U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: Quality Management for Federally Funded Airport Construction Projects	**Date:** DRAFT **Initiated by:** AAS-100	**AC No.:** 150/5370-12B **Change:**

1. Purpose.

This advisory circular (AC) provides information on the planning and oversight of construction projects at airports accomplished under the Federal Aviation Administration's (FAA) Airport Improvement Program (AIP).

2. Background.

FAA involvement in an AIP project is generally limited to the oversight necessary to protect the federal interests as specified in 31 USC 6304, Using Grant Agreements. The FAA has the responsibility to ensure that airport sponsors design and construct projects accomplished under AIP grants in accordance with all applicable federal standards and requirements. The airport sponsor is responsible for all project engineering, including the preparation of plans and specifications, development of the construction safety and phasing plan (CSPP), construction supervision, inspection, and quality assurance testing for acceptability.

3. Cancellation.

This AC cancels AC 150/5370-12A, Quality Control of Construction for Airport Grant Projects, dated September 29, 2007; AC 150/5300-9B, Predesign, Prebid, and Preconstruction Conferences for Airport Grant Projects, dated September 30, 2009; and AC 150/5370-6D, Construction Progress and Inspection Report-Airport Improvement Program (AIP), dated September 29, 2008.

4. Application.

The Federal Aviation Administration (FAA) recommends the guidance in this AC. In general, use of this AC is not mandatory. However, use of this AC is mandatory for all projects funded with federal grant monies through the Airport Improvement Program (AIP). See Grant Assurances No. 11, Pavement Preventive Maintenance and No. 34, Policies, Standards, and Specifications.

FAA Order 5100.38, Airport Improvement Program Handbook, provides guidance and sets forth policies and procedures for the administration of the AIP including eligibility and justification requirements.

5. Principle Changes.

This AC contains the following changes:

1. Retitled the AC to better reflect its purpose and reformatted to comply with Order 1320.46, FAA Advisory Circular System.
2. Incorporated the information in AC 150/5300.9, Predesign, Prebid, and Preconstruction Conferences for Airport Grant Projects into this AC.
3. Incorporated FAA Form 5370-1, Construction Progress and Inspection Report in AC 150/5370-6, Construction Progress and Inspection Report – Airport Improvement Program (AIP) into this AC and added a link to the form.
4. Added minimum requirements for a Construction Management Program (CMP) and added a link to a sample program.

6. Feedback on this AC.

If you have suggestions for improving this AC, you may use the Advisory Circular Feedback form at the end of this AC.

Michael J. O'Donnell
Director of Airport Safety and Standards

Chapter 1. RESPONSIBILITIES

1.1. Sponsor's Responsibilities.

The sponsor is responsible for all project engineering, including the preparation of plans and specifications, construction supervision, and inspection and testing for acceptability and quality. If the sponsor does not have the staff or the expertise to perform these services, then the sponsor should retain a consulting engineering firm. The relationship of the consultant with the sponsor must be clearly defined by a written agreement before the start of work.

1.1.1 Engineering Services.

A sponsor is required to award each contract, or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping or related services with respect to the project in accordance with the requirements in AC 150/5100-14, Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects. The AC identifies items to be included in a contract for engineering services. The contract must clearly delineate the division of responsibility and authority between the sponsor, the consultant, resident engineer/inspectors, and the quality assurance (QA) testing firm.

1.1.2 Predesign, Prebid, and Preconstruction Conferences.

Successful management of construction projects includes coordination with airport users and affected parties before design, and before and during construction. The sponsor should hold predesign and preconstruction conferences to coordinate critical project issues including construction safety and phasing, quality control (QC) and quality acceptance (QA), and design and construction reports.

The pre-design conference ensures critical coordination discussions occur which may limit conflict in the field during construction operations. This meeting is an important coordination measure to determine the effect of the project on normal airport operations, especially at commercial service airports. This meeting also serves to establish the limits of AIP participation and limit design of work which may be ineligible for AIP participation. This effort may involve separate meetings to facilitate discussion with specific stakeholders.

The pre-bid conference allows prospective bidders to ask questions about the project that permit bidders to establish a clear understanding of the requirements and necessary level of effort.

A preconstruction conference is critical to allow the sponsor to thoroughly discuss contract matters, airport safety, construction phasing and sequencing, airport security, construction testing and other relevant project matters.

1.1.3 Construction Safety and Phasing Plans (CSPP).

AC 150/5370-2, Operational Safety on Airports during Construction, outlines the requirements for the CSPP. Operational safety on the airport remains the sponsor's

responsibility at all times. The sponsor must develop and submit CSPPs to the FAA in accordance with AC 150/5370-2 for each on-airfield construction project funded by the Airport Improvement Program (AIP) or located on an airport certificated under Part 139. The FAA Airports Regional or Airports District Office (ADO) must review and approve or disapprove these CSPPs in writing. This is not covered by sponsor certification.

1.1.4 Supervision and Inspection.

The sponsor must provide and maintain competent technical supervision at the construction site throughout the project to ensure the work conforms to the plans, specifications, and schedules approved by the FAA for the project. Refer to AIP grant Assurance Number 17, Construction, Inspection and Approval. The sponsor must provide adequate construction quality assurance inspection for all stages of work. This includes adequate documentation of the quality assurance results and reporting on the contractor's work progress.

1.1.5 Construction Management Program (CMP).

The sponsor must submit a Construction Management Program (CMP) when the paving costs of a project exceed $500,000; however, the sponsor may elect to have a CMP for projects less than $500,000. The pavement construction cost value includes costs of the total pavement (i.e. subgrade, base and subbase courses, and surface course). Minimum requirements for a CMP are given in Appendix A. Refer to FAA Order 5100.38 Airport Improvement Program Handbook, for further eligibility guidance on the CMP.

Note: The CMP is a separate document from the contractor's quality control program required by AC 150/5370-10, Section 100.

1.1.6 Construction Progress Reports.

The airport sponsor has primary responsibility for supervision and inspection of construction work under the AIP. FAA Form 5370-1, Construction Progress and Inspection Report, or a form that provides equivalent information, must be maintained by the sponsor and submitted to the appropriate FAA Airports Regional or Airport District Office upon request. If any problems, delays, or adverse conditions occur that will affect the project, the FAA may require the sponsor to submit an interim report. Use of this form is not mandatory and the sponsor may prepare and use customized forms. A copy of Form 5370-1 is included in Appendix B. Form 5370-1 is available for download at the FAA Airports website: http://www.faa.gov/airports/resources/forms/

1.1.7 Final Inspection.

The sponsor must conduct a final inspection for construction projects.

1.1.8 Construction Final Report.

The sponsor must submit a final construction report summarizing the quantity and quality of completed construction as required by the grant agreement.

1.1.9 Sponsor Certification.

The sponsor has primary responsibility for compliance with AIP requirements. The FAA relies on sponsor self-certification to ensure compliance with select AIP requirements.

The FAA's acceptance of a sponsor certification does not preclude the FAA from reviewing appropriate documentation for validating the certification. The use of sponsor certification is limited. The FAA cannot accept sponsor certification for modifications of FAA standards, construction safety and phasing plans, airport layout plans, environmental studies, and Buy American preferences.

1.2. **Engineer's Responsibilities.**

The basic services normally required for airport development projects include the preliminary design phase, design phase, bidding phase, and construction phase. AC 150/5100-14, Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects, identifies activities normally performed during these phases.

1.2.1 Design Phases.

The design phases include all activities required to accomplish a complete project design, including development of plans and specifications. The standards in AC 150/5370-10, Standards for Specifying Construction of Airports, relate to materials and methods used in the construction of airports and must be used for projects funded under the AIP. Although these specifications reflect acceptable standards, practices, and techniques in airport construction, they are general in scope. For contract purposes, the various permissible options with regard to local materials, methods, and testing must be defined in the contract documents. The minimum testing frequency for job control must be specified in the project specifications.

1.2.2 Construction Phase.

The construction phase includes all activities required after the award of a construction contract. The basic services of an engineering agreement normally include periodic inspection of the work in progress by the design engineer. Special services of an engineering agreement will address the requirements for full-time inspection and quality assurance testing.

1.3. **FAA Program/Project Manager's Responsibilities.**

The FAA program/project manager has the responsibility to monitor the project to ensure the terms and conditions of the grant agreement are met, to maintain a broad overview of the construction to be reasonably certain the work is accomplished in accordance with the plans and specifications, and to evaluate the adequacy of the sponsor's construction inspection and oversight. FAA project oversight does not relieve the sponsor of responsibility to ensure adequate supervision and inspection during all stages of the work and that the work is in conformance with the plans and specifications. The FAA program/project manager oversight responsibilities are outlined in Order 5100.38, Airport Improvement Program Handbook.

The FAA Airports Regional or Airports District Office should ensure that appropriate FAA offices (Air Traffic, Flight Standards, etc.), military installations, and Federal agencies that may have an interest in a project are notified of all project activities, i.e. predesign, prebid, preconstruction, CSPP, etc.

This page intentionally left blank.

Chapter 2. PREDESIGN, PREBID, AND PRE-CONSTRUCTION CONFERENCES

2.1. Predesign Conference.

2.1.1 Purpose.

A predesign conference, conducted by the sponsor or their authorized agent, is used to discuss items including, but not limited to, critical design parameters, airport safety during construction, phasing of construction operations, and environmental considerations. Possible conflicts between construction activities and the operation of the airport should be resolved at this meeting.

2.1.2 Timing.

The optimum time to hold a pre-design conference is early in the preliminary design process. Allow sufficient time to notify all parties that could be affected by the project. A minimum of 10 working days is recommended.

2.1.3 Participants.

The participants will vary according to the scope of the project, the size of the airport and the effect the proposed construction will have on airport operations. Typically, the FAA program/project manager and FAA Airport Certification Inspector should participate at all airports certified under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports. Other participants including, but not limited to, airline and airport industry representatives; and fixed base operators (FBO) may attend.

2.1.4 Agenda Items.

The sponsor should prepare an agenda of items to be discussed at the predesign conference. Appendix C contains a list of typical items. This list is not all-inclusive, and items may be added or deleted, as necessary.

2.2. Prebid Conference.

2.2.1 Purpose.

The sponsor and their engineer should consider conducting a prebid conference for large projects, projects with unique features, or as required to meet local procurement requirements. The prebid conference should explain contract requirements for construction methods and procedures, construction safety and phasing requirements and the procurement process including, but not limited to, Disadvantage Business Enterprise (DBE), bonding, subcontracting, and labor.

2.2.2 Timing.

The optimum time to hold a prebid conference is a minimum of 10 working days before the bid opening date.

2.2.3 Participants.

The participants should normally include prospective bidders, subcontractors, and material suppliers. FAA participation is not required.

2.2.4 Agenda Items.

Typical agenda items include unusual features of the project; explanation of the contract requirements and construction methods and procedures; discussion of construction safety and phasing requirements; and review of the federal/state/local procurement process.

2.3. **Preconstruction Conference.**

2.3.1 Purpose.

The preconstruction conference is convened and conducted by the sponsor or their authorized agent. The primary purpose of the conference is to thoroughly discuss critical project issues such as contract requirements, operational safety, construction phasing and sequencing, airport security, quality control, quality acceptance testing, labor requirements, EEO obligations, DBE requirements and other pertinent project matters. The engineer must tailor the agenda for each conference to address the unique and/or complex issues specific to their project.

2.3.2 Timing.

The optimum time to hold a preconstruction conference is as soon as practicable after the contract has been awarded and before issuance of the notice to proceed (NTP). Sufficient time should be allowed to notify all parties. A minimum of 10 working days is recommended.

2.3.3 Participants.

The participants will vary according to the size and type of airport and the potential effect the proposed construction will have on the operation of the airport. Typically, the preconstruction conference includes, but is not limited to, the sponsor, their engineer, airport management, FAA Region/ADO and local FAA Air Traffic Organization (ATO) representatives, QA/QC testing laboratories, key contractor and subcontractor personnel, airline and industry representatives, FBOs, affected utilities owners, and affected tenants.

2.3.4 Agenda Items.

Appendix D contains typical agenda items. This list is not all inclusive and items may be added or deleted, as necessary.

APPENDIX A. MINIMUM REQUIREMENTS FOR CONSTRUCTION MANAGEMENT PROGRAMS (CMP)

A.1 Construction Management Program (CMP).

A sponsor must submit a construction management program to the FAA Airports Regional or Airports District Office prior to the start of construction for projects with a total pavement construction contract value over $500,000; however, the sponsor may elect to have a CMP for projects less than $500,000. The pavement construction contract value is calculated by totaling the costs of the total pavement structure (including subgrade, base and subbase courses, and surface course). When construction of a project requiring a construction management program is complete, the sponsor must submit a summary of the test results and the disposition of any problem test results. The FAA Regional or Airports District Office also has the option to require the sponsor to provide a CMP for pavement projects less than $500,000. The sponsor must refer to the AIP grant agreement for specific project requirements.

A.2 Prior to the start of construction, **t**he sponsor must furnish to the FAA a construction management program that details the measures and procedures to be used to comply with the quality assurance provisions of the construction contract, including, but not limited to, all quality assurance provisions and tests required by the federal specifications. The program must include as a minimum:

1. The name of the person representing the sponsor who has overall responsibility for contract administration for the project and the authority to take necessary actions to comply with the contract.
2. Names of testing laboratories and consulting engineer firms with quality assurance responsibilities on the project, together with a description of the services to be provided.
3. Procedures for determining that the testing laboratories meet the requirements of the ASTM International standards on laboratory evaluation referenced in the contract specifications (ASTM D3666, ASTM C1077).
4. Qualifications of engineering supervision and construction inspection personnel.
5. A listing of all tests required by the contract specifications, including the type and frequency of tests to be taken, the method of sampling, the applicable test standard, and the acceptance criteria permitted for each type of test.
6. Procedures for ensuring the tests are taken in accordance with the program, they are documented daily, and proper corrective actions, where necessary, are undertaken. At the completion of the project, the sponsor must submit a final test and quality assurance report summarizing the results of all tests performed, highlighting those tests indicating failure or that did not meet the applicable test standard. The report must include the pay reductions applied and the reasons for accepting any out-of-tolerance material. An interim test and quality assurance report must be submitted if requested by the FAA.

A sample CMP and Submittal Register is available on the Airports website: http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.list.

271 This page intentionally left blank.

272

APPENDIX B. FAA FORM 5370-1, CONSTRUCTION PROGRESS AND INSPECTION REPORT

Form available at http://www.faa.gov/airports/resources/forms/.

OMB CONTROL NUMBER: 2120-0569
EXPIRATION DATE: 4/30/2017

U.S. Department of Transportation **Federal Aviation Administration**	**Construction Progress and Inspection Report** **Airport Grant Program**	Period Ending Project Number
Airport Name		
Project Description		Contractor's Name
1. Contract Time	No. Days Charged to Date	Last Working Day Charged (Date)
2. Brief Weather Summary this Period, including Approximate Rainfall and Periods of Below Freezing Temperature *(On earthwork jobs, include soil conditions.)*		
3. Rough Estimate of Percent Completion to Date of Construction Phase *(Include items such as clearing, grading, drainage, base, surface, lighting, etc.)*		
4. Work Completed or In Progress this Period		
5a. Summary of Laboratory and Field Testing this Period *(Note failing tests and any retests. Summarize out-of-tolerance.)*		
5b. Material *(Identify material subject to pay reduction.)*		
6. Description of Anticipated Work by Contractor for Next Period		
7. Problem Areas/Other Comments *(Include revisions to plans and specifications approved or denied, delays, difficulties, etc. and actions taken.)*		
SPONSOR'S INSPECTOR OR REPRESENTATIVE		
Date	Typed or Printed Name and Title	Signature

FAA Form 5370-1 (4/15) SUPERCEDES PREVIOUS EDITION

277 This page intentionally left blank.

APPENDIX C. SAMPLE AGENDA ITEMS FOR A PREDESIGN CONFERENCE

This list is not all inclusive and may be modified as necessary.

1. Design Phase.
   - Scope of work and design parameters peculiar to the project, including items such as design aircraft, local conditions and materials, use of recycled materials, design options, use of FAA standards, and materials furnished by others.
   - Review the airport layout plan (ALP) and the scope of project in the airport capital improvement plan (ACIP).
   - Funding.
   - Discussion of engineering fees.
   - Reimbursable agreements (FAA owned NAVAIDS).
   - Identification and impacts to existing NAVAIDs and instrument approach procedures.
   - Flight check requirements.
   - Airspace requirements.
   - DBE requirements.
   - Federal wage rates.
   - FAA contract provisions.
   - Buy American requirements.
   - Construction Management Program (CMP) requirements.
   - Plan and specification review.
   - SMS and ATC coordination.
   - AGIS requirements.
   - Identification and location of underground utilities within project limits.
   - Requirements for the engineer's report.
   - List of applicable design standards.
   - Development of the construction safety and phasing plans (CSPP).
   - Pavement design and alternatives with supporting geotechnical reports and FAARFIELD structural analysis.
   - Drainage design.
   - Lighting design.
   - Pavement marking and airfield signage;
   - Environmental considerations including stormwater management.
   - Modifications to design standards and construction specifications.
   - Description of non-federally funded work to be included in the contract.
   - Engineer's estimate of construction contract cost.
   - Project budget and schedule.
   - Other.
2. Construction Phase.
   - Sequence of construction phases and any necessary special routing of aircraft considering airline schedules.
   - Work limits.
   - Time needed for clearance of runway, taxiway, or apron by construction equipment prior to reopening.
   - Notification of schedule changes.
   - Airport operations area security concerns.
3. Operational Safety.
   - Development of the CSPP in accordance with AC 150/5370-2 and incorporation into the plans and specifications.

This page intentionally left blank.

APPENDIX D. SAMPLE AGENDA ITEMS FOR PRECONSTRUCTION CONFERENCE

This list is not all inclusive and may be modified as necessary.

1. Identify main points of contact.
   - Owner, owner's representative, contractor, superintendent, resident engineer, etc.
   - Identify roles and responsibilities.
   - Discuss authority of engineer.
   - Relationship between FAA and sponsor.
2. Scope of Work.
   - Include general plan or chart to depict proposed work.
   - Proposed schedule of work.
   - Identify construction phasing concerns.
3. Notice-To-Proceed. Contingent upon:
   - Execution of grant agreement.
   - Execution of contract & required bonds.
   - Sponsor acceptance of DBE participation.
   - FAA approval of waiver to Buy American preferences (if applicable).
   - FAA approval of construction management program.
   - Safety plan compliance document.
4. Operational Safety & Security:
   - Safety plan compliance document.
   - Delineation of construction limits.
   - Runway and taxiway safety areas limits (open trenches, drop offs, irregular surfaces).
   - Potential impacts to airport operations.
   - Operational safety requirements of approved CSPP (AC 150/5370-2).
   - Vehicular operation within the airport operations area with emphasis on runway incursions.
   - Staging area location and haul route limitations.
   - Stockpile limitations and Part 77. Notification (FAA Form 7460-1, Notice of Proposed Construction or Alteration).
   - Equipment heights and Part 77 notification (FAA Form 7460-1).
   - Foreign Object Debris (FOD) control (windblown and tracked-on).
   - Temporary markings & barricades
   - Airfield security requirements.
   - Non-compliance consequences (Removal, suspension of work, etc.).
5. Part 139 Issues.
   - Vehicle operator/pedestrian training.
   - Impacts to airport rescue and fire fighting (ARFF) operations and response time.
6. NOTAMS.
   - Airport operator issued Notice to Airmen (NOTAMs).
   - Facility outages: 7-day advance notification to FAA Technical Operations.
   - Procedure NOTAMs: Cannot be issued by Flight Service Station. Contact project manager 7 days prior.
7. FAA Technical Operations (Airway Facilities).
   - FAA facility outages: 7 day advance notice required.
   - Location of buried cables.
8. Construction Management Program.
   - Identify contractor's and sponsors laboratory.
   - Acceptance testing versus quality control testing.
   - Test reports, record keeping, daily diary.
9. Project Submittals. Approval based upon:
   - Technical requirements.
   - Buy American Provisions (Origin of Manufacture).
   - Approved lighting equipment (Appendix 3 of AC 150/5345-53, Airport Lighting Equipment Certification Program).
10. Labor Requirements.
    - Davis Bacon wage rates (Must be posted on conspicuous project board).
    - Labor poster (Must be posted prior to start of work).
    - Submittal of payrolls.
    - Wage rate interviews.
11. Civil Rights/DBE Requirements.
    - Advise contractor that project is subject to the equal employment opportunity (EEO) clause.
    - EEO posted notices must be posted prior to start of work.
    - Sponsor monitoring of DBE.
    - DBE fraud indicators.
12. Contract Modification Process.
    - Refer to region guidance.
    - Sponsor may not seek reimbursement for change order work until FAA approves AIP participation in the change order.
13. Utilities.
    - Locating.
    - Protection of FAA cables.
14. Environmental Issues.
    - Storm water permitting.
15. Waste Disposal.

This page intentionally left blank.

Advisory Circular Feedback

If you find an error in this AC, have recommendations for improving it, or have suggestions for new items/subjects to be added, you may let us know by (1) mailing this form to:

Federal Aviation Administration
Airport Engineering Division (AAS-100)
800 Independence Avenue SW
Washington, DC 20591

or (2) faxing it to the attention of Manager, Airport Engineering Division (AAS-100), (202) 267-3688.

Subject: AC 150/5370-12B, Quality Management for Airport Construction Projects

Date: _____

Please check all appropriate line items:

☐ An error (procedural or typographical) has been noted in paragraph _____ on page _____.

☐ Recommend paragraph _____ on page _____ be changed as follows:

_____
_____
_____

☐ In a future change to this AC, please cover the following subject:
(Briefly describe what you want added.)

_____
_____
_____

☐ Other comments:

_____
_____
_____

☐ I would like to discuss the above. Please contact me at (phone number, email address).

Submitted by: _____ Date: _____

This page intentionally left blank.