

~~Section 5.8~~

Section 5.8 **CONTROL OF MATERIALS**

5.8.1 Purpose

To establish a uniform standard for the control of materials on construction projects.

5.8.2 Authority

Sections 20.23(3)(a) and 334.048(3), *Florida Statutes*

5.8.3 References

5.8.2

~~Florida Department of Transportation Specifications for Road and Bridge Construction~~ *Standard Specifications for Road and Bridge Construction*

Federal-Aid Policy Guide (FAPG), 23 CFR, Chapter I, Subchapter G – Engineering and Traffic Operations, Part 637 – Construction Inspection and Approval
Federal-Aid Policy Guide, 23 Code of Federal Regulations (CFR) 637

Procedure No. 675-000-000, Materials Manual.

5.8.35.8.4 General

The ~~C~~contract ~~d~~Documents contain ~~FDOT S~~specifications or references for ~~materials and guidance relevant to the acceptance offer~~ all materials ~~that are~~ are to be incorporated into a project. ~~The Florida Department of Transportation's (FDOT) Sampling, Testing and Reporting Guide (STRG) Job Guide Schedule (JGS), included in Procedure No. 675-000-000, Materials Manual Procedure No. 675-000-000, Materials (published by the State Materials Office) Acceptance and Certification (MAC) system, indicates who samples and tests each of these materials and at what frequency for each project. The Final Project Materials~~ Certification of materials used on a project will be accomplished according to instructions from the State Materials Office (State Materials Office (SMO)) Materials Manual Section 5.4, Final Project Material Certification.

~~A Job Guide Schedule (JGS) based on the STRG is developed for each contract. It contains a listing of all pay items that will be used for sampling and testing on the project. This computer printout will serve as a reminder of the required sampling and testing frequencies. The JGS lists materials and designates the methods of acceptance acceptance normally required under each material. For all contract types, the JGS includes project specific MAC Specifications materials created for FDOT Special Provisions, Technical Special Provisions, Developmental Specifications, and Change Orders and/or Plan notes with requirements for material method of acceptance acceptance. The Job Guide Schedule is generated for contracts with conventional pay items from the Materials Acceptance and Certification system (MAC) based on the pay items on the contract and project specific assignments. also lists material numbers designating the methods of acceptance normally required under each pay item. For Lump Sum and Design-Build contracts, the Contractor will submit create a project specific Job Guide Schedule for acceptance in MAC, in accordance with Article 105-2 of the Standard FDOT Specifications Section 105 in MAC. For other contract types, a person in responsible charge will create the JGS in MAC.~~

A. A) Resident Level Responsibilities

The Project Administrator (PA) ~~or his designee~~ is responsible for reviewing the Contract Documents to ensure the JGS is correct and complete. If there are ~~missing material-to-pay-item associations or project specific requirements,~~ the PA ~~or his designee~~ must contact the SMO technical unit to ensure the JGS is complete the materials are created and/or assigned to the project so that the

~~JGS is complete. Examples of p~~Project specific materials are included in the Special Provisions, Technical Special Provisions, Developmental Specifications, and Change Orders and/or Plan Notes that designate a method of acceptance. If any exist, the PA ~~or his designee~~ is responsible to ensure that the **JGS** includes these entries.

~~There are three methods of acceptance: 1) certification; 2) sampling and testing; and visual inspection. Certification is subdivided into Producer Certification and acceptance using the Qualified Products List (QPL).~~

5.8.5 Buy America

Buy America Requirements, (Part 23, Section 635.410, CFR, as amended) and Specifications as outlined in Section 6-5.2, require the Contractor to use structural steel and iron manufactured in the United States. These requirements pertain to all steel and iron materials incorporated into the finished work, and do not pertain to items the Contractor uses, but ~~doesn't~~ **does not** incorporate into the finished work. Miscellaneous components are also included under the Buy America provisions including subcomponents and hardware necessary to encase, assemble, and construct the finished work. The *Specifications* require a **Certification of Compliance** from the manufacturer that states the steel or iron, and the products containing steel or iron were manufactured in the United States. Certifications attesting to this must be submitted **to the PA** prior to incorporating the material into the project.

For assistance, see the *Buy America Tracking Report* via the *SiteManager Quick Help website*.

1) Change of Source

If there is any indication or reason to believe that the manufacturer may have switched sources of steel or iron during the life of the project, the **Project Administrator** will require an updated **Certification of Compliance** from the manufacturer.

5.8.45.8.6 Method of Acceptance

There are three methods of material acceptance: 1) certification; 2) visual inspection sampling and testing; and 3) sampling and testing visual inspection. Certification is subdivided into Contractor, Manufacturer or Producer Certification and acceptance using the *Approved Products List (APL)*.

5.8.5.22) Producer Certification

A contractor, manufacturer, or supplier ~~has provided~~ **sd** a written certification stating the material supplied meets **Department FDOT Specification** requirements at the time of delivery or prior to placement. The Department Inspector shall verify that the certification is complete, correct, and meets specification requirements. The Department Inspector shall ~~Verification of an approved product/source should not~~

~~only accompany the proper certification, ie; the bill of lading/ticket with the phrase "Certified for FDOT" or "Cert. for FDOT", the Inspector should visually inspect or verify that these products or materials actually meet all the **FDOT's Specifications** and any other contract requirements, and The Inspector should visually inspect or verify that the delivered products or materials match the certification document descriptions in expected appearance and size, and are free from defects and contamination.~~

Product certification from an approved aggregate source should include the bill of lading/shipping ticket with the phrase "Certified for FDOT" or "Cert. for FDOT", FDOT Source number, date, FDOT material code, aggregate description, and quantity in tons.

~~The Inspector should visually inspect or verify that the delivered products or materials match the certification document descriptions in expected appearance and size, and are free from defects and contamination.~~

In some instances ~~where~~ the Department requires that manufacturers submit samples of certified materials for independent verification purposes. I, the Department Inspector shall collect the sample or verify that the sample has been submitted for testing.

5.8.5.2a) Contractor Installation Product Certification

~~Certification per product, per project is required in the **Specifications** and as shown in ~~the~~ **Section 5, Materials Manual, Topic No. 675-000-000**. The ~~Project Administrator~~ shall be responsible for obtaining the certification prior to ~~allowing~~ ~~permitting~~ the incorporation of any products into the project.~~
~~The Contractor is to provide installation certifications as required by the **Department FDOT Specifications** prior~~ ~~after~~ ~~to installation of material on the project.~~

5.8.5.7b) Approved Product Materials and, Producers, and Products

The Department maintains a list of ~~materials~~ ~~products and,~~ producers ~~and products~~ acceptable for use on ~~Department~~ construction projects. ~~Products~~ ~~Materials, and~~ producers ~~and products~~ will be included on Department lists when documentation (certification ~~and,~~ periodic test results, ~~etc.~~) is received assuring ~~that~~ the material conforms to **FDOT Specification** requirements. ~~The Department Inspector shall verify that such approved~~ ~~products and materials,~~ producers ~~and products~~ meets specification requirements. ~~These lists are available at: **Approved Product List (APL),**~~ ~~**Qualified Products List,**~~ and ~~**Materials/Production Facility ers Listing.**~~

3) 5.8.5.4

Visual Examination

The ~~FDOT Specifications~~ provide guidelines concerning material that may be accepted by visual examination, for example non-structural concrete sidewalk or certain materials incorporated into Witness-and-Hold projects. The Inspector should visually inspect or verify that the delivered products or materials match the expected appearance and size specified in the Contract Documents, and are free from defects and contamination.

4) ~~5.8.5.5~~ Sampling and Testing

~~A. A) Resident Level Responsibilities~~

~~Regardless of the method of acceptance, it is the Project Administrator's responsibility to assure ensure that only materials meeting the FDOT Specifications, or properly documented and approved exceptions, are incorporated into the project. A current record of samples taken and tests run is maintained during the project using the Department's database. MAC contains several reports and search screens by pay item will that can be used as a record of the test to track the status of samples statuses (s) performed for each project. The Project Administrator (PA) will make sure the samples are current at all times by ensuring prompt entry of sample data and field test results into the Department's database MAC. The PA or his designee will finalize all project samples, and The PA or his designee will create comparison packages for materials that require comparison. When there is a non-comparison samples do not meet the comparison criteria (i.e., "Does Not Compare" in MAC), the PA or his designee will ensure that Resolution sampling and testing is performed, that the Resolution samples and test results are entered in a timely manner, and are included in the comparison packages. When it is not possible to perform a required comparison and/or Resolution is not able to be performed, the PA or his designee will denote it was not possible so that on the comparison package and include including the reason why for the not performing the required testing was not performed.~~

~~It is the responsibility of the Project Personnel to sample and test materials based on the quantity mandated by the Contract on Lump Sum Contracts.~~

~~Contractor Installation Certification~~

~~The contractor is to provide installation certifications as required by the Department Specifications prior to installation of material on the project.~~

5.8.7 Materials Acceptance Resolution

If a material is designated by the Materials Certification Review personnel to require resolution of the material acceptance, it will be promoted to the **Materials Acceptance Resolution (MAR)** process in **MAC**. All materials with acceptance issues will be promoted to **MAR** and final resolution determined. The life cycle of the issue will depend on the original issue and the nature of the material acceptance needing resolution. Some issues can be resolved directly by the PA ~~or his designee~~ without additional input ~~from others~~. Some issues will require input from the District Materials and Research Engineer (DMRE), the District Construction Engineer (DCE), and/or the Director, Office of Construction (DOC). This procedure is outlined in the **Material Acceptance Resolution Flow Chart (Appendix 5-8-1)** ~~Material Acceptance Resolution Flow Chart (Appendix 5-8-1)~~. Regardless of the final resolution, the PA ~~or his designee~~ must provide detailed descriptions of the issue including location information.

1) Defective Materials Materials Acceptance Resolution Bby Specification

For straightedge deficiencies, the procedures shall follow the requirements of **CPAM Section 11.2, Testing and Correction of Surface Deficiencies on Asphalt Pavement** ~~CPAM Section 11.5, Testing and Correcting Asphalt Pavement Surface Deficiencies~~.

For other material ~~Materials Acceptance issues will be resolved in accordance with the **FDOT Specification** requirements with the Materials Acceptance Resolution (MAR) process in **MAC**. When the material acceptance is determined within **FDOT Specification** requirements, the PA ~~or his designee~~ will document the final resolution on the **MAR** issue in **MAC**. These determinations are designated by selecting one of the following options:~~

- a) ~~1)~~ Asphalt Follow-up Sample Passed – The material is resampled and the results are acceptable in accordance with **Materials Manual Section 3.1 District Materials Activities for Asphalt Pavement Construction**.
- b) ~~2)~~ Complete Removal and Replacement – The Contractor ~~chooses~~ ~~determines~~ to remove the material and replace it without requesting an **Engineering Analysis Report (EAR)**.

- c) ~~3)~~ Material Rejected for Use – The material was sampled from a stockpile and the material is removed from use on the project before it is placed.
- d) ~~4)~~ Pay Reduction per Specification – The ***FDOT Specifications*** designate ~~that~~ allow a pay reduction ~~can~~ be assessed if ~~that~~ a material falls within the pay reduction criteria, ~~such as concrete compressive strength failures within 500 psi below the minimum strength.~~
- e) ~~5)~~ Reworked and Remixed – The material allows for rework, and sample is taken for the rework that designates that the reworked material is acceptable.

A. ~~(A)~~ Resident Level Responsibilities

If the material is accepted based on the **Contract Documents**; ~~for example, (i.e., Leave in Place at No Pay or Pay Reduction per Specification)~~; the PA ~~or his designee~~ will document the final resolution on the **MAR** issue in **MAC**. ~~When Once~~ the PA ~~or his designee~~ has recorded the final recommendation, the issue is considered resolved. The PA ~~or his designee may need to~~ will enter additional payment information in **MAC** if the final resolution disposition ~~includes~~ reduced payment. The payment information is not relevant to the final resolution, but is recorded to assist ~~e~~Construction personnel with tracking the payment requirement.

2) ~~5.8.6.2~~ Determining the Use of an Engineering Analysis Report EAR

If the material is determined to be defective in accordance with **Specifications Article 6-4 of FDOT Standard Specifications** ~~Section 6-4~~ –and the Contractor requests the use of an **EAR** in accordance with the material specific **FDOT Specifications** to determine the materials acceptance resolution, the PA, DMRE, and DCE must determine if an **EAR** will be used. Material not meeting any of the method of acceptance requirements is considered to be defective. Defective material is limited to requirements related to material acceptance. For example, improper Maintenance of Traffic ~~would~~ ~~is~~ not ~~be~~ a valid ~~issue~~ ~~reason~~ for defective material. However, defective material is not exclusive of material failing acceptance limits. For example, material ~~that is~~ required to be tested by a qualified technician, ~~that is~~ ~~but~~ tested by someone not holding the appropriate qualification at the time of testing ~~would~~ ~~be~~ ~~is~~ considered defective, regardless of the whether or not the test results pass the acceptance limits. ~~Because of this,~~ ~~{~~ There must be an evaluation of the defective material to determine if the defect requires analysis by **EAR** or other means of addressing the defect to ascertain the final resolution. The decision ~~may~~ ~~will~~ ~~-~~ be made based on the nature, location, severity and/or frequency of the defect.

Table 5.1
EAR Decision Table for DCE-DMRE non-concurrence

<u>PA Recommends</u>	<u>EAR</u>	<u>EAR</u>	<u>No EAR</u>	<u>No EAR</u>
<u>DMRE Recommends</u>	<u>No EAR</u>	<u>EAR</u>	<u>EAR</u>	<u>No EAR</u>
<u>DCE Recommends</u>	<u>EAR</u>	<u>No EAR</u>	<u>No EAR</u>	<u>EAR</u>
<u>Final Decision</u>	<u>EAR Required</u>	<u>DOC makes final decision</u>	<u>DOC makes final decision</u>	<u>EAR Required</u>

A. ~~(A)~~ Resident Level Responsibilities

The PA ~~or his designee~~ will document ~~his~~ ~~their~~ recommendation for the use of an **EAR** on the **MAR** issue by selecting the option “EAR” or “No EAR” in **MAC**.

Once the determination for the use of an **EAR** is made, the PA will coordinate with the DMRE ~~or designee~~ regarding the scope of the **EAR**. The PA will provide the **EAR** scope to the Contractor and the **EAR** will be performed. The PA ~~or his designee~~ will attach the **EAR** to the ~~specific~~ **MAR** issue under the ~~documents~~ tab in **MAC**.

B. (B) District Level Responsibilities

The DMRE ~~or designee~~ will determine if an **EAR** is needed and document ~~his~~ **their** recommendation on the **MAR** issue by selecting “EAR” or “No EAR” in **MAC**. Once the determination for an **EAR** has been made, the DMRE ~~or designee~~ will recommend the **EAR** scope including types of testing needed to ensure the **EAR** will yield the necessary information to determine the resolution of the defective material.

The DCE will determine if an **EAR** is needed and document ~~his~~ **their** recommendation on the **MAR** issue by selecting “EAR” or “No EAR” in **MAC**.

If the DCE and DMRE concur, the DCE’s determination is final.

If the DCE ~~does not concur with the~~ and DMRE do not concur, follow the direction provided in the appropriate column of **Table 5.1 (below)** based on the recommendations provided by DCE, DMRE, and PA.

NOTE: This is not the final resolution of the material, but only addresses whether or not an EAR will be allowed to be used to determine the final material disposition.

Table 5.1
EAR Decision Table for DCE-DMRE non-concurrence

PA Recommends	EAR	EAR	No EAR	No EAR
DMRE Recommends	No EAR	EAR	EAR	No EAR
DCE Recommends	EAR	No EAR	No EAR	EAR
Final Decision	EAR Required	DOC makes final decision	DOC makes final decision	EAR Required

DCE Recommends	EAR	EAR	No EAR	No EAR
DMRE Recommends	No EAR	No EAR	EAR	EAR
PA Recommends	EAR	No EAR	EAR	No EAR
Final Decision	EAR Required	Goes to DOC for decision	Goes to DOC for decision	Goes to DOC for decision

~~but does concur with the PA, the DCE's recommendation is the final resolution for the need for an EAR. If the DCE does not concur with the DMRE or the PA, the issue is elevated to the DOC, for disposition on the need for an EAR. This is not the final disposition resolution of the material, but only addresses whether or not an EAR will be allowed to be used to determine the final material disposition.~~

C. (C) Central Office Responsibilities

~~If the DCE and DMRE do not concur, The DOC will make the final decision on the MAR issue as to whether or not an EAR is needed follow the direction provided in the appropriate column of **Table 5.1 (above)** based on the recommendations provided by the DCE, DMRE, and PA. The DOC will make the final decision in applicable cases.~~

~~when the DMRE and DCE do not concur only when the DCE and PA also do not concur by selecting EAR or No EAR recommends No EAR, but the PA and DMRE have recommended EAR.~~

3) 5.8.6.3 Determining the Use of Delineation

Some materials are allowed by **FDOT Specification** to use delineation as the method to determine the material acceptance resolution. If the **MAC Spec Material Id** allows for delineation, additional information must be provided. The Contractor must request the use of delineation from the PA.

A. (A) Resident Level Responsibilities

The PA ~~or his designee~~ will document ~~his~~ ~~their~~ recommendation for the use of delineation on the **MAR** issue by selecting ~~the one of the options:~~ "No EAR –

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Delineation", "EAR", or "No EAR" in **MAC**. The "No EAR – Delineation" is option is only available when the **MAC Spec Material Id** indicates delineation is allowed based on the **FDOT Specification** requirements.

B. (B) District Level Responsibilities

The DMRE ~~or designee~~ will review the PA's recommendation. The DMRE ~~or designee~~ will provide a recommendation of "No EAR – Delineation", "EAR" or "No EAR" in **MAC**.

The DCE will review the PA and DMRE recommendation for the material resolution. The DCE will provide a recommendation of "No EAR – Delineation", "EAR" or "No EAR" in **MAC**.

If the DCE concurs with the DMRE, the DCE's recommendation is used as the final resolution. If the DCE does not concur with the DMRE's recommendation, the issue is elevated to the DOC for final decision, only if DMRE designates "EAR" and DCE designates "No EAR- Delineation" or "No EAR".

~~5.8.5~~

~~Defective materials will be processed in accordance with Article 6-4 of FDOT Standard Specifications, with a Disposition of Defective Material (DDM), Form No. 700-011-01. This process will also apply when the Contractor submits an Engineering Analysis Report (EAR) in accordance with the material specific specifications. The procedure is outlined in the Flow Chart—Resolution Process of Defective Material (Attachment 5-8-1).~~

~~For straightedge deficiencies, the procedures shall follow the requirements of CPAM Section 11.2, Testing and Correction of Surface Deficiencies on Asphalt Pavement.~~

~~(A) Resident Level Responsibilities~~

~~The Contractor will request the use of an EAR to the Project Administrator/Resident Engineer (PA/RE). Prior to the approval of the use of an EAR, the PA/RE will coordinate with the District Materials and Research Engineer (DMRE) or designee regarding the parameters of the EAR. The DMRE or designee will recommend the types of testing needed to ensure the EAR will yield the necessary information to determine the disposition of the defective material.~~

~~i. Once the EAR is submitted, the PA/RE will forward a copy of the EAR and a completed DDM to the DMRE or designee. Upon receipt of the District Construction Engineer (DCE) disposition, the PA will process the material and payment accordingly.~~

~~(B) District Level Responsibilities~~

~~The DMRE or designee will determine the disposition of the material and forward the DDM to the DCE.~~

~~If the DCE concurs with the DMRE's proposed disposition, the DCE will forward the DDM to the PA.~~

~~If the DCE does not concur with the DMRE's disposition of~~

~~materials, the DCE will forward the DDM, the DMRE's disposition and the DCE's recommendation to the Director, Office of Construction, for final disposition.~~

~~(C) Central Office Responsibilities~~

~~The Director, Office of Construction, will make the final decision and notify the following offices with a copy of the DDM: District's Final Estimates Engineer, District Materials and Research Engineer, Director, Office of Materials, and the~~

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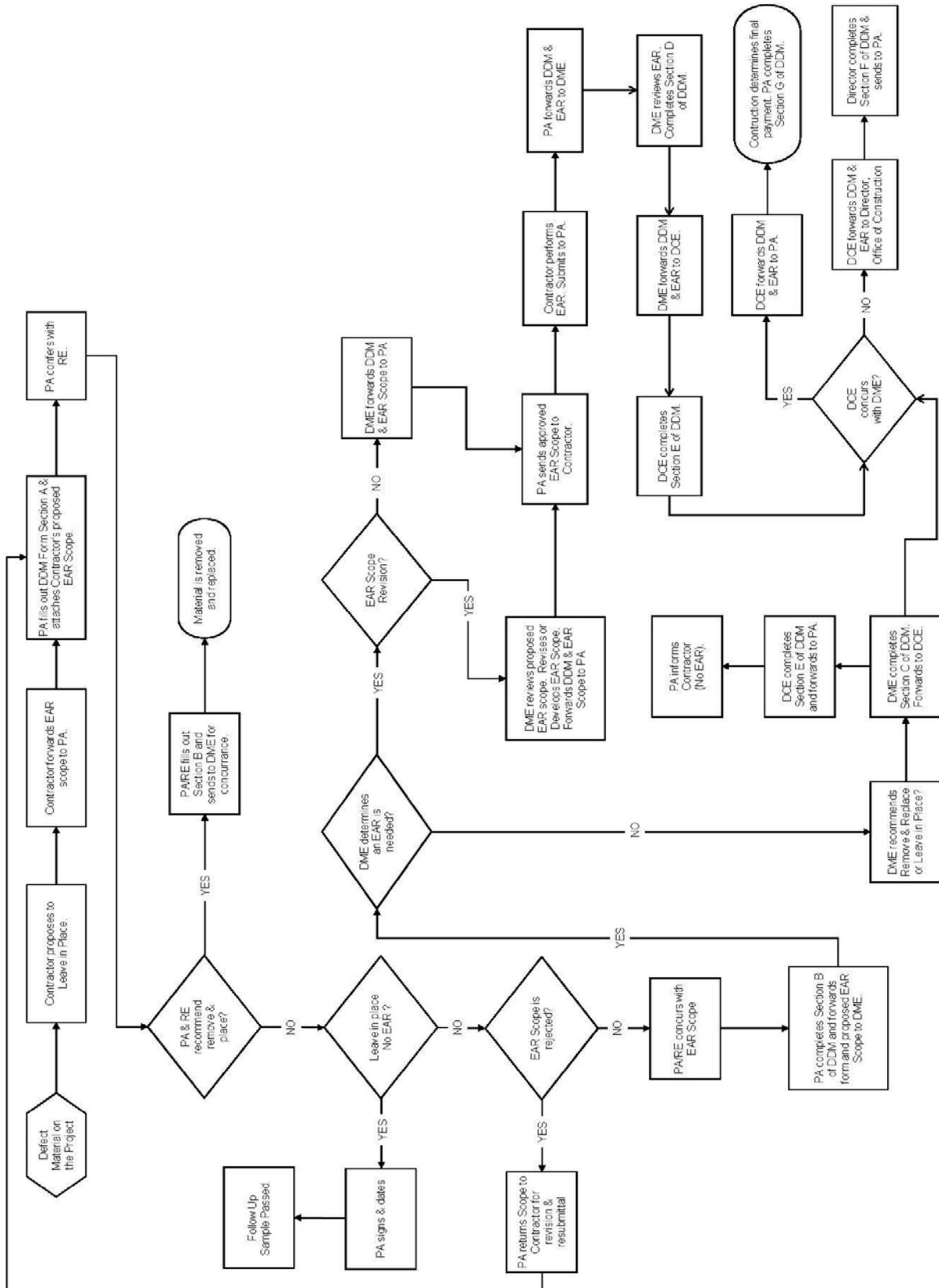
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~~**Resident Engineer's Office.**~~

**ATTACHMENT 5-8-1
FLOW CHART
RESOLUTION OF DEFECTIVE MATERIAL**



MATERIAL ACCEPTANCE RESOLUTION FLOW CHART

