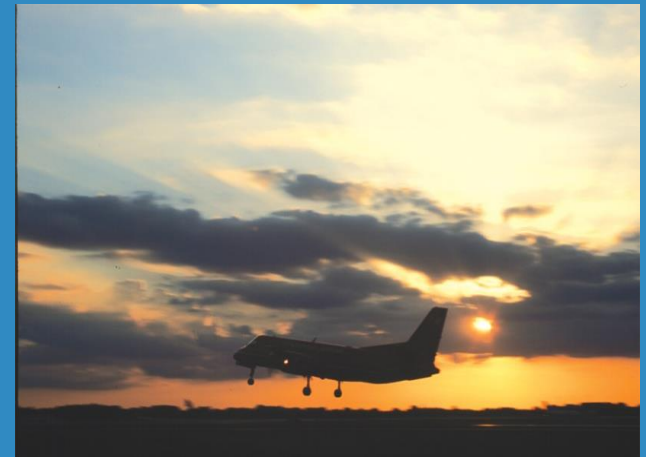




# Management of Lafayette Regional Airport's MS4 Program

Ashley Simon, PE  
Lafayette Airport Commission

Alexander Sheffield, PE  
CK Associates





# Overview

- Background
- Stormwater Management Program
- Minimum Control Measures
- Best Management Practices
- Highlights or lessons learned





# Background

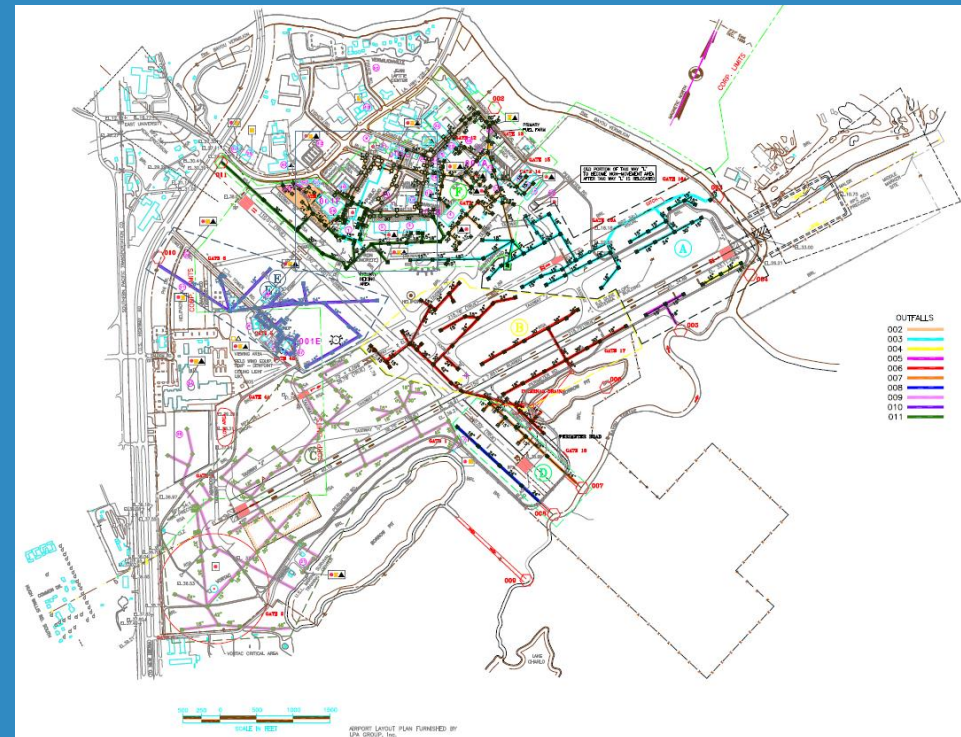
- Full-service regional airport
- WWII military base
- Property consists of approximately 1,300 acres
  - 600 acres in the airport perimeter fence
  - Remaining 700 acres are leased to tenants





# Background

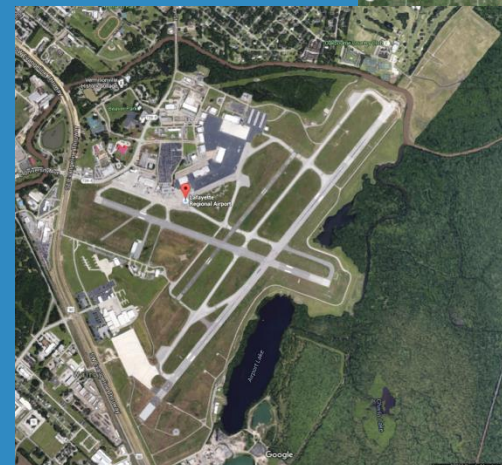
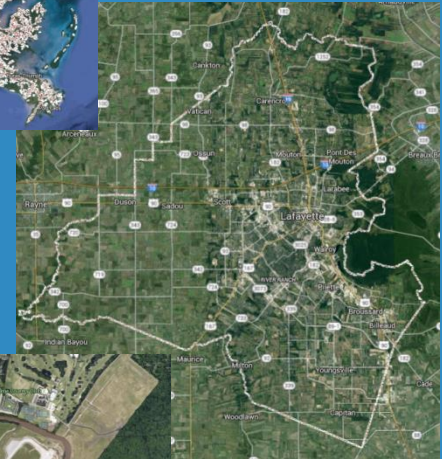
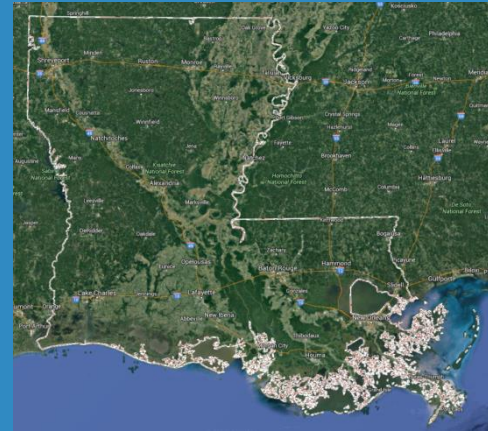
- Runoff from the property
- Water discharges through ten outfalls to the Vermillion River or Bayou Tortue





# Background

- The Lafayette Parish was defined as an urbanized area under the SMS4 rule.
- The Lafayette Consolidated Government recognized LRA as a Co-permittee
- As a Co-permittee, LRA is required to develop and manage its own Stormwater Management Program (SMP).

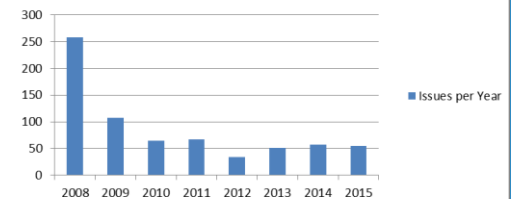




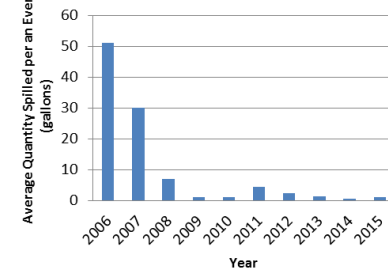
# Stormwater Management Program

- Lafayette Consolidated Government aids with the fulfillment of the Illicit Discharge and Post Construction Requirements
- The audience is the flying public and tenants
- Theme – Protecting the Vermillion River Your Recreational Area
- Highlights
  - 81% decline in issues noted during inspections.
  - Spill discovery and response has gone from responsible party leading the response for 40% of spills to 89% of the spills.
  - Average quantities spilled per a year has reduced from 50 gallons to 1 gallon
  - Substantial shift in tenant and construction contractor attitude, knowledge, and compliance with permit requirements

SWP3 and SPCC Inspection Issues per Year



Average Quantity Spilled per an Event vs. Time





# Minimum Control Measures

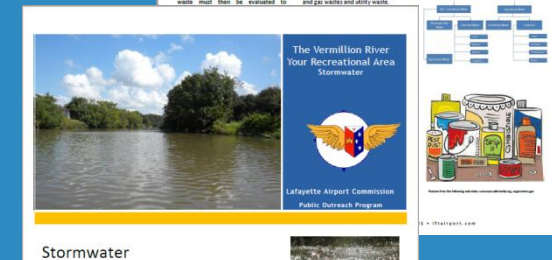
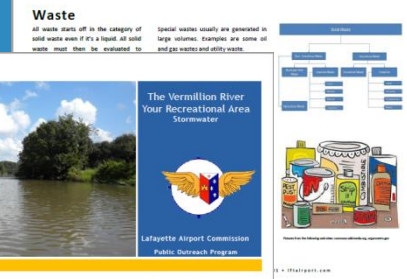
- Public Education and Outreach
  - Distributing educational materials
  - Program includes the following BMPs:
    - Informational Brochures,
    - Public and Tenant Surveys,
    - Informational Displays,
    - Webpage,
    - Tenant Facility Inspections, and
    - Annual Tenant Training





# Public Education and Outreach Best Management Practices

- Informational Brochures
  - Effective and low cost
  - Focused
  - Educational
  - Pair with Survey
  - Add kid friendly items
- Informational Displays
  - Effective and low cost
  - Focused
  - Attention grabbing
  - Educational
  - Pair with Brochures and Surveys





# Public Education and Outreach Best Management Practices

- Webpage
  - Cost effective
  - Educational
  - Focused

The screenshot displays the Lafayette Regional Airport website. The header includes the slogan "world class. right here." and the airport's name. A navigation bar lists "AIRLINES & FLIGHTS", "FLY LAFAYETTE CLUB", "TRAVELER INFORMATION", "ABOUT THE AIRPORT", and "PRIVATE AVIATION & CARGO". The left sidebar contains links to "Commissioners", "Staff", "Photo Gallery", "Career Opportunities", and "Airport Fast Facts", along with a "JOIN THE CLUB" button. The main content area is titled "ABOUT THE AIRPORT" and features a photograph of the airport terminal. Below the photo is a paragraph describing the airport's services and a "Lafayette Regional Airport" address block. A "Brief Description" table is also visible, listing categories like "Facility Details", "Airlines & Minutes", "Airport History", "Public Notices & Air Advertisements", "Air Traffic Statistics", "Budget", "AOC Program", and "Environmental Management".

This screenshot shows a more detailed view of the "ABOUT THE AIRPORT" section, specifically focusing on environmental management. It includes a table with the following content:

Environmental Plans	
Storm Water Pollution Prevention Plan (SWPPP)	The purpose of the SWPPP is to document the management practices and activities that will be implemented to prevent or minimize the discharge of pollutants from the airport.
Soil Erosion, Control & Countermeasures Plan (SECCP)	The purpose of the SECCP is to identify sources of soil erosion and implement measures to prevent the discharge of soil and sediment into the environment.
NEP Program	• 2015 LPOES Small MSA Permit Annual Report • NDI • Survey Answers • Final NEP 2015 • Second NEP 2015
Annual Environmental Training	LAC's Stormwater Pollution Prevention Plan and NEP Presentation, Control, and Countermeasures Plan require that training be given to all employees and Fleet Board Operators of the Airport. The required training was held in December 2015. Click the training document below to download a copy. • Training Document (click to download)
Construction Site Stormwater Pollution Prevention Plan	The purpose of the Construction Site SWPPP Program is to help construction activities implement the requirements of their stormwater discharge permit for construction activities. • Small Construction General Storm Water Permit 2015 • Small Construction Activity Completion Report • Construction General Storm Water Permit Greater than 5 Acres • Notice of Intent • LAC General Construction Permit Requirements Summary for Contractors • General Requirements Summary for Sites (disturbing between 1 and 5 acres) • General Requirements Summary for Sites (disturbing greater than 5 acres) • Stormwater Pollution Prevention Plan Review Check List • Example Site Inspection Form

Below the table is a section titled "Environmental Brochures" with a table listing various brochures and their locations.

Brochure	Location
Stormwater Pollution Prevention Plan	Stormwater Pollution Prevention Plan
Soil Erosion, Control & Countermeasures Plan	Soil Erosion, Control & Countermeasures Plan
NEP Program	NEP Program
Annual Environmental Training	Annual Environmental Training
Construction Site Stormwater Pollution Prevention Plan	Construction Site Stormwater Pollution Prevention Plan



# Public Education and Outreach

## Best Management Practices

- Inspections of Tenant Facilities
  - Effective
  - One on One
  - Educational for all involved
- Work with tenants to address issues found promoting knowledge and awareness
- 81% decline in issues noted during inspections

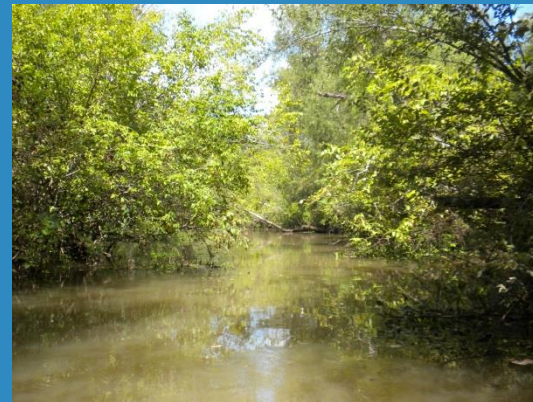




# Public Education and Outreach

## Best Management Practices

- Annual Training
  - effective way to keep tenants and staff informed
  - Focused
    - MS4 Permit, SWPPP and SPCC Plan
    - Ongoing Tenant Inspection issues
  - Pairs with Surveys



# Storm Water Pollution Prevention Training – Group Discussion

*What's wrong with this picture?*



*Paint washed into the storm sewer.*

# Storm Water Pollution Prevention Training – Group Discussion

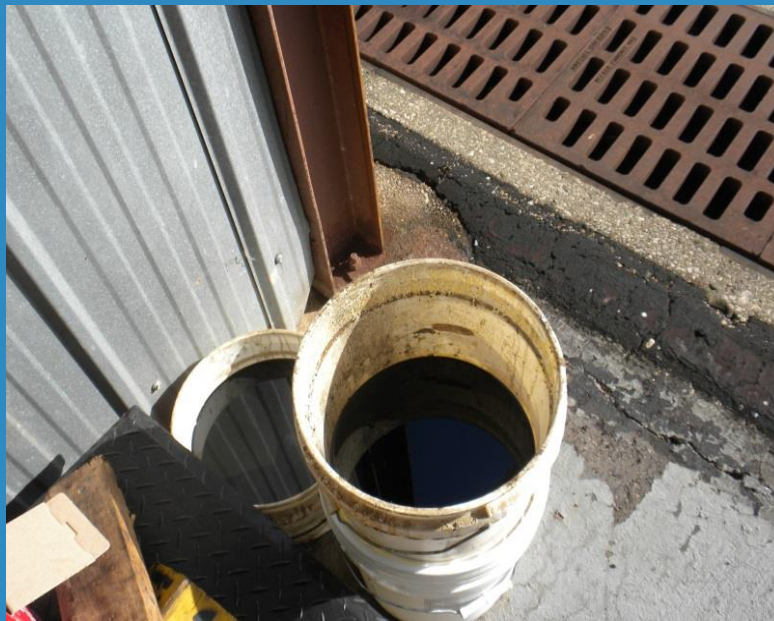
*What's wrong with this picture?*



*Paints and solvents being allowed to drain to sanitary  
sewer system.*

# Storm Water Pollution Prevention Training – Group Discussion

*What's wrong with this picture?*



***Drip bucket (good control) but they should be tightly sealed when not in use. Note the proximity to the storm drain.***

# Storm Water Pollution Prevention Training – Group Discussion

*What's wrong with this picture?*



***Staining on banks of ditch is evidence of release. Need to notify Environmental Compliance or Security.***

# SPCC Plan Training – Group Discussion

***What's wrong with this picture?***



***The drain port is left open. It must remain closed to prevent discharge of oil.***



# Minimum Control Measures

- Public Involvement and Participation
  - Involve the public in minimizing pollutants entering the MS4.
  - Our audience is the flying public and the facilities located on the LAC property.
  - Program includes the following BMPs:
    - Storm drain stenciling,
    - Informational brochures,
    - Public and Tenant surveys,
    - Tenant facility inspections,
    - Recycling and
    - Annual Tenant Training.

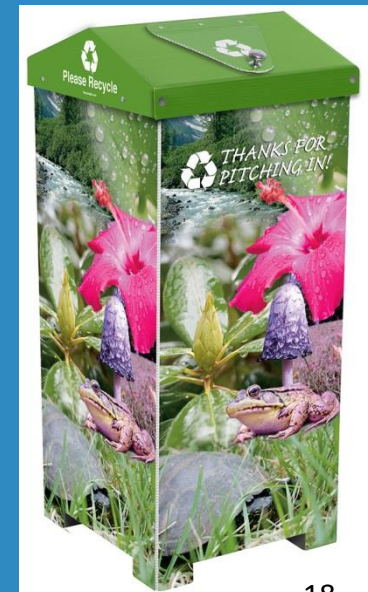




# Public Involvement and Participation

## Best Management Practices

- Storm Drain Stenciling
  - Stenciled drains throughout airport
  - Concentrating on problem areas
- Recycling
  - Batteries
  - Small electronics
  - Ink Cartridges
  - Paper, Plastic, Aluminum



# Public Involvement and Participation Best Management Practices



- Tenants and Public Surveys
  - Quarterly Tenant Surveys
    - Paired with Brochure
  - Semiannual Public Surveys
    - Focused on displays and brochures from Public Education and Outreach Program
  - Surveys assess knowledge and used to tailor program
  - Colorful displays and paper draw attention





# Minimum Control Measures

- Illicit Discharge Detection and Elimination
  - Program : education; ordinances, policy, lease agreements; and inspections.
  - Illicit discharges are detected through inspections
- Program includes the following BMPs:
  - Potential Pollutant Area Inspections
  - Storm drain stenciling
  - Informational Brochures
  - Storm Sewer Maps
  - Storm Sewer Inlet Protection

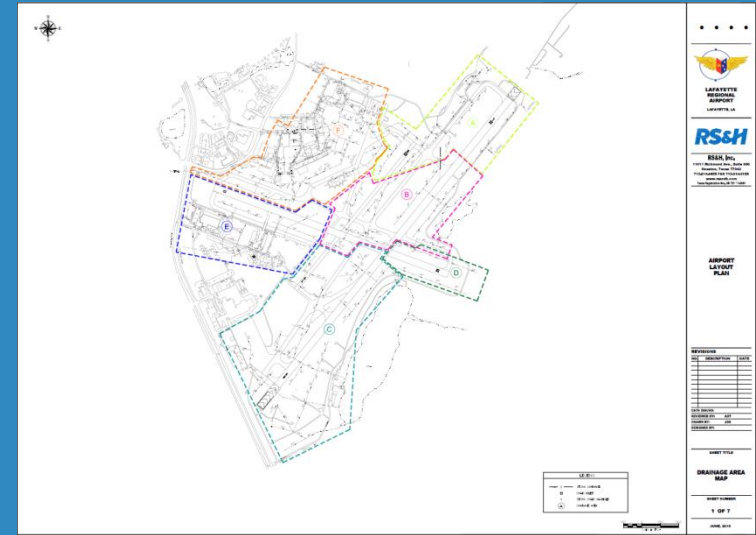




# Best Management Practices

## Illicit Discharge Detection and Elimination

- Storm Sewer Maps
  - Developed through storm drainage system inspections and historical information
  - Kept up to date
    - Construction Specification requiring inspections after construction projects that affect drainage system
- Storm Sewer Inlet Protection
  - Safe Drains
  - Installed in problem areas

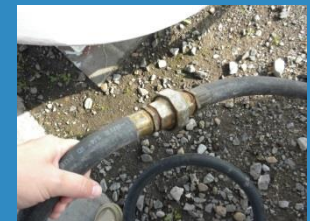
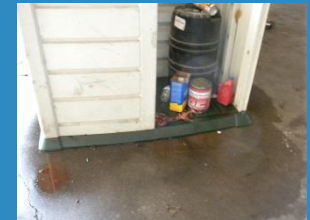




# Best Management Practices

## Illicit Discharge Detection and Elimination

- Potential Pollutant Area Inspections
  - Tenant facilities quarterly or annually,
    - Leaks, corroded or open containers, use of spill prevention measures, non stormwater discharges, proper materials storage, and debris
  - Quarterly outfalls visual
    - Condition of outfall and evidence of sheen, debris or other pollutants in discharge
  - Deicing season monthly deicing fluid area and outfall
    - Deicing fluid in outfall and review of deicing area and equipment
  - Weekly visual wash area inspections,
    - Evidence of sheen
  - Quarterly wash area discharge monitoring, and
    - Sheen, soap usage, and solids
  - Monthly inspections of ASTs
    - Corrosion, labeling, debris, leaks, condition of tank and containment, and stormwater release closed

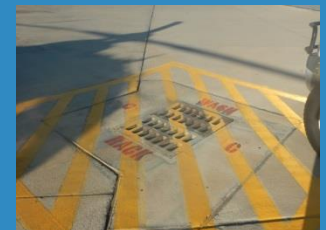
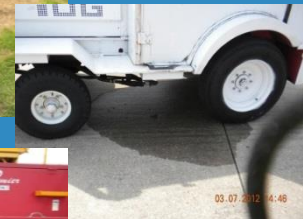




# Best Management Practices

## Illicit Discharge Detection and Elimination

- Tenant facilities quarterly or annual
  - Stay current on activities conducted
  - Develop relationship and trust
  - Walk facilities and identify issues
  - Educate
  - Work with Tenant to resolve
  - Follow up
- Wash Rack Inspections and Sampling
  - If issues are noted educate and work with tenants to resolve
  - Oil absorbent skimmers and filter mats are used in ensure debris and oil are not discharged
  - Post signs with washing procedures





# Best Management Practices

## Illicit Discharge Detection and Elimination

- Outfall Inspections
  - Review of discharges in the area
  - Issues found then trace back to source
  - Work with discharger through education to address any issues
  - If source cannot be found by LAC we inform the City and they aid us in resolving the issue
- Deicing Inspections
  - Monthly Inspection of Deicing area and Outfall
  - Annual Brochures
- Storage Tank Inspections
  - Airport owned tanks are inspected monthly
  - Tenant tanks are inspected quarterly





# Minimum Control Measures

- Construction Site Stormwater Runoff Control
  - Erosion controls, sediment controls, BMPs, and waste control are required by including verbiage in all plans and specifications. We also provide helpful tips in plans and specifications.
  - Compliance is ensured by including environmental personnel in weekly construction meeting.
  - LAC environmental personnel review all construction project plans and specifications.
  - Noted substantial change in contractor attitude, knowledge, and compliance with LPDES permit requirements.
- Program includes the following BMPs:
  - General Environmental Requirements Summary
  - SWPPP and NOI Review
  - Inspections
  - Webpage





- Included in all LAC and recommended for tenant construction projects

- Sheets developed for >5ac, between 1 and 5 ac sites and sites that do not require permitting

- Provides summary of environmental requirements for contractors

- We include a SWPPP Checklist and an example inspection form

[illegible][illegible]



# Best Management Practices

## Construction Site Stormwater Runoff Control

- SWPPP and NOI Review and Approval
  - Each project's SWPPP and NOI is reviewed
  - Contractors are not allowed to disturb any soil on the site until the SWPPP is approved
- Webpage
  - Section with information for contractors
    - Permits
    - Permit Forms such as NOI
    - LAC's General Requirements
    - SWPPP Checklist and example inspection form



world class. LAFAYETTE REGIONAL AIRPORT right here.

AIRLINES & FLIGHTS FLY LAFAYETTE CLUB TRAVELER INFORMATION ABOUT THE AIRPORT PRIVATE AVIATION & CARGO

### ABOUT THE AIRPORT

Environmental Management

Environmental Plans	Environmental Brochures
<b>Storm Water Pollution Prevention Plan (SWPPP)</b> The purpose of the SWPPP is to document the management practices that will be used to prevent pollution from the construction site. The SWPPP is a site-specific plan that is developed for each construction project. It is a legal requirement for all construction projects that disturb more than one acre of land or are part of a larger project that will disturb more than one acre of land. The SWPPP must be approved by the local authority having jurisdiction (LHJ) before construction begins. The SWPPP must be updated as the project progresses and must be available to all personnel working on the site.	<b>Storm Water Pollution Prevention Plan (SWPPP) Checklist</b> This checklist is used to ensure that the SWPPP is complete and accurate. It covers all the required elements of the SWPPP, including the site description, the proposed construction activities, the potential for pollution, and the management practices that will be used to prevent pollution. The checklist is used by the LAC staff to review the SWPPP and provide feedback to the contractor. The checklist is also used by the LAC staff to monitor the implementation of the SWPPP during construction.
<b>Best Management Practices (BMPs)</b> BMPs are the specific practices that are used to prevent pollution from the construction site. They are designed to control erosion, sediment, and other pollutants. BMPs are required for all construction projects that disturb more than one acre of land or are part of a larger project that will disturb more than one acre of land. The BMPs must be approved by the LHJ before construction begins. The BMPs must be updated as the project progresses and must be available to all personnel working on the site.	<b>Best Management Practices (BMPs) Checklist</b> This checklist is used to ensure that the BMPs are implemented correctly. It covers all the required elements of the BMPs, including the site description, the proposed construction activities, the potential for pollution, and the management practices that will be used to prevent pollution. The checklist is used by the LAC staff to review the BMPs and provide feedback to the contractor. The checklist is also used by the LAC staff to monitor the implementation of the BMPs during construction.
<b>Annual Environmental Training</b> All personnel working on the construction site must receive annual environmental training. The training is designed to educate personnel on the importance of environmental protection and the requirements of the SWPPP and BMPs. The training is provided by the LAC staff and must be documented.	<b>Annual Environmental Training Checklist</b> This checklist is used to ensure that all personnel working on the construction site receive annual environmental training. It covers all the required elements of the training, including the topics to be covered, the duration of the training, and the documentation of the training. The checklist is used by the LAC staff to review the training and provide feedback to the contractor. The checklist is also used by the LAC staff to monitor the implementation of the training during construction.
<b>Construction Site Maintenance Pollution Prevention Plan</b> The purpose of the Construction Site Maintenance Pollution Prevention Plan is to document the management practices that will be used to prevent pollution from the construction site. The plan is a site-specific plan that is developed for each construction project. It is a legal requirement for all construction projects that disturb more than one acre of land or are part of a larger project that will disturb more than one acre of land. The plan must be approved by the LHJ before construction begins. The plan must be updated as the project progresses and must be available to all personnel working on the site.	<b>Construction Site Maintenance Pollution Prevention Plan Checklist</b> This checklist is used to ensure that the Construction Site Maintenance Pollution Prevention Plan is complete and accurate. It covers all the required elements of the plan, including the site description, the proposed construction activities, the potential for pollution, and the management practices that will be used to prevent pollution. The checklist is used by the LAC staff to review the plan and provide feedback to the contractor. The checklist is also used by the LAC staff to monitor the implementation of the plan during construction.



# Best Management Practices

## Construction Site Stormwater Runoff Control

- Inspections
  - Inspect sites biweekly
    - Stormwater discharges
    - Nonstormwater discharges
    - BMPs
    - Discharge points
    - Construction entrance
    - Site cleanliness
    - Washout areas
    - Spills or Leaks
    - Storage areas
  - Work with contractors to address issues





# Best Management Practices

## Construction Site Stormwater Runoff Control

- As a side note
  - New Airport Terminal Project
    - Demolition of Hangars
    - Building of new cargo facility
    - Car Rental Facilities
    - Parking Garage
    - Reworking of Airport Entry roadways and parking
    - Airport Radar Infrastructure Movement
    - New Terminal Building





# Minimum Control Measures

- Post-Construction Stormwater Management
  - LCG aids LAC in meeting this control measure
  - Includes bonding requirements
  - Onsite Construction Inspector
  - Requires that contractors meet ordinances or other regulatory mechanisms developed by LCG
- Program includes the following BMPs:
  - Construction Environmental Requirements
  - Regulatory Review
  - BMP Inventory
  - Inspections





# Best Management Practices

## Post-Construction Stormwater Management

- General Environmental Requirements Summary for Contractors
  - Erosion controls, sediment controls, BMPs, waste control and final stabilization are required
- Regulatory Review
  - Review construction project plans and specifications





# Best Management Practices

## Post-Construction Stormwater Management

- BMP Inventory
  - track : BMP type, location, discharging waterbody and number of acres treated
- Post-Construction Inspections
  - Conducts inspections annually of airport property





# Minimum Control Measures

- Pollution Prevention/Good Housekeeping for Municipal Operation
  - Wastes handling
  - List of facilities that are subject to LPDES permit requirements
  - Enacted BMPs reduce pollutants
- Program includes the following BMPs:
  - Inspections
  - Annual Training
  - Environmental Staff Training
  - Annual Co-Permittee Meeting
  - Routine Sweeping of airport pavements
  - SPCC Plan
  - SWPPP





# Best Management Practices

## Pollution Prevention/Good Housekeeping for Municipal Operation

- LAC Facility Inspections
  - Quarterly Facility Inspections
    - Leaks, corroded or open containers, use of spill prevention measures, non stormwater discharges, proper materials storage, and debris
  - Weekly visual wash area inspections,
    - Evidence of sheen
  - Quarterly wash area discharge monitoring, and
    - Sheen, soap usage, and solids
  - Monthly inspections of ASTs
    - Corrosion, labeling, debris, leaks, condition of tank and containment, and stormwater release closed





# Best Management Practices

Pollution Prevention/Good Housekeeping for Municipal Operation

- Annual Co-permittee Meeting
  - Meet with MS4 members annually
- Sweeping Airport Ramp, Runways and Taxiways
  - regularly





# Minimum Control Measures

## Pollution Prevention/Good Housekeeping for Municipal Operation

- Stormwater Pollution Prevention Plan (SWPPP)
- Some BMPs enacted
  - label and tightly seal containers;
  - Store materials and equipment in covered areas where possible;
  - Maintain trash dumpsters;
  - Maintain work areas that are clean and dry;
  - Maintenance activities are performed indoors if possible;
  - Recycle or contain for proper disposal all waste;
  - Use drip pans/buckets to prevent oil and liquids from contacting the ground;
  - Sweep/vacuum pavement areas regularly;
  - Store vehicles and equipment on an impervious surface.





# Best Management Practices

Pollution Prevention/Good Housekeeping for Municipal Operation

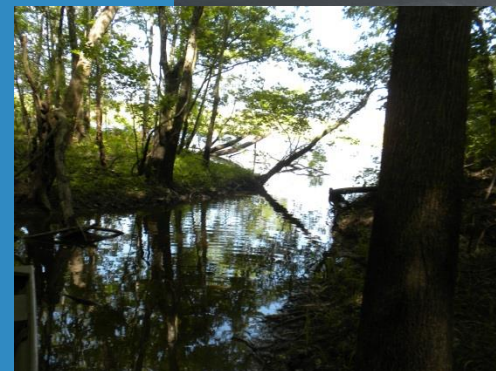
- Spill Prevention Control and Countermeasures (SPCC) Plan
- Annual Training
  - Applicable Staff attends
  - MS4 Permit, SWPPP and SPCC Plan
  - Environmental Staff Training





# Highlights or Lessons Learned

- Key Program Elements
  - Program Theme that relates to Audience
  - Knowledgeable Environmental Staff
  - Build relationships and trust
  - Inspection follow through



# Storm Water Pollution Prevention Training – Side Note

- In late 2015, the Water Environment Federation (WEF) announced the first winners of a new national municipal storm water and green infrastructure awards program. Lafayette Airport (as part of the Lafayette Consolidated Government co-permittee group) was recognized as the top Program Management for small MS4 permittees.





# Questions?

