TACKLING WATER QUALITY IN HIGHLY DEVELOPED INDUSTRIAL AND COMMERCIAL AREAS

City of St Cloud Northeast Stormwater Projects

Noah Czech, City of St. Cloud
April Ryan PE, SEH
BACKGROUND

367 Acre Watershed
96” Outfall
Mississippi River
St. Cloud Source Water
BACKGROUND

Commercial & Industrial Land Use
58% of Drainage Area
2012 NORTHEAST DRAINAGE ANALYSIS

Over $4 Million in Projects

Oversight & Enforcement
- Impervious Reduction / Disconnection
- Sump Catch Basins
- Regional Treatment
- Street Sweeping
- Bioretention
- Education

367 Acre Watershed Load
- TSS: 67.8 tons/yr
- TP: 326 lbs/yr

Prioritization Based on Loading, Cost & Location
- Water Quality Modeling / Load Estimates
- Project Identification Prioritization
- Cost Estimates
PROJECTS / FUNDING

$881,250 Total Funds
- $705,000 Grant
- $176,250 Local Match

PROJECTS
- Street Sweeper
- Catch Basin Sumps
- Regional Treatment

$400,000 Total Funds
- $200,000 Grant
- $150,000 Local Cash
- $50,000 In Kind

PROJECTS
- Green Right-of-Ways
- Bioretention
Street Sweeping

Street Sweeper
Purchased 2015
Delivery 2016
Cost = $160,000

Estimated Reduction
- TSS: 3.7 tons/yr
- TP: 1.8 lbs/yr
CATCH BASIN SUMPS

4 Sumps Installed 2015
Project Cost = $90,000

Goal of 60 Sumps
Estimated Reduction

- TSS: 13.3 tons/yr
- TP: 47.0 lbs/yr
Regional Treatment

Underground Treatment

Estimated Reduction
- TSS: 4.5 tons/yr
- TP: 17.6 lbs/yr

Estimated Project Cost
$430,000

Design Winter 2015 / 2016
Construction Summer 2016

45 Acre Drainage Area
(75% Impervious)
Approximate Footprint 200’ x 60’
GREEN RIGHT-OF-WAYS

Estimated Reduction
- TSS: 4.0 tons/yr
- TP: 15.0 lbs/yr

1.27 acres of Converted Pervious
6.79 acres of Disconnected Impervious

Design Winter 2015 / 2016
Construction Summer 2016
BIORETENTION
Preliminary Project Locations

Estimated Reduction
- TSS: 1.0 tons/yr
- TP: 4.0 lbs/yr

1 Site In Final Design Stage
3 Other Preliminary Locations
Estimated Reduction

- TSS: 0.26 tons/yr
- TP: 0.57 lbs/yr

0.85 Acre Drainage Area

Design Winter 2015 / 2016
Construction Summer 2016

EDA Parking Lot
## PROJECT SCHEDULES

<table>
<thead>
<tr>
<th>NORTHEAST ST. CLOUD ACTIVE STORMWATER PROJECTS</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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</thead>
<tbody>
<tr>
<td>Right-of-way Greenification</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
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<td>Property Owner Education &amp; Public Meeting</td>
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<td>Design</td>
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<td>Construction</td>
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<tr>
<td>EDA Parking Lot Bio-retention</td>
<td>Q1</td>
<td>Q2</td>
<td>Q3</td>
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<td>Final Design</td>
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<td>Advertise, Bid, Award Contract</td>
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<td>Construction</td>
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<td>NE Regional Treatment</td>
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<tr>
<td>Easement, Preliminary &amp; Final Design</td>
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<td>Advertise, Bid, Construction</td>
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<tr>
<td>NE Bio-retention Projects (U-Haul, St. Kates, St. Augustine, Holiday Gas Station)</td>
<td>Q4</td>
<td>Q1</td>
<td>Q2</td>
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<tr>
<td>Develop Project with Property Owners</td>
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<td>Design, Advertise, Bid, Award Contract</td>
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<td>Construction</td>
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### 2015

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<tr>
<th>Year</th>
<th>Q4</th>
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<th>Q3</th>
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NEXT STEPS

2015-2016 PROJECTS:
39% Reduction in TSS
26% Reduction in TP

LONG TERM GOAL:
70% Reduction in TSS
62% Reduction in TP
QUESTIONS?
City of St Cloud Northeast Stormwater Projects

Noah Czech, City of St. Cloud
April Ryan PE, SEH