Quality Assurance Project Plan for Technical Support for the Enhanced Nutrient Reduction (ENR) Program

Maryland Department of the Environment
Science Service Administration
1800 Washington Blvd Baltimore, MD 21230

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March, 2012

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Quality Assurance Project Plan For Technical Support for the Enhanced Nutrient Reduction (ENR) Program

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Appendices

– Introduction

The 1987 Chesapeake Bay Agreement was reached jointly by the Chesapeake Bay Commission, the U.S. EPA, the District lumbia, and The States of Virginia, Maryland and Pennsylvania to restore and protect the Chesapeake Bay. This agreement was ewed in 2000. It was agreed to set the goal of reducing Nutrient loads (i.e., nitrogen and phosphorous) entering the main stem o Chesapeake Bay (Figure 1) by at least 40% by the year 2010. To achieve this goal, several programs were established including nt source nutrient control programs in all of the participant jurisdictions.

The State of Maryland keeps track of its point source loadings through the Maryland Point Source (MDPS) database. The te has approximately 1400 municipal and industrial facilities regulated under the Pollution Control Program. About a third of se facilities are municipal wastewater treatment plants while the rest are industrial plants. The MDPS database only considers face water discharging municipal and industrial plants that contribute significantly to nutrient point source pollution in the ryland portion of the Bay. As such, only 242 municipal wastewater treatment plants and 9 industrial plants are included in the tewide MDPS database (Appendix B). The MDPS database builds on historical point source discharge monitoring data. The abase enables the state to closely track nutrient pollution from major Point Sources, i.e., 81 major ,significant sewage treatment nts and 9 industrial plants, which together produce over 90 percent of the total nutrient loads discharged to Maryland's ten majo utaries (Figure 2) and the Chesapeake Bay.

The charge of maintaining the state's point source database rests on the Maryland Department of the Environment's Scienc rvices Administration (MDE SSA), with the help of another MDE administration, the Water Management Administration MA). SSA has so far compiled nutrient point source concentration and loadings data for the period, 1984 to FY11.

– Objectives

The purpose of this report is to provide a documentation of the MDPS database. In particular, the report aims to document data sources, structure, compilation and storage procedures, and other aspects of point source data management. For example, t ort lists all major, minor and industrial facilities included in the database. It includes descriptive information about these faciliti h as status, type, latitude, longitude, basin code, and county. The report also provides a catalog of the database's record formats d designations, objects subsumed under each field, and lengths of the fields. It also presents a documentation of the mprehensive data quality control procedures used to identify and correct mistakes such as duplicates, missing data, inaccuracies data, etc. These quality control procedures allow the verification of facility-reported values for the purpose of database mpilation. When errors or suspicious data are detected in the facility reported data, the matter is conveyed to the concerned MD ice.

This documentation serves as an important tool for ensuring MDPS database project continuity since it puts together ormation needed for database maintenance and update. Likewise, this database documentation is important to its users (MDE sta side researchers, etc.) as it provides the necessary information for accessing, retrieving and reviewing of data from the MDPS.

The database is compiled and updated annually. Monthly values are provided for each discharge point or each facility luded i n the database. All final annual MDPS data sets are developed in SAS version 9.1. They are located on MDE's Window Server in the directory, \\MDENT12\sasdata\pointsource. Each data set contains 50 variables.

– Data Sources

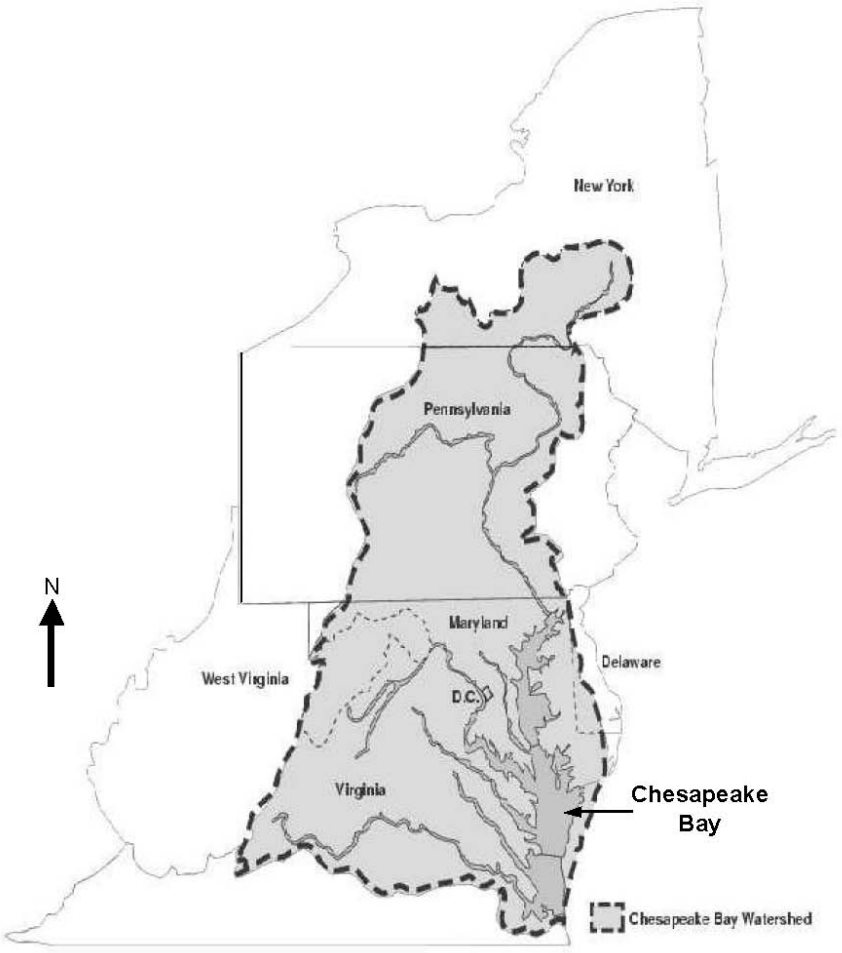
The primary sources of data are the Inspection and Compliance Division, Municipal Discharge Permit Division and Industr

scharge Permit Division of WMA. These divisions receive and review applications pertaining to the design, construction and tallation of Municipal wastewater and industrial facilities releasing effluents to the state's waterways.

The municipal and industrial effluent data are obtained from Discharge Monitoring Reports (DMRs). Data is also taken fro nthly Operating Reports (MORs). For major and some minor wastewater treatment plants (WWTP). These reports contain ility – reported results of water quality analyses of effluent samples collected at each plant. DMRs are submitted monthly by ive municipal and industrial discharge facilities or the state.

The inspection and Compliance Division of WMA is responsible for entering the DMR Data into the U.S. Environment otection Agency's Permit Compliance System (ICIS). Integrated Compliance Information System contains all data related to ilities, permits, discharges, inspection and enforcement activities of the administration.

gure 1. Chesapeake Bay Watershed



– Data Compilation and Storage

The first step to compiling point source data is separating out facilities that are required to report information on effluent rient loads or concentration, or not. The following are the types of plants not included in the database:

- Ground water dischargers (GP)
- Water treatment plants (WTP)
- Municipal facilities that became industrial plants

The facilities included in the database are classified into three categories, as follows:

- Major WWTPs: Municipal facilities with discharge rates greater than 0.5 MGD
- Minor WWTPs: Municipal facilities with discharge rates less than 0.5 MGD
- Industrial Facilities: 10 industrial facilities considered to be the most the significant nutrient point source contributors i Maryland

A initially takes data from EPA's ICIS, and then verifies these data for completeness and corrections by running QA/QC grams. Hard copies of the DMRs, MORs, permit files and attachment sheets are consulted to verify the data. When necessary, litional information is collected by contacting the plant managers and engineers, as well as other knowledgeable staff in WMA. A uses the Windows NT server and SAS software for data processing and data storage.

– Database Development

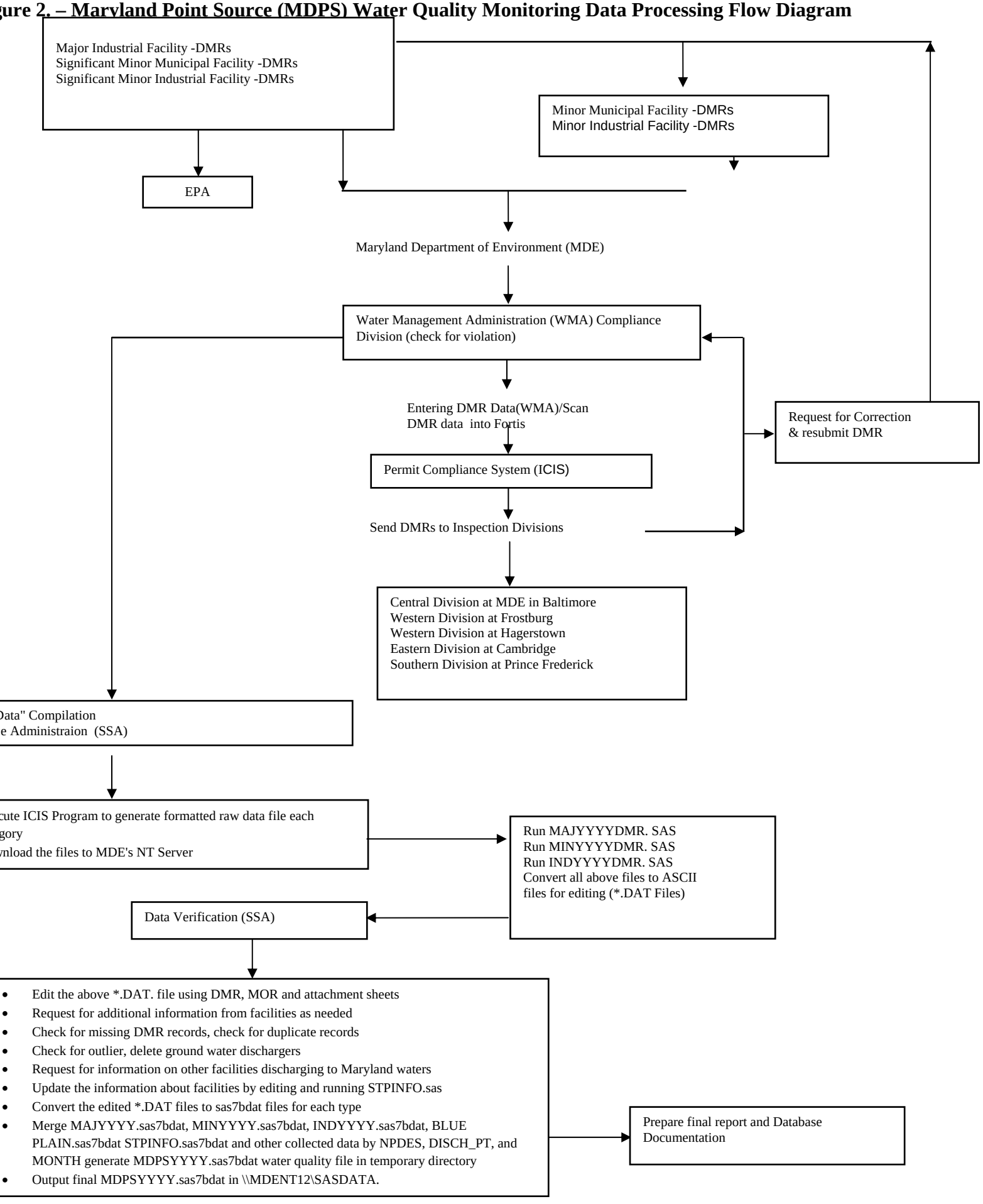
Figure 3 shows the Maryland point source water quality monitoring elements and data processing flow diagram. Table 1 vides the names, acronyms and code numbers of corresponding data in the database. The equations for the calculation of variab listed in Table 2.

– Integrated Compliance Information System (ICIS)

This section gives a detailed description of the ICIS elements that are contained in Maryland's point source database. The S is a database management system that supports The National Pollutant Discharge Elimination System (NPDES) regulations. e ICIS database Resides at the National Computer Center (NCC), Research Triangle Park, North Carolina. ICIS can be used for cking permit compliance and enforcement status for the NPDES. The ICIS is available to all registered users to generate reports available data in the system.

Unless otherwise approved by the Environmental Protection Agency (EPA), ICIS is a read only database. Access of any kir eds EPA approval. ICIS and MDPS common fields and their general descriptions are provided in Table 3.

gure 2. – Maryland Point Source (MDPS) Water Quality Monitoring Data Processing Flow Diagram



able 1. Common Parameter Names, Acronyms and Codes

ata Element	Acronym	Code
ow, in conduit or through treatment plant	FLOW	50050
otal Suspended Solids, mg/l	TSS	00530
H	pH	00400
issolved Oxygen, mg/l	DO	00300
iochemical Oxygen Demand (5 days - 20° C.), mg/l	BOD5	00310
hemical Oxygen Demand, mg/l	COD	00340
otal Nitrogen (mg/l as N)	TN	00600
articulate Nitrogen (mg/l as N)	PN	00601
otal Dissolved Nitrogen (mg/l as N)	TDN	00602
rganic Nitrogen, Total (mg/l as N)	TON	00605
issolved Organic Nitrogen (mg/l as N)	DON	00607
itrogen Ammonia, Total (mg/l as N)	NH3	00610
itrogen Kjeldahl, Total Filtered, (mg/l as N)	TKNF	00623
itrogen Kjeldahl, Total Whole, (mg/l as N)	TKNW	00625
itrite Nitrogen, Total (mg/l as N)	NO2	00615
itrate Nitrogen, Total (mg/l as N)	NO3	00620
itrite Plus Nitrate, Total (mg/l as N)	NO23	00630
issolved Inorganic Nitrogen, (mg/l as N)	DIN	00640
rthophosphate (mg/l as P)	PO4	70507
otal Phosphorus (mg/l as P)	TP	00665
otal Dissolved Phosphorus (mg/l as P)	TDP	00666
articulate Phosphorus (mg/l as P)	PP	00667
issolved Organic Phosphorus (mg/l as P)	DOP	00673
otal Organic Carbon (mg/l as C)	TOC	00680
issolved Organic Carbon (mg/l as C)	DOC	00681
articulate Carbon (mg/l as C)	PC	00689

ble 2. Equations for Calculation of Water Quality Elements

NW	=	NH4 + TON
03	=	NO23 – NO2
ON	=	TDN – (NH4 + NO23)
ON	=	TKNF – NH4
OP	=	TDP – PO4
C	=	PC + DOC
	=	TKNW – TKNF
	=	PN + TDN
	=	TKNW + NO23
	=	TP - TDP
N	=	NH4 + NO23
N	=	TN - DIN

ble 3. ICIS and MDPS Database Common Features

.1 How to access the ICIS database

to https://icis.epa.gov/icis/
ter login ID
ssword

.1.1 Accessing the ICIS database using the website

tional Pollunant Discharge Elimination system
arch facilities
arch DMR
arch Reports

.2 Logoff Procedure

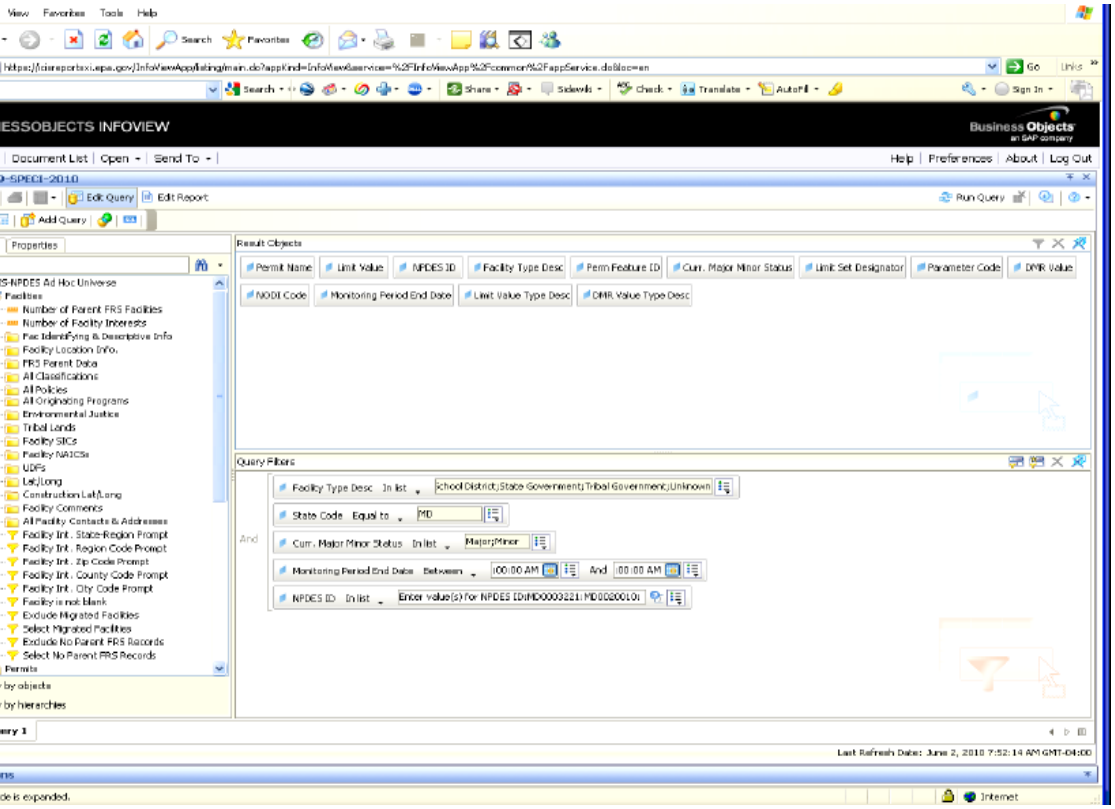
Click on logout to exit completely from the system

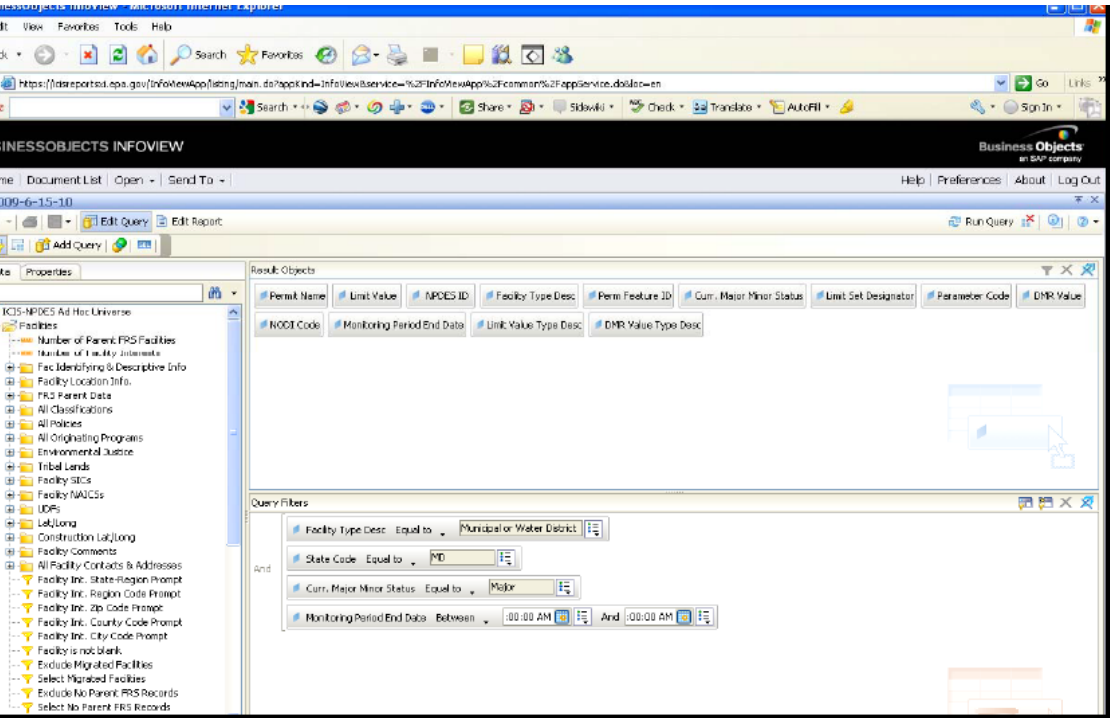
Report Creation and Processing

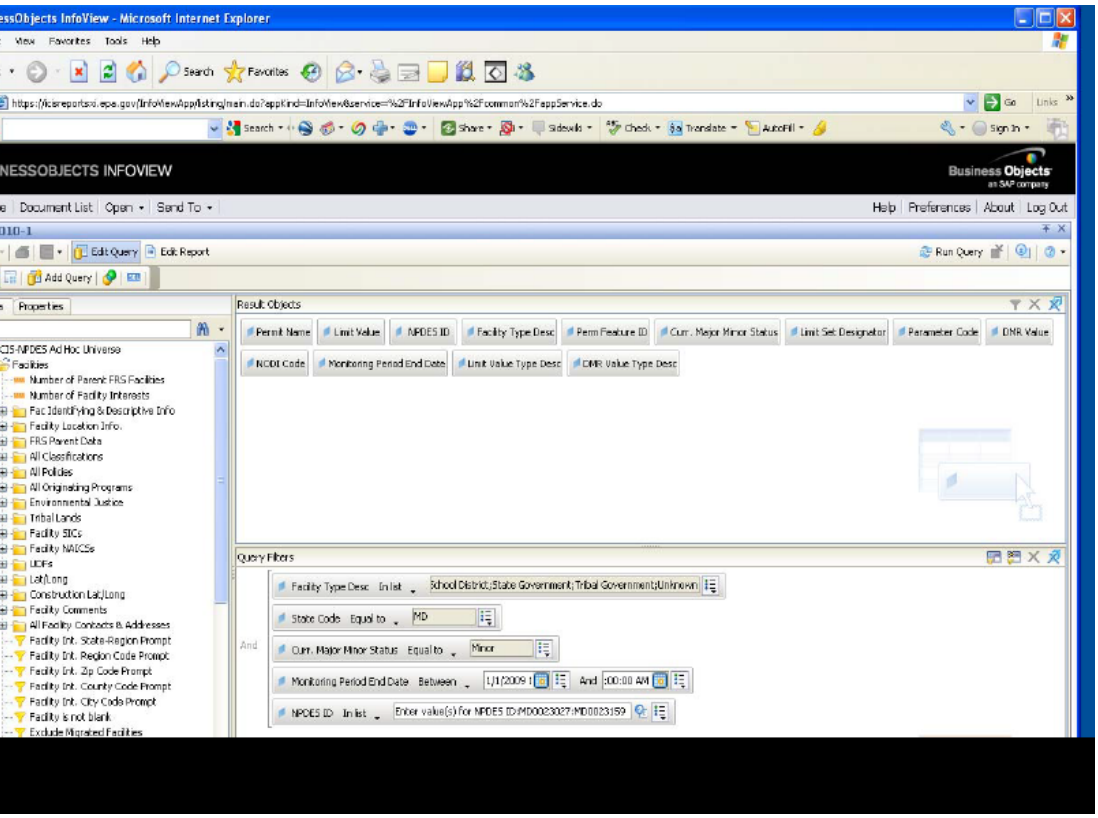
tructions for processing data retrieval from the ICIS are giving in the “Generalized trieval Queriesl “under the following sections

How to format and order the retrieval Reports
The special processing steps involved with DMR data

.1 Create queries




INESSOBJECTS INFOVIEW
Business Objects
an SAP company
Document List | Open | Send To
Help | Preferences | About | Log Out
Edit Query | Edit Report
Run Query
Add Query
Properties
Result Objects
Permit Name | Limit Value | NPDES ID | Facility Type Desc | Perm Feature ID | Curr. Major Minor Status | Limit Set Designator | Parameter Code | DMR Value
NODI Code | Monitoring Period End Date | Limit Value Type Desc | DMR Value Type Desc
Query Filters
Facility Type Desc Equal to Municipal or Water District
State Code Equal to MD
Curr. Major Minor Status Equal to Major
Monitoring Period End Date Between 00:00 AM And 00:00 AM
And


ssObjects InfoView - Microsoft Internet Explorer
NESSOBJECTS INFOVIEW
Business Objects
an SAP company
Document List | Open | Send To
Help | Preferences | About | Log Out
Edit Query | Edit Report
Run Query
Add Query
Properties
Result Objects
Permit Name | Limit Value | NPDES ID | Facility Type Desc | Perm Feature ID | Curr. Major Minor Status | Limit Set Designator | Parameter Code | DMR Value
NODI Code | Monitoring Period End Date | Limit Value Type Desc | DMR Value Type Desc
Query Filters
Facility Type Desc In list School District;State Government;Tribal Government;Unknown
State Code Equal to MD
Curr. Major Minor Status Equal to Minor
Monitoring Period End Date Between 1/1/2009 And 00:00 AM
NPDES ID In list Enter value(s) for NPDES ID:MD0023027;MD0023159
And

– Editing the Data Retrieved From ICIS

The task of editing text point source data from ICIS requires that you create a SAS data set of these data that is sorted by DES (National Pollutant Discharge Elimination System) number, year and month. (Use the SAS programs given in Appendix C nvert the text file to a SAS data set). Once this is done you can begin the point source data file. The first step to take is to delete y groundwater discharges (the NPDES number for groundwater discharge begins with GR). Then delete water treatment plants a er facilities, which have been converted to industrial or underground discharges.

Editing the point source data requires a lot of patience and a conscientious effort in looking out for errors. Almost all of the a entered into the ICIS are from DMRs. These are federal documents that are filled out by a representative of the WWTP each nth and sent to the Division of Municipal Compliance at MDE. The problem with the DMRs is they are sometimes filled out orrectly or incompletely. There are also times when the data entry clerks make typographical or arithmetic errors (i.e., unit nversion) when entering the data. There are also duplicate entries or seasonal reporting without indicating the code on DMRs.

– Data Verification

The best way of verifying the data for major WWTPs and large minor WWTPs is to compare the DMRs with the monthly erating reports (MORs). They contain a daily log of plant operations for each month, including nutrient monitoring in most cases e MORs and their attachments are the best source of point source data available. There are some minor WWTPs that require trient monitoring and this data should also be verified using the MORs. A simple SAS program will be used to determine which minors have some nutrient information. If a plant was on line for entire year, normally there should be 12 months data (DMR). part of QA/QC procedures to find and try to complete the non-submittal DMR report. Also during a year if a new facility start to charge or for any reason existing plant went out of service it should be properly documented.

After data verification is complete for each category, the appropriate SAS program is run to convert the SAS data set to a DAT file. This *.DAT file will be edited. When all corrections have been made to the *.DAT file, the file is then converted back AS data set.

To document where the data came from, data flags have been used. If the Data were verified using the MOR, the data flag uld be ‘M’. If the data value were taken directly from the DMR, the data flag would be ‘D’. If the data point is generated for tance, by taking an annual average of real data values to fill in for one or two missing values. The data flag would be left blank. data value were taken from permit file the data flag would be ‘P’.
the past, Compliance Monitoring Reports (CMRs) have been used when no nutrient data were available in the DMRs or MORs. MRs are records of state administered testing of WWTP effluent. At this time, however, most major WWTPs have some nutrient nitoring.

trient data for minors also needs to be verified using the MOR. Data flags are then set accordingly (Appendix D shows most of data verifications and editing for 2010 Maryland point source data).

When the municipal WWTP data have all been collected, you will now have to compile the industrial point source database l then merge it with the municipal point source database. The industrial data will require building a similar database. Be sure to cument where the data came from, a DMR, a MOR, or a permit application.

– Final Location for Maryland Point Source Data

Once the data editing and verification is complete, the data set will have to be merged with a WWTP inventory updated file TPINFO.SASDATASET) that contains information such as county location, basin code, basin name, sub-basin name, discharge e and the latitude and longitude of each WWTP discharge point. Every year when this has been complete, the final data set (i.e. DPS00.SAS7BDAT) should be copied into the Maryland point source database located at Technical and Regulatory Services ministration under '\\MDENT12\sasdata\point source' directory on the Windows NT server for further uses. The nutrient loads o will be estimated by running SAS programs for each facility and also for ten tributaries within the State of Maryland.

– Load Estimation Procedures

Calculation of the amount of nutrient load, which enters the Bay, is not a simple process. There are numerous transformatic cesses that may occur within waterways, streams, rivers, and estuaries. Final loading to the Bay is also affected by in-stream ization of nitrogen or phosphorus within riverine tributaries, prior to these tributaries emptying into the tidal waters. The flow l concentration of the nutrients are the two specific effluent characteristics of each plant. To calculate nutrient loads, daily erage effluent flow (MGD) and average concentration (mg/l) of the nutrient values were used. The following equation was olied to calculate monthly load.

Monthly load = Average flow * Average concentration * 8.344 * Number of days in month
(pounds) (MGD) (mg/l) (conversion f actor)

APPENDIX A

Inspection Program for MD's WWTP Laboratories

Performance The Compliance Program of the Water Management Administration of MDE conducts multimedia pections to determine compliance with various water pollution control and resource protection laws and regulations, Including DES and State Groundwater discharge permits, erosion and sediment controls, tidal and nontidal wetlands permits and terway construction permits . The multimedia inspections are conducted by Environmental Compliance Specialists, Sanitarians Engineers, with each being assigned an area of duty. NPDES inspections are performed in accordance with MDE's 106 Grant rkplan under its delegation by EPA.

NPDES inspections of municipal and industrial wastewater treatment plants are designated as a Compliance Sampling pection (CSI) or Compliance Evaluation Inspection (CEI). Program inspectors also periodically conduct inspections at the ntract laboratories for municipal and industrial permittees to verify proper analytical methods are being followed. These pections are noted as Performance Audit Inspections (PAIs).

The Performance Audit Inspections are conducted with detailed emphasis on the laboratory and the self-monitoring progra e inspectors evaluate the analytical performance of the laboratory/laboratories and the integrity and quality of the analytical dat nerated for reporting under the Clean Water Act.. The permit is reviewed for all aspects of self-monitoring. Proper sampling hniques are reviewed, sample preservation, proper holding times for testing, appropriate methodology, record keeping, flow nitoring, proper sample type and frequency, and calculations for Discharge Monitoring Reporting. This process takes the samp m the point and manner of collection, through the preservation, testing and documentation to determine that appropriate data is ng conveyed to MDE. Further, this process allows data audits to be monitored for those falsifying data with referrals to the Offi the Attorney General for investigation and appropriate enforcement action.

MDE also reviews and tracks annual laboratory proficiency testing under the USEPA DMR/QA Program. In this program laboratories of all Major and select Minor NPDES permit holders in Maryland are required to analyze unknown proficiency t (PT) samples provided by an EPA approved external vendor. The participating permittees are required to have their testing oratories obtain and analyze a PT sample for all NPDES permit- specified constituents, including whole effluent toxicity ET) PT samples. The vendors or PT Providers grade and report the final results to the laboratory and to the state coordinator. e Compliance Program also reviews and approves the biomonitoring study plans and reviews the data from the subsequent ting to verify compliance with aquatic toxicity standards established by NPDES permits and Maryland law and regulation.

APPENDIX B

General Information for the Facilities in the MDPS Database

WASTE WATER TREATMENT PLANTS (MUNICIPAL&MAJOR INDUSTRIAL) - UPDATED 2012

DES	NAME	BASIN	CODE	COUNTY	TYPE
0000311	W R GRACE	PATAPSCO RIVER	02-13-09-03	BALT	IND
0000469	MD & VA MILK PRODUCERS	PATUXENT RIVER	02-13-11-05	HOWA	IND
0001201	BETHELEHEM STEEL	PATAPSCO RIVER	02-13-09-03	BALT	IND
0001384	CONGOLEUM	PATAPSCO RIVER	02-13-09-07	CARR	IND
0001422	WESTVACO	NORTH BRANCH POTOMAC	02-14-10-05	GARR	IND
0001775	CHEMETALS	PATAPSCO RIVER	02-13-09-03	ANNE	IND
0003158	INDIAN HEAD NOS	LOWER POTOMAC RIVER	02-14-01-02	CHAR	IND
0021687	UPPER POTOMAC RIVER COMMISSION	NORTH BRANCH POTOMAC	02-14-10-01	ALLE	IND
0067857	ALLEN FAMILY FOODS	CHOPTANK RIVER	02-13-04-05	TALB	IND
0021199	BLUE PLAINS	WASHINGTON METRO AREA	02-14-02-01	D.C.	MAJ
0003221	C. WM. WINEBRNNER	UPPER POTOMAC RIVER	02-14-05-02	WASH	MAJ
0020001	CRISFIELD	POCOMOKE RIVER	02-13-02-06	SOME	MAJ
0020010	CHESTERTOWN	CHESTER RIVER	02-13-05-09	KENT	MAJ
0020044	OCEAN CITY	COASTAL AREA	02-13-01-03	WORC	MAJ
0020052	INDIAN HEAD	LOWER POTOMAC RIVER	02-14-01-11	CHAR	MAJ
0020249	FEDERALSBURG	NANTICOKE RIVER	02-13-03-06	CARO	MAJ
0020257	EMMITSBURG	MIDDLE POTOMAC RIVER	02-14-03-03	FRED	MAJ
0020273	EASTON	CHOPTANK RIVER	02-13-04-04	TALB	MAJ
0020281	CHESAPEAKE BEACH	CHESAPEAKE BAY PROPER	02-13-99-98	CALV	MAJ
0020494	DENTON	CHOPTANK RIVER	02-13-04-04	CARO	MAJ
0020524	LA PLATA	LOWER POTOMAC RIVER	02-14-01-09	CHAR	MAJ
0020532	DELMAR	NATICOKE RIVER	02-13-03-04	WICO	MAJ
0020613	PERRYVILLE	ELK RIVER	02-13-06-09	CECI	MAJ
0020648	OAKLAND	YOUGHIOGHENY RIVER	05-02-02-01	GARR	MAJ
0020656	PRINCESS ANNE	POCOMOKE RIVER	02-13-02-08	SOME	MAJ
0020672	TANEYTOWN	MIDDLE POTOMAC RIVER	02-14-03-03	CARR	MAJ
0020681	ELKTON	ELK RIVER	02-13-06-03	CECI	MAJ
0020834	CENTREVILLE	CHESTER RIVER	02-13-05-07	QUEE	MAJ
0020877	FORT DETRICK	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MAJ
0020958	BRUNSWICK	MIDDLE POTOMAC RIVER	02-14-03-01	FRED	MAJ
0020982	DAMASCUS	WASHINGTON METRO AREA	02-14-02-08	MONT	MAJ
0021121	THURMONT	MIDDLE POTOMAC RIVER	02-14-03-03	FRED	MAJ
0021229	APG - EDGEWOOD	BUSH RIVER	02-13-07-01	HARF	MAJ
0021237	APG - ABERDEEN	BUSH RIVER	02-13-07-05	HARF	MAJ
0021491	SENECA CREEK	WASHINGTON METRO AREA	02-14-02-08	MONT	MAJ

0021512	FREEDOM DISTRICT	PATAPSCO RIVER	02-13-09-08	CARR	MAJ
0021539	PISCATAWAY	WASHINGTON METRO AREA	02-14-02-01	PRIN	MAJ
0021555	BACK RIVER	PATAPSCO RIVER	02-13-09-01	BALT	MAJ
0021563	ABERDEEN	BUSH RIVER	02-13-07-06	HARF	MAJ
0021571	SALISBURY	NANTICOKE RIVER	02-13-03-01	WICO	MAJ
0021598	CUMBERLAND	NORTH BRANCH POTOMAC	02-14-10-01	ALLE	MAJ
0021601	PATAPSCO	PATAPSCO RIVER	02-13-09-03	BALT	MAJ
0021610	FREDERICK	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MAJ
0021628	BOWIE	PATUXENT RIVER	02-13-11-04	PRIN	MAJ
0021636	CAMBRIDGE	CHOPTANK RIVER	02-13-04-03	DORC	MAJ
0021644	BROADNECK	CHESAPEAKE BAY PROPER	02-13-99-98	ANNE	MAJ
0021652	PATUXENT	PATUXENT RIVER	02-13-11-05	ANNE	MAJ
0021661	COX CREEK	PATAPSCO RIVER	02-13-09-03	ANNE	MAJ
0021679	PINE HILL RUN	CHESAPEAKE BAY PROPER	02-13-99-98	ST M	MAJ
0021717	FORT MEADE	PATUXENT RIVER	02-13-11-05	ANNE	MAJ
0021725	PARKWAY	PATUXENT RIVER	02-13-11-04	PRIN	MAJ
0021741	WESTERN BRANCH	PATUXENT RIVER	02-13-11-03	PRIN	MAJ
0021750	HAVRE DE GRACE	CHESAPEAKE BAY PROPER	02-13-99-96	HARF	MAJ
0021776	HAGERSTOWN	UPPER POTOMAC RIVER	02-14-05-02	WASH	MAJ
0021814	ANNAPOLIS	CHESAPEAKE BAY PROPER	02-13-99-98	ANNE	MAJ
0021822	BALLENGER CREEK	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MAJ
0021831	WESTMINSTER	MIDDLE POTOMAC RIVER	02-14-03-04	CARR	MAJ
0021865	MATTAWOMAN	LOWER POTOMAC RIVER	02-14-01-02	CHAR	MAJ
0022527	MT AIRY	PATAPSCO RIVER	02-13-09-08	CARR	MAJ
0022535	JOPPATOWNE	GUNPOWDER RIVER	02-13-08-04	HARF	MAJ
0022551	POCOMOKE CITY	POCOMOKE RIVER	02-13-02-02	WORC	MAJ
0022730	HURLOCK	NATICOKE RIVER	02-13-03-06	DORC	MAJ
0022764	SNOW HILL	POCOMOKE RIVER	02-13-02-02	WORC	MAJ
0023001	POOLESVILLE	WASHINGTON METRO AREA	02-14-02-08	MONT	MAJ
0023477	OCEAN PINES SERVICE AREA	COASTAL AREA	02-13-01-02	WORC	MAJ
0023485	KENT ISLAND	CHESAPEAKE BAY PROPER	02-13-99-97	QUEE	MAJ
0023604	TALBOT COUNTY REGION II	CHESTER RIVER	02-13-05-02	TALB	MAJ
0023957	MARYLAND CORRECTIONAL INSTITUT	UPPER POTOMAC RIVER	02-14-05-02	WASH	MAJ
0024350	BROADWATER	CHESAPEAKE BAY PROPER	02-13-99-98	ANNE	MAJ
0024767	LEONARDTOWN	LOWER POTOMAC RIVER	02-14-01-04	ST M	MAJ
0051497	TROUT RUN	YOUGHIOGHENY RIVER	05-02-02-02	GARR	MAJ
0052027	NORTHEAST RIVER	ELK RIVER	02-13-06-08	CECI	MAJ
0052990	FRUITLAND	NANTICOKE RIVER	02-13-03-01	WICO	MAJ
0055174	LITTLE PATUXENT	PATUXENT RIVER	02-13-11-05	HOWA	MAJ
0056545	SOD RUN	BUSH RIVER	02-13-07-01	HARF	MAJ
0057525	SWAN POINT	LOWER POTOMAC RIVER	02-14-01-01	CHAR	MAJ
0060071	GEORGES CREEK	NORTH BRANCH POTOMAC	02-14-10-04	ALLE	MAJ
0061794	MAYO LARGE COMMUNAL	WEST CHESAPEAKE BAY	02-13-10-04	ANNE	MAJ
0062596	MARYLAND CITY	PATUXENT RIVER	02-13-11-04	ANNE	MAJ
0063207	DORSEY RUN	PATUXENT RIVER	02-13-11-05	ANNE	MAJ
0063509	CONOCOCHEAGUE	UPPER POTOMAC RIVER	02-14-05-04	WASH	MAJ
0063878	CELANESE	NORTH BRANCH POTOMAC	02-14-10-01	ALLE	MAJ
0020095	NAS-PATUXENT	LOWER POTOMAC RIVER	02-14-01-03	ST M	MIN

00020168	NAVAL RESEARCH LAB	CHESAPEAKE BAY PROPER	02-13-99-98	CALV	MIN
00020206	US ARMY - CHESAPEAKE CITY	ELK RIVER	02-13-06-04	CECI	MIN
00020231	BOONSBORO	UPPER POTOMAC RIVER	02-14-05-02	WASH	MIN
00020265	RISING SUN	SUSQUEHANNA RIVER	02-12-02-03	CECI	MIN
00020290	GREENSBORO	CHOPTANK RIVER	02-13-04-04	CARO	MIN
00020303	ROCK HALL	CHESTER RIVER	02-13-05-05	KENT	MIN
00020362	FUNKSTOWN	UPPER POTOMAC RIVER	02-14-05-02	WASH	MIN
00020397	CHESAPEAKE CITY SOUTH	ELK RIVER	02-13-06-04	CECI	MIN
00020401	CHESAPEAKE CITY NORTH	ELK RIVER	02-13-06-04	CECI	MIN
00020427	RIDGELY WWTP	CHOPTANK	02-13-04-04	COROLINE	MIN
00020435	MILLINGTON	CHESTER RIVER	02-13-05-10	KENT	MIN
00020443	CECILTON	ELK RIVER	02-13-06-02	CECI	MIN
00020486	TRAPPE	CHOPTANK RIVER	02-13-04-03	TALB	MIN
00020559	SUDLERSVILLE	CHESTER RIVER	02-13-05-10	QUEE	MIN
00020575	BETTERTON	ELK RIVER	02-13-06-10	KENT	MIN
00020605	GALENA	ELK RIVER	02-13-06-10	KENT	MIN
00020621	PRESTON	CHOPTANK RIVER	02-13-04-03	CARO	MIN
00020630	NEWARK	COASTAL AREA	02-13-01-05	WORC	MIN
00020664	VIENNA	NANTICOKE RIVER	02-13-03-05	DORC	MIN
00020699	MYERSVILLE	MIDDLE POTOMAC RIVER	02-14-03-05	FRED	MIN
00020729	NEW MARKET	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00020737	JEFFERSON	MIDDLE POTOMAC RIVER	02-14-03-05	FRED	MIN
00020761	GRANTSVILLE	YOUGHIOGHENY RIVER	05-02-02-04	GARR	MIN
00020796	PORT DEPOSIT	SUSQUEHANNA RIVER	02-12-02-01	CECI	MIN
00020800	POINT OF ROCKS	MIDDLE POTOMAC RIVER	02-14-03-01	FRED	MIN
00020842	BELTSVILLE USDA EAST	WASHINGTON METRO AREA	02-14-02-05	PRIN	MIN
00020851	BELTSVILLE USDA WEST	WASHINGTON METRO AREA	02-14-02-05	PRIN	MIN
00020885	INDIAN HEAD NAVAL ORDINANCE	LOWER POTOMAC RIVER	02-14-01-02	CHAR	MIN
00020931	NIH	WASHINGTON METRO AREA	02-14-02-02	MONT	MIN
00021083	FRIENDSVILLE	YOUGHIOGHENY RIVER	05-02-02-01	GARR	MIN
00021091	ASSATEAGUE ISLAND NATIONAL SEA	COASTAL AREA	02-13-01-04	WORC	MIN
00022446	HAMPSTEAD	GUNPOWDER RIVER	02-13-08-05	CARR	MIN
00022454	UNION BRIDGE	MIDDLE POTOMAC RIVER	02-14-03-04	CARR	MIN
00022543	OXFORD	CHOPTANK RIVER	02-13-04-03	TALB	MIN
00022578	MANCHESTER	GUNPOWDER RIVER	02-13-08-06	CARR	MIN
00022586	NEW WINDSOR	MIDDLE POTOMAC RIVER	02-14-03-04	CARR	MIN
00022632	BERLIN	COASTAL AREA	02-13-01-05	WORC	MIN
00022641	MEADOWVIEW	ELK RIVER	02-13-06-07	CECI	MIN
00022683	CRESTVIEW	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00022713	RICHLYN MANOR	GUNPOWDER RIVER	02-13-08-02	BALT	MIN
00022721	FOUNTAINDALE	MIDDLE POTOMAC RIVER	02-14-03-05	FRED	MIN
00022748	MARYLAND WATER SERVICE	NORTH BRANCH POTOMAC	02-14-10-01	ALLE	MIN
00022781	MARLBORO MEADOWS	PATUXENT RIVER	02-13-11-02	PRIN	MIN
00022845	GAITHER MANOR	PATAPSCO RIVER	02-13-09-08	CARR	MIN
00022870	SPRINGVIEW ESTATES	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00022900	LEWISTOWN ELEMENTARY	MIDDLE POTOMAC RIVER	02-14-03-03	FRED	MIN
00022926	HUNTER HILL APARTMENTS	UPPER POTOMAC RIVER	02-14-05-02	WASH	MIN
00022951	GLEN MEADOWS	GUNPOWDER RIVER	02-13-08-02	BALT	MIN

00023043	SWAN HARBOR PARK	BUSH RIVER	02-13-07-06	HARF	MIN
00023060	CONCORD TRAILER PARK	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00023108	MANCHESTER PARK	ELK RIVER	02-13-06-05	CECI	MIN
00023213	RAWLINGS HEIGHTS	NORTH BRANCH POTOMAC	02-14-10-01	ALLE	MIN
00023230	MT ST MARYS COLLEGE	MIDDLE POTOMAC RIVER	02-14-03-03	FRED	MIN
00023272	SUMMER HILL TRAILER PARK	WEST CHESAPEAKE BAY	02-13-10-03	ANNE	MIN
00023281	N HARFORD JR&SR HIGH	SUSQUEHANNA RIVER	02-12-02-05	HARF	MIN
00023337	WOODLAWN MOBILE HOME PARK	ELK RIVER	02-13-06-09	CECI	MIN
00023370	QUEENSTOWN	CHESTER RIVER	02-13-05-05	QUEE	MIN
00023451	PICCOWAXIN MIDDLE	LOWER POTOMAC RIVER	02-14-01-01	CHAR	MIN
00023469	BOHEMIA MANOR HIGH	ELK RIVER	02-13-06-01	CECI	MIN
00023523	US NAVAL ACADEMY	WEST CHESAPEAKE BAY	02-13-10-02	ANNE	MIN
00023621	N CAROLINE HIGH	CHOPTANK RIVER	02-13-04-04	CARO	MIN
00023647	WAYSONS MOBILE	PATUXENT RIVER	02-13-11-02	ANNE	MIN
00023680	I-70 REST AREA	MIDDLE POTOMAC RIVER	02-14-03-05	FRED	MIN
00023710	DAN-DEE, INC	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00023728	SOUTHERN SENIOR HIGH SCHOOL	PATUXENT RIVER	02-13-11-02	ANNE	MIN
00023833	ELK NECK STATE PARK	ELK RIVER	02-13-06-01	CECI	MIN
00023868	GREENBRIAR STATE PARK	UPPER POTOMAC RIVER	02-14-05-02	WASH	MIN
00023876	EASTERN CORRECTIONAL CAMP	CHESTER RIVER	02-13-05-08	QUEE	MIN
00023906	WOODSTOCK TRAINING CENTER	PATAPSCO RIVER	02-13-09-06	BALT	MIN
00023914	SOUTHERN CORRECTIONAL CAMP	LOWER POTOMAC RIVER	02-14-01-07	CHAR	MIN
00023922	VICTOR CULLEN CENTER	MIDDLE POTOMAC RIVER	02-14-03-03	FRED	MIN
00023931	CHELTENHAM BOYS VILLAGE	WASHINGTON METRO AREA	02-14-02-03	PRIN	MIN
00023949	POINT LOOKOUT STATE PARK	CHESAPEAKE BAY PROPER	02-13-99-98	ST M	MIN
00023981	NEW GERMANY STATE PARK	NORTH BRANCH POTOMAC	02-14-10-06	GARR	MIN
00024023	HARBOUR VIEW	ELK RIVER	02-13-06-01	CECI	MIN
00024279	MARDELA HIGH	NANTICOKE RIVER	02-13-03-05	WICO	MIN
00024317	SMITHSBURG	UPPER POTOMAC RIVER	02-14-05-02	WASH	MIN
00024333	MARYLAND MANOR MOBILE	PATUXENT RIVER	02-13-11-02	ANNE	MIN
00024384	CHESAPEAKE COLLEGE	CHESTER RIVER	02-13-05-03	QUEE	MIN
00024406	MIDDLETOWN	MIDDLE POTOMAC RIVER	02-14-03-05	FRED	MIN
00024449	NORTHERN MS/HS	YOUGHIOGHENY RIVER	05-02-02-01	GARR	MIN
00024546	PHEASANT RIDGE	PATAPSCO RIVER	02-13-09-08	CARR	MIN
00024562	HANCOCK	UPPER POTOMAC RIVER	02-14-05-07	WASH	MIN
00024589	S CARROLL HIGH	PATAPSCO RIVER	02-13-09-08	CARR	MIN
00024627	HIGHLAND VIEW	UPPER POTOMAC RIVER	02-14-05-02	WASH	MIN
00024635	UNITED CONTAINER	GUNPOWDER RIVER	02-13-08-02	BALT	MIN
00024694	PATUXENT MOBILE	PATUXENT RIVER	02-13-11-02	ANNE	MIN
00024759	OLDTOWN	NORTH BRANCH POTOMAC	02-14-10-01	ALLE	MIN
00024929	TRIUMPH INDUSTRIAL PARK	ELK RIVER	02-13-06-05	CECI	MIN
00024945	GREAT OAKS LANDING	ELK RIVER	02-13-06-11	KENT	MIN
00024953	SPRING MEADOWS	SUSQUEHANNA RIVER	02-12-02-02	HARF	MIN
00024961	BENJAMINS TRAILER PARK	SUSQUEHANNA RIVER	02-12-02-01	CECI	MIN
00024988	GREEN RIDGE FORESTRY CAMP	UPPER POTOMAC RIVER	02-14-05-11	ALLE	MIN
00025089	WHITE ROCK	MIDDLE POTOMAC RIVER	02-14-03-03	FRED	MIN
00025119	FOXVILLE US NAVAL SUPPORT	MIDDLE POTOMAC RIVER	02-14-03-03	FRED	MIN
00025666	EMERGENCY MANAGEMENT	PATUXENT RIVER	02-13-11-07	MONT	MIN

00050016	CHURCH HILL	CHESTER RIVER	02-13-05-08	QUEE	MIN
00050334	THUNDERBIRD APARTMENTS	LOWER POTOMAC RIVER	02-14-01-09	CHAR	MIN
00050903	BOONES MOBILE	PATUXENT RIVER	02-13-11-02	ANNE	MIN
00051373	BROADFORDING	UPPER POTOMAC RIVER	02-14-05-04	WASH	MIN
00051632	WILLARDS	POCOMOKE RIVER	02-13-02-03	WICO	MIN
00051667	ROCKY GAP STATE PARK	NORTH BRANCH POTOMAC	02-14-10-02	ALLE	MIN
00051721	ACCIDENT	YOUGHIOGHENY RIVER	05-02-02-01	GARR	MIN
00051918	CHOPTICAN HIGH	LOWER POTOMAC RIVER	02-14-01-05	ST M	MIN
00052167	NORTHERN HIGH	PATUXENT RIVER	02-13-11-01	CALV	MIN
00052175	SHARPTOWN	NANTICOKE RIVER	02-13-03-05	WICO	MIN
00052230	EWELL	CHESAPEAKE BAY PROPER	02-13-99-98	SOME	MIN
00052248	TYLERTON	CHESAPEAKE BAY PROPER	02-13-99-98	SOME	MIN
00052256	FAIRMOUNT	POCOMOKE RIVER	02-13-02-07	SOME	MIN
00052281	CRELLIN	YOUGHIOGHENY RIVER	05-02-02-01	GARR	MIN
00052299	MORNING CHEER	ELK RIVER	02-13-06-08	CECI	MIN
00052311	CHARLES COUNTY COMM COLLEGE	LOWER POTOMAC RIVER	02-14-01-09	CHAR	MIN
00052671	KENNEDYVILLE	CHESTER RIVER	02-13-05-09	KENT	MIN
00052680	EDGEMEADE RES SITE	PATUXENT RIVER	02-13-11-02	PRIN	MIN
00052825	CHERRY HILL	ELK RIVER	02-13-06-05	CECI	MIN
00052850	SWALLOW FALLS STATE PARK	YOUGHIOGHENY RIVER	05-02-02-01	GARR	MIN
00053066	FAHRNEY-KEEDY	UPPER POTOMAC RIVER	02-14-05-02	WASH	MIN
00053074	CAMP SUNRISE	YOUGHIOGHENY RIVER	05-02-02-01	GARR	MIN
00053082	HOLIDAY MOBILE ESTATES	PATAPSCO RIVER	02-13-09-06	ANNE	MIN
00053139	CAMP SHADOWBROOK	SUSQUEHANNA RIVER	02-12-02-04	CECI	MIN
00053155	THUNDERBIRD MOTEL	LOWER POTOMAC RIVER	02-14-01-06	CHAR	MIN
00053171	MAPLE HILL PARK	SUSQUEHANNA RIVER	02-12-02-03	CECI	MIN
00053198	BROOK LANE	UPPER POTOMAC RIVER	02-14-05-02	WASH	MIN
00053201	RELAX INN	LOWER POTOMAC RIVER	02-14-01-08	CHAR	MIN
00053228	MT CARMEL WOODS	LOWER POTOMAC RIVER	02-14-01-09	CHAR	MIN
00053279	FOREST GREEN	ELK RIVER	02-13-06-05	CECI	MIN
00053325	CLEARSPRING	UPPER POTOMAC RIVER	02-14-05-05	WASH	MIN
00053511	LYONS CREEK MOBILE	PATUXENT RIVER	02-13-11-02	ANNE	MIN
00054348	DEEP CREEK LAKE	YOUGHIOGHENY RIVER	05-02-02-01	GARR	MIN
00054950	DONALDSON BROWN COOTER	SUSQUEHANNA RIVER	02-12-02-01	CECI	MIN
00055352	TWIN CITIES	CHOPTANK RIVER	02-13-04-03	DORC	MIN
00055425	OLD SOUTH MOUNTAIN INN	MIDDLE POTOMAC RIVER	02-14-03-05	FRED	MIN
00055522	COLONEL RICHARDSON MIDDLE&HIGH	NANTICOKE RIVER	02-13-03-06	CARO	MIN
00055557	CLIFFTON ON THE POTOMAC	LOWER POTOMAC RIVER	02-14-01-01	CHAR	MIN
00055620	FLINTSTONE	UPPER POTOMAC RIVER	02-14-05-12	ALLE	MIN
00056481	KEMPTOWN SCHOOL	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00056553	SHINE INN	LOWER POTOMAC RIVER	02-14-01-06	CHAR	MIN
00057100	NEW LIFE FOURSQUARE CHURCH	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00057487	WALKERS TRAILER PARK	CHOPTANK RIVER	02-13-04-04	CARO	MIN
00057606	WINTERS APARTMENTS	LOWER POTOMAC RIVER	02-14-01-03	ST M	MIN
00058050	SHAMROCK RESTAURANT	MIDDLE POTOMAC RIVER	02-14-03-03	FRED	MIN
00058661	WOODSBORO	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00059145	PINEY ORCHARD	PATUXENT RIVER	02-13-11-05	ANNE	MIN
00059463	TALBOT COUNTY REGION V	CHESAPEAKE BAY PROPER	02-13-99-98	TALB	MIN

00059609	MONROVIA	UPPER POTOMAC RIVER	02-14-03-02	FRED	MIN
00059617	HEBRON	NANTICOKE RIVER	02-13-03-05	WICO	MIN
00060348	PITTSVILLE	POCOMOKE RIVER	02-13-02-03	WICO	MIN
00060577	LIBERTYTOWN	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00060585	WORTON-BUTLERTON	CHESTER RIVER	02-13-05-10	KENT	MIN
00060933	BLOOMINGTON	NORTH BRANCH POTOMAC	02-14-10-05	GARR	MIN
00060941	KITZMILLER	NORTH BRANCH POTOMAC	02-14-10-05	GARR	MIN
00060950	GORMAN	NORTH BRANCH POTOMAC	02-14-10-05	GARR	MIN
00062308	ANTIETAM	UPPER POTOMAC RIVER	02-14-05-02	WASH	MIN
00062375	LITTLE ORLEANS CAMP	UPPER POTOMAC RIVER	02-14-05-11	ALLEGANY	MIN
00062821	SIDELING HILL REST AREA	UPPER POTOMAC RIVER	02-14-05-09	WASH	MIN
00063282	HEARNE-MEADOWS LLC	LOWER EASTERN	02-13-03-01	WICO	MIN
00064530	SANDY HOOK	MIDDLE POTOMAC RIVER	02-14-03-01	WASH	MIN
00064777	BRETTON WOODS	WASHINGTON METRO AREA	02-14-02-08	MONT	MIN
00065145	HIGHLANDS	ELK RIVER	02-13-06-07	CECI	MIN
00065234	BFS TRUCK STOP	YOUGHIOGHENY RIVER	05-02-02-01	GARR	MIN
00065269	PLEASANT BRANCH	MIDDLE POTOMAC RIVER	02-14-03-02	FRED	MIN
00065358	NATIONAL WILDLIFE VISITOR CENT	PATUXENT RIVER	02-13-11-04	PRIN	MIN
00065439	MILL BOTTOM	MONOCACY RIVER	02-14-03-03	FRED	MIN
00065749	BIERS LANE	POTOMAC RIVER	02-14-00-02	ALLE	MIN
00065757	HAPPY TRAILS CAMPGROUND	UPPER POTOMAC RIVER	02-14-05-08	WASH	MIN
00065927	RUNNYMEADE SCHOOL	MIDDLE POTOMAC RIVER	02-14-03-04	CARR	MIN
00066001	VILLA JULIE COLLEGE	JONES FALLS	02-13-09-04	BALT	MIN
00066613	EASTERN CORRECTIONALINSTITUTIO	TANGIER SOUND	02-13-02-06	SOME	MIN
00066745	PLESANT VALLEY	UPPER POTOMAC RIVER	02-14-03-04	CARR	MIN
00067202	TOLCHESTER	ELK RIVER	02-13-06-11	KENT	MIN
00067521	SHEPPARD PRATT WESTERN MIDDLE	CATOCTIN CREEK	02-14-03-05	FRED	MIN
00067539	KUNZANG ODSAL PALGUL BHANGCHUB	MIDDLE POTOMAC RIVER	02-14-02-02	MONT	MIN
00067571	BOWLING BROOK PREPARATORY SCHO	UPPER POTOMAC RIVER	02-14-03-04	CARR	MIN
00067628	MIDDLETOWN WWTP	CATOCTIN CREEK	02-14-03-05	FRED	MIN
00067768	HYATTSTOWN WWTP	UPPER POTOMAC RIVER	02-14-03-02	MONT	MIN
00067881	CEDAR RIDGE	UPPER POTOMAC RIVER	02-14-05-04	WASH	MIN
00067903	GLEN ARM MAINTENANCE WWTP	GUNPOWDER RIVER	02-13-08-02	BALT	MIN
00068101	33 STAHL POINT LLC	PATAPSCO RIVER	02-13-09-03	ANNE	MIN
00068896	BARTON BUSINESS CENTER WWTP	LOWER POTOMAC RIVER	02-14-10-01	ALLEGANY	MIN
00069582	TRACEY'S ELEMENTARY SCHOOL	PATUXENT RIVER	02-13-11-02	ANNE	MIN
00069949	CINNAMON WOODS WWTP	SUSQUEHANNA RIVER	02-12-02-04	CECI	MIN

PERMIT STATUS OF WWTP (MUNCIPAL & MAJOR INDUSTRIAL)

FAC_NAME	PERMIT_NUM	NPDES_NUM	APP_DESC	PTYPE	CUR_STATUS	LST_ISSU	EXP_DATE
GRACE DAVISON - BALTIMORE	06DP0099	MD0000311	FOR RENEWAL	Industrial-Major	IR	01-Sep-10	31-Aug-14
MARYLAND & VIRGINIA MILK PRODUCERS ASSOCIATION	08DP0033	MD0000469	FOR RENEWAL, FROM POWDERED MILK, CONDENSED MILK AND BUTTER PRODUCTION FACILITY	Industrial-Major	IR	01-Sep-10	31-Aug-15
RG STEELE - SPARROWS POINT LLC	05DP0064	MD0001201	FOR RENEWAL	Industrial-Major	PR		
CONGOLEUM CORPORATION	07DP0422	MD0001384		Industrial-Major	IF	01-Feb-10	31-Jan-15
NEW PAGE CORPORATION - LUKE	05DP0300	MD0001422	RENEWAL - MAJOR FACILITY	Industrial-Major	IR	01-Sep-10	31-Aug-15
ERACHEM COMILOG, INC	06DP0272	MD0001775		Industrial-Major	IR	01-Sep-10	31-Aug-15
NAVAL SUPPORT FACILITY INDIAN HEAD	03DP2515A	MD0003158	FOR MOD TO ADDRESS DISCHARGES FROM FE REMOVAL FOR HUMIDIFICATION SYSTEMS	Industrial-Major	IE	02-Aug-07	31-Dec-08
WINEBRENNER WATER RECLAMATION FACILITY	08DP2516	MD0003221	0.6 MGD DESIGN FLOW, 0.195 AVERAGE IN 2007	Municipal-Minor	IR	05-Mar-10	31-Mar-15
CRISFIELD WWTP	10DP0688	MD0020001	RENEWAL - 1.0 MGD	Municipal-Major	IR	01-Aug-10	31-Jul-15
CHESTERTOWN WWTP	08DP0592	MD0020010	FOR RENEWAL, 900,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Sep-09	31-Aug-14
OCEAN CITY WWTP	09DP0596	MD0020044	FOR UNILATERAL MOD TO CLARIFY REPORTING REQUIREMENTS ON TKN	Municipal-Major	IR	01-Jul-11	30-Jun-16
INDIAN HEAD WWTP	10DP0590	MD0020052		Municipal-Minor	IR	01-Aug-10	31-Jul-15
U.S. NAVAL AIR STATION PATUXENT RIVER- WEBSTER FIELD ANNEX	07DP2523	MD0020095	0.045 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jan-12	31-Dec-16
NAVAL RESEARCH LABORATORY - CHESAPEAKE BAY DETACHMENT	08DP2519	MD0020168	FOR RENEWAL, 0.06 MGD DESIGN FLOW	Municipal-Minor	IR	01-Aug-11	31-Jul-16
CORPS OF ENGINEERS CHESAPEAKE CITY	07DP2524	MD0020206	400 GPD AVERAGE DISCHARGE	Municipal-Minor	IR	01-Mar-09	28-Feb-14
BOONSBORO WWTP	09DP0126	MD0020231	FOR MOD TO INCREASE FLOW FROM 0.460 MGD TO 0.530 MGD	Municipal-Minor	IR	01-Jan-11	31-Dec-15
FEDERALSBURG WWTP	08DP0595	MD0020249	FOR RENEWAL, 0.750 MGD DESIGN FLOW, 0.333 AVG	Municipal-Minor	IR	01-Mar-09	28-Feb-14
RISING SUN WWTP	08DP0107A	MD0020265	FOR RENEWAL, 0.275 MGD DESIGN FLOW WITH UPGRADE TO 0.670 PLANNED	Municipal-Minor	IM	01-Feb-11	30-Nov-14
EASTON UTILITIES - W.W.T.F.	07DP0579	MD0020273	4.0 MGD DESIGN FLOW, 2.08 AVG	Municipal-Major	IF	01-Sep-07	31-Aug-12
CHESAPEAKE BEACH WWTP	05DP0587	MD0020281	1.18 MGD DESIGN FLOW, 0.743 AVERAGE IN 04	Municipal-Major	IR	01-Nov-07	31-Oct-12
			0.28 MGD DESIGN				

ROCK HALL WWTP	08DP0575	MD0020303	FOR RENEWAL, 505,000 GPD DESIGN FLOW, 300,000 PROJECTED FLOW	Municipal-Minor	IR	01-Jun-09	31-May-14
FUNKSTOWN WWTP	07DP0169	MD0020362	FOR RENEWAL, 0.15 MGD DESIGN FLOW, 0.1026 AVG	Municipal-Minor	IR	01-Jan-10	31-Dec-14
CHESAPEAKE CITY SOUTH WWTP	06DP0143	MD0020397	0.088 MGD	Municipal-Minor	IR	01-Mar-09	28-Feb-14
CHESAPEAKE CITY NORTH WWTP	06DP0155	MD0020401	0.075 MGD DESIGN FLOW, 0.07 PROJECTED	Municipal-Minor	IR	01-Mar-09	28-Feb-14
MILLINGTON WWTP	07DP0166	MD0020435	FOR RENEWAL AND MOD TO INCREASE FLOW FROM 0.105 TO 0.140 MGD	Municipal-Minor	IR	01-May-11	30-Apr-16
CECILTON WWTP	12DP0111	MD0020443	0.05 GPD RENEWAL WITH PLANS FOR NEW PLANT AT 0.1 MGD, SAME LOCATION	Municipal-Minor	PR	01-May-07	
TRAPPE WWTP	10DP0104	MD0020486	0.2 MGD DESIGN FLOW, 0.12 AVG.	Municipal-Minor	IR	01-Dec-11	30-Nov-16
DENTON WWTP	05DP0537	MD0020494	0.8 MGD DESIGN FLOW	Municipal-Minor	IF	01-Sep-07	31-Aug-12
LA PLATA WWTP	08DP0518	MD0020524	FOR RENEWAL, 1.5 MGD DESIGN FLOW, 1.16 AVERAGE	Municipal-Major	IR	01-Mar-10	28-Feb-15
DELMAR WWTP	05DP0593	MD0020532	0.65 MGD DESIGN FLOW WITH PROVISION FOR EXPANSION TO 0.85 MGD	Municipal-Minor	IF	01-Jul-07	30-Jun-12
SUDLERSVILLE WWTP	06DP0090A	MD0020559	FOR RENEWAL, 75000 GPD IN SUMMER, 90000 GPD IN WINTER	Municipal-Minor	IM	01-Sep-11	28-Feb-14
BETTERTON WWTP	07DP0591	MD0020575	FOR RENEWAL, 200,000 GPD DESIGN CAPACITY, 50,000 GPD PROJECTED FLOW	Municipal-Minor	IR	01-Mar-11	29-Feb-16
GALENA WWTP	09DP0528	MD0020605	FOR RENEWAL OF 0.080 MGD SEWAGE TREATMENT PLANT	Municipal-Minor	IR	01-Jul-10	30-Jun-15
MES - PERRYVILLE WWTP	05DP0572	MD0020613	1.65 MGD DESIGN FLOW	Municipal-Major	IF	01-Jul-07	30-Jun-12
PRESTON WWTP	10DP0525	MD0020621	FOR RENEWAL - 0.115 MGD DESIGN FLOW	Municipal-Minor	IR	01-Dec-10	30-Nov-15
NEWARK WWTP	11DP0141	MD0020630	0.07 MGD DESIGN FLOW, 0.0505 AVG.	Municipal-Minor	IR	01-Jan-12	31-Dec-16
OAKLAND WWTP	01DP0716A	MD0020648	MINOR MOD TO CORRECT PERMITTEE ADDRESS, CHANGE BIOMONITORING	Municipal-Minor	IF	01-Nov-04	31-Oct-09
PRINCESS ANNE WWTP	08DP0486	MD0020656	1.26 MGD DESIGN	Municipal-Major	IR	01-Nov-09	31-Oct-15

VIENNA WWTP	09DP0110	MD0020664	PERMITTED FLOW	Municipal-Minor	IR	01-Nov-10	31-Oct-15
TANEYTOWN WWTP	07DP0687	MD0020672	FOR RENEWAL, 1.1 MGD DESIGN FLOW, 0.85 AVERAGE	Municipal-Major	IR	01-Aug-08	31-Jul-13
ELKTON WWTP	06DP0671	MD0020681	FOR RENEWAL, 2.7 MGD DESIGN FLOW, INCREASE TO 3.2 BY 1/1/09	Municipal-Major	IR	01-Mar-08	28-Feb-13
MYERSVILLE WWTP	08DP0124	MD0020699	0.3 MGD DESIGN FLOW	Municipal-Minor	IR	01-May-11	30-Apr-16
NEW MARKET WWTP	07DP0478	MD0020729	RENEWAL - 0.24 MGD DESIGN FLOW, 0.079 AVG, 0.177 MAX IN '07	Municipal-Minor	IR	01-Sep-08	31-Aug-13
JEFFERSON WWTP	03DP0097A	MD0020737	MINOR MOD TO DELETE BENZIDINE MONITORING, CU FOR 1 YEAR, ADD PROGRESS REPORTING ON CU ELIMINATION	Municipal-Minor	IM	01-Dec-05	30-Sep-09
GRANTSVILLE WWTP	10DP0598	MD0020761	FOR RENEWAL, 600,000 GPD	Municipal-Minor	IR	01-Dec-11	30-Nov-16
PORT DEPOSIT WWTP	07DP0114	MD0020796	FOR RENEWAL, 0.150 MGD DESIGN FLOW, 0.1135 AVERAGE, UPGRADE TO 0.7 MGD	Municipal-Minor	IR	01-Apr-08	31-Mar-13
FREDERICK COUNTY - POINT OF ROCKS WWTP	08DP0482	MD0020800	0.230 MGD DESIGN FLOW	Municipal-Minor	IR	01-Nov-10	31-Oct-15
MES - CENTREVILLE WASTEWATER TREATMENT	06DP0116	MD0020834	0.5 MGD DESIGN FLOW	Municipal-Minor	IF	01-Jul-08	30-Jun-13
USDA EAST-SIDE WWTP	05DP2525	MD0020842	0.62 MGD DESIGN FLOW 0.1815 AVG	Municipal-Minor	IR	01-Mar-10	28-Feb-15
USDA WEST-SIDE WWTP	05DP2787	MD0020851	0.2 MGD DESIGN FLOW, 0.0928 AVG	Municipal-Minor	IF	01-Sep-06	31-Aug-11
USDA WEST-SIDE WWTP	11DP2787	MD0020851	0.2 MGD DESIGN FLOW, 0.0928 AVG	Municipal-Minor	PR		
FORT DETRICK WWTP	08DP2527	MD0020877	2.0 MGD PERMITTED FLOW	Municipal-Major	IR	01-Jan-10	31-Dec-14
NAVAL SUPPORT FACILITY INDIAN HEAD	06DP2528	MD0020885	0.5 MGD DESIGN FLOW, 0.42 AVG TO POTOMAC RIVER - PLANT AT BLDG 1703	Municipal-Major	IR	01-Sep-08	31-Aug-13
NIH ANIMAL CENTER	09DP2529	MD0020931	0.1 MGD DESIGN FLOW, 0.08 PROJECTED	Municipal-Minor	IR	01-Nov-10	31-Oct-15
BRUNSWICK WWTP	07DP0106	MD0020958	RENEWAL, 1.4 MGD DESIGN FLOW, 0.532 AGG, 2.211 MAX	Municipal-Major	IR	01-Sep-10	31-Aug-15
WSSC - DAMASCUS WASTEWATER TREATMENT PLANT	09DP0162	MD0020982	FOR RENEWAL, 1.5 MGD DESIGN FLOW, 0.75 MGD AVERAGE	Municipal-Major	IR	01-Sep-10	31-Aug-15
FRIENDSVILLE WWTP	08DP0514	MD0021083	0.125 MGD DESIGN FLOW	Municipal-Minor	IR	01-May-10	30-Apr-15
ASSATEAGUE ISLAND NATIONAL SEASHORE WWTP	10DP2530	MD0021091	0.012 MGD DESIGN FLOW, 0.008 AVERAGE	Municipal-Minor	IR	01-Oct-11	30-Sep-16
			1.0 MGD DESIGN				

U.S. ARMY ABERDEEN PROVING GROUND-EDGEWOOD AREA	08DP2531	MD0021229	2.8 MGD DESIGN FLOW, 0.89 AVERAGE IN 2007	Municipal-Major	IR	01-Jun-09	31-May-14
CITY OF ABERDEEN - ABERDEEN AREA WWTP	09DP2532	MD0021237	2.8 MGD DESIGN FLOW, 0.828 AVERAGE	Municipal-Major	IR	01-Jun-10	31-May-15
WSSC - SENECA WASTEWATER TREATMENT PLANT	09DP0156	MD0021491	FOR MOD TO ALLOW UV DISINFECTION	Municipal-Major	IR	01-Oct-10	30-Sep-15
MES - FREEDOM DISTRICT WWTP	10DP0670	MD0021512	3.5 MGD DESIGN FLOW	Municipal-Major	IR	01-Oct-10	30-Sep-15
WSSC - PISCATAWAY WASTEWATER TREATMENT PLANT	07DP0667	MD0021539	FOR RENEWAL, 30 MDG DESIGN FLOW, 21.507 AVG	Municipal-Major	IR	01-May-10	30-Apr-15
BACK RIVER WWTP	10DP0581	MD0021555	FOR RENEWAL, 130 MGD DESIGN FLOW	Municipal-Major	IR	01-May-11	30-Apr-16
ABERDEEN ADVANCED WASTEWATER TREATMENT PLANT	07DP0128	MD0021563	FOR RENEWAL, FROM 4.0 MGD DESIGN FLOW, 2.02 AVG	Municipal-Major	IR	01-Sep-08	31-Aug-13
CITY OF SALISBURY - SALISBURY WWTP	08DP0696	MD0021571	6.8.MGD PERMITTED FLOW, INCLUDES 2 CSO OUTFALLS	Municipal-Major	IR	01-Oct-10	30-Sep-15
CUMBERLAND WWTP	06DP0567	MD0021598	RENEWAL - 15 MGD DESIGN FLOW, 14 MGD AVERAGE	Municipal-Major	IR	01-Mar-09	28-Feb-14
PATAPSCO WWTP	10DP0580	MD0021601	73 MGD DESIGN FLOW	Municipal-Major	IR	01-Oct-10	30-Sep-15
FREDERICK CITY WWTP	06DP0801A	MD0021610	MOD TO APPLY E. COLI LIMITATION	Municipal-Major	IM	01-Mar-08	31-Jan-13
BOWIE CITY OF - WASTEWATER TREATMENT PLANT	10DP0697	MD0021628	3.3 MGD DESIGN FLOW, 2.24 AVG.	Municipal-Major	IR	01-Aug-10	31-Jul-15
MES - CAMBRIDGE WASTEWATER TREATMENT PLANT	10DP0676	MD0021636	8.1 MGD	Municipal-Major	IR	01-Sep-10	31-Aug-15
ANNE ARUNDEL COUNTY - BROADNECK WATER RECLAMATION FACILITY	06DP0677	MD0021644	6 MGD DESIGN FLOW, 5.19 AVG	Municipal-Major	IR	01-Jun-10	31-May-15
PATUXENT WATER RECLAMATION FACILITY	02DP0132	MD0021652	FOR RENEWAL, 7.5 MGD DESIGN FLOW, 4.98 MGD AVERAGE FLOW	Municipal-Major	IF	01-Aug-08	31-Jul-13
ANNE ARUNDEL COUNTY - COX CREEK WATER RECLAMATION FACILITY	07DP0698	MD0021661	FOR RENEWAL, 15 MGD DESIGN FLOW, 10.92 AVG	Municipal-Major	IR	01-Jan-10	31-Dec-14
MARLAY-TAYLOR WWTP	07DP0711	MD0021679	FOR RENEWAL, 6 MGD DESIGN CAPACITY, 3.99 MGD AVERAGE FLOW	Municipal-Major	IR	01-Feb-08	31-Jan-13
UPPER POTOMAC RIVER COMMISSION	95DP0230	MD0021687	RENEWAL - 19.23 MGD - MAJOR FACILITY	Industrial-Major	IE	01-May-01	30-Apr-06
UPPER POTOMAC RIVER COMMISSION	05DP0230	MD0021687	RENEWAL - 19.23 MGD - MAJOR FACILITY	Industrial-Major	PR		
U.S. ARMY - FORT GEORGE G. MEADE	07DP2533	MD0021717	4.5.MGD DESIGN FLOW - AT BLDG 9581	Municipal-Major	IR	01-Apr-08	31-Mar-13
U.S. ARMY - FORT GEORGE G. MEADE	12DP2533	MD0021717	4.5.MGD DESIGN FLOW - AT BLDG 9581	Municipal-Major	PR	01-Apr-08	
WSSC - PARKWAY WASTEWATER			FOR RENEWAL, 7.5 MGD DESIGN FLOW, 6.3				

WSSC - WESTERN BRANCH WWTP	08DP0632	MD0021741	AVERAGE IN 2007	Municipal-Major	IR	01-Oct-10	30-Sep-15
HAVRE DE GRACE - WASTEWATER TREATMENT PLANT	06DP0673	MD0021750	FOR RENEWAL WITH EXPANSION TO 2.3 MGD	Municipal-Major	IF	01-Jan-07	31-Dec-11
HAGERSTOWN WWTP	05DP0788	MD0021776	8 MGD DESIGN FLOW, 9.4 AVG. IN 2004	Municipal-Major	IR	01-Jul-08	30-Jun-13
ANNE ARUNDEL COUNTY - ANNAPOLIS WATER RECLAMATION FACILITY	07DP0838	MD0021814	FOR RENEWAL, 13 MGD DESIGN FLOW, 8.14 AVG IN 2006	Municipal-Major	IR	01-Aug-09	31-Jul-14
FREDERICK COUNTY - BALLENGER CREEK WWTP	09DP0809	MD0021822	FOR RENEWAL, 6.0 MGD DESIGN FLOW, 15 MGD EXPANSION PLANNED 2010.	Municipal-Major	IR	01-Nov-11	31-Oct-16
WESTMINSTER WWTP	09DP0837	MD0021831	5 MGD	Municipal-Major	IR	01-Jul-10	30-Jun-15
CHARLES COUNTY - MATTAWOMAN WWTP	08DP0472	MD0021865	FOR RENEWAL, 20 MGD DESIGN FLOW, 10.63 AVERAGE	Municipal-Major	IR	01-Feb-10	31-Jan-15
HAMPSTEAD WWTP	88DP0594C	MD0022446	FOR MOD TO ADD TEMP LIMITS , INCREASE FLOW FROM 0.5 TO 0.9 MGD	Municipal-Minor	IE	01-Feb-04	28-Feb-95
UNION BRIDGE WWTP	07DP0774	MD0022454	FOR RENEWAL, 0.2 MGD DESIGN FLOW, 0.178 AVERAGE	Municipal-Minor	IR	01-Dec-09	30-Nov-14
MOUNT AIRY WWTP	10DP0641	MD0022527	1.2 MGD DESIGN FLOW, 0.78 AVERAGE	Municipal-Major	IR	01-Aug-10	31-Jul-15
JOPPATOWNE WWTP	08DP0675	MD0022535	0.950 DESIGN FLOW	Municipal-Minor	IR	01-Feb-09	31-Jan-14
OXFORD WWTP	00DP0644	MD0022543	FOR RENEWAL, 0.104 MGD DESIGN FLOW	Municipal-Minor	IF	01-Jul-05	30-Jun-10
POCOMOKE CITY WWTP	09DP0674	MD0022551	FOR RENEWAL, 1.47 MGD DESIGN FLOW, 1.2 PROJECTED	Municipal-Major	IR	01-Jan-10	31-Dec-14
MES - NEW WINDSOR WWTP	05DP0640	MD0022586	0.094 MGD DESIGN FLOW	Municipal-Minor	IF	01-May-07	30-Apr-12
BERLIN WWTP	08DP0669	MD0022632	FOR RENEWAL, 0.6 MGD DESIGN FLOW, 0.4 AVERAGE	Municipal-Minor	IR	01-Feb-10	18-Dec-12
MEADOWVIEW WWTP	08DP0643	MD0022641	FOR RENEWAL	Municipal-Minor	IR	01-Nov-08	31-Oct-13
CRESTVIEW ESTATES WWTP	08DP0672	MD0022683	FOR RENEWAL, 0.036 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jul-09	30-Jun-14
RICHLYN MANOR WWTP	07DP0778	MD0022713	FOR RENEWAL, 90,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Jan-09	31-Dec-13
FREDERICK COUNTY - FOUNTAINDALE WWTP	08DP0668	MD0022721	FOR RENEWAL, 0.2 MGD	Municipal-Minor	IR	01-May-10	30-Apr-15
HURLOCK WWTP	06DP0645	MD0022730	1.65 MGD DESIGN FLOW, 1.05 AVG	Municipal-Major	IF	01-May-07	30-Apr-12
MARYLAND WATER SERVICE, INC. WWTP	07DP0713	MD0022748	0.450 MGD DESIGN FLOW, .281 AVERAGE, .543 MAX - POPULATION 980?	Municipal-Minor	IR	01-Feb-09	31-Jan-14

MARLBORO MEADOWS WWTP	05DP0686A	MD0022781	MOD TO APPLY E. COLI LIMITATION	Municipal-Minor	IM	01-May-08	31-Jan-13
GAITHER MANOR APARTMENTS WWTP	07DP0779	MD0022845	FOR RENEWAL, 0.045 MGD DESIGN FLOW, 22000 GPD PROJECTED	Municipal-Minor	IR	01-Jul-09	30-Jun-14
SPRINGVIEW MOBILE HOME PARK	10DP1036	MD0022870	7000 GPD	Municipal-Minor	IR	01-Oct-11	30-Sep-16
LEWISTOWN SCHOOL WWTP	08DP0730	MD0022900	0.022 MGD DESIGN FLOW, 3000 GPD PROJECTED	Municipal-Minor	IR	01-Nov-10	31-Oct-15
HUNTER HILL APARTMENTS WWTP	09DP0610	MD0022926	0.014 MGD	Municipal-Minor	IR	01-Oct-10	30-Sep-15
GLEN MEADOWS RETIREMENT COMMUNITY	08DP0792	MD0022951	FOR RENEWAL, 0.05 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jan-09	31-Dec-13
POOLESVILLE WWTP	08DP0781	MD0023001	FOR RENEWAL, 0.750 MGD DESIGN FLOW, 0.609 AVERAGE	Municipal-Minor	IF	01-Jun-09	31-May-14
SWAN HARBOR DELL MOBILE HOME PARK	08DP0654	MD0023043	FOR RENEWAL, 50,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Sep-09	31-Aug-14
CONCORD TRAILER PARK	09DP0784	MD0023060	FOR RENEWAL, 15,000 GPD DESIGN FLOW	Municipal-Minor	IR	03-Mar-09	01-Feb-14
CECO UTILITIES WWTP	08DP0783	MD0023108	0.035 MGD DESIGN FLOW	Municipal-Minor	IR	01-Mar-09	28-Feb-14
RAWLINGS WWTP	07DP0739	MD0023213	FOR RENEWAL, 143,000 GPD DESIGN FLOW 70700 AVG	Municipal-Minor	IR	01-Dec-07	30-Nov-12
MOUNT SAINT MARY'S UNIVERSITY	07DP0690	MD0023230	FOR RENEWAL, 0.16 MGD DESIGN FLOW, 0.084 AVG, 0.171 MAX	Municipal-Minor	IR	01-Sep-09	31-Aug-14
SUMMERHILL MOBILE HOME PARK WWTP	09DP0734	MD0023272	FOR RENEWAL, 19000 GPD DESIGN & PROJECTED FLOW	Municipal-Minor	IR	01-Jan-10	31-Dec-14
NORTH HARFORD HIGH SCHOOL WWTP	06DP0884	MD0023281	FOR RENEWAL, 20,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Sep-08	31-Aug-13
QUEENSTOWN WWTP #2	11DP0737	MD0023370	FOR NEW PLANT USING EXISTING OUTFALL, 0.6 MGD	Municipal-Minor	IR	01-Jan-12	31-Dec-16
PICCOWAXEN MIDDLE SCHOOL WWTP	03DP0636	MD0023451	0.0025 MGD DESIGN FLOW	Municipal-Minor	IF	01-Jan-07	31-Dec-11
BOHEMIA MANOR HIGH SCHOOL WWTP	06DP0802	MD0023469	FOR RENEWAL, 8000 GPD DESIGN FLOW, WITH UPGRADE TO15000	Municipal-Minor	IR	01-Nov-08	31-Oct-13
OCEAN PINES WASTEWATER TREATMENT PLANT	10DP0708	MD0023477	1.5 MGD PERMITTED FLOW WITH UPGRADE TO 2.3	Municipal-Major	IR	01-Jan-12	31-Dec-15
QUEEN ANNE'S COUNTY - KENT NARROWS/STEVENSVILLE/GRASONVILLE WWTP	06DP0547	MD0023485	3 MGD DESIGN FLOW	Municipal-Major	IF	01-Jun-08	30-May-13
NAVAL SUPPORT ACTIVITY ANNAPOLIS WWTP	07DP2534	MD0023523	FOR RENEWAL, 1 MGD DESIGN FLOW, 0.11 AVG	Municipal-Minor	IR	01-Feb-10	31-Jan-15
MES - ST. MICHAEL'S WASTEWATER	09DP0623	MD0023604	FOR RENEWAL, 500,000 GPD DESIGN & PROJECTED FLOW	Municipal-Minor	IR	01-Jun-11	31-Dec-15
			0.017 MGD DESIGN				

WAYSONS MOBILE COURT WWTP	09DP0566	MD0023647	FLOW, 50160 PROJECTED	Municipal-Minor	IR	01-Apr-11	31-Mar-16
I-70 REST STOP WWTP	07DP0650	MD0023680	0.028 MGD DESIGN FLOW WITH 0.05 MGD EXPANSION ANTICIPATED IN 2008	Municipal-Minor	IF	01-Jul-07	30-Jun-12
DAN-DEE MOTEL & COUNTRY INN	08DP0607	MD0023710	0.012 MGD DESIGN FLOW	Municipal-Minor	IR	01-Oct-09	30-Sep-14
SOUTHERN SENIOR HIGH SCHOOL	09DP1040	MD0023728	FOR RENEWAL, 6,000 GALLONS PER DAY AVERAGE PROJECTED FLOW	Municipal-Minor	IR	01-Jun-11	31-May-16
ELK NECK STATE PARK	06DP0749	MD0023833	0.060 MGD DESIGN FLOW	Municipal-Minor	IF	01-Dec-07	30-Nov-12
GREENBRIER STATE PARK	07DP0753	MD0023868	FOR RENEWAL, 50000 GPD DESIGN FLOW, 25000 PROJECTED	Municipal-Minor	IR	01-Sep-09	31-Aug-14
EASTERN PRE-RELEASE UNIT	05DP0764	MD0023876	20,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Aug-08	31-Jul-13
MES - WOODSTOCK JOB CORPS WASTEWATER	07DP0756	MD0023906	FOR RENEWAL, 0.05 MGD DESIGN FLOW, 0.02 PROJECTED	Municipal-Minor	IR	01-Apr-09	31-Mar-14
SOUTHERN MARYLAND PRE-RELEASE UNIT	09DP0750	MD0023914	FOR RENEWAL, 0.02 MGD DESIGN FLOW (DEC. - FEB. ONLY)	Municipal-Minor	IR	01-Oct-11	30-Sep-16
VICTOR CULLEN CENTER WWTP	07DP0752	MD0023922	0.05 MGD DESIGN FLOW, .02 MGD PROJECTED	Municipal-Minor	IR	01-Feb-11	31-Jan-16
CHELTENHAM BOY'S VILLAGE WWTP & WTP	08DP0755	MD0023931	0.07 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jun-10	31-May-15
POINT LOOKOUT STATE PARK WWTP	07DP0757	MD0023949	90,000 GPD DESIGN FLOW, 20,000 GPD PROJECTED FLOW	Municipal-Minor	IR	01-Sep-08	31-Aug-13
MES - MARYLAND CORRECTIONAL INSTITUTE WWTP	04DP0759	MD0023957	1.6 MGD DESIGN FLOW, 1 MGD AVERAGE	Municipal-Major	IF	01-Jan-07	31-Dec-11
NEW GERMANY STATE PARK	06DP0765	MD0023981	0.016 MGD DESIGN FLOW, 0.005 PROJECTED	Municipal-Minor	IR	01-Mar-08	28-Feb-13
HARBOUR VIEW WWTP	06DP0496	MD0024023	FOR RENEWAL, 65,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-May-10	30-Apr-15
MARDELA HIGH SCHOOL WWTP	05DP1105	MD0024279	FOR RENEWAL, 0.014 MGD DESIGN FLOW	Municipal-Minor	IF	01-Sep-06	31-Aug-11
SMITHSBURG WWTP	03DP1029A	MD0024317	MOD TO CHANGE FROM FECAL COLIFORM TO E. COLI METHOD	Municipal-Minor	IF	01-Apr-06	31-Oct-10
MARYLAND MANOR WWTP	07DP0811	MD0024333	0.090 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jun-08	31-May-13
ANNE ARUNDEL COUNTY - BROADWATER WATER RECLAMATION FACILITY	06DP0813	MD0024350	2 MGD DESIGN FLOW, 1.1 MGD AVG	Municipal-Major	IR	01-Mar-10	28-Feb-15
CHESAPEAKE COLLEGE	05DP1064	MD0024384	0.015 MGD DESIGN FLOW, 0.005 PROJECTED	Municipal-Minor	IF	01-Nov-07	31-Oct-10
MIDDLETOWN WWTP	07DP0462	MD0024406	FOR RENEWAL, 0.250 MGD DESIGN FLOW, 0.183 AVG	Municipal-Minor	IR	01-May-08	30-Apr-13

PHEASANT RIDGE MOBILE HOME PARK	07DP1016	MD0024546	FOR RENEWAL. 0.1125 MGD DESIGN FLOW. 0.049 AVG	Municipal-Minor	IR	01-Jul-09	30-Jun-14
HANCOCK WASTEWATER LAGOON	10DP0832	MD0024562	0.380 MGD DESIGN FLOW, .359 AVERAGE	Municipal-Minor	IR	01-Jun-11	31-May-16
SOUTH CARROLL HIGH SCHOOL WWTP	10DP1028	MD0024589	FOR RENEWAL, 0.05 MGD DESIGN FLOW	Municipal-Minor	IR	01-Sep-11	31-Aug-16
HIGHLAND VIEW ACADEMY WWTP	07DP1034	MD0024627	FOR RENEWAL, 0.03 MGD DESIGN FLOW, 0.008 PROJECTED	Municipal-Minor	IR	01-May-10	30-Apr-15
MARQUIPWARDUNITED, INC.	06DP0346	MD0024635	0.014 MGD	Municipal-Minor	IR	01-Nov-07	31-Oct-12
PATUXENT MOBILE ESTATES	09DP0664	MD0024694	35000 GPD	Municipal-Minor	IR	01-Apr-11	31-Mar-16
OLDTOWN WWTP	07DP1004	MD0024759	RENEWAL, 0.04 MGD DESIGN FLOW	Municipal-Minor	IR	01-Sep-08	31-Aug-13
LEONARDTOWN WWTP	09DP0434	MD0024767	FOR RENEWAL, 680,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Jan-11	31-Dec-15
TRIUMPH INDUSTRIAL PARK WWTP	08DP0233	MD0024929	FOR RENEWAL, 0.0625 MGD DESIGN FLOW, 50,000 GPD PROJECTED FLOW	Municipal-Minor	IR	01-Mar-09	28-Feb-14
MEARS GREAT OAK LANDING MARINA	09DP1035	MD0024945	FOR RENEWAL, 14,000 GPD DESIGN & PROJECTED FLOW	Municipal-Minor	IR	01-Feb-12	31-Jan-17
SPRING MEADOWS WWTP	06DP0870	MD0024953	0.01 MGD DESIGN FLOW	Municipal-Minor	IF	01-May-07	30-Apr-12
HOMESTEAD BENJAMIN'S MOBILE ESTATES WWTP	06DP1033	MD0024961	0.040 MGD DESIGN FLOW, 0.04 PROJECTED	Municipal-Minor	IR	01-Jun-09	31-May-14
GREENRIDGE YOUTH CAMP	04DP0857	MD0024988	0.008 MGD DESIGN FLOW	Municipal-Minor	IF	01-Dec-06	30-Nov-11
WHITE ROCK WWTP	07DP0278	MD0025089	0.05 MGD DESIGN FLOW, 0.025 PROJECTED	Municipal-Minor	IR	01-Nov-08	31-Jan-13
FOXVILLE WWTP	06DP2535	MD0025119	FOR RENEWAL, 0.045 MGD	Municipal-Minor	IF	01-Jun-08	31-May-13
FEDERAL SUPPORT CENTER WWTP	06DP2542	MD0025666	FOR RENEWAL, 10000 GPD DESIGN FLOW, 2000 PROJECTED	Municipal-Minor	IR	01-Jun-08	31-May-13
MES - CHURCH HILL WASTEWATER	04DP0869	MD0050016	0.075 MGD DESIGN FLOW, 0.08 PROJECTED	Municipal-Minor	IR	01-Aug-08	31-Jul-13
CHARLES COUNTY - BEL ALTON WWTP	07DP0431	MD0050334	FOR RENEWAL, 0.032 MGD DESIGN FLOW, 0.0226 AVG	Municipal-Minor	IR	01-Sep-11	31-Aug-16
BOONES MOBILE ESTATES WWTP	06DP0191	MD0050903	80,000 GPD DESIGN AND PROJECTED FLOW	Municipal-Minor	IF	01-Feb-07	31-Jan-12
BROADFORDING BIBLE CHURCH WWTP	05DP1006	MD0051373	FOR RENEWAL, 2500 GPD DESIGN FLOW	Municipal-Minor	IF	01-Jul-07	30-Jun-12
TROUT RUN WWTP	08DP1046	MD0051497	0.9 MGD	Municipal-Minor	IR	01-Oct-11	30-Sep-16
WILLARDS WWTP	04DP1058	MD0051632	0.080 MGD DESIGN FLOW, WITH 0.2 MGD UPGRADE	Municipal-Minor	IF	01-Feb-06	31-Jan-11
			0.08 MGD DESIGN				

ACCIDENT WWTP	00DP1068	MD0051721	PER DAY PROJECTED FLOW	Municipal-Minor	IE	01-Jan-01	31-Dec-05
CHOPTICON HIGH SCHOOL	09DP1077	MD0051918	RENEWAL - 20,000 GPD	Municipal-Minor	IR	24-May-11	31-May-16
NORTHEAST RIVER ADVANCED WWTP	09DP1082	MD0052027	2.0 MGD DESIGN FLOW, 0.654 AVERAGE	Municipal-Major	IR	01-Oct-10	30-Sep-15
NORTHERN HIGH SCHOOL - CALVERT	10DP1092	MD0052167	FOR RENEWAL, 40000 GPD DESIGN FLOW, 25000 PROJECTED	Municipal-Minor	IR	01-Aug-11	31-Jul-16
SHARPTOWN WWTP	10DP1093	MD0052175	FOR RENEWAL, 0.15 MGD MUNICIPAL WWTP	Municipal-Minor	IR	01-Jan-12	31-Dec-16
EWELL WWTP	09DP1099	MD0052230	FOR RENEWAL, 0.065 MGD WWTP	Municipal-Minor	IR	01-Dec-11	30-Nov-16
TYLERTON WWTP	09DP1100	MD0052248	FOR RENEWAL, 0.02 MGD WWTP	Municipal-Minor	IR	01-Dec-11	30-Nov-16
FAIRMOUNT WWTP	09DP1101	MD0052256	40,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Dec-10	30-Nov-15
CRELLIN WWTP	10DP1106	MD0052281	0.028 MGD DESIGN FLOW	Municipal-Minor	IR	01-Dec-11	30-Nov-16
MORNING CHEER	07DP1108	MD0052299	0.055 MGD DESIGN FLOW WITH UPGRADE TO 0.1	Municipal-Minor	IR	01-Mar-08	28-Feb-13
COLLEGE OF SOUTHERN MARYLAND	10DP1107	MD0052311	FOR RENEWAL, 60,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Apr-11	31-Mar-16
KENNEDYVILLE WWTP	11DP1142	MD0052671	0.03 MGD WITH PROVISIONS FOR EXPANSION TO 0.06	Municipal-Minor	IR	01-Dec-11	30-Nov-16
HENSON VALLEY MONTESSORI SCHOOL WWTP	08DP1143	MD0052680	0.01 MGD DESIGN FLOW	Municipal-Minor	IR	01-Mar-09	28-Feb-14
CHERRY HILL WWTP	07DP1206	MD0052825	0.250 MGD DESIGN FLOW, 0.12 AVG	Municipal-Minor	IF	01-Mar-08	28-Feb-13
SWALLOW FALLS STATE PARK WWTP	09DP1209	MD0052850	FOR RENEWAL, 0.062 MGD PERMITTED FLOW	Municipal-Minor	IR	01-Nov-10	31-Oct-15
FRUITLAND WWTP	08DP1223	MD0052990	FOR RENEWAL, 0.8 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jan-11	31-Dec-15
FAHRNEY-KEEDY MEMORIAL HOME	09DP1229	MD0053066	0.05 MGD DESIGN FLOW	Municipal-Minor	IR	01-Aug-10	31-Jul-15
CAMP SONRISE MOUNTAIN	06DP1230	MD0053074	7000 GPD DESIGN FLOW, 5000 GPD PROJECTED FLOW	Municipal-Minor	IR	01-Mar-08	28-Feb-13
MES - HOLIDAY MOBILE ESTATES WWTP	06DP1231	MD0053082	0.125 MGD DESIGN FLOW	Municipal-Minor	IR	01-Sep-07	31-Jul-12
MES - HOLIDAY MOBILE ESTATES WWTP	12DP1231	MD0053082	0.125 MGD DESIGN FLOW	Municipal-Minor	PR	01-Sep-07	
CAMP SHADOWBROOK	07DP1237	MD0053139	FOR RENEWAL, 4000 GPD	Municipal-Minor	IF	01-Nov-08	31-Oct-13
THUNDERBIRD MOTEL WWTP	07DP1239	MD0053155	FOR RENEWAL, 5000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Aug-09	31-Jul-14
MAPLE HILL WASTEWATER TREATMENT PLANT	09DP1241	MD0053171	FOR RENEWAL UNDER NEW OWNER, JOHN BENJAMIN - 28,000 GPD	Municipal-Minor	IR	01-Nov-10	31-Oct-15
BROOK LANE PSYCHIACTRIC CENTER WWTP	08DP1243	MD0053198	RENEWAL, 0.010 MGD DESIGN FLOW	Municipal-Minor	IR	01-Sep-11	31-Aug-16
			5000 GPD DESIGN				

FOREST GREEN COURT MOBILE HOME PARK	06DP1252	MD0053279	FOR RENEWAL, 27,000 GPD	Municipal-Minor	IR	01-Nov-07	31-Oct-12
CLEAR SPRING WWTP	04DP1254	MD0053325	0.2 MGD DESIGN FLOW, 0.073 AVERAGE	Municipal-Minor	IF	01-Jan-07	31-Dec-11
LYONS CREEK MOBILE HOME ESTATE	09DP1275	MD0053511	FOR RENEWAL, 70,000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Sep-09	31-Aug-14
DEEP CREEK LAKE WWTP	09DP1357	MD0054348	1.5 MGD DESIGN FLOW	Municipal-Major	IR	01-Jun-10	31-May-15
DONALDSON BROWN CENTER WWTP	07DP0251	MD0054950	FOR RENEWAL, 0.005 MGD DESIGN FLOW	Municipal-Minor	IR	01-Sep-08	31-Aug-13
LITTLE PATUXENT WATER RECLAMATION PLANT	06DP1421	MD0055174	FOR RENEWAL, 25 MGD DESIGN FLOW WITH UPGRADE TO 29 MGD BY 2/28/12	Municipal-Major	IR	01-Mar-08	28-Feb-13
TWIN CITIES WWTP	09DP1438	MD0055352	0.281 MGD DESIGN FLOW	Municipal-Minor	IR	01-Mar-10	28-Feb-15
OLD SOUTH MOUNTAIN INN	08DP1440	MD0055425	0.018 MGD DESIGN FLOW	Municipal-Minor	IR	01-Dec-09	30-Nov-14
COLONEL RICHARDSON MIDDLE & HIGH SCHOOL WWTP	06DP1455	MD0055522	FOR RENEWAL, 0.011 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jan-09	31-Dec-13
CHARLES COUNTY - CLIFFTON WWTP	08DP1457	MD0055557	0.07 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jul-11	30-Jun-16
FLINTSTONE WWTP	07DP1465	MD0055620	RENEWAL, 0.045 MGD DESIGN FLOW, 0.07 PROJECTED	Municipal-Minor	IR	01-Dec-08	30-Nov-13
KEMPTOWN SCHOOL WWTP	03DP1574	MD0056481	FOR RENEWAL, 5,000 GPD DESIGN FLOW, 2000 PROJECTED	Municipal-Minor	IR	01-Sep-07	31-Aug-12
KEMPTOWN SCHOOL WWTP	10DP1574	MD0056481	FOR RENEWAL, 5,000 GPD DESIGN FLOW, 2000 PROJECTED	Municipal-Minor	PR	01-Sep-07	
HARFORD COUNTY - SOD RUN WASTEWATER TREATMENT PLANT	10DP1580	MD0056545	20 MGD DESIGN FLOW	Municipal-Major	IR	01-Sep-10	31-Aug-15
SHINE INN WWTP	07DP1582	MD0056553	5000 GPD DESIGN FLOW	Municipal-Minor	IR	01-Apr-09	31-Mar-14
NEW LIFE FOURSQUARE CHURCH AND SCHOOL	08DP1633	MD0057100	FOR RENEWAL, 0.005 MGD DESIGN FLOW	Municipal-Minor	IR	01-Sep-09	31-Aug-14
CEDAR MOBILE HOME PARK WWTP	04DP1669	MD0057487	0.015 MDG DESIGN FLOW	Municipal-Minor	IR	01-Sep-09	31-Aug-13
CHARLES COUNTY - SWAN POINT WWTP	08DP1674	MD0057525	0.3 MGD DESIGN FLOW 0.0618 AVERAGE IN 2007	Municipal-Minor	IR	01-Jan-11	31-Dec-15
WINTERS' APARTMENTS WWTP	05DP1683	MD0057606	0.0013 MGD FROM APARTMENT DWELLINGS	Municipal-Minor	IR	01-May-08	30-Apr-13
JUDE HOUSE	03DP1684	MD0057614	10000 GPD DESIGN FLOW - TO REACTIVATE EXPIRED PERMIT	Municipal-Minor	HN		
SHAMROCK RESTAURANT	05DP1780	MD0058050	0.01 MGD	Municipal-Minor	IR	01-Sep-08	31-Aug-13
WOODSBORO WWTP	07DP1855	MD0058661	FOR RENEWAL, 0.250 MGD DESIGN FLOW, 0.064 AVG	Municipal-Minor	IR	01-Dec-08	30-Nov-13
PINEY ORCHARD WWTP	07DP1936	MD0059145	1.2 MGD DESIGN FLOW, 0.487 AVERAGE	Municipal-Minor	IR	01-Apr-11	31-Mar-16

MONROVIA WWTP	07DP1990	MD0059609	FOR RENEWAL, 0.2 MPD DESIGN FLOW, 0.085 AVG	Municipal-Minor	IR	01-Sep-08	31-Aug-13
HEBRON WWTP	05DP1999	MD0059617	FOR RENEWAL - 0.101 MGD DESIGN FLOW, .057 AVERAGE	Municipal-Minor	IF	01-Apr-07	31-Mar-12
GEORGE'S CREEK WWTP	07DP2048	MD0060071	0.6 MGD DESIGN FLOW, 0.741 AVERAGE	Municipal-Minor	IR	01-Oct-09	30-Sep-14
PITTSVILLE WWTP	05DP2085	MD0060348	0.115 MGD DESIGN FLOW, 0.083 AVERAGE	Municipal-Minor	IF	01-Feb-06	31-Jan-11
LIBERTYTOWN WWTP	08DP2108	MD0060577	FOR RENEWAL, 0.05 MGD DESIGN FLOW, 0.039 PROJECTED	Municipal-Minor	IR	01-Apr-09	31-Mar-14
BLOOMINGTON WWTP	08DP2175	MD0060933	FOR MOD TO REVISE FLOW MEASUREMENT METHOD	Municipal-Minor	IR	01-Jun-10	31-May-15
KITZMILLER WWTP	08DP2176	MD0060941	FOR RENEWAL, 0.040 MGD PERMITTED FLOW	Municipal-Minor	IR	01-Feb-11	31-Jan-16
GORMAN WWTP	08DP2177	MD0060950	8500 GPD PERMITTED FLOW	Municipal-Minor	IR	01-Feb-11	31-Jan-16
ANNE ARUNDEL COUNTY - MAYO WATER RECLAMATION FACILITY	98DP2291	MD0061794	FOR RENEWAL, FROM WASTEWATER TREATMENT PLANT, 0.615 MGD DISCHARGE	Municipal-Minor	IE	01-Apr-00	31-Mar-05
ANTIETAM WWTP	09DP2354	MD0062308	FOR RENEWAL, 0.163 MGD DESIGN FLOW, .111 MGD AVERAGE, UV DISINFECTION	Municipal-Minor	IR	01-Dec-09	30-Nov-14
LITTLE ORLEANS CAMPGROUND	05DP2362	MD0062375	0.02 MGD DESIGN FLOW	Municipal-Minor	IR	01-Sep-08	31-Aug-13
ANNE ARUNDEL COUNTY - MARYLAND CITY WATER RECLAMATION FACILITY	02DP2393	MD0062596	FOR RENEWAL, 2.5 MGD DESIGN FLOW, 1.14 MGD AVERAGE FLOW	Municipal-Major	IF	01-Aug-08	31-Jul-13
SHA - SIDELING HILL REST AREA WWTP & WTP	09DP2434	MD0062821	0.0125 MGD PERMITTED FLOW	Municipal-Minor	IR	01-Jan-12	31-Dec-16
DORSEY RUN ADVANCED WASTEWATER TREATMENT PLANT	07DP2488	MD0063207	2.0 MGD DESIGN FLOW, 1.498 MGD AVERAGE	Municipal-Major	IR	01-Apr-09	31-Mar-14
CROWN SPRORTS CENTER	10DP2503	MD0063282		Municipal-Minor	IR	01-Feb-12	31-Jan-17
CONOCOCHEAGUE WWTP	03DP2563	MD0063509	FOR RENEWAL, 4.1 MGD DESIGN FLOW, 1.5 AVG	Municipal-Major	IF	01-Jan-07	31-Dec-11
CELANESE WWTP	09DP2625	MD0063878	FOR MOD TO CHANGE FROM FECAL COLIFORM TO E-COLI TESTING	Municipal-Major	IR	01-Sep-10	31-Aug-15
SANDY HOOK WWTP	07DP2728	MD0064530	RENEWAL, 0.021 MGD	Municipal-Minor	IR	01-Sep-09	31-Aug-14
BRETTON WOODS RECREATION CENTER	09DP2754	MD0064777	NPDES	Municipal-Minor	IR	01-Feb-12	31-Jan-17
HIGHLANDS WWTP	08DP2797	MD0065145	0.037 MGD DESIGN FLOW, 0.04 PROJECTED	Municipal-Minor	IF	01-Nov-08	31-Oct-13
B F S TRUCKSTOP	09DP2807	MD0065234		Municipal-Minor	IR	01-Aug-11	31-Jul-16

NATIONAL WILDLIFE VISITOR CENTER	02DP2831	MD0065358	FOR RENEWAL, 6700 GPD DESIGN FLOW, 300 GPD PROJECTED	Municipal-Minor	IF	01-Oct-04	30-Sep-09
MILL BOTTOM WWTP	08DP2841	MD0065439	0.10 MGD DESIGN FLOW	Municipal-Minor	IR	01-Nov-10	31-Oct-15
BIERS LANE WWTP	04DP2883A	MD0065749	FOR MOD TO CHANGE FROM FECAL COLIFORM TO E-COLI MONITORING	Municipal-Minor	IF	01-Apr-06	30-Sep-10
HAPPY HILLS CAMPGROUND WWTP	09DP2886	MD0065757	FOR RENEWAL	Municipal-Minor	IR	01-May-10	30-Apr-15
RUNNYMEDE WWTP	08DP2912	MD0065927	FOR RENEWAL, 0.02 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jul-10	30-Jun-15
STEVENSON UNIVERSITY WASTEWATER TREATMENT PLANT	10DP2921	MD0066001	FOR RENEWAL, 0.0071 MGD DESIGN FLOW	Municipal-Minor	IR	01-Mar-11	29-Feb-16
MES - EASTERN CORRECTIONAL INSTITUTION WTP & WWTP	09DP3027	MD0066613	FOR WWTP, 0.48 MGD DESIGN FLOW, 0.448 AVERAGE	Municipal-Minor	IR	01-Mar-12	28-Feb-17
PLEASANT VALLEY WWTP	09DP3044	MD0066745	FOR RENEWAL, 0.019 MGD DISCHARGE VOLUME	Municipal-Minor	IR	01-Oct-09	30-Sep-14
TOLCHESTER WWTP	06DP3105	MD0067202	0.265 MGD DESIGN FLOW, 0.105 AVG	Municipal-Minor	IR	01-Apr-08	31-Mar-13
THE JEFFERSON SCHOOL	07DP3160	MD0067521	FOR RENEWAL, 0.018 MGD DESIGN FLOW	Municipal-Minor	IR	01-Dec-08	30-Nov-13
KUNZANG ODSAL PALYUL CHANGCHUB CHOLING	06DP3163	MD0067539	3100 GPD DESIGN FLOW, 2500 GPD PROJECTED TO CONSTRUCTED WETLAND	Municipal-Minor	IR	01-Dec-07	30-Nov-12
SILVER OAK ACADEMY	06DP3172	MD0067571	0.025 MGD DESIGN FLOW	Municipal-Minor	IF	01-Dec-06	30-Nov-11
MIDDLETOWN EAST WWTP	08DP3182	MD0067628	0.350 MGD DESIGN FLOW, 0.155 AVERAGE IN 2007	Municipal-Minor	IR	01-May-10	30-Apr-15
HYATTSTOWN WWTP	01DP3200	MD0067768	FOR RENEWAL, 20000 GPD DESIGN & PROJECTED FLOW	Municipal-Minor	IE	01-Sep-04	31-Aug-09
CEDAR RIDGE CHILDREN'S HOME & SCHOOL	08DP3229	MD0067881	RENEWAL, .010 MGD	Municipal-Minor	IR	01-Jun-09	31-May-14
GLEN ARM WWTP	11DP3235	MD0067903	0.005 MGD	Municipal-Minor	IR	01-Jan-12	
BARTON BUSINESS PARK WWTP	08DP3402	MD0068896	0.05 MGD DESIGN FLOW	Municipal-Minor	IR	01-Jun-11	31-Mar-14
TRACEY'S ELEMENTARY SCHOOL	06DP3535	MD0069582	4000 GPD	Municipal-Minor	IF	01-Jan-07	31-Dec-11
CINNAMON WOODS WWTP	07DP2599	MD0069949	0.099 MGD DESIGN FLOW, 0.040 PROJECTED	Municipal-Minor	IR	01-Dec-08	30-Nov-13
TRI-TOWNS INDUSTRIAL PARK WWTP	07DP2131	MD0070530	FOR RENEWAL - 0.003 MGD PLANT IS ON STANDBY STATUS	Municipal-Minor	IR	01-Sep-08	31-Aug-13
33 STAHL POINT, LLC	09DP3278	MD0068101	RENEWAL UNDER NEW OWNER, 2000 GPD PLANT ON STANDBY	WMA2	NR	01-Mar-12	
WORTON - BUTLERTOWN WWTP	00DP2109	MD0060585	FOR RENEWAL, 150,000 GPD	WMA2	XR	01-Mar-04	28-Feb-09

APPENDIX C

SAS Programs Used to Compile, Verify, and Edit the MDPS Data

MDPSYYYY.SAS

```
*******************************************************************************
LIBNAME PS  'H:\USERS\PPAPALI\MDPS';
LIBNAME IND 'H:\USERS\PPAPALI\MDPS2011\IND2011';
LIBNAME MIN 'H:\USERS\PPAPALI\MDPS2011\min2011';
LIBNAME MAJ 'H:\USERS\PPAPALI\MDPS2011\MAJ2011';
LIBNAME STP 'H:\USERS\PPAPALI\mdps02\STP';

/*OPTIONS CC=FORTRAN;*/

DATA munFY11;
SET  MAJ.majFY11 MAJ.BminFY11 min.minFY11;

IF MONTH=1 OR MONTH=3 OR MONTH=5 OR MONTH=7 OR MONTH=8 OR MONTH=10 OR MONTH=12
THEN TFLOW=FLOW*31;
IF MONTH=4 OR MONTH=6 OR MONTH=9 OR MONTH=11 THEN TFLOW=FLOW*30;
IF MONTH=2 THEN TFLOW=FLOW*28;
/*
IF NPDES='MD0020842' AND DISCH_PT='002A' THEN DISCH_PT='001A';
IF NPDES= 'MD0020851' AND DISCH_PT='002A' THEN DISCH_PT='001A';
IF NPDES='MD0023477' AND DISCH_PT='001B' THEN DISCH_PT='001A';
*/
PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT SUM;
VAR TFLOW;
BY NPDES DISCH_PT;
OUTPUT OUT=SUMS SUM=;

DATA TYPE(KEEP=NPDES DISCH_PT TFLOW);
SET SUMS;

PROC SORT;
BY NPDES DISCH_PT;


DATA munFY11;
MERGE munFY11 TYPE;
BY NPDES DISCH_PT;


******** ONLY 10 MOST SIGNIFICANT INDUSTRIAL PLANTS CONTRIBUTOR WERE INCLUDED;
```

```
DATA indFY11;
SET IND.indFY11;



*TYPE='IND';

PROC SORT;
BY NPDES DISCH_PT;



DATA MDPSFY11;
SET munFY11 indFY11 ;

PROC SORT;
BY NPDES DISCH_PT;


DATA MDPS;
SET MDPSFY11;

/*IF NPDES='DC0021199' THEN DO;
BASIN='WASHINGTON METRO AREA';
CODE ='02-14-02-00';
SUBASIN='UPPER TIDAL AREA';
COUNTY='D.C.';
FALLINE='B';
TYPE='MAJ';
END;
*/
PROC SORT;
BY NPDES DISCH_PT;


DATA CHECK;
SET  MDPS;

PROC MEANS NOPRINT SUM;
BY NPDES DISCH_PT;
OUTPUT OUT=SUMS SUM=;

DATA PRINT;
SET SUMS;

IF _FREQ_ NE 12 THEN OUTPUT;
ELSE DELETE;

PROC PRINT NOOBS;
VAR NPDES DISCH_PT  _FREQ_;
  TITLE    'MIssing or duplicated records to be verified';
  Title2  '  ';


DATA STP1;
SET  STP.STPINFOT;
```

```
*IF NPDES = 'MD0000981' THEN DISCH_PT='001A';
*IF NPDES = 'MD0003221' THEN DISCH_PT='001A';

PROC SORT;
BY NPDES;

DATA MDPS0(KEEP=NPDES DISCH_PT NAME YEAR MONTH FLOW FL_F BOD5 BO_F TSS TS_F
        DO DO_F COD COD_F TOC TOC_F NH3 NH_F TON ON_F TKN TK_F
        NO23 NO_F TN TN_F PO4 PO_F TP TP_F CODE COUNTY FALLINE
        TYPE N_COORD LAT_D LAT_M LAT_S E_COORD LONG_D LONG_M
        LONG_S CODE BASIN SUBASIN STREAM TR_PROC);

MERGE MDPS STP1;
BY NPDES ;

PROC SORT;
BY NPDES DISCH_PT MONTH;


DATA MDPSFY11A(DROP=COMN COMD COUNTYD FALLINED
        TYPED N_COORDD LAT_DD LAT_MD LAT_SD E_COORDD LONG_DD LONG_MD
        LONG_SD CODED BASIND SUBASIND STREAMD TR_PROCD);
RETAIN COMN COMD COUNTYD FALLINED
        TYPED N_COORDD LAT_DD LAT_MD LAT_SD E_COORDD LONG_DD LONG_MD
        LONG_SD CODED BASIND SUBASIND STREAMD TR_PROCD;
SET MDPS0;

IF NPDES = COMN AND DISCH_PT = COMD THEN DO;
COUNTY = COUNTYD;
FALLINE = FALLINED;
TYPE = TYPED;
N_COORD = N_COORD ;
LAT_D = LAT_DD ;
LAT_M = LAT_MD;
LAT_S = LAT_SD;
E_COORD =E_COORD ;
LONG_D =LONG_DD;
LONG_M =LONG_MD;
LONG_S = LONG_SD ;
CODE = CODED;
BASIN = BASIND;
SUBASIN = SUBASIND;
STREAM = STREAMD;
TR_PROC =TR_PROCD;
END;
ELSE DO;

COMN=NPDES;
COMD=DISCH_PT;
COUNTYD = COUNTY;
FALLINED = FALLINE;
TYPED = TYPE;
N_COORDD = N_COORD ;
LAT_DD = LAT_D ;
LAT_MD = LAT_M;
```

```
LAT_SD = LAT_S;
E_COORDD =E_COORD ;
LONG_DD =LONG_D;
LONG_MD =LONG_M;
LONG_SD = LONG_S ;
CODED = CODE;
BASIND = BASIN;
SUBASIND = SUBASIN;
STREAMD = STREAM;
TR_PROCD =TR_PROC;
END;

/*IF YEAR=. THEN OUTPUT;*/

IF YEAR=. THEN DELETE;

DATA MDPSFY11(DROP=CHAR);
SET MDPSFY11A;

CHAR=SUBSTR(CODE,1,8);
IF CHAR='00-02-02' OR CHAR='00-13-01' THEN DELETE;
/* IF WE WANT TO EXCLUDE TWO MD'S SUBASINS NOT DRAIN TO THE BAY WE SHOULD
 SUBSTITUDE 00 TO 05 AND SECOND 00 TO 02 */

*********************************************************************
THIS PART OF THE PROGRAM ADDED TO PERFORM A FEW EDITING AND/OR
CORRECTION RELATED TO THE RECORDS WITH ERROR FOR EXAMPLE WHEN PO4 > TP....
*********************************************************************;

DATA EDIT1;
SET  MDPSFY11;


IF NPDES='MD0065439' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='MONOCACY RIVER';
SUBASIN='MIDDLE POTOMAC RIVER AREA';
STREAM='BUSH CREEK';
CODE='02-14-03-03';
COUNTY='FRED';
LAT_D=39;
LAT_M=12;
LAT_S=36;
LONG_D=77;
LONG_M=06;
LONG_S=36;
E_COORD='390525';
N_COORD='171336';
FALLINE='A';
NAME='MILL BOTTOM';

TR_PROC='NEW@1998';
END;


IF NPDES='MD0066613' AND DISCH_PT='001A' THEN DO;
```

```
TYPE='MIN';
BASIN='TANGIER SOUND';
SUBASIN='POCOMOKE RIVER AREA';
STREAM='MANOKIN RIVER';
CODE='02-13-02-06';
COUNTY='SOME';
E_COORD='538635';
N_COORD='48205';
LAT_D=38;
LAT_M=05;
LAT_S=24;
LONG_D=75;
LONG_M=25;
LONG_S=12;
FALLINE='B';
NAME='EASTERN CORRECTIONALINSTITUTION';
TR_PROC='NEW@1998';
END;


IF NPDES='MD0067521' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='CATOCTIN CREEK';
SUBASIN='MIDDLE POTOMAC RIVER AREA';
STREAM='MIDDLE POTOMAC RIVER';
CODE='02-14-03-05';
COUNTY='FRED';
E_COORD='370656';
N_COORD='170275';
LAT_D=39;
LAT_M=12;
LAT_S=00;
LONG_D=77;
LONG_M=20;
LONG_S=24;
FALLINE='A';
NAME='SHEPPARD PRATT WESTERN MIDDLE SCHOOL';
TR_PROC='NEW@1998';
END;


IF NPDES='MD0066001' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='JONES FALLS';
SUBASIN='PATAPSCO RIVER AREA';
STREAM='PATAPSCO RIVER';
CODE='02-13-09-04';
COUNTY='BALT';
E_COORD='450091';
N_COORD='175930';
LAT_D=39;
LAT_M=15;
LAT_S=00;
LONG_D=76;
LONG_M=25;
LONG_S=12;
```

```
FALLINE='B';
NAME='VILLA JULIE COLLEGE';

TR_PROC='NEW@1998';
END;

IF NPDES='MD0065749' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='POTOMAC RIVER';
SUBASIN='LOWER POTOMAC RIVER AREA';
STREAM='NORTH BRANCH';
CODE='02-14-00-02';
COUNTY='ALLE';
E_COORD='270643';
N_COORD='182384';
LAT_D=39;
LAT_M=18;
LAT_S=00;
LONG_D=78;
LONG_M=30;
LONG_S=00;
FALLINE='A';
NAME='BIERS LANE';

TR_PROC='NEW@1998';
END;

IF NPDES='MD0003158' AND DISCH_PT='008A' OR DISCH_PT='021A' OR DISCH_PT='025A' OR
DISCH_PT='028A' OR DISCH_PT='040A' OR DISCH_PT='077A' OR DISCH_PT='055A' OR DISCH_PT='079A' OR DISCH_PT='084A' OR
DISCH_PT='090A'
OR DISCH_PT='080A' THEN DO;

TYPE='IND';
BASIN='LOWER POTOMAC RIVER';
SUBASIN='MIDDLE TIDAL AREA';
STREAM='POTOMAC R/MATTAWOMAN';
CODE='02-14-00-02';
COUNTY='CHAR';
E_COORD='746400';
N_COORD='273186';
LAT_D=38;
LAT_M=35;
LAT_S=00;
LONG_D=78;
LONG_M=30;
LONG_S=00;
FALLINE='B';
NAME='INDIAN HEAD NOS';
END;

/* New facilities added in 2000 for 1999 data*/
IF NPDES='MD0065757' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='UPPER POTOMAC RIVER';
SUBASIN='POTOMAC RIVER';
STREAM='UT-POTOMAC RIVER';
```

```
CODE='02-14-05-08';
COUNTY='WASH';
E_COORD='293088';
N_COORD='222132';
LAT_D=39;
LAT_M=39;
LAT_S=40;
LONG_D=78;
LONG_M=14;
LONG_S=45;
FALLINE='A';
NAME='HAPPY TRAILS CAMPGROUND';

TR_PROC='NEW@1999';
END;

IF NPDES='MD0066745' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='UPPER POTOMAC RIVER';
SUBASIN='DOUBLE PIPE CREEK';
STREAM='BEAR BRANCH';
CODE='02-14-03-04';
COUNTY='CARR';
E_COORD='395898';
N_COORD='218720';
LAT_D=39;
LAT_M=38;
LAT_S=13;
LONG_D=77;
LONG_M=02;
LONG_S=52;
FALLINE='A';
NAME='PLESANT VALLEY';

TR_PROC='NEW@1999';
END;

IF NPDES='MD0067571' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='UPPER POTOMAC RIVER';
SUBASIN='DOUBLE PIPE CREEK';
STREAM='UT-BEAR BRANCH';
CODE='02-14-03-04';
COUNTY='CARR';
E_COORD='382512';
N_COORD='215377';
LAT_D=39;
LAT_M=36;
LAT_S=24;
LONG_D=77;
LONG_M=12;
LONG_S=13;
FALLINE='A';
NAME='BOWLING BROOK PREPARATORY SCHOOL';

TR_PROC='NEW@1999';
```

```
END;

IF NPDES='MD0067539' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='MIDDLE POTOMAC RIVER';
SUBASIN='POTOMAC RIVER';
STREAM='BROAD RUN';
CODE='02-14-02-02';
COUNTY='MONT';
E_COORD='366112';
N_COORD='157329';
LAT_D=39;
LAT_M=05;
LAT_S=00;
LONG_D=77;
LONG_M=23;
LONG_S=30;
FALLINE='A';
NAME='KUNZANG ODSAL PALGUL BHANGCHUB CHOLING';

TR_PROC='NEW@1999';
END;

IF NPDES='MD0065358' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='PATUXENT RIVER';
SUBASIN='LITTLE PATUXENT RIVER';
STREAM='BROAD RUN';
CODE='02-13-11-04';
COUNTY='PRIN';
E_COORD='419393';
N_COORD='158051';
LAT_D=39;
LAT_M=05;
LAT_S=25;
LONG_D=76;
LONG_M=46;
LONG_S=33;
 FALLINE='A';
NAME='NATIONAL WILDLIFE VISTOR CENTER';

TR_PROC='NEW@1999';
END;

IF NPDES='MD0067857' AND DISCH_PT='002A' THEN DO;
TYPE='IND';
BASIN='CHOPTANK RIVER';
SUBASIN='TUCKAHOE CREEK';
STREAM='';
CODE='02-13-04-05';
COUNTY='TALB';
E_COORD='';
N_COORD='';
LAT_D=38;
LAT_M=52;
LAT_S=47;
```

```
LONG_D=75;
LONG_M=59;
LONG_S=27;
FALLINE='B';
NAME='ALLEN FAMILY FOODS';

TR_PROC='NEW@1999';
END;

 IF NPDES='MD0059609'  THEN DO;
TYPE='MIN';
BASIN=' ';
SUBASIN='LOWER MONOCACY RIVER';
STREAM='';
CODE='02-14-03-02';
COUNTY='FRED';
E_COORD='';
N_COORD='';
LAT_D=39;
LAT_M=22;
LAT_S=15;
LONG_D=77;
LONG_M=17;
LONG_S=00;
FALLINE='';
NAME='MONROVIA';

TR_PROC='NEW@2000';
END;

IF NPDES='MD0067628' AND DISCH_PT='001A' THEN DO;
TYPE='MIN';
BASIN='';
SUBASIN='CATOCTIN CREEK';
STREAM='CATOCTIN CREEK';
CODE='02-14-03-05';
COUNTY='FRED';
E_COORD='';
N_COORD='';
LAT_D=39;
LAT_M=26;
LAT_S=15;
LONG_D=77;
LONG_M=31;
LONG_S=14;
FALLINE='';
NAME='MIDDLETOWN-EAST';

TR_PROC='NEW@2001';
END;

IF NPDES='MD0001201' AND DISCH_PT='002' OR NPDES='MD0001201' AND
DISCH_PT='012' THEN DO;

TYPE='IND';
BASIN='PATAPSCO RIVER';
```

```
SUBASIN='BEAR CREEK';
STREAM=' BALTIMORE HARBOR';
CODE='02-13-09-03';
COUNTY='BALT';
E_COORD='942.2';
N_COORD='591.8';
LAT_D=39;
LAT_M=21;
LAT_S=33;
LONG_D=76;
LONG_M=22;
LONG_S=14;
FALLINE='B';
NAME='BETHELEHEM STEEL';
TR_PROC='';
END;


IF NPDES='MD0020231' THEN DO;

TYPE='MIN';
BASIN='UPPER POTOMAC RIVER';
SUBASIN='ANIETAM CREEK';
STREAM='UT-LITTLE ANTIETAM CR';
CODE='02-14-05-02';
COUNTY='WASH';
E_COORD='609500';
N_COORD='607900';
LAT_D=39;
LAT_M=30;
LAT_S=02;
LONG_D=76;
LONG_M=40;
LONG_S=30;
FALLINE='A';
NAME='BOONSBORO';
TR_PROC='LG ';
END;

IF NPDES='MD0020532' THEN DO;

TYPE='MAJ';
BASIN='NATICOKE RIVER';
SUBASIN='WICOMICO HEADWATER';
STREAM='WOOD CREEK';
CODE='02-13-03-04';
COUNTY='WICO';
E_COORD='1209400';
N_COORD='219900';
LAT_D=38;
LAT_M=25;
LAT_S=42;
LONG_D=75;
LONG_M=34;
LONG_S=15;
FALLINE='B';
```

```
NAME='DELMAR';
TR_PROC='TF+C/F';
END;


IF NPDES='MD0022730' THEN DO;

TYPE='MAJ';
BASIN='NATICOKE RIVER';
SUBASIN='MARSHYHOPE CREEK';
STREAM='WRIGHTS BRANCH';
CODE='02-13-03-06';
COUNTY='DORC';
E_COORD='1131200';
N_COORD='288000';
LAT_D=38;
LAT_M=40;
LAT_S=07;
LONG_D=75;
LONG_M=50;
LONG_S=0;
FALLINE='B';
NAME='HURLOCK';
TR_PROC='LG';
END;
IF NPDES='MD0022748' THEN DO;

TYPE='MIN';
BASIN='NORTH BRANCH POTOMAC';
SUBASIN='LOWER NORTH BRANCH';
STREAM='UT-N.BRANCH POTOMAC';
CODE='02-14-10-01';
COUNTY='ALLE';
E_COORD='280700';
N_COORD='637100';
LAT_D=39;
LAT_M=34;
LAT_S=6;
LONG_D=78;
LONG_M=50;
LONG_S=31;
FALLINE='B';
NAME='MARYLAND WATER SERVICE';
TR_PROC='LG';
END;

IF NPDES='MD0052825' THEN DO;
TYPE='MIN';
BASIN='ELK RIVER';
SUBASIN='LITTLE ELK CREEK';
STREAM='UT-LITTLE ELK CREEK';
CODE='02-13-06-05';
COUNTY='CECI';
E_COORD='1121700';
N_COORD='668700';
LAT_D=39;
```

```
LAT_M=39;
LAT_S=50;
LONG_D=75;
LONG_M=51;
LONG_S=27;
FALLINE='B';
NAME='CHERRY HILL';
TR_PROC='S/SF';
END;

IF NPDES='MD0063509' THEN DO;
TYPE='MAJ';
BASIN='UPPER POTOMAC RIVER';
SUBASIN='CONOCOCHEAGUE CREEK';
STREAM='CONOCOCHEAGUE CREEK';
CODE='02-14-05-04';
COUNTY='WASH';
E_COORD='570100';
N_COORD='652200';
LAT_D=39;
LAT_M=37;
LAT_S=17;
LONG_D=77;
LONG_M=48;
LONG_S=58;
FALLINE='A';
NAME='CONOCOCHEAGUE';
TR_PROC='';
END;

IF NPDES='MD0065358' THEN DO;
TYPE='MIN';
BASIN='PATUXENT RIVER';
SUBASIN='LITTLE PATUXENT RIVER';
STREAM='BROAD RUN';
CODE='02-13-11-04';
COUNTY='PRIN';
E_COORD='39525';
N_COORD='764633';
LAT_D=39;
LAT_M=52;
LAT_S=5;
LONG_D=76;
LONG_M=46;
LONG_S=33;
FALLINE='A';
NAME='NATIONAL WILDLIFE VISITOR CENTER';
TR_PROC='NEW@1999';
END;

IF NPDES='MD0067628' THEN DO;
TYPE='MIN';
BASIN='CATOCTIN CREEK';
SUBASIN='CONE BRANCH';
STREAM='HOLLOW ROAD CREEK';
CODE='02-14-03-05';
```

```
COUNTY='';
E_COORD='';
N_COORD='';
LAT_D=39;
LAT_M=26;
LAT_S=15;
LONG_D=77;
LONG_M=31;
LONG_S=14;
FALLINE='';
NAME='MIDDLETOWN WWTP';
TR_PROC='';
END;

IF NPDES='MD0067903' THEN DO;
TYPE='MIN';
BASIN='GUNPOWDER RIVER';
SUBASIN='LOWER GUNPOWDER FALLS';
STREAM='UN-TRIB TO LONG GREEN CREEK';
CODE='02-13-08-02';
COUNTY='BALT';
E_COORD='';
N_COORD='';
LAT_D=39;
LAT_M=27;
LAT_S=35;
LONG_D=76;
LONG_M=29;
LONG_S=45;
FALLINE='';
NAME='GLEN ARM MAINTENANCE WWTP';
TR_PROC='';
END;


IF NPDES='MD0023361' THEN DO;
TYPE='MIN';
BASIN='';
SUBASIN='';
STREAM='';
CODE='02-14-01-01';
COUNTY='';
E_COORD='';
N_COORD='';
LAT_D=38;
LAT_M=26;
LAT_S=02;
LONG_D=76;
LONG_M=58;
LONG_S=58;
FALLINE='';
NAME='AT&T FAULKNER';
TR_PROC='';
END;

IF NPDES='MD0067881' THEN DO;
```

```
TYPE='MIN';
BASIN='';
SUBASIN='';
STREAM='';
CODE='02-14-05-04';
COUNTY='';
E_COORD='';
N_COORD='';
LAT_D=38;
LAT_M=10;
LAT_S=48;
LONG_D=76;
LONG_M=31;
LONG_S=25;
FALLINE='';
NAME='CEDAR RIDGE';
TR_PROC='';
END;

IF NPDES='MD0060739' THEN DO;
TYPE='MIN';
BASIN='';
SUBASIN='';
STREAM='';
CODE='02-14-10-01';
COUNTY='';
E_COORD='';
N_COORD='';
LAT_D=39;
LAT_M=27;
LAT_S=39;
LONG_D=76;
LONG_M=00;
LONG_S=20;
FALLINE='';
NAME='TRI-TOWNS INDUSTRIAL PARK';
TR_PROC='';
END;

IF NPDES='MD0053201' THEN DO;
TYPE='MIN';
BASIN='';
SUBASIN='';
STREAM='';
CODE='02-14-01-08';
COUNTY='';
E_COORD='';
N_COORD='';
LAT_D=38;
LAT_M=27;
LAT_S=01;
LONG_D=76;
LONG_M=59;
LONG_S=25;
FALLINE='';
NAME='RELAX INN';
```

```
TR_PROC='';
END;

IF NPDES='MD0056553' THEN DO;
TYPE='MIN';
BASIN='';
SUBASIN='';
STREAM='';
CODE='02-14-01-06';
COUNTY='';
E_COORD='';
N_COORD='';
LAT_D=38;
LAT_M=24;
LAT_S=23;
LONG_D=76;
LONG_M=57;
LONG_S=07;
FALLINE='';
NAME='SHINE INN';
TR_PROC='';
END;

IF NPDES='MD0062375' THEN DO;
TYPE='MIN';
BASIN='';
SUBASIN='';
STREAM='';
CODE='02-14-05-11';
COUNTY='';
E_COORD='';
N_COORD='';
LAT_D=39;
LAT_M=37;
LAT_S=40;
LONG_D=78;
LONG_M=23;
LONG_S=34;
FALLINE='';
NAME='LITTLE ORLEANS CAMP';
TR_PROC='';
END;

 IF NPDES='MD0063282' THEN DO;
TYPE='MIN';
BASIN='';
SUBASIN='';
STREAM='';
CODE='02-13-03-01';
COUNTY='';
E_COORD='';
N_COORD='';
LAT_D=38;
LAT_M=18;
LAT_S=07;
LONG_D=75;
```

```
LONG_M=37;
LONG_S=40;
FALLINE='';
NAME='HEARNE-MEADOWS LLC';
TR_PROC='';
END;

IF PO4>TP THEN PO4=TP;



DATA  EDIT2;
 SET  EDIT1;

RENAME TOC_F=TC_F COD_F=CO_F;



DATA  PS.FY11ALL;
 SET  EDIT2;
if flow ne 0 then do;

 /*if NPDES='MD0020044' OR NPDES='MD0020362' OR NPDES='MD0020427' OR NPDES='MD0020435'
 OR NPDES='MD0023043' OR NPDES='MD0020449' THEN DO;*/

/*
IF NH3=. AND TKN=. AND TN=. THEN DO;
NH3=13.51; TON=2.96; TKN=16.47; NO23=1.53; TN=18.00; END;
IF PO4=. AND TP=. THEN DO;
PO4=2.52; TP=3.00; END;*/


END;

*end;



 /*EDIT DONE FOR 2001DATA*/
/*
if npdes='MD0003158' AND DISCH_PT='025A' THEN DO;
NH3=.;TON=.;TKN=.;NO23=.; TN=.; PO4=.; TP=.;
END;
IF NPDES='MD0003158' AND DISCH_PT='082A' THEN DO;
NH3=.; TON=.;TKN=.;NO23=.;TN=.;PO4=.;TP=.;  END;
IF NPDES='MD0003158' AND DISCH_PT='010A' THEN DO;
NH3=.; TON=.;TKN=.;NO23=.;TN=.;PO4=.;TP=.;  END;
 IF NPDES='MD0003158' AND DISCH_PT='018A' THEN DO;
PO4=.;TP=.;  END;
IF NPDES='MD0003158' AND DISCH_PT='021A' THEN DO;
PO4=.;TP=.;  END;
IF NPDES='MD0003158' AND DISCH_PT='085A' THEN DO;
;PO4=.;TP=.;  END;
IF NPDES='MD0003158' AND DISCH_PT='086A' THEN DO;
PO4=.;TP=.;  END;*/
```

```
/*
if NPDES='MD0021831' AND TP=21.42 THEN DO;
TP=.89;END; */



/*
IF NPDES='MD0020842' AND DISCH_PT='001A' THEN DISCH_PT='002A';
IF NPDES= 'MD0020851' AND DISCH_PT='001A' THEN DISCH_PT='002A';
IF NPDES='MD0023477' AND DISCH_PT='001A' THEN DISCH_PT='001B';*/
/*if npdes='MD0022608' AND DISCH_PT='001A' THEN DELETE;
if npdes='MD0021679' AND MONTH=7 THEN TP=1.26;*/

/*CHANGE TO GROUND WATER FROM 1992 */
/*ABOVE EDIT DONE IN 1999 FOR 1998 DATA BY PRIYA*/

PROC CONTENTS;
PROC PRINT;
 *VAR NPDES DISCH_PT YEAR MONTH FLOW BOD5 TSS DO NH3 TON TKN NO23 TN PO4 TP COD TOC
 *FL_F BO_F TS_F DO_F NH_F ON_F TK_F NO_F TN_F PO_F TP_F;

 TITLE1 '  ';
 TITLE2  'MARYLAND ACTIVE WWTP PLANTS IN 2010';


 RUN;
```

MAJYYYY.SAS

```
*******************************************************************************
LIBNAME PS  'H:\users\ppapali\mdps2011\maj2011';
/*FILENAME MAJ  'H:\users\ppapali\mdps09\marya\majfy11edit4T.prn';*/


Proc Import Datafile = "\\mdent12\USERS\ppapali\mdps2011\maj2011\majfy11edit5.xls"
Out = majfy11 Replace;
Mixed = Yes;
Sheet = 'majfy11';
Run; Quit;




data majfy11;
set majfy11;

IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NH3=. AND TKN NE . AND TON NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND TN NE . AND NO23 NE . THEN TKN=TN-NO23;
IF NO23=. AND TKN NE . AND TN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;
```

```
PROC SORT;
BY NPDES DISCH_PT;

DATA NITRO1;
SET majfy11;

IF TKN NE . AND TN NE . THEN OUTPUT;
ELSE DELETE;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT MEAN;
VAR TKN TN;
BY NPDES DISCH_PT;
OUTPUT OUT=NMEANS1 MEAN=TKN_M1 TN_M;

DATA NITRO2;
SET majfy11;

IF NH3 NE . AND TKN NE . THEN OUTPUT;
ELSE DELETE;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT MEAN;
VAR NH3 TKN;
BY NPDES DISCH_PT;
OUTPUT OUT=NMEANS2 MEAN=NH3_M TKN_M2;

DATA PHOS;
SET majfy11;

IF TP NE . AND PO4 NE . THEN OUTPUT;
ELSE DELETE;

PROC MEANS NOPRINT MEAN;
VAR PO4 TP;
BY NPDES DISCH_PT;
OUTPUT OUT=PMEANS MEAN=PO4_M TP_M;

DATA majfy11;
MERGE majfy11 NMEANS1 NMEANS2 PMEANS;
BY NPDES DISCH_PT;


IF FLOW GT 0 THEN DO;
IF NH3 NE . AND TKN=. THEN TKN=NH3*TKN_M2/NH3_M;
IF TKN NE . AND NH3=. THEN NH3=TKN*NH3_M/TKN_M2;
IF NO23=. AND TN NE . AND TKN NE . THEN NO23=TN-TKN;
IF TN NE . AND TKN=. THEN TKN=TN*TKN_M1/TN_M;
IF TP NE . AND PO4=. THEN PO4=TP*PO4_M/TP_M;
```

```
IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NH3=. AND TKN NE . AND TON NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND TN NE . AND NO23 NE . THEN TKN=TN-NO23;
IF NO23=. AND TKN NE . AND TN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;
END;

PROC MEANS NOPRINT MEAN;
VAR BOD5 TSS DO NH3 TKN TN PO4 TP COD TOC;
BY NPDES DISCH_PT;
OUTPUT OUT=MEANS_YR MEAN=BOD_Y TSS_Y DO_Y  NH3_Y TKN_Y TN_Y PO4_Y TP_Y cod_y toc_y;

DATA maj02T(KEEP= NPDES DISCH_PT YEAR MONTH FLOW FL_F BOD5 BO_F TSS TS_F
                  DO DO_F COD COD_F TOC TOC_F NH3 NH_F TON ON_F TKN TK_F NO23
                  NO_F TN TN_F PO4 PO_F TP TP_F COD COD_F TOC TOC_F);
MERGE majfy11 MEANS_YR;
BY NPDES DISCH_PT;

IF FLOW GT 0 THEN DO;
IF BOD5=. THEN BOD5=BOD_Y;
IF TSS=. THEN TSS=TSS_Y;
IF DO=. THEN DO=DO_Y;
IF COD=. THEN COD=COD_Y;
IF TOC=. THEN TOC=TOC_Y;
IF NH3=. THEN NH3=NH3_Y;
IF TKN=. THEN TKN=TKN_Y;
IF TN=. THEN TN=TN_Y;
IF PO4=. THEN PO4=PO4_Y;
IF TP=. THEN TP=TP_Y;
END;



IF FLOW NE 0 THEN DO;



IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NH3=. AND TKN NE . AND TON NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND TN NE . AND NO23 NE . THEN TKN=TN-NO23;
IF NO23=. AND TKN NE . AND TN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;
end;

IF ( NH3 NE . AND TON NE . AND (NH3+TON) NE TKN) THEN DO;
TKN=NH3+TON; END;
IF TKN NE . AND TKN LE NH3 THEN DO; TKN=NH3; TON=0.00; END;

IF ( TKN NE . AND NO23 NE . AND TKN+NO23 NE TN ) THEN DO;
TN=TKN+NO23; END;
IF TN  NE . AND TN LE TKN THEN DO; TN=TKN ; NO23=0.00; END;
```

```
FLOW=ROUND(FLOW,.0001);
BOD5=ROUND(BOD5,.01);
TSS=ROUND(TSS,.01);
DO=ROUND(DO,.01);
COD=ROUND(COD,.1);
toc=round(toc,.1);
NH3=ROUND(NH3,.01);
TON=ROUND(TON,.01);
TKN=ROUND(TKN,.01);
NO23=ROUND(NO23,.01);
TN=ROUND(TN,.01);
PO4=ROUND(PO4,.01);
TP=ROUND(TP,.01);



DATA  MAJOR;
SET maj02T;


PROC SORT NODUPKEY;
BY NPDES DISCH_PT MONTH ;

DATA  PS.majfy11;
SET MAJOR;
proc sort;
by npdes disch_pt month year;


PROC CONTENTS;
PROC PRINT;run;


/*VAR NPDES DISCH_PT year MONTH FLOW BOD5 TSS DO NH3 TON TKN NO23 TN PO4 TP COD TOC FL_F BO_F
TS_F DO_F NH_F ON_F TK_F NO23_F TN_F PO_F TP_F COD_F TOC_F;
RUN;*/
```

MINYYYY.SAS

```
LIBNAME ps 'H:\USERS\ppapali\mdps2011\min2011';
libname point 'H:\users\ppapali\mdps';



Proc Import Datafile = "\\mdent12\USERS\ppapali\mdps2011\min2011\MINFY11EDIT10.XLS"
Out = MINFY11 Replace;
Mixed = Yes;
Sheet = 'MINFY11';
```

```
Run; Quit;



data minFY11;
set minFY11;

IF NH3=. AND TON NE . AND TKN NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NO23=. AND TN NE . AND TKN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;
IF TKN=. AND NO23 NE . AND TN NE .  THEN TKN=TN-NO23;

*IF TP NE . THEN TP_F='D';

PROC SORT;
BY NPDES DISCH_PT;



PROC MEANS NOPRINT DATA=minFY11 MEAN;
VAR FLOW BOD5 TSS DO;
BY NPDES DISCH_PT;
OUTPUT OUT=MEANS1 MEAN=FLOW_M BOD5_M TSS_M DO_M;

DATA NITRO1;
SET minFY11;

IF TKN NE . AND TN NE . THEN OUTPUT;
ELSE DELETE;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT DATA=NITRO1 MEAN;
VAR TKN TN;
BY NPDES DISCH_PT;
OUTPUT OUT=MEANS2 MEAN=TKN_M1 TN_M;

DATA NITRO2;
SET minFY11;

IF NH3 NE . AND TKN NE . THEN OUTPUT;
ELSE DELETE;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT DATA=NITRO2 MEAN;
VAR NH3 TKN;
BY NPDES DISCH_PT;
OUTPUT OUT=MEANS3 MEAN=NH3_M TKN_M2;
```

```
DATA PHOS;
SET minFY11;

IF PO4 NE . AND TP NE . THEN OUTPUT;
ELSE DELETE;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT DATA=PHOS MEAN;
VAR PO4 TP;
BY NPDES DISCH_PT;
OUTPUT OUT=MEANS4 MEAN=PO4_M TP_M;

DATA DO;
SET minFY11;

IF DO NE . THEN OUTPUT;
ELSE DELETE;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT DATA=DO MEAN;
VAR DO;
BY NPDES DISCH_PT;
OUTPUT OUT=MEANS5 MEAN=DO_M;



DATA FILL;
MERGE minFY11 MEANS1 MEANS2 MEANS3 MEANS4 MEANS5;
BY NPDES DISCH_PT;


IF FLOW EQ . THEN FLOW=FLOW_M;



IF FLOW NE . AND FLOW NE 0.00 THEN DO;

IF BOD5=. THEN BOD5=BOD5_M;
IF TSS=. THEN TSS=TSS_M;
IF TP=. THEN TP=TP_M;
IF PO4=. THEN PO4=PO4_M;
*IF TKN=. THEN TKN=TKN_M;

IF DO=.  THEN DO=DO_M;

IF TKN=. AND TN NE . THEN TKN=TN*TKN_M1/TN_M;
IF NH3=. AND TKN NE . THEN NH3=TKN*NH3_M/TKN_M2;
IF TN=. AND TKN=. AND NH3 NE . THEN TKN=NH3*TKN_M2/NH3_M;
IF PO4=. AND TP NE . THEN PO4=TP*PO4_M/TP_M;
IF TP=. AND PO4 NE . THEN TP=PO4*TP_M/PO4_M;
```

```
IF NH3=. AND TON NE . AND TKN NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NO23=. AND TN NE . AND TKN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;
IF TKN=. AND NO23 NE . AND TN NE .  THEN TKN=TN-NO23;
END;

PROC SORT;
BY NPDES DISCH_PT YEAR MONTH;




PROC MEANS NOPRINT DATA=FILL MEAN;
VAR NH3 TON TKN NO23 TN PO4 TP DO;
BY NPDES DISCH_PT;
OUTPUT OUT=MEANS MEAN=NH3_Y TON_Y TKN_Y NO23_Y TN_Y PO4_Y TP_Y DO_Y;

DATA MIN;
MERGE FILL MEANS;
BY NPDES DISCH_PT;


IF FLOW NE . AND FLOW NE 0.000 THEN DO;

IF NH3=. THEN NH3=NH3_Y;
IF TON=. THEN TON=TON_Y;
IF TKN=. THEN TKN=TKN_Y;
IF NO23=. THEN NO23=NO23_Y;
IF TN=. THEN TN=TN_Y;
IF PO4=. THEN PO4=PO4_Y;
IF TP=. THEN TP=TP_Y;



   IF NH3=. AND TON NE . AND TKN NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NO23=. AND TN NE . AND TKN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;
IF TKN=. AND NO23 NE . AND TN NE .  THEN TKN=TN-NO23;
END;


PROC SORT;
BY NPDES DISCH_PT;

/*PROC PRINT;
VAR NPDES DISCH_PT MONTH FLOW BOD5 TSS NH3 TON TKN NO23 TN PO4 TP DO;*/
```

```
/* 1006 data will be used here to fill the values for those
 plants with missing DMRS for most of the months in year 1010
*/
DATA MEAN10;
SET POINT.mdpsCY10;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT MEAN;
VAR NH3 TKN TN PO4 TP;
BY NPDES ;
OUTPUT OUT=MEAN10 MEAN=NH3_10 TKN_10 TN_10 PO4_10 TP_10;

DATA MIN2(KEEP=NPDES DISCH_PT YEAR MONTH FLOW FL_F BOD5 BO_F TSS
              TS_F DO DO_F COD COD_F TOC TOC_F NH3 NH_F TON ON_F TKN
              TK_F NO23 NO_F TN TN_F PO4 PO_F TP TP_F);
MERGE MIN MEAN10;
BY NPDES;



IF flow NE . and FLOW NE 0.000 THEN DO;

IF NH3=. AND TKN=. AND TN=. THEN DO;
IF NH3_10 NE . THEN NH3=NH3_10;
IF TKN_10 NE . THEN TKN=TKN_10;
IF TN_10 NE . THEN TN=TN_10;
END;

IF NH3=. AND TKN=. AND TN=. THEN DO;
NH3=13.51; TKN=16.47; TN=18.00; END;

IF PO4=. AND TP=. THEN DO;
IF PO4_10 NE . THEN PO4=PO4_10;
IF TP_10 NE . THEN TP=TP_10; END;

IF PO4=. AND TP=. THEN DO;
PO4=2.52; TP=3.00; END;

IF TP NE . AND PO4=. AND PO4_10 NE . AND TP_10 NE . THEN PO4=TP*PO4_10/TP_10;
IF PO4=. THEN PO4=TP*2.52/3;


IF TN=. THEN TN=TN_10;

IF TKN=. AND NH3 NE . AND TKN_10 NE . AND NH3_10 NE .
THEN TKN=NH3*TKN_10/NH3_10;
IF NH3=. AND TKN NE . AND TKN_10 NE . AND NH3_10 NE .
THEN NH3=TKN*NH3_10/TKN_10;

IF TN=. THEN DO;
IF NH3=. AND TKN NE . THEN NH3=TKN*13.51/16.47;
IF TKN=. AND NH3 NE . THEN TKN=NH3*16.47/13.51;
```

```
END;



IF NH3=. AND TON NE . AND TKN NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NO23=. AND TN NE . AND TKN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;
IF TKN=. AND NO23 NE . AND TN NE .  THEN TKN=TN-NO23;



/*This modification done for 1010 data*/

if tkn gt tn then do;
tn=tkn;no23=0;


end;

if nh3>tkn then DO;
tkn=nh3; ton=0;
END;


IF PO4 GT TP THEN PO4=TP;
IF DO=. THEN DO=5;
IF TSS=. THEN TSS=15;

end;

DATA minFY11;
SET MIN2;

IF ( NH3 NE . AND TON NE . AND (NH3+TON) NE TKN) THEN DO;
TKN=NH3+TON; END;
IF TKN NE . AND TKN LE NH3 THEN DO; TKN=NH3; TON=0.00; END;

IF ( TKN NE . AND NO23 NE . AND TKN+NO23 NE TN ) THEN DO;
TN=TKN+NO23; END;
IF TN  NE . AND TN LE TKN THEN DO; TN=TKN ; NO23=0.00; END;


/*   New calculations added to the program on nov 4th 2005.used for facility they
report only TN values*/
DATA minFY11;
SET minFY11;

IF NH3=. AND TON NE . AND TKN NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NO23=. AND TN NE . AND TKN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;
IF TKN=. AND NO23 NE . AND TN NE .  THEN TKN=TN-NO23;
```

```
If NH3=. AND TON=. AND NO23=. AND TN NE . THEN DO;
NH3=TN*.8; TON=TN*.15; NO23=TN*.05; END;

IF TP NE . AND PO4=. THEN DO;
PO4=TP*.71; END;
IF TP=. AND PO4 NE . THEN DO;

TP=PO4/.71;END;

IF ( NH3 NE . AND TON NE . AND (NH3+TON) NE TKN) THEN DO;
TKN=NH3+TON; END;
IF TKN NE . AND TKN LE NH3 THEN DO; TKN=NH3; TON=0.00; END;

IF ( TKN NE . AND NO23 NE . AND TKN+NO23 NE TN ) THEN DO;
TN=TKN+NO23; END;
IF TN  NE . AND TN LE TKN THEN DO; TN=TKN ; NO23=0.00; END;



DATA minFY11;SET minFY11;

IF FLOW=0.000 THEN DO;
  BOD5=.; TSS=.; COD=.; DO=.; TOC=.; NH3=.; TON=.; TKN=.; NO23=.; TN=.;
  PO4=.; TP=.; BO_F=' '; TS_F=' '; COD_F=' '; DO_F=' '; TOC_F=' ';
  NH_F=' '; ON_F=' '; TK_F=' '; NO_F=' '; TN_F=' '; PO_F=' '; TP_F=' ';
  END;

FLOW=ROUND(FLOW,.00001);
BOD5=ROUND(BOD5,.1);
TSS=ROUND(TSS,.1);
DO=ROUND(DO,.1);
COD=ROUND(COD,.01);
TOC=ROUND(TOC,.01);
NH3=ROUND(NH3,.01);
TON=ROUND(TON,.01);
TKN=ROUND(TKN,.01);
NO23=ROUND(NO23,.01);
TN=ROUND(TN,.01);
PO4=ROUND(PO4,.01);
TP=ROUND(TP,.01);

IF MONTH=. THEN DELETE;
/*if flow=. then flow=0; */


PROC SORT nodupkey;
BY NPDES disch_pt year month ;

DATA ps.minFY11;
SET minFY11;



PROC CONTENTS;
PROC PRINT ;
```

```
VAR NPDES DISCH_PT year MONTH FLOW BOD5 TSS DO NH3 TON TKN NO23 TN PO4 TP COD TOC FL_F BO_F
TS_F DO_F NH_F ON_F TK_F NO_F TN_F PO_F TP_F COD_F TOC_F;
RUN;
```

INDYYYY.SAS

```
PROGRAM TO READ EDITED .DAT FILE, PERFORM ADDITINAL EDITING              *
* FILL IN THE MISSING VALUES WITH ANNUAL MEANS, OR PREVIOUSE YEAR ASSIGN    *
* PROPER FLAG TO EDITED                                                    *
* VALUES AND FIALLY CONVER THE THE FILE BACK TO SSD FILE                   *
*************************************************************************** ;

LIBNAME pp 'H:\users\ppapali\mdps2011\ind2011';
/*filename temp  'H:\users\ppapali\mdps08\ind08\ind08edit3l.prn';*/

/*DATA EDIT;
INFILE temp MISSOVER;

INPUT NPDES $1-10 DISCH_PT $11-15 YEAR 16-20 MONTH 21-23 FLOW 24-32
     BOD5 33-39 TSS 40-46 DO 47-51 NH3 52-59 TON 60-67 TKN 68-75
     NO23 76-83 TN 84-91 PO4 92-97 TP 98-103 COD 104-109 TOC 110-113 FL_F $114-115
     BO_F $116-117 TS_F $118-119  DO_F $120-121 NH_F $122-123 ON_F $124-125
     TK_F $126-126 NO_F $127-127 TN_F $128-128 PO_F $129-129 TP_F $130-130 COD_F $131-131
     TOC_F$132-132;*/



Proc Import Datafile = "\\mdent12\USERS\ppapali\mdps2011\ind2011\indfy11edit2.xls"
Out = indfy11 Replace;
Mixed = Yes;
Sheet = 'indfy11';
Run; Quit;



DATA indfy11;
SET  indfy11;


IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NH3=. AND TKN NE . AND TON NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND TN NE . AND NO23 NE . THEN TKN=TN-NO23;
IF NO23=. AND TKN NE . AND TN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;

PROC SORT;
BY NPDES DISCH_PT;

DATA indfy11;SET indfy11;
DO=INPUT(DOX,3.2);


PROC MEANS NOPRINT DATA=indfy11 MEAN;
VAR FLOW BOD5 TSS DO COD TOC ;
```

```
BY NPDES DISCH_PT;
OUTPUT OUT=MEANS1 MEAN=FLOW_M BOD5_M TSS_M DO_M COD_M TOC_M ;



DATA NITRO1;
SET  indfy11;

IF TKN NE . AND TN NE . THEN OUTPUT;
ELSE DELETE;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT DATA=NITRO1 MEAN;
VAR TKN TN;
BY NPDES DISCH_PT;

OUTPUT OUT=MEANS2 MEAN=TKN_M TN_M;

DATA NITRO2;
SET  indfy11;

IF NH3 NE . AND TKN NE . THEN OUTPUT;
ELSE DELETE;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT DATA=NITRO2 MEAN;
VAR NH3 TKN TON;
BY NPDES DISCH_PT;
OUTPUT OUT=MEANS3 MEAN=NH3_M TKN_M TON_M;

DATA PHOS;
SET  indfy11;

IF TP NE . AND PO4 NE . THEN OUTPUT;
ELSE DELETE;

PROC MEANS NOPRINT MEAN;
VAR PO4 TP;

BY NPDES DISCH_PT;
OUTPUT OUT=MEANS4 MEAN=PO4_M TP_M;



DATA FILL;
 MERGE indfy11 MEANS1 MEANS2 MEANS3 MEANS4;
BY NPDES DISCH_PT;


IF FLOW=. THEN FLOW=FLOW_M;

IF FLOW NE . AND FLOW NE 0.00 THEN DO;
```

```
IF BOD5=. THEN BOD5=BOD5_M;
IF TSS=.  THEN TSS=TSS_M;
IF TP=.   THEN TP=TP_M;
IF PO4=.  THEN PO4=PO4_M;
IF TKN=.  THEN TKN=TKN_M;
IF TON=. THEN TON=TON_M;
IF DO=.   THEN DO=DO_M;
IF COD=.  THEN COD=COD_M;
IF TOC=.  THEN TOC=TOC_M;
IF NH3=. THEN NH3=NH3_M;
IF TN=. THEN TN=TN_M;
END;

IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NH3=. AND TKN NE . AND TON NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND TN NE . AND NO23 NE . THEN TKN=TN-NO23;
IF NO23=. AND TKN NE . AND TN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;

PROC SORT;
BY NPDES DISCH_PT;



DATA EDIT2;
SET  FILL;


IF NPDES='MD0000311' THEN DO;
* TSS=15.0;DO=5;
COD=58.0; TOC=3.0; TS_F='P'; COD_F='P'; TOC_F='P';
/*IF PO4 EQ . THEN PO4=TP*.71;*/

END;

IF NPDES='MD0001775' THEN DO;
BOD5=2.0; COD=7.0; TOC=1.2; DO=5;
TP=.065; PO4=.046;  /* VALUES ENTERED FOR FY2011*/
BO_F='P'; COD_F='P'; TOC_F='P';
END;
IF NPDES='MD0001775' AND PO4=. THEN DO; PO4=TP*.71;  END;



IF NPDES='MD0021687' THEN DO;
COD=400.0; TOC=110.0; COD_F='P'; TOC_F='P';END;
IF NPDES='MD0021687' AND PO4=. THEN DO;
PO4=TP*.71;END;
 /*PO4=TP*0.44/0.79;*/

IF NPDES='MD0000469' THEN DO;
COD=76.0; TOC=42.4; END;
```

```
IF NPDES='MD0000469' AND BOD5=.  THEN DO;
BOD5=.5;END;

IF NPDES='MD0000469' AND TN=. THEN DO;
TN=5.36;END;
IF NPDES='MD0000469' AND TP=. THEN DO;
TP=0; END;
IF NPDES='MD0000469' AND TSS=. THEN DO;
TSS=5.35; END; /* THESE VALUES USED FOR FY11 DATA.AVG VALUE OF THE REPORTED VALUES.*/

IF NPDES='MD0000469' AND PO4 EQ . AND TP NE . THEN DO; PO4=TP*.71;
END;
IF NPDES='MD0000469' AND NH3=. AND  TON=. AND TKN=. AND NO23=. AND TN NE . THEN DO;
NH3=TN*.07; NO23=TN*.85; TON=TN*.08; END;
/*USED THE RATIO CALCU */

/* this facility monotoring only flow values starting from sept 2010*/



IF NPDES='MD0001384' AND TP NE . THEN DO; PO4=TP*.71; PO4_F='C'; END;


IF NPDES='MD0001422' THEN DO;
BOD5=2.0; COD=5.0; TOC=1.0; DO=5; NH3=0.10; TKN=1.50; NO23=0.42; TP=0.09;PO4=TP*.71;
BO_F='P'; COD_F='P'; TOC_F='P'; NH_F='P'; TK_F='P'; NO_F='P'; TP_F='P';
END;



IF NPDES='MD0003158' THEN DO;
IF TN NE . AND TKN NE . OR NO23 NE . THEN DO NO23=' '; END;

IF NPDES='MD0003158' AND DISCH_PT='080' THEN DO; TN=1.73; TN_F='P'; END;
IF NPDES='MD0003158' AND DISCH_PT='081' THEN DO; TN=1.24; TP=0.50; TN_F='P'; TP_F='P';
END;

END;

IF NPDES='MD0003158' AND PO4=. THEN DO; PO4=TP*.71;  END;
IF NPDES='MD0003158' AND  DISCH_PT='010' AND TN NE .  THEN DO; NH3=TN*.07;NO23=TN*.85;TON=TN*.08;  END;
IF NPDES='MD0003158' AND  DISCH_PT='021' AND TN NE .  THEN DO; NH3=TN*.07;NO23=TN*.85;TON=TN*.08;  END;

/* USED THESE RATIO CALCU IN 2009 TO FILL THE MISSING NUMBERS*/
IF NPDES='MD0067857' AND PO4 EQ . AND TP NE .  THEN DO ; PO4=TP*.71; END;
IF NPDES='MD0067857' AND PO4 NE . AND TP EQ . THEN DO ; TP=PO4/.71;END;


if npdes='MD0001201' AND DISCH_PT='101' THEN DO;
BOD5=28; TSS=18.15; NH3=9.41; TON=0; TN=9.41; TP=.068; NH3_F='C'; TN_F='C';
END;



IF NPDES='MD0001201' AND PO4 EQ . AND TP NE . THEN DO;
PO4=TP*.71;END;
```

```
DATA indfy11;
SET EDIT2;


/* PO4=TP*.71 USED FOR 2006 DATA.THIS IS FROM BAY PROGRAM DOCU ATTACHMENT #3*/

 /* USED NEW DEFAULT VALUES FOR TON AND TN */

IF TKN=. AND NH3 NE . AND TON NE . THEN TKN=NH3+TON;
IF NH3=. AND TKN NE . AND TON NE . THEN NH3=TKN-TON;
IF TON=. AND NH3 NE . AND TKN NE . THEN TON=TKN-NH3;
IF TKN=. AND TN NE . AND NO23 NE . THEN TKN=TN-NO23;
IF NO23=. AND TKN NE . AND TN NE . THEN NO23=TN-TKN;
IF TN=. AND TKN NE . AND NO23 NE . THEN TN=TKN+NO23;




IF PO4 GT TP THEN PO4=TP;
IF TSS=. THEN TSS=15;
IF DO=. THEN DO=5.0;



DATA indfy11;
SET indfy11;


IF ( NH3 NE . AND TON NE . AND (NH3+TON) NE TKN) THEN DO;
TKN=NH3+TON; END;
IF TKN NE . AND TKN LE NH3 THEN DO; TKN=NH3; TON=0.00; END;

IF ( TKN NE . AND NO23 NE . AND TKN+NO23 NE TN ) THEN DO;
TN=TKN+NO23; END;

IF TN  NE . AND TN LE TKN THEN DO; TN=TKN ; NO23=0.00; END;



IF FLOW=0 THEN DO;
BOD5=.; TSS=.; COD=.; TOC=.; DO=.; NH3=.; TON=.; NO23=.; TKN=.; TN=.; TP=.;
PO4=. ; BO_F=' ' ; TS_F= ' '; DO_F=' '; COD_F=' '; TOC_F=' '; NH_F=' ';
ON_F=' '; NO_F=' '; TK_F=' '; TN_F=' '; PO_F=' '; TP_F=' ';
END;

IF FLOW=. THEN DELETE;

FLOW=ROUND(FLOW,.0001);
BOD5=ROUND(BOD5,.01);
```

```
TSS=ROUND(TSS,.01);
DO=ROUND(DO,.01);
COD=ROUND(COD,.01);
NH3=ROUND(NH3,.01);
TON=ROUND(TON,.01);
TKN=ROUND(TKN,.01);
NO23=ROUND(NO23,.01);
TN=ROUND(TN,.01);
PO4=ROUND(PO4,.001);
TP=ROUND(TP,.001);



PROC SORT;
BY NPDES DISCH_PT;

DATA pp.indfy11(KEEP= NPDES DISCH_PT YEAR MONTH FLOW BOD5 TSS DO NH3 TON
    TKN NO23 TN PO4 TP COD TOC FL_F BO_F TS_F DO_F COD_F TOC_F NH_F ON_F
    TK_F NO_F TN_F PO_F TP_F);

SET  indfy11;

PROC CONTENTS;
proc print;

run;
```

MAJYYYYDMR.SAS

```
LIBNAME pr V8 "\\MDENT12\USERS\PPAPALI\mdps2011\maj2011" ;
DATA maj2011;
/*LENGTH NPDES $ 12;*/


/*INFILE "\\MDENT12\USERS\PPAPALI\mdps09\maj2011\maj11new1.CSV" LRECL = 150
DELIMITER = ',' DSD MISSOVER; */



  INFILE "\\MDENT12\USERS\PPAPALI\mdps2011\maj2011\maj11NEW4.PRN" MISSOVER ;



INPUT NPDES $ 1-10 MLOC $ 11-12 MONTH  13-14 YEAR  19-20  R_LDAVG $ 21-28
R_LDMAX $ 29-36 R_CNCMIN $ 37-44 R_CNCAVG $ 45-52
R_CNCMAX $ 53-60  nodi $ 61-62 type $ 63-64  disch_pt $ 65-68 CODE $ 69-73;



PROC SORT;
```

```
BY NPDES disch_pt MONTH YEAR;



DATA FLOW(KEEP=NPDES DISCH_PT MONTH YEAR FLOW);
LENGTH FLOW 7.3;
SET maj2011;

IF CODE='50050' THEN FLOW=R_LDAVG;
IF (R_LDAVG EQ . ) THEN  FLOW=R_LDMX;

IF CODE='50050' THEN OUTPUT;
ELSE DELETE;


DATA NODI (KEEP=NPDES DISCH_PT MONTH YEAR NODI);
LENGTH NODI $1 ;
SET maj2011;

IF NODI NE ' '  THEN OUTPUT;
ELSE DELETE;


DATA BOD5(KEEP=NPDES DISCH_PT MONTH YEAR BOD5);
LENGTH BOD5 6.1;
SET maj2011;

IF CODE='00310' THEN DO;

IF R_CNCAVG NE . THEN BOD5=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN BOD5=(R_CNCMIN+R_CNCMAX)/2 ;
END;

IF CODE='00310' THEN OUTPUT;
ELSE DELETE;

DATA TSS(KEEP=NPDES DISCH_PT MONTH YEAR TSS);
LENGTH TSS 6.1;
SET maj2011;

IF CODE='00530' THEN DO;
IF R_CNCAVG NE . THEN TSS=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN TSS=(R_CNCMIN+R_CNCMAX)/2;
END;

IF CODE='00530' THEN OUTPUT;
ELSE DELETE ;

DATA NH3(KEEP=NPDES DISCH_PT MONTH YEAR NH3);
LENGTH NH3 7.2;
SET maj2011;

IF (CODE='00610') THEN DO;
```

```
IF R_CNCAVG NE . THEN NH3=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN NH3=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN NH3=R_CNCMAX;
END;
IF CODE='00610' THEN OUTPUT;
ELSE DELETE;

DATA TKN(KEEP=NPDES DISCH_PT MONTH YEAR TKN);
LENGTH TKN 7.2;
SET maj2011;

IF CODE='00625' THEN DO;
IF R_CNCAVG NE . THEN TKN=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN  TKN=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND R_CNCMAX NE . THEN  TKN=R_CNCMAX;
END;
IF CODE='00625' THEN OUTPUT;
ELSE DELETE;


DATA ON(KEEP=NPDES DISCH_PT MONTH YEAR  ON);
LENGTH ON 7.2;
SET maj2011;

IF CODE='00605' THEN DO;
IF R_CNCAVG NE . THEN  ON=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN  ON=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN  ON=R_CNCMAX;
 END;
IF CODE='00605' THEN OUTPUT;
ELSE DELETE;


DATA NO3(KEEP=NPDES DISCH_PT MONTH YEAR NO3);
LENGTH NO3 7.3;
SET maj2011;

IF CODE='00615' THEN DO;
IF R_CNCAVG NE . THEN  NO3=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN  NO3=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN  NO3=R_CNCMAX;
 END;
IF CODE='00615' THEN OUTPUT;
ELSE DELETE;


/* code=00615 is a new code added into the program for this year*/
DATA NO2(KEEP=NPDES DISCH_PT MONTH YEAR NO2);
```

```
LENGTH NO2 7.3;
SET maj2011;

IF CODE='00620' THEN DO;
IF R_CNCAVG NE . THEN  NO2=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  NO2=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN NO2=R_CNCMAX;
END;

IF CODE='00620' THEN OUTPUT;
ELSE DELETE;



DATA NO23(KEEP=NPDES DISCH_PT MONTH YEAR NO23);
LENGTH NO23 7.2;
SET maj2011;

IF CODE='00630' THEN DO;
IF R_CNCAVG NE . THEN  NO23=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  NO23=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF  R_CNCMIN EQ . AND R_CNCMAX NE . THEN NO23=R_CNCMAX;
END;
IF CODE='00630' THEN OUTPUT;
ELSE DELETE;

DATA TN(KEEP=NPDES DISCH_PT MONTH YEAR TN );
LENGTH TN 7.2;
SET maj2011;

IF CODE='00600' THEN DO;
IF R_CNCAVG NE . THEN TN=R_CNCAVG;

ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  TN=(R_CNCMIN+R_CNCMAX)/2;

ELSE
IF  R_CNCMIN EQ . AND R_CNCMAX NE . THEN  TN=R_CNCMAX;
END;

IF CODE='00600' THEN OUTPUT;
ELSE DELETE;

DATA PO4(KEEP=NPDES DISCH_PT MONTH YEAR PO4 );
LENGTH PO4 5.2;
SET maj2011;

IF CODE='70507' THEN  DO;
IF R_CNCAVG NE . THEN  PO4=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  PO4=(R_CNCMIN+R_CNCMAX)/2;
ELSE
```

```
IF R_CNCMIN EQ . AND R_CNCMAX NE . THEN  PO4=R_CNCMAX;
END;

IF CODE='70507' THEN OUTPUT;
ELSE DELETE;

DATA TP(KEEP=NPDES DISCH_PT MONTH YEAR TP );
LENGTH TP 5.2;
SET maj2011;

IF CODE='00665' THEN DO;
IF R_CNCAVG NE . THEN  TP=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  TP=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN  TP=R_CNCMAX;
END;

IF CODE='00665' THEN OUTPUT;
ELSE DELETE;

DATA DOX(KEEP=NPDES DISCH_PT MONTH YEAR DOX );
LENGTH DOX 5.2;
SET maj2011;

IF CODE='00300' THEN DO;
IF R_CNCAVG NE . THEN  DOX=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  DOX=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN NE . AND  R_CNCMAX EQ . THEN DOX=R_CNCMIN;
END;

IF CODE='00300' THEN OUTPUT;
ELSE DELETE;


DATA TOC(KEEP=NPDES DISCH_PT MONTH YEAR TOC );
LENGTH TOC 5.2;
SET maj2011;

IF CODE='00680' THEN DO;
IF R_CNCAVG NE . THEN  TOC=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  TOC=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN TOC=R_CNCMAX;
END;

IF CODE='00680' THEN OUTPUT;
ELSE DELETE;



DATA COD(KEEP=NPDES DISCH_PT MONTH YEAR COD);
LENGTH COD 5.2;
```

```
SET maj2011;

IF (CODE='00341') THEN  COD=R_CNCAVG;

IF (R_CNCAVG EQ .) THEN COD=R_CNCMAX;

IF CODE='00341' THEN OUTPUT;
ELSE DELETE;



DATA maj2011;
MERGE FLOW BOD5 TSS DOX NH3 ON TKN NO3 NO2 NO23 TN PO4 TP TOC COD nodi;
BY NPDES DISCH_PT MONTH YEAR;




DATA maj2011r2;
SET maj2011;

LENGTH FL_F $1;
LENGTH BO_F $1;
LENGTH TS_F $1;
LENGTH DO_F $1;
LENGTH NH_F $1;
LENGTH ON_F $1;
LENGTH TK_F $1;
LENGTH NO_F $1;
LENGTH TN_F $1;
LENGTH PO_F $1;
LENGTH TP_F $1;
LENGTH TOC_F $1;
LENGTH COD_F $1;
LENGTH TOC  5.2;
LENGTH COD  5.2;
LENGTH NODI $1;



IF FLOW NE . THEN FL_F='D';
IF BOD5 NE . THEN BO_F='D';
IF TSS  NE . THEN TS_F='D';
IF DOX  NE . THEN DO_F='D';
IF NH3  NE . THEN NH_F='D';
IF ON   NE . THEN ON_F='D';
IF TKN  NE . THEN TK_F='D';
IF NO23 NE . THEN NO_F='D';
IF TN   NE . THEN TN_F='D';
IF PO4  NE . THEN PO_F='D';
IF TP   NE . THEN TP_F='D';
IF TOC  NE . THEN TOC_F='D';
IF COD  NE . THEN COD_F='D';

FLOW=ROUND(FLOW,.0001);
BOD5=ROUND(BOD5,.01);
```

```
TSS=ROUND(TSS,.01);
DOX=ROUND(DOX,.01);
COD=ROUND(COD,.01);
TOC=ROUND(TOC,.01);
NH3=ROUND(NH3,.01);
TKN=ROUND(TKN,.01);
ON=ROUND(ON,.01);
NO23=ROUND(NO23,.01);
TN=ROUND(TN,.01);
PO4=ROUND(PO4,.01);
TP=ROUND(TP,.01);

*if nodi='C' then flow=0;


PROC SORT NODUPKEY;
BY NPDES DISCH_PT MONTH YEAR ;




data PR.maj2011R2;
SET maj2011R2;

PROC PRINT DATA=maj2011R2;
   VAR NPDES DISCH_PT MONTH YEAR FLOW NODI BOD5 TSS DOX NH3
   ON TKN NO2 NO3 NO23 TN PO4 TP  COD TOC FL_F BO_F TS_F DO_F
   COD_F TOC_F NH_F ON_F TK_F NO_F TN_F PO_F TP_F ;

      TITLE    ' 2005 MAJOR MUNICIPAL (WWTP) PLANTS';
      TITLE2  '  ';

DATA pr.maj2011R3;
SET  maj2011R2;


PROC MEANS NOPRINT SUM;
BY NPDES DISCH_PT ;
OUTPUT OUT=SUMS SUM=;

DATA PRINT;
SET SUMS;
IF _FREQ_ NE 12 THEN OUTPUT;
ELSE DELETE;



PROC PRINT NOOBS;

VAR NPDES DISCH_PT flow  _FREQ_;
  TITLE    'Missing or duplicated records to be verified';
  Title2  '  ';
run;

data pr.maj11freq;
set maj2011R2;
```

```
proc format;
 value $miss " "="missing"
 other="nomissing";



data pr.freqout;
set maj11freq;
proc freq npdes flow;
run;




/*
PROC EXPORT DATA = maj2011or2 OUTFILE = 'F:\users\ppapali\mdps05\maj2011\maj2011new2.txt'
 REPLACE;
 RUN; QUIT;*/
```

MINYYYYDMR.SAS

```
LIBNAME pr V8 "\\MDENT12\USERS\PPAPALI\mdps2011\min2011" ;
DATA min2011;
/*LENGTH NPDES $ 12;*/


/*INFILE "\\MDENT12\USERS\PPAPALI\mdps09\min2011\min2011new3.CSV" LRECL = 150
DELIMITER = ',' DSD MISSOVER; */



  INFILE "\\MDENT12\USERS\PPAPALI\mdps2011\min2011\min11new6.PRN" MISSOVER ;



INPUT NPDES $ 1-10 MLOC $ 11-12 MONTH  13-14 YEAR  19-20  R_LDAVG $ 21-28
R_LDMAX $ 29-36 R_CNCMIN $ 37-44 R_CNCAVG $ 45-52
R_CNCMAX $ 53-60  nodi $ 61-62 type $ 63-64  disch_pt $ 65-68 CODE $ 69-73;



PROC SORT;
BY NPDES disch_pt MONTH YEAR;
```

```
DATA FLOW(KEEP=NPDES DISCH_PT MONTH YEAR FLOW);
LENGTH FLOW 7.3;
SET min2011;

IF CODE='50050' THEN FLOW=R_LDAVG;
IF (R_LDAVG EQ . ) THEN  FLOW=R_LDMX;

IF CODE='50050' THEN OUTPUT;
ELSE DELETE;


DATA NODI (KEEP=NPDES DISCH_PT MONTH YEAR NODI);
LENGTH NODI $1 ;
SET min2011;

IF NODI NE ' '  THEN OUTPUT;
ELSE DELETE;


DATA BOD5(KEEP=NPDES DISCH_PT MONTH YEAR BOD5);
LENGTH BOD5 6.1;
SET min2011;

IF CODE='00310' THEN DO;

IF R_CNCAVG NE . THEN BOD5=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN BOD5=(R_CNCMIN+R_CNCMAX)/2 ;
END;

IF CODE='00310' THEN OUTPUT;
ELSE DELETE;

DATA TSS(KEEP=NPDES DISCH_PT MONTH YEAR TSS);
LENGTH TSS 6.1;
SET min2011;

IF CODE='00530' THEN DO;
IF R_CNCAVG NE . THEN TSS=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN TSS=(R_CNCMIN+R_CNCMAX)/2;
END;

IF CODE='00530' THEN OUTPUT;
ELSE DELETE ;

DATA NH3(KEEP=NPDES DISCH_PT MONTH YEAR NH3);
LENGTH NH3 7.2;
SET min2011;

IF (CODE='00610') THEN DO;
IF R_CNCAVG NE . THEN NH3=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN NH3=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN NH3=R_CNCMAX;
```

```
END;
IF CODE='00610' THEN OUTPUT;
ELSE DELETE;

DATA TKN(KEEP=NPDES DISCH_PT MONTH YEAR TKN);
LENGTH TKN 7.2;
SET min2011;

IF CODE='00625' THEN DO;
IF R_CNCAVG NE . THEN TKN=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN  TKN=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND R_CNCMAX NE . THEN  TKN=R_CNCMAX;
END;
IF CODE='00625' THEN OUTPUT;
ELSE DELETE;


DATA ON(KEEP=NPDES DISCH_PT MONTH YEAR  ON);
LENGTH ON 7.2;
SET min2011;

IF CODE='00605' THEN DO;
IF R_CNCAVG NE . THEN  ON=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN  ON=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN  ON=R_CNCMAX;
 END;
IF CODE='00605' THEN OUTPUT;
ELSE DELETE;


DATA NO3(KEEP=NPDES DISCH_PT MONTH YEAR NO3);
LENGTH NO3 7.3;
SET min2011;

IF CODE='00615' THEN DO;
IF R_CNCAVG NE . THEN  NO3=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN  NO3=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN  NO3=R_CNCMAX;
 END;
IF CODE='00615' THEN OUTPUT;
ELSE DELETE;


/* code=00615 is a new code added into the program for this year*/
DATA NO2(KEEP=NPDES DISCH_PT MONTH YEAR NO2);
LENGTH NO2 7.3;
SET min2011;

IF CODE='00620' THEN DO;
IF R_CNCAVG NE . THEN  NO2=R_CNCAVG;
```

```
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  NO2=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN NO2=R_CNCMAX;
END;

IF CODE='00620' THEN OUTPUT;
ELSE DELETE;



DATA NO23(KEEP=NPDES DISCH_PT MONTH YEAR NO23);
LENGTH NO23 7.2;
SET min2011;

IF CODE='00630' THEN DO;
IF R_CNCAVG NE . THEN  NO23=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  NO23=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF  R_CNCMIN EQ . AND R_CNCMAX NE . THEN NO23=R_CNCMAX;
END;
IF CODE='00630' THEN OUTPUT;
ELSE DELETE;

DATA TN(KEEP=NPDES DISCH_PT MONTH YEAR TN );
LENGTH TN 7.2;
SET min2011;

IF CODE='00600' THEN DO;
IF R_CNCAVG NE . THEN TN=R_CNCAVG;

ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  TN=(R_CNCMIN+R_CNCMAX)/2;

ELSE
IF  R_CNCMIN EQ . AND R_CNCMAX NE . THEN  TN=R_CNCMAX;
END;

IF CODE='00600' THEN OUTPUT;
ELSE DELETE;

DATA PO4(KEEP=NPDES DISCH_PT MONTH YEAR PO4 );
LENGTH PO4 5.2;
SET min2011;

IF CODE='70507' THEN  DO;
IF R_CNCAVG NE . THEN  PO4=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  PO4=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND R_CNCMAX NE . THEN  PO4=R_CNCMAX;
END;

IF CODE='70507' THEN OUTPUT;
ELSE DELETE;
```

```
DATA TP(KEEP=NPDES DISCH_PT MONTH YEAR TP );
LENGTH TP 5.2;
SET min2011;

IF CODE='00665' THEN DO;
IF R_CNCAVG NE . THEN  TP=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  TP=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN  TP=R_CNCMAX;
END;

IF CODE='00665' THEN OUTPUT;
ELSE DELETE;

DATA DOX(KEEP=NPDES DISCH_PT MONTH YEAR DOX );
LENGTH DOX 5.2;
SET min2011;

IF CODE='00300' THEN DO;
IF R_CNCAVG NE . THEN  DOX=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  DOX=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN NE . AND  R_CNCMAX EQ . THEN DOX=R_CNCMIN;
END;

IF CODE='00300' THEN OUTPUT;
ELSE DELETE;


DATA TOC(KEEP=NPDES DISCH_PT MONTH YEAR TOC );
LENGTH TOC 5.2;
SET min2011;

IF CODE='00680' THEN DO;
IF R_CNCAVG NE . THEN  TOC=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  TOC=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND  R_CNCMAX NE . THEN TOC=R_CNCMAX;
END;

IF CODE='00680' THEN OUTPUT;
ELSE DELETE;



DATA COD(KEEP=NPDES DISCH_PT MONTH YEAR COD);
LENGTH COD 5.2;
SET min2011;

IF (CODE='00341') THEN  COD=R_CNCAVG;

IF (R_CNCAVG EQ .) THEN COD=R_CNCMAX;
```

```
IF CODE='00341' THEN OUTPUT;
ELSE DELETE;



DATA min2011;
MERGE FLOW BOD5 TSS DOX NH3 ON TKN NO3 NO2 NO23 TN PO4 TP TOC COD nodi;
BY NPDES DISCH_PT MONTH YEAR;



DATA min2011r2;
SET min2011;

LENGTH FL_F $1;
LENGTH BO_F $1;
LENGTH TS_F $1;
LENGTH DO_F $1;
LENGTH NH_F $1;
LENGTH ON_F $1;
LENGTH TK_F $1;
LENGTH NO_F $1;
LENGTH TN_F $1;
LENGTH PO_F $1;
LENGTH TP_F $1;
LENGTH TOC_F $1;
LENGTH COD_F $1;
LENGTH TOC  5.2;
LENGTH COD  5.2;
LENGTH NODI $1;



IF FLOW NE . THEN FL_F='D';
IF BOD5 NE . THEN BO_F='D';
IF TSS  NE . THEN TS_F='D';
IF DOX  NE . THEN DO_F='D';
IF NH3  NE . THEN NH_F='D';
IF ON   NE . THEN ON_F='D';
IF TKN  NE . THEN TK_F='D';
IF NO23 NE . THEN NO_F='D';
IF TN   NE . THEN TN_F='D';
IF PO4  NE . THEN PO_F='D';
IF TP   NE . THEN TP_F='D';
IF TOC  NE . THEN TOC_F='D';
IF COD  NE . THEN COD_F='D';

FLOW=ROUND(FLOW,.0001);
BOD5=ROUND(BOD5,.01);
TSS=ROUND(TSS,.01);
DOX=ROUND(DOX,.01);
COD=ROUND(COD,.01);
TOC=ROUND(TOC,.01);
NH3=ROUND(NH3,.01);
```

```
TKN=ROUND(TKN,.01);
ON=ROUND(ON,.01);
NO23=ROUND(NO23,.01);
TN=ROUND(TN,.01);
PO4=ROUND(PO4,.01);
TP=ROUND(TP,.01);

*if nodi='C' then flow=0;


PROC SORT NODUPKEY;
BY NPDES DISCH_PT MONTH YEAR ;




data PR.min2011R2;
SET min2011R2;

PROC PRINT DATA=min2011R2;
   VAR NPDES DISCH_PT MONTH YEAR FLOW NODI BOD5 TSS DOX NH3
   ON TKN NO2 NO3 NO23 TN PO4 TP  COD TOC FL_F BO_F TS_F DO_F
   COD_F TOC_F NH_F ON_F TK_F NO_F TN_F PO_F TP_F ;

      TITLE    ' 2005 MAJOR MUNICIPAL (WWTP) PLANTS';
      TITLE2  '  ';

DATA pr.min2011R4;
SET  min2011R2;


PROC MEANS NOPRINT SUM;
BY NPDES DISCH_PT ;
OUTPUT OUT=SUMS SUM=;

DATA PRINT;
SET SUMS;
IF _FREQ_ NE 12 THEN OUTPUT;
ELSE DELETE;



PROC PRINT NOOBS;

VAR NPDES DISCH_PT  _FREQ_;
  TITLE    'Missing or duplicated records to be verified';
  Title2  '  ';
run;
/*
PROC EXPORT DATA = min2011or2 OUTFILE = 'F:\users\ppapali\mdps05\min2011\min2011new2.txt'
 REPLACE;
 RUN; QUIT;*/
```

INDYYYEMR.SAS

```
LIBNAME pr V8 "\\MDENT12\USERS\PPAPALI\mdps2011\ind2011" ;
DATA ind10;
/*LENGTH NPDES $ 12;*/


/*INFILE "\\MDENT12\USERS\PPAPALI\MDPS06\ind10\ind10new1.CSV" LRECL = 150
DELIMITER = ',' DSD MISSOVER; */



  INFILE "\\MDENT12\USERS\PPAPALI\mdps2011\ind2011\ind11new1.PRN" MISSOVER ;




INPUT NPDES $ 1-10 MLOC $ 11-12 MONTH  13-14 YEAR  19-20  R_LDAVG $ 21-28
R_LDMAX $ 29-36 R_CNCMIN $ 37-44 R_CNCAVG $ 45-52
R_CNCMAX $ 53-60  nodi $ 61-62 type $ 63-64  disch_pt $ 65-68 CODE $ 69-73;



PROC SORT;
BY NPDES disch_pt year MONTH;



 /*   DATA ind10;
SET ind10;

PROC PRINT;
RUN;*/



DATA FLOW(KEEP=NPDES DISCH_PT MONTH YEAR FLOW) ;
LENGTH FLOW 7.3;
SET ind10;

IF CODE='50050' THEN FLOW=R_LDAVG;
ELSE FLOW='.';
IF CODE='50050' THEN OUTPUT;
ELSE DELETE;


DATA NODI(KEEP=NPDES DISCH_PT YEAR MONTH NODI);
LENGTH NODI $1;
SET ind10;

IF NODI NE '.' THEN OUTPUT;
ELSE DELETE;
```

```
DATA BOD5(KEEP=NPDES DISCH_PT MONTH YEAR BOD5);
LENGTH BOD5 6.1;
SET ind10;

IF CODE='00310' THEN BOD5=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN BOD5=(R_CNCMIN+R_CNCMAX)/2 ;
ELSE
BOD5=R_CNCMAX;


IF CODE='00310' THEN OUTPUT;
ELSE DELETE;


DATA TSS(KEEP=NPDES DISCH_PT MONTH YEAR TSS);
LENGTH TSS 6.1;
SET ind10;

IF CODE='00530' THEN TSS=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN TSS=(R_CNCMIN+R_CNCMAX)/2;
ELSE
TSS=R_CNCMAX;

IF CODE='00530' THEN OUTPUT;
ELSE DELETE ;

DATA NH3(KEEP=NPDES DISCH_PT MONTH YEAR NH3);
LENGTH NH3 7.2;
SET ind10;

IF (CODE='00610') THEN NH3=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN NH3=(R_CNCMIN+R_CNCMAX)/2;
ELSE
NH3=R_CNCMAX;

IF CODE='00610' THEN OUTPUT;
ELSE DELETE;

DATA TKN(KEEP=NPDES DISCH_PT MONTH YEAR TKN);
LENGTH TKN 7.2;
SET ind10;

IF CODE='00625' THEN TKN=R_CNCAVG;

ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN  TKN=(R_CNCMIN+R_CNCMAX)/2;

ELSE
TKN=R_CNCMAX;


IF CODE='00625' THEN OUTPUT;
ELSE DELETE;
```

```
DATA ON(KEEP=NPDES DISCH_PT MONTH YEAR ON);
LENGTH ON 7.2;
SET ind10;

IF CODE='00605' THEN  ON=R_CNCAVG;

ELSE
IF R_CNCAVG EQ . AND R_CNCMIN NE . AND R_CNCMAX NE . THEN  ON=(R_CNCMIN+R_CNCMAX)/2;
ELSE
ON=R_CNCMAX;

IF CODE='00605' THEN OUTPUT;
ELSE DELETE;


DATA NO3(KEEP=NPDES DISCH_PT YEAR MONTH NO3);
LENGTH NO3 7.3;
SET ind10;
IF CODE='00615' THEN  NO3=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  NO3=(R_CNCMIN+R_CNCMAX)/2;
ELSE
NO3=R_CNCMAX;
IF CODE='00615' THEN OUTPUT;
ELSE DELETE;
/* code=00615 is a new code added into the program for this year*/
DATA NO2(KEEP=NPDES DISCH_PT YEAR MONTH NO2);
LENGTH NO2 7.3;
SET ind10;
IF CODE='00620' THEN NO2=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  NO2=(R_CNCMIN+R_CNCMAX)/2;
ELSE
NO2=R_CNCMAX;
IF CODE='00620' THEN OUTPUT;
ELSE DELETE;

DATA NO23(KEEP=NPDES DISCH_PT MONTH YEAR NO23);
LENGTH NO23 7.2;
SET ind10;

IF CODE='00630' THEN NO23=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  NO23=(R_CNCMIN+R_CNCMAX)/2;
ELSE
 NO23=R_CNCMAX;

IF CODE='00630' THEN OUTPUT;
ELSE DELETE;

DATA TN(KEEP=NPDES DISCH_PT MONTH YEAR TN );
LENGTH TN 7.2;
SET ind10;
```

```
IF CODE='00600' THEN TN=R_CNCAVG;

ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  TN=(R_CNCMIN+R_CNCMAX)/2;

ELSE
TN=R_CNCMAX;


IF CODE='00600' THEN OUTPUT;
ELSE DELETE;

DATA PO4(KEEP=NPDES DISCH_PT MONTH YEAR PO4 );
LENGTH PO4 5.2;
SET ind10;

IF CODE='70507' THEN  PO4=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  PO4=(R_CNCMIN+R_CNCMAX)/2;
ELSE
IF R_CNCMIN EQ . AND R_CNCMAX NE . THEN  PO4=R_CNCMAX;

IF CODE='70507' THEN OUTPUT;
ELSE DELETE;

DATA TP(KEEP=NPDES DISCH_PT MONTH YEAR TP );
LENGTH TP 5.2;
SET ind10;

IF CODE='00665' or code='04175' THEN  TP=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  TP=(R_CNCMIN+R_CNCMAX)/2;
ELSE
TP=R_CNCMAX;


IF CODE='00665' or code='04175' THEN OUTPUT;
ELSE DELETE;

DATA DO(KEEP=NPDES DISCH_PT MONTH YEAR DO );
LENGTH DO 5.2;
SET ind10;

IF CODE='00300' THEN  DO=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  DO=(R_CNCMIN+R_CNCMAX)/2;
ELSE
DO=R_CNCMIN;

IF CODE='00300' THEN OUTPUT;
ELSE DELETE;


DATA TOC(KEEP=NPDES DISCH_PT MONTH YEAR TOC);
LENGTH TOC 5.2;
```

```
SET ind10;

IF CODE='00680' THEN  TOC=R_CNCAVG;
ELSE
IF R_CNCAVG EQ . AND  R_CNCMIN NE . AND R_CNCMAX NE . THEN  TOC=(R_CNCMIN+R_CNCMAX)/2;
ELSE
TOC=R_CNCMAX;


IF CODE='00680' THEN OUTPUT;
ELSE DELETE;

DATA COD(KEEP=NPDES DISCH_PT MONTH YEAR COD);
LENGTH COD 5.2;
SET ind10;

IF (CODE='00341' OR COD='00340' OR CODE='00335') THEN  COD=R_CNCAVG;
IF (R_CNCAVG EQ .) THEN COD=R_CNCMIN;

IF (CODE='00341' OR CODE='00340' OR CODE='00335') THEN OUTPUT;
ELSE DELETE;


DATA ind10;
MERGE FLOW BOD5 TSS DO NH3 ON TKN NO3 NO2 NO23 TN PO4 TP TOC COD nodi;
BY NPDES DISCH_PT MONTH YEAR;


/*data maj06t2;
set ind10;
proc sort nodupkey data=maj06t2;
by npdes disch_pt month year ;

data temp;
set maj06t2;

proc print;
run;  */




DATA ind10r2;
SET ind10;

LENGTH FL_F $1;
LENGTH BO_F $1;
LENGTH TS_F $1;
LENGTH DO_F $1;
LENGTH NH_F $1;
LENGTH ON_F $1;
LENGTH TK_F $1;
LENGTH NO_F $1;
LENGTH TN_F $1;
LENGTH PO_F $1;
LENGTH TP_F $1;
```

```
LENGTH TOC_F $1;
LENGTH COD_F $1;
LENGTH TOC  5.2;
LENGTH COD  5.2;
LENGTH NODI $1;



IF FLOW NE . THEN FL_F='D';
IF BOD5 NE . THEN BO_F='D';
IF TSS  NE . THEN TS_F='D';
IF DO   NE . THEN DO_F='D';
IF NH3  NE . THEN NH_F='D';
IF ON   NE . THEN ON_F='D';
IF TKN  NE . THEN TK_F='D';
IF NO23 NE . THEN NO_F='D';
IF TN   NE . THEN TN_F='D';
IF PO4  NE . THEN PO_F='D';
IF TP   NE . THEN TP_F='D';
IF TOC  NE . THEN TOC_F='D';
IF COD  NE . THEN COD_F='D';

FLOW=ROUND(FLOW,.0001);
BOD5=ROUND(BOD5,.01);
TSS=ROUND(TSS,.01);
DO=ROUND(DO,.01);
COD=ROUND(COD,.01);
TOC=ROUND(TOC,.01);
NH3=ROUND(NH3,.01);
TKN=ROUND(TKN,.01);
ON=ROUND(ON,.01);
NO23=ROUND(NO23,.01);
TN=ROUND(TN,.01);
PO4=ROUND(PO4,.01);
TP=ROUND(TP,.01);

*if nodi='C' then flow=0;


PROC SORT NODUPKEY;
BY NPDES DISCH_PT MONTH YEAR ;



/*data ind10r2;
set ind10r2;

PROC SORT NODUPKEY;
BY NPDES DISCH_PT YEAR MONTH; */


DATA  PR.ind10R2;
SET ind10R2;

PROC PRINT DATA=ind10R2;
   VAR NPDES DISCH_PT MONTH YEAR FLOW NODI BOD5 TSS DO NH3
```

```
   ON TKN NO2 NO3 NO23 TN PO4 TP  COD TOC FL_F BO_F TS_F DO_F
   COD_F TOC_F NH_F ON_F TK_F NO_F TN_F PO_F TP_F ;

      TITLE    ' 2005 MAJOR MUNICIPAL (WWTP) PLANTS';
      TITLE2  '  ';

DATA pr.ind10R3;
SET  ind10R2;


PROC MEANS NOPRINT SUM;
BY NPDES DISCH_PT ;
OUTPUT OUT=SUMS SUM=;

DATA PRINT;
SET SUMS;
IF _FREQ_ NE 12 THEN OUTPUT;
ELSE DELETE;



PROC PRINT NOOBS;

VAR NPDES DISCH_PT  _FREQ_;
  TITLE    'Missing or duplicated records to be verified';
  Title2  '  ';
run;
/*
PROC EXPORT DATA = ind10or2 OUTFILE = 'F:\users\ppapali\mdps05\ind10\ind10new2.txt'
 REPLACE;
 RUN; QUIT;*/
```

MAJYYYYTRANSPOSE.SAS

```
LIBNAME pr V8 "\\MDENT12\USERS\PPAPALI\mdps2011\maj2011" ;
DATA maj2011; LENGTH NPDES $ 12;
INFILE "\\MDENT12\USERS\PPAPALI\mdps2011\maj2011\maj11d12.CSV" LRECL = 150
DELIMITER = ',' DSD MISSOVER;

INPUT NPDES $ MLOC $ DATE1 $ DMRCODE $ DMRVALUE   nodi $ type $  disch_pt $ CODE $ ;

MTH = SUBSTR(DATE1,1,2);   DY = SUBSTR(DATE1,4,2);  YR = SUBSTR(DATE1,7,2);
MONTH = MTH + 0;   DAY = DY + 0;   YEAR = YR + 0;
DATE = MDY(MONTH,DAY,YEAR);

/*TIME1  = RIGHT(TIME1);  DEPTH = DEPTH;
HR    = SUBSTR(TIME1,1,2);  HOUR   = HR  + 0;   SEC = 0;
MIN   = SUBSTR(TIME1,4,2);  MINUTE = MIN + 0;
TIME = HMS(HOUR,MINUTE,SEC);  FORMAT TIME HHMM.;*/
```

```
FORMAT DATE MMDDYY8.;
N = _N_;



DROP DATE1 MTH MONTH DY DAY YR YEAR;
PROC SORT; BY N NPDES DATE DISCH_PT;


PROC TRANSPOSE OUT=TRANSDATA;
  ID DMRCODE;
 BY N NPDES mloc DATE nodi DISCH_PT type CODE;

VAR DMRVALUE ;

data pr.maj2011trn4;
set transdata;
proc print;run;
```

MINYYYYTRANSPOSE.SAS

```
LIBNAME pr V8 "\\MDENT12\USERS\PPAPALI\mdps2011\min2011" ;
DATA min2011; LENGTH NPDES $ 12;
INFILE "\\MDENT12\USERS\PPAPALI\mdps2011\min2011\min11d23.CSV" LRECL = 150
DELIMITER = ',' DSD MISSOVER;

INPUT NPDES $ MLOC $ DATE1 $ DMRCODE $ DMRVALUE   nodi $ type $  disch_pt $ CODE $ ;

MTH = SUBSTR(DATE1,1,2);   DY = SUBSTR(DATE1,4,2);  YR = SUBSTR(DATE1,7,2);
MONTH = MTH + 0;   DAY = DY + 0;   YEAR = YR + 0;
DATE = MDY(MONTH,DAY,YEAR);
/*TIME1  = RIGHT(TIME1);  DEPTH = DEPTH;
HR    = SUBSTR(TIME1,1,2);  HOUR   = HR  + 0;   SEC = 0;
MIN   = SUBSTR(TIME1,4,2);  MINUTE = MIN + 0;
TIME = HMS(HOUR,MINUTE,SEC);  FORMAT TIME HHMM.;*/

FORMAT DATE MMDDYY8.;
N = _N_;


DROP DATE1 MTH MONTH DY DAY YR YEAR;
PROC SORT; BY N NPDES DATE DISCH_PT;


PROC TRANSPOSE OUT=TRANSDATA;
  ID DMRCODE;
 BY N NPDES mloc DATE nodi DISCH_PT type CODE;

VAR DMRVALUE ;

data pr.min11trn6;
```

```
set transdata;
proc print;run;
```

INDYYYYTRANSPOSE.SAS

```
LIBNAME pr V8 "\\MDENT12\USERS\PPAPALI\mdps2011\ind2011" ;
DATA ind11; LENGTH NPDES $ 12;
INFILE "\\MDENT12\USERS\PPAPALI\mdps2011\ind2011\ind11d1.CSV" LRECL = 150
DELIMITER = ',' DSD MISSOVER;

INPUT NPDES $ MLOC $ DATE1 $ DMRCODE $ DMRVALUE   nodi $ type $  disch_pt $ CODE $ ;



MTH = SUBSTR(DATE1,1,2);   DY = SUBSTR(DATE1,4,2);  YR = SUBSTR(DATE1,7,2);
MONTH = MTH + 0;   DAY = DY + 0;   YEAR = YR + 0;
DATE = MDY(MONTH,DAY,YEAR);
/*TIME1  = RIGHT(TIME1);  DEPTH = DEPTH;
HR    = SUBSTR(TIME1,1,2);  HOUR   = HR  + 0;   SEC = 0;
MIN   = SUBSTR(TIME1,4,2);  MINUTE = MIN + 0;
TIME = HMS(HOUR,MINUTE,SEC);  FORMAT TIME HHMM.;*/


FORMAT DATE MMDDYY8.;
N = _N_;



DROP DATE1 MTH MONTH DY DAY YR YEAR;
PROC SORT; BY N NPDES DATE DISCH_PT;


PROC TRANSPOSE OUT=TRANSDATA;
  ID DMRCODE;
 BY N NPDES mloc DATE nodi DISCH_PT type CODE;

VAR DMRVALUE ;

data pr.ind10trn1;
set transdata;
proc print;run;
```

PSHORZYY.SAS

```
LIBNAME FINAL 'H:\users\PPAPALI\mdps2010\BNR';


%MACRO HORIZON(DS1,DS2,DS3);

DATA ALL;
    SET FINAL.&DS1;
```

```
    KEEP YEAR BASIN NPDES NAME TN TP TNL TPL FLOW
        FALLINE CODE TYPE COUNTY;




PROC SORT NODUPS;
    BY BASIN;

 %MACRO TOPRINT(DS);

DATA &DS;
    SET ALL;
    KEEP YEAR BASIN NPDES NAME FALLINE CODE COUNTY TYPE &DS;

PROC SORT;
    BY BASIN COUNTY TYPE CODE FALLINE NPDES NAME;

PROC TRANSPOSE DATA=&DS OUT=PSALL NAME=PARMETER PREFIX=&DS;
    ID YEAR;
    BY BASIN COUNTY TYPE CODE FALLINE NPDES NAME;

DATA &DS;
    SET PSALL;
    DROP PARMETER;

PROC DATASETS NOLIST; DELETE PSALL;

 %MEND TOPRINT;

%TOPRINT(FLOW)
      /*  %TOPRINT(AFLOW)  */
%TOPRINT(TN)
%TOPRINT(TP)
%TOPRINT(TNL)
%TOPRINT(TPL)

PROC DATASETS NOLIST; DELETE ALL;

DATA FINAL.&DS2;
    MERGE FLOW TN TP TNL TPL;
    BY BASIN COUNTY TYPE CODE FALLINE NPDES NAME;

PROC SORT;
    BY BASIN NPDES;



PROC PRINT;
    BY BASIN;
    VAR BASIN NPDES NAME TYPE CODE FALLINE COUNTY
```

FLOW2000 FLOW2001 FLOW2002
FLOW2003 FLOW2004 FLOW2005 FLOW2006 FLOW2007 FLOW2008 FLOW2009 FLOW2010

TN2000
TN2001 TN2002 TN2003 TN2004 TN2005 TN2006 TN2007 TN2008 TN2009 TN2010

TP2000
TP2001 TP2002 TP2003 TP2004 TP2005 TP2006 TP2007 TP2008 TP2009 TP2010

TNL2000 TNL2001 TNL2002 TNL2003 TNL2004 TNL2005 TNL2006 TNL2007 TNL2008 TNL2009 TNL2010

TPL2000
TPL2001 TPL2002 TPL2003 TPL2004 TPL2005 TPL2006 TPL2007 TPL2008 TPL2009 TPL2010;

SUM

FLOW2000
FLOW2001 FLOW2002 FLOW2003 FLOW2004 FLOW2005 FLOW2006 FLOW2007 FLOW2008 FLOW2009 FLOW2010

TN2000 TN2001 TN2002 TN2003
TN2004 TN2005 TN2006 TN2007 TN2008 TN2009 TN2010

TP2000 TP2001 TP2002
TP2003 TP2004 TP2005 TP2006 TP2007 TP2008 TP2009 TP2010

TNL2000 TNL2001 TNL2002 TNL2003 TNL2004 TNL2005 TNL2006 TNL2007 TNL2008 TNL2009 TNL2010

TPL2000 TPL2001 TPL2002 TPL2003 TPL2004 TPL2005 TPL2006 TPL2007 TPL2008 TPL2009 TPL2010;

PAGEBY BASIN;

%MEND HORIZON;

%***HORIZON***(md0010V, md0010H);
RUN;

****

PSVERTYY.SAS

****
IMPORTANT NOTICE

THIS IS THE FINAL SAS PROGRAM FOR GENERATING THE PERMANENT SAS DATA SETS
PS8798_V AND PS8798DR_V. DO NOT CHANGE IT IN ANY WAY WITHOUT CONSULTING PRIYA
FIRST. NO EXCEPTIONS! PS8598_V IS WITHOUT DELIVERY RATIOS. PS8598DR_V IS
WITH DELIVERY RATIOS (DR). THE _V MEANS "IN VERTICAL FORMAT". BOTH PS97_V
AND PS97DR_V ARE IN THE FINAL SSD.DIR. THEY CONTAIN DMR DATA FROM 1984 TO
PRESENT.

THIS PROGRAM SHOULD NOT BE USED TO CREATE THE 1997 DMR DATA SET. USE
APPEND_V.SAS INSTEAD. IT IS MUCH QUICKER TO APPEND THE 97 DATASET TO THE
ABOVE SSD FILES THAN TO RECREATE THE WHOLE THING AGAIN FROM SCRATCH. WE ARE
TALKING ABOUT MORE THAN TEN YEARS OF DATA HERE!

DO NOT RUN THIS PROGRAM IF YOUR INTENTION IS TO RETRIEVE DMR DATA FOR ONE OR
MORE BASINS OR WWTPS. WRITE A SIMPLE SAS PROGRAM INSTEAD TO RETRIEVE THE
DESIRED DATA FROM THE SSD FILES PS97_V OR PS97DR_V, WHICH CAN BE FOUND ON
MDENT12.

```
**************************************************************************;

libname ps 'H:\users\ppapali\mdps';
libname final 'H:\users\ppapali\mdps2011\BNR';
/*FILENAME TYPECOR 'H:\users\PPAPALI\INC\TYPECOR.TXT';*/


FILENAME BASIN 'H:\users\PPAPALI\INC\BASIN.TXT';

FILENAME DELRATIO 'H:\users\PPAPALI\INC\DELRAT2.INC';
FILENAME COUNTY 'H:\users\PPAPALI\INC\NPDES_CO.INC';*/


**************************************************************************;


%macro toset(ds,ps,ns);

DATA &ds (KEEP=YEAR CODE TYPE FALLINE NAME NPDES FLOW MFLOW MONTH
          DISCH_PT DAY TN TP MTNL MTPL);
SET ps.&ds;

*%INCLUDE TYPECOR;

IF MONTH=1 OR MONTH=3 OR MONTH=5 OR MONTH=7 OR MONTH=8 OR MONTH=10 OR MONTH=12
THEN DO;
      DAY=31;
      MFLOW=FLOW*DAY;
      MTNL=MFLOW*TN*8.344;
      MTPL=MFLOW*TP*8.344;
END;

IF MONTH=4 OR MONTH=6 OR MONTH=9 OR MONTH=11
THEN DO;
      DAY=30;
      MFLOW=FLOW*DAY;
```

```
      MTNL=MFLOW*TN*8.344;
      MTPL=MFLOW*TP*8.344;
END;

IF MONTH=2 THEN DO;

      IF YEAR=1984 OR YEAR=1988 OR YEAR=1992 OR YEAR=1996 OR YEAR=2000 OR year=2004
      THEN DAY=29;
      ELSE DAY=28;
      MFLOW=FLOW*DAY;
      MTNL=MFLOW*TN*8.344;
      MTPL=MFLOW*TP*8.344;

END;

PROC SORT;
BY NPDES DISCH_PT;

PROC MEANS NOPRINT SUM DATA=&ds;
VAR DAY MFLOW MTPL MTNL;
BY NPDES DISCH_PT;
ID NAME CODE TYPE FALLINE;
OUTPUT OUT=&ds SUM= ADAY AFLOW ATPL ATNL;

DATA &ps;
SET &ds;

IF YEAR=2004 OR YEAR=2000 OR YEAR=1996 OR YEAR=1992 OR YEAR=1988 OR YEAR=1984

      THEN FLOW=AFLOW/366;

      ELSE FLOW=AFLOW/365;

PROC MEANS NOPRINT SUM DATA=&ps;
VAR FLOW AFLOW ATPL ATNL;
BY NPDES;
ID NAME CODE TYPE FALLINE;
OUTPUT OUT=&ns SUM=FLOW_FY11 AFLOW_FY11 ATPL_FY11 ATNL_FY11;

PROC DATASETS NOLIST; DELETE &ds &ps;

 %mend toset;


%toset(FY11ALL,p11,n11)

DATA PS_V;
LENGTH BASIN $25.;
SET n11;

TP_FY11=ATPL_FY11/AFLOW_FY11/8.344;
TN_FY11=ATNL_FY11/AFLOW_FY11/8.344;

NUM=1;

TPL_FY11=ATPL_FY11/NUM;
```

```
TNL_FY11=ATNL_FY11/NUM;

CHAR=SUBSTR(CODE,1,8);
SUB=SUBSTR(CODE,10,2);

%INCLUDE BASIN;
%INCLUDE COUNTY;

NAME = UPCASE(NAME);
BASIN = UPCASE(BASIN);
TYPE = UPCASE(TYPE);
FALLINE = UPCASE(FALLINE);
COUNTY = UPCASE(COUNTY);

PROC SORT;
BY NPDES ;

PROC DATASETS NOLIST;
DELETE  n11;


DATA final.MDFY11V (DROP=_TYPE_ _FREQ_ SUB CHAR NUM AFLOW_FY11 ATNL_FY11 ATPL_FY11);
SET PS_V;

*%INCLUDE DELRATIO;



PROC CONTENTS;


PROC PRINT;
run;
```

APPENDIX D

Data Editing/Verification Remarks for the MDPS Database Compilation

DC0021199	BLUE PLAINS	MAJ	All values verified / entered from the load allocation table sent from Bay Program
MD0000311	W R GRACE	IND	Verified all values with DMRS.
MD0000469	MD & VA MILK PRODUCERS	IND	Data has been verified with dmr/mors
MD0001201	BETHELEHEM STEEL	IND	Data has been verified with dmr/mors
MD0001384	CONGOLEUM	IND	Data has been verified with dmr/mors
MD0001422	WESTVACO	IND	Data has been verified with dmr/mors
MD0001775	CHEMETALS	IND	Called facility and verified some numbers.
MD0003158	INDIAN HEAD NOS	IND	Data has been verified with dmr/mors
MD0003221	C. WM. WINEBRNNER	MAJ	Data has been verified with dmr/mors
MD0020001	CRISFIELD	MAJ	NITROGEN VALUES ENTERED FRON MORS. DECIMAL PLACE DIFF SHOWS IN THE MOR. NOT MAJOR DIRRERENCE.
MD0020010	CHESTERTOWN	MAJ	For the month of julyTSS value changed from 17.81 to 14.81, from Fortis
MD0020044	OCEAN CITY	MAJ	For the month of august no data present (will check with ICIS)
MD0020052	INDIAN HEAD	MAJ	For the month of august no data in Fortis but data present (will recheck with ICIS)
MD0020095	NAS-PATUXENT	MIN	Data has been verified with dmr/mors
MD0020168	NAVAL RESEARCH LAB	MIN	Data has been verified with dmr/mors
MD0020206	US ARMY - CHESAPEAKE CITY	MIN	Data has been verified with dmr/mors
MD0020231	BOONSBORO	MIN	FEBURARY FLOW DATA CORRECTED TO .256
MD0020249	FEDERALSBURG	MAJ	TN values were entered from Fortis for july and august
MD0020257	EMMITSBURG	MAJ	No discharge but will double check ICIS for July and august
MD0020265	RISING SUN	MIN	Dmr data reported from the facility was wrong. Redirected to WMA for correction.2010 and 2011 will be corrected.
MD0020273	EASTON	MAJ	Values entered for TN and TP for July and august
MD0020281	CHESAPEAKE BEACH	MAJ	Could not find several values that were provided by downloaded for July and august
MD0020290	GREENSBORO	MIN	Data has been verified with dmr/mors
MD0020303	ROCK HALL	MIN	values updated. Orange highlithted are the new values received fro m fac on 2/12
MD0020362	FUNKSTOWN	MIN	Data has been verified with dmr/mors
MD0020397	CHESAPEAKE CITY SOUTH	MIN	FLOW value double checked with ICIS and was invalid for the month of feb 2011
MD0020401	CHESAPEAKE CITY NORTH	MIN	Data has been verified with dmr/mors
MD0020427	RIDGELY WWTP	MIN	Data has been verified with dmr/mors
MD0020435	MILLINGTON	MIN	January 2011 was Verified with ICIS, FLOW VALUE HAD STAMP OVER IT

MD0020443	CECILTON	MIN	Data has been verified with dmr/mors
MD0020486	TRAPPE	MIN	Data has been verified with dmr/mors
MD0020494	DENTON	MAJ	Data has been verified with dmr/mors
MD0020524	LA PLATA	MAJ	Data has been verified with dmr/mors
MD0020532	DELMAR	MAJ	Data has been verified with dmr/mors
MD0020559	SUDLERSVILLE	MIN	March 2011 and June2011 FLOW value represented influent instead of effluent.corrected
MD0020575	BETTERTON	MIN	Data has been verified with dmr/mors
MD0020605	GALENA	MIN	Some nh3 value reported high around 25mg/l. so tn calculated to 54. WMA gave the information that this facility has 70mg/l maximum limit.
MD0020613	PERRYVILLE	MAJ	Data has been verified with dmr/mors
MD0020621	PRESTON	MIN	Data has been verified with dmr/mors
MD0020630	NEWARK	MIN	Data has been verified with dmr/mors
MD0020648	OAKLAND	MAJ	Data has been verified with dmr/mors
MD0020656	PRINCESS ANNE	MAJ	Data has been verified with dmr/mors
MD0020664	VIENNA	MIN	Data has been verified with dmr/mors
MD0020672	TANEYTOWN	MAJ	Flow value changed from .481 to .496 from DMR Fortis for the month of august
MD0020681	ELKTON	MAJ	Values entered for TN, OP, and TP from Fortis for the month of July
MD0020699	MYERSVILLE	MIN	tn values diff in 2010 because nitrogen values available in 2011 for the month 5,6
MD0020729	NEW MARKET	MIN	Data has been verified with dmr/mors
MD0020737	JEFFERSON	MIN	Data has been verified with dmr/mors
MD0020761	GRANTSVILLE	MIN	Data has been verified with dmr/mors
MD0020761	Town of Grantsville		nh3 values available
MD0020796	PORT DEPOSIT	MIN	Data has been verified with dmr/mors
MD0020800	POINT OF ROCKS	MIN	MONTH 7 NITROGEN VALUES ENTERED FOR JULY2010
MD0020834	CENTREVILLE	MAJ	Data has been verified with dmr/mors
MD0020842	BELTSVILLE USDA EAST	MIN	Data has been verified with dmr/mors
MD0020851	BELTSVILLE USDA WEST	MIN	Data has been verified with dmr/mors
MD0020877	FORT DETRICK	MAJ	Data has been verified with dmr/mors
MD0020885	INDIAN HEAD NAVAL ORDINANCE	MIN	Data has been verified with dmr/mors
MD0020931	NIH	MIN	Data has been verified with dmr/mors
MD0020958	BRUNSWICK	MAJ	Values for TSS, TN, and OP from Fortis for July and august
MD0020982	DAMASCUS	MAJ	VERIFIED. NH3 VALUE WAS 0 FOR 2011.
MD0021083	FRIENDSVILLE	MIN	Data has been verified with dmr/mors
MD0021091	ASSATEAGUE ISLAND NATIONAL SEA	MIN	Data has been verified with dmr/mors
MD0021121	THURMONT	MAJ	FLOW VALUES MISSING IN ICIS.DMR REPORTED AVERGE VALUE IN THE MAXIMUM COULMN.
MD0021229	APG - EDGEWOOD	MAJ	PO4 VALUE MISSING IN THE SPREADSHEET. ENTERED FROM DMR. VERIFIED WITH MOR July/August All values entered from Fortis

MD0021237	APG - ABERDEEN	MAJ	month 7 ton was entered .64 changed to 1.31July/August All values entered from Fortis
MD0021491	SENECA CREEK	MAJ	All values entered from Fortis for the month of august
MD0021512	FREEDOM DISTRICT	MAJ	VEIFIED WITH MORS.NH3 VALUES ENTERED FROM MORS. PO4 ENTERED FROM MORS. SOME NITROGEN VALUES CHANGED.FLAGED AS M
MD0021539	PISCATAWAY	MAJ	All values entered from Fortis for the month of august
MD0021555	BACK RIVER	MAJ	Data has been verified with dmr/mors
MD0021563	ABERDEEN	MAJ	Data has been verified with dmr/mors
MD0021571	SALISBURY	MAJ	Data has been verified with dmr/mors
MD0021598	CUMBERLAND	MAJ	Data has been verified with dmr/mors
MD0021601	PATAPSCO	MAJ	Data has been verified with dmr/mors
MD0021610	FREDERICK	MAJ	Data has been verified with dmr/mors
MD0021628	BOWIE	MAJ	MONTH 11 WAS MISSING . ENTERED. MOR/DMR
MD0021636	CAMBRIDGE	MAJ	Data has been verified with dmr/mors
MD0021644	BROADNECK	MAJ	Data has been verified with dmr/mors
MD0021652	PATUXENT	MAJ	Data has been verified with dmr/mors
MD0021661	COX CREEK	MAJ	FLOW VALUES CORRECTED ON NOV 2011. THREE OUTFALL FLOW REPORTED. 001B IS FINAL EFFLUENT DATA,WHICH IS DIFF OF OTHER TWO OUTFALLS
MD0021679	PINE HILL RUN	MAJ	Data has been verified with dmr/mors
MD0021687	UPPER POTOMAC RIVER COMMISSION	IND	Data has been verified with dmr/mors
MD0021717	FORT MEADE	MAJ	Data has been verified with dmr/mors
MD0021725	PARKWAY	MAJ	Data has been verified with dmr/mors
MD0021741	WESTERN BRANCH	MAJ	Data has been verified with dmr/mors
MD0021750	HAVRE DE GRACE	MAJ	Data has been verified with dmr/mors
MD0021776	HAGERSTOWN	MAJ	Data has been verified with dmr/mors
MD0021814	ANNAPOLIS	MAJ	Data has been verified with dmr/mors
MD0021822	BALLENGER CREEK	MAJ	Data has been verified with dmr/mors
MD0021831	WESTMINSTER	MAJ	Data has been verified with dmr/mors
MD0021865	MATTAWOMAN	MAJ	Data has been verified with dmr/mors
MD0022446	HAMPSTEAD	MIN	VERIFIED TKN.
MD0022454	UNION BRIDGE	MIN	Data has been verified with dmr/mors
MD0022527	MT AIRY	MAJ	Data has been verified with dmr/mors
MD0022535	JOPPATOWNE	MAJ	Data has been verified with dmr/mors
MD0022543	OXFORD	MIN	FLOW value and Ammonia had to be entered from Fortis for the month of Jan and Feb 2011.For the month of March flow, Ammonia, Op and TP values entered from Fortis.
MD0022551	POCOMOKE CITY	MAJ	Month of Jan TKN=2,Feb TKN=1,March Nh3=1,tkn=2,may tkn=3 June tkn=5.values were corrected.
MD0022578	MANCHESTER	MIN	Data has been verified with dmr/mors
MD0022586	NEW WINDSOR	MIN	Total Nitrogen value entered from Fortis for the month of June 2011, Ammonia and Total Phosphorous from Fortis for the month January, Ammonia data taken from Fortis for th e month of March 2011
MD0022632	BERLIN	MIN	Data has been verified with dmr/mors

MD0022641	MEADOWVIEW	MIN	Data has been verified with dmr/mors
MD0022683	CRESTVIEW	MIN	Data has been verified with dmr/mors
MD0022713	RICHLYN MANOR	MIN	Data has been verified with dmr/mors
MD0022721	FOUNTAINDALE	MIN	Data has been verified with dmr/mors
MD0022730	HURLOCK	MAJ	Month of Jan TP=.05,Feb TP=.05,March TP=.07, April TP=.06,May TN=2.01 June TN=2.36=5.values were corrected.
MD0022748	MARYLAND WATER SERVICE	MIN	Data has been verified with dmr/mors
MD0022756	ROSE HEAVEN WWTP		OFFLINE
MD0022764	SNOW HILL	MAJ	
MD0022781	MARLBORO MEADOWS	MIN	Data has been verified with dmr/mors
MD0022845	GAITHER MANOR	MIN	Data has been verified with dmr/mors
MD0022870	SPRINGVIEW ESTATES	MIN	Data has been verified with dmr/mors
MD0022900	LEWISTOWN ELEMENTARY	MIN	Data has been verified with dmr/mors
MD0022926	HUNTER HILL APARTMENTS	MIN	Data has been verified with dmr/mors
MD0022951	GLEN MEADOWS	MIN	Data has been verified with dmr/mors
MD0022993	TAWES VACCATIONAL CENTER		OFFLINE
MD0023001	POOLESVILLE	MAJ	Entered/changed Jan 2011 tkn=1.09, FLOW was changed from .144 to .411,March tkn=.63 April tkn=4.5
MD0023027	POCOMOKE INN		OFFLINE
MD0023043	SWAN HARBOR PARK	MIN	Data has been verified with dmr/mors
MD0023060	CONCORD TRAILER PARK	MIN	high value reported for no23 and tn
md0023060	CONCORD MOBILE PARK		high value reported for no23 and tn
MD0023108	MANCHESTER PARK	MIN	Missing data in icis . CECO UTILITIES. DON'T CALL DIRECTLY. EED TO REQUEST DMR THRU WMA
MD0023159	LACKEY HIGH SCHOOL		OFFLINE
MD0023213	RAWLINGS HEIGHTS	MIN	MONTH 6 FLOW CORRECTED TO .068. FROM MOR
MD0023230	MT ST MARYS COLLEGE	MIN	Data has been verified with dmr/mors
MD0023272	SUMMER HILL TRAILER PARK	MIN	Data has been verified with dmr/mors
MD0023281	N HARFORD JR&SR HIGH	MIN	Data has been verified with dmr/mors
MD0023337	WOODLAWN MOBILE HOME PARK	MIN	Data has been verified with dmr/mors
MD0023361	AT& T CORPORATION		OFFLINE
MD0023370	QUEENSTOWN	MIN	Data has been verified with dmr/mors
MD0023451	PICCOWAXIN MIDDLE	MIN	Data has been verified with dmr/mors
MD0023469	BOHEMIA MANOR HIGH	MIN	nitrogen reported high .no23 and tn reported high.
MD0023477	OCEAN PINES SERVICE AREA	MAJ	NOV 2010 FLOW VALUE MISSING. ENTERED
MD0023485	KENT ISLAND	MAJ	Data has been verified with dmr/mors
MD0023523	US NAVAL ACADEMY	MIN	Data has been verified with dmr/mors
MD0023604	TALBOT COUNTY REGION II	MAJ	Data has been verified with dmr/mors
MD0023621	N CAROLINE HIGH	MIN	Data has been verified with dmr/mors
MD0023647	WAYSONS MOBILE	MIN	Data has been verified with dmr/mors
MD0023680	I-70 REST AREA	MIN	High values reported for all nitroen species
MD0023710	DAN-DEE, INC	MIN	Data has been verified with dmr/mors
MD0023728	SOUTHERN SENIOR HIGH SCHOOL	MIN	Data has been verified with dmr/mors

MD0023833	ELK NECK STATE PARK	MIN	High values reported for some nitrogen species, nh4 and tn and no23.
MD0023868	GREENBRIAR STATE PARK	MIN	Data has been verified with dmr/mors
MD0023876	EASTERN CORRECTIONAL CAMP	MIN	Data has been verified with dmr/mors
MD0023906	WOODSTOCK TRAINING CENTER	MIN	Data has been verified with dmr/mors
MD0023914	SOUTHERN CORRECTIONAL CAMP	MIN	Data has been verified with dmr/mors
MD0023922	VICTOR CULLEN CENTER	MIN	Data has been verified with dmr/mors
MD0023931	CHELTENHAM BOYS VILLAGE	MIN	Data has been verified with dmr/mors
MD0023949	POINT LOOKOUT STATE PARK	MIN	Data has been verified with dmr/mors
MD0023957	MARYLAND CORRECTIONAL INSTITUT	MAJ	Data has been verified with dmr/mors
MD0023981	NEW GERMANY STATE PARK	MIN	Data has been verified with dmr/mors
MD0024023	HARBOUR VIEW	MIN	Data has been verified with dmr/mors
MD0024244	CRACKED CLAW		OFFLINE
MD0024279	MARDELA HIGH	MIN	Data has been verified with dmr/mors
MD0024317	SMITHSBURG	MIN	Data has been verified with dmr/mors
MD0024333	MARYLAND MANOR MOBILE	MIN	Data has been verified with dmr/mors
MD0024350	BROADWATER	MAJ	Data has been verified with dmr/mors
MD0024384	CHESAPEAKE COLLEGE	MIN	Data has been verified with dmr/mors
MD0024406	MIDDLETOWN	MIN	Data has been verified with dmr/mors
MD0024449	NORTHERN MS/HS	MIN	Data has been verified with dmr/mors
MD0024546	PHEASANT RIDGE	MIN	Data has been verified with dmr/mors
MD0024562	HANCOCK	MIN	Data has been verified with dmr/mors
MD0024589	S CARROLL HIGH	MIN	Data has been verified with dmr/mors
MD0024627	HIGHLAND VIEW	MIN	Data has been verified with dmr/mors
MD0024635	UNITED CONTAINER	MIN	Data has been verified with dmr/mors
MD0024694	PATUXENT MOBILE	MIN	Data has been verified with dmr/mors
MD0024759	OLDTOWN	MIN	Data has been verified with dmr/mors
MD0024767	LEONARDTOWN	MAJ	Data has been verified with dmr/mors
MD0024929	TRIUMPH INDUSTRIAL PARK	MIN	Data has been verified with dmr/mors
MD0024937	Q-CITY COURTS		OFFLINE
MD0024945	GREAT OAKS LANDING	MIN	Data has been verified with dmr/mors
MD0024953	SPRING MEADOWS	MIN	Data has been verified with dmr/mors
MD0024961	BENJAMINS TRAILER PARK	MIN	Data has been verified with dmr/mors
MD0024970	MAPLE RUN FORESTY CAMP		OFFLINE
MD0024988	GREEN RIDGE FORESTRY CAMP	MIN	Data has been verified with dmr/mors
MD0025089	WHITE ROCK	MIN	Data has been verified with dmr/mors
MD0025119	FOXVILLE US NAVAL SUPPORT	MIN	Data has been verified with dmr/mors
MD0025623	PATUXENT WILD LIFE		OFFLINE
MD0025631	TERRAPIN UTILITY		OFFLINE
MD0025640	BRANDYWINE FAMILY HOUSING		OFFLINE
MD0025658	BRANDYWINE FAMILY RECEIVER SITE		OFFLINE
MD0025666	EMERGENCY MANAGEMENT	MIN	Data has been verified with dmr/mors
MD0050016	CHURCH HILL	MIN	Data has been verified with dmr/mors
MD0050334	THUNDERBIRD APARTMENTS	MIN	Data has been verified with dmr/mors
MD0050903	BOONES MOBILE	MIN	Data has been verified with dmr/mors
MD0051373	BROADFORDING	MIN	Data has been verified with dmr/mors
MD0051497	TROUT RUN	MAJ	FLOW VALUES REPORTED ON THE DMR IS NOT SAME AS MOR. SED MOR VALUES.CONTACT ICIS TO CORRECT
MD0051632	WILLARDS	MIN	SOME NITRGEN VALUES ENTERED FROM THE LAB SAMPLE

MD0051667	ROCKY GAP STATE PARK	MIN	Data has been verified with dmr/mors
MD0051721	ACCIDENT	MIN	Data has been verified with dmr/mors
MD0051918	CHOPTICAN HIGH	MIN	USED THE VALUES FROM PREVIOUS YEAR. 2008 AND 2009 ARE HIGH NH3 REPORTED.nh3 values have been dropped from 2010 onwards. calculated tn value using previous year (2008 nh3 was reported very high) Need lab/grab sample to calculate tn. Requested to WMA. This facility has has some issues. so you are not able request for sample now.
MD0052027	NORTHEAST RIVER	MAJ	Data has been verified with dmr/mors
MD0052167	NORTHERN HIGH	MIN	Data has been verified with dmr/mors
MD0052175	SHARPTOWN	MIN	Data has been verified with dmr/mors
MD0052230	EWELL	MIN	Data has been verified with dmr/mors
MD0052248	TYLERTON	MIN	Data has been verified with dmr/mors
MD0052256	FAIRMOUNT	MIN	Data has been verified with dmr/mors
MD0052281	CRELLIN	MIN	Data has been verified with dmr/mors
MD0052299	MORNING CHEER	MIN	STARTED TO REPORT NITROGEN IN 2011
MD0052311	CHARLES COUNTY COMM COLLEGE	MIN	NITROGEN VALUES ENTERED FROM MOR
MD0052329	PARKWAY INN		OFFLINE
MD0052671	KENNEDYVILLE		ENTERED NITRGEN VALUES FROM MORS.
MD0052680	EDGEMEADE RES SITE	MIN	Data has been verified with dmr/mors
MD0052825	CHERRY HILL	MIN	high values reported for some nitrogen species tn and no23.
MD0052850	SWALLOW FALLS STATE PARK	MIN	Data has been verified with dmr/mors
MD0052868	DREAM LANDING		OFFLINE TERMINATED 2/2007
MD0052990	FRUITLAND	MAJ	ENTER THE FLOW VALUES INTO THE DATABASE FROM MORS.
MD0053066	FAHRNEY-KEEDY	MIN	Data has been verified with dmr/mors
MD0053074	CAMP SUNRISE	MIN	Data has been verified with dmr/mors
MD0053082	HOLIDAY MOBILE ESTATES	MIN	Data has been verified with dmr/mors
MD0053104	WESTOVER GOOSE CREEK		OFFLINE
MD0053139	CAMP SHADOWBROOK	MIN	Data has been verified with dmr/mors
MD0053155	THUNDERBIRD MOTEL	MIN	Data has been verified with dmr/mors
MD0053171	MAPLE HILL PARK	MIN	Data has been verified with dmr/mors
MD0053198	BROOK LANE	MIN	HIGH VALUES REPORTED FOR NITROGEN IN THE MORS.C ALL FACIL TO VERIFY. no23 value reported very high. So calculated tn will be 35.
MD0053201	RELAX INN	MIN	NH3 FOR MONTH 9 CHANGE FROM 22 TO 2.2 .FROM MORS

MD0053228	MT CARMEL WOODS	MIN	Data has been verified with dmr/mors
MD0053279	FOREST GREEN	MIN	Data has been verified with dmr/mors
MD0053325	CLEARSPRING	MIN	Data has been verified with dmr/mors
MD0053511	LYONS CREEK MOBILE	MIN	Data has been verified with dmr/mors
MD0054330	POKOMOKE TRUCK STOP		OFFLINE
MD0054348	DEEP CREEK LAKE	MIN	Data has been verified with dmr/mors
MD0054542	BALTIMORE YATCH CLUB		OFFLINE
MD0054950	DONALDSON BROWN COOTER	MIN	Data has been verified with dmr/mors
MD0055174	LITTLE PATUXENT	MAJ	Data has been verified with dmr/mors
MD0055352	TWIN CITIES	MIN	Data has been verified with dmr/mors
MD0055425	OLD SOUTH MOUNTAIN INN	MIN	dmr is not available for the month 2-6 2011. use the avg value to fill in
MD0055522	COLONEL RICHARDSON MIDDLE&HIGH	MIN	ammonia reported for 2011 high verified with mor
MD0055557	CLIFFTON ON THE POTOMAC	MIN	Data has been verified with dmr/mors
MD0055620	FLINTSTONE	MIN	Data has been verified with dmr/mors
MD0056103	ST.TIMOTHY SCHOOL		OFFLINE
MD0056464	FAIRVIEW BEACH		OFFLINE
MD0056481	KEMPTOWN SCHOOL	MIN	Data has been verified with dmr/mors
MD0056545	SOD RUN	MAJ	Data has been verified with dmr/mors
MD0056553	SHINE INN	MIN	DMR NOT SUBMITTED. ENTERED ZERO FLOW FOR THE MONTHS 1-6
MD0057100	NEW LIFE FOURSQUARE CHURCH	MIN	Data has been verified with dmr/mors
MD0057487	WALKERS TRAILER PARK	MIN	nh3 values has been dropped from 2009 onwards.calculated tn value using previous year (2007 nh3 was reported very high)used that value to calculate the TN.The value 34 dropped to 10mg/l from 2009 onwards
MD0057525	SWAN POINT	MAJ	FLOW WERE MISSING IN THE SPREASHEET. ENTERED FROM MOR.
MD0057606	WINTERS APARTMENTS	MIN	Data has been verified with dmr/mors
MD0057614	JUDE HOUSE		OFFLINE
MD0058050	SHAMROCK RESTAURANT	MIN	Data has been verified with dmr/mors
MD0058661	WOODSBORO	MIN	Data has been verified with dmr/mors
MD0058807	BOWLEYS QUARTER		OFFLINE
MD0059145	PINEY ORCHARD	MIN	NOV NOTROGEN VALUES WERE MISSING ENTERED FROM MOR
MD0059463	TALBOT COUNTY REGION V	MIN	Data has been verified with dmr/mors
MD0059609	MONROVIA	MIN	Data has been verified with dmr/mors
MD0059617	HEBRON	MIN	MONTH 4 FLOW CORRECTED TO .064.FROM MOR
MD0060071	GEORGES CREEK	MAJ	Data has been verified with dmr/mors
MD0060348	PITTSVILLE	MIN	Data has been verified with dmr/mors
MD0060577	LIBERTYTOWN	MIN	Data has been verified with dmr/mors
MD0060585	WORTON-BUTLERTON	MIN	FEB,JAN JUNE FLOW HAS BEEN CHANGED TO .094. FROM MOR
MD0060585	WORTON-BUTLERTON		FEB,JAN JUNE FLOW HAS BEEN CHANGED TO .094. FROM MOR
MD0060739	TRI-TOWN INDUSTRIAL		Checked Fortis and returned only values from 2008, ICIS had no data whatsoever listed
MD0060933	BLOOMINGTON	MIN	Data has been verified with dmr/mors
MD0060941	KITZMILLER	MIN	Data has been verified with dmr/mors
MD0060950	GORMAN	MIN	Data has been verified with dmr/mors

MD0061794	MAYO LARGE COMMUNAL	MAJ	NO23 value changed from 19 to 23.8 via Fortis for the month of august
MD0062308	ANTIETAM	MIN	reported nh3 and no23 very high
MD0062375	LITTLE ORLEANS CAMP	MIN	Data has been verified with dmr/mors
MD0062596	MARYLAND CITY	MAJ	Data has been verified with dmr/mors
MD0062821	SIDELING HILL REST AREA	MIN	Data has been verified with dmr/mors
MD0063207	DORSEY RUN	MAJ	Data has been verified with dmr/mors
MD0063282	HEARNE-MEADOWS LLC	MIN	reported tn very high
MD0063509	CONOCOCHEAGUE	MAJ	Data has been verified with dmr/mors
MD0063878	CELANESE	MAJ	Data has been verified with dmr/mors
MD0063967	CROOM MANOR HOUSING		OFFLINE
MD0064530	SANDY HOOK	MIN	Data has been verified with dmr/mors
MD0064777	BRETTON WOODS	MIN	Data has been verified with dmr/mors
MD0065145	HIGHLANDS	MIN	Data has been verified with dmr/mors
MD0065234	BFS TRUCK STOP	MIN	Data has been verified with dmr/mors
MD0065269	PLEASANT BRANCH	MIN	Data has been verified with dmr/mors
MD0065358	NATIONAL WILDLIFE VISITOR CENT	MIN	Data has been verified with dmr/mors
MD0065439	MILL BOTTOM	MIN	Data has been verified with dmr/mors
MD0065536	ST.JAMES SCHOOL		OFFLINE
MD0065749	BIERS LANE	MIN	Data has been verified with dmr/mors
MD0065757	HAPPY TRAILS CAMPGROUND	MIN	Data has been verified with dmr/mors
MD0065927	RUNNYMEADE SCHOOL	MIN	Data has been verified with dmr/mors
MD0066001	VILLA JULIE COLLEGE	MIN	Data has been verified with dmr/mors
MD0066184	LEESBURG		OFFLINE
MD0066613	EASTERN CORRECTIONALINSTITUTIO	MIN	Data has been verified with dmr/mors
MD0066745	PLESANT VALLEY	MIN	Data has been verified with dmr/mors
MD0066940	URBANA HIGH SCHOOL		OFFLINE
MD0067202	TOLCHESTER	MIN	Data has been verified with dmr/mors
MD0067237	LEWISTOWN-MILLS		OFFLINE
MD0067521	SHEPPARD PRATT WESTERN MIDDLE	MIN	Data has been verified with dmr/mors
MD0067539	KUNZANG ODSAL PALGUL BHANGCHUB	MIN	Data has been verified with dmr/mors
MD0067571	BOWLING BROOK PREPARATORY SCHO	MIN	Data has been verified with dmr/mors
MD0067628	MIDDLETOWN WWTP	MIN	Data has been verified with dmr/mors
MD0067768	HYATTSTOWN WWTP	MIN	Data has been verified with dmr/mors
MD0067857	ALLEN FAMILY FOODS	IND	Data has been verified with dmr/mors
MD0067881	CEDAR RIDGE	MIN	Data has been verified with dmr/mors
MD0067903	GLEN ARM MAINTENANCE WWTP	MIN	Data has been verified with dmr/mors
MD0067989	LEWISTOWNMILLS WWTP 2		OFFLINE
MD0068101	33 STAHL POINT LLC	MIN	Data has been verified with dmr/mors
MD0068705	BP AMACO		OFFLINE
MD0068896	BARTON BUSINESS CENTER WWTP	MIN	Data has been verified with dmr/mors
MD0069078	REHOBATH CHRUCH		OFFLINE
MD0069116	WOODMONT		OFFLINE
MD0069582	TRACEY'S ELEMENTARY SCHOOL	MIN	Data has been verified with dmr/mors
MD0069949	CINNAMON WOODS WWTP	MIN	Data has been verified with dmr/mors
MD0070530	TRI-TOWN INDUSTRIAL PARK		ACTIVE PERMIT-NO FLOW

APPENDIX E

Glossary

SOURCE: WPC, APHA, AWWA, ASCE, 1969. Glossary- Water and Wastewater Control Engineering.

and

EPA, 1997. Terms of Environment Glossary, Abbreviations and Acronyms

Activated Sludge: Product that results when primary effluent is mixed with bacteria-laden sludge and then agitated and aerated to promote biological treatment, speeding the breakdown of organic matter in raw sewage undergoing secondary waste treatment.

Aeration: A process that promotes biological degradation of organic matter in water. The process may be passive (as when waste is exposed to air), or active (as when a mixing or bubbling device introduces air).

Ammonia: A chemical combination of hydrogen (H) and nitrogen (N) occurring extensively in nature. The combination used in water and wastewater engineering is expressed as NH3.

Basin: (1) The surface area within a given drainage system. (2) An area upstream from a subsurface or surface obstruction to the flow of water.

Basin Code: An eight-digit field used to identify the river basin where the facility lies (including stream segment). A code assigned by the USGS to identify drainage basins for facilities by their location.

Biological Oxygen Demand (BOD): An indirect measure of the concentration of biologically degradable material present in organic wastes. It usually reflects the amount of oxygen consumed in five days by biological processes breaking down organic wastes.

Biological Purification: The process whereby living organisms convert the organic matter contained in wastewater into a more stable or a mineral form.

BOD5: The amount of dissolved oxygen consumed in five days by biological processes breaking down organic matter.

Bypass: An arrangement of pipes; conduits, gates, and valves whereby the flow may be passed around a hydraulic structure or appurtenance.

Chemical Oxygen Demand (COD): A measure of oxygen required to oxidize all compounds, both organic and inorganic, in water.

Chemical Sludge: Sludge obtained by treatment of wastewater with chemicals.

Chlorination: The application of chlorine to drinking water, sewage, or industrial waste to disinfect or to oxidize undesirable compounds.

Concentration: The relative amount of a substance mixed with another substance.

Conduit: Any artificial or natural duct, either open or closed, for conveying liquids or possibly other fluids.
Contact Filter: A filter used in a water treatment plant for the partial removal of turbidity before final filtration.

Contamination: Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use. Also applies to surfaces of objects, buildings, and various household and agricultural use products.

Creek: (1) A small stream of water that serves as the natural drainage course for a drainage basin of small size. The term is a relative one as to size; some creeks in a humid region would be called rivers if they occurred in an arid region. (2)

A small tidal channel through a coastal marsh. (3) The short arm of a stream.

Crude Wastewater: Wastewater before it receives any treatment. Also called raw wastewater.

Data: Records of observations and measurements of physical facts, occurrences, and conditions, reduced to written, graphical, or tabular form.

Data Flag: A one-character indicator identifying whether the value's source in database is DMR (D), MOR (M), permit application (P), calculated, or used default value ().

Debris: Any material, including floating trash, suspended sediment, or bed load, moved by a flowing stream.

Degradation: The breakdown of substances by biological action.

Detention Dam: A dam, usually small, constructed to impound or retard surface runoff temporarily. Also used to bring about deposition of soil being carried away by runoff of surface water.

Digester: In wastewater treatment, a closed tank; in solid-waste conversion, a unit in which bacterial action is induced and accelerated in order to break down organic matter and establish the proper carbon to nitrogen ratio

Direct Discharger: A municipal or industrial facility that introduces pollution through a defined conveyance or system such as outlet pipes; a point source.

Direct Filtration: A method of treating water that consists of the addition of coagulant chemicals, flash mixing, coagulation, minimal flocculation, and filtration. Sedimentation is not uses.

Discharge: Flow of surface water in a stream or canal or the outflow of ground water from a flowing artesian well, ditch, or spring. Can also apply to discharge of
liquid effluent from a facility or to chemical emissions into the air through designated venting mechanisms.

Dissolved Oxygen (DO): The oxygen freely available in water, vital to fish and other aquatic life and for the prevention of odors. DO levels are considered a most important indicator of a water body's ability to support desirable aquatic life. Secondary and advanced waste treatments are generally designed to ensure adequate DO in waste-receiving waters.

Ditch: An artificial open channel or waterway constructed through earth or rock to conve y water. A ditch is smaller than a canal, although the line of demarcation between the two is indefinite.

Drainage: Improving the productivity of agricultural land by removing excess water from the soil by such means as ditches or subsurface drainage tiles.

Drainage Basin: The area of land that drains water, sediment, and dissolved materials to a common outlet at some point along a stream channel.

Effluent: Wastewater--treated or untreated--that flows out of a treatment plant, sewer, or industrial outfall. Generally refers to wastes discharged into surface waters.

Effluent Limitation: Restrictions established by a state or EPA on quantities, rates, and concentrations in wastewater discharges.

Exceedance: Violation of the pollutant levels permitted by environmental protection standards.

Excess Activated Sludge: The quantity of activated sludge surpassing that needed for process operation that is removed from the activated sludge system for ultimate disposal.

Extended Aeration: A modification of the activated sludge process that provides for aerobic sludge digestion within the aeration system. The concept envisages the stabilization of organic matter under aerobic conditions and disposal of the end products into the air as gases and with the pla nt effluent as finely divided suspended matter and soluble matter.

Filtration: A treatment process, under the control of qualified operators, for removing solid (particulate) matter from water by means of porous media such as sand or a man-made filter; often used to remove particles that contain pathogens.

Final Effluent: The effluent from the final treatment unit of a wastewater treatment plant.

Finished Water: Water is "finished" when it has passed through all the processes in a water treatment plant and is ready to be delivered to consumers.

Floc: A clump of solids formed in sewage by biological or chemical action.

Flocculation: Process by which clumps of solids in water or sewage aggregate through biological or chemical action so they can be separated from water or sewage.

Flow Rate: The rate, expressed in gallons -or liters-per-hour, at which a fluid escapes from a hole or fissure in a tank. Such measurements are also made of liquid waste, effluent, and surface water movement.

Grab Sample: A single sample collected at a particular time and place that represents the composition of the water, air, or soil only at that time and place.

Ground-Water Discharge: Ground water entering near coastal waters that has been contaminated by landfill leachate, deep well injection of hazardous wastes, septic tanks, etc.

Indirect Discharge: Introduction of pollutants from a non-domestic source into a publicly owned waste-treatment system. Indirect dischargers can be commercial or industrial facilities whose wastes enter local sewers.

Industrial Process Waste: Residues produced during manufacturing operations.

Industrial Sludge: Semi-liquid residue or slurry remaining from treatment of industrial water and wastewater.

Industrial Source Reduction: Practices that reduce the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment. Also reduces the threat to public health and the environment associated with such releases. Term includes equipment or technology modifications, substitution of raw materials, and improvements in housekeeping, maintenance, training or inventory control.

Industrial Waste: Unwanted materials from an industrial operation; may be liquid, sludge, solid, or hazardous waste.

Infiltration: (1) The penetration of water through the ground surface into sub-surface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole walls. (2) The technique o f applying large volumes of wastewater to land to penetrate the surface and percolate through the underlying soil.

Infiltration Gallery: A sub-surface groundwater collection system, typically shallow in depth, constructed with open-jointed or perforated pipes that discharge collected water into a watertight chamber from which the water is pumped to treatment facilities and into the distribution system. Usually located close to streams or ponds.

Infiltration Rate: The quantity of water that can enter the soil in a specified time interval.

Influent: Water, wastewater, or other liquid flowing into a reservoir, basin, or treatment plant.

In-Line Filtration: Pre-treatment method in which chemicals are mixed by the flowing water; commonly used in pressure filtration installations. Eliminates need for flocculation and sedimentation.

Lagoon: (1) A shallow pond where sunlight, bacterial action, and oxygen work to purify wastewater; also used for storage of wastewater or spent nuclear fuel rods. (2) Shallow body of water, often separated from the sea by coral reefs or sandbars.

Land Application: Discharge of wastewater onto the ground for treatment or reuse.

Lateral Sewers: Pipes that run under city streets and receive the sewage from homes and businesses, as opposed to domestic feeders and main trunk lines.

Majors: Larger publicly owned treatment works (POTWs) with flows equal to at least one million gallons per day (MGD) or servicing a population equivalent to 10,000 persons; certain other POTWs having significant water quality impacts.

Manufacturing Waste: The liquid wastes from industrial processes, as distinct from domestic or sanitary waste. Also called industrial wastes.

Maximum Discharge: The maximum rate of flow that a stream conduit, channel, pipe, pump, or other hydraulic structure is capable of passing.

Mean Flow: The arithmetic average of the discharge at a given point or station on the line of flow for some specific period of time.

Mechanical Aerator: A mechanical device for the introduction of atmospheric oxygen into a liquid.

Minors: Publicly owned treatment works with flows less than 1 million gallons per day.

Modified Aeration: A modification of the activated sludge process in which a shortened period of aeration is used with a reduced quantity of suspended solids in the mixed liquor.

Municipal Discharge: Discharge of effluent from wastewater treatment plants that receive wastewater from households, commercial establishments, and industries in the coastal drainage basin. Combined sewer/separate storm overflows are included in this category.

Municipal Sewage: Wastes (mostly liquid) originating from a community; may be composed of domestic wastewaters and/or industrial discharges.

Municipal Sludge: Semi-liquid residue remaining from the treatment of municipal water and wastewater.

National Pollutant Discharge Elimination System (NPDES): A provision of the Clean Water Act which prohibits discharge of pollutants into waters of the United States unless a special permit is issued by EPA, a state, or, where delegated, a tribal government on an Indian reservation.

Nitrate: A compound containing nitrogen that can exist in the atmosphere or as a dissolved gas in water and which can have harmful effects on humans and animals. Nitrates in water can cause severe illness in infants and domestic animals. A plant nutrient and inorganic fertilizer, nitrate is found in septic systems, animal feed lots, agricultural fertilizers, manure, industrial wastewaters, sanitary landfills, and garbage dumps.

Nitrite: (1) An intermediate in the process of nitrification. (2) Nitrous oxide salts used in food preservation.

Non-Point Sources: Diffuse pollution sources (i.e., without a single point of origin or not introduced into a receiving stream from a specific outlet). The pollutants are generally carried off the land by storm water. Common non-point sources are agriculture, forestry, urban, mining, construction, dams, channels, land disposal, saltwater intrusion, and city streets.

Nutrient: Any substance assimilated by living things that promotes growth. The term is generally applied to nitrogen and phosphorus in wastewater, but is also applied to other essential and trace elements.

Nutrient Pollution: Contamination of water resources b y excessive inputs of nutrients. In surface waters, excess algal production is a major concern.

Organic: (1) Referring to or derived from living organisms. (2) In chemistry, any compound containing carbon.

Organic Chemicals/Compounds: Naturally occurring (animal or plant-produced or synthetic) substances containing mainly carbon, hydrogen, nitrogen, and oxygen.

Organic Matter: Carbonaceous waste contained in plant or animal matter and originating from domestic or industrial sources.

Organic Nitrogen: Nitrogen combined in organic molecules such as proteins, amines, and amino acids.

Oxidation: The chemical addition of oxygen to break down pollutants or organic waste; e.g., destruction of chemicals such as cyanides, phenols, and organic sulfur compounds in sewage by bacterial and chemical means.

Particulates: (1) Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog, found in air or emissions. (2) Very small solids suspended in water; they can vary in size, shape, density and electrical charge and can be gathered together by coagulation and flocculation.

Permit: An authorization, license, or equivalent control document issued by EPA or an approved state agency to implement the requirements of an environmental regulation; e.g., a permit to operate a wastewater treatment plant or to operate a facility that may generate harmful emissions.

pH: An expression of the intensity of the basic or acid condition of a liquid; may range from 0 to 14, where 0 is the most acid and 7 is neutral. Natural waters usually have a pH between 6.5 and 8.5.

Phosphorus: An essential chemical food element that can contribute to the eutrophication of lakes and other water bodies. Increased phosphorus levels result from discharge of phosphorus-containing materials into surface waters.

Physical and Chemical Treatment: Processes generally used in large-scale wastewater treatment facilities. Physical processes may include air stripping or filtration. Chemical treatment includes coagulation, chlorination, or ozonation. The term can also refer to treatment of toxic materials in surface and ground waters, oil spills, and some methods of dealing with hazardous materials on or in the ground.

Point Source: A stationary location or fixed facility from which pollutants are discharged; any single identifiable source of pollution; e.g., a pipe, ditch, ship, ore pit, factory smokestack.

Pollutant: Generally, any substance introduced into the environment that adversely affects the usefulness of a resource or the health of humans, animals, or ecosystems.

Pollution: Generally, the presence of a substance in the environment that because of its chemical composition or quantity prevents the functioning of natural processes and produces undesirable environmental and health effects. Under the Clean Water Act, for example, the term has been defined as the man-made or man-induced alteration of the physical, biological, chemical, and radiological integrity of water and other media.

Prechlorination: The addition of chlo rine at the headworks of a treatment plant prior to other treatment processes. Done mainly for disinfection and control of tastes, odors, and aquatic growths, and to aid in coagulation and settling,

Preliminary Treatment: (1) The conditioning of a waste at its source before discharge, to remove or to neutralize substances injurious to sewers and treatment processes or to effect a partial reduction in load on the treatment process. (2) In the treatment process, unit operations, such as screening and comminuting, that prepare the liquor for subsequent major operations.

Pretreatment: Processes used to reduce, eliminate, or alter the nature of wastewater pollutants from non-domestic sources before they are discharged into publicly owned treatment works (POTWs).

Primary Settling Tank: The first settling tank for the removal of settleable soils through which wastewater is passed in a treatment works.

Public Sewer: A common sewer controlled by a governmental agency or public utility.

Public Water System: A system that provides piped water for human consumption to at least 15 service connections or regularly serves 25 individuals.

Publicly Owned Treatment Works (POTWs): A waste-treatment works owned by a state, unit of local government, or Indian tribe, usually designed to treat domestic wastewaters.

Pumping Station: Mechanical device installed in sewer or water system or other liquid-carrying pipelines to move the liquids to a higher level.

Purification: The removal of objectionable matter from water by natural or artificial methods.

Quality Assurance/Quality Control: A system of procedures, checks, audits, and corrective actions to ensure that all

EPA research design and performance, environmental monitoring and sampling, and other technical and reporting activities are of the highest achievable quality.

Raw Sewage: Untreated wastewater and its contents.

Raw Water: Intake water prior to any treatment or use.

Receiving Waters: A river, lake, ocean, stream or other watercourse into which wastewa ter or treated effluent is discharged.

Release: Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of a hazardous or toxic chemical or extremely hazardous substance.

Sand Filters: Devices that remove some suspended solids from sewage. Air and bacteria decompose additional wastes filtering through the sand so that cleaner water drains from the bed.

Sanitary Sewers: Underground pipes that carry off only domestic or industrial waste, not storm water.

Secondary Treatment: The second step in most publicly owned waste treatment systems in which bacteria consume the organic parts of the waste. It is accomplished by bringing together waste, bacteria, and oxygen in trickling filters or in the activated sludge process. This treatment removes floating and settleable solids and about 90 percent of the oxygen-demanding substances and suspended solids. Disinfection is the final stage of secondary treatment.

Sedimentation: Letting solids settle out of wastewater by gravity during treatment.

Sedimentation Tanks: Wastewater tanks in which floating wastes are skimmed off and settled solids are removed for disposal.

Sediments: Soil, sand, and minerals washed from la nd into water, usually after rain. They pile up in reservoirs, rivers and harbors, destroying fish and wildlife habitat, and clouding the water so that sunlight cannot reach aquatic plants. Careless farming, mining, and building activities will expose sediment materials, allowing them to wash off the land after rainfall.

Settleable Solids: Material heavy enough to sink to the bottom of a wastewater treatment tank.

Settling Tank: A holding area for wastewater, where heavier particles sink to the bottom for removal and disposal.

Sewage: The waste and wastewater produced by residential and commercial sources and discharged into sewers.

Sewage Sludge: Sludge produced at a Publicly Owned Treatment Works, the disposal of which is regulated under the Clean Water Act.

Sewer: A channel or conduit that carries wastewater and storm-water runoff from the source to a treatment plant or receiving stream. "Sanitary" sewers carry
household, industrial, and commercial waste. "Storm" sewers carry runoff from rain or snow. "Combined" sewers handle both.

Sewerage: The entire system of sewage collection, treatment, and disposal.

Significant Municipal Facilities: Those publicly owned sewage treatment plants that discharge a million gallons per day or more and are therefore considered by states to have the potential to substantially affect the quality of receiving waters.

Significant Potential Source Of Contamination: A facility or activity that stores, uses, or produces compounds with potential for significant contaminating impact if released into the source water of a public water supply.

Significant Violations: Violations by point source dischargers of sufficient magnitude or duration to be a regulatory priority.

Slow Sand Filtration: Passage of raw water through a bed of sand at low velocity, resulting in substantial removal of chemical and biological contaminants.

Sludge: A semi-solid residue from any of a number of air or water treatment processes; can be a hazardous waste.

Sludge Digester: Tank in which complex organic substances like sewage sludge are biologically dredged. During these reactions, energy is released and much of the sewage is converted to methane, carbon dioxide, and water.

Slurry: A watery mixture of insoluble matter resulting from some pollution control techniques.

Spray Irrigation: A method for disposing of some organic wastewaters by spraying them on land, usually from pipes equipped with spray nozzles. This has proved to be an effective way to dispose of wastes from the canning, meatpacking, and sulfite pulp industries where suitable land is available.

Stage Treatment: (1) Any treatment in which similar processes are used in series or stages. (2) In the activated sludge process, two or more stages consisting of a clarifying state and a biological state, or two biological states. (3) In anaerobic digestion, an operation in which sludge is completely mixed in the first tank and pumped to a second tank for separation of the supernatant liquor from the solids.

Step Aeration: A procedure for adding increments of settled wastewater along the line of flow in the aeration tanks of an activated sludge plant.

Stilling Basin: A structure or excavation that reduces velocity or turbulence of flowing or falling water.

Storm Wastewater: (1) That portion of liquid, resulting from precipitation runoff, flowing in combined sewers during or after a period of rainfall. (2) Water resulting from precipitation runoff carried in a storm drain.

Tertiary Treatment: Advanced cleaning of wastewater that goes beyond the secondary or biological stage, removing nutrients such as phosphorus, nitrogen, and most BOD and suspended solids.

Total Dissolved Phosphorous: The total phosphorous content of all material that will pass through a filter, which is determined as orthophosphate without prior digestion or hydrolysis. Also called soluble P or ortho P.

Total Suspended Solids (TSS): A measure of the suspended solids in wastewater, effluent, or water bodies, determined by tests for "total suspended non-filterable solids. "

Treated Wastewater: Wastewater that has been subjected to one or more physical, chemical, and biological processes to reduce its potential of being health hazard.

Treatment: (1) Any method, technique, or process designed to remove solids and/or pollutants from solid waste, waste-streams, effluents, and air emissions. (2) Methods used to change the biological character or composition of any regulated medical waste so as to substantially reduce or eliminate its potential for causing disease.

Treatment Plant: A structure built to treat wastewater before discharging it into the environment.

Trickling Filter: A coarse treatment system in which wastewater is trickled over a bed of stones or other material covered with bacteria tha t break down the organic waste and produce clean water.

Turbidimeter: A device that measures the cloudiness of suspended solids in a liquid; a measure of the quantity of suspended solids.

Turbidity: (1) Haziness in air caused by the presence of particles and pollutants. (2) A cloudy condition in water due to suspended silt or organic matter.

Wastewater: The spent or used water from a home, community, farm, or industry that contains dissolved or suspended matter.

Wastewater Infrastructure: The plan or network for the collection, treatment, and disposal of sewage in a community. The level of treatment will depend on the size of the community, the type of discharge, and/or the designated use of the receiving water.