

| Phase 1 Total Project Cost | \$ 8,240,000 |  |  |  |
|----------------------------|--------------|--|--|--|
| Total Project Cost         | \$16,259,000 |  |  |  |
| Approval Level:            | Full BOR     |  |  |  |

# SCHEMATIC DESIGN APPROVAL REQUEST

| то:       | Pat Gamble<br>President   |
|-----------|---|
| THROUGH   | Kit Duke<br>Chief Facilities Officer  |
| THROUGH:  | Tom Case T Can 12 Nov 2013 "<br>Chancellor  |
| THROUGH:  | William Spindle A. Mar 11.12.2013<br>Vice Chancellor, Administrative Services                                       |
| THROUGH:  | Chris Turletes<br>Associate Vice Chancellor, Facilities and Campus Services   |
| THROUGH:  | John Faunce Manning and Construction  |
| FROM: for | John Hanson 11/12/13<br>Senior Project Manager  |
| DATE:     | November 11, 2013   |
| SUBJECT:  | Project Type:DM and R&RProject Name:UAA Consortium Library Old Core Mechanical Upgrades, Phase 1Project No.:03-0006 |

Cc:



## Non- Academic Project Program Resource Planning Status Report UAA Consortium Library Old Core Mechanical Upgrades, Phase 1 Schematic Design Approval

This project involves renewal and replacement of the original HVAC equipment in the Library This building is over 40 years old and the systems were not upgraded when the new library addition was added.

| Milestone #0   |                       |
|--|-----------------------|
| Mission Area Analysis: (Renewal and Repurposing of vacated space)  | Date: N/A             |
| Statement of Need: (Renewal and Repurposing of vacated space)      | Date: N/A             |
|  |                       |
| Milestone #1   | D                     |
| Statewide Academic Council (SAC) Review:                           | Date: <u>N/A</u>      |
| (Not required for non-academic projects)                           |                       |
| Milestone #2   |                       |
| Preliminary Administrative Approval:                               | Date: 03/12/12        |
|  |                       |
| Milestone #3   |                       |
| Statement of Requirements: (Developed as a part of the FPA)        | Date: <u>12/07/12</u> |
| Nilester all   |                       |
| Dusiness and Financing Plant                                       | Data: N/A             |
| Dusiness and Financing Flan.                                       | Date: $N/A$           |
| Conital Dudget Request (not requested, facinity replaces existing) | Date. MA              |
| Locialativa Evendinga EV12 F112, F113, F114 and F113               | & EV1/received        |
| Desired Asymptotic for the Distributions                           | Data:                 |
| Board Approval of Capital Budget Distribution:                     | Date                  |
| Milestone #5   |                       |
| Formal Project Approval:   | Date: 12/07/12        |
| Schematic Design Approval: (Phase 1)                               | Date: 12/16/13        |
|  |                       |
| Milestone #6   |                       |
| Construction Started:  | Date:                 |
| Construction Completed:  | Date:                 |
| Beneficial Occupancy:  | Date:                 |
| Final Project Report:  | Date:                 |





## SCHEMATIC DESIGN APPROVAL

| Iame of Project: UAA Consortium Library Old Core Mechanical Upgrades, Phase I |  |  |  |
|---|--|--|--|
| ct Type: Deferred Maintenance   |  |  |  |
| UAA Main Campus, Library (AS 124), Anchorage, AK                              |  |  |  |
| Project Number: 03-0006   |  |  |  |
| 11/11/2013  |  |  |  |
| \$ 16,259,000 (all phases)  | (Phase 1 Amount: \$8,240,000)  |  |  |
| Full Board  |  |  |  |
| Preliminary Administrative Approval<br>Formal Project Approval                | 03/12/12<br>12/07/12   |  |  |
|   | UAA Consortium Library Old Core Mechar<br>Deferred Maintenance<br>UAA Main Campus, Library (AS 124), Anch<br>03-0006<br>11/11/2013<br>\$ 16,259,000 (all phases)<br>Full Board<br>Preliminary Administrative Approval<br>Formal Project Approval |  |  |

A Schematic Design Approval (SDA) is required for all Capital Projects with a Total Project Cost in excess of \$250,000.

SDA represents approval of the location of the facility, its relationship to other facilities, the functional relationship of interior areas, the basic design including construction materials, mechanical, electrical, technology infrastructure and telecommunications systems, and any other changes to the project since formal project approval. Unless otherwise designated by the approval authority or a material change in the project is subsequently identified, SDA also represents approval of the proposed cost of the next phases of the project and authorization to complete the design development process, to bid and award a contract within the approved budget, and to proceed to completion of project construction. Provided however, if a material change in the project is subsequently identified, such change will be subject to the approval process.

#### Action Requested

The Facilities and Land Management Committee recommends that the Board of Regents approve the Schematic Design Approval request for the University of Alaska Anchorage Consortium Library Old Core Mechanical Upgrades Project, Phase 1, as presented in compliance with the campus master plan, and authorizes the university administration to complete construction bid documents to bid and award a contract within the approved budget, and to proceed to completion of project construction not to exceed a Total Project Cost of \$8,240,000. This motion is effective December 12, 2013.

#### Project Abstract

This project is Phase 1 of a two-phase project. Phase 1 will replace the boilers, main air supply/exhaust fan units, heating/cooling coils, galvanized piping and humidification systems and hazardous materials abatement in two central cores (Quadrant B and C). The base bid will include the scope of work for Quadrant C and additive alternate #1 will include the scope of work for Quadrant B.

#### **Rationale and Reasoning**

#### **Background**

The original UAA Library was constructed in the early 1970s and has undergone several renovations, including a major 110,000 square foot addition in 2004. The mechanical systems in the original building (Old Core) have now reached the end of their useful life and require replacement.

The four Quadrants of the original library building, Quadrants A, B, C, D, are composed of two floor levels totaling approximately 22,400 square feet each and are served by separate ventilation systems housed in a penthouse fan room and separate heating systems located in a basement level mechanical room.

Each of the four Quadrant penthouse fan rooms contain a built up air handling unit (AHU) with a supply and return fan that provides ventilation via ducted supply ductwork to variable volume terminal units and an unducted, fan assisted return air system.

Each basement mechanical room contains two cast iron boilers and circulation pumps to serve AHU heating coils, perimeter baseboard fintube, reheat coils around the central skylight area and ceiling mounted cabinet unit heaters located in the stairwells. A glycol hydronic heating solution is utilized. The hydronic piping system is fouled due to suspected overheating of the glycol solution, which has greatly reduced system efficiency.

#### Programmatic Need

The original HVAC system consists, for the most part, of equipment over 40 years old located within the four central cores (known as Quadrants). This project goal is to modernize the building heating and ventilation systems to make the systems more energy efficient and the occupants more comfortable. To that end the ventilation, heating and building automation systems for the entire Old Core building will eventually be demolished and completely replaced. The heating systems for the building will be reconfigured to contain two larger boilers in each of the Quadrant A and Quadrant C boiler rooms, serving half the building each. This will decrease the number of boilers serving the Old Core building from eight to four, increasing energy efficiency and reducing the required maintenance time for the system. The 2004 library addition contains newer HVAC systems with different control and delivery systems that have resulted in incompatibilities between the two systems and has affected the efficiencies of both systems.

### Project Scope

The scope of work is similar for each phase of the project. The scope of work includes mechanical, electrical, building automation, architectural, fire protection and structural systems, as well as hazmat abatement and code and safety upgrades. The full scope of work is described in detail in the attached design narrative.

#### Project Impacts

This project will upgrade the east side of the library that includes Quadrants B and C. Phase 2 will upgrade the west side of the library that includes Quadrants A and D. The building will be occupied during construction. Occupants will have to be relocated to other areas of the building to allow construction. Books, shelving, case work, and furniture will have to be relocated and/or placed in temporary storage. The project is phased to accomplish one quadrant at a time to minimize the impact on building occupants. The base bid will include only the work in Quadrant C. An additive bid alternate will be included to also award the work in Quadrant B if sufficient funding is available.

If sufficient funding is not available in FY15, Quadrant C can be completed with available funds and Quadrant B will be accomplished when additional funding is available. Delays in funding of either or both phases will delay potential energy cost savings and cause higher maintenance costs to continue.

#### <u>Variances</u>

The FPA budget (total project cost) was \$5,250,000. The scope of work included in the Formal Project Approval request was based upon discussions with facilities maintenance and building occupants. The intent of this project is to extend the life of the existing facility an additional 30 years. During schematic design, a detailed survey of all of the mechanical/electrical requirements was accomplished. Site investigations revealed that the amount of work necessary to revitalize and extend the life of the Consortium Library was significantly more extensive than previously identified. The breakdown of construction costs and total project costs are as follows:

| Phase          | Quadrant     | Construction Costs | <u>Total Project Costs (Rounded)</u> |
|----------------|--------------|--------------------|--------------------------------------|
| 1-Base Bid     | С            | \$3,021,096        | \$4,316,000                          |
| 1-Additive Alt | . В          | \$2,747,081        | \$3,924,000                          |
| Subtotal (Pha  | se 1)        | \$5,768,177        | \$8,240,000                          |
| 2-Base Bid     | А            | \$2,913,250        | \$4,162,000                          |
| 2-Additive Alt | . D          | \$2,699,903        | \$3,857,000                          |
| Subtotal (Pha  | se 2)        | \$5,613,153        | \$8,019,000                          |
| Total Project  | t Cost (TPC) | \$ 11,381,330      | \$ 16,259,000                        |

#### **Total Project Cost and Funding Sources**

#### **Quadrant C Funding**

| Fund/Org     | Fund Description                               | Original Funding Amount |
|--------------|--|-------------------------|
| 104110-17040 | FY13 FP&C R&R Operating Funds                  | 36,833                  |
| 174004-17059 | FY13 FP&C Recharge                             | 92,838                  |
| 564354-17191 | FY12 Library Old Core Mechanical Upgrades      | 95,000                  |
| 564386-17049 | FY13 Campus Mechanical/Electrical/HVAC Upgrade | es 51,689               |
| 564418-17191 | FY 14 Old Core Mechanical Upgrades             | 2,746,800               |
| 514544-17164 | FY13 BMH Renewal (Surplus funds)               | 1,292,840               |
| Subtotal     |  | \$4,316,000             |
|              |  |                         |

#### **Quadrant B Funding**

| TBD               | FY15 Capital R&R/DM Funds | 3,924,000   |
|-------------------|---------------------------|-------------|
| <b>Total Phas</b> | se 1 (Quadrant B & C)     | \$8,240,000 |

#### Phase 2 Funding

| TBD        | FY16 Capital Funds R&R/DM Funds | \$ <b>8,019,000</b> |
|------------|---------------------------------|---------------------|
| Total Proj | ect Cost (Phase 1 and Phase 2)  | \$16,259,000        |

#### \*\* Total expensed and encumbered as of November 4, 2013 is \$768,338.46.

### Annual Program and Facility Cost Projections

The annual O&M Costs are expected to be reduced as the result of higher efficiency mechanical and electrical systems to be installed under this project.

#### **Project Schedule**

| • | DESIGN (Phase 1)             |               |
|---|------------------------------|---------------|
|   | Conceptual Design            | October 2012  |
|   | Formal Project Approval      | December 2012 |
|   | Schematic Design             | October 2013  |
|   | Schematic Design Approval    | December 2013 |
|   | Construction Documents       | May 2014      |
|   | BID & AWARD                  |               |
|   | Advertise and Bid            | June 2014     |
|   | Construction Contract Award  | July 2014     |
|   | CONSTRUCTION                 |               |
|   | Start of Construction        | July 2014     |
|   | Construction Complete        | January 2015  |
|   | Date of Beneficial Occupancy | February 2015 |
|   | Warranty Period              | 1 Year        |
| • | DESIGN (Phase 2)             |               |
|   | Conceptual Design            | October 2012  |
|   | Formal Project Approval      | December 2012 |
|   | Schematic Design             | October 2014  |
|   | Schematic Design Approval    | December 2014 |
|   | Construction Documents       | May 2015      |
|   | BID & AWARD                  |               |
|   | Advertise and Bid            | June 2015     |
|   | Construction Contract Award  | July 2015     |
|   | CONSTRUCTION                 |               |
|   | Start of Construction        | July 2015     |
|   | Construction Complete        | January 2016  |
|   | Date of Beneficial Occupancy | February 2016 |
|   | Warranty Period              | 1 Year        |
|   |                              |               |

#### **Project Delivery Method**

Design-Bid-Build

#### **Supporting Documents**

One-page Budget Design Narrative Document Site Plan Floor Plan

## **Affirmation**

This project complies with Regents Policy, the campus master plan, and the Project Agreement.

## <u>Approvals</u>

The level of approval required for SDA shall be based upon the estimated TPC as follows:

- TPC > \$4.0 million will require approval by the board based on the recommendations of the Facilities and Land Management Committee (FLMC).
- TPC > \$2.0 million but not more than \$4.0 million will require approval by the FLMC.
- TPC > \$1.0 million but not more than \$2.0 million will require approval by the Chair of the FLMC.
- TPC < \$1.0 million will require approval by the AVP of Facilities and Land Management.

| UN  | IVERSITY OF ALASKA                 |                                |      |             |    |            |     |                |
|-----|------------------------------------|--------------------------------|------|-------------|----|------------|-----|----------------|
|     |                                    |                                |      |             |    |            |     |                |
| Pro | ject Name: UAA Consortiu           | um Library Old Core Mechani    | ical | Upgrades, F | ha | se 1       |     |                |
| MA  | U: Anchorage, Alaska               |                                |      |             |    |            |     |                |
| Bui | lding:                             | Consortium Library (AS124)     |      | Date:       |    |            |     | 11/11/2013     |
| Can | npus: UAA                          |                                | Р    | repared by: |    |            |     | CJ Fischer     |
| Pro | ject #: 03-0006                    |                                |      |             |    |            |     |                |
| Tot | al GSF Affected by Project         | t:                             |      | 88,960      |    | 88,960     |     | 44,480         |
| PRC | JECT BUDGET                        |                                | F    | PA Budget   | SI | DA Budget  | SD/ | A Budget, PH 1 |
| Α.  | Professional Services              |                                |      |             |    |            |     |                |
|     | Advance Planning, Progr            | am Development                 | \$   | 60,000      | \$ | 74,800     | \$  | 37,900         |
|     | Consultant: Design Servi           | ces                            | \$   | 600,000     | \$ | 968,000    | \$  | 490,468        |
|     | Consultant: Construction           | Phase Services                 | \$   | 150,000     | \$ | 329,000    | \$  | 166,698        |
|     | Consul: Extra Services (Li         | ist:)                          | \$   | 25,000      | \$ | 25,000     | \$  | 12,667         |
|     | Site Survey                        |                                |      |             |    |            | \$  | _              |
|     | Soils Testing & Engineer           | ing                            |      |             |    |            | \$  | -              |
|     | Special Inspections                |                                | \$   | 50,000      | \$ | 50,000     | \$  | 25,334         |
|     | Plan Review Fees / Perm            | nits                           | \$   | 73,500      | \$ | 228,000    | \$  | 115,780        |
|     | Other                              |                                |      |             |    |            | \$  | -              |
|     | Pro                                | ofessional Services Subtotal   | \$   | 958,500     | \$ | 1,674,800  | \$  | 848,847        |
| В.  | Construction                       |                                |      |             |    |            |     |                |
|     | General Construction Co            | ntract(s)                      | \$   | 3,340,900   | \$ | 11,400,000 | \$  | 5,777,869      |
|     | Other Contractors (List:_          | )                              |      |             | \$ | 350,000    | \$  | 177,339        |
|     | Construction Contingend            | су                             | \$   | 334,000     | \$ | 1,175,000  | \$  | 595,521        |
|     |                                    | Construction Subtotal          | \$   | 3,674,900   | \$ | 12,925,000 | \$  | 6,550,729      |
|     | Construction Cost per GS           | F                              | \$   | 41          | \$ | 145        | \$  | 147            |
| C.  | <b>Building Completion Acti</b>    | vity                           |      |             |    |            |     |                |
|     | Equipment                          |                                | \$   | 41,600      |    |            |     |                |
|     | Fixtures                           |                                |      |             |    |            |     |                |
|     | Furnishings                        |                                |      |             |    |            |     |                |
|     | Signage not in constructi          | on contract                    |      |             | \$ | 15,700     | \$  | 8,099          |
|     | Move-Out Costs                     |                                |      |             |    |            |     |                |
|     | Move-In Costs                      |                                |      |             |    |            |     |                |
|     | Art                                |                                |      |             |    |            |     |                |
|     | Other (Interim Space Ne            | eds or Temp Reloc. Costs)      |      |             | \$ | 600,000    | \$  | 304,009        |
|     | OIT Support                        |                                | \$   | 50,000      | \$ | 50,000     | \$  | 25,334         |
|     | Maintenance Operation              | Support                        | \$   | 100,000     | \$ | 100,000    | \$  | 50,668         |
|     | Building C                         | ompletion Activity Subtotal    | \$   | 191,600     | \$ | 765,700    | \$  | 388,110        |
| D.  | <b>Owner Activities &amp; Admi</b> | nistrative Costs               |      |             |    |            |     |                |
|     | Project Plng, Staff Suppo          | ort                            |      |             | \$ | 245,000    | \$  | 123,806        |
|     | Project Management                 |                                | \$   | 420,000     | \$ | 643,500    | \$  | 326,082        |
|     | Misc. Expenses: Advertis           | sing, Printing, Supplies, Etc. | \$   | 5,000       | \$ | 5,000      | \$  | 2,426          |
| ļ   | Owner Activities & Ac              | dministrative Costs Subtotal   | \$   | 425,000     | \$ | 893,500    | \$  | 452,314        |
| Ε.  | Total Project Cost                 |                                | \$   | 5,250,000   | \$ | 16,259,000 | \$  | 8,240,000      |
|     | Total Project Cost per             | GSF                            | \$   | 59          | \$ | 183        | \$  | 185            |
| F.  | Total Appropriation(s)             |                                | \$   | 5,250,000   | \$ | 16,259,000 | \$  | 8,240,000      |





