National Pollutant Discharge Elimination System (NPDES) Permit Application Requirements for the City of Tacoma's Municipal Separate Storm Sewer Systems Discharging to Puyallup Tribal Waters

U.S. Environmental Protection Agency, Region 10

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The following NPDES permit application requirements for municipal storm water discharges to Tribal waters are based on federal U.S. Environmental Protection Agency (EPA) regulations found at 40 CFR §§122.21, 122.26(d) and 122.33(b)(ii). The modified application requirements outlined below are intended for use only by operators of large or medium municipal separate storm sewer systems that discharge to water bodies subject to EPA-approved Tribal water quality standards within the states of Washington, Idaho and Oregon.

Other EPA regulations or guidance may provide additional clarification of these application requirements. Questions about the content of this document should be directed to Misha Vakoc, EPA Region 10 Stormwater Permit Coordinator, at (206) 553-6650 or vakoc.misha@epa.gov.

All applications for NPDES permits authorizing municipal stormwater discharges to Tribal waters must provide the following information:

1) **General information.** The applicants' name, mailing address, telephone number, and email address of contact person; ownership status and status as a State or local government entity.

2) **Legal authority.** A description of existing legal authority to control discharges to the municipal separate storm sewer system as established by statute, ordinance or series of contracts which authorizes or enables the applicant, at a minimum, to:

   (A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

   (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

   (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among co-applicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.

When existing legal authority is not sufficient to meet the criteria provided in this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

3) **Source identification.**

(A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A map, extending one mile beyond the service boundaries, of all portions of the municipal storm sewer system discharging to Tribal waters. The following information shall also be provided:

(*1*) The location of all known municipal storm sewer system outfalls discharging to Tribal waters;

(*2*) Within the catchment basin draining the separate storm sewer system discharging to Tribal waters, a description of the soils, topography, amount of impervious cover and land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) and estimates of population densities and projected growth for a ten year period within each catchment area/drainage area. If available, such information may be provided using GIS data layers. For each land use type, include an estimate of an average runoff coefficient shall be provided.

(*3*) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;

(*4*) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a state or federal NPDES permit. Provide an inventory, organized by catchment area/drainage area, of the facility name and address, a description (such as SIC codes) which best reflects the principal products or services provided by each facility and NPDES permit number, as available, of any known discharge to the municipal separate storm sewer that discharges to Tribal waters.

(*5*) The location and identification of existing or planned Capital Improvement Projects or major structural stormwater control structures (such as retention basins, detention basins, stormwater retrofits, infiltration or other Low Impact development (LID) techniques, etc) and

(*6*) The identification of publicly owned parks, recreational areas, and other open lands.

4) **Discharge characterization.**

(A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer to Tribal waters, including a description of the outfalls sampled, sampling procedures and analytical methods used. Include any modeling work, additional data or technical studies completed to date.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system outfalls discharging to Tribal waters, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause water degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

(*1*) Assessed and reported in section 305(b) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

(*2*) Listed under section 304(l)(1)(A)(i), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the Clean Water Act (CWA) that is not expected to meet water quality standards or water quality goals;

(*3*) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);

(*4*) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) *Field screening:*. For each outfall discharging to Tribal waters, provide results of field screening analysis for illicit connections and illegal dumping. At a minimum, a screening analysis shall include a narrative description, for each outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations

regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR Part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either outfalls or other outfall points (or any other point of access such as manholes) randomly located throughout the portion of the storm sewer system draining to Tribal waters by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or outfall. The field screening points shall be established using the following guidelines and criteria:

(*1*) A grid system consisting of perpendicular north-south and east-west lines spaced ¼ mile apart shall be overlayed on a map of the municipal storm sewer system serving the outfall to Tribal waters, creating a series of cells;

(*2*) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; the outfall(s) may be used as field screening points;

(*3*) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(*4*) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(*5*) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(*6*) At least 5 cells need to have identified field screening points and shall be subject to field screening (unless access to the separate storm sewer system is impossible).

(E) *Characterization data:* When "quantitative data" for a pollutant are required under paragraph (A)(*3*) below, the applicant must collect a sample of effluent in accordance with 40 CFR 122.21(g)(7) [1] and analyze it for the pollutant in accordance with analytical methods approved under part 136 of this chapter. When no analytical method is approved, the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges to Tribal waters,, including:

(A) Quantitative data from outfalls discharging to Tribal waters developed as follows:

[1] See Appendix 1 of this document for text of 40 CFR 122.21(g)(7)

(*1*) For each outfall, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at §122.21(g)(7)[2];

(*2*) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(*3*) For samples collected and described under paragraphs (A)(*1*) and (A)(*2*) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II, the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122,[3] and for the following pollutants:

Total suspended solids (TSS)

Total dissolved solids (TDS)

COD

BOD_5

Oil and grease

Fecal coliform

Fecal streptococcus

pH

Total Kjeldahl nitrogen

Nitrate plus nitrite

Dissolved phosphorus

Total ammonia plus organic nitrogen

Total phosphorus

(B) Estimates of the annual pollutant load of the cumulative discharges from all municipal outfalls discharging to Tribal waters and the event mean concentration of the cumulative discharges from all identified municipal outfalls discharging to

[2] See Appendix 1 of this document for text of 40 CFR 122.21(g)(7)
[3] See Appendix 2 of this document for the Tables referenced in this section.

Tribal waters during a storm event (as described under §122.21(g)(7))[4] for BOD_5, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phosphorus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

5) **Management programs**.

(A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system discharging to Tribal waters. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls that are currently being implemented.

(B) A description of the existing program to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.. The description should include inspection procedures and methods for detecting and preventing illicit discharges, The program description must include:

(*1*) A description of the ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system which addresses all types of illicit discharges. The following non-storm water discharges or flows need not be addressed unless such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(*2*) A description of procedures to conduct on-going field screening activities during the life of the permit in catchment areas draining to outfalls that discharge to Tribal waters;

(*3*) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of a field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water;

[4] See Appendix 1 of this document for text of 40 CFR 122.21(g)(7)

(*4*) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(*5*) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(*6*) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(*7*) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.

(C) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system outfall discharging to Tribal waters that are currently implemented. At a minimum, the description shall include:

(*1*) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers discharging to Tribal waters;

(*2*) A description of controls to reduce the discharge of pollutants from municipal separate storm sewers to Tribal waters which receive discharges from areas of new development and significant redevelopment;

(*3*) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on Tribal receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(*4*) A description of procedures to assure that flood management projects assess the impacts on the water quality of Tribal receiving waters and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(*5*) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste located within the areas drained by the municipal storm sewer system outfall discharging to Tribal waters, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges; and

(*6*) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

(D) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer that discharges to Tribal waters . The program shall:

(*1*) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(*2*) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD_5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under §122.21(g)(7) (vi) and (vii).[5]

(E) A description of a program to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, including:

(*1*) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(*2*) A description of requirements for nonstructural and structural best management practices;

(*3*) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(*4*) A description of appropriate educational and training measures for construction site operators.

[5] See Appendix 1 of this document for text of 40 CFR 122.21(g)(7)

6) **Fiscal Resources.** A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

7) **Assessment of Controls**. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer outfalls discharging to Tribal waters expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

8) **Signature.** A permit application submitted by a municipality, state, federal or other public agency must be signed by a principal executive officer or ranking elected official. See 40 CFR 122.22 All applications must be signed using the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Appendix 1

For reference, the following text is reproduced from 40 CFR 122. 21(g)(7):

7) *Effluent characteristics.*

(i) Information on the discharge of pollutants specified in this paragraph (g)(7) (except information on storm water discharges which is to be provided as specified in §122.26). When "quantitative data" for a pollutant are required, the applicant must collect a sample of effluent and analyze it for the pollutant in accordance with analytical methods approved under Part 136 of this chapter unless use of another method is required for the pollutant under 40 CFR subchapters N or O. When no analytical method is approved under Part 136 or required under subchapters N or O, the applicant may use any suitable method but must provide a description of the method. When an applicant has two or more outfalls with substantially identical effluents, the Director may allow the applicant to test only one outfall and report that quantitative data as applying to the substantially identical outfall. The requirements in paragraphs (g)(7)(vi) and (vii) of this section state that an applicant must provide quantitative data for certain pollutants known or believed to be present do not apply to pollutants present in a discharge solely as the result of their presence in intake water; however, an applicant must report such pollutants as present. When paragraph (g)(7) of this section requires analysis of pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform (including *E. coli*), and Enterococci (previously known as fecal streptococcus at §122.26 (d)(2)(iii)(A)(3)), or volatile organics, grab samples must be collected for those pollutants. For all other pollutants, a 24-hour composite sample, using a minimum of four (4) grab samples, must be used unless specified otherwise at 40 CFR Part 136. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period greater than 24 hours. In addition, for discharges other than storm water discharges, the Director may waive composite sampling for any outfall for which the applicant demonstrates that the use of an automatic sampler is infeasible and that the minimum of four (4) grab samples will be a representative sample of the effluent being discharged. Results of analyses of individual grab samples for any parameter may be averaged to obtain the daily average. Grab samples that are not required to be analyzed immediately (see Table II at 40 CFR 136.3 (e)) may be composited in the laboratory, provided that container, preservation, and holding time requirements are met (see Table II at 40 CFR 136.3 (e)) and that sample integrity is not compromised by compositing.

(ii) *Storm water discharges.* For storm water discharges, all samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inch and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area. For all applicants, a flow-weighted composite shall be taken for either the entire discharge or for the first three hours of the discharge. The flow-weighted composite sample for a storm water discharge may be taken with a continuous sampler or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire discharge

or for the first three hours of the discharge, with each aliquot being separated by a minimum period of fifteen minutes (applicants submitting permit applications for storm water discharges under §122.26(d) may collect flow-weighted composite samples using different protocols with respect to the time duration between the collection of sample aliquots, subject to the approval of the Director). However, a minimum of one grab sample may be taken for storm water discharges from holding ponds or other impoundments with a retention period greater than 24 hours. For a flow-weighted composite sample, only one analysis of the composite of aliquots is required. For storm water discharge samples taken from discharges associated with industrial activities, quantitative data must be reported for the grab sample taken during the first thirty minutes (or as soon thereafter as practicable) of the discharge for all pollutants specified in §122.26(c)(1). For all storm water permit applicants taking flow-weighted composites, quantitative data must be reported for all pollutants specified in §122.26 except pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, fecal coliform, and fecal streptococcus. The Director may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the form of precipitation sampled (snow melt or rain fall), protocols for collecting samples under part 136 of this chapter, and additional time for submitting data on a case-by-case basis. An applicant is expected to "know or have reason to believe" that a pollutant is present in an effluent based on an evaluation of the expected use, production, or storage of the pollutant, or on any previous analyses for the pollutant. (For example, any pesticide manufactured by a facility may be expected to be present in contaminated storm water runoff from the facility.)

(iii) *Reporting requirements.* Every applicant must report quantitative data for every outfall for the following pollutants:

Biochemical Oxygen Demand (BOD5)

Chemical Oxygen Demand

Total Organic Carbon

Total Suspended Solids

Ammonia (as N)

Temperature (both winter and summer)

pH

(iv) The Director may waive the reporting requirements for individual point sources or for a particular industry category for one or more of the pollutants listed in paragraph (g)(7)(iii) of this section if the applicant has demonstrated that such a waiver is appropriate because information adequate to support issuance of a permit can be obtained with less stringent requirements.

(v) Each applicant with processes in one or more primary industry category (see appendix A of this part) contributing to a discharge must report quantitative data for the following pollutants in each outfall containing process wastewater:

> (A) The organic toxic pollutants in the fractions designated in table I of appendix D of this part for the applicant's industrial category or categories unless the applicant qualifies as a small business under paragraph (g)(8) of this section. Table II of appendix D of this part lists the organic toxic pollutants in each fraction. The fractions result from the sample preparation required by the analytical procedure which uses gas chromatography/mass spectrometry. A determination that an applicant falls within a particular industrial category for the purposes of selecting fractions for testing is not conclusive as to the applicant's inclusion in that category for any other purposes. See Notes 2, 3, and 4 of this section.
>
> (B) The pollutants listed in table III of appendix D of this part (the toxic metals, cyanide, and total phenols).

(vi)(A) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in table IV of appendix D of this part (certain conventional and nonconventional pollutants) is discharged from each outfall. If an applicable effluent limitations guideline either directly limits the pollutant or, by its express terms, indirectly limits the pollutant through limitations on an indicator, the applicant must report quantitative data. For every pollutant discharged which is not so limited in an effluent limitations guideline, the applicant must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

> (B) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants listed in table II or table III of appendix D of this part (the toxic pollutants and total phenols) for which quantitative data are not otherwise required under paragraph (g)(7)(v) of this section are discharged from each outfall. For every pollutant expected to be discharged in concentrations of 10 ppb or greater the applicant must report quantitative data. For acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, where any of these four pollutants are expected to be discharged in concentrations of 100 ppb or greater the applicant must report quantitative data. For every pollutant expected to be discharged in concentrations less than 10 ppb, or in the case of acrolein, acrylonitrile, 2,4 dinitrophenol, and 2-methyl-4, 6 dinitrophenol, in concentrations less than 100 ppb, the applicant must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged. An applicant qualifying as a small business under paragraph (g)(8) of this section is not required to analyze for pollutants listed in table II of appendix D of this part (the organic toxic pollutants).

(vii) Each applicant must indicate whether it knows or has reason to believe that any of the pollutants in table V of appendix D of this part (certain hazardous substances and asbestos) are discharged from each outfall. For every pollutant expected to be discharged, the applicant must briefly describe the reasons the pollutant is expected to be discharged, and report any quantitative data it has for any pollutant.

(viii) Each applicant must report qualitative data, generated using a screening procedure not calibrated with analytical standards, for 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) if it:

(A) Uses or manufactures 2,4,5-trichlorophenoxy acetic acid (2,4,5,-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 2,4,5,-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothioate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophene (HCP); or

(B) Knows or has reason to believe that TCDD is or may be present in an effluent.

Appendix 2

For reference, the following text is reproduced from A*ppendix D to 40 CFR 122 – NPDES Permit Application Testing Requirements*

Table II—Organic Toxic Pollutants in Each of Four Fractions in Analysis by Gas Chromatography/Mass Spectroscopy (GS/MS)

Volatiles

1V acrolein	12V dichlorobromomethane	23V 1,1,2,2-tetrachloroethane
2V acrylonitrile	14V 1,1-dichloroethane	24V tetrachloroethylene
3V benzene	15V 1,2-dichloroethane	25V toluene
5V bromoform	16V 1,1-dichloroethylene	26V 1,2-trans-dichloroethylene
6V carbon tetrachloride	17V 1,2-dichloropropane	27V 1,1,1-trichloroethane
7V chlorobenzene	18V 1,3-dichloropropylene	28V 1,1,2-trichloroethane
8V chlorodibromomethane	19V ethylbenzene	29V trichloroethylene
9V chloroethane	20V methyl bromide	31V vinyl chloride
10V 2-chloroethylvinyl ether	21V methyl chloride	
11V chloroform	22V methylene chloride	

Acid Compounds

1A 2-chlorophenol	5A 2,4-dinitrophenol	9A pentachlorophenol
2A 2,4-dichlorophenol	6A 2-nitrophenol	10A phenol
3A 2,4-dimethylphenol	7A 4-nitrophenol	11A 2,4,6-trichlorophenol
4A 4,6-dinitro-o-cresol	8A p-chloro-m-cresol	

Base/Neutral

1B acenaphthene

2B acenaphthylene

3B anthracene

4B benzidine

5B benzo(a)anthracene

6B benzo(a)pyrene

7B 3,4-benzofluoranthene

8B benzo(ghi)perylene

9B benzo(k)fluoranthene

10B bis(2-chloroethoxy)methane

11B bis(2-chloroethyl)ether

12B bis(2-chloroisopropyl)ether

13B bis (2-ethylhexyl)phthalate

14B 4-bromophenyl phenyl ether

15B butylbenzyl phthalate

16B 2-chloronaphthalene

17B 4-chlorophenyl phenyl ether

18B chrysene

19B dibenzo(a,h)anthracene

20B 1,2-dichlorobenzene

21B 1,3-dichlorobenzene

22B 1,4-dichlorobenzene

23B 3,3′-dichlorobenzidine

24B diethyl phthalate

25B dimethyl phthalate

26B di-n-butyl phthalate

27B 2,4-dinitrotoluene

28B 2,6-dinitrotoluene

29B di-n-octyl phthalate

30B 1,2-diphenylhydrazine (as azobenzene)

31B fluroranthene

32B fluorene

33B hexachlorobenzene

34B hexachlorobutadiene

35B hexachlorocyclopentadiene

36B hexachloroethane

37B indeno(1,2,3-cd)pyrene

38B isophorone

39B napthalene

40B nitrobenzene

41B N-nitrosodimethylamine

42B N-nitrosodi-n-propylamine

43B N-nitrosodiphenylamine

44B phenanthrene

45B pyrene

46B 1,2,4-trichlorobenzene

Pesticides

1P aldrin
2P alpha-BHC
3P beta-BHC
4P gamma-BHC
5P delta-BHC
6P chlordane
7P 4,4′-DDT
8P 4,4′-DDE
9P 4,4′-DDD
10P dieldrin
11P alpha-endosulfan
12P beta-endosulfan
13P endosulfan sulfate
14P endrin
15P endrin aldehyde
16P heptachlor
17P heptachlor epoxide
18P PCB-1242
19P PCB-1254
20P PCB-1221
21P PCB-1232
22P PCB-1248
23P PCB-1260
24P PCB-1016
25P toxaphene

Table III—Other Toxic Pollutants (Metals and Cyanide) and Total Phenols

Antimony, Total	Nickel, Total
Arsenic, Total	Selenium, Total
Beryllium, Total	Silver, Total
Cadmium, Total	Thallium, Total
Chromium, Total	Zinc, Total
Copper, Total	Cyanide, Total
Lead, Total	Phenols, Total
Mercury, Total	