



TO: Jeannie Johnson,
JNU Manager

DATE: August 6, 2009

FROM: Catherine Fritz, AIA
JNU Architect

FILE: 1382.16
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RE: Terminal Renovation and Sno-Man Bldg. Project Updates

Terminal Renovation. Three active projects comprise the Terminal Renovation:

1. Terminal Renovation Phase I: North Pacific Erectors is completing the final punch list; close-out of contract requirements will occur over the next 60 days. The final change order is being drafted. The total construction contract is expected to be just under \$1.9 million, and includes approximately \$50,000 in change order items.

The metal panels that skin Gate 6 on the airfield side were not replaced in this work because they are in reasonably good condition. We are developing a small contract to have these panels painted to aesthetically be more compatible with the new façade. This is expected to cost approximately \$15,000 and will be done in Spring, 2010.

2. Terminal Renovation Phase II: McGraw's Custom Construction continues framing the new addition and roof installation has begun. Multiple trades are working, and the site is busy. Work is proceeding on-schedule, and the contractor is being responsive to JNU operational needs. A request has been received and approved by JNU to close Shell Simmons Drive for 13 calendar days in the latter half of August to allow the ice-melt system and raised crosswalk to be constructed. While this will be operationally challenging, it allows the contractor to complete the work in less than half the scheduled time, and allows the underground piping to run continuously without joints (a better long-term design solution). I have scheduled a public meeting to notify tenants, and am working closely with all parties to ensure that the airport can function safely during this period.

Change orders to date have been relatively small items (both credits and additional costs), except for two significant items: 1) a \$90,000 credit that was obtained at the start of the project for changing the metal panels to match the manufacturer used for Phase I, and 2) a cost of \$130,000 to extend the new glass canopy an additional 25 l.f. and eliminate two more columns in the sidewalk along Shell Simmons. These are both long term positive decisions for the terminal building that will improve accessibility and function along our front face.

Other miscellaneous projects that are occurring as part of the renovation include the public art installation and the Dispute Resolution Board. The art panel met with the artists last week and toured the construction site to understand the volume of the space that will host the hanging metal bird sculpture. The sculpture is scheduled to be installed in Dec-Jan. The Dispute Resolution Board has been provided contract documents, but has not yet met. There are no pending disputes, so their services have not yet been needed.

3. Geothermal Loop Field: The contract completion date for the airport's geothermal field was August 5, 2009. Admiralty Construction has requested a time extension of 21 calendar days. I am reviewing the documentation provided by the contractor and will make a recommendation to CBJ Construction Manager, Catherine Wilkins. The pipe work in the pit is complete and final piping connections are being extended to the building. Work remaining includes hydrostatic testing of the system, backfilling, and paving. The attached report was prepared for the Alaska Energy Authority, the agency that provided \$513,000 toward this project

Airfield Maintenance (aka Sno-Man) Building.

In June, 2009, the FAA re-prioritized AIP funding and moved JNU's request for construction funds for the Snow Removal Equipment Facility to FY 2011 and FY 2012. The design team is standing by as we work with FAA to solidify a scope and funding strategy that all parties agree to. We are optimistic that we will be able to resume the Design Development phase by December, 2009.

Progress Report Form

Grantee: Juneau International Airport (City & Borough of Juneau, Alaska)

Project Name: Juneau Airport Ground Source Heat Pump

Grant # 2195359

Period of Report: 2.13.09 to 7.15.09

Project Activities Completed:

In December, 2008, the Airport decided to separate the ground source heat pump project into two sets of contract documents: one for the installation of the heat pumps inside the terminal building, and the second to construct the geothermal loop field. The primary reason for this was to address the unique challenges of the geothermal construction in a public bid setting. The vertical drilled borings and horizontal fused piping are special components of work that construction contractors in Alaska have little experience with. With the small field of qualified bidders, project staff became concerned that the loop field at the airport alone was not large enough to attract qualified bidders at a reasonable price. So, the Airport elected to collaborate with another geothermal project in the City & Borough of Juneau (the Dimond Aquatic Center), creating a larger project that successfully attracted several experienced drillers to the bid. The contract for construction of the geothermal loop field is \$1,006,955.00. Construction inspection services are expected to be \$50,000.

The Airport Ground Source Heat Pump construction grant application identified a project cost (construction + design and administration) of \$1,026,000 for which a 50%, or \$513,000 grant award was made. For simplicity in reporting on this grant, the heat pump installation portion of the project has been excluded from this report because the actual cost of the geothermal loop field alone exceeds the grant budget. However, project records for the heat pump installation component are available and additional information can be provided if necessary.

The primary project activities during this reporting period for the geothermal loop field construction have been:

1. The Construction Documents were completed by the design team (construction contract E09-167), and the advertisement for bids began on January 26, 2009. The project received three responsive bids (two additional non-responsive bids were rejected) on February 25, 2009. The low bidder was Admiralty Construction of Juneau, with drilling subcontractor Gregory Drilling of Redmond, WA and piping subcontractor Harri's Plumbing & Heating of Juneau. Following the required bid protest period, the bids were reviewed by the Airport Board and the City & Borough of Juneau Assembly. On April 7, 2009 the contract was awarded to Admiralty Construction and the Notice to Proceed was issued.
2. Construction on-site began April 15, 2009 with removal of asphalt. This allowed the drill rigs to mobilize and begin drilling the 360 ft. bore holes on April 29, 2009. All 108 bore holes with 360 ft. U-Bend assemblies were complete on June 9, 2009. Excavation for

horizontal pipe trenches began on June 19, 2009, which allowed the horizontal pipe work to start on site on July 2, 2009. As of this date, three of the nine manifolds have been completed. The work is scheduled for completion on August 5, 2009.

Existing or Potential Problems: While there have been some “learning curve” issues related to the drilling and pipe fusion process, overall, the construction has gone well. There are no disputes or claims, and no change orders related to this work have been issued. The Contractor has requested a time extension of three weeks for completion, but has not provided justification, so this request has not been granted.

Activities Targeted for Next Reporting Period: The loop field will be complete by the next reporting deadline. Major tasks remaining as of this date include: completing the horizontal piping, testing the piping, backfilling, paving, and contract close-out. Installation of heat pumps (under the terminal renovation contract) will begin in September, 2009, allowing portions of the ground source system to become operational in January, 2010.

Geothermal Loop Field Project Photo Report
 Prepared July 15, 2009
 by Catherine Fritz, AIA, JNU Airport Architect



4.16.09: Asphalt removal underway by Admiralty. Cones mark the perimeter of the loop field, a 100 ft x 300 ft. area.



4.29.09: First day of drilling. Gregory Drilling constructed a total of 108 bore holes, each to a depth of 360 ft.



6.4.09: Drilling is nearly complete. U-bend assemblies of 3/4" HDPE pipe were set in each hole, and backfilled with pea rock.



6.25.09: Trenching between rows of borings is complete; bedding material will be spread to rest the horizontal pipes upon. Note the existing conduits that will remain in place.



7.02.09: Manifolds are moved onto the site by Harri's Plumbing & Heating crew. Each pipe assembly was pre-assembled with fused joints off-site.



7.15.09: Manifold in trench is complete.