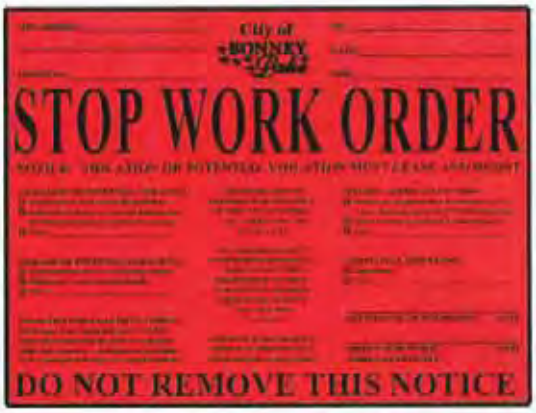
City of Bonney Lake
Illicit Discharge Detection & Elimination (IDDE) Program

April 2011



BONNEY Lake

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Overview

An illicit discharge is generally any discharge, release, or pumping of a pollutant or polluted water into the stormwater system. The National Pollutant Discharge Elimination System (NPDES) regulates the discharge of stormwater under the authority of the Federal Clean Water Act. Washington State Department of Ecology (Ecology) has the designated authority to administer NPDES within the state of Washington (In compliance with the provisions of The State of Washington Water Pollution Control Law Chapter 90.48 Revised Code of Washington and The Federal Water Pollution Control Act Title 33 United States Code, Section 1251 et seq). Under this authority, Ecology has issued NPDES permits regulating the discharge of stormwater. The City of Bonney Lake is under the regulation of the Phase II Municipal Stormwater Permit issued on February 16, 2007 (Permit Number WAR04-5002). The current Phase II permit will remain in effect until February 15, 2012, after which a new Phase II permit will be issued.

The Phase II permit mandates permittees to prepare and implement an Illicit Discharge Detection and Elimination (IDDE) program. This plan and its implementation satisfies this requirement. The goal of this plan is to identify and then eliminate illicit discharges. Examples of illicit discharges include:

- Direct or indirect sanitary wastewater discharges that connect to the storm sewer or watercourse, such as a shop floor drain connected to a storm drain, a cross-connection between the municipal sewer and storm sewer systems, a damaged sanitary sewer line that is leaking sewage into a cracked storm sewer line, or a failing septic system that is leaking into a water course.

- Materials (e.g., used motor oil) that have been dumped illegally into a storm drain catch basin.

- Improper home or business owner activities such as washing paint brushes into a catch basin, washing new textured concrete driveways into a storm drain, draining swimming pools to the storm system (swimming pools have high pH and chlorine), excess use of fertilizers, or washing cars with chemicals that enter the storm drain system.

The NPDES Permit sets forth the minimum elements of the plan which are listed below. Section S5.C.3. of the NPDES Phase II Permit; which formally outlines the required IDDE program elements is included in Appendix M. These minimum elements are described throughout the remainder of this document.

- Municipal Storm Sewer System Mapping

- Ordinances (that effectively prohibit illicit discharges)

- Detection and Elimination Program

- Public Education
- Staff Training

The City of Bonney Lake has unique geologic characteristics that are reflected in the basic structure of its storm sewer system. The City is approximately four miles long from the North to South city limit and approximately four miles wide along SR 410 from the West to East city limit. The topography includes many small rolling upland hills and low-lying depressional areas as well as the following major drainage basins; Lake Tapps, Lake Debra Jane, Lake Bonney, and Fennel Creek. The piped portions of the storm drain system within the basins are relatively short since pipe runs are seldom far from a watercourse. Typically, several drain systems daylight into an open channel such that there a very few pipe systems serving large drainage basins. Consequently, the City defined the watercourse discharges into the lakes and creek as "outfalls" for the purpose of this IDDE plan.

Municipal Storm Sewer System Mapping

Current Program

The City currently has the following stormwater-related information in their GIS database:

- Storm sewers
- Catch basins and manholes
- Ditches
- Streams (watercourses)
- Outfalls

The current Municipal Separate Storm Sewer System (MS4) mapping program is compliant with the NPDES permit requirements and was completed within the established February 2011 permit deadline. Some of the more specific elements of the program as required by the permit are listed below:

1. A map of all structural BMPs owned, operated, or maintained by the City.
2. For pipe outfalls 24-inch-diameter pipes and watercourse outfalls, a map with the following attributes for each outfall: tributary conveyances (type, material, and size where known), associated drainage areas, and land use. Although most of the watercourses and pipes have a cross-sectional area less than a 24-inch-diameter pipe, the City has elected to consider and map all of the known pipe outfalls/watercourses.

3. A program to develop and maintain a map of all connections (ditch or pipe) to the City's storm system allowed or authorized after January 2007.

4. A map of areas of the City that do not discharge stormwater to surface waters. This would be any enclosed depression, isolated wetlands, or large areas relying on infiltration.

The MS4 data is included in Appendix I and is also available in electronic format with documented mapping standards per NPDES permit requirements.

Ordinances

Current Ordinances

Section 15.13.080 of the City's current municipal code via Ordinance 1330 IDDE; prohibits illicit discharges and connections. The section references the fines and penalties that can be levied against violators in accordance with Section 15.13.090. The City's current Stormwater Management code also addresses the permit requirements related to prohibited, allowed, and conditional discharges as well as inspection, notification, and progressive enforcement of illicit discharges and connections. City of Bonney Lake Ordinance 1330 IDDE is included in Appendix K.

Detection and Elimination Program

Current Resources

The City currently has three staffed programs that fulfill portions of a complete illicit discharge detection and elimination (IDDE) program: Spill Hotline management, utility inspections performed by Community Development staff on private development projects and inspections performed by PW Engineering on capital improvement projects (CIP), and the stormwater infrastructure field inspections performed by the Stormwater O&M staff during maintenance operations.

The administrative staff within the City's Public Works O&M Division maintains a spill hotline that citizens can call during business hours, after hours, and weekends to report a spill or potential illicit discharge. The City maintains the following hotline numbers and website regarding spills and illicit discharge reporting:

Hotline Phone Numbers:
(253) 447-4320 (business hours)
(253) 841-5538 (after hours & weekends)

Website with Hotline number and information:
http://www.ci.bonney-lake.wa.us/section_government/departments/public_works/stormwater.shtml

The hotline representative will then contact the O&M Stormwater Division staff to visit the location of the complaint. The administrative staff will respond to all calls from citizens regarding spills and illicit discharges. If the emergency is a major spill or associated with a hazardous chemical, the Fire Department is notified. The standard operating procedures associated with Spill and IDDE response are included in Appendix E.

The Community Development and PW Engineering staff inspect the stormwater systems of new construction to ensure that no cross-connections or illegal connections are installed during construction prior to issuing occupancy certificates.

The O&M Stormwater Division maintains and repairs the stormwater system as needed. By making timely repairs to the existing stormwater infrastructure, the likelihood of contaminants entering the stormwater system from the surrounding ground or nearby sanitary sewer pipes is greatly reduced.

Proactive Investigation

Prioritization Procedures

In addition to maintaining a hotline for citizen complaints, the City is required to proactively conduct field assessments to check for illicit discharges and illegal connections to the City's stormwater system and receiving water bodies.

The first step of this proactive work is to prioritize those areas most likely to contain illicit discharges ("hot spots") based on an analysis of land use and other specific information. Based on previous work, the following types of areas are more likely to generate polluted discharges than others (Center for Watershed Protection & Pitt, 2004):

1. Locations where there have been repeated problems in the past. This could include areas with water quality data or where repeated complaints have been filed.

2. Older areas of a community typically have a higher percentage of illegal connections. Also, deteriorating sewer pipes can allow wastewater to exfiltrate out of the sanitary lines and into the surrounding environment.

3. Commercial areas tend to have a higher percentage of illicit discharges.

4. Areas with large and/or many storage vessels of hazardous solids or liquids.

Another consideration for the City of Bonney Lake is the proximity of the higher risk land uses (commercial) to receiving waters. These areas will have a short flow path and greater chance of entering Fennel Creek in the event of an illicit discharge or spill.

The 2011 NPDES permit requirements also include field assessments of at least three high priority water bodies (outfalls). Following these assessments, the City is required to

annually inspect outfalls within a minimum of one stream system per year. During each "dry weather" inspection, it is expected that field personnel will collect data on the physical conditions at the outfall as well as water samples for lab analysis as applicable.

A GIS-based map can be developed of potential hot spots and prioritized water bodies. It is expected that due to internal training of staff and public outreach efforts required by the NPDES permit, the City will develop a better understanding of the causes and locations of illicit discharges. The GIS map (or other tracking tool) can be regularly updated to reflect reports from staff and the public as well as information learned by the on-going field assessment work as the City's IDDE program matures.

General Field Assessment Procedures

The following general recommendations apply to the dry weather field inspection and water sampling work (Cuyahoga County Board of Health, 2006):

1. Notify the public during field work campaigns. Public notices and informational mailers can improve the success of the program by educating the citizenry.

2. Develop training and protocols to keep workers safe during field work.

3. Make good use of the mapping information that has been developed by the City.

4. Fill out a standard field inspection form (see Appendix C).

Physical Parameters

During dry weather field inspections, a variety of physical parameters will be recorded at each site to assess conditions. At flowing outfalls this includes flow, odor, color, turbidity, and presence or absence of floatables. The information that is obtained by the physical characteristics observed are indicators and cannot be fully relied upon by themselves.

A qualitative observation of flow (none, trickle, moderate, or substantial) should be made. Flow rates can be estimated by one of the following simple methods:

a. Record the time required for the full flow to fill container of a known volume.

b. Multiply cross-sectional flow area by flow velocity. For most instances, flow area is based on an estimate of mean depth and width. Flow velocity is based on the time of travel for an object floating near the surface over a known length.

Odor is described by one of the following terms; sewage, rancid/sour, petroleum/gas, sulfide, or other. The severity of the odor should also be recorded in the field.

Color can be a description of color type and intensity. It is also a quantitative measurement expressed in cobalt-platinum units (APHA, 1998).

Turbidity can be a qualitative descriptor (clear, slight cloudiness, cloudy, or opaque). Alternatively, it can be measured in the field or in the office with a hand held turbiditimeter. It is recommended that the City use a single make and model of meter to reduce the differences in readings associated solely with equipment readings.

Floatables are the best physical indicator. The most common floatables are sewage, suds, and oil sheens. Floatables do not include trash. The observation of sewage at an outfall location indicates that there is a severe problem with that MS4 and should be looked at as to where the source for the sewage is emanating from. Suds can indicate a variety of things. Some suds are naturally formed by the movement of the water. If the suds are located at a water drop off and break up quickly, this may only be water turbulence related. If the suds have a fragrant odor, this can indicate the presence of laundry water or wash water in the water body. Oil sheens need to be looked at to try and determine the source of the oil sheen. Some oil sheens are common and occur naturally by instream processes. This occurs when an iron bacteria forms a sheet-like film. This can be determined by looking at the sheen and seeing if it cracks when disturbed. Synthetic oil sheens, on the other hand, will swirl when disturbed. If this occurs, then the sheen is from an oil source.

The City may select a few water quality parameters that can be measured with inexpensive probes and test strips in the field. These include temperature, pH, ammonia, conductivity, chlorine, and hardness. Other than temperature these same parameters can be assessed during laboratory analyses so the field testing is usually unnecessary.

There may be physical indicators of illicit discharges even if no flow is present. These include: outfall damage, deposits/stains, abnormal vegetation, poor quality of pooled water, benthic growth in pipe.

During a dry weather inspection, observed flows are considered non-stormwater related. The flow may or may not be the result of an illicit discharge. Also, the absence of a flow does not indicate the absence of an illicit discharge since these discharges can be intermittent or transitory. It is important to observe carefully during the dry weather inspection to determine if an intermittent or transitory pollution problem has occurred.

Water Quality Sampling and Testing

During dry weather inspections physical clues indicating a pollution problem often are not observable. Therefore, water quality sampling and testing may be an essential part of the City's IDDE program. Some parameters can be directly measured in the field whereas others require laboratory analysis. The following table lists the recommended parameters to be sampled as well as suggested/optional parameters to be sampled to isolate an illicit discharge. The table also provides the analytical method and benchmark concentration that typically indicate when there is a problem. Note that these benchmark concentrations are

based on samples collected from storm drains nationally. Therefore, benchmark concentrations would be lower for samples drawn from watercourses since the natural base flows would likely dilute any pollutants in water discharged from a contributing storm drainage system.

Table 1: Water Quality Sampling & Testing

Water Quality Parameter	Use	Analytical Method	Benchmark Concentrations
Specific conductance	B, I	SM 2510B	> 2,000 s/cm
Hardness	B, I	EPA 130.1/SM 2340B	< 10 mg/L or > 2,000 mg/L as CaCO3
Turbidity	B, I	SM 2130B	> 1,000 NTU
Color	B, I		> 500 units
Bacterial counts	S		
Ammonia	R, I	EPA 350.2/SM4500-NH3C	> 50 mg/L
Surfactants (as MBAS)	R, I	EPA 425.1/SM5540C	> 0.25 mg/L
pH	B, I	EPA 150.1/SM 4500H	< 5
Temperature	B		
Total chlorine	S		
Fluoride	R	EPA 300.0	0.25 mg/L
Potassium	R, I	EPA 200.7	> 20 mg/L
Optical brighteners (florescence)	S		
Toxicity	S	EPA 600/4-90/027F (acute) for Daphnia pulex and Ceriodaphnia dubia	
Dissolved oxygen	S		
Other pollutants-nutrients, pesticides, automotive fluids	S		

Key:
B = basic parameter to be analyzed at all sites
R = key parameter to identify source of illicit discharge in a typical residential basin
S = possible supplemental parameter
I = key parameter to identify source of illicit discharge from an industrial/commercial area

Immediate Response Procedures

The field crew should be prepared to take immediate action in the event of encountering one of the following situations (standard operating procedures associated with Spill and IDDE response are included in Appendix E):

- Individuals actively in the process of introducing possible illegal substances or materials to the storm drain system
- Very strong chemical odor emanating from storm drain system
- Presence of fumes or smoke emanating from storm drain system
- Visible significant stream of a controlled chemical or petroleum product flowing in storm system or downstream waters
- Large chemical plume in stream or lake downstream of a City outfall
- Any condition that poses or could pose an immediate threat to property, human health or safety, or aquatic life.

The crew should take the following steps if one of the above situations is encountered:

1. Ensure crew safety and the public by instructing people to stay clear of the area.
2. Call 911 to report active illegal dumping or potential fire or significant chemical incident.
3. Call the City's Spill Hotline at 253-447-4320 to report a possible illegal discharge.
4. The following offices (24-hour numbers) must be called if an unauthorized discharge of oil or hazardous material such as a spill has occurred:
    a. The National Response Center at 1-800-424-8802; and
    b. Washington Emergency Management Division at 1-800-OILS-911
5. If a spill is encountered the following information should be recorded if possible:
    a. Where is the spill?
    b. What spilled?
    c. How much spilled?
    d. How concentrated is the spilled material?
    e. Who spilled the material?

f. Is anyone cleaning up the spill?

g. Are there resource damages (e.g. dead fish or oiled birds)?

h. Who is reporting the spill?

i. Your contact information?

6. If possible isolate or contain visible chemical pollution in the effected water body with any materials that are accessible. For small discharges earth dams, absorbent pads, and containers may be useful to contain part of the illicit discharge.

7. Take detailed notes and photos/video for subsequent investigation by City or other agencies.

At a minimum, follow-up work includes contacting the Washington State Department of Ecology—Southwest Regional Office at 1-360-407-6300 to determine if any additional reporting or investigative actions are necessary.

For incidents not determined to be emergencies, the City should investigate or refer to the appropriate agency any complaints, reports, or monitoring information that indicates a potential illicit discharge, spill, or illegal dumping.

Isolating Illicit Discharges (Source Tracing)

The City's current hotline will continue to be an effective tool for locating illicit discharges. However, in situations where outfall screening identifies an illicit discharge several methods can be used to trace to the source of the illicit discharge. Tracing techniques include visual inspections of drainage structures and lines, dye testing, damming lines to isolate areas, video inspection, indicator monitoring, smoke testing, and optical brightener monitoring traps. Other more elaborate approaches include using remote sensing tools to identify soil moisture, water temperature, and vegetation anomalies associated with failing septic systems and tracking illegal dumping activities. The most common approach for the City will likely rely upon visual inspections of the catch basins in the storm line above the outfall in which an illicit discharge is suspected.

Several resources exist to assist in evaluating the likely source of an illicit discharge. Generally, the sources are wash water, sanitary sewer or septage, potable water leak, animal contamination, or illegal dumping.

Investigation and Response Procedures

Once an illicit discharge or illegal connection has been located, details about the discharge connection should be documented. Photographs and video may be helpful to record the location and nature of an illicit connection. The City should determine the name and contact information of the property owner.

The response by the City will vary greatly depending on the type, location, frequency, severity, and source of illicit discharge. In general, the City will have several options available to address a specific discharge. In most cases where the violator is identified it is expected that they will voluntarily comply with any action required by the City to eliminate the potential for further illicit discharges. When the violation is the result on an illegal connection from a building, the property owner should respond once they are made aware of the connection, the environmental consequences, the applicable regulations, and the recommended remedy.

The City will prepare a letter to be sent to the property owner for any illicit discharge or illegal connection. Depending on the circumstances the letter will describe the findings of the investigation, the required remedy, the required deadline for compliance, technical resources, and the enforcement actions, fines, and legal actions that could ensue for non-compliance. The letter should also describe the relevant codes and laws. The letter should specify who the property owner should contact for additional information and to notify the City when the required remedy has been completed.

The City will conduct a follow-up inspection following notification that the required remedy has been completed.

Should the owner not remedy the discharge, the City may proceed with a notice of violation to be administered by the code enforcement officer as provided in Chapter 14.130 BLMC per Chapter 15.13 Stormwater Management.

Public Education

Public Information

As part of the City's public outreach program, outreach material in print form will be made available to citizens. The education campaign will also rely upon the City's website (http://www.citybonneylake.org/section_government/departments/public_works/stormwater.shtml), brochures, posters, curb markers, and calendars to make citizens aware of storm water, water pollution, and inform them of the City's hotline for reporting on possible illegal dumping, connections, or discharges. The best clearinghouse of sample outreach materials is found at the following website of the U.S. Environmental Protection Agency: http://www.epa.gov/owow/nps/toolbox/index.htm. The City of Bonney Lake's public education and outreach materials are included in Appendix L.

Hotline

The City has established a customer phone number for reporting of spills or illicit discharges. It is operated during the work week at (253) 447-4320 and (253) 841-5538 after hours and on weekends.

Reporting and Recordkeeping

Tracking (Spills, Inspections, and Public Comment/Feedback)

Tracking and documentation is a required part of the IDDE program (section S5.C.3.e). Spills reported to the complaint hotline will be recorded on an "Illicit Discharge Hotline Incident Tracking Sheet" (Appendix D). Field personnel who discover or are involved in a spill will contact the complaint hotline to ensure that proper documentation of the incident is maintained. A GBA work order will be created and utilized to track all IDDE activities.

IDDE inspections will be recorded on field forms (see Appendix C). Investigative, corrective, and enforcement actions will be recorded on forms provided in Appendix D and H. Public comment/feedback will be conveyed to the Assistant Engineer to ensure that the program is responsive to citizen comments. The public will be directed to either the Assistant Engineer directly or the hotline if they have general comments they would like to make on the City's IDDE program.

Staff Training

Training Lead

For those staff responsible for implementing the IDDE program, on the job training will be managed by the City's Transportation Supervisor. The Transportation Supervisor will manage and assign training as described below and shown in the Training Summary Table.

Detailed Training

Detailed training will be assigned to those individuals specifically involved in the immediate response procedures, source tracking of potential illicit discharges, and sampling.

Note that the City may elect to utilize consultants for source tracking of potential illicit discharges and sampling. In the years that consultants are used, the training may be waived.

General Training

General training will be via printed material distributed to staff at staff meetings. DVD, print or webcast material may be distributed if the need arises as the program develops.

Preliminary training activities, a schedule, and identification of those to receive training are listed in the following table.

Table 2: IDDE Training

Training Topic	Attendees	Estimated Number of Staff	Training Type & Frequency	Description
Illicit Discharge Detection & Elimination – Outfall Assessment	PW-OPS PW-ENGR	4	In-field training; annual	This training is for staff that will be responsible for field assessment of outfalls.
Illicit Discharge Detection & Elimination – General Training	PW-OPS PW-ENGR	37	Webcast, DVD (Stormwatch), brochure; annual	This training will explain the IDDE program. Included will be information on how to identify and report suspected illicit discharges.
Illicit Discharge Detection & Elimination – Detail Training	PW-OPS PW-ENGR	10	Formal in-house and field training; consultant led spill classification, source tracking, and sampling training; annual	This training will explain immediate response procedures, spill classification, source tracking of potential illicit discharges, and sampling.

References

The following references were used to prepare this plan and contain supplemental information that may be helpful to City staff.

1. *IDDE Program Manuals:*

   Center for Watershed Protection and Robert Pitt. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments. October 2004. U.S Environmental Protection Agency. Washington, D.C.

   Website for download:
   http://www.cwp.org/Resource_Library/Controlling_Runoff_and_Discharges/idde.htm

   Cuyahoga County Board of Health. Illicit Discharge Detection and Elimination Manual: A Guidance Manual for Municipalities in the State of Ohio. July 2006. Parma, Ohio.

   Website for download:
   http://www.ccbh.net/ccbh/export/sites/default/CCBH/pdf/stormwater/IDDE_Manual_July_2006_2.pdf

   New England Interstate Water Pollution Control Commission. Illicit Discharge Detection and Elimination: A Handbook for Municipalities. January 2003. Lowell, Massachusetts

   Website for download:
   www.neiwpcc.org

   San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program (URMP). Illicit Connection / Illicit Discharge (IC/ID) Detection and Elimination Model Program Guidance. November 13, 2001.

   Website for download (sponsored by Project Clean Water):
   http://www.projectcleanwater.org/pdf/Model%20Program%20ICID.pdf

2. *Websites for downloading outreach materials:*

   Sponsored by North Central Texas Council of Goverments:
   http://www.nctcog.org/envir/SEEclean/stormwater/pubs/brochures.asp

   Sponsored by U.S. Environmental Protection Agency's Office of Water:
   http://www.epa.gov/owow/nps/toolbox/

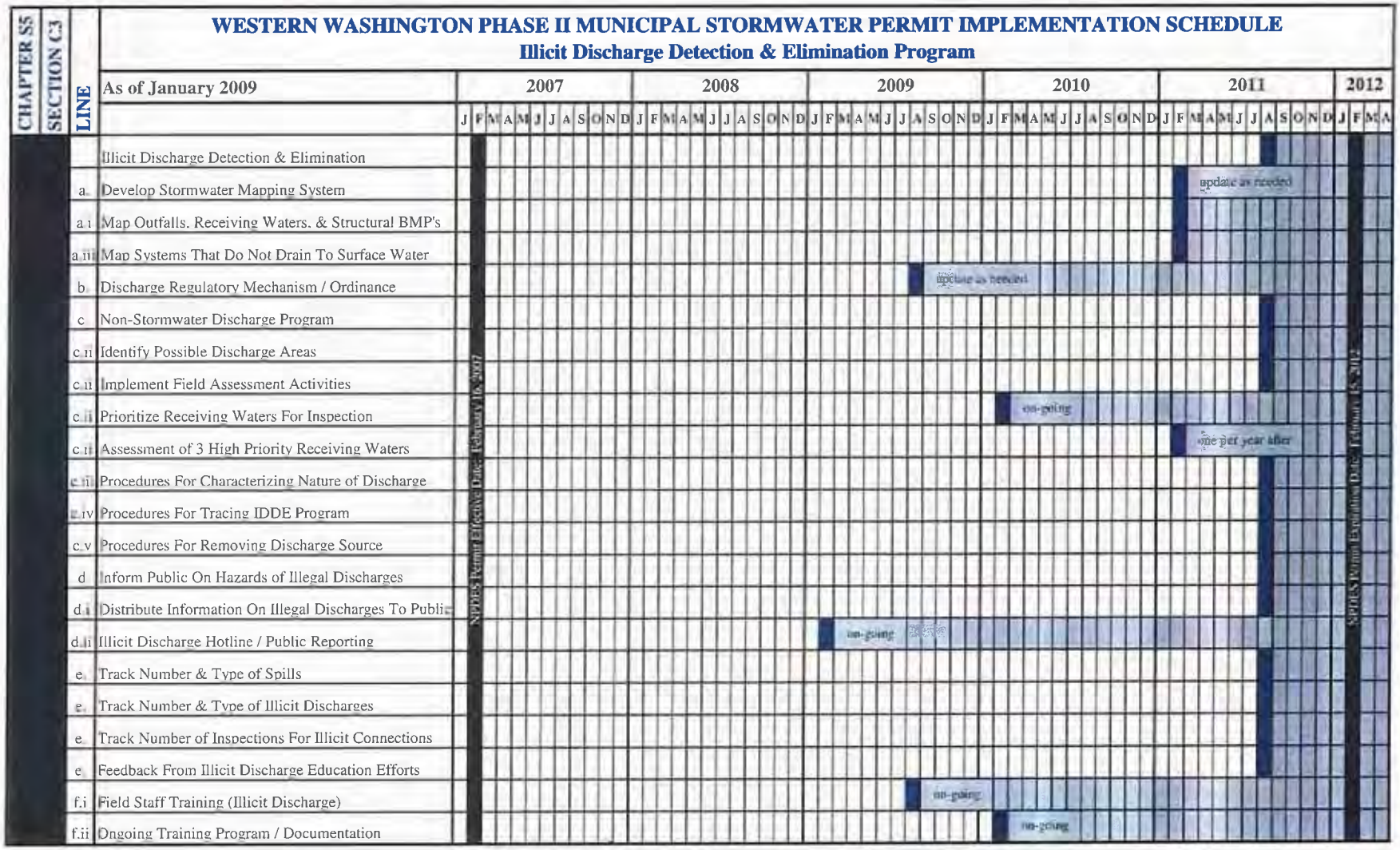
Appendices

Appendix A
Permit Compliance Schedule

WESTERN WASHINGTON PHASE II MUNICIPAL STORMWATER PERMIT IMPLEMENTATION SCHEDULE

Illicit Discharge Detection & Elimination Program

CHAPTER S5 | SECTION C3



Appendix B
Dry Weather Monitoring Sampling Manual

DRY WEATHER MONITORING SAMPLING MANUAL

1. Dry Weather Monitoring Field Equipment Checklist

The field equipment listed below is used to conduct dry weather monitoring.

- Clipboard, pens, pencils, Sharpie or other waterproof pens
- MS4 maps, Thomas Guide
- Digital camera
- Field notebook
- Latex gloves
- Protective eyeglasses or goggles
- Rubber boots
- Cooler and ice
- Paper towels
- Tape for securing cooler
- Sample bottles with preservatives
- Polypropylene bucket with rope, or sampling rod to collect samples from larger bodies of water
- Portable field test kits, colorimeters, or spectrophotometer and all reagents for these meters.
- Multi-parameter or individual probes to measure temperature, electrical conductivity, and pH
- Extra batteries for all meters
- Flow measurement equipment (required equipment will depend on method used)
    - Measuring tape for measuring stream width
    - Folding scale for measuring stream depth
    - Current meter or wristwatch
- De-ionized or ultra pure water in squeeze bottles for rinsing, dilutions, etc. (depending on methods used)
- Thermometer for measuring air temperature (optional)
- Waste disposal bottles
- Boat (for sampling lagoon sites)

2. Sampling Procedures and Submission

Dry weather monitoring typically involves the collection of *grab* samples only. The following procedures apply:

1. Use appropriate containers. See 40 CFR Part 136 for container types. Laboratories routinely provide pre-cleaned sample bottles with preservatives already added.

    a. Rinse the container with the sample at least twice. Do not rinse pre-cleaned, preserved containers, as the preservative will be lost.

    b. Use the proper preservatives. Use only analytical or higher grade reagents for preserving samples. Store samples in an ice chest at 4° C until custody is transferred to the analytical laboratory directly or via contracted courier.

c. Avoid contaminating the sample. Wear latex gloves.

2. If practical, collect the sample at about 60% of the stream depth (from the surface) in an area of maximum turbulence (except when sampling for volatile organics). Avoid stagnant pools near the edge of flowing streams unless sampling stagnant pools. Enter the channel downstream of the sampling location and move upstream, disturbing as little of the bottom material as possible.

3. Record all qualitative observations and field testing results on the field data sheet. Estimate the flow rate as described on the back of the field data sheet. Also note any changes to standard procedures (for whatever reason), and describe any unusual or noteworthy conditions or results in detail on the bottom of the sheet.

4. Dispose of all spent reagents, reacted samples, and rinse solutions in the appropriate waste containers. Upon returning to the office or laboratory, decant these wastes into the sewer system of the office or laboratory unless otherwise instructed by the sewering agency. Be sure to clean all equipment (recheck calibration if any results were questionable), and restock reagents (if necessary).

5. If filtering samples in the field for dissolved trace metals analysis, do not preserve with HNO_3 until after the sample is filtered. If field personnel are submitting unfiltered samples for dissolved trace metals analysis those samples should not be preserved with HNO_3.

6. Samples collected for laboratory analysis should be submitted to the laboratory as soon as possible after collection. Complete the following tasks:

    1. Fill out the chain-of custody form making sure that all sample bottles are correctly labeled
    2. Carefully pack the sample bottles in the cooler
    3. Transport the samples to the laboratory
    4. Complete the chain-of-custody form

Automatic sampling methods may be useful during some source identification or enforcement investigations. Investigators should refer to the manufacturer's instructions for operating automatic sampling equipment.

3. Equipment Maintenance

In order to ensure the quality of field results, maintenance of equipment must be given a high priority. All equipment must be cleaned and serviced at the end of a field shift.

1. All water quality meters must be calibrated in the laboratory or office before field use. Calibration solutions should remain uncontaminated and not be used after their expiration dates.

2. Field meters and cameras must be in proper working order. Make sure that batteries have sufficient voltage to power the equipment for the entire field trip. Recharge or

replace them as necessary. Keep extra batteries in the instrument case. Probes should be inspected, cleaned and reconditioned regularly.

3. Clean and rinse all other sampling equipment after returning from the field. Store clean equipment in clear polyethylene bags or storage cases.

4. Glassware used in the field (e.g. graduated cylinders for sample dilutions, test kit flasks and/ or beakers) should be cleaned immediately after usage. Use laboratory detergent, a brush, and hot tap water or 10% Analytical Grade HCl. Rinse three to four times with deionized water and wipe the outside of the glassware dry with a white paper towel. Dry in an inverted position. Store the dry glassware in the cabinets with stoppers intact (volumetric flasks) or in an inverted position (beakers).

4. Quality Control/ Quality Assurance

QA samples can be in the form of replicates, spikes, field blanks, method blanks, or synthetic samples. Dry weather monitoring programs can use these various types of QA/ QC samples to assess the accuracy and precision of the field and laboratory analyses performed for their dry weather monitoring programs.

1. Replicate samples can be collected periodically and submitted to the analytical laboratory to assess the accuracy of the field analyses for nitrate, ammonia, phosphate, electrical conductivity, pH, and turbidity.

2. Replicate samples are used to assess laboratory or field precision. They should be collected in the field in one container and split into two samples for analysis.

3. Spiked samples can be prepared in the field or the permittee's laboratory/ office. A field sample is spiked with known amounts of analytes and the total volume of this fraction is adjusted to a specific volume (usually 1 liter) using a portion of the original sample as makeup water. *Make sure that the volume of the added spike is small compared to the volume of the sample to which it is added.*

4. Blank samples must be prepared with deionized or ultrapure water (resistivity greater than 17 mega ohms). A trip blank is prepared by filling a sample container in the laboratory/ office and transporting it on a routine monitoring assignment, preserving it in the field (noting the station location), and submitting it with a normal batch of samples.

   Method or equipment blanks are prepared using the same methods used to collect, process, or contain samples before submittal to the laboratory. An example of an equipment blank would be pouring deionized water into a sample container to test the cleanliness of the container.

5. Synthetic samples can be prepared using aliquots of commercially prepared standards or from EPA quality assurance ampules. Deionized water should be used as makeup water and analytical grade NaCl should be used to adjust the electrical conductivity of the QA sample into the range of the environmental samples.

5. *Health and Safety*

Dry weather water sampling may occur when the sampling environment and discharges create hazardous conditions. Use safety precautions at all times when conducting dry weather monitoring.

Safety Guidelines

- Keep a first aid kit with field equipment.
- Watch out for traffic along the access road when sampling or making observations.
- Do NOT remain in open areas or stand under trees if lightning is occurring in the vicinity.
- Watch your step; the ground may be wet and slippery, steep, or unstable. Do not attempt to climb down unsafe slopes.
- Always wear clean latex rubber gloves when sampling.
- Protect eyes and skin against contact with acids and other preservatives.
- Use common sense when deciding whether to sample during adverse weather conditions. *This program is intended to assess dry weather conditions.* Do not sample during dangerous conditions such as high winds, lightning storms, or flooding conditions that might be unsafe.
- Do not enter channels during periods of high flow. The general rule of thumb is: If the product of the water depth in feet and the velocity in feet per second is greater than 10, or the level is above your waist, don't go in.
- Do not enter confined spaces
- Follow all analytical procedures as prescribed in the equipment manuals. Heed all warnings and precautionary statements.
- Be familiar with Material Safety Data Sheets for all chemicals used in the field and when calibrating instruments. Know the health hazards and emergency medical treatments, and follow proper disposal instructions.

Safety Equipment

The following safety equipment is recommended for use during dry weather sampling:

- First aid kit
- Safety glasses
- Latex gloves
- Rubber boots
- Safety rope

Table 1: Summary of Laboratory Sampling and Analysis Requirements

Physical and Inorganic Non-Metals	Analytical Method	Container	Volume (mL)	Preservative (Always @ 4o C)	Holding Time
TDS	SM 2540C	P	100		7 d
TSS	SM 2540D	P	100		7 d
Turbidity	SM 2130A	P	100		48 h
Alkalinity or Hardness	SM 2320B	P	100		14 d
pH	EPA 150.1	P	10		Field
Conductivity	SM2510B	P	20		28 d
Temperature		N/A			Field
Phosphorous, total	SM4500PE	P	100	H_2SO_4	28 d
Phosphorous, dissolved / reactive	SM4500PE	P	100	H_2SO_4	48 h
Nitrate	SM 4500 NO3 E	P	100		48 h
Nitrite	SM 4500 NO2 B	P	100		48 h
TKN	EPA 351.1	P	200		28 d
Ammonia	SM4500 NH3 D	P	500	H_2SO_4	28 d
BOD	EPA 405.1	P	1000		48 h
COD	EPA 410.4	P	10	H_2SO_4	28 d
Chlorine, Residual	SM4500 Cl G	N/A			Field
Organics					
*Petroleum Hydrocarbons, total (d + g)	EPA 8015	G + 2V	250 + 40 (2)	HCl	14 d
Oil and Grease	EPA 413.1	G	500	HCl	14 d
Diazinon	EPA 8140	G	1000		7 d
Chlorpyrifos	EPA 8140				
Methylene Blue Substances (MBAS)	SM 5540 C	P	250		48 h
Organochlorine Pesticides and PCBs	EPA 8081, 8082	G	1000		7 d
*Volatile Organic Compounds	EPA 8260	2V	40 (2)	HCl	14 d
Semivolatile Organic Compounds	EPA 8270	G	1000		7 d
Metals / Toxics					
Antimony	EPA 6010	P	500	HNO_3	6 m
Arsenic	EPA 6020	P			
Cadmium	EPA 6010	P			
Chromium	EPA 6010	P			
Copper	EPA 6010	P			
Lead	EPA 6010	P			
Nickel	EPA 6010	P			
Zinc	EPA 6010	P			
Thallium	EPA 7470	P			
Silver	EPA 6020	P			
Mercury	EPA 6010	P			28 d
Cyanide	SM 4500 CN C	P	500	NaOH	14 d
Phenols (from SVOC's)	EPA 8270	G	1000		7 d
Bacteriological (including dilutions)					
Coliform, total	SM 9221	P (sterile)	125	$Na_2S_2O_3$	6 h
Coliform, fecal	SM 9221	P (sterile)			
Coliform, *E Coli*		P (sterile)	125		
Enterococcus	SM 9230	P (sterile)	125		
Streptococcus	SM 9230	P (sterile)			

*ZHS (Zero Head Space Required) V=VOA / G=Amber Glass / P=Plastic

Appendix C
Outfall Reconnaissance Inventory / Sample Collection Field Sheet

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID:	
Today's date:		Time (Military):	
Investigators:		Form completed by:	
Temperature (°F):	Rainfall (in.): Last 24 hours: Last 48 hours:		
Latitutde:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	

Land Use in Drainage Area (Check all that apply):

- ☐ Industrial
- ☐ Ultra-Urban Residential
- ☐ Suburban Residential
- ☐ Commercial
- ☐ Open Space
- ☐ Institutional
- Other: _____
- Known Industries: _____

Notes (e.g.., origin of outfall, if known):

Section 2: Outfall Description

LOCATION	MATERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
☐ Closed Pipe	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Eliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____	In Water: ☐ No ☐ Partially ☐ Fully With Sediment: ☐ No ☐ Partially ☐ Fully
☐ Open drainage	☐ Concrete ☐ Earthen ☐ rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
☐ In-Stream	(applicable when collecting samples)				
Flow Present?	☐ Yes ☐ No *If No, Skip to Section 5*				
Flow Description (If present)	☐ Trickle ☐ Moderate ☐ Substantial				

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		RESULT	UNIT	EQUIPMENT
☐Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Outfall Reconnaissance Inventory Field Sheet

Section 4: Physical Indicators for Flowing Outfalls Only

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No *(If No, Skip to Section 5)*

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 – Faint	☐ 2 – Easily detected	☐ 3 – Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 – Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in outfall flow
Turbidity	☐	See severity	☐ 1 – Slight cloudiness	☐ 2 – Cloudy	☐ 3 – Opaque
Floatables -Does Not Include Trash!!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

Are physical indicators that are not related to flow present? ☐ Yes ☐ No *(If No, Skip to Section 6)*

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Outfall Characterization

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

Section 7: Data Collection

1. Sample for the lab?	☐ Yes	☐ No	
2. If yes, collected from:	☐ Flow	☐ Pool	
3. Intermittent flow trap set?	☐ Yes	☐ No	If Yes, type: ☐ OBM ☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Calculating the Area (a) of the Cross Section of a Circular Pipe Flowing Partially Full

D = Depth of water a = area of water in partially filled pipe
d = diameter of the pipe Ta = Tabulated Value Then a = Ta*d2

D/d	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.0000	0.0013	0.0037	0.0069	0.0105	0.0147	0.0192	0.0242	0.0294	0.0350
0.1	0.0409	0.0470	0.0534	0.0600	0.0668	0.0739	0.0817	0.0885	0.0951	0.1039
0.2	0.1118	0.1199	0.1281	0.1365	0.1440	0.1535	0.1623	0.1711	0.1800	0.1890
0.3	0.1982	0.2074	0.2187	0.2280	0.2355	0.2450	0.2540	0.2642	0.2780	0.2836
0.4	0.2934	0.3032	0.3130	0.3220	0.3328	0.3428	0.3527	0.3627	0.3727	0.3827
0.5	0.3980	0.4030	0.4130	0.4230	0.4330	0.4430	0.4520	0.4620	0.4720	0.4820
0.6	0.4920	0.5020	0.5120	0.5210	0.5310	0.5400	0.5500	0.5590	0.5690	0.5780
0.7	0.5870	0.5960	0.6050	0.6140	0.6230	0.6320	0.6400	0.6490	0.6570	0.6660
0.8	0.6740	0.6810	0.6890	0.6970	0.7040	0.7120	0.7190	0.7250	0.7320	0.7360
0.9	0.7450	0.7500	0.7560	0.7610	0.7660	0.7710	0.7750	0.7790	0.7820	0.7840

AREA x VELOCITY

(CREEK/CHANNEL METHOD)

a. Measure the width, depth, and velocity of the water

b. Convert each value to a common unit (i.e. all measurements converted to cm, ft, or in.).

c. Multiply the width * depth * velocity to determine flow.

d. Multiply the flow by 0.8 for creek measurements –or-- 0.9 for concrete channel measurements to account for channel roughness.

e The results if measured in

- Ft = Ft^3/sec
- cm = cm^3/sec (mL/sec)
- in = in^3/sec

f. Convert to desired value.

TIME REQUIRED TO FILL A KNOWN VOLUME

(FILL A BOTTLE METHOD)

1. Determine volume/capacity of the sample bottle.
2. Measure time required to fill the bottle
3. Flow will be determined by initial volume units:
   - mL/s
   - oz/s
4. Convert to desired value.

AREA x VELOCITY

(PARTIALLY FILLED PIPE)

a. All measurement must be converted to a common unit before calculation (ft, in, or cm).

b. Let D = water depth.

c. Let d = *inside* pipe diameter

d. Calculate D/d.

e. Find the tabulated (Ta) value on the partially filled pipe formula chart above using the D/d value. (i.e. if D/d = 0.263 then Ta =.1623).

f. Find the area using the formula $a = Ta*d^2$.

g. Multiply area (a) by the water velocity.

h. Convert to desired value

Appendix D
Illicit Discharge Hotline Incident Tracking Sheet

Illicit Discharge Hotline Incident Tracking Sheet

Incident ID:

Responder Information *(for hotline incidents only)*	
Call taken by:	Call date:
Call time:	
Reporter Information	
Incident time:	Incident date:
	Precipitation (inches) in past 24-48 hrs:

Caller contact information (*optional*):

Incident Location *(complete one or more below)*

Latitude and longitude:

Stream address or outfall #:

Closest street address:

Nearby landmark:

Primary Location Description	**Secondary Location Description:**		
☐ Stream corridor *(In or adjacent to stream)*	☐ Outfall	☐ In-stream flow	☐ Along banks
☐ Upland area *(Land not adjacent to stream)*	☐ Near storm drain	☐ Near other water source (storm water pond, wetland, etc.):	

Narrative description of location:

Upland Problem Indicator Description

☐ Dumping	☐ Oil/solvents/chemicals	☐ Sewage
☐ Wash water, suds, etc.	☐ Other: _____	

Stream Corridor Problem Indicator Description

Odor	☐ None	☐ Sewage	☐ Rancid/Sour	☐ Petroleum (gas)
	☐ Sulfide (rotten eggs); natural gas	☐ Other: Describe in "Narrative" section		
Appearance	☐ "Normal"	☐ Oil sheen	☐ Cloudy	☐ Suds
	☐ Other: Describe in "Narrative" section			
Floatables	☐ None:	☐ Sewage (toilet paper, etc)	☐ Algae	☐ Dead fish
	☐ Other: Describe in "Narrative" section			

Narrative description of problem indicators:

Suspected Violator (name, personal or vehicle description, license plate #, etc.):

Investigation Notes	
Initial investigation date:	Investigators:
☐ No investigation made	Reason:
☐ Referred to different department/agency:	Department/Agency:
☐ Investigated: No action necessary	
☐ Investigated: Requires action	Description of actions:
Hours between call and investigation:	
Notification and Enforcement Actions (if any):	
Date case closed:	
Notes:	

Appendix E
Spill & IDDE Response SOP

Public Works Department

Standard Operating Procedure

Activity: Spill & IDDE Response
Date: 04/20/2011

Overview

This SOP is intended to provide overall direction to Public Works Operations, Public Works Engineering, and Community Development on responding to hazardous material spills, illegal dumping of hazardous wastes, and water quality violations, in accordance with the City of Bonney Lake Illicit Discharge Detection & Elimination (IDDE) Program. These responses are applicable to public, private, and state highway property. Spill response is summarized in Table 1.

Table 1. Spill Response Summary

Nature of Spill	Description	Response Procedures
1. Major Spill	Spills of high-risk nature (hazardous or unknown materials, or large quantity). Risk to public and/or environment.	• **Fire Department:** Response and limited containment. • **Washington State Patrol:** I-90 spill response. • **PW-Ops:** Traffic support if necessary. • **Department of Ecology:** Primary spill response, cleanup, and enforcement.
2. Minor Spills – Public Property and Right-of-Way	Spills of low-risk nature (identifiable material and small quantity) on public property. Spill can be contained and cleaned up by the City.	• **Fire Department and/or PW-Ops:** Response, containment, and cleanup. • **Department of Ecology:** Reporting
3. Minor Spills - Private	Spills of low-risk nature (identifiable material and small quantity) on private property. City will assist to prevent entry into public drainage system, followed by cleanup by responsible party.	• **Fire Department and/or PW-Ops:** Response and containment to prevent entry to public system. • **Department of Ecology:** Primary spill response, cleanup, and enforcement (if Ecology determines spill is significant and response by their haz-mat team is appropriate). • **Code Enforcement:** Enforcement of follow-up actions if conducted under City oversight (i.e., Ecology determines City should respond because spill is minor). • **Responsible Party:** Spill cleanup

4. Construction-related water quality problems	Erosion and sedimentation water quality problems at permitted construction sites.	• **PW-E & CD Inspectors:** Construction inspection and permit compliance. • **Code Enforcement:** Enforcement actions if necessary (e.g., code violation).
Other water quality problems	Pollution source control at businesses, failing or improperly maintained stormwater facilities, illegal dumping, and discharge.	• **PW-Ops:** Determination of source, hazards, and required response action; response observation and verification. • **Code Enforcement:** Enforcement actions if necessary (e.g., code violation).

IDDE Program

This SOP outlines the basic response actions by City personnel for spill and illicit discharge incidents. The City's Illicit Discharge, Detection, & Elimination (IDDE) Program provides details on requirements, protocols, and responsibilities for City of Bonney Lake personnel to conduct an emergency spill/discharge response during the critical first few hours of an incident on any property within the city limits. Emergency response personnel (Bonney Lake Police, Washington State Patrol, and East Pierce Fire & Rescue) should be familiar with the IDDE Program as part of routine training. In a multi-agency response, an incident command system conforming to the National Incident Management System (NIMS) shall be established to coordinate communications and response activities.

Operating Procedures

1. Major Spills

a. Report spill to Fire Department (East Pierce Fire & Rescue) at 911, Washington Emergency Management Division at 1-800-OILS-911 (24 hour number), and National Response Center at 1-800-424-8802 (24 hour number).

b. Fire department will assess nature of spill and risk to public safety per Fire Department standard operating procedures. If unable to easily identify as low-risk, immediately clear the area.

c. On SR 410, the Washington State Patrol (911) will manage response activities (as incident commander), with the assistance of Police, Fire, and PW-Ops.

d. PW-Ops to assist in spill containment and traffic control if needed.

e. For major spills requiring follow-up actions, Ecology will take over response efforts when their spill response team reaches the site.

f. PW-Ops to document incident per NPDES (National Pollutant Discharge Elimination System) Permit requirements.

2. Minor Spills – Public Property or Right-of-Way

a. Report spill to East Pierce Fire & Rescue (911) and PW-Ops (253) 447-4320. During off-hours and weekends, call Police Dispatch at (253) 841-5538 to contact on-call City personnel. On SR 410, contact Washington State Patrol (911).

b. Report incident to Ecology Southwest Regional Office at 1-360-407-6300, 24 hour number.

c. PW-Ops and Fire: Contain material – prevent entry to stormwater system. Use appropriate absorbent materials to contain and collect contaminants.

d. PW-Ops and Fire: Dispose of material in accordance with regulations (see Disposal Section).

e. Ecology to work with responsible party on site cleanup.

f. PW-Ops to document incident per NPDES (National Pollutant Discharge Elimination System) Permit requirements.

3. Minor Spills – Private

a. Report incident to Ecology to determine if Ecology's spill response team should be called out (1-360-407-6300, 24-hour number). If Ecology responds, verify whether Ecology will conduct all follow-up actions such as property owner notification and cleanup. Report to PW-Ops at (253) 447-4320 during business hours. During off-hours and weekends, call police dispatch at (253) 841-5538 to contact on-call PW-Ops staff.

b. PW-Ops and Fire: Contain material – prevent entry to stormwater system. Use appropriate absorbent materials to contain and collect contaminants.

c. PW-Ops and Fire: Dispose of material in accordance with regulations (see Disposal Section).

d. PW-Ops: Locate property owner or tenant and issue Stop Work Order. Have property owner or tenant take over the cleanup response and other terms of the Stop Work Order as soon as possible.

e. PW-Ops: Report spill to Code Enforcement Officer for follow-up enforcement action and for failure to comply with the terms of a Stop Work Order as required.

f. PW-Ops: Observe cleanup actions and verify cleanup.

g. Code Enforcement Officer: Perform follow-up actions per BLMC 15.13.090 as required.

h. PW-Ops to document incident per NPDES (National Pollutant Discharge Elimination System) Permit requirements.

4. Construction-related water quality problems (erosion and sedimentation)

a. Report problem to Permit Center (253) 447-4344 for determination of appropriate staff (CD Inspectors or PW-Engineering). During off-hours and weekends, call Police Dispatch at (253) 841-5538 to contact on-call PW-Ops personnel, who will verify the problem. CD Inspectors or PW-Engineering to be contacted as appropriate.

b. PW-Engineering / CD Inspector to determine if corrective measures are needed, and will contact property owner or contractor.

c. PW-Engineering / CD Inspector to issue Stop Work Order as required

d. PW Engineering / CD Inspector to observe cleanup actions and verify cleanup.

e. Refer to Code Enforcement Officer if enforcement actions are required, such as illegal construction activity or code violations.

f. PW Engineering / CD Inspector to document incident per NPDES (National Pollutant Discharge Elimination System) Permit requirements.

5. Other water quality problems

a. Report problem to PW-Ops (253) 447-4320. During off-hours and weekends, call Police Dispatch at (253) 841-5538 to contact on-call PW-Ops personnel.

b. PW-Ops will determine source, hazards, and required response action of spill, discharge, or dumping as required by NPDES Permit requirements.

c. Refer to Code Enforcement Officer if enforcement actions are required.

d. PW-Ops to document incident per NPDES (National Pollutant Discharge Elimination System) Permit requirements.

Disposal

1. All wastes shall be disposed of in accordance with state regulations. For City response actions, seal all non-dangerous wastes (such as oils) and all dangerous wastes in drums for disposal by PW-Ops contractor.

2. When in doubt, contact Ecology for disposal instructions.

Notification

1. PW-Ops shall notify other City departments as applicable and maintain records of all spills, erosion incidents, discharges, and responses. The Washington State Patrol shall be contacted for incidents on SR 410.

2. The responsible party should be identified immediately.

3. The Washington Emergency Management Division 1-800-OILS-911 (24-hour number) and the National Response Center 1-800-424-8802 (24-hour number) shall be notified immediately of all spills.

4. Ecology will notify the City of minor spills that they expect the City to respond to and clean up. Ecology will notify the City as follows:

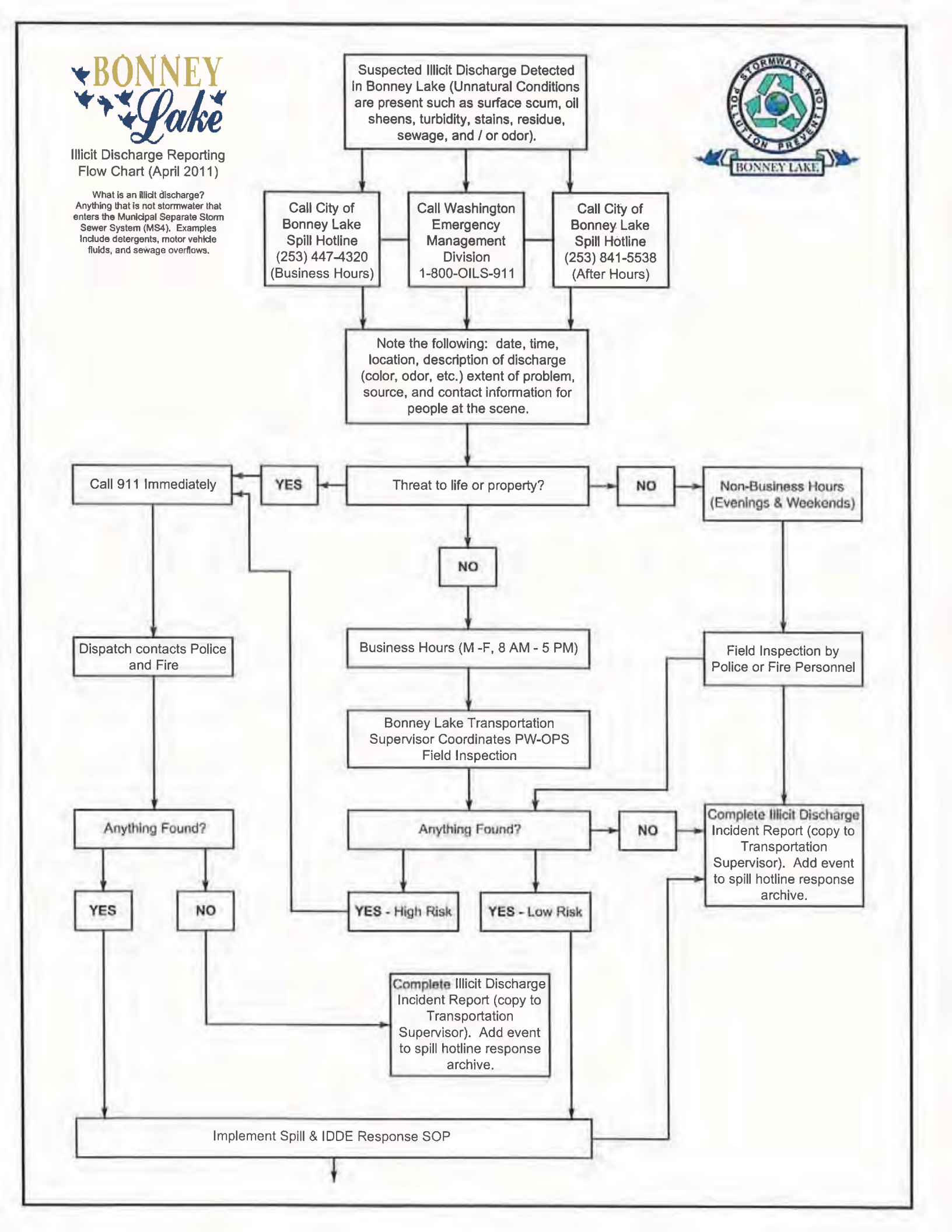
    - Business hours: Public Works Operations (253) 447-4320
    - Off-hours and weekends: Police Dispatch (253) 841-5538

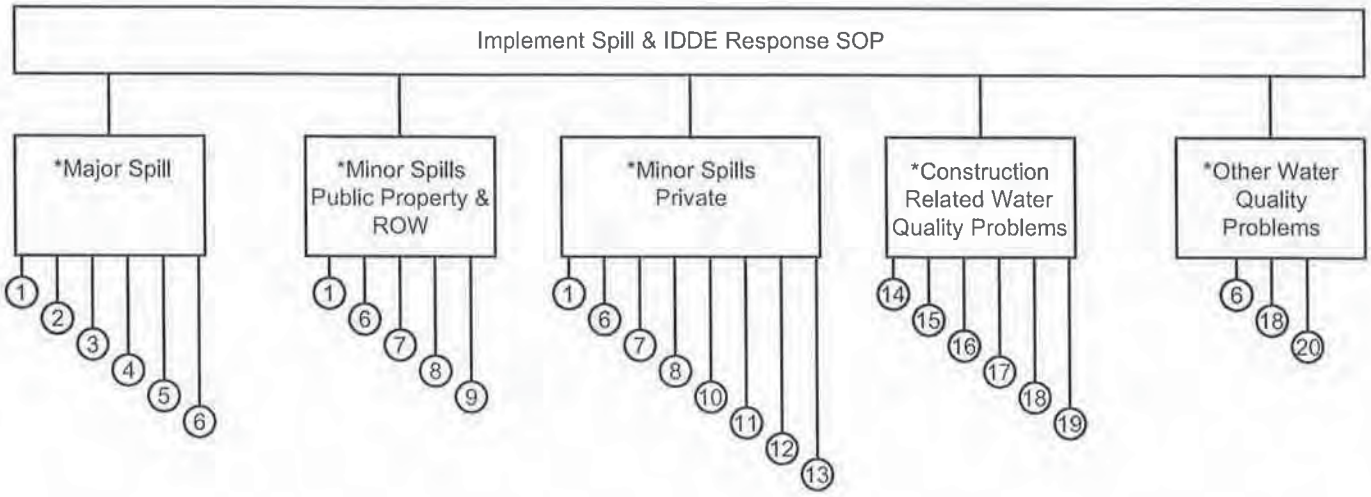
Appendix F
Spill & IDDE Response Flow Chart

BONNEY Lake

Illicit Discharge Reporting Flow Chart (April 2011)

What is an illicit discharge? Anything that is not stormwater that enters the Municipal Separate Storm Sewer System (MS4). Examples include detergents, motor vehicle fluids, and sewage overflows.





1. Report incident to Ecology Southwest Regional Office at 1-360-407-6300, 24 hour number.
2. Fire Department will assess nature of spill and risk to public safety per Fire Department standard operating procedures. If unable to easily identify as low risk, immediately clear the area.
3. On SR 410, the Washington State Patrol (911) will manage response activities (as incident commander), with the assistance of Police, Fire, PW-Ops.
4. PW-Ops to assist in spill containment and traffic control as needed.
5. Ecology to take over response efforts when the Ecology emergency response team reaches the site.
6. PW-Ops to document incident per NPDES Permit requirements (Complete Illicit Discharge Incident Report (copy to Transportation Supervisor). Add event to spill hotline response archive.
7. PW-Ops & Fire: Contain material - prevent entry to stormwater system. Use appropriate absorbent materials to contain and collect contaminants.
8. PW-Ops & Fire: Dispose of material in accordance with regulations.
9. Ecology to work with responsible party on site cleanup.
10. PW-Ops: Locate property owner or tenant and issue Stop Work Order. Have property owner or tenant take over the cleanup response and other terms of the Stop Work Order as soon as possible.
11. PW-Ops: Report spill to Code Enforcement Officer for follow-up enforcement action and for failure to comply with the terms of a Stop Work Order as required.
12. PW-Ops: Observe cleanup actions and verify cleanup.
13. Code Enforcement Officer: Perform follow-up actions per BLMC 15.13.090 as required.
14. Report problem to Permit Center (253) 447-4344 for determination of appropriate staff (CD Inspectors or PW-Engineering). CD Inspectors or PW-Engineering to be contacted as appropriate.
15. PW-Engineering / CD Inspector to determine if corrective measures are needed, and will contact property owner or contractor.
16. PW-Engineering / CD Inspector to issue Stop Work Order as required.
17. PW-Engineering / CD Inspector to observe cleanup actions and verify cleanup.
18. Refer to Code Enforcement Officer if enforcement actions are required, such as illegal construction activity or code violations.
19. PW-Engineering / CD Inspector to document incident per NPDES Permit requirements (Complete Illicit Discharge Incident Report (copy to Transportation Supervisor). Add event to spill hotline response archive.
20. PW-Ops to determine source, hazards, and required response action of spill, discharge, or dumping as required by NPDES Permit requirements.

*Major Spill - Spills of high-risk nature (hazardous or unknown materials, or large quantity) Risk to public and / or environment
*Minor Spills - Public Property & Right-of-Way: Spills of low-risk nature (identifiable material and small quantity) on public property Spill can be contained and cleaned up by the City
*Minor Spills - Private: Spills of low-risk nature (identifiable material and small quantity) on private property City will assist to prevent entry into public drainage system, followed by cleanup by responsible party
*Construction Related Water Quality Problems: Erosion and sedimentation water quality problems at permitted construction sites
*Other Water Quality Problems: Pollution source control at businesses, failing or improperly maintained stormwater facilities, illegal dumping, and discharge

Appendix G
Spill & IDDE Response Material Inventory

Spill & IDDE Response Material Inventory

6 - Universal 6.5 Gallon Bucket Kits; 3 Refills
2 - Universal 55 Gallon Overpack Kits; 1 Refill

ADSORBS UP TO 6 GALLONS			
	OIL ONLY	UNIVERSAL	HAZ-MAT
	26-9005	26-9007	26-9195
Refill:	**26-9006**	26-9008	26-9196

6.5 Gallon Bucket Kit

CONTENTS	QUANTITY
Poly UN Rated Pail - 6.5 Gallon	1
Adsorbent Sock 3" x 4'	2
Adsorbent Pad 15" x 18"	20
Disposal Bag with Zip Tie	1
Splash-Resistant Goggles	1
Nitrile Gloves	1
Emergency Response Guidebook	1

ADSORBS UP TO 36 GALLONS			
	OIL ONLY	UNIVERSAL	HAZ-MAT
	26-9022L	26-9024L	26-9122L
Refill:	**26-9023L**	26-9025L	26-9123L

55 Gallon Overpack Kit

CONTENTS	QUANTITY
55 Gallon UN Rated Poly Overpack	1
Adsorbent Sock 3" x 4'	10
Adsorbent Sock 3" x 8'	3
Adsorbent Pillow 18" x 18"	10
Adsorbent Pad 15" x 18"	40
Disposal Bag with Zip Tie	10
Nitrile Gloves	2
Splash Resistant Goggles	2
Emergency Response Guidebook	1

Appendix H
Illicit Discharge Incident Report

Illicit Discharge Incident Report

IDDE Washington State Southwest Region Contact Number: (360) 905-2015

Health and Safety Hazards

***Note to field staff:** If the discharge poses a threat to human health, safety or the environment, please contact the IDDE Washington State Southwest Region. If he/she is not available, leave a message and contact the Department of Ecology Southwest Regional Office at (360) 407-6300. For discharges that pose **immediate** dangers to health and safety, contact emergency services (911).*

Does this discharge pose a potential threat to human health, welfare or the environment? ___ **Yes** ___ **No**

If yes, follow procedure for notifying Ecology in the "note to field staff" and record the information below:

Person Contacted:		Time contacted:		Incident Report No:	

Step 1. Information on the potential illicit connection or discharge

First name of person collecting information:		Last name of person collecting information:	
Organization of person collecting information:		Phone number of person collecting information:	
Date of discovery:		Time of discovery:	

Step 2. Location of the potential illicit connection or discharge. Select location format A, B, or C (B preferred):

A. Location Narrative

Local Jurisdiction:		Location Narrative:
Name of county:		

B. Latitude and Longitude (GPS required)

Latitude:		Longitude:	
XY Source:			

C. State Route and Mile Post (On SR 410)

SR:		MP:		Offset:		A/B :	
RRT:		RRQ:		Offset Dist.:			

Step 3. Is the connection or discharge one of the conditionally allowed ones listed below? If yes, check the appropriate box. ___ **Yes** ___ **No** ___ **Unknown**

	Discharge from emergency fire fighting activities		Water line flushing
	Diverted stream flows		Foundation drains
	Irrigation return flow		Air conditioning condensation
	Rising groundwater		Water from crawl space pumps
	Uncontaminated groundwater infiltration		Footing drains
	Uncontaminated pumped groundwater		Discharges from potable waters sources
	Springs		Discharges from lawn watering and other irrigation runoff
	Flows from riparian habitats and wetlands		Street and sidewalk wash water, water used to control dust, and routine external building wash that does not use detergents
	Other (describe):		

Step 4. Are there indicators of pollutants in the discharge? If yes, check all that apply. ___ **Yes** ___ **No** ___ **Unknown**

	Visible signs of staining, residues, or oily substances in the water or detained within ditches, channels, catch basins, or surrounding pavement and soils.
	Pungent odors coming from the drainage system (e.g. discharge smells like sewage, sulfide, petroleum/gas or rancid)
	Discoloration or oily substances in the water
	Abnormal water flow during the dry weather season
	Excessive sediment deposits or turbid water, particularly near active offsite construction sites
	Floatables (e.g. discharge includes sewage, an oil sheen, suds, garbage)
	Broken concrete or other disturbances at or near junction structures.
	Trash/garbage carried from the connection to right-of-way
	Other (describe):

Step 5. How is the water entering or connecting to the City of Bonney Lake MS4?

	No structures visible
	Through a discharge from a man-made structure that is outside of right-of-way
	Through a discharge from a man-made structure that is within the right-of-way
	Through a direct connection

Step 6. Characterize the structure and flow of the discharge or connection.

A. What is the discharge structure (choose a type and a material):

	Pipe		***Ditch***		***Other (describe below)***
	Concrete		Vegetated		
	Plastic		Rock Lined		
	Metal		Asphalt		
	Other (describe)		Bare Soil		
			Other (describe)		

B. What is the approximate size of the structure?

Size (inches):	If "other" was chosen for 6a, choose the best measurement to characterize the size of the structure:

C. What is the approximate flow? Check the appropriate box.

	Saturated soils to a trickle of water		Adequate flow to fill the structure ¾ full
	Adequate flow to fill the structure ¼ full		Structure is full
	Adequate flow to fill the structure ½ full		
Additional information, if known, on the nature and quantity of discharge:			

Step 7. Has the source of the potential illicit discharge or connection been identified? ___ **Yes** ___ **No** ___ **Unknown**

Describe the type and source of the discharge or connection:

Does this appear to be a single event? ___ **Yes** ___ **No** ___ **Unknown**

Step 8. Spill / Illicit Discharge Information

Type of Spill	
Common Name of Spilled Substance	
Estimated Quantity Spilled	
Estimated Concentration	
Date of Spill	

Time Spill Started: AM / PM	Time Spill Ended: AM / PM

SPILL TO LAND	SPILL TO WATER BODY
Name of Site:	Name of Water Body:
Street Address:	Location of Discharge:
City	Description of area from which spilled material may reach:
County	

If no spill describe incident:

Step 9. Action Taken

To contain spill or impact of incident

To clean up spill or recover from incident

To remove cleanup material:

To prevent re-occurance:

Step 10. Oufall & MS4 Inspection

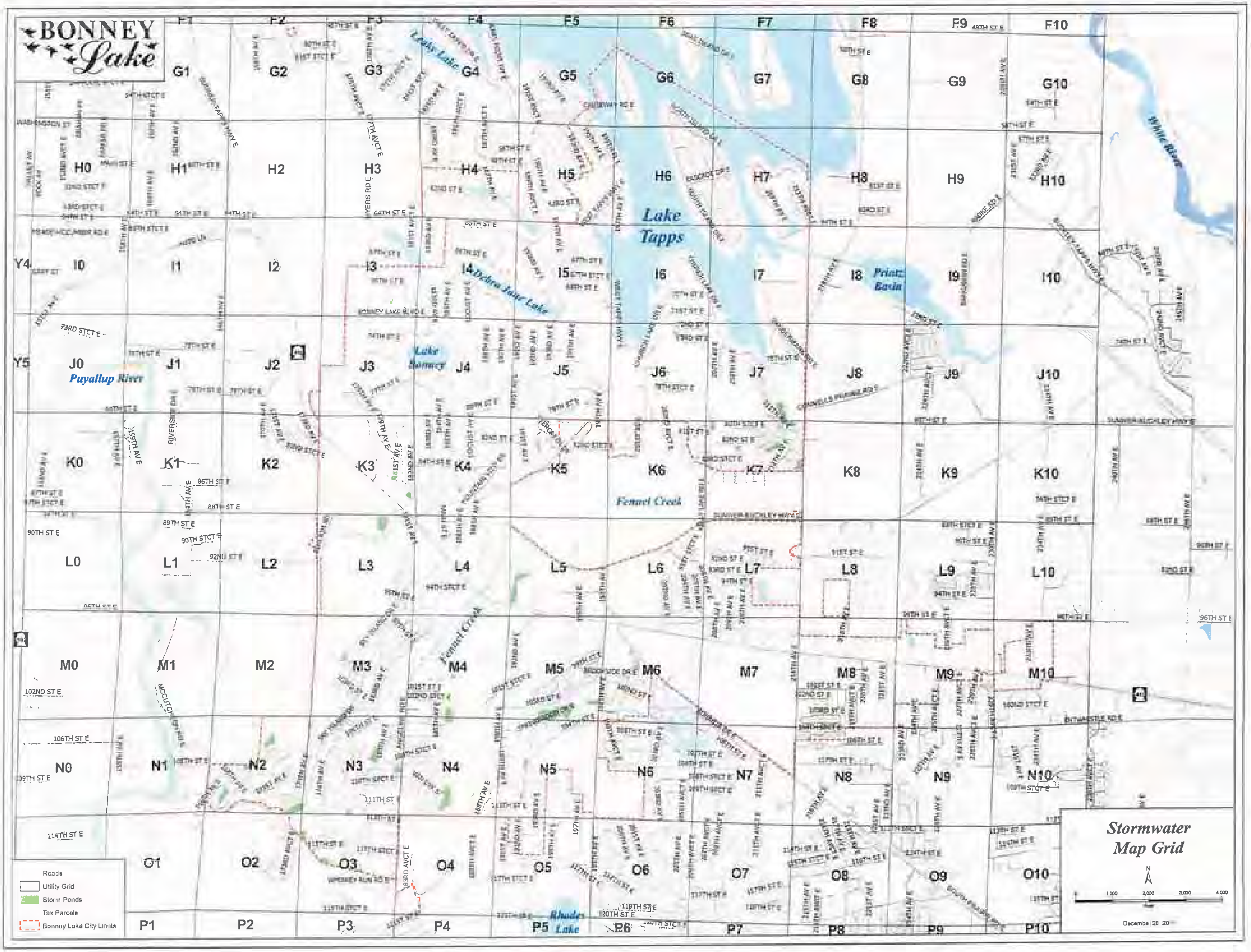
Has the illicit discharge entered the MS4? YES NO
Nearest CB / Culvert spilled material may reach [CB Number_____]
Nearest outfall spilled material may reach [Outfall Number:_____]
Has the illicit discharge entered the outfall? YES NO
Provide a copy of the likely conveyance route to the incident commander: YES

Step 11. Person responsible for managing spill response:

Name: Phone:	Signature

Step 12. Provide a copy of the illicit discharge incident report to the Transportation Supervisor.

Appendix I
City Stormwater System Map Book


BONNEY Lake
Stormwater
Map Grid
Lake Tapps
Puyallup River
White River
Fennel Creek
Lake Bonney
Debra Jane Lake
Rhodes Lake
Printz Basin
Roads
Utility Grid
Storm Ponds
Tax Parcels
Bonney Lake City Limits


F4
F5
F6
G4
G5
G6
H4
H5
H6
Lake Tapps
Lake Tapps
193RD AVCT E
WEST TAPPS DR E
PARK RD E
193RD AV E
54TH ST E
54TH ST
191ST AVCT E
MARYANN DR E
197TH AV E
195TH AV E
CAUSEWAY RD E
WEST TAPPS HWY E
90TH ST E
192ND AV E
192ND LN E
GRID G5
BONNEY Lake
Stormwater Map Book
Catch Basin
Manhole
Dry Well
Pipe Point
Channel Point
Control Structure
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Channel
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0 100 200 300
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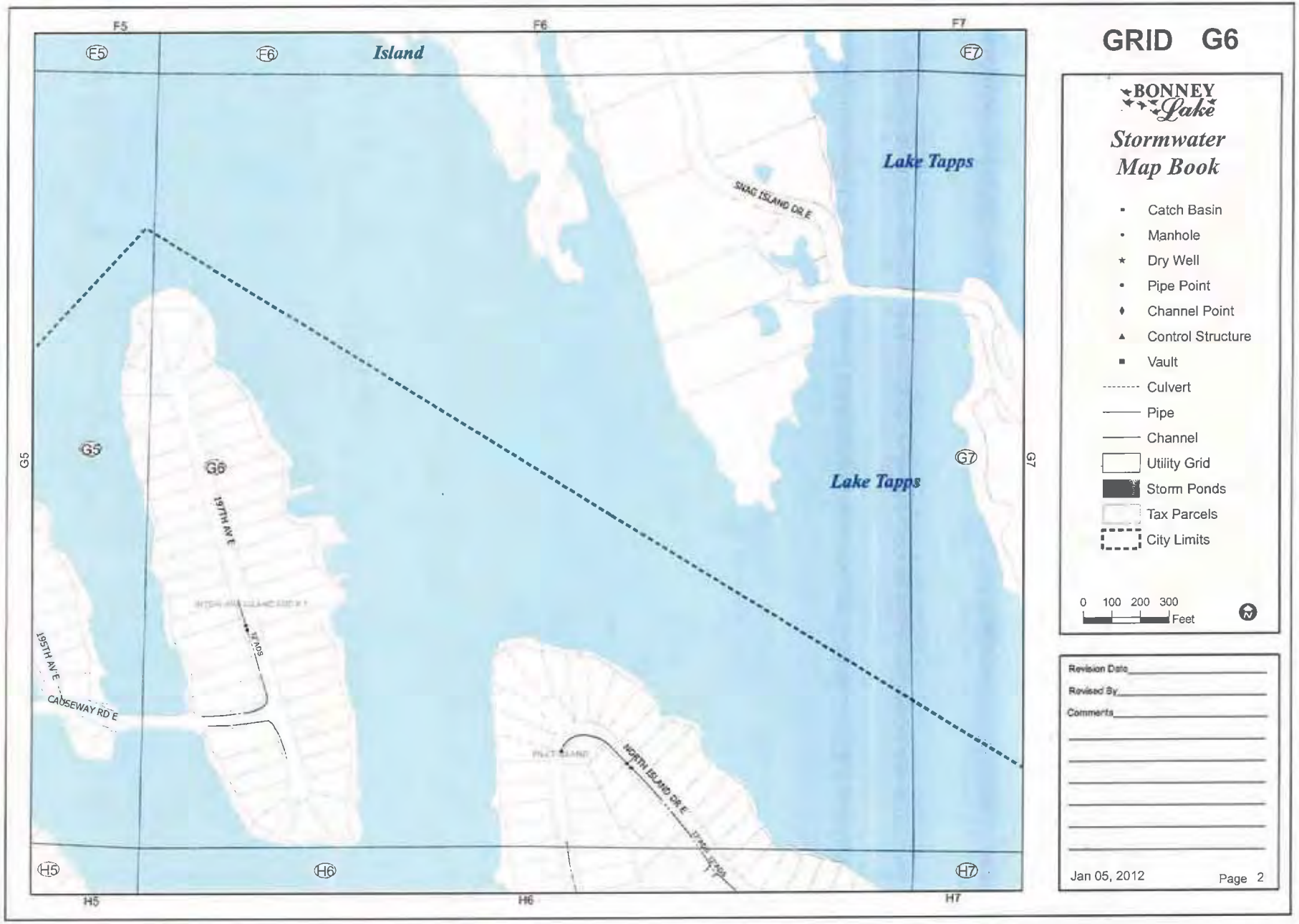
Page 1



GRID G6

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

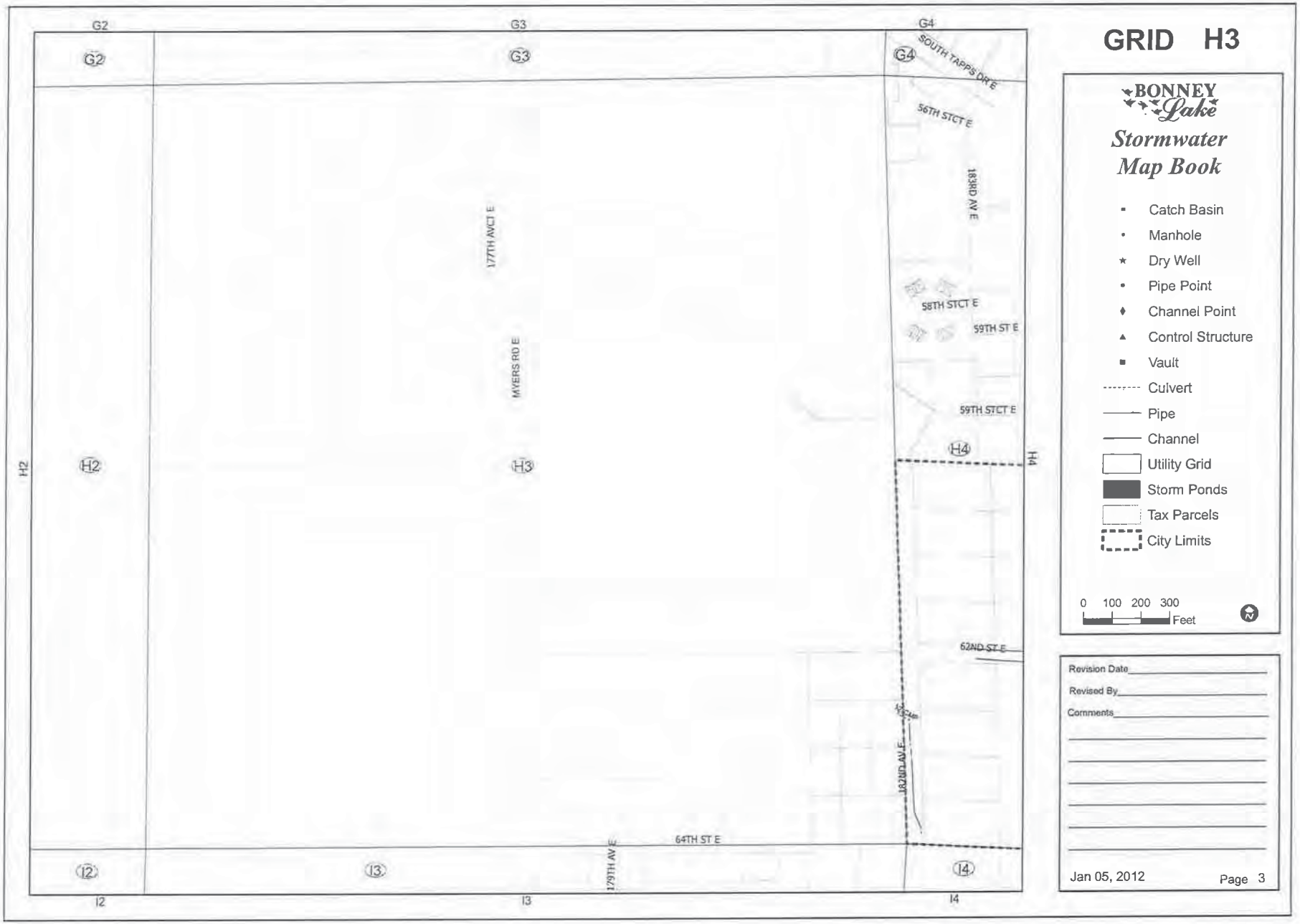
0 100 200 300 Feet

Revision Date_____

Revised By_____

Comments_____

Jan 05, 2012



GRID H3

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

Revision Date_____

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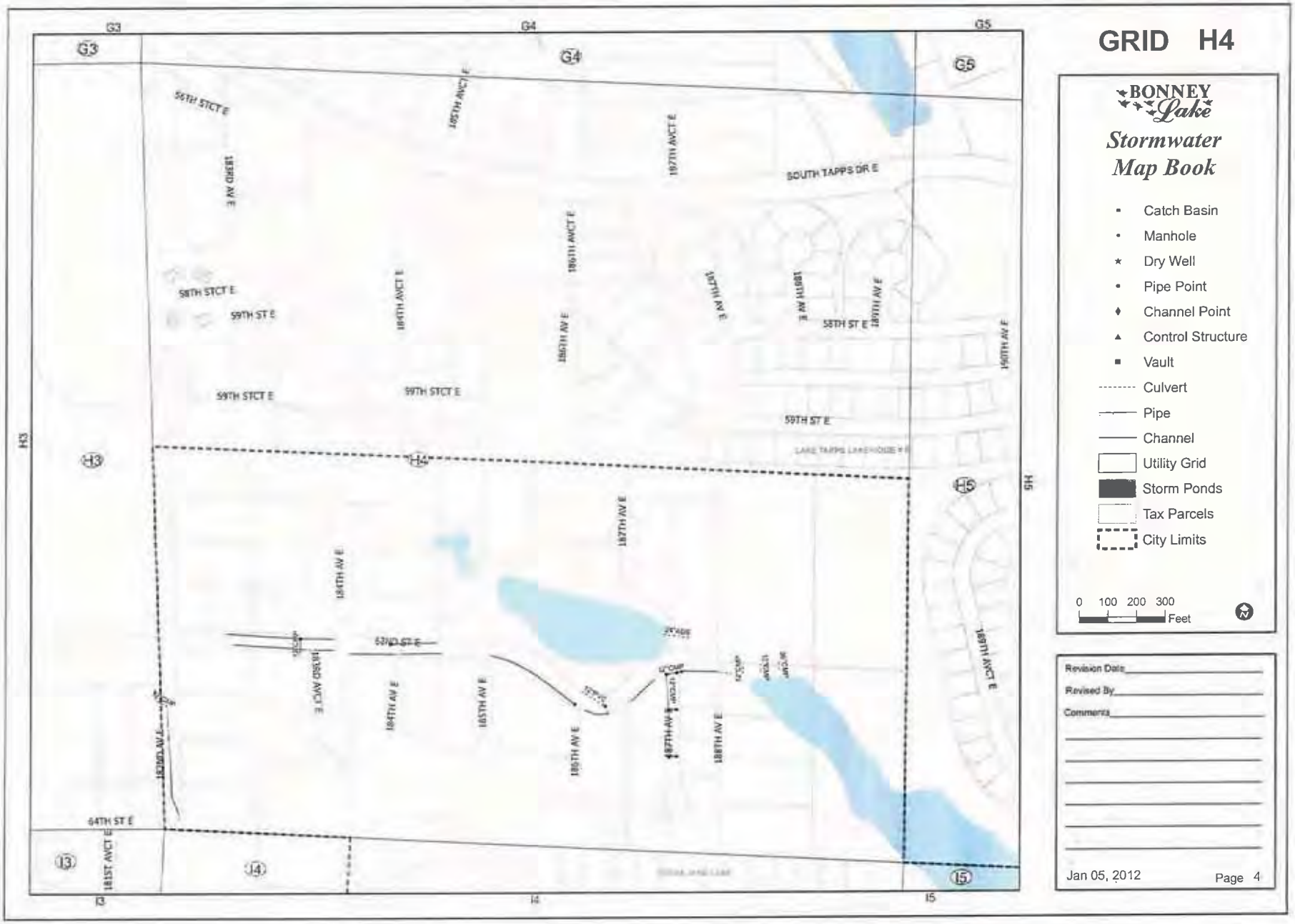
Comments_____

Jan 05, 2012



GRID H4

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

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GRID H5

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
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- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

Revision Date_____

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GRID H6

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
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- Utility Grid
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- Tax Parcels
- City Limits

0 100 200 300 Feet

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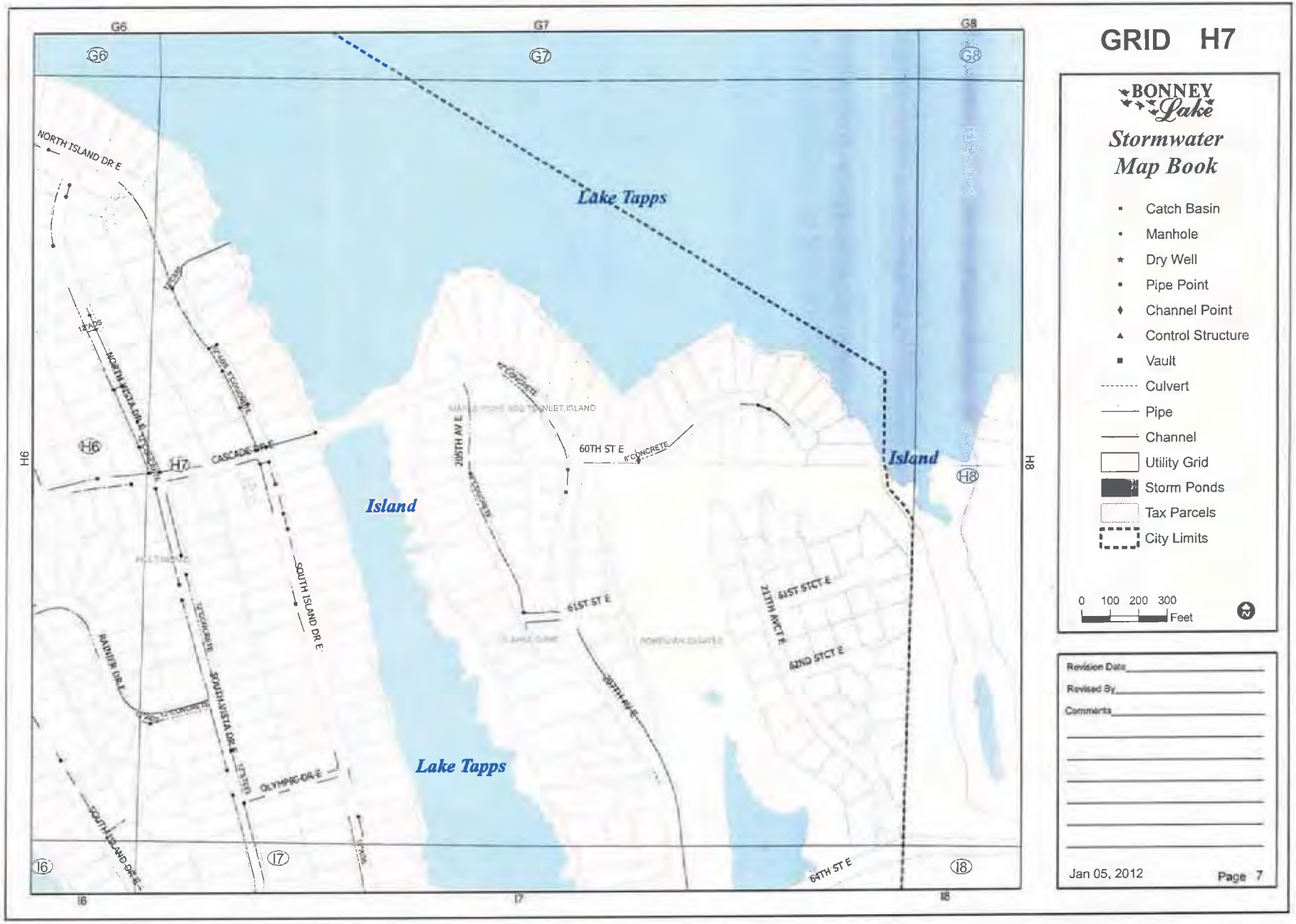
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NORTH ISLAND DR E
CASCADE DR E
SOUTH ISLAND DR E
HARBOR DR E
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OLYMPIC DR E
60TH ST E
61ST ST E
64TH ST E
205TH AV E
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I8

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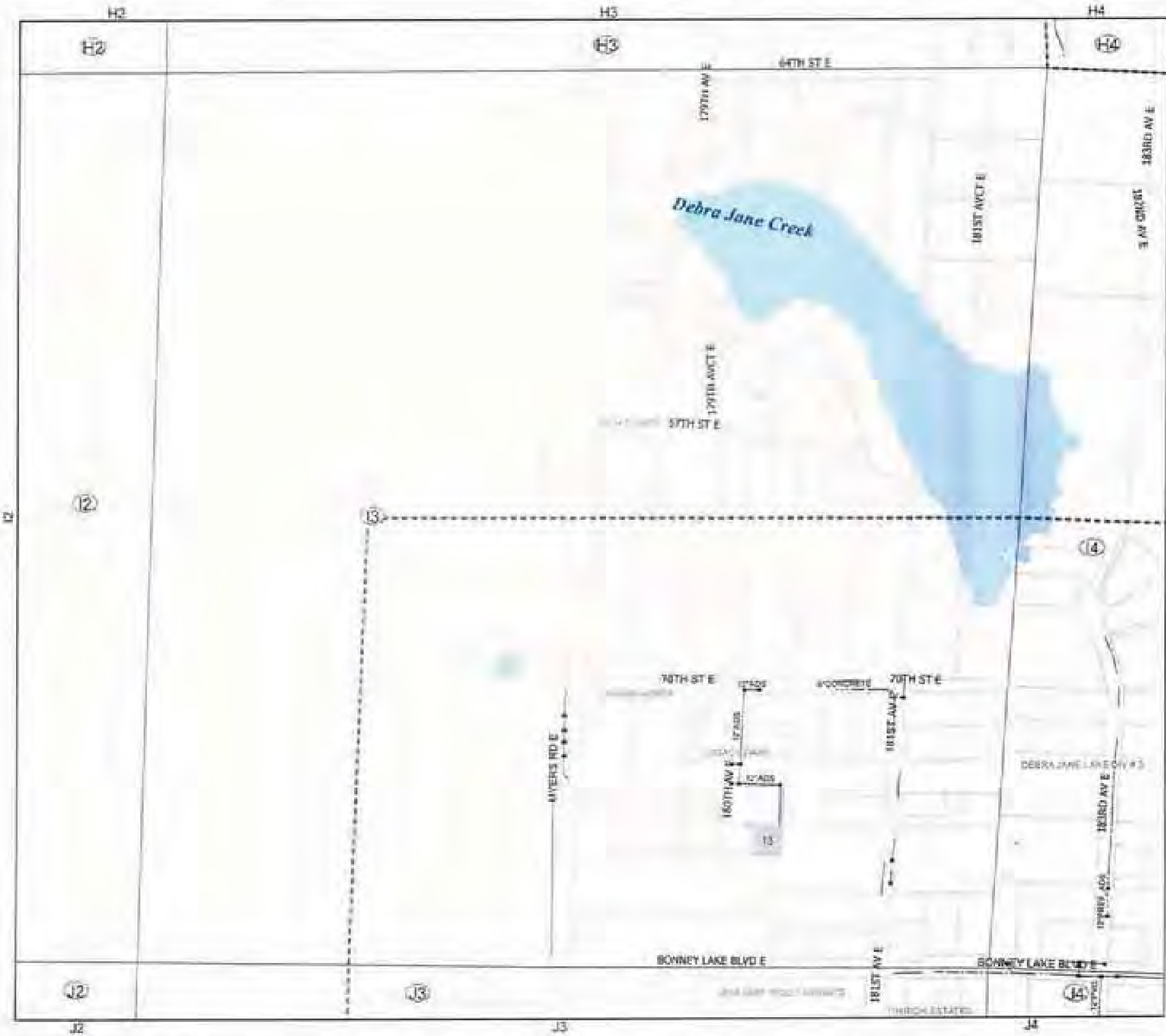

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Wall
- Pipe Point
- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

Revision Date____

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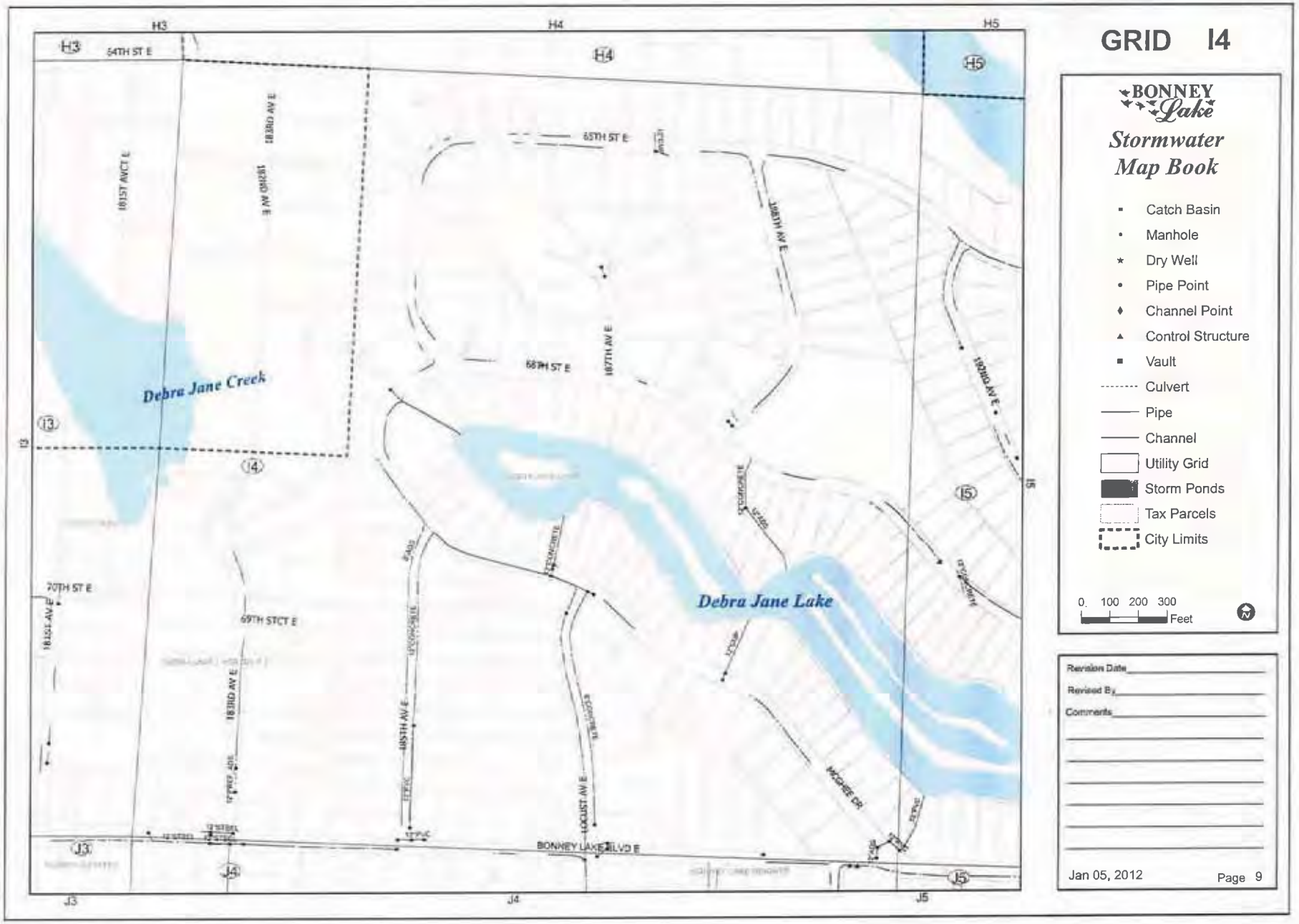

GRID I4

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
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- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

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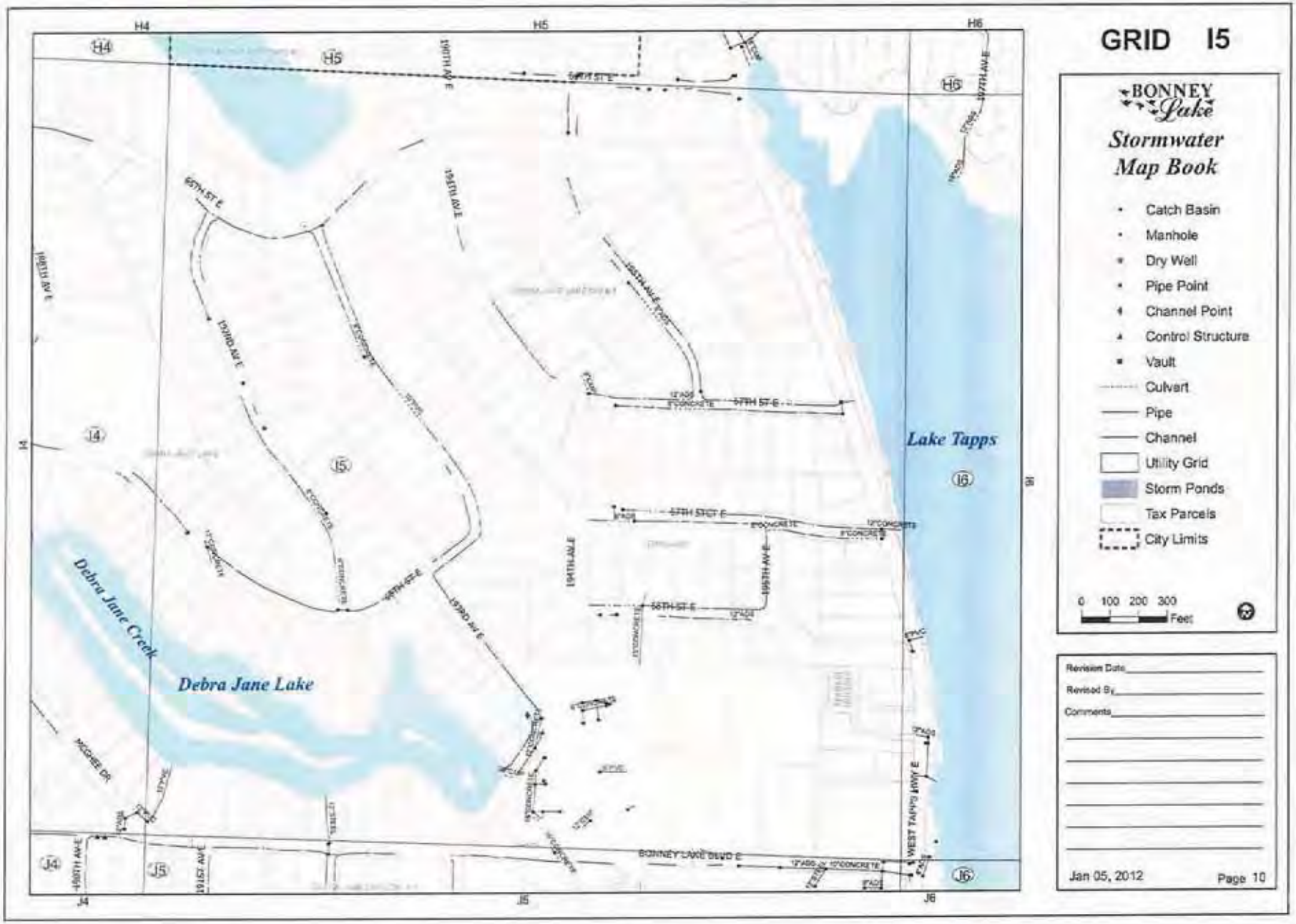

GRID I5

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
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- Culvert
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0 100 200 300 Feet

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GRID I6

BONNEY Lake

Stormwater Map Book

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0 100 200 300 Feet

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GRID I7

BONNEY Lake

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75TH STCT E
77TH ST E
80TH STCT E
176TH AVCT E
177TH AVPL E
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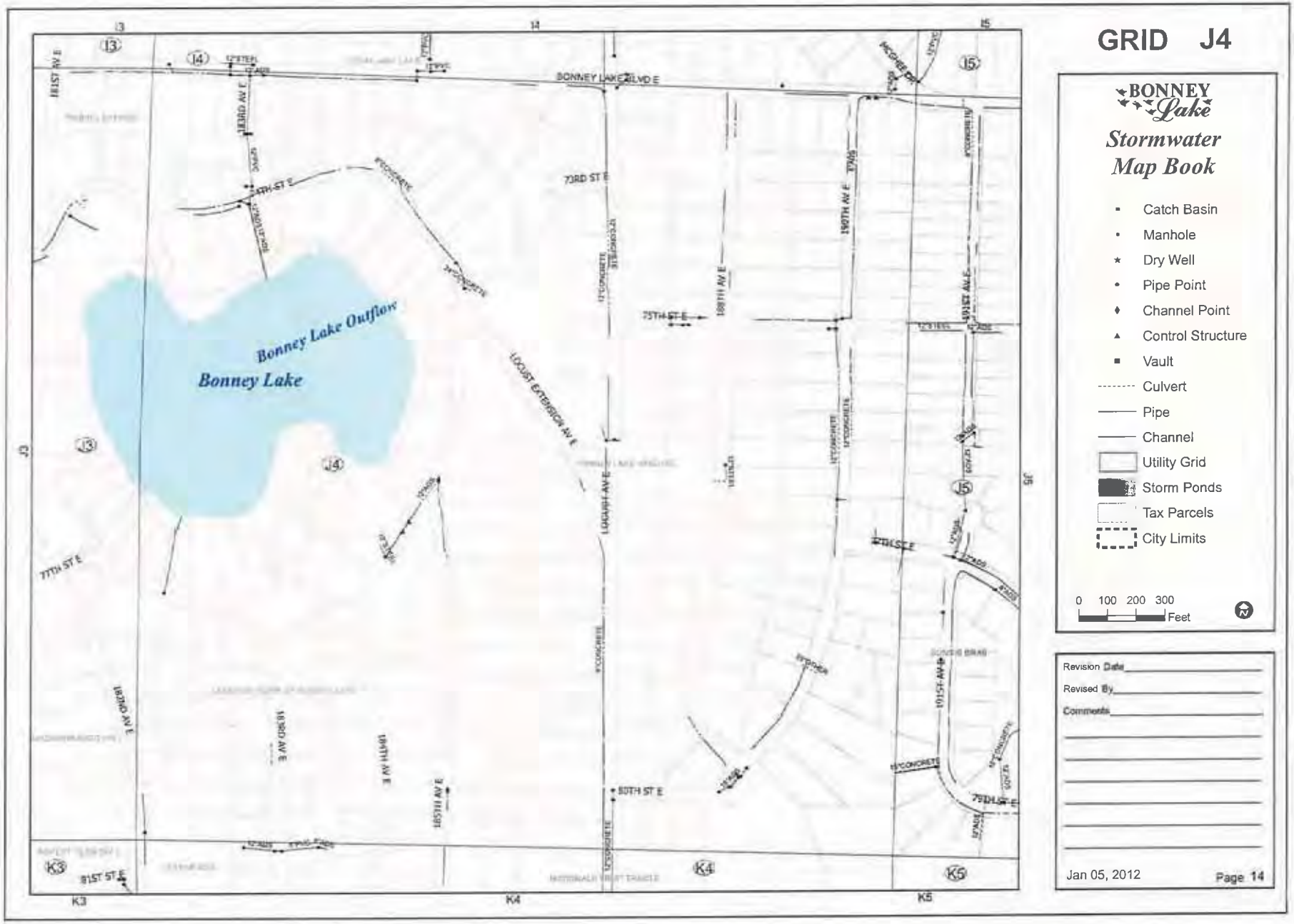
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LOCUST EXTENSION AV E
LOCUST AV E
189TH AV E
190TH AV E
191ST AV E
185TH AV E
183RD AV E
181ST AV E
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GRID J5

BONNEY Lake

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0 100 200 300 Feet

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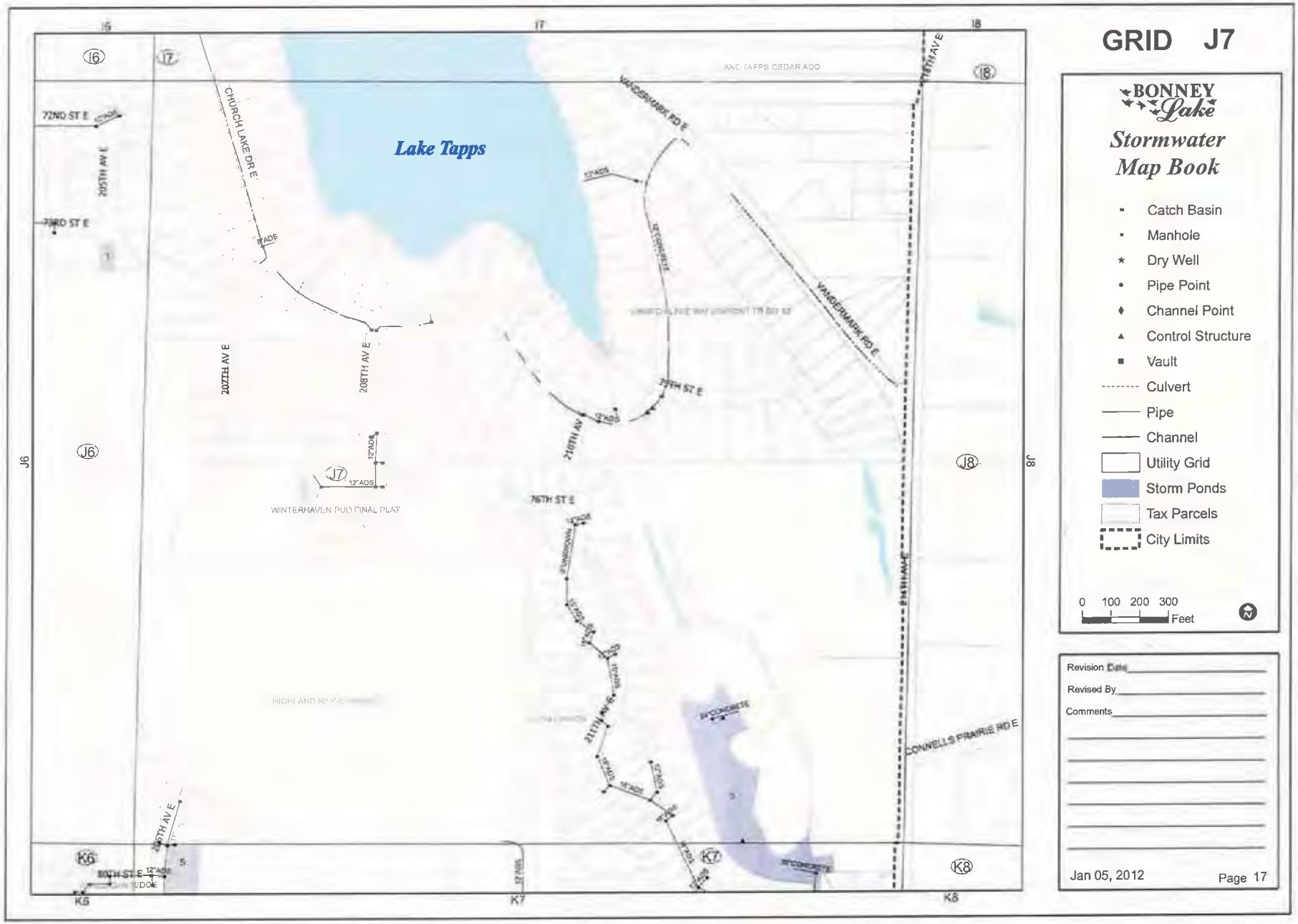
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Feet
Lake Tapps
CHURCH LAKE DR E
VANDERMARK RD E
72ND ST E
73RD ST E
205TH AV E
207TH AV E
208TH AV E
210TH AV
75TH ST E
76TH ST E
211TH AV E
CONNELLS PRAIRIE RD E
WINTERHAVEN PUD FINAL PLAT
HIGHLAND RIDGE
80TH ST E
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L3
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172ND AV E
173RD AV E
171ST AV E
83RD STCT E
172ND AVCT E
166TH AV E
86TH ST E
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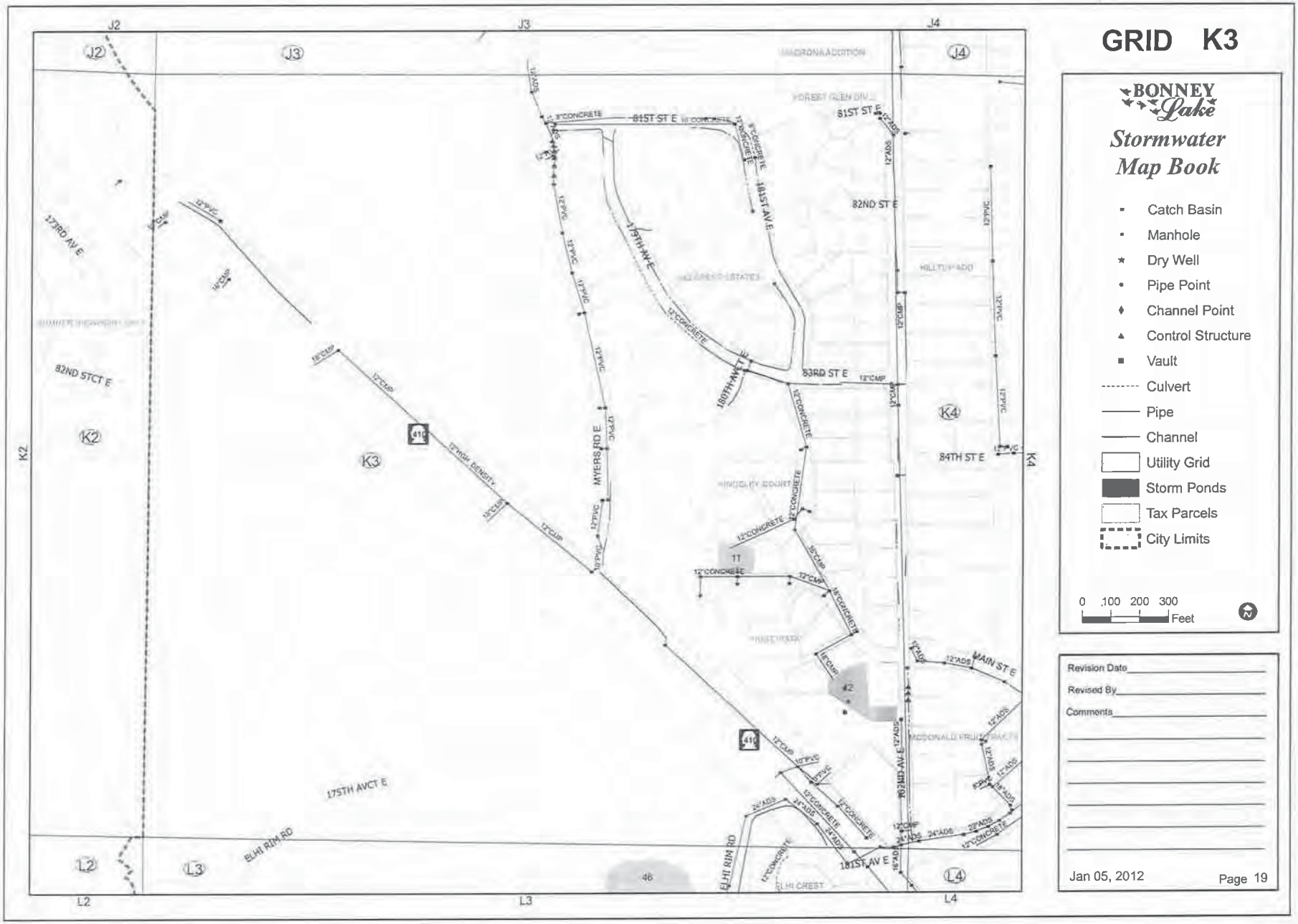

GRID K3

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
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- Culvert
- Pipe
- Channel
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- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

Revision Date_____

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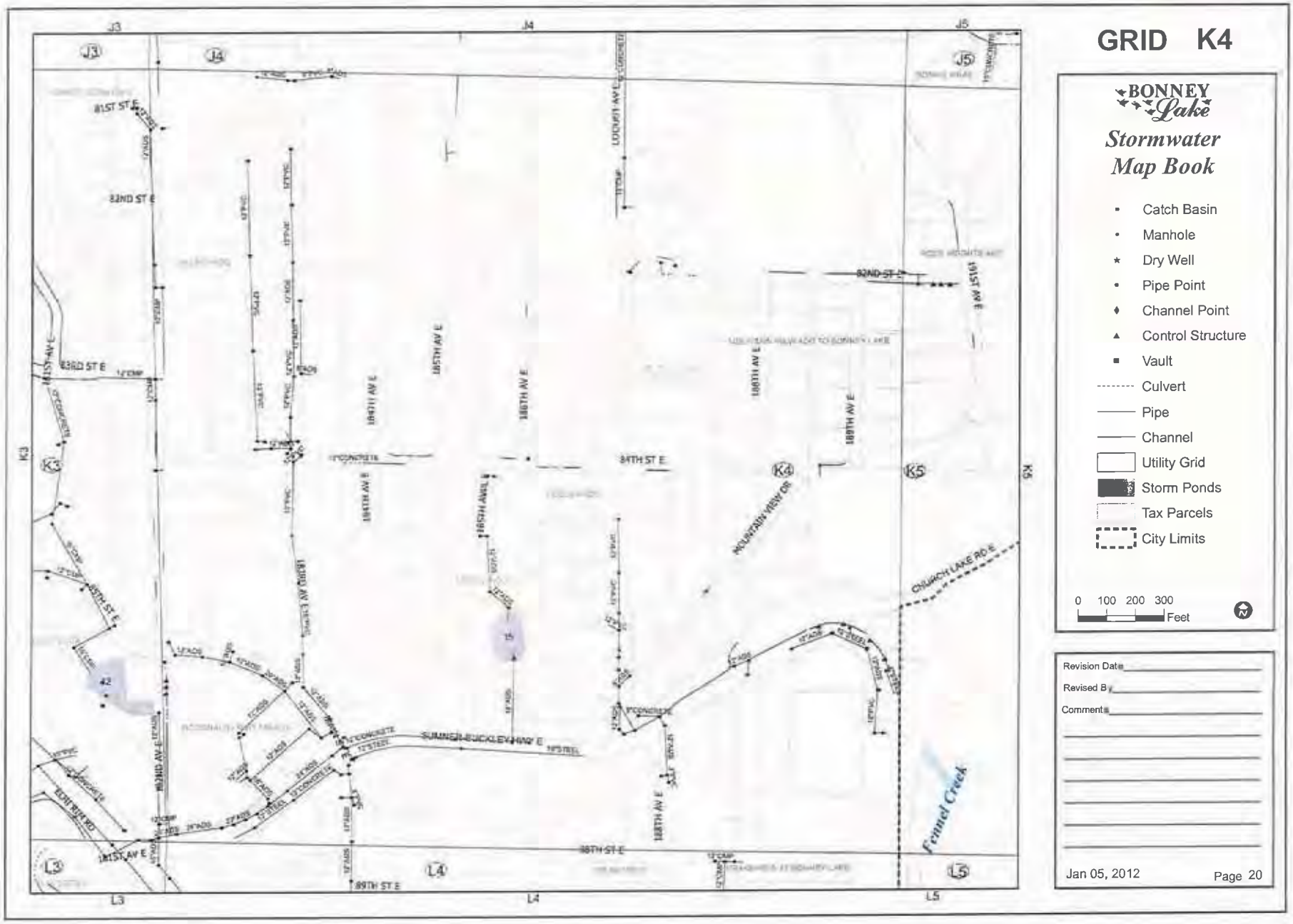
Jan 05, 2012



GRID K4

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
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- City Limits

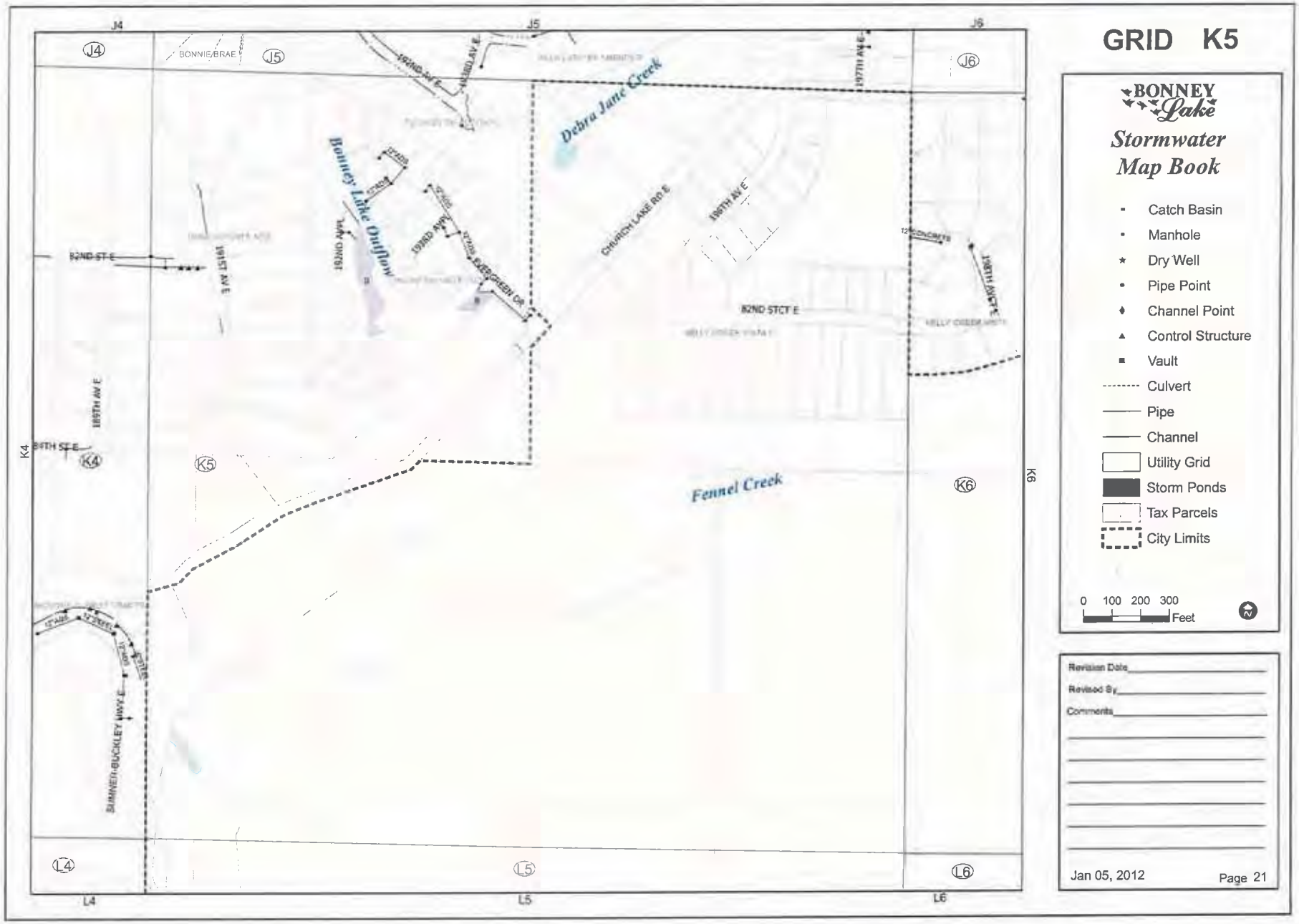
0 100 200 300 Feet

Revision Date

Revised By

Comments

Jan 05, 2012



GRID K5

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
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- Control Structure
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- Pipe
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- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

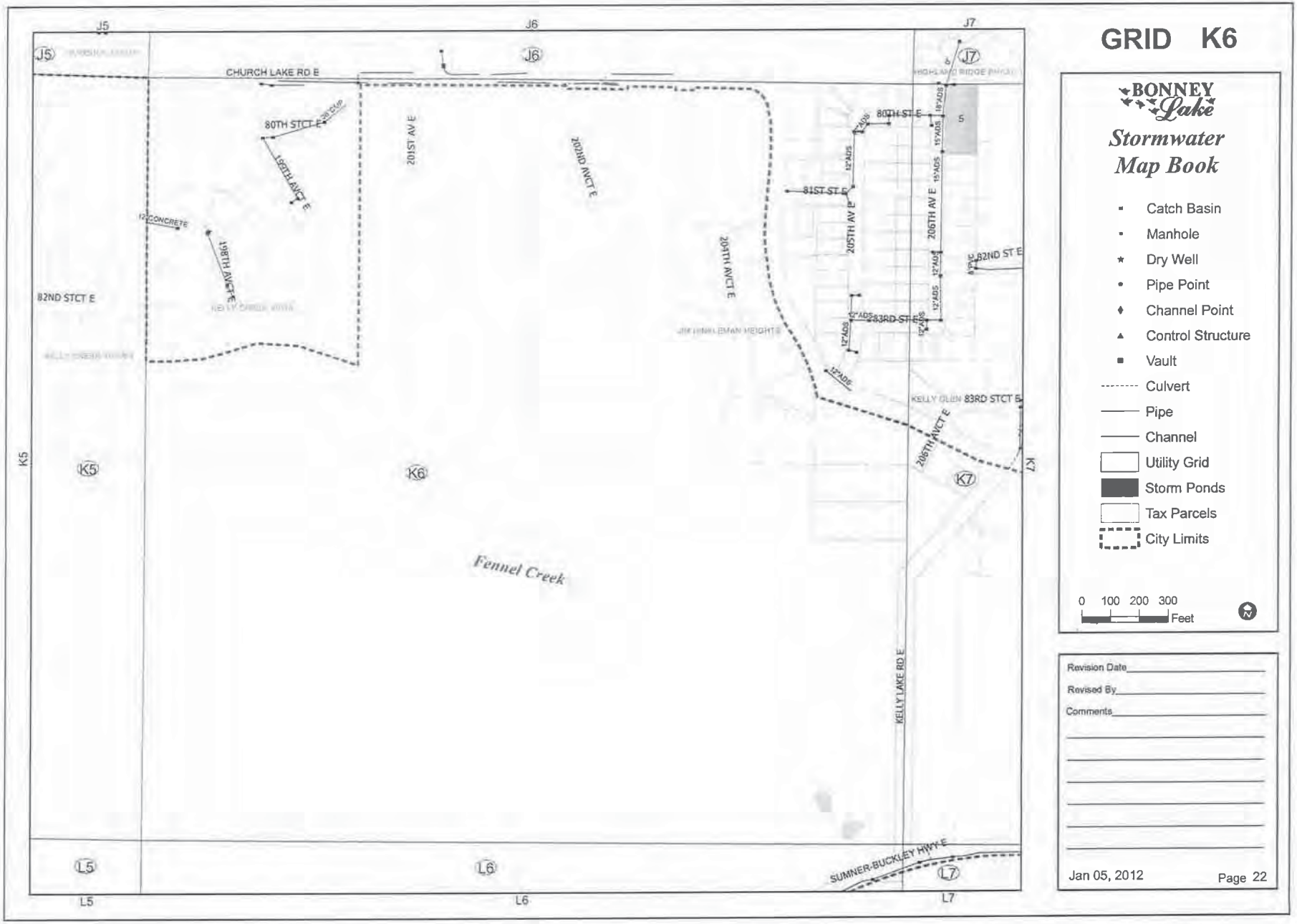
0 100 200 300 Feet

Revision Date_____

Revised By_____

Comments_____

Jan 05, 2012



GRID K6

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
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- City Limits

0 100 200 300 Feet

Revision Date

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GRID K7

BONNEY Lake

Stormwater Map Book

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0 100 200 300 Feet

Revision Date_____

Revised By_____

Comments_____

Jan 05, 2012

GRID L3

BONNEY Lake

Stormwater Map Book

- Catch Basin
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- Channel
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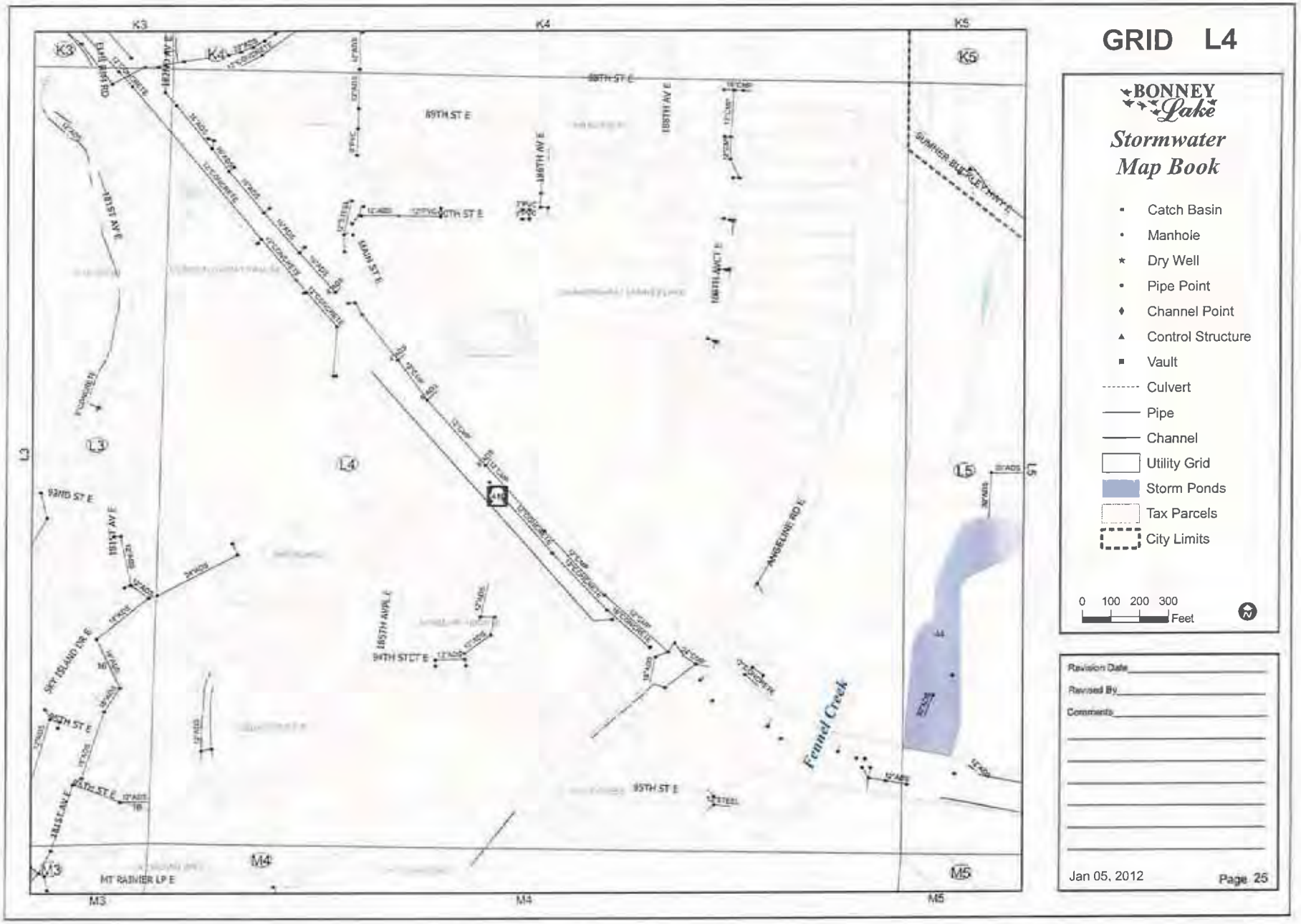
Revision Date_____

Revised By_____

Comments_____

Jan 05, 2012



GRID L4

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
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- Control Structure
- Vault
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- Pipe
- Channel
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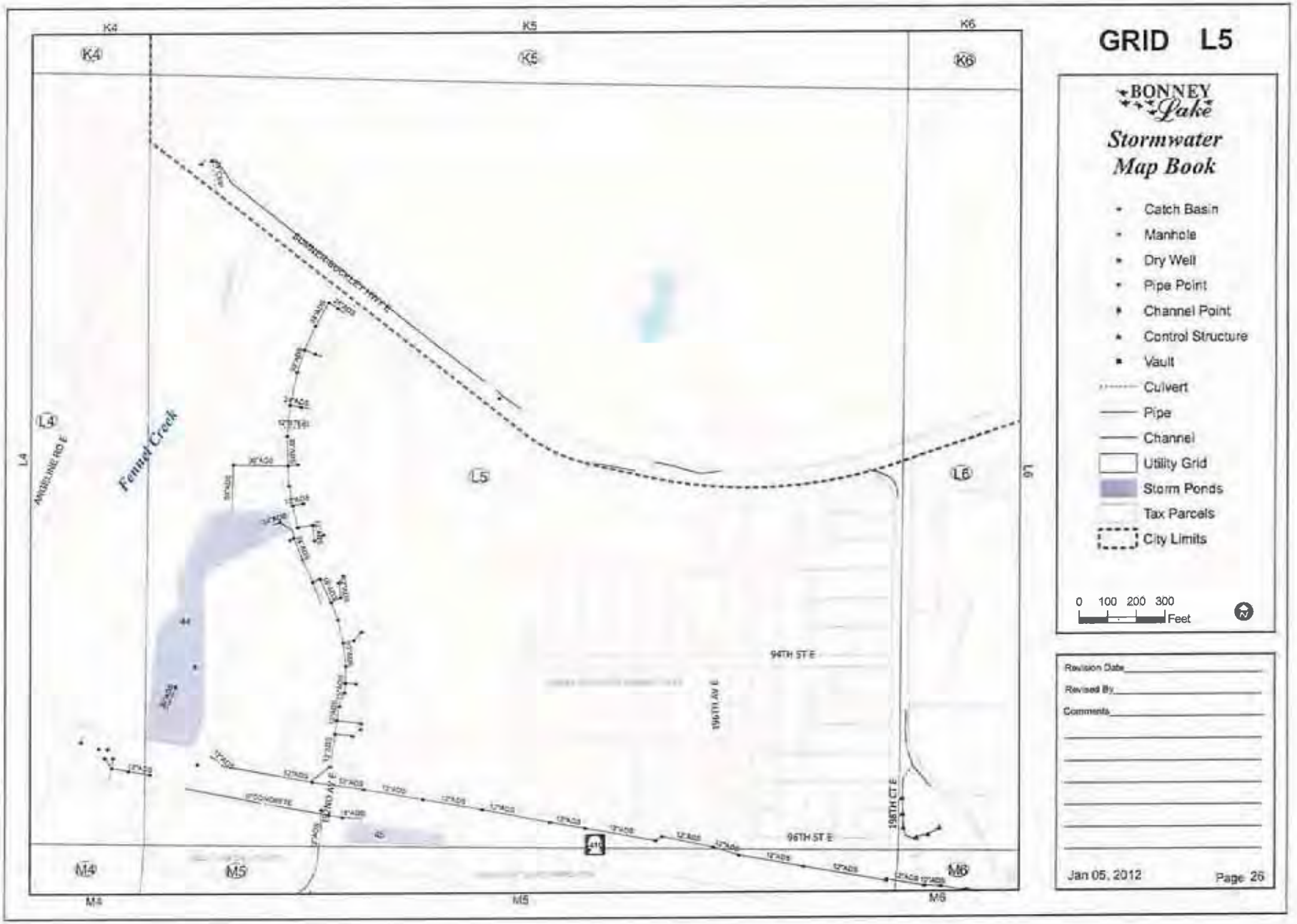
- Tax Parcels
- City Limits

0 100 200 300 Feet

Revision Date:
Revised By:
Comments:

Jan 05, 2012



GRID L5

BONNEY Lake

Stormwater Map Book

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- Utility Grid
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- City Limits

0 100 200 300 Feet

Revision Date

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Jan 05, 2012

GRID L6

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
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0 100 200 300 Feet

Revision Date________

Revised By________

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Jan 05, 2012

GRID L7

BONNEY Lake

Stormwater Map Book

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0 100 200 300 Feet

Revision Date________

Revised By________

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Jan 05, 2012

GRID M10

BONNEY Lake

Stormwater Map Book

- Catch Basin
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0 100 200 300 Feet

Revision Date________

Revised By________

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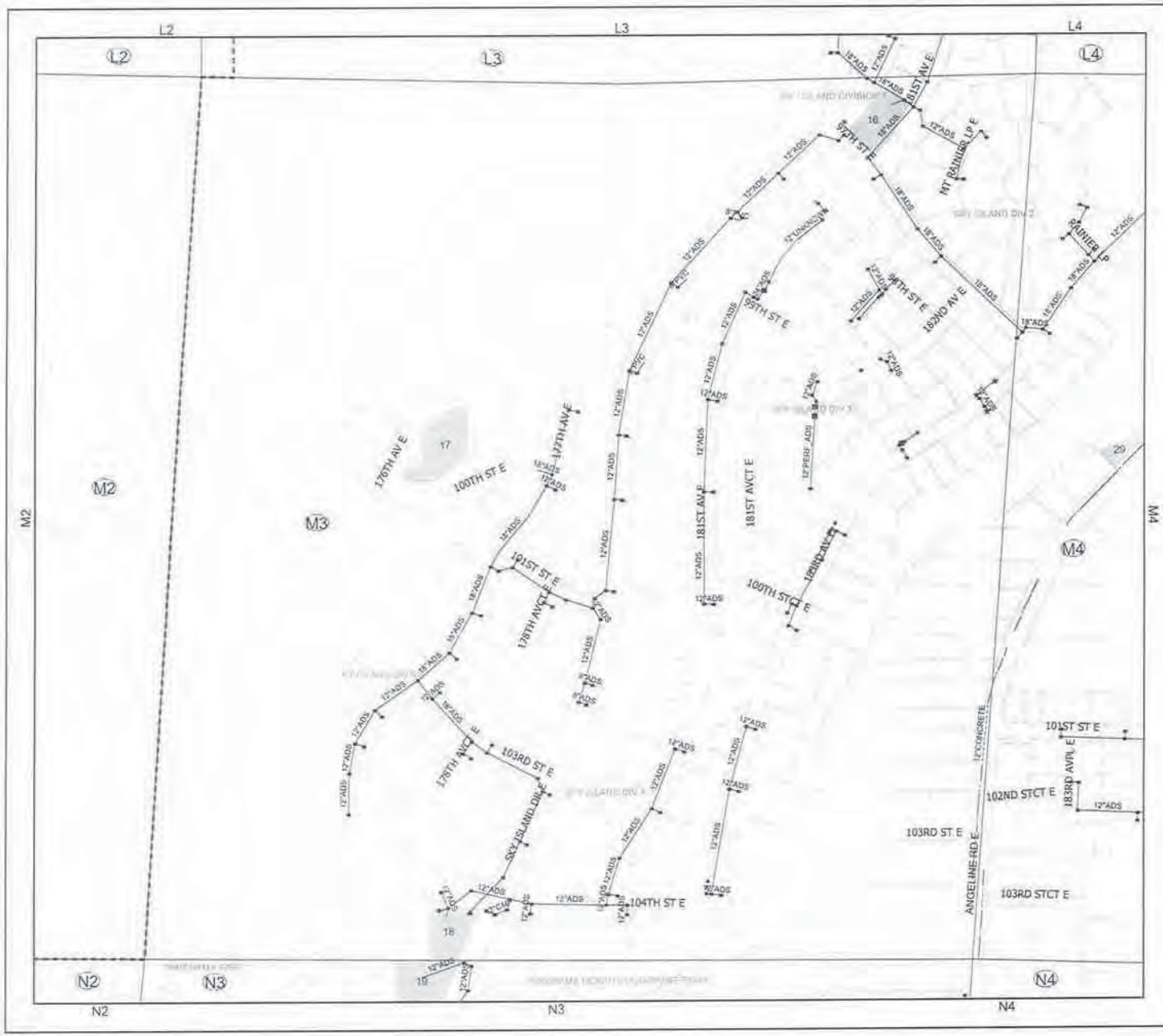
Jan 05, 2012



GRID M3

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
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- City Limits

0 100 200 300 Feet

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Revised By_____

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Jan 05, 2012

GRID M4

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
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- City Limits

0 100 200 300 Feet

Revision Date_____

Revised By_____

Comments_____

Jan 05, 2012

GRID M5

BONNEY Lake

Stormwater Map Book

- Catch Basin
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- Control Structure
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- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

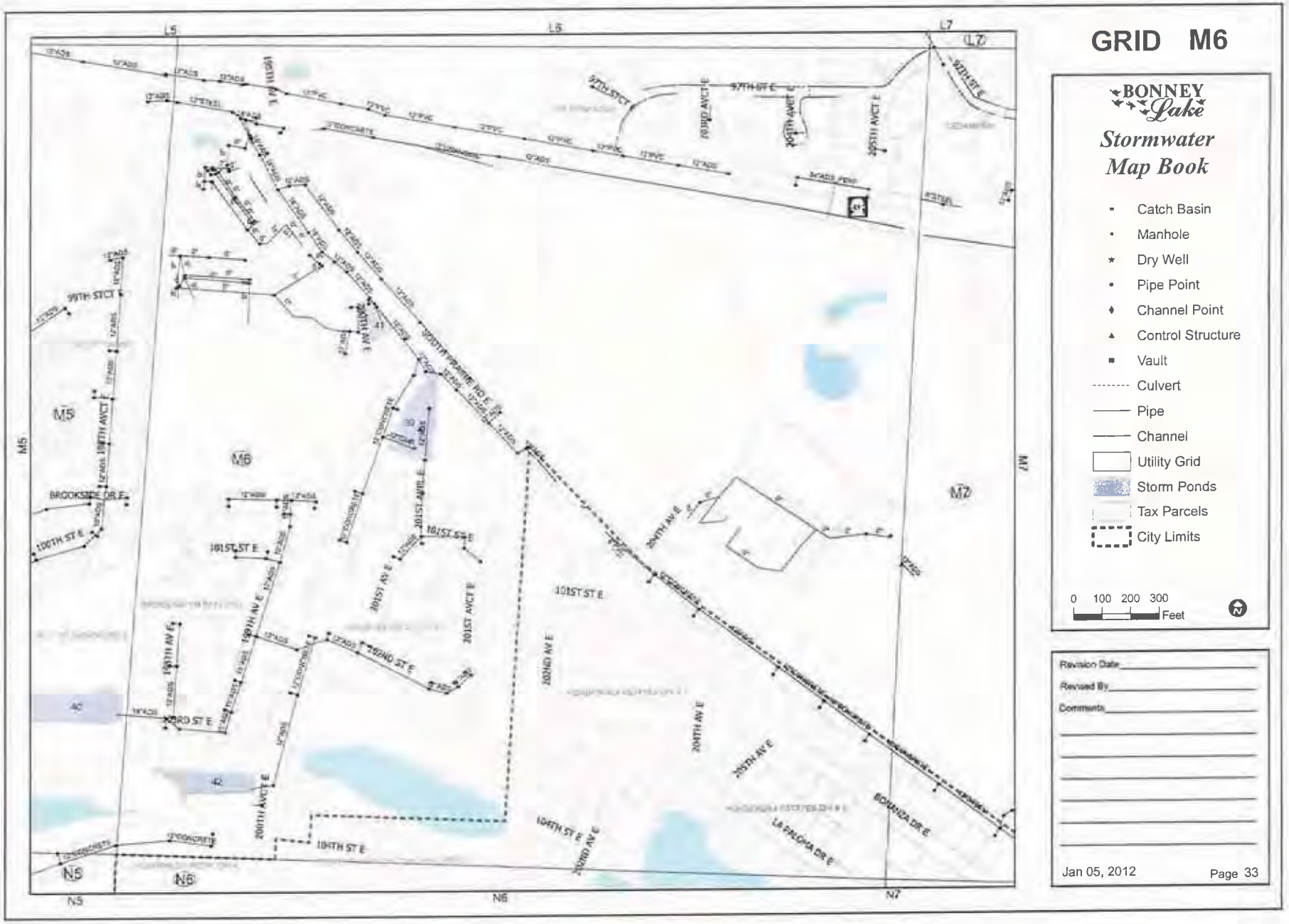
0 100 200 300 Feet

Revision Date__________

Revised By__________

Comments__________

Jan 05, 2012



GRID M6

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

Revision Date_____

Revised By_____

Comments_____

Jan 05, 2012

GRID M7

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

Revision Date_____

Revised By_____

Comments_____

Jan 05, 2012

GRID M8

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
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- Control Structure
- Vault
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- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

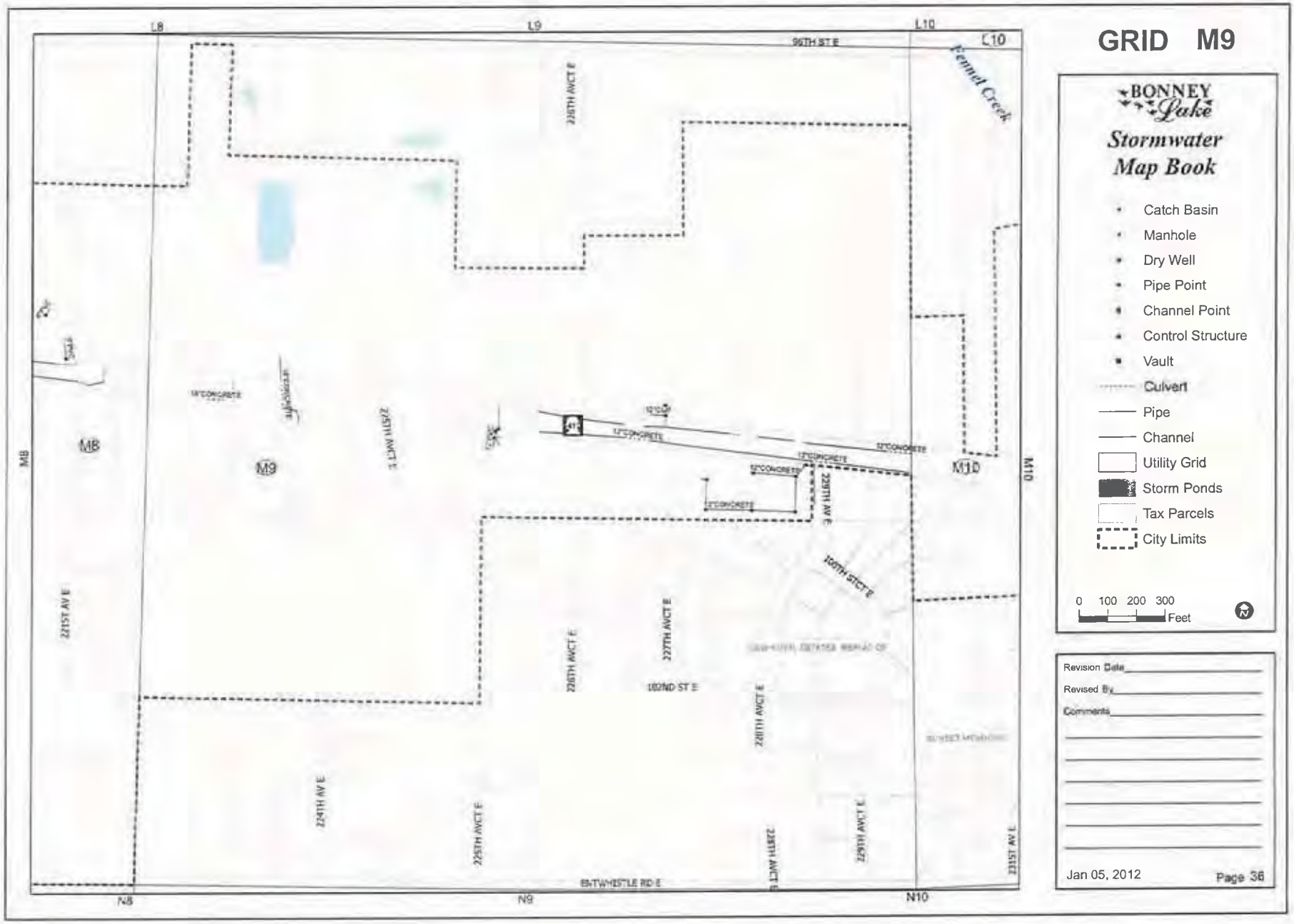
0 100 200 300 Feet

Revision Date:

Revised By:

Comments:

Jan 05, 2012



GRID M9

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
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- Vault
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- Pipe
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- Storm Ponds
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- City Limits

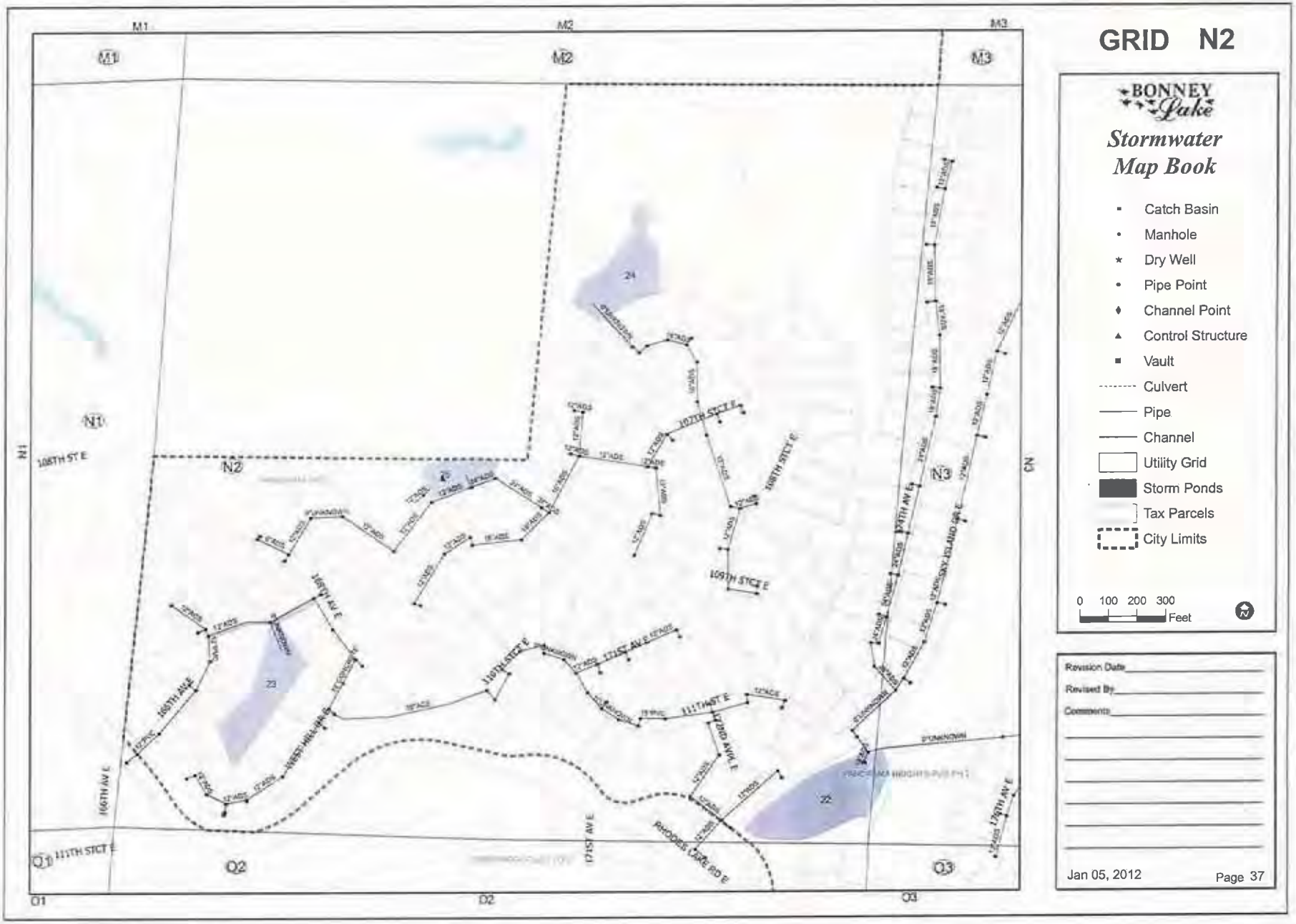
0 100 200 300 Feet

Revision Date_____

Revised By_____

Comments_____

Jan 05, 2012



GRID N2

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
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- Vault
- Culvert
- Pipe
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- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

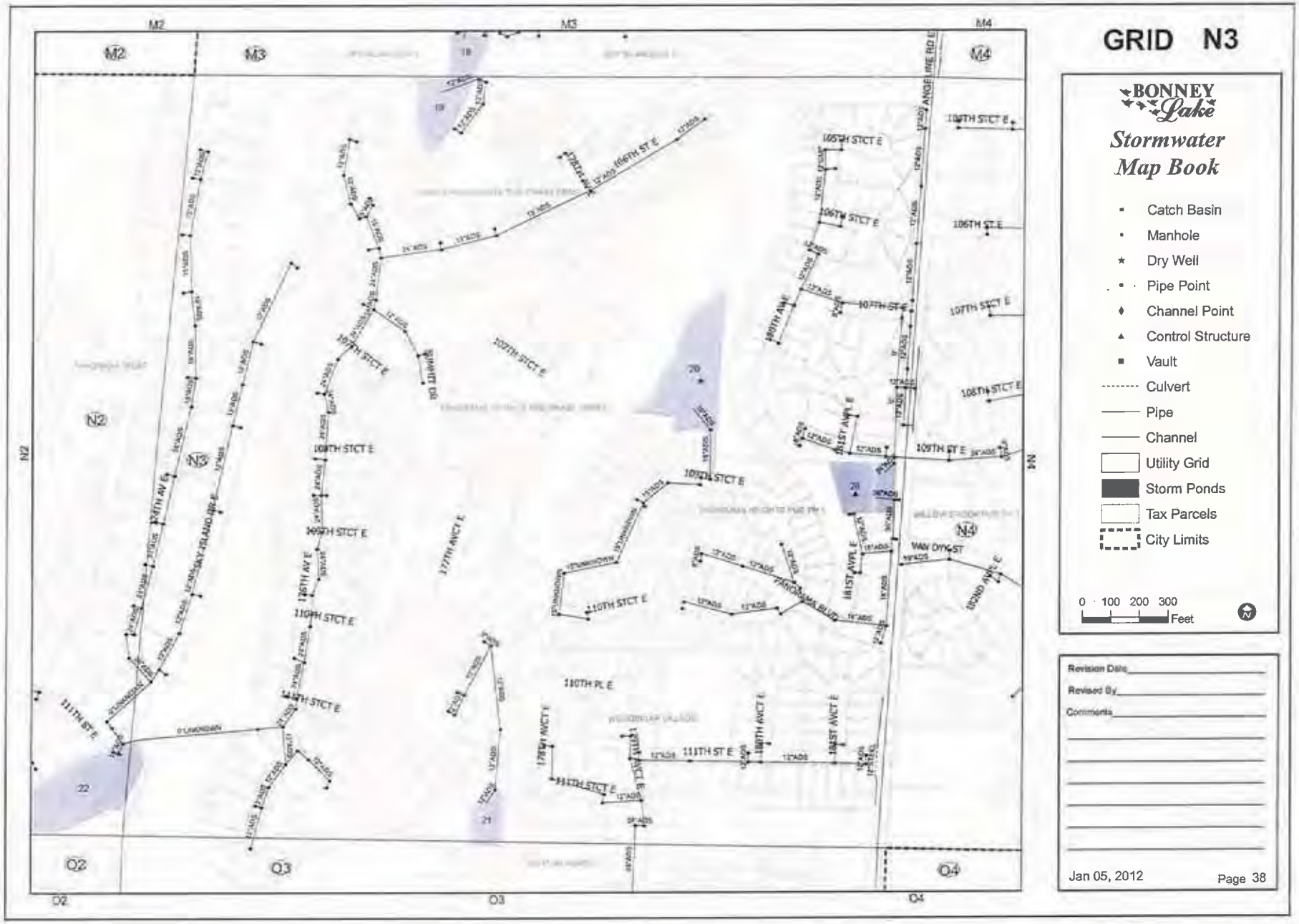
0 100 200 300 Feet

Revision Date_____

Revised By_____

Comments_____

Jan 05, 2012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GRID N4

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
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- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

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Revision Date_____

Revised By_____

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Jan 05, 2012

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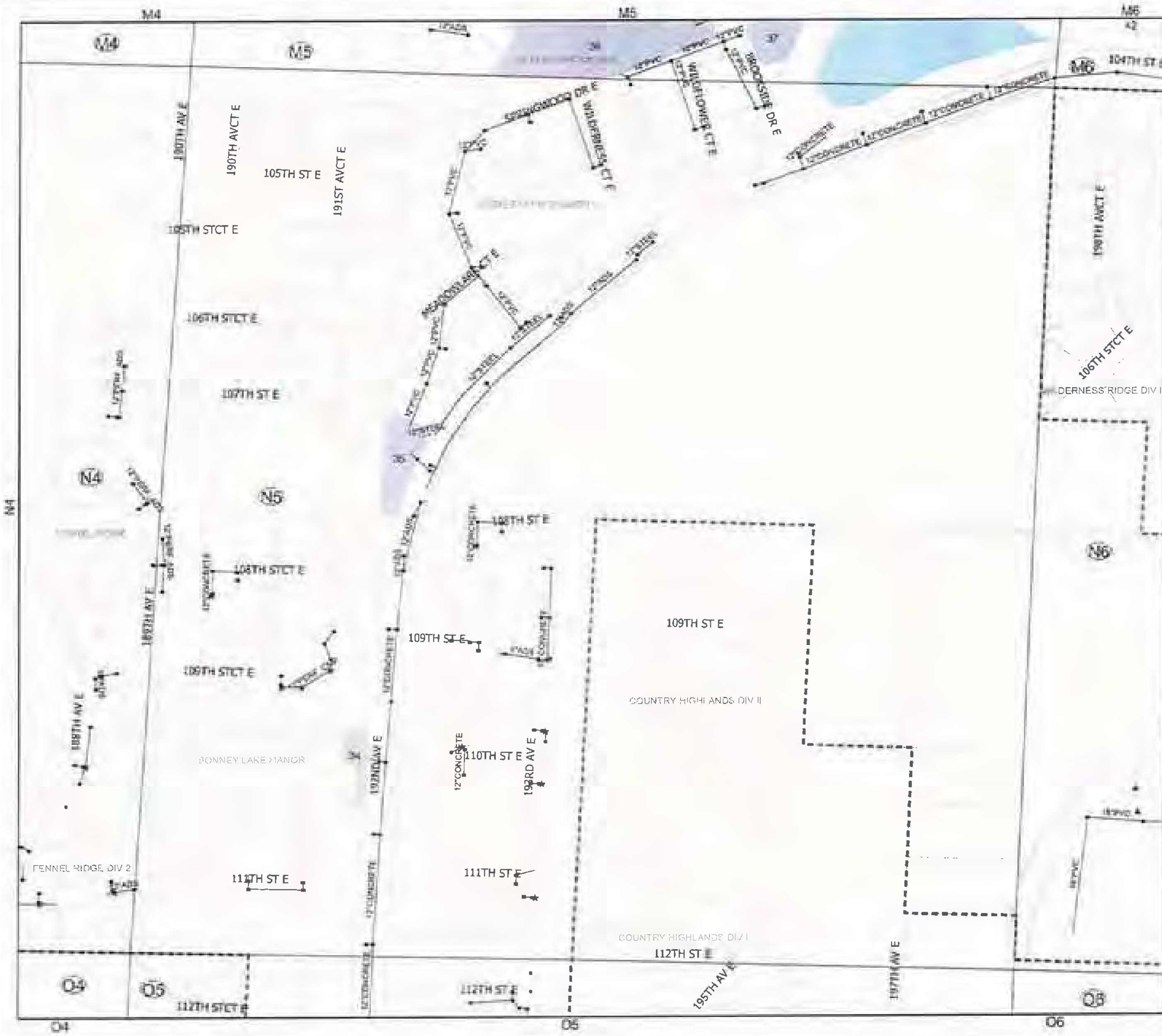

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
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- Vault
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- Pipe
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- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

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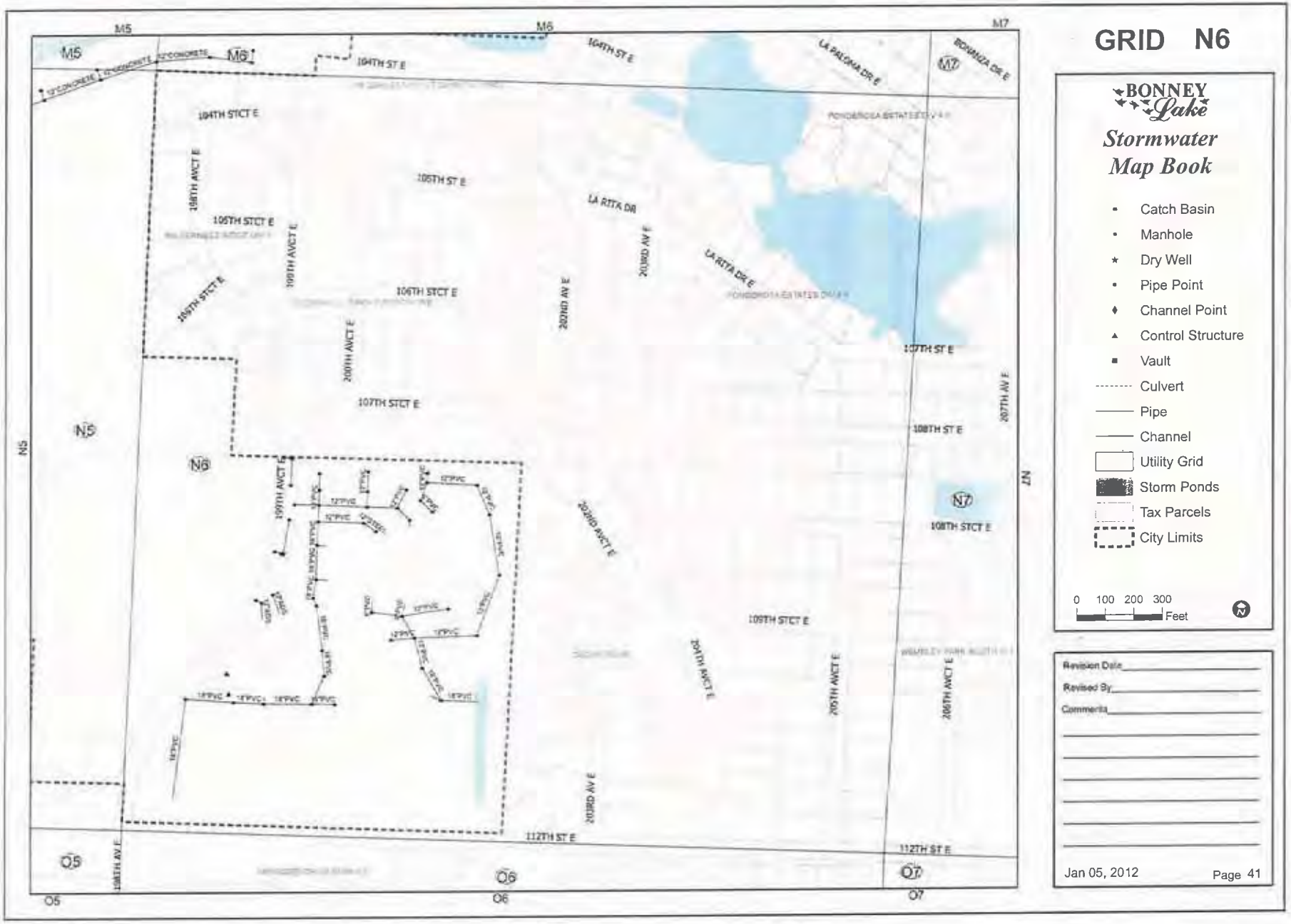
Revision Date ________

Revised By ________

Comments ________

Jan 05, 2012



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BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

Revision Date:

Revised By:

Comments:

Jan 05, 2012


M6
M7
M8
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BONNEY Lake
Stormwater Map Book
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Control Structure
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Feet
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M9
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O9
103RD ST CT E
104TH ST CT E
106TH ST E
107TH ST E
108TH ST CT E
109TH ST E
110TH ST E
112TH ST E
214TH AV E
215TH AV E
215TH AVCT E
216TH AV E
217TH AVCT E
218TH AVCT E
219TH AV E
220TH AV E
221ST AV E
222ND AV E
223RD AV E
SOUTH PRAIRIE RD E
GRAND PRAIRIE
GRID N8
BONNEY Lake
Stormwater Map Book
Catch Basin
Manhole
Dry Well
Pipe Point
Channel Point
Control Structure
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Tax Parcels
City Limits
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GRID O2

BONNEY Lake

Stormwater Map Book

- Catch Basin
- Manhole
- Dry Well
- Pipe Point
- Channel Point
- Control Structure
- Vault
- Culvert
- Pipe
- Channel
- Utility Grid
- Storm Ponds
- Tax Parcels
- City Limits

0 100 200 300 Feet

Revision Date____

Revised By____

Comments____

Jan 05, 2012


GRID O3
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Stormwater Map Book
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Channel Point
Control Structure
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Culvert
Pipe
Channel
Utility Grid
Storm Ponds
Tax Parcels
City Limits
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Fennel Creek
WHISKEY RUN RD E
RHODES LAKE RD E
113TH ST E
113TH ST CT E
114TH ST E
115TH ST E
116TH ST CT E
119TH ST CT E
174TH AV E
175TH AV E
176TH AV E
177TH AV E
178TH AVCT E
179TH AVCT E
180TH AVCT E
AMBERLINE RD E
N2
N3
N4
O2
O3
O4
P2
P3
P4


GRID O4
BONNEY Lake
Stormwater Map Book
Catch Basin
Manhole
Dry Well
Pipe Point
Channel Point
Control Structure
Vault
Culvert
Pipe
Channel
Utility Grid
Storm Ponds
Tax Parcels
City Limits
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N3
N4
N5
O3
O4
O5
P3
P4
P5
113TH ST E
114TH ST E
115TH ST E
117TH ST E
112TH ST E
ANGELINE RD E
188TH AVCT E
191ST AV E
190TH AVCT E
RINDER LAKE RD E
FALLING WATER BLVD E
121ST ST E
Fennel Creek


GRID O5
BONNEY Lake
Stormwater Map Book
Catch Basin
Manhole
Dry Well
Pipe Point
Channel Point
Control Structure
Vault
Culvert
Pipe
Channel
Utility Grid
Storm Ponds
Tax Parcels
City Limits
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N4
N5
N6
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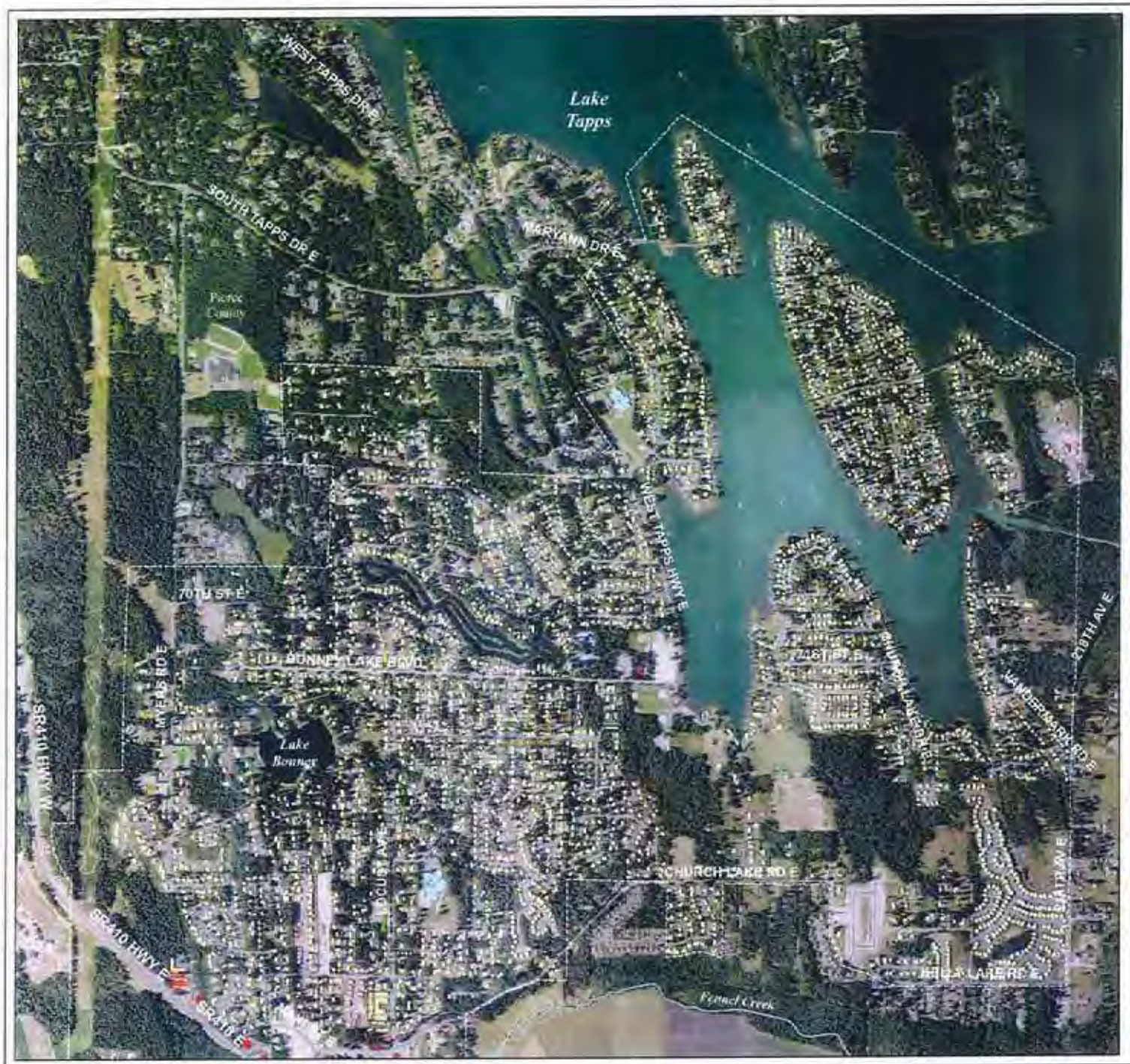
O6
P4
P5
P6
112TH ST E
113TH ST E
114TH ST E
115TH ST E
117TH ST E
120TH ST E
192ND AV E
193RD AV E
194TH AV E
195TH AV E
197TH AV E
198TH AV E
199TH AV E
RHODES LAKE RD E
Rhode Lake

Appendix J
City Land Use / Land Cover Map



BONNEY Lake

City of Bonney Lake

Bonney Lake Land Use

North

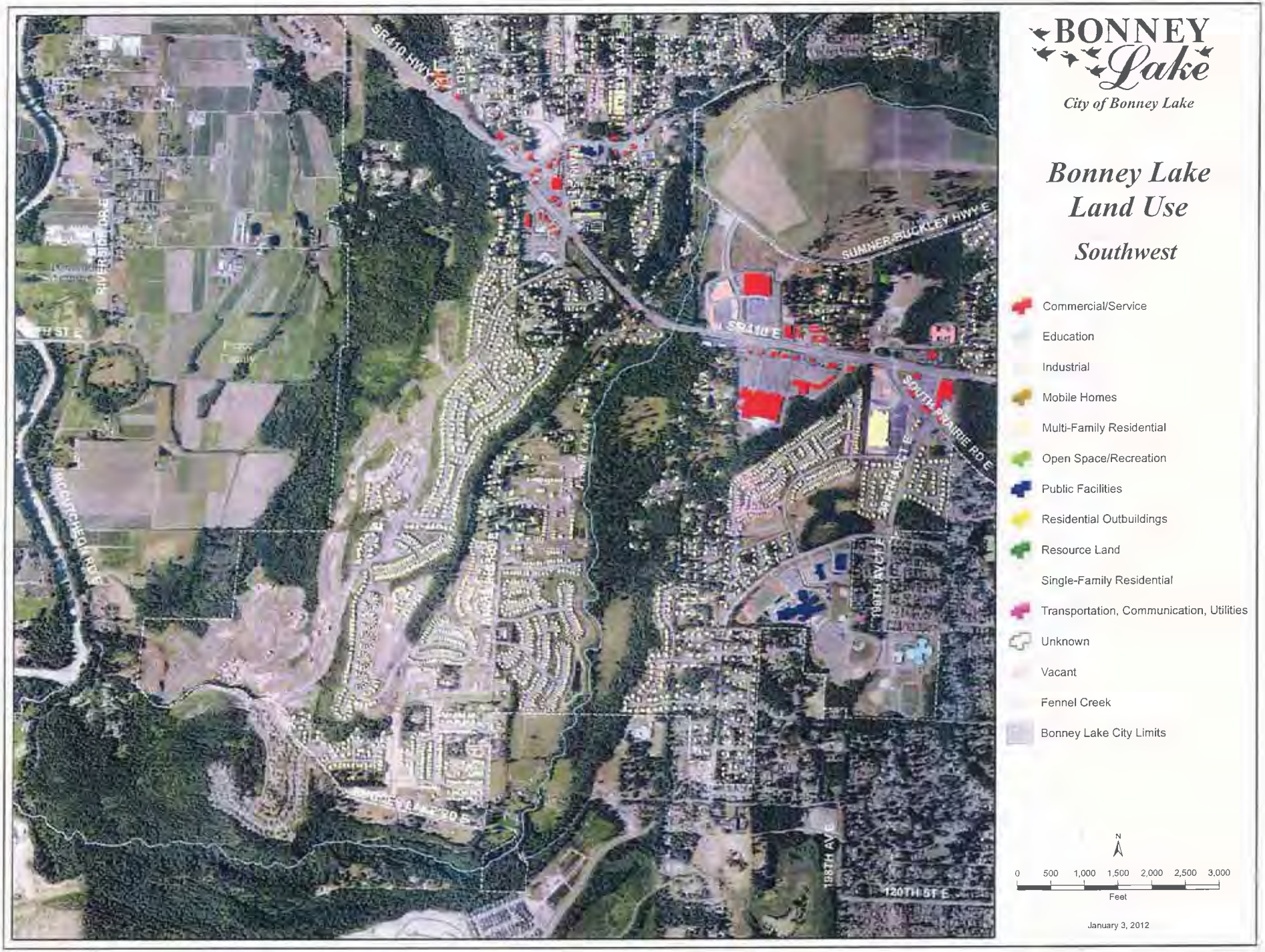
- Commercial/Service
- Education
- Industrial
- Mobile Homes
- Multi-Family Residential
- Open Space/Recreation
- Public Facilities
- Residential Outbuildings
- Resource Land
- Single-Family Residential
- Transportation, Communication, Utilities
- Unknown
- Vacant
- Fennel Creek
- Bonney Lake City Limits

N

0 500 1,000 1,500 2,000 2,500 3,000

Feet

January 3, 2012


BONNEY Lake
City of Bonney Lake
Bonney Lake Land Use
Southwest
Commercial/Service
Education
Industrial
Mobile Homes
Multi-Family Residential
Open Space/Recreation
Public Facilities
Residential Outbuildings
Resource Land
Single-Family Residential
Transportation, Communication, Utilities
Unknown
Vacant
Fennel Creek
Bonney Lake City Limits
SR 410 HWY E
SUMNER-BUCKLEY HWY E
SR 410 E
SOUTH PRAIRIE RD E
198TH AVE E
120TH ST E
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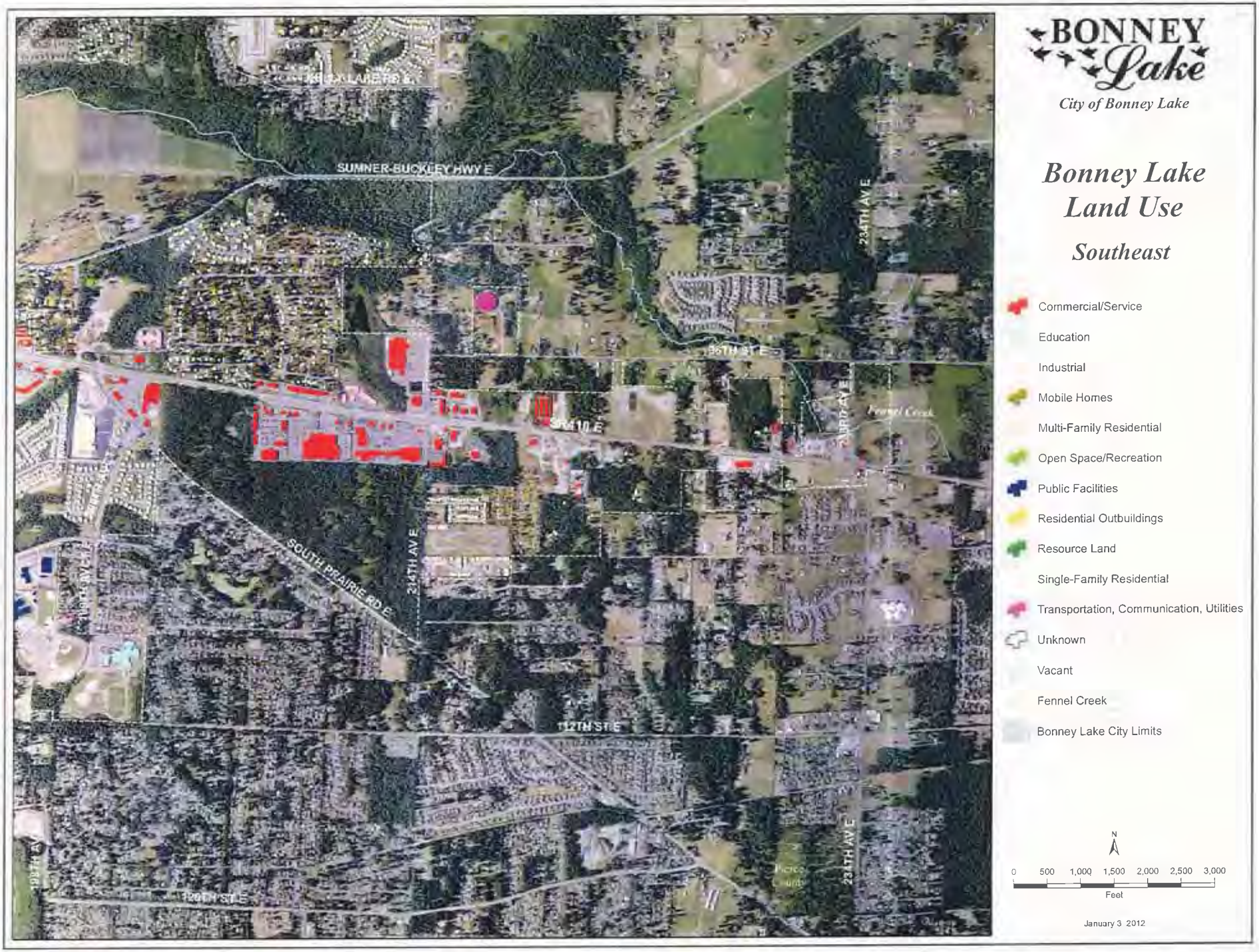
Feet
January 3, 2012


BONNEY Lake
City of Bonney Lake
Bonney Lake
Land Use
Southeast
Commercial/Service
Education
Industrial
Mobile Homes
Multi-Family Residential
Open Space/Recreation
Public Facilities
Residential Outbuildings
Resource Land
Single-Family Residential
Transportation, Communication, Utilities
Unknown
Vacant
Fennel Creek
Bonney Lake City Limits
SUMNER-BUCKLEY HWY E
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SOUTH PRAIRIE RD E
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Appendix K
Ordinance 1330 IDDE

ORDINANCE NO. 1330

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BONNEY LAKE, PIERCE COUNTY, WASHINGTON AMENDING BONNEY LAKE MUNICIPAL CODE CHAPTER 15.13 RELATING TO STORMWATER MANAGEMENT.

WHEREAS, Washington State's Municipal Stormwater General Permit ("Permit") requires cities to adopt regulations to prohibit illicit substances from being discharged into the municipal separate storm sewer system (MS4); and

WHEREAS, the Permit further requires cities to enumerate substances, other than stormwater, that may permissibly be discharged into the MS4; and

WHEREAS, the Permit further requires cities to ensure that the terms they use in their stormwater regulations are defined in the same way as DOE defines those terms; and

WHEREAS, the Permit further requires cities to prohibit illicit connections to the MS4; and

WHEREAS, the Permit further requires cities to provide an administrative scheme for investigations into suspected illegal discharges and connections to the MS4; and

WHEREAS, the Permit further requires cities to adopt a scheme of progressive enforcement and penalties for illicit discharges and connections and other violations of the stormwater Code.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF BONNEY LAKE, PIERCE COUNTY, WASHINGTON DO ORDAIN AS FOLLOWS:

Section 1. Section 15.13.020 of the Bonney Lake Municipal Code, and the corresponding portions of Ordinance No. 702, are hereby amended as follows:

For the purposes of this chapter, the following definitions shall apply:

A. "AKART" means All Known Available and Reasonable methods of prevention, control, and Treatment.

~~A~~B. "Best management practice" or "BMP" means schedules of activities, prohibitions of practices, general good housekeeping practices, pollution prevention and educational practices, maintenance procedures, and structural or managerial practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage. ~~physical, structural, and/or managerial practices that, when used singly or~~

~~in combination, prevent or reduce pollution of water. BMPs are listed and described in the stormwater management manual.~~

C. "Hazardous materials" means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

D. "Hyperchlorinated" means water that contains more than 10mg/Liter chlorine.

E. "Illicit connection" means any human-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the municipal separate storm sewer system.

F. "Municipal separate storm sewer system" (MS4) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

a. Owned and operated by the City of Bonney Lake.

b. Designed or used for collecting or conveying stormwater;

c. Which is not part of a Publicly Owned Treatment Works (POTW). "POTW" means any device or system used in treatment of municipal sewage or industrial wastes of a liquid nature which is publicly owned; and

d. Which is not a combined sewer. "Combined sewer" means a system that collects sanitary sewage and stormwater in a single sewer system.

G. "Non-stormwater discharge"means any discharge to the storm drain system that is not composed entirely of stormwater.

~~B.~~ H. "Person" means any individual, association, organization, partnership, firm, corporation, or other entity recognized by law and acting as either the owner of the premises or an owner's agent. ~~partnership, corporation, association, organization, cooperative, public or municipal corporation, agency of the state, or local government unit, however designated~~.

I. "Pollutant" means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter or any kind.

J. "Premises" means any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalks and parking strips.

~~C.~~ K. "Stormwater" means runoff during and following precipitation or snowmelt events, including surface runoff and drainage. ~~that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels or pipes into a defined surface water channel, or a constructed infiltration facility~~.

~~D.~~ L. "Stormwater drainage systems" means publicly owned facilities, including the city's municipal separate storm sewer system, by which stormwater is collected and/or conveyed ~~constructed and natural features~~ which ~~function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate, divert, treat or filter stormwater,~~ including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets piped storm drains, pumping facilities, retention or detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

~~E.~~ M. "Stormwater facility" means a constructed component of a stormwater drainage system, designed or constructed to perform a particular function, or multiple functions. Stormwater facilities include, but are not limited to, pipes, swales, ditches, culverts, street gutters, detention basins, retention basins, constructed wetlands, infiltration devices, catchbasins, oil/water separators, sediment basins and modular pavement. Stormwater facilities are described in the manual.

~~F.~~ N. Stormwater management manual" or "manual" means the manual adopted by reference and prepared by Pierce County that contains BMPs to prevent or reduce pollution. The stormwater management manual contains BMPs to prevent or reduce pollution and also includes maintenance provisions for all BMPs.

O. "Stormwater pollution prevention plan" means a document which describes the best management practices and activities to be implemented by a person to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

Section 2. Section 15.13.060 of the Bonney Lake Municipal Code and the corresponding portions of Ordinance No. 702 are hereby amended to read as follows:

15.13.060 Maintenance and Inspections ~~program~~.

A. Inspection. Whenever implementing the provisions of ~~the~~ an inspection program or whenever there is cause to believe that a violation of this Chapter has been or is being committed, the inspector is authorized to inspect during regular working hours and at other reasonable times all stormwater drainage systems within the city to determine compliance with the provisions of this chapter. Notwithstanding any other provisions of this Chapter, whenever it appears to the director that unsafe conditions exist causing pollution in the surface water system which can be immediately identified and which requires emergency action to protect the public health or safety, the director is authorized to enter at all reasonable times in or upon any property, public or private, for the purpose of inspecting and investigating such unsafe conditions. When no such emergency exists, the inspector shall endeavor to obtain the permission of the property owner or occupant to enter the private property for purposes of inspection and/or abatement. If permission is not granted, the City may use all legal means to obtain entry.

B. Private property owners responsible for maintenance. Owners of private property for which stormwater facilities or BMPs have been required by the City are responsible for the continued operation, inspection, maintenance, and repair of those facilities, pursuant to the standards set forth in the Manual.

~~B. Procedures. Prior to making any inspections, the inspector shall present identification credentials, state the reason for the inspection and request entry.~~

~~1. If the property or any building or structure on the property is unoccupied, the inspector shall first make a reasonable effort to locate the owner or other person(s) having charge or control of the property or portions of the property and request entry.~~

~~2. If after reasonable effort, the inspector is unable to locate the owner or other person(s) having charge or control of the property, and has reason to believe the condition of the stormwater drainage system creates an imminent hazard to persons or property, the inspector may enter.~~

~~3. Unless entry is consented to by the owner or person(s) in control of the property or portion of the property or unless conditions are reasonably believed to exist which create imminent hazard, the inspector shall obtain a search warrant, prior to entry, as authorized by the laws of the state of Washington.~~

~~4. The inspector may inspect the stormwater drainage system without obtaining a search warrant provided for in subsection (B)(3); provided the inspection can be conducted while remaining on public property or other property on which permission to enter is obtained.~~

~~C. Inspection Schedule. The director shall establish a master inspection and maintenance schedule to inspect appropriate stormwater facilities that are not owned by the city. Inspections shall be annual. Critical stormwater facilities may require a more frequent inspection schedule.~~

~~D. Inspection and Maintenance Records. As existing stormwater facilities are encountered, they shall be added to the master inspection and maintenance schedule. Records of new stormwater facilities shall include the following:~~

~~1. As-built plans and locations;~~

~~2. Findings of fact from any exemption granted by the city, or if annexed, by Pierce County;~~

~~3. Operation and maintenance requirements and records of inspections, maintenance actions and frequencies;~~

~~4. Engineering reports, as appropriate. (Ord. 702 § 6, 1995).~~

Section 4. A new section of the Bonney Lake Municipal Code, BLMC § 15.13.080, is hereby added to read as follows:

Bonney Lake Municipal Code § 15.13.080, Illicit Discharges and connections

A. Prohibited discharges. Prohibition of illegal discharges. No person shall throw, drain, or otherwise discharge, cause or allow others under its control to throw, drain or otherwise discharge into the municipal storm drain system and/or surface and ground waters any materials other than stormwater. Prohibited contaminants include but are not limited to the following:

- Trash or debris.
- Construction materials.

- Petroleum products including but not limited to oil, gasoline, grease, fuel oil and heating oil.
- Antifreeze and other automotive products.
- Metals in either particulate or dissolved form.
- Flammable or explosive materials.
- Radioactive material.
- Batteries.
- Acids, alkalis, or bases.
- Paints, stains, resins, lacquers, or varnishes.
- Degreasers and/or solvents.
- Drain cleaners.
- Pesticides, herbicides, or fertilizers.
- Steam cleaning wastes.
- Soaps, detergents, or ammonia.
- Swimming pool or spa filter backwash.
- Chlorine, bromine, or other disinfectants.
- Heated water.
- Domestic animal wastes.
- Sewage.
- Recreational vehicle waste.
- Animal carcasses.
- Food wastes.
- Bark and other fibrous materials.
- Lawn clippings, leaves, or branches.
- Silt, sediment, concrete, cement or gravel.
- Dyes.
- Chemicals not normally found in uncontaminated water.
- Any other process-associated discharge except as otherwise allowed in this section.
- Any hazardous material or waste not listed above.

B. Allowable discharges. The following types of discharges shall not be considered illegal discharges for the purposes of this chapter unless the director determines that the type of discharge, whether singly or in combination with others, is causing or is likely to cause pollution of surface water or groundwater: diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, water from foundation drains, air conditioning condensation, irrigation water from agricultural sources that is commingled with urban stormwater, water from springs, water from crawl space pumps, water from footing drains, water from flows from riparian habitats and wetlands, discharges from emergency fire fighting activities.

C. Conditional Discharges. The following types of discharges shall not be considered illegal discharges for the purposes of this chapter if they meet the stated conditions, or unless the director determines that the type of discharge,

whether singly or in combination with others, is causing or is likely to cause pollution of surface water or groundwater:

1. Potable water, including water from water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary and in volumes and velocities controlled to prevent re-suspension of sediments in the stormwater system;

2. Lawn watering and other irrigation runoff are permitted but shall be minimized;

3. De-chlorinated swimming pool discharges. These discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary and in volumes and velocities controlled to prevent re-suspension of sediments in the stormwater system;

4. Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents are permitted if the amount of street wash and dust control water used is minimized. At active construction sites, street sweeping must be performed prior to washing the street;

5. Non-stormwater discharges covered by another NPDES permit, provided, that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations; and provided, that written approval has been granted for any discharge to the storm drain system;

6. Other non-stormwater discharges. The discharges shall be in compliance with the requirements of a stormwater pollution prevention plan (SWPPP) reviewed and approved by the city, which addresses control of such discharges by applying AKART to prevent contaminants from entering surface or ground water.

D. Prohibition of Illicit Connections

1. The construction, use, maintenance, or continued existence of illicit connections to the storm drain system is prohibited.

2. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

3. A person is considered to be in violation of this section if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

4. In addition to the enforcement provisions set forth in this chapter, a violation of this section shall constitute a nuisance and shall be subject to abatement.

Section 5. A new section is hereby added to the Bonney Lake Municipal Code, BLMC § 15.13.090, to read as follows:

BLMC § 15.13.090, Enforcement.

A. General. Enforcement action shall be in accordance with this chapter whenever a person has violated any provision of this chapter. The choice of enforcement action and the severity of any penalty shall be based on the nature of the violation, the damage or risk to the public or to public resources, the degree of bad faith of the person subject to the enforcement action, and whether the violation is a first or repeat violation.

B. Stop Work Order. The director shall have the authority to serve a person a stop work order if an action is being undertaken or a condition exists in violation of this chapter or the Stormwater Manual. If a portion of a project is in violation of this chapter or the Stormwater Manual, the director may issue a stop work order for the entire project.

1. Content of Order. The order shall contain:

a. A description of the specific nature, extent, and time of violation and the damage or potential damage; and

b. A notice that the violation or the potential violation must cease and desist, and, in appropriate cases, the specific corrective action to be taken; and

c. A reasonable time to comply, depending on the circumstances; and

d. Penalties that may be incurred for failure to comply.

A Notice of Violation and civil penalty under BLMC 15.13.090(C) may be issued with the order.

1. Posting. The order shall be posted at the subject property and a letter containing the order sent by certified mail, return receipt requested, to the property owner and any other person violating this chapter.

2. Effective Date. The order issued under this section shall become effective immediately upon posting of the stop work order at the work site.

3. Compliance. Failure to comply with the terms of a stop work order shall constitute a misdemeanor, punishable by a maximum of 90 days in jail and a $1,000 fine.

C. Notice of Violation. Any person who violates or fails to comply with the requirements of this chapter or who fails to conform with the terms of an approval or order issued by the Director is subject to a notice of violation to be administered by the Code Enforcement Officer as provided in Chapter 14.130 of the Bonney Lake Municipal Code. Each day of continued violation shall constitute a separate violation for purposes of this penalty, provided, that for a first violation, the Director shall have discretion to request voluntary correction pursuant to BLMC § 14.130.060 in lieu of issuing a Notice of Violation.

D. Aiding or Abetting. Any person who, through an act of commission or omission, aids or abets in the violation shall be considered to have committed a violation for the purposes of the notice of violation.

E. Business License Revocation. In addition to any other penalty imposed, the Director may seek revocation of any business license held by the violator. The Director may request that the City Clerk revoke the violator's business license for any of the following reasons: (a) noncompliance with this chapter, (b) not allowing for inspection of their

stormwater facility, and (c) nonpayment of any fines or inspection fees incurred by the owner of the utility account. The procedures for revocation shall be those described in Chapter 5.08 of the Bonney Lake Municipal Code.

F. In addition to the enforcement mechanisms set forth in this Section, the City may take legal action to abate any violation of this Chapter and bill the costs of abatement to the violator.

Section 6. Each and every provision of this Ordinance shall be deemed severable. In the event that any portion of this Ordinance is determined by final order of a court of competent jurisdiction to be void or unenforceable, such determination shall not affect the validity of the remaining provisions thereof, provided the intent of this Ordinance can still be furthered without the invalid provision.

Section 7. This Ordinance shall be in full force and effect thirty (30) days after publication as required by law.

Passed by the City Council on the 25th day of August, 2009.

_____
Neil Johnson, Mayor

ATTEST:

_____
Harwood T. Edvalson, City Clerk

APPROVED AS TO FORM:

_____
Jim Dionne, City Attorney

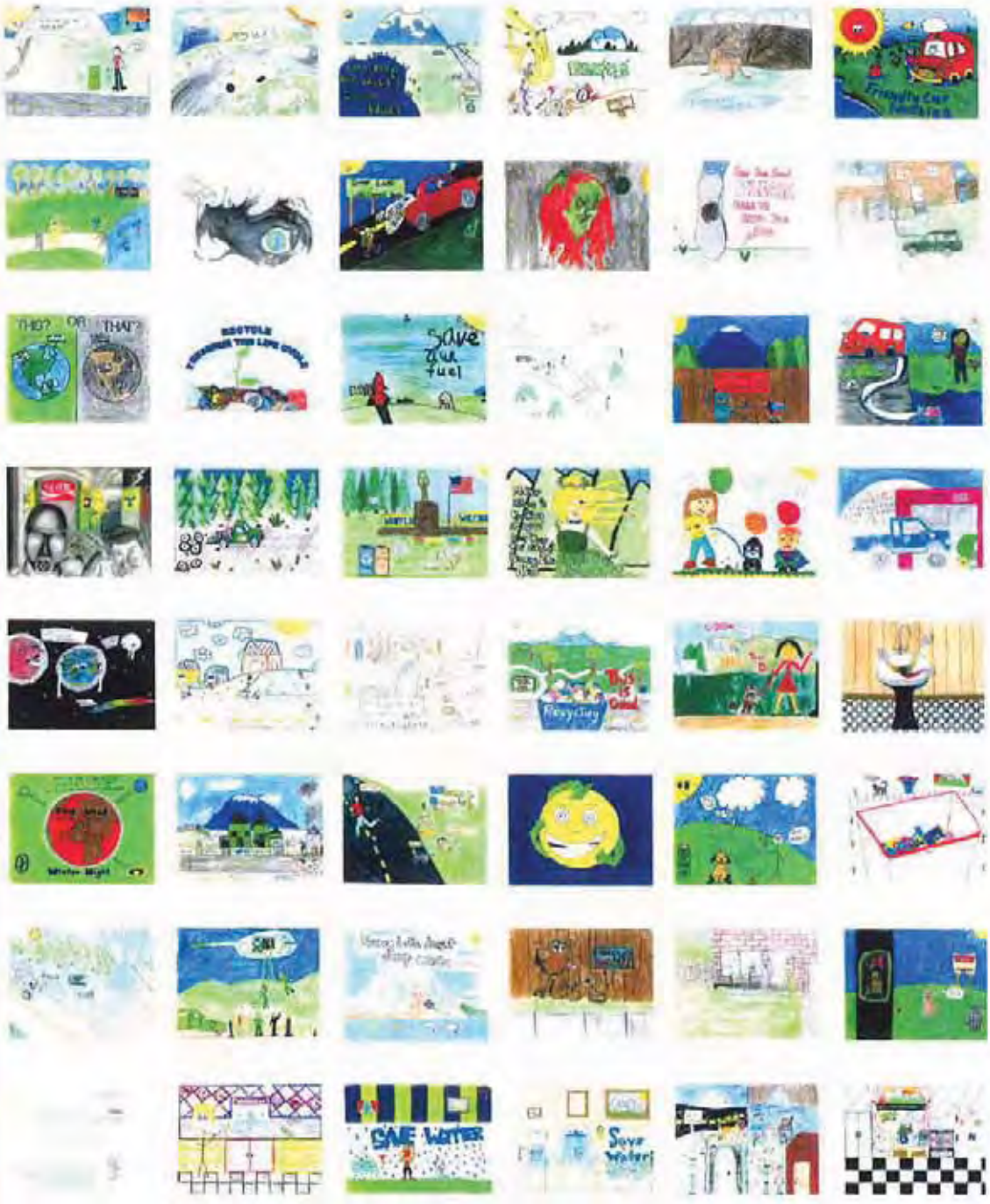
Passed:
Valid:
Published:
Effective Date:

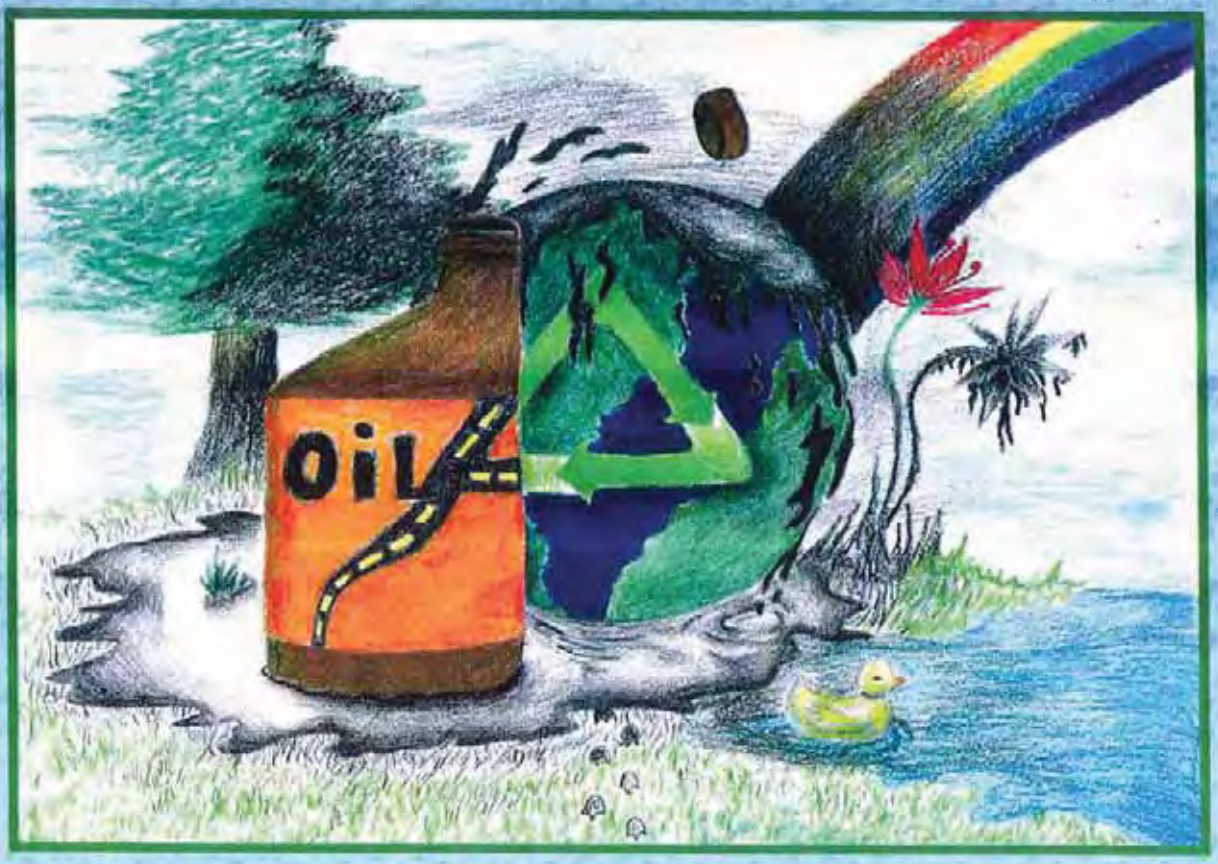
Appendix L
Public Education & Outreach

City of BONNEY Lake

2012

Stormwater Pollution Prevention & Water Conservation Calendar





Used Oil Recycling

Artwork Courtesy of Whuckara Jensen
Bonney Lake High School, Grade 10

Properly recycle used oil at one of the following locations in the Bonney Lake area; Bonney Lake Auto Parts, O'Reilly Auto Parts, Jiffy Lube, Autozone, or South Prairie Transfer Station. Contact the City of Bonney Lake at (253) 447-3270 for more information.

SUN	MON	TUE	WED	THU	FRI	SAT
1 New Year's Day	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16 Martin Luther King Day	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

December 2011

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February 2012

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

January 2012

Water Conservation

Artwork Courtesy of Jacob Bohl
Mountain View Middle School, Grade 8

Conserve water at home - wasted water is wasted money. Pay attention to your water bill and become familiar with your meter (use them to track your water use and to detect leaks). Contact the City of Bonney Lake at (253) 447-3270 for more information.

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2 Groundhog Day	3	4
5	6	7	8	9	10	11
12 Lincoln's Birthday	13	14 Valentine's Day	15	16	17	18
19	20 President's Day	21	22	23	24	25
26	27	28	29			

January 2012

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

March 2012

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February 2012

Friendly Vehicle Washing

Artwork Courtesy of Baylee Littlefield
Mountain View Middle School, Grade 8

Wash your vehicle on a lawn or at a licensed facility. Car wash water contains dirt, road grime, heavy metals, oils, and soaps which are toxic to fish and aquatic life. Contact the City of Bonney Lake at (253) 447-3270 for more information.

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17 Saint Patrick's Day
18	19	20	21	22	23	24
25	26	27	28	29	30	31

February 2012

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

April 2012

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

March 2012

Pet Waste Cleanup

Artwork Courtesy of Megan Body
Mountain View Middle School, Grade 8

Just Doo It; clean up after your pet. Cleaning up after your pet can be as simple as taking plastic bags along with you on your next walk. Use the bag to pick up the waste. Tie bag closed and place in the trash. Contact the City of Bonney Lake at (253) 447-3270 for more information

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8 Easter Day	9	10	11	12	13	14
15	16 Tax Day	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

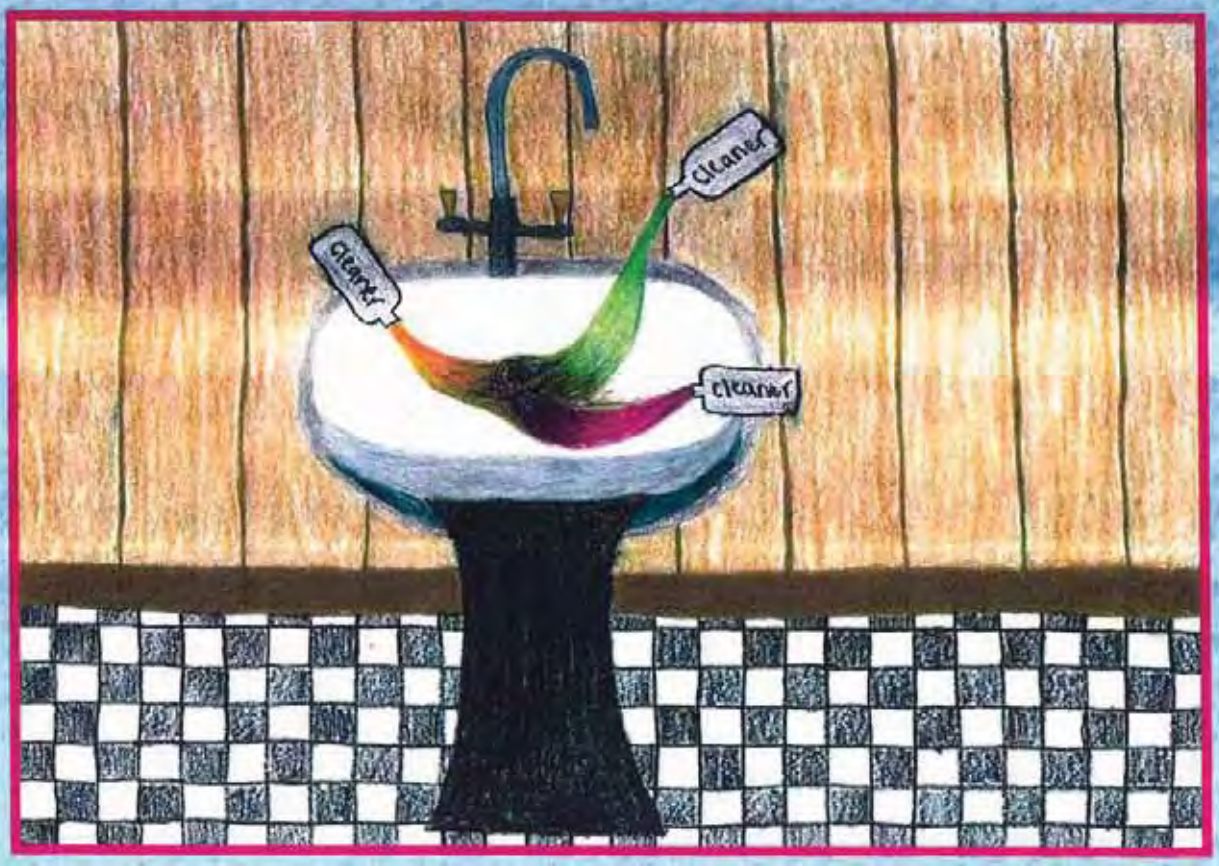
March 2012

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

May 2012

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April 2012



Household Hazardous Waste Disposal

Artwork Courtesy of Breanna Zimbelman
Bonney Lake High School, Grade 11

Properly dispose of household chemicals. Never wash or pour chemicals, cleaners, or solvents into the storm drain. Take hazardous substances to an approved location. Contact the City of Bonney Lake at (253) 447-3270 for more information.

May 2012

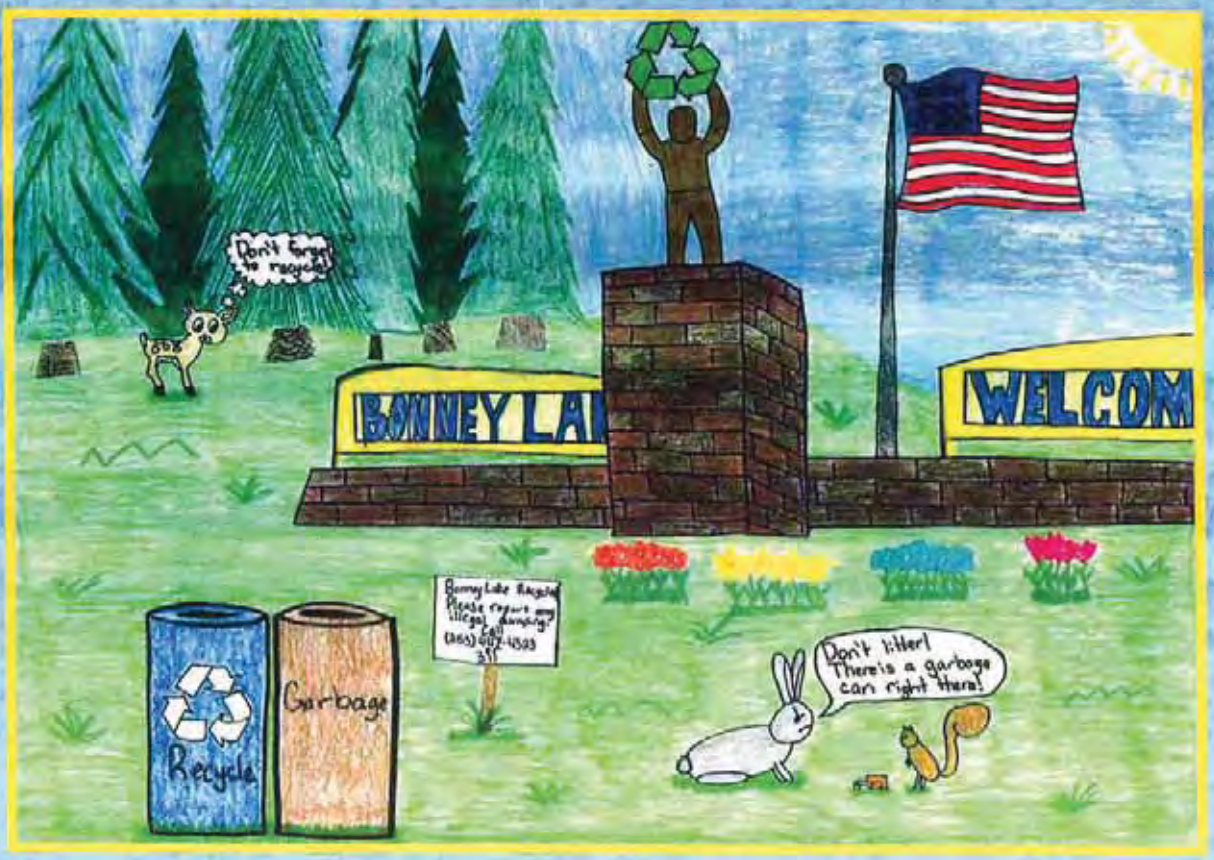
SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13 Mother's Day	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28 Memorial Day	29	30	31		

April 2012

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

June 2012

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30



Pollution Reporting

Artwork Courtesy of Makenna Pope
Mountain View Middle School, Grade 7

Please report pollution. If you notice a spill, call the City of Bonney Lake spill hotline at (253) 447-4320 during business hours or call (253) 841-5538 to report a spill after hours and on weekends.

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14 Flag Day	15	16
17 Father's Day	18	19	20	21	22	23
24	25	26	27	28	29	30

May 2012

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

July 2012

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June 2012

Used Oil Recycling

Artwork Courtesy of Emma Sulkosky
Mountain View Middle School, Grade 6

Properly recycle used oil at one of the following locations in the Bonney Lake area; Bonney Lake Auto Parts, O'Reilly Auto Parts, Jiffy Lube, Autozone, or South Prairie Transfer Station. Contact the City of Bonney Lake at (253) 447-3270 for more information.

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4 Independence Day	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June 2012

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

August 2012

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

July 2012

Water Conservation

Artwork Courtesy of Tristan Glivar
Mountain View Middle School, Grade 6

Conserve water at home - wasted water is wasted money. Pay attention to your water bill and become familiar with your meter (use them to track your water use and to detect leaks). Contact the City of Bonney Lake at (253) 447-3270 for more information.

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

July 2012

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

September 2012

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

August 2012

Friendly Vehicle Washing

Artwork Courtesy of Natalie Gleason
Mountain View Middle School, Grade 6

Wash your vehicle on a lawn or at a licensed facility. Car wash water contains dirt, road grime, heavy metals, oils, and soaps which are toxic to fish and aquatic life. Contact the City of Bonney Lake at (253) 447-3270 for more information.

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3 Labor Day	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23 30	24	25	26	27	28	29

August 2012

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

October 2012

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

September 2012

Pet Waste Cleanup

Artwork Courtesy of Zach Lewandowski
Mountain View Middle School, Grade 8

Just Doo It; clean up after your pet. Cleaning up after your pet can be as simple as taking plastic bags along with you on your next walk. Use the bag to pick up the waste. Tie bag closed and place in the trash. Contact the City of Bonney Lake at (253) 447-3270 for more information.

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8 Columbus Day	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31 Halloween			

September 2012

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

November 2012

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October 2012

Household Hazardous Waste Disposal

Artwork Courtesy of Julia Medrano
Mountain View Middle School, Grade 6

Properly dispose of household chemicals. Never wash or pour chemicals, cleaners, or solvents into the storm drain. Take hazardous substances to an approved location. Contact the City of Bonney Lake at (253) 447-3270 for more information.

November 2012

SUN	MON	TUE	WED	THU	FRI	SAT
				1	2	3
4	5	6 Election Day	7	8	9	10
11 Veteran's Day	12	13	14	15	16	17
18	19	20	21	22 Thanksgiving Day	23	24
25	26	27	28	29	30	

October 2012

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

December 2012

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Pollution Reporting

Artwork Courtesy of Anna Gomez
Mountain View Middle School, Grade 8

Please report pollution. If you notice a spill, call the City of Bonney Lake spill hotline at (253) 447-4320 during business hours or call (253) 841-5538 to report a spill after hours and on weekends.

SUN	MON	TUE	WED	THU	FRI	SAT
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24 Christmas Eve	25 Christmas Day	26	27	28	29
30	31 New Year's Eve					

November 2012

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

January 2013

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

December 2012

Special Thanks To The Following Art Teachers For Their Continued Support Of The Stormwater Pollution Prevention & Water Conservation Art Contest

Melissa Deckman
Bonney Lake H.S.
Grades 9 - 12

Jessica Emery
Mountain View M.S.
Grades 6 - 8

City of BONNEY Lake

Good Practices For the Residence

Our actions within our watersheds have a direct impact on our lakes, streams, and wetlands. These Best Management Practices help conserve water and prevent pollution from going down the storm drain and into our water bodies.

Properly dispose of household chemicals. Never wash or pour chemicals, cleaners, or solvents into the storm drain. Take hazardous substances to an approved location. Two approved locations include Hidden Valley Transfer Station Hazardous Waste Facility located at 17925 Meridian Street East, Puyallup WA (253) 847-7555 and Tacoma Hazardous Waste Facility located at 3510 South Mullen, Tacoma WA (253) 591-5543. There is no fee to dispose of household hazardous waste at the Hidden Valley Transfer Station Hazardous Waste Facility and Tacoma Landfill Hazardous Waste Facility, but you must show proof of Pierce County residency (driver's license).

Properly recycle used oil at one of the following locations in the Bonney Lake area; Bonney Lake Auto Parts (253) 863-0466, Schuck's Auto Supply (253) 891-8856, Jiffy Lube (253) 891-2494, or South Prairie Transfer Station (253) 862-1704. Jiffy Lube and Schuck's accept up to 5 gallons. Tacoma Landfill and transfer station sites accept larger volumes. Most sites are self-serve and you will empty your own container into the tank. Use 5 gallon or smaller oil containers (No drums or barrels). Puncture used oil filters and let the oil drain out for at least 24 hours. Then place the oil filter in the garbage. Never mix oil with any other substance. Use dry methods for drip and spill cleanup (For example, absorb spills with cat litter and sweep it up). Don't hose down driveways.

Just Doo It; clean up after your pet. Cleaning up after your pet can be as simple as taking plastic bags along with you on your next walk. Then choose one of the following disposal options; When Walking - Bag It! Bring plastic bags with you when you walk your dog. Use a bag to pick up the pet waste. Tie bag closed and place in the trash. Options at Home; Trash It - Double bag dog waste or kitty litter, tie securely and place in garbage. Flush It - Flush dog and cat waste down the toilet if you are on a sewer system (not on a septic system). Kitty litter should not be flushed because it can clog your toilet. Bury It - Dig a hole in your yard at least one foot deep and 100 feet from any well, ditch, stream, or lake. Cover pet waste with plenty of soil.

Conserve water at home - wasted water is wasted money. Water your lawn only when it needs it. If you leave footprints on the grass, it is usually time to water. Apply as little fertilizer to your lawn as possible and always sweep up excess fertilizer from the street, sidewalk, and driveway. Applying excess fertilizer increases water consumption and creates more mowing. Use iron-based fertilizers to simply "green-up" your lawn instead. Pay attention to your water bill and become familiar with your water meter - use them to track your water use and to detect leaks. Try to keep showers under 5 minutes and switch to an ultra low-flow showerhead. Turn faucets off while shaving, lathering hands, and brushing teeth. In the kitchen, let pots and pans soak instead of letting the water run while you clean them. Thaw foods in the refrigerator or in a bowl of water instead of using running water.

Wash your vehicle on a lawn or at a licensed facility. Car wash water contains dirt, road grime, heavy metals, oils, and soaps which are toxic to fish and aquatic life. Sending soap runoff down the driveway and into a storm drain is not only harmful to the environment, it is a violation of state, local, and federal laws. Use a broom to sweep up debris instead of hosing off or pressure washing your driveway. Not only is the sediment harmful, but there can also be residue from vehicles on the driveway. Use kitty litter, sawdust, or commercial absorbent pads to dry up any spilled oils or hazardous liquids, then sweep it up and place it in the garbage. Don't wash it into the street or storm drain. Inspect your vehicle and driveway for leaks and repair all leaks as soon as they are discovered.

Please report pollution. It is illegal to dump oils, hazardous wastes, and other materials. If you notice a spill, call the City of Bonney Lake Spill Hotline at (253) 447-4320 or Bonney Lake 311 during business hours or call (253) 841-5538 to report a spill after hours and on weekends. Pick up litter and clean up any trash to reduce the chance of litter or contaminants entering the stormwater system. Share the importance of adopting water conservation and stormwater pollution prevention practices with your neighbors.

STORMWATER POLLUTION PREVENTION
BONNEY LAKE

Clean Waters Start Here

City of BONNEY Lake

Good Cleaning Practices For the Restaurant Industry

Our actions within our watersheds have a direct impact on our lakes, streams, and wetlands. These Best Management Practices help prevent pollution from going down the storm drain and into our water bodies.

Pour wash water into a utility sink or curbed cleaning facility with a floor drain. Don't pour it out onto a parking lot, alley, sidewalk, or street.

실용적인 수채로 세탁물 또는 지면 하수구를 가진 재갈을 물린 청소 시설을 따르십시오. 주차장, 골목, 보도, 또는 거리에 그것을 밖으로 따르지 말라.

Vierta el agua de colada en un fregadero para uso general o la facilidad de limpieza contenida con un dren del piso. No lo vierta hacia fuera sobre una porción, un callejón, una acera, o una calle del estacionamiento.

Use dry methods for spill cleanup (For example, absorb spills with cat litter and sweep it up). Don't hose down spills.

유출 대청소를 위해 건조한 방법을 사용하십시오 (예를 들면, 고양이 배설용상자를 가진 유출을 흡수하고 그것을 위로 공중 소탕하십시오). 유출한다 아래로 물을 뿌리지 말라.

Utilice los métodos secos para la limpieza del derramamiento (por ejemplo, absorba los derramamientos con la litera del gato y bárralos para arriba). No riegue abajo de derramamientos.

Clean floor mats, filters, and garbage cans in a utility sink or curbed cleaning facility with a floor drain. Don't wash them in a parking lot, alley, sidewalk, or street.

지면 하수구로 실용적인 수채 재갈을 물린 청소 시설에 있는 지면 매트, 여과기 및 쓰레기통을 청소하십시오. 주차장, 골목, 보도, 또는 거리에서 그들을 세척하지 말라.

Limpie las esteras del piso, los filtros, y las latas de la basura en un fregadero para uso general o una facilidad de limpieza contenida con un dren del piso. No los lave en una porción, un callejón, una acera, o una calle del estacionamiento.

Recycle grease and oil. Don't pour it into sinks, floor drains, or onto a parking lot or street.

윤활제와 기름을 재생하십시오. 수채, 지면 하수구로, 또는 주차장 또는 거리에 그것을 따르지 말라.

Recicle la grasa y el aceite. No lo vierta en los fregaderos, Drenes del piso, o sobre una porción o una calle del estacionamiento.

Keep waste container area clean and lid closed. Don't fill it with liquid waste or hose it out.

청결했던 보유 폐기물 콘테이너 지역과 뚜껑은 닫혔다. 그것을 액체 폐기물로 채우지 않거나 밖으로 물을 뿌리지 말라.

Mantenga el área del recipiente para residuos limpia y la tapa cerrada. No lo llene de la basura líquida ni riegúelo hacia fuera.

Clean Waters Start Here

To Report a Spill Call (253) 447-4320 or Bonney Lake 311

or (253) 841-5538 (After Hours & Weekends)

Artwork courtesy of Environmental Services, City of Portland, Oregon

STORMWATER POLLUTION PREVENTION BONNEY LAKE

City of BONNEY Lake

Good Cleaning Practices For the Auto Industry

Our actions within our watersheds have a direct impact on our lakes, streams, and wetlands. These Best Management Practices help prevent pollution from going down the storm drain and into our water bodies.

Cleaning Up & Preventing Spills & Leaks

Use drip pans and ground cloths under vehicles. Drain and recycle fluids from wrecked or leaking vehicles as soon as possible. Label all hazardous materials clearly. Train employees on spill prevention and response procedures. Maintain a fully stocked spill kit near any cleaning agents or hazardous materials.

Metal Grinding & Polishing

Keep a bin under your lathe or grinder to capture metal filings. Send uncontaminated filings to a scrap metal recycler for reclamation. When using a spray gun or sand blaster, work inside, not outdoors.

Cleaning Auto Parts

Scrape parts with a wire brush or use a bake oven rather than liquid cleaners. Arrange drip pans, drying racks, and drain boards so that fluids are directed back into the sink or the fluid holding tank. Recycle used solutions through a licensed hazardous waste hauler.

Prevent Wash Water from Entering Storm Drains

Use a commercial car wash facility for cleaning vehicles. Allowing car wash runoff to flow into the storm drain is illegal. Prevent mop water from going into parking lots, alleys, sidewalks, and streets.

Operate a Clean, Dry Shop & Dumpster Area

Sweep, mop, or vacuum instead of hosing down garage floors or outdoor work areas. Keep dumpster areas clean and the lids closed. Do not fill dumpster areas with liquid waste or hose them out.

Dispose of Hazardous Waste Properly

Recycle oil, paint, oil filters, and antifreeze. Never mix hazardous wastes and label all hazardous materials clearly. Contact a licensed hazardous waste hauler to dispose of saturated absorbents.

Protect Outdoor Work & Storage Areas

Cover equipment, materials, and work/storage areas. Place bulk fluids in secondary containment. All hazardous materials and hazardous waste must be stored where they are protected from rain.

STORMWATER POLLUTION PREVENTION
BONNEY LAKE

Clean Water Starts Here

To Report a Spill Call (253) 447-4320 or Bonney Lake 311 or (253) 841-5538 (After Hours & Weekends)

The City of Bonney Lake gratefully acknowledges the City of Los Angeles for the use of their artwork

R A I N G A R D E N S

You can make an important contribution to reduce the amount of stormwater and pollutants coming from your property by incorporating rain gardens into your yard.

Native Soil and Forests

of Western Washington store, filter, and slowly release cool, clean water to streams, wetlands, and the largest estuary on the west coast—Puget Sound. The rich diversity of life in marine and fresh water, as well as on land, depends on clean water to thrive.

As the region grows, native forests and soils are replaced with roads, rooftops and other hard surfaces. When it rains or snows, more water flows from these surfaces than undisturbed areas, carrying oil, fertilizers, pesticides, sediment and other pollutants downstream. In fact, much of the pollution in streams, wetlands and Puget Sound now comes from stormwater (water flowing off developed areas). The added volume of water and associated contaminants from developed land are damaging water resources and harming aquatic life in western Washington.

WHAT IS A RAIN GARDEN?

A rain garden acts like a native forest by collecting, absorbing, and filtering stormwater runoff from roof tops, driveways, patios, and other areas that don't allow water to soak in. Rain gardens are designed as shallow depressions that:

- Can be shaped and sized to fit your yard.
- Are constructed with soil mixes that allow water to soak in rapidly and support healthy plant growth.
- Can be landscaped with a variety of plants to fit the surroundings.

Rain gardens are one of the most versatile and effective tools in a new approach to managing stormwater called low impact development (LID). An LID project may incorporate several tools to soak up rain water, reduce stormwater runoff, and filter pollutants. Some examples of these tools include permeable paving, compost-amended soils, vegetated roofs, rainwater collection systems and rain gardens.

Rain gardens provide multiple benefits, including:

Filter oil and grease from driveways, pesticides and fertilizers from lawns, and other pollutants before they reach the storm drain and eventually streams, wetlands, lakes and marine waters.

Reduce flooding on neighboring property, overflow in sewers, and erosion in streams by absorbing water from impervious surfaces.

Provide habitat for beneficial insects and birds.

Increase the amount of water that soaks into the ground to recharge local groundwater.

Anatomy of a rain garden

Common Problems with Shoreline Landscapes

The most common shoreline landscape is a wide lawn with exotic ornamental plants leading to a bulkhead. Here are some problems and potential solutions to this type of landscape:

Bulkheads

Problem: A bulkhead is not the best or only way to prevent erosion. Bulkheads create unnatural drop-offs that can be dangerous, especially to children and the elderly. They also interrupt natural shoreline vegetation and nutrient flow.

Solution: Planting and maintaining natural vegetation instead of constructing a bulkhead will control soil erosion and run-off, provide a more gradual transition from yard to lake, help beautify your lake and enhance wildlife habitat.

Excess Nutrients

Problem: Wide-spread use of lawn and garden fertilizers on shoreline properties can cause nutrients to build up in the water. Rain and watering can wash fertilizers out of your yard and garden and into the lake. Fertilizer buildup in the water results in rapid aquatic plant growth and algal blooms, which hamper swimming and boating activities and kill fish. Careless discarding of lawn clippings and yard debris near the lake will also cause excess nutrients to pollute the water.

Solution: Leave some native vegetation along your shoreline. If native vegetation is gone, reduce the size of your lawn by replanting native species of trees, shrubs and ground cover. Native plants require fewer pesticides and fertilizers and, once established, need less water than exotic, ornamental varieties. Create buffer areas with native plants to act as a natural filter system, trapping nutrients from stormwater run-off before they enter the lake. Dispose of lawn clippings and yard debris or start compost piles well away from the lake or nearby streams and wetlands.

Excess Toxins

Problem: Pesticides and herbicides commonly used around homes and gardens can cause serious damage to fish, wildlife and people when they get in the lake water. They may be blown directly into the lake when applied on a windy day or washed off plants and soil by rain or watering. Improper storage and disposal of these chemicals also can pollute the lake.

Solution: Always read the labels carefully and avoid using pesticides and herbicides whenever possible, especially on windy days. Use pesticides only when you actually see a pest. Dispose of unused pesticides at an approved location. Two approved locations include Hidden Valley Transfer Station Hazardous Waste Facility (253) 847-7555 and Tacoma Hazardous Waste Facility (253) 591-5543.

Canada Geese

Problem: Lake-side lawns encourage nuisance populations of Canada geese, who like to feed in short grassy areas. Bird feces on docks and lawns can contribute harmful nutrients to the lake water, in addition to being unsightly, unsanitary and unsafe.

Solution: Replace the portion of the lawn next to the lake with a six to eight foot wide buffer zone of low growing plants. Consider placing a path through the buffer zone for access to a dock or gravel beach. Many plants are suitable for this area of wet soil, including salal, ajuga, mountain cranberry, bearberry cotoneaster, and creeping bramble. For the gardening enthusiast, the buffer zone is an ideal area for a perennial flower or herb garden or a bed of wildflowers.

This information is provided in cooperation with Washington State Lake Protection Association (WALPA)

Blueprint For A Lake Friendly Landscape

BONNEY Lake

Lake Friendly Landscaping

Shoreline landscaping can have a major impact on swimming, boating and fishing in your lake. Why? Because toxins from run-off, pesticides, and fertilizers can lower water quality, trigger algal blooms, kill fish, and cause excess weed growth. "Lake friendly" landscaping reduces the need for pesticides and fertilizers, helps filter harmful contaminants out of run-off before they pollute your lake, and helps control erosion.

Lake-Friendly Landscape Plan

Shown to the right is a sample landscape plan that protects water quality and encourages native plants, fish and wildlife close to shore. Remember that encouraging shoreline habitat doesn't mean building a barrier of native vegetation between your home and the lake. A balanced approach to waterfront landscaping retains natural habitat and reduces pollution and erosion, while also meeting your aesthetic and access needs.

In the example on this brochure, two neighbors have worked together to create native plant zones. The following are descriptions and some recommended plants for each zone.

Riparian Zone

This zone extends about two feet up the bank from the edge of the lake. Fluctuating water levels and the wave action from boats and wind impact this zone. Plants located here must tolerate wet soils for long periods and have deep root systems to minimize erosion. To ensure an unobstructed view, low growing plants are best in this zone. Examples of plant varieties suitable for this zone are: lady fern, sedges (many species), and blue flag iris.

Lower Bank

This two to ten foot wide zone is adjacent to the riparian zone. The soil here tends to be moist but not wet. Your plan for this zone should include at least three shrubs (such as red osier dogwood, red elderberry, and evergreen huckleberry), and two ground cover varieties (such as lady fern, bunchberry, and sword fern).

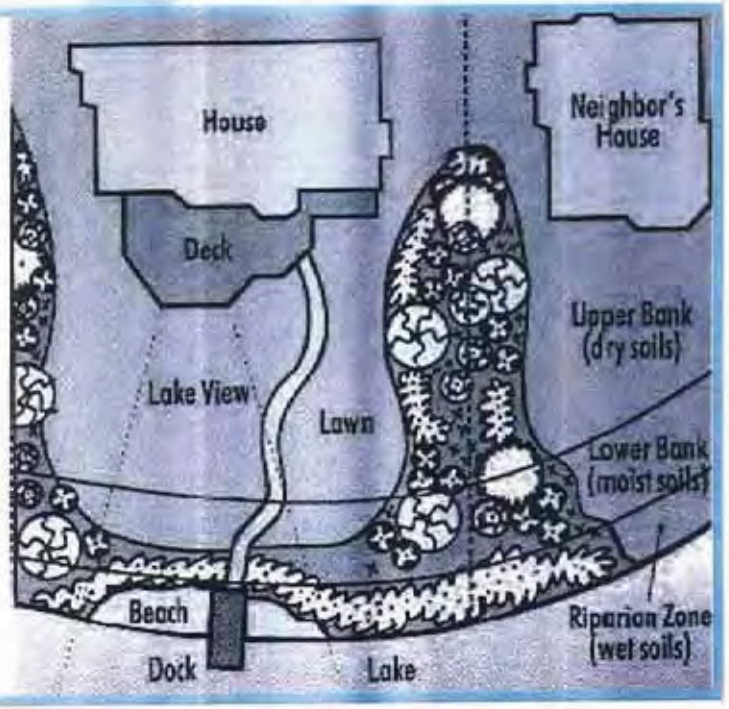
Upper Bank

This zone extends from the end of the lower bank zone toward your home. The landscape here should include at least three shrubs (such as serviceberry, mock orange and red flowering currant), and two ground cover plants (such as salal and sword fern).

Mixed throughout the upper and lower bank zones should be at least two varieties of shade trees and two types of shade and cover plants to create a multi-layered canopy. Some good choices for shade trees are: chokecherry, Oregon ash, and western hemlock; for shade and cover: vine maple, western crabapple and hazelnut. In all zones, avoid invasive species such as purple loosestrife, yellow flag iris, Japanese knotweed, English ivy and reed canary grass. To learn more about lake friendly landscaping call (253) 835-2752.

Plant Symbols

- Conifer Trees
- Deciduous Trees
- Large Shrubs
- Medium Sized Shrubs
- Ground Cover
- Ferns



BONNEY Lake

FOUR REASONS NOT TO FEED DUCKS AND GEESE

Many people like to feed wild ducks and geese but what seems like kindness can be very harmful. Here are several good reasons not to feed them:

1. HUMAN FOOD IS NOT GOOD FOR WATERFOWL

Human food is junk food for ducks and geese. It lacks minerals needed to make strong, healthy waterfowl. Overfed, undernourished waterfowl suffer from more illness and disease.

2. PARASITES IN WATERFOWL CAUSE SWIMMERS ITCH

Tiny parasites which live inside waterfowl release their eggs into the water. The larvae then burrow into water snails and grow into a larger form which can then dig into a swimmer. When the parasites die under the skin, swimmers may get an itchy allergic rash. Too many waterfowl often mean swimmers itch.

3. FEEDING WATERFOWL CAN INTERFERE WITH NATURE

Feeding waterfowl can artificially increase their population. Feeding also encourages waterfowl to "over-winter" in lakes and ponds; interrupting their natural migration patterns. When they stay through the winter the result can be an unhealthy build-up of duck and goose poop.

4. INCREASED NUTRIENTS CAUSE ALGAE AND WEED GROWTH

Waterfowl waste pollutes both water and surrounding beaches. Too many nutrients from these droppings fertilize murky green algae blooms and aquatic weeds; which crowd out other plants and animals. Lakes and ponds choked with aquatic weeds make it difficult or impossible for swimming and fishing.

OTHER WAYS TO ENJOY WILDLIFE

If you enjoy feeding wild geese, ducks, birds, and other animals, there are several petting zoos and parks throughout Pierce County. The Audubon Society offers many programs for bird enthusiasts.

STORMWATER POLLUTION PREVENTION
BONNEY LAKE

Help Protect Our Local Waterways by Volunteering for the City of Bonney Lake Curb Marker Program

Did you know that every time we have a heavy rain it washes all the pollutants left on our roads and in our yards down our local catch basins? These non-point source pollutants, like oil drippings from our cars, excess fertilizers, herbicides, pesticides, and animal waste from our lawns, can severely degrade water quality and damage wildlife habitat in our local waterways.

The City of Bonney Lake has recently developed a Catch Basin Marker public education and involvement program designed to increase public awareness that all City storm drains flow into our wetlands, streams, and lakes with little to no treatment. Through this program, local youth organizations, like Boy Scouts and Girl Scouts and other special interest groups, volunteer a weekend morning to install these colorful four inch plastic markers (shown above) adjacent to City Stormwater Catch Basins in residential neighborhoods.

Curb Marker kits are available to volunteer groups from May 1st through September 31st. If you or your organization is interested in volunteering for this program please contact Andrew Fonda (Assistant Engineer) at 253-447-3270 or email at fondaa@ci.bonney-lake.wa.us.

Just Doo It

Help Protect Water Quality By Cleaning Up After Your Pet

Spill Response

Spills of Oil or Hazardous Materials **MUST** be reported

Who to Call

National Response Center: 1-800-424-8802

AND

Washington Emergency Management Division:
1-800-258-5990 OR 1-800-OILS-911

AND

Ecology Southwest Region:
1-360-407-6300

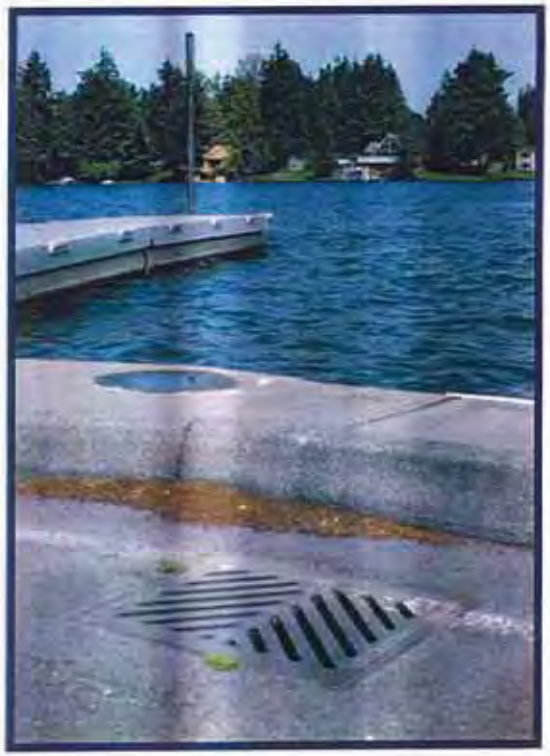
AND

City of Bonney Lake:
253-447-4320 OR City of Bonney Lake 311
OR After Hours & Weekends 253-841-5538

City of

BONNEY Lake

STORMWATER POLLUTION PREVENTION
BONNEY LAKE



REMEMBER, It's All Connected!!

Pet Waste Affects Water Quality

Dog and Cat Waste Pollutes Our Watersheds! Dog and Cat waste left on the street or lawn does not just go away or fertilize the grass. The bacteria in animal waste is often washed down storm drains and into ditches, streams, lakes, and can travel for miles in the water. This waste contributes to all sorts of problems, from sick kids to mucky algae that suffocates fish and is sometimes poisonous to humans. Kitty litter dumped outside can also be washed into streams. The bacteria in pet waste can make it unsafe to swim in our waters

A little pet waste goes a long way: In a city the size of Bonney Lake, dogs generate as much as 1,000 pounds of feces per day.

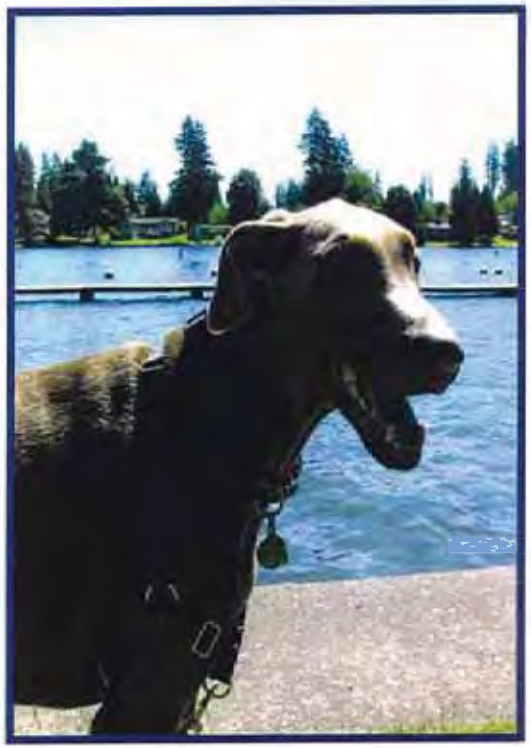
It's Up to You!

The City of Bonney Lake is working with citizens and businesses to prevent stormwater pollution. We hope you will join us in keeping pollutants out of our waterways.

In Bonney Lake, runoff from rain or snowmelt flows down our catch basins and into our lakes, streams and wetlands with little to no treatment.

Common pollutants in stormwater runoff include: fluids from vehicles such as oil and antifreeze, bacterial pollution from pet wastes, and other pollutants including pesticides, fertilizers, herbicides, and paint.

Remember, our actions within our watershed have a direct affect on our streams, lakes and wetlands.



Did You Know?

When pet waste is washed into lakes or streams, the waste decays, using up oxygen and releasing ammonia. Low oxygen levels and ammonia, combined with warm water temperatures, can kill fish and other aquatic life.

STORMWATER POLLUTION PREVENTION
BONNEY LAKE

Pet waste also contains nutrients that encourage weed and algae growth. Nutrient loaded waters can become cloudy, green and unattractive for swimming, boating and fishing.

Most importantly, pet waste can carry diseases and bacteria, which are unsafe for humans, pets, and wildlife. These diseases and bacteria include:

Campylobacteriosis - bacterial infection
Salmonellosis - bacterial infection
Toxocariasis - round worm infection
Toxoplasmosis - protozoan parasite infection
Giardiasis - protozoan parasite infection
Fecal Coliform - bacteria in feces
E.coli - bacteria in feces

Remember, Pets Can't Flush

Cleaning up after your pet can be as simple as taking plastic bags along with you on your next walk. Then choose one of the following disposal options:

When Walking – Bag It!

Bring plastic bags with you when you walk your dog.
Use a bag to pick up the dog waste.
Tie bag closed and place in the trash.

Options at Home:

Trash It – Double bag dog waste or kitty litter, tie securely and place in garbage. Long-handled "pooper scoopers" are available at pet stores to make it easier to pick up after your dog without stooping over.

Flush It – Flush dog and cat waste down the toilet if you are on a sewer system (not on a septic system). Kitty litter should not be flushed because it can clog your toilet.

Bury It – Dig a hole in your yard at least one foot deep and 100 feet from any well, ditch, stream or lake. Cover pet waste with plenty of soil. To avoid digging you can install a dog waste composter, available at pet stores or on-line. Do not use composted pet waste in your vegetable garden.

THANK YOU FOR HELPING KEEP OUR WATER CLEAN!

Mobile Business Pollution Prevention

A Best Practices Guide for Landscapers, Cleaning Services, Auto Detailers, and Other Mobile Businesses

Spill Response

Spills of Oil or Hazardous Materials **MUST** be reported

Who to Call

National Response Center:
1-800-424-8802

AND

Washington Emergency Management Division:
1-800-258-5990 OR 1-800-OILS-911

AND

Ecology Southwest Region:
1-360-407-6300

AND

City of Bonney Lake:
253-447-4320 OR
City of Bonney Lake 311 OR After Hours & Weekends 253-841-5538

City of BONNEY Lake

It's Up to You!

During every rain, pollutants left on our parking lots, driveways, roads and yards are washed down our storm drains which flow into our natural waterways. The City of Bonney Lake is working with citizens and businesses to clean up stormwater runoff and improve the health of our lakes, streams, wetlands, and Puget Sound.

Businesses can do their part in improving the health of our waterways by adopting the Sound Business and Landscaping practices listed within this brochure.

It's the Law

Sending pollutant laden runoff down the storm drain is not only bad for the health of our water ways, it's illegal. City, State, and Federal Law prohibits the discharge of pollutants into surface water, stormwater, and groundwater.

STORMWATER POLLUTION PREVENTION
BONNEY LAKE

Sound Business Practices

Help us improve water quality in our lakes and streams by adopting the following best management practices:

Properly dispose of wash water. Pour it down the sink or toilet, not down the storm drain. Wash water is toxic to aquatic life and it is illegal to send it down the storm drain. Remember – even biodegradable soaps are toxic to fish.

Clean up after spills on the driveway, road, or other impervious surfaces. Use kitty litter, sawdust, or commercial absorbent products to absorb spilled liquids, then sweep it up and properly dispose of the material.

Sweep it up, don't wash it away. When working in a driveway or parking lot, sweep up debris instead of washing it down a storm drain.

Properly dispose of chemicals and hazardous materials. Pierce County residents may dispose of household hazardous waste at the City of Tacoma's collection facility free of charge. Customers must show proof of residency with a current photo ID. The Household Hazardous Waste Facility is located at the Tacoma Landfill, 3510 S. Mullen St., Tacoma, WA 98409. For more information, e-mail solidwaste@cityoftacoma.org, or call (253) 591-5418.

Divert waste water from pressure washing and engine cleaning to the sanitary sewer system using a car wash kit or similar system.

Wash vehicles on a lawn or at a licensed car wash facility. Car wash water contains dirt, road grime, heavy metals, oils, and soaps which are toxic to fish and aquatic life.

Sound Landscaping Practices

Encourage the use of native drought tolerant plants in landscape designs. It reduces the need for fertilizers and conserves water.

Use organic / time release fertilizers. It reduces the amount of fertilizers washed into our waterways during heavy rains. Use non-toxic pesticidal soaps and other alternatives to pesticides.

Promote infiltration techniques, such as rain gardens. These techniques can help improve water quality and restore the natural hydrologic function to our wetlands and streams.

Household Stormwater Pollution Prevention

City storm drains flow to natural water ways

STORMWATER POLLUTION PREVENTION
BONNEY LAKE

What is Household Stormwater Pollution?

Household stormwater pollution happens when contaminants from our homes and cars go down the storm drain. This can happen through illegal dumping into storm drains, or more commonly, when rainwater washes pollutants and other debris from our yards and driveways to the storm drain and into our streams, lakes, and wetlands. Common sources of household pollution are motor oil and antifreeze left on driveways, soapy water from car washing, fertilizers and pesticides in lawns and pet waste left in yards.

What You Can Do

You can protect our water quality by following these simple, but effective steps in this brochure.

It's Up to You!

Your actions make a difference! You have a direct impact on the health of our natural water ways.

Spill Response

Spills of Oil or Hazardous Materials **MUST** be reported

Who to Call

National Response Center:
1-800-424-8802

AND

Washington Emergency Management Division:
1-800-258-5990 OR 1-800-OILS-911

AND

Ecology Southwest Region:
1-360-407-6300

AND

City of Bonney Lake:
253-447-4320 OR
City of Bonney Lake 311 OR
After Hours & Weekends 253-841-5538

City of
BONNEY Lake

Around the House

Properly dispose of household chemicals. Never wash or pour chemicals, cleaners, or solvents into the storm drain. It is toxic to aquatic life and it is also illegal. Take antifreeze, solvents, gas, brake fluid, and other hazardous substances to an approved location. Two approved locations include;

Hidden Valley Transfer Station Hazardous Waste Facility
17925 Meridian Street East
Puyallup, WA (253) 847-7555

Tacoma Hazardous Waste Facility
3510 South Mullen
Tacoma, WA (253) 591-5543

There is no fee to dispose of household hazardous waste at the Hidden Valley Transfer Station Hazardous Waste Facility and Tacoma Landfill Hazardous Waste Facility, but you must show proof of Pierce County residency (driver's license).

Materials accepted at Hidden Valley and Tacoma Landfill;

Antifreeze, Automotive Products, Cooking Oil, Flammable Liquids, Fluorescent Light Bulbs, Glues, Household Cleaners, Motor Oil (Used), Ni-Cad Batteries, Oil Based Paints, Yard Chemicals, Pet Products

Sweep your driveway. Sweep up debris instead of hosing off or pressure washing your driveway. Not only is the sediment harmful, but there can also be residue from vehicles on the driveway.

Working on Vehicles

Wash your car on a lawn or at a licensed facility. Car wash water contains dirt, road grime, heavy metals, oils and soaps which are toxic to fish and aquatic life. Sending soap runoff down the driveway and into a storm drain is not only harmful to the environment, it is a violation of state, local, and federal laws.

Maintain your vehicle. The liquids from leaky cars are harmful to aquatic life and are washed directly into the storm drain every time it rains. Test to see if your vehicle is leaking by placing clean cardboard on the ground under your engine and checking it the next day. Repair all leaks as soon as they are discovered.

Properly dispose of oil and other auto waste at an approved waste facility. Don't pour liquids down the drain.

Clean up Spills. Use kitty litter, sawdust, or commercial absorbent pads to dry up any spilled liquid, then sweep it up and place it in the garbage. Don't wash it into the street or storm drain.

In the Lawn & Garden

Pick up after your pets. The rainwater can wash bacteria and parasites from pet waste into the storm drain which flows untreated into our natural waterways.

Avoid pesticides and herbicides when possible. Not only is it better for the health of our lakes and streams, but it is also better for the health of your family. If you must use pesticides, use them sparingly and only where needed to ensure excess will not be washed into the storm drain. Always follow the directions on the label.

Use organic, time-release fertilizers. These fertilizers slowly release nutrients to your lawn, reducing the amount of pollutants washed into our waterways.

Dispose of yard waste properly. Compost yard debris or have it hauled away. Yard debris can release excess nutrients which promotes algae growth in the waterways.

Use a mulching mower. By using a mulching lawnmower you can decrease your use of fertilizers by 25 percent.

Around the Neighborhood

Pick up litter. Clean up any trash to reduce the chance of litter or contaminants entering the storm water system.

Report pollution. It is illegal to dump chemicals or other materials in the storm drain. If you notice illegal dumping, call the Spill Hotline at (253) 447-4323 OR City of Bonney Lake 311.

Educate neighbors. Share the importance of adopting stormwater pollution prevention practices with your neighbors.

STORMWATER POLLUTION PREVENTION
BONNEY LAKE

Where Do I Recycle My Used Oil?

BONNEY LAKE STORMWATER POLLUTION PREVENTION

Used Oil Recycling Locations

Bonney Lake Area

Bonney Lake Auto Parts
8520 182nd Avenue East
253-863-0466

Schuck's Auto Supply
9727 214th Avenue East
253-891-8856

Jiffy Lube
19210 SR 410 East
253-891-2494

South Prairie Transfer Station
22400 South Prairie Road
253-862-1704

How much oil can I bring?
Jiffy Lube and Schuck's accept up to 5 gallons. Tacoma Landfill and transfer station sites accept larger volumes. For other sites listed, please call ahead

Most sites are self-serve and you will empty your own container into the tank. Use 5 gallon (or smaller) oil containers. No drums or barrels.

All you have to do is:
Use a clean container for draining oil from your vehicle, boat, or lawn mower. Hint: Use a reusable container (5 gallon maximum) with a good lid.

Puncture used oil filters and let the oil drain out for at least 24 hours. Then place the oil filter in the garbage.

Never mix oil with any other substance. Take antifreeze, solvents, gas, brake fluid, and other hazardous substances to an approved location. Two approved locations include;

Hidden Valley Hazardous Waste Facility
17925 Meridian Street East, Puyallup, WA 253-847-7555

Tacoma Landfill Hazardous Waste Facility
3510 South Mullen, Tacoma, WA 253-591-5543

There is no fee to dispose of household hazardous waste at these facilities, but you must show proof of Pierce County residency (driver's license).

Materials Accepted at Hidden Valley & Tacoma Landfill

- Antifreeze
- Automotive Products
- Cooking Oil
- Flammable Liquids
- Fluorescent Light Bulbs
- Glues
- Household Cleaners
- Motor Oil (used)
- Ni-Cad Batteries
- Oil Based Paints
- Yard Chemicals
- Pet Products

Spills of Oil or Hazardous Materials MUST be Reported
To report a spill please call (253) 447-4320 or Bonney Lake 311 or to report a spill after hours or on weekends call (253) 841-5538

Spill Response

Spills of Oil or Hazardous Materials MUST Be Reported

Who To Call

National Response Center:
1-800-424-8802

And
Washington Emergency Management Division:
1-800-258-5990 Or 1-800-OILS-911

And
Ecology Southwest Region:
1-360-407-6300

And
City of Bonney Lake:
Business Hours
(253) 447-4320 Or Bonney Lake 311
After Hours & Weekends
(253) 841-5538

STORMWATER POLLUTION PREVENTION
BONNEY LAKE

Appendix M
NPDES Phase II Permit S5.C.3. IDDE

Western Washington Phase II Municipal Stormwater Permit

National Pollutant Discharge Elimination System and State Waste Discharge General Permit for Discharges from Small Municipal Separate Storm Sewers in Western Washington

Permit Number: WAR04-5002
Issuance Date: January 17, 2007
Effective Date: February 16, 2007
Expiration Date: February 15, 2012

In compliance with the provisions of The State of Washington Water Pollution Control Law Chapter 90.48 Revised Code of Washington and The Federal Water Pollution Control Act (The Clean Water Act) Title 33 United States Code, Section 1251 et seq.

S5. STORMWATER MANAGEMENT PROGRAM FOR CITIES, TOWNS, AND COUNTIES

C.3. Illicit Discharge Detection and Elimination

The SWMP shall include an ongoing program to detect and remove illicit connections and discharges as defined in 40 CFR 122.26(b)(2), including any spills not under the purview of another responding authority, into the municipal separate storm sewers owned or operated by the Permittee. Permittees shall fully implement an ongoing illicit discharge detection and elimination program no later than 180 days prior to the expiration date of this Permit.

The minimum performance measures are:

a. A municipal storm sewer system map shall be developed no later than four years from the effective date of this permit. Municipal storm sewer system maps shall be periodically updated and shall include the following information:

i. The location of all known municipal separate storm sewer outfalls and receiving waters and structural stormwater BMPs owned, operated, or maintained by the Permittee. Each Permittee shall map the attributes listed below for all storm sewer outfalls with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems:

- Tributary conveyances (indicate type, material, and size where known).
- Associated drainage areas.
- Land use.

ii. Each Permittee shall initiate a program to develop and maintain a map of all connections to the municipal separate storm sewer authorized or allowed by the Permittee after the effective date of this Permit.

iii. Geographic areas served by the Permittee's MS4 that do not discharge stormwater to surface waters.

iv. Each Permittee shall make available to Ecology, upon request, municipal storm sewer system map(s) depicting the information required in S5.C.3.a.i. through iii above. The preferred format of submission will be an electronic format with fully described mapping standards. An example description is provided on Ecology WebPages under Core Services, GIS Data.

v. Upon request, and to the extent appropriate, permittees shall provide mapping information to co-permittees and secondary permittees.

b. Each Permittee shall develop and implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges into the Permittee's municipal separate storm sewer system to the maximum extent allowable under State and Federal law. The ordinance or other regulatory mechanism shall be adopted no later than 30 months from the effective date of this Permit.

i. The regulatory mechanism does not need to prohibit the following categories of non-stormwater discharges:

- Diverted stream flows.
- Rising ground waters.
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)).
- Uncontaminated pumped ground water.
- Foundation drains.
- Air conditioning condensation.
- Irrigation water from agricultural sources that is commingled with urban stormwater.
- Springs.
- Water from crawl space pumps.
- Footing drains.
- Flows from riparian habitats and wetlands.
- Non-stormwater discharges covered by another NPDES permit.
- Discharges from emergency fire fighting activities in accordance with S2 *Authorized Discharges*.

ii. The regulatory mechanism shall prohibit the following categories of non-stormwater discharges unless the stated conditions are met:

- Discharges from potable water sources, including water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be de-chlorinated to a concentration of 0.1 ppm or less, pH-adjusted, if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4.

- Discharges from lawn watering and other irrigation runoff. These shall be minimized through, at a minimum, public education activities (see section S5.C.1) and water conservation efforts.

- Dechlorinated swimming pool discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH-adjusted and reoxygenized if necessary, volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.

- Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents. The Permittee shall reduce these

discharges through, at a minimum, public education activities (see section S5.C.1.) and/or water conservation efforts. To avoid washing pollutants into the MS4, Permittees must minimize the amount of street wash and dust control water used. At active construction sites, street sweeping must be performed prior to washing the street.

- Other non-stormwater discharges. The discharges shall be in compliance with the requirements of a stormwater pollution prevention plan reviewed by the Permittee, which addresses control of such discharges.

iii. The Permittee's SWMP shall, at a minimum, address each category in ii above in accordance with the conditions stated therein.

iv. The SWMP shall further address any category of discharges in i or ii above if the discharges are identified as significant sources of pollutants to waters of the State.

v. The ordinance or other regulatory mechanism shall include escalating enforcement procedures and actions.

vi. The Permittee shall develop an enforcement strategy and implement the enforcement provisions of the ordinance or other regulatory mechanism.

c. Each Permittee shall develop and implement an ongoing program to detect and address non-stormwater discharges, including spills, and illicit connections into the Permittee's municipal separate storm sewer system. The program shall be fully implemented no later than 180 days prior to the expiration date of this Permit and shall include:

i. Procedures for locating priority areas likely to have illicit discharges, including at a minimum: evaluating land uses and associated business/industrial activities present; areas where complaints have been registered in the past; and areas with storage of large quantities of materials that could result in spills.

ii. Field assessment activities, including visual inspection of priority outfalls identified in i, above, during dry weather and for the purposes of verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges.

- Receiving waters shall be prioritized for visual inspection no later than three years from the effective date of this Permit, with field assessments of three high priority water bodies made no later than four years from the effective date of this Permit. Field assessments on at least one high priority water body shall be made each year thereafter.

- Screening for illicit connections shall be conducted using: Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004, or another methodology of comparable effectiveness.

iii. Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the Permittee. Procedures shall

include detailed instructions for evaluating whether the discharge must be immediately contained and steps to be taken for containment of the discharge.

Compliance with this provision shall be achieved by investigating (or referring to the appropriate agency) within 7 days, on average, any complaints, reports or monitoring information that indicates a potential illicit discharge, including spills; and immediately investigating (or referring) problems and violations determined to be emergencies or otherwise judged to be urgent or severe.

iv. Procedures for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures.

v. Procedures for removing the source of the discharge; including notification of appropriate authorities; notification of the property owner; technical assistance for eliminating the discharge; follow-up inspections; and escalating enforcement and legal actions if the discharge is not eliminated.

Compliance with this provision shall be achieved by initiating an investigation within 21 days of a report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection. Upon confirmation of the illicit nature of a storm drain connection, Permittees shall use their enforcement authority in a documented effort to eliminate the illicit connection within 6 months.

d. Permittees shall inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

i. No later than 180 days prior to the expiration date of this Permit, distribute appropriate information to target audiences identified pursuant to S5.C.1.

ii. No later than two years from the effective date of this Permit, publicly list and publicize a hotline or other local telephone number for public reporting of spills and other illicit discharges. Keep a record of calls received and follow-up actions taken in accordance with S5.C.3.c.ii. through v. above; include a summary in the annual report (see section S9 Reporting and Record Keeping Requirements).

e. Permittees shall adopt and implement procedures for program evaluation and assessment, including tracking the number and type of illicit discharges, including spills, identified; inspections made; and any feedback received from public education efforts. A summary of this information shall be included in the Permittee's annual report (see section S9 Reporting and Recordkeeping Requirements).

f. Each Permittee will provide appropriate training for municipal field staff on the identification and reporting of illicit discharges into MS4s.

i. No later than thirty months after the effective date of this Permit, each Permittee shall ensure that all municipal field staff who are responsible for identification, investigation, termination, cleanup, and reporting illicit discharges, including spills, and illicit connections

are trained to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques or requirements. Permittees shall document and maintain records of the training provided and the staff trained.

ii. No later than three years after the effective date of this Permit, an ongoing training program shall be developed and implemented for all municipal field staff, which, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system shall be trained on the identification of an illicit discharge/connection, and on the proper procedures for reporting and responding to the illicit discharge/connection. Follow-up training shall be provided as needed to address changes in procedures, techniques or requirements. Permittees shall document and maintain records of the training provided and the staff trained.