



Florida Department of  
**TRANSPORTATION**



**Final Project Materials Certification**



## Final Project Materials Certification

- The Materials Acceptance and **Certification** system is designed around the requirements for Final Project Materials Certification



## Final Project Materials Certification

- PA Role
  - PA role in MAC versus PA's responsibilities

TRAINING SITE



Materials Acceptance and Certification System

User: Susan Musselman [Project Administrator] Log Out

Field Help is On | Help

Reports STRG/JGS Evaluations Material Certification/MAR Samples Contractor QC Plan My Access



## Final Project Materials Certification

- PA Role can be assigned to the PA's delegate
- SCO defines the delegate more stringently than was permitted in LIMS

## Final Project Materials Certification

- VT Technician



- Contract Specialist
- Head Inspector
- Asphalt VT ONLY and/or RAS
- NO OTHERS



## Final Project Materials Certification

- Sample Life Cycle
  - PA role is responsible for comparison packages and triggering Resolution



## Final Project Materials Certification

- Sample Life Cycle
  - Checklists
    - Asphalt
    - Soils
    - Structural Concrete



## Final Project Materials Certification

- Sample Finalization  
Checklists





## Final Project Materials Certification

- **Basic Contract Concepts**
  - Method of Measurement
  - Basis of Payment
    - Final Estimates
  - Method of Acceptance
    - State Materials Office



## Final Project Materials Certification

- Method of acceptance is from the contract documents
- JGS is a guide of the contract requirements
- When there is a contradiction, contract rules
- JGS is just a report



## Final Project Materials Certification

- MAC has two types of JGS
  - Standard JGS
  - Non-standard JGS



## Final Project Materials Certification

- Standard JGS
  - Let date logic
  - Project Specific requirements



## Final Project Materials Certification

- Back to Method of Acceptance – only project specific requirements that change the standard method of acceptance



## Final Project Materials Certification

### **MILLING OF EXISTING ASPHALT PAVEMENT.**

**(REV 8-31-99) (FA 2-14-00) (1-16)**

ARTICLE 327-1. The third paragraph is deleted and the following substituted:

For this Contract, the Department will retain ownership of        of the milled material. Haul and stockpile the material to remain the property of the Department at the location shown on the plans. The Contractor will take ownership of any milled material not to be retained by the Department.

ARTICLE 327-6. The text is deleted and the following substituted:

Price and payment will be full compensation for all work specified in this Section, including hauling and stockpiling the material at the location shown on the plans, and hauling off or otherwise disposing of any milled material not to be retained by the Department.

Payment will be made under:

Item No. 327- 70- Milling Existing Asphalt Pavement - per square yard.



## Final Project Materials Certification

### **INTEGRAL PILE JACKETS.**

**(REV 11-16-11) (FA 12-8-11) (1-16)**

The following new Section is added after Section 455:

### **SECTION 457 INTEGRAL PILE JACKETS**

#### **457-1 Description.**

Furnish, fabricate and install an integral pile jacket in accordance with the Contract Documents.

#### **457-2 Materials.**

**457-2.1 Stay-In-Place Forms:** Use forms composed of a durable, inert, corrosion resistant material with an interlocking joint along one or two sides that permits the form to be assembled and sealed in place around the pile. Fabricate the forms from fiberglass and polyester resins, having a minimum thickness of 1/8 inches with a minimum thickness at the corners of 3/16 inches. Ensure the form is capable of maintaining its original shape without additional support or damage when placed around a pile. Ensure the inside face of the form has no bond inhibiting agents in contact with the filler material. Provide the forms with bonded or bolted-on, non-metallic standoffs to maintain the forms in the required positions. Sandblast or score the inside surface of the forms with an abrasive material to provide a rough surface texture. Equip



## Final Project Materials Certification

**457-2.3.1 Portland Cement Grout:** Use a mix design of portland cement, fine aggregate, water and an admixture containing a minimum of 940 pounds of cementitious material per cubic yard. Up to 30%, by weight of cement, may be replaced by fly ash for standard pile jackets. Do not use fly ash, slag, or silica fume for cathodic protection jackets.

Use silica sand fine aggregate meeting the requirements of Section 902.

Use portland cement meeting the requirements of Section 921.

Use admixtures meeting the requirements of Section 924, ASHTO M194, Types A and D.

Use air-entraining admixtures meeting the requirements of Section 924 and containing no chlorides or other salts corrosive to metals.

Use fly ash meeting the requirements of Section 929, ASTM C618, Type F, except that loss on ignition shall not exceed 4%.

Provide a grout filler mix with a minimum compressive strength of 5,000 psi at 28 days and a slump of 7 inches to 9 inches. Submit the design mix to the Engineer for approval by the Department before placing any grout filler.

**457-2.3.2 Class IV Concrete:** Use Class IV Concrete meeting the requirements of Section 346 with an adjusted slump of 7 inches to 9 inches. Reduced size coarse aggregate may be used as approved by the Engineer. Do not use fly ash, slag, or silica fume for cathodic protection jackets.

Submit the design mix to the Engineer for approval by the Department before placing any concrete filler.





## Final Project Materials Certification

457 - Integral Pile Jackets, Special Provision [457], 01/2009, v1.1

[Update Projects](#)   [Create New Version](#)

Material/Spec Id	Material Title	Specification Category	Spec Type <sup>1</sup>	NumberID	Workbook ID	Version	Version Reason	Status
457	Integral Pile Jackets	Project	Special Provision	457	01/2009	1.1	Air Content of Grout is optional	Official

### Method of Acceptances

Certification, Certified Test Report, Sampling And Testing

### Sample Levels

IV, QC, QR, VT, VR

### Owner (Technical Unit)

Corrosion

### Contact Email

SM-MACCorrosion

### Last Updated By

Patrick Carlton

### Last Updated On

7/1/2016 10:38:30 AM

### Project List

- 200406-9-52-01: DISTRICTWIDE "ON-CALL" BRIDGE REPAIR CONTRACT [Full Replacement]
- 421314-1-52-01: SR-A1A BRIDGE #60085 OVER FFL DISCHARGE CANAL [Full Replacement]
- 424432-1-52-01: I-295 (SR 9A)BUCKMAN & ST. JOHNS RIVER BRIDGE #720249 SB & #720343 NB [Full Replacement]
- 426169-1-52-01: SR 5 (US 17)PHILIPS) OVER TROUT RIVER & ROAD BRIDGE #720011 [Full Replacement]
- 428267-1-52-01: SR 5/US-1 OVERSEAS HWY OVER BOCA CHICA CHNL BRGS# 60003 & 60074 [Full Replacement]
- 428400-1-52-01: SR-5/US-1 FED HWY FR N OF CR-A1A(MP 10.66) TO S OF BEACH RD(MP 10.84) [Full Replacement]
- 430008-1-52-01: INDEFINITE QUANTITY CONTRACT FOR BRIDGE REPAIR [Full Replacement]
- 430706-1-52-01: LONG BRIDGE REPAIR HILLSBOROUGH COUNTY VARIOUS LOCATIONS [Full Replacement]
- 430707-1-52-01: SR 606 WELCH CAUSEWAY BR# 150008 INTRACOASTAL WATERWAY [Full Replacement]
- 431750-2-52-01: SUNSHINE SKYWAY PIER REPAIR BR# 150008 [Full Replacement]
- 431750-3-52-01: SUNSHINE SKYWAY PIER REPAIR BR# 130003 [Full Replacement]
- 432154-1-52-01: SR 24 AT #3 CHANNEL BR. NO. 340003 & 340001 [Full Replacement]
- 432432-2-52-01: SUBSTRUCTURE REPAIR HILLSBOROUGH COUNTY VARIOUS PROJECTS [Full Replacement]
- 435282-1-52-01: SR 9 (I-95) OVER TOMOKA RIVER BRIDGES # 70076 & 70077 [Full Replacement]
- 435403-1-52-01: SR15 (US441) & SR600 (US 17/92)OVER BLUE CYPRESS/SHINGLE CREEK BRIDGE [Full Replacement]



## Final Project Materials Certification

- Non-Standard JGS
  - Created by QC data entry for
    - LS/DB/LAP On-system
  - Reviewed by PA



## Final Project Materials Certification

- Non-Standard JGS
  - Let Date Logic
  - Project Specific Requirements



# Final Project Materials Certification

- **JGS**

LIMS Sample Id:  Resolution Sample:

Project ID  Pay Item No  Matl ID  Sample Level

Year/Authority:  Sub Matl ID

**Matl ID (On Spec)**  **Level:**  **Auth:**  **Year:**

Destination LabID  Date Sampled:

Sampled By (TIN#)  (Annnnnnnnn-00X)

Manfr or Prod:  Source (Shipped From):

Sample No:  Batch No:  Lot No:  Sub Lot:

sample!!!



## Final Project Materials Certification

- Samples are being taken and processed
- PA is tracking sample status
- PA is finalizing samples and building comparison packages as the samples progress
- What does all this have to do with MC Review?



## Final Project Materials Certification

- MAC sends conditions to the MC Review process
- These conditions are known as issues



## Final Project Materials Certification

- Automatic finding & Manual Findings (MAR Issues)
  - MC Reviewer needs to initiate review when project begins
  - Based on MC Exceptions
    - What is an MC Exception?



## Final Project Materials Certification

- Exception 1 = Material Acceptance
  - Failing Test Results
  - Missing Reports





## Final Project Materials Certification

Associated Tests [5]

	Lab or Field	Lab ID	Tester	Test Disposition
<b>ASTM C143 Slump of Hydraulic Cement Concrete</b>				
1	Initial Test	Field	H25072763	Fail *
<b>ASTM C173/ASTM C231 Air Content of Freshly Mixed Concrete</b>				
2	Initial Test	Field	H25072763	Pass
<b>ASTM C1064 Temperature of Freshly Mixed Portland Cement Concrete</b>				
3	Initial Test	Field	H25072763	Pass
<b>FM 5-501 - Early Sampling for W/C Ratio</b>				
4	Initial Test	Field		
<b>ASTM C39 Compressive Strength</b>				

**Perform Test**

Test  
ASTM C143 Slump of Hydraulic Cement Concrete

Tester  
Ronnie Hagan [H25072763] \*

Date Test Performed  
7/1/2016

Slump  
Slump (in) 5.50 Does not meet target/limit [Slump = 3 +/- 1.5]

Test Notes +

Test Disposition	Test Status	Required
Fail *		Required
Pass		Required

**Message from webpage**

Required Test Fails

OK



## Final Project Materials Certification

- Exception 2 =  
Minimum Frequency
  - Required tests not performed
  - Required Comparison not performed
  - Required Resolution not performed
  - Not enough samples



# Florida Department of TRANSPORTATION



## Final Project Materials Certification

Test Disposition                      Test Status                      Required                      Which test Rules?

Fail

Test Not Performed [Equipment Issues] \*

Required

Perform Test

Mark Test Not Performed

### Comparison Package 33 [1600013648 QC-VT]

[Run Compare on Comparison Packs](#)

Comparison Package ID	Comparison Definition	Comparison Type	Comparison Status	
33	Compressive Strength	Includes Original Sample	Comparison not Performed	
Spec			Last Updated By	Last Updated On
346 - Portland Cement Concrete, Supplemental Specification, 01/2009, v1.3			Joshua Baker	6/22/2016
Original Sample	Sample Level	FDOT Sample Number	LOT #	Project(s)
<a href="#">1600013648</a>	QC	CC40001Q	1	195765-1-52-01
Verification Sample	Sample Level	FDOT Sample Number	LOT #	Project(s)
<a href="#">1600013659</a>	VT	CC40001V	1	195765-1-52-01



## Final Project Materials Certification

- Exception Category 3 =  
Qualifications
  - Technicians
  - Laboratories
  - Production Facilities
    - Manual Findings



## Final Project Materials Certification

### Material Types

- Aluminum Fabricator
- Asphalt
- Bridge Machinery
- Bridges
- Castings
- Earthwork
- Fencing
- Fiber Reinforced Polymers
- Galvanizers
- Guardrail
- Hardware
- Incidental Precast Products
- Metal Pipe
- Miscellaneous Metals
- Painters
- Plastic Pipe
- Powder Coaters
- Precast Drainage Structures
- Precast Pipe
- Prestressed Concrete Products
- Railroad
- Sign Structures
- Structural Concrete
- Timber




# Final Project Materials Certification

	Lab or Field	Lab ID	Tester	Test Disposition	Test Status	Re
<b>ASTM C143 Slump of Hydraulic Cement Concrete</b>						
1	Initial Test	Field	T12345678 *			Re
<b>ASTM C173/ASTM C231 Air Content of Freshly Mixed Concrete</b>						
2	Initial Test	Field	T12345678 *			Re
<b>ASTM C1064 Temperature of Freshly Mixed Portland Cement Concrete</b>						
3	Initial Test	Field	T12345678 *	Pass	Test Complete	Re
<b>ASTM C39 Compressive Strength</b>						
4	Initial Test	Field		Pass	Test Complete	
5	Initial Test	Lab	XYZ1 *	Pass	Test Complete	

Showing 1 to 5 of 5


Message from webpage



Tester [T12345678] is not Qualified

OK

Message from webpage



Lab is not Qualified

OK



## Final Project Materials Certification

- Straightedge Deficiencies
- Materials that allow Delineation
  - These two automatic findings trigger specific functionality with the MAR process that you will not get when creating a manual finding



# Final Project Materials Certification

- Straightedge Deficiencies

Recommendations [3]					
	Recommendation	Comment	Asphalt Sample	Final Pay (\$)	Final Pay (%)
Resident Engineer	Leave in Place No Payment				<a href="#">Update Final Pay</a>
District Bituminous Engineer	Leave in Place No Payment				<a href="#">Update Final Pay</a>
District Construction Engineer	Leave in Place No Payment				<a href="#">Update Final Pay</a>

Resolutions [0]
No results found

Materials and Research Engineer

– Recommendation is Final Resolution





# Final Project Materials Certification

- 

**Set Recommendation**

Recommendation

- Asphalt Follow Up Sample Passed
- Complete Removal and Replacement
- EAR
- Material Rejected for Use
- No EAR
- Fi **No EAR - Delineation**
- Pay Reduction Per Specification
- Reworked and Remixed

**Set Recommendation**

Recommendation

- Asphalt Follow Up Sample Passed
- Complete Removal and Replacement
- EAR
- Material Rejected for Use
- No EAR
- Fi Pay Reduction Per Specification
- Reworked and Remixed

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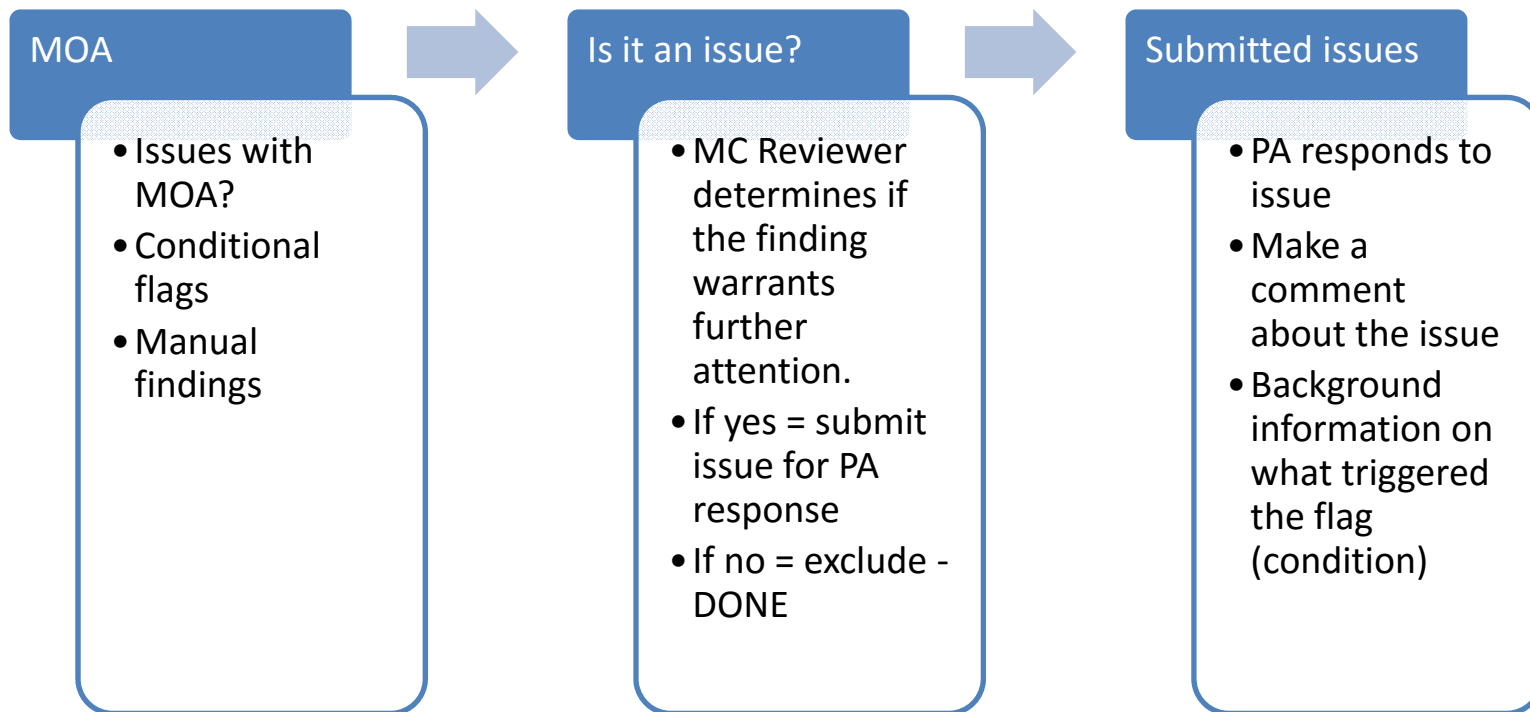


## Final Project Materials Certification

- MC Review in MAC
  - Responding to Findings
  - Initiating MAR

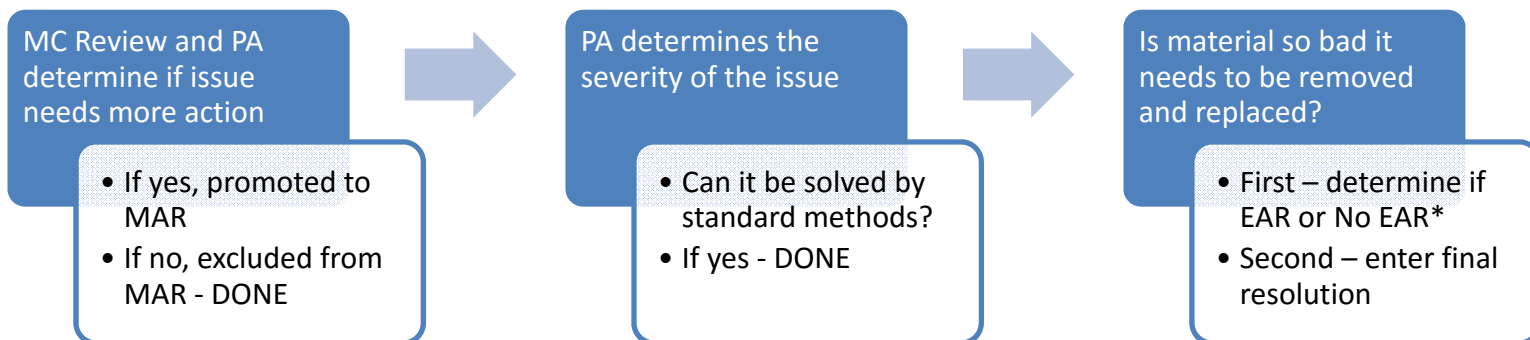


## Final Project Materials Certification





## Final Project Materials Certification





## Final Project Materials Certification

- What is MAR?
- When is it used?



# Florida Department of TRANSPORTATION



## Final Project Materials Certification

Material Certification/MAR 429048-1-52-01

Go To Material Certification/MAR

Project 429048-1-52-01: US 301/US 41 FROM N OF 3RD AVE W TO S OF 1ST E Managing District District 1 Status Checked In

Contract E1J90: DISTRICT CONSTRUCTION CONTRACT [CMA CORPORATION]

In Final Review No

Findings [70]

[Click to Collapse](#)

[Click to Collapse](#)

[Add Manual Finding](#)

Excluded [0]  MC Resolved [0]  Promoted to MAR [2]  MAR Resolved [1]  Open [0]  Responded [0]  Return for Response Clarification [0]  Submitted [67]

Finding	Description	Created By	Comparison Package	Sample	Sample Test	Status	Status Date	Recommendation	Resolution	Related Findings
11	Tester [F12345678] on Sample 1600013584/Test ASTM C143 Slump of Hydraulic Cement Concrete is not Qualified	System		1600013584 QC	ASTM C 143	Submitted	6/21/2016			<a href="#">View Details</a>
12	Tester [F12345678] on Sample 1600013584/Test ASTM C173/ASTM C231 Air Content of Freshly Mixed	System		1600013584 QC	ASTM C173/ASTM C231 Air	Submitted	6/21/2016			<a href="#">View Details</a>



# Florida Department of TRANSPORTATION



## Final Project Materials Certification

Findings [70] [Click to Collapse](#)

[Return to List](#)

Finding Type	Description	Sample	FDOT Sample Number	Sample Package Test	Status
System Generated	Tester [F12345678] on Sample 1600013594/Test ASTM C39 Compressive Strength is not Qualified	<a href="#">1600013594 QC</a>	CC40001Q	ASTM C39 Compressive Strength	Promoted to MAR

[Update](#)

**Current Recommendation**  
Recommendation has not yet been made by District Materials Research Engineer

**Pay Items**

- Sample Info [Click to Expand](#)
- Responses [1] [Click to Expand](#)
- Recommendations [2] [Click to Expand](#)
- Resolutions [0] [Click to Expand](#)
- Locations [0] [Click to Expand](#)
- Documents [0] [Click to Expand](#)
- Comments [0] [Click to Expand](#)



## Final Project Materials Certification

- What is the difference between a recommendation and a resolution?





## Final Project Materials Certification

- There are 7 recommendations
- 5 are also final resolutions that can be made by the PA



## Final Project Materials Certification

Set R	Asphalt Follow Up Sample Passed Complete Removal and Replacement EAR
Re	Material Rejected for Use No EAR Pay Reduction Per Specification Reworked and Remixed



## Final Project Materials Certification

- If EAR or No EAR is selected, 2<sup>nd</sup> process is needed to determine final resolution
  - Or No EAR Delineation if the Specification allows resolution by delineation



## Final Project Materials Certification

- Resolution options:

The screenshot shows a web form titled "Set Resolution". It contains a dropdown menu labeled "Resolution" with a red star icon to its right. The dropdown menu is open, showing three options: "Complete Removal of Material", "Leave in Place", and "Partial Removal of Material". To the right of the dropdown menu is a text input field labeled "Comments".



## Final Project Materials Certification

- Resolution options:

The 'Set Resolution' dialog box features a 'Resolution' dropdown menu with three options: 'Complete Removal of Material', 'Leave in Place', and 'Partial Removal of Material'. A red star icon is positioned to the right of the 'Complete Removal of Material' option. A 'Comments' text area is partially visible on the right side of the dialog.

The 'Update Final Pay' dialog box contains two input fields: 'Final Pay Type' with a dropdown menu set to 'Percentage' and a 'Final Pay Percentage' text box containing the value '50'. A 'Save' button is located at the bottom center of the dialog.



## Final Project Materials Certification

- Location Information
  - PA fills it out
  - After the resolution



## Final Project Materials Certification

### Add Location of Representative Material

- Rci Lanes:
- From Station:  To Station:
- Latitude:  Longitude:  Ending Latitude:  Ending Longitude:
- Offset Distance:   
Offset Direction:  Reference Line:
- Placement Designation:   Quantity:  Unit Of Measure:



# Final Project Materials Certification

Locations [1] **Add Location of Representative Material** [X]

Total Affected Quantity: 2,000.00  
Total Affected Quantity Units: Ton(s)  
Accumulative Quantity: 2,000

Rci Lanes	From Station	To Station	Latitude	Longitude	Ending Latitude	Ending Longitude	Offset Distance	Offset Direction	Reference Line	Placement Designation	Quantity	Units
1 L1 L2	100+00	300+00	27.507800	-82.563040	27.513960	-82.563040				Partial Remove and Replace	2,000.00	Ton(s)
2 L1 L2	100+00	175+00	27.507800	-82.563040	27.509010	-82.563040				Left in Place	500.00	Ton(s)
3 L1 L2	175+00	225+00	27.509010	-82.563040	27.510330	-82.563040				Removed	750.00	Ton(s)
4 L1 L2	225+00	300+00	27.510330	-82.563040	27.513960	-82.563040				Left in Place	750.00	Ton(s)

Left in Place | 750.00 | Ton(s)

Save





## Exceptions for Project FIN: 429074-1-52-01

### Non Standard Materials

This is an example of the location information on the PMCL Letter that is derived from MAC.

- Other: For Location Information on PMCL

Ref Material ID: -

Sample Level: -

Total Quantity: 2,000 Ton(s)

Accumulative Quantity: 2,000

RCI Options (Lanes):	L1	From Station:	100+00	To Station:	250+00
Beginning Latitude:	21.000000	Longitude:	-82.000000		
Ending Latitude:	21.500000	Longitude:	-82.500000		
Placement Designation:	Partial Remove and Replace	Quantity:	2,000 Ton(s)		
RCI Options (Lanes):	L1	From Station:	100+00	To Station:	175+00
Beginning Latitude:	21.000000	Longitude:	-82.000000		
Ending Latitude:	21.520000	Longitude:	-82.600000		
Placement Designation:	Removed	Quantity:	500 Ton(s)		
RCI Options (Lanes):	L1	From Station:	175+00	To Station:	200+00
Beginning Latitude:	21.520000	Longitude:	-82.600000		
Ending Latitude:	21.250100	Longitude:	-82.412000		
Placement Designation:	Left in Place	Quantity:	750 Ton(s)		
RCI Options (Lanes):	L1	From Station:	200+00	To Station:	250+00
Beginning Latitude:	21.250100	Longitude:	-82.412000		
Ending Latitude:	21.500000	Longitude:	-82.500000		
Placement Designation:	Removed	Quantity:	750 Ton(s)		

The PA and MC Reviewer have agreed this location information is correct and complete.



## Final Project Materials Certification

- What about DDM/EAR
- We don't do it that way...
  - P.S. Not all MAR issues will result in an exception, but most will



STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
**DISPOSITION OF DEFECTIVE MATERIAL**

700-011-01  
CONSTRUCTION  
01/13



**Section A: Sample Information and Request for EAR – Project Administrator**

Financial Project No.:		Contract No.:	
Federal Job No.:			
Material ID.:	Sample No.:	LIMS Sample ID.:	
Pay Item No.:	Quantity:	Location: (GPS, Lane, Station)	
Description of Defective Material:			
<input type="checkbox"/> EAR Scope			

**Section B: District Materials Engineer/Resident Engineer**

<input type="checkbox"/> Concur with EAR Scope			
<input type="checkbox"/> Submitting Proposal, (E-1)			
<input type="checkbox"/> Concur with EAR Scope			
<b>Signature:</b>			
Comments:			

**Section C: DD**

<input type="checkbox"/> Remove and Replace	
<input type="checkbox"/> Leave in Place – E-1	
<input type="checkbox"/> Concur with EAR Scope	
<b>Signature:</b>	
Comments:	

**Section D: Material Disposition District Materials Engineer**

Chose one and send form to:	
<input type="checkbox"/> All material to be left in place	<input type="checkbox"/> Removal of material/Other
Quantity of material to be removed:	
Location of material to be removed:	
Location of material to be left in place:	
DME Concur:	
<b>Signature:</b>	

**Section E: District Materials Engineer**

<input type="checkbox"/> Concur with EAR Scope	
<input type="checkbox"/> Submitting Proposal, (E-1)	
<input type="checkbox"/> DCE Concur	
<b>Signature:</b>	
Date:	

**Section F: Decision, Office of Construction**

<input type="checkbox"/> Director, Office of Construction Decision (attached) - Send to Project Administrator
<b>Signature:</b>
Date:

**Section G: Record of Final Payment Determination: - Project Administrator**

Material left in place at _____ % pay
Comments:

cc: FHWA District Transportation Engineer (FA Oversight Projects only)



## Final Project Materials Certification

- MC Review
- PMCL



## Final Project Materials Certification

- Questions?

# Certification Program Performance Historic

(since delegating process to Districts)



# Material Acceptance for Asphalt

from July 1, 2015 to June 30, 2016

Based on an Estimated  
4.7M Tons of Asphalt and  
367 Projects

