Armand Bayou I-Plan
Stormwater, Industry, MS4 and Development Work Group

Aubin Phillips, Houston Galveston Area Council
Jurisdictions Involved

- Harris County
- City of Pasadena
- City of La Porte
- City of Houston
- City of Deer Park
- Taylor Lake Village

Additional Locations:
- Ellington Air Field
- Johnson Space Center
- Armand Bayou Nature Center
- University of Houston Clear Lake
Option to Join the BIG I-Plan

• The Coordination Committee has discussed the possibility of joining the BIG I-Plan as opposed to creating their own I-Plan
  – This would require having a completed TMDL and could be discussed at the next BIG annual meeting in May 2014

• The Coordination Committee has also discussed using the BIG I-Plan as a “menu”
Issues Raised

- Pasadena Fairgrounds
- Pasadena School District
- Landfills?
- Illicit dumping from waste haulers
- Restaurant and Food service grease traps
• Implementation Activity 5.1: Increase Compliance with and Enforcement of Storm Water Management Permits
  
  **Sub-activity 5.1.1:** Increase enforcement at construction sites by increasing percentage of sites inspected
  
  **Sub-activity 5.1.2:** Develop and distribute educational material to inform contractors, construction site owners, developers, MS4 operators, and citizens of proper construction site practices
  
  **Sub-activity 5.1.3:** Conduct training workshops for contractors, construction site owners, developers, and MS4 operators regarding storm water management best management practices and encourage them to in turn require training of their crews

• Implementation Activity 6.2: Develop Model Ordinances for Pet Waste and Waste Haulers
Example From Other Plans

- **Implementation Activity 4.1**: Continue Existing Programs

**Implementation Activity 4.2**: Model Best Practices

*Sub-activity 4.2.1*: Create and maintain an online library of best practices

*Sub-activity 4.2.2*: Coordinate networking meetings

**Implementation Activity 4.3**: Encourage Expansion of Storm Water Management Programs

*Sub-activity 4.3.1*: Encourage permitted MS4 communities to voluntarily expand and refine elements of their storm water programs that address bacteria

*Sub-activity 4.3.2*: Encourage local governments without MS4 permits to voluntarily develop and implement a storm water management program to address bacteria loading

*Sub-activity 4.3.3*: If voluntary measures are not implemented or bacteria reduction is not being achieved, petition the TCEQ to mandate storm water program development

**Implementation Activity 4.4**: Promote Recognition Programs for Developments that Voluntarily Incorporate Bacteria Reduction Measures

*Sub-activity 4.4.1*: Encourage voluntary participation in existing recognition programs

*Sub-activity 4.4.2*: Develop a recognition program specific to storm water and land development in the BIG area

**Implementation Activity 4.5**: Provide a Circuit Rider Program

**Implementation Activity 4.6**: Petition the TCEQ to Facilitate Reimbursement of Bacteria Reduction Measures
<table>
<thead>
<tr>
<th>(a) Causes/Sources</th>
<th>(b) Implementation Activities and Targeted Critical Areas</th>
<th>(c) Estimated Potential Load Reduction</th>
<th>(d) Technical and Financial Assistance Needed for Each Activity</th>
<th>(e) Education Component for Each Activity</th>
<th>(f) Schedule of Implementation for Each Activity</th>
<th>(g) Interim, Measurable Milestones for Each Activity</th>
<th>(h) Indicators to Measure Progress</th>
<th>(i) Monitoring Component</th>
<th>(j) Responsible Entity</th>
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</thead>
<tbody>
<tr>
<td>Runoff from construction sites</td>
<td>IA 5.1 - increase compliance with and enforcement of storm water quality permits through.</td>
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<td>The amount of bacteria leaving individual construction sites may be reduced by up to 85% if water quality best management practices are implemented for the first time and to the full extent possible.</td>
<td>Education materials explaining proper construction site practices will be developed and distributed to contractors, construction site owners, M54 operators, developers, and citizens. Training workshops will be held for contractors, construction site owners, developers, and M54 operators regarding storm water quality best management practices.</td>
<td>Year 1: M54s must evaluate the need or requirement for staffing an appropriate construction inspection program. If needed, additional inspectors must be hired as resources are available. Year 2: Develop and begin distributing educational materials and trainings.</td>
<td>Evaluations conducted regarding the need or requirement for staffing an appropriate construction inspection program and subsequent increases in staffing levels as needed. Development, distribution, and offering of educational materials and trainings.</td>
<td>Increases in inspection capacity Number of educational materials distributed and the number of groups receiving educational materials Number of trainings offered and the number of attendees</td>
<td>M4s: evaluate the need or requirement for staffing an appropriate construction inspection program and increase staffing levels as needed and as resources are available. H-GAC: develop and distribute educational materials, develop and offer trainings, report on the progress made each year. B-GAC: Evaluate progress, make recommendations as appropriate</td>
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<td>Storm water runoff</td>
<td>Implementation Activity 4.1. Continue Existing Programs</td>
<td>In conjunction, IAs 4.1 through 4.6 are expected to reduce bacteria loading from storm water and land development by up to 20% over the entire implementation process</td>
<td>Technical: No additional technical assistance is needed to undertake this activity. Financial: Existing local funding and grant funding as available</td>
<td>Education will be provided as specified in existing programs.</td>
<td>As resources are available, implementation of this activity will begin immediately and will continue for the entire implementation process.</td>
<td>[need to identify the number of existing MS4 permits in our area; this will determine # of programs that will be continued]</td>
<td>Reports provided by stakeholders to the BIG regarding continuation of the programs</td>
<td>H-GAC will collect reports from appropriate entities</td>
<td>Cities, counties, TCEO, and permitted MS4 communities, and other stakeholders: Continue existing programs, report progress to the BIG.</td>
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<tr>
<td>Storm Water &amp; Land Development</td>
<td>Implementation Activity 4.2. Model Best Practices</td>
<td>In conjunction, IAs 4.1 through 4.6 are expected to reduce bacteria loading from storm water and land development by up to 20% over the entire implementation process</td>
<td>Technical: Technical assistance will be provided by stakeholders through the participation process. Financial: Existing local funding and grant funding as available</td>
<td>As resources allow, collaborative networking meetings will be offered on an ongoing basis to address the topics of minimum control measures required in MS4 permits and/or related BMPs. Website highlighting best practices</td>
<td>As resources are available, implementation of this activity will begin immediately and will continue for the entire implementation process.</td>
<td>Four to six networking meetings each year. Five local programs highlighted on H-GAC or other appropriate website each year</td>
<td>Number of meetings each year. Number of attendees at networking meetings. Number of programs highlighted on website. Number of visitors to the website. Number of programs modified as a result of meetings or evaluation of model programs</td>
<td>H-GAC will collect reports from appropriate entities</td>
<td>Cities, counties, TCEO, and permitted MS4 communities, and other stakeholders: Provide information to the BIG regarding model programs, attend meetings, view website.</td>
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Requirements of the Clean Water Act (1972)

• Identify impaired water bodies
• Develop Plans (Total Maximum Daily Loads) to determine extent of problem
• Complete TMDLs and Implementation Plans to bring the water up to standards
Total Maximum Daily Load (TMDL) Has Two Meanings

A TMDL is a tool which:
- Determines the maximum amount of a Particular pollutant (load) that a water body can absorb and still maintain its standards

A TMDL is also a document submitted to the EPA that:
- Identifies the pollutant of concern and its sources, specifies the allowable amount and serves as a framework for corrective action
Elements of an Implementation Plan (I-Plan)

- Management Measures
- Implementation Schedule
- Follow-up Monitoring Plan
- Voluntary Implementation on Non-Point Source Pollution
- Measurable Outcomes
Summary of the TMDL

Implementation Strategy (*adaptive management, check-ins*)

Management Measures and Control Actions (*implementation activities*)

Sustainability (tracking progress over time)

Water Quality Indicators (monitoring results)

Communication Strategy (information out to the public)
Areas Where I-Plans are Completed
Process Conclusions

- Mechanism to address regulated sources
- Mechanism to address complex water quality issues of NPS pollution
- Promote intergovernmental cooperation
- Require community support and input
Plan for the Year:

**January to April 2013**
- Coordination Committee Forms
- Appoint Work Groups

**April to May 2013**
- Work Groups Begin Meeting
- Work Groups Develop Recommendations

**May to August 2013**
- Report drafting, editing, building support
Thank You!