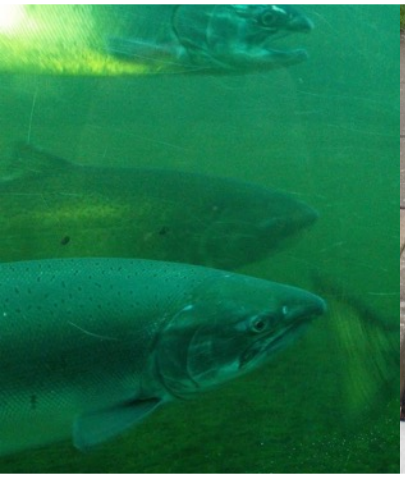


Post Construction Runoff Control
Part 1 of 2

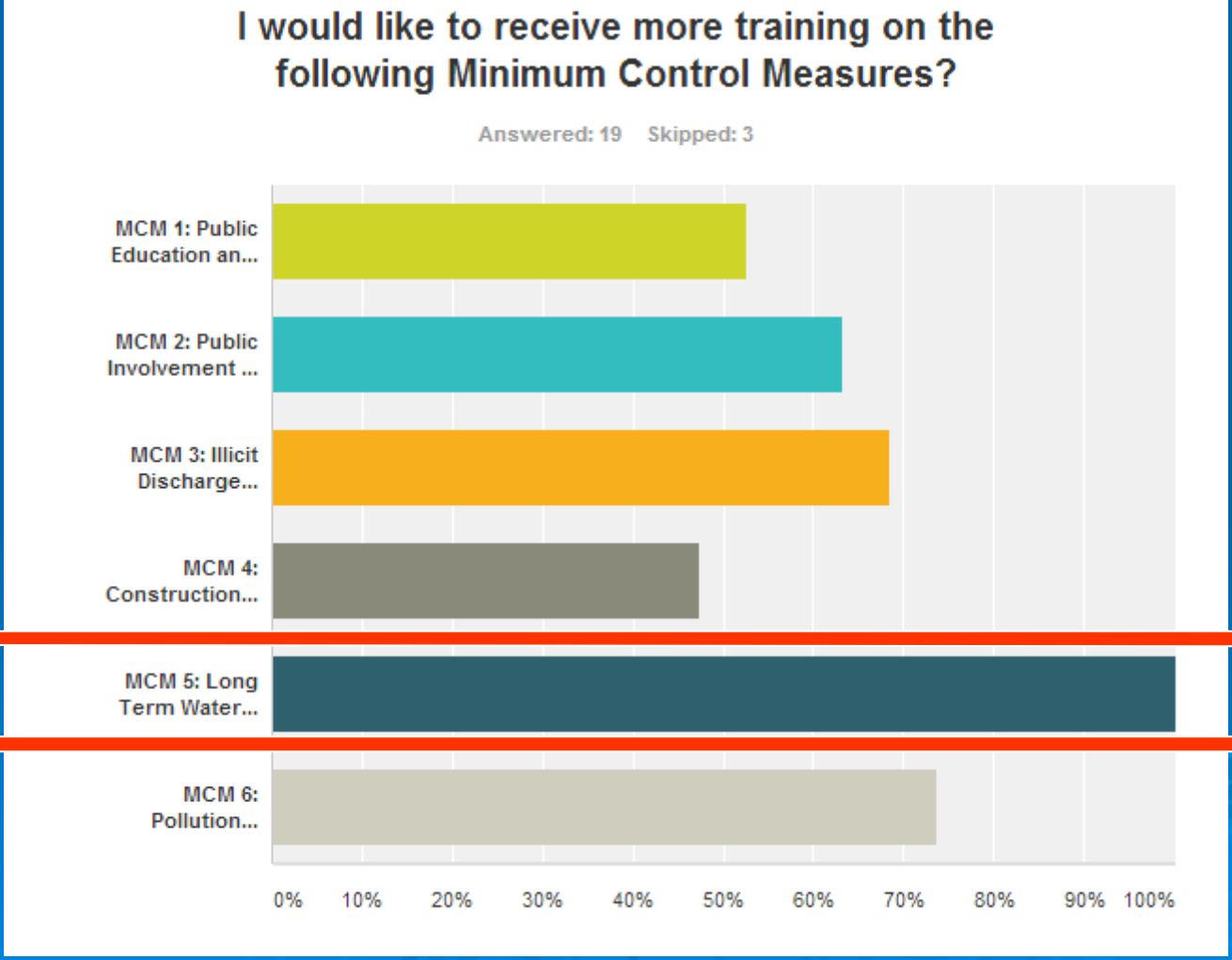
Utah Storm Water Advisory Committee

January 14 2015

Topics

- Impact of post construction runoff
- Private development
  - New development
  - Existing development and redevelopment
- SWPP plan review check list
- Post construction inspection program
- Post construction inspection check list

Post Construction Runoff Control



Why do we need to be concerned?

- Two forms of substantial impacts of post construction runoff:

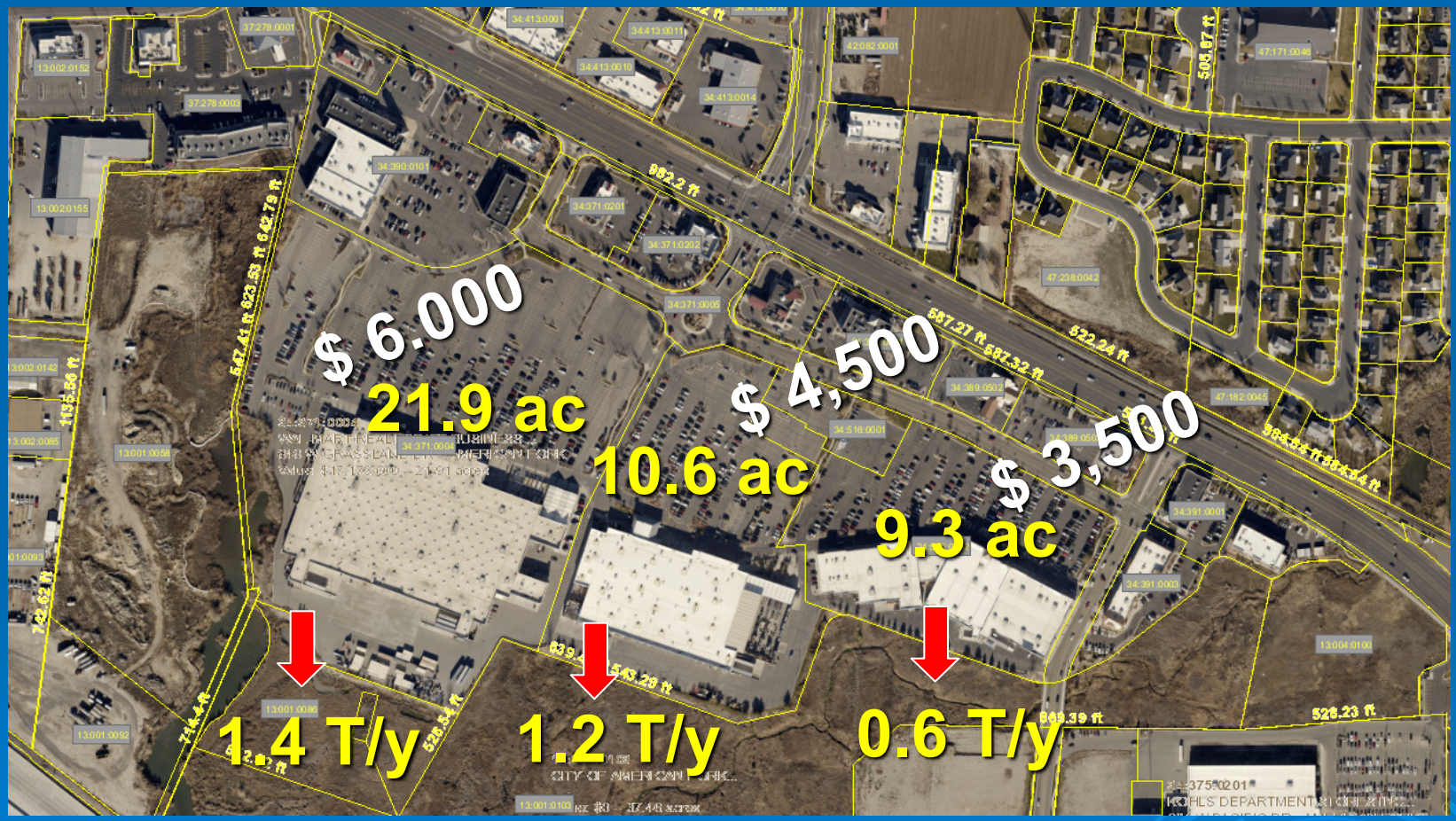
- 1. Increase in the **type and quantity of pollutants** in storm water runoff

- 2. Increase in the **volume of water** delivered to the water stream during storms

Increase in the type and quantity

- Water quality decreases due to pollutants created after the development is finished:
  - Sediments
  - Oil/ grease
  - Heavy metals
  - Nutrients
    - Nitrates
    - Phosphorus
  - Floatables
  - Bacteria

Increase in the type and quantity

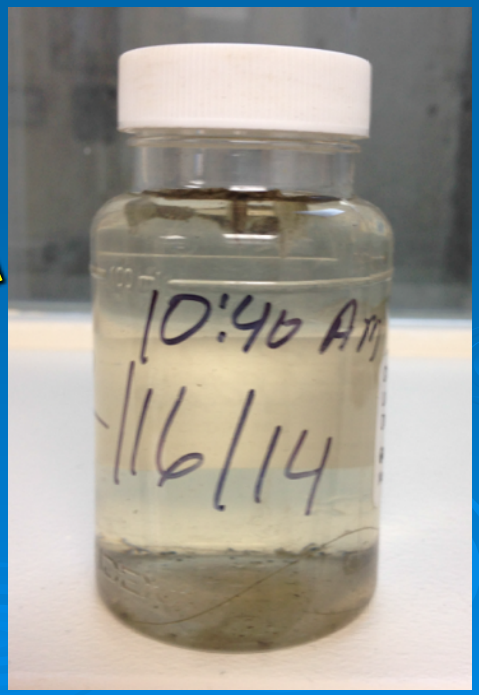


Remember the outfall inventory from the IDDE MCM?

SD maintenance and road sweeping = 80 Tons year

Increase in the type and quantity

Retention Underground Tank



Increase in the type and quantity

Uncovered salt dome could mean big fine for American Fork

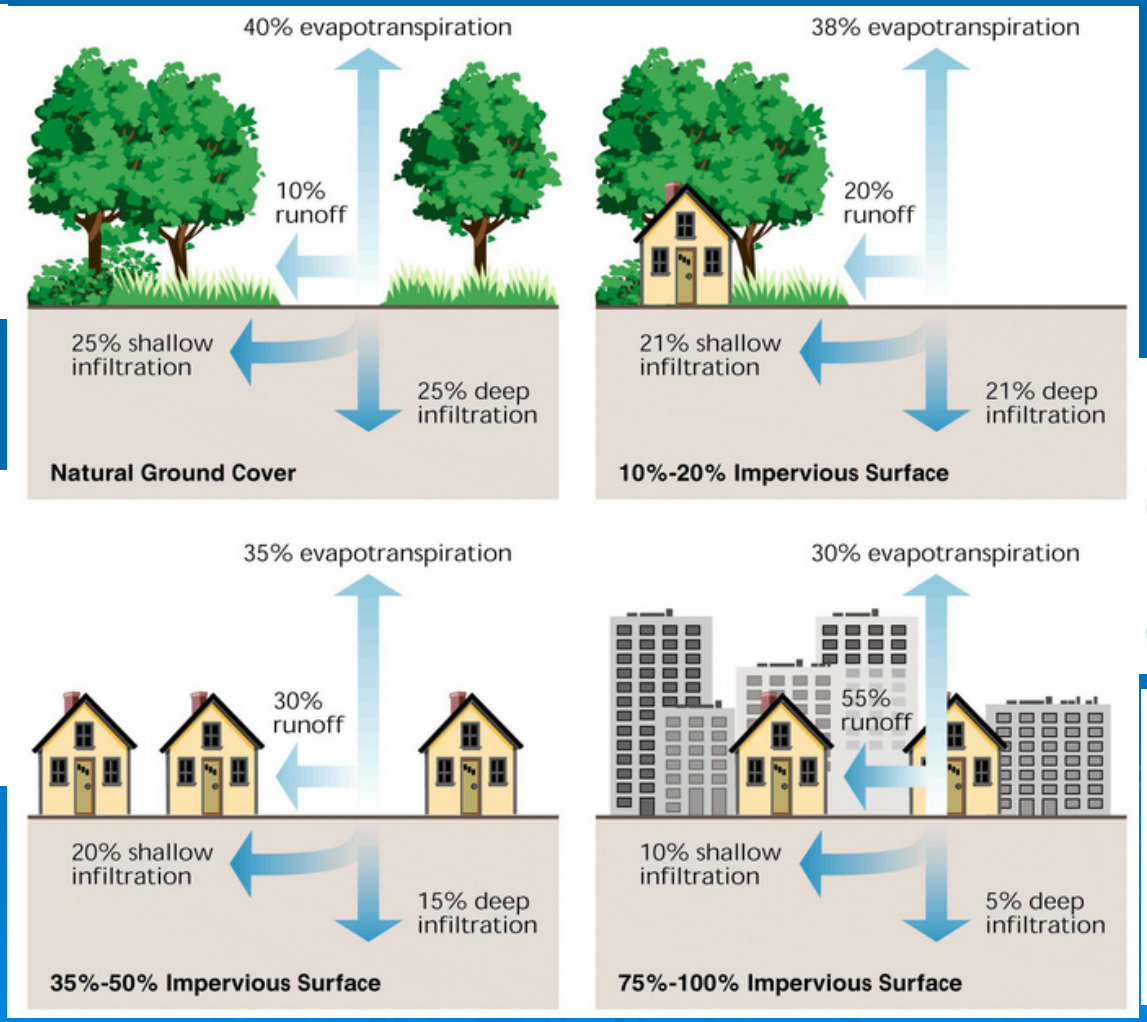
Recommend 0 Tweet 1 +1 0 Pin it Share Print Email

A pile of salt sit near the American Fork Public Works building, near the American Fork River,

Municipal Operations vs Private Operations

Does the public know to contact the MS4?

Increase in the volume of water



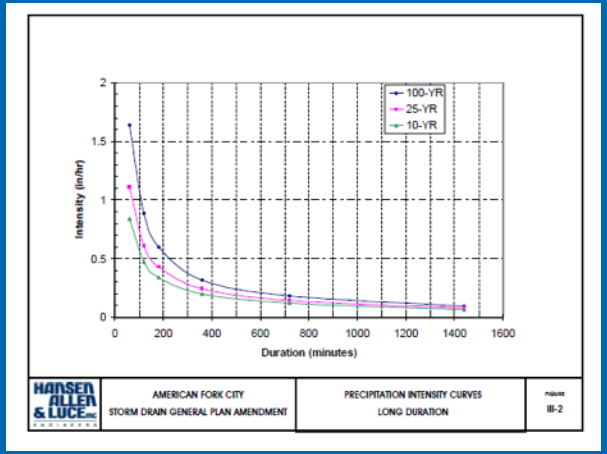
Question 1: True or False?

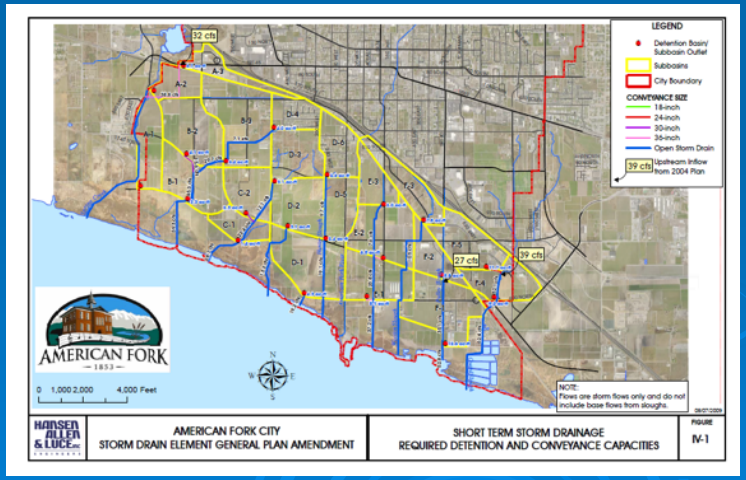
- Each Permittee shall develop and define specific hydrologic method/s for calculating **runoff volumes** and flow rates to ensure consisting sizing of structural BMPs…

- **TRUE … Section 4.2.5.3.4**

Storm Drain Master Plan

- Storm drain system:
  - Pipes
  - Detention Ponds
  - Retention Ponds
- Drainage guidelines
  - IDF curves
  - Allowable release rate (*)
  - Soil type





(*) Conventional Drainage System

Question 2: True or False?

- Post Construction Runoff Control applies to **new** development and **re**development construction sites **disturbing greater or equal to one acre**?

- **TRUE … Section 4.2.5**

- …including project less than one acre that are part of a larger common plan of development

Private and Public Development

Before Construction

- Plans are submitted for review and approval

During Construction

- A Notice of Intent and/ or a Land Disturbance Permit is required – SWPPP inspections

Storm Drain Inspector

Post Construction

- A Notice of Termination is submitted … and then what?

Question 3: True or False?

- Prior to construction, Permittees shall review SWPPPs to ensure that the plans include long term storm water management measures …

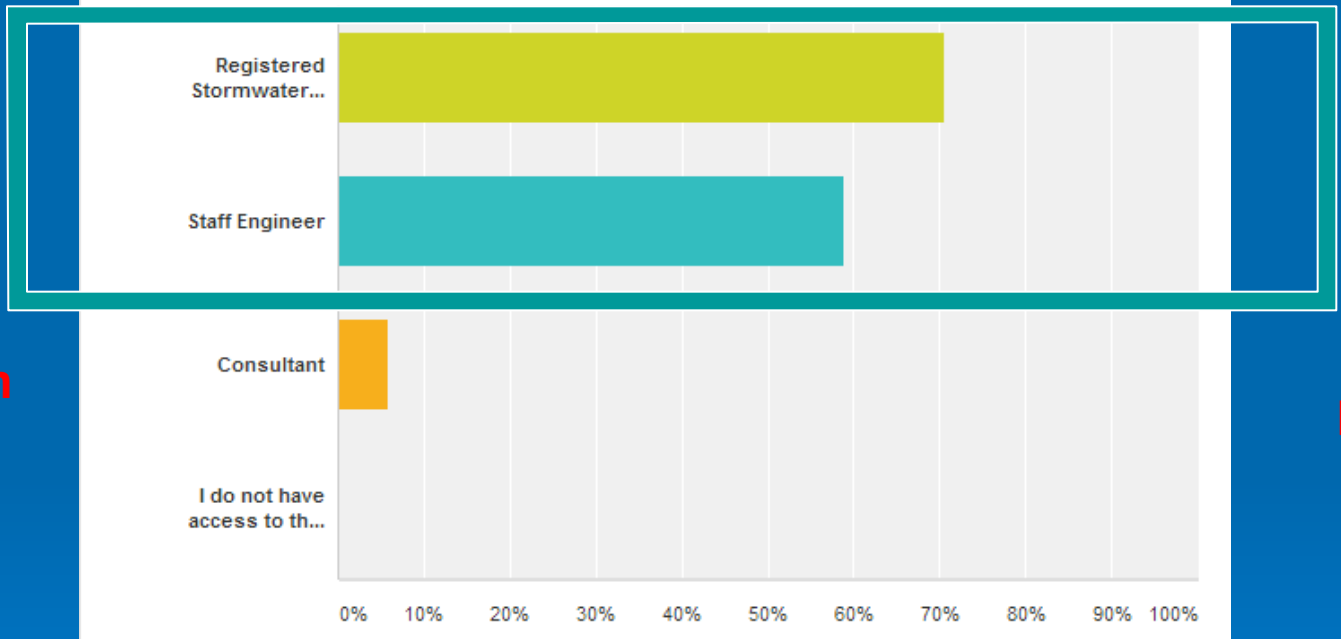
- **TRUE … Section 4.2.5.4.1**

SWPPP Plan Review

Storm Drain Inspector

The SWPPP plan/ reports review is done by:

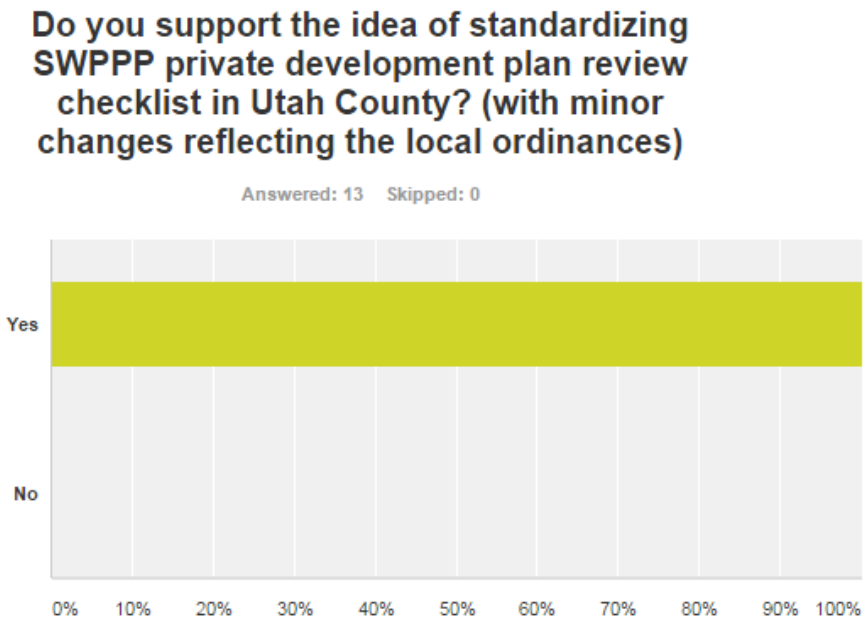
Answered: 17 Skipped: 0



Answer Choices	Responses	
Registered Stormwater Inspector	70.59%	12
Staff Engineer	58.82%	10
Consultant	5.88%	1
I do not have access to the SWPPP plans/ reports	0.00%	0

City Engineer

Standard forms



Answer Choices	Responses	
Yes	100.00%	13
No	0.00%	0
Total		13

Comments (1)

Answers from the following Coalitions:

Cache = 100%
Davis = 100%
Salt Lake = 100%
Utah = 100%
Weber = 100%
Washington =100%

Plan Review Check List

- Plan Review:
  - Erosion Control
  - Sedimentation Control
  - Structural BMPs
  - Non-Structural BMPs
  - LID BMPs
  - Maintenance Schedule
    - Frequency of Inspections
    - Frequency of Maintenance
    - Who is Responsible for what?

AMERICAN FORK CITY PUBLIC WORKS DEPARTMENT ENGINEERING DIVISION

SWPPP AND LID PLANNING DESIGN CHECKLIST

Project Name:
Project Address:
Applicant's Name:
Applicant's Address:
Telephone: Email Address:
Designer's Name:
Designer's Address:
Telephone: Email Address:
Development information:
Project Type: Residential Commercial Industrial Public
Project Type: Development Remodel Retrofit
Proposed Development Area: Acres
Number of lots: Lots
Pre development impervious area: Square feet
Amount of impervious area (repaired): Square feet
Amount of new impervious area (new development): Square feet
Amount of impervious area (remodel and retrofit): Square feet
Change in amount of impervious area: Square feet

According to the UPDES Phase I and Phase II regulations, the groundwater recharge, storm water quality, and storm water quantity standards must be met and development projects to the maximum extent practicable.

This checklist has been prepared to assist applicants, designers, and regulatory agencies in ensuring that these requirements are being met.

This checklist provides an applicant with a means to identify the nonstructural strategies incorporated into the development's design and the Low Impact Development BMPs (LID-BMPs) that have been used to do so.

This checklist can also assist municipalities and the applicant to discuss and agree in the development of specific requirements for [illegible] nonstructural strategies and LID-BMPs that could best fit the project.

Finally, the checklist can be used during a pre-design meeting between an applicant and pertinent review personnel to [illegible] local non-structural strategies and LID-BMPs requirements in order to optimize the development's nonstructural storm water management design.

Page 1 of 8

Before
During and
After
Construction

Plan Review Check List

	Part 3: Structural Best Management Practices	
	Does the SWPPP show the location of the SWPPP Board BMP?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan show the location of the construction entrance/ exit?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan show a designated material storage area?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan show the equipment wash out area?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP include the location of the concrete wash out area?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan include the location of the portable toilet?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP include the installation of storm drain inlet protection BMPs?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan include the location of the perimeter storm runoff control BMPs?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan include the location of trash containers or trash receptacles?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan shows the spacing and number of trash containers provided?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan include the location of pet waste stations?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan shows the spacing and number of pet waste stations?	☐ YES ☐ NO ☐ N/A
	Does the SWPPP plan include a note stating the following? *"Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."*	☐ YES ☐ NO ☐ N/A
	Does the storm drain detention basin calculations include infiltration and evapotranspiration factors?	☐ YES ☐ NO ☐ N/A

- Pre-Design
- SWPP Plan
- Structural BMPs
- Non-Structural BMPs
- LID BMPs
- Impervious Area Management

Question 4: True or False?

- The Permittee shall develop and implement an ordinance … that shall include provisions for Permittees to inspect storm water control measures **on private properties** to ensure that adequate maintenance is being performed…

- **TRUE … Section 4.2.5.5.1**

New Development

AMERICAN FORK CITY
BUSINESS LICENSE APPLICATION
51 EAST MAIN, AMERICAN FORK, UTAH 84003
(801)763-3000 • www.[illegible]city.com

Business License

Please clearly print or type an answer to every question. Incomplete applications will not be accepted. Application submittal is required prior to opening to prevent the $[illegible] penalty. [illegible] Federal and State numbers must be obtained before application and fee will be accepted. [illegible] business licenses (with the exception of temporary businesses) expire December 31st each year.

SECTION I: Business Information

Local Business Phone: _____ Cell: _____

Business Name: _____

Business Address: _____

Mailing Address: _____
(Include City, State, and Zip)

Website: _____ Business Email: _____

Business Activity: Please choose one (1) that best describes your business.

☐ Auto	☐ Gym/ Spa/ Nutrition	☐ Medical/ Dental	☐ School/ Preschool
☐ Child Care	☐ Heating & Air Conditioning	☐ Mortuary	☐ Service
☐ Computer/ Internet	☐ Instructional	☐ Non-profit	☐ Sexually Oriented
☐ Counseling/ Consulting	☐ Landscaping	☐ Photography	☐ Solicitor
☐ Development/ Construction	☐ Lawyer/ Attorney	☐ Restaurant/ Bakery	☐ Temporary
☐ Financial Services	☐ Manufacturing	☐ Retail	☐ Video
☐ Florist/ Nursery	☐ Marketing	☐ Salon/ Tanning	☐ Other _____

SECTION II: Federal and State Requirements

Federal and State numbers can be obtained by logging onto www.business.utah.gov/registration.html (OneStop Business Registration). You may also visit www.utah.gov. The nearest State Tax Commission office can be reached at (801) 374-7070 or 150 East Center St, Suite 1300, Provo.

Ownership Type: ☐ Corporation ☐ Partnership ☐ Proprietorship ☐ LLC

State Sales Tax No: _____ Business Entity No: _____

Federal ID No: _____ Employer Withholding No: _____

State License Type (if any): _____ No. _____ Expires: _____

Federal License Type (if any): _____ No. _____ Expires: _____

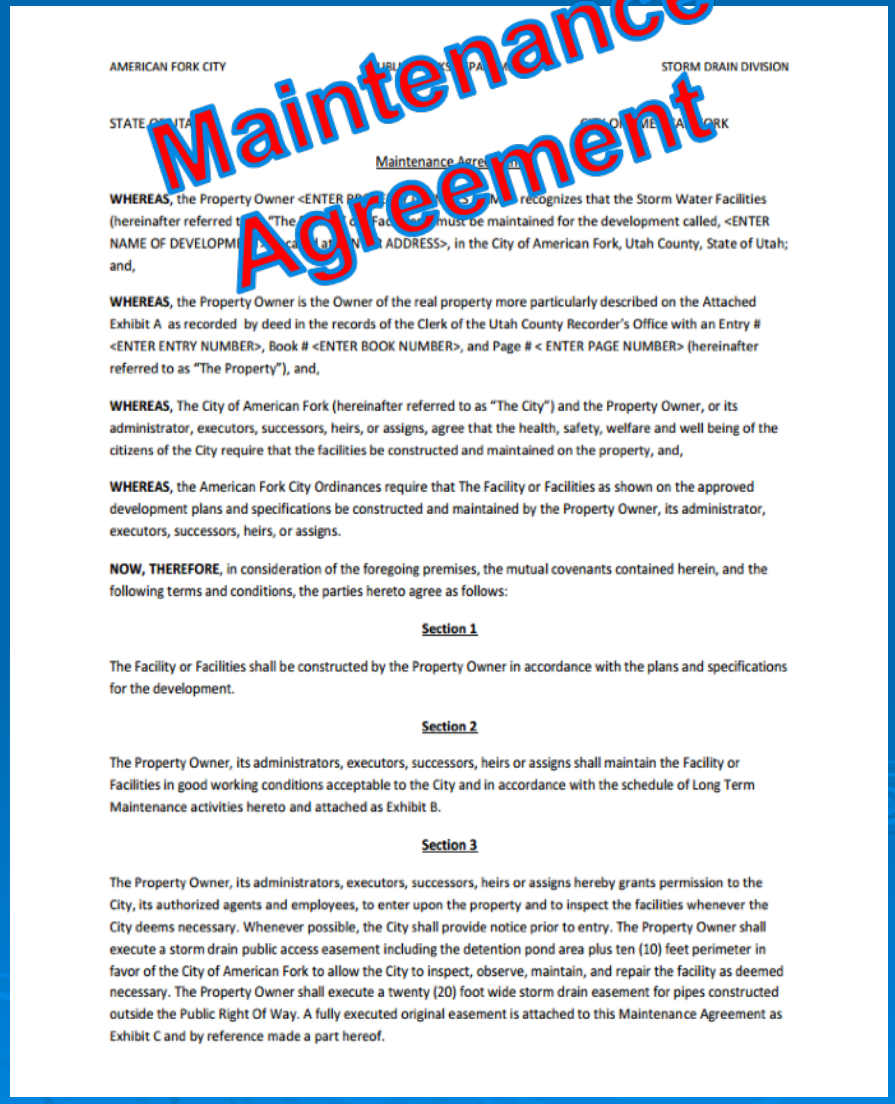
SECTION III: Owner/Manager Information

Business Owner: _____
Name Home Address

Phone: _____ Email Address: _____

Local Business Manager: _____
Name Home Address

Phone: _____ Email Address: _____



AMERICAN FORK CITY [illegible] STORM DRAIN DIVISION

STATE OF UTAH [illegible] CITY OF AMERICAN FORK

Maintenance Agreement

Maintenance Agreement

WHEREAS, the Property Owner <ENTER PROPERTY OWNER NAME> recognizes that the Storm Water Facilities (hereinafter referred to as "The Facilities") must be maintained for the development called, <ENTER NAME OF DEVELOPMENT> located at <ENTER ADDRESS>, in the City of American Fork, Utah County, State of Utah; and,

WHEREAS, the Property Owner is the Owner of the real property more particularly described on the Attached Exhibit A as recorded by deed in the records of the Clerk of the Utah County Recorder's Office with an Entry # <ENTER ENTRY NUMBER>, Book # <ENTER BOOK NUMBER>, and Page # < ENTER PAGE NUMBER> (hereinafter referred to as "The Property"), and,

WHEREAS, The City of American Fork (hereinafter referred to as "The City") and the Property Owner, or its administrator, executors, successors, heirs, or assigns, agree that the health, safety, welfare and well being of the citizens of the City require that the facilities be constructed and maintained on the property, and,

WHEREAS, the American Fork City Ordinances require that The Facility or Facilities as shown on the approved development plans and specifications be constructed and maintained by the Property Owner, its administrator, executors, successors, heirs, or assigns.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

Section 1

The Facility or Facilities shall be constructed by the Property Owner in accordance with the plans and specifications for the development.

Section 2

The Property Owner, its administrators, executors, successors, heirs or assigns shall maintain the Facility or Facilities in good working conditions acceptable to the City and in accordance with the schedule of Long Term Maintenance activities hereto and attached as Exhibit B.

Section 3

The Property Owner, its administrators, executors, successors, heirs or assigns hereby grants permission to the City, its authorized agents and employees, to enter upon the property and to inspect the facilities whenever the City deems necessary. Whenever possible, the City shall provide notice prior to entry. The Property Owner shall execute a storm drain public access easement including the detention pond area plus ten (10) feet perimeter in favor of the City of American Fork to allow the City to inspect, observe, maintain, and repair the facility as deemed necessary. The Property Owner shall execute a twenty (20) foot wide storm drain easement for pipes constructed outside the Public Right Of Way. A fully executed original easement is attached to this Maintenance Agreement as Exhibit C and by reference made a part hereof.

New Development

Private Businesses

- At least once a year, Private Businesses need to renew their business license …
  - Add some language to the business license:
    - Permission to inspect the storm drain system
    - Right of entry to private property
    - Commitment to clean the storm drain system
    - Frequency of the maintenance (at least once a year)
    - Right to review inspection records
    - Right to assess a maintenance fee, etc.

New Subdivisions

- As part of the approval of a new Subdivision, require the recordation of a Storm Drainage Maintenance Agreement
- The agreement need to address the following:
  - Cleaning the storm drain system
  - Inspections
  - Right of Entry
  - Right to review inspection records
  - Right to assess a maintenance fee, etc.

Existing Development

Constructed before the adoption of the ordinance.

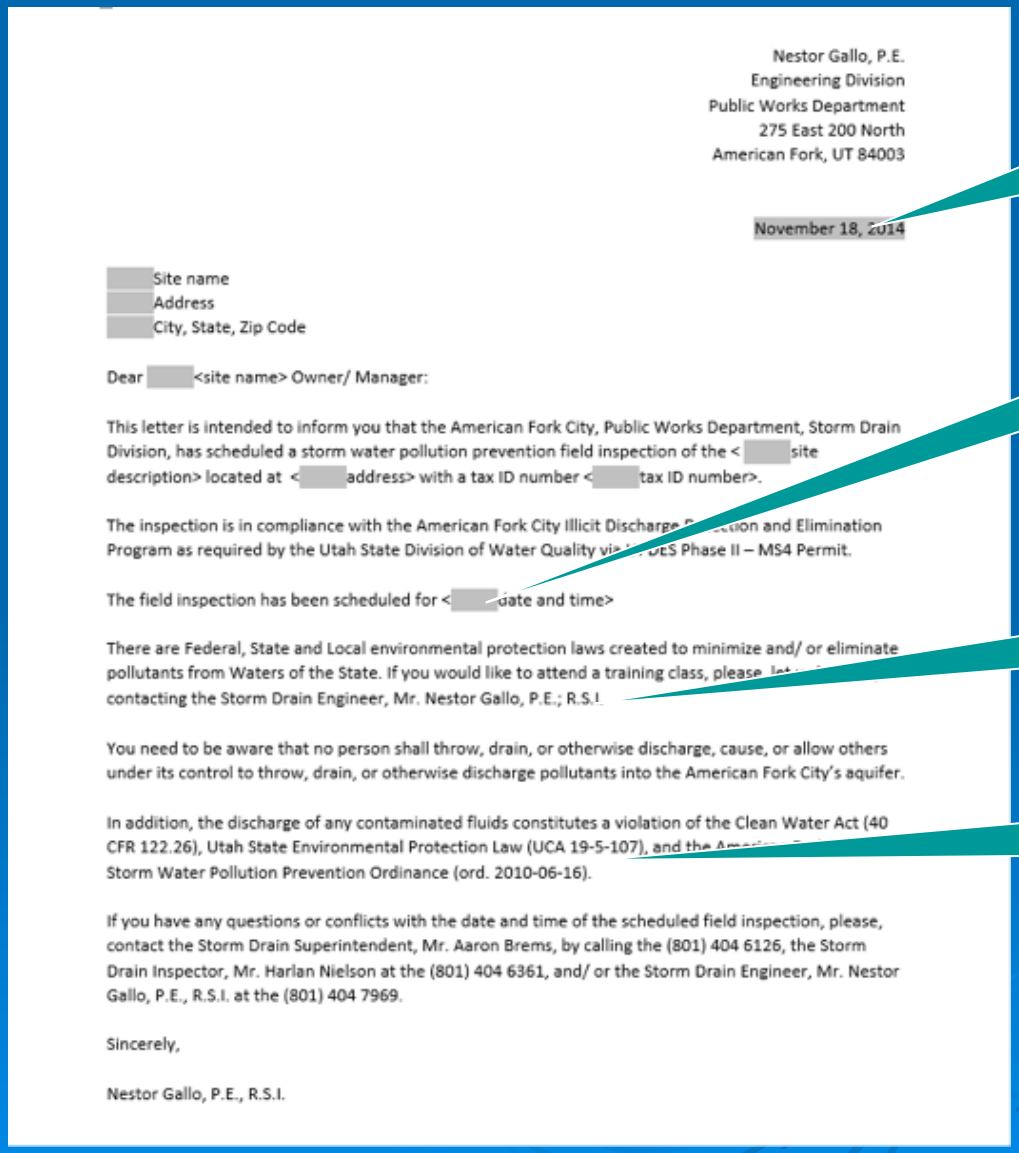
What is the problem?

1. Property Rights (*)

Do you have the right of entry?
Do you have the right to inspect the site?
Do you have the right to conduct an inspection?
Do you have the right to demand inspection records?
Do you have the right to demand maintenance?
Do you have the right to issue a citation? (**)

(*) Check with the City Attorney
(**) Look for evidence of an illicit discharge

Letter to business owners



Nestor Gallo, P.E.
Engineering Division
Public Works Department
275 East 200 North
American Fork, UT 84003

November 18, 2014

Site name
Address
City, State, Zip Code

Dear <site name> Owner/ Manager:

This letter is intended to inform you that the American Fork City, Public Works Department, Storm Drain Division, has scheduled a storm water pollution prevention field inspection of the < site description> located at <address> with a tax ID number <tax ID number>.

The inspection is in compliance with the American Fork City Illicit Discharge [illegible]ction and Elimination Program as required by the Utah State Division of Water Quality via [illegible]DES Phase II – MS4 Permit.

The field inspection has been scheduled for <date and time>

There are Federal, State and Local environmental protection laws created to minimize and/ or eliminate pollutants from Waters of the State. If you would like to attend a training class, please [illegible] contacting the Storm Drain Engineer, Mr. Nestor Gallo, P.E.; R.S.I.

You need to be aware that no person shall throw, drain, or otherwise discharge, cause, or allow others under its control to throw, drain, or otherwise discharge pollutants into the American Fork City's aquifer.

In addition, the discharge of any contaminated fluids constitutes a violation of the Clean Water Act (40 CFR 122.26), Utah State Environmental Protection Law (UCA 19-5-107), and the [illegible] Storm Water Pollution Prevention Ordinance (ord. 2010-06-16).

If you have any questions or conflicts with the date and time of the scheduled field inspection, please, contact the Storm Drain Superintendent, Mr. Aaron Brems, by calling the (801) 404 6126, the Storm Drain Inspector, Mr. Harlan Nielson at the (801) 404 6361, and/ or the Storm Drain Engineer, Mr. Nestor Gallo, P.E., R.S.I. at the (801) 404 7969.

Sincerely,

Nestor Gallo, P.E., R.S.I.

Send letter at least 30 days prior to inspection

Date and time of the inspection

Public education and outreach

Storm water pollution is illegal

Post Construction inspection program

- In AF there are **1,209** active Business Licenses

Business License Type	Number of Active Licenses
Agricultural supplies	1
Automotive Repairs/ Dealers	29
Concrete Manufacturing	2
Construction / Excavation	20
Industrial / Manufacturing	29
Restaurants / Fast Food	43
Retails	65
Car wash/ Gas stations	12
Others	1,008

Remember the High Priority map from the IDDE MCM?

Post Construction Inspection program

- Create a Post Construction inspection High Priority List

2012

- **Industrial Use**
  - Manufacturing
  - Industrial
  - Agricultural
  - Concrete Man.
  - **32 sites**
- Inspection
  - Site inspection
  - Water sampling

Reduce pollution of the following:

- Nutrients
- Sediment
- **Illicit Discharges**

2013

- **Maintenance**
  - Automotive
  - Car Dealers
  - Gas Stations
  - **36 sites**
- Inspection
  - Site inspection
  - Water sampling

Reduce pollution of the following:

- Fuel
- Oil/ Antifreeze
- **Illicit Discharges**

2014

- **Retails**
  - Construction
  - Excavation
  - Car Washes
  - **34 sites**
- Inspection
  - Site inspection
  - Water sampling

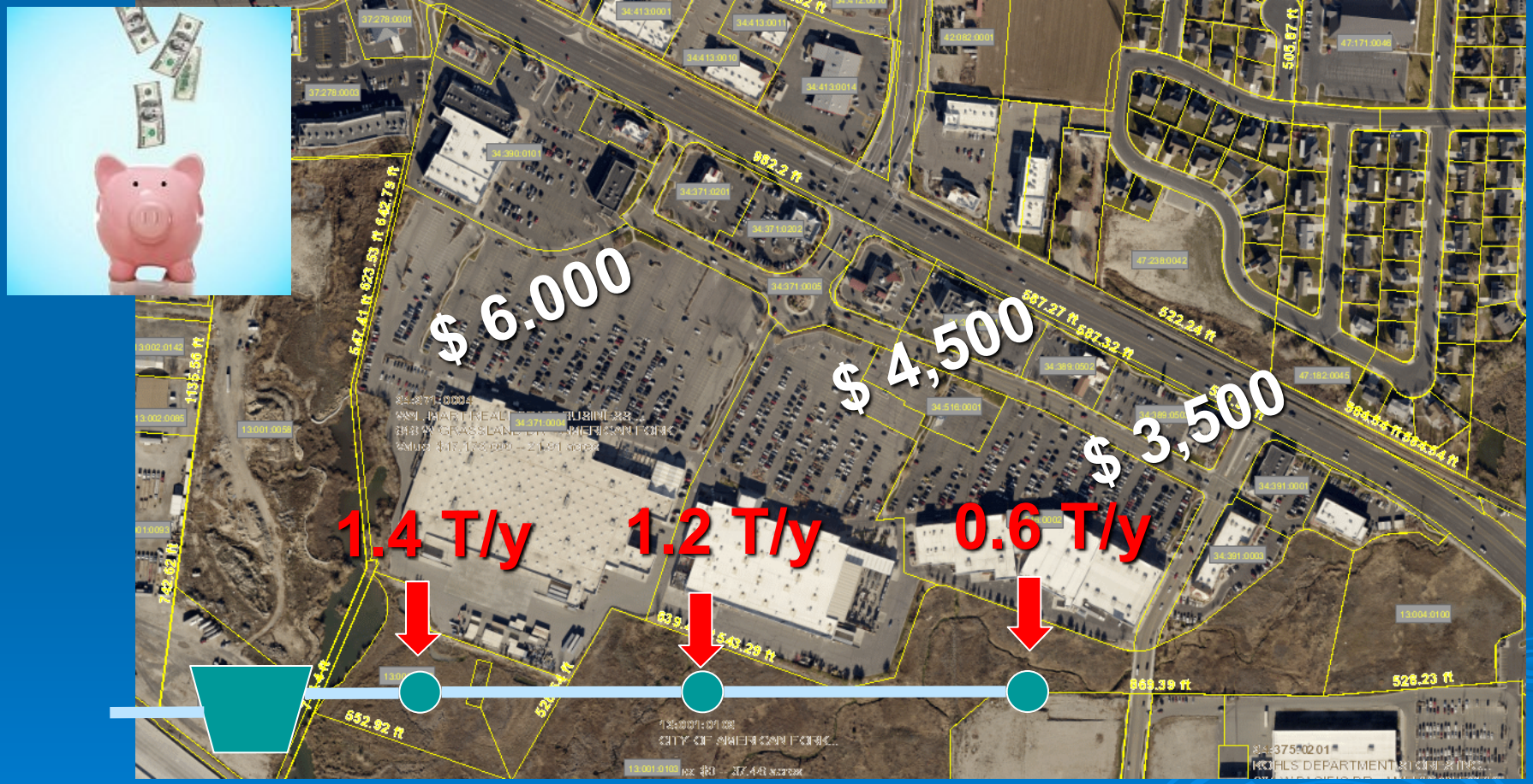
Reduce pollution of the following:

- Detergent
- pH
- **Illicit Discharges**

2015

- End of 2010/2015 SWMP
- Evaluation of the SWMP

Post Construction Inspection Program



Who is responsible for the cleaning and disposal of the storm drain waste removed from public utilities?

Post Construction inspection form

POST CONSTRUCTION STORM WATER POLLUTION PREVENTION INSPECTION

STORM WATER POLLUTION PREVENTION PROGRAM

This is an inspection to verify compliance with the post construction pollution prevention Best Management Practices and the detection and elimination of non - storm water discharges into waters of the State or the United States and in compliance with UPDES Phase II, MS4 Permit.

Inspection No:		Inspection Date:	.....
Section I. Site Operator's Information			
Site Operator's name	.....		
Mailing Address	.....		
City	.....	State	.....
Zip Code	.....	Phone Number	.....
Section II. Facility Site/ Location Information			
Business License Number	.....	Expiration Date	.....
Business' name	.....		
Mailing address	.....		
City	.....	State	.....
Zip Code	.....	Phone Number	.....

Type of business (check all that apply)

☐ Manufacturing	☐ Industrial	☐ Retail
☐ Car Wash	☐ Construction/ excavation	☐ Restaurant/ fast food
☐ Recreation	☐ Car repairs/ maintenance	☐ Gas station
☐ Farming products sales	☐ Car sales/ maintenance	☐ Other

Section III. Inspector's Information

A. Personal Inspection Equipment (check all that apply before beginning the inspection)

☐ Inspector Photo ID	☐ Digital Camera
☐ Inspection forms	☐ Water sample kit
☐ Personal Protective Equipment	☐ Copies of codes and ordinances

B. Health and Safety Hazards

Note to field staff: if the discharge poses a threat to human health, safety or the environment, please contact the **Utah County Division of Environmental Health at the (801) 851 7525.**

If the discharge has the potential to cause bacterial contamination of the groundwater (such as from broken sanitary sewer lines), contact the Utah State Division of Water Quality, UPDES Engineering Section Manager, **Mr. John Kennington at (801) 536 4380** and the Groundwater Protection Manager, **Mr. Robert Herbert at (801) 536 4350**.

For discharges that pose immediate dangers to health and safety, call 911.

F. Pipe maintenance conditions

Sedimentation	☐ Clean	☐ 1/4 full	☐ 1/2 full
	☐ 3/4 full	☐ Clogged	☐ Other
Odor	☐ None	☐ Sewage	☐ Septic
	☐ Acidic	☐ Detergent	☐ Other
Flow rate	☐ None	☐ Trickle	☐ Steady
	☐ Slow	☐ Fast	☐ Other
Description	☐ Brown foam	☐ Oil sheen	☐ Organic
	☐ White foam	☐ Trash	☐ Colored

G. Field Inspection questionnaire

☐ YES ☐ NO ☐ N/A	Are there visible signs of staining, residues or oily substances from outfalls?
☐ YES ☐ NO ☐ N/A	Are there visible signs of staining or oily substances on the parking lot?
☐ YES ☐ NO ☐ N/A	Are there pungent odors coming from the drainage system?
☐ YES ☐ NO ☐ N/A	Is there any discoloration or oily substances on the water?
☐ YES ☐ NO ☐ N/A	Is there any abnormal water flow during dry weather season?
☐ YES ☐ NO ☐ N/A	Is there excessive sediment deposits or turbid water
☐ YES ☐ NO ☐ N/A	Are there floatables (e.g. discharge includes sewage, garbage) on the water?
☐ YES ☐ NO ☐ N/A	Is there trash or garbage around the site (poor housekeeping?
☐ YES ☐ NO ☐ N/A	Are there herbicides or fertilizers open bags exposed to the weather?
☐ YES ☐ NO ☐ N/A	Is there cement or concrete mix open bags exposed to the weather?
☐ YES ☐ NO ☐ N/A	Are there snow melting salt stockpile exposed to the weather?
☐ YES ☐ NO ☐ N/A	Are there used vehicle batteries exposed to the weather?
☐ YES ☐ NO ☐ N/A	Are there oil recycling containers exposed to the weather?
☐ YES ☐ NO ☐ N/A	Are there open containers exposed to the weather?
☐ YES ☐ NO ☐ N/A	Is there evidence of a spill of 2.5 gallons, 30 square foot or greater?
☐ YES ☐ NO ☐ N/A	Is there evidence of spills draining into the storm drainage system?
☐ YES ☐ NO ☐ N/A	Is there a spill kit on the site and available to the employees?
☐ YES ☐ NO ☐ N/A	Is the spill kit complete and accessible to the employees?
☐ YES ☐ NO ☐ N/A	Are the garbage containers lids closed?
☐ YES ☐ NO ☐ N/A	Is there any floor drain connected to the storm drain system?
☐ YES ☐ NO ☐ N/A	Are there any chlorine containers exposed to the weather?
☐ YES ☐ NO ☐ N/A	Is there evidence of water with detergent draining into the storm drain?
☐ YES ☐ NO ☐ N/A	Is there evidence of greasy fluids draining into the storm drain?
☐ YES ☐ NO ☐ N/A	Are there non-working vehicles parked on the site?
☐ YES ☐ NO ☐ N/A	Is the parking lot surface clean and free of debry?
☐ YES ☐ NO ☐ N/A	Does the storm drain system include an oil/ water separator?

Post Construction inspection form

☐ YES ☐ NO ☐ N/A	Are there herbicides or fertilizers open bags exposed to the weather?
☐ YES ☐ NO ☐ N/A	Are there cement or concrete mix open bags exposed to the weather?
☐ YES ☐ NO ☐ N/A	Are there oil recycling containers exposed to the weather?
☐ YES ☐ NO ☐ N/A	Are there used vehicle batteries exposed to the weather?

U.S. Attorneys » Northern District of California

Department of Justice

U.S. Attorney's Office

Northern District of California

FOR IMMEDIATE RELEASE — Monday, May 27, 2013

Wal-Mart Pleads Guilty To Federal Environmental Crimes And Civil Violations And Will Pay More Than $81 Million

SAN FRANCISCO – Wal-Mart Stores Inc. pleaded guilty today in cases filed by federal prosecutors in Los Angeles and San Francisco to six counts of violating the Clean Water Act by illegally handling and disposing of hazardous materials at its retail stores across the United States, announced United States Attorney Melinda Haag. The Bentonville, Ark.-based company also pleaded guilty today in Kansas City, Mo., to violating the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) by failing to properly handle pesticides that had been returned by customers at its stores across the country.

Post Construction Inspection Program Recommendations

- 1. Adopt storm drainage runoff standards (*)
  - Include Low Impact Development
- 2. Use a SWPPP plan review checklist
- 3. Use a stormwater maintenance agreement
  - The S.W.M.A. needs to be recorded
- 4. Update the business license form
  - Add language addressing post construction inspections
- 5. Use a post construction inspection check list

Post Construction Inspection Program Recommendations

- 6. Organize inspections by land use
  - Evaluate High Potential polluters
  - Organize a list of inspections per year
- Verify your rights to inspect private property
- 7. Mail a letter to the private owner:
  - Mail letter at least 30 days before the inspection
  - Educate the owner about the Clean Water Act
  - Coordinate the date and time of the inspection
- 8. Take pictures and map storm drain system
- 9. Write a Corrective Action Notice if needed

Questions

- Thank you for attending this class

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