CONSULTANT SERVICES FOR

PLANNING, DESIGN AND CONSTRUCTION

WASHINGTON ISLAND AIRPORT
WASHINGTON ISLAND, WISCONSIN
WISCONSIN BUREAU OF AERONAUTICS

OCTOBER 16, 2013

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Ms. Gayle Stearn, Project Manager
Wisconsin Department of Transportation
Bureau of Aeronautics
4802 Sheboygan Avenue, Room 701
Madison, WI 53707-7914

Subject: Consultant Services for Washington Island Airport

Dear Ms. Stearn and members of the selection committee:

The Mead & Hunt team is excited about the opportunity to help you achieve your development plans for Washington Island Airport. Our recent project experience with obstruction removal; precision approach path indicator (PAPI) and automated weather observing system (AWOS) installations and pavement reconstructions and overlays for aprons, taxiways and auto parking lots makes us an excellent candidate for this work.

Our experience at the Washington Island Airport includes the Runway 14/32 airfield lighting design, and key members of our team authored the Runway 4/22 relocation/realignment study, giving our team an understanding of the unique nature of this Airport. We have become familiar with the Washington Island Airport through this past work and continued site visits over the years, and gained additional insight through a recent visit and discussions with Airport staff regarding the current challenges facing the Airport.

We are a nationally recognized, full-service aviation consulting firm with the largest experienced airport services staff in the state of Wisconsin. Our firm is recognized for providing effective specialized solutions for our clients. We'll draw on our experience throughout the region to provide balanced guidance on compliance and standards issues, facility conditions, technology, funding and other issues. We bring the knowledge, expertise and capacity of our nationwide resources to your projects while the proximity of our Green Bay office, which is closer than any other aviation consultant, affords us the ability to provide you with responsive, cost-effective service.

The Mead & Hunt team has the capacity to meet your needs on your schedule. Our workload is such that we can start your projects immediately. We look forward to working again at Washington Island Airport. If you have any questions or require additional information, please contact us at 920-496-0500.

Sincerely,
Mead & Hunt, Inc.

Kevin S. Sielaff, PE
Project Manager

Thomas J. Janssen, II, PE
Manager – Green Bay Aviation Services

cc: Mike Berger, Airport Advisory Committee Chairman
Lu Beekman, Airport Advisory Committee Secretary

PROJECT UNDERSTANDING

IMPROVING ALL-WEATHER CAPABILITIES AT WASHINGTON ISLAND AIRPORT

Based on our past experience at Washington Island Airport and discussions with Airport and WisDOT-Aeronautics staff, Mead & Hunt has developed an understanding of the Airport's upcoming projects, including the need for improving all-weather capabilities at the Airport. As an island subject to northern Lake Michigan's variable winds and weather, improving pilot access to weather information during adverse weather conditions is necessary to maintain passage to the mainland. It will provide a greater measure of safety for both emergency response as well as for the many flyers using the Airport to enjoy the island's recreational opportunities.

Improving all-weather capabilities at Washington Island Airport is essential to maintaining access to the mainland and providing safer access for emergency response and the flying public.

Along with improved weather observation and reporting at Washington Island Airport, enhancing the safety of the visual approaches to the Airport's runways is another important objective to improve island access. Turf runways offer limited capabilities for establishing FAA-published approaches. As one of only six full-turf Wisconsin airfields on the National Plan of Integrated Airport Systems (NPIAS) and the only one on a remote island location, maintaining clear approaches and improving visual descent guidance are key measures to maximize visibility minima for the visual approaches on the current facility.

Washington Island Airport maintains their turf runways year-round, plowing them in winter to allow air access to the island. While this effort keeps the runways functional, maintaining unpaved transient aircraft parking through the winter months poses other challenges. Taxiing to a parking position on turf is challenging in dry conditions, and even more so on frozen snowy turf. An aircraft tied down on frozen turf may be iced in place the following morning. An all-weather paved apron for transient aircraft that can be plowed clean will improve the ability to visit the island at any time of the year for both commercial and recreational activities.

The tenants at Washington Island Airport, both seasonal and year-round, are important stakeholders with personal investment in the Airport. Paved access is provided to the 15 hangars on the airfield due to the extra ground maneuvering of aircraft and ground vehicles, this pavement is deteriorating and in need of attention. Additionally, a number of the airport tenants use their aircraft to travel to and from the island, maintaining a vehicle at the airport for their island transportation. Paving the existing parking lot will allow for better year-round parking and easier snow removal.

Construction work on Washington Island poses unique challenges on a number of fronts. The obvious challenge is project access, as a number of the projects will likely be constructed by mainland contractors. Our experience with design and construction in remote locations will help us identify challenges before they become problems and help us provide accurate estimates of the construction costs. In our experiences in northeast Wisconsin, we've also seen the difficulties that arise when trying to construct in the shallow bedrock conditions found along the Niagara formation, and we know to account for that in both design and cost estimating.

Some of the technical steps and issues with meeting these challenges and our recent similar experience are noted below.

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Obstruction Removal

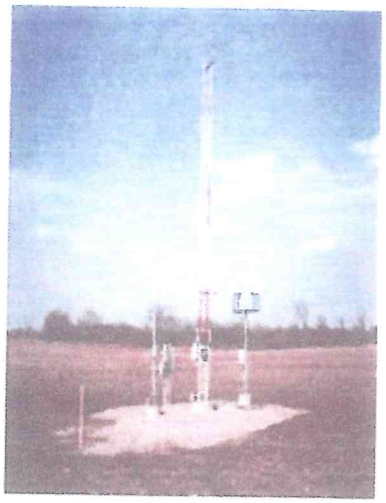
The Airport's 5010 Master Record indicates that three of the four runway approaches contain tree obstructions within 1,200 feet of the runway threshold. Some of these obstructions are as much as 70 feet higher than the runway threshold. With safety being of the utmost concern, we understand the importance of identifying the limits of the obstructions so they can be removed. We also understand the community's interest in maintaining the aesthetic character in the area. Our project team will identify obstructions via a field survey and work with the Airport to dispose of those obstructions in a way that is sensitive to the interests of the Airport's neighbors. We have recently completed obstruction removal projects at Rhinelander/Oneida County Airport and J. Douglas Bake Memorial Airport in Oconto.

Precision Approach Path Indicators (PAPIs)

Visual slope guidance equipment will be installed at Washington Island Airport as a non-federal system, meaning the system will not be installed and maintained directly by the FAA. Installation will be coordinated with the FAA Great Lakes Region's Non-Federal NAVAIDs Coordinator. The installation of PAPIs will require several steps. The first of these is proper siting, to make sure the system provides the correct threshold clearance height and obstruction clearance in accordance with FAA Order 6850.2B, *Visual Guidance Lighting Systems*. The second step is the submittal of preliminary flight check data forms, facility data forms and PAPI Obstacle Clearance Surface Drawing forms to the FAA Non-Federal NAVAIDs Coordinator, along with submittal of the final location for FAA airspace review. Lastly, we will need to determine the electrical requirements to get the PAPIs installed, flight-checked and in-service. Mead & Hunt has in-house airport electrical engineers who can guide this process, and has recent experience with PAPI installations or relocations at Rhinelander/Oneida County Airport, Ontonagon (MI) County Airport and Tomahawk Regional Airport.

Automated Weather Observing Systems (AWOS)

An AWOS will also be developed as a non-federal installation, with coordination through the FAA Great Lakes Region's Non-Federal AWOS Coordinator. Siting and clearances will meet the requirements of FAA Order 6560.20B, *Siting Criteria for AWOS*. In addition to the electrical system for the monitoring and measuring equipment, the radio transmission system and telephone access will be part of the design package for the dissemination of the local weather information. The installation will be submitted for FAA airspace review prior to installation. As with the PAPIs, construction of the AWOS will have to take into account the shallow bedrock on the Airport for both the concrete base installation as well as the cable runs. Mead & Hunt has recent experience in the development of AWOS installations at several Michigan airports, including Ionia County Airport, Dupont-Lapeer Airport, Abrams Municipal Airport and Beaver Island Airport.



Asphalt Pavement Improvements (hangar taxiways, aircraft parking apron, auto parking)

Existing pavements on the hangar taxiways and auto parking areas will be evaluated to identify the best solution for their condition and use. Improvement options could range from recycling in-place to total reconstruction, depending on the current pavement distress and subsurface conditions. New pavements in the unpaved portions of the auto parking area and the transient aircraft parking area would be designed to withstand both aircraft loadings and loadings by snow plowing equipment (often more demanding than aircraft loading). While there are aggregate sources on the island, access to asphalt pavement may be a problem. By coordinating the airfield paving with road projects on the island, it may be possible to take advantage of an economy of scale and stretch the Airport's construction dollars. Recent paving projects of similar scope have been successfully completed by the Mead & Hunt team at Ontonagon County and Beaver Island airports in Michigan, and Manitowoc County, Rhinelander/Oneida County and Austin Straubel International airports in Wisconsin.