



# Florida Department of Environmental Protection

## Petroleum Restoration Program

# Conditional Closure Training

November 28, 2016





# Agenda

- Introduction
- The Basics of Closures
  - Chapter 62-780, F.A.C.
  - RMO-1 through RMO-3 Closure Criteria
  - LSSI NFA
- Special Considerations
  - FDOT MOU
  - City/County Transportation Facilities/State Lands
- Legal Component
  - Title Work, Noticing, Recording
  - Institutional Control Procedure Guidance
  - Legal Case Tracking



**Florida Department of Environmental Protection**

# **The Basics of Closure**

Diane Pickett, P.A.

John Wright, P.E.





# Terminology

- No Further Action With Conditions (NFAC)
  - *Also known as:*
  - RMO II
  - Risk Based Closure
  - Closure With Conditions
  - Conditional Closure
- PRSR “purser” – Person Responsible for Site Rehabilitation
- NFA – No Further Action
- SRCO – Site Rehabilitation Completion Order



# Risk-Based Closure

Achieve Safe Site Closure By **Eliminating/Reducing Risk:**

$$\text{Risk} = \text{Exposure} \times \text{Toxicity}$$

➤ **RMO I - Reduce or Eliminate Toxicity**

○ Risk = 100 x ~ 0 = 0

➤ **RMO II and III - Reduce or Eliminate Exposure**

○ Risk = 0 x ~ 100 = 0



# Institutional Control

- Institutional Control - Section 376.301 and 79, F.S.
  - The restriction on use of, or access to a site to eliminate or minimize exposure.
  - Examples - Include but not limited to deed restrictions, restrictive covenants (RC) or conservation easements
  - Other forms include government controls such as local ordinance, permits, agency rules, delineated areas, comprehensive land use planning and management, and FDEP consent orders



# A NFAC May Be Used At Sites Where:

- The 62-780, F.A.C. Closure Criteria Are Met
- Cleanup Costs Are High
- Remediation Efforts Have Reached A Diminishing Return
- Contamination is Not Accessible
- The Owners Agrees To Restrict Exposure Through
  - Land Use or Engineering Control
  - Restrictive Covenant
- A Governmental Control Is Adequate and In-Place
- The Owner Wants To Avoid Site Disruption







06/15/2010



12/29/2009



# Statutory Authority

## Chapter 376, Florida Statute (F.S.)

- Sections 376.301(22), and 376.79(11) F.S. – Definition of Institutional Control (IC)
- Section 376.303(6), F.S. – IC Registry
- Subsection 376.30701(2)(d) – Engineering Controls for IC
- Subsection 376.3071(5)(b)4 – SRC Factors (RBCAs)
- Subsection 376.3078(4)(d) – Rehabilitation Criteria
- Subsection 376.81(1)(d) – ICs and ECs for Brownfield



# Applicable Rules

Section 62-780.680, F.A.C. – NFA & NFA w/Controls

- (1) - Risk Management Options Level I (RMO I)
- (2) – Risk Management Options Level II (RMO II)
- (3) – Risk Management Options Level III (RMO III)
- (4) – PRSR Submits NFA Proposal
- (5) – FDEP Provides PRSR w/ SRCO approving the NFA
- (6) – Rejection of NFA
- (7) – SRCO Requirements
- (8) – Constructive Notice
- (9) – Final Agency Action



# Institutional Control Procedures Guidance (ICPG)

- Latest ICPG Version - July 2016
- Routing/Review Procedures
- Multiple Attachments Including:
  - FDOT MOU Closure Process
  - Sample Restrictive Covenants:
    - Form A – When IC Applies to Entire Property
    - Form B – When IC Applies To A Portion of Property
  - Restrictive Covenant Checklist



# NFAC Evaluation

- Free Product
- Soil Concentrations For
  - Direct Exposure
  - Leachability
- Ground Water Plume



# NFA Criteria For Free Product

- ***Current 62-780 -RMO I***
- Free Product Not Present and
- No fire or Explosion Hazard Exists or
- ***Current 62-780 – RMO II and III***
- And Removal Is Not Technological Feasible
- ***Proposed 62-780 RMO II and III***
- Free Product Not Present and
- No fire or Explosion Hazard Exists or
- Removal Is Not Technological Feasible or Cost Effective and
- Free Product Not Migrating and Dose Not Pose risk to human health public safety or environment



# NFA Criteria For Soil – RMO I

- Contaminant Concentrations Must Be Below:
  - The Background Concentrations
  - The Best Achievable Detection Limits
  - The Soil Cleanup Target Levels (SCTLs) Chapter 62-777, F.A.C. for Residential Direct Exposure and Leachability
  - The Average Soil Concentrations Calculated Using the 95% UCL approach are below Chapter 62-777, F.A.C. for Residential Direct Exposure and Leachability (Allowed in Proposed 62-780 for leachability)





# NFA Criteria For Soil - RMO I

- Levels Calculated Using Site Specific Soil Properties and Equations Found In Chapter 62-777, F.A.C., Figures 4,5,6, and 7 and Table VI.
- Fractionation Analysis of TRPH Levels Based On Site Specific Concentrations
- Determining Though the Direct Leachability Testing of Leachate From Synthetic Precipitation Leaching Procedure (SPLP) that Leachate Is below GW CTLs
- One Year of Ground Water Data May Be Used To Allow Soil Exceeding Leachability That Has Been Exposed To Elements For Two Years



# NFA Criteria For Soil - RMO II/III

- Alternative SCTLs Allowed With An Engineering Control Used To Prevent Human Exposure or Leaching From The Soil
  - Minimum of Two Feet of Clean Soil or
  - Impervious Cap To Prevent Leaching or Exposure
- May Use A Land Use Restriction Which Restricts Land Use To Commercial/Industrial, if Soil Levels are Below 62-777, Table II, F.A.C., Commercial Industrial Levels



# Examples From 62-777, F.A.C., Table II

<b>Chemical</b>	<b>Direct Exposure Residential (mg/kg)</b>	<b>Direct Exposure Commercial/ Industrial (mg/kg)</b>	<b>Leachability (mg/kg)</b>
<b>Benzene</b>	<b>1.2</b>	<b>1.7</b>	<b>.007</b>
<b>Benzo(a)pyrene</b>	<b>0.1</b>	<b>0.7</b>	<b>8</b>
<b>MTBE</b>	<b>4,400</b>	<b>24,000</b>	<b>.09</b>
<b>TRPH</b>	<b>460</b>	<b>2700</b>	<b>340</b>
<b>Trichloroethene (TCE)</b>	<b>6.4</b>	<b>9.3</b>	<b>.03</b>



# Proposed Change to 62-780

- Rule 62-780.680(1)2.a., FAC – Allows use of average concentrations based upon the 95% UCL approach from discrete or ISM sampling data for leachability
- Rule 62-780.680(2)(c)1.a., FAC – Allows the PRSR to elect to accept closure at levels that exceed CTLs derived from nuisance, organoleptic or aesthetic considerations for sites not eligible for state funding rehabilitation



# Proposed Change to 62-780

- Adds Definition: “Incremental Sampling Methodology (ISM)” means a structured composite sampling and processing protocol that reduces data variability and provides a reasonably unbiased estimate of mean contaminant concentrations in a volume of soil. [Refer to “Incremental Sampling Methodology” referenced in subsection 62-780.100(21), F.A.C., for guidance.]



# NFA Criteria for Ground Water

- RMO - I Groundwater Must Meet Chapter 62-777, F.A.C., Table I Criteria:
  - Groundwater or
  - Freshwater or Marine Surface Water
- RMO – II Groundwater:
  - May Meet Low Yield/Poor Quality Criteria and Be On-Site or
  - Be On-Site and Controlled With an Engineering Control or
  - In a Stable or Shrinking, On-Site, and Plume Less Than 1/4 Acre
- RMO – III Groundwater:
  - Plume Must Be Stable or Shrinking and Meet Appropriate CTLs at the IC Boundary



# Engineering Controls/Ground Water

- Allowed For RMO II or III
- Permanent Containment That Prevents Ground Water Migration
  - Barrier Wall
  - Slurry Wall
- One Year Of Monitoring Data Is Required To Demonstrate Effectiveness
- Periodic Monitoring To Ensure Effectiveness



# Slurry Walls







# What Can We Pay For?

- For Program Sites the FDEP May Pay For:
  - Technical Evaluation of Site To Provide Closure Recommendations
  - Certification of Engineering Controls
  - Professional Land Survey or Special Purpose Survey
  - Recording Fees
  - Title Work

## FDEP Can Not Pay For Legal Fees

- For Non-Program Sites the PRSR Is Responsible for All Expenses



# NFAC Process

- For Funded Sites:
- Evaluate Closure/Remediation Strategy with ATC and Owner During Pre-RAP
- ATC Implements Remediation, Monitoring and/or Installs and Certifies Engineering Control
- Site Owner Prepares Restrictive Covenant
- IC Package Is Submitted With Draft RC or other IC
- OGC Review/Comments/Response
- Property Owner Publishes Notice of FDEPs Intent Use of Institutional Control or Engineering Control
- RC Signed By Property Owner and FDEP
- RC Recorded and Proof Provided
- SRCO Issued
- Information Added To ICR



# Engineering Control Maintenance

- All Engineering Controls Must Have An Engineering Control Maintenance Plan
- The Plan Should Include:
  - Maintenance Requirements
  - Inspection Frequency
  - Criteria For Determining When The Engineering Control Has Failed, e.g.,
    - Large Cracks
    - Areas of Erosion
    - Increase in Ground Water Concentrations



# Engineering Control Maintenance Plans

- Reporting of Routine Inspection Results Is Not Required
- Any Failure of The Engineering Control Must Be Repaired Immediately
- Failure of an Engineering Control Designed To Prevent Migration of Ground Water Must Be Reported and Repaired Immediately



08/22/2012



08/22/2012



# Institutional Control Registry

- GIS Data-Base/On-Line Tracking
  - Facility, Date, and Location
  - Engineering/Engineering Control Type
  - Describes the Contamination
- Instructions and Data Dictionary Are On-line



# ICR Web Viewer

The map displays the Fort Myers area with several Institutional Controls Registry (ICR) markers. A detailed information panel for ICR# 74 is shown on the right side of the map.

**Zoom To All 2 selected features** **Clear**

**Printable** **Table** **Spreadsheet**

**Institutional Controls Registry**

- CSX BOCA GRANDE FACILITY**
- ICR# 74**  
Site# 8944141 in STCM Database
- [Documents](#) | [Controls](#)
- 799 PORT BELL GLADE ROAD, BOCA GRANDE, FL, 33921, LEE County**
- Township 43S Range 20E Section 26**
- Parcel# 264320000000100CE**
- Book 3048, Page 4071**

**26.90487688 x -82.1506164**  
**26°54'17.5568" x -82°9'2.21"**





**Florida Department of Environmental Protection**

# **Low-Scored Site Initiative**

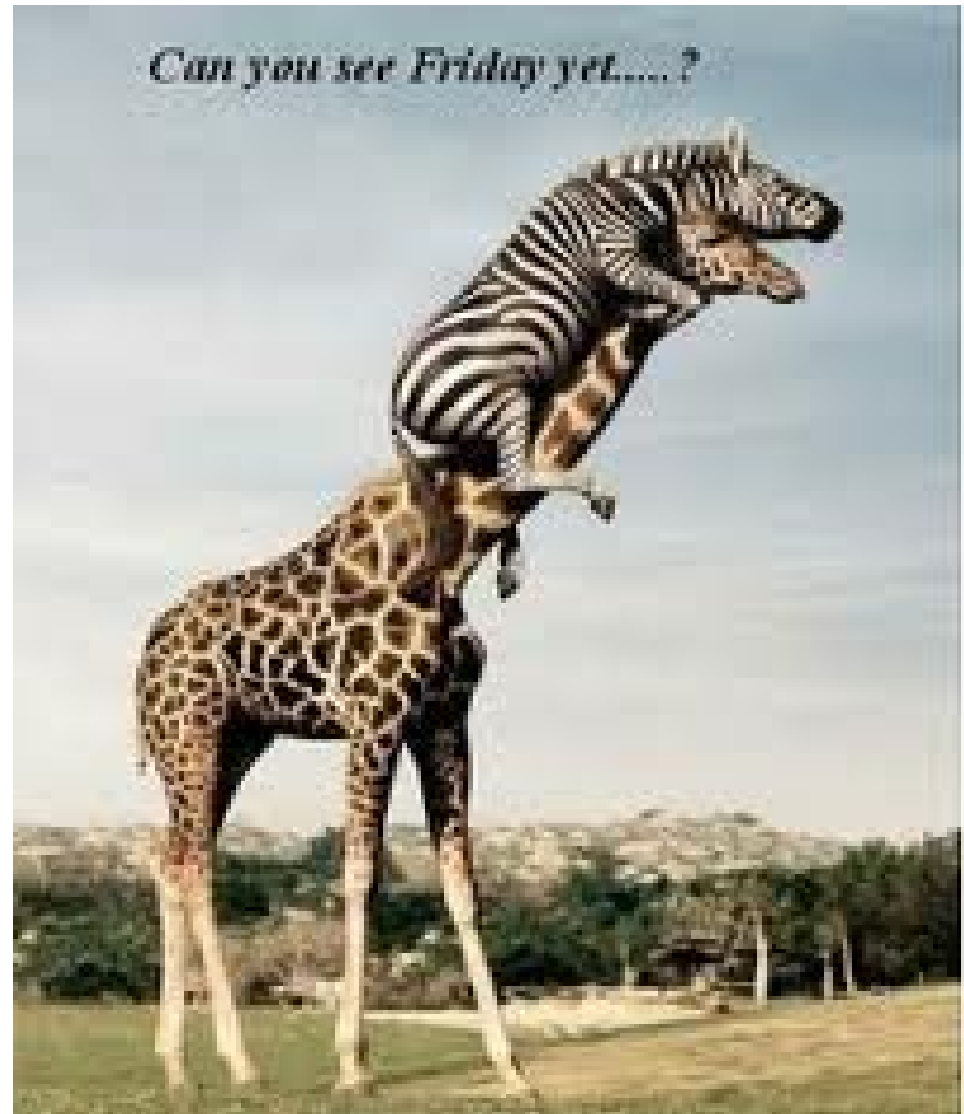




# Low-Scored Site Initiative

## Voluntary option for closure

- New type of closure for owners
  - Very Popular
  - Easy Button for some
- Some owners can get funding early
- If impacts are minor, some RPs will finish cleanup





# LSSI Allows 2 Unique Things:

1. Unique “LSSI NFA” Closure
  - For Elig. & non-elig. sites
  - “Minimally Contaminated”
  - Entered into ICR
2. Funding to target closures
  - Allows  $\leq$ \$35K each in SA & limited RA funding.
  - For eligible sites only





# LSSI Closure Requirements

- Score 29 or less
- No excessively contaminated soil
- Plume is shrinking or stable
- No adverse effects on surface water
- Plume confined to source property, or under transportation facility where DEP has agreement for IC
- Groundwater impacts not a threat to permitted potable well
- Top 2' soil below SCTLs or have controls





# LSSI OUTCOMES

- SRCO
  - If “clean”
- LSSI NFA
  - If “minimally contaminated” below 2’
- LSSI NFAC
  - If minimally contaminated in top 2’
  - Rarely used
- Closure requirements not met
  - Parked, Back in line





# Closure in LSSI

## • LSSI Closure

- Before an SRCO, LSSI NFA, or SRCOC can be issued, monitoring wells must be properly abandoned pursuant to Water Management District, local, or PRP rules and guidelines, as applicable
- If LSSI NFA is approved, the closure must be entered into the Institutional Control Registry (ICR)



# Options if LSSI Closure Requirements are Not Met

- Use ≤\$35K LSSI Limited RA funding to make site eligible for LSSI NFA
- Pursue an RMOII or III
- Hybrid closure – some parts closed under LSSI NFA, remaining parts closed with RMO I, II, or III





# Conditional Closure Agreement

- Pursuant to Rule 62-772.401, if owner/participant agrees to a conditional closure, they may recommend an ATC
- This might not be appropriate for all sites
  - e.g. sites with a small, shallow potable well on-site
- CCA, forms, instructions available on website:
  - <http://www.floridadep.gov/waste/petroleum-restoration/content/petroleum-cleanup-programs>





# Questions Or Comments?





**Florida Department of Environmental Protection**

# **SPECIAL CONSIDERATIONS**

Lauren Walker-Coleman, P.E. II





# Outline

- FDEP/FDOT Memorandum of Understanding (MOU)
- Non-FDOT (City/County Road) Closure Process
- State Lands



# FDEP/FDOT MOU

- Allows Conditional Closures For Discharges With Contamination in the FDOT's Right-of-Way (ROW)
- **FDOT ROW Map Note Used As An Institutional Control**
- Takes advantage of the inherent “Barriers To Exposure” provided by the FDOT's management of the ROW
  - Physical Barriers (i.e. road pavement, clean fill)
  - Administrative Barriers (i.e. FDOT permitting process that is designed to control all activities in the ROW)
  - No Need for Recording of Restrictive Covenant



# Key Things to Remember

- Site must have an **approved** assessment
- A FDOT MOU Closure may be used to close discharges where the Source Property is adjacent to FDOT ROW
- Verify that it is a FDOT ROW
- The Source Property must qualify for closure by:
  - Meeting RMO I Criteria, or,
  - Establishment of Institutional Control (IC) or Engineering Control (EC) for Groundwater and Soil
- FDOT Property qualifies **only** for a control on groundwater
- Closures using the FDOT MOU are considered RMO III Closures since the contamination is off-site



# FDOT MOU Closure Process

- “Person Responsible for Site Rehabilitation” (PRSR) submits Conditional SRCO Proposal to FDEP
- Proposal should Include:
  - Special Purpose Survey, Boundary Survey or Sketch and Description as defined in Chapter 5J-17, F.A.C.
  - Summary of soil and groundwater data
  - Legal Description and Map Note restricted area
  - Proposed restrictions and requirements
  - DOT ROW Map & Note signed by FL Licensed Surveyor
  - Indemnity agreement between FDOT and RP/Discharger
  - Draft recorded reference (Deed Notice)



# Institutional Controls

- The Institutional Controls Procedure Guidance (ICPG) can be found at:  
<http://www.floridadep.gov/waste/waste/content/institutional-controls-registry>
- Guidance includes FDEP/FDOT MOU Closure Procedures and Exhibits
- FDEP/FDOT MOU and Non-FDOT MOU may also be downloaded from this webpage



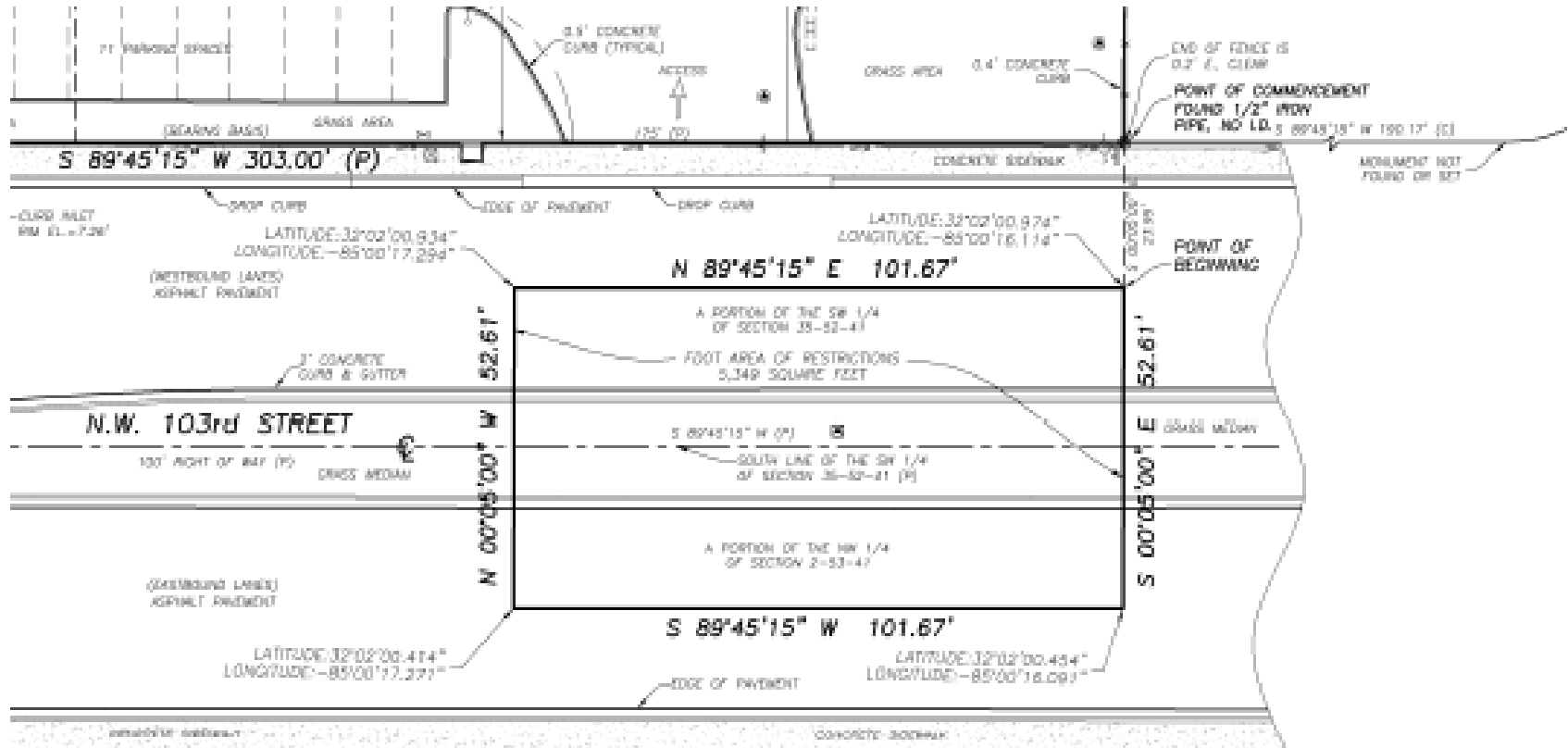
# FDOT MOU ICPG Reference

- Section C – Creating and using Institutional Controls
  - Page 15 – FDEP FDOT Memorandum of Understanding
- Attachment 7 – Sample SM Letter to PRSR
- Attachment 32 – Procedure for Use of FDEP/FDOT MOU
- Attachment 33 – Sample FDOT Indemnity Agreement with RP/Discharger
- Attachment 34 – Recorded Reference (Deed Notice) for FDOT MOU ICs



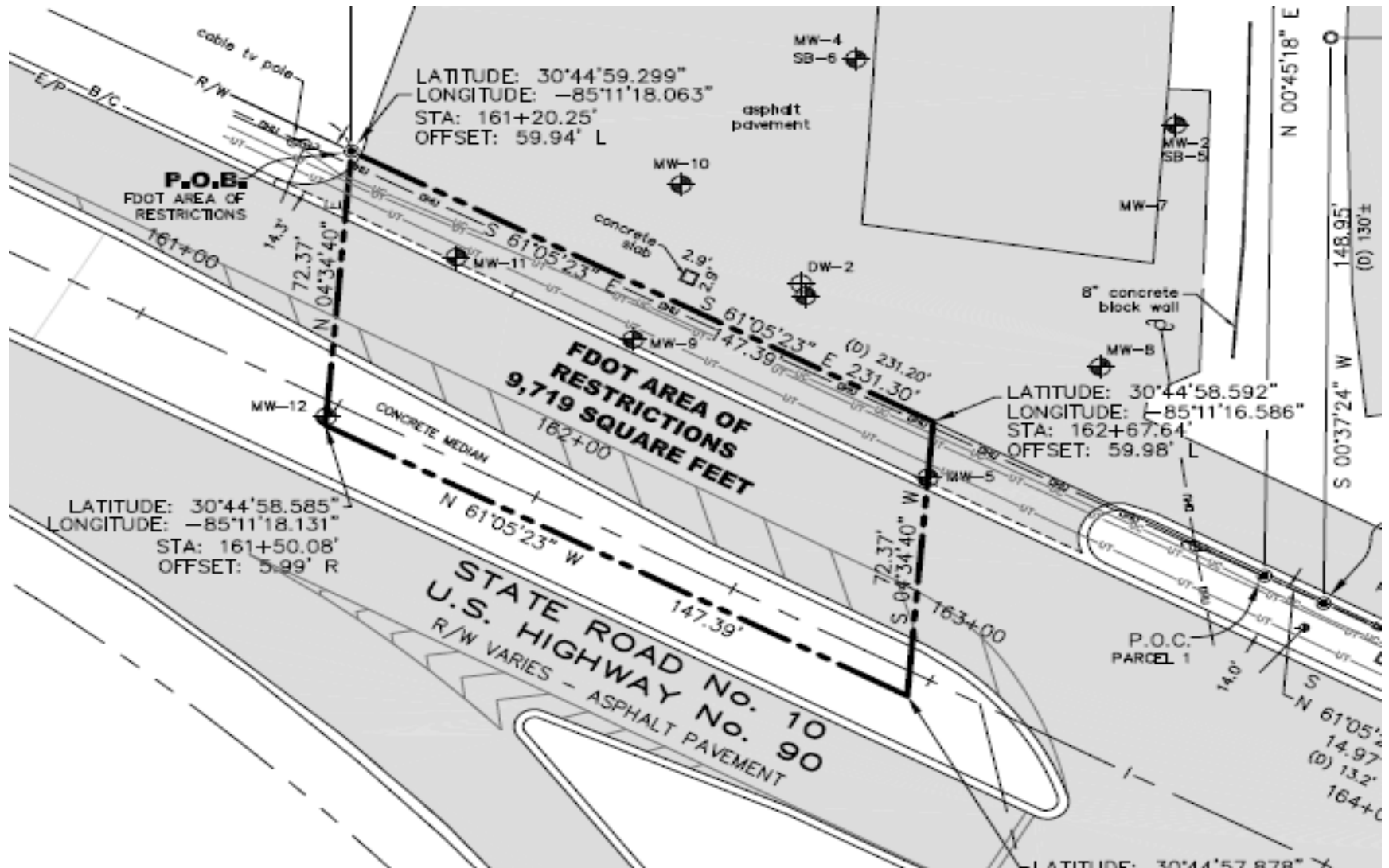


# FDOT ROW Map



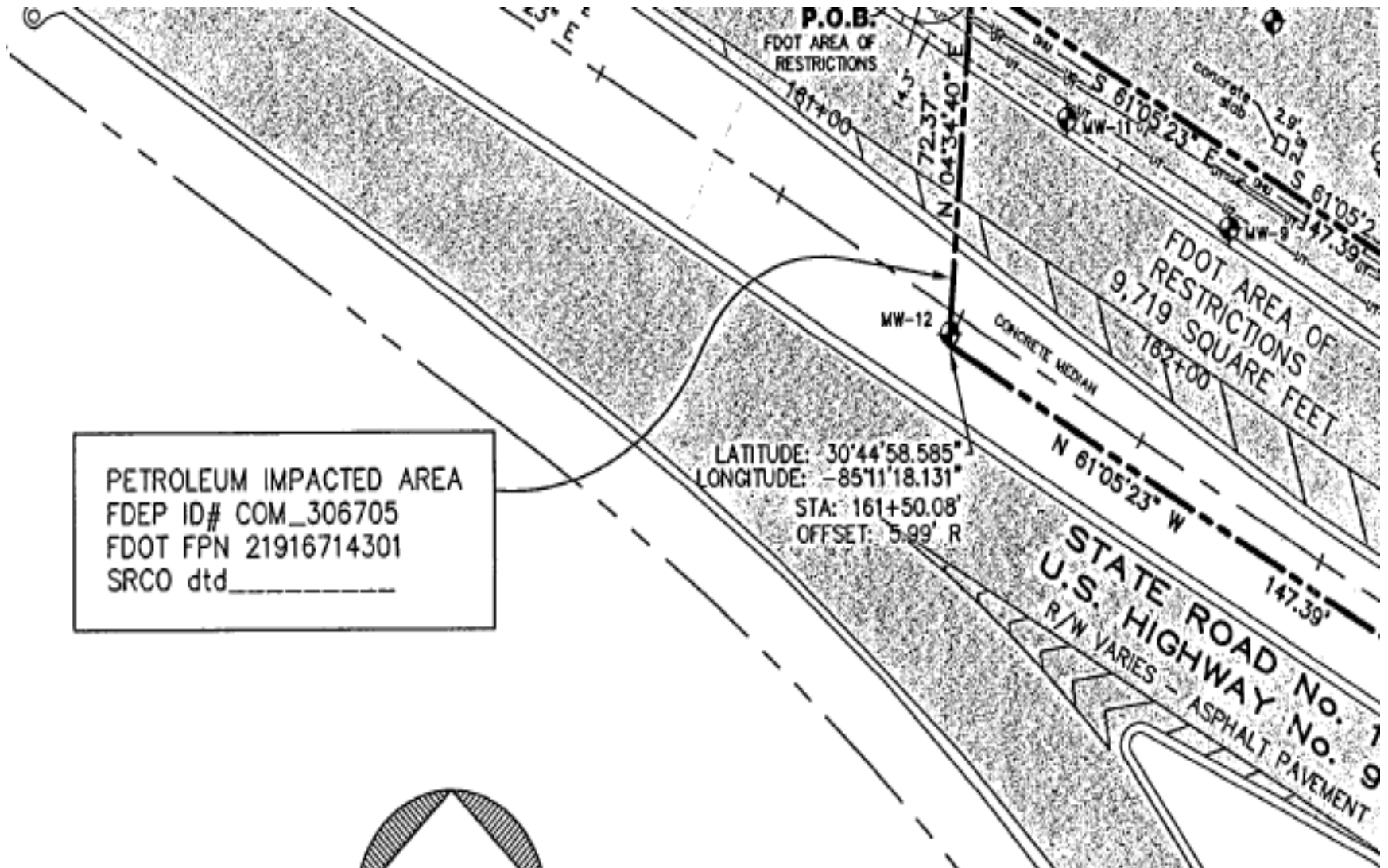


# FDOT ROW Map





# ROW Map Note





# FDOT MOU Closure Process

- FDEP SM & PE review Proposal. If sufficient:
  - SM sends Draft Exhibit A request letter to OGC for review
- Once OGC approves, FDEP sends MOU Exhibit A request letter to FDOT requesting Map Note with:
  - Statement that the discharge qualifies for closure
  - Groundwater and Soil Map and Data Tables
  - Source Property Owner information
  - Survey and Legal Description of the Area of Alternative Institutional Control
  - MAP Note: Facility ID and Data of the Closure Order
  - Indemnity Agreement



# FDOT MOU Closure Process

- FDOT acknowledges request by letter (MOU Exhibit B)
- FDOT records Map Note on FDOT ROW map, MOU and Letters
- FDEP uploads MOU, Letters and Attachments, and ROW Map Note into Oculus
- RP/Discharger records the Map Note reference (Deed Notice) in the County Records Office
- FDEP issues Conditional SRCO and provides Oculus link to FDOT and RP/Discharger
- FDOT updates ROW Map Note with SRCO Issuance Date and sends to FDEP for upload to Oculus



# Non-FDOT ROW Closures

- Allows Closures where contamination has migrated from Source Property to Transportation Facilities under Responsibility of City or County Governments
- Guidance on Non-FDOT ROW ICs guidance has been drafted
- MOU with Local Government developed on a case-by-case basis
- Route through Team Leader or County Contact



# Non-FDOT ROW Closures

- Information Needed:
  - Map or Diagram showing extent of plume
  - Notice sent to Local Government regarding contamination on the Transportation Facility
  - Information about the status of the contamination
  - A Legal Description of the Source Property and diagram of the non-source property (Transportation Facility)



# State Lands Closures

- Many State Lands owned by the State of Florida are managed under the Internal Improvement Trust Fund (IITF)
- State Agencies/Entities lease the land from the IITF
- Memo prepared
- Lease amended
- Land Use Plan changes





# State Lands ICPG Reference

- Section C – Creating and using Institutional Controls
  - Page 24 – State Lands Encumbrances/State Lands Leases
- Attachment 15 - Division of State Lands/Board of Trustees Property
  - Summary of DSL IC Development Procedure
- Attachment 16 - Sample Division of State Lands Packet
- Attachment 17 - Sample Division of State Lands Lease Amendment
- Attachment 18 – Division of State Lands Management Plans



# Examples

- FDEP/FDOT Closures
  - Jackson County Hospital – COM\_306705
  - Former Tenneco # 726 – 139904003
- Non-FDOT Closures
  - Okaloosa County – LSSI Site FAC ID – 468512291
- State Lands
  - USF Moffitt Cancer Center – FAC ID -298838645