

APPENDIX A

**GENERATING SITES, STORM WATER
REGULATORY STATUS, AND DISCHARGE POTENTIAL**

The information presented in this Appendix refers to the Standard Industrial Classification (SIC) system. This system has historically been used to classify industries and other businesses for census, tax, permit and other purposes. It should be noted that, more recently, federal agencies, including EPA, have adopted the North American Industry Classification System (NAICS, pronounced “Nakes”) as the industry classification system. For more information on the NAICS and how it correlates with SIC, visit <http://www.census.gov/epcd/www/naics.html>.

Overview

Identification of land uses that may impact water quality in local streams can be a difficult and time-consuming task. Research suggests that program managers might wish to preferentially investigate certain land uses when looking for the sources of possible pollutant loads. These land uses are all considered to be generating sites where routine operations can produce higher levels of storm water pollutants, and/or present a higher potential risk for spills, leaks or illicit discharges. There are two basic types of generating sites: *regulated hotspots* that are known sources of pollution and are subject to federal or state regulations, and *unregulated hotspots* which are operations suspected to be potential pollution sources, but which are not currently regulated.

Identifying Potential Generating Sites

The number and type of generating sites present in a subwatershed may vary greatly, and currently there is no public database available to identify all the regulated sites in a subwatershed. Instead, multiple databases need to be queried to identify generating sites that may be targets for source control or illicit discharge investigations. A three-phase approach is useful for gathering as

much information as possible on generating sites within a subwatershed that may qualify for more intensive scrutiny.

Phase 1. Consult publicly available databases

The federal government has a number of databases that may help identify locations for investigation. The Environmental Protection Agency (EPA) operates two such databases. The first is the Enforcement and Compliance History Online (ECHO) database. With this system, facility compliance history can be queried and facilities can be found based on geographic location (county level), or zip code (<http://www.epa.gov/echo/index.html>). The other database is Envirofacts (<http://www.epa.gov/enviro/>). This website provides access to multiple EPA databases to provide information about environmental activities (including Resource Conservation and Recovery Act [RCRA] and Toxic Release Inventory [TRI] facilities) that may affect air, water, and land anywhere in the United States. The website also provides access to Enviromapper, which will display the location of regulated facilities. There are also commercial databases that can provide information on regulated industries based on manufacturing or industrial SIC codes. These databases are not free, and have limitations since they are designed primarily for marketing.

Phase 2. Consult State and Local Agencies

Most states have NPDES permit programs, and track permit application to some extent. You can consult state or local regulatory agencies to obtain lists of industries that have filed NOIs (Notices of Intent) to obtain storm water permits, as well as those that have filed under TRI requirements. Other agencies that may have information on local generating sites include fire departments (for

hazardous waste), and sanitation or wastewater treatment agencies.

Phase 3. Permit Review

The final source for information is through a review of local permits. Most permit databases have SIC codes as one of the fields. These codes can be matched against the SIC codes in Table A.1 that list common generating sites under major land use headings. If a local permit database does not exist, it may be worthwhile to simply get the local phone book and do a quick look for businesses that are similar to those listed in Table A.1.

Compiling the findings from the various databases will provide an initial list of potential generating sites for future investigation. However, research has found that most of these databases can miss many of the industries that are subject to regulation (Duke *et al.*, 1999; Duke and Shaver, 1999), and further identification may be necessary. Field investigations using techniques such as the Unified Subwatershed and Site Reconnaissance (Wright *et al.*, 2004) can assist in identifying many of these generating sites that should likely be regulated by communities.

Reference Tables

This appendix is designed to assist in identifying the land uses and associated generating sites in a subwatershed where routine activities may result in pollution being discharged to the storm drain system. There are two tables provided, each of which is described below.

Table A.1 presents a listing of potential generating sites under common land uses where illicit discharges can occur based on

regular activities or practices. Column one describes the general industry type. Column two lists their associated SIC codes, if known. Column three identifies whether an industry type is subject to NPDES industrial storm water permit requirements (designated by “X”). Facilities where only certain activities or facilities at the site are subject to regulation are noted (this pertains mostly to the transport-related industries). In addition, for many “light” industrial facilities, storm water permits are required only if material handling equipment or activities, raw materials, immediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. Industries where this applies are noted with an “***”. If only specific SIC codes within a major group qualify for this exception they are noted in parentheses. Municipal facilities that are subject to NPDES MS4 permit requirements are designated by “MS4.” Column four identifies those businesses that can be considered an unregulated storm water hotspot (also designated by “X”). Column five looks at the illicit discharge potential of each of the businesses listed. The potential for a business to produce an illicit discharge is rated as either high (H) medium (M) or Low (L) based on the likelihood that it has a direct connection to the storm drain system (direct) or that it can produce a transitory discharge (indirect).

Table A.2 is a list of the SIC Codes that are regulated by the Industrial Multi Sector General Permit (MSGP). The list includes the four-digit SIC code level along with the official description. This table is provided for those who wish to know the full description of each SIC code that is regulated by NPDES industrial storm water permits.

Table A.1: Common Generating Sites and their Pollution Potential					
Land Use Generating Site Description	Associated SIC Code(s)	Regulated Storm Water Hotspot	Unregulated Storm Water Hotspot	Illicit Discharge Potential*	
				Direct	Indirect
Commercial					
Animal Care Services	0742, 0752		X	L	L
Auto Repair	7532-7539, 7549		X	M	M
Automobile Parking	7521			L	M
Building Materials	5211-5251		X	L	L
Campgrounds/RV parks	7033		X	L	M
Car Dealers	5511-5599,		X	M	M
Car Washes	7542		X	L	L
Commercial Laundry/Dry Cleaning	7211-7219		X	L	L
Convenience Stores	5399		X	L	L
Food Stores and Wholesale Food and Beverage	5141-5149 5411-5499		X	L	M
Equipment Repair	7622-7699		X	L	L
Gasoline Stations	5541		X	M	M
Heavy Construction Equipment Rental and Leasing	7353		X	L	H
Building and Heavy Construction (For land disturbing activities)	1521-1542 1611-1629	X		L	H
Marinas	4493	X		L	M
Nurseries and garden centers	5261		X	L	M
Oil Change Shops	7549		X		M
Restaurants	5812,5813,7011		X	M	L
Swimming Pools	7997, 7999		X	L	L
Warehouses	4221-4226	X** (4221-4225)		L	L
Wholesalers of Chemical and Petroleum	5162- 5169,5172		X	L	L
Industrial					
Apparel and Other Fabrics	2311–2399 3131–3199	X**		2300 L 3100 H	L M
Auto Recyclers and Scrap Yards	5015, 5093	X		L	H
Beverages and Brewing	2082-2087	X**		L	L
Boat Building and Repair	3731,3732	X		L	H
Chemical Products	2812-2899	X** (2830, 2850)		2810 H 2820 H 2840 H 2860 M 2830 L 2850 L 2870 L 2890 L	2810 L 2820 L 2840 L 2860 L 2830 L 2850 L 2870 L 2890 L

Table A.1: Common Generating Sites and their Pollution Potential					
Land Use Generating Site Description	Associated SIC Code(s)	Regulated Storm Water Hotspot	Unregulated Storm Water Hotspot	Illicit Discharge Potential*	
				Direct	Indirect
Industrial (continued)					
Food Processing	2011–2141	X**		2010 H 2020 H 2030 H 2040 H 2050 L 2060 L 2070 M 2090 L 2110 M	2010 L 2020 L 2030 L 2040 L 2050 L 2060 L 2070 L 2090 L 2110 L
Garbage Truck Washout Activities	4212		X	L	H
Industrial or Commercial Machinery, Electronic Equipment	3511–3599 3612–3699	X**		L	L
Instruments; Photographic and Optical Goods, Watches and Clocks and other Miscellaneous Manufacturing	3812–3873 3933-3999	X**		L	L
Leather Tanners	3411	X		H	M
Metal Production, Plating and Engraving Operations	2514, 2522, 2542, 3312- 3399, 3411- 3499, 3590	X** (2514,2522, 2542, 3411- 3433, 3442- 3499, 3590)		H	L
Paper and Wood Products	2411-2499, 2511, 2512, 2517, 2519, 2521, 2541, 2611–2679	X** (2434, 2652– 2657, 2671– 2679)		2400 L 2500 L 2600 H	2400 H 2500 L 2600 H
Petroleum Storage and Refining	2911	X		2911 H	H
Printing	2711–2796	X**		L	L
Rubber and Plastics	3011-3089	X**		M	L
Stone, Glass, Clay, Cement, Concrete, and Gypsum Product	3211-3299	X** (3233)		L	L
Textile Mills	2211–2299	X**		H	L
Transportation Equipment	3711–3728, 3743-3799	X**		H	M
Institutional					
Cemeteries	6553		X	L	L
Churches	8661		X	L	L
Colleges and Universities	8221-8222		X	L	M
Corporate Office Parks			X	L	L
Hospitals	8062-8069 8071-8072		X	L	L
Private Golf Courses	7997		X	L	L
Private Schools	8211		X	L	L

Table A.1: Common Generating Sites and their Pollution Potential					
Land Use Generating Site Description	Associated SIC Code(s)	Regulated Storm Water Hotspot	Unregulated Storm Water Hotspot	Illicit Discharge Potential*	
				Direct	Indirect
Municipal					
Composting Facilities	2875	X		L	L
Public Golf Courses	7992		X	L	L
Landfills and Hazardous Waste Material Disposal	4953, HZ, LF	X		L	H
Local Streets		MS4	X	L	H
Maintenance Depots	4173	MS4		M	H
Municipal Fleet Washing	4100	MS4		L	M
Public Works Yards		MS4		M	H
Steam Electric Plants	SE	X		L	L
Treatment Works	TW	X		L	L
Transport Related (NPDES regulation is for the portion of the facility dedicated to vehicle maintenance shops, equipment-cleaning operations, and airport deicing operations).					
Airports	4581	X		L	M
Streets and Highways Construction	1611, 1622	X		L	H
Ports	4449, 4499	X		L	H
Railroads	4011, 4013	X		L	H
Rental Car Lots	7513-7519	X		L	M
US Postal Service	4311	X		L	M
Trucking Companies and Distribution Centers	4212-4215, 4231	X		L	M
Petroleum Bulk Stations or Terminals	5171	X		L	H
*Adapted from Pitt (2001) ** Generating sites where storm water permits are required only if material handling equipment or activities, raw materials, immediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water.					

Table A.2: SIC and Activity Codes for EPA's Multi-Sector General Permit for Industrial Activity	
Sector A. Timber Products	
2411	Log Storage and Handling
2421	General Sawmills and Planning Mills
2426	Hardwood Dimension and Flooring Mills
2429	Special Product Sawmills, Not Elsewhere Classified
2431–2439	Millwork, Veneer, Plywood, and Structural Wood (except 2434)
2448, 2449	Wood Containers
2451, 2452	Wood Buildings and Mobile Homes
2491	Wood Preserving
2493	Reconstituted Wood Products
2499	Wood Products, Not Elsewhere Classified
Sector B. Paper and Allied Products Manufacturing	
2611	Pulp Mills
2621	Paper Mills
2631	Paperboard Mills
2652–2657	Paperboard Containers and Boxes
2671–2679	Converted Paper and Paperboard Products, Except Containers and Boxes
Sector C. Chemical and Allied Products Manufacturing	
2812–2819	Industrial Inorganic Chemicals
2821–2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass
2833–2836	Medicinal chemicals and botanical products; pharmaceutical preparations; invitro and invivo diagnostic substances; biological products, except diagnostic substances
2841–2844	Soaps, Detergents, Cleaning Preparations; Perfumes, Cosmetics, Other Toilet Preparations
2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products
2861–2869	Industrial Organic Chemicals
2873–2879	Agricultural Chemicals, Including Facilities that Make Fertilizer Solely from Leather Scraps and Leather Dust
2891–2899	Miscellaneous Chemical Products
3952 (limited to list)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Watercolors
Sector D. Asphalt Paving and Roofing Materials Manufacturers and Lubricant Manufacturers	
2951, 2952	Asphalt Paving and Roofing Materials
2992, 2999	Miscellaneous Products of Petroleum and Coal
Sector E. Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing	
3211	Flat Glass
3221, 3229	Glass and Glassware, Pressed or Blown
3231	Glass Products Made of Purchased Glass
3241	Hydraulic Cement
3251-3259	Structural Clay Products
3261-3269	Pottery and Related Products
3271-3275	Concrete, Gypsum and Plaster Products
3281	Cut Stone and Stone Products
3291–3292	Abrasive and Asbestos Products
3295	Minerals and Earth's, Ground, or Otherwise Treated
3296	Mineral Wool
3297	Non-Clay Refractories
3299	Nonmetallic Mineral Products, Not Elsewhere Classified

Table A.2: SIC and Activity Codes for EPA's Multi-Sector General Permit for Industrial Activity	
Sector F. Primary Metals	
3312–3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
3321–3325	Iron and Steel Foundries
3331–3339	Primary Smelting and Refining of Nonferrous Metals
3341	Secondary Smelting and Refining of Nonferrous Metals
3351–3357	Rolling, Drawing, and Extruding of Nonferrous Metals
3363–3369	Nonferrous Foundries (Castings)
3398, 3399	Miscellaneous Primary Metal Products
Sector G. Metal Mining (Ore Mining and Dressing)	
1011	Iron Ores
1021	Copper Ores
1031	Lead and Zinc Ores
1041, 1044	Gold and Silver Ores
1061	Ferrous Alloy Ores, Except Vanadium
1081	Metal Mining Services
1094, 1099	Miscellaneous Metal Ores
Sector H. Coal Mines and Coal Mining-Related Facilities	
1221–1241	Coal Mines and Coal Mining-Related Facilities Sector
Sector I. Oil and Gas Extraction and Refining	
1311	Crude Petroleum and Natural Gas
1321	Natural Gas Liquids
1381–1389	Oil and Gas Field Services
2911	Petroleum refining
Sector J. Mineral Mining and Dressing	
1411	Dimension Stone
1422–1429	Crushed and Broken Stone, Including Rip Rap
1481	Nonmetallic Minerals, Except Fuels
1442, 1446	Sand and Gravel
1455, 1459	Clay, Ceramic, and Refractory Materials
1474–1479	Chemical and Fertilizer Mineral Mining
1499	Miscellaneous Nonmetallic Minerals, Except Fuels
Sector K. Hazardous Waste Treatment Storage or Disposal Facilities	
HZ	Hazardous Waste Treatment, Storage or Disposal
Sector L. Landfills and Land Application Sites	
LF	Landfills, Land Application Sites and Open Dumps
Sector M. Automobile Salvage Yards	
5015	Automobile Salvage Yards
Sector N. Scrap Recycling Facilities	
5093	Scrap Recycling Facilities
Sector O. Steam Electric Generating Facilities	
SE	Steam Electric Generating Facilities
Sector P. Land Transportation	
4011, 4013	Railroad Transportation
4111–4173	Local and Highway Passenger Transportation
4212–4231	Motor Freight Transportation and Warehousing
4311	United States Postal Service
5171	Petroleum Bulk Stations and Terminals
Sector Q. Water Transportation	
4412–4499	Water Transportation
Sector R. Ship and Boat Building or Repairing Yards	
3731, 3732	Ship and Boat Building or Repairing Yards
Sector S. Air Transportation Facilities	
4512–4581	Air Transportation Facilities

Table A.2: SIC and Activity Codes for EPA's Multi-Sector General Permit for Industrial Activity	
Sector T. Treatment Works	
TW	Treatment Works
Sector U. Food and Kindred Products	
2011–2015	Meat Products
2021–2026	Dairy Products
2032	Canned, Frozen and Preserved Fruits, Vegetables and Food Specialties
2041–2048	Grain Mill Products
2051–2053	Bakery Products
2061–2068	Sugar and Confectionery Products
2074–2079	Fats and Oils
2082–2087	Beverages
2091–2099	Miscellaneous Food Preparations and Kindred Products
2111–2141	Tobacco Products
Sector V. Textile Mills, Apparel, and Other Fabric Product Manufacturing	
2211–2299	Textile Mill Products
2311–2399	Apparel and Other Finished Products Made From Fabrics and Similar Materials
3131–3199	Leather Products (except 3111)
Sector W. Furniture and Fixtures	
2511–2599	Furniture and Fixtures
2434	Wood Kitchen Cabinets
Sector X. Printing and Publishing	
2711–2796	Printing, Publishing and Allied Industries
Sector Y. Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries	
3011	Tires and Inner Tubes
3021	Rubber and Plastics Footwear
3052, 3053	Gaskets, Packing, and Sealing Devices and Rubber and Plastics Hose and Belting
3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified
3081–3089	Miscellaneous Plastics Products
3931	Musical Instruments
3942–3949	Dolls, Toys, Games and Sporting and Athletic Goods
3951–3955	Pens, Pencils, and Other Artists' Materials (except 3952)
3961, 3965	Costume Jewelry and Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
3991–3999	Miscellaneous Manufacturing Industries
Sector Z. Leather Tanning and Finishing	
3111	Leather Tanning and Finishing
Sector AA. Fabricated Metal Products	
3411–3499	Fabricated Metal Products, Except Machinery and Transportation Equipment and Cutting, Engraving and Allied Services
3911–3915	Jewelry, Silverware, and Plated Ware
3479	Coating, Engraving, and Allied Services
Sector AB. Transportation Equipment, Industrial or Commercial Machinery	
3511–3599	Industrial and Commercial Machinery (except 3571–3579)
3711–3799	Transportation Equipment (except 3731, 3732)
Sector AC. Electronic, Electrical, Photographic and Optical Goods	
3612–3699	Electronic, Electrical Equipment and Components, Except Computer Equipment
3812–3873	Measuring, Analyzing and Controlling Instrument, Photographic/Optical Goods, Watches/Clocks
3571–3579	Computer and Office Equipment
Miscellaneous	
1521-1542	Building Construction General Contractors And Operative Builders
1611-1629	Heavy Construction Other Than Building Construction Contractors

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