

SECTION 6 - PROJECT DEVELOPMENT

DESIGN

Engineer's Report

An engineer's report shall be prepared and submitted for most development projects funded under the State Block Grant Program (SBGP). For relatively small and simple projects, MoDOT may waive this report requirement.

The engineer's report serves to document the design considerations, analysis and selections that occur within the design phase. As a minimum, the report should include listing of applicable design standards, a summary of the design computations, justification for selection of design materials, summary of preliminary project budget and the identification of modifications to Federal Aviation Administration (FAA) standards. As each individual project will present unique design considerations, the topics to be addressed within the engineer's report will vary per each specific project. Refer to FAA Central Region, Airport Improvement Program (AIP) Guide No. 920 (Engineer's Report), for the recommended outline.

In addition, the sponsor is required per the State Block Grant Agreement to eliminate all deficiencies identified in the most recent annual safety inspection report (Airport Master Record 5010-1). If immediate elimination is not feasible, the sponsor shall provide in the engineer's report, a satisfactory plan to eliminate or address the deficiencies and include this plan with phased development as outlined in a current and approved airport layout plan.

Modifications to Standards

It is the policy of the FAA that all airport development under the SBGP conforms to FAA standards. For a specific project where unique local conditions preclude compliance with airport design or construction standards, modification of these standards may be considered.

SBGP Sponsors occasionally encounter project situations where unique local conditions preclude compliance with FAA standards for airport design or construction. Sponsors that desire additional modifications to FAA Standards that are not covered by the pre-approved modifications must seek formal MoDOT review and approval. All such modifications must be fully justified and should not diminish the quality intended in the FAA standard.

FAA Order 5300.1F, *Modification to Agency Airport Design, Construction and Equipment Standards*, establishes guidelines and criteria for the modification of FAA standards and specifications, which are necessary to accommodate unique local conditions for a specific SBGP project. This Order requires that all modifications to design and construction standards be approved by MoDOT prior to incorporation into projects funded through the SBGP. Refer to FAA Central Region, AIP Guide No. 950 (Sponsor Modifications), for additional information.

Storm Water Permit Requirements for Land Disturbance Activities

The sponsor is required to obtain a Missouri State Operating Permit for storm water discharge from the Missouri Department of Natural Resources (DNR) if construction activity disturbs land by grading, excavating or otherwise destroying the root zone, and the surface area disturbed is **one acre or more**. The application for the permit should be made early in the design process because it can take up to 90 days to be processed. A copy of this permit **must be submitted** to MoDOT **prior to advertising for bids**.

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To apply under a general permit, the sponsor must complete "[Form E - Application for General Permit](#)" and "[Form G - Application for Storm Water Permit Under the General Permit: Land Disturbance](#)" and submit them along with the required fee to DNR. The sponsor must also develop a Storm Water Pollution Prevention Plan (SWPPP) to address erosion and sediment control at your facility. We have developed an available model SWPPP that has been used on previous airport projects. Sponsors choosing to utilize this sample SWPPP are advised to read it carefully and delete any items that you will not perform. You may also wish to add items.

If you have any questions concerning the above referenced forms, you may contact DNR at 1-800-361-4827 or (573) 526-2929 or write them at the following address:

Missouri Department of Natural Resources
Water Protection and Soil Conservation Division
Water Pollution Control Program
Permits Section
P.O. Box 176
Jefferson City, MO 65102-0176

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PLANS AND SPECIFICATIONS

Preparation of Project Plans and Specifications

The development requirements of a Sponsor are typically conveyed to prospective bidders through the preparation of plans and specifications. Project plans (drawings) serve to graphically depict the extent of the development requirements in an accurate and concise manner. The project specification in contrast serves to convey technical information for quality acceptance, performance characteristics, and permissible construction methods.

In addition to the plans and specifications, bid documents and contract documents are prepared to convey to prospective contractors all bidding requirements and contractual obligations expected of the successful bidder. The bid documents and contract documents are commonly bound with the project specifications to form a Project Manual.

It is important to note that the Sponsor is responsible for all matters concerning contract procurement for a project. The Sponsor is also the contractual authority for all matter related to establishing and administering the contract agreement. MoDOT is not a party to such contract agreements.

The Sponsor and their engineering consultant are also responsible for the accuracy, completeness, legal sufficiency and technical content of the contract plans and specifications. Reviews conducted by MoDOT are limited to the purpose of determining SBGP eligibility and adherence with FAA Standards.

While MoDOT is not a party to the construction contract, the sponsor is obligated by the receipt of SBGP funds to incorporate all applicable FAA standards and Federal provisions required by the SBGP. FAA standards, policies and guidelines are published in various Advisory Circulars and Engineering Briefs. Sponsors are obligated to assure that applicable standards are applied in the design of an SBGP project. Modifications to FAA standards are permitted only if MoDOT grants expressed written approval.

Project Manual

Typically, engineering consultants combine the bid documents, contract documents and technical specifications of a project into one bound document commonly referred to as the Project Manual. This document serves to convey to the Contractor the contractual and technical requirements of a construction project. The Project Manual also serves a critical role as part of the bid documents. FAA Central Region, AIP Guide No. 932 (Project Manual) provides information to the sponsor for the development of the project manual. This guidance has been modified by MoDOT Aviation Section to include additional state requirements. For the benefit of the Sponsor, we have prepared a suggested sample Project Manual boilerplate ([Federal-Preparation of Project Plans and Specifications](#)) that the Sponsor may use as a guide in preparing his or her own specific bid package.

Technical Specifications

FAA Advisory Circular 150/5370-10 contains the FAA standards for specifying construction of airports and airport related development. Various engineering briefs issued by Airport Engineering Division of the Office of Airport Safety and Standards may supplement these standards.

Additionally, the FAA Regional Office may also supplement or amend the FAA standards for purposes of accommodating regional and local conditions that may not be adequately covered by the broader national standard. Refer to FAA Central Region, AIP Guide No. 940 (Regional Modifications), for these modifications to AC 150/5370-10.

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Sponsors and their consultants must utilize AC 150/5370-10 as a guide specification when preparing a project specification. Sponsors may not modify or deviate from the accepted FAA standard unless expressed written approval is obtained from MoDOT. Sponsors desiring to make such modifications may refer to FAA Central Region, AIP Guide No. 950 (Sponsor Modifications), for the required procedure to properly request a sponsor-initiated modification to FAA standards.

While AC 150/5370-10 provides the required technical specifications for construction projects, the FAA does allow MoDOT to modify these standards to incorporate the use of State highway specifications. These modified technical specifications are available on the MoDOT aviation website at <http://www.modot.state.mo.us/othertransportation/aviationgrantdoc.htm> and must be utilized in the development of the project specifications. All other technical specifications related to items other than those listed on the MoDOT aviation website shall be obtained from AC 150/5370-10 on the FAA website at <http://www2.faa.gov/arp/150acs.cfm>.

Project Drawings (Plans)

The project-drawing package serves to graphically depict the extent of the contract requirements in an accurate and concise manner. The project drawings, along with the technical specifications, form a critical part of the Contractor's contractual obligations. As a legal document, the contract drawings must convey the requirements of the sponsor in a clear and unambiguous manner.

Projects funded under the SBGP shall be developed in accordance with applicable FAA standards. FAA standards are contained within various Advisory Circulars and engineering briefs and are also supplemented by regional guidance. The engineer shall apply sound engineering judgment and widely accepted engineering principals when preparing project drawings. Refer to FAA Central Region, AIP Guide No. 931, for a typical drawing package.

Review Submittal - Plans and Specifications

As the sponsor, you are responsible for ensuring that the plans and project manual satisfy the minimum FAA and MoDOT requirements. As an aide to your plan review, the sponsor may utilize the [Construction Plans Checklist](#). After your review is complete, submit **one set** of the 100% plans and specifications to MoDOT for review and concurrence. Please allow four weeks for review.

As required by the rules of Missouri Board for Architects, Professional Engineers and Land Surveyors, the registered professional engineer shall place his/her personal seal or rubber stamp, affix his/her signature on or through the seal, and place the original date under the seal, at the minimum, to the original of each sheet in a set of plans, specifications, and other documents which were prepared by the professional engineer or under the professional engineer's immediate personal supervision. For the specifications and contract documents, the registered professional engineer, when more than one sheet is bound together in one volume, may sign, seal and date only the index sheet, providing that the signed sheet clearly identifies all of the other sheets comprising the bound volume.

Sponsor/Consultant Response to MoDOT Comments

The approval of plans and specifications by MoDOT is essentially based on the combination of a MoDOT cursory review and the submittal of a satisfactory executed Sponsor Certification for Project Plans and Specifications. The review by MoDOT is generally limited to critical project elements such as the safety plan, pavement details, airfield marking details, and airfield lighting details. MoDOT will not typically review detailed engineering and quantity calculations, however such documentation shall be made available if so requested by MoDOT. The primary purpose of MoDOT's review is to verify that applicable FAA standards are being applied as well as to make a determination regarding the limits of SBGP eligibility.

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The sponsor and their consultant shall allow sufficient time for the MoDOT to conduct an appropriate review. This may vary per size and type of project. Generally, a review time frame of 4 weeks is requested. Upon receipt of MoDOT review comments, the Sponsor or their consultant shall provide a written response to each comment made by MoDOT that addresses how the comment was resolved. Authorization to advertise for bids will generally not be granted until the plans and specifications are deemed acceptable by MoDOT for SBGP participation. Sponsors shall note that MoDOT approval in the plans and specifications does not relieve the Sponsor of the responsibility to correct items of work later found to be non-compliant with regards to FAA Standards.

Final Plans and Specifications

Upon acceptance of the final bid package from the MoDOT Aviation Section, the sponsor must submit the following items prior to receiving authorization to advertise for bids:

- Two sets of the final bid package.
- Updated engineer's estimate of probable costs.
- Executed [Sponsor Certification for Project Plans and Specifications](#).

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BIDDING

Advertising for Construction Bids

The sponsor shall not advertise for construction bids until written authorization from the MoDOT Aviation Section is received. Failure to obtain written approval may jeopardize federal funding participation.

Construction that is to be accomplished by contract is to be competitively bid in accordance with federal procurement requirements (49 CFR Part 18) for projects estimated to exceed \$100,000, bid notices should be published in a qualified (local or area) newspaper or other advertisement publication located in the same county as the airport project as a minimum. The time frame for advertising should be sufficient for a reasonable bid preparation time. For larger projects we typically see a two to four week advertisement. For smaller simple projects, one to two weeks may be adequate. We also recommend that the sponsor do a direct mailing to qualified contractors that have done airport work.

Pre-Bid Meeting

A pre-bid meeting shall be conducted by the sponsor's engineer for all State Block Grant Program projects in an effort to clarify and explain any specific project issues or requirements of the contract. The meeting should be held a minimum of ten days prior to the bid opening date.

Any changes or modifications approved during the conference shall be included in an addendum to the bid documents. A copy shall be furnished to each prospective bidder who purchased bid documents, including those who did not attend the meeting.

Copies of the proceedings, containing all items discussed and resolved, including responses to questions, shall be made available to each of the participants upon request. Consult AC 150/5300-9A "Predesign, Prebid and Preconstruction Conferences for Airport Grant Projects" for additional information.

Bid Opening

The sponsor/consultant is responsible for tabulating the bids and analyzing each bid. Bids should be reviewed for reasonableness of costs, bid improprieties and unbalanced bids.

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NOTICE OF AWARD

Upon completion of the bidding process, the sponsor must submit the following items to the MoDOT Aviation Section for review and concurrence prior to awarding the contract:

- One copy of the bid tabulation.
- One copy of the proposed DBE participation form.
- Letter of recommendation for award from sponsor.
- Executed [Sponsor Certification for Equipment/Construction Contracts](#).

The sponsor shall not award the construction contract until written authorization from the MoDOT Aviation Section is received. Any development work accomplished prior to our concurrence will be grant ineligible and must be funded 100% by the sponsor.

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NOTICE TO PROCEED

After the notice of award has been issued for the construction contract, the sponsor must complete and submit the following items to the MoDOT Aviation Section for review and concurrence prior to issuing the notice to proceed:

- Copy of the Notice of Award.
- Engineering Agreement for Construction Services with a letter stating the sponsor's recommendation for approval.
- The engineer's Construction Observation Program (*Federal-Construction Observation Program*)(*Construction Observation Program-Required Tests and Certifications*) (should be submitted to us 10 days prior to the preconstruction meeting, so that we will have time to review it).
- Provide an executed copy of the contract documents including the bid proposal, construction contract, DBE forms, bonds, insurance, etc.

Also, prior to issuing the notice to proceed, the sponsor must **hold a preconstruction meeting**. We request a minimum 10 days advanced notice so that we may notify the FAA. Consult AC 150/5300-9A "Predesign, Prebid and Preconstruction Conferences for Airport Grant Projects" for additional information.

The sponsor shall not issue the notice to proceed to the contractor until written authorization from the MoDOT Aviation Section is received. Any development work accomplished prior to our concurrence will be grant ineligible and must be funded 100% by the sponsor.

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CONSTRUCTION ISSUES

NOTAMS

It is the responsibility of the sponsor to issue, through the applicable FAA Flight Service Station (FSS), any and all Notices to Airmen (NOTAMS) that may be required. It is recommended that the sponsor and the contractor coordinate this action well in advance of any construction activity in order to avoid delays. Do not wait until the morning the contractor wants to start working. For larger projects, it is recommended a letter be sent to the FSS manager in advance containing information about the project scope, anticipated NOTAMS, and project schedule. This action will not replace the need for individual NOTAMS to be issued, but will help FSS plan for the project and allow them the opportunity to provide guidance on issuing project NOTAMS.

Required Notices to be Posted

The contracts for construction projects require that certain information be posted at all times by the contractor and its subcontractors at the site of work in a prominent and accessible place where it can easily be seen by the workers. No work should be allowed to begin until this task is accomplished. The following is a list of required information to be posted on the project bulletin board:

1. State and Federal Wage Rates
2. Notice To All Employees (WH Publication 1321)
3. Equal Employment Opportunity is THE LAW
4. State of Missouri, Discrimination in Employment

For item 1, the contractor shall post the applicable state and federal wage rates, which were included in the bid proposal. Items 2 through 4 above will be provided to the contractor by the MoDOT Aviation Section at the preconstruction meeting. The sponsor's on-site construction observer shall verify that the contract wage rates and the required notices are posted. This item is typically last on the contractors mind and is often overlooked.

Safety Plan

During the full term of the project, the sponsor is ultimately responsible for proper implementation of the contractor's safety plan. Sponsors could be found at fault for failing to monitor the contractor's conformance to the approved safety plan.

Wage Rate Interviews

The sponsor is responsible for ensuring that *Weekly Wage Rate Interviews* are conducted with the workers to ensure that they are receiving the established prevailing wages. As provided for in the Engineering Agreement for Construction Services, this task is delegated to the on-site construction observer. Results of these interviews shall be submitted to the MoDOT Aviation Section with the weekly construction progress and inspection reports.

DBE Compliance Reviews

The sponsor is responsible for ensuring that *Weekly DBE Compliance Interviews* are conducted with the workers to ensure that the portion of the work identified in the construction contract to be performed by DBE firms is so performed. As provided for in the Engineering Agreement for Construction Services, this task is delegated to the on-site construction observer. Results of these interviews shall be submitted to the MoDOT Aviation Section with the weekly construction progress and inspection reports.

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Weekly Construction Progress and Inspection Reports

The sponsor is responsible for providing and maintaining adequate, competent and qualified engineering supervision and construction inspection personnel at the project site during all stages of the work to ensure that the completed work conforms with the project plans and specifications.

The sponsor shall require their on-site construction observer to keep daily construction records. A [Weekly Construction Progress and Inspection Report](#), including a summary of tests completed, shall be submitted to the MoDOT Aviation Section.

Change Orders and Supplemental Agreements

All [Change Orders and Supplemental Agreements](#) must be submitted to the MoDOT Aviation Section for review and approval prior to implementation to ensure funding eligibility. Please read the instructions on completing the forms carefully because any forms submitted that do not follow the format will be returned unapproved.

Outlay Report and Request for Reimbursement

Payments to the sponsor are made on a reimbursement basis. The sponsor may request incremental payments during the course of the project or a lump sum payment upon completion of the work. Requests for reimbursement ([Outlay Report and Request for Reimbursement \(Form 271\)\(Manual\)](#)) shall be supported with paid invoices and copies of checks.

Final Inspection

Upon project completion, the sponsor shall arrange a final inspection with representatives of the engineer, contractor, and MoDOT Aviation Section. A report shall be generated that documents the results of the final inspection.

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PROJECT CLOSEOUT

Within ninety (90) days of final inspection of the project, the sponsor must submit the following project closeout documentation to the MoDOT Aviation Section for review and approval:

- *Contractor's Certification Regarding Settlement of Claims*
- Certification letter (*Sample Certification Letter from Prime Contractor Regarding DBE's*) from the prime contractor for each individual DBE firm's work attesting to the actual work performed by the DBE firm and the amount paid the DBE firm. Both the prime contractor and the DBE firm must sign this certification.
- One set of record drawings (each sheet must be sealed, signed, and dated by the engineer)(These drawings must be half-size (11" x 17") for archive purposes.)
- One sealed final testing summary which follows the checklist provided in the engineering services agreement for construction inspection
- Two copies of the revised Airport Layout Drawing (ALD) showing as-built conditions
- Final *Change Order and Supplemental Agreement* (if applicable)
- Final *Outlay Report and Request for Reimbursement (Form 271)(Manual)* for Construction Programs
- Executed *Sponsor Certification for Construction Project Final Acceptance*

We would like to note that it is very important for the sponsor to complete the project closeout within the allotted time above. Failure to do so could result in the cancellation of the grant per item 20 of the State Block Grant Agreement (SBGA). Also, after grant closure, the sponsor is still responsible for airport compliance, assurances, leases and the obligations of the SBGA.