INNOVATIVE CONSTRUCTION
STORMWATER MANAGEMENT
A TRANSPORTATION ENVIRONMENT
CASE STUDY

Barry Fagan, PE/PLS, ENV SP
CPESC, CPMSM, CESSWI
ALDOT ENVIRONMENTAL

AN EVOLUTION OF THINKING, FOCUS, AND APPLICATION (PHILOSOPHY)

“If we put off doing right things…”
ENVIRONMENTAL VISION:

AN INTEGRATED ENVIRONMENTAL CULTURE...
ALDOT’S MISSION:

TO PROVIDE A TRANSPORTATION SYSTEM...
ODOT’S MISSION:

TO PROVIDE EASY MOVEMENT OF PEOPLE AND GOODS …
ALDOT ENVIRONMENTAL

AN EVOLUTION OF THINKING, FOCUS, AND APPLICATION (TECHNICAL)
The Five Pillars of Construction Stormwater Management
A = R K LS C P

A = average annual soil loss

tons/acre/year
A CASE STUDY
MISSION – ACTIVITIES – IMPACTS - RESPONSIBILITIES

Project Mission:
- to add two lanes to a section of I20/59 in Tuscaloosa

• Widen to inside
• Governor priority
• 50,000 ADT
• 45% trucks
A CASE STUDY
A CASE STUDY
MISSION:

A CASE STUDY
MISSION:

A CASE STUDY
ACTIVITIES (traditional):

A CASE STUDY
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ACTIVITIES (traditional):
POTENTIAL IMPACTS:

• IMPACTS TO WATER QUALITY
• IMPACTS TO HABITAT
• IMPACTS TO PRIVATE PROPERTY
• REGULATORY ACTIONS
• CIVIL ACTIONS
• EMBARRASSMENT
• LOSS OF TRUST AND GRACE
ENVIRONMENTAL RESPONSIBILITIES:

• REGULATORY REQUIREMENTS
  • GENERAL PERMIT
  • TMDL –
    • 32% TURBIDITY REDUCTION
    • 60.8 NTU LIMITATION

• SOCIAL EXPECTATIONS
  • HURRICANE CREEKKEEPER
  • FRIENDS OF HURRICANE CREEK
  • BLACK WARRIOR RIVERKEEPER
  • CLEAN WATER PARTNERSHIP
  • ALDOT COMMITMENT TO PROTECT THE ENVIRONMENT
MISSION ➔ ACTIVITIES ➔ POTENTIAL IMPACTS ➔ ENVIRONMENTAL RESPONSIBILITIES

HOW?
Project Mission:
- to add two lanes to a section of I20/59 in Tuscaloosa

• Widen to inside
• Governor priority
• April letting
THE FIVE PILLARS OF CONSTRUCTION STORMWATER MANAGEMENT

• **COMMUNICATION** - *THE* BEST MANAGEMENT PRACTICE.

• **WORK** - CONTRACTORS CAN DO JUST ABOUT ANYTHING.

• **WATER** - CLEAN WATER IN, CLEAN WATER OUT.

• **EROSION** - GREEN IS GOOD.

• **SEDIMENT** - SEDIMENT CONTROL ALONE IS INEFFECTIVE.
\[
A = P \cdot K \cdot L \cdot S \cdot C \cdot P
\]

A = sediment yield in tons/acre/year
A CASE STUDY

ACTIVITIES (alternate):
ACTIVITIES (alternate):
A CASE STUDY

ACTIVITIES (alternate):
A CASE STUDY

ACTIVITIES (alternate):
A CASE STUDY

ACTIVITIES (alternate):
“WE CAN’T DICTATE THE CONTRACTOR’S MEANS AND METHODS… CAN WE?”

• WHY NOT?
• THE CONTRACTOR WORKS FOR US, RIGHT?
• WE HAVE DIFFERENT INTERESTS.
• WE HAVE EXPERTISE WHERE THEY DON’T.
“DIDN’T THAT SLOW PRODUCTION?”

• CONTRACTOR:
  • “WE MAY HAVE BEEN SHUT DOWN FOR A DAY AFTER A RAIN, NOT A WEEK.”
  • “UNLESS THE RAIN WAS FALLING, WE WERE WORKING.”
“DIDN’T THAT SLOW PRODUCTION?”

• CONTRACTOR:
  • “WE WOULD HAVE WAITED UNTIL APRIL TO START RATHER THAN LAST NOVEMBER... AND WE WOULD NOT HAVE BEEN SHIFTING TRAFFIC TODAY.”
  • “PRODUCTION WAS INCREASED BY AT LEAST 35%.”
“WHAT ABOUT QUALITY?”

“This is actually a better structural buildup.”

- Lyndi Blackburn, P.E.

ALDOT Asst. State Materials & Tests Engineer
“IF YOU DON’T MIND ME ASKIN’, HOW MUCH DID SHE SET YOU BACK?”

- SIGNIFICANT DIRECT CONTRACT COST INCREASES
  NOT CONSIDERING SAVINGS DUE TO IMPROVEMENTS IN -
  - SAFETY
  - REDUCTION IN TRAFFIC DELAYS
  - PRODUCTION
  - HEADACHE
DO YOU REALIZE WHAT WE JUST DID?

- ENVIRONMENTAL PROTECTION, WITH BENEFITS IN...
  - QUALITY
  - SAFETY
  - TRAFFIC
  - PRODUCTION
  - COST
“I HAVE NEVER SEEN A BETTER RUN ROAD PROJECT BY ALDOT.”

“THAT DOESN'T MEAN I BELIEVE THEY CAN BUILD THE EASTERN (BOONDOGLE EXPRESSWAY) BYPASS WITH THE SAME CONTROL. WE'LL SEE.”

- John Wathen
  Hurricane Creekkeeper Blog
  June, 2015