copper, Total	20 ug/l	28 ug/l	1/Quarter	24-Hour Composite ⁴
Aluminum, Total	Report ug/l	Report ug/l	1/Quarter	24-Hour Composite ⁴
Lead, Total	Report ug/l	Report ug/l	1/Quarter	24-Hour Composite ⁴
Zinc, Total	Report ug/l	Report ug/l	1/Quarter	24-Hour Composite ⁴
Whole Effluent Toxicity ^{5,6,7}	LC ₅₀ ≥ 100%		2/Year	24-Hour Composite ⁴
126 Priority Pollutants ⁸	Report ug/l	Report ug/l	1/Year	24-Hour Composite ⁴

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The effluent pH shall be in the range of 6.5 to 8.3 standard units and not more than 0.5 units outside of the natural background range.
- c. The discharge shall not cause objectionable discoloration of the receiving waters.
- d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- e. The results of sampling for any parameter above its required frequency must also be reported.

Footnotes are listed on Pages 4 and 5

PART I.A.

2. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge non-contact cooling water from air conditioner cooling units, bearing cooling, compressor cooling, and mill cooling, treated filtered storm water runoff from the coal pocket area, and untreated storm water from outfall serial number **003** to Weasel Brook. Such discharges shall be limited and monitored by the permittee as specified below and apply during **dry weather**¹ conditions:

<u>EFFLUENT CHARACTERISTIC</u>	<u>EFFLUENT LIMITS</u>		<u>MONITORING REQUIREMENTS</u>	
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE TYPE</u> ¹
Flow	77,040 GPD	Report GPD	Continuous	Recorder ²
pH Range ³	6.5 – 8.3 standard units		1/Month	Grab
Temperature	-----	83 °F	2/Month	Grab
Oil & Grease	-----	15 mg/l	1/Quarter	Grab
Dissolved Oxygen	Not less than 5.0 mg/l		1/Month	Grab
Copper, Total	20 ug/l	28 ug/l	1/Quarter	24-Hour Composite ⁴
Aluminum, Total	96 ug/l	Report ug/l	1/Quarter	24-Hour Composite ⁴
Lead, Total	Report ug/l	Report ug/l	1/Quarter	24-Hour Composite ⁴
Zinc, Total	Report ug/l	Report ug/l	1/Quarter	24-Hour Composite ⁴
Whole Effluent Toxicity ^{5,6,7}	LC ₅₀ ≥ 100%		2/Year	24-Hour Composite ⁴
126 Priority Pollutants ⁸	Report ug/l	Report ug/l	1/Year	Grab

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The effluent pH shall be in the range of 6.5 to 8.3 standard units and not more than 0.5 units outside of the natural background range.
- c. The discharge shall not cause objectionable discoloration of the receiving waters.
- d. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- e. The results of sampling for any parameter above its required frequency must also be reported.

Footnotes are listed on Pages 4 and 5

Part I.A (continued)

Footnotes:

1. Sampling shall be conducted before mixing with any other stream at a location prior to discharge to Outfalls 001 and 003. Dry weather condition sampling shall be conducted at any time when there is no precipitation and that is at least 48 hours after a storm event that was greater than 0.1 inches in magnitude. Any change in sampling location must be reviewed and approved in writing by EPA and MassDEP. All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136.
2. For flow, report maximum and minimum daily rates and total flow for each operating date. Attach this data to each DMR form.
3. Requirement for State Certification.
4. A 24-hour composite sample will consist of at least twenty four (24) grab samples taken during a consecutive 24 hour period.
5. The permittee shall conduct acute whole effluent toxicity (WET) tests two times per year for Outfalls 001 and 003. The permittee shall test the daphnid, Ceriodaphnia dubia. Toxicity test samples shall be collected during the calendar quarters ending March 31 and September 30. These samples shall be taken during dry weather conditions and during periods that all sources to Outfall 001 and 003 are discharging, to the extent practicable. The test results shall be submitted no later than the last day of the month following the completed quarter, or April 1st and October 31st. The WET tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit. The metals sampling from the WET testing may be used to satisfy the metals monitoring requirement for quarters that the WET testing is conducted.
6. The LC₅₀ is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent shall cause no more than a 50% mortality rate.

7. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A Section IV., DILUTION WATER** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” has been sent to all permittees with their annual set of DMRs and Revised Updated Instructions for Completing EPA’s Pre-Printed NPDES Discharge Monitoring Report (DMR) Form 3320-1 and is not intended as a direct attachment to this permit. Any modification or revocation to this “Guidance Document” will be transmitted to the permittees as part of the annual mailing. However, at any time, the permittee may choose to contact EPA directly using the approach outlined in **Attachment A**.
8. A priority pollutant scan shall be conducted during the last calendar quarter of the first year of this permit and the result of this scan shall be submitted with the January DMR. Sampling shall be conducted during dry weather conditions and when all contributing flows are being discharged to this outfall, to the extent practicable. This submittal shall include all test results. The list of parameters to be tested may be found in EPA’s Form 2C application, although there are some portions of the pollutant list that are not required to be analyzed. The permittee shall analyze for parameters 1M through 13M, and parameters 1V through 31V of the Form 2C application.

PART I.A.

3. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated filtered storm water runoff from the coal pocket area to outfall serial number 003B, an internal outfall . Such discharges shall be limited and monitored by the permittee as specified below:				
<u>EFFLUENT CHARACTERISTIC</u>		<u>EFFLUENT LIMITS</u>		<u>MONITORING REQUIREMENTS</u>
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE TYPE</u> ¹
Flow	Report GPD	Report GPD	Recorder	Estimate
Total Suspended Solids	Report mg/l	50 mg/l	1/Month	Grab

- a. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- b. The discharge shall not cause objectionable discoloration of the receiving waters.
- c. The effluent shall contain neither a visible oil sheen, foam, nor floating solids at any time.
- d. The results of sampling for any parameter above its required frequency must also be reported.
- e. All water from backwashing of the filter media or cleaning of the filtering unit shall be discharged back to coal pocket area and not directly to outfall 003.

Footnotes:

- 1. Sampling for this outfall shall be taken off the outlet of the filtering unit located inside the powerhouse building and prior to mixing with any other stream and before being discharged to Outfall 003.

PART I.A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

4. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge storm water from the locations listed below and according to the schedule listed. The outfall numbers were designated in the 2003 permit. Such discharges shall be monitored by the permittee as specified below and apply during wet weather ¹ conditions:				
<u>EFFLUENT CHARACTERISTIC</u>		<u>EFFLUENT LIMITS</u>		<u>MONITORING REQUIREMENTS</u>
<u>PARAMETER</u>	<u>AVERAGE MONTHLY</u>	<u>MAXIMUM DAILY</u>	<u>MEASUREMENT FREQUENCY</u>	<u>SAMPLE TYPE</u> ¹
Flow	Report GPD	-----	2/Year	Estimate
pH Range	Report standard units		2/Year	Grab
Oil & Grease	Report ug/l	-----	2/Year	Grab
Total Suspended Solids	Report ug/l	-----	2/Year	Grab
Aluminum, Total	Report ug/l	-----	2/Year	Grab
Chromium, Total	Report ug/l	-----	2/Year	Grab
Copper, Total	Report ug/l	-----	2/Year	Grab
Lead, Total	Report ug/l	-----	2/Year	Grab
Zinc, Total	Report ug/l	-----	2/Year	Grab

- Year 1: Outfall SW6 - Catch Basin Between Buildings 115 and 120 Outfall SW7 - Catch Basin Behind Buildings 108 and 112
- Year 2: Outfall SW1 – Manhole on C Street Near Building 503 Outfall SW3 - Catch Basin Behind Buildings 418, 419, and 420
- Year 3: Outfall 001 – Outfall to Weasel Brook Outfall 003 - Outfall to Weasel Brook
- Year 4: Outfall SW4 – Pipe Discharge to AB Pond Outfall SW5 Catch Basin South of Building 115

1. Wet weather conditions is defined as effluent resulting from a storm event that is greater than 0.10 inches in magnitude and that occurs at least 48 hours from the previously measurable (greater than 0.10 inch rainfall) storm event. Wet weather sampling shall be conducted within the first 60 minutes after an outfall discharges, if feasible, or as soon as possible after 60 minutes has elapsed. For Outfalls 001 and 003, sampling shall be conducted prior to mixing with any process water, or if not feasible, during periods of time when process water flow is as low as possible.

Part I.A. (continued)

5. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

6. Numerical Effluent Limitations for Toxicants

EPA or MassDEP may use the results of the chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

7. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
 - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) One hundred micrograms per liter (100 ug/l);
 - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f).
 - b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (1) Five hundred micrograms per liter (500 ug/l);
 - (2) One milligram per liter (1 mg/l) for antimony;

- (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
 - (4) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f).
- c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.
8. This permit may be modified, or revoked and reissued, on the basis of new information in accordance with 40 CFR §122.62.

B. UNAUTHORIZED DISCHARGES

The permittee is authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfalls listed in Parts I A.1 through I.A.4 of this permit. Discharges of wastewater from any other point sources are not authorized by this permit and shall be reported in accordance with Section D.1.e.(1) of the General Requirements (Part II) of this permit (Twenty-four hour reporting).

C. STORM WATER POLLUTION PREVENTION PLAN

1. The permittee shall continue to implement and maintain a Storm Water Pollution Prevention Plan (SWPPP) that was established in the 2003 permit and which was designed to reduce, or prevent, the discharge of pollutants in storm water to the receiving waters identified in this permit. The SWPPP shall be a written document and be consistent with the terms of this permit. The permittee shall comply with the terms of its SWPPP.
2. The SWPPP shall be revised, if necessary, and signed by the Permittee within 90 days after the effective date of this permit. The Permittee shall certify that the SWPPP meets the requirements of the permit. The certification shall be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of this certification shall be sent to EPA and MassDEP within one hundred and twenty (120) days of the effective date of the Permit.
3. The SWPPP shall be consistent with the general provisions for SWPPPs included in the most current version of the Multi-Sector General Permit (MSGP) for Storm Water Discharges Associated with Industrial Activities (The current version of the MSGP was issued on September 29, 2008). The SWPPP shall include best management practices (BMPs) for on-site activities that will minimize the discharge of pollutants in storm water to waters of the United States. In particular, the permittee shall investigate the reason for elevated metals levels in its storm water outfalls and implement measures to reduce these

levels. The permittee shall use the benchmark values provided in the MSGP in conjunction with the ongoing storm water sampling results to determine whether it is effectively minimizing the discharge of metals in its storm water.

4. The SWPPP shall be revised as necessary to be in accordance with good engineering practices, to identify potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges, and to describe and ensure implementation of practices which will be used to reduce the pollutants and assure compliance with this permit. Specifically, the SWPPP shall contain the elements listed below:
 - a. A pollution prevention team responsible for developing, implementing, maintaining, revising and ensuring compliance with the SWPPP.
 - b. A site description which includes a list of activities at the facility; a site map showing drainage areas and direction of storm water flows; receiving waters and outfall location; the location of industrial activities, storage, disposal, material handling; and all structural controls.
 - c. A summary of all pollutant sources which includes all areas where spills have occurred or could occur. For each source, identify the expected drainage and the corresponding pollutant.
 - d. A summary of any existing storm water discharge sampling data.
 - e. A description of all storm water controls, both structural and non-structural. BMPs must include good housekeeping measures, preventative maintenance programs, spill prevention and response procedures, runoff management practices, and proper handling of salt or materials containing salt that are used for deicing activities. The SWPPP shall describe how the BMPs are appropriate for the facility. All BMPs shall be properly maintained and be in effective operating condition.
5. The permittee shall assess the adequacy of the filtering system that is used for the storm water that collects in the coal pocket area of the facility. The permittee shall ensure that the coal pocket area and the filtering system employed at the site is designed to adequately treat storm water runoff resulting from a 10 year, 24 hour rainfall event. A 10 year, 24 hour rainfall event is defined as a rainfall event with a probable recurrence interval of once in ten years as defined by the National Weather Service in Technical Paper No. 40. *Rainfall Frequency Atlas of the United States*, May 1961 or equivalent regional rainfall probability information developed therefrom. If necessary, the permittee shall provide additional filtering capacity to assure that storm water resulting from a 10 year, 24 hour rainfall event that is collected in the coal pocket, is filtered before being discharged to Outfall 003 and meets the permit limit of 50 mg/l for Total Suspended Solids at Outfall 003B.
6. All areas identified in the SWPPP shall be inspected, at least on an annual basis. A tracking or follow-up procedure must be used to ensure that all appropriate actions have been taken in response to such inspection. Records documenting significant observations made and actions taken during and after inspections must be retained as part of the SWPPP for a minimum of five (5) years.

7. The permittee shall amend and update the SWPPP within 14 days for any changes at the facility affecting the SWPPP. Changes which may affect the SWPPP include, but are not limited to, the following activities: a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States; a release of a reportable quantity of pollutants as described in 40 CFR §302; or a determination by the permittee or EPA that the SWPPP appears to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Any amended or new versions of the SWPPP shall be re-certified by the Permittee. Such re-certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22.
8. The permittee shall certify at least annually that the previous year's inspections and maintenance activities were conducted, results were recorded, records were maintained, and that the facility is in compliance with the SWPPP. If the facility is not in compliance with any aspect of the SWPPP, the annual certification shall state the non-compliance and the remedies which are being undertaken. Such annual certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22. The permittee shall keep a copy of the current SWPPP and all SWPPP certifications (initial certification, re-certifications, and annual certifications) signed during the effective period of this permit at the facility and shall make them available for inspection by EPA and MassDEP.

D. MONITORING AND REPORTING

1. Reporting

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month.

Signed and dated originals of these, and all other reports required herein, with the exception of WET tests results for the Wilmington MassDEP office, shall be submitted to the Director and the State at the following addresses:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

The State Agency is:

Massachusetts Department of Environmental Protection
Bureau of Resource Protection
Central Regional Office
627 Main Street
Worcester, MA 01608

Signed and dated Discharge Monitoring Report Forms and WET reports required by this permit shall also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, Massachusetts 01608

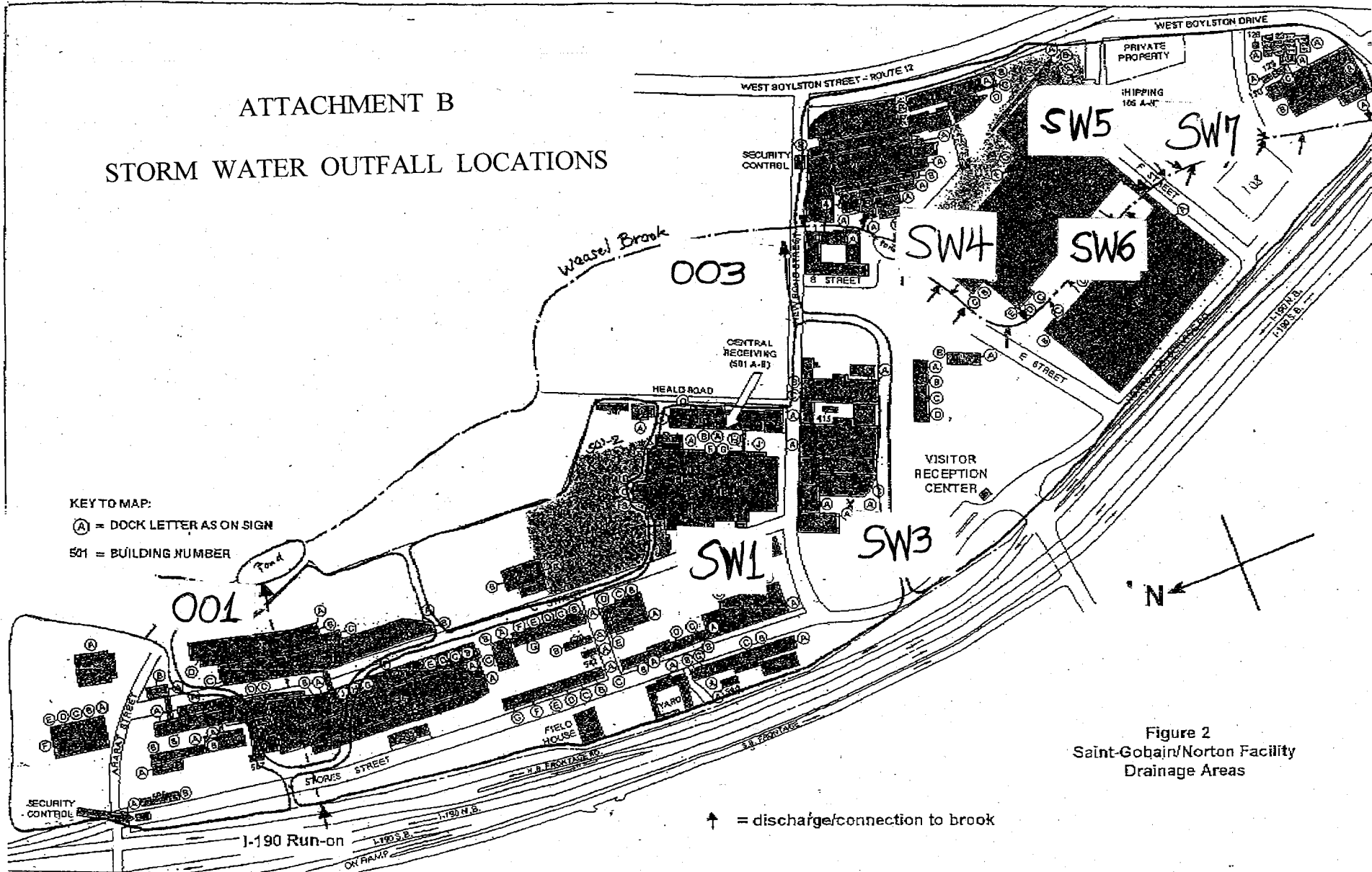
E. STATE PERMIT CONDITIONS

This discharge permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chapter 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared, invalid, illegal or otherwise issued in violation of State law such permit shall remain in full force and effect under Federal law as an NPDES permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

ATTACHMENT B

STORM WATER OUTFALL LOCATIONS



KEY TO MAP:
A = DOCK LETTER AS ON SIGN
S01 = BUILDING NUMBER



↑ = discharge/connection to brook

Figure 2
Saint-Gobain/Norton Facility
Drainage Areas