

# ENVIRONMENTAL MANAGEMENT SYSTEMS IN TRANSPORTATION

## Lessons from State Highway 130 in Central Texas

Presented by:

**Jason Buntz**  
Environmental Compliance Program Manager  
*Hicks & Company*  
SH 130 Environmental Compliance Manager  
*Lone Star Infrastructure*

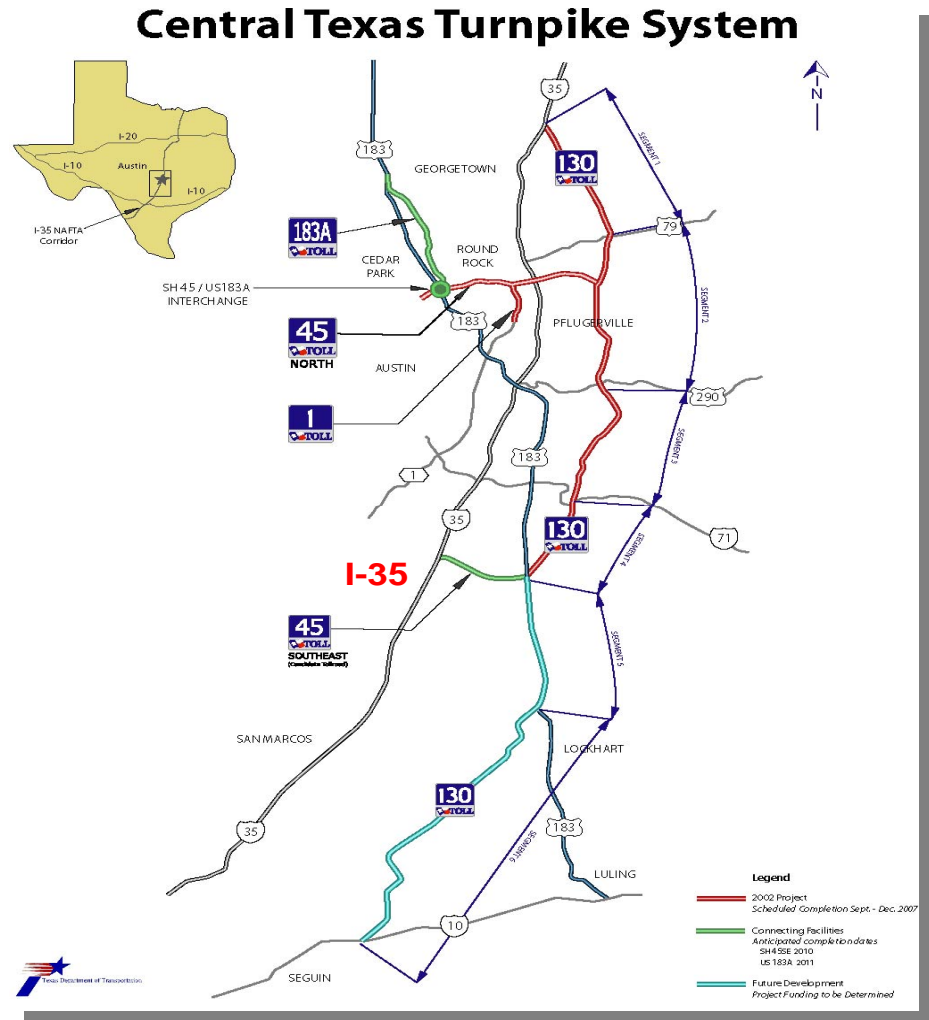


ENVIRONMENTAL  
ARCHEOLOGICAL  
AND PLANNING  
CONSULTANTS



# Texas Highway 130 – Improving Environmental Performance with On-time Delivery

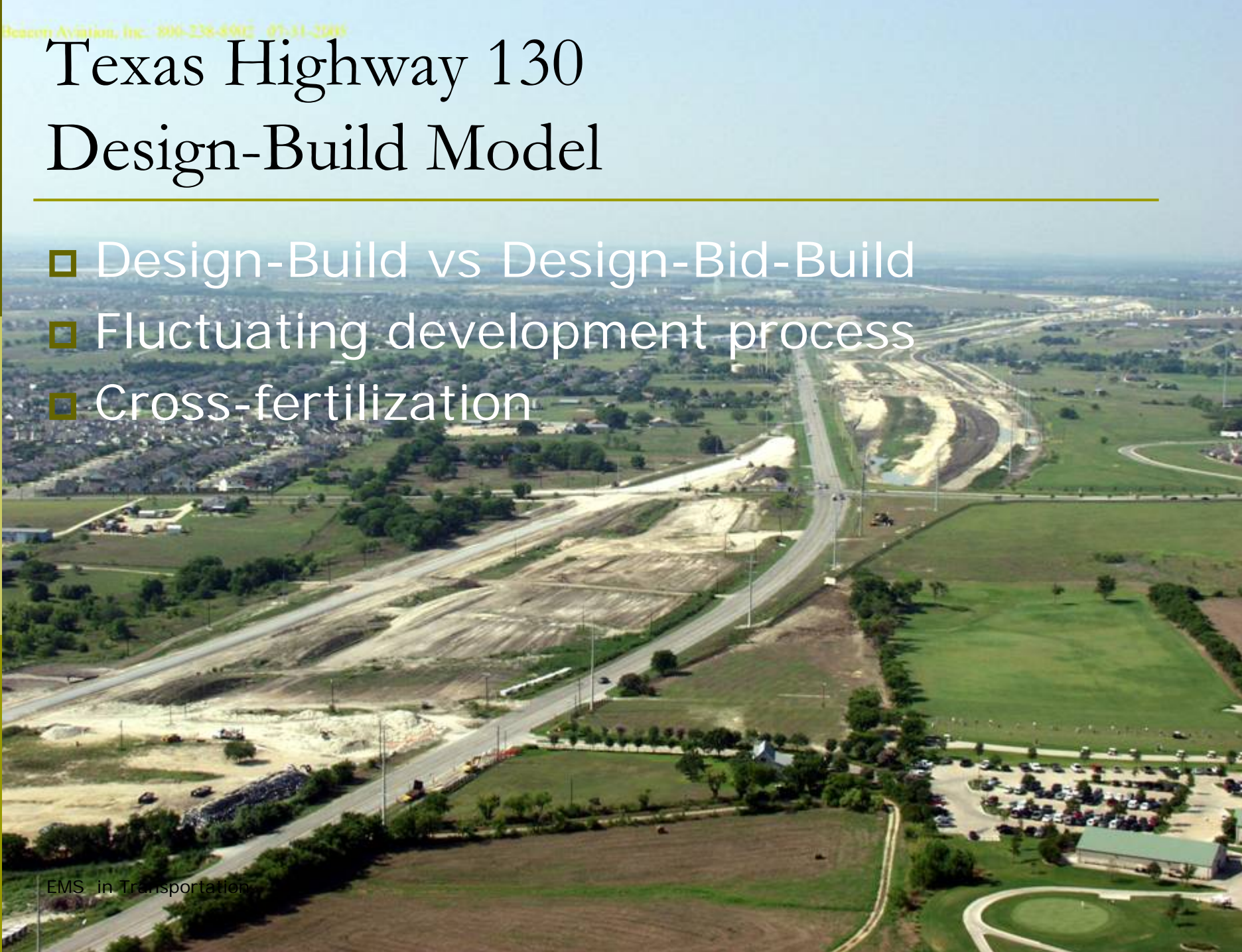
- 90 mile tolled reliever for IH 35 in Central Texas
- Design/Build Exclusive Development Agreement
- Fast-track development—1<sup>st</sup> 49 miles due to open <6 years from NTP-1
- Includes liquidated damages for missing delivery dates



# Texas Highway 130 Design-Build Model

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- Design-Build vs Design-Bid-Build
- Fluctuating development process
- Cross-fertilization



# Texas Highway 130

## Environmental Requirements

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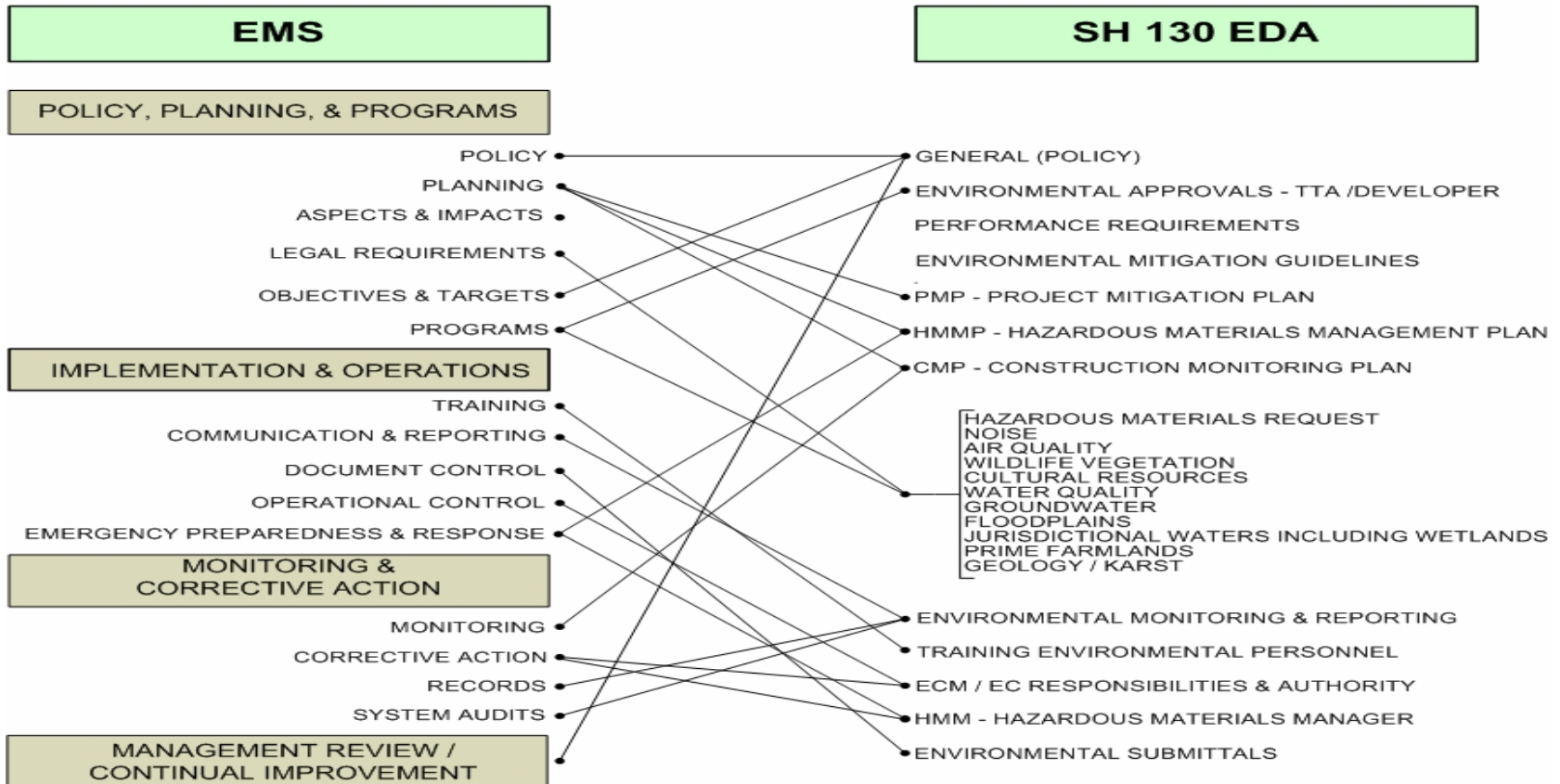
- ❑ EDA Exhibit B, Section 4 Environmental Requirements
  - Independent Environmental Compliance Manager dedicated full time
    - ❑ Team of biologists, archeologists, hazardous materials specialists, water quality specialists
    - ❑ Independent Environmental Compliance Inspectors
  - “Zero Environmental Violations” policy
  - Comprehensive Environmental Protection Program
    - ❑ Monitoring and reporting
    - ❑ Training for all Developer employees
    - ❑ Permit deliverables and mitigation



# Texas Highway 130

## EMS vs. EDA

### EMS OPERATIONALIZES EDA FRAMEWORK



# Texas Highway 130

## EMS Options

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- Available EMS Models
  - ISO 14001
  - EPA Performance Track
  - ***TCEQ EMS Program***
  - American Chemistry Council
- LSI Certified under TCEQ Program
  - Regulatory Incentives
  - Performance based vs. conformance based
- LSI enters at Partner level in 2004
  - Paper-recycling program
  - Community outreach
  - Land/wildlife habitat conservation



# LSI and Clean Texas

## EMS Audit

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- Initial EMS audit June 2005
  - Moderate non-conformance in 2 key areas
    - Performance measurement
    - Objectives and targets
  - Considerable room for improvement

# LSI and Clean Texas

## Performance Measurement

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- LSI Environmental Performance Measurement Program
  - Uses long-standing safety initiative of self-assessment
  - Tailored to construction disciplines
  - Foremen perform self-assessments weekly
    - Scores tabulated and presented to Sr. Mngt. to show trends by discipline and by geographic area
    - Individual assessments addressed directly with construction manager



# LSI and Clean Texas

## Meaningful Objectives

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- Updated Aspects & Impacts analysis
  - New significant aspects determined
  - New Objectives and Targets
    - **Increase recycled content 50% by 2006**
    - Lower diesel emissions 5% by 2006
    - Reduce reportable spills 50% by 2006
    - Increase land/wildlife habitat conserved 50% by 2006
    - Reduce generation of vegetative debris 50% by 2006
- Follow up audit Oct 2006 to confirm improvements
  - Noted conformance in all areas
  - Recommended approval for LSI at the **Gold** Level
  - Approval granted Feb 07

# Other EMS Elements

## Environmental Protection Training

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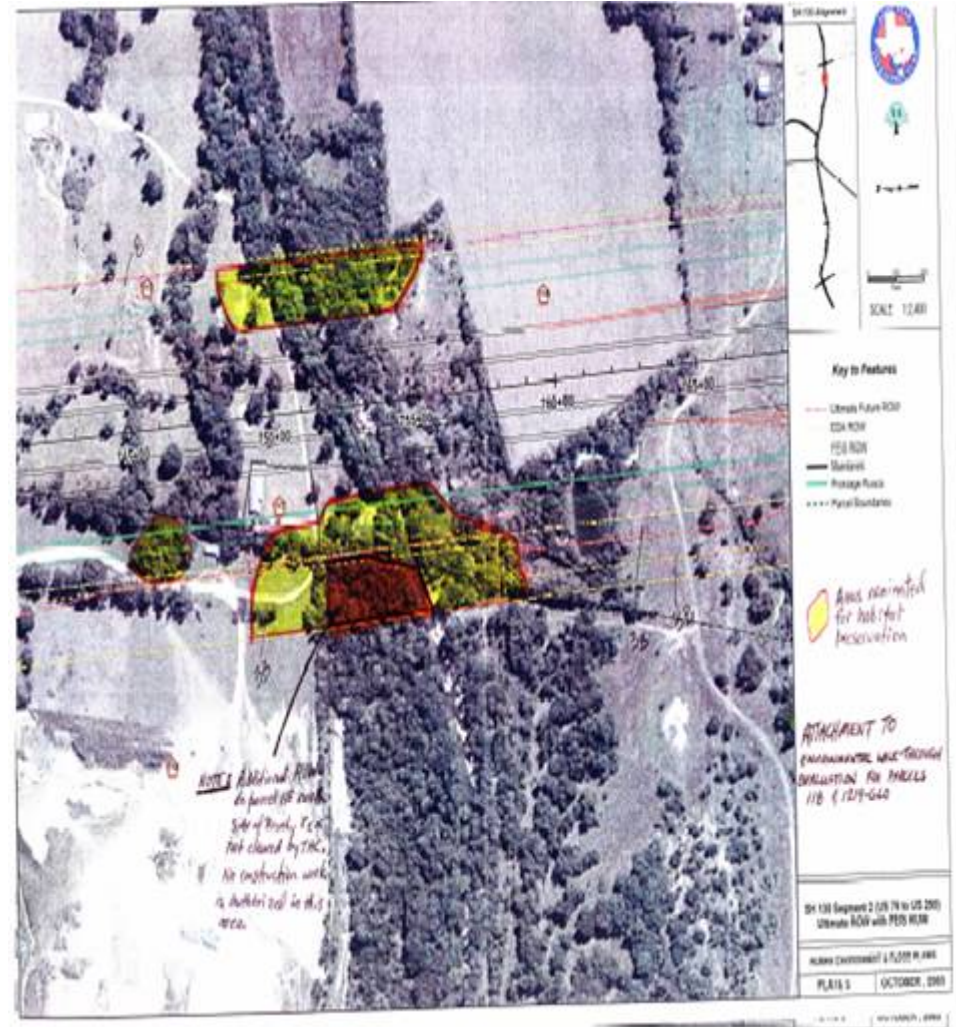
- Training
  - Level 1—Everyone
  - Level 2—Foremen, Supervisors, Inspectors
    - Toolbox—Response to Current Issues
      - Spill response
      - Work in Creeks
      - Erosion Controls
      - Habitat Protection
  - Awards Incentive Program



# Other EMS Elements

## Environmental GIS Database

- Environmental GIS
  - Spatial database
  - Inventory of sensitive areas
  - Track new/changed compliance issues
  - Adaptive management program documentation
  - Audit tool—EMS requirement



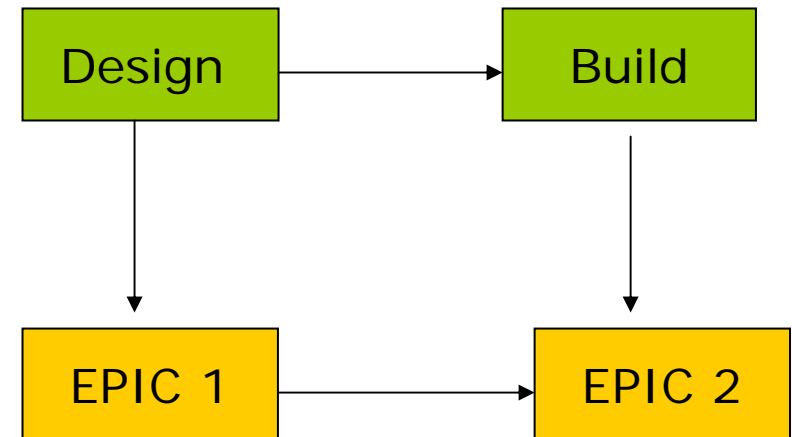
# Other EMS Elements

## Environmental, Permits, Issues and Commitments

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- ❑ Environmental Permits, Issues & Commitments
- ❑ The NEPA Document
- ❑ EPIC Drivers
  - NEPA
  - Regulatory programs (e.g., 404/401 Permit)
  - Exclusive Development Agreement
  - Developer Commitments

- ❑ EPIC in Design-Build



# Other EMS Elements Environmental, Permits, Issues and Commitments

## EPIC 2—Example

DATE OF PREPARATION: 12/15/09  
BY: J. W. HARRIS, ENVIRONMENTAL COMPLIANCE UNIT

### ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

**PROJECT LIMITS:**  
SECTION 1, SECTION 2  
FROM SECTION 2 TO SECTION 3  
FROM SECTION 3 TO SECTION 4

**TRAINING:**  
CONTRACT AND DOCUMENT ALL OF THE FOLLOWING:  
• SAFETY AND HEALTH TRAINING FOR CONSTRUCTION AND MAINTENANCE WORKERS  
• SAFETY AND HEALTH TRAINING FOR OPERATIONAL AND MAINTENANCE PERSONNEL  
• ENVIRONMENTAL TOOL BOX TRAINING FOR SECTION 2.

**ARCHEOLOGICAL:**  
SPECIFIC ARCHEOLOGICAL SITES IN THE AREA OF CONSTRUCTION. SEE DRAWINGS 68 AND 69 FOR A DESCRIPTION OF USABLE AREAS TO BE EVALUATED BY THE ENVIRONMENTAL COMPLIANCE UNIT PRIOR TO CONSTRUCTION.

DO NOT EXCAVATE OR ARCHAEOLOGICAL SITES NOT RELATED FOR CONSTRUCTION BY THE TRANSPORTATION COMMISSION.

IF ANY SITES ARE DISCOVERED IN AN AREA OF ARCHAEOLOGICAL INTEREST, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE AREA AND NOTIFY THE ENVIRONMENTAL COMPLIANCE UNIT PRIOR TO ANY FURTHER WORK IN THE AREA.

**WILDLIFE HABITAT RESTORATION:**  
SPECIFIC HABITAT TO BE PROTECTED IN SECTION 2. SEE DRAWINGS 68 TO 69 FOR A DESCRIPTION OF USABLE AREAS TO BE EVALUATED BY THE ENVIRONMENTAL COMPLIANCE UNIT PRIOR TO CONSTRUCTION.

IF ANY HABITAT AREAS ARE DISCOVERED IN AN AREA OF ARCHAEOLOGICAL INTEREST, THE CONTRACTOR SHALL IMMEDIATELY STOP WORK IN THE AREA AND NOTIFY THE ENVIRONMENTAL COMPLIANCE UNIT PRIOR TO ANY FURTHER WORK IN THE AREA.

**WATER QUALITY:**  
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# Other EMS Elements

## Environmental, Permits, Issues and Commitments

### □ EPIC 2—Example

Technical drawing showing three 'DO NOT ENTER' signs with dimensions and legends:

- Top Left Sign:** 'DO NOT ENTER' sign. Legend: 1.8\"/>

ERI - (A)
- Top Right Sign:** 'WETLAND AREA DO NOT ENTER' sign. Legend: 1.8\"/>

ERI - (B)
- Bottom Center Sign:** 'WILDLIFE HABITAT DO NOT ENTER' sign. Legend: 1.8\"/>

ERI - (C)

**NOTES:**

- SEE STANDARD DETAILS FOR SIGN MOUNTING AND POST DETAILS OR MOUNTING PLANS, LIST OF STANDARDS AND DETAILS AND DETAILS DETAILS.

**PROJECT INFORMATION:**

PROPOSED FOR CONSTRUCTION  
 DEC 3 1 2003  
 Lone Star Infrastructure

*David A. Zales*  
 CIVIL ENGINEER  
 LICENSE NO. 10001

STATE DEPARTMENT OF TRANSPORTATION  
 SECTION 7 - ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS  
 SIGN DETAIL SHEET

SCALE: HTS  
 SHEET 2 OF 11 SHEETS

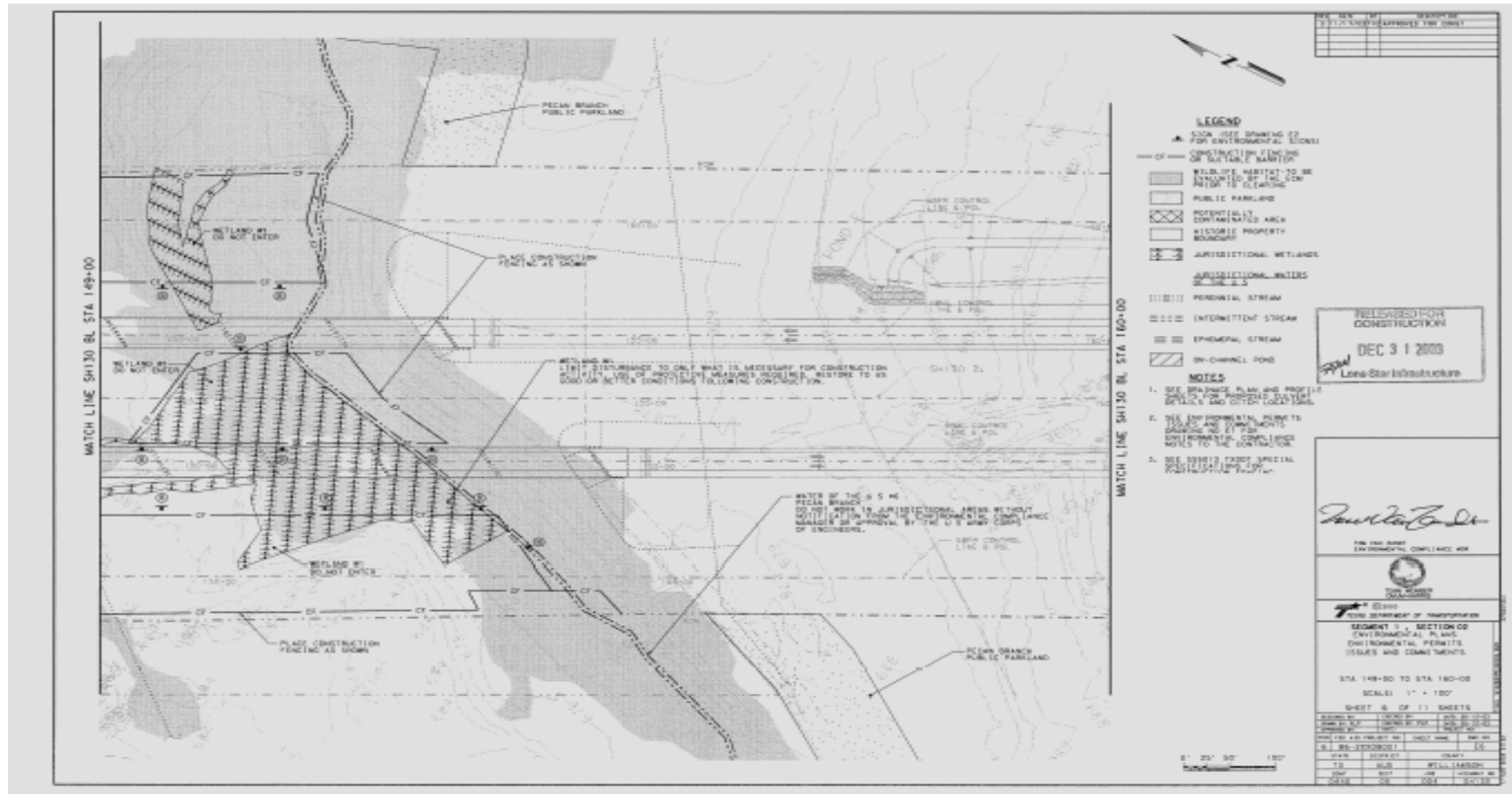
| NO. | REVISION               | DATE     |
|-----|------------------------|----------|
| 1   | ISSUE FOR CONSTRUCTION | 12/03/03 |
| 2   | REVISED PER COMMENTS   | 12/03/03 |
| 3   | REVISED PER COMMENTS   | 12/03/03 |
| 4   | REVISED PER COMMENTS   | 12/03/03 |
| 5   | REVISED PER COMMENTS   | 12/03/03 |
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| 49  | REVISED PER COMMENTS   | 12/03/03 |
| 50  | REVISED PER COMMENTS   | 12/03/03 |



# Other EMS Elements

## Environmental, Permits, Issues and Commitments

### EPIC 2—Example



# Other EMS Elements

## Community Environmental Service Projects

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- Community Environmental Service Projects
  - Tree relocation
  - Bat House Installation
  - Fish Relocation
  - Wildlife rescue and rehabilitation
  - Ozone Action Awareness



# Popham Elementary

## Blackland Prairie Restoration Project

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- ❑ School made plans in 1999 to restore campus damaged by erosion and development
- ❑ Grant from Tx Parks and Wildlife got the project started
- ❑ Outdoor “living laboratory”
  - Educational tool
  - Horticultural therapy for students
  - Community wide effort
- ❑ Awards and Recognition
  - Ruthe Jackson Youth Leadership Awards 2004-2005
  - Keep Austin Beautiful – 2005 Best of the Best Award

# Popham Elementary Blackland Prairie Restoration Project

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[www.del-valle.k12.tx.us/dvisd/Popham/BlackLand/Blackland.html](http://www.del-valle.k12.tx.us/dvisd/Popham/BlackLand/Blackland.html)

EMS in Transportation



# Tree Rescue Project

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# Popham Elementary School - Before

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# Max Foradory & Big Trees

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# Popham Elementary - 200 1<sup>st</sup> & 3<sup>rd</sup> Graders

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# Popham Elementary - 200 1<sup>st</sup> & 3<sup>rd</sup> Graders

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# Popham Elementary School - After

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## Other Related SH 130 Efforts

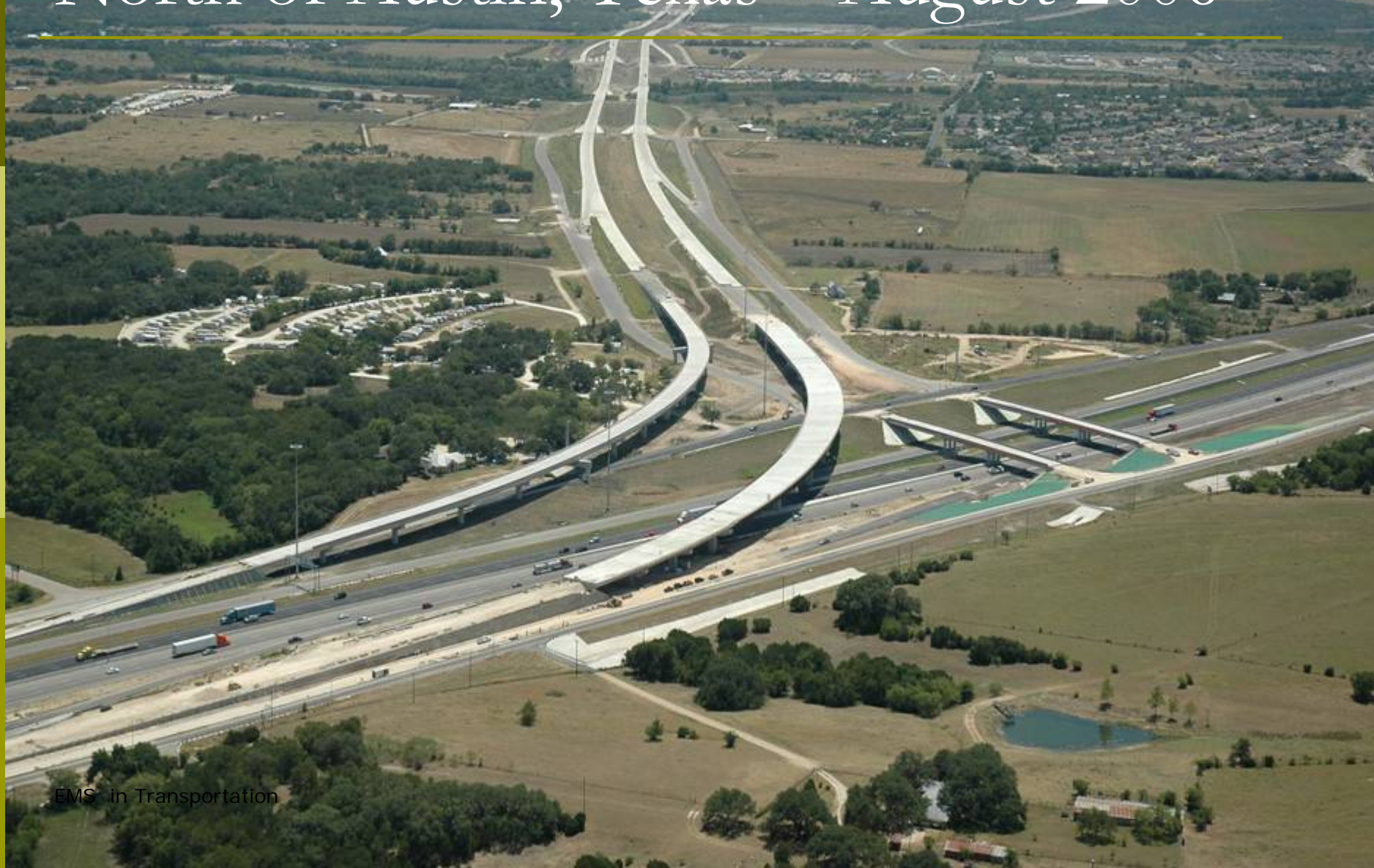
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- Donated over 4,500 wetland plants to the COA Parks and Recreation Dept – Preserves Management Division – Mr. Rene Barrera
- Donated Live Oaks, Elms and 25-30 shrubs to the Pflugerville Parks Department for use at Heritage Park
- Donated a large Pecan to Popham in April 2006



# State Highway 130 and Interstate 35 North of Austin, Texas – August 2006

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# State Highway 130 at Brushy Creek North of Austin – April 2007

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EMS in Transportation

Aviation, Inc. 800-285-8907 04/12/2007



# State Highway 130 crossing the Colorado River in Austin – April 2007

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EMS in Transportation

Aviation, Inc. 800-238-8983 04/12/2007

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For additional Information, contact:

**Jason Buntz**

**Hicks & Company**

**1504 West 5<sup>th</sup> Street**

**Austin, Texas 78703**

**(512) 478-0858**

**(512) 844-0977 mobile**