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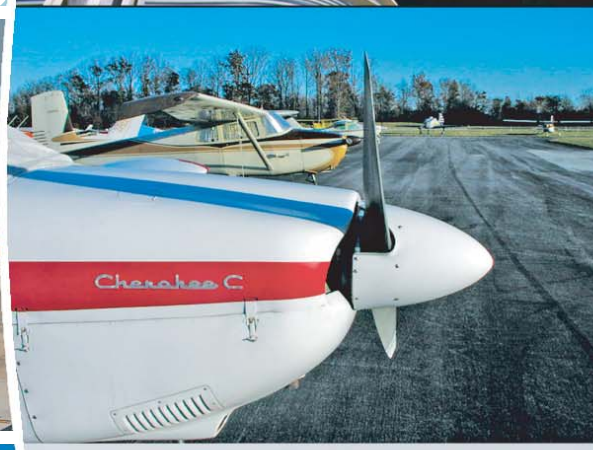

Improving the Quality of Airport Projects:

ACC/FAA Best Practices

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ACC/FAA BEST PRACTICES

FOREWORD

In February 2001, the Airport Consultants Council (ACC) and the Federal Aviation Administration (FAA) published a list of "best practices" to improve their business processes, foster improved communication with each other, and better serve the airport sponsors. At their July 2007 Summer Workshop, the ACC and FAA formally established a task force consisting of three FAA members and five ACC members to update the ACC/FAA Best Practices document to reflect changes within FAA programs and the industry since the original list was published.

Recognizing that each interaction between an FAA employee and an ACC consultant might require a different approach, the task force emphasizes that this list is neither definitive nor mandatory. Rather, it contains recommended guidelines. In addition, while some of the items specify actions by a consultant or the FAA, many apply equally to both groups. Finally, it is important to note that there are other parties involved in this process. While this document focuses on the FAA and the consultant community, the airport sponsor is the primary stakeholder and should always be kept in mind.

The task force is aware that State aviation departments are key participants, particularly in those States that take part in the State Block Grant Program. Depending on the State, these departments may provide much of the guidance and review normally provided by the FAA. Because of this, the best practices set forth in this document are equally applicable to a State agency when it acts to fulfill the FAA's role, vis-à-vis a sponsor or consultant, even though the text may not say so explicitly.

Subsequent to the drafting of this document, the task force coordinated with members of the ACC Board of Governors and FAA's regional Airports division managers, headquarters office directors and managers, and the Associate and Deputy Associate Administrator for Airports for their endorsement. Therefore, both the ACC and FAA endorse this document. We collectively believe that it can make a positive contribution to the national airport system.

"While this document focuses on the FAA and the consultant community, the airport sponsor is the primary stakeholder and should always be kept in mind."

INTRODUCTION

The FAA is responsible for establishing standards for the planning, environmental review, design, construction, and operation of a national system of airports that is safe, efficient, and environmentally compatible and that meets the needs of system users. The owners and operators of the Nation's public-use airports look to the FAA for guidance in complying with those standards and for grants to help meet their airports' capital needs. To obtain this guidance and assistance, the airport sponsors rely on the FAA's Regional Airports Divisions and their District Offices (ADOs) as well as on airport consultants.

The ACC is the professional association of consultants who assist airport sponsors in developing their airports. These consultants—including planners, environmental specialists, architects, and engineers—provide technical advice and services to sponsors on the development, improvement, and expansion of airports in compliance with FAA standards. These consultants are very knowledgeable in their respective areas of expertise. Accordingly, the FAA relies on them to provide advice to the airport sponsors, even though responsibility for approving the compliance of completed work with FAA standards rests with the FAA Airports offices.

To provide quality service to airport sponsors, the ACC and FAA need to recognize and understand each other's roles. We intend for this list of best practices to lead to:

- A safer airport environment;
- A more environmentally compatible airport environment;
- More effective relationships between airport consultants and the FAA;
- Higher quality products;
- More efficient and effective efforts by FAA and airport consultants;
- More efficient and effective use of public funds and airport revenues;
- Better service and increased customer satisfaction; and
- More streamlined processes for the implementation of airport development that meets the needs of the aviation community.

Because the interaction between the FAA and a consultant can vary during different stages of a project, best practice opportunities are identified within each major stage:

- Consultant Selection/Procurement
- Planning
- Environmental Processing
- Capital Improvement Plan Development
- Pre-design/Project Formulation
- Design
- Project Implementation
- Project Closeout

Common to all activities, and perhaps most important of all, are the personal relationships that exist among the individuals of the organizations involved. Recognizing the importance of this, the list of best practice opportunities begins with Relationships/Communication and Conflict Resolution.

BEST PRACTICES

I. RELATIONSHIPS/COMMUNICATION

Clear, open, and honest communication is vital to all successful team endeavors. By building professional and personal relationships through effective communication practices, the FAA and ACC can optimize the services we offer to our aviation partners. We offer the following guidelines to help foster better working relationships and communication:

- Listen actively to the extent possible, try to understand the perspective of the speaker, ask clarifying questions, and repeat back to the speaker what you think was said.
- Show mutual professional respect.
- Engage in early, ongoing, and open communication.
- Be forthright and realistic with expectations.
- Be accessible.
- Show patience and flexibility when discussing differences.
- Practice timely communication.
- Meet professional and project commitments.

"Try to understand the perspective of the speaker, ask clarifying questions, and repeat back to the speaker what you think was said."

II. CONFLICT RESOLUTION

Airport planning, design, construction, and consultant performance standards are not always so black and white as to preclude professional differences in interpretation. A healthy disagreement can be productive if it fuels discussion and leads to new ideas and innovations. However, when a disagreement becomes a roadblock, the involved parties must work together to overcome their differences if the project is to move forward. Clearly, there is no magic formula to resolving such differences, but when conflict arises, we encourage the following practices:

- Make an honest self-assessment as to why the differences exist.
- Clearly define the points of difference.
- Clearly communicate your position and reasoning.
- Provide unbiased data and facts to support your position.
- Take the time to understand the importance of the issue.
- Take the time to learn about the opposing position.
- Build upon common needs and goals.
- Focus on obtaining the most appropriate solution.
- Confine discussions to the technical issues and avoid purely personal differences.
- Seek to resolve issues in a timely manner, but don't avoid them in the hope they will go away.
- Get opinions on the issue from uninvolved peers to gain additional perspective.
- As a professional courtesy, give a "heads up" to the appropriate parties if the issue needs to be elevated to another level.

If honest efforts to resolve differences at the local level fail, the FAA, sponsor, or consultant can—within their own organizations, on their own initiative, or at the request of the others—

- First, advance the issue to an FAA regional resource specialist and/or to the next level in the consultant's firm.
- Next, advance it to an FAA Airports District Office manager or regional Airports division manager, depending on the circumstances, and/or to a manager in the consultant's firm.
- Finally, advance the issue to FAA headquarters, after exhausting every effort to resolve the issue within the region.

For matters of consultant or FAA performance, (e.g., quality, timeliness), address these issues openly, honestly, and early in the process. If informal resolution cannot be achieved locally, it might be necessary to advance such issues to management to assure appropriate corrective action. If it becomes necessary to elevate an issue, the parties should view this action as an appropriate step in resolving the issue and not as a failure on their part.

"Focus on obtaining the most appropriate solution."

III. CONSULTANT SELECTION/PROCUREMENT

Federal regulations require a Quality Based Selection (QBS) process for selecting consultants for projects funded with FAA Airport Improvement Program (AIP) funds. This includes consultant selection and procurement by sponsors, States, and the FAA's Regional Airports Divisions. The current version of FAA Advisory Circular (AC) 150/5100-14, *Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects*, provides guidance for the consultant selection process. We encourage all parties to familiarize themselves with this AC and use the following best practices:

- Advertise early enough to give consultants at least 3 weeks to respond.
- Properly identify the scope of work, required services, project schedule, project details, and selection criteria in all Requests for Qualifications (RFQs).
- Select a committee to establish a well-defined scoring system and rate the Statements of Qualifications (SOQs).
- Do not include requests for cost information, including hours or hourly rates, in the RFQ or anywhere in the selection process.
- Use interviews when a clear decision cannot be made on the submitted SOQs.
- If interviews are conducted, limit the interview shortlist to approximately three firms.
- Notify the consultants at least 2 weeks in advance of an interview and identify the interview format and expectations.
- Notify all parties of the final selection in a timely fashion.
- Provide an individual debrief to provide feedback on submittals and/or interviews to any interested consultants who submitted SOQs.
- Have the selected consultant prepare a detailed work scope and corresponding fee estimate to be used in contract negotiations.
- Complete an independent fee estimate for professional services in accordance with the current version of AC 150/5100-14 before negotiating a professional services contract.
- Include applicable Federal provisions in all consultant contracts.
- In compliance with Federal law, do not include any Broad-Form Indemnity Language in contracts.
- Stipulate in the contract the consultant's key project personnel identified during the selection process.
- Understand the role of the FAA in the consultants selection process. While the FAA might disapprove of the selected consultant, scope of work, cost, or contract, the agency only plays an advisory role in the selection process.

IV. PLANNING

An airport system or master plan is a comprehensive study of an airport or system of airports that prescribes short, medium, and long-term development plans to meet future airport demand. It is designed to put forward recommendations for the safe, efficient, and economical development of an airport to meet the needs of the community it serves. The plan should be thoughtful, well-coordinated, practical, and cost-effective; include a realistic assessment of needs and resources; and be consistent with established goals and objectives. In addition, the plan should consider future enhancements planned by the FAA due to advances in technology related to automation information systems, communications, navigation, surveillance, and weather. Much of this work will be conducted under the NextGen initiative and will have an impact on how airports are planned and developed. New technology being developed for use in aircraft, on airport, and by air traffic through NextGen will provide benefits to individual airports, as well as the national airspace system. To ensure a successful planning process, we recommend the following practices:

- "Plan first; program second." Allow the results of the planning analysis to determine the facility requirements and needs based on FAA-approved forecasts. Then develop appropriate alternatives for airport development before selecting a preferred alternative to present in the Airport Layout Plan (ALP) drawing set.
- Use phased planning projects for complex programs at larger airports.
- Use "out-of-the-box" thinking to create a work program that is specific to the project.
- Prepare for the planning assignment by developing a complete understanding of available information and project issues before the scoping meeting.
- Conduct a pre-planning meeting with all involved parties to discuss realistic expectations and to determine which tasks should be included in the statement of work.
- Throughout a planning study, provide opportunities for community involvement, which is critical for the study's successful completion.
    - Form a technical advisory committee made up of representatives of airport users and the local community.
    - Include the State's aviation department as well as the Metropolitan Planning Organization (MPO), if there is one.
    - Conduct regular committee meetings to provide updates on planning tasks and to seek input from members.
- Bring potential adversaries to the table early in the planning process to help develop trust and credibility in the process and create a forum for mutal education.
- In a master plan for general aviation airports with a low level of based aircraft and operations, use the aviation forecast developed in a State or metropolitan system plan to define the airport's role, determine its reference code, and provide justification and timing for proposed development.
- Include an appropriate level of engineering analysis in the planning processes to assure the plan can be implemented.
- Use existing data from an airport's pavement management study as input into the inventory and facility requirements for an individual airport master plan.
- Obtain concurrence and/or resolve differences at "client group" meetings before technical advisory committee meetings or public presentations.
- For master plans at major airports, ask the FAA Airports Division or ADO to coordinate a meeting with other elements of the FAA, such as Air Traffic, Technical Operations, and Flight Procedures, so that these offices can provide early input on the feasibility of the plan and identify potential issues with planned development.
- Make user-friendly presentations tailored to the audience.

- Ensure the master plan's financial plan is realistic and implementable and concentrates on the first 5 years of development.
- During the master plan study, consider evaluating the costs versus benefits of the recommended projects by preparing an economic feasibility analysis to determine if the projects are a realisitc option before they get too far along in the process and are shown on a signed ALP. Only do this analysis for projects that are expected to be costly and that will require a future benefit-cost analysis to justify the need for allocating AIP discretionary funds.
- Include an environmental overview in the scope of work of an airport master plan if environmentally sensitive areas have not already been designated under a previous environmental study. If development might be proposed with potential for environmental impacts at that location, get initial input from the appropriate agencies before deciding whether to show the development on an ALP.
- Review Appendix D, "Consideration of Environmental Factors in Airport Master Planning," in the current version of AC 150/5070-6, Airport Master Plans.
- Establish a website to keep the public informed about the study.
- FAA has issued an order that requires Safety Risk Management (SRM) on projects that impact the National Airspace System (NAS). The FAA will be working closely with the airport sponsors and consulting engineers to incorporate SRM requirements into the planning process for AIP funded projects.

"Bring potential adversaries to the table early in the planning process to help develop trust and credibility in the process and create a forum for mutual education."

V. ENVIRONMENTAL PROCESSING

In accordance with the National Environmental Policy Act (NEPA), Federal agencies must disclose to the public the potential environmental impacts resulting from, and reasonable alternatives to, a proposed Federal action. To meet this requirement, the FAA must complete one of three levels of environmental review based on the nature of the project: Categorical Exclusion (CE), Environmental Assessment (EA), or Environmental Impact Statement (EIS). The most extensive level of environmental review is the EIS.

To address Congress's concerns about the length of the environmental review process, particularly for EISs, the FAA committed to six initiatives to improve and streamline the environmental review process. One of these initiatives is to compile and issue a guide to best practices for EIS management and preparation. The FAA issued Best Practices for Environmental Impact Statement Management in July 2001 and updated it in January 2002.
This guide includes best practices that are within the purview of airport proprietors and EIS consultants, as well as the FAA. It is based on their collective experience and comments. This document is an excellent resource for all parties involved in the preparation and coordination of environmental documents, such as EAs and EISs. Since the environmental best practices guide is a relatively long document, we do not repeat its contents in this ACC/FAA list of best practices. Keep in mind, however, that the environmental best practices document is not a substitute for the FAA environmental guidance contained in FAA Orders 1050.1, Environmental Impacts: Policies and Procedures, and 5050.4, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects.

The FAA makes the environmental best practices document available on the FAA website at: http://www.faa.gov/airports_airtraffic/airports/environmental/eis_best_practices/.

VI. CAPITAL IMPROVEMENT PLAN DEVELOPMENT

The airport sponsor must leverage AIP grants, Passenger Facility Charge (PFC) collections, State grants, and revenues generated from airport operations to the extent possible to develop the airport and ensure its long-term viability. A Capital Improvement Plan (CIP) is a document that guides investment of these funds for airport development, usually over a 5-year period. In order to guide investment decision-making effectively, the CIP should be well thought out, based on an approved ALP, and realistic. It should also contain responsible project cost estimates. To ensure an effective CIP, we recommend the following practices:

- Accept development in the FAA's Airport Capital Improvement Plan (ACIP) as the cornerstone of all AIP and PFC investment decisions.
- Include consultants early in the development of cost estimates.
- Use responsible preliminary estimates because they can provide the basis for programming projects. Construction costs should be based on a detailed engineering cost estimate.
- Support "design-only" grants where cost effective and where development funding is anticipated in the subsequent year(s).
- Be prepared to bid projects early in the Federal fiscal year so that construction can begin as early in the construction season as possible.
- Submit 5-year airport CIPs to the FAA as early as possible in the calendar year preceding the Federal fiscal year in which funding is sought (e.g., January 2009 for Federal fiscal year 2010 funding).
- When developing airport CIPs, discuss with the FAA the status of environmental processing, reasonable AIP funding expectations, and other issues.
- Unless environmental processing is complete, or it is reasonably certain that a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) will be issued well before the end of the Federal fiscal year, show the associated design, land acquisition, and/or construction project(s) in the second or third year of the CIP, not in the first.
- If environmental processing for a project has not yet begun, show the associated design, land acquisition, and/or construction project(s) in the year following the expected completion of the EA/EIS or in future years if appropriate, but not in the same year.
- Show construction in the year following land acquisition, not in the same year.

"In order to guide investment decision-making effectively, the CIP should be well thought out, based on an approved ALP, and realistic."

VII. PRE-DESIGN/PROJECT FORMULATION

After programming a project in the CIP and entering into a planning or design contract for the project, perform some preliminary work to help streamline the process and ensure that all parties have the same understanding of the project. This step will help avoid surprises; and identify the expectations of all parties involved and areas for cost and time savings. We recommend the following practices:

- Hold pre-design meetings and use existing data to guide discussions about specific project issues.
- Seek to consolidate projects to achieve cost-effective development, reduce grant administration tasks and professional services, and provide the opportunity for more cost-effective construction bids.
- Use scoping meetings to formulate projects and to establish a work scope and detailed fee proposal.
- Include the consultant, sponsor, FAA, and other key stakeholders in scoping meetings.
- Allow adequate time during the scoping meeting to confirm agreement on project goals and the process to be followed.
- Establish realistic schedules to make it possible for all parties to deliver on agreed-upon commitments.
- Promise only what can be reasonably delivered and be prepared to fulfill promises.
- For projects that will involve other elements of the FAA, such as Air Traffic, Technical Operations, and/or Flight Procedures, ask the Airports Division or ADO to coordinate a meeting with effected offices so that they can provide early input to ensure that project(s) can proceed expeditiously.
- Identify those portions of the project that are neither AIP-nor PFC-eligible and have a funding plan for that work.
- Submit data and information to the FAA in the format requested on the AIP and/or PFC application forms.
- Coordinate draft PFC applications with the FAA to resolve any significant issues before conducting airline consultation.

"Allow adequate time during the scoping meeting to confirm agreement on project goals and the processes to be followed."

VIII. DESIGN

The design process starts with finalizing and approving the work scope and fee proposal and ends with the bidding of construction and/or equipment contracts. The design process takes into account the results of the planning, environmental, CIP development, and project formulation steps and results in a set of bid documents ready for advertisement. Since the design process impacts project costs, project schedules, and the end user's operations, involved parties should keep in mind that clear communication during this stage is critical. We recommend the following practices:

- Develop a project schedule and incorporate commitments to deadlines for critical milestones.
- Have a design kickoff meeting with all stakeholders.
- Promptly issue an authorization letter where certification is to be accepted and where FAA regional procedures require FAA authorization to proceed to bid.
- Maintain communication between consultants and the FAA during the design phase to avoid surprises at the end of the process.
- Develop realistic designs based on FAA-approved demand forecasts and the development shown on the FAA-approved ALP.
- Identify changes to the original approved project scope immediately so all parties can assess the impact.
- Have periodic design review meetings to enhance communication among the parties.
- For projects that involve other elements of the FAA, such as Air Traffic, Technical Operations, and/or Flight Procedures, ask the Airports Division or ADO to coordinate a meeting with the affected offices so that they can provide design input to prevent possible surprises during or after construction.
- Use available cost data on similar and recent projects to improve engineering cost estimates.
- Specify equipment using a "performance specification" as opposed to basing the specification on a particular vendor's equipment or procuring equipment through a State procurement.
- Complete the design of current fiscal year projects and be prepared to bid the projects as early as possible in the fiscal year so that construction can begin as early in the construction season as possible.

IX. PROJECT IMPLEMENTATION

Project implementation for construction and equipment projects begins with the bidding of construction and/or equipment procurement contracts (which normally occurs before submitting a Federal grant application) and ends with the physical completion of construction and/or delivery/ installation of equipment. Project implementation for land acquisition projects begins with the issuance of a Notice to Proceed to the appraiser (which normally occurs before submission of a Federal grant application) and ends with the closing of all land purchases. We recommend the following practices:

General

- Submit current Federal fiscal year AIP grant applications to the FAA as early as possible in the fiscal year so that the grant can be issued as early in the construction season as possible.
- Keep projects moving to use public and airport funds effectively and to achieve return on public investment as early as possible.
- Submit Pay Requests to the FAA or execute treasury draw-downs (if reimbursement is via Letter of Credit) at the completion of each major project element, but no less than every 6 months.
- Ensure that the amount of the Pay Request or treasury draw-down is commensurate with the amount of work completed on the project.
- Submit all required project documentation to the FAA in accordance with the schedule established by the FAA project manager.

Construction and/or Equipment Procurement Projects

- Base AIP grant applications on bids.
- Review the FAA Form 5010, Airport Master Record to verify that all airport approaches are clear before submitting an AIP grant application.
- Follow the requirements of Title 49 CFR Section 18.36, Procurement.
- Include the "Buy American" preference for AIP projects in the contract.
- Obtain an independent cost estimate for construction projects before bidding the project, as appropriate.
- Request FAA approval of any deviations from FAA standard specifications before advertising bids.
- Properly document construction projects that are implemented under an alternative process, such as design-build or construction management at risk, to reflect the latest FAA guidance.
- Implement and enforce construction safety plans.
- To prevent delays, submit any required FAA Form 7460-1, Notice of Proposed Construction or Alteration well in advance of the start of construction.
- Attend the "pre-tentative allocation" meeting, conducted by the FAA program/project managers for all parties, to establish a schedule for bidding, AIP grant application submission, and other requirements.
- Maintain constant communication between design and construction observation personnel. Design personnel should be made aware of changes in the field. Provide minutes of meetings and weekly reports to the consultant's design project manager.
- Conduct a pre-construction conference in accordance with FAA guidelines. Thoroughly discuss critical project issues and pertinent concerns. As each project can be unique in type and complexity, tailor the agenda for each conference to address the concerns of the specific project.
- Conduct weekly progress meetings that analyze the previous week's activities and look ahead at the next 2 weeks of construction operations. Analyze the schedule, and make adjustments as needed.
- Acquire Disadvantaged Business Enterprise (DBE) participation forms as soon as possible after a DBE subcontractor completes work.
- Complete and accept all applicable testing requirements in accordance with project specifications.

- Require material testing personnel to maintain a continuous summary of test results. This is required as part of the project closeout documentation.

Land Acquisition Projects

- Check with the local FAA office to determine specific land acquisition requirements.
- For detailed requirements, see the current version of FAA AC 150/5100-17, *Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects.*
- Make every effort to acquire property before applying for a Federal grant.
    - If land cannot be purchased before applying for a Federal grant, have purchase agreements and/or final condemnation awards available at the time of the grant application.
    - At a minimum, have all land appraisals available at the time of the grant application.
- Since land acquisition projects can be time consuming, ensure adequate lead-time and funding to complete the land acquisition and relocation process.
- Ensure there is enough lead time to accomplish relocations of displaced persons (homeowners, businesses, farms) before land is needed for scheduled construction or open to traffic dates.
- Establish a legal team to prepare for condemnation in case it is needed during the project.
- In establishing the project clearance schedule, prioritize improved property and difficult relocation cases.
- In anticipation of initiating land acquisition negotiations:
    - Solicit and prepare fair market value appraisals of needed property.
    - Interview displaced persons and determine relocation payment eligibility (Acquisition Stage Relocation Plan).
    - Conduct an Environmental Site Assessment of suspected contaminated property.
    - Complete the appraisal review.
- Make all reasonable attempts to negotiate an agreement or an acceptable administrative settlement to avoid condemnation.

X. PROJECT CLOSEOUT

The intent of the following recommended practices is to ensure that projects are closed as soon as possible after they are completed so that unused Federal funds can be recovered and used for other important projects. While they are consolidated here, many of these recommendations should be covered in the pre-construction conference and throughout project implementation.

- Clarify the closeout responsibilities of each party involved in the project.
- In the first quarter of the Federal fiscal year, look for notification from FAA program/project managers and airport sponsors indicating the FAA's desire to close out particular grants that are scheduled to be physically and financially complete during the fiscal year.
- Strive to close out projects within 90 days of a project's physical, financial, and administrative completion.
- Complete project closeout documentation as soon as possible while information is still fresh in everyone's mind.
- Throughout the project, keep all project documents up-to-date, including as-builts, financials, materials manuals, and electronic drawings, to ensure a timely project closeout.
- Complete record drawings in a timely manner so that they can be submitted electronically to the airport sponsor's Geographic Information Systems (GIS) and engineering departments for review.
- Facilitate the timely submission of closeout documentation by providing contractors with a list of required documentation for project closeout well before construction is complete.
- Submit all required documentation to the FAA as soon as possible after completion of the project. Contact the FAA project manager to confirm requirements and proper formats.
- Conduct a pre-final inspection with the contractor and construction observation personnel to allow the contractor time to address issues before final inspection.
- Schedule final inspections as soon as work is substantially complete and in consultation with all parties involved to ensure participation by the sponsor, the consultant, and, where appropriate, the FAA or State.
- Create a punch list of items to be completed and track progress on the completion of these items in order to approve final payment.
- Receive concurrence from all involved parties for final payment and process payment as soon as work is complete.
- Resolve any liquidated damage disputes or contractor claims expeditiously.

"Strive to close out projects within 90 days of a project's physical, financial, and administrative completion."

CONCLUSION

Carrying out these best practices depends, to a large degree, on the quality of the relationships among those involved. It is important, therefore, that the FAA, the sponsors and their consultants, and State aviation agencies nurture open and continuous communication.

Finally, as our national system of airports and the airport industry continues to mature and grow, the list of best practices in this document will likely be further refined and improved. Accordingly, we encourage readers to send suggestions for improving this list to the ACC or FAA.

ACKNOWLEDGEMENTS

We would like to acknowledge members of the ACC/FAA Best Practices Update Task Force for their in-depth technical knowledge of airports and for their understanding of what it takes to participate in and complete successful projects. We also thank them for their commitment to making this ACC/FAA best practices document update truly valuable. They sought input from their respective organizations and generously contributed their time. We are confident that those involved in the enhancement and expansion of the U.S. National Airport System will benefit tremendously.

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