# Bond Reimbursement and Grant Review Committee Meeting Agenda

**December 12, 2018**
**8:30am - 4:00pm**

**Location: Anchorage**
Atwood 12th Floor Conference Room (Room 1270)

**Audio Teleconference: Call Toll-Free 1-855-244-8681 (US/Canada); Meeting Number 806 051 200**

**Chair:** Heidi Teshner

| **Wednesday, Dec. 12, 2018** | **Agenda Topics** |
|---|---|
| 8:30 – 8:35 AM | **Committee Preparation**<br>• **Call-in, Roll Call, Introductions**<br>• **Chair's Opening Remarks**<br>• **Agenda Review/Approval**<br>• **Past Meeting Minutes Review/Approval** |
| 8:35 – 8:45 AM | **Public Comment** (additional comments related to agenda topics may be solicited throughout the meeting) |
| 8:45 – 9:40 AM | **Department Briefing**<br>• **FY2020 CIP Report**<br>  • **Summary Statistics**<br>  • **Scoring Issues**<br>  • **Initial Priority Lists**<br>• **Statewide Six-year Plan**<br>• **School Capital Project Funding Report**<br>• **Preventive Maintenance Update (PM State of the State)**<br>• **Facilities Book – Data & Updates** |
| 9:40 – 10:30 AM | **Regulation Projects Update**<br>• **Public Comment & DEED Responses**<br>• **Recommendations for SBOE Adoption** |
| 10:30 – 10:45 AM | **BREAK** |
| 10:45 AM – 12:15 PM | **Construction Standards for Cost-effective Construction**<br>• **Review Updated Geographic Cost Factors**<br>• **Subcommittee Reports**<br>• **Identify Subcommittee Actions** |

**Wednesday, Dec. 12, 2018**

# Agenda Topics

| | |
|---|---|
| 12:15 – 1:30 PM | **LUNCH** |
| 1:30 – 3:00 PM | **Briefing Papers**<br>• **ASHRAE 90.1 Implementation/Certification**<br>• **Space Guidelines** |
| 3:00 – 3:35 PM | **Publications Update**<br>• **Preventive Maintenance and Facility Management**<br>• **Swimming Pool Guidelines**<br>• **A Handbook to Writing Educational Specifications** |
| 3:35 – 3:45 PM | **BR&GR Work Plan Review** |
| 3:45 – 3:50 PM | **Set Date for Next Meeting** |
| 3:50 – 4:00 PM | **Committee Member Comments** |
| 4:00 PM | **Adjourn** |

**BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE**
March 15, 2018, Wednesday
Teleconference
FOR REVIEW & APPROVAL - MEETING MINUTES

| Committee Members Present | Staff | Additional Participants |
|---|---|---|
| Heidi Teshner, Chair | Tim Mearig | None. |
| Dale Smythe | Larry Morris | |
| Robert "Bob" Tucker | Wayne Marquis | |
| Doug Crevensten | Kimberly Crawford | |
| Don Hiley | | |
| Rep. Sam Kito | | |

**CALL TO ORDER and ROLL CALL at 2:34 p.m.**

Heidi Teshner, Director of Division of Finance and Support Services, chair, called the meeting to order at 2:34 p.m. Roll call of members present; Sen. Anna MacKinnon, Rep. Sam Kito, Mark Langberg, and William Murdock are excused. Quorum of 5 members.

**REVIEW and APPROVAL of AGENDA**

Rep. Kito moved the agenda, Bob seconded. Approved by unanimous consent.

**PUBLICATION UPDATE**

**Preventive Maintenance Handbook**

Tim introduced the draft handbook and drew attention to the gaps in the material. The hope is to strategize in this session how to fill them in order to send the draft out for public comment following this work session. Solicited committee member comments.

Dale offered two comments: the estimated life expectancies of HVAC controls at 20 years and special electrical at 15 years, has changing technology affected the life spans; and interested in discussing the measurement of fuel usage as it relates to individual facilities. Tim directed the committee to the sample renewal and replacement (R&R) tool. Tim clarified whether the concern was need for upgrade as opposed to systems wearing out; Dale confirmed, software may not function as long as a component. Discussion of whether program upgrade costs within 10 to 15 years are operational versus capital and whether it is in state's best interest. Bob offered that controls are all electrical now and the age should be lower to match that of special electrical due to rapid technology changes. Dale proposed language update to listing of components – downplay pneumatic controls and include electronic controls, digital controls.

Committee discussed energy management and tracking of energy consumption at sites and facilities. Dale offered edit that the implementation section contain language that a district should designate and identify a position to be in charge of the tracking. Tim stated that the minimum bars are directly tied to regulation; potential to add in 'best practices'. Document needs to be clear what are required for compliance and what is beyond that. Bob suggested adding it into bullet list as a recommendation of what other districts are doing.

Don identified added language in the statutory authority section that states funding is for capital projects and not preventive maintenance, then goes on with "nor for projects costs caused by a

lack of [regular or preventive maintenance]". Tim acknowledged it cannot be included in the context of eligibility. Don strongly objected to the addition. Punishes districts for decisions made by prior district personnel or budget situations. Tim stated that a proper place for a broad discussion is in the CIP application guidance; there are other statutes and regulations that speak to department authority to reduce projects. This handbook is not planned to be referenced in or have the force of regulation. Committee further discussed implications for projects that were or were not caused by lack of maintenance. Bob offered his support for the concept of the language in the CIP application. Doug asked whether the differentiation needed to be clearer between qualifying minimums and best practices. Don agreed that it could be better distinguished.

Tim summarized the structure of the introduction sections: open with statement of the regulation and regulation requirements, how those are documented by the maintenance certification visits and application process, state observation of current deficiencies, information related to work order process, finishes with a paragraph of best practices. At Bob's suggestion, Tim offered to expand the purpose section to talk about the structure of the document to provide guidance on how to best use the handbook.

Tim provided an overview of what is included in the publication and the gaps that still need additional development. Admitted that including "facility management" in the publication adds a need for a lot of new material. If publication went out for public comment, department would ask for stakeholder assistance in filling outlined areas. Dale stated that the format, with "developing", "implementing", and "sustaining", is reasonable; hoped that public would take opportunity to offer comments on the undeveloped areas to help form it. Tim observed that gaining input from district facilities personnel is preferred, as department does not have direct, hands-on experience.

**BR&GR WORK PLAN**

Tim commented that the updated work plan includes changes from December meeting. Reviewed publication timelines, possible need for additional review and drafts of the PM handbook.

Rep. Kito seconded that the public comment should go out with a letter soliciting feedback. General committee consensus for department to issue handbook for public comment as is.

**LEGISLATIVE UPDATE**

Heidi recapped the legislative bills and current actions; not a lot of action on school facilities and construction topics. Upcoming hearing on HB 212, which would allow REAA funds to be used for major maintenance projects. No hearings on SB 87 as of yet, committee did a lot of work related to this bill over the past year. State board of education will meet next week and FY19 ranking lists are on the consent agenda for approval.

**COMMITTEE MEMBER COMMENT**

No Rep. Kito and Dale had no additional comments. Bob and Doug thanked staff. Doug liked the best practices and helpful hints, and suggested, when sending PM handbook out for public comment, to add specific comment requests to the publication. Don offered that department should recruit comments, it really needs active participation from personnel in the field. Heidi thanked committee members for participation and was looking forward to seeing members in Juneau on April 3.

**MEETING ADJOURNED**

The committee adjourned at 4:02 p.m.

**BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE**
April 3 & 4, 2018, Tuesday & Wednesday
Juneau – DEED Board Room
FOR REVIEW & APPROVAL - MEETING MINUTES

| Committee Members Present | Staff | Additional Participants |
|---|---|---|
| Heidi Teshner, Chair | Tim Mearig | Kent Gamble, HMS, Inc. |
| Doug Crevensten | Larry Morris | Aimee Smith, HMS, Inc. |
| Don Hiley | Wayne Marquis | |
| Mark Langberg | Lori Weed | |
| William "Bill" Murdock | Kimberly Crawford | |
| Dale Smythe | | |

**APRIL 3RD**

**CALL TO ORDER and ROLL CALL at 1:15 p.m.**

Introduction of members and department Facilities staff. Heidi Teshner, Director of Division of Finance and Support Services, chair, called the meeting to order at 1:15 p.m. Roll call of members present; Sen. Anna MacKinnon, Rep. Sam Kito III, and Robert Tucker are excused. Quorum of 6 members.

**REVIEW and APPROVAL of AGENDA**

Tim offered clarification to agenda, will not be speaking to emergency scoring. Mark moved the amendment. Amended agenda approved by unanimous consent.

**REVIEW and APPROVAL of MINUTES**

Minutes reviewed and approved as submitted by unanimous consent.

**PUBLIC COMMENT**

No public comment.

**DEPARTMENT BRIEFING**

Tim noted the department briefing is an opportunity to inform the committee of various activities at the department; some items are closely tied to committee work and some are more ancillary. Overview of preventive maintenance process and current status of school district certifications. In response to Dale's question, Tim explained that the number of ineligible districts is fairly static since the implementation of a 'provisional' status. Wayne observed that a lack of resources, both personnel and fiscal, is affecting more districts.

Tim observed FY19 CIP rankings are notable for latent FY18 funding and grant awards that were finally sorted out and impacted the ranking of the lists. Three districts requested reconsideration on a project; one resulted in a budget adjustment. There were no appeals of reconsideration determinations. Currently, there has been no movement in legislature on capital budget.

Tim commented that the department has been updating the cost model annually, as opposed to prior two-year cycle. It is an important tool provided to districts for use in putting together applications with a reasonable cost basis, which assists in advocating at the legislative level. Newest version will complete at the end of April.

This past year the department tasked HMS with providing a framework for updating geographic cost factors, as there is not a record of what the current cost factors are based on. Using Anchorage as the base, HMS evaluated two districts: Fairbanks and Bering Strait. Broke factors into several areas: General Requirements (mobilization, shipping), Local Costs, Productivity, Climate, Structural/Architectural/Mechanical, Risks (assessment of contractor risks). Bering Strait is down by about ten percentage points and Fairbanks climbed, mostly due to structural factors. Foundations are not a factor due to being individually modeled in the cost model. Bill asked if factors were based on estimations or actual projects. Tim clarified that the factors are based on estimating history. Doug asked how the geographic regions are defined, whether they related to the BEES regions. Dale noted that the BEES regions were for separating energy usage and cost rates for design. Noted teleconference in next day agenda with HMS on the cost model.

Tim provided an overview of the SB 237 report, an assessment of all state capital funding that occurs on schools in the state through the REAA, school construction, major maintenance grant funds and the debt reimbursement program. Report is data-centric, with different presentations. Currently analysis is minimal, but department is hopeful it will be able to do additional analysis as more data is gathered.

Tim reviewed the highlights of the Alaska Education Challenge being implemented by the department and state board. Any of the focus areas of the Challenge could bleed into facilities, but none are directly related. It is an ongoing process.

Tim summarized the current status of legislative bills, so far only a little movement in legislation relating to school facilities. The current capital budget does not have any school funding proposed; however, the governor has a separate budget initiative providing major maintenance funding if an income bill also passes.

The department is proposing a 'clean-up' regulation project; Facilities has not undertaken one in a number of years. Recent updated publications are in regulation and references need to be updated. The hope is to present at the state board's September meeting for potential action to issue public comment.

Under publications, the *Life Cycle Cost Analysis Handbook* is up for committee review later in the agenda. Initial public comment for the *Preventive Maintenance Handbook* is underway, the notice was accompanied by a cover memo letting people know there is more to develop and asking for specific input and participation. Tim has set up a series of teleconferences to gather district input and formulate additional content.

**PUBLICATION UPDATE**

Don objected again to the language stating that a project would not be eligible if project conditions were due to lack of preventive maintenance; it is now also in the proposed application. Tim stated the department had looked at the statute and added the language in the application to

bring it to the committee for discussion on conditions under which certain work would not be eligible. Bill asked whether there was evidence that schools were not maintaining facilities. Tim confirmed there are projects with work caused by lack of maintenance, but asserted his belief no district does it intentionally. Don emphasized that the program should not punish districts for prior personnel decisions and funding issues. Dale noted that the public expectation is that the program is being managed responsibly, with the state making good investments with the funds, and it is a good discussion to have. Tim assured committee there is no department agenda to remove projects from eligibility, but under statute language, scope may be removed if it should be part of preventive maintenance. Discussion about need for clarity between project eligibility and scope ineligibility on conditions caused by lack of preventive maintenance.

Larry introduced the revisions to the *Life Cycle Cost Analysis Handbook*, last update was two decades ago. Most changes were minor updates to references to websites and publications; more development in the instructions on using the tool. Tim noted the department would like to see more applications using the tool to support the options question; the tool is not complex or time consuming once the cost information is available. He hoped highlighting the tool in the upcoming CIP workshop will increase its use. Discussion on usability and validity of the tool. Tim noted that the published updated tool will have pre-loaded assumptions that districts can change as needed.

Dale made a motion to put to put out the edited *Life Cycle Cost Analysis* publication out for public comment. Passed by unanimous consent.

**BREAK**

**DEPARTMENT CIP BRIEFING**

Larry began with the code deficiencies/life safety/protection of structure scoring question; in his opinion it is the most difficult application question to write for and the most difficult for rater's to score. He came up with a sample scoring matrix to rank similar and dissimilar project issues that would also provide clarity for districts on how points were assigned. Tim added that this moves the scoring towards formula-driven, but maintains the need for evaluation. Tim provided information on development of the matrix.

Tim reviewed the condition survey scoring for relative age on a completed project. On planning and design, Tim re-emphasized need for a condition survey in earlier stages of design for more projects. There are projects that would have benefited from documenting conditions prior to finalizing a design strategy or completing the project.

Lori reviewed changes proposed to six-year plan form, which was redesigned to conform with statute, with room to include a project description and a signature from the school board president. Column notating state aid, so districts can utilize plan for all capital improvement projects and the department can separate data as needed for reporting.

**CIP APPLICATION**

Tim walked through the application mark-up of changes. Application changes in section 3: First, transition plans modified to be broadly applicable to all facilities, not just state-owned. Second, removal of the questions relating to investment grade audits. Don noted intent language the questions had been based on had expired by the time applications had been due last year. Tim

discussed change in section 6, adding location for application writer to provide information on why a completed project did not perform a design stage. Mark offered a comma edit for clarity. Committee discussed scenarios where design stages are skipped and potential variations of answers to the prompt.

Tim walked through the instructions mark-up. First potential change is to project eligibility in regards to whether it is a capital project or was caused by lack of maintenance. Important to be very clear in wording. Don objected that statute only requires the project to be a capital project, no language speaking to the cause. Committee discussion followed. Tim agreed proposed language overextends the reading of the statute. Discussion to resume following day.

**RECESS**

**APRIL 4TH**

**CALL TO ORDER at 9:00 a.m.**
Heidi called the meeting to order at 9:00 a.m., Wednesday, April 4.

**PUBLIC COMMENT**
No public comment.

**FY2020 CIP APPLICATION REVIEW (Continued)**
Discussion resumed on application instructions. Tim stated that the edits to questions 2.e and 2.f clarified where the department is getting the information. Mark noted a minor edit on 2.f, changing to "each district". Added language in question 2.d will be removed "evidence supporting it is not due to inadequate maintenance". General confirmation to remove from all materials. Section 3 changes, edits to 3.c, transition plans, were discussed during the application review.

In question 3.d department introduced language aimed at helping districts and department manage districtwide project scopes that lack definition. Generally, a project should be a set of work that will be bid under a single contract. If it is not the case, then the applicant should provide justification on how it is more cost effective. Minor edits were discussed.

Committee reviewed authority of department to reduce scope and budget of project or grant award that did not follow appropriate procurement procedures.

Moving on to section 4, Tim observed there are a lot of narrative changes relative to the new matrix scoring for code. He recommended talk about the matrix in the rater's guidelines so that the changes would make sense, and to approve or disapprove of the scoring method. The most significant change presented in the matrix is the opportunity for districts to support conditions with work order evidence and information from a registered professional, and they know if they forego doing those things, they will score lower. This change in the life safety/code category institutionalizes current practice – providing additional points for professionally documented conditions. Tim expressed that this will need to be adjusted as things come up that didn't fit. Discussion of effect on small and rural districts

Heidi asked whether there were objections to the matrix method of scoring. Don brought up his concerns about several of the items, particularly being age based and no installation or material problems. Dale asked whether there could be more flexibility, perhaps a letter from a registered professional noting concerns over material installation, etc. Tim stated there is a lot of guessing about the future, but the department is judging on the severity of the issue as it is; these point structures are meant to make that more clear. Open to tweaks to ages, scores. etc. General discussion on fire sprinklers systems versus fire alarms and protection of structure or life safety. Bill wondered could he do a survey and then send it to a PE for code review and endorsement. Tim confirmed that could be an option to gain the 3 point boost. Committee discussed scoring climate-based erosion conditions.

Tim summarized that the committee seems to have some reservations but also a general support for this change. Tim noted that this approach has a heavy emphasis on evidence from the maintenance perspective; system degradation can be evidenced through maintenance time documented through work orders. Committee supported the revised matrix as the approach for FY20 CIP cycle.

Returning to the instructions, Tim pointed to the added language on how to respond to the question 4.a, specifically providing maintenance work orders. Discussion on how department would balance mixed-scope conditions.

**BREAK**

Tim stated there were no changes to section 5. In section 6, changes reference back to Appendix B. All changes are for clarity when certain elements do or don't apply, and have the purpose of bolstering the need for a condition survey when the project would be best served by having one. Don expressed dislike of the word "adequately" because there will be differences in opinion. Tim commended that completed project and in-house work scenarios have added a lot of complexity to this evaluation; the department is making decisions on whether documents would have been needed and agreed upon in a project agreement under a normal funding scenario.

The CIP briefing paper provides examples of judgement calls on design and condition survey points for projects. Tim asked the committee to advance the notion that condition surveys are considered necessary to complete most projects. Committee action in the past four years have made the condition survey documents more flexible in who can do them.

Committee discussed intention behind removing additional levels of drawings in questions 6b and 6c; determined to keep the original language.

Language in section 7 is cleanup, moving from section 3. Change to question 8c and the project eligibility checklist provide discretion in implementation of statute. Lori pointed out that providing an life cycle cost analysis can be an eligibility issue, and the added instruction language is a reminder of that. Tim stated that the edit to eligibility item "I" is an easing of the language to conform to department practice of not throwing projects off the list because no cost-benefit analysis was submitted.

Tim noted the prior discussion on the instruction appendices and the eligibility checklist. Small edit on scoring sheet regarding district ranking points only determined by eligible projects. Tim reviewed smaller edits and clarifications in the rater's guidelines.

Doug remarked that instruction appendix D on type of spaces is outdated; asked if it is used for points. Tim confirmed that type of space, as provided in application table 5.2, is used to weight scoring in a formula-driven category. Discussion of type of space scoring and identification.

Dale made a motion to adopt the application and support materials as edited, Doug seconded. Adopted by unanimous consent.

**STANDARDS FOR COST-EFFECTIVE CONSTRUCTION**

**Commissioning Subcommittee**

Mark stated that the subcommittee last met the first week of March and there are several items he is planning to follow up on. Tim added that, after the committee submitted its report to the legislature, the commissioning subcommittee tasks were only ones that could be pursued without a budget. Committee and department are moving toward developing draft regulations by July to forward to the state board for the September meeting. Trying to define which projects require commissioning and credentialing of commissioning agents. Don queried whether there was going to be a budget impact to projects.

**Design Ratios Subcommittee**

Dale summarized results of the energy modeling of the one-story versus two-story ratio as being less than anticipated. Tried to quantify potential energy savings and cost savings. Other ratios and areas may provide greater benefit. A huge number of variables and assumptions change affect the potential, including occupant loads and minimum code-required air changes. Surprised that electrical load increased due to increased fan use to move the air in a two-story building. Dale expressed appreciation to subcommittee member who donated time and effort for the modeling. Still work that can be done, without funding, to move the effort forward. Tim noted that this subcommittee is possibly the most constrained without available funding.

**Model School Subcommittee**

Doug stated that the subcommittee had not yet met on the four action items in the report to the legislature. Consultant will assist with keeping the cost model up-to-date based on education delivery method changes and code changes, similar to presentation in the afternoon. System standards are currently with the department for development. Although prototypical schools, even by region, may not do well, there may be prototypical systems that could function, particularly at a regional level. Model school concept has moved from an idea of a prototypical school to a foundational-level school that reasonably meets the needs of children.

General conversation on the background and history of the model school used in the escalation study and cost model.

**REGULATION UPDATES**

Lori pointed out the summary of changes document provided by the department. The proposed changes are based on a list the department developed of questions, issues, and problems that came up during use of the regulations. The list is not exhaustive, and there will be additions, like

including a section on the provisional certification status; if committee members have other items, bring those to the attention of the department. Lori walked through each of the identified regulation changes.

Don asked whether the handbook references could be changed to say 'current edition', like code references do. Lori responded that code references go through another agency's formal regulation process; the handbook editions will be provided with the regulations during the regulatory public comment process.

**BREAK - LUNCH**

**COST MODEL UPDATE**

Kent Gamble and Aimee Smith from HMS, Inc. introduced themselves and the requested cost model task. HMS was asked to finalize model school elements, with particular attention to providing for ASHRAE 90.1 code requirements. To do so they reached out to the design community to find out how ASHRAE would affect components of the model. Committee members asked various clarifying questions on the model and specific changes. HMS will review and make changes noted.

Doug asked what is HMS's definition of a model school. Kent stated the original idea was to develop a typical school in the Anchorage area, approximately 41,400 square feet, that would serve as the baseline model school as far as using typical construction elements; those elements get updated as "typical" materials and needs change.

Larry noted department is using 2010 edition of ASHRAE 90.1, and for the 50 percent of controlled outlets may only be for offices/admin areas and computer classrooms. The 2013 edition changed requirement to all classrooms. Kent commented he will dial it back.

Kent opened conversation to common design elements that may be coming up. Discussion followed on school security systems.

Kent reiterated that the model school has two functions, the primary is to provide an escalation factor, to see how a common school tracks through the years. HMS uses it to incorporate design changes, which are minor in the relative cost growth of the school. The other function is to use elements of the model school to develop elements and model of different components that can be traded in and out of the model to develop the cost for difference types of space used in schools. The way that is accomplished is building different assemblies and trading them in and out. Tim noted that for the purposes of renovations, a number of individual solutions have been developed. For the purpose as it relates to the committee, specifically the model school subcommittee, we want to know what are the acceptable systems and components for the state.

Kent noted anticipated risk with potential trade tariffs, particularly with steel he's anticipating a 35-50% increase in cost. He parted with a comments that there will be volitivity in prices.

**REGULATION UPDATES (Continued)**

Lori continued walked through of the identified regulation changes. Noted that there are a couple of alternative language passages for committee input. Committee reviewed and discussed

department's proposed changes. Don noted request from Kathy Christy to increase the minimum value requiring competitive selection for design services and construction management services from $50,000 to $100,000. This would keep up with inflation. After review of definition changing minimum value of "school capital project" from $25,000 to $50,000. Don started conversation about what constitutes a capital project; general committee discussion followed. Lori reminded members that if there were edits and suggestions, to contact the department.

**BREAK**

**WORK PLAN REVIEW & UPDATE**

The workplan is pretty well intact to what was previously tracked from December. There is an edit to the publications, substituting out *Cost Format* for the *Architect and Engineering Services* publication. Other change will be adjusting date for the final *PM Handbook* from May to June. No date for clean-up regulation project, suggested July 2018. Update from 'construction standards regulations' to 'commissioning regulations'. General discussion of projected meeting dates and potential agenda items.

Committee discussed school security features, lock-down procedures, and how it could fit into the application process.

**FUTURE MEETING DATE**

Next meeting dates are teleconferences on May 8, June 14, and July 19.

**COMMITTEE MEMBER COMMENT**

Bill had no additional comments. Don thanked everyone for their work. Doug expressed appreciation for the face-to-face meeting. Mark also appreciated the in-person meeting to re-connect or connect with new people; it was good to be a part of the process. Dale echoed Mark's comments, a lot of work but fun to be a part of it all. Heidi thanked department staff for putting everything together and the committee members extra time they've put in.

Tim noted CIP workshop will be May 16 in Anchorage, committee is welcome to stop in for any and all.

**MEETING ADJOURNED**

The committee adjourned at 4:15 p.m.

**BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE**
June 14, 2018, Thursday
Teleconference
FOR REVIEW & APPROVAL - WORK SESSION MINUTES

| **Committee Members Present** | **Staff** | **Additional Participants** |
|---|---|---|
| Heidi Teshner, Chair | Tim Mearig | Dana Mendez, Anchorage School District |
| Mark Langberg | Larry Morris | |
| Dale Smythe | Lori Weed | |
| William "Bill" Murdock | | |
| Don Hiley | | |

**CALL TO ORDER and ROLL CALL at 2:34 p.m.**

Heidi Teshner, chair, called the meeting to order at 2:34 p.m. Roll call of members present; Sen. Anna MacKinnon, Rep. Sam Kito, Robert Tucker, and Doug Crevensten are excused. Quorum of 5 members.

Bill moved to approve the agenda, seconded by Mark.

**REGULATION PROJECT UPDATE**

**Commissioning**

Tim explained that this is the committee's opportunity to looks at recommended regulations and language that are planned to be presented at the state board meeting in September. The first set supports the committee's report to the legislature on construction standards, specific to commissioning. Subcommittee has seen earlier versions and will review tomorrow. This regulation will codify which projects will require commissioning with an aim at ensuring cost-effective operations at the outset and throughout the life of the building or system. Provides information on who can provide the services, and wraps in the five standards developed by the committee. There is one an element of 'retro-commissioning' in 4 AAC 31.013. 4 AAC 31.065 sets out procurement standard for commissioning services. 4 AAC 31.080 starts to set out features that would pin down which projects would require commissioning. There are two supporting definitions: "commissioning" and "commissioning agent". Definitions reference already defined terms and phrases where possible.

Mark thanked the department for providing a starting point of three options for language, he offered revisions and feedback, and that result is what is before the committee. Subsequent to that, the document went to the subcommittee for comments. Revisions are anticipated from members at tomorrow's meeting; he apologized subcommittee could not meet prior to this committee meeting. Tim clarified that this is the last committee work session on the regulations prior to it being sent to the department's assistant attorney general for review. Department will accept all committee member and public comments in the development of the regulation.

Tim recommended starting in section .080, which speaks to requirements, parameters, and allowable costs. Mark asked how the "over 2,000 square feet" requirement fit in with other regulations. Tim stated it stands on its own. Don asked if there should be a qualifier on the type or complexity of the facility; doubted commissioning should be required for a storage building.

Tim reiterated that the purpose of the language is to make the bar pretty high for required commissioning. Dale opinioned 2,000 square feet is going to capture everything, it could increase to 3,000 or 5,000 square feet and meet the goal of not wasting dollars on systems that cost more to run, more value on a larger facility. Tim agreed number may be a low. Don asked for clarification, in the scenario of adding two classrooms, would this require commissioning of just the addition or the entire facility. Lori asked whether a mechanical system would need commissioning if that much additional space was added.

Don was more concerned about cost and complexity of the project than size, as well as the cost to commission, especially in remote locations. Tim observed the main lack of clarity is in the definition of "rehabilitation", should take a look to update that definition. Discussion on various complexities and levels of commissioning based on project and owner intention.

Don asked what budget category this service will be paid from, project are already crowding and exceeding recommended design percentages. Tim stated a district should put in a project budget in its application that includes the necessary cost. Don suggested commissioning be a separate line item. Tim responded that, to the extent the department may want or need to track it separately, it could be a separate item and the committee could weigh in during the application development. Mark noted districts should ensure clear communication and well-defined fees and scope. Tim agreed clarity needed in what services are provided under what contract.

Bill was concerned about the language regarding preparing owner to operate and maintain.

Tim pointed out the requirement for districts to have a plan to evaluate the need for retro-commissioning of existing facilities that is being added to the preventive maintenance and facility management program. This language affects far more buildings and square footage than the commissioning requirement discussed earlier. Don agreed that it is likely to be a cost to districts.

Heidi summarized that the subcommittee will discuss these concepts and provide recommendations to the department, which will forward the revised language to the AAG, and that language will be presented to the board. Recommended providing additional comments to Mark or Tim, or call into the subcommittee meeting.

**"Clean-up"**

Lori introduced the "clean-up" regulation change to 4 AAC 31, noting the provided summary of changes. Items that changed since the April meeting were: preventive maintenance regulation added "provisional compliance" procedure and reworked language on department determination of compliance and non-compliance; removed questionable sections brought up at the April meeting; added option for district to reuse an application score for a substantially completed project for up to five years. Tim highlighted change in section .016, which helps define how department treats enrollment of students in leased space. Don sought clarification on when a department's determination of a compliant PM program would affect CIP eligibility. Tim stated the intent is that a compliant determination in August ensures eligibility throughout that year's CIP cycle; any change in a determination would affect a subsequent year determination. A district would work to get recertified by the following August. Department to reword to make that clear.

Lori presented department determination of language option in section .023(c) to allow costs 36 months before an initial application of a project with a substantially identical scope. Also in section .023(c) was new language dealing with district indirect and administrative costs; the intent of which is to provide an option of districts either providing a detailed accounting of costs or a percentage of construction costs. Don objected to the use of tiered percentages and expressed concern over the reduction of budget. Tim clarified that this provision is for districts that don't account for their costs; admin costs tracked by a district will be accepted. This is not a change to the application or range or definition of administrative costs; more applicable to municipal districts that have prorates and indirect percentages. Tim confirmed regulations were intended for the September state board meeting and, if approved through the process in December, could be incorporated into the next CIP application draft.

**PUBLICATION UPDATE**

Heidi noted the *Life Cycle Cost Analysis Handbook* is before the committee. Tim stated the publication went out for comment with none received. Bill marked a small correction to bottom of page 7, to say "every" year.

Mark made a motion to adopt the *Life Cycle Cost Analysis Handbook* with minor edits by the department, seconded by Dale. Adopted by unanimous consent.

Tim observed that this is a progress update for the *Preventive Maintenance & Facility Management Handbook*; the effort being a lot bigger than department was prepared for.

**LEGISLATIVE SESSION UPDATE**

Tim stated that the operating and capital budget bills have been signed. Department is working on receiving the appropriations to the three grant funds and will begin issuing FY19 draft project agreements. Two bills are awaiting signature: HB 135, allowing extension of participating share deadline, and HB 212, allowing major maintenance funding from REAA fund and providing for energy efficiency and cost standards. A fiscal note attached to HB 212 would provide $300,000 in funding to work on criteria identified in the committee's report to the legislature, primarily energy modeling and consultant services.

**WORK PLAN REVIEW & UPDATE**

Committee to review the work plan at the next meeting and schedule activities to accomplish the objectives by the end of fiscal year 2019. Previous assumption that only the commissioning subcommittee would have a lot of activity this year has change, and the design ratio and model school subcommittees will have to ramp up. Department will propose changes to the work plan timeline and activities and present to committee at the next meeting.

**COMMITTEE MEMBER COMMENT**

No additional comments from Mark, Doug, or Don. Dale will provide square footage limit ideas to Mark for commissioning subcommittee.

**FUTURE MEETING DATE**

Next meeting July19, 2018, will discuss the fiscal note and corresponding committee activities.

**MEETING ADJOURNED**

The committee adjourned at 4:05 p.m.

**BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE**
July 19, 2018, Thursday
Teleconference
FOR REVIEW & APPROVAL - WORK SESSION MINUTES

| Committee Members Present | Staff | Additional Participants |
|---|---|---|
| Heidi Teshner, Chair | Tim Mearig | None |
| Rep. Sam Kito III | Larry Morris | |
| Mark Langberg | Lori Weed | |
| Dale Smythe | | |
| Doug Crevensten | | |
| Don Hiley | | |

**CALL TO ORDER and ROLL CALL at 2:36 p.m.**

Heidi Teshner, chair, called the meeting to order at 2:36 p.m. Roll call of members present; Mark Langberg absent; Sen. Anna MacKinnon, Robert Tucker, and William Murdock are excused. Quorum of 5 members.

Don moved to approve the agenda, seconded by Dale.

**REGULATION PROJECT UPDATE**

Lori updated the committee on the status of the regulations, currently the two sets of regulations previously seen by the committee have been sent to the department's assistant attorney general for review. In response to Dale's question, Heidi summarized the next steps: at September meeting the State Board of Education and Early Development will meet and review the regulations, if it approves the regulations for a 30-day public comment period, then the board would meet at the December meeting to approve sending the regulations to the lieutenant governor's office. Lori noted that, depending on changes made in response to the public comments, the board could choose to send the regulations out for an additional public comment period.

Mark joined the teleconference. Quorum of 6 members.

**STANDARDS FOR COST-EFFECTIVE CONSTRUCTION**

Tim reviewed packet materials, including the matrix comparing the committee report to the provisions of HB 212. He highlighted four items. One, the bill language did not include commissioning because committee and department already had authority and resources to move forward with regulations. However, item two, because the bill did not speak to commissioning, the fiscal note did not include a $15,000 feasibility analysis on whether to have highly developed criteria and standards related to commissioning as recommended in the committee report. Item three, the model school criteria #9, spoke to developing the cost model as a cost limit tool; HB 212 did not require cost limit or maximum cost per square foot. Future movement will be on any existing department authority to do so. Item four, the bill will require encouraging, evaluating, and requiring re-use of school plans. Otherwise, a lot of intersection between the committee report and the bill; the fiscal note provides a source of funding to accomplish the objectives.

Heidi inquired whether the additional funding amounts in the fiscal note could be used to address the commissioning study. Tim responded that the increased values came from better, updated information on costs; but it is likely any remaining funding could be shifted. Philosophical question for the committee on how deep to go, as a regulatory body, in developing and defining elements of commissioning standards. Mark stated that commissioning is often driven by what the owner wants and will pay for, companies rely on expertize to accomplish task to owner satisfaction and budget. There are several national organizations with standards to draw from to assist development of state-level standards. The goal would be not to constrain people but to provide better guidance than was previously developed.

Doug observed that the model school elements look comparable. He asked whether it will still move forward with developing "good, better, best" (minimum and maximum) standards. Tim noted development of those standards would be under report criteria #11, developing an outline of building standards.

Heidi provided information on fiscal note appropriations, budgets, and accounting. Timeline for expenditures is July 1 through June 30.

**WORK PLAN REVIEW & UPDATE**

Tim reminded the committee that three members will have terms ending February 28, partway through the work plan timeline; each are eligible to apply for re-appointment.

Tim reviewed the work item 3.1 changes and noted associated budgets and timelines. Department development of RFP for geographic cost adjustments is on track for August. Subcommittee is developing a statement of services for an RFP to enhance the cost model's site and major maintenance line items, to be issued in October. On use of the cost model as a cost control tool, the subcommittee will make a recommendation to the committee on whether it would work, then potential development of regulations. Identifies new process of committee review and analysis of the model school, where the committee vets changes to the model; this utilizes the reoccurring funding in the fiscal note to potentially involve industry consultants.

Tim moved to section 3.4, which is work to develop model school systems, starting with department work to finish system standards aligned to other department resources. Noted that the feasibility analysis and development of standards do not meet the FY19 fiscal note timeline.

Outline of design ratio work in work plan section 3.5. The elements proposed by the subcommittee were addressed by the bill language as a need for a way to measure effectiveness, and these ratios are what the committee proposed. Tim noted later 2019 dates due to incrementally staging the start time of each ratio; it may make sense to mesh these timelines together, and put all of the ratio analysis into one RFP. Dale looked forward to discussing in subcommittee; he had not anticipated using more than one modeling consultant.

Prototypical design analysis has always been a committee responsibility under statute. Most recently, the department managed a report on the use of prototypical designs. The last committee action was a position paper adopted in 2004. Funding provided in the fiscal note to support this effort, primarily envisioned to obtain peer input, likely through a workshop with several experts. Tim suggested that this could be handled within context the application and not need regulations. Doug remarked that a scoring criteria for reuse of plans is something that has been missing in

prior discussions on this topic. General discussion on reuse of designs. Tim worried that the associated funding was the least likely to be able to be used in FY19, as the committee is unlikely to move far enough along in the process to make use of it. Counting on the committee to brainstorm and network with associates to bring fresh perspective on prototypes.

**FUTURE MEETING DATE**

Lori explained that the agenda items anticipated for August were incorporated into this meeting; did the committee want to meet again or work on subcommittee work. Tim asked whether December should be a face-to-face, it has worked out well in the past to have that meeting in Anchorage. Don and Dale agreed that the December meeting in conjunction with the A4LE conference brought the best participation. Dale proposed, to general agreement, that August and September be used for subcommittee work.

Doug moved to approve the work plan as presented, seconded by Mark. Adopted by unanimous consent.

**PUBLICATION UPDATE**

Lori highlighted the public comments received on the *Professional Services for School Capital Projects*, which were primarily positive and appreciative. Tim explained that the department had added language in the 'pre-design' section, expanded on construction management services, and included information on commissioning.

**COMMITTEE MEMBER COMMENT**

Mark observed the department has been busy and appreciated the work and progress.

Don and Doug joined mark in thanking the department. No additional comments by Rep. Kito.

Dale warned subcommittee members he would contact them for upcoming work.

Heidi thanked department staff and the subcommittee members for the extra time they put in.

**MEETING ADJOURNED**

The committee adjourned at 3:54 p.m.

**BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE**
October 17, 2018, Wednesday
Teleconference
FOR REVIEW & APPROVAL - WORK SESSION MINUTES

| Committee Members Present | Staff | Additional Participants |
|---|---|---|
| Heidi Teshner, Chair | Tim Mearig | Tim McDermott, Lake & Peninsula Borough School District |
| Rep. Sam Kito III | Larry Morris | |
| Doug Crevensten | Sharol Roys | |
| Don Hiley | Lori Weed | |
| Dale Smythe | | |

**CALL TO ORDER and ROLL CALL at 2:01 p.m.**

Heidi Teshner, chair, called the meeting to order at 2:01 p.m. Roll call of members present; Sen. Anna MacKinnon, Mark Langberg, and Robert Tucker are excused. Quorum of 5 members.

Rep. Sam Kito moved to approve the agenda, seconded by Dale Smythe.

**REGULATION PROJECT UPDATE**

Tim reminded the committee that there are two sets of regulations out for comment. The first deals with commissioning and when commissioning would be required on projects funded with state aid. The second is the department's cleanup of 4 AAC 31. The state board issued both for public comment, which closes November 12, 2018. Tim requested members pass the word to those interested in commenting; the department has sent notifications directly to the Association for Learning Environments (A4LE) Board and the school district facility managers. The normal process has the regulations come back to the state board at the next regularly scheduled meeting on December 6. The department will be working on responding to public comment, working with the state attorney general, and any proposed changes will go into the packet for the board to review. The board may decide to promulgate the regulations, put the revised regulations out for another public comment period, or seek additional information.

Rep. Kito noted two comments. The first, on 4 AAC 31.023 (page 8 of regulation), was about identifying construction costs for contracted work or forced account work; force account should be defined. The other comment was in regard to reimbursement for applications costs (4 AAC 31.023(c)); however, "application costs" is undefined. The department could end up in a situation where a district files for reimbursement of an entire building survey, when the project activity only involves a portion of it. Rep. Kito complimented the department on catching some of the other technical corrections.

**STANDARDS FOR COST-EFFECTIVE CONSTRUCTION**

**Commissioning Subcommittee**

Tim spoke to the upcoming subcommittee work of developing a recommendation relating to commission agent certifications recognized by the department and refining the worksheets developed for the five systems requiring commissioning. He noted that Mark is only current

BRGR member on the subcommittee due to William Murdock's resignation; still a number of industry members active.

**Design Ratios Subcommittee**
Dale related his conversation with the Alaska Housing Finance Corporation (AHFC) about the department use of BEES climate regions. AHFC indicated no concern with DEED's use of the zones. AHFC adopted the additional zones as an amendment to the International Energy Conservation Code (IECC), defined by heating degree days.

Dale stated he found a request for proposals template for energy modeling for comparison and prompting for completing the state procurement documentation. Recommended the modeling effort be a single solicitation, instead of the work plan's four or five separate solicitations. Lori noted that the combined RFP was proposed in the original committee report as a way to achieve a potential cost savings. General concurrence.

Tim asked for a brief statement of what the professional services will provide. Dale stated that at the end result will be a potential magnitude of savings per climate region relative to these ratios based on a typical model school. Anticipate there will be advice from the consultant on the goals and how to reach that goal better.

Don asked whether the design ratios has become purely about energy savings. In the initial discussion, there was first cost consideration – e.g. most efficient building shapes as far as construction costs, one-story versus two-story and the amount of foundation constructed. Dale noted early subcommittee discussions; there had been some benefits perceived relative to costs but subcommittee focused on a limited effort, with no construction cost component. Tim expressed thanks to Don and stated he wanted to pursue it for this effort. Regardless of available funding, it is important not to just talk about operating costs over time, but also first cost impacts of the ratios. Lori confirmed original intent was to encompass both first cost and operating cost and offered that the focus on energy modeling may have been because it requires consultant effort. Don expressed concern about the disconnect from the life cycle cost of the building.

Doug asked Dale whether the one-story building versus two-story building question has been answered. Dale responded that he had a different opinion before the modeling effort. The modeling showed that overall differences were fairly marginal, there were many influencing variables. The model didn't show the savings seen in other projects Dale had been involved in.

Tim stated his belief that more time was needed to develop the RFP scope. Heidi confirmed the committee could review and comment via e-mail to issue the RPF prior to the December meeting. Tim and Dale agreed to work on developing the RPF before November 15.

**Model School Subcommittee**
Doug noted a lot of work done by Don on the cost model before the RFP went out for solicitation. Ultimate goal would be to do away with the "lump sum" item type and to provide a rational, defensible cost. Many new line items, but many items missing or in flux, e.g. no items addressing school security, method of determining playground cost, determining useful measurement units. Don walked the committee through the proposed changes, including more granular cost items and specific items. More precision will be better costing, especially if used to cap project costs.

Tim shared that the geographic cost RFP solicitation closed with one proposal from HMS, Inc.; it should be under contract soon. Subcommittee prepared a draft RFP questionnaire for the department to issue an RFP for enhancements to the cost model. Doug offered that renovations and remodeling will be the majority of future projects and this cost model enhancement will delve down to that level and will be helpful to the state when complete.

Tim provided an overview of the current template of model school standards. Original efforts started 2002; department and committee has influenced good design through the application and design review.

**WORK PLAN REVIEW & UPDATE**
Department will revise work plan based on combined design ratio solicitation.

**PUBLICATION UPDATE**
Tim observed that the *Swimming Pool Guidelines* was last updated in 1997. During his tenure at the department, Rep. Kito had worked on revisions in conjunction with applying the guidelines to the pool construction projects of the time. Update presented makes straightforward changes but does not achieve potential goal of providing prescriptive limits to state participation in pool projects. Key pieces of the publication are to define an acceptable educational program and the size of pool that is associated with a state-supported educational program. There is an option to develop this update to base state aid on a prescriptive basis, e.g. on a student count basis, this is what you get.

Rep. Kito noted that a four-lane pool is not big enough to host a meet; minimum is six lanes, with regional meets needing eight lanes. Recommends support of a six or eight lane pool with no amenities, as more students will participate in swim programming if they can be involved in a competition sport. Tim offered that swimming instruction can occur with four lanes and other funds can be procured to expand the pool size. Doug noted some parallels between this and the model school issue of providing an adequate education program as it relates to outdoor facilities that have more community use.

**COMMITTEE MEMBER COMMENT**
Rep. Kito apologized for having to miss prior meetings, is trying hard to keep abreast of the committee conversations. Tim made a special request for Rep. Kito to attend December meeting.

Don mentioned that he would speak with Tim if *Swimming Pool Guidelines* moved forward; he was involved with the Ketchikan pool and had had many conversations with the department.

Doug and Dale had no additional comments.

Heidi thanked the subcommittee chairs for their continued work and expressed thanks to Mr. McDermott for listening in.

**FUTURE MEETING DATE**
Next committee meeting December 12, 2018. Lori reminded the committee it would be in-person, all day at the state's Atwood Building in Anchorage.

**MEETING ADJOURNED**
The committee adjourned at 4:06 p.m.

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Education & Early Development
FINANCE & SUPPORT SERVICES

801 West 10th Street, Suite 200
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Telephone: 907.465.6906

To: Bond Reimbursement & Grant Review Committee
From: School Facilities
Date: December 12, 2018

# D E P A R T M E N T  B R I E F I N G

## *Initial CIP Lists*

The initial CIP lists are included in the packet. The department provided a memo to the school superintendents that announced the availability of the lists. The department also transmitted the lists to the governor's office for use in developing the FY2020 capital budget.

Following are some year-to-year initial list statistics:

| | FY2018 | FY2019 | FY2020 |
|---|---|---|---|
| Districts Submitting Applications | 37 | 31 | 27 |
| Number of Applications Submitted | 131 | 108 | 86 |
| Number of Applications Scored | 64 | 105 | 62 |
| Number of Applications Reused | 67 | 39 | 24 |
| Number of Applications Ineligible | 9 | 1 | 3 |
| Number of Applications with a Change in List | 3 | 3 | 3 |
| Number of Applications with a Budget Adjustment | 52 | 41 | 48 |
| Number of Projects on the Major Maintenance List | 106 | 93 | 72 |
| State Share Request on Major Maintenance List | $156,768,834 | $145,235,869 | $113,787,100 |
| Number of Projects on the School Construction List | 17 | 11 | 11 |
| State Share Request on School Construction List | $137,559,973 | $179,214,343 | $190,238,739 |

Issues that arose in this year's application cycle are addressed in a separate FY20 CIP Department Briefing included in the packet. The revised statewide six-year plan is also included in the packet.

Per AS 14.11.014(b)(2), the committee is to make recommendations to the State Board of Education & Early Development concerning school construction grants. Recommended Motion:

> I move that the Bond Reimbursement and Grant Review Committee recommend the State Board of Education & Early Development adopt the department's FY2020 list

of projects eligible for funding under the School Construction Grant Fund and the Major Maintenance Grant Fund.

## *School Capital Project Funding Report*

The FY2019 capital budget appropriated $24,203,372 to projects eligible for the funding by the major maintenance grant fund. This amount increased the current balance in that fund to $29.1 million for allocation by the department in FY2019. The department has been following 4 AAC 31.023 when awarding from the major maintenance grant funding.

In FY19, the department used $8 million in lapsed project funds available in the school construction grant fund to award five grants following procedures in 4 AAC 31.023.

See the REAA & Small Municipality Fund Report for additional information on school construction list funding.

As debt reimbursement projects reach completion, the recipients may decide to pay down the bond principal or redirect the remaining project balance to a voter and DEED-approved project, per 4 AAC 31.064. Two municipal districts, Kenai and Mat-Su have received DEED approval to redirect prior voter-approved funds to new projects in 2018.

A sheet on the CIP grant request and funding history FY10-FY20 is included for reference.

## *REAA & Small Municipality Fund Report*

The Regional Education Attendance Area fund was established by chapter 93, SLA 2010 (SB 237). The amount of money available each fiscal year is tied to the annual debt service incurred under AS 14.11.100. In 2013, the fund was amended to include “small municipal school districts”. In 2018, the fund was amended to allow funding of major maintenance grants, but maintaining the primary function to fund school construction projects. Since the first appropriation in FY 2013, $260,953,378 has been deposited into the Regional Education Attendance Area and Small Municipal School District (REAA) fund. From FY13 through FY15, $869,528 in interest also accrued to the fund for a total of $261,822,906. A total of twelve projects have obligated 260,272,512.

In FY19, the department allocated construction funding to the first school construction priority and provided design funding to the second priority project. Additionally, the department funded the first major maintenance project from the REAA fund after reviewing funding scenarios and determining that it would not inhibit forecasted funding of construction projects.

The combined projected FY20 REAA fund appropriation and unobligated fund balance is anticipated to be approximately $40,420,000. If appropriated, this funding would be sufficient to provide the state share of $34,450,733 for the priority #1 project on the School Construction Grant Fund list, Eek K-12 School Renovation/Addition. Phased funding for Design could be possible for the priority #2 project, Hollis K-12 School Replacement. A summary sheet is included in the packet.

## *Preventive Maintenance Update (PM State-of-the-State)*

The Preventive Maintenance State of the State Report was updated on August 15, 2018, and is included in the packet with a charts showing compliance history. For the current FY20 CIP cycle, 51 of 53 school districts have certified preventive maintenance programs.

Districts that are not currently certified include:

- Aleutian Region
- Hydaburg City

Districts that are certified, but are still working with the department to develop a full year of reports (Provisional Certification) include:

- Chatham
- Copper River
- Galena City
- Hoonah City
- Pelican City
- Tanana City
- Southeast Island

Problem areas have included tracking and reporting energy consumption and maintaining maintenance and custodial personnel training plans and records.

Site visits for the upcoming fiscal year are scheduled to take place between September and April for the following school districts:

- Bering Strait
- Bristol Bay Borough
- Iditarod Area
- Lake & Peninsula Borough
- Lower Kuskokwim
- Lower Yukon
- Saint Mary's City
- Skagway Borough
- Yukon Flats
- Yukon Koyukuk

## *Facilities Book*

Since 2002, the Facilities section has assembled pertinent data and historical information on school facilities and state-aid for school capital projects for use by department leadership. This collection of documents was titled the Facilities Information Book or Facilities Book for short. For committee information, included in the packet is the current table of contents for this resource, which may change over time as needed. It is the intent of the section to work on transitioning this 'publication' to a set of accessible web-based documents.

## *Regulations Update*

In September the State Board of Education & Early Development approved both the commissioning and 4 AAC 31 clean-up regulation packages to go out for public comment. The public comment period closed on November 12; with any oral testimony intended to be received at the Board meeting December 6-7. Due to the Governor transition, the Board meeting has been delayed to December 18 and regulations have been removed from the agenda. If approved by the Governor's office, the regulation may be added to the scheduled January 23 Board meeting. At that, or a future meeting, the Board will determine whether to adopt the regulations, put the regulations out for a second round of public comment, or seek additional information. A copy of the comments received, department response to comments, and the regulations, are included in the packet for discussion under a separate agenda item.

## *Construction Standards*

An RFP to update the DEED Program Demand Cost Model geographic cost factors was awarded to HMS, Inc. in October 2018. A teleconference with HMS has been scheduled to allow the committee to provide input in the development of the cost factors. See agenda item and support materials included in the packet.

## *ASHRAE 90.1*

See agenda item and separate briefing paper/support materials included in the packet.

## *Space Guidelines*

See agenda item and separate briefing paper/support materials included in the packet.

## *Publications Update*

Following is a list of publications currently managed by the department along with an estimated revision priority, and the year of publication or latest draft. Those in bold are publications proposed for committee approval.

1. **Swimming Pool Guidelines** (1997) *[Proposed update 2019]*
2. **A Handbook to Writing Educational Specifications** (2005); and Educational Specifications Supplement (2009) *[Proposed update 2019]*
3. **Alaska School Facilities Preventive Maintenance Handbook** (1999) *[Proposed update 2019]*
4. **Guide for School Facility Condition Surveys** (1997) *[Proposed update 2019]*
5. **School Design and Construction Standards Handbook** (new) *[Proposed 2020]*
6. Cost Format – *EED Standard Construction Cost Estimate Format* (2008 2nd Ed.)
7. **Space Guidelines Handbook** (1996)
8. Site Selection Criteria & Evaluation Handbook (2011 2nd Ed.)
9. Facility Appraisal Guide (1997)
10. Renewal & Replacement Schedule (2001)
11. Outdoor Facility Guidelines for Secondary Schools (new)
12. **Guidelines for School Equipment Purchases** (2016)
13. Capital Project Administration Handbook (2017)
14. Project Delivery Method Handbook (2017)
15. **Life Cycle Cost Analysis Handbook** (2018)
16. Professional Services for School Capital Projects (2018)

**Swimming Pool Guidelines**

Included in the packet is a draft update to the *Swimming Pool Guidelines*; the 1997 edition is available for reference on the department's website (education.alaska.gov/facilities/publications/SwimmingPool.pdf). This draft incorporates the move toward a more clear and prescriptive document that provides maximum pool tank sizes and maximum facility sizes based on the number of students in the approved instructional learn-to-swim program. The

publication is sited in regulation 4 AAC 31.020(a) and establishes department criteria to apply to AS 14.11.013(d) and AS 14.11.100(h).

**A Handbook to Writing Educational Specifications**
Included in the packet is a draft update to the *A Handbook to Writing Educational Specifications*; the 2005 edition is available for reference on the department's website (education.alaska.gov/facilities/publications/EdSpec.pdf). The department has prepared this update, to the publication, and desires input from the committee on areas that may need improvements due to changes in conditions or practices including:

- Furnishing & Equipment
- Alternative project delivery

The department will review committee suggestions, incorporate those into an update, and bring back a draft publication to issue for public comment.

**Alaska School Facilities Preventive Maintenance Handbook**
Included in the packet is an updated draft of the *Alaska School Facilities Preventive Maintenance Handbook* with additional material. The Facilities Section continues to work on this document as time allows, the comprehensive nature of the update is a large undertaking.

## *Department Staffing Update*

The School Finance Specialist II position became vacant over the summer and was filled by Sharol Roys, who came to us with experience in managing the department's operating grants.

## *Committee Member Update*

William Murdock, serving on the committee as a member with experience in urban or rural school facilities management, who was originally appointed in March 1, 2017, offered his letter of resignation on August 7, 2018. The department thanks Bill for his year and a half of service.

One committee seat is currently vacant, and open until filled:

1. Experience in Urban or Rural School Facilities Management (term 2/28/21)

Three committee seats have terms expiring February 28, 2019:

1. Mark Langberg, Professional Degrees & Experience in School Construction
2. Robert Tucker, Experience in Urban or Rural School Facilities Management
3. Doug Crevensten, Public Representative

A public notice seeking applicants for the upcoming four-year terms will be issued late-December. Current members are encouraged to seek re-appointment by submitting a letter of interest and resume to the department.

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Education & Early Development
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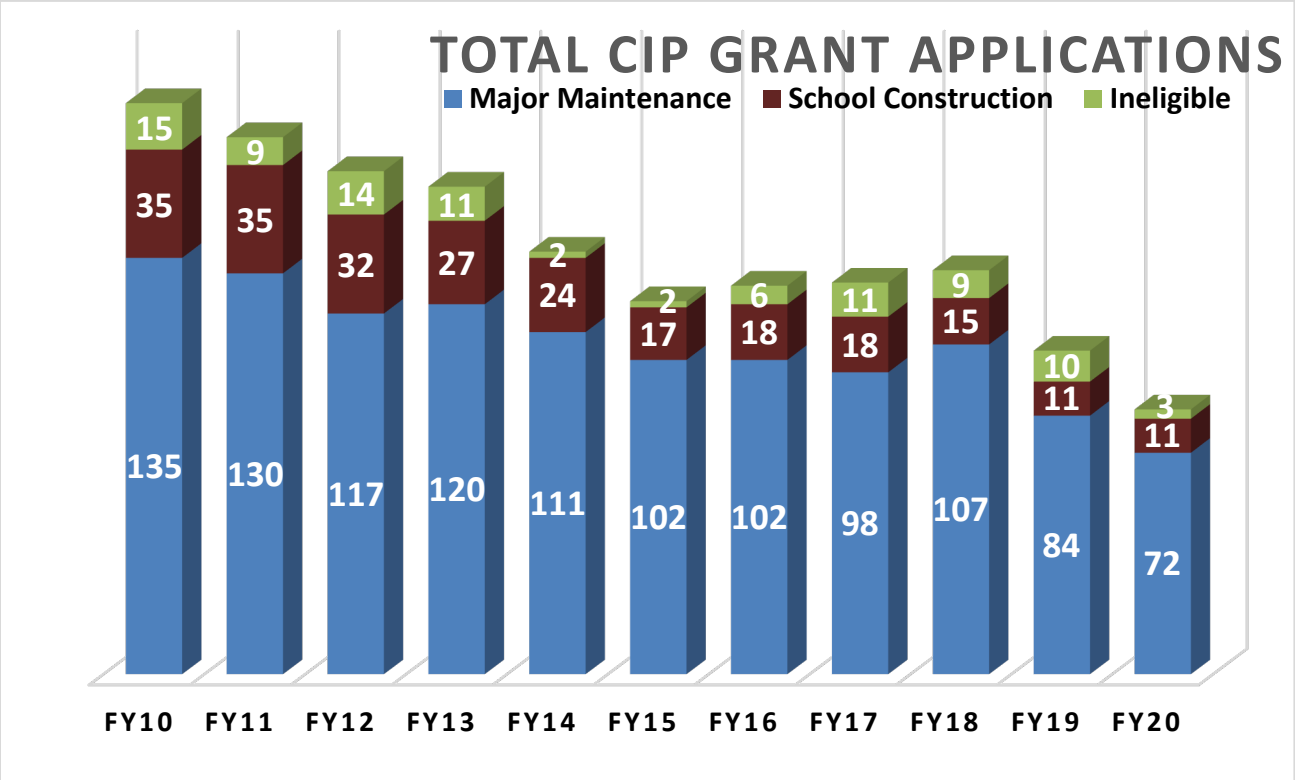
To: Bond Reimbursement & Grant Review Committee
From: School Facilities
Date: November 30, 2018

# CIP APPLICATION BRIEFING

## *General Issues*

The downward trend in district participation in the CIP grant application process continued with the FY20 cycle. The graph below shows the department's standard data points for this assessment.




This trend in total applications is also reflected in the number of districts participating. Over the last 25 years, the high mark for that data point was in 49 in FY99. FY20 marked a new low at 27 districts. Some of this can be attributed to the number of new and renovated schools funded and constructed in the past 20 years and recent declines in population growth statewide. In other words, the need has declined. Anecdotally, however, a large portion of the decline in participation seems more attributable to a lack of capital planning on the part of districts. This planning gap could be related to a lack of interest, a shortage of resources, or both. In either case, the decline in

participation is producing an inaccurate picture of school capital needs statewide. To remedy this, and in anticipation of the end of the five-year moratorium on new debt reimbursement authorizations, the department has initiated an in-house effort to create a School Capital Funding Forecast Database. Attached is a synopsis prepared by the Facilities section regarding this project. If aggressively pursued, the creation of a data-driven capital funding needs assessment internal to the department could have implications for the department's current CIP process, which, currently, relies heavily on district participation for an understanding a statewide capital project and funding needs--statutory changes notwithstanding.

## *Rating Issues*

During the FY2020 rating process, a couple of areas were uncovered where clarifications would be beneficial.

### Evaluative Scoring

Evaluative scoring continues to improve in consistency and transparency. The cornerstone for this improvement is the Raters Guidelines document. This document was refreshed by the Committee for the FY17 CIP cycle with bracketed scoring rubrics for seven of the eight categories (no rubric for the *effectiveness of preventive maintenance* category). For FY20, the Committee implemented the department-recommended enhanced rubric for the *code deficiency/protection of structure/life-safety* category. The previous rubric had three project types with a suggested score of 0-35 points for each. The new rubric identifies a compendium of approximately 35 code/life-safety issues and assigns points based on ranges of severity resulting in over a 100 distinct point assignments.

*Code Deficiency/Protection of Structure/Life Safety*

In general, the scoring matrix for this element worked very well in its inaugural year. This was particularly true for the identification of the code/life-safety related issues for each rater and evaluations related to their 'seriousness'. In this year's applications, there were only a few conditions that were not clearly listed in the matrix. These included back-up power, prime power, DDC controls, and some kitchen-related deficiencies. Of particular note in this inaugural year was the lack of response in applications to the clear emphasis on scoring in this category being driven and supported by work orders in the district maintenance management system. It's estimated that less than 10% of the applications included work order evidence of their deficiencies.

What did cause some struggles in scoring under the new matrix was the assignment of points based on the weighting of code to non-code work. The strategy used for this cycle was to: 1) assign all of a project's eligible code/life-safety points, and 2) adjust those points by the ratio of the estimated cost to correct the code/life-safety issues compared to the full cost of the project. This strategy worked for the classic large renovation/addition projects, some of which garnered upwards of 90 points on the raw score. The weighting of points by the cost-value of the corrective work resulted in well balanced scores within the category's 50 point maximum. Where the weighting of points became challenging was on smaller, more focused projects with between 1-4 code issues. [Low point values where they should get all of the points and high point values (>10) where the cost of work needed to fix the code issue was small in relation to the points.] In these cases, an alternate method of weighting might be to individually 'weight' each condition based on cost to correct and then add the 'weighted' scores.

*Emergency*

The range of points assigned in this category for the FY20 cycle was between 1.67 and 11.67. Since the Rater's Guide establishes that scoring in the Emergency category begins at five points, scores below that, such as 1.67 or 3.33, indicate that the evaluative raters were not able to establish consensus as to the project's qualifying for the Emergency point threshold. This occurred on 8 projects in FY20. The struggle to establish a clear precedent for the five-point threshold seems non-material to the process as point values in the 1-3 range can be considered incidental. More significant would be the inability to gain consensus among evaluative raters for the 25 point threshold established in the rubric for serious emergencies. To date, that hasn't been a challenge. No scoring adjustments appear to be needed in this category after the FY20 CIP cycle.

**Formula-Driven Scoring**

Formula-driven scoring in the FY20 CIP cycle did not result in any significant issues. The revisions for the FY20 application regarding the determination of when a condition survey should be required for eligibility to receive planning and design points resulted in solid best-practice in the Planning & Design scoring element.

*Planning & Design*

- In reviewing the tabulation of Planning & Design scoring, five projects which qualified for Planning points without a condition survey (i.e., none were Rehabilitations), did not qualify for Schematic Design points without one—in the department's judgement. In these cases, the best-practice of a scope-specific condition assessment occurring prior to project design did not occur. At least for this cycle, these determinations were solid and easily supported.

*Condition/Component Survey*

*Condition Survey Quality*

Some condition surveys did not include make and model of major components and, more importantly, did not include the age of the component. The term "approaching end of life" is not valid without an age.

## *Eligibility*

**Procurement**

One project, Hanshew Middle School Accessibility Upgrades, was determined to be ineligible on the basis of procurement of construction. This project used an alternate project delivery method without prior approval by the department.

**Recovery of Funds**

Many recovery of funds had eligibility issues as follows:

- Procurement of consultants and/or contractors
- Inclusion of scope not considered a capital project but maintenance
- No department pre-approval for district self-performing project
- No department pre-approval for project alternative delivery method

## *Potential FY2020 Application Changes*

The following changes have been identified as potential changes to the FY2020 CIP application and support materials. These will be developed and presented in the spring 2019 committee meeting.

### Application Form Changes

Section 3 Project Information

- Question 3.h add a spot to list the project number for recovery of funds (if applicable).

Section 7 Cost Estimate

- Add clarification to District Administrative Overhead that there may be a corresponding reduction based on percentages budgeted in CM by Consultant. District Administrative Overhead includes in-house construction management (CM) and, per Appendix C, combined CM should not exceed 5%.

Attachment Checklist

- Add item for district maintenance management system work orders.

### Application Instruction Changes

Adjustments will be made to the Application Instructions that correspond to any Application Changes.

### Eligibility Form Changes

- No changes.

### Rater's Guide Changes

- Revise Code Deficiency / Protection of Structure / Life Safety (Q.4a) matrix for additional project conditions.
- Revise Emergency (Q.8a) standards and matrix.

### Rating Form Changes

- No changes.

# School Capital Funding Forecast Database
# Synopsis of Data Needs and Resources

**Background**

Following the passage and signing of SB237 in 2010, state aid for the funding of K-12 school capital projects was significantly altered. The legislation added a third grant fund, the Regional Education Attendance Area *and Small Municipal School District* Fund (AS 14.11.030). The REAA Fund, for short. The funding source for the REAA Fund is the state's operating budget and is indexed to the annual amount of state aid expended on the reimbursement of local debt issued in support of approved school capital projects (AS 14.11.100). This indexing was intended to resolve legal claims of school capital project funding inequity between 'urban' (debt) and 'rural' (grant) school districts.

A provision in SB237 required an annual report on the effectiveness of the school construction and major maintenance grants, state aid for school construction in Regional Educational Attendance Areas, and state aid for costs of school construction debt under AS 14.11. The report must include an analysis of funding sources and the short-term and long-term fiscal effects of the funding on the state. In February 2019, the department will provide its 7$^{th}$ report. To date, these reports have contained available information on the funding which has occurred in each of the funds and in the debt reimbursement program. They have not provided analysis regarding the effects of the funding which may have been provided year-by-year.

Implied in the requirement to analyze the fiscal effect is the question, "Was the funding effective in meeting the need?" In order to answer this question, the department needs data on the need for school capital projects. This need should by-facility, by-district. The following identifies the data groups and elements needed, options for gathering this data, and miscellaneous features.

**Data Group #1 – Capital Renewal Needs**

*General:* Capital renewal needs can be forecasted for facilities based on the anticipated life span for the building's systems, the year in which the renewal is anticipated (indexed to the date installed), and the cost of the renewal. Costs can be projected based on the total replacement value of the facility and each system's portion of that replacement value. There is an industry metric for this type of capital renewal evaluation known as a Facility Condition Index (FCI). Its calculation is:

$$\text{FCI} = \frac{\text{Maintenance, Repair, and Replacement Deficiencies of the Facility}}{\text{Current Replacement Value of the Facility}}$$

This summative number is often used in prioritizing work. Since we have other more detailed prioritization metrics, the usefulness of an FCI to the department is uncertain. The purpose in mentioning this metric is to illustrate that you cannot arrive at an FCI without the ability to identify facility deficiencies. Current regulations (4 AAC 31.013(a)(5)) require that a district develop this renewal forecast for each facility over 1000sf.

*Data Elements:* Facility ID, Facility Name, # Stories, Facility GSF, Current Replacement Value, Standard Building Systems, Building System Life Expectancy, Building System % of Replacement

Value (1 story/2 story). Calculated elements include: systems/cost of renewal in years 1-6 following the current year, systems/cost of deferred work prior to year 1, etc.

*Options:*

- The attached Renewal and Replacement tool was developed by the department to assist districts in meeting the requirements of regulation. This spreadsheet is widely used by districts across the state and could be collected and mined for data. An enhanced version of this tool has been developed by SERRC to account for incremental and partial upgrades made to building systems through capital projects.
- Software/databases from commercial vendors is available for capital renewal planning and forecasting. A popular version of this can be reviewed at this website.
- For comparison to DEED's R&R Tool, see the attached information from the state of Arkansas. Arkansas calculates an FCI using just 10 categories versus DEED's 23.

Features/Enhancements:

- A renewal forecast using this method of system life expectancies with costs indexed to replacement values could be created and have a solid basis of validity. However, it would be a more defensible analysis if each instance of a programed system renewal was vetted by an actual assessment of the system. An opportunity/obligation for each district to access the database and enter an assessment-based renewal date should be a goal for the project.
- A renewal forecast using building systems versus building components is likely to be sufficient for the funding analysis needed at the state level. However, it would be a more defensible analysis if major component upgrades within a system could be 'valued' when calculating the renewal costs. (Example: System 23 in the R&R tool is Special Electrical. This system includes fire alarms, intercoms, clocks, and security systems. If a capital project renewed the security system, the value of that renewal could be removed from the overall cost to renew the complete system.) Another way of accomplishing this would be to document partial system improvements and to allow an override of the baseline if such improvements were documented.

**Data Group #2 – School Space Needs**

*General:* School capital funding needs related to enrollment and population growth can be forecasted for facilities based on population projection metrics, the allowable space per student, the existing available space, and the estimated cost of the proposed construction. Population forecasts can be based on historical trends and anticipated future events. The allowable space per student is defined in regulations (4 AAC 31.020). Space eligibility is controlled on an attendance area basis versus a single school basis. Costs can be projected based on estimated costs of new construction in different regions of the state.

*Data Elements:* School ID, Current School DEED GSF, Enrollment/ADM, Attendance Area, Allowable Space per Student, Baseline New Construction Cost/SF, Geographic Cost Factors. Calculated

elements include: population growth rate, ADM projections, school capacity, cost of new space in years 1-6 following the current year, cost of space prior to year 1, etc.

*Options:*

- The attached Population & School Capacity tool was developed by the department to assist districts in meeting the requirements of regulation to demonstrate eligibility for additional school space based on student populations. This spreadsheet, in conjunction with the school facility database (current school GSF), is widely used by districts across the state and could be incorporated and mined for data.

Features/Enhancements:

- The department publishes alternative population projection tools that use live birth data, and cohort progression grade-to-grade. Data based on these tools could be incorporated for additional analysis and support.
- School districts have internal methods for determining the capacity of their schools that differ from the department's. An ability to have the database include a district capacity for each school would provide additional analysis.

**Data Group #3 – Funds & Funding**

*General:* State aid for school capital construction is governed under AS 14.11. The statute defines three funds from which state grants are awarded: the School Construction Grant Fund, the Major Maintenance Grant Fund, and the Regional Education Attendance Area and Small Municipal District Fund (REAA Fund). The statute also defines processes and amounts for reimbursing local bond indebtedness; typically this is referred to as the department's debt reimbursement program. Annually, through the state's operating fund, an amount is appropriated to the department sufficient to meet our commitment to borough and municipal districts for debt reimbursement, although the appropriation amount can be reduced through the legislative and veto processes. Though it varies from year to year, the amount of debt reimbursement can be reasonably forecasted. The REAA Fund was created in 2010 and is indexed to the amount expended by the department under debt reimbursement. The index calculation also includes elements such as the number of schools in each group, the ADM in those schools, and a 'district wealth' factor. For the Major Maintenance and School Construction Funds, the legislature makes either project-specific or general appropriations into those funds as it determines resources are available. Over time, various state funds and financing mechanisms have been used to make appropriations into the MM and SC funds. Data regarding past funding in each of these funds may be important to the analysis of the effectiveness of past funding. Forecasts or modeling of future funding will also be important to this database tool.

*Data Elements:* Fund ID, Funding History, Funding Forecasts, School Location/Type, ADM, Full Value Determination. Calculated elements include: ADM projections (ref. Data Group #2), debt reimbursement projections, REAA Fund projections, etc.

*Options:*

- Debt reimbursement projections and REAA Fund projections are created annually by School Finance and can be mined for data.
- The Facilities section maintains a database of funds and funding with data back to the early 1980s.
- Funding from other sources (e.g., federal, non-14.11 state, local, etc.) may become important in the forecasting and may need to be incorporated into the data.

Features/Enhancements:

- The ability to model future funding needs may need to incorporate data such as the cost of borrowing and/or inflation projections.
- The analysis features of the database tool may need to incorporate variables such as:
    - Varying levels of debt reimbursement total amounts based on sustainability
    - Varying debt reimbursement levels (historically these have ranged from 90% to 60%)
    - Varying priority levels of the identified capital needs

**Attachments**

1. DEED Renewal and Replacement Tool (MSExcel)
2. State of Arkansas FCI Systems (Image)
3. DEED Population & School Capacity Tool (MSExcel)
4. Hyperlink to Accruent VFA
5. Hyperlink to DEED Facility Database(s)

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**School Constrution Grant Fund**

**Initial List**

| Nov 5 Rank | School District | Project Name | Amount Requested | Eligible Amount | Prior Funding | DEED Recommended Amount | Participating Share | State Share | Aggregate Amount |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Lower Kuskokwim | Eek K-12 School Renovation/Addition | $37,186,905 | $37,685,822 | $2,532,013 | $35,153,809 | $703,076 | $34,450,733 | $34,450,733 |
| 2 | Southeast Island | Hollis K-12 School Replacement | $10,634,956 | $10,240,205 | $0 | $10,240,205 | $204,804 | $10,035,401 | $44,486,134 |
| 3 | Lower Kuskokwim | Anna Tobeluk Memorial K-12 School Renovation/Addition, Nunapitchuk | $55,003,422 | $55,003,422 | $0 | $55,003,422 | $1,100,068 | $53,903,354 | $98,389,488 |
| 4 | Yukon-Koyukuk | Minto K-12 School Renovation/Addition | $10,354,940 | $9,742,370 | $0 | $9,742,370 | $194,847 | $9,547,523 | $107,937,011 |
| 5 | Anchorage | Gruening Middle School Accessibility Upgrades | $465,545 | $406,320 | $0 | $406,320 | $142,212 | $264,108 | $108,201,119 |
| 6 | Lower Kuskokwim | Mertarvik K-12 School Construction Newtok Replacement | $42,087,833 | $39,716,385 | $0 | $39,716,385 | $794,328 | $38,922,057 | $147,123,176 |
| 7 | Lower Kuskokwim | William N. Miller K-12 Memorial School Replacement, Napakiak | $36,028,901 | $35,056,410 | $0 | $35,056,410 | $701,128 | $34,355,282 | $181,478,458 |
| 8 | Anchorage | East High School Bus Driveway Improvements | $910,366 | $910,366 | $0 | $910,366 | $318,628 | $591,738 | $182,070,196 |
| 9 | Lower Kuskokwim | Water Storage and Treatment, Kongiganak | $7,078,959 | $6,537,224 | $0 | $6,537,224 | $130,744 | $6,406,480 | $188,476,676 |
| 10 | Lower Kuskokwim | Bethel Campus Transportation and Drainage Upgrades | $1,224,098 | $1,162,353 | $0 | $1,162,353 | $23,247 | $1,139,106 | $189,615,782 |
| 11 | Yupiit | Playground Construction, 3 Schools | $1,640,239 | $635,670 | $0 | $635,670 | $12,713 | $622,957 | $190,238,739 |
| | | **TOTALS:** | **$202,616,164** | **$197,096,547** | **$2,532,013** | **$194,564,534** | | **$190,238,739** | |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**Major Maintenance Grant Fund**

**Initial List**

| Nov 5 Rank | School District | Project Name | Amount Requested | Eligible Amount | Prior Funding | DEED Recommended Amount | Participating Share | State Share | Aggregate Amount |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Fairbanks | Barnette Magnet School Renovation Phase IV | $11,515,426 | $11,331,881 | $0 | $11,331,881 | $3,966,158 | $7,365,723 | $7,365,723 |
| 2 | Galena City | Galena Interior Learning Academy Composite Building Renovation | $6,070,698 | $5,122,477 | $0 | $5,122,477 | $256,124 | $4,866,353 | $12,232,076 |
| 3 | Chugach | Tatitlek K-12 School Renovation | $6,865,335 | $5,747,626 | $0 | $5,747,626 | $114,953 | $5,632,673 | $17,864,749 |
| 4 | Kake City | Kake Schools Heating Upgrades | $238,478 | $238,478 | $0 | $238,478 | $47,696 | $190,782 | $18,055,531 |
| 5 | Anchorage | West High School Partial Roof Replacement | $7,798,857 | $7,031,080 | $0 | $7,031,080 | $2,460,878 | $4,570,202 | $22,625,733 |
| 6 | Anchorage | Nunaka Valley Elementary School Roof Replacement | $2,179,698 | $1,945,769 | $0 | $1,945,769 | $681,019 | $1,264,750 | $23,890,483 |
| 7 | Anchorage | Northwood Elementary School Partial Roof Replacement | $2,357,466 | $2,177,488 | $0 | $2,177,488 | $762,121 | $1,415,367 | $25,305,850 |
| 8 | Nenana City | Nenana K-12 School Flooring and Asbestos Abatement | $422,271 | $406,247 | $0 | $406,247 | $20,312 | $385,935 | $25,691,785 |
| 9 | Anchorage | Inlet View Elementary School Domestic Water System Improvements | $458,959 | $458,959 | $0 | $458,959 | $160,636 | $298,323 | $25,990,108 |
| 10 | Juneau City Borough | Sayéik: Gastineau Community School Partial Roof Replacement | $1,500,000 | $1,447,435 | $0 | $1,447,435 | $506,602 | $940,833 | $26,930,941 |
| 11 | Copper River | District Office Roof Renovation and Energy Upgrade | $1,093,588 | $1,062,537 | $0 | $1,062,537 | $21,251 | $1,041,286 | $27,972,227 |
| 12 | Lower Yukon | Hooper Bay K-12 School Exterior Repairs | $2,721,980 | $2,250,675 | $0 | $2,250,675 | $45,013 | $2,205,662 | $30,177,889 |
| 13 | Chugach | Chenega Bay K-12 School Renovation | $6,511,595 | $5,221,755 | $0 | $5,221,755 | $104,435 | $5,117,320 | $35,295,209 |
| 14 | Iditarod Area | David-Louis Memorial K-12 School HVAC Control Upgrades, Grayling | $138,318 | $138,318 | $0 | $138,318 | $2,766 | $135,552 | $35,430,761 |
| 15 | Ketchikan | Ketchikan High School Security Upgrades | $498,793 | $498,793 | $0 | $498,793 | $149,638 | $349,155 | $35,779,916 |
| 16 | Hoonah City | Hoonah Central Boiler Replacement | $268,653 | $268,653 | $0 | $268,652 | $80,596 | $188,056 | $35,967,972 |
| 17 | Nenana City | Nenana K-12 School Boiler Replacement | $162,027 | $178,332 | $0 | $178,332 | $8,917 | $169,415 | $36,137,387 |
| 18 | Fairbanks | Administrative Center Air Conditioning and Ventilation Replacement | $1,404,510 | $1,404,510 | $0 | $1,404,510 | $491,578 | $912,932 | $37,050,319 |
| 19 | Aleutians East | Sand Point K-12 School Pool Major Maintenance | $102,608 | $102,608 | $0 | $102,608 | $35,913 | $66,695 | $37,117,014 |
| 20 | Southeast Island | Thorne Bay K-12 School Fire Suppression | $497,697 | $497,697 | $0 | $497,697 | $9,954 | $487,743 | $37,604,757 |
| 21 | Denali Borough | Anderson K-12 School Roof Replacement | $1,859,979 | $1,801,397 | $0 | $1,801,397 | $360,279 | $1,441,118 | $39,045,875 |
| 22 | Anchorage | Muldoon Elementary School Partial Roof | $839,290 | $666,927 | $0 | $666,927 | $233,424 | $433,503 | $39,479,378 |
| 23 | Lower Yukon | Hooper Bay K-12 School Emergency Lighting & Retrofit | $232,730 | $232,730 | $0 | $232,730 | $4,655 | $228,075 | $39,707,453 |
| 24 | Yukon-Koyukuk | Ella B. Vernetti K-12 School Boiler Replacement, Koyukuk | $461,306 | $461,306 | $0 | $461,306 | $9,226 | $452,080 | $40,159,533 |
| 25 | Lower Yukon | Sheldon Point K-12 School Foundation Cooling and Repairs, Nunam Iqua | $1,046,866 | $1,024,516 | $0 | $1,024,516 | $20,490 | $1,004,026 | $41,163,559 |
| 26 | Yupiit | Tuluksak K-12 School Fuel Tank Replacement | $4,851,857 | $2,164,524 | $0 | $2,164,524 | $43,290 | $2,121,234 | $43,284,793 |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**Major Maintenance Grant Fund**

**Initial List**

| Nov 5 Rank | School District | Project Name | Amount Requested | Eligible Amount | Prior Funding | DEED Recommended Amount | Participating Share | State Share | Aggregate Amount |
|---|---|---|---|---|---|---|---|---|---|
| 27 | Lower Yukon | Scammon Bay K-12 School Emergency Lighting & Retrofit | $117,829 | $117,829 | $0 | $117,829 | $2,357 | $115,472 | $43,400,265 |
| 28 | Kodiak Island | Peterson Elementary School Roof Replacement | $2,635,470 | $2,448,947 | $0 | $2,448,947 | $734,684 | $1,714,263 | $45,114,528 |
| 29 | Chatham | Klukwan K-12 School Roof Replacement | $1,832,385 | $1,832,385 | $0 | $1,832,385 | $36,648 | $1,795,737 | $46,910,265 |
| 30 | Haines Borough | Haines High School Locker Room Renovation | $893,147 | $849,014 | $0 | $849,014 | $297,155 | $551,859 | $47,462,124 |
| 31 | Lower Kuskokwim | Bethel Regional High School Boardwalk Replacement | $2,109,053 | $1,144,015 | $0 | $1,144,015 | $22,880 | $1,121,135 | $48,583,259 |
| 32 | Mat-Su Borough | Districtwide Seismic Upgrades, Phase 1 | $7,169,614 | $7,169,614 | $0 | $7,169,614 | $2,150,884 | $5,018,730 | $53,601,989 |
| 33 | Chatham | Fire Alarm Upgrades, 3 Sites | $116,285 | $108,931 | $0 | $108,931 | $2,179 | $106,752 | $53,708,741 |
| 34 | Denali Borough | Generator Replacement, 3 Schools | $1,226,189 | $1,194,366 | $0 | $1,194,366 | $238,873 | $955,493 | $54,664,234 |
| 35 | Southeast Island | Thorne Bay K-12 School Carpet Replacement | $71,318 | $71,318 | $0 | $71,318 | $1,426 | $69,892 | $54,734,126 |
| 36 | Kuspuk | Jake Egnaty Sr K-12 School Roof Replacement, Sleetmute | $1,398,632 | $1,402,514 | $0 | $1,402,514 | $28,050 | $1,374,464 | $56,108,590 |
| 37 | Sitka City Borough | Keet Gooshi Heen Elementary Covered PE Structure Renovation | $521,386 | $521,386 | $0 | $521,386 | $182,485 | $338,901 | $56,447,491 |
| 38 | Haines Borough | Haines High School Roof Replacement | $2,654,518 | $2,407,889 | $0 | $2,407,889 | $842,761 | $1,565,128 | $58,012,619 |
| 39 | Lower Kuskokwim | Akula Elitnauvik K-12 School Renovation, Kasigluk-Akula | $3,986,442 | $3,986,442 | $0 | $3,986,442 | $79,729 | $3,906,713 | $61,919,332 |
| 40 | Southwest Region | William "Sonny" Nelson K-12 School Renovation, Ekwok | $5,924,269 | $3,907,372 | $0 | $3,907,372 | $78,147 | $3,829,225 | $65,748,557 |
| 41 | Craig City | Craig High School Biomass Boiler | $651,631 | $615,420 | $0 | $615,420 | $123,084 | $492,336 | $66,240,893 |
| 42 | Annette Island | Metlakatla High School Gym Acoustical Upgrades | $266,382 | $192,241 | $0 | $192,241 | $3,845 | $188,396 | $66,429,289 |
| 43 | Nenana City | Nenana K-12 School Fire Suppression System Replacement | $1,431,083 | $1,431,083 | $0 | $1,431,083 | $71,554 | $1,359,529 | $67,788,818 |
| 44 | Southeast Island | Thorne Bay K-12 School Mechanical Control Upgrades | $1,443,656 | $1,443,656 | $0 | $1,443,656 | $28,873 | $1,414,783 | $69,203,601 |
| 45 | Kake City | Kake High School Plumbing Replacement | $661,543 | $661,543 | $0 | $661,543 | $132,309 | $529,234 | $69,732,835 |
| 46 | Yupiit | Tuluksak K-12 School Generator Refurbishment | $129,949 | $129,949 | $0 | $129,949 | $2,599 | $127,350 | $69,860,185 |
| 47 | Juneau City Borough | Dzantik'i Heeni Middle School Roof Replacement | $1,750,000 | $1,750,000 | $0 | $1,750,000 | $612,500 | $1,137,500 | $70,997,685 |
| 48 | Copper River | Glennallen and Kenny Lake Schools Energy Upgrade | $2,634,496 | $2,502,182 | $0 | $2,502,182 | $50,044 | $2,452,138 | $73,449,823 |
| 49 | Anchorage | Fire Lake Elementary School Roof Replacement | $574,992 | $580,315 | $0 | $580,315 | $203,110 | $377,205 | $73,827,028 |
| 50 | Southwest Region | Twin Hills K-12 School Renovation | $4,493,140 | $2,201,755 | $0 | $2,201,755 | $44,035 | $2,157,720 | $75,984,748 |
| 51 | Anchorage | Spring Hill Elementary School Intercom/Clocks | $135,655 | $135,655 | $0 | $135,655 | $47,479 | $88,176 | $76,072,924 |
| 52 | Southwest Region | Aleknagik K-12 School Renovation | $4,998,977 | $3,849,383 | $0 | $3,849,383 | $76,988 | $3,772,395 | $79,845,319 |
| 53 | Kake City | Exterior Upgrades - Main School Facilities | $364,979 | $282,565 | $0 | $282,565 | $56,513 | $226,052 | $80,071,371 |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**Major Maintenance Grant Fund**

**Initial List**

| Nov 5 Rank | School District | Project Name | Amount Requested | Eligible Amount | Prior Funding | DEED Recommended Amount | Participating Share | State Share | Aggregate Amount |
|---|---|---|---|---|---|---|---|---|---|
| 54 | Mat-Su Borough | Districtwide Energy Upgrades Phase 2 Windows | $4,231,918 | $3,881,615 | $0 | $3,881,615 | $1,164,484 | $2,717,131 | $82,788,502 |
| 55 | Kake City | Kake High School Gym Floor and Bleacher Replacement | $544,353 | $544,353 | $0 | $544,353 | $108,871 | $435,482 | $83,223,984 |
| 56 | Lower Yukon | Scammon Bay K-12 School Siding Replacement | $1,179,053 | $1,022,904 | $0 | $1,022,904 | $20,458 | $1,002,446 | $84,226,430 |
| 57 | Copper River | Glennallen Voc-Ed Facility Renovation | $759,765 | $745,894 | $0 | $745,894 | $14,918 | $730,976 | $84,957,406 |
| 58 | Lower Kuskokwim | Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk | $3,535,646 | $3,535,646 | $0 | $3,535,646 | $70,713 | $3,464,933 | $88,422,339 |
| 59 | Southeast Island | Port Alexander K-12 School Domestic Water Pipe Replacement | $114,180 | $114,180 | $0 | $114,180 | $2,284 | $111,896 | $88,534,235 |
| 60 | Lower Yukon | Ignatius Beans K-12 School Marine Header Pipeline | $1,527,731 | $1,527,731 | $0 | $1,527,731 | $30,555 | $1,497,176 | $90,031,411 |
| 61 | Southeast Island | Thorne Bay K-12 School Underground Storage Tank Replacement | $346,813 | $346,813 | $0 | $346,813 | $6,936 | $339,877 | $90,371,288 |
| 62 | Iditarod Area | Blackwell School HVAC Control Upgrades, Anvik | $124,939 | $124,939 | $0 | $124,939 | $2,499 | $122,440 | $90,493,728 |
| 63 | Yupiit | Tuluksak K-12 School Water System Upgrade | $1,122,591 | $1,096,073 | $0 | $1,096,073 | $21,921 | $1,074,152 | $91,567,880 |
| 64 | Southeast Island | Port Alexander & Thorne Bay K-12 Schools Roof Replacement | $5,029,524 | $5,029,524 | $0 | $5,029,524 | $100,590 | $4,928,934 | $96,496,814 |
| 65 | Lower Yukon | LYSD Central Office Renovation | $5,306,686 | $5,306,686 | $0 | $5,306,686 | $106,134 | $5,200,552 | $101,697,366 |
| 66 | Iditarod Area | David-Louis Memorial K-12 School Roof Replacement, Grayling | $1,583,951 | $1,583,951 | $0 | $1,583,951 | $31,679 | $1,552,272 | $103,249,638 |
| 67 | Mat-Su Borough | Districtwide Elevator Upgrades | $3,295,065 | $2,300,592 | $0 | $2,300,592 | $690,178 | $1,610,414 | $104,860,052 |
| 68 | Mat-Su Borough | Roof Replacement, 3 Schools | $5,610,011 | $5,610,011 | $0 | $5,610,011 | $1,683,003 | $3,927,008 | $108,787,060 |
| 69 | Lower Yukon | Kotlik & Pilot Station K-12 Schools Renewal and Repair | $3,444,256 | $2,781,061 | $0 | $2,781,061 | $55,621 | $2,725,440 | $111,512,500 |
| 70 | Yupiit | Mechanical System Improvements, 3 Schools | $215,550 | $176,018 | $0 | $176,018 | $3,520 | $172,498 | $111,684,998 |
| 71 | Lower Yukon | Sheldon Point K-12 School Exterior Repairs, Nunam Iqua | $1,792,563 | $574,110 | $0 | $574,110 | $11,482 | $562,628 | $112,247,626 |
| 72 | Lower Yukon | Security Access Upgrades, 6 Sites | $1,570,892 | $1,570,892 | $0 | $1,570,892 | $31,418 | $1,539,474 | $113,787,100 |
| | | | **$153,627,492** | **$134,693,480** | **$0** | **$134,693,479** | | **$113,787,100** | |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**School Construction Grant Fund**
**Total Points - Formula Driven and Evaluative**
**Initial List**

| Nov 5 Rank | School District | Project Name | School Dist Rank | Weight Avg Age | Prev. 14.11 Fund | Plan and Design | Avg Expend Maint | Un-Housed Today | Un-Housed 7 Years | Type of Space | Cond Survey | Maint Labor | Maint Type | Maint Mgt | Energy Mgt | Cusd Pgm | Maint Train | Capital Plan | Emer-gency | Life/Safety and Code Conditions | Exist-ing Space | Cost Esti-mate | Proj vs Oper Cost | Altern at-ives | Options | Total Project Points |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Lower Kuskokwim | Eek K-12 School Renovation/Addition | 30.00 | 25.31 | 30.00 | 10.00 | 3.63 | 28.27 | 28.77 | 21.86 | 10.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.33 | 3.67 | 0.00 | 5.51 | 22.00 | 16.00 | 4.00 | 3.00 | 19.67 | 301.02 |
| 2 | Southeast Island | Hollis K-12 School Replacement | 27.00 | 21.26 | 0.00 | 10.00 | 3.16 | 30.46 | 30.00 | 22.39 | 10.00 | 15.00 | 10.00 | 3.67 | 3.67 | 2.33 | 3.33 | 3.00 | 10.33 | 17.13 | 22.33 | 14.00 | 3.33 | 3.00 | 9.00 | 274.40 |
| 3 | Lower Kuskokwim | Anna Tobeluk Memorial K-12 School Renovation/Addition, Nunapitchuk | 27.00 | 18.45 | 0.00 | 10.00 | 3.24 | 33.47 | 30.00 | 22.45 | 10.00 | 15.00 | 10.00 | 4.33 | 3.67 | 3.00 | 3.00 | 4.33 | 0.00 | 13.33 | 22.67 | 15.33 | 5.67 | 3.00 | 13.67 | 271.62 |
| 4 | Yukon-Koyukuk | Minto K-12 School Renovation/Addition | 30.00 | 20.01 | 0.00 | 20.00 | 3.09 | 0.00 | 2.01 | 24.75 | 10.00 | 15.00 | 10.00 | 3.67 | 3.00 | 3.33 | 3.67 | 3.00 | 3.67 | 27.48 | 15.33 | 16.00 | 5.00 | 3.67 | 12.67 | 235.34 |
| 5 | Anchorage | Gruening Middle School Accessibility Upgrades | 12.00 | 19.50 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 30.00 | 10.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 1.75 | 7.67 | 25.67 | 1.33 | 1.67 | 4.67 | 189.58 |
| 6 | Lower Kuskokwim | Mertarvik K-12 School Construction Newtok Replacement | 21.00 | 8.73 | 0.00 | 0.00 | 3.24 | 9.78 | 6.42 | 22.32 | 0.00 | 15.00 | 10.00 | 4.33 | 3.67 | 3.00 | 3.00 | 4.33 | 16.67 | 11.67 | 12.67 | 13.33 | 3.67 | 4.00 | 11.67 | 188.50 |
| 7 | Lower Kuskokwim | William N. Miller K-12 Memorial School Replacement, Napakiak | 18.00 | 30.00 | 0.00 | 0.00 | 3.63 | 0.00 | 0.00 | 22.55 | 0.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.33 | 3.67 | 25.00 | 10.67 | 0.00 | 14.67 | 4.67 | 3.00 | 8.33 | 183.51 |
| 8 | Anchorage | East High School Bus Driveway Improvements | 6.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 4.67 | 0.00 | 13.00 | 0.00 | 24.33 | 2.33 | 1.67 | 5.00 | 167.33 |
| 9 | Lower Kuskokwim | Water Storage and Treatment, Kongiganak | 24.00 | 0.00 | 0.00 | 20.00 | 3.63 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.33 | 3.67 | 0.00 | 17.33 | 0.00 | 17.67 | 3.00 | 2.00 | 9.00 | 149.63 |
| 10 | Lower Kuskokwim | Bethel Campus Transportation and Drainage Upgrades | 6.00 | 24.30 | 0.00 | 10.00 | 3.63 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.67 | 3.33 | 0.00 | 11.67 | 0.00 | 15.67 | 2.00 | 3.00 | 4.33 | 133.59 |
| 11 | Yupiit | Playground Construction, 3 Schools | 18.00 | 1.69 | 0.00 | 10.00 | 1.94 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 0.00 | 12.00 | 3.33 | 11.33 | 0.00 | 1.67 | 6.33 | 102.29 |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**Major Maintenance Grant Fund**
**Total Points - Formula Driven and Evaluative**
**Initial List**

| Nov 5 Rank | School District | Project Name | School Dist Rank | Weight Avg Age | Prev. 14.11 Fund | Plan and Design | Avg Expend Maint | Un-Housed Today | Un-Housed 7 Years | Type of Space | Cond Survey | Maint Labor | Maint Type | Maint Mgt | Energy Mgt | Cusd Pgm | Maint Train | Capital Plan | Emer-gency | Life/Safety and Code Conditions | Exist-ing Space | Cost Esti-mate | Proj vs Oper Cost | Altern at-ives | Options | Total Project Points |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Fairbanks | Barnette Magnet School Renovation Phase IV | 30.00 | 30.00 | 0.00 | 25.00 | 3.88 | 0.00 | 0.00 | 0.00 | 3.00 | 15.00 | 10.00 | 4.00 | 3.67 | 4.33 | 3.33 | 2.67 | 3.33 | 39.41 | 4.33 | 22.33 | 7.33 | 0.00 | 9.33 | 220.95 |
| 2 | Galena City | Galena Interior Learning Academy Composite Building Renovation | 30.00 | 17.75 | 0.00 | 25.00 | 4.87 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.33 | 3.33 | 3.33 | 3.33 | 3.67 | 0.00 | 29.64 | 3.33 | 23.67 | 9.33 | 0.00 | 11.33 | 206.92 |
| 3 | Chugach | Tatitlek K-12 School Renovation | 27.00 | 18.62 | 0.00 | 20.00 | 1.44 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.00 | 3.33 | 3.33 | 2.33 | 3.00 | 5.00 | 39.50 | 0.00 | 17.67 | 1.33 | 0.00 | 12.67 | 193.23 |
| 4 | Kake City | Kake Schools Heating Upgrades | 30.00 | 27.64 | 0.00 | 25.00 | 1.64 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.00 | 3.67 | 3.00 | 3.33 | 3.33 | 0.00 | 15.00 | 0.00 | 27.67 | 6.00 | 0.00 | 7.67 | 189.94 |
| 5 | Anchorage | West High School Partial Roof Replacement | 21.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 18.00 | 1.00 | 25.33 | 2.67 | 0.00 | 6.67 | 188.00 |
| 6 | Anchorage | Nunaka Valley Elementary School Roof Replacement | 27.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 8.91 | 0.00 | 25.00 | 2.67 | 0.00 | 6.67 | 183.58 |
| 7 | Anchorage | Northwood Elementary School Partial Roof Replacement | 24.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 11.00 | 0.00 | 24.67 | 2.67 | 0.00 | 7.00 | 182.67 |
| 8 | Nenana City | Nenana K-12 School Flooring and Asbestos Abatement | 30.00 | 30.00 | 0.00 | 25.00 | 3.03 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.67 | 3.00 | 3.33 | 2.67 | 3.67 | 0.00 | 11.00 | 1.00 | 24.33 | 2.33 | 0.00 | 7.33 | 180.37 |
| 9 | Anchorage | Inlet View Elementary School Domestic Water System Improvements | 15.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 15.00 | 0.00 | 26.67 | 0.00 | 0.00 | 7.33 | 179.33 |
| 10 | Juneau City Borough | Sayéik: Gastineau Community School Partial Roof Replacement | 30.00 | 30.00 | 0.00 | 25.00 | 2.44 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.67 | 2.67 | 4.67 | 3.33 | 3.67 | 0.00 | 7.54 | 0.00 | 21.67 | 7.33 | 0.00 | 7.33 | 179.31 |
| 11 | Copper River | District Office Roof Renovation and Energy Upgrade | 30.00 | 30.00 | 0.00 | 10.00 | 1.40 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.33 | 3.33 | 3.00 | 3.67 | 0.00 | 26.67 | 0.00 | 13.67 | 4.67 | 0.00 | 7.67 | 176.07 |
| 12 | Lower Yukon | Hooper Bay K-12 School Exterior Repairs | 24.00 | 1.00 | 0.00 | 25.00 | 2.20 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 6.67 | 21.28 | 3.00 | 27.33 | 4.67 | 0.00 | 12.33 | 175.81 |
| 13 | Chugach | Chenega Bay K-12 School Renovation | 30.00 | 11.59 | 0.00 | 20.00 | 1.44 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.00 | 3.33 | 3.33 | 2.33 | 3.00 | 0.00 | 29.63 | 0.00 | 17.67 | 2.00 | 0.00 | 12.33 | 174.66 |
| 14 | Iditarod Area | David-Louis Memorial K-12 School HVAC Control Upgrades, Grayling | 30.00 | 14.25 | 0.00 | 25.00 | 2.38 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.67 | 2.33 | 2.33 | 0.00 | 15.00 | 0.00 | 26.67 | 6.67 | 0.00 | 7.33 | 172.30 |
| 15 | Ketchikan | Ketchikan High School Security Upgrades | 30.00 | 30.00 | 0.00 | 25.00 | 4.42 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.67 | 3.00 | 2.67 | 3.00 | 3.33 | 0.00 | 0.00 | 0.00 | 24.33 | 11.00 | 0.00 | 6.67 | 172.09 |
| 16 | Hoonah City | Hoonah Central Boiler Replacement | 30.00 | 30.00 | 0.00 | 10.00 | 1.76 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.00 | 3.00 | 3.67 | 2.33 | 2.00 | 0.00 | 16.67 | 0.00 | 13.00 | 9.00 | 0.00 | 13.67 | 171.09 |
| 17 | Nenana City | Nenana K-12 School Boiler Replacement | 27.00 | 30.00 | 0.00 | 20.00 | 3.03 | 0.00 | 0.00 | 0.00 | 3.00 | 15.00 | 10.00 | 3.67 | 3.00 | 3.33 | 2.67 | 3.67 | 0.00 | 12.67 | 0.00 | 18.67 | 3.67 | 0.00 | 8.33 | 167.70 |
| 18 | Fairbanks | Administrative Center Air Conditioning and Ventilation Replacement | 27.00 | 8.75 | 0.00 | 25.00 | 3.88 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 4.00 | 3.67 | 4.33 | 3.33 | 2.67 | 6.67 | 4.00 | 0.00 | 25.33 | 8.33 | 0.00 | 14.33 | 166.29 |
| 19 | Aleutians East | Sand Point K-12 School Pool Major Maintenance | 30.00 | 20.32 | 0.00 | 25.00 | 1.70 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.67 | 3.00 | 2.00 | 2.67 | 2.00 | 0.00 | 4.00 | 0.00 | 29.00 | 8.00 | 0.00 | 7.00 | 162.36 |
| 20 | Southeast Island | Thorne Bay K-12 School Fire Suppression System | 30.00 | 9.92 | 0.00 | 10.00 | 3.04 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.33 | 2.33 | 3.00 | 3.00 | 9.00 | 17.33 | 0.00 | 15.67 | 6.00 | 0.00 | 9.00 | 160.29 |
| 21 | Denali Borough | Anderson K-12 School Roof Replacement | 30.00 | 30.00 | 0.00 | 10.00 | 4.19 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.67 | 3.00 | 2.67 | 3.67 | 1.67 | 6.00 | 1.33 | 14.00 | 3.33 | 0.00 | 7.33 | 159.52 |
| 22 | Anchorage | Muldoon Elementary School Partial Roof Replacement | 30.00 | 4.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 8.00 | 0.00 | 24.67 | 2.67 | 0.00 | 6.00 | 158.67 |
| 23 | Lower Yukon | Hooper Bay K-12 School Emergency Lighting & Retrofit | 27.00 | 0.50 | 0.00 | 25.00 | 2.10 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.33 | 0.00 | 6.00 | 2.00 | 28.33 | 10.67 | 0.00 | 11.33 | 157.27 |
| 24 | Yukon-Koyukuk | Ella B. Vernetti K-12 School Boiler Replacement, Koyukuk | 27.00 | 17.78 | 0.00 | 20.00 | 3.09 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.00 | 3.33 | 3.67 | 3.00 | 0.00 | 4.00 | 0.00 | 16.33 | 3.67 | 0.00 | 10.67 | 154.20 |
| 25 | Lower Yukon | Sheldon Point K-12 School Foundation Cooling and Repairs, Nunam Iqua | 30.00 | 0.00 | 0.00 | 20.00 | 2.20 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 9.00 | 15.33 | 2.33 | 17.00 | 0.00 | 0.00 | 8.00 | 152.20 |
| 26 | Yupiit | Tuluksak K-12 School Fuel Tank Replacement | 27.00 | 30.00 | 0.00 | 10.00 | 1.94 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 6.00 | 7.67 | 0.00 | 14.00 | 2.00 | 0.00 | 7.67 | 150.27 |
| 27 | Lower Yukon | Scammon Bay K-12 School Emergency Lighting & Retrofit | 21.00 | 1.00 | 0.00 | 25.00 | 2.10 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.00 | 0.00 | 6.00 | 2.00 | 28.00 | 11.67 | 0.00 | 9.00 | 149.77 |
| 28 | Kodiak Island | Peterson Elementary School Roof Replacement | 30.00 | 30.00 | 0.00 | 10.00 | 2.85 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 2.00 | 2.33 | 3.00 | 3.67 | 3.00 | 0.00 | 6.60 | 0.00 | 13.67 | 3.67 | 0.00 | 3.67 | 147.45 |
| 29 | Chatham | Klukwan K-12 School Roof Replacement | 30.00 | 19.50 | 0.00 | 0.00 | 1.44 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.00 | 3.00 | 2.67 | 2.33 | 2.67 | 1.67 | 21.67 | 0.00 | 14.00 | 4.33 | 0.00 | 7.67 | 146.94 |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**Major Maintenance Grant Fund**
**Total Points - Formula Driven and Evaluative**
**Initial List**

| Nov 5 Rank | School District | Project Name | School Dist Rank | Weight Avg Age | Prev. 14.11 Fund | Plan and Design | Avg Expend Maint | Un-Housed Today | Un-Housed 7 Years | Type of Space | Cond Survey | Maint Labor | Maint Type | Maint Mgt | Energy Mgt | Cusd Pgm | Maint Train | Capital Plan | Emer-gency | Life/Safety and Code Conditions | Exist-ing Space | Cost Esti-mate | Proj vs Oper Cost | Altern at-ives | Options | Total Project Points |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 30 | Haines Borough | Haines High School Locker Room Renovation | 27.00 | 23.00 | 0.00 | 10.00 | 1.55 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 2.67 | 3.00 | 2.00 | 2.67 | 2.67 | 0.00 | 14.88 | 0.67 | 14.00 | 3.33 | 0.00 | 8.33 | 145.76 |
| 31 | Lower Kuskokwim | Bethel Regional High School Boardwalk Replacement | 9.00 | 30.00 | 0.00 | 10.00 | 3.63 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.33 | 3.67 | 1.67 | 15.58 | 0.00 | 14.67 | 1.67 | 0.00 | 6.00 | 145.21 |
| 32 | Mat-Su Borough | Districtwide Seismic Upgrades, Phase 1 | 30.00 | 30.00 | 0.00 | 10.00 | 2.43 | 0.00 | 0.00 | 0.00 | 10.00 | 10.00 | 10.00 | 3.67 | 2.67 | 2.67 | 3.33 | 3.00 | 5.33 | 10.00 | 0.00 | 10.67 | 0.33 | 0.00 | 1.00 | 145.10 |
| 33 | Chatham | Fire Alarm Upgrades, 3 Sites | 27.00 | 30.00 | 0.00 | 10.00 | 1.34 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.67 | 2.33 | 1.67 | 2.00 | 0.00 | 8.00 | 0.00 | 22.67 | 0.67 | 0.00 | 8.00 | 144.34 |
| 34 | Denali Borough | Generator Replacement, 3 Schools | 27.00 | 27.09 | 0.00 | 10.00 | 4.19 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.67 | 3.00 | 2.67 | 3.67 | 0.00 | 2.67 | 0.00 | 14.00 | 1.33 | 0.00 | 6.00 | 143.95 |
| 35 | Southeast Island | Thorne Bay K-12 School Carpet Replacement | 18.00 | 9.92 | 0.00 | 25.00 | 3.04 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 0.00 | 8.00 | 0.00 | 28.00 | 1.67 | 0.00 | 9.67 | 143.29 |
| 36 | Kuspuk | Jake Egnaty Sr K-12 School Roof Replacement, Sleetmute | 30.00 | 28.25 | 0.00 | 0.00 | 1.93 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.67 | 3.00 | 2.00 | 2.00 | 2.33 | 8.33 | 10.67 | 0.67 | 15.33 | 2.67 | 0.00 | 7.67 | 142.51 |
| 37 | Sitka City Borough | Keet Gooshi Heen Elementary Covered PE Structure Renovation | 30.00 | 12.50 | 0.00 | 10.00 | 1.31 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 2.67 | 2.67 | 3.33 | 2.67 | 0.00 | 7.35 | 1.00 | 17.00 | 2.67 | 0.00 | 10.33 | 142.16 |
| 38 | Haines Borough | Haines High School Roof Replacement | 30.00 | 30.00 | 0.00 | 0.00 | 1.55 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.67 | 3.00 | 2.00 | 2.67 | 2.67 | 3.33 | 15.00 | 0.00 | 13.00 | 3.33 | 0.00 | 7.33 | 141.55 |
| 39 | Lower Kuskokwim | Akula Elitnauvik K-12 School Renovation, Kasigluk-Akula | 15.00 | 19.76 | 0.00 | 10.00 | 3.24 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.33 | 3.67 | 3.00 | 3.00 | 4.33 | 0.00 | 10.67 | 1.33 | 14.33 | 3.33 | 0.00 | 9.67 | 140.67 |
| 40 | Southwest Region | William "Sonny" Nelson K-12 School Renovation, Ekwok | 27.00 | 28.25 | 0.00 | 0.00 | 1.87 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.33 | 2.67 | 2.67 | 2.00 | 0.00 | 23.21 | 0.00 | 11.33 | 5.67 | 0.00 | 5.67 | 140.66 |
| 41 | Craig City | Craig High School Biomass Boiler | 30.00 | 4.00 | 0.00 | 10.00 | 2.65 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.00 | 3.00 | 2.33 | 2.33 | 3.00 | 0.00 | 0.00 | 0.00 | 13.33 | 17.33 | 0.00 | 19.67 | 140.65 |
| 42 | Annette Island | Metlakatla High School Gym Acoustical Upgrades | 30.00 | 30.00 | 0.00 | 10.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.00 | 3.00 | 2.67 | 3.67 | 2.67 | 0.00 | 0.00 | 3.00 | 17.33 | 0.00 | 0.00 | 7.33 | 138.67 |
| 43 | Nenana City | Nenana K-12 School Fire Suppression System Replacement | 24.00 | 22.77 | 0.00 | 0.00 | 3.16 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.67 | 3.33 | 3.67 | 3.00 | 4.00 | 6.00 | 12.67 | 0.33 | 17.67 | 2.33 | 0.00 | 6.33 | 137.93 |
| 44 | Southeast Island | Thorne Bay K-12 School Mechanical Control Upgrades | 21.00 | 9.92 | 0.00 | 10.00 | 3.04 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 1.67 | 9.67 | 0.00 | 13.67 | 8.33 | 0.00 | 9.00 | 136.29 |
| 45 | Kake City | Kake High School Plumbing Replacement | 27.00 | 30.00 | 0.00 | 0.00 | 1.59 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.67 | 4.33 | 3.00 | 3.00 | 3.67 | 0.00 | 10.33 | 0.00 | 12.33 | 2.67 | 0.00 | 8.33 | 134.92 |
| 46 | Yupiit | Tuluksak K-12 School Generator Refurbishment | 30.00 | 2.00 | 0.00 | 25.00 | 1.94 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 8.33 | 0.00 | 0.00 | 18.33 | 2.00 | 0.00 | 10.00 | 133.61 |
| 47 | Juneau City Borough | Dzantik'i Heeni Middle School Roof Replacement | 27.00 | 8.00 | 0.00 | 10.00 | 2.44 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 2.67 | 4.67 | 3.33 | 3.67 | 0.00 | 6.00 | 0.00 | 17.67 | 3.00 | 0.00 | 4.67 | 131.77 |
| 48 | Copper River | Glennallen and Kenny Lake Schools Energy Upgrade | 27.00 | 10.75 | 0.00 | 10.00 | 1.40 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.67 | 3.33 | 3.33 | 3.00 | 3.67 | 0.00 | 0.00 | 0.00 | 14.33 | 10.67 | 0.00 | 7.00 | 131.15 |
| 49 | Anchorage | Fire Lake Elementary School Roof Replacement | 18.00 | 17.75 | 0.00 | 10.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 3.00 | 0.00 | 26.67 | 0.00 | 0.00 | 5.33 | 131.08 |
| 50 | Southwest Region | Twin Hills K-12 School Renovation | 30.00 | 30.00 | 0.00 | 0.00 | 1.87 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.33 | 2.67 | 2.67 | 2.00 | 0.00 | 5.78 | 0.00 | 11.67 | 7.33 | 0.00 | 5.00 | 129.32 |
| 51 | Anchorage | Spring Hill Elementary School Intercom/Clocks | 9.00 | 17.75 | 0.00 | 10.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 4.67 | 0.00 | 8.00 | 1.33 | 22.67 | 3.33 | 0.00 | 6.00 | 128.08 |
| 52 | Southwest Region | Aleknagik K-12 School Renovation | 24.00 | 23.00 | 0.00 | 0.00 | 1.87 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.33 | 2.67 | 2.67 | 2.00 | 0.00 | 18.18 | 0.00 | 12.33 | 5.33 | 0.00 | 5.33 | 127.72 |
| 53 | Kake City | Exterior Upgrades - Main School Facilities | 24.00 | 26.74 | 0.00 | 0.00 | 1.64 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 3.67 | 3.00 | 3.33 | 3.33 | 0.00 | 8.43 | 0.00 | 14.00 | 2.67 | 0.00 | 8.33 | 127.13 |
| 54 | Mat-Su Borough | Districtwide Energy Upgrades Phase 2 Windows and Lighting | 27.00 | 30.00 | 0.00 | 0.00 | 2.53 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 1.67 | 2.00 | 2.33 | 2.33 | 2.67 | 0.00 | 14.00 | 0.33 | 10.67 | 3.00 | 0.00 | 2.33 | 125.86 |
| 55 | Kake City | Kake High School Gym Floor and Bleacher Replacement | 21.00 | 30.00 | 0.00 | 0.00 | 1.59 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.67 | 4.33 | 3.00 | 3.00 | 3.67 | 0.00 | 6.67 | 0.67 | 11.67 | 1.67 | 0.00 | 9.33 | 125.26 |
| 56 | Lower Yukon | Scammon Bay K-12 School Siding Replacement | 15.00 | 1.50 | 0.00 | 25.00 | 2.20 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 1.67 | 2.00 | 0.00 | 17.00 | 3.33 | 0.00 | 9.00 | 125.03 |
| 57 | Copper River | Glennallen Voc-Ed Facility Renovation | 24.00 | 6.94 | 0.00 | 10.00 | 1.40 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.33 | 3.33 | 3.00 | 3.67 | 0.00 | 6.08 | 0.00 | 14.33 | 3.33 | 0.00 | 6.67 | 124.76 |
| 58 | Lower Kuskokwim | Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk | 12.00 | 8.50 | 0.00 | 10.00 | 3.24 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.33 | 3.67 | 3.00 | 3.00 | 4.33 | 0.00 | 11.33 | 2.00 | 14.33 | 3.33 | 0.00 | 6.33 | 124.41 |
| 59 | Southeast Island | Port Alexander K-12 School Domestic Water Pipe Replacement | 12.00 | 19.38 | 0.00 | 0.00 | 3.04 | 0.00 | 0.00 | 0.00 | 3.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 6.00 | 15.00 | 0.00 | 13.33 | 1.67 | 0.00 | 9.33 | 122.75 |
| 60 | Lower Yukon | Ignatius Beans K-12 School Marine Header Pipeline | 18.00 | 5.86 | 0.00 | 20.00 | 2.10 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.00 | 0.00 | 8.67 | 0.00 | 12.67 | 0.00 | 0.00 | 7.67 | 121.96 |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**Major Maintenance Grant Fund**
**Total Points - Formula Driven and Evaluative**
**Initial List**

| Nov 5 Rank | School District | Project Name | School Dist Rank | Weight Avg Age | Prev. 14.11 Fund | Plan and Design | Avg Expend Maint | Un-Housed Today | Un-Housed 7 Years | Type of Space | Cond Survey | Maint Labor | Maint Type | Maint Mgt | Energy Mgt | Cusd Pgm | Maint Train | Capital Plan | Emer-gency | Life/Safety and Code Conditions | Exist-ing Space | Cost Esti-mate | Proj vs Oper Cost | Altern at-ives | Options | Total Project Points |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | Southeast Island | Thorne Bay K-12 School Underground Storage Tank Replacement | 24.00 | 9.92 | 0.00 | 10.00 | 3.04 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 0.00 | 9.33 | 0.00 | 13.67 | 0.00 | 0.00 | 9.33 | 119.29 |
| 62 | Iditarod Area | Blackwell School HVAC Control Upgrades, Anvik | 24.00 | 26.50 | 0.00 | 10.00 | 2.33 | 0.00 | 0.00 | 0.00 | 8.00 | 0.00 | 0.00 | 3.00 | 2.33 | 2.67 | 2.67 | 3.00 | 0.00 | 8.33 | 2.33 | 12.00 | 3.33 | 0.00 | 8.33 | 118.83 |
| 63 | Yupiit | Tuluksak K-12 School Water System Upgrade | 24.00 | 2.00 | 0.00 | 0.00 | 1.94 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 11.67 | 19.00 | 0.00 | 10.00 | 2.67 | 0.00 | 9.33 | 116.61 |
| 64 | Southeast Island | Port Alexander & Thorne Bay K-12 Schools Roof Replacement | 15.00 | 10.16 | 0.00 | 0.00 | 3.04 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 0.00 | 20.67 | 2.00 | 13.00 | 2.00 | 0.00 | 9.00 | 114.87 |
| 65 | Lower Yukon | LYSD Central Office Renovation | 12.00 | 22.69 | 0.00 | 0.00 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.00 | 0.00 | 10.33 | 0.00 | 13.00 | 5.33 | 0.00 | 7.33 | 111.79 |
| 66 | Iditarod Area | David-Louis Memorial K-12 School Roof Replacement, Grayling | 27.00 | 12.50 | 0.00 | 10.00 | 2.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.33 | 2.67 | 2.67 | 3.00 | 0.00 | 19.67 | 0.67 | 14.00 | 2.67 | 0.00 | 7.67 | 110.16 |
| 67 | Mat-Su Borough | Districtwide Elevator Upgrades | 24.00 | 22.66 | 0.00 | 0.00 | 2.53 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 1.67 | 2.00 | 2.33 | 2.33 | 2.67 | 0.00 | 3.33 | 0.33 | 11.67 | 0.00 | 0.00 | 2.33 | 102.86 |
| 68 | Mat-Su Borough | Roof Replacement, 3 Schools | 21.00 | 11.91 | 0.00 | 0.00 | 2.53 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 1.67 | 2.00 | 2.67 | 2.00 | 2.67 | 0.00 | 8.67 | 0.00 | 12.33 | 3.33 | 0.00 | 2.67 | 98.44 |
| 69 | Lower Yukon | Kotlik & Pilot Station K-12 Schools Renewal and Repair | 3.00 | 3.00 | 0.00 | 10.00 | 2.20 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 0.00 | 3.99 | 0.00 | 12.00 | 3.00 | 0.00 | 5.00 | 87.52 |
| 70 | Yupiit | Mechanical System Improvements, 3 Schools | 21.00 | 1.69 | 0.00 | 0.00 | 1.94 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 0.00 | 0.00 | 0.00 | 15.00 | 4.33 | 0.00 | 7.33 | 87.29 |
| 71 | Lower Yukon | Sheldon Point K-12 School Exterior Repairs, Nunam Iqua | 9.00 | 0.00 | 0.00 | 0.00 | 2.20 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 1.67 | 2.00 | 0.00 | 13.33 | 3.33 | 0.00 | 10.00 | 86.87 |
| 72 | Lower Yukon | Security Access Upgrades, 6 Sites | 6.00 | 0.93 | 0.00 | 0.00 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.00 | 0.00 | 5.67 | 0.00 | 12.67 | 2.33 | 0.00 | 5.33 | 74.03 |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**School Construction and Major Maintenance by Districts**

**Total Points - Formula-Driven and Evaluative**
**Initial List**

| School District | Nov 5 Rank | MM/ SC | Project Name | School Dist Rank | Weight Avg Age | Prev. 14.11 Fund | Plan and Design | Avg Expend Maint | Un-Housed Today | Un-Housed 7 Years | Type of Space | Cond Survey | Maint Labor | Maint Type | Maint Mgt | Energy Mgt | Cusd Pgm | Maint Train | Capital Plan | Emer-gency | Life/Safety and Code Conditions | Exist-ing Space | Cost Esti-mate | Proj vs Oper Cost | Alter nat-ives | Options | Total Project Points |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aleutians East | 19 | M | Sand Point K-12 School Pool Major Maintenance | 30.00 | 20.32 | 0.00 | 25.00 | 1.70 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.67 | 3.00 | 2.00 | 2.67 | 2.00 | 0.00 | 4.00 | 0.00 | 29.00 | 8.00 | 0.00 | 7.00 | 162.36 |
| Anchorage | 5 | C | Gruening Middle School Accessibility Upgrades | 12.00 | 19.50 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 30.00 | 10.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 1.75 | 7.67 | 25.67 | 1.33 | 1.67 | 4.67 | 189.58 |
| Anchorage | 8 | C | East High School Bus Driveway Improvements | 6.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 4.67 | 0.00 | 13.00 | 0.00 | 24.33 | 2.33 | 1.67 | 5.00 | 167.33 |
| Anchorage | 5 | M | West High School Partial Roof Replacement | 21.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 18.00 | 1.00 | 25.33 | 2.67 | 0.00 | 6.67 | 188.00 |
| Anchorage | 6 | M | Nunaka Valley Elementary School Roof Replacement | 27.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 8.91 | 0.00 | 25.00 | 2.67 | 0.00 | 6.67 | 183.58 |
| Anchorage | 7 | M | Northwood Elementary School Partial Roof Replacement | 24.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 11.00 | 0.00 | 24.67 | 2.67 | 0.00 | 7.00 | 182.67 |
| Anchorage | 9 | M | Inlet View Elementary School Domestic Water System Improvements | 15.00 | 30.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 15.00 | 0.00 | 26.67 | 0.00 | 0.00 | 7.33 | 179.33 |
| Anchorage | 22 | M | Muldoon Elementary School Partial Roof Replacement | 30.00 | 4.00 | 0.00 | 25.00 | 5.00 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 8.00 | 0.00 | 24.67 | 2.67 | 0.00 | 6.00 | 158.67 |
| Anchorage | 49 | M | Fire Lake Elementary School Roof Replacement | 18.00 | 17.75 | 0.00 | 10.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 5.00 | 0.00 | 3.00 | 0.00 | 26.67 | 0.00 | 0.00 | 5.33 | 131.08 |
| Anchorage | 51 | M | Spring Hill Elementary School Intercom/Clocks | 9.00 | 17.75 | 0.00 | 10.00 | 5.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 4.33 | 4.00 | 4.00 | 3.00 | 4.67 | 0.00 | 8.00 | 1.33 | 22.67 | 3.33 | 0.00 | 6.00 | 128.08 |
| Annette Island | 42 | M | Metlakatla High School Gym Acoustical Upgrades | 30.00 | 30.00 | 0.00 | 10.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.00 | 3.00 | 2.67 | 3.67 | 2.67 | 0.00 | 0.00 | 3.00 | 17.33 | 0.00 | 0.00 | 7.33 | 138.67 |
| Chatham | 29 | M | Klukwan K-12 School Roof Replacement | 30.00 | 19.50 | 0.00 | 0.00 | 1.44 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.00 | 3.00 | 2.67 | 2.33 | 2.67 | 1.67 | 21.67 | 0.00 | 14.00 | 4.33 | 0.00 | 7.67 | 146.94 |
| Chatham | 33 | M | Fire Alarm Upgrades, 3 Sites | 27.00 | 30.00 | 0.00 | 10.00 | 1.34 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.67 | 2.33 | 1.67 | 2.00 | 0.00 | 8.00 | 0.00 | 22.67 | 0.67 | 0.00 | 8.00 | 144.34 |
| Chugach | 3 | M | Tatitlek K-12 School Renovation | 27.00 | 18.62 | 0.00 | 20.00 | 1.44 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.00 | 3.33 | 3.33 | 2.33 | 3.00 | 5.00 | 39.50 | 0.00 | 17.67 | 1.33 | 0.00 | 12.67 | 193.23 |
| Chugach | 13 | M | Chenega Bay K-12 School Renovation | 30.00 | 11.59 | 0.00 | 20.00 | 1.44 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.00 | 3.33 | 3.33 | 2.33 | 3.00 | 0.00 | 29.63 | 0.00 | 17.67 | 2.00 | 0.00 | 12.33 | 174.66 |
| Copper River | 11 | M | District Office Roof Renovation and Energy Upgrade | 30.00 | 30.00 | 0.00 | 10.00 | 1.40 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.33 | 3.33 | 3.00 | 3.67 | 0.00 | 26.67 | 0.00 | 13.67 | 4.67 | 0.00 | 7.67 | 176.07 |
| Copper River | 48 | M | Glennallen and Kenny Lake Schools Energy Upgrade | 27.00 | 10.75 | 0.00 | 10.00 | 1.40 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.67 | 3.33 | 3.33 | 3.00 | 3.67 | 0.00 | 0.00 | 0.00 | 14.33 | 10.67 | 0.00 | 7.00 | 131.15 |
| Copper River | 57 | M | Glennallen Voc-Ed Facility Renovation | 24.00 | 6.94 | 0.00 | 10.00 | 1.40 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.33 | 3.33 | 3.00 | 3.67 | 0.00 | 6.08 | 0.00 | 14.33 | 3.33 | 0.00 | 6.67 | 124.76 |
| Craig City | 41 | M | Craig High School Biomass Boiler | 30.00 | 4.00 | 0.00 | 10.00 | 2.65 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.00 | 3.00 | 2.33 | 2.33 | 3.00 | 0.00 | 0.00 | 0.00 | 13.33 | 17.33 | 0.00 | 19.67 | 140.65 |
| Denali Borough | 21 | M | Anderson K-12 School Roof Replacement | 30.00 | 30.00 | 0.00 | 10.00 | 4.19 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.67 | 3.00 | 2.67 | 3.67 | 1.67 | 6.00 | 1.33 | 14.00 | 3.33 | 0.00 | 7.33 | 159.52 |
| Denali Borough | 34 | M | Generator Replacement, 3 Schools | 27.00 | 27.09 | 0.00 | 10.00 | 4.19 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.67 | 3.00 | 2.67 | 3.67 | 0.00 | 2.67 | 0.00 | 14.00 | 1.33 | 0.00 | 6.00 | 143.95 |
| Fairbanks | 1 | M | Barnette Magnet School Renovation Phase IV | 30.00 | 30.00 | 0.00 | 25.00 | 3.88 | 0.00 | 0.00 | 0.00 | 3.00 | 15.00 | 10.00 | 4.00 | 3.67 | 4.33 | 3.33 | 2.67 | 3.33 | 39.41 | 4.33 | 22.33 | 7.33 | 0.00 | 9.33 | 220.95 |
| Fairbanks | 18 | M | Administrative Center Air Conditioning and Ventilation Replacement | 27.00 | 8.75 | 0.00 | 25.00 | 3.88 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 4.00 | 3.67 | 4.33 | 3.33 | 2.67 | 6.67 | 4.00 | 0.00 | 25.33 | 8.33 | 0.00 | 14.33 | 166.29 |
| Galena City | 2 | M | Galena Interior Learning Academy Composite Building Renovation | 30.00 | 17.75 | 0.00 | 25.00 | 4.87 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.33 | 3.33 | 3.33 | 3.33 | 3.67 | 0.00 | 29.64 | 3.33 | 23.67 | 9.33 | 0.00 | 11.33 | 206.92 |
| Haines Borough | 30 | M | Haines High School Locker Room Renovation | 27.00 | 23.00 | 0.00 | 10.00 | 1.55 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 2.67 | 3.00 | 2.00 | 2.67 | 2.67 | 0.00 | 14.88 | 0.67 | 14.00 | 3.33 | 0.00 | 8.33 | 145.76 |
| Haines Borough | 38 | M | Haines High School Roof Replacement | 30.00 | 30.00 | 0.00 | 0.00 | 1.55 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.67 | 3.00 | 2.00 | 2.67 | 2.67 | 3.33 | 15.00 | 0.00 | 13.00 | 3.33 | 0.00 | 7.33 | 141.55 |
| Hoonah City | 16 | M | Hoonah Central Boiler Replacement | 30.00 | 30.00 | 0.00 | 10.00 | 1.76 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.00 | 3.00 | 3.67 | 2.33 | 2.00 | 0.00 | 16.67 | 0.00 | 13.00 | 9.00 | 0.00 | 13.67 | 171.09 |
| Iditarod Area | 14 | M | David-Louis Memorial K-12 School HVAC Control Upgrades, Grayling | 30.00 | 14.25 | 0.00 | 25.00 | 2.38 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.67 | 2.33 | 2.33 | 0.00 | 15.00 | 0.00 | 26.67 | 6.67 | 0.00 | 7.33 | 172.30 |
| Iditarod Area | 62 | M | Blackwell School HVAC Control Upgrades, Anvik | 24.00 | 26.50 | 0.00 | 10.00 | 2.33 | 0.00 | 0.00 | 0.00 | 8.00 | 0.00 | 0.00 | 3.00 | 2.33 | 2.67 | 2.67 | 3.00 | 0.00 | 8.33 | 2.33 | 12.00 | 3.33 | 0.00 | 8.33 | 118.83 |
| Iditarod Area | 66 | M | David-Louis Memorial K-12 School Roof Replacement, Grayling | 27.00 | 12.50 | 0.00 | 10.00 | 2.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.00 | 2.33 | 2.67 | 2.67 | 3.00 | 0.00 | 19.67 | 0.67 | 14.00 | 2.67 | 0.00 | 7.67 | 110.16 |
| Juneau City Borough | 10 | M | Sayéik: Gastineau Community School Partial Roof Replacement | 30.00 | 30.00 | 0.00 | 25.00 | 2.44 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.67 | 2.67 | 4.67 | 3.33 | 3.67 | 0.00 | 7.54 | 0.00 | 21.67 | 7.33 | 0.00 | 7.33 | 179.31 |
| Juneau City Borough | 47 | M | Dzantik'i Heeni Middle School Roof Replacement | 27.00 | 8.00 | 0.00 | 10.00 | 2.44 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 2.67 | 4.67 | 3.33 | 3.67 | 0.00 | 6.00 | 0.00 | 17.67 | 3.00 | 0.00 | 4.67 | 131.77 |
| Kake City | 4 | M | Kake Schools Heating Upgrades | 30.00 | 27.64 | 0.00 | 25.00 | 1.64 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.00 | 3.67 | 3.00 | 3.33 | 3.33 | 0.00 | 15.00 | 0.00 | 27.67 | 6.00 | 0.00 | 7.67 | 189.94 |
| Kake City | 45 | M | Kake High School Plumbing Replacement | 27.00 | 30.00 | 0.00 | 0.00 | 1.59 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.67 | 4.33 | 3.00 | 3.00 | 3.67 | 0.00 | 10.33 | 0.00 | 12.33 | 2.67 | 0.00 | 8.33 | 134.92 |
| Kake City | 53 | M | Exterior Upgrades - Main School Facilities | 24.00 | 26.74 | 0.00 | 0.00 | 1.64 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 3.67 | 3.00 | 3.33 | 3.33 | 0.00 | 8.43 | 0.00 | 14.00 | 2.67 | 0.00 | 8.33 | 127.13 |
| Kake City | 55 | M | Kake High School Gym Floor and Bleacher Replacement | 21.00 | 30.00 | 0.00 | 0.00 | 1.59 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.67 | 4.33 | 3.00 | 3.00 | 3.67 | 0.00 | 6.67 | 0.67 | 11.67 | 1.67 | 0.00 | 9.33 | 125.26 |
| Ketchikan | 15 | M | Ketchikan High School Security Upgrades | 30.00 | 30.00 | 0.00 | 25.00 | 4.42 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.67 | 3.00 | 2.67 | 3.00 | 3.33 | 0.00 | 0.00 | 0.00 | 24.33 | 11.00 | 0.00 | 6.67 | 172.09 |
| Kodiak Island | 28 | M | Peterson Elementary School Roof Replacement | 30.00 | 30.00 | 0.00 | 10.00 | 2.85 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 2.00 | 2.33 | 3.00 | 3.67 | 3.00 | 0.00 | 6.60 | 0.00 | 13.67 | 3.67 | 0.00 | 3.67 | 147.45 |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**School Construction and Major Maintenance by Districts**

**Total Points - Formula-Driven and Evaluative**
**Initial List**

| School District | Nov 5 Rank | MM/ SC | Project Name | School Dist Rank | Weight Avg Age | Prev. 14.11 Fund | Plan and Design | Avg Expend Maint | Un-Housed Today | Un-Housed 7 Years | Type of Space | Cond Survey | Maint Labor | Maint Type | Maint Mgt | Energy Mgt | Cusd Pgm | Maint Train | Capital Plan | Emer-gency | Life/Safety and Code Conditions | Exist-ing Space | Cost Esti-mate | Proj vs Oper Cost | Alter nat-ives | Options | Total Project Points |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Kuspuk | 36 | M | Jake Egnaty Sr K-12 School Roof Replacement, Sleetmute | 30.00 | 28.25 | 0.00 | 0.00 | 1.93 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.67 | 3.00 | 2.00 | 2.00 | 2.33 | 8.33 | 10.67 | 0.67 | 15.33 | 2.67 | 0.00 | 7.67 | 142.51 |
| Lower Kuskokwim | 1 | C | Eek K-12 School Renovation/Addition | 30.00 | 25.31 | 30.00 | 10.00 | 3.63 | 28.27 | 28.77 | 21.86 | 10.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.33 | 3.67 | 0.00 | 5.51 | 22.00 | 16.00 | 4.00 | 3.00 | 19.67 | 301.02 |
| Lower Kuskokwim | 3 | C | Anna Tobeluk Memorial K-12 School Renovation/Addition, Nunapitchuk | 27.00 | 18.45 | 0.00 | 10.00 | 3.24 | 33.47 | 30.00 | 22.45 | 10.00 | 15.00 | 10.00 | 4.33 | 3.67 | 3.00 | 3.00 | 4.33 | 0.00 | 13.33 | 22.67 | 15.33 | 5.67 | 3.00 | 13.67 | 271.62 |
| Lower Kuskokwim | 6 | C | Mertarvik K-12 School Construction Newtok Replacement | 21.00 | 8.73 | 0.00 | 0.00 | 3.24 | 9.78 | 6.42 | 22.32 | 0.00 | 15.00 | 10.00 | 4.33 | 3.67 | 3.00 | 3.00 | 4.33 | 16.67 | 11.67 | 12.67 | 13.33 | 3.67 | 4.00 | 11.67 | 188.50 |
| Lower Kuskokwim | 7 | C | William N. Miller K-12 Memorial School Replacement, Napakiak | 18.00 | 30.00 | 0.00 | 0.00 | 3.63 | 0.00 | 0.00 | 22.55 | 0.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.33 | 3.67 | 25.00 | 10.67 | 0.00 | 14.67 | 4.67 | 3.00 | 8.33 | 183.51 |
| Lower Kuskokwim | 9 | C | Water Storage and Treatment, Kongiganak | 24.00 | 0.00 | 0.00 | 20.00 | 3.63 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.33 | 3.67 | 0.00 | 17.33 | 0.00 | 17.67 | 3.00 | 2.00 | 9.00 | 149.63 |
| Lower Kuskokwim | 10 | C | Bethel Campus Transportation and Drainage Upgrades | 6.00 | 24.30 | 0.00 | 10.00 | 3.63 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.67 | 3.33 | 0.00 | 11.67 | 0.00 | 15.67 | 2.00 | 3.00 | 4.33 | 133.59 |
| Lower Kuskokwim | 31 | M | Bethel Regional High School Boardwalk Replacement | 9.00 | 30.00 | 0.00 | 10.00 | 3.63 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.00 | 3.67 | 3.33 | 3.33 | 3.67 | 1.67 | 15.58 | 0.00 | 14.67 | 1.67 | 0.00 | 6.00 | 145.21 |
| Lower Kuskokwim | 39 | M | Akula Elitnauvik K-12 School Renovation, Kasigluk-Akula | 15.00 | 19.76 | 0.00 | 10.00 | 3.24 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.33 | 3.67 | 3.00 | 3.00 | 4.33 | 0.00 | 10.67 | 1.33 | 14.33 | 3.33 | 0.00 | 9.67 | 140.67 |
| Lower Kuskokwim | 58 | M | Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk | 12.00 | 8.50 | 0.00 | 10.00 | 3.24 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 4.33 | 3.67 | 3.00 | 3.00 | 4.33 | 0.00 | 11.33 | 2.00 | 14.33 | 3.33 | 0.00 | 6.33 | 124.41 |
| Lower Yukon | 12 | M | Hooper Bay K-12 School Exterior Repairs | 24.00 | 1.00 | 0.00 | 25.00 | 2.20 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 6.67 | 21.28 | 3.00 | 27.33 | 4.67 | 0.00 | 12.33 | 175.81 |
| Lower Yukon | 23 | M | Hooper Bay K-12 School Emergency Lighting & Retrofit | 27.00 | 0.50 | 0.00 | 25.00 | 2.10 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.33 | 0.00 | 6.00 | 2.00 | 28.33 | 10.67 | 0.00 | 11.33 | 157.27 |
| Lower Yukon | 25 | M | Sheldon Point K-12 School Foundation Cooling and Repairs, Nunam Iqua | 30.00 | 0.00 | 0.00 | 20.00 | 2.20 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 9.00 | 15.33 | 2.33 | 17.00 | 0.00 | 0.00 | 8.00 | 152.20 |
| Lower Yukon | 27 | M | Scammon Bay K-12 School Emergency Lighting & Retrofit | 21.00 | 1.00 | 0.00 | 25.00 | 2.10 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.00 | 0.00 | 6.00 | 2.00 | 28.00 | 11.67 | 0.00 | 9.00 | 149.77 |
| Lower Yukon | 56 | M | Scammon Bay K-12 School Siding Replacement | 15.00 | 1.50 | 0.00 | 25.00 | 2.20 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 1.67 | 2.00 | 0.00 | 17.00 | 3.33 | 0.00 | 9.00 | 125.03 |
| Lower Yukon | 60 | M | Ignatius Beans K-12 School Marine Header Pipeline | 18.00 | 5.86 | 0.00 | 20.00 | 2.10 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.00 | 0.00 | 8.67 | 0.00 | 12.67 | 0.00 | 0.00 | 7.67 | 121.96 |
| Lower Yukon | 65 | M | LYSD Central Office Renovation | 12.00 | 22.69 | 0.00 | 0.00 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.00 | 0.00 | 10.33 | 0.00 | 13.00 | 5.33 | 0.00 | 7.33 | 111.79 |
| Lower Yukon | 69 | M | Kotlik & Pilot Station K-12 Schools Renewal and Repair | 3.00 | 3.00 | 0.00 | 10.00 | 2.20 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 0.00 | 3.99 | 0.00 | 12.00 | 3.00 | 0.00 | 5.00 | 87.52 |
| Lower Yukon | 71 | M | Sheldon Point K-12 School Exterior Repairs, Nunam Iqua | 9.00 | 0.00 | 0.00 | 0.00 | 2.20 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.33 | 3.00 | 3.00 | 2.67 | 3.33 | 1.67 | 2.00 | 0.00 | 13.33 | 3.33 | 0.00 | 10.00 | 86.87 |
| Lower Yukon | 72 | M | Security Access Upgrades, 6 Sites | 6.00 | 0.93 | 0.00 | 0.00 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.67 | 3.00 | 2.33 | 3.00 | 0.00 | 5.67 | 0.00 | 12.67 | 2.33 | 0.00 | 5.33 | 74.03 |
| Mat-Su Borough | 32 | M | Districtwide Seismic Upgrades, Phase 1 | 30.00 | 30.00 | 0.00 | 10.00 | 2.43 | 0.00 | 0.00 | 0.00 | 10.00 | 10.00 | 10.00 | 3.67 | 2.67 | 2.67 | 3.33 | 3.00 | 5.33 | 10.00 | 0.00 | 10.67 | 0.33 | 0.00 | 1.00 | 145.10 |
| Mat-Su Borough | 54 | M | Districtwide Energy Upgrades Phase 2 Windows and Lighting | 27.00 | 30.00 | 0.00 | 0.00 | 2.53 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 1.67 | 2.00 | 2.33 | 2.33 | 2.67 | 0.00 | 14.00 | 0.33 | 10.67 | 3.00 | 0.00 | 2.33 | 125.86 |
| Mat-Su Borough | 67 | M | Districtwide Elevator Upgrades | 24.00 | 22.66 | 0.00 | 0.00 | 2.53 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 1.67 | 2.00 | 2.33 | 2.33 | 2.67 | 0.00 | 3.33 | 0.33 | 11.67 | 0.00 | 0.00 | 2.33 | 102.86 |
| Mat-Su Borough | 68 | M | Roof Replacement, 3 Schools | 21.00 | 11.91 | 0.00 | 0.00 | 2.53 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 1.67 | 2.00 | 2.67 | 2.00 | 2.67 | 0.00 | 8.67 | 0.00 | 12.33 | 3.33 | 0.00 | 2.67 | 98.44 |
| Nenana City | 8 | M | Nenana K-12 School Flooring and Asbestos Abatement | 30.00 | 30.00 | 0.00 | 25.00 | 3.03 | 0.00 | 0.00 | 0.00 | 5.00 | 15.00 | 10.00 | 3.67 | 3.00 | 3.33 | 2.67 | 3.67 | 0.00 | 11.00 | 1.00 | 24.33 | 2.33 | 0.00 | 7.33 | 180.37 |
| Nenana City | 17 | M | Nenana K-12 School Boiler Replacement | 27.00 | 30.00 | 0.00 | 20.00 | 3.03 | 0.00 | 0.00 | 0.00 | 3.00 | 15.00 | 10.00 | 3.67 | 3.00 | 3.33 | 2.67 | 3.67 | 0.00 | 12.67 | 0.00 | 18.67 | 3.67 | 0.00 | 8.33 | 167.70 |
| Nenana City | 43 | M | Nenana K-12 School Fire Suppression System Replacement | 24.00 | 22.77 | 0.00 | 0.00 | 3.16 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.67 | 3.33 | 3.67 | 3.00 | 4.00 | 6.00 | 12.67 | 0.33 | 17.67 | 2.33 | 0.00 | 6.33 | 137.93 |
| Sitka City Borough | 37 | M | Keet Gooshi Heen Elementary Covered PE Structure Renovation | 30.00 | 12.50 | 0.00 | 10.00 | 1.31 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 2.67 | 2.67 | 3.33 | 2.67 | 0.00 | 7.35 | 1.00 | 17.00 | 2.67 | 0.00 | 10.33 | 142.16 |
| Southeast Island | 2 | C | Hollis K-12 School Replacement | 27.00 | 21.26 | 0.00 | 10.00 | 3.16 | 30.46 | 30.00 | 22.39 | 10.00 | 15.00 | 10.00 | 3.67 | 3.67 | 2.33 | 3.33 | 3.00 | 10.33 | 17.13 | 22.33 | 14.00 | 3.33 | 3.00 | 9.00 | 274.40 |
| Southeast Island | 20 | M | Thorne Bay K-12 School Fire Suppression System | 30.00 | 9.92 | 0.00 | 10.00 | 3.04 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.33 | 2.33 | 3.00 | 3.00 | 9.00 | 17.33 | 0.00 | 15.67 | 6.00 | 0.00 | 9.00 | 160.29 |
| Southeast Island | 35 | M | Thorne Bay K-12 School Carpet Replacement | 18.00 | 9.92 | 0.00 | 25.00 | 3.04 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 0.00 | 8.00 | 0.00 | 28.00 | 1.67 | 0.00 | 9.67 | 143.29 |
| Southeast Island | 44 | M | Thorne Bay K-12 School Mechanical Control Upgrades | 21.00 | 9.92 | 0.00 | 10.00 | 3.04 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 1.67 | 9.67 | 0.00 | 13.67 | 8.33 | 0.00 | 9.00 | 136.29 |
| Southeast Island | 59 | M | Port Alexander K-12 School Domestic Water Pipe Replacement | 12.00 | 19.38 | 0.00 | 0.00 | 3.04 | 0.00 | 0.00 | 0.00 | 3.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 6.00 | 15.00 | 0.00 | 13.33 | 1.67 | 0.00 | 9.33 | 122.75 |
| Southeast Island | 61 | M | Thorne Bay K-12 School Underground Storage Tank Replacement | 24.00 | 9.92 | 0.00 | 10.00 | 3.04 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 0.00 | 9.33 | 0.00 | 13.67 | 0.00 | 0.00 | 9.33 | 119.29 |
| Southeast Island | 64 | M | Port Alexander & Thorne Bay K-12 Schools Roof Replacement | 15.00 | 10.16 | 0.00 | 0.00 | 3.04 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.33 | 3.33 | 2.33 | 3.00 | 3.00 | 0.00 | 20.67 | 2.00 | 13.00 | 2.00 | 0.00 | 9.00 | 114.87 |

**Alaska Department of Education and Early Development**
**FY2020 Capital Improvement Projects**
**School Construction and Major Maintenance by Districts**

**Total Points - Formula-Driven and Evaluative**
**Initial List**

| School District | Nov 5 Rank | MM/ SC | Project Name | School Dist Rank | Weight Avg Age | Prev. 14.11 Fund | Plan and Design | Avg Expend Maint | Un-Housed Today | Un-Housed 7 Years | Type of Space | Cond Survey | Maint Labor | Maint Type | Maint Mgt | Energy Mgt | Cusd Pgm | Maint Train | Capital Plan | Emer-gency | Life/Safety and Code Conditions | Exist-ing Space | Cost Esti-mate | Proj vs Oper Cost | Alter nat-ives | Options | Total Project Points |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Southwest Region | 40 | M | William "Sonny" Nelson K-12 School Renovation, Ekwok | 27.00 | 28.25 | 0.00 | 0.00 | 1.87 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.33 | 2.67 | 2.67 | 2.00 | 0.00 | 23.21 | 0.00 | 11.33 | 5.67 | 0.00 | 5.67 | 140.66 |
| Southwest Region | 50 | M | Twin Hills K-12 School Renovation | 30.00 | 30.00 | 0.00 | 0.00 | 1.87 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.33 | 2.67 | 2.67 | 2.00 | 0.00 | 5.78 | 0.00 | 11.67 | 7.33 | 0.00 | 5.00 | 129.32 |
| Southwest Region | 52 | M | Aleknagik K-12 School Renovation | 24.00 | 23.00 | 0.00 | 0.00 | 1.87 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 3.00 | 2.33 | 2.67 | 2.67 | 2.00 | 0.00 | 18.18 | 0.00 | 12.33 | 5.33 | 0.00 | 5.33 | 127.72 |
| Yukon-Koyukuk | 4 | C | Minto K-12 School Renovation/Addition | 30.00 | 20.01 | 0.00 | 20.00 | 3.09 | 0.00 | 2.01 | 24.75 | 10.00 | 15.00 | 10.00 | 3.67 | 3.00 | 3.33 | 3.67 | 3.00 | 3.67 | 27.48 | 15.33 | 16.00 | 5.00 | 3.67 | 12.67 | 235.34 |
| Yukon-Koyukuk | 24 | M | Ella B. Vernetti K-12 School Boiler Replacement, Koyukuk | 27.00 | 17.78 | 0.00 | 20.00 | 3.09 | 0.00 | 0.00 | 0.00 | 10.00 | 15.00 | 10.00 | 3.67 | 3.00 | 3.33 | 3.67 | 3.00 | 0.00 | 4.00 | 0.00 | 16.33 | 3.67 | 0.00 | 10.67 | 154.20 |
| Yupiit | 11 | C | Playground Construction, 3 Schools | 18.00 | 1.69 | 0.00 | 10.00 | 1.94 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 0.00 | 12.00 | 3.33 | 11.33 | 0.00 | 1.67 | 6.33 | 102.29 |
| Yupiit | 26 | M | Tuluksak K-12 School Fuel Tank Replacement | 27.00 | 30.00 | 0.00 | 10.00 | 1.94 | 0.00 | 0.00 | 0.00 | 8.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 6.00 | 7.67 | 0.00 | 14.00 | 2.00 | 0.00 | 7.67 | 150.27 |
| Yupiit | 46 | M | Tuluksak K-12 School Generator Refurbishment | 30.00 | 2.00 | 0.00 | 25.00 | 1.94 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 8.33 | 0.00 | 0.00 | 18.33 | 2.00 | 0.00 | 10.00 | 133.61 |
| Yupiit | 63 | M | Tuluksak K-12 School Water System Upgrade | 24.00 | 2.00 | 0.00 | 0.00 | 1.94 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 11.67 | 19.00 | 0.00 | 10.00 | 2.67 | 0.00 | 9.33 | 116.61 |
| Yupiit | 70 | M | Mechanical System Improvements, 3 Schools | 21.00 | 1.69 | 0.00 | 0.00 | 1.94 | 0.00 | 0.00 | 0.00 | 0.00 | 15.00 | 10.00 | 2.33 | 2.33 | 2.00 | 2.00 | 2.33 | 0.00 | 0.00 | 0.00 | 15.00 | 4.33 | 0.00 | 7.33 | 87.29 |

| Priority | District # | District Name | Project Location and Description | Primary Purpose | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | *Reused?* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3 | Alaska Gateway | Tanacross K-8 School Renovation | C | $ 4,196,355 | * District did not submit a 6-year plan or application. Fiscal year data left as-is from prior year. | | | | | |
| 2 | 3 | Alaska Gateway | Northway School Renovation | C | $ 4,951,000 | | | | | | |
| 3 | 3 | Alaska Gateway | Eagle School Renovation | C | | $ 3,208,000 | | | | | |
| 4 | 3 | Alaska Gateway | Tetlin School Renovation | C | | | $ 1,671,000 | | | | |
| 5 | 3 | Alaska Gateway | Dot Lake School Renovation | C | | | | $ 1,161,000 | | | |
| 6 | 3 | Alaska Gateway | Mentasta School Renovation | C | | | | | $ 570,000 | | |
| 1 | 56 | Aleutians East Borough | Sand Point K-12 School Pool Major Maintenance | C | $ 102,608 | | | | | | |
| 1 | 5 | Anchorage | Muldoon Elementary School Roof Replacement | C | $ 839,290 | | | | | | |
| 2 | 5 | Anchorage | Nunaka Valley Elementary School Roof Replacement | C | $ 2,179,698 | | | | | | |
| 3 | 5 | Anchorage | Northwood Elementary School Roof Replacement | C | $ 2,357,466 | | | | | | |
| 4 | 5 | Anchorage | West High School Roof Replacement | C | $ 7,798,857 | | | | | | |
| 5 | 5 | Anchorage | Fire Lake Elementary Roof Replacement | C | $ 574,992 | | | | | | |
| 6 | 5 | Anchorage | Inlet View Elementary School Domestic Water System | C | $ 458,959 | | | | | | |
| 7 | 5 | Anchorage | Hanshew Middle School ADA Upgrades | D | $ 200,760 | | | | | | |
| 8 | 5 | Anchorage | Grueing Middle School ADA Upgrades | C | $ 465,545 | | | | | | |
| 9 | 5 | Anchorage | Spring Hill Elementary School Intercom/Clocks | C | $ 135,655 | | | | | | |
| 10 | 5 | Anchorage | East High School Bud Driveway | C | $ 910,366 | | | | | | |
| 11 | 5 | Anchorage | Inlet View Elementary School Replacement Design | C | | $ 2,783,890 | | | | | |
| 12 | 5 | Anchorage | Orion Elementary School Rood Replacement | C | | $ 8,693,000 | | | | | |
| 13 | 5 | Anchorage | Eagle River Elementary School Roof Replacemnt | C | | $ 5,668,000 | | | | | |
| 14 | 5 | Anchorage | Government Hill Elementary School Roof Replacement | C | | $ 5,215,000 | | | | | |
| 15 | 5 | Anchorage | Bear Valley Elementary School Domestic Water Improvement | C | | $ 3,164,000 | | | | | |
| 16 | 5 | Anchorage | O'Malley Elementary School Deferred Requirements | C | | $ 1,665,000 | | | | | |
| 17 | 5 | Anchorage | Homestead Elementary School Safety Improvements | D | | $ 1,654,000 | | | | | |
| 18 | 5 | Anchorage | Chugiak High School Roof Replacement | C | | $ 19,260,000 | | | | | |
| 19 | 5 | Anchorage | Taku Elementary School Roof Restoration | C | | $ 3,661,000 | | | | | |
| 20 | 5 | Anchorage | Planning & Design for 2020 Deferred Requirements Projects | C | | $ 2,044,000 | | | | | |
| 21 | 5 | Anchorage | East High School Academic Area & Pool Safety Improvements | D | | | $ 13,377,000 | | | | |
| 22 | 5 | Anchorage | Chinook Elementary School Roof Replacement & Retoration | C | | | $ 4,688,000 | | | | |
| 23 | 5 | Anchorage | Campbell Elementary School Partial Roof Replacement | C | | | $ 2,977,000 | | | | |
| 24 | 5 | Anchorage | Alpenglow Elementary School Partial Roof Replacement | C | | | $ 5,276,000 | | | | |
| 25 | 5 | Anchorage | Spring Hill Elementary School Roof Replacement | C | | | $ 5,226,000 | | | | |
| 26 | 5 | Anchorage | Warehouse-Purchasing Roof Replacement | C | | | $ 5,490,000 | | | | |
| 27 | 5 | Anchorage | Aurora Elementary School Roof Restoration & Boiler Replacement | C | | | $ 4,666,000 | | | | |
| 28 | 5 | Anchorage | College Gate Elementary Boiler Replacement | D | | | $ 5,941,000 | | | | |
| 29 | 5 | Anchorage | Bayshore Elementary School Boiler Replacement | D | | | $ 4,666,000 | | | | |
| 30 | 5 | Anchorage | Planning & Design for 2021 Deferred Requirements Projects | C | | | $ 1,920,000 | | | | |
| 31 | 5 | Anchorage | Abbott Loop Elementary School Bond | B | | | | $ 31,436,000 | | | |
| 32 | 5 | Anchorage | Inlet View Elementary School Replacement BOND & Construction | B | | | | $ 42,656,000 | | | |
| 33 | 5 | Anchorage | Wonder Park Elementary School Renovation Design | C | | | | $ 1,726,900 | | | |
| 34 | 5 | Anchorage | Romig Middle School Renovation Design | C | | | | $ 2,674,000 | | | |
| 35 | 5 | Anchorage | Chugiak Elementary School Roof Replacement | C | | | | $ 5,525,000 | | | |
| 36 | 5 | Anchorage | Kincaid Elementary School Site Improvements | F | | | | $ 5,525,000 | | | |
| 37 | 5 | Anchorage | Birchwood Boiler Replacement | C | | | | $ 4,818,000 | | | |
| 38 | 5 | Anchorage | Maintenance Building Roof Restoration | C | | | | $ 3,159,000 | | | |
| 39 | 5 | Anchorage | Scenic Park Elementary School Roof Replacement | C | | | | $ 5,525,000 | | | |
| 40 | 5 | Anchorage | Tudor Elementary School Roof Replacement | C | | | | $ 5,525,000 | | | |
| 41 | 5 | Anchorage | Ursa Minor Elementary School  Roof Restoration | C | | | | $ 3,253,000 | | | |
| 42 | 5 | Anchorage | Kasuun Elementary School Partial Roof Replacement | C | | | | $ 1,601,000 | | | |
| 43 | 5 | Anchorage | Lake Hood Elementary School Partial Roof Replacement | C | | | | $ 1,633,000 | | | |
| 44 | 5 | Anchorage | Planning & Design for 2022 Deferred Requirements Projects | C | | | | $ 4,285,000 | | | |
| 45 | **5** | **Anchorage** | Wonder Park Elementary School Renovation BOND | C | | | | | | $ 17,269,000 | |

| Priority | District # | District Name | Project Location and Description | Primary Purpose | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | *Reused?* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 46 | 5 | Anchorage | Romig Middle School Renovation Renovation | C | | | | | | $ 30,740,000 | |
| 47 | 5 | Anchorage | Whaley School Planning & Design | C | | | | | | $ 5,381,920 | |
| 1 | 6 | Annette Island | Metlkatla HS Gym Sound System | C | $ 266,382 | | | | | | |
| 2 | 6 | Annette Island | Maintenance and Facilities Building | C | | $ 450,000 | | | | | |
| 3 | 6 | Annette Island | Metlakatla District Office Renovation | C | | | $ 250,000 | | | | |
| 4 | 6 | Annette Island | Elementary School Classroom Addition | B | | | | $ 1,500,000 | | | |
| 5 | 6 | Annette Island | Metlakatla Music Building | C | | | | | $ 300,000 | | |
| 6 | 6 | Annette Island | Metlakatla Middle School Parking Lot Expansion | F | | | | | | $ 500,000 | |
| 1 | 7 | Bering Strait | Districtwide LED Upgrades | E | | $ 750,000 | | | | | |
| 2 | 7 | Bering Strait | District Office HVAC & Controls Replacement & Upgrades | D | | | $ 125,000 | | | | |
| 3 | 7 | Bering Strait | Gambell K-12 School Commoms & Corridors Flooring Replacement | C | | | $ 180,000 | | | | |
| 4 | 7 | Bering Strait | Wales K-12 School Roof Replacement | C | | $ 470,000 | | | | | |
| 5 | 7 | Bering Strait | Unalakleet K-MS Window Replacement | C | | | $ 105,000 | | | | |
| 6 | 7 | Bering Strait | Gambell K-12 School Window Replacement | C | | | | | | $ 245,000 | |
| 7 | 7 | Bering Strait | Brevig Mission K-12 School Addition | C | | | | $ 19,000,000 | | | |
| 8 | 7 | Bering Strait | Stebbins K-12 School Addition | C | | | | | | $ 19,500,000 | |
| 1 | 8 | Bristol Bay Borough | Bristol Bay School Renovation Phase 1 | E | $ 4,000,000 | * District did not submit a 6-year plan or application. Fiscal year data left as-is from prior year. | | | | | |
| 1 | 9 | Chatham | Klukwan School Roof Replacement | C | $ 1,770,420 | | | | | | *Y* |
| 2 | 9 | Chatham | Districtwide Fire Alarm Upgrades | D | $ 116,285 | | | | | | |
| 1 | 10 | Chugach | Chenega Bay K-12 School Renovation | C | $ 6,511,595 | | | | | | |
| 2 | 10 | Chugach | Tatitlek K-12 School Renovation | C | $ 6,865,335 | | | | | | |
| 3 | 10 | Chugach | Whittier K-12 School Renovation | C | | $ 550,000 | | | | | |
| 4 | 10 | Chugach | Tatitlek K-12 School Playground Renovation | F | | | $ 225,000 | | | | |
| 1 | 11 | Copper River | District Office Roof Renovation & Energy Upgrade | C | $ 1,093,588 | | | | | | |
| 2 | 11 | Copper River | Glennallen & Kenny Lake Schools Energy Upgrade | E | $ 2,634,496 | | | | | | |
| 3 | 11 | Copper River | Glennallen Vocational Education Facility Upgrade | D | $ 759,765 | | | | | | |
| 4 | 11 | Copper River | Kenny Lake School HVAC System Replacement | C | | $ 500,000 | | | | | |
| 5 | 11 | Copper River | Glennallen School Renovation | C | | | $ 14,400,000 | | | | |
| 6 | 11 | Copper River | Kenny Lake School Renovation | C | | | | $ 9,300,000 | | | |
| 7 | 11 | Copper River | Slana School Renovation | C | | | | | $ 1,500,000 | | |
| 8 | 11 | Copper River | District Office Renovation | C | | | | | | $ 24,000,000 | |
| 1 | 13 | Craig | Craig High School Biomass Boiler | E | $ 651,631 | | | | | | |
| 2 | 13 | Craig | Districtwide Security Improvements | C | | $ 500,000 | | | | | |
| 3 | 13 | Craig | Craig High School HVAC Controls Upgrades | B | | $ 1,200,000 | | | | | |
| 4 | 13 | Craig | Craig Elementary School Boiler Replacement | C | | $ 250,000 | | | | | |
| 5 | 13 | Craig | Craig Middle School Gym Roof Replacement | C | | $ 900,000 | | | | | |
| 6 | 13 | Craig | Craig High School Flooring Replacement | C | | | $ 400,000 | | | | |
| 7 | 13 | Craig | District Bus Barn Construction | F | | | | $ 350,000 | | | |
| 4 | 14 | Delta/Greely | Delta High School Gymnasium Floor Replacement & Bleacher Upgrade | C | $ 220,000 | * District did not submit a 6-year plan or application. Fiscal year data left as-is from prior year. | | | | | |
| 5 | 14 | Delta/Greely | Delta Elementary & High School Complex Door & Restroom ADA Upgrades | B | | $ 300,000 | | | | | |
| 6 | 14 | Delta/Greely | Delta High School Complex Parking Areas Resurfacing | F | | $ 150,000 | | | | | |
| 7 | 14 | Delta/Greely | Delta Elementary Additional Classroom Expansion | F | | | | $ 4,000,000 | | | |
| 8 | 14 | Delta/Greely | Replacement of Delta Junction Senior High School Complex | D | | | | $ 32,000,000 | | | |
| 9 | 14 | Delta/Greely | Delta Elementary Well Reconstruction or Replacement | C | | | | $ 80,642 | | | |
| 1 | 2 | Denali Borough | Anderson School Roof Replacement | C | $ 1,859,979 | | | | | | |
| 2 | 2 | Denali Borough | Generator Replacement, 3 schools | E | $ 1,226,189 | | | | | | |
| 3 | 2 | Denali Borough | Districtwide Electrical Upgrades | C | | $ 200,000 | | | | | |
| 4 | 2 | Denali Borough | Tr-Valley School Septic System upgrades | C | | $ 574,321 | | | | | |
| 5 | 2 | Denali Borough | Tri-Valley School Boiler Replacement | C | | | $ 500,000 | | | | |
| 6 | 2 | Denali Borough | Cantwell School Electrical Upgrades | D | | | | $ TBD | | | |

| Priority | District # | District Name | Project Location and Description | Primary Purpose | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | *Reused?* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 2 | Denali Borough | Cantwell School Heating System Upgrade | E | | | | $ TBD | | | |
| 8 | 2 | Denali Borough | Cantwell School Restroom ADA Remodel | D | | | | $ TBD | $ - | | |
| 9 | 2 | Denali Borough | Anderson School Heating Upgrades | C | | | | | $ 2,000,000 | | |
| 10 | 2 | Denali Borough | Kitchen Renovations, 3 Schools | C | | | | | | $ TBD | |
| 11 | 2 | Denali Borough | Anderson School Egress & Acceesibility Upgrades | D | | | | | | $ TBD | |
| 12 | 2 | Denali Borough | Tri-Valley School Library & Restroom Renovation | D | | | | | | $ TBD | |
| 13 | 2 | Denali Borough | Cantwell School Renovation | C | | | | | | $ TBD | |
| 1 | 16 | Fairbanks | Barnette Magnet School - Renovation Phase IV | D | $ 11,515,426 | | | | | | |
| 2 | 16 | Fairbanks | Districtwide Security Project | C | $ 1,700,000 | | | | | | |
| 3 | 16 | Fairbanks | Administrative Center Replace Air Conditioning & Ventilation | E | $ 1,404,509 | | | | | | |
| 4 | 16 | Fairbanks | Districtwide Backflow Preventers | C | $ 837,821 | | | | | | |
| 5 | 16 | Fairbanks | Ben Eielson Jr/Sr School Roof Replacement | C | $ 4,356,672 | | | | | | |
| 6 | 16 | Fairbanks | Districtwide Emergency Electical System Upgrades | C | $ 7,040,833 | | | | | | |
| 7 | 16 | Fairbanks | Wood River Roof Replacement | C | $ 3,051,701 | | | | | | |
| 8 | 16 | Fairbanks | Lathrop Partial Roof Replacement | C | $ 558,548 | | | | | | |
| 9 | 16 | Fairbanks | Woodriver Phase III Renovation | C | $ 8,065,990 | | | | | | |
| 10 | 16 | Fairbanks | Tanana Renovation Phase 1 | C | | $ 10,891,679 | | | | | |
| 11 | 16 | Fairbanks | Arctic Ligh Elementary Lighting & Energy Efficiency Upgrades | E | | $ 2,021,928 | | | | | |
| 12 | 16 | Fairbanks | Pearl Creek Classroom Upgrades Phase 1 | E | | $ 5,302,686 | | | | | |
| 13 | 16 | Fairbanks | Weller Classroon Upgrades Phase 1 | E | | $ 4,745,337 | | | | | |
| 14 | 16 | Fairbanks | North Pole Middle School Interior/Exterior Renovation | E | | | $ 11,077,614 | | | | |
| 15 | 16 | Fairbanks | University Park Traffic Safety Improvements | C | | | $ 837,821 | | | | |
| 16 | 16 | Fairbanks | Administrative Center Site Upgrades | F | | | $ 1,675,643 | | | | |
| 17 | 16 | Fairbanks | Lathrop Kitchen Upgrades | D | | | $ 2,887,908 | | | | |
| 18 | 16 | Fairbanks | Pearl Creek Traffic Safety Upgrades | F | | | $ 1,899,062 | | | | |
| 19 | 16 | Fairbanks | Joy Classroom Flooring, Interior, and Lighting Replacement | C | | | $ 5,026,929 | | | | |
| 20 | 16 | Fairbanks | West Valley Auditorium Upgrade | F | | | $ 1,117,095 | | | | |
| 21 | 16 | Fairbanks | West Valley Gym Wing Renovation | C | | | $ 5,026,929 | | | | |
| 22 | 16 | Fairbanks | Districtwide Hallway Locker Replacement | C | | | $ 1,552,411 | | | | |
| 23 | 16 | Fairbanks | Salcha Interior Renovation | C | | | | $ 2,792,738 | | | |
| 24 | 16 | Fairbanks | North Pole High HVAC Control Upgrades | E | | | | $ 726,112 | | | |
| 25 | 16 | Fairbanks | University Park Lighting & Energy Efficiency Upgrades | E | | | | $ 1,396,369 | | | |
| 26 | 16 | Fairbanks | Administrative Center Floor Repair & Replacement | C | | | | $ 837,821 | | | |
| 27 | 16 | Fairbanks | North Pole High School Site Improvements | F | | | | $ 2,792,738 | | | |
| 28 | 16 | Fairbanks | Joy Site Improvements | F | | | | | $ 1,396,369 | | |
| 29 | 16 | Fairbanks | Crawford Flooring & Classroom Upgrades | C | | | | | $ 7,261,120 | | |
| 30 | 16 | Fairbanks | Randy Smith Security & Control System | E | | | | | $ 558,548 | | |
| 31 | 16 | Fairbanks | Howard Luke Roof & Siding Replacement | C | | | | | $ 2,178,336 | | |
| 32 | 16 | Fairbanks | Arctic Light Site Upgrades | F | | | | | $ 837,821 | | |
| 33 | 16 | Fairbanks | Administraive Center Roof Replacement | C | | | | | $ 670,257 | | |
| 34 | 16 | Fairbanks | Midnight Sun Site Upgrades & Safety Improvements | F | | | | | $ 558,548 | | |
| 35 | 16 | Fairbanks | Ticasuk Brown Classroom Upgrades | C | | | | | $ 3,909,834 | | |
| 36 | 16 | Fairbanks | University Park Renovation Phase I | C | | | | | | $ 5,250,348 | |
| 37 | 16 | Fairbanks | Midnight Sun Elementary Renovation Phase II | C | | | | | | $ 5,026,929 | |
| 38 | 16 | Fairbanks | Anderson Roof Replacement | C | | | | | | $ 1,061,241 | |
| 39 | 16 | Fairbanks | Ladd Site Impovements | F | | | | | | $ 837,821 | |
| 40 | 16 | Fairbanks | Ann Wien Flooring & Classroom Upgrades | C | | | | | | $ 7,261,120 | |
| 1 | 17 | Galena | GILA Composite Building Renovation | E | $ 6,070,698 | | | | | | |
| 2 | 17 | Galena | Sidney C. Huntington School Renovation | E | | $ 5,250,000 | | | | | |
| 3 | 17 | Galena | Sidney C. Huntington Elementary School Fire Protection Upgrade | D | | | $ 162,000 | | | | |
| 4 | 17 | Galena | Sidney C. Huntington School Floor Upgrades | C | | | | $ 255,000 | | | |
| 5 | 17 | Galena | GILA Automotive Lab Energy Upgrades | E | | | | | $ 51,000 | | |

| Priority | District # | District Name | Project Location and Description | Primary Purpose | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | *Reused?* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | 17 | Galena | GILA Costetology Building Energy Upgrade | E | | | | | | $ 41,000 | |
| 1 | 18 | Haines | Haines High School Roof Replacement | C | $ 2,654,518 | | | | | | |
| 2 | 18 | Haines | Haines High School Locker Room Renovation | D | $ 893,147 | | | | | | |
| 3 | 18 | Haines | Haines High School Track Renovation & Upgrade | F | | $ 1,000,000 | | | | | |
| 1 | 19 | Hoonah | Hoonah Central Boiler Replacement | C | $ 262,100 | | | | | | *Y* |
| 4 | 20 | Hydaburg | Hydaburg High School and Gym Roof Replacement | C | | $ 950,000 | * District not FY20 CIP eligible. Fiscal year data left as-is from prior year. | | | | |
| 1 | 21 | Iditarod Area | David-Louis Memorial School HVAC Control Upgrades, Grayling | C | $ 138,318 | | | | | | |
| 2 | 21 | Iditarod Area | David-Louis Memorial School Roof Replacement, Grayling | C | $ 1,530,387 | | | | | | *Y* |
| 3 | 21 | Iditarod Area | Blackwell School HVAC Upgrades, Anvik | C | $ 121,892 | | | | | | *Y* |
| 4 | 21 | Iditarod Area | McGrath School Backup Generator | C | | $ 700,000 | | | | | |
| 1 | 22 | Juneau | Sayéik: Gastineau Community School Partial Roof Replacement | C | $ 1,500,000 | | | | | | |
| 2 | 22 | Juneau | Dzantiki Heeni Middle School Roof Replacement | C | $ 1,750,000 | | | | | | |
| 3 | 22 | Juneau | Riverbend Elementary School Roof Replacement | C | | $ 2,000,000 | | | | | |
| 4 | 22 | Juneau | Juneau-Douglas High School Roof Repair | C | | | $ 500,000 | | | | |
| 5 | 22 | Juneau | Marie Drake School Renovation | C | | | | $ 20,000,000 | | | |
| 6 | 22 | Juneau | Mendenhall River School Renovation | C | | | | $ 20,000,000 | | | |
| 1 | 23 | Kake | Kake High Heating Updates | C | $ 238,478 | | | | | | |
| 2 | 23 | Kake | Kake High School Plumbing Replacement | C | $ 639,172 | | | | | | *Y* |
| 3 | 23 | Kake | Exterior Upgrades - Main School Facilities | C | $ 364,979 | | | | | | |
| 4 | 23 | Kake | Kake High School Gym Floor & Bleacher Replacement | C | $ 548,148 | | | | | | *Y* |
| 5 | 23 | Kake | Vocational Building Renovations | C | | $ 400,000 | | | | | |
| 6 | 23 | Kake | Covered Play Area Construction & Playground Equipment Replacement | F | | $ 800,000 | | | | | |
| 7 | 23 | Kake | Kake Middle School & Library HVAC Upgrades | C | | | $ TBD | | | | |
| 8 | 23 | Kake | Kake High School HVAC | D | | | | $ TBD | | | |
| 9 | 23 | Kake | Kake Elementary Roof Replacement | C | | | | | $ TBD | | |
| 1 | 24 | Kenai | Nanwalek Middle/High School New Construction | B | $ 25,000,000 | | | | | | |
| 2 | 24 | Kenai | Districtwide Building Security Upgrades & Office Remodel | A | $ 6,500,000 | | | | | | |
| 3 | 24 | Kenai | Homer High School Attic Ventilation & Gutters | C | $ 5,620,000 | | | | | | |
| 4 | 24 | Kenai | Redoubt Elementary Roof Insulation Upgrade | C/E | $ 1,250,000 | | | | | | |
| 5 | 24 | Kenai | West Homer Elementary North Wall Sealing | C | $ 450,000 | | | | | | |
| 6 | 24 | Kenai | Paul Banks Elementary Window Replacement | C/E | | $ 500,000 | | | | | |
| 7 | 24 | Kenai | Tustumena Elementary Window & Siding Replacement | C/E | | $ 550,000 | | | | | |
| 8 | 24 | Kenai | Sterling Elementary Window Replacement | C/E | | $ 500,000 | | | | | |
| 9 | 24 | Kenai | Paul Banks Elementary Parking & Traffic Upgrade | F | | $ 850,000 | | | | | |
| 10 | 24 | Kenai | Soldotna Elementary Parking & Traffic Upgrade | F | | | $ 750,000 | | | | |
| 11 | 24 | Kenai | Susan B English Backup Generator | C | | | $ 40,000 | | | | |
| 12 | 24 | Kenai | Chapman Elementary Window Replacement | C/E | | | $ 250,000 | | | | |
| 13 | 24 | Kenai | Homer High School Heating Controls Upgrade | C/E | | | $ 700,000 | | | | |
| 14 | 24 | Kenai | Redoubt Elementary Replace Gym Floor (Abate Vinyl Asbestos Tile) | A | | | | $ 150,000 | | | |
| 15 | 24 | Kenai | Seward High Field Turf & Track | F | | | | $ 3,000,000 | | | |
| 16 | 24 | Kenai | Homer Middle School Drainage & Traffic Upgrade | F | | | | | $ 750,000 | | |
| 17 | 24 | Kenai | Homer Flex Parking Reconfiguration | F | | | | | $ 150,000 | | |
| 18 | 24 | Kenai | Kaliedoscope - Replace Gym Floor (Abate Vinyl Asbestos Tile) | A | | | | | $ 150,000 | | |
| 19 | 24 | Kenai | Districtwide Re-roof Phase III - Metal Roofing Systems | C | | | | | | $ 16,450,000 | |
| 20 | 24 | Kenai | Homer High School Parking Lot Renovation and ADA Entrance Upgrade | F | | | | | | $ 850,000 | |
| 21 | 24 | Kenai | Mt. View Elementary Parking and Traffice upgrade | F | | | | | | $ 800,000 | |
| 22 | 24 | Kenai | Ninilchik Track Upgrade | F | | | | | | $ 950,000 | |
| 23 | 24 | Kenai | School District Warehouse Backup Generator | C | | | | | | $ 85,000 | |
| 1 | 25 | Ketchikan | Ketchikan High School Security Upgrades | C | $ 498,793 | | | | | | |
| 2 | 25 | Ketchikan | Pt. Higgins Elementary Mechanical Upgrades | C | | $ 1,950,566 | | | | | |

| Priority | District # | District Name | Project Location and Description | Primary Purpose | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | *Reused?* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 25 | Ketchikan | Pt. Higgins Elementary Pitched Roof Replacement | E | | $ 4,086,729 | | | | | |
| 4 | 25 | Ketchikan | Ketchikan High School Biomass Boiler | E | | | $ 2,083,615 | | | | |
| 1 | 28 | Kodiak | Peterson Elementary Roof Replacement | C | $ 2,887,554 | | | | | | |
| 2 | 28 | Kodiak | Kodiak Middle School Special Electrical & Security | D | | $ 1,434,987 | | | | | |
| 3 | 28 | Kodiak | East Elementary Special Electrical & Security | D | | $ 851,342 | | | | | |
| 4 | 28 | Kodiak | East Elementary Parking Lot Safety Upgrade | F | | | $ 936,332 | | | | |
| 5 | 28 | Kodiak | Main Elementary Special Electrical & Security | D | | | $ 785,211 | | | | |
| 6 | 28 | Kodiak | Main Elementary Paint & Siding Repairs | C | | | $ 279,930 | | | | |
| 7 | 28 | Kodiak | East Elementary Paint & Siding Repairs | C | | | | $ 144,493 | | | |
| 8 | 28 | Kodiak | North Star Elementary Special Electrical & Security | D | | | | $ 673,888 | | | |
| 9 | 28 | Kodiak | North Star Elementary Siding Replacement | C | | | | $ 507,560 | | | |
| 10 | 28 | Kodiak | Chiniak School Water Treatment Code Compliance | D | | | | $ 263,555 | | | |
| 11 | 28 | Kodiak | Chiniak School Flooring Replacement | C | | | | $ 76,511 | | | |
| 12 | 28 | Kodiak | Port Lions School Flooring Replacement | C | | | | $ 230,494 | | | |
| 13 | 28 | Kodiak | North Star Elementary Fire Panel Replacement | C | | | | | $ 242,841 | | |
| 14 | 28 | Kodiak | North Star Elementary HVAC Controls | E | | | | | $ 984,092 | | |
| 15 | 28 | Kodiak | Kodiak Middle School Paint & Siding Repairs | C | | | | | $ 164,433 | | |
| 16 | 28 | Kodiak | Peterson Elementary Paint & Siding Repairs | C | | | | | $ 228,885 | | |
| 17 | 28 | Kodiak | Chiniak School HVAC Controls | E | | | | | $ 219,954 | | |
| 18 | 28 | Kodiak | Main Elementary HVAC Controls | E | | | | | | $ 964,725 | |
| 19 | 28 | Kodiak | Akhiok School HVAC Controls | E | | | | | | $ 243,436 | |
| 20 | 28 | Kodiak | Port Lions School HVAC Controls | E | | | | | | $ 625,070 | |
| 1 | 29 | Kuspuk | Jack Egnaty Sr. K-12 School Roof Replacement, Sleetmute | C | $ 1,398,632 | | | | | | |
| 1 | 31 | Lower Kuskokwim | Eek School Renovation-Addition | B | $ 37,186,905 | | | | | | |
| 2 | 31 | Lower Kuskokwim | Anna Tobeluk Memorial School Renovation/Addition, Nunapitchuk | B | $ 53,661,875 | | | | | | *y* |
| 3 | 31 | Lower Kuskokwim | Water Storage & Treatment, Kongiganak | A | $ 7,078,959 | | | | | | |
| 4 | 31 | Lower Kuskokwim | Merkarvik K-12 School Newtok Replacement | B | $ 39,705,503 | | | | | | *Y* |
| 5 | 31 | Lower Kuskokwim | William N. Miller K-12 Memorial School Replacement, Napakiak | B | $ 36,028,901 | | | | | | |
| 6 | 31 | Lower Kuskokwim | Akula Elitnauvik K-12 School Renovation/Addition, Kasigluk-Akula | B | $ 3,889,212 | | | | | | *Y* |
| 7 | 31 | Lower Kuskokwim | Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk | C | $ 3,449,411 | | | | | | *Y* |
| 8 | 31 | Lower Kuskokwim | Bethel Regional High School Boardwalk Replacement | D | $ 2,109,053 | | | | | | |
| 9 | 31 | Lower Kuskokwim | Bethel Campus Transportation & Drainage Upgrades | F | $ 1,224,098 | | | | | | |
| 10 | 31 | Lower Kuskokwim | Arviq School Improvement, Platinum | D | | $ TBD | | | | | |
| 11 | 31 | Lower Kuskokwim | Fuel Tank Disposition, Districtwide | D | | $ 2,031,078 | | | | | |
| 12 | 31 | Lower Kuskokwim | Fuel Tank Remediation, Bethel | D | | $ 215,152 | | | | | |
| 13 | 31 | Lower Kuskokwim | Qugcuun Memorial School Renovation Addition, Oscarville | B | | $ 16,100,000 | | | | | |
| 14 | 31 | Lower Kuskokwim | Fuel Tank Upgrades, Districtwide | D | | | $ 7,250,000 | | | | |
| 15 | 31 | Lower Kuskokwim | Nelson Island School Deferred Maintenance, Toksook Bay | C | | | | $ 40,300,000 | | | |
| 16 | 31 | Lower Kuskokwim | Roof Repairs, Districtwide | C | | | | $ 27,800,000 | | | |
| 17 | 31 | Lower Kuskokwim | Wastewater Upgrades, Districtwide | D | | | | | $ 14,200,000 | | |
| 18 | 31 | Lower Kuskokwim | Water Treatment & Storage Upgrades, Districtwide | D | | | | | $ 8,400,000 | | |
| 19 | 31 | Lower Kuskokwim | Fire Alarm & Sprinklers, Districtwide | D | | | | | | $ TBD | |
| 1 | 32 | Lower Yukon | Sheldon Point K-12 School Foundation Cooling & Repairs, Numam Iqua | C | $ 1,046,866 | | | | | | |
| 2 | 32 | Lower Yukon | Hooper Bay K-12 School Emergency Lighting & Retrofit | D | $ 232,730 | | | | | | *Y* |
| 3 | 32 | Lower Yukon | Hooper Bay K-12 Exterior Repairs | C | $ 2,721,980 | | | | | | |
| 4 | 32 | Lower Yukon | Scammon Bay K-12 School Emergency Lighting Retrofit | D | $ 119,467 | | | | | | *Y* |
| 5 | 32 | Lower Yukon | Ignatius Beans K-12 School Marine Header Pipeline | D | $ 1,542,993 | | | | | | *Y* |
| 6 | 32 | Lower Yukon | Scammon Bay K-12 School Siding Replacement | C | $ 1,179,053 | | | | | | |
| 7 | 32 | Lower Yukon | LYSD Central Office Renovation | C | $ 5,257,426 | | | | | | *Y* |
| 8 | 32 | Lower Yukon | Sheldon Point K-12 School Exterior Repairs, Nunam Iqua | C | $ 1,792,563 | | | | | | |
| 9 | 32 | Lower Yukon | Security Access Project, 6 Sites | C | $ 1,532,578 | | | | | | *Y* |
| 10 | 32 | Lower Yukon | Kotlik and Pilot Station K-12 Schools Renewal and Repair | C | $ 3,444,256 | | | | | | |

| Priority | District # | District Name | Project Location and Description | Primary Purpose | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | *Reused?* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 33 | Mat-Su | Water System Replacement, 3 Schools (Big Lake, Butte & Snowshoe Elementary Schools) | D | $ 2,833,136 | | | | | | *Y* |
| 2 | 33 | Mat-Su | Districtwide Seismic Upgrades, Phase 1 | C | $ 7,326,904 | | | | | | *Y* |
| 3 | 33 | Mat-Su | Districtwide Energy Upgrades, Windows, Phase 2 | C | $ 4,231,918 | | | | | | |
| 4 | 33 | Mat-Su | Districtwide Elevator Upgrades | D | $ 3,295,065 | | | | | | |
| 5 | 33 | Mat-Su | Roofing Replacements, 3 Schools (Talkeetna, Colony Middle, and Wasilla Middle | D | $ 5,610,011 | | | | | | |
| 6 | 33 | Mat-Su | Palmer High School Mechanical Upgrade, Phase 3 | D | | $ 3,652,000 | | | | | |
| 7 | 33 | Mat-Su | Box School Renovations , 4 Schools (Butte, Cottonwood Creek, Pioneer Peak, Snowshoe Elementarys) | D | | $ 23,434,134 | | | | | |
| 8 | 33 | Mat-Su | Palmer Junior Middle School Renovation | C | | | $ 19,866,000 | | | | |
| 9 | 33 | Mat-Su | Districtwide HVAC Control Upgrades Phase 2, 7 Schools | D | | | $ 9,162,366 | | | | |
| 10 | 33 | Mat-Su | Districtwide Emergency Generator Replacements Phase 2 (7 schools) | D | | | | $ 6,760,486 | | | |
| 11 | 33 | Mat-Su | Districtwide Indoor/Outdoor Bleacher Replacement | D | | | | $ 6,356,000 | | | |
| 12 | 33 | Mat-Su | Exterior Envelope Upgrades, 4 schools | D | | | | | $ 11,116,192 | | |
| 13 | 33 | Mat-Su | New Wasilla Area Elementary School | B | | | | | $ 28,862,000 | | |
| 1 | 34 | Nenana | Nenana K-12 School Flooring & Asbestos Abatement | D | $ 422,271 | | | | | | |
| 2 | 34 | Nenana | Nenana K-12 School Boiler Replacement | E | $ 162,027 | | | | | | |
| 3 | 34 | Nenana | Nenana K-12 School Fire Suppression System Replacement | D | $ 1,382,689 | | | | | | *Y* |
| 4 | 34 | Nenana | Nenana K-12 School Major Maintenance [Phase I] | D | | $ 1,600,000 | | | | | |
| 5 | 34 | Nenana | Nenana K-12 School Roof Repair/Replacement | C | | | $ 1,365,000 | | | | |
| 6 | 34 | Nenana | Nenana K-12 School Major Maintenance [Phase II] | E | | | | $ 577,500 | | | |
| 7 | 34 | Nenana | Nenana K-12 School Major Maintenance [Phase III] | A | | | | | $ 650,000 | | |
| 8 | 34 | Nenana | Nenana K-12 School ADA Access & Site Improvements | F | | | | | | $ 1,312,500 | |
| 9 | 34 | Nenana | Nenana K-12 School Career Vocational Education Classroom Remodel & | D | | | | | | $ 1,075,000 | |
| 5 | 35 | Nome | Nome Elementary School Exterior Envelope Replacement | C | $ 6,000,000 | * District did not submit a 6-year plan or application. Fiscal year data left as-is from prior year. | | | | | |
| 6 | 35 | Nome | Building A Primary Electrical Service | D | $ 250,000 | | | | | | |
| 7 | 35 | Nome | Nome Beltz Jr/Sr High School Exterior/Interior Renovations | C | $ 500,000 | | | | | | |
| 8 | 35 | Nome | Beltz High School HVAC Control Systems | C | | $ 200,000 | | | | | |
| 9 | 35 | Nome | Districtwide Exterior Lighting Upgrades | C | | | $ 40,000 | | | | |
| 10 | 35 | Nome | Nome Beltz Jr/Sr High School Boiler Replacement & Mechanical Upgrades | C | | | $ TBD | | | | |
| 11 | 35 | Nome | Maintenance Building Siding & Roof Replacement | C | | | $ 225,000 | | | | |
| 12 | 35 | Nome | Quonset Hut Siding Replacement | C | | | | $ 120,000 | | | |
| 13 | 35 | Nome | Building D Mechanical Update & Control Automation for Air Handlers | C | | | | $ TBD | | | |
| 14 | 35 | Nome | Districtwide Carpet Replacement | C | | | | | $ 375,000 | | |
| 1 | 36 | North Slope Borough | Barrow High School Life Safety Renovations | C | $ 14,800,000 | $ 9,800,000 | | | | | |
| 2 | 36 | North Slope Borough | Districtwide Renovations and Systems Upgrades | C | $ 8,295,000 | | | | | | |
| 3 | 36 | North Slope Borough | Districtwide Renovations and Systems Upgrades | C | | $ 8,295,000 | | | | | |
| 4 | 36 | North Slope Borough | Districtwide Renovations and Systems Upgrades | C | | | $ 8,295,000 | | | | |
| 5 | 36 | North Slope Borough | Districtwide Renovations and Systems Upgrades | C | | | | $ 8,295,000 | | | |
| 3 | 37 | Northwest Arctic | Buckland K-12 Heating System Improvement | C | $ 1,300,000 | * District did not submit a 6-year plan or application. Fiscal year data left as-is from prior year. | | | | | |
| 4 | 37 | Northwest Arctic | Davis Ramoth K-12 School Heating System Upgrade, Selawik | A | | $ 446,250 | | | | | |
| 3 | 38 | Pelican | Pelican High School Plumbing Upgrade | C | $ 150,000 | * District did not submit a 6-year plan or application. Fiscal year data left as-is from prior year. | | | | | |
| 4 | 38 | Pelican | Pelican High School Lighting and Electrical Upgrades | C | | $ 350,000 | | | | | |
| 5 | 38 | Pelican | Pelican High School Roof Replacement | C | | | $ 600,000 | | | | |
| 1 | 39 | Petersburg | Petersburg Middle/High School Digital HVAC Controls | E | $ 150,000 | * District did not submit a 6-year plan or application. Fiscal year data left as-is from prior year. | | | | | |
| 2 | 39 | Petersburg | Petersburg Middle/High School Electrical Upgrades | C | | $ 1,000,000 | | | | | |
| 3 | 39 | Petersburg | Petersburg Stedman Elementary Plumbing System Replacement | C | | | $ 750,000 | | | | |
| 4 | 39 | Petersburg | Repair Auditorium Failing Floor System | C | | | | $ 150,000 | | | |

| Priority | District # | District Name | Project Location and Description | Primary Purpose | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | *Reused?* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 39 | Petersburg | Districtwide ADA Renovations | D | | | | | $ 1,000,000 | | |
| 1 | 42 | Sitka | Keet Gooshi Heen Covered PE Structure Renovation | C | $ 521,386 | | | | | | |
| 2 | 42 | Sitka | Keet Gooshi Heen Playground Equipment Refurbishment | C | | $ 180,000 | | | | | |
| 3 | 42 | Sitka | Baranof School Playground Equipment Refurbishment | C | | $ 180,000 | | | | | |
| 4 | 42 | Sitka | Keet Gooshi Heen Electrical Boiler Installation | E | | | $ 350,000 | | | | |
| 5 | 42 | Sitka | Baranof School Electrical Boiler Installation | C | | | $ 350,000 | | | | |
| 6 | 42 | Sitka | Districtwide Interior/Exterior LED Lighting Upgrade | E | | | $ 400,000 | | | | |
| 7 | 42 | Sitka | Sitka High School Parking Area Paving | F | | | | $ 275,000 | | | |
| 8 | 42 | Sitka | Keet Gooshi Heen Parking/Play Area Paving | F | | | | $ 300,000 | | | |
| 9 | 42 | Sitka | Blatchley School Parking Area Paving | F | | | | | $ 200,000 | | |
| 10 | 42 | Sitka | Baranof School Parking/Play Area Paving | F | | | | | | $ 275,000 | |
| 1 | 44 | Southeast Island | Thorne Bay K-12 Fire Suppression System | C | $ 480,867 | | | | | | |
| 2 | 44 | Southeast Island | Hollis K-12 School Replacement | B | $ 10,634,956 | | | | | | *Y* |
| 3 | 44 | Southeast Island | Thorne Bay K-12 Underground Storage Tank Replacement | C | $ 335,085 | | | | | | |
| 4 | 44 | Southeast Island | Thorne Bay K-12 Mechanical Control Upgrades | C | $ 1,408,445 | | | | | | *Y* |
| 5 | 44 | Southeast Island | Thorne Bay K-12 School Flooring Replacement | C | $ 69,579 | | | | | | *Y* |
| 6 | 44 | Southeast Island | Roof Replacement, 2 Schools (Thorne Bay, Port Alexander) | C | $ 4,906,853 | | | | | | *Y* |
| 7 | 44 | Southeast Island | Port Alexander K-12 Domestic Water Pipe Replacement | D | $ 85,289 | | | | | | *Y* |
| 1 | 45 | Southwest Region | Twin Hills K-8 School Renovations | C | $ 4,493,140 | | | | | | |
| 2 | 45 | Southwest Region | Ekwok K-8 School Renovations | C | $ 5,924,269 | | | | | | |
| 3 | 45 | Southwest Region | Aleknagik K-8 School Renovations | C | $ 4,998,978 | | | | | | |
| 4 | 45 | Southwest Region | Manokotak School Interior Floor Finishes & Ceiling Replacement | C | | | | $ 1,451,727 | | | |
| 5 | 45 | Southwest Region | Togiak School Interior Floor Finishes | C | | | | | $ 1,533,070 | | |
| 6 | 45 | Southwest Region | Togiak K-12 HVAC Controls Upgrade | E | | | | | | $ 570,018 | |
| 7 | 48 | Valdez | Districtwide Electrical Wiring and Technology Upgrades | D | $ 250,000 | * District did not submit a 6-year plan or application. Fiscal year data left as-is from prior year. | | | | | |
| 8 | 48 | Valdez | Hermon Hutchens Elementary Exterior Upgrades/ Building Envelope and Windows | C | | $ 2,000,000 | | | | | |
| 9 | 48 | Valdez | Hermon Hutchens Elementary UST Replacment | D | | $ 2,000,000 | | | | | |
| 10 | 48 | Valdez | Valdez High School Carpet Replacement | C | | $ 58,984 | | | | | |
| 11 | 48 | Valdez | Valdez High School Gym Floor Replacement | C | | | $ 750,000 | | | | |
| 12 | 48 | Valdez | Valdez High School Exterior Lighting Upgrades | C | | | $ 500,000 | | | | |
| 13 | 48 | Valdez | Districtwide Waterline Replacement | C | | | $ 1,900,000 | | | | |
| 14 | 48 | Valdez | Exterior Door and Card Reader Locks at Valdez High School and Hermon Hutchens Elementary School | C | | | | $ 500,000 | | | |
| 15 | 48 | Valdez | Districtwide Storm Drainage Upgrades | C | | | | $ 300,000 | | | |
| 16 | 48 | Valdez | Valdez High School Locker Room Upgrades | C | | | | $ 500,000 | | | |
| 18 | 48 | Valdez | Valdez High School Science Lab Renovation | C | | | | $ 100,000 | | | |
| 19 | 48 | Valdez | Valdez High School Culinary Arts Room Remodel | C | | | | $ 350,000 | | | |
| 7 | 51 | Yukon Flats | Beaver Major Maintenance | C | $ TBD | * District did not submit a 6-year plan or application. Fiscal year data left as-is from prior year. | | | | | |
| 8 | 51 | Yukon Flats | Venetie Major Maintenance | C | $ TBD | | | | | | |
| 9 | 51 | Yukon Flats | Fort Yukon Major Maintenance | C | | $ TBD | | | | | |
| 1 | 52 | Yukon-Koyukuk | Minto K-12 School Renovation | A | $ 10,354,940 | | | | | | |
| 2 | 52 | Yukon-Koyukuk | Koyukuk K-12 School Boiler replacement | C | $ 461,306 | | | | | | |
| 3 | 52 | Yukon-Koyukuk | Gladys Dart Manley Renovation and Upgrade | C | | $ 6,000,000 | | | | | |
| 4 | 52 | Yukon-Koyukuk | District Office Exterior Upgrade | C | | $ 600,000 | | | | | |
| 5 | 52 | Yukon-Koyukuk | Minto K-12 School Soil Remediation | D | | | $ 350,000 | | | | |
| 6 | 52 | Yukon-Koyukuk | Hughes Renovation and Upgrade | D | | | $ 6,500,000 | | | | |
| 7 | 52 | Yukon-Koyukuk | Kaltag Kitchen Upgrade | D | | | | $ 120,000 | | | |
| 1 | 54 | Yupiit | Tuluksak K-12 School gnerator Refurbishment | C | $ 129,949 | | | | | | |
| 2 | 54 | Yupiit | Tuluksak K-12 Fuel Tank Replacement | D | $ 4,851,857 | | | | | | |
| 3 | 54 | Yupiit | Tuluksak K-12 School Water System Upgrades | D | $ 1,122,591 | | | | | | |
| 4 | 54 | Yupiit | Mechanical System Improvements, 3 Schools | C | $ 215,550 | | | | | | |

| Priority | District # | District Name | Project Location and Description | Primary Purpose | FY20 | FY21 | FY22 | FY23 | FY24 | FY25 | *Reused?* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 54 | Yupiit | Districtwide Playground Construction | F | $ 1,640,239 | | | | | | |
| 6 | 54 | Yupiit | Kitchen Upgrades, 3 Schools | C | | $ 1,500,000 | | | | | |
| 7 | 54 | Yupiit | Gym Flooring Replacement, 3 Schools | C | | $ 850,000 | | | | | |
| | | | | Totals: | $ 464,793,661 | $ 189,088,063 | $ 168,324,866 | $ 334,836,534 | $ 91,018,300 | $ 141,315,128 | *$ 133,092,161* |
| | | | | | | | **Total Six-Year Plan Estimate:** | **$** | **1,389,376,552** | | |

# CIP Grant Requests and Funding History FY10 to FY20

## CIP Grant Requests

| | FY2010 | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Applications | 185 | 175 | 158 | 158 | 137 | 121 | 126 | 127 | 131 | 105 | 86 |
| Percent of Districts Applying | 73% | 73% | 72% | 64% | 66% | 64% | 66% | 68% | 70% | 58% | 51% |
| # Projects Reusing Scores | 24 | 35 | 45 | 20 | 52 | 23 | 57 | 27 | 67 | 39 | 24 |
| Major Maintenance | 138 | 130 | 117 | 120 | 111 | 102 | 102 | 98 | 107 | 84 | 72 |
| MM Total $ (*) | $269,627,387 | $272,421,065 | $275,132,938 | $267,017,375 | $253,682,082 | $183,505,181 | $172,195,526 | $181,570,096 | $164,887,094 | $142,892,281 | $114,437,031 |
| School Construction | 32 | 35 | 32 | 27 | 24 | 17 | 18 | 18 | 15 | 11 | 11 |
| SC Total $ (*) | $453,149,071 | $411,643,149 | $313,999,772 | $276,691,304 | $284,133,432 | $274,150,436 | $230,920,120 | $206,267,345 | $123,294,419 | $179,214,343 | $190,238,739 |

*Notes:*

*(*) Total $ is State Share*

## School Construction and Major Maintenance Funding

| | FY2010 | FY2011 | FY2012 | FY2013 | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | FY2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Grant Projects Funded | $42,443,481 | $155,901,830 | $87,765,592 | $78,952,700 | $94,171,539 | $43,279,791 | $56,728,592 | $74,715,471 (1) | $53,177,429 (1) | $82,665,391 (1) | |
| Percent Grant $ Funded | 5.9% | 22.8% | 14.9% | 14.5% | 17.5% | 9.5% | 14.1% | 8.6% | 17.3% | 15.5% | |
| Debt Projects | $29,805,834 (2) | $90,251,551 (3) | $409,400,183 (3) | $78,525,000 (3) | $138,622,000 (3) | $13,353,394 (3) | $0 | $0 | $0 | $0 | |

*Notes:*

*Grant Projects Funded includes all reappropriated or reallocated funding, including grant funding from prior fiscal years.*

*(1) Includes AS 14.11.025 grants*

*(2) HB13,HB373 debt projects DEED & voter approved*

*(3) SB237 debt projects DEED & voter approved, effective 7/1/2010 - 12/31/2014*

As of Date: 10/31/2018
Run Date: 10/31/2018

**Department of Education & Early Development**
**Division of Finance Support Services**
**REAA Fund**

**As of:**
**Thursday, November 29, 2018**

| **Deposits:** | **FY2013** | **FY2014** | **FY2015** | **FY2016** | **FY2017** | **FY2018** | **FY2019** | ***Projected FY2020*** | **Total** |
|---|---|---|---|---|---|---|---|---|---|
| REAA Fund Capitalization | 35,512,300 | 35,200,000 | 39,921,078 | 38,789,000 | 31,230,000 | 40,640,000 | 39,661,000 | *38,869,000* | 299,822,378 |
| Interest Earned (Actual as of 7/7/17) | 118,206 | 368,142 | 383,180 | - | - | - | - | - | 869,528 |
| Subtotal Deposits | 35,630,506 | 35,568,142 | 40,304,258 | 38,789,000 | 31,230,000 | 40,640,000 | 39,661,000 | *38,869,000* | 300,691,906 |
| **REAA-funded Capital Project Funded Projects:** | **FY2013** | **FY2014** | **FY2015** | **FY2016** | **FY2017** | **FY2018** | **FY2019** | ***Projected FY2020*** | **Total** |
| Nightmute School Renovation/Addition | - | 32,965,301 | | | | | | | 32,965,301 |
| Kuinerramiut Elitnaurviate K-12 Renovation/Addition, Quinhagak | - | 13,207,081 | | | | | | | 13,207,081 |
| Kwethluk K-12 Replacement School | - | 25,008,100 | 31,516,900 | | | | | | 56,525,000 |
| St. Mary's Andreafski High School Gym Construction | - | - | 8,958,100 | | | | | | 8,958,100 |
| Bethel Regional High School Multipurpose Addition | - | - | - | - | 7,129,765 | | | | 7,129,765 |
| Lewis Angapak K-12 School Renovation/Addition, Tuntutuliak | - | - | - | - | 40,343,416 | 704,620 | | | 41,048,036 |
| Jimmy Huntington K-12 Renovation/Addition, Huslia | - | - | - | - | 15,394,787 | 980,000 | | | 16,374,787 |
| Shishmaref K-12 School Renovation/Addition | - | - | - | - | - | 16,184,008 | 490,000 | | 16,674,008 |
| J Alexie Memorial K-12 School Replacement, Atmautluak | - | - | - | - | - | 3,261,667 | 39,556,086 | | 42,817,753 |
| Auntie Mary Nicoli Elementary School Replacement, Aniak | - | - | - | - | - | 18,641,380 | | | 18,641,380 |
| Eek K-12 School Renovation/Addition | - | - | - | - | - | - | 2,481,373 | *34,450,733* | 36,932,106 |
| St. Mary's Campus Upgrades Ph2 | - | - | - | - | - | - | 3,449,928 | | 3,449,928 |
| *Hollis K-12 School Replacement* | - | - | - | - | - | - | - | *752,655* | 752,655 |
| Subtotal REAA-funded Projects | - | 71,180,482 | 40,475,000 | - | 62,867,968 | 39,771,675 | 45,977,387 | *35,203,388* | *295,475,900* |
| **Reconciliation of Available Funds:** | **35,630,506** | **18,166** | **(152,576)** | **38,636,424** | **6,998,456** | **7,866,781** | **1,550,394** | ***5,216,006*** | ***5,216,006*** |

# PM State-of-the-State

## Report of DEED Maintenance Assessments and Related Data

AS OF 8/15/2018

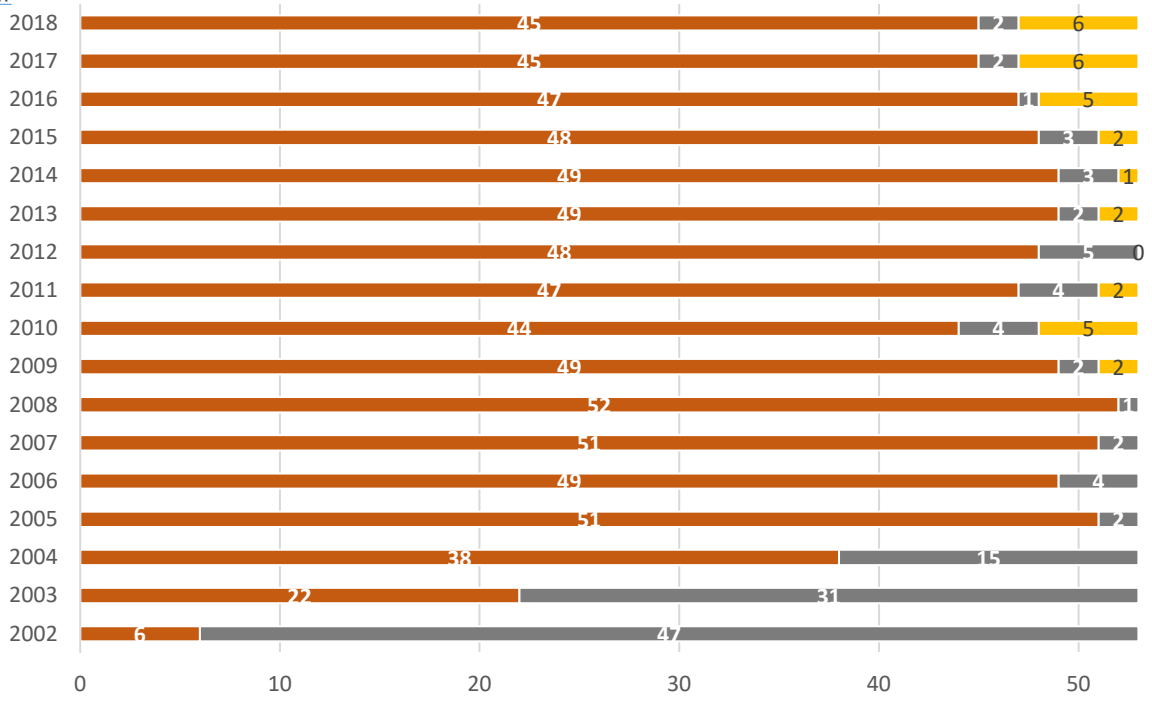
| District | Date of Last Visit | Year of Next Visit | Approved FAIS | Maintenance Management | Energy | Custodial | Training | R&R Schedule | Status | Maint. Program | Program Name | CIP Eligible |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alaska Gateway | 3/30/2017 | 2022 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Aleutian Region | 7/19/2011 | 2016 | Y | N | Y | Y | Y | Y | 4 of 5 | W | School Dude | No |
| Aleutians East | 12/17/2014 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Anchorage | 1/23/2018 | 2023 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Annette Island | 12/3/2015 | 2021 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Bering Strait | 3/19/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Bristol Bay Borough | 4/14/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Chatham | 3/6/2017 | 2022 | Y | Y | Y [P] | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Chugach | 1/26/2018 | 2023 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Copper River | 3/31/2017 | 2022 | Y | Y | Y [P] | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Cordova | 1/13/2015 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Craig City | 11/14/2016 | 2022 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Delta/Greely | 3/28/2017 | 2022 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Denali Borough | 3/24/2015 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Dillingham City | 2/2/2016 | 2021 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Fairbanks | 3/27/2018 | 2023 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Web Help Desk | Yes |
| Galena | 3/22/2018 | 2023 | Y | Y | Y [P] | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Haines | 11/17/2015 | 2021 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Hoonah City | 4/17/2017 | 2022 | Y | Y | Y [P] | Y | Y | Y | 4 of 5 | W | Maximo* | Yes |
| Hydaburg City | 11/16/2016 | 2022 | Y | N | Y | Y | N | Y | 3 of 5 | W | MPulse | No |
| Iditarod Area | 3/14/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Juneau | 11/3/2015 | 2021 | Y | Y | Y | Y | Y | Y | 5 of 5 | L | TMA | Yes |
| Kake City | 2/4/2015 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Kashunamiut | 11/13/2014 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Kenai Peninsula | 3/1/2018 | 2023 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Ketchikan | 12/2/2015 | 2021 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Klawock City | 12/19/2016 | 2022 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Kodiak Island | 10/29/2014 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Kuspuk | 2/24/2015 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Lake & Peninsula | 4/16/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Manager Plus | Yes |
| Lower Kuskokwim | 1/21/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Manager Plus | Yes |
| Lower Yukon | 1/23/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Mat-Su Borough | 2/3/2017 | 2022 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Nenana City | 3/26/2015 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Nome City | 4/28/2017 | 2022 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| North Slope Borough | 5/21/2018 | 2023 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Northwest Arctic | 2/23/2016 | 2021 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Pelican City | 4/9/2018 | 2023 | Y | Y | Y [P] | Y | Y [P] | Y | 5 of 5 | W | School Dude | Yes |
| Petersburg City | 1/7/2016 | 2021 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Pribilof Island | 4/23/2015 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Sitka City Borough | 4/24/2017 | 2022 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Skagway City | 5/5/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | L | MC | Yes |
| Southeast Island | 11/18/2016 | 2022 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | MPulse | Yes |
| Southwest Region | 2/4/2016 | 2021 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| St Mary's | 1/27/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Tanana City | 3/23/2018 | 2023 | Y | Y | Y [P] | Y | Y [P] | Y | 5 of 5 | W | Maximo* | Yes |
| Unalaska City | 12/18/2014 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Valdez City | 4/18/2018 | 2023 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | School Dude | Yes |
| Wrangell City | 1/8/2016 | 2021 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Yakutat City | 1/14/2015 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Yukon Flats | 3/11/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Yukon-Koyukuk | 3/7/2014 | 2019 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| Yupiit | 4/7/2015 | 2020 | Y | Y | Y | Y | Y | Y | 5 of 5 | W | Maximo* | Yes |
| **In Compliance** | | | 53 | 51 | 53 | 53 | 52 | 53 | 50 | | | 51 |

***Legend***

N = Not in compliance
Y = In full compliance
Y [P] = Provisional compliance
FAIS = Fixed Asset Inventory System
W= Web-based Computerized Maintenance Management System
L = Local Area Network (LAN) Computerized Maintenance Management System
* = Use Maximo through SERRC Service Contract
**Bold** - Site visit pending

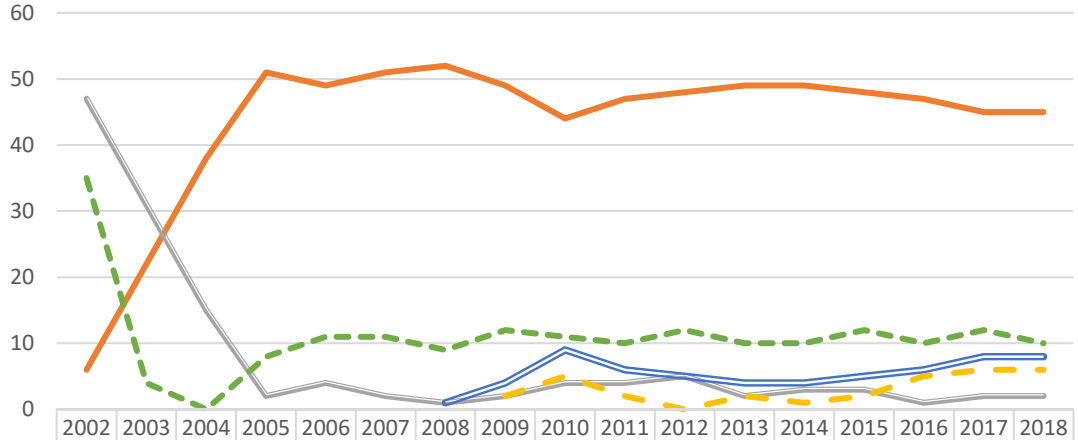
"Year of Next Visit" dates are subject to change at the department's discretion. School Districts will be notified in a timely manner if scheduled visit dates listed on this report are altered.

# MAINTENANCE & FACILITY MANAGMENT
# HISTORY OF DISTRICT COMPLIANCE




| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug Full Compliant | 6 | 22 | 38 | 51 | 49 | 51 | 52 | 49 | 44 | 47 | 48 | 49 | 49 | 48 | 47 | 45 | 45 |
| Aug Non-Compliant | 47 | 31 | 15 | 2 | 4 | 2 | 1 | 2 | 4 | 4 | 5 | 2 | 3 | 3 | 1 | 2 | 2 |
| Provisional | | | | | | | | 2 | 5 | 2 | 0 | 2 | 1 | 2 | 5 | 6 | 6 |

# Maintenance & Facility Management
# History of District Compliance




| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug Full Compliant | 6 | 22 | 38 | 51 | 49 | 51 | 52 | 49 | 44 | 47 | 48 | 49 | 49 | 48 | 47 | 45 | 45 |
| Aug Non-Compliant | 47 | 31 | 15 | 2 | 4 | 2 | 1 | 2 | 4 | 4 | 5 | 2 | 3 | 3 | 1 | 2 | 2 |
| Provisional | | | | | | | | 2 | 5 | 2 | 0 | 2 | 1 | 2 | 5 | 6 | 6 |
| Non + Provisional | | | | | | | 1 | 4 | 9 | 6 | 5 | 4 | 4 | 5 | 6 | 8 | 8 |
| Annual Inspections | 35 | 4 | 0 | 8 | 11 | 11 | 9 | 12 | 11 | 10 | 12 | 10 | 10 | 12 | 10 | 12 | 10 |

# DEED Facilities Information Book

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4 AAC 31.013(a) is amended to read:

(a) For a district to be eligible for state aid under AS 14.11.011 **or AS 14.11.100**, the district must have a facility management program that addresses the following five elements of facility and maintenance management:

(1) a formal maintenance management program that records maintenance activities on a work order basis, and tracks the timing and cost, including labor and materials, of maintenance activities in sufficient detail to produce reports of planned and completed work;

(2) an energy management plan that includes

**(A) the** recording **of** energy consumption for all utilities on a monthly basis for each building; for facilities constructed before December 15, 2004, a district may record energy consumption for utilities on a monthly basis when multiple buildings are served by one utility plant**; and**

**(B) regular evaluation of the effectiveness of and need for commissioning existing buildings**;

(3) a custodial program that includes a schedule of custodial activities for each building based on type of work and scope of effort;

(4) a maintenance training program that specifies training for custodial and maintenance staff and records training received by each person; and

(5) a renewal and replacement schedule that, for each school facility of permanent construction over 1,000 gross square feet, identifies the construction cost of major building systems, including electrical, mechanical, structural and other components; evaluates and

establishes the life-expectancy of those systems; compares life-expectancy to the age and condition of the systems; and uses the data to forecast a renewal and replacement year and cost for each system.

(Eff. 7/13/2000, Register 155; am 12/19/2002, Register 164; am __/__/__, Register ____)

**Authority:** AS 14.07.060 AS 14.11.015 AS 14.11.100
AS 14.11.011 AS 14.11.017 AS 14.11.132
AS 14.11.013

4 AAC 31.065(a) is amended to read:

(a) If a school district determines that it is necessary to engage the services of a private consultant to **provide** design**,** [OR PROVIDE] **commissioning, or** construction management **services** for an educational facility with money provided under AS 14.11.011 - AS 14.11.020, or for a project approved for reimbursement of costs under AS 14.11.100, and the estimated cost of the contract is more than $50,000, the selection of the consultant shall be accomplished by soliciting written proposals by advertising in a newspaper of general circulation at least 21 days before the proposals are due. The contract shall be awarded to the most qualified offeror, after evaluating the proposals submitted.

(Eff. 12/2/83, Register 88; am 8/31/90, Register 115; am __/__/__, Register ____)

**Authority:** AS 14.11.017 AS 14.11.020 AS 14.11.132

4 AAC 31.080 is amended by adding a new subsection to read:

(i) A school district shall perform commissioning of the systems included in a school capital project if the school capital project is an addition of over 5000 square feet or new construction of an education-related facility that is over 5,000 square feet. If the school capital project is a rehabilitation of an education-related facility over 10,000 square feet, a school district shall perform commissioning of each system substantially upgraded in the school capital project. A school district may perform commissioning for a rehabilitation of an education-related facility for each system impacted by the project but not substantially upgraded in the rehabilitation. Commissioning required under this subsection must include the services of a commissioning agent. Commissioning permitted under this subsection for a system that is impacted by a rehabilitation project but not substantially upgraded in the rehabilitation may use the services of a commissioning agent or may use a qualified facility professional, including a school district employee. The cost of commissioning, including the cost of a commissioning agent, required or permitted under this subsection is an allowable cost of school construction. (Eff. 12/2/83, Register 88; am 8/31/90, Register 115; am 4/17/98, Register 146; am 11/20/2005, Register 176; am __/__/___, Register ___)

**Authority**: AS 14.07.060 AS 14.11.020 AS 14.11.132

4 AAC 31.900 is amended by adding new paragraphs to read:

(31) “commissioning” means functional testing activities for a mechanical, electrical, fuel oil, controls, and building envelope system to ensure that a facility or a system operates as the owner and designers intended and that prepares an owner to efficiently operate its systems and equipment;

(32) "commissioning agent" means an individual who is certified with a recognized standards organization approved by the department to provide commissioning services, who may be an employee of the school district or an independent design consultant hired on behalf of the school district to

(A) create a commissioning plan, checklists, and functional performance tests for each commissioned system;

(B) coordinate the commissioning team for the mechanical, electrical, fuel oil, controls, and building envelope systems;

(C) coordinate the work of the construction contractor, school district, and design team as it pertains to the commissioning process;

(D) witness the functional performance testing;

(E) assist in resolution of issues found during commissioning; and

(F) verify the training of owner maintenance personnel on commissioned systems; (Eff. 3/1/78, Register 65; am 6/9/83, Register 86; am 12/2/83, Register 88; am 9/12/85, Register 96; am 8/31/90, Register 115; am 9/29/90, Register 115; am 10/7/95, Register 136; am 4/17/98, Register 146; am 2/18/99, Register 149; am 7/13/2000, Register 155; am 8/23/2001, Register 159; am 12/19/2002, Register 164; am 12/20/2002, Register 164; am 6/17/2010, Register 194; am ___/___/___, Register ___)

**Authority:** AS 14.07.020 AS 14.11.020 AS 14.11.102
AS 14.07.060 AS 14.11.100 AS 14.11.132
AS 14.11.011

4 AAC 31.013(e) is amended to read:

(e) [ON AN ANNUAL BASIS, THE] **The** department **will make a determination of a district's** [SHALL PROVIDE A PRELIMINARY NOTICE TO EACH DISTRICT REGARDING ITS] compliance with each element required in (a) of this section, based on evidence of a program [PREVIOUSLY PROVIDED TO] **acquired by** the department, [OR THAT WAS] **including information** gathered by the department during an on-site visit conducted under (f) of this section. **The department may change a determination at any time during the year based on new evidence. For purposes of eligibility for an application submitted under AS 14.11.011, on** [ON] or before June 1, the department will provide [ITS] preliminary notice **of its determination**. [THE DEPARTMENT MAY CHANGE A DETERMINATION OF NON-COMPLIANCE AT ANY TIME DURING THE YEAR BASED ON NEW EVIDENCE.] Districts that are not in full compliance must provide evidence of compliance to the department by August 1. On or before August 15, the department will notify districts of its final determination regarding compliance. The department will deny a grant application submitted under AS 14.11.011 by a district that has received a final determination from the department that the district is out of compliance with this section.

4 AAC 31.013(f) is amended to read:

(f) The department **will** [SHALL] conduct **an** on-site **inspection** [INSPECTIONS] of a school district preventive maintenance and facility management **program** [PROGRAMS] at least once every five years**; however, if the department issues a finding of noncompliance under (e) of this section and the district does not provide adequate evidence of compliance, the department may postpone an onsite visit beyond the five-year period.** The department

may make additional inspections as it deems necessary. The department may change its determination of compliance based on information obtained during **an** [THE] on-site **inspection** [INSPECTIONS].

4 AAC 31.013 is amended by adding a new subsection to read:

(h) Notwithstanding (e) and (f) of this section, the department may make a determination of provisional compliance for a district that provides evidence of a plan that meets all required elements identified in (a) of this section but does not provide documentation of adherence to that plan. A determination of provisional compliance will allow a district to be eligible for state aid until a final determination of compliance or non-compliance is provided.

(Eff. 5/24/2001, Register 158; am 12/19/2002, Register 164; am 12/15/2004, Register 172; am 6/17/2010, Register 194; am ___/___/____, Register _____)

**Authority:** AS 14.07.020 AS 14.11.011 AS 14.11.132
AS 14.07.060

4 AAC 31.016 is amended by adding a new subsection to read:

(i) The enrollment calculated for students in leased space will be excluded from use in calculating eligibility for additional square footage for facilities unless

(A) that enrollment is in an attendance area comprised of a single school, or

(B) the lease is due to terminate within two years and district submits an application for a capital improvement project under AS 14.11 for new school construction to house the student population of the terminating lease space. (Eff. 7/13/2000, Register 155; am 12/19/2002, Register 164; am ___/___/____, Register ____)

**Authority:** AS 14.07.060 AS 14.11.015 AS 14.11.100
AS 14.11.011 AS 14.11.017 AS 14.11.132
AS 14.11.013

4 AAC 31.020(a) is amended to read:

(a) The following are the basic guides for educational facility planning **adopted by reference**:

(1) for a school capital project application submitted to the department, ***Creating Connections: The CEFPI Guide for Educational Facility Planning*** [CREATING CONNECTIONS: THE CEFPI GUIDE FOR EDUCATIONAL FACILITY PLANNING], 2004 Edition, as published by the Council of Educational Facilities Planners International;

(2) repealed 4/17/98;

(3) repealed 4/17/98;

(4) ***Guidelines for School Equipment Purchases*** [GUIDELINES FOR SCHOOL EQUIPMENT PURCHASES], as published by the Alaska Department of Education and Early Development, **2016 edition** [1997 EDITION];

(5) deleted 8/31/90;

(6) repealed 4/17/98;

(7) ***Swimming Pool Guidelines*** [SWIMMING POOL GUIDELINES], as published by the Alaska Department of Education and Early Development, 1997 edition; and

(8) ***Site Selection Criteria and Evaluation Handbook*** [SITE SELECTION CRITERIA AND EVALUATION GUIDELINE], as published by the Alaska Department of Education and Early Development, **2011 edition** [1997 EDITION].

4 AAC 31.020(d) is amended to read:

(d) The department **will** [SHALL] reduce a project budget in proportion to the amount that the project's design exceeds the square feet allowable as determined under (c) of this section[.THIS SUBSECTION APPLIES TO A PROJECT]**, until an agreement, as described in 4 AAC 31.023(c), is fully executed** [THAT HAS NOT RECEIVED A GRANT UNDER AS 14.11, A PROJECT THAT HAS RECEIVED MONEY FROM THE DEPARTMENT FOR PLANNING]**. The department may proportionally reduce the project budget under this subsection if** [, AND] a project [THAT] has not secured the approval of the commissioner under 4 AAC 31.040 [THIS SUBSECTION DOES NOT APPLY TO A PROJECT THAT HAS SECURED THE APPROVAL OF THE COMMISSIONER UNDER 4 AAC 31.040].

(Eff. 3/1/78, Register 65; am 6/9/83, Register 86; am 12/2/83, Register 88; am 8/31/90, Register 115; am 10/7/95, Register 136; am 4/17/98, Register 146; am 2/18/99, Register 149; am 7/13/2000, Register 155; am 8/23/2001, Register 159; am 12/20/2002, Register 164; am 6/17/2010, Register 194; am ___/___/____, Register ____)

**Authority:** AS 14.07.020 AS 14.11.011 AS 14.11.100
AS 14.07.060 AS 14.11.020 AS 14.11.132

4 AAC 31.021(e) is repealed and readopted to read:

(e) Using the criteria set out in 4 AAC 31.022(b), the department will score each application and use the score to assign a priority ranking to the projects approved for eligibility. The department may annually approve a school district’s request to reuse an original application

and its score for up to five additional years after the year the original application is submitted, if, for a school capital project listed in the district's six-year capital improvement plan,

(1) the school district identifies, in a letter accompanying the six-year plan, the specific application for which the district requests consideration beyond the initial application period;

(2) the chief school administrator certifies in writing that the district's eligibility for any additional square footage associated with the project has not decreased; and

(3) for requests to reuse the application and score for the first additional year;

(A) the physical condition of a facility included in the project has not deteriorated so as to increase the project's cost to exceed the amount determined by application of the inflation factor under (f) of this section; and

(B) health and life safety conditions and code conditions have not changed so as to affect the project's score under 4 AAC 31.022(b); or

(4) for requests to reuse the application and its score in years two through five after the year of the original application, the project construction must be substantially complete at the time of the original application. An inflation factor under (f) of this section will not be added to the project cost when an application is reused under this paragraph.

4 AAC 31.021(f) is repealed and readopted to read:

(f) If, under (e) of this section, the department approves a district’s reuse of its previous year's application and score for one additional year after the year the original application is filed, the department will add an inflation factor based on an industry-accepted method to costs anticipated to occur after the award of the grant.

4 AAC 31.021 is amended by adding new sections to read:

(g) If, under (e) of this section, a district reuses its original application and score for one or more additional years after the year the original application is filed, the district may not appeal its priority ranking in any of the additional years.

(h) A grant application must include certification that insurance or a program of self-insurance exists under 4 AAC 31.200 – 4 AAC 31.225 and will be revised, if necessary, to include the proposed facility. (Eff. 8/31/90, Register 115; am 8/12/93, Register 127; am 3/10/96, Register 137; am 4/17/98, Register 146; am 7/13/2000, Register 155; am 12/19/2002, Register 164; am 6/17/2010, Register 194; am ___/___/____, Register ____)

Authority: AS 14.07.060 AS 14.11.011 AS 14.11.132
AS 14.11.008 AS 14.11.013

4 AAC 31.022(b) is amended to read:

(b) When reviewing the six-year capital improvement plans and the grant applications submitted by school districts, department staff shall separately rank projects in the following classifications in the first year of the plan, in descending order of priority, as serves the state's best interests, where:

(1) school construction projects are those projects the primary purpose of which is to accomplish work under the categories established in **AS 14.11.013(a)(1)(A), (B), (F), and (G)** [AS 14.11.013(a)(1)(A), (a)(1)(B), AND (a)(1)(E) - (a)(1)(G)]; and

(2) major maintenance projects are those projects the primary purpose of which is to accomplish work under the categories established in **AS 14.11.013(a)(1)(C)-(E)**

[AS 14.11.013(a)(1)(C) AND (D)], except that a major maintenance project may not include additional or replacement square footage.

4 AAC 31.023(c) is amended to read:

(c) The department will, before the disbursement of grant or allocations of other financial assistance [MONEY] to a school district, require the execution of a grant or other financial assistance agreement, on a form prescribed by the commissioner, that contains the following conditions:

(1) the project will be constructed and equipped under the requirements of 4 AAC 31.020(a), within the project budget determined under 4 AAC 31.022(e);

(2) money will be disbursed as the parties agree to allow the accomplishment of stages in the project, such as site acquisition; design and construction; and to reimburse the district for money actually and necessarily spent, before the award of the grant or allocation of other financial assistance,

(A) for **application costs,** planning costs, design costs, and construction costs incurred not more than 36 months before the **initial** submission of the grant **or other financial assistance** application **with a substantially identical scope**; and

(B) site acquisition costs incurred not more than 120 months before the **initial submission of the** grant or other financial assistance application **with a substantially identical scope** for which the department has given its approval under 4 AAC 31.025;

(3) the district's performance under the grant or other financial assistance is subject to financial audit at any time; the cost of an audit required by the state is an allowable cost of school construction;

(4) the site for the school facility is approved under 4 AAC 31.025;

(5) designers, **commissioning agents, and construction managers** of the facility shall be selected under 4 AAC 31.065; [AND]

(6) construction shall be performed by contracts awarded under 4 AAC 31.080**; and**

**(7) unless a district provides documented evidence of project-specific indirect administrative costs in excess of these limits, indirect administrative costs may not exceed**

**(A) three percent of construction costs, if construction costs are $500,000 or less;**

**(B) the greater of $15,000 or two percent of construction costs, if construction costs are over $500,000 but less than $5,000,000;**

**(C) the greater of $100,000 or one percent of construction costs, if construction costs are $5,000,000 or more**.

4 AAC 31.023 is amended by adding a new subsection to read:

(e) In (c) of this section,

(1) “indirect administrative costs” means an allocable portion of administrative and operating expenses; and

(2) “construction costs” means the cost of contracted work as well as force account for facility construction, site preparation, site improvements, and utilities.

(Eff. 8/31/90, Register 115; am 8/12/93, Register 127; am 4/17/98, Register 146; am 2/18/99, Register 149; am ___/___/____, Register ____)

**Authority:** AS 14.11.013 AS 14.11.017 AS 14.11.132
AS 14.11.015 AS 14.11.100

4 AAC 31.026(d) is amended to read:

(d) Within 10 working days after the filing of an appeal under (c) of this section, the **chief administrative law judge of the office of administrative hearings** [COMMISSIONER] shall appoint a hearing officer to hear the case. The hearing officer shall consider the issues raised in the appeal on the basis of

(1) the school district's updated capital improvement plan submitted under 4 AAC 31.011;

(2) the grant application, and supporting documentation submitted by the school district under 4 AAC 31.020(c);

(3) the comments received at the public hearing conducted under (a) of this section;

(4) the decision rendered by the department on the request for reconsideration under (b) of this section; and

(5) the appeal filed by the school district under (c) of this section.

(Eff. 8/31/90, Register 115; am 8/12/93, Register 127; am 4/17/98, Register 146; am __/__/__, Register ____)

**Authority:** AS 14.11.013 **AS 14.11.016** AS 14.11.132
AS 14.11.015

4 AAC 31.030(a) is amended to read:

(a) A school district shall submit the elements of a plan for **a school capital project, including** new construction, additions, demolitions, and rehabilitations, to be undertaken by the school district that are to be funded under **AS 14.11.011** [AS 14.11.020] or for which reimbursement is to be sought under AS 14.11.100. The elements of the plan must be submitted to the commissioner for the commissioner's review and approval as the elements are developed and before any **construction contract solicitation or** construction activity is initiated.

(Eff. 3/1/78, Register 65; am 12/2/83, Register 88; am 10/7/95, Register 136; am 4/17/98, Register 146; am ___/___/____, Register ____)

**Authority:** AS 14.07.020 AS 14.11.011 AS 14.11.020
AS 14.07.060 AS 14.11.013 AS 14.11.100

4 AAC 31.040(a) is amended to read:

(a) Before commencing **construction contract solicitation or** construction activity under **AS 14.11.011** [AS 14.11.020] or **construction contract solicitation or** construction activity for which reimbursement will be sought under AS 14.11.100, a school district or a regional school board shall secure the approval of the commissioner of the documents for the project as follows:

(1) the school district or regional school board shall submit to the commissioner 95 percent construction documents at least 20 work days before a bid invitation is made;

(2) if construction contract bids are to be invited for the project, the school district or regional school board shall submit the construction bid documents, excluding the construction plans and specifications if the 95 percent construction documents submitted under (1) of this

subsection were stamped and signed by the professionals in responsible charge, to the commissioner at least five work days before the bid invitation is made;

(3) if the project will not be advertised for bids, the school district or regional school board shall submit the final stamped and signed construction documents to the commissioner no later than 15 work days before commencing each construction phase; and

(4) a municipality or a school district may request, in writing, a waiver to the construction document approval process set out in (1) - (3) of this subsection for a project based on the ability of the municipality or school district to provide a thorough and complete independent review.

(Eff. 3/1/78, Register 65; am 12/2/83, Register 88; am 4/17/98, Register 146; am ___/___/____, Register ____)

**Authority:** AS 14.07.020 **AS 14.11.011** AS 14.11.100
AS 14.07.060 AS 14.11.020

4 AAC 31.060(i) is amended to read:

(i) Reimbursement for rehabilitation costs under AS 14.11.100 is limited to projects exceeding **$200,000** [$25,000].

(Eff. 3/1/78, Register 65; am 2/24/83, Register 85; am 12/2/83, Register 88; am 9/12/85, Register 96; am 2/8/86, Register 97; am 5/30/90, Register 114; am 4/17/98, Register 146; am 7/13/2000, Register 155; am 6/17/2010, Register 194; am ___/___/____, Register ____)

**Authority:** AS 14.07.020 AS 14.11.020 AS 14.11.102
AS 14.07.060 AS 14.11.100 AS 14.11.132
AS 14.11.011

4 AAC 31.061(b)(2) is repealed:

(2) repealed ___/___/____; [FOR A CAPITAL IMPROVEMENT PROJECT GRANT APPLICATION SUBMITTED TO THE DEPARTMENT BEFORE JANUARY 1, 1996, NONASSIGNABLE SPACE MAY NOT EXCEED 25 PERCENT OF THE TOTAL SPACE, EXCEPT THAT THE DEPARTMENT WILL, IN ITS DISCRETION, GRANT A VARIANCE OF UP TO 35 PERCENT OF TOTAL SPACE IN SMALL SCHOOLS IN REMOTE AREAS IF IT CAN BE DEMONSTRATED THAT THE VARIANCE IS IN THE BEST INTEREST OF THE STATE AND THE DISTRICT; AND]

(Eff. 9/12/85, Register 96; am 2/8/86, Register 97; am 5/30/90, Register 114; am 9/29/90, Register 115; am 10/7/95, Register 136; am 4/17/98, Register 146; am __/__/__, Register ____)

**Authority:** AS 14.07.020 AS 14.11.020 AS 14.11.102
AS 14.07.060 AS 14.11.100 AS 14.11.103

4 AAC 31.064 is amended to read:

**4 AAC 31.064. Redirection of bond proceeds.** If a municipality has bond proceeds remaining after **termination of all design, construction, and equipment contracts for** [THE CONSTRUCTION OF] a project approved by the department for debt retirement under 4 AAC 31.060 and by local voters under AS 14.11.100(j), and the municipality seeks to construct a project different from the one approved by the department, the municipality may only receive reimbursement for the project if the new project is approved by the department and

(1) the bond proposition originally approved by the local voters authorized the use of any excess money for school capital projects such as the new project; or

(2) the municipality meets the requirements of AS 14.11.100(j), including the requirement for a municipal election to approve the new use of the money. (Eff. 5/30/90, Register 114; am ___/___/____, Register ____)

**Authority:** AS 14.07.060 AS 14.11.100 AS 14.11.132

4 AAC 31.065(a) is amended to read:

(a) If a school district determines that it is necessary to engage the services of a private consultant to **provide** design**, commissioning,** or [PROVIDE] construction management **services** for an educational facility with money provided under AS 14.11.011 - AS 14.11.020, or for a project approved for reimbursement of costs under AS 14.11.100, and the estimated cost of the contract is more than $50,000, **the contract shall be awarded to the most qualified proposer after evaluating proposals submitted in response to an approved solicitation.** The selection of the consultant shall be accomplished by soliciting written proposals by advertising **at least 21 days before the proposals are due by providing notice through publication** in a newspaper of general circulation**. The department may approve an alternate means of notice through publication on the Internet if the website has the express purpose of advertising similar solicitations, has unrestricted public access, and is equally likely to reach prospective proposers** [AT LEAST 21 DAYS BEFORE THE PROPOSALS ARE DUE. THE CONTRACT SHALL BE AWARDED TO THE MOST QUALIFIED OFFEROR, AFTER EVALUATING THE PROPOSALS SUBMITTED].

4 AAC 31.065 is amended by adding a new subsection to read:

(d) The department may deny or limit its participation in the costs of design**,**

**commissioning,** or construction management for a project eligible for grant funding under AS 14.11.011 or for reimbursement under AS 14.11.100 if the school district does not comply with the requirements of this section. (Eff. 12/2/83, Register 88; am 8/31/90, Register 115; am ___/___/____, Register ____)

**Authority:** AS 14.11.017 AS 14.11.020 AS 14.11.132

4 AAC 31.080(b) is amended to read:

(b) The school district shall **publish** [PROVIDE] **the first** notice of its solicitation **at least 21 days** [BY ADVERTISEMENT IN A NEWSPAPER OF GENERAL CIRCULATION IN THIS STATE AT LEAST THREE TIMES] before the opening of the offers. [THE FIRST PRINTING OF THE ADVERTISEMENT MUST OCCUR AT LEAST 21 DAYS BEFORE OPENING THE OFFERS.] The department may approve a solicitation period shorter than 21 days when written justification submitted by the school district demonstrates that a shorter solicitation period is advantageous for a particular **project** [offer] and will result in an adequate number of responses. A school district may provide additional notice by mailing its solicitation to contractors on any list it maintains, and any other means reasonably calculated to provide notice to prospective offerors. **The district shall provide notice of its solicitation by publication at least three times in a newspaper of general circulation in the state. The department may approve an alternate means of notice through publication on the Internet if the website has the express purpose of advertising similar solicitations, has unrestricted public access, and is equally likely to reach prospective offerors.**

4 AAC 31.080(e) is amended to read:

(e) The department may deny or limit its participation in the costs of construction for a project eligible **for grant funding under AS 14.11.011 or** for reimbursement under AS 14.11.100 if the school district does not comply with the requirements of this section. [A SCHOOL DISTRICT THAT ENTERS INTO A CONSTRUCTION CONTRACT FOR A PROJECT AUTHORIZED FOR CONSTRUCTION UNDER AS 14.11.020 THAT WAS AWARDED WITHOUT COMPETITIVE SELECTION UNDER THIS SECTION MAY NOT RECEIVE MONEY UNDER ITS PROJECT AGREEMENT FOR THE CONSTRUCTION PHASE OF THE PROJECT.]

4 AAC 31.080(f) is amended to read:

(f) Nothing in this section precludes a school district from using an alternative construction delivery method as defined and described in the ***Project Delivery Method Handbook*** [PROJECT DELIVERY METHOD HANDBOOK], **2017 edition** [NOVEMBER, 2004], adopted by reference, if the department approves the method in advance of any solicitation, the proposed method is in the state's best interest, and the school district concurs in any directives the department makes concerning the type of selection and award of the contract. The department may deny or suspend use of an alternative construction delivery method by a school district if the department concludes, based on substantial evidence, that use or repeated use of a delivery method by the school district has resulted or will result in limited competition or higher costs.

4 AAC 31.080(g) is amended to read:

(g) A school district may, with prior approval by the department, **enter into a lease or**

purchase **agreement for, or accept a donation of,** an existing facility **or land** for use as an education-related facility if

(1) **for the purchase, lease or accepted donation of an existing facility,** a cost saving over new construction is achieved;

(2) the purchase **or lease** price is arrived at through impartial negotiation and is supported by a real estate appraisal that meets accepted standards; and

(3) the purchase**, lease, or donation** is in the best interests of the state and the school district.

4 AAC 31.080 is amended by adding a new subsection to read:

(i) The department may deny or limit its participation in the costs of a school capital project if the real property for the project is acquired by a school district through purchase, lease, or donation without the approval of the department under (g) of this section. (Eff. 12/2/83, Register 88; am 8/31/90, Register 115; am 4/17/98, Register 146; am 11/20/2005, Register 176; am ___/___/____, Register ___)

**Authority**: AS 14.07.060 AS 14.11.020 AS 14.11.132

4 AAC 31.085(a) is amended to read:

(a) The department may dispose of state-owned school buildings and other facilities under this section if it determines that the buildings or facilities are no longer needed to provide the educational program in the community in which they are located. The determination will be made in writing after consultation with the regional educational attendance area (REAA) in which the property is located, and the reasons for the determination will be documented. The

department will not make a determination under this section unless the regional school board that was given a use permit under 4 AAC 31.090 for the property provides, in support of the determination, a resolution requesting termination of the use permit and declaring that the property, both land and buildings, is no longer needed for the purpose of providing education services. In addition, the regional school board must give notice of its excess property on a form provided by the department, and must agree that the conditions and responsibilities contained under 4 AAC 31.090 in the use permit will remain valid for a one-year period after the date of the notice or the date of last occupancy, whichever is later, unless the department, in writing, relieves the regional school board of responsibility in whole or in part. **Nothing in the section relieves a regional school board of its ongoing responsibilities or liabilities arising out of its interest in or use or operation of the property.**

(Eff. 10/4/90, Register 115; am 4/17/98, Register 146; am 12/19/2002, Register 164; am 6/17/2010, Register 194; am ___/___/____, Register: ___)

**Authority:** AS 14.07.030 AS 14.07.060

4 AAC 31.220 is amended to read:

**4 AAC 31.220. Proof of insurance.** Except for a district that has an authorized self-insurance program under 4 AAC 31.205, each school district shall provide to the department a certificate of insurance, by **July 15** [JULY 1] of each year, that provides notice of the per occurrence and aggregate limits of coverage, and shall provide for 45 days' notice to the department of cancellation, termination, or any material change in policy conditions. (Eff. 8/31/90, Register 115; am ___/___/____, Register ___)

**Authority:** AS 14.03.150 AS 14.07.060

4 AAC 31.900(2) is amended to read:

(2) "capital equipment" means built-in and movable equipment used to furnish a newly constructed or rehabilitated space; it includes first-time purchase of library books, reference material, and media to furnish a new or renovated library; it does not include supply items such as textbooks and expendable commodities; the term is further defined in the ***Guidelines for School Equipment Purchases*** [GUIDELINES FOR SCHOOL EQUIPMENT PURCHASES], **2016 edition** [1997 EDITION];

4 AAC 31.900(21) is amended to read:

(21) "school capital project" means a school construction or major maintenance project for which state aid is requested or provided when the costs of the construction or **major** maintenance exceed **$50,000** [$25,000];

4 AAC 31.900 is amended by adding a new subsection to read:

(33) “construction manager” means a private consultant contracted by the school district during any phase of a school capital project to manage the project’s scope, quality, and budget. (Eff. 3/1/78, Register 65; am 6/9/83, Register 86; am 12/2/83, Register 88; am 9/12/85, Register 96; am 8/31/90, Register 115; am 9/29/90, Register 115; am 10/7/95, Register 136; am 4/17/98, Register 146; am 2/18/99, Register 149; am 7/13/2000, Register 155; am 8/23/2001, Register 159; am 12/19/2002, Register 164; am 12/20/2002, Register 164; am 6/17/2010, Register 194; am ___/___/____, Register: ___)

**Authority:** AS 14.07.020 AS 14.11.020 AS 14.11.102

AS 14.07.060 AS 14.11.100 AS 14.11.132

AS 14.11.011

# Comments on Proposed School Facility Planning Regulations
# by Kathy J. Christy, Project Resources

Received November 12, 2018

COMMENT: 4 AAC 31.080 (i). What will be the effective date? Commissioning was not included in budget for FY 2019 and 2020 grants. Is this a design cost and will the % limit for A/E services be raised?

DEPT RESPONSE: The effective date will be the effective date of the regulations as determined by the Lt. Governor's office. The regulations will not be applied to funded projects. Future allocations of state aid for school capital projects will be reviewed to ensure funds are adequate for required commissioning. The Bond Reimbursement & Grant Review Committee will review the application to determine whether the current design services budget, as an allowable percentage of construction cost, needs modification.

COMMENT: 4 AAC 31.020 (a) (1) suggest deleting this reference as the CEFPI document is no longer current and CEFPI is now A4LE.

DEPT RESPONSE: The referenced document is the most current document on developing educational specifications provided by the organization now named A4LE. At such time as a new handbook is developed, the department will propose a regulation to update the reference.

COMMENT: 4 AAC 31.022(b) (1) The proposed regulation change is not affected, but Category G has not been included on the DEED grant application form.

DEPT RESPONSE: Statute sets out Category G (AS 14.11.013(a)(1)(G)) as a project required to "meet an educational need not specified in (A) — (F) of this paragraph, identified by the department". The department has not identified a need that warrants inclusion of this category in the application.

COMMENT: 4 AAC 31.030(a) Is not clear what constitutes "elements of [the] plan" and at what stage of development is to be addressed?

DEPT RESPONSE: This is clarified in the following subsection, 4 AAC 31.030(b); it was not listed in the proposed regulation because it was not amended.

COMMENT: 4 AAC 31.040(a) (3) suggest rewording this section for clarification as final documents or the entire project may not be complete before commencing with phased work.

DEPT RESPONSE: The revised regulations do not address this particular subsection. We agree the subsection may need some clarification and will mark it for future work.

# Comments on Proposed School Facility Planning Regulations by the Bond Reimbursement & Grant Review Committee

Received October 17, 2018

COMMENT: 4 AAC 31.023(e) adds a definition for "construction costs" as used within the 31.023 section. That definition includes the phrase, "or forced account work"; force account should be defined. At DOT this is a common term but there is another technical name for this type of construction; even though we know what it is, it should be defined well enough legally, so it can be implemented.

DEPT RESPONSE: We concur the term 'force account' has a variety of definitions in the construction industry. We describe Force Account as a project delivery method in the DEED publication *Project Delivery Method Handbook, 2017*. This publication has the force of regulation and the term 'force account' as used in this section will be as described in that handbook.

COMMENT: 4 AAC 31.023(c)(2)(A) is amended to include 'application costs'. The regulations to not provide a definition for application costs – it might be important to be clear on what are considered "application costs" because the department could end up in a situation where a district files for reimbursement of an entire building survey, when the project activity only involves a portion of it.

DEPT RESPONSE: We concur that the term 'application costs' is not a defined term and that it could consist of a variety of internal and contracted expenditures. Adding the term was intentional and is intended to cover this broad spectrum of costs as allowable pre-award expenditures. Necessary clarity as to the limit of applicability is provided by the addition of clarifications in subsection (B), which limit the expenditures to those supporting the initial submission of the grant or other financial assistance application which has a substantially identical scope approved under 4 AAC 31.025. In the above example, it should be possible to differentiate between expenditures supporting the scope and those not supporting the scope of the project.

# DEED Geographic Cost Factors Matrix

## General Requirements

Freight (base)
Freight (air)
Equipment
Utilities
Fuel
Site Administration
Bonds/insurance

## Building Design

Structural Loading
Architectural (envelope)
Architectural (elevated floor)
Mechanical (utilities to 5ft)
Mechanical (design loads)

## Labor Cost

Per Diem
Crew Rotation
Title 36 Wages
Labor Productivity (temp)
Labor Productivity (site cond.)

- urban/rural: directness of air service compared to ANC
- soil type: tundra/peat, sand, or gravel
- annual precip: bracket percent compared to ANC
- annual snow: bracket percent compared to ANC

## Risks

Risk Factors

- weather events: frequency of weather events resulting in job shut-down
- crime/vandalism: crime events per capita
- shipping damage: total number of freight loads/transloads
- labor shortage/turnover: skilled labor statistics

## DEED Geographic Cost Factors Matrix

| Factors | Categories | | | |
|---|---|---|---|---|
| | General Req. | Labor Cost | Building Design | Risks |
| Freight (base) | X | | | |
| Freight (air) | X | | | |
| Equipment | X | | | |
| Utilities | X | | | |
| Fuel | X | | | |
| Site Adminstration | X | | | |
| Bonds/insurance | X | | | |
| Per Diem | | X | | |
| Crew Rotation | | X | | |
| Title 36 Wages | | X | | |
| Labor Productivity (temp) | | X | | |
| Labor Productivity (site cond.) | | X | | |
| urban/rural: | directness of air service compared to ANC | | | |
| soil type: | tundra/peat, sand, or gravel | | | |
| annual precip: | bracket percent compared to ANC | | | |
| annual snow: | bracket percent compared to ANC | | | |
| Structural Loading | | | X | |
| Architectural (envelope) | | | X | |
| Architectural (elevated floor) | | | X | |
| Mechanical (utilties to 5ft) | | | X | |
| Mechanical (design loads) | | | X | |
| Risk Factors | | | | X |
| weather events: | frequency of weather events resulting in job shut-down | | | |
| crime/vandalism: | crime events per capita | | | |
| shipping damage: | total number of freight loads/transloads | | | |
| labor shortage/turnover: | skilled labor statistics | | | |

# Subcommittee Communications Updates

Commissioning

Design Ratio

Model School

**From:** Dale Smythe
**To:** Mearig, Timothy C (EED)
**Cc:** Teshner, Heidi A (EED); Weed, Lori (EED)
**Subject:** Re: Design Ratios RFP
**Date:** Friday, November 09, 2018 6:21:05 AM

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Tim,
Ill make this happen- I think we can keep this on track.
Thanks
Dale

On Nov 8, 2018, at 4:30 PM, Mearig, Timothy C (EED) <tim.mearig@alaska.gov> wrote:

> Dale,
>
> The October 17 BR&GR meeting included some actions needed by the department and the Design Ratios subcommittee prior to a poll vote approving an RFP for energy modeling and cost estimating. I had Lori pull meeting note/transcript from the meeting record to see what those actions and timelines were (see attached). After review, the short version is that you and I were supposed to provide an updated, final RFP by November 15. That document would be passed by the BR&GR for approval and then used by DEED to make the solicitation.
>
> I'm wondering if there is any way to remain on schedule for this. It seems like the missing pieces in the draft RFP were: 1) experience and credentials for a qualified proposer, 2) the current ASHRAE standards that pertain to the modeling effort, and 3) the need for analysis of first-cost implications associated with the ratios. If you could take the first two, I think I can handle #3. I'm pretty sure the department will use a standard RFP template so what is needed is a statement of services (with deliverables), selection criteria, and schedule. To that end, I'm attaching a procurement questionnaire with blanks for the first two factors and suggested language for the third.
>
> I'm headed out for some leave time tomorrow through Sunday, 11/18. If you can get the procurement questionnaire completed and back to Lori, she will handle the BR&GR committee polling/approval. Then, on my return on the 19th, I'll send the package over to our procurement specialist.
>
> **Tim Mearig, Manager**
> FSS/Facilities
> Education & Early Development
> 907 465-6906 office
> 907 321-5564 mobile
>
> Ps. Dale, I drafted this early in the day and thought I'd be able to complete more of it before I needed to take off. Please try to make whatever sense you can of the body of this email and the attachments. They don't align too well. Ultimately, we need all the

elements/questions in the questionnaire answered either on the document or in an attachment. Look forward to anything you can do on this while I'm out. --Tim

<mime-attachment>

<Design Ratios Project Questionnaire_Energy Modeling 11-8-18.docx>

**From:** Mark Langberg
**To:** Weed, Lori (EED); Mearig, Timothy C (EED)
**Cc:** Marquis, Wayne R (EED)
**Subject:** RE: October 17 BR&GR
**Date:** Monday, November 26, 2018 9:43:26 AM
**Attachments:** Commissioning Subcommittee Final Recommendations_Draft.docx

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Lori, Tim,

Unfortunately, I've been way too busy at work & personally to do anything with the Cx subcommittee. I just reviewed the documents and am surprised that a year has gone by since we last worked on this. On 1 December 2017 I emailed the various Cx-related documents to the department. Those draft systems documents incorporated the public review comments. The draft "recommendations" document was also included, and had some potentially incomplete items in it. I've attached that document for your convenience. The items in red may or may not need more effort or perhaps should simply be deleted.

Short of reconvening the Cx subcommittee to re-hash any of the documents, it looks like the only document still needing work is the Energy Efficiency Building Envelope Spec, which I recall was being spearheaded on by Craig Fredeen and Bill Murdock. I will send them an email and CC you folks. I do know that Bill has retired from LKSD earlier this year, so I may not have a valid email for him.

I am working out of town for most of the next 3-1/2 weeks, including the rest of this week (flying this afternoon). This includes the 12th & so I will be unable to attend or call in for the meeting.

My apologies this was not better handled in a more timely manner.

Mark

**Mark Langberg, PE, LEED AP, CPO**
Principal Mechanical Engineer
**AMC ENGINEERS**
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**From:** Mearig, Timothy C (EED)
**To:** Doug Crevensten
**Cc:** Teshner, Heidi A (EED)
**Bcc:** Weed, Lori (EED); Roys, Sharol A (EED); Larry Morris; Marquis, Wayne R (EED)
**Subject:** Model School Subcommittee Work
**Date:** Friday, November 02, 2018 11:51:00 AM

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Doug,
In the Dec 2017 report to the legislature, the BR&GR identified four recommendations for cost effective school construction that the Model School Subcommittee had prepared:

1. Improving the Cost Model for possible use as a cost control standard.
2. Establishing a process of regular updates to the Cost Model based on updates to a 'model school'.
3. Develop Model Alaskan School Standards by building system.
4. Establish restrictions on non-core-education elements.

HB212, responding in part to these recommendations, added the following to AS14.11.017:
"(d) The department shall develop and periodically update regionally based model school construction standards that describe acceptable building systems and anticipated costs and establish school design ratios to achieve efficient and cost-effective school construction."

In response, the department, through the BR&GR created our HB212 Matrix and BR&GR Work Plan. Below are the key action items from the work plan and a status comment:

| | | |
|---|---|---|
| 3.1.1 Geographic Cost Adjustments | Contract solicited and awarded; completion date is 12/19/18. | None |
| 3.1.2 Cost Model Enhancements | RFP documents drafted and provided to DEED; RFP anticipated 11/20; award 12/14. | Participate in scoping session 12/31 |
| 3.1.3 Cost Model as Cost Control | Awaiting action. | Prepare analysis and draft regulations for Committee review by May 2019 |
| 3.1.4 Model School Analysis/Update | Awaiting action. | Establish procedures for updates to Cost Model's 'model school' element by January 2019 |
| 3.4.1 Model School Building Systems | Committee review of standard outline completed 10/17. | Develop statement of services for feasibility analysis by Nov 2018 |
| 3.4.2 School District System Standards | Awaiting action. | TBD |
| 4.2 Criteria for Reuse of School Plans | Awaiting action. | TBD. This was assigned to the Committee with a completion date of February. They could probably use some subcommittee help. |

In summary, it looks like the Model School Subcommittee is pretty well on track. A subcommittee meeting this month would be good. On that agenda would be actions from work plan items 3.1.4 and 3.4.1. I'll be out of the office from 11/9-16. How about a subcommittee WebEx on 11/27?

R/

**Tim Mearig, Manager**
FSS/Facilities
Education & Early Development
907 465-6906 office
907 321-5564 mobile

**By:** Larry Morris
Architect Assistant

**Phone:** 465-1858

**For:** Bond Reimbursement & Grant Review Committee

**Date:** November 30, 2018

**File:** G:\SF Facilities\BR_GRCom\Papers\ASHRAE Enforcement BP

**Subject:** ASHRAE 90.1-2010 Review and Enforcement

# B R I E F I N G  P A P E R

## Background

Due to school districts concerns with growing operational costs, primarily energy costs, the legislature, passed SB 237 in 2010 (ch. 93, SLA 2010), requiring the department institute an energy code for construction and renovations of school facilities. There are two energy related provisions in the legislation; the first change is highlighted in AS 14.07.020(a):

> (11) review plans for construction of new public elementary and secondary schools and for additions to and major rehabilitation of existing public elementary and secondary schools and, in accordance with regulations adopted by the department, determine and approve the extent of eligibility for state aid of a school construction or major maintenance project; for the purposes of this paragraph, "plans" include educational specifications, schematic designs, **projected energy consumption and costs**, and final contract documents. [emphasis added]

The second is an addition to the responsibilities accorded to the department's Bond Reimbursement and Grant Review (BR&GR) committee, which adds the following language to AS 14.11.014(b):

> (8) set standards for energy efficiency for school construction and major maintenance to provide energy efficiency benefits for all school locations in the state and that address energy efficiency in design and energy systems that minimize long-term energy and operating costs.

In response to this statute, at its December 5, 2012 meeting, the BR&GR recommended the department adopt the American Society of Heating, Refrigeration, and Air Conditioning Engineers Standard 90.1, 2010 edition (ASHRAE 90.1-2010) as the most suitable energy efficiency standard. The department prepared regulations to incorporate this standard and proposed these to the State Board of Education for formal adoption into regulation. The board adopted the amended regulations, which added the following language to 4 AAC 31.014(a); this section sets out applicable codes and standards for school capital projects with state-aid:

(7) energy efficiency code, consisting of the American Association of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings, (2010 Edition), and adopted by reference.

This regulation amendment became effective June 14, 2013, under Register 206; however, following that date, it appears no specific implementation effort was made by the department. During department submittal reviews performed under 4 AAC 31.030, Facilities staff noticed that many consultants were not citing the ASHRAE standard in designing their projects. Some of this is due to districts having standard specifications and practices that are in conflict with ASHRAE 90.1, and some has been reinforced by lack of review on the part of the department. The Facilities Section was rigorous in applying the requirements under AS 14.07.020(a) for energy consumption and costs reports, but enforcement of ASHRAE 90.1 was not occurring.

Upon research, the reason for this lapse was very clear. Up to 2013, all codes and standards adopted by the department under 4 AAC 31.014(a) had an enforcement agency outside the department that was responsible for ensuring compliance. This is illustrated by the listing below from that regulation; note the primary adoption of each of these is done under statute or regulations at either the Department of Public Safety (13 AAC) or the Department of Labor & Workforce Development (8 AAC, AS 18):

(1) building code, adopted by 13 AAC 50.020;
(2) electrical code, adopted by 8 AAC 70.025;
(3) plumbing code, adopted by AS 18.60.705(a);
(4) mechanical code, adopted by 13 AAC 50.023;
(5) ASME Boiler and Pressure Vessel Code, adopted by 8 AAC 80.010;
(6) fire code, adopted by 13 AAC 50.025; and

As is further described in the following Discussion section, there is no state-wide energy code. Therefore, there is no statewide enforcement agency. This brings us to the point of this briefing paper. Since there is no other authority having jurisdiction over enforcing ASHRAE 90.1, how can the department best fill this role until and unless one is created?

## Discussion

This discussion will review the general situation with energy standards within the State of Alaska, what other Alaska jurisdictions have adopted for energy efficiency standards, the enforcement structure contained within ASHRAE 90.1, and possible methods of review and enforcement. The Recommendations section will offer options for department implementation of review and enforcement, and evaluate the strengths and weaknesses of each.

**Energy Standards in Alaska**

In addition to the legislative activity directed to DEED, cited earlier in this paper, the 26th Legislature, in 2010, took additional actions to establish energy policy and requirements. HB 306 provided a state energy policy in AS 44.99.115, SB 220 amended AS 44.42 to place energy efficiency requirements on state facilities, and under AS 46.11.040 the Alaska Housing Finance Corporation established energy standards for facility projects with funding from that agency. Some municipalities have also adopted energy standards; however, most of these are limited to residential development. Finally, it appears that individual school districts may have adopted design or energy standards but those do not have the force of law at the state level. These cited energy standards are as follows:

General Statutes

**Sec. 44.99.115. Declaration of state energy policy.** (ch. 82, SLA 2010 (HB306))
The State of Alaska recognizes that the state's economic prosperity is dependent on available, reliable, and affordable residential, commercial, and industrial energy to supply the state's electric, heating, and transportation needs. The state also recognizes that worldwide supply and demand for fossil fuels and concerns about global climate change will affect the price of fossil fuels consumed by Alaskans and exported from the state to other markets. In establishing a state energy policy, the state further recognizes the immense diversity of the state's geography, cultures, and resource availability. Therefore, it is the policy of the state to

(1) institute a comprehensive and coordinated approach to supporting energy efficiency and conservation by

(A) encouraging statewide energy efficiency codes for new and renovated residential, commercial, and public buildings;

(B) decreasing public building energy consumption through conservation measures and energy-efficient technologies; and

(C) initiating and supporting a program to educate state residents on the benefits of energy efficiency and conservation, including dissemination of information on state and federal programs that reward energy efficiency;

(2) encourage economic development by

(A) promoting the development of renewable and alternative energy resources, including geothermal, wind, solar, hydroelectric, hydrokinetic, tidal, and biomass energy, for use by Alaskans;

(B) promoting the development, transport, and efficient use of nonrenewable and alternative energy resources, including natural gas, coal, oil, gas hydrates, heavy oil, and nuclear energy, for use by Alaskans and for export;

(C) working to identify and assist with development of the most cost-effective, long-term sources of energy for each community statewide;

(D) creating and maintaining a state fiscal regime and permitting and regulatory processes that encourage private sector development of the state's energy resources; and

(E) promoting the efficiency of energy used for transportation;

(3) support energy research, education, and workforce development by investing in

(A) training and education programs that will help create jobs for Alaskans and that address energy conservation, efficiency, and availability, including programs that address workforce development and workforce transition; and

(B) applied energy research and development of alternative and emerging technologies, including university programs, to achieve reductions in state energy costs and stimulate industry investment in the state;

(4) coordinate governmental functions

(A) by reviewing and streamlining regulatory processes and balancing the economic costs of review with the level of regulation necessary to protect the public interest;

(B) by using one office or agency, as may be specified by law, to serve as a clearinghouse in managing the state's energy-related functions to avoid fragmentation and duplication and to increase effectiveness; and

(C) by actively collaborating with federal agencies to achieve the state's energy goals and to meet emissions, renewable and alternative energy, and energy production targets.

Alaska Department of Transportation and Public Facilities (DOT/PF)

SB 220 (ch. 83, SLA 2010), amended DOT/PF statutes to add AS 44.42.067. This statute requires that department to implement energy savings retrofits, if funding is available, and—at the statute level—prescribes ASHRAE 90.1 in its most current edition (the most current is 90.1—2016) as the energy efficiency standard for public facilities,

**AS 44.42.067 Retrofits and new construction for energy efficiency; energy efficiency report**.

(a) Not later than January 1, 2020, the department shall work with other state agencies to retrofit at least 25 percent of all public facilities, starting with those it determines are the least energy efficient, if the department determines that retrofitting the public facilities will result in a net savings in energy costs to the state within 15 years after completion of the retrofits for a public facility and if funding for the retrofits is available.

(b) A retrofit or deferred maintenance of a public facility performed under this section, to the extent feasible, shall meet or exceed the most recently published edition of the ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings Except for Low-Rise Residential Buildings, as published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

(c) New construction of a public facility under this section shall meet or exceed the most recently published edition of the ASHRAE/IESNA Standard 90.1, Energy Standard for Buildings Except for Low-Rise Residential Buildings, as published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers. ....

Alaska Housing Finance Company (AHFC)

Under **AS 18.56.096**, AHFC is prohibited from providing funding unless a building meets certain energy requirements:

(c) The corporation may not make, participate in the making of, purchase, or participate in the purchase of a loan for a residential building if construction of the building began after December 31, 1991, unless the building complies with the thermal and lighting energy standards required by AS 46.11.040. The corporation

(1) may adopt regulations to implement this subsection; and

(2) shall, by regulation, establish

(A) procedures by which the person responsible for the construction of the building may demonstrate that the building complies with the thermal and lighting energy standards, including

(i) self-certification, if the contractor responsible for the building construction provides satisfactory evidence that the contractor has completed a training program that is satisfactory to the corporation;

(ii) submission of the certificate of a registered architect, registered engineer, or a building inspector, and the architect, engineer, or building inspector has completed a training program that is satisfactory to the corporation;

(iii) submission of the certificate of occupancy issued by the municipality in which the building is located, if the certificate is issued by a municipality in which the municipal building code meets or exceeds the thermal and lighting energy standards, as determined by the corporation;

(iv) another method approved by the corporation in regulations adopted by the corporation; and

(B) criteria by which the energy conservation standards may be met; for purposes of this subparagraph, the residential building complies with the energy standards if the residence has received a rating under a home energy rating system adopted by the corporation that, in the judgment of the corporation, meets or exceeds the thermal energy standards required by AS 46.11.040.

**Sec. 46.11.040. Applicability of thermal and lighting energy standards to residential buildings.**

State financial assistance may not be approved or granted for the construction of or purchase of a loan for a residential building if construction of the building began after December 31, 1991, unless

(1) the building is in compliance with thermal and lighting energy standards

(2) the building is in compliance with the building code of a municipality and the standards for thermal and lighting energy of the municipal building code meet or exceed the thermal and lighting energy standards;

(3) the building

(A) is constructed under an exception to the municipal building code granted because the exception will result in increased energy efficiency; or

(B) is located or is to be located in an area where thermal and lighting energy standards are not justified because of the high cost of implementation of the standards, with specific consideration given to the availability of inexpensive home heating energy sources, as determined under regulations adopted by the Alaska Housing Finance Corporation; or

(4) the applicant agrees, in writing, that the building will be brought into compliance with thermal and lighting energy standards within one year of conveyance.

The above statute was implemented in regulation as

**15 AAC 155.010. Adoption of energy standard and amendments**
The International Energy Conservation Code of 2012 with Alaska-specific amendments dated June 18, 2014, which are adopted by reference, shall constitute the building energy efficiency standards for Alaska. The standards establish criteria for a building's thermal envelope and other mandatory energy efficiency measures for residential and commercial buildings subject to the requirements of AS 46.11.040.

**15 AAC 155.020. Applicability of standard; exemptions**
[Note: This subsection responds to the statutes “justification” basis by providing a way for communities to request an exemption from the standard when, on a life cycle basis, the operational cost savings don’t justify the cost of compliance.]

**15 AAC 155.030. Compliance with the standard**
[Note: This section provides extensive requirements and parameters with which to determine compliance. It is shown in its entirety here as an example of the extent to which the department may be required to go in order to be an enforcement agency.]

(a) A building complies with the standard adopted in 15 AAC 155.010 if:

(1) the building has been rated by an energy rater under Chapter 4, Section 404 of the energy standard and has been assigned an energy rating of "four-star", "four-star plus", "five-star", or "five-star plus" using the Alaska Home Energy Rating System established under 15 AAC 155.510 - 15 AAC 155.560; however, a building constructed after December 31, 1994 must be assigned a "four-star plus" or higher rating in order to comply with the standard;

(2) an authorized inspector certifies in writing, in a format provided by the Corporation, that the building conforms to that standard. For purposes of this paragraph, an "Authorized Inspector" means a person who:

(A) is a licensed architect, a licensed engineer, or an individual who is registered under AS 08.18 to perform home inspections for new construction who has satisfied the requirements of (c) of this section; or

(B) a licensed mechanical contractor who has satisfied the requirements of (c) of this section, except that such a person may only certify compliance with the ventilation requirements of the energy standard;

(3) a certificate of occupancy or of compliance with a municipal building code has been issued for a building constructed after the building code of the municipality was determined by the executive director, under 15 AAC 155.030(d) to meet or exceed the standard adopted in 15 AAC 155.010;

(4) the building has been certified by the builder as complying with the standard under the provisions of 15 AAC 155.040;

(5) the building qualifies for financing under 15 AAC 151.600, relating to nonconforming housing, and has an energy rating, rated by an energy rater under Chapter 4, Section 404 of the energy standard, that is acceptable to the Corporation, or

(6) the Corporation determines that the documented proof of compliance with 15 AAC 155.010 by one or more individual units in a condominium building and other evidence demonstrates compliance with 15 AAC 155.010 by one or more other individual units in the condominium building which lack documented proof of compliance.

(b) Compliance with ventilation requirements may be certified separately from the certification of compliance with other requirements of the energy standard.

(c) In order to certify compliance with the standard under (a)(1), (a)(2), or (a)(4) of this section, a person must provide documentation to the Corporation showing that (1) the person has completed training approved by the Corporation in cold-climate home building, (2) the person has, within the last two years, completed training approved by the Corporation in BEES ventilation requirements, and (3) the person has successfully passed any testing required by the Corporation.

(d) A municipality may request from the executive director a determination of whether the municipality's building code meets or exceeds the standard adopted in 15 AAC 155.010. The request must include a copy of the applicable portions of the municipal building code and will be acted on as follows:

(1) the executive director will send a determination on the request to the municipality by certified mail within 60 days after receipt of the request; and

(2) a municipality may appeal the executive director's determination under 15 AAC 150.210.

(e) If the executive director determines under 15 AAC 155.030(d) that a municipality's building code does not meet or exceed the standard adopted in 15 AAC 155.010, the municipality may submit another request under 15 AAC 155.030(d) when the municipal code has been changed to bring it into compliance with that standard.

The AFHC Building Energy Efficiency Standard (BEES) is currently comprised of the 2012 International Energy Conservation Code (IECC), ASHRAE 62.2 2010, with Alaska-specific amendments to both. A minimum energy rating of 5 Star is required for projects with AHFC funding.

All buildings that began construction on or after January 1, 1992 must comply with BEES if AHFC or other state financial assistance is used in the purchase of a loan.

Municipality of Anchorage (MOA)

> **23.05.010 Adoption of codes.** In November 2015, the MOA adopted the International Energy Conservation Code, 2012 Edition with local amendments.
>
> Title 23.05.010.
> The Municipality of Anchorage, pursuant to Charter Section 10.04, adopts and incorporates by reference the following codes of technical regulation . . .
>
> Title 23.60.100 - 23.60.R405.3
> Local Amendments to the International Energy Conservation Code 2012 Edition.

Fairbanks (City and Borough)
The City of Fairbanks has adopted the 2009 IECC but enforcement is not regulated. Fairbanks North Star Borough (FNSB) has not adopted an energy code but there is anecdotal information that the borough has established R-values for envelope requirements.

**Requirements of the Standard**

To recap, in 2010, the department was required by statute to set standards for energy efficiency in school capital projects. In doing so, the department adopted ASHRAE 90.1 – 2010, a national standard prepared by that organization for use by authorities having jurisdiction (AHJs). Since there is no AJH enforcement of energy standards at the state-wide level, it is incumbent upon the department to assume AHJ responsibility and to establish rules for ASHRAE 90.1 compliance. Therefore, the department needs to develop methodology for both informing school districts and their consultants as to the requirements for compliance, and for how the department will review elements of the school plan for that compliance.

Under ASHRAE 90.1-2010 Section 4.2.2, compliance documentation requirements are as follows:

> **4.2.2.1 Construction Details**. Compliance documents shall show all the pertinent data and features of the *building, equipment, and systems* in sufficient detail to permit a determination of compliance by the *building official* and to indicate compliance with the requirement of this standard. And,
>
> **4.2.2.2 Supplemental Information**. Supplemental information necessary to verify compliance with this standard, such as calculations, worksheets, compliance forms, vendor literature, or other data, shall be made available when required by the *building official*. [emphasis in original]

There are two primary methods of reviewing compliance in the various building codes. The first is for the Owner (or its consultant) to prepare the designs and submit for permits and the AHJ to review the drawings, sometimes with the assistance of a checklist, to determine if the documents

meet the required standards. The second is for the consultant to self-check and communicate to the AHJ, again possibly with a checklist, showing how compliance with the standards is being met. In the case of ASHRAE 90.1, compliance measurement is somewhat complicated by the fact that the standard has two separate compliance paths, a prescriptive method, and a performance method. The prescriptive method establishes specific limitations for various discrete building systems and components which, taken together, will result in an efficient building. The performance method focuses on whole-building metrics and allows individual systems to exceed the prescriptive limitation if enhancements in other systems are made to offset the inefficiency created. As an example, the performance compliance method would allow the building to exceed the maximum percentage of windows on the exterior wall and off-set the energy loss by increasing the R-value of the remaining walls. This allowance for a performance method can result in increased flexibility and in overall efficiency, which can benefit both the recipient of state-aid and the department over the life of the building.

It is also very common for AHJs to amend codes and standards they adopt in order to customize the national or international code to the specific local conditions. Local conditions could be related to climate, building practices, ability to enforce, and a host of other factors. In most AHJs, including the Departments of Public Safety and Labor, at the state level, this is done through the regulation process and Alaska Administrative Code. While this process is essential for broad constituencies, something more streamlined may be adequate for the department's implementation of ASHRAE 90.1, since it is limited to schools and education related facilities. The United States Department of Energy has developed a compliance checklist for ASHRAE 90.1-2010, attached, as well as for the more recent 90.1 iterations (2013 and 2016). This checklist is designed towards field inspections but it can also be utilized for design reviews. It is proposed that the department develop a DEED-specific checklist based on the USDOE document. The DEED checklist would be developed through the 'committee process' similar to that of publications that have the force of regulations. At the point a checklist is developed, there are a few options for the department in reviewing project documents for compliance.

## Options for Consideration

### Option 1

Consultant/owner submits documents and the department utilizes the checklist during review. This is similar to many AHJs review of documents. However, most AHJs only review the final construction plans, whereas the department reviews all documents from the initial project agreement through all closeout documents. Typical drawings and specifications review occurs for 35% schematic design, 65% design development, 95% construction documents, and final signed contract/bid documents.

Option 1 allows a more continuous review by the department as documents are developed; however, it involves an increase in work for both the consultant and the department. When there is a large number of projects in need of review, the department's goal of a seven-calendar day review may not be achievable.

**Option 2**

Consultant uses the checklist and self-certifies that drawings are designed to ASHRAE 90.1-2010 standards. Self-certification would be included with the contract documents and the department could either not review for compliance or perform only a spot review.

Option 2 would involve a limited or no review of compliance by the department. The onus of compliance would fall strictly on the consultant. This would relieve the department from review and would not increase workload beyond a check to see if the consultant has self-certified. However, over the past year, department staff have observed designs not conforming to ASHRAE 90.1-2010 even when the consultant states that the drawings meet the standard.

**Option 3**

Multi-stage review and compliance process involving review by the department and some amount of self-checking by the consultant. This could involve discussions between the department and the owner/consultant and some items would involve how the consultant shows compliance in the documents being submitted. The basic outline of the procedure would be:

1. 35% Schematic Design – An edited compliance checklist would be developed for the project. The amount of editing would vary from a small amount for new construction to a large amount for a minor renovation like window replacement to an agreement of not applicable for replacement of finishes. This would be similar to submitting an outline of the specification section. There could be discussions between the department and the owner/consultant prior to submission of the edited checklist.
2. 65% Design Development through Contract Documents – Each set of designs would include documentation on the cover sheets of Architectural, Mechanical, and Electrical with items like lighting power densities, R-values, and air barriers, etc. as determined by the checklist. Documentation would include references and detail listings for items like air barrier sealing and building penetrations. In the equipment schedules there could be columns of ASHRAE requirements contrasted with items actual. At 65% design, consultant will supply building load and heating and ventilation calculations where these items are part of the project. Once all items are accepted as compliant, typically at 65% design, then the references and details can be transferred to later phases of design documents.
3. Construction Phase – During construction, the checklist would be provided to the contractor to inform requirements and for the contractor's periodic quality control checks. It would be provided to the owner's representative to inspect and certify that the items have been completed as required. The signed checklist would be a required submittal for project closeout.

Option 3 allows the department, owner, and consultant to agree on what the ASHRAE 90.1-2010 project requirements would be prior to major design effort. There would be limited amount of review requirement for the department and if all items are accepted as compliant at 65%, then

there would only be a transferring of the references and details to later phases of design. Adding the inspection component after construction assures the owner and the state that the final project is compliant and will operate as designed. An area of concern is when a design component (e.g. fan system) crosses an action threshold during later design phases, which then requires additional design and review. That is why the requiring calculations will help in determining if an action threshold has been crossed. The calculations can also be used to determine the amount of redundancy and whether over-design is happening.

## Recommendation(s)

### Recommendation 1

Adopt Option 3 as the department's method of administering energy efficiency standard in school construction. This would require altering the Project Agreement to list the ASHRAE compliance checklist as a submittal item at 35% design and the final inspection as a submittal at closeout. The *Capital Project Administration Handbook* would also need to be updated to include the requirements.

### Recommendation 2

This recommendation addresses ASHRAE 90.1 versions. In order to keep the department's energy standard current, the BR&GR would, under its responsibility in AS 14.11.014(b)(8), recommend and the department would adopt the same energy efficiency standards as DOT/PF as referenced in AS 44.42.067 (i.e., the most current version of ASHRAE 90.1). Alternatively, there could be legislation to amend AS 14.11 to match AS 44.42.067. The majority of major facility construction and renovations, either under state ownership or state supported, fall under either DOT/PF or DEED. Further, any construction or major maintenance of a school facility not performed by a school district or municipality is managed by DOT/PF. Having the same energy efficiency standard for the two largest state managers of facility construction and renovations makes sense.

# Score + Store

## Commercial Building Data Collection Checklist
ANSI/ASHRAE/IESNA Standard 90.1-2010

**Building ID:** _____ **Climate Zone:** _____

**Date:** _____ **Name of Evaluator(s):** _____

**Building Contact (optional): Name:** _____ **Phone:** _____ **Email:** _____

**Building Name:** _____ **Address:** _____ **Conditioned Floor Area:** _____ $ft^2$

**State:** _____ **County:** _____ **Jurisdiction:** _____

**Compliance Approach (check all that apply):** ☐ Prescriptive ☐ Trade-Off ☐ Performance

**Compliance Software (if used):** _____ **Above-Code Program:** _____

**Building Use:** ☐ Office ☐ Warehouse/Storage ☐ Education/School ☐ Lodging/Hotel/Motel ☐ Restaurant/Dining/Fast Food
☐ Retail/Mercantile ☐ High-Rise Residential ☐ Healthcare ☐ Public Assembly/Religious ☐ Other

**Building Ownership:** ☐ State-owned ☐ Local Government-owned ☐ National Account ☐ Speculative ☐ Private ☐ Other

**Foundation Type:** ☐ Below-Grade ☐ Slab ☐ Floor Over Unconditioned Space

**Project Type:** ☐ New Building ☐ Existing Building Addition ☐ Existing Building Renovation **Valuation (If Renovation):** $ _____

| 90.1-2010 Section # | Plan Review | Complies? | Comments/Assumptions |
|---|---|---|---|
| 4.2.2, 5.4.3.1.1, 5.7 [PR1][1] | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the building envelope and document where exceptions are claimed. Envelope tradeoff option (5.6) or energy cost budget (11) submitted for buildings with vertical fenestration area >40% or skylight area >5%. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 4.2.2, 6.4.4.2.1, 6.7.2 [PR2][1] | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions are claimed. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 4.2.2, 6.7.2.3, 6.7.2.4 [PR5][1] | Plans document that systems are balanced in accordance with generally accepted engineering standards. Detailed instructions for HVAC systems commissioning included on the plans or specifications for >=50,000 $ft^2$. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 4.2.2, 7.7.1, 10.4.2 [PR3][1] | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions are claimed. Service water pressure booster systems designed with pressure sensors, pressure reducers, and flow controls. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6][2] | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 4.2.2, 9.4.4, 9.7 [PR4][1] | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting systems and equipment and document where exceptions are claimed. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 4.2.2, 9.7 [PR8][2] | Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting systems and equipment and document where exceptions are claimed. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |

**Additional Comments/Assumptions:**

*General building information only required if different than above*

**Building ID:** _____

**Date:** _____ **Name of Evaluator(s):** _____

**Building Contact (optional): Name:** _____ **Phone:** _____ **Email:** _____

**Building Name:** _____ **Address:** _____ **Conditioned Floor Area:** _____ $ft^2$

**Compliance Approach (check all that apply):** ☐ Prescriptive ☐ Trade-Off ☐ Performance

**Compliance Software (if used):** _____ **Above-Code Program:** _____

| 90.1-2010 Section # | Footing / Foundation Inspection | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 5.5.3.3 [FO1][1] | Below-grade wall insulation R-value. | R-_____ | R-_____ | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.1.2 [FO2][1] | Below-grade wall insulation installed per manufacturer's instructions. | | If complies:<br>☐ Good<br>☐ Fair<br>☐ Poor | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.5.3.5 [FO3][1] | Slab edge insulation R-value. | R-_____<br>☐ Unheated<br>☐ Heated | R-_____<br>☐ Unheated<br>☐ Heated | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.1.2 [FO4][1] | Slab edge insulation installed per manufacturer's instructions. | | If complies:<br>☐ Good<br>☐ Fair<br>☐ Poor | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.5.3.5 [FO5][1] | Slab edge insulation depth/length. | _____ ft | _____ ft | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.1.7 [FO6][1] | Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.1.7.3 [FO7][1] | Insulation in contact with the ground has <=0.3% water absorption rate per ASTM C272. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 6.3.2, 6.4.4.1, 6.4.4.2 [FO8][1] | Piping, ducts and plenum are insulated and sealed when installed in or under a slab. | R-_____ | R-_____ | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 6.4.3.8 [FO9][3] | Freeze protection and snow/ice melting system sensors for future connection to controls. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 6.4.4.1.5 [FO11][3] | Bottom surface of floor structures incorporating radiant heating insulated to >=R-3.5. | R-_____ | R-_____ | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |

**Additional Comments/Assumptions:**

*General building information only required if different than above*

**Building ID:** _____

**Date:** _____ **Name of Evaluator(s):** _____

**Building Contact (optional): Name:** _____ **Phone:** _____ **Email:** _____

**Building Name:** _____ **Address:** _____ **Conditioned Floor Area:** _____ $ft^2$

**Compliance Approach (check all that apply):** ☐ Prescriptive ☐ Trade-Off ☐ Performance

**Compliance Software (if used):** _____ **Above-Code Program:** _____

| 90.1-2010 Section # | Framing / Rough-In Inspection | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 5.4.3.1.2 [FR15][1] | Continuous air barrier is wrapped, sealed, caulked, gasketed, and/or taped in an approved manner. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.4.3.2 [FR1][3] | Factory-built fenestration and doors are labeled as meeting air leakage requirements. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.4.3.4 [FR4][3] | Vestibules are installed where building entrances separate conditioned space from the exterior, and meet exterior envelope requirements. Doors have self-closing devices, and are >=7 ft apart. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.5.4.3a [FR8][1] | Vertical fenestration U-Factor. | U-_____ | U-_____ | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.5.4.3b [FR9][1] | Skylight fenestration U-Factor. | U-_____ | U-_____ | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.5.4.4.1 [FR10][1] | Vertical fenestration SHGC value. | SHGC:_____ | SHGC:_____ | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.5.4.4.2 [FR11][1] | Skylight SHGC value. | SHGC: _____ | SHGC: _____ | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.2.1 [FR12][2] | Fenestration products rated in accordance with NFRC. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.2.2 [FR13][1] | Fenestration products are certified as to performance labels or certificates provided. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.2.3, 5.5.3.6 [FR14][2] | U-factor of opaque doors associated with the building thermal envelope meets requirements. | U-_____<br>☐ Swinging<br>☐ Nonswinging | U-_____<br>☐ Swinging<br>☐ Nonswinging | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |

**Additional Comments/Assumptions:**

*General building information only required if different than above*

**Building ID:** _____

**Date:** _____ **Name of Evaluator(s):** _____

**Building Contact (optional): Name:** _____ **Phone:** _____ **Email:** _____

**Building Name:** _____ **Address:** _____ **Conditioned Floor Area:** _____ $ft^2$

**Compliance Approach (check all that apply):** ☐ Prescriptive ☐ Trade-Off ☐ Performance

**Compliance Software (if used):** _____ **Above-Code Program:** _____

| 90.1-2010 Section # | Plumbing Rough-In Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| 7.4.3 [PL1][2] | Service hot-water piping systems insulated. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection. | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 7.4.4.1 [PL2][3] | Temperature controls installed on service water heating systems (<=120 ºF to maximum temperature for intended use). | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 7.4.4.2 [PL3][1] | Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace. | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 7.4.6 [PL4][3] | Heat traps installed on non-circulating storage water tanks. | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |

**Additional Comments/Assumptions:**

*General building information only required if different than above*

**Building ID:**_____

**Date:** _____ **Name of Evaluator(s):** _____

**Building Contact (optional): Name:** _____ **Phone:** _____ **Email:** _____

**Building Name:** _____ **Address:** _____ **Conditioned Floor Area:** _____ $ft^2$

**Compliance Approach (check all that apply):** ☐ Prescriptive ☐ Trade-Off ☐ Performance

**Compliance Software (if used):** _____ **Above-Code Program:** _____

| 90.1-2010 Section # | Mechanical Rough-In Inspection | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 6.4.1.4, 6.4.1.5 [ME1][2] | HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1. | Efficiency:_____ | Efficiency:_____ | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.1.5.2 [ME2][3] | PTAC and PTHP with sleeves 16 in. by 42 in. labeled for replacement only. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.4.1 [ME3][3] | Stair and elevator shaft vents have motorized dampers that automatically close. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.4.2, 6.4.3.4.3 [ME4][3] | Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.4.4 [ME5][3] | Ventilation fans >0.75 hp have automatic controls to shut off fan when not required. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.4.5 [ME39][3] | Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.9 [ME6][1] | Demand control ventilation provided for spaces >500 $ft^2$ and >40 people/1000 $ft^2$ occupant density and served by systems with air side economizer, auto modulating outside air damper control or design airflow >3,000 cfm. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.10 [ME40][2] | Single zone HVAC systems with fan motors >=5 hp have variable airflow controls. Air conditioning equipment with a cooling capacity >=110,000 Btu/h has variable airflow controls. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.4.1.1 [ME7][3] | Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.4.1.2 [ME8][2] | HVAC ducts and plenums insulated. | R-_____ | R-_____ | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.4.1.3 [ME9][2] | HVAC piping insulation thickness. | _____ in. | _____ in. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.4.1.4 [ME41][3] | Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.4.2.1 [ME10][2] | Ducts and plenums sealed based on static pressure and location. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |

| 90.1-2010 Section # | Mechanical Rough-In Inspection | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 6.4.4.2.2 [ME11][3] | Ductwork operating >3 in. water column requires air leakage testing. | | | | |
| 6.5.1, 6.5.1.1.1, 6.5.1.1.2, 6.5.1.1.3, 6.5.1.3 [ME12][1] | Air economizers provided where required, meet the requirements for design capacity, control signal, and high-limit shut-off and integrated economizer control. | | | | |
| 6.5.1.1.4 [ME13][2] | Return air and outdoor air dampers meet minimum air leakage requirements. | | | | |
| 6.5.1.1.5 [ME14][1] | Means provided to relieve excess outside air during economizer operation. | | | | |
| 6.5.1.2, 6.5.1.2.1, 6.5.1.2.2, 6.5.1.3 [ME15][1] | Water economizers provided where required, meet the requirements for design capacity, maximum pressure drop and integrated economizer control and heating system impact. | | | | |
| | | | | | |
| 6.5.2.1 [ME17][1] | Zone controls can limit simultaneous heating and cooling and sequence heating and cooling to each zone. | | | | |
| 6.5.2.2.3 [ME18][2] | Hydronic heat pump systems connected to a common water loop meet heat rejection and heat addition requirements. | | | | |
| 6.5.2.3 [ME19][3] | Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream. | | | | |
| 6.5.2.4 [ME20][3] | Water economizer specified on hydronic cooling and humidification systems designed to maintain inside humidity at >35 ºF dewpoint if an economizer is required. | | | | |
| 6.5.3.1.2 [ME21][2] | HVAC fan motors not larger than the first available motor size greater than the bhp. | bhp:_____ | bhp:_____ | | |
| 6.5.3.2.1 [ME22][2] | VAV fan motors >=10 hp to be driven by variable speed drive, have a vane-axial fan with variable pitch blades, or have controls to limit fan motor demand. | ☐<br>☐ | | | |
| 6.5.3.2.2 [ME23][2] | VAV fans have static pressure sensors positioned so setpoint <=1/3 total design pressure. | | | | |
| 6.5.3.2.3 [ME24][2] | Reset static pressure setpoint for DDC controlled VAV boxes reporting to central controller based on the zones requiring the most pressure. | | | | |
| 6.5.3.3 [ME42][3] | Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls. | | | | |

| 90.1-2010 Section # | Mechanical Rough-In Inspection | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 6.5.3.4 [ME43][3] | Multiple zone HVAC systems have supply air temperature reset controls. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.4.1 [ME25][3] | HVAC pumping systems >10 hp designed for variable fluid flow. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.4.2 [ME26][3] | Reduce flow in pumping systems >10 hp to multiple chillers or boilers when others are shut down. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.4.3 [ME27][3] | Temperature reset by representative building loads in pumping systems >10 hp for chiller and boiler systems >300,000 Btu/h. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.4.4.1 [ME28][3] | Two-position automatic valve interlocked to shut off water flow when hydronic heat pump with pumping system >10 hp is off. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.4.4.2 [ME44][3] | Hydronic heat pumps and water-cooled unitary air conditioners with pump systems >5 hp have controls or devices to reduce pump motor demand. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.5.2 [ME29][3] | Fan systems with motors >=7.5 hp associated with heat rejection equipment can operate at 2/3 of full-speed and have fan speed controls. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.5.3 [ME45][3] | Centrifugal fan open-circuit cooling towers with a combined capacity >1,100 gpm meet the cooling tower requirements in Table 6.8.1G. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.6.1 [ME30][1] | Exhaust air energy recovery on systems >=5,000 cfm and 70% of design supply air. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.6.2 [ME31][3] | Condenser heat recovery system that can heat water to 85 ºF or provide 60% of peak heat rejection is installed for service hot water in 24/7 facility, water cooled systems reject >6 MMBtu, and SHW load >=1 MMBtu. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.7.1.1 [ME32][2] | Replacement air introduced directly into the hood cavity of kitchen exhaust hoods shall not exceed 10% of the hood exhaust airflow rate. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.7.1.2 [ME46][3] | Conditioned supply air to space with a kitchen hood shall not exceed the greater of a) supply flow required to meet space heating or cooling, or b) hood exhaust flow minus the available air transfer from available spaces. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.7.1.3 [ME47][3] | Kitchen hoods with a total exhaust airflow rate >5,000 cfm meet exhaust rate requirements. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.7.1.4 [ME48][3] | Kitchen hoods with a total exhaust airflow rate >5,000 cfm meet replacement air, ventilation system, or energy recovery requirements. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.5.7.1.5 [ME49][3] | Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |

| 90.1-2010 Section # | Mechanical Rough-In Inspection | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 6.5.7.2 [ME33][1] | Fume hoods exhaust systems >=15,000 cfm have VAV hood exhaust and supply systems, direct make-up air or heat recovery. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 6.5.8.1 [ME34][3] | Unenclosed spaces that are heated use only radiant heat. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 6.5.9 [ME35][1] | Hot gas bypass limited to:<br><=240 kBtu/h – 50%<br>>240 kBtu/h – 25% | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 7.4.2 [ME36][2] | Service water heating equipment meets efficiency requirements. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 7.5.1 [ME37][2] | Combined space and water heating system not allowed unless standby loss less than calculated maximum. AHJ has approved or combined connected load <150 KBtu/h. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 7.5.2 [ME38][2] | Service water heating equipment used for space heating complies with the service water heating equipment requirements. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |

**Additional Comments/Assumptions:**

*General building information only required if different than above*

**Building ID:** _____

**Date:** _____ **Name of Evaluator(s):** _____

**Building Contact (optional): Name:** _____ **Phone:** _____ **Email:** _____

**Building Name:** _____ **Address:** _____ **Conditioned Floor Area:** _____ $ft^2$

**Compliance Approach (check all that apply):** ☐ Prescriptive ☐ Trade-Off ☐ Performance

**Compliance Software (if used):** _____ **Above-Code Program:** _____

| 90.1-2010 Section # | Rough-In Electrical Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| 8.4.2 [EL10][2] | At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.1.1 [EL1][2] | Automatic lighting control to shut off all building lighting installed in buildings >5,000 $ft^2$. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.1.2 [EL2][2] | Independent lighting control installed per approved lighting plans and all manual control readily accessible and visible to occupants. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.1.3 [EL11][2] | Parking garage lighting is equipped with required lighting controls and daylight transition zone lighting. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.1.4 [EL12][1] | Primary sidelighted areas >=250 $ft^2$ are equipped with required lighting controls. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.1.5 [EL13][1] | Enclosed spaces with daylight area under skylights and rooftop monitors >900 $ft^2$ are equipped with required lighting controls. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.1.7 [EL3][2] | Automatic lighting controls for exterior lighting installed. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.1.6 [EL4][1] | Separate lighting control devices for specific uses installed per approved lighting plans. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.2 [EL6][1] | Exit signs do not exceed 5 watts per face. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.3 [EL7][1] | Exterior grounds lighting over 100 W provides >60 m/W unless on motion sensor or fixture is exempt from scope of code or from external LPD. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.6.2 [EL8][1] | Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.6.3 [EL14][3] | Where space LPD requirements are adjusted based on room cavity ratios, dimensions are consistent with approved plans. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 10.4.1 [EL9][2] | Electric motors meet requirements where applicable. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |

**Additional Comments/Assumptions:**

*General building information only required if different than above*

**Building ID:** _____

**Date:** _____ **Name of Evaluator(s):** _____

**Building Contact (optional): Name:** _____ **Phone:** _____ **Email:** _____

**Building Name:** _____ **Address:** _____ **Conditioned Floor Area:** _____ ft²

**Compliance Approach (check all that apply):** ☐ Prescriptive ☐ Trade-Off ☐ Performance

**Compliance Software (if used):** _____ **Above-Code Program:** _____

| 90.1-2010 Section # | Insulation Inspection | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 5.4.3.1 [IN1][1] | All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed or weather stripped to minimize air leakage. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.5.3.1 [IN2][1] | Roof R-value. For some roof systems, verification may need to occur during Framing Inspection. | R-_____ ☐ Above deck ☐ Metal ☐ Attic | R-_____ ☐ Above deck ☐ Metal ☐ Attic | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.8.1.2, 5.8.1.3 [IN3][1] | Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12. | | If complies: ☐ Good ☐ Fair ☐ Poor | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.5.3.1 [IN4][3] | Skylight curbs insulated to the level of roofs with insulation above deck or R-5. | R-_____ | R-_____ | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.5.3.1.1 [IN5][3] | High-albedo roofs meet solar reflectance of 0.70 and thermal emittance of 0.75 or SRI of 82. | SR:_____ SRI:_____ | SR:_____ SRI:_____ | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.5.3.2 [IN6][1] | Above-grade wall insulation R-value. | R-_____ ☐ Mass ☐ Metal ☐ Steel ☐ Wood | R-_____ ☐ Mass ☐ Metal ☐ Steel ☐ Wood | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.8.1.2 [IN7][1] | Above-grade wall insulation installed per manufacturer's instructions. | | If complies: ☐ Good ☐ Fair ☐ Poor | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.5.3.4 [IN8][1] | Floor insulation R-value. | R-_____ ☐ Mass ☐ Steel ☐ Wood | R-_____ ☐ Mass ☐ Steel ☐ Wood | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.8.1.2 [IN9][1] | Floor insulation installed per manufacturer's instructions. | | If complies: ☐ Good ☐ Fair ☐ Poor | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.8.1.1 [IN10][2] | Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.8.1.4 [IN11][2] | Eaves are baffled to deflect air to above the insulation. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.8.1.5 [IN12][2] | Insulation is installed in substantial contact with the inside surface separating conditioned space from unconditioned space. | | If complies: ☐ Good ☐ Fair ☐ Poor | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 5.8.1.6 [IN13][2] | Recessed equipment installed in building envelope assemblies does not compress the adjacent insulation. | | | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |

| 90.1-2010 Section # | Insulation Inspection | Plans Verified Value | Field Verified Value | Complies? | Comments/Assumptions |
|---|---|---|---|---|---|
| 5.8.1.7 [IN14][2] | Exterior insulation is protected from damage with a protective material. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.1.7.1 [IN15][2] | Attics and mechanical rooms have insulation protected where adjacent to attic or equipment access. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.1.7.2 [IN16][2] | Foundation vents do not interfere with insulation. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |
| 5.8.1.8 [IN17][3] | Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly. | | | ☐ Complies<br>☐ Does Not Comply<br>☐ Not Observable<br>☐ Not Applicable | |

**Additional Comments/Assumptions:**

*General building information only required if different than above*

**Building ID:** _____

**Date:** _____ **Name of Evaluator(s):** _____

**Building Contact (optional): Name:** _____ **Phone:** _____ **Email:** _____

**Building Name:** _____ **Address:** _____ **Conditioned Floor Area:** _____ $ft^2$

**Compliance Approach (check all that apply):** ☐ Prescriptive ☐ Trade-Off ☐ Performance

**Compliance Software (if used):** _____ **Above-Code Program:** _____

| 90.1-2010 Section # | Final Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| 5.4.3.3 [FI1][1] | Weatherseals installed on all loading dock cargo doors in Climate Zones 4-8. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.1.1 [FI2][2] | Heating and cooling to each zone is controlled by a thermostat control. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.1.2 [FI3][3] | Thermostatic controls have a 5 °F deadband. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.2 [FI20][3] | Temperature controls have setpoint overlap restrictions. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.3.1 [FI21][3] | HVAC systems equipped with at least one automatic shutdown control. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.3.2 [FI22][3] | Setback controls allow automatic restart and temporary operation as required for maintenance. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.3.3 [FI4][2] | Systems with air capacity >10,000 cfm include optimum start controls. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.3.4 [FI23][3] | Zone isolation devices and controls. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.5 [FI5][3] | Heat pump controls prevent supplemental electric resistance heat from coming on when not needed. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.4.3.7 [FI6][3] | When humidification and dehumidification is provided to a zone, simultaneous operation is not possible. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.7.2.1 [FI7][3] | Furnished HVAC as-built drawings submitted within 90 days of system acceptance. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.7.2.2 [FI8][3] | Furnished O&M manuals for HVAC systems. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 6.7.2.3 [FI9][1] | An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 $ft^2$ of conditioned area. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |

| 90.1-2010 Section # | Final Inspection | Complies? | Comments/Assumptions |
|---|---|---|---|
| 6.7.2.4 [FI10][1] | HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 7.4.4.3 [FI11][3] | Public lavatory faucet water temperature <=110 ºF. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 7.4.4.4 [FI12][3] | Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 7.4.5.1 [FI13][3] | Pool heaters are equipped with on/off switch and no continuous burning pilot light. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 7.4.5.2 [FI14][2] | Pool covers are provided for heated pools and pools heated to >90 ºF have a cover >=R-12. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 7.4.5.3 [FI15][3] | Time switches are installed on all pool heaters and pumps. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 8.7.1 [FI16][3] | Furnished as-built drawings for electric power systems within 30 days of system acceptance. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 8.7.2 [FI17][3] | Furnished O&M manuals for electrical power systems and equipment. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.2.2.3 [FI18][1] | Installed lamps and fixtures are consistent with what is shown on the approved lighting plans, which demonstrate proposed watts are less than or equal to allowed watts. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 9.4.3 [FI19][1] | Exterior lighting power is consistent with what is shown on the approved lighting plans, which demonstrate proposed watts are less than or equal to allowed watts. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |
| 10.4.3 [FI20][2] | Elevators are designed with the proper lighting, ventilation power, and standby mode. | ☐ Complies ☐ Does Not Comply ☐ Not Observable ☐ Not Applicable | |

**Additional Comments/Assumptions:**

**By:** Tim Mearig
Facilities Manager

**Phone:** 465-6906

**For:** Bond Reimbursement & Grant Review Committee

**Date:** November 30, 2018

**File:** G:\SF Facilities\BR_GRCom\Papers\Space\Space - Issues c2019.docx

**Subject:** Space Allocation Issues – First Looks

# B R I E F I N G  P A P E R

## Background

Substantive changes to the state's space allocation for K-12 schools were last made in December 2002. The 16-year interval between that last update and the date of this paper is not, by itself, any particular cause for concern regarding the validity of those standards. Instead, the question at hand is, "Have there been substantive changes in the delivery of K-12 education, or in building system requirements over the past 16 years that have impacted the amount of space needed to provide an adequate education?" The answer to this question might well result in a decrease in space needs rather than an increase—though, undoubtedly, the latter is assumed by most people. Regardless, 16 years is a long period of stasis in a world that seems to be in constant change; it is time to both ask and answer the question.

For the State of Alaska, the question is neither academic nor likely to be inconsequential. In Alaska, space allocation means resource allocation—funding. In a briefing paper prepared in 2005, the exposure to the state associated with the 2001/2002 space allocation increase was assessed at $80 million. That number would be 60% higher today. In a time of fiscal constraint, any increase to the state's space allocation is going to be closely scrutinized. In past instances, the catalyst for engaging in an analysis of space allocations has come from accuracy issues. Examples of these are the knowledge that the current calculation has at least a piece of it that is "broken", or that in applying the elements that comprise the allocation (e.g., terms, definitions, etc.), parties are unable to arrive at the same allocation amount. Once opened for analysis on an accuracy basis, a second category of space allocation issues—adequacy—is prone to surface and is often undertaken. This briefing paper discusses both of these categories: accuracy issues and adequacy issues.

## Discussion

### Accuracy Issues

During the past year, while running some space allocations using the department's *Attendance Area ADM and GSF Calculations* tool, department staff encountered an anomaly in which an allowable space calculation for a specific student population under the K-12 allocation resulted in less space than when that population was run under the K-6 and 7-12 allocations and combined. Generally, this should not occur. The K-12 allocation includes, in its supplemental square feet element, an allowance for additional storage as may be associated with bulk delivery

of operations and maintenance supplies. Work to isolate and establish the magnitude of this discrepancy has not been undertaken, as yet, at the department. We don't yet know if the issue is in the actual space allocation formula contained in regulation, or in the tool only (i.e., an errant calculation).

In the past three years, mostly as a result of personnel changes within the Facilities section, a number of questions have arisen around the application of space allocations—primarily that of measuring space—that fall into the 'interpretation' category. Every effort is made during the development of regulations to have clear, understandable, and enforceable language. Inevitably, however, due to the unique variations found within the full spectrum of school capital projects, clarity isn't achieved on a particular project and interpretation is needed. The tabulation below shows some of the areas where computations of school space have varied between projects and parties due to a lack of clarity in the regulations.

*Precedent and Interpretation Options*

| | | |
|---|---|---|
| Water Treat/Storage | Fire Water | Generator |
| Waste Water Treat | Fire Pumps | Stairs |
| Mech/Plumbing Chase | Exterior | Elevators |
| Fan Room Ducting | | |

Under 4 AAC 31.020(e)(2), is the allowance for water and waste water treatment space; is it intended to be 5% of the allowable space for both, combined, or for each? Is the allowance for water storage intended for fire sprinkler water, for potable water, or for both? Shouldn't there be an allowance for fire pump rooms, as not all schools need them equally? Is the space to house generators included under this section of allowances; what about prime power generators versus back-up power generators?

Under 4 AAC 31.020(e), is the exterior face of exterior wall the furthest protrusion in the siding and/or trim or is it supposed to be the exterior of the structural component of the wall? What is a utility distribution area really? Are HVAC shafts included in the term 'pipe chase'? How should stairs and openings be counted in the GSF?

**Adequacy Issues**

Within the current BR&GR Work Topics Master List (last updated 12/2017), the following topics have accumulated under the Space Allocation Issues section:

- Career Tech
- Resource Rooms and Special Ed
- Space Related to Security
- Net vs. Gross
- Electrical/Mechanical Space (ASHRAE 90.1, etc.)
- Storage in Remote Areas
- "Found Space" (cost-effectiveness test)
- Replacement Schools Clarifications
- Non-school Facilities
- Educational Adequacy/Space Increase

- Community Use Space
- Pre-school
- Out-of-District Enrollment (vocational/charters, etc.)
- Second Attendance Area Schools
- Enrollment Projection Models
- Standard Gym Size

Of these, three of the most prevalent are:

1) Net vs. Gross – there is a persistent question as to whether the inclusion of wall thickness within the GSF calculation is appropriate and fair.
2) Electrical/Mechanical Space – this has been heightened by the department's recent 'enforcement' of ASHRAE 90.1 and ties in also with Net vs. Gross.
3) Storage in Remote Areas – when can you have too much storage.

## Recommendation(s)

This briefing paper is a simple 'soft-start' in the area of space allocations. The Background provides some history and perspective for the Committee on space allocations. The Discussion section describes how some accuracy issues may be functioning as a catalyst to analyze and update our space allocation and provides a compendium of collected issues.

The Committee should consider initiating an analysis and update of the state's space allocation with an awareness of both the need and the resource implications. This could include requests of the department for information and analysis, creation of a subcommittee, and/or reaching out to industry partners such as the Alaska Chapter A4LE.

**By:** Larry Morris
Architect Assistant

**Phone:** 465-1858

**For:** Bond Reimbursement & Grant Review Committee

**Date:** November 30, 2018

**File:** G:\SF Facilities\BR_GRCom\Papers\CIP\Completed Project Approvals BP_11-30-18.docx

**Subject:** Procedures for projects anticipating reimbursement through CIP funding

# B R I E F I N G  P A P E R

## Background

In each Capital Improvement Project (CIP) grant application cycle, a number of districts apply for reimbursement of expenditures for projects that have already been completed. These projects are often more likely to be in line for available funding for a couple of reasons. First, they have a significant advantage in scoring under the current Rater's Guideline rubrics in the categories Cost Estimate, Planning & Design, and, to a lesser extent, Emergency. As a result, these projects migrate toward the top of the CIP priority lists. In general, these projects are also smaller in scope and, as a result, have lower amounts of state share. Under the provisions of 4 AAC 31.023, when funding is limited, these smaller projects have an increased chance of fitting within the available funding.

However, after award of funding, many projects have issues with procedures that can negatively impact the reimbursement that the district should receive. While the raters attempt to find and address issues during the review, there is not time to conduct an in-depth analysis of the project scope and its procurement; some issues are also not obvious until after award of the grant. Most of these types of issues could be avoided and the reimbursement process made more efficient if the department was involved from the beginning.

This paper discusses the relevant statutes and regulations that allow for reimbursement of prior expenditures on projects. It covers in detail the projects submitted, and the issues noted, for the FY2019 CIP application and funding cycle and provides possible ways to avoid these issues. Recommendations to improve the process are provided following the analysis.

## Discussion

The following statute allows for the reimbursement of capital project funds expended prior to a grant and allows the department to establish the time frame for the reimbursement.

> **Sec. 14.11.017. Grant conditions.**
> (a) The department shall require in the grant agreement that a municipality that is a school district or a regional educational attendance area
> (5) submit to the department for approval, before award of the contract, a plan for the project that includes educational specifications, final drawings, and contract documents.

***(b) The cost of any school construction or major maintenance activity encompassed by the definition of "costs of school construction" under AS 14.11.135 is payable under a grant awarded from the appropriate fund under AS 14.11.015 without regard to whether the costs were incurred before the***

***(1) award of the grant;***

***(2) approval of the grant application by the board; or***

***(3) effective date of an appropriation to the appropriate grant fund for the year in which the grant is funded.***

***(c) The department, by regulation, may establish the time period in which activities described in (b) of this section must have occurred in order to be paid under a grant.*** [emphasis added]

As provided under the statute, the department has, by the regulation shown below, established the time period for eligible prior costs.

**4 AAC 31.023. Grant or other financial assistance award, allocations, and conditions**

. . .

(c) The department will, before the disbursement of grant or allocations of other financial assistance money to a school district, require the execution of a grant or other financial assistance agreement, on a form prescribed by the commissioner, that contains the following conditions:

(1) the project will be constructed and equipped under the requirements of 4 AAC 31.020(a), within the project budget determined under 4 AAC 31.022(e);

(2) money will be disbursed as the parties agree to allow the accomplishment of stages in the project, such as site acquisition; design and construction; and to reimburse the district for money actually and necessarily spent, before the award of the grant or allocation of other financial assistance,

***(A) for planning costs, design costs, and construction costs incurred not more than 36 months before the submission of the grant application;*** [emphasis added]

Statute and regulation establish various project execution requirements for all grant CIP projects; there are no exceptions for those projects requesting reimbursement of expenditures. However, during the FY2019 CIP application cycle, there were 15 grant applications for reimbursement, eight of which appear to have issues with the procedures used in executing the projects. Noted issues include:

- Design in excess of $50,000 and no indication of procedures used to select consultant.
- Self-performing without prior approval or exceeding the $100,000 threshold.
- Alternative project delivery methods used for procurement of construction without prior approval.
- Not awarding to lowest responsive bidder.
- Partial project funding from another government agency and problems with proper accounting of expenses attributed to the AS 14.11 portion of the project.

- A siding and window replacement project installed a vapor barrier product on the cold side of the wall causing the department to notify the district that the department would not support future repairs if caused by to moisture condensation issues.

The FY 2020 CIP cycle saw applications for 11 fully completed and 6 partially completed projects (some of these completed projects were also submitted in FY 2019). Many of the project execution issues noted from FY 2019 were also found in FY 2020. An additional item for 2020 was:

- Including maintenance items in the project scope.

Similar issues were seen with the grants funded in FY 2018 based on review of submittals for those projects. In no case for the projects funded in FY 2019, were the projects so complicated that following proper procedures was not possible. Instead, the apparent cause for a majority of the issues was inadequate planning to ensure the project complied with department statutes and regulations when executed. Often, these are cases where a school district performs capital work and later realizes, possibly informed by the department or by a third party, that the project could be submitted for reimbursement under a CIP application.

The department's goal is to assist a district in knowing that, when they undertake an AS 14.11-qualified project, they are able to submit for reimbursement and should avoid potential mistakes that could reduce or eliminate their eligibility. Treating all projects as a candidate for state-aid under AS 14.11 would help. The best way to avoid problems is to engage the department early in the planning process. The department, has made review of non-awarded project documents available dependent on staffing and work load.

If a district approaches the department during the planning phase of a capital project, the department can review the scope and budget to determine whether the project qualifies as a project eligible for AS 14.11 funding. If it is, the department can work with the district in establishing the proper procedures and submittals. The department can assist in reviewing submittals that would normally be reviewed for approval after award of a grant, so that the district can be assured that there will be no problems.

Following this approach to project execution will assist districts making needed capital improvement--which the department supports and encourages--and will ensure that, if the required processes are followed, there will not be any problems when the project receives grant funding. This will also be more efficient for both the district and the department with respect to personnel and will reduce the problem of retrieving information from old project files that may be lost or missing. In order for this to happen, some recommendations are offered for consideration.

## Recommendation(s)

Three recommendations are presented. The first two are actions that the department can take to establish an efficient system for working with the districts on capital projects that will be seeking reimbursement. The third is for a regulatory change in 4 AAC 31.023 to require districts to involve the department early in the planning stages.

**Recommendation 1 (internal)**

The department should undertake a state-wide information and training initiative to make districts aware that the department will receive, review, and provide guidance on projects that districts intend to accomplish using their own funds and then seek reimbursement through the CIP application process. The information campaign should highlight the benefits of submitting those projects prior to beginning work. This can be done through an e-mail blast, during CIP workshops, development of specific website content, and other means that are found to be useful.

**Recommendation 2 (internal)**

The department should establish both a paper and electronic filing system for projects on which districts will be executing with local funds and seeking reimbursement under CIP. The system should be subdivided by district to assist in organization. The project numbers will be the two-digit district number followed by the year established and then the name per department naming convention. The first part of the project would include a modified CIP application listing the project description, background, review of any estimates, options, and whether there are any expected procurement variances like self-performing or bidder design. The department can set up a project folder so that when the project is finally submitted reviews are complete and when the project is funded, reimbursement can be made in a more efficient manner. The department will establish the project folder and give the district a list of submittal expectations. The goal is to give the district all possible help in executing an AS 14.11 compliant project.

**Recommendation 3**

This involves requiring districts to establish their projects with the department prior to an application for CIP. This would be a tiered requirement with the following and is predicated on needing a year to get regulations into place:

1. Those projects being initially submitted for the FY 2022 application cycle will have their projects established with the department and be current with their submittals.
2. Those projects being initially submitted after the FY 2022 cycle shall have their projects established prior to expenditures on the project and be current on all submittals.

Regulatory change could look like:

> 4 AAC 31.023. Grant or other financial assistance award, allocations, and conditions.
> ...
> (c) The department will, before the disbursement of grant or allocations of other financial assistance money to a school district, require the execution of a grant or other financial assistance agreement, on a form prescribed by the commissioner, that contains the following conditions:
> (2) money will be disbursed as the parties agree to allow the accomplishment of stages in the project, such as site acquisition; design and construction; and to reimburse the district for money actually and necessarily spent, before the award of the grant or allocation of other financial assistance,

(A) for planning costs, design costs, and construction costs incurred not more than 36 months before the submission of the grant application;

(B) site acquisition costs incurred not more than 120 months before the grant or other financial assistance application for which the department has given its approval under 4 AAC 31.025;

**(C) for initial applications due September 2020, project shall be registered in the departments system for tracking projects requesting reimbursement of expended funds, and be current on submittals;**

**(D) for initial applications due after September 2020, projects shall be registered in the departments system for tracking projects requesting reimbursement of expended funds from the beginning of the project and current on submittals**

The CIP application question (Q.3f) would be modified to include a place for the established project number as a reference to the department.


# Alaska School Facilities Preventive Maintenance & Facility Management Handbook

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**ACKNOWLEDGEMENTS**

Thanks to the Bond Reimbursement and Grant Review Committee members and to school facility personnel across the state who reviewed this publication in its earlier editions and responded to the Department of Education & Early Development with comments for this 3rd Edition.

# Table of Contents

The primary focus of the original (1997) and second edition (1999) of the *Alaska School Facilities Preventive Maintenance Handbook* was to present school districts with a basic outline on how to develop and implement a preventive maintenance program. At that point in history, the Department of Education and Early Development realized that many of the school facilities built following the oil boom of the late 1970s were in poor condition and several were already in dire need of major repairs a mere couple decades after original commissioning. In some cases, it was found that the operational systems for many of these schools were having their life-expectancy curtailed mainly because of maintenance staffing levels, training, and management practices. Even though preventive maintenance was present in some of our school districts, other school districts appeared to be unaware of its existence, or simply did not know how to go about managing their schools with adequate maintenance in a manner which would benefit each school while keeping operational and maintenance costs under control.

As a proposal to address these issues, and as a means to better streamline accountability and efforts in all school districts across the state, state officials focused their attention to ensure school districts had at least minimum standards for preventive maintenance and facility management program. In 1998, new legislation~~s~~ was passed and in 2000 regulations were promulgated to implement minimum criteria for maintenance and facility management if school districts wished to remain eligible for state-aid for school capital projects.

The prime objective of these new standards was to empower school districts to develop functioning preventive maintenance and facility care programs; as a reward for their efforts and demonstrated achievements, the department would then enable eligible school districts to apply for future grants.

This narrative summarizes the birth of the preventive maintenance program and the main factors which came about to justify its existence. It was imperative that the department and districts collaborate to ~~move~~ moving all districts beyond a point of ~~being stuck in a world of~~ perpetual "breakdown maintenance" ~~where nothing is done until the equipment breaks down~~and capital expenditure to integrated, sustainable, best-practice facility care and management. This type of maintenance and facility management is ~~detrimental~~ beneficial to the taxpayer, to maintenance personnel, and to the students and staff in our schools.

Alaska Statutes (AS):

- Assign responsibility for preventive maintenance, custodial services and routine maintenance (AS 14.14.090, AS 14.08.111, AS 14.14.060)

  AS 14.14.090. In addition to other duties, a school board shall . . .
  (10) provide for the development and implementation of a preventive maintenance program for school facilities . . .

  AS 14.08.111. A regional school board shall . . .
  (8) provide custodial services and routine maintenance of school buildings and facilities;

  AS 14.14.060
  (f) The borough school board shall provide custodial services and routine maintenance for school buildings and shall appoint, compensate and otherwise control personnel for these purposes. The borough assembly through the borough administrator, shall provide for all major rehabilitation, all construction and major repair of school buildings. The recommendations of the school board shall be considered in carrying out the provisions of this section.

- Define preventive maintenance (AS 14.14.090); and,

  AS 14.14.090
  (10) . . . in this paragraph, "preventive maintenance" means scheduled maintenance actions that prevent the premature failure or extend the useful life of a facility, or a facility's systems and components, and that are cost-effective on a life-cycle basis.

- Establish the requirements of a preventive maintenance plan (AS 14.11.011, AS 14.11.100).

  AS 14.11.011
  (b) For a municipality that is a school district or a regional educational attendance area to be eligible for a grant under this chapter, the district shall submit . . .
  (4) evidence acceptable to the department that the district
  (A) has a preventive maintenance plan that
  (i) includes a computerized maintenance management program, cardex system, or other formal systematic means of tracking the timing and costs associated with planned and completed maintenance activities, including scheduled preventive maintenance;
  (ii) addresses energy management for buildings owned or operated by the district;
  (iii) includes a regular custodial care program for buildings owned or operated by the district;
  (iv) includes preventive maintenance training for facility managers and maintenance employees;

(v) includes renewal and replacement schedules for electrical, mechanical, structural, and other components of facilities owned or operated by the district; and

(B) is adequately adhering to the preventive maintenance plan.

AS 14.11.100

(j) Except as provided in (l) of this section, the state may not allocate money to a municipality for a school construction project under (a)(5), (6), or (7) of this section unless the municipality complies with the requirements of (1) - (5) of this subsection . . . . In approving a project under this subsection, and to the extent required under (a)(8) - (17) of this section, the commissioner shall require . . .

(5) evidence acceptable to the department that the district

(A) has a preventive maintenance plan that

(i) includes a computerized maintenance management program, cardex system, or other formal systematic means of tracking the timing and costs associated with planned and completed maintenance activities, including scheduled preventive maintenance;

(ii) addresses energy management for buildings owned or operated by the district;

(iii) includes a regular custodial care program for buildings owned or operated by the district;

(iv) includes preventive maintenance training for facility managers and maintenance employees; and

(v) includes renewal and replacement schedules for electrical, mechanical, structural, and other components of facilities owned or operated by the district; and

(B) is adequately following the preventive maintenance plan.

Read in their entirety, these statutes establish that preventive maintenance of Alaska schools is solely the responsibility of school districts and that funding for such must be included within the district's operating budget. Some school districts share the duties of maintenance with another agency within the city or borough. The statutes in no way prohibit school districts from acting in conjunction with these associated agencies to effect all or a part of their maintenance program. However, doing so does not relieve the school board of its obligations in the areas of preventive maintenance.

Also, based on this statutory authority, the department's capital improvement project (CIP) application does not allow capital funding for the accomplishment of preventive maintenance ~~nor for projects caused by lack of it~~. A district requesting capital funding ~~from either the~~for both school construction ~~fund or~~and major maintenance ~~fund~~ projects must provide "evidence that the proposed project should be a capital improvement project and not part of a preventive maintenance program, or regular custodial care program." (AS 14.11.011(b)(3))

Alaska Administrative Code (AAC):

- Provides direction in regulation for development of a school district Preventive Maintenance and Facility Management program and for periodic review by the department that districts are adhering to the plan.

4 AAC 31.013. Preventive maintenance and facility management

(a) For a district to be eligible for state aid under AS 14.11.011 , the district must have a facility management program that addresses the following five elements of facility and maintenance management:

(1) a formal maintenance management program that records maintenance activities on a work order basis, and tracks the timing and cost, including labor and materials, of maintenance activities in sufficient detail to produce reports of planned and completed work;

(2) an energy management plan that includes recording energy consumption for all utilities on a monthly basis for each building; for facilities constructed before 12/15/2004, a district my record energy consumption for utilities on a monthly basis when multiple buildings are served by one utility plant;

(3) a custodial program that includes a schedule of custodial activities for each building based on type of work and scope of effort;

(4) a maintenance training program that specifies training for custodial and maintenance staff and records training received by each person; and

(5) a renewal and replacement schedule that, for each school facility of permanent construction over 1,000 gross square feet, identifies the construction cost of major building systems, including electrical, mechanical, structural and other components; evaluates and establishes the life-expectancy of those systems; compares life-expectancy to the age and condition of the systems; and uses the data to forecast a renewal and replacement year and cost for each system.

(b) Repealed 12/15/2004.

(c) At the request of a chief school administrator, the department will assist a district in implementing a qualifying preventive maintenance program through consultation, on-site reviews, and training.

(d) Repealed 12/15/2004.

(e) On an annual basis, the department shall provide a preliminary notice to each district regarding its compliance with each element required in (a) of this section, based on evidence of a program that was previously provided to the department, or that was gathered by the department during an on-site visit conducted under (f) of this section. On or before June 1, the department will provide its preliminary notice. The department may change a determination of non-compliance at any time during the year based on new evidence. Districts that are not in full compliance must provide evidence of compliance to the department by August 1. On or before August 15, the department will notify districts of its final determination regarding compliance. The department will deny a grant

application submitted under AS 14.11.011 by a district that has received a final determination from the department that the district is out of compliance with this section.

(f) The department shall conduct on-site inspections of school district preventive maintenance and facility management programs at least once every five years. The department may make additional inspections as it deems necessary. The department may change its determination of compliance based on information obtained during the on-site inspections.

(g) In this section

(1) "district" has the meaning given in AS 14.11.135 ;

(2) "maintenance activities" means all work performed by district staff or contractors on building systems, components, utilities, and site improvements.

# Facility Management Overview

## Facility Management as a Strategy

### Overview

The preceding Background section summarizes the genesis of department-generated preventive maintenance guidance and the following legislation-driven expansion of that narrow facilities care element into a more comprehensive maintenance and facility management requirement. Over the past fifteen years, nearly 100% of Alaska's school districts have achieved compliance in meeting minimum standards. Every school district, with a single exception, has at some point between 2001 and 2016, met the state's minimum standards for maintenance and facility management of school facilities. In August 2002, only six districts met minimum standards. By August 2003, the number was 22. It peaked at 52 school districts in 2008. Disturbingly, since the peak in 2008, and through 2017, two school districts lost certification (and regained it) and an additional 12 school districts have experienced a year or more of provisional compliance where minimum standards are achieved but for which there is not at least 12 months of data demonstrating adherence to the standard. In each of these 14 lapses, it was clear that the measured maintenance, operations, and capital planning areas were not sufficiently integrated into a facility management program so as to remain sustainable through personnel changes or economic shifts in the school district. On a brighter note, some of Alaska's school districts have exceeded the minimum requirements and are operating closer to the forefront of facilities management. Practices and processes such as predictive maintenance to forecast equipment failure, equipment upgrades based on lower life-cycle costs, and managing demand for space are beginning to appear in the department's assessment visits. The Department believes these kinds of results are achievable in every school district, at every level of resource ~~available~~ availability, through integration and ~~local~~ district-level ownership.

### Purpose

The purpose for this document is three-fold:

1. To expand department guidance to reflect the full breadth of maintenance and facility management addressed in statute and regulation,
2. To foster greater consistency and sustainability in meeting department requirements by focusing on the integration of operations, maintenance, and capital planning under a Facility Management paradigm, and
3. To offer best-practice insights and meaningful tools to help create facility management programs that exceed minimum requirements.

The structure of this document supports these purposes by addressing each of the five components of maintenance and facility management in three areas: developing, implementing, and sustaining. In addition, where general facility management topics cross one or more of the five mandatory components, these topics are addressed in this Overview section rather than repeatedly in each category. Other pertinent topics and best practices are combined in a section of the publication entitled Additional Considerations. Finally, specific tools and resources are provided as appendices following the narrative documentation.

With limited availability of capital funding, and community pressure on local funding for public works, it is vitally important for school districts to fully integrate overall facility management into district operations. Facility management is not just a matter of fixing things when they break; it is a comprehensive program of ~~fixing~~ operating, maintaining, repairing, and replacing components and systems for optimal results. Such a process addresses facility issues before they have a chance to create a crisis or emergency in a school district facility. With a comprehensive facility management program, a school district has tools that will extend the effectiveness of each maintenance and operations dollar so that the maximum amount of funding is made available for the students in the classroom. ~~Tools~~ Processes for implementing a comprehensive facility management program are heavily dependent on actionable data and include:

- tracking tools such as work-orders,
- planning tools such as reports, and
- other tools such as active inventory control for custodial and classroom supplies.

### Facility Management Integration

Whole-building preventive maintenance was the threshold step for Alaska's school districts on the path toward life-cycle, cradle-to-grave, sustainable facility management. That was soon followed with requirements that covered operations (custodial, energy management), maintenance (maintenance management, maintenance training), and construction (capital planning). While each of these functional areas can be built up and managed independently, it is their integration that is most likely to ensure sustainability. In the effort to achieve the most value for the facility dollar contributed from all sources—local, state, and federal—operations, maintenance, and construction programs need to be coordinated though an effective facility management program. They all work hand in hand to extend the life of existing facilities. State law provides the basic building blocks for school districts to get the most out of their facilities. Some school districts have exceeded the minimum requirements and are functioning at the forefront of facilities management, integrating processes, practices, and data between functional areas. They are sustaining momentum by using strategic and tactical measures to extend the service life, lower life-cycle costs, and lower occupancy costs.

## Building Systems and Components Inventory

### Introduction

An accurate inventory of the systems and components in a facility is core knowledge for facility management. The school district's maintenance management program, custodial program, and capital planning program all depend on this essential data. Energy management programs and maintenance training programs also draw from this information.

## Facility Audits and Annual Inspections

### Introduction

The implementation phase of both maintenance management and capital planning should establish the practice of regular assessments of facility conditions as part of their programs.

Integrating condition data between these two elements of facility management will also assist school districts in sustaining these two programs long-term. One practical integration is making the measurement of performance indicators in each area dependent on data gathered and updated under the other program.

## Facilities Budgeting and Funding

### Introduction

Budgeting and funding for school facilities includes all elements of facility management—operations, maintenance, and construction. The interface between maintenance management, custodial programs, energy management, and capital planning (renewal) is especially important when considering the costs associated with school facilities.

## Data for Informed Decision Making

### Introduction

> "Timely access to relevant facilities data is essential to both effective management of school facilities by district officials and appropriate oversight of public investments by a community. Providing the needed information to the public and other decision makers involves:
>
> - the development or maintenance of a facilities information system capable of collecting, organizing, storing, analyzing, and reporting relevant, timely, comparable, and accurate facilities data (chapter 2);
> - the meaningful analysis of available data, including the use of appropriate indicators, indices, measures, and benchmarks (chapter 3);
> - the collection and frequent updating of a host of clearly defined, comparable data elements that describe school facilities and their funding, operations, maintenance, and use (chapter 4);
> - the maintenance of data definitions, data standards, quality controls, and operational protocols affecting the collection, analysis, and use of data;[1]
> - the presentation of those data into formats that are reasonably usable by the various stakeholder audiences;[2] and
> - timely access to the data in printed public reports or via public websites.[3]
>
> School districts and states throughout the country continue to increase their use of facilities data to inform decision making: to manage day-to-day operations, maintenance, and repairs, as well as short-term operational planning, long-term capital planning, and master facilities

[1] For more information about ensuring data quality and appropriate data use, see the *Forum Guide to Building a Culture of Quality Data: A School and District Resource* (https://nces.ed.gov/forum/pub_2005801.asp) and the *Forum Guide to Taking Action with Education Data* (https://nces.ed.gov/forum/pub_2013801.asp).

[2] For more information about data presentation, see the *Forum Guide to Data Visualization: A Resource for Education Agencies* (https://nces.ed.gov/forum/pub_2017016.asp).

[3] For more information about improving access to education websites, see the *Forum Guide to Ensuring Access to Education Websites* (https://nces.ed.gov/forum/pub_2013801.asp).

planning. High-quality facilities data are used to create efficiencies, save money, preserve the life of capital resources, and help decision makers become more transparent and accountable to education stakeholders." [2]

[KPIs and metrics here]

## Commissioning: A Special Type of Facility Audit

### Introduction

Smart buildings are complex buildings. Many of the leading-edge practices in facility management are dependent on the technology of automated systems. Predictive maintenance is often based on digital sensor technology. Energy management depends on sensors, measurements, and electronically controlled mechanical and electrical equipment. Building complexity takes maintenance training requirements to new levels. In response to building complexity, commissioning has evolved from a subtask of other professions and trades to a position of prominence—many would argue its own discipline.

### Initial Commissioning

Initial commissioning occurs as part of the construction project close-out and the handover of an education facility to the owner—be that the city/borough or the school district. "Commissioning ensures that the new building operates as the owner intended and that building staff are prepared to operate and maintain its systems and equipment." [3] The scope of work included in commissioning, along with the entities involved, is a matter of contractual agreement and can vary from project to project. A key feature of any commissioning agreement should be the involvement of those who will be operating and maintaining the facility.

The department recognizes the need for commissioning within the following building systems: mechanical, electrical, controls, bulk fuel, and building envelope. Much of the commissioning effort will be to optimize the inter-relation of components within these systems but there will also be cross-system coordination which is needed such as when occupancy sensors might control both lighting and ventilation systems. Because of this cross-discipline need, utilizing a certified commissioning agents is often appropriate on complex facilities.

### Retro Commissioning

~~X~~Retro commissioning, also known as existing building commissioning (EBCx) can generally be expected to yield a positive payback after approximately five years of building operations. It may also be appropriate to conduct retro commissioning at any time on a building which never received initial commissioning. Most energy service companies (ESCOs) make it a practice to include a retro commissioning piece in their energy savings performance contracts. The basis for this is the relatively safe assumption that most, if not all, existing buildings are not performing optimally with respect to their energy performance.

During the portions of the building life-cycle that follow project delivery—i.e., operations, capital asset management—buildings, and building uses, change. Equipment is added, school

populations grow and shrink, and space utilization is altered. These, and other changes can render previous systems and settings ineffective. For good cause, and often for inappropriate reasons, building control systems are bypassed or overridden by maintenance personnel. Reasons for temporary overrides can be forgotten resulting in systems operating outside of the original parameters. Retro commissioning, done well, can account for these building changes and can recalibrate building performance.

**Example/Vignette**

Initial Commissioning: The Lower Kuskokwim School District has completed several state-of-the-art new schools and renovation/additions since 2005 and has several more in the pipeline. On the XXX School project, the district . . . .

Lessons learned include:

Retro Comissioning:  The XYZ School District has implemented retro commissioning on it XXX School project, the district . . . .

Lessons learned include:

# Maintenance Management

## Developing a Maintenance Management Program

### Introduction

Department regulations for maintenance management require:

> *(1) a formal maintenance management program that records maintenance activities on a work order basis, and tracks the timing and cost, including labor and materials, of maintenance activities in sufficient detail to produce reports of planned and completed work;*

This brief paragraph results in a series of eight documents—seven reports plus samples of varying work orders—that are intended to provide solid evidence of a minimally compliant maintenance management program. School district maintenance managers may be able to develop this level of maintenance plan on an ad-hoc basis with rules of thumb and the knowledge of experienced maintenance technicians. This is especially true for small facilities with a minimal range of ~~surfaces~~ components and ~~appurtenances~~systems. However, as school facility complexity increases, maintenance management plans are best built from a component-based inventory.

The most common deficiency noted during the department's certification process, is that maintenance management programs do not track materials associated with maintenance work. All school districts have systems that track labor, but materials tracking, by work order, is often lacking. This does not meet minimum criteria. While there is no question that a well-developed maintenance management program must track labor efforts, materials can be a significant component of maintenance and tracking them by work order is important for measuring the impact of repeated maintenance, or trends on systems.

Compliance with this regulation is demonstrated by providing:

- copies of work orders in various states of completion;
- report total maintenance labor hours collected on work orders by type of work (e.g., scheduled, corrective, operations support, etc.) vs. labor hours available by month for the previous 12 months;
- report scheduled and completed work orders by month for previous 12 months;
- report number of incomplete work orders sorted by age (e.g., 30 days, 60 days, and 90 days, etc.) and status for the previous 12 months (e.g., deferred, awaiting materials, scheduled, etc.);
- report comparison of scheduled maintenance work order hours to unscheduled maintenance work order hours by month for the previous 12 months;
- report monthly trend data for unscheduled work orders showing both hours and numbers of work orders by month for the previous 12 months;
- report planned maintenance activity for the following quarter;

- report completed maintenance activity for previous three months including labor and material costs; and
- report preventive maintenance components by building system.

School district officials should be prepared to discuss their maintenance management program and the results from the program.

## Maintenance Data Information

In order to have an effective maintenance management program, the first step is to develop a mechanism for collecting information on facility components and systems that will be the subject of the maintenance management program. There ~~are now affordable~~is a plethora of computer programs on the market that are specifically designed for such purpose; these are known as Computerized Maintenance Management Systems (CMMS). For all intent and purpose, the basic key to any of these programs is the capability to store, retrieve and analyze the information collected on facilities, their maintenance needs, and the organization's maintenance practices.

**Historical Management Systems**

Modern CMMS have evolved following the use of 3" X 5" index cards and twelve manila folders (one for each month). One side of the index card contained information about the facility components and systems as well as the services that need to be performed. The back side of the card was used to record the date on which the service was performed, the name of the maintenance or custodial staff, and the cost of materials. Upon task completion, the card was placed in the manila folder assigned to the future month when the task was due. Although this method now seems crude, it could possibly still meet minimum requirements of the department for a small school district. The analogy is similar to having accountants using pencils, ledgers, and ten-key adding machines. However, the value of a CMMS—especially one specifically designed for school districts—is measureable and all but mandatory.

Early generations of CMMS consisted of software which was locally installed and hosted on district computers. Data storage was also local. Some of these systems were network compatible, making them useful for organizations where access to the system could not be centralized at one location or functional area. With the advent of 'cloud computing', many CMMS service providers developed business models which involved hosting customer facility and maintenance data on their own servers and providing a web-based user interface. Both of these delivery models remain available to organizations with the hosted-data model being prevalent in most Alaska~~'s~~ districts. For a peek into history, see the pop-out for how CMMS worked in the 'good old days'.

With the rise and almost universal market penetration of the software-as-service business model, most CMMS include an initial purchase fee (which can include software, hardware, installation,

and set-up costs) and an annual service or maintenance fee. While selecting a suitable CMMS to meet the needs of their school district, school officials ~~are cautioned about purchasing extra~~ should be aware there are many options. Most vendors offer modules targeted at specific functions such as space management, fleet management, and inventory management, many of which are neither required by statute or regulation nor useful to the school district. Marketing personnel within CMMS ~~companies~~ vendors excel at selling their products, but some companies have hidden fees that are charged after the program is instituted, where school districts find themselves forced to pay extra in order to achieve adequate results. Other ~~marketing~~ companies, after a successful marketing push, offer poor customer service, which quickly becomes problematic during initial setup. Most of these programs are web-based and consume a good portion of bandwidth during usage. CMMS software should be user-friendly so that it can be implemented with minimal training for all maintenance and custodial personnel as well as school educators. The bottom line is to ask around to other school districts and see what will work best for your organization in order to make an informed decision. The department's PM State of the State, published annually by June 1 and finalized not later than August 15, includes data on each school district's CMMS tool.

## Identification of Facilities, Systems, and Components

The second step in developing an effective maintenance management program is to get the information entered into the system.

In order to do so, someone will~~personnel~~ need to inventory and categorize systems and components maintained by the school district in each of the school facilities that the school district maintains. Vendors and a variety of consultants are willing to perform this task if district personnel are unable to. During the inventory, information such as quantity, type, size, age, condition, manufacturer, model, material specification, location, key parts, part numbers, specialized upkeep requirements (e.g., oil and filter types), and other item-specific data need to be documented. The data collection is time consuming and requires a significant amount of data entry. Part of this data entry will be development of an asset naming convention (see pop-out).

**Asset Naming & Equipment IDs**

**"A little forethought at the start can save a lot of time in the future"**

Creating an asset naming convention within your CMMS normally involves both an asset name and an asset ID. Asset names can usually be normal, descriptive text ~~righ~~ titles (e.g., Generator, Diesel Standby 200KVA Siemens). The problem comes when there are multiple instances of that same asset within the universe of assets ~~needing to be~~ managed within the CMMS. An asset ID, on the other hand, is a unique identifier—only one asset has that specific ID. Asset ID's, or equipment tags, are often cryptic combinations of text and numbers ~~which~~ that include indicators tying the asset to industry classification systems and types, to particular facilities, to locations within that facility and to the quantity of that particular asset. Asset naming doesn't have to be complex but it must always be consistent and logical. Standardized naming conventions also aid in data reporting and analysis. Come up with a useful naming convention before you go live with your CMMS system because it can be difficult to change later.

The data collection will reveal systems and components that apply to each of the facilities. School district personnel may add items as necessary to create a complete plan. Many facilities may have multiple system types within a particular category (e.g., roofing, package unit heaters, etc.) as well as multiple components of the same type (e.g., circulating pumps, water closets, toilet partitions, etc.). For each item, and wherever appropriate, a specific preventive maintenance task should be developed. In large school districts, the data collection will reveal similarities amongst systems and components; following these observations, some school districts may elect to standardize as many of their systems and components as possible (e.g., same water closets, light fixtures, etc.), thereby reducing spare parts inventory and training costs, which in turn creates increased productivity and quality of work. Note that standardization may in some cases only be possible during remodel projects or new construction (e.g., boiler replacement / installation, unit heater replacement / installation, etc.); however, simple part replacements may also enable standardization (e.g., energy efficient bulbs, low-flush water closet flushometers, etc.) and save on utility costs.

To assist the school district with executing this task, the department has established a baseline by identifying facility systems and components that should be included in the CMMS. A list of these components is included as Appendix A and should clarify the tasks needing to be done in this section. While thorough, the list is not intended to be exhaustive of every possible component. The list is designed to dovetail with other useful assessment devices such as the Association for Learning Environments International (A4LE) *Alaska School Facility Appraisal* and the department's *Guide for School Facility Condition Survey*, as well as other professional facility audit organizations. The list also gives its users a better understanding on how to update Renewal and Replacement (R&R) schedules, a topic which will be discussed later in this guide. A sample of an R&R schedule is included as Appendix B.

## Determining Present Conditions

While developing the inventory of systems and components described previously, the school district will need to complete an inspection of the components in order to establish their current condition. Following the identification of systems and components in each facility, a detailed inventory is needed to quantify the building components and to establish their current condition. This step includes both an objective process of fact-gathering and a subjective assessment of the current condition. Information such as quantity, type, size, manufacturer, model, material specification, location, key parts, part numbers, and other item-specific data will be documented. A qualified technician or professional will need to make the assessment of current condition. The condition assessment is used to determine both the immediate and future levels of preventive maintenance for the system or component and its end-of-service-life replacement date.

## Establishing Appropriate Levels of Maintenance

Preventive maintenance efforts range from visual inspections only to performance testing and analysis; from minor adjustment, cleaning and/or lubrication to complete overhauls; from reconditioning to components replacement. [3]

School districts that are accredited by the Northwest Association of Schools and Colleges will recall that the accreditation standards include the following:

> Standard III - School Plant and Equipment
> "13. Inspection(s) of the school plant and equipment **shall** be made each school year by a qualified official and any deficiencies addressed." [4]

This type of standard is an example of a preventive maintenance requirement at the visual inspection level.

In establishing levels of maintenance, two determinations are needed. The first is to establish a basic life-span for the system or component (e.g., asphalt shingle roofing - 20yrs, oil-fired boiler, 15yrs, drive belt – 3yrs, etc.). The second determination is, "What maintenance activities are needed to ensure that this particular system/component meets or exceeds its life expectancy?"

Answers to the above queries can oftentimes be found in the Operations and Maintenance (O&M) manuals. These manuals are usually turned in shortly after facilities commissioning or major project completion. Manufacturers' literature, practical experience, test results, and industry averages are some ways to determine both acceptable life cycles and what preventive maintenance work would result in achieving those life expectancies in the most efficient manner; as mentioned previously (i.e., the lowest total life-cycle cost). Alaska presents formidable environmental challenges to our facilities, and the life expectancy of certain systems / components may vary greatly from one region to another, so an informed analysis is necessary.

## Preparing the Work Items Plan

Once your levels of maintenance have been established, setting the tasks into a workplan is the next step. According to Basil Castaldi, a recognized expert, and author, in the field of facility planning ~~and author~~, four elements make up any preventive maintenance work item.

> "In any prescribed maintenance program, the list of tasks to be performed is described in detail. The frequency and nature of the work are clearly stated. The materials to be used are specified in considerable depth and the manner in which the work is to be accomplished is expressed in simple language." [5]

Consider this further detail of these tasks:

*I. The list of tasks to be performed is described in detail.*

The detail that accompanies this step is critical and should be as comprehensive as the efforts that were placed in the previous step while identifying facilities, systems, and components. Any maintenance individual who is assigned any of the tasks should be able to determine the location of the equipment, what replacement parts, if any, are needed, what the work entails (e.g. replace air filters), tools and manuals required, estimated time of completion, what Personal Protective Equipment (PPE) should be worn, if any, etc. This task is particularly useful when a new maintenance employee takes over a particular school without having the possibility of shadowing an existing employee.

*II. The frequency and nature of the work are clearly stated.*

This task is self-explanatory. For instance, a school district may elect to conduct a 30 minute load test for its entire generator fleet at the beginning of each month, with exception to June and July when affected schools are in seasonal shut down. The test will include monitoring and recording all gauges. Another example may be the changing of air handlers filters twice a year, at the beginning of August, and then again at the beginning of February.

*III. The materials to be used are specified in considerable depth.*

This is another important task, because it avoids the plausibility of maintenance personnel switching various components of a system to a point where functionality and performance are diminished costing the district several operating dollars. For instance, clearly defining a specified nozzle for a fuel burner may enable boilers to maintain peak performance (e.g., hollow, 3.0 gallon per hour, 60 degree angle). Another example could be the adherence to specified air filters, where low-cost air filters may compromise the occupants' environmental safety and well-being (e.g., high capacity pleated filter, MERV 8, Moisture Resistant Die Cut Chipboard, Nominal Height 24 inches, nominal width 24 inches, nominal depth 2 inches).

*IV. The manner in which the work is to be accomplished is expressed in simple language.*

The tasks needing attention will be addressed by custodial and maintenance individuals with various educational backgrounds. The best means to ensure understandability across the board is to keep the language simple and direct.

# Implementing a Preventive Maintenance Program

## Introduction

Where the first school board responsibility was to *develop* a preventive maintenance program, the second responsibility is to *implement* a preventive maintenance program. This section offers guidance on carrying out the developed preventive maintenance work plan and establishes the importance of having management reports and a system of feedback from the field in order to implement an effective program.

The basic task of preventive maintenance implementation is to match needs with resources. However, both needs and resources are variables in the facilities management effort. As a result, implementation efforts may occur once to initiate a preventive maintenance program but will also require continuous monitoring of needs and resources to accommodate changes in these variables. For example, the work items assessment of a circulating pump may have indicated an anticipated failure in three years. At the three-year point, a stress test of the pump may indicate no appreciable degradation has occurred. This information may necessitate a revision to the preventive maintenance plan initially implemented. ~~Other examples include the impact of new technologies, improvements to building systems or new tools that reduce repair times. These examples of variables in needs and resources all support the conclusion that implementation requires both an initial and an on-going effort.~~

**The Need for Sustainability**

Revisions to the maintenance plan must occur over the life-cycle of the facility. Other examples driving this change include the impact of new technologies, improvements to building systems or new tools that reduce repair times. These examples of variables in needs and resources all support the conclusion that implementation requires both an initial and an on-going effort. For additional discussion on Sustaining a Maintenance Management Program, see page 20.

Moving from the planning and development phase to implementation and operation almost always involves funding, regardless of the endeavor. Preventive maintenance is no exception. As evidence of the importance of funding in this transition, the portion of the Encyclopedia of Architecture devoted to implementation of a preventive maintenance program is largely a discussion of funding.[6] Because funding is so critical to the transition, some findings from research concerning maintenance funding and resources are included in the following paragraphs.

## Determining Necessary Resources

As previously mentioned, most of the resource requirements result in a need for funds. Determining the level of funding needed for preventive maintenance at a detailed level requires estimating literally thousands of labor and material line items. This method is very time consuming. Other approaches to budgeting for preventive maintenance include establishing a

formula based on a percentage of the operating budget or a percentage of building replacement value(s). In California, research showed that:

> "If a planned maintenance program is followed, about 5 percent of a district's operating budget will be required to provide an adequate maintenance program.
>
> In addition to the 5 percent expenditure for the district's maintenance program, a reserve fund is needed for unanticipated and emergency maintenance expenditures. Another criterion for determining budget requirements is to calculate 2.9 percent of the current net building replacement cost or a projected cost based on the square footage of property to be maintained." [7]

In another budgeting formula, the Encyclopedia of Architecture indicated:

> "The cost of preventive maintenance ranges according to the intent of the *plans developed.* To set a budget for this type of work, one may estimate 5% of the present value of the building for preventive maintenance activity. Perhaps 1.5% of the value of the building may be estimated for simpler structures or systems." [8]

The department's capital improvement project (CIP) application scoring criteria assigns increased points to school districts based on the percentage of total maintenance expenditures relative to the building replacement value(s). Maximum points are achieved when the percentage is five percent or greater.

One effective strategy for determining the necessary resources is to identify the smallest detailed increments of the preventive maintenance plan and combine them for the aggregate picture. Take each well-developed preventive maintenance work item and ask, "What skills (trained personnel), tools, materials (parts etc.), and time are needed to complete this work item?" Once these factors are tabulated and the resource needs are clear, the supporting issues of space for shops, material staging and transportation requirements can be addressed.

While starting with the most detailed information and building up yields a comprehensive assessment of necessary resources, broad and systematic thinking is required to arrive at the necessary organizational structure with which to accomplish the preventive maintenance program.

## Determining Organizational Structure

The structure and organization of the preventive maintenance program must be in place before effective scheduling of work can occur. Some operations and maintenance organizations establish a cross-disciplined preventive maintenance work center whose main task is to inspect various systems and components (usually dynamic equipment) and write maintenance work orders. Following the inspection, more traditional work centers such as plumbing, sheet metal, etc. are assigned the actual work tasks. Other maintenance organizations are oriented almost completely to preventive maintenance tasks with major crafts taking responsibility for components and systems within their respective areas. In this model, a small multi-disciplined workcenter handles routine maintenance and emergency repairs and, in some cases, minor improvement work. These organizational structures are variations on how best to accomplish the

work ~~which~~that is identified in the component needs-based maintenance assessment. This approach to organizational structure—one that examines the necessary maintenance work and builds an organization structure to match—is often overlooked.

Another driver for determining organizational structure is management. This strategy asks the question, "How can the maintenance management resources best be managed?" The expectation is that from good management will follow good maintenance. Most of the management approach structures can be distilled to supporting, or describing, three approaches: centralized, decentralized (or zone maintenance), and hybrid.

Taken together, the combination of organizing personnel to accomplish necessary tasks, and organizing personnel for effective management is most likely to yield a comprehensive maintenance management implementation. There are many resources which can assist a district in implementing an organizational structure. Textbooks have been written and many trade periodicals run at least one if not multiple articles in any calendar year dealing with maintenance organization.

## Scheduling and Assigning Work

The heart of any maintenance management program is scheduling and assigning specific maintenance tasks, and tracking the completion of those tasks. In addition, it is best practice to be able to account for all available maintenance hours and to measure time on task and other productivity and utilization metrics. This element of the maintenance management program takes the work items developed for each component and assigns them to the appropriate maintenance craftsperson or team according to the established structure and schedule.

This is accomplished through the CMMS. Once pertinent data is entered into the database system, work orders detailing the scheduled maintenance requirements can be generated and tracked along with all unscheduled work and categories of ancillary work such as training, education support, mail runs, etc. More advanced CMMS programs have an integral query feature which prompts maintenance managers for necessary input and provides industry standards for certain maintenance tasks. It is estimated that there are more than fifty ~~(50)~~ suppliers of maintenance software packages with price variations based on need and capacity. Maintenance magazines and the world-wide-web are good locations to look for these products.

**Intentional & Directed**

In a roundtable of school maintenance directors, one mentioned an increased awareness of the need to be intentional in the scheduling and management of maintenance efforts. For this district, it appeared that the more workable way to achieve that goal was to bring maintenance scheduling to a more centralized location. For others, site-based management of maintenance is the norm and allows local flexibility in scheduling work. In a site-based organization, the site administrator, or principal, needs to understand the level of importance to be given to scheduled, preventive maintenance.

[Cover the related area of planning work here also (i.e., logistics, labor, scheduling of large PM overhauls and large repair or mission support projects handled by maintenance staff.]

## Reporting Systems and Feedback

In addition to automating the list of items needing scheduled maintenance, most maintenance management software programs also provide the capability for a computerized building data file. This database of facility requirements can be used to generate a wide variety of accurate reports on matters related to building maintenance and operations and the associated costs. To a certain extent, an integrated maintenance system that incorporates both daily maintenance tasks and long-range planning depends on an automated database of facility information. Effective preventive maintenance programs depend on feedback from maintenance personnel and a reporting/tracking system of costs associated with the preventive maintenance effort. This information is used to maintain the proper balance between preventive maintenance and renewal and replacement efforts (i.e., determining when costs have increased to the extent that preventive maintenance on a system is no longer effective on life-cycle basis).

Through a combination of informal evaluations and formal audits, a reporting system should be established to analyze a district's maintenance system to achieve the most cost-effective maintenance program. In addition to general feedback and reporting, district maintenance programs should undergo periodic evaluations of their effectiveness. This can occur both at the worker's task level and at the maintenance management level. Evaluations can be done either internally or through the use of an outside evaluation team. Maintenance management audits examine the functional program and generally consider the following four factors:

**Productivity** - the portion of a worker's time that is directly productive.
**Performance** - how well the individual is working, e.g., is work being completed as planned?
**Work Quality** - is the individual producing a satisfactory work product?
**Priority** - effective allocation of available time to the most important tasks. [1]

Though maintenance management audits may look at symptoms of ineffective maintenance at the worker/task level (e.g. number of callbacks, work completed on schedule, etc.), a management audit's focus, as the name implies, is on improvements through better management.

# Sustaining a Maintenance Management Program

## Introduction

Why do maintenance management programs falter, and even fail, over time in Alaska's school districts? The answers to this question may be many and complex, but one over-arching response may be able to encompass the myriad details, and that is, the practices are not sufficiently integrated into the facility management construct of the district so as to be indispensable to district operations. This section of the handbook describes some key elements in the building lifecycle, which district leadership should use to weave maintenance management into the essential fabric of the district's operations.

## Budgeting and Staffing

## Software Upgrades

## Performance Metrics

## Evaluations, Inspections, & Education

# Energy Management

## Developing an Energy Management Program

### Introduction

Department regulations for energy management require:

> *(2) an energy management plan that includes recording energy consumption for all utilities on a monthly basis for each building; for facilities constructed before December 15, 2004, a district may record energy consumption for utilities on a monthly basis when multiple buildings are served by one utility plant;*

This baseline requirement—the recording of energy consumption—is deceptively simple. However, because the two categorical requirements—all utilities and all buildings—are comprehensive in nature, the complexity of record keeping multiplies quickly. Not only does the math of buildings x utilities result in many data points, the variety of utilities used varies from building to building as does the variety of delivery methods for those utilities. School district energy program managers will be challenged if they attempt to develop this level of energy plan on an ad-hoc basis without data tracking tools. However, as school facility complexity increases, energy plans, like maintenance programs, must be built from a facility-specific inventory.

The most common deficiency noted during the department's certification process is that energy programs are not tracking all types of utilities used or are not doing tracking using a monthly metric. This does not meet minimum criteria. While there is no question that a well-developed energy management program should include districtwide information (e.g., goals, standards, organizational structure, staffing, etc.), the energy consumption records are unique to each building.

The utility consumption records are just the beginning of the planning needed to develop a complete, effective energy management program. Other planning factors include: expectations/goals, staffing, schedules, equipment, safety, and supplies.

An energy management plan is a comprehensive document that "…maps out internal maintenance schedules, equipment logs, and keeps equipment manuals and buildings drawings on hand for reference. Unlike an energy policy, the energy management plan is regularly updated, typically on an annual basis. It is used to document recent achievements, changes in performance, and shifting priorities." (AHFC White Paper, p.8)

As described above, there is overlap between the energy management plan and the preventive maintenance management program in regards to maintenance schedules. Although maintenance personnel involvement is critical, a successful energy management plan also necessitates everyone's participation, from school board members to students. The energy plan should incorporate what measures are selected to optimize resource utilization while minimizing costs and expenses. Most importantly, the plan should utilize data gathering to benchmark whether or not efforts are paying dividends; to do so, many school districts set objectives (e.g., reduce fuel consumption by 15% within the next 12 months; reduce electric consumption by 10% within the

next 12 months). The plan should be simple and clearly define everyone's tasks in support of the plan. School districts who have effective energy management plans usually assign its execution to a responsible individual with access to top-level administrators. In such manner, school board members can receive updates from their energy plan manager on a regular basis (e.g. monthly, quarterly, or bi-annually) and determine how well the plan is working. Officials may then review issues that could be faltering the plan objectives or need to attention.

Here are examples of measures taken by various school districts in their effort to mitigate energy consumption:

- Energy monitoring via automated remote reporting;
- Turn off electrical appliances at the end of each day (e.g., lights, smart boards, computers, monitors, speakers, televisions, stereos, copy machines, kitchen hoods, etc.);
- Utilize minimal corridor night lighting during non-occupancy;
- Report all utility malfunctions immediately to maintenance personnel (e.g., oil / gas/ water leaks, lights no longer shutting off automatically, etc.);
- Shut down boilers, refrigerators, and freezers during summer;
- Turn down the heat during non-occupancy periods (also known as night setback), including holiday breaks;
- Install occupant sensor lighting;
- Install low-flow flush flushometers for water closet / urinals;
- Shut down the school at 5:00 p.m. one night a week;
- Optimize Heating Ventilation and Air Conditioning (HVAC) systems (e.g. replace air filters, tune-up boilers twice a year, ensure fans are not continuously running in manual override mode, ensure air louvers are operational, etc.);
- Replace antiquated lighting systems with more efficient ones (e.g. replace T-12 fixtures with T-8; replace Tungsten filament bulbs with high efficiency Light-Emitting Diode (LED) bulbs);
- Install provisional arctic porticos during cold season;
- Reward schools that decrease energy use (e.g., free movie night at the gym); and
- Enlist/appoint an 'energy champion' and ensure someone is comparing and using the information.

As defined in the regulation, the energy plan also needs to record energy consumption on a monthly basis for each building. Energy consumption recording must comprise all school district utilities such as heating fuel, steam, natural gas, Liquid Propane Gas (LGP), waste heat, electricity, wood, coal, potable water, waste water, refuse, etc.

As noted, the regulation makes exception for buildings built before December 15, 2004. In such case, for instance, if a large fuel tank supplying multiple facilities was built prior to this date (e.g., school, teacher housings, and generator shed all feeding off one main fuel line), it is permissible to record the monthly utility readings for the entire distribution system. The same goes for electrical meters. However, any school built after this date must have individualized

means to record each of its utilities (e.g., oil meter, waste heat meter, electric meter, etc.); the daisy-chaining of numerous buildings off one utility meter is no longer permitted.

Compliance with this regulation is demonstrated by providing:

- Written copy of the energy management plan; and
- Utility report recording energy consumption for all utilities, on a monthly basis, for each building for the previous 12 months.

School district officials should also be prepared to discuss their energy management plan and the results gained from the plan.

# Implementing an Energy Management Plan

## Introduction

[This is where we will discuss any energy management implementation steps; how to put a plan into action.]

## An Energy Champion

## Incentives

## Reporting & Feedback

## Sustaining an Energy Management Plan

### Introduction

[This is where we will discuss any maintenance management elements that respond to the cradle-to-grave/cradle-to-cradle life cycle of a building.].

# Custodial Program

## Developing a Custodial Program

### Introduction

Department regulations for custodial programs require:

> *(3) a custodial program that includes a schedule of custodial activities for each building based on type of work and scope of effort;*

This baseline requirement—a schedule of custodial tasks for each building based on the type of work needed (i.e., the activity needed for each surface or equipment item) and the level of effort (i.e., the frequency of care for each type of work)—represents a significant planning effort. School district custodial program managers may be able to develop this level of custodial plan on an ad-hoc basis with rules of thumb and the knowledge of experienced custodians. This is especially true for small facilities with a minimal range of surfaces and appurtenances. However, as school facility complexity increases, custodial plans, like maintenance programs, are best built from a component-based inventory.

The most common deficiency noted during the department's certification process is that custodial programs are not building-specific but rather are a one-size-fits-all program written for the entire school district. This does not meet minimum criteria. While there is no question that a well-developed custodial program should include districtwide information (e.g., goals, standards, organizational structure, staffing, etc.), the schedule of custodial activities is unique to each building.

The schedule of custodial activities is just the beginning of the planning needed to develop a complete and effective custodial program. Other planning factors include: expectations/goals, staffing, schedules, equipment, safety, and supplies.

### Leadership

The custodial program is a tool, customized to individual school districts, designed to guide custodial personnel in the execution of their work. ***"The first step toward establishing an effective custodial program is to determine the district's expectations of its custodial services. This requires input from both the school board (who ultimately will fund the program) and the building administration (who will live with the results of the program)."***[1] [NCES/ALASBO *Planning Guide for Maintaining School Facilities*, 2003, p.82] This is often developed as a vision statement. If this vision is absent, it falls to the Facility Manager to elicit it in order to make proper plans. Often, suitable statements from which to plan can be found in board policy.

**Sample Vision Statement**

"It is our vision to provide the highest level of customer service satisfaction of any school district in Alaska by being innovative, flexible, and competitive with a can-do attitude."

One common, and helpful, step in establishing and communicating a vision is to provide a mission statement. These two elements, vision and mission, can serve as the basis of a custodial plan or program. The mission statement should be supported by goals and objectives. It is imperative that custodial program staff know what is expected of them. For example, will custodians do light maintenance? To whom do custodians report? Are custodians responsible for event set-up such as equipment and furniture?

**Sample Mission Statement**

"The mission of the XYZ School District Custodial Team is to provide an attractive, healthy, and safe, working and learning environment to facilitate greatness in our staff and students."

## Custodial Activities

"Within school districts, custodial operations should reflect the needs of individual facility types, i.e., elementary schools, middle schools, high schools, technical schools, and ancillary buildings. Each type of facility requires a number of basic custodial services in support of the educational process; however, the requirements for middle and secondary/technical schools may be greatly expanded due to their size, complexity, and use patterns." [Florida DOE *Maintenance and Operations Administrative Guidelines for School Districts and Community Colleges*, 2010, pg 49]

As mentioned in the introduction, the most complete custodial plan is based on a component inventory, a quantification, of building elements and equipment requiring custodial services. In order to streamline this effort, a good place to begin is with a list of custodial tasks. These can be developed from industry guidelines, samples from other school districts, or internal documents such as custodial job descriptions or existing checklists. Consider the following as a sample list which, on the left, covers a variety of custodial tasks pertinent to the common areas in a school:

| Sample Custodial Tasks | *Inventory Building Element* |
|---|---|
| Sweep/clean exterior walkways to 10ft from entries/exits | *Quantity of exterior walkways* |
| Vacuum entries/exits and/or wet-mop entries/exits | *Type/quantity of entry flooring* |
| Clean glazing (doors & sidelites) at all entry/exits, inside and out | *Quantity of glass at entries; height of glass at entries* |
| Vacuum all carpeted corridors | *Quantity of carpet in corridors* |
| Dry mop all hard surface corridors | *Quantity of hard surface in corridors* |
| Wet mop all hard surface corridors | *Quantity of hard surface in corridors* |
| Extract soiled areas on carpets | *N/A; as needed* |
| Remove stains and marks from hard surface floors | *N/A; as needed* |
| Clean all drinking fountains | *Quantity of drinking fountains* |
| Clean glazing at interior windows, window walls, displays | *Quantity of interior glazing* |
| Dust all equipment, sills, trims and hard surface furnishings | *Density of dusting surfaces per SF* |

On the right side of the table are the associated building elements that would need to be inventoried in order to develop a custodial schedule for the building that was based on the type and frequency of custodial activity. An added benefit of having this component and quantity based inventory is the ability to use industry standards to develop staffing requirements. For example, if the inventory of glass in the facility totaled 350sf, and that amount needed daily cleaning, an industry standard of 525sf/hour would yield 40 minutes of direct cleaning time for that activity. The combination of all tasks would provide data for determining custodial FTEs needed for the facility.

In developing custodial activities, don't forget the plethora of non-cleaning related duties. These might include: recycling, snow removal, events and set-ups, relamping, pest control, mail pickup/delivery, supplies inventory/stocking, direct visitors, record keeping, and training.

## Standards of Cleanliness

When developing the custodial program based on custodial activities—and especially when developing time based standards for the activity—the standard of cleanliness must be considered. In other words, how clean is clean? The Association of Physical Plant Administrators (APPA) has developed a widely recognized, and adopted, standard consisting of 5 levels, each with descriptive narratives. Under this standard, the target for most school spaces would be Level II "Ordinary Tidiness". A number of other industry and trade associations also have cleanliness standards that can be adopted and/or modified. Once adopted, these should be integrated into custodial program documents and schedules.

Procedures. Cleaning procedures by function (e.g., empty waste receptacle, clean chalkboard, etc.), to include scheduling (e.g., daily, weekly, etc.) in each area of the building. This

description is usually relatively broad and should include location, task at hand, and frequency for all areas of the building:

Methods and procedures. This depiction should give ample details on how to get the job done effectively. For instance, marker boards may require a specific solution to clean their surfaces; mirrors may require a specific cloth. The instructions should also warn personnel as to what not to do, such as using a particular solution on a specific surface. Gymnasium floors and countertops have been ruined while using the wrong cleaning agents. The following subjects should be covered at length in the custodial program:

## Safety

Personnel Safety. Custodial personnel are exposed to a variety of health hazards such as chemicals, blood-borne pathogens, toxic substances, electrical shocks, trip and falls, etc. It is important that these employees be informed and trained on how to protect themselves and to conduct their work in the safest possible environment. The custodial program should include:

- when / how to use Personal Protective Equipment (PPE);
- how to deal with Hazardous Materials (HazMat) including Sharps and bio waste; and
- awareness of location and use of Material Safety Data Sheet (MSDS) and the “Right to Know.”

## Custodial Program

Care of cleaning equipment and use. The cleaning equipment must be stowed, maintained and operated properly. Custodial personnel should be well-versed and familiar on how to care for all of their equipment, including:

- buffers;
- personnel lifts;
- ladders;
- carts;
- mop buckets and presses;
- dust mops;
- wet mops;
- push brooms and corn brooms;
- vacuum cleaners;
- carpet extractors, etc.
- entrance, lobbies, and corridors;
- classrooms and laboratories;
- offices, lounges, and conference rooms;
- restrooms, locker rooms, showers and dressing areas;
- cafeterias and lunch areas; and
- gymnasiums and multipurpose rooms, etc.

### Products

Selection and listing of school district prescribed cleaners. The list should be inclusive of all cleaners, as well as a brief description on use (e.g., spray cleaner; shower foam, etc.) and methodology (e.g., daily, on most hard surface; per manufacturer's instructions, etc.). The following are examples that could be included in the custodial program:

- all-purpose cleaner
- all-purpose degreaser
- glass cleaner;
- disinfectant;
- absorbing deodorant;
- scale and lime remover;
- mar and spray paint remover;
- gum remover aerosol;
- shower descaler;
- stainless steel cleaner;
- septic enzymes, etc.

As in the case for the Preventive Maintenance program, the custodial program will be utilized by custodial individuals with various educational backgrounds. The best means to ensure effective

communication is to keep the language simple and direct. If custodial personnel do not read English, the program should be translated in order to achieve proper results.

A good custodial program should also include random inspections. A list of *Standard for Clean Classroom* can be found in Appendix G. By using the standard, strong points and weaknesses can be identified, giving custodians an appraisal of what is getting done properly, and what needs to be improved upon.

Another important tool for the custodial workforce is the *Master Custodial Schedule*. (see Appendix H). A customized schedule should be displayed in each custodian's workplace. The schedule should indicate what tasks need done daily, weekly, monthly, annually, and as needed.

## Implementing a Custodial Program

### Introduction

Implementation of a custodial program requires gathering and deploying resources you have identified in the planning stage.

## Sustaining a Custodial Program

### Introduction

[This is where we will discuss any maintenance management elements that respond to the cradle-to-grave/cradle-to-cradle life cycle of a building.]

# Maintenance Training

## Developing a Maintenance and Custodial Training Program

### Introduction

Department regulations for maintenance training require:

> *(4) a maintenance training program that specifies training for custodial and maintenance staff and records training received by each person;*

The intention of statute and regulation is that there should be a program of continuous training for maintenance personnel, custodians, and their managers as part of ensuring maintained state financed facilities. Training in facility systems and operations assist a facility in reaching its expected life and insures the continued effectiveness of an educational facility as designed. This maintenance training is separate from the training mandated and provided by a school district's human resources (HR) department. It is specific to facility maintenance and custodial operations. The previously mentioned HR training is important; however, it is not a substitute for mandated training under these statutes and regulations.

**Definition: Custodian**

*" one that guards and protects or maintains "*

There are two common problems found when evaluating districts maintenance training programs. The first is that there are many cases of no planning being done. This is usually due to not establishing a training plan with set dates and schedules to perform training. Without a plan, training is forgotten or put off until another time. The second issue is that increased HR training has begun to encroach on maintenance training. Even when there is a scheduled day, or days, of training, the non-maintenance training utilizes this time due to its convenience.

A good training program, as part of an efficient maintenance program, interacts with all other aspects of the program: maintenance management, energy management, custodial, and capital planning. No part of a preventive maintenance program operates in a vacuum. Good custodial is actually one part of a balanced maintenance program and it will be included under the term "maintenance training" in this section.

### Planning

The first thing to contemplate when developing a maintenance training program is, what are is being maintained? This is where coordination with maintenance management and capital planning is important. Start with a list of school district facilities and assets, including O&M manuals and scheduled preventive maintenance items. Once the list is compiled of equipment, finishes, and other assets that school district personnel need training on, a school district can begin to plan. Training should include initial new hire training, training on new equipment and finishes, periodic re-training, and training review. Also, an essential part of a training program is recording who was trained and on what subject the training was on. Efficient training records list all types of training over the year and the personnel who attended each one, and separately

list each individual and each of the training that person received. One convenient way of recording this is through the maintenance management work order system.

**HELPFUL HINT**

**Standardize to reduce training and inventory costs**

Working with capital planning and maintenance to develop school district standards for materials and components will simplify operations, minimize variation of inventory parts, and reduce the makes and models of equipment needing training.

Having “training” as an available work order sub-group makes sorting efficient. Assigning a work order to each individual attending a training session and having those individuals code their time to that work order allows easy sorting by training or by individual. This method also captures hours and costs of training. This is not the only method of recording. There are other personnel management programs available for recording training. Just make sure that it shows facility-mandated training versus HR training. A paper record is not recommended, as this is less useful for long-term tracking of personnel training.

# Implementing a Maintenance and Custodial Training Program

## Introduction

Once maintenance and O&M requirements have been established, a school district can decide what and how much training is required and set in place its training program. Some things to consider are identifying fundamental training elements for new employees, and what items may require annual training versus every few years. Formulate how training will be conducted, as well as when, where, and by whom. See below for some factors to consider as you develop your program.

## New Hires

After basic orientation of the duties expected of the assigned position, additional training should be planned depending on the position or craft.

## Custodians

If custodians in the school district are only responsible for cleaning, a closer title would be janitor, then initial training in cleaning procedures and expectations are expected. Custodians are also the first level of eyes-on for the maintenance program. They need to be trained on inspecting and observations and how to initiate a work order based on any conditions requiring maintenance. If they are expected to perform some light maintenance, closer to the definition of a custodian, then there needs to be additional training. For some school districts the additional training is performed by maintenance mechanics. A work order is initiated with a new hire for training in mechanical, electrical, or other trade. The assigned mechanic performs the training (e.g. filter changing, flushometers, etc.) and the time is recorded.

## Maintenance Technicians

Facility maintenance will be very new for many maintenance mechanics, even for journeymen. Most of these technicians have a background in construction, performing repairs in a facility environment is not the same. Add in the complexity of being in an educational facility with administration, teachers, and students, it can be a lot to adjust to. Initial training should include the work order system (including asset numbering), procedures for working in a school. A very successful way many school districts use for this training is to have new people initially assigned to the preventive maintenance team. The extent of time varies from one turn of facilities to a set time like six months. This orients the person to all facilities and locations of components, operations in an active educational facility and how to perform work orders, close work orders, and create new work orders.

## Continuous Training

After maintenance management has assembled the list of maintenance training needs, decide if an item requires annual, semi-annual, or periodic training. Setting a schedule for the training that

avoids interfering with normal maintenance duties will help learning. One method is to have an annual in-service for employees just prior to a new school year. Depending on the size a school district, a strategy can be to have two days with half of the personnel on each day. This helps to keep the numbers manageable and maintains a maintenance personnel presence in the facilities. This becomes a good time for many training sessions with some hands-on training. Balance quantity of training with quality and avoid over-load. If an in-service is not possible or desired, the school district will need to arrange for the proper training either by going to each facility or having some version of a distributed gathering.

**HELPFUL HINT**

**Train the Trainers**

**Example:**
Custodians are tasked with replacing flushometers on the toilets. Have a maintenance technician train the lead custodian for a facility. When he is competent, have that person train the other custodians in the school under the technician's supervision. This will insure work is able to be performed onsite and the lead custodian has better retention of the skill. This will save time and money by not having a centrally based technician travelling to the facility.

## Periodic Training

At times, a training need becomes apparent that is outside of normally scheduled training. This could be from the maintenance supervisor(s) seeing repetition of work orders for the same issue or periodic inspections by preventive maintenance staff or building personnel of conditions that need to be addressed. The training program should have built in allowances for investigating issues and arranging for appropriate training.

## Opportunity Training

Shadowing a contracted maintenance technician or craftsman can provide another training opportunity for school district maintenance personnel. These visits may occur during regular inspections or as a result of a failed component.

## Sustaining a Maintenance and Custodial Training Program

## Introduction

As time passes, finishes and assets are replaced. A good training program must be agile -- ready for changes and to develop or update training as required. One way to stay ahead of the curve is to maintain contact with capital planning. As facilities are being planned for construction or renovation, be prepared to discuss specific items in the plan and what training each may require. Identify whether the items are part of the school district's standards and can be included as part of the normal training plan.

As part of project planning, ensure that adequate factory training is included in the project. This should be true factory-level training and not just an orientation showing where it is and how it works. Training should include all facets of maintenance including a list of recommended parts to keep on hand. For items like building automation and fire alarm systems, training should be full maintenance and programing to the level of a certified technician. This project-specific training is required if the project is funded or reimbursed through AS 14.11 state aid. Training requirements should be incorporated in the project's bid documents. Take this training as a time to refresh your long-term staff and as new training for recently added staff.

**HELPFUL HINT**

**Let technology and the force make training easier and less expensive**

Use videos from **YouTube** to assist in training. Many manufacturers and some individuals have posted videos of maintenance procedures. Keep a library, or create a playlist, for training and refresher courses.

Use **mobile video chat** program apps to use smartphones or tablets to communicate when performing maintenance.

Use the school's **distance learning assets** for training across the district when face-to-face is not required.

Part of sustaining a training program is to set a schedule for training that works into the foreseeable future. Review individual training histories and be ready to incorporate training that may be missing. A good time for this is during personnel annual reviews. Review any new items that will require a change in training.

A school district training plan should contain or perform the following:

- A written training plan that has training for new staff, annual training, and how the need for periodic training is addressed;
- Produce at any time the scheduled maintenance training for the next year;
- Produce and review an individual's training history;

- Produce and review the prior year’s training activity and attendance; and
- An efficient training program can track training on the maintenance work order system to able to track training costs and individual training time.

# Capital Planning

## Developing a Capital Planning Program

### Introduction

Department regulations for capital planning require:

> *(5) a renewal and replacement schedule that, for each school facility of permanent construction over 1,000 gross square feet, identifies the construction cost of major building systems, including electrical, mechanical, structural and other components; evaluates and establishes the life-expectancy of those systems; compares life-expectancy to the age and condition of the systems; and uses the data to forecast a renewal and replacement year and cost for each system.*

Of the five maintenance and facility management criteria outlined in regulation, the capital planning requirement is the longest; it uses the most words. In practice, however, it's been demonstrated that a single, relatively simple spreadsheet—for each facility—can accomplish all of the required elements. Most districts utilize the department-developed Renewal and Replacement Schedule spreadsheet file to document their capital planning efforts. Many districts, especially those being served by the Southeast Regional Resource Center (SERRC), have added functions to the department's basic tool. Two of those include: multiple linked worksheets to account for different ages and renewal cycles, and data updates following the completion of capital projects. That said, capital planning is so much more than simply managing renewal and replacement spreadsheets.

The most common deficiency in capital planning seen by the department during its site assessments is its lack of use. The required data can be produced but there is a starkly apparent lack of its relevance to district processes. While there is evidence that every district is doing some amount of capital renewal, little of it springs from, or is even related to, a cohesive plan. The impact of available capital planning data on district six-year CIP plans is noticeably absent. Moving from data to a program, from develop to implement is a challenge for districts of every size. Exacerbating the issue is value question, "What good does it do?" When there are economic issues that limit resources for capital renewal and deferred maintenance, it's not uncommon to develop the attitude that capital planning is efforts are wasted. This can prove to be shortsighted if and when funding becomes available and districts find themselves not in position for available funding.

### Planning

A school district cannot efficiently maintain their facilities through capital planning alone, nor can a school district manage and maintain their facilities properly without capital planning. Capital planning is, as the name implies, planning for future capital needs. But, in order to plan for those needs, the owner needs to identify the capital components, establish an expected life-span of the components, track repairs and maintenance performed during the life of the components, establish protocols for condition assessment of components, modify the life

expectancy based on condition, and plan for the eventual replacement or rehabilitation of the component.

The first step in establishing a capital planning program is to identify what items the school district intends to include in its plan. Statute ~~says~~ indicates electrical, mechanical, structural, and other components of facilities owned or operated by the school district; in other words, the physical buildings and grounds. This is the minimum to satisfy state statute, but a program that properly serves the school district should also include items like vehicles, grounds equipment, and other capitalized equipment. The planning part of the process is the most important part of establishing a capital planning program and needs to be thorough in the items to include. Under "grounds", is playground equipment included by components: play structures, swings, free standing slides, etc.? Should it also include paving and other hard surfaces? In mechanical, boilers and fans are obvious items, but consider pumps, VAV boxes, day tanks, expansion tanks, etc. As a school district begins planning it needs to establish the criteria of what a capital component is and what is not.

The next step in establishing the program is uniquely identifying a component from others in order to track its condition and work already performed. The identifying asset number for a particular object should be assigned in the maintenance management program. Some parts of the identifying number and the record keeping of the item should be able to include and sort by the following items that are important to capital planning:

1. Location (facility, room, etc.);
2. Date placed in service;
3. Make, model;
4. Life expectancy, date of replacement, and date of review;
5. Estimated cost of replacement;
6. All work orders including repairs, PM inspections. Include descriptions and costs; and
7. Date removed from service and identifier of replacement.

There is much more information that a good maintenance program should have available, but these elements are critical for effective capital planning. The first is obvious, recording what school a component is associated with, additionally, identifying a specific room is helpful to physically locate the component; sorting by school also assists in evaluating capital needs by facility. Date in service and a component's make and model helps to establish expected life and when a school district can anticipate future needs. Date of review is when school district personnel begin to review the history of repairs and preventive maintenance inspections to possibly adjust the date of replacement. The date of replacement shows that it is no longer in service and including the new component identifier tracks what replaced the item.

# Implementing a Capital Planning Program

## Introduction

Capital planning does not happen in a vacuum. The identification and scheduling of maintenance is performed through maintenance management. If it can have an effect on energy efficiency, then tracking performance is important. Many items involve custodial operations -- from being the on-site eyes to possibly changing filters or general cleaning. And finally, the proper training on maintaining the component has a large impact on whether the component meets, or possibly exceeds, the expected life. Below are steps and discussion on how to plan a school district's capital planning program, how to implement it, and how to sustain it into the future.

~~Now that~~Once all of the capital components and equipment have been identified, tagged, and put into the maintenance management program, the day-to-day (or year-to-year) part begins. As the components start to reach their expected life, capital planning begins to review the records of repairs and inspections and makes adjustments to the replacement schedule. An example of the flow of information and decision making is as follows:

Boiler 001 at school ABC was installed with the construction of the school in 1990. Part of its O&M information is that it is expected to be replaced at 30 years and reviews to begin at 25 years. In 2015, the maintenance program puts the boiler on the review list and capital planning begins review. As part of the review, capital planning reviews the scheduled inspections performed twice a year and the scheduled cleaning, maintenance, and tuning performed once a year. Also reviewed are all repair work orders for scope of repairs, frequency, and costs. The boiler condition is discussed with the boiler technician(s) and maintenance manager. After discussion, it is decided whether the replacement should be done sooner, at the scheduled date, or if the boiler is in a condition that its useful life can be extended. At the same time the cost of replacement is adjusted to reflect the current cost of replacement. Review is performed again at 27 years.

If an asset is not performing well and does not appear to be able to meet its expected life, the technicians doing repairs and inspections can request an earlier review of the asset. The process of review starts and, if needed, a new replacement date is assigned and planned for.

After all scheduled reviews are performed, a report is produced by facility that shows replacement needs for the next six years and the expected costs. The person(s) deciding on the final six-year capital improvement plan review the replacement report and put together projects for the plan that may combine related items or stand alone as a single project. In the example above, all three boilers are scheduled for replacement and one project is put forward for boiler replacements; it may include other equipment reaching replacement age, like pumps, expansion tanks, etc.

## Sustaining a Capital Planning Program

# Introduction

As a school district's capital planning program matures, there will be upgrades, component replacements, new facilities, and maybe facilities being removed from the school district. Planning the process of managing the data for these instances will help to smoothly update the system. One challenge is when an asset is transferred from one facility to another. This is usually capitalized equipment that can be easily moved like vehicles, grounds equipment, or educational equipment such as smartboards. Scheduled PM inspections should catch that the equipment is not where it should be per the asset record. Once the asset is located, it can be reassigned in the record or returned.

Another situation is where an asset has reached its end of useful life and is not of a value to be considered a capital improvement project. An example would be a replacement of a heat circulation pump with a value of a few thousand dollars plus labor. When writing a work order for replacement, either to be performed in-house or by contractor, it is best to assign the new asset number in the work order and order both the pump and asset tag. When the work is complete, the out-of-service date is registered with the old asset and a placed-in-service date is registered to the new asset. The O&M manuals can be electronically made part of the new asset's file and the preventive maintenance schedule can be initiated.

**HELPFUL HINT**

**Involve consultants in the asset replacement strategy**

During design identify assets being replaced and assign the new asset numbers and include them in the equipment schedules. Example:

**BOILERS**

| ID | Old Asset Number | New Asset Number | Manufacturer/Model | In-Service |
|---|---|---|---|---|
| B-1 | 03MC02OB01 | 03MC02OB03 | Wiel-Mclain Model 886 | 06/02/1990 |
| B-2 | 03MC02OB02 | 03MC02OB04 | Wiel-Mclain Model 886 | 08/21/2018 |

This shows that the asset being retired is identified and the new asset number is assigned. For new construction, only the new asset number is shown.

When a large project replaces many assets, it is best to start early in planning and design stages to coordinate asset replacement strategies. At this point involving the consultants, the maintenance management, and capital planning will make the process smoother. Capital planning and the consultants identify which assets are being replaced and maintenance management assigns the new asset numbers and prepares the old assets for retirement in the system. As the project begins, the contractor submits documents on the proposed replacement/new assets. During submittal review, if the submittal is approved, maintenance management inputs data on make/model, preventive maintenance schedule, maintenance parts, and expected life from the submittal documentation. When O&M manuals are provided electronically, the manuals can be attached to the asset file in the CMMS.

Capital asset management is not a stand-alone operation. It takes coordination with maintenance management, maintenance technicians, maintenance mangers, and the committee that creates and reviews capital improvements.

[BELOW ARE POTENTIAL AREAS OF CONTENT UNDER CONSIDERATION]

TOOLS -

1. Six-year plan: Department has basic template for use in documenting project priority, category, name/scope and cost.

2. DEED provides a basic spreadsheet tool (the Renewal and Replacement Schedule) to assist school districts in capital planning. It identifies 26 systems, calculates basics life expectancies, and estimates costs based on facility value (typically insurance appraisal value). Discussion of the plan should also include identification of funding sources. Projects anticipated to be funded with state aid will have a school district match component; what is the intended funding stream for the school district portion of the project costs? If all projects in first year of the six-year plan were to receive funding, will the school district be able to provide its required match?

3. TIPS for presenting to the school board or capital planning committee.
   Not helpful to only have "emergent districtwide" projects. (In "compliance" area of Preventive Maintenance Handbook, note that application scores may be marked down in "capital planning" if no specific out-years projects are identified.)

4. STATUTES
   Specific statute, AS 14.08.101(7), requiring school board approval of six-year plan.

# Additional Considerations

## Managing Contracted Staff and Privatized Activities

[Content to be developed.]

## Evaluating Your Maintenance Program

[Content to be developed.]

## Environmental Safety

[Content to be developed.]

—remain as good as new for as long as practicable?”

## Portable Devices in the Maintenance Work Flow

[Content to be developed.]

## Electronic Operations & Maintenance Manuals

[Content to be developed.]

# Notes


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# Appendices

# Appendix A

## Sample Systems and Components Inventory List

**Foundation and Substructure**

- Footings
- Foundation walls
- Slab/beams on grade
- Piling/Posts
  - thermopiles
- Reinforcing
- Connectors
- Waterproofing
- Insulation
- Underdrains

**Superstructure**

- Columns
- Beams
- Rigid frames
- Floor structure
  - joists
  - deck/slab/sheathing
  - ramps
- Roof structure
  - trusses
  - deck/slab/sheathing
- Monolithic bearing walls
- Stairs and railings
- Structural bracing
- Welds/connectors

**Roof Systems**

- Roofing
- Insulation
- Paving and ballast
- Curbs/supports
- Expansion/seismic joints
- Drains, gutters and d.s.
- Drywells
- Flashing and trim
- Fasteners
- Snow stops
- Roof openings

**Exterior Wall Systems**

- Wall construction
- Cladding/sheathing
- Doors
  - frame
  - door unit
  - hardware
- Glazing systems
  - frame
  - glazing
  - hardware
  - curtain walls
  - storefronts
- Balcony walls/railings
- Louvers and screens
- Expansion/seismic joints
- Insulation
- Protective coating
- Sealants

**Interior Construction**

- Fixed partitions
- Demountable partitions
- Retractable partitions
- Doors
  - frame
  - door unit
  - hardware
- Glazing systems
  - frame
  - glazing
  - storefronts/entrances
- Interior finishes
  - carpet
  - resilient tile/sheet
  - ceramic/clay tile
  - terrazzo
  - paint
  - vinyl/fabric wall cover
  - wood
  - metal panels

- Ceiling system
  - suspension grid
  - acoustical units
  - soffits (metal/gyp.)

**Specialties**

- Toilet partitions
- Display boards
- Projection screens
- Display cases
- Lockers
- Flag poles

**Conveying Systems**

- Elevators
- Moving stairs/walks
- Dumbwaiters
- Pneumatic tube
- Lifts(material/personnel)

**Heating Systems**

- Boilers
- Furnaces
- Burners
- Fuel tanks & distribution
- Heat transfer equipment
  - heat exchangers
  - coils
- Terminal/package units
- Fin tubes/radiators
- Heating accessories
  - dampers/draft control
  - breeching and ductwork
  - stacks
  - insulation
  - piping
  - valves

**Cooling Systems**

- Condensing units
- Compressors
- Heat exchangers
- Packaged A/C units
- Chillers
- Absorption units

**Air Handling Systems**

- Air handling units
- Unit ventilators
- Fans
- Inlets/outlets
- Ducting systems
  - dampers
  - filters
  - mixing boxes
  - sound attenuators
- Humidifiers
- Dust collection systems

**Mechanical Controls**

- Compressors
- Pneumatic valves/levers
- Pneumatic tubing
- Electronic controls

**Plumbing Systems**

- Cold water piping
- Water heater
- Hot water piping
- Pumps
  - sewage lift
  - water booster
  - circulating
  - sump
- Valves and traps
- Insulation
- Plumbing fixtures
  - sinks and faucets
  - toilets/urinals
  - coolers/drinking fountains
  - exterior hose bibs
- Waste vents
- Waste piping
- Septic tanks

**Fire Protection/Suppression Systems**

- Sprinkler piping
- Backflow preventers
- Sprinkler heads
- Fire extinguishers
- Fire hose system
- Standpipe connection
- Fire pumps
- Grease hood extinguisher

**Power Generation and Transmission**

- Generators
- Engines/turbines
- Transfer switches
- Transformers
- Service wiring
- Substation
- Switchgear
- Bus ducting
- Overcurrent protection

**Power Distribution Systems**

- Main distribution panel
- Wiring
- Conduits
- Raceway
- Cable trays
- Distribution panels
- Electrical receptacles
- Circuit breakers
- Baseboard heaters
- Motors/fans
- Heat trace

**Lighting Systems**

- Fixtures
  - fluorescent fixtures
  - incandescent fixtures
  - HID fixtures
- Wiring
- Lighting panels
- Emergency lighting
- Standby lighting
- Exterior lighting

**Signal Systems**

- Computer data
- Public address
- Television
- Telephone
- Clock system
- Satellite delivery system
- Fire alarms
- Fire door hold-opens
- Security alarm/devices

**Landscaping Systems**

- Irrigation
- Tree/shrub plantings
- Flower bed plantings
- Turf/lawn
- Walks/plazas

**Playfields and Playground Systems**

- Football fields
- Baseball/softball fields
- Hard surface courts
- Hockey/skating rinks
- Playdecks
- Swings
- Climbing toys
- Safety mats
- Gravel and containment
- Markings/painting

**Vehicular Systems**

- Parking lots
- Roads/drives
- Curbs
- Fire lanes

**Site Utilities**

- Fuel tanks
- Fuel distribution piping
- Storm drainage
- Fire hydrant systems
- Electrical power
- Pole-mounted lighting

**Equipment**

- Furnishings
  - classroom furniture
  - seating
  - rugs and mats
- Fixtures
  - window treatments
  - artwork
  - vending
- Equipment
  - waste handling
  - loading dock
  - parking equipment
  - postal
  - food service
  - woodworking shop
  - auto/engine shop
- Special construction
  - vaults
  - swimming pools
  - acoustical enclosures
  - raised computer flooring

# Appendix B

## Anticipated Life Expectancies (Renewal Schedule)

System Life and Cost Data Sheet

| | System Life Expect |
|---|---|
| Site Improvements | 25 |
| Site Utilities | 40 |
| Foundation/Substruct. | 50 |
| Superstructure | 50 |
| Exterior Wall System | 25 |
| Exterior Windows | 30 |
| Exterior Doors | 20 |
| Roof Systems | 20 |
| Interior Partitions | 50 |
| Interior Doors | 30 |
| Interior Floor Finishes | 15 |
| Interior Wall Finishes | 25 |
| Interior Ceiling Finishes | 25 |
| Specialties | 40 |
| Conveying Systems | 40 |
| Plumbing piping | 30 |
| Plumbing Fixtures | 30 |
| Fire Protect./Suppres. | 30 |
| HVAC Distribution | 40 |
| HVAC Equipment | 30 |
| HVAC Controls | 20 |
| Electrical Serv./Gen. | 40 |
| Electrical Distribution | 50 |
| Electrical Lighting | 25 |
| Special Electrical | 15 |
| Equip and Furnishings | 25 |

# Appendix C

## Facility Funding Formulas

**[To Be Developed]**

# Appendix D

## Checklists

### District Preventative Maintenance Program Review

District:
Review Year: Site Visit Date:

| Item | Requirement | Approved | Comments |
|---|---|---|---|
| | *Maintenance Management* | | |
| A1 | Provide copies of work orders of varying types and status. | ☐ | |
| A2 | Report: Total maintenance labor hours collected on work orders by type of work (scheduled, corrective, operations support, etc.) vs. labor hours available—by month for previous 12 months. | ☐ | |
| A3 | Report: Scheduled and completed work orders—by month for previous 12 months. | ☐ | |
| A4 | Report: Number of incomplete work orders sorted by age (30, 60, 90 days, etc.) and status (deferred, awaiting materials, scheduled, etc.)—by month for the previous 12 months. | ☐ | |
| A5 | Report: Comparison of scheduled maintenance work order hours to unscheduled maintenance work order hours—by month for previous 12 months. | ☐ | |
| A6 | Report: Monthly trend data for unscheduled work orders showing both hours and numbers of work orders—by month for the previous 12 months. | ☐ | |
| A7 | Report: Planned maintenance activity report—by facility for next 3 months. | ☐ | |
| A8 | Report: Completed maintenance activity (work orders) including labor and material costs—by facility for previous 3 months. | ☐ | |
| | *Energy Management* | | |
| B1 | Provide a written energy management plan. | ☐ | |
| B2 | Reports: Consumption data for each building, each utility [e.g., fuel oil, electricity, natural gas, LPG, water, etc.]—by month for the previous 12 months. | ☐ | |
| | *Custodial Program* | | |
| C1 | Provide a written custodial plan that is building-specific and describes both the frequency (schedule) and level of custodial care for each facility. | ☐ | |
| | *Maintenance Training* | | |
| D1 | Provide a schedule of planned training for both custodial and maintenance personnel—for the current or upcoming school year. | ☐ | |
| D2 | Provide a record of training describing type and duration of training—by individual for current school year. | ☐ | |
| | *Renewal and Replacement (R&R) Schedules* | | |
| E1 | Provide a Renewal/Replacement Schedule (detailed to at least EED's 26 systems) for each permanent building over 1000sf. | ☐ | |
| E2 | Provide information that supports that the data in the R&R schedules was developed based on system condition assessments. | ☐ | |
| | *Fixed Asset Inventory System (FAIS)* | | |
| F1 | Report: Report of fixed asset, date acquired, location and estimated period of service. | ☐ | |

(a) For a district to be eligible for state aid under AS 14.11.011, the chief school administrator of the district must certify, on a form provided by the department, that the district has, and is in compliance with, a facility management program that addresses the following five elements of facility management, including maintenance management:

(1) a maintenance management program that is a formal system that records maintenance activities on a work order basis and tracks the timing and costs, including labor and materials, of maintenance activities in sufficient detail to produce reports of planned and completed work;

Mandatory

- ☐ Show that your system for can recording all maintenance activities on a work order basis and how a work order is handled from its creation to completion?
- ☐ Show your maintenance personnel performed no activities this week or this month not recorded on a work order?
- ☐ Show a record of your work orders that track all of your maintenance activities according to typical categories such as preventive, routine, emergency and operations?
- ☐ Generate a report of your planned maintenance activity for the next quarter that shows the timing (i.e., schedule) and anticipated costs, including labor and materials, of that work?
- ☐ Produce a report covering the previous three months of all maintenance activities and their costs, including labor and materials broken out by typical maintenance categories such as preventive, routine, emergency and operations?
- ☐ Show a report of planned versus completed maintenance activity for each facility by work order?

Best Practice

- ☐ Show that assets are identified for tracking purposes to the component level?
- ☐ Demonstrate how the data collected is used in the day-to-day management program?

(2) an energy management plan that includes recording energy consumption for all utilities on a monthly basis for each building;

Mandatory

- ☐ Produce a monthly record of energy consumption for each utility by building?
- ☐ Demonstrate that each building over 1000 square feet is separately measured each month.
- ☐ (If this is not practical at every site, tell what you do instead.)

Best Practice

- ☐ Show comparison of energy consumption in each building over multi-year period.
- ☐ Identify causes of increased or decrease energy consumption.

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(3) a custodial program that includes a schedule of custodial activities for each building based on type of work and scope of effort;

Mandatory

- ☐ Produce a copy of your written custodial plan at each site showing a schedule of custodial activities?
- ☐ Show that your plan for each building includes the type of work (i.e., the activity needed for each surface or equipment item) and the scope of effort (i.e., the frequency of care for each type of work)?

Best Practice

- ☐ Demonstrate the district's plan has been made available to all custodial staff, principals, and management personnel?
- ☐ Demonstrate how the plan transfers to custodial work being done at the site?
- ☐ Show that the program has included in a scope of effort the quantity (e.g., square feet of carpet, number of toilet fixtures, etc.)?
- ☐ Custodial plan shows areas of each custodians responsibility.

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(4) a maintenance training program that specifies training for custodial and maintenance staff and records training received by each person; and

Mandatory

- ☐ Show a written training plan or training schedule that addresses annual training goals?
- ☐ Produce a schedule of planned training for the coming year?
- ☐ Produce a record of training activities by individual custodian and maintenance staff?
- ☐ Show training records for last year?

Best Practice

- ☐ Track maintenance training through work orders on CMMS?

(5) a renewal and placement schedule that, for each school facility of permanent construction over 1,000 gross square feet, identifies the construction cost of major building systems, including electrical, mechanical, structural and other components; evaluates and establishes the life-expectancy of those systems; compares life-expectancy to the age and condition of the systems; and uses the data to forecast a renewal and replacement year and cost for each system.

Mandatory

- ☐ Provide a Renewal & Replacement (R&R) Schedule for each permanent building over 1000 square feet in size?
- ☐ Demonstrate that major building systems are identified at least at the level of the 26 systems used on the DEED renewal and replacement schedule?
- ☐ Show information that supports the data in the R&R schedule was developed based on on-site assessments?

Best Practice

- ☐ Show how these schedules are being used by the district to formulate capital plans?
- ☐ Show, for buildings with major additions of different ages, that separate R&R schedules have been created?
- ☐ Demonstrate that the R&R schedules are updated each year?
- ☐ Provide a site-by-site or districtwide forecast of renewal cost by fiscal year?

# Appendix E

## Definitions

Component

A part of a system in the school facility.

Component Repair or Replacement

The unscheduled repair or replacement of faulty components, materials, or products caused by factors beyond the control of maintenance personnel.

Custodial Care

The day to day and periodic cleaning, painting, and replacement of disposable supplies to maintain the facility in safe, clean and orderly condition.

Deferred Maintenance

Custodial care, routine maintenance, or preventive maintenance that is postponed for lack of funds, resources, or other reasons.

Major Maintenance

Facility renewal that requires major repair or rehabilitation to protect the structure and correct building code deficiencies, and shall exceed $25,000 per project, per site. It must be demonstrated, using evidence acceptable to the department that (1) the school district has adhered to its regular preventive, routine and/or custodial maintenance schedule for the identified project request, and (2) preventive maintenance is no longer cost effective.

Preventive Maintenance

The regularly scheduled activities that carry out the diagnostic and corrective actions necessary to prevent premature failure or maximize or extend the useful life of a facility and/or its components. It involves a planned and implemented program of inspection, servicing, testing and replacement of systems and components that is cost effective on a life-cycle basis.

Renewal or Replacement

A scheduled and anticipated systematic upgrading of a facility system or component to rehabilitate it to a renewed functioning standard.

System(s)

An assembly of components created to perform specific functions in a school facility, such as a roof system, mechanical system or electrical system.

*Note*: The above definitions are those adopted by the Bond Reimbursement and Grant Review Committee April 18, 1997.

# Appendix F

## Bibliography of Maintenance Publications

**[To Be Developed]**

# Appendix G

## Standard for a Clean Classroom

**[To Be Developed]**

# Appendix H

## Master Custodial Schedule

**[To Be Developed]**

# Swimming Pool Guidelines for Educational Facilities

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## ACKNOWLEDGEMENTS

Thanks to the Bond Reimbursement and Grant Review Committee members who reviewed the publication in its draft form and to those in the Department of Education who were responsible for the predecessor to this document.



Originally published in 1983 by the State of Alaska, Department of Education as *Water Safety Facilities and State Financial Aid*. Published in February 1985 and in 1997 as *Swimming Pool Guidelines*.

# Table of Contents

# Introduction

These guidelines have been developed to give assistance and direction to Alaska school districts in planning for school swimming pools, and to provide the department with a basis for review of applications submitted by school district for state participation in funding of facilities for educational purposed in Alaska. They~~ are based upon~~ direction for development of these guidelines comes from statute [AS 14.11.013(d) and 14.11.100~~-~~(h)], which provides for swimming ~~pools~~ facilities as an eligible project cost in projects approved for state aid under AS 14.11.

~~This~~ Grant eligibility is first subject to limitations in general space eligibility established under 4 AAC 31.020. Debt eligibility is governed by the application of AS 14.11.100(h). ~~Secondly, t~~This guideline ~~implements~~ identifies standards for swimming ~~pool~~ facility size based on the planned educational program and student population. Thus, these guidelines are intended to help Alaska school districts determine what portion of swimming ~~pool~~ facility space is eligible for State funding as determined by the commissioner.

Items that are not eligible for consideration of funding support in constructing a swimming facility include:

- Parking for a swimming facility, unless the facility is constructed as part of an educational facility for which parking is constructed in order to satisfy parking requirements associated with the school population;
- Timing systems including touch-pads, and other components;
- Recreation accessories including slides, sauna~~'~~s, ~~Jacuzzi tubs~~spas/hot tubs whirlpools, and equipment that cannot be demonstrated to be integral to the instructional program;
- Locker and shower facilities in excess of that required to support the instructional program; and
- Administration and ancillary space beyond that required for the instructional program~~;~~.

# Authority

## Statutory Requirements

A.S. 14.11.100(h). requires the department to adopt standards on the size of swimming pools:

> "An allocation under (a) (4) or (5) of this section for school construction begun after July 1, 1982, shall be reduced by the amount of money used for the construction of residential space, hockey rinks, planetariums, saunas, and other facilities for single purpose sporting or recreational uses that are not suitable for other activities and by the money used for construction that exceeds the amount needed for construction of a facility of efficient design as determined by the department. An allocation under (a) (4) or (5) of this section may not be reduced by the amount of money used for construction of a small swimming pool, tank, or water storage facility used for water sports. However, ***an allocation shall be reduced by the difference between the amount of money used to construct a swimming pool that exceeds the standards adopted by the department and the amount of money that would have been used to construct a small swimming pool,**** tank, or water storage facility, as determined by the commissioner." [
>
> * *emphasis added*]

## Department of Education Review

AS 14.07.020(a)(11) provides that

Tthe department shall:"

> review plans for construction of new public elementary and secondary schools and for additions to and major renovations of existing public elementary and secondary schools and, in accordance with regulations adopted by the department, determine and approve the extend of eligibility for state aid of a school construction or major maintenance project; for the purposes of this paragraph, "plans" include educational specifications, schematic designs and final contract documents;" . . .

Plans for a swimming pool are to be submitted to the Facilities section of the Alaska Department of Education & Early Development as part of the standard review documents required by statute and regulation. At the educational specifications stage, plans must contain, 1) a detailed description of the planned pool program with anticipated uses, and 2) detailed information about numbers of students to be involved in the various programs, and 3) the anticipated pool size, the support spaces needed and basic technical information on materials and systems desired. Subsequent submittals should provide drawings and details of the proposed swimming pool facility.

## District Requirements

- –State funding will only be provided upon receipt of evidence of ~~a K-12, school~~ curriculum-based learn to swim program supporting any grades K through 12.
- –Facilities that are not owned, or under the direct control of the school district must provide evidence of a joint use agreement with the owner that
    1) Identifies the responsibilities of each party with respect to operations, maintenance, and systems replacement.
    2) Details the preventive maintenance for the facility that meets requirements of AS- 14.11.011(4)
    3) Provides the school district with scheduling control of the facility for all hours during the school day on days for which school is in session.
- –District must provide evidence of a basic learn to swim program that contains at least three levels of learn- to- swim classes to the regular student population during school hours.
- –If evidence of full use for the district's K-12 program is not provided, state participation will be prorated based on the number of hours per school day in which K-12 school curriculum-based education takes place in the facility.

# Factors in Determining Pool ~~Size~~Design

Any swimming facility sponsored by a public school must be designed foremost for instructional purposes. Such design allows the teaching of basic swimming strokes, general water safety, boat safety and lifesaving. ~~Additionally, a~~A pool design enabling the teaching and practicing of diving may be desirable, and the opportunity for recreational swimming a valuable by-product of an instructional swimming program that should be considered in the overall facility design, however, no additional space will be assigned for these functions. ~~Recreational swimming for students and the community is a valuable by-product of an instructional swimming program and should not be overlooked in planning the facility.~~ Also not to be overlooked is the possibility for the pool facility to act as a water supply for a fire suppression system. However, State funding is available only in support of the instructional program (K-12) or for a facility serving as an emergency water storage facility.

Pool size, therefore, will be determined by the district primarily by three factors: population, the instructional program and the program space requirements. These factors will need to be balanced with the available funding and the operations and maintenance costs for the facility.

## Population Served

The ~~D~~district will need to analyze the following information for program determination. This information must also be provided to the Department of Education:

- ~~e~~Current district enrollment of the population to be served by the facility (K-12)
- ~~b~~Breakdown of enrollment by individual school and grade level.
- ~~a~~An enrollment projection for five years beyond the anticipated occupancy date by school and grade level.
- Number of students taking swim classes during each swim instruction period.

## Program to be Offered

Pool instructional space is determined by the classes, basic and elective, to be offered and the student population to be served. In addition to basic swimming instruction, courses that may be included in a well-rounded program are described as follows:

- ~~Competitive Sswimming to foster elements of teamwork, character, and skills among students.~~
- Water safety courses to develop and train instructors for the American Red Cross. These instructors qualify to teach lifesaving and to conduct water programs for all age groups.
- Water safety aide courses to develop and train young people in pool safety and the fundamentals of teaching swimming.
- Boat safety instruction for students and for interested community members. Such topics as overloading, personal flotation devices, maneuvering in rough water, high speed

turning, capsizing, explosion and/or fire, and falling overboard can all be discussed during water safety courses. Many of these topics can also be demonstrated through the use of a small boat.

- Drown proofing: A system of self-rescue developed at Georgia Institute of Technology, particularly aimed at those who feel they will never learn to swim a regular stroke, but want to be able to save themselves in the event of an emergency.

- ~~Diving instruction for the one-meter board.~~

- ~~Synchronized swimming training: For those boys and girls who are interested in the exacting and artistic demands that this activity has to offer.~~

- ~~Scuba training: Almost every region of the United States has pools offering this training to the general public.~~

If the pool will be available for community use in off-school hours additional activities to be considered in planning are:

- Infant training: This is a specialized offering, given by an experienced swimming instructor. Many infants have been given an excellent start as swimmers. Such training reduces the fear associated with water and reduces the time a student needs to learn to swim.

- Adult swimming courses: These courses prove to be surprisingly poplar for their social as well as instructional benefits.

- Swim to stay fit programs for persons who want a relaxing activity which maintains body tone. Individualized activity is stressed in this program.

- Survival training for the general public: A large number of people are concerned with being able to get themselves out of difficult situations.

- Rescue squad training: Most rescue squads feel that they should be prepared to handle all emergencies. There are many areas having potential water hazards which are protected by such squads.

- General recreational swimming for the public: Family nights, mother-daughter, father-son, and other combinations can provide a source of revenue to support pool operation.

- Water ballet training: For persons of all ages who enjoy group training and the artistic results that an exacting physical activity can produce. Water ballet allows for all ranges of talent.

- Fly and bait casting: Training practice can be provided.

In determining the programs to be offered, the district should consider the following

recommended courses and hours of instruction along with any current Red Cross recommendations.

### Recommended Courses

| BASIC COURSES | INSTRUCTIONAL HOURS |
|---|---|
| Pre-school Swimming (to 5yrs.) | 30 |
| Beginning Swimming | 25 |
| Advanced Beginning | 25 |
| Intermediate | 25 |
| Swimmers | 25 |
| Advanced Swimmers | 25 |
| Advanced Lifesaving | 25 |
| Lifeguard Training | 30 |
| Water Safety Instructor | 45 |
| Adapted Aquatics (Handicapped) | 10 |
| Water Ballet/ Synchronized Swimming | 25 |
| Canoeing/ Kayaking | 15 |
| Diving | 20 |
| Boating Safety | 15 |
| Water games (Water Polo, Basketball) | 15 |
| Basic Scuba/ Snorkeling Program | 30 |
| First Aid/ C.P.R. (in conjunction with Water Safety Program) | 25 |
| Pool Chemistry | 25 |
| Other | 25 |

### Small Craft Courses Information

| BASIC COURSES | PREREQUISITES | MIN. AGES | TIME REQUIREMENTS |
|---|---|---|---|
| Introduction to Paddling | None | None | Approx. 4 hours |
| Fundamentals of Canoeing | Swimming Skills | 11 | Approx. 15 hours |
| Basic River Canoeing | a) Fundamentals of Canoeing or Equivalent<br>b) Swimming skills | 14 | Approx. 20 hours |
| Fundamentals of Kayaking | Swimming Skills | 11 | Approx. 12 hours |

| BASIC COURSES | PREREQUISITES | MIN. AGES | TIME REQUIREMENTS |
|---|---|---|---|
| Basic River Kayaking | a) Fundamentals of Kayaking or Equivalent<br>b) Swimming skills | 14 | Approx. 20 hours |

**Red Cross Instructional Programs**

| COURSE | PREREQUISITES | MIN. AGE | TIME REQUIREMENTS |
|---|---|---|---|
| Beginner | None | None | As required |
| Advanced Beginner | Beginner Skills | None | As required |
| Intermediate | Adv. Beginner Skills | None | As required |
| Swimmer | Intermediate Skills | None | As required |
| Advanced Swimmer | Swimmer Skills<br>Basic Rescue/Adv. Lifesaving | 11 | As required |
| Basic Water Safety | None | None | Approx. 4 hours |
| Basic Rescue | Basic Water Safety Certification | 11 | Approx. 6 hours |
| Advanced Lifesaving (ALS) | Preliminary Swim Test | 15 | Approx. 21 hours |
| Adv. Lifesaving Review~~.~~ | Current ALS Certificate | 15 | Approx. 12 hours |
| Swimmer Aide | None | 17 | Approx. 6 hours |
| Water Safety Aide | Swimmer Skills<br>Basic Rescue/Adv. Lifesaving~~ALS Certificate~~ | 11 | Approx. 19 hours |
| Basic Swimming Instructor (BSI) | Intermediate Skills<br>Basic Rescue Certification | None | Approx. 20 hours |
| Water Safety Instructor (WSI) | Swimmer Skills<br>Adv. Lifesaving~~ALS Certificate~~ | None | Approx. 40 hours |
| Adapted Aquatic Instructor | Current BSI/WSI Certificate | 17 | Approx. 24 hours |
| Instructor Reviews | Current Instructor Certificate | None | As required |

Note: Ages are those on the first day of the courses.~~,~~

## Program Space Requirements

The Red Cross recommends certain pool space minimums in implementing identified program components. Chart 1 and Figures 1 and 2 on the following pages contain current requirements.

**Chart 1 - Minimum Instructional Requirements**

| Program | Instructional Lane Per Student | SQ.FT./ Student | Water Depth Minimums | Deep End (Over Head) | Diving | Comments |
|---|---|---|---|---|---|---|
| Beginning Swimming | 4’ x 25’ | 100/Student | Recommend 3’ to 3 ½’ | No Regulation | No Regulation | Possible minimum pool sizes for optimum class or 10 students: 40’ wide x 25’ long or 20’ x 50’ (5 students at each end). |
| Advanced Beginning Swimming | 4’ x 60’ | 120/Student | 25’ of 3 ½’ Water Depths | 6’ to 9’ | No Regulation | Red Cross allows 60’ swimming length to be done in laps, thus 25’ x 40’ pool would be acceptable but is not recommended. |
| Intermediate Swimming | 4’ x 60’ | 120/Student | 25’ of 3 ½’ Water Depth | 6’ to 9’ | No Regulation | |
| Swimmer | 4’ x 60’ minimum ~~(~~4’ x 75’ recommended~~.)~~ | 120/Student 300/Student | No Regulation | 8’ to 10’ Diving Depth | ½ meter board or platform | Minimum size possible 20’ x 60’ (rec. 20’ x 75’). If meter board is used width must be increased by 1’-8”. |
| Advanced Swimmer | 4’ x 60’ minimum ~~(~~4’ x 75’ recommended~~)~~ | 120/Student 300/Student | No Regulation | 12’ Diving Depth | 1 meter board | 21’ 8” Width Required 75’ Length Recommended |
| Advanced Life-Saving and Lifeguard Training | 25’ x 75’ | 120/Student | 25’ of 3 ½’ Water Depth | 6’ to 9’ | No Regulation | |



Note: Boating safety will be a part of some courses. The ability to turn a boat or kayak end-for-end is important. Pool width should be twice that of the boat length.

**Figure 1 - Lane Dimensions and Water Depths**

This figure illustrates minimum recommended lane dimensions and water depths for each instructional program offering: Beginning, Advanced Beginning and Intermediate Swimming. Requirements for diving instruction are also illustrated.

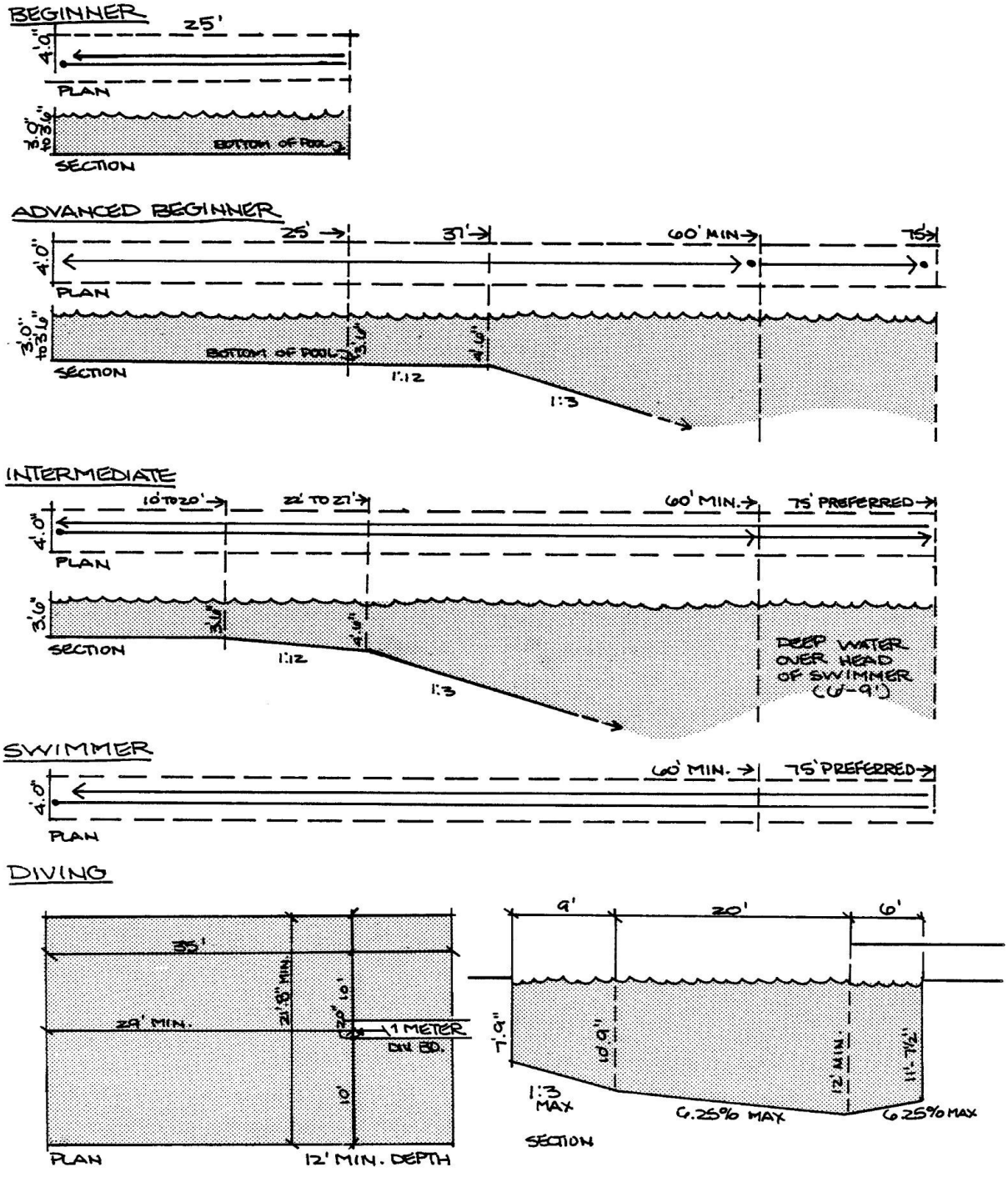
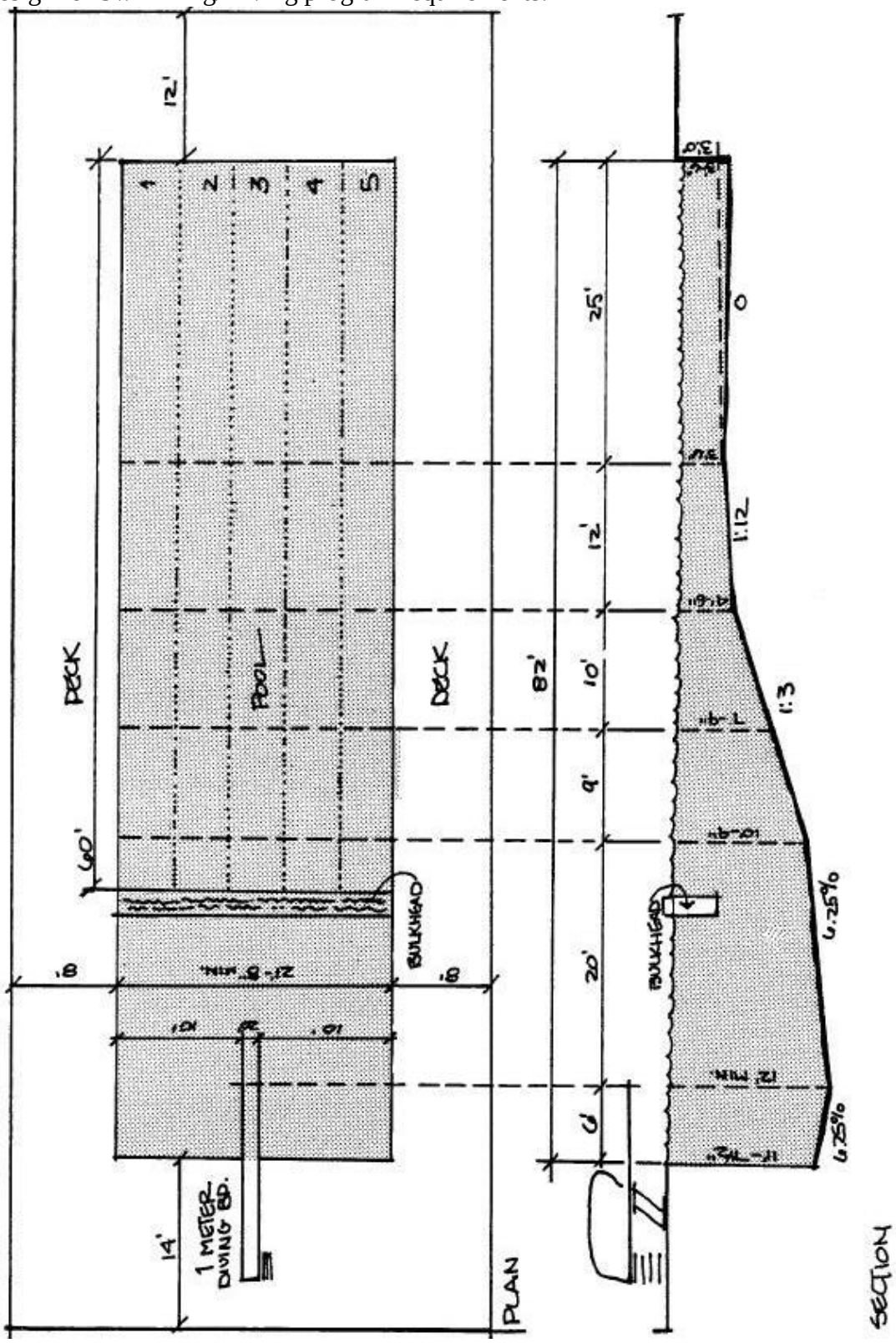


**Figure 2 - Pool Layout**

Pool design for Swimming/Diving program requirements:



## Operations, Maintenance and Repair

A district developing a swimming facility must take into consideration the following cost factors in planning the facility and incorporating it into the district's operating budget:

1) ~~a~~Annual routine and preventive maintenance and repair.
2) ~~m~~Major maintenance and renewal.
3) ~~u~~Utilities
4) ~~p~~Possible increased costs for additional instructors/staff.
5) ~~c~~Community use of pool could be a source of income but will also increase maintenance, repair, and staff cost.
6) ~~p~~Possible increased expenses to transport students to and from the facility.
7) ~~i~~Increased insurance costs, however, the possibility should be explored as to the feasibility of using the pool as a water reservoir, which may reduce the cost of fire insurance.
8) ~~l~~Life cycle cost of the proposed facility.

# Allowable Pool Size

## General Philosophy

***The total educational square footage, including the swimming pool facility, housing the population to be served must be at or below the space allowed under 4 AAC 31.020.***

***Based on an analysis of instructional needs and facility costs as discussed in the preceding chapter, a school district should select the smallest standard pool size from those listed in Chart 2 that would meet program goals and student population.***

Assuming, however, that in addition to primary use for school instruction, the pool facility will also accommodate community use and possibly some interscholastic competitive and athletic event swimming, certain general recommendations can be made regarding pool sizes which the district may want to consider.

## Recommendations

1. The optimum size pool to offer a full program of courses as outlined in chapter 2 is 75' x 30'. This meets minimum requirements for instruction programs, boating safety and recreational swimming~~, and would meet minimum requirements for some interscholastic competition~~.

2. For a small program of required instruction with 10 students per class, a 22' x 60' pool is recommended.

3. For a program which includes boating safety, a pool must be at least 25' x 40'. This is also the absolute minimum size to offer a small program of intermediate instruction, but is not recommended by the Red Cross for such a program. The minimum size pool for offering a mandatory and elective program would be 25' by 50'.

4. If diving is to be emphasized it is important that the full 12' diving depth be directly under the last 1 ½' of the diving board. Note: Rather than emphasize diving depth, it is more important that divers be trained to dive as shallow as possible. Most head and neck injuries occur when students dive off the edge or in the shallow end of the pool. Most diving tanks vary in depth with older constructed tanks having 8' to 10' depth and modern tanks 12' or more. An "L" shaped pool which isolates the diving area, though more costly, is the most desirable configuration.

5. To pick the most versatile depths for these pool sizes, use diving tank requirements for one end, 3' 6" for intermediate depth, and depending on community use concerns possibly a small section of 3' 0" depth at shallow end. Note: A removable insert in a 3' 0" shallow end which allows young children to overcome water fear in a comfortable atmosphere and assists in the offering of adapted aquatics to the disabled can be desirable.

Chart 2 on the next page summarizes standard pool sizes and the student population that can be served by each in a district offering a basic swimming program consisting of 3 required courses.

**Chart 2 - Summary of Standard Pool Sizes and Population Served**

**Total Population: Served 50% Basic Swim Program**

| Pool Dimensions | Pool Area S.F. | Students Per Class Period | Students Per Year Able To Receive Mandatory Courses | Enrollees per year in all 3 classes | Secondary Years (6 years) | Elementary Years (6 years) |
|---|---|---|---|---|---|---|
| 1. Recommended Minimum 22' x 60' | 1,320 | 20 | 450 | 80 | 480 | 960 |
| 2. Standard Instruction 30' x 60' | 1,800 | 20 | 480 | 80 | 480 | 960 |
| 3. Recommended Instructional 30' x 75' | 2,100 | 30 | 720 | 120 | 720 | 1,440 |
| 4. "Montreal" 36' x 75' | 2,700 | 50 | 1,200 | 200 | 1,200 | 2,400 |
| ~~5. L Shape 45' x 75' plus~~ | ~~3,375~~ | ~~100~~ | ~~2,400~~ | ~~800~~ | ~~4,800~~ | ~~9,600~~ |
| ~~45' x 30' (diving)~~ | ~~1,350~~ | | | | | |
| ~~6. "Competition" 45' x 75' (25 yards)~~ | ~~3,375~~ | ~~100~~ | ~~2,400~~ | ~~800~~ | ~~4,800~~ | ~~9,600~~ |

**Total Population Served: 100% Basic Swim Program**

| Pool Dimensions | Pool Area S.F. | Students Per Class Period | Students Per Year Able To Receive Mandatory Courses | Enrollees per year in all 3 classes | Secondary Only (6 Years) | Elementary and Secondary (12 Years) |
|---|---|---|---|---|---|---|
| 1. Recommended Minimum 22' x 60' | 1,320 | 20 | 450 | 160 | 960 | 1,920 |
| 2. Standard Instruction 30' x 60' | 1,800 | 20 | 480 | 160 | 960 | 1,920 |
| 3. ~~Minimum~~ Recommended ~~Competitive~~ | 2,100 | 30 | 720 | 240 | 1,440 | 2,880 |

| Pool Dimensions | Pool Area S.F. | Students Per Class Period | Students Per Year Able To Receive Mandatory Courses | Enrollees per year in all 3 classes | Secondary Only (6 Years) | Elementary and Secondary (12 Years) |
|---|---|---|---|---|---|---|
| Instructional ~~28'~~ 30' x 75' | | | | | | |
| 4. "Montreal" 36' x 75' | 2,700 | 50 | 1,200 | 400 | 2,400 | 4,800 |
| ~~5. L Shape 45' x 75' plus 45' x 30' (diving)~~ | ~~3,375 1,350~~ | ~~100~~ | ~~2,400~~ | ~~800~~ | ~~4,800~~ | ~~9,600~~ |
| ~~6. "Competition" 45' x 75' (25 yards)~~ | ~~3,375~~ | ~~100~~ | ~~2,400~~ | ~~800~~ | ~~4,800~~ | ~~9,600~~ |

## Method for Determining Allowable Size

The allowable size of the actual pool tank is based on the district's analysis of current program needs, anticipated population and the amount of space required for the instructional program. Though a certain size may be allowable, the district may need to provide a smaller size due to anticipated operation and maintenance costs.

### Program Determination ~~A~~

A district developing an instructional plan must consider the following factors:

1. ~~t~~Type of swimming program, i.e. beginning swimming, advanced life saving and lifeguard training (see Instruction Programs and Red Cross recommended courses).
2. ~~a~~Amount of instruction for each course to meet minimum requirements (see Instructional programs and Red Cross requirements).
3. ~~m~~Maximum amount of water square footage per student for each course offered (see Chart 1).
4. ~~t~~Total number of students to be served by the program and per class estimates.
5. ~~l~~Length of each course, i.e. half a semester or a semester. Note: courses may be separate or offered as part of physical education program.
6. ~~n~~Number of hours in school day.
7. ~~s~~Swimming instruction staffing pattern; assuming a normal school day of six hours, at least three must be mandatory swimming courses.

Knowing what it must set aside for its basic program, the ~~D~~district can consider alternatives such as additional mandatory requirements, enlarging voluntary offerings, increasing usage to 6 periods per day to gain greatly expanded offerings with the same facility or, although not recommended, reducing the number of periods for which the instruction will be available.

### Determine Size of Pool

Review the information in the section **Factors in Determining Pool Size** and Figures 1 and 2, which illustrate pool layouts:

- Determine the dimensions necessary to accommodate program needs based on the program determination above.
- Select the smallest pool from Chart 2 - Summary of Standard Pool Sizes that will accommodate the combination of factors evaluated above.
- Chart 2 shows the "Competition" pool as the largest available pool size for selection. This pool size (45' x 75') is the maximum size pool for which the Department of Education will

contribute funding. If the program demands required a pool area larger than the "Competition" pool, the district should be prepared to identify additional sources of funding.

The work sheet on the following page may be used to determine appropriate size pool for a given program and student population to be served.

**Program Determination Worksheet**

Use the table provided below to assist in determining the pool size needed for the population served by the proposed instruction programs.

| Students Receiving Programmed Instruction/Year | Instructional Staffing | # of Students Per Class Period | Number of Class Periods Per Day | Total Hours Instruction per Course | Allowable Pool Dimensions | Maximum DEED Pool Surface Area | Pool Facility Factor | Maximum DEED Facility SF |
|---|---|---|---|---|---|---|---|---|
| 10 - 100 | 1 | <10 | <4 | <100 | 15ft x 60ft | 900sf | 5.8 | 5,220sf |
| 101 - 200 | 1 | 10 | 4 | 100 | 15ft x 75ft | 1125sf | 5.5 | 6,190sf |
| 201 - 400 | 2 | 20 | 8 | 200 | 22ft x 75ft | 1650sf | 5.2 | 8,500sf |
| 401 - 600 | 3 | 30 | 12 | 300 | 29ft x 75ft | 2175sf | 5.0 | 10,875sf |
| 601 - 900 | 4 | 40 | 16 | 400 | 36ft x 75ft | 2700sf | 4.7 | 12,690sf |
| 901 - 1200 | 5 | 50 | 20 | 500 | 43ft x 75ft | 3225sf | 4.5 | 14,510sf |
| 1201 + | 5+ | 50+ | 20+ | 500+ | 50ft x 75ft | 3750sf | 4.0 | 15,000sf |

Notes:

1. Approximately 10 students per instructional staff
2. Each instructional staff can teach one level to 400 students/year
3. The Pool Facility Factor incorporates 6ft pool decks on three sides, 12ft deck on one long side, locker rooms, administrative office space, pool mechanical, and circulation factors.

| ~~Swimming Instructional Program Type~~ | ~~M or E~~ | ~~Minimum Hours Instruction~~ | ~~Water Square Foot Per Student~~ | ~~# of Students Per Class Period~~ | ~~Length of Course Semester or ½ Semester~~ | ~~Number of Class Periods Per Day~~ | ~~Staffing Instructional Staffing~~ | ~~Total Students Served~~ | ~~Chart 2 Pool Size Needed~~ |
|---|---|---|---|---|---|---|---|---|---|
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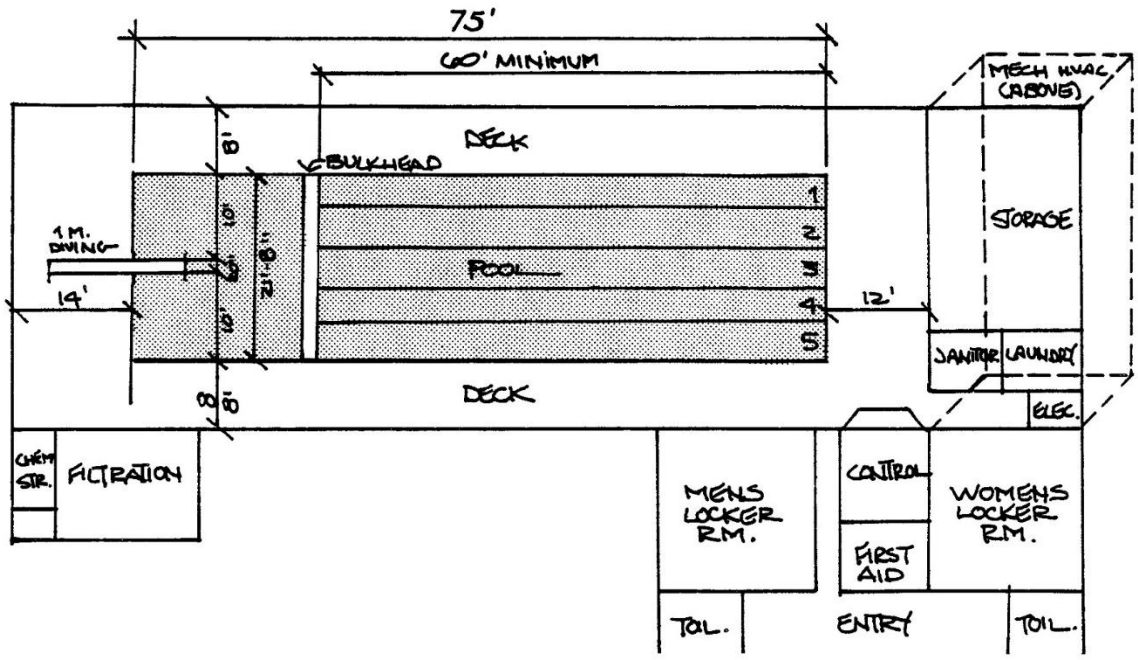
~~* Reference Chart 2 - Summary of Standard Pool Sizes and Population Served on page 13~~.

## Conceptualizing the Swimming Facility

- After the envisioned instructional program and other uses of the pool area have been determined, the complete swimming facility should be conceptualized.
- Adequate deck space for instruction must be provided. A minimum of ~~twelve~~ 12 feet is recommended for this purpose.
- A minimum of 6 feet of deck space should be allowed on all other sides of the pool for safety~~-~~. As many as 2/3 of the group will be out of the water at any one time.
- Equipment, office space, locker and shower rooms must be included and designed with a functional amount of space depending on population served.
- If diving is provided, ceilings should be at least 16 feet above the highest board surface. A one-meter board and 12 foot depth is the recommended minimum for diving. Diving programs are not allotted any additional space.
- Safety is of primary concern, a secure area for chemical storage should be provided, as well as a control station and first aid area. (For additional Health-Safety information see ~~HEW Publication No. DCD79-8319, Swimming Pools, Safety and Disease Control, 1979~~the Center for Disease Control website; ~~https://~~www.cdc.gov/healthywater/swimming/aquatics-professionals/index.html)
- If the district desires to utilize the pool as a water storage facility for a fire suppression system, considerations for tying into the fire alarm system, providing backup power for pumps, water distribution, specifications for piping, sprinkler heads, etc. should be referred to a mechanical engineer or fire sprinkler design company. Some room for additional equipment may be required.
- Because of safety and health concerns, several agencies have regulatory authority covering a water safety facility. In addition to applicable uniform codes for building, mechanical, electrical, fire safety, etc., Districts must adhere to DOT/PF barrier free regulations and Department of Environmental Conservation health and safety regulations, including those covering swimming pools. (18 AAC 30)

**Figure 3 - Conceptual Layout**




This chart shows a conceptual layout of a swimming pool facility using the Recommended ~~Minimum~~ Instructional Pool (22' x ~~60'~~75') with a diving instruction area. For this type of facility, approximately ~~7,700~~8,500 square feet (sf) would be anticipated for the total building area.

| | |
|---|---|
| Pool | 1,~~635~~ 650 sf |
| Deck | 2,~~180~~ 890 sf |
| Control | 120 sf |
| First Aid | 100 sf |
| Locker Rooms | ~~740~~ 750 sf |
| Laundry | 70 sf |
| Janitor | 80 sf |
| Mechanical/HVAC @ 7% | 560 sf |
| Filtration | ~~250~~ 280 sf |
| Chlorine | 30 sf |
| Chemical Storage | 60 sf |
| Electrical | ~~50~~ 80 sf |
| Structural - Deck Equipment | 340 sf |
| Toilet | 240 sf |
| Circulation/Entry/Exit | 630 sf |
| Interior Walls @ 3% | 230 sf |
| Planning Factor @ 5% | 385 sf |
| Total Area | ~~7~~8,~~700~~ 500 sf |


# A Handbook to Writing Educational Specifications

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## ACKNOWLEDGEMENTS

Thanks to the Bond Reimbursement and Grant Review Committee members who reviewed the publication in its draft form and to those in the Department of Education & Early Development who were responsible for the predecessor to this document.

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*This document was originally prepared under contract by the Southeast Regional Resource Center and published under a similar name by the State of Alaska Department of Education in 1985.*



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# Table of Contents

# Introduction

The initial step in the creation of a school facility that effectively meets the needs of students, teachers, administrators, and community members is the formation of a clear, concise, written facility program statement. This written program statement is the educator's opportunity to articulate the educational program of the school to the professional designer. The written program statement, through further development, becomes the "program for design" that articulates the scope and requirements for a completed facility. Educators have come to call this program for design an "educational specification." The success of the educational specification in communicating the school facility's needs to the professional designer plays a large part in the overall success of a school facility construction or improvement project.

The development of educational specifications is more a process of pre-design problem definition than a process of problem solving. It is important that the educational specifications, as thoroughly as possible, describe the facility's anticipated uses and identify the specific physical characteristics that will be required to house and promote the proposed activities. The educational specifications should provide detailed parameters to guide the design professional's design, rather than describe how the facility is to be constructed. A further discussion of the problem-definition process can be found in the *Creating Connections: The CEFPI Guide for ~~Planning~~ Educational Facility Planning* published by the ~~Council of Educational Facility Planners International~~Association for Learning Environments (A4LE).

The elements that all educational specifications should contain are fairly exact~~,~~; however, the processes used to develop the educational specifications and the manner in which the information is presented may vary. These differences in the development and presentation of the educational specifications can be attributed to a number of factors, including~~,~~ variations in community involvement, educational programs, and school sizes. ~~However, i~~It is important that all educational specifications attempt to:

- Involve educators and community representatives in the definition of educational needs;
- Enable school planners to better understand the purposes of the facility;
- Help the designers to create a building that fits the educational program and needs of the community~~,~~; and~~;~~
- Eliminate oversights that are expensive to correct once construction is complete.

A well-prepared educational specification is an integral part in the creation of a building that enhances the learning environment, accommodates learning activities, and provides pleasant surroundings for occupants and visitors. A poorly developed educational specification generally results in a mediocre facility, or one that is marginally functional for education. It is the intent of this publication, *A Handbook to Writing Educational Specifications – 2019~~05~~ Edition*, to provide a resource for school districts and educators that:

- Identifies the essential elements ~~which~~ that ~~all~~an educational specification~~s~~ should contain;

- Outlines approaches and techniques utilized in the creation of an educational specification~~s~~ and overall project planning; and
- Improves the quality of an educational specification~~s~~ and ~~their~~its effectiveness in communicating to the architect the current and envisioned educational program~~s~~~~;~~.

# State Requirements

By regulation 4 AAC 31.010, the Alaska State Department of Education & Early Development requires the chief school administrator, under the direction of the local school board, to be responsible for preparation of educational specifications for all new public elementary and secondary schools, as well as additions and renovations of existing facilities, for which state aid is sought. The question of whether a capital project requires educational specifications often arises for there are many capital projects, such as a roof replacement or mechanical upgrades, that do not require educational specifications. It is the department's policy to require educational specifications on any project that alters the configuration of the building's spaces or the manner in which those spaces are to be used. Therefore, all new school construction projects, additions, and renovations typically require educational specifications that include, at a minimum, the following elements:

- The current year and five-year post-occupancy projected attendance area enrollments in the grades *(grade levels)* affected by the facility;
- A statement of educational philosophy and goals for the facility;
- The curriculum to be housed by the facility;
- The activities that will be conducted in the facility;
- The anticipated community uses of the facility;
- The general and specific architectural characteristics desired;
- The educational spaces needed, their approximate sizes in square feet, their recommended equipment requirements, and their spatial relationships to other facility elements;
- The size, use, and condition of existing school spaces in the facility *(additions and rehabilitations only)*;
- The recommended site and utility requirements;
- The proposed budget and method of financing~~;~~, and~~;~~
- The technology goals of the curriculum and their facility requirements.

Additional regulations in 4 AAC 31.020 identify guides for planning educational facilities as well as the method of determining allowable square footage for a school facility. Regulations 4 AAC 31.021 and 31.060 stipulate the process of application for state aid for school capital projects. Regulation 4 AAC 31.022 outlines the requirements for review of capital project applications. Further information regarding the review and scoring of capital project applications is available with the CIP Application & Instruction packet that is distributed to all school districts each year. Regulations 4 AAC 31.030 and 4 AAC 31.040 address the review and approval of school construction plans. Copies of the school facility regulations are available in electronic form online through the Alaska legislature's website (www.akleg.gov) as well as in print form through commercial vendors.

A school district's six-year capital improvement project (CIP) plan ~~(CIP)~~ is closely related to the educational specifications for a given project. The requirements of the six-year CIP plan are

identified in statute AS 14.11.011 and regulation 4 AAC 31.011. Regulations 4 AAC 31.021 and 4 AAC 31.022 address the six-year CIP plan's relationship to and integration with a school district's CIP request. The six-year CIP plan is also a component of the overall district master plan. As such, it serves as support for individual programs for design and educational specifications.

# The Process

Programming is the process that elicits and systematically translates the mission and objective of an organization, group, or individual into activity settings. Facility programming, through the process of educational specification development, precedes the traditional architectural design phase in the building delivery process. The primary resources for this programming task are the building occupants or users. It is their objectives and needs that the planning team must utilize to shape the educational specifications. The ultimate success of a school capital project rests on the effective communication between those who design and those who will use the built environment. The educational specifications are the communication tool that must bridge the gap between the building's users and designers.

An essential requirement of the process is to allow adequate time for the development of educational specifications prior to the initiation of architectural design. Time is needed for people to envision, review, revise, and re-think programmatic desires that will be translated into conceptual design. A "hurry-up" process does not allow for reflection by parents, students, faculty, and community members. Without sufficient lead-time, project elements and parameters may be set too quickly that may later prove undesirable.

After the need for a project is identified, the first step in the educational specification process is to establish a school building planning team or committee. The planning team should be kept small enough so that it can function as a group and not become unwieldy, yet the planning team should be large enough to include a cross section of students, teachers, administrators, parents, and community members. A team of eight to twelve members is probably sufficient for the task, however this may vary within each community. Membership on the planning team should be voluntary. Team members should have the interest and desire to be involved in the planning of the school project and should have a stake in the outcome.

The planning team will be required to formulate, organize and prioritize all ideas and input regarding what the school should be. They will serve as the impetus in the collection of information, as a review body of what is proposed, and as a communicator regarding the educational specification effort with the school staff, the student body, and the community. It is essential that people who are going to work in the facility (building principal if known, teachers, maintenance and custodial support staff, and students), if not serving on the committee, be invited to provide input in the process that shapes the facility. These are the people who will spend the bulk of their time in the facility after it is constructed. Desirable or undesirable building features will impact their daily lives. Although all community members may eventually be affected by the project, it is the responsibility of the school building planning team to ensure the successful programming of the facility.

The task and responsibility presented to the planning team may appear daunting, and in truth a good deal of thought, time, and hard work is to be expected. It is for this reason that the team may wish to employ an experienced school planning professional to assist in the development of the educational specifications. Many times the school planning professional can provide an established structure for the educational specifications and can serve as a facilitator to convert

the team's ideas and concerns into a presentable final product. If budget constraints limit the ability to hire a consultant or when a qualified individual is available from the school district staff, a local or in-house person may fill the position of facilitator.

There are advantages and disadvantages to either approach. The local person has intimate familiarity with the community, understands the school district and its educational programs, and may be well known to the members of the planning team. However, the local individual may hold provincial views and biases that could reduce their effectiveness in resolving issues where planning team members hold conflicting views. The planning professional, "the expert from out of town," can point out provincial thinking without fear. The out of town expert can also bring new ideas for the group's consideration from planning experiences in other locations. However, the expert may not be intimately familiar with the community's social and political makeup, thus they may not be able to fully understand the community's perspective.

Regardless of the planning team's approach to the development of the educational specifications, the planning team and school planning professional, if used, must consider the following essential factors influencing educational specifications that are discussed in detail on the following pages:

- Project Rationale
- The Community
- Student Population Projections
- Educational Philosophy & Instructional Plans
- The School Site
- Environment for Learning
- General Design Considerations
- Activity Setting Descriptions
- Spatial Relationships
- Space Requirements Summary
- Furnishings & Equipment Summary
- Project Budget & Financing
- Scheduling & Assignment of Responsibility

These essential factors mirror the required elements of an educational specification as defined in 4 AAC 31.010; however, the last factor noted is excluded from the regulatory requirements. This omission is not due to lack of importance for this factor is imperative in getting all the involved parties on the same page as to their role in the project. Early definition in the planning process of all participants and their responsibilities not only facilitates the smooth execution of the project, but can oftentimes save money and enhance the project by capitalizing on partnering opportunities within the community. It is for these reasons that the department believes this is an essential step in the process.

[FLOW CHART OF PROCESS DISCUSSED ABOVE TO GO HERE]

# Project Rationale

The project rationale is a statement explaining why a project is being undertaken. Projects considered essential to conduct the educational program need a summary statement of justification. In other words, the project rationale defines the problem and answers the questions of "Why are we doing this project?" and "What is the project's intended use?"

An educational master plan that includes changes in the educational program, instructional plans, and future facility construction is important for all planning, whether for funding, scheduling, or facility design. The project rationale should be based upon documentation in the district's educational master plan and the current six-year CIP plan. The planning team should thoroughly review the data in these documents, revise it if necessary, and use it to reinforce the need for the proposed project.

The school district may or may not have a current master plan that addresses facility growth or change. If available, the master plan should be referenced in the educational specification, as should the six-year CIP plan. These documents should show the relative importance of the specific facility to the district as a whole and should also include the district facility policy. If an educational master plan is not available, the planning team should take additional steps necessary to ensure that the proposed project is coordinated with the district's long-range goals, rather than just the goals of a single facility. The project rationale may be expanded to explain the role the specific facility is intended to play in the achievement of current district goals or the future of the school district.

For additional assistance in developing facility master plans or examining issues related to long-range planning, reference should be made to the *Creating Connections: The CEFPI Guide for ~~Planning~~ Educational Facilities Planning*, Unit C.

Examples of Project Rationales:

- Problem Definition: John Doe High School was constructed in 1910 and no longer functions adequately to deliver contemporary educational program offerings. Studies have shown that, for the intended use, the cost of adequate renovation would be greater than new construction and the existing building can be adapted for other use. Therefore, a new facility is deemed necessary.

  Intended Use: The envisioned facility will house the delivery of a technical and vocational educational program for 1,000 students in Grades 10-12.

- Problem Definition: The State Fire Marshal has condemned the Bureau of Indian Affairs Day School that was constructed in 1931 for elementary school children. The cost of renovation is estimated to be nearly the cost of new construction on a life cycle cost analysis basis. Therefore, construction of a new facility is proposed.

  Intended Use: This facility is intended to provide a comprehensive elementary and secondary educational program for 140 students in Grades K-12. It will also serve as a community educational, recreational, and civic center.

The above examples constitute brief and direct summaries of a project. They offer factual information (e.g., “this high school was constructed in 1910,” and “studies have shown . . .” etc.). The information supports the conclusions drawn and the proposed solution that will be detailed by the remainder of the educational specifications.

# The Community

A design team from outside the community or region may be retained to design the school project. For purposes of this section, a "community" is defined as the students, their parents, and the citizens of the proposed geographical area that the facility is intended to serve. To provide for that possibility, background information on the community should be provided. The educational specifications should describe the physical characteristics of the community, its cultural history, and its support infrastructure.

The socioeconomic characteristics of its citizens, employment opportunities, and anticipated growth in the community may also assist the designers in better understanding and meeting local needs. It is critical that the designers are aware of the current support infrastructure available in the community. Are sewage, potable water, and fire water utilities available or will they need to be developed on site? It is especially important to note the electrical generation capacity of the local power provider so that the designers may determine whether it will be able to provide sufficient power to the new facility.

Information on the surrounding terrain and the climatic conditions is necessary to design a facility that is responsive to the local environment. What are the extreme winter and summer temperatures? Is the community located in a flood plain? What is the direction of prevailing winds? Any social or environmental information that could help the design team establish parameters to guide their design should be provided, especially if it is information that the community feels strongly about.

Example:

> John Greenwood, founder of Greenwood Industries, established Greenwood, located in the Northwest Riverville Borough, in 1939. Most of the inhabitants of the community are of Southern European descent, mostly Italian, and are employed in skilled crafts at Greenwood Industries, a diversified manufacturer and the community's main employer. An abundance of available natural resources and increased trade beyond regional boundaries indicate strong economic growth. In addition, the service sector of the community has experienced a steady increase in employment. The community's population of 30,000 is concentrated in an area of approximately six square miles. However, commercial, industrial and residential areas are clearly demarcated because of strict planning and zoning requirements. Figures from the last U.S. census indicate an annual growth rate of 2%. The city's planning office is currently projecting a five-year growth rate of 2.2% annually.
>
> The average low winter temperature is 10 degrees, while the average high summer temperature is 81 degrees. The wind blows from the north/northeast approximately 92 percent of the time with an average speed of 12 miles per hour. Greenwood is located on relatively flat ground and 85 percent of the city limits are in the flood plain of the Green River.

Important considerations beyond geographic and topographical data of the community include a description of the school district and the role that it, and its facilities, plays in the community. Are there other private schools, charter schools, or technical schools serving the community? Are there special schools for special learners? Consider the role the school facility will play and what local residents will expect of it. Will it double as a community center? Community activities expected to be accommodated in the facility should be listed as specifically as possible. Community involvement in programming for design is often incorporated in the educational specification process. This can be done informally with community meetings or more formally with survey instruments and community research. To the extent practicable, a compilation of this data along with some analysis should be incorporated into the educational specification in either the Community section or in an appendix.

Much of the information suggested in this section can be obtained from previous planning documents and from the planning offices of the local government. There is also information available on the Department of Commerce, Community, and Economic Development's Alaska Community Database Online, ~~web page~~ located at: ~~www.dced.state.ak.us/dca/commdb/CF_CIS.htm.~~ https://dcra-cdo-dcced.opendata.arcgis.com/. It is important that the community members, school district, and local government agree on this data.

# Student Population Projections

The State of Alaska has established guidelines for the maximum eligible space a project may include for a given student population. These guidelines are applicable to projects receiving state funding that propose to add or replace space and are outlined in regulation 4 AAC 31.020. The regulations utilize ~~four~~ five different calculations to address ~~four~~ five different population groups: ~~Elementary, Secondary, Mixed Grade, and Combined (K-12) school populations.~~

- Elementary: ~~refers to~~ student groups in grades kindergarten through six.
- Secondary: ~~refers to~~ student groups in grades seven through twelve.
- Mixed Grade: ~~refers to~~ a combination of elementary and secondary students that doesn't include all grades of either.
- Secondary plus Sixth: a combination of grade six and two or more secondary grades.
- Combined refers to student groups in grades kindergarten through twelve.

~~Attendance Area refers to the education service area in which the student population is located based on the location of high schools and feeder schools (ref. 4 AAC31.016).~~

~~Five-year post occupancy refers to the date five years after the proposed project is occupied. For the purposes of calculating eligible space, student populations are projected to this point.~~

While the eligible space calculations are somewhat complex in regulation, the department has published a spreadsheet to facilitate their use. The spreadsheet is available on the department's website at: education.alaska.gov/facilities/facilitiescip

**~~www.eed.state.ak.us/facilities/FacilitiesCIP.html~~**

For projects that propose to add or replace school space, the projected student population at five-years post occupancy, the date five years after the proposed project is to be occupied, provides the base student population for determining the maximum eligible school space that the State will provide funding for in a given attendance area. Attendance area refers to the education service area in which the student population is located based on the location of high schools and feeder schools (ref. 4 AAC31.016). Thus, the student population projections are the cornerstone of project planning as they directly establish the design capacity and maximum eligible square footage of the proposed facility. The importance of accurate student population projections cannot be overstated.

~~For more information on determining a project's eligible square footage, please refer to regulation 4 AAC 31.020, contact department's Facilities Section, or visit the department's Facilities website at: education.alaska.gov/facilities http://www.eed.state.ak.us/facilities/home.html#Pub~~

The most common process used to project student populations is the survival ratio projection method. This method can be used effectively for both urban and rural schools; however, it is not as accurate for very small schools due to the large impact a single student can have on overall growth percentages. The basic premise of this projection technique is that future student populations can be derived from applying the ratio of students that historically advance from one grade to the next to the current student population. The ratio of student advancement from grade to grade is called the survival ratio and a different survival ratio is established for each grade transition. A ratio can also be established between live births in the attendance area and the student enrollment in kindergarten five years later. This ratio can be applied to recent live birth data in the attendance area to predict future kindergarten enrollments. Rather than go into the specifics on how to create a tool to apply this population projection method, the department has published a spreadsheet on its web site that calculates survival ratio projections based on user furnished student population data.

Although less rigorous as a statistical model, the department has seen reasonable population projection results from the annual percentage of change in student populations averaged over a period of 5 years or more. As a comparison to straight line growth projections and survival ratio methods, this model can provide another tool with which to analyze historic trends. As with the survival ratio method discussed above, the department has published a spreadsheet on its web site that uses the average annual change method to provide a projection based on user supplied historic population data. The spreadsheet also includes a section that, when provided with student population projections, will calculate a resulting average annual change percentage for use in comparison with historic data.

Inherent in the survival ratio projection method, and other statistical projection techniques (i.e. straight line growth, regression analysis), is the assumption that past growth trends will be repeated in the future. This assumption may be fine when applied to a controlled environment, but when statistical projection methods are strictly applied to actual school projects without consideration of other factors, the results can be deceiving. Therefore, it is important that the results of a statistical population projection be cross-examined and analyzed with all pertinent data to determine that it represents a realistic student population projection.

There are many factors that could influence future student populations; however, it is important to note that only if these factors are anticipated to *change in the future*, is it necessary to adjust a survival ratio calculation. For example, a district may see an increase in 7$^{th}$ grade student populations as students leave the private elementary schools. There is no need to adjust the survival ratio projection because of this factor. However, if the private school were to begin offering 7$^{th}$ grade, this could reduce the historic increase typically experienced by the school district's 7$^{th}$ grade. Thus, the historic survival ratio between 6$^{th}$ and 7$^{th}$ grade should be reduced to reflect the changes in the private school program.

The difficulty in incorporating these factors into a student population projection is, first, determining the likelihood that a *change* in a factor will actually be realized and, second, assessing what sort of impact the *change* in the factor might have on the student population. If no change is anticipated for a particular, then the survival ratio population projection need not be adjusted. Below is a list of some factors that could affect school populations:

- Housing Availability – apartments, housing developments, dormitories, any where that students might live;
- Land Availability – is land available for future development of housing and business;
- Alternative Educational Programs – home schooling, cyber schools, charter schools, private schools, etc.;
- Success of Educational Program – pupil retention, school transfers, test scores;
- Employment & Economic Opportunities – development of business and industry can affect migration and family growth;
- Government Policy – from funding decisions to military development, decisions made by distant governments can greatly impact communities, and;
- Migration – often accompanies to one or more of the factors listed above.

It is important to reiterate that if no changes in the community are anticipated during student projection period, then an unaltered survival ratio student projection should adequately reflect future populations. If, and only if, there is some reason to suspect that future trends will change significantly from historic trends, then one may want to consider further evaluation of the factors that may change and how their change may impact future student populations.

# Educational Philosophy & Instructional Plans

Educational specifications should be driven by the educational program offered and those educational activities planned to be offered in the future. The document should include the school board's philosophy, along with the educational goals and objectives of the program that the facility is expected to house.

A well developed curriculum, instructional and supervision plan, and ongoing system of curricular and instructional evaluation should be referenced for inclusion as appendices. If they do not exist, it may be necessary to validate how well the district's goals are being achieved. Validation may consist of public opinion regarding the educational program offered and soliciting suggestions for changes or improvements. Surveys should be carefully constructed to elicit accurate and useful information. Remember, it is the educational program that drives the educational specifications.

Predicting future program offerings and curricular needs that the facility will house is a bit more difficult because it is necessary to separate educational faddism from sound educational practice. However, it can be done by careful assessment of general educational trends validated by the community members, the school board, current and former students, and the professional teaching staff. Including a statement of present and expected use of technology is also an essential requirement in describing a school's programmatic and curricular needs.

This section of the document should also describe the instructional support and general administrative support staff plans. Include an organizational chart to assist in this description. This alerts the design professional to the number of personnel that the school is expected to house, and in general terms, indicates the types of spaces they are likely to occupy. Also, include a statement of the teaching philosophy and methods advocated.

# The School Site

Site selection is a separate, independent process that may precede or follow preparation of educational specifications. However, the educational specifications need to describe outdoor activities and their site requirements regardless of whether a school site has been selected or not. If a school site has already been selected, the planning team should visit it to evaluate its compatibility with the proposed outdoor activities and to determine if the site offers any special educational opportunities that the educational program may want to incorporate. If the site has not yet been selected, the planning team should identify the specific requirements that the envisioned site should have to promote the outdoor educational activities as outlined in the educational program.

Whether or not a site has been identified, the educational specifications should attempt to address the following site characteristics and development concerns:

- Desirable features that enhance the school's educational program;
- Natural features that should be preserved to enhance the aesthetic qualities of the learning environment;
- Treatment of pedestrian and vehicular traffic flows around and on the site;
- Community uses of the site or nearby open space sites that could be used to enhance both the community's and the school's needs;
- Location of site, centrally located in community versus outlying so that student transportation is required;
- The ratio of the attendance area which will be served by the school;
- The site's access to water, sewer, electrical power, arterial roads, and police and fire protection;
- The required onsite utilities. Will design and construction resources need to address onsite water acquisition and treatment, sewer treatment and disposal, bulk fuel storage, and power generation?
- The desired site development. What recreation areas and equipment are desired? What is required in the way of parking, student drop-off, and bus loading areas? To what extent is landscaping and planting desired?
- Potential demolition or relocation requirements of existing site structures and utilities.

The chosen site or sites should be reviewed with local community planning departments for area growth patterns, future expansion, and other land use factors. Also, the Department of Education & Early Development cites two publications in its planning guidelines that deal specifically with site selection: The *Creating Connections: CEFPI Guide to ~~Planning~~ Educational Facilities Planning*, Unit F, and a department publication, *Site Selection Criteria and Evaluation ~~Criteria~~Handbook*. The planning team and site selection team may find these publications helpful in the evaluation of potential school sites and complying with the department's site review and approval procedures.

# The Environment for Learning

Harold Hawkins, of Texas A & M University, identifies three types of environment that affect a facility's occupants in Unit I, *Environment for Learning*, of the *CEFPI Planning Guide*. These environments are the:

- Physical, both the natural and built environment;
- Social, the relationship between and among students, staff, teachers and parents, and;
- Institutional, the organization of the school, its rules and regulations.

The educational specifications primarily define the physical environment. However, it is important to be cognizant of the relationships between all environments when developing the educational specifications. How the physical environment is defined can greatly impact the other environments. Hawkins identifies a number of features to consider when defining the physical environment and discusses how these features can impact the other environments.

The physical environment for learning as well as the social environment of a school building should be conducive to the teaching and learning process. The Department of Education & Early Development, in writing a program of studies with and for the Alaska regions, has stressed the necessity of preserving cultural pluralism in the schools and maintaining a meaningful cultural identity among rural Alaskan inhabitants. Though they are speaking to the necessity of designing curriculum for such purposes, there is also a crucial need to design school buildings and learning environments that reflect and support such program goals.

Curriculum improvement goals view the students as "goal seeking": problem-solving bodies with the power to get meaning out of direct experience. This means that the learning environment must be an active support system to the teacher and learner. It must be designed and equipped to nurture knowledge acquisition. Architectural space can actively support or be passive to learning. Alaskan schools and the educational specifications that guide their design should necessitate a process to:

- Access the developmental needs of students, kindergarten through twelfth grade;
- Include important cultural determinants;
- Include community needs and wishes for a multi-purpose structure;
- Design buildings which reflect an architectural response suitable for the local Alaskan conditions, and;
- Provide space on an activity level encouraging teaching and learning.

The idea of providing dynamic spaces that actively support learning and can be integrated into or enhance the curriculum is not a new one, however, educational planners and school designers could do a better job providing environments that actively support learning, rather than just house students. As a philosophy for design, one may want to consider taking the idea of the school environment actively supporting learning a step further by utilizing the built facility as an additional learning tool. Examples might be the overall ambiance of a space as conducive to the planned activities, graphics as direct teaching, exposed plumbing and heating as physics.

The general ambiance of a school has a strong effect on the learning and teaching environment. The educational specifications should carefully review and explain this ambiance or distinctive atmosphere that is desired for the school. This is one of the most important guidelines for the designer, but it is also one of the most difficult for the educational specifications to communicate. The educational specifications should address attention to detail, variety of experiences, the building as a teacher, fitting into the environment, thoughtfulness in design, adequate space and flexibility, and sense of community as a means of describing the ambiance desired in the facility. A good deal of thought and research may be required to develop educational specifications that fully consider the impacts of the learning environment and effectively communicates the district's vision to the design professionals.

# General Design Considerations

The general design considerations should be a set of instructions that the planning team requests the design professional to consider in the overall design of the facility. These considerations are meant to serve as a basic framework for the design and should not be too specific. The detailed requirements of the individual school spaces are to be addressed in the Activity Setting Descriptions section of the educational specifications, which will build upon the general considerations with design criteria applicable to the specific activity setting. The planning team should identify and briefly describe, at a minimum, the following general design considerations:

- Building design capacity and maximum eligible square footage;
- Desired focal point or features of the school, including primary and secondary focal points, i.e., commons, media center, auditorium, lobby, etc. Discuss the expression of these features as they relate to the exterior and interior of the building;
- Aesthetic qualities – Alert the design professional to desired/undesired textures, colors, shapes, ambiance, graphics, etc. Give clues as to the image the planning team wants the building to project, such as traditional, contemporary, rustic, etc.;
- Building construction standards – If the school district has established construction standards for their facilities, they should be referenced here. If not, then the desired physical characteristics of the building's construction should be developed in this section. These should be developed on a building system basis. The following is a brief overview of the building systems: Site, Foundation, Superstructure, Exteriors, Roof, Interiors, Conveyances, Mechanical, Electrical, Equipment, and Special Construction. Please refer to the department's ~~*EED*~~publication *Cost Format-2008 edition* ~~publication~~ for a more detailed account of these building systems;
- Building performance requirements – This may be part of a school district's construction standards document and incorporated in the educational specifications by reference, or they may need to be developed in this section. Building performance requirements can range from the level of control over the HVAC system given to the buildings occupants to the life expectancy of the roofing system. This should also be structure on a building system basis;
- Lighting requirements – Identify minimum lighting levels in the facility, preferred lighting configuration and controls, and the use of natural light in the facility;
- Communication requirements – Identify communication, public address, and technology services that must be provided throughout the facility;
- Security and visual access requirements – Outline security and supervision requirements for the facility. If the school district has a security plan, it should be referenced here. Coordinate these descriptions with those furnished in the Equipment and Technology section of the educational specifications;
- Site development requirements – Describe parking, circulation, service, outdoor activity, signage, and lighting requirements. Coordinate these descriptions with those furnished in the School Site section of the educational specifications;

- Describe other facilities or accessory structures that need to be considered in the placement of the school on the site, i.e. teacher houses, utility and storage buildings, and existing facilities to remain, and;
- Describe any building value considerations, such as consolidation of like spaces, cost effective design on a life cycle basis, low maintenance and operation cost considerations, etc.

Obviously, not all of the different school spaces will directly adhere to the general design considerations. For example, the level of finishes in vocational shop space will differ from the general level of finishes throughout the remainder of the facility. One must attempt to identify the desired general characteristics that the design is to adhere to for the majority of the time. This eliminates the need to restate these general considerations in each activity setting description.

It may be helpful to both the planning team and designers, to divide this section into two parts. A broad base set of general considerations that addresses the overall building design and another, more detailed set of general considerations that addresses a group of similar spaces, such as classrooms or administrative offices. This sort of two-tiered approach allows for more specific detail that is pertinent to a group of like spaces to build on the general information that is provided for the building as a whole, thus reducing the redundancy of effort in the Activity Setting Descriptions section.

# Activity Setting Descriptions

Educational specifications are premised on the belief that schools should be responsive to the curriculum to be taught in the new facility, as well as the needs of the students and staff that will occupy the building. Educational specifications should also provide for the desired community use of the facility without negatively impacting the primary educational use of the facility. To accomplish this end, it is necessary for the educational specifications to provide detailed descriptions of the uses and requirements of each space or "activity setting". The descriptions of the activity settings are the heart of the educational specifications and they are the basis of building design.

## Identify Objectives

The school will be a collection of different activities or actions that are designed to meet various objectives that were identified during the planning process. These objectives may be in response to curriculum; to federal, state or local educational priorities; to staff analysis of the learner needs; to school administrators; or to the sentiment expressed by members of the community. Often, questionnaires are distributed among community members, school staff, and students in an effort to gather local input. It is important that these survey instruments ~~are~~be structured so that useful information can be distilled from the responses. It is also important that sufficient time is allowed so that a comprehensive list of objectives can be established that accurately defines the overall purpose of the school.

## Identify Activity Needs

After the process of defining the school's objectives is complete, the planning team should identify the activities or actions that are required to satisfy the objectives. Each activity will suggest a set of "needs" that must be met in order for the activity to be successful. From these activities the physical requirements of the facility can be derived. In order to promote understanding and organization of these requirements, the planning team may want to consider and group the needs into the following three categories:

- Health and Safety Needs – the response to code requirements, hygiene considerations, and the protection from hazards;
- Functional Needs – the response to physical necessities or determinants and to the specific uses of each setting, and;
- Psychological and Aesthetic Needs – the response to the needs for physical comfort, sensory satisfaction, psychological support, and cultural adaptation.

The health, safety, psychological, and aesthetic needs of users are combined with the educational goals, the corresponding curricular methodology, and the related needs of the community. All of these elements together form the pre-programming database that defines the functional needs of each activity setting. While many of the required school spaces are known prior to the educational specification exercise, the process of identifying each activity area's needs validates

the need for each space. The planning team may even discover that an unforeseen activity area is required to fulfill the facility's identified activities and objectives.

## Defining Activity Space

Activity areas include the various spaces, such as classrooms, libraries, etc., that comprise the school facility. Activity areas are not limited to interior spaces so it is important that the educational specifications identify and define the requirements of outdoor activity areas as well. Activity areas should be described with a high degree of specificity and exactness. The descriptors that are essential to provide sufficient detail to the architect of the activity areas planned are as follows:

- Describe the activities that are anticipated to be conducted in the instructional plan. If the instructional plan is referenced, include specific page numbers that can be reviewed by the design professional. Describe small, individual and large group activities that will be conducted within a space;
- State the number of users, teachers, aides, and target student populations;
- Suggest the approximate size of the activity space in terms of square footage;
- Based on a desired group size, state the number of like spaces required by the student population;
- Describe requirements for large and small groups, as well as individual student and staff spaces;
- Describe the internal spatial relationships and the area's relationship to the school as a whole, and;
- Describe the general ambiance desired in each, and potential modifications or alternates that might be desired for different teaching methods.

Space does not necessarily mean a "room." It can also mean an area within a room where a specific activity will be conducted, such as a messy activity, i.e., finger painting, which may require sink and different floor surfaces for ease in cleaning. It may be necessary to illustrate the internal spatial relationships of different spaces within an activity area using a bubble diagram or matrix .

It is important to consider the functionality of each space and activity setting. Each area must be closely examined to insure that it is programmatically functional. Identify the minimum area required to serve a given student population, and the maximum area. How many teaching stations are needed~~,~~ given a specific staffing pattern (~~i.~~e.g. pupil-teacher ratio)? Various mathematical methods may be used to make this determination. For example, what number of students will be participating within a program area during the class day/week, how often will the class meet and for what length of time during the class day/week, and the desired pupil-teacher ratio. How many periods of the day can the space be utilized? One hundred percent efficiency is impossible for an entire facility. However, many areas, such as general classrooms, can be programmed for every hour during the school day.

In writing the descriptions, the specific language is of particular importance in providing the designer direction. An example is the difference between the verbs "provide" and "provide for" as they relate to equipment, furnishings and casework.

"Provide" means the designer will provide the space and the specifications calling for the equipment, furnishings and casework in the contract documents and drawings.

"Provide for" means the designer will accommodate in the design of the space requirements for the equipment, furnishings, and casework that will be acquired by the owner. Avoid general descriptions such as "adequate," "some," "somewhere," "enough," "near," and "many."

Below are some other factors that should be considered when defining each activity setting. This is by no means a comprehensive list but rather a minimum list of considerations:

- Describe specific utility requirements. Include the number of electrical outlets needed and their desired locations. Identify specific water, gas, compressed air, and dry and wet waste disposal requirements as applicable to the specific space;
- Identify special acoustic and lighting requirements;
- Identify specific surface material requirements, floors, walls and ceilings;
- Identify bulletin board, writing board and tack board requirements. Mounting height should be specific for size of students. For bulletin boards and tack boards, it may be desirable to specify that all wall space not used for something else be covered with tack surfaces;
- Identify requirements for wall maps, projection screens, chart rails and other fixed teaching aids. Describe relationships of teacher activity to student activity areas and note teacher demonstration areas if required;
- Note specific environmental requirements such as special ventilation, natural lighting, special heating and heat control;
- Note specific safety and health features required such as emergency eyewash stations in shops and chemistry laboratories. Note requirements where the instructor controls gas, compressed air and water. Note where automatic shutoff to specialized equipment is required, i.e., saws, lathes, planers, grinders;
- Explain audio-visual, television access and public address requirements as well as computer equipment and stations;
- Specify equipment, furnishings and casework to be located within the activity area. Often, instructors envision more equipment and furnishings than will fit within the instructional area. The burden of prioritizing should be upon the educator and spelled out in the educational specifications;
- Identify and describe internal areas and support spaces needed. Once again, the specific language used is important. There is a vast difference between the terms "adjacent to" and "in the proximity of";
- Identify special colors, textures and shapes required within an area. This is of particular importance for kindergarten, special education, pre-school, and primary classrooms;

- Identify area needed for display of student projects and project storage, large and small. Also, identify general storage requirements of each space, and;
- Identify and describe any other requirement that may be unique to the activity setting.

## Organization Format

The planning team may want to organize the activity setting descriptions in a standard format to facilitate their use and clarity. Appendix B offers a possible format for organization of the activity setting's activities and needs. This chart or matrix should build upon the general design information and may address many of the same topics, but in greater detail. If a particular activity setting's general characteristics vary from those defined in the General Design Considerations, the variations should be identified. This chart may also be used as a checklist during the planning team's review of the project drawings and specifications to insure that the design professional has included those things that the educational specifications required.

# Spatial Relationships

The educational specifications should include a summary of spatial relationships. This should be illustrated through either a bubble diagram or a matrix showing the desired spatial relationships of the entire facility. This is not intended to be a scaled school design plan; it is merely intended to demonstrate the desired adjacencies among the activity settings. Conceptual or schematic drawings should be left to the design professionals who will translate the educational specifications into a tangible building plan.

One may find it helpful to dissect the comprehensive relationship diagram for the school into a number of smaller, more detailed diagrams. An example of this would be defining the administrative area as a single entity in the comprehensive diagram of the school and then providing a second diagram that identifies the individual activity settings within the administrative area and their desired relationship to one another. It is important that the more detailed diagrams not lose sight of the broader spatial relationships that are defined in the comprehensive diagram.

It is important that the following factors are considered when establishing the spatial relationships for the facility:

- Public vs. private spaces – typically some parts of the school are desired to be more accessible by the public than others. Grouping public spaces together and providing direct relationships between them makes it easier to keep the private spaces private.
- Noisy vs. quiet spaces – again the grouping of like spaces will enhance the overall effectiveness of a buildings ability to provide spaces that facilitate learning. Obviously, it doesn't make a lot of sense to have a gym and library directly adjacent to one another, even if they are both public spaces.
- Consolidation of like spaces – it is more efficient to construct a design that consolidates mechanical intensive areas such as restrooms, kitchens, etc. than one that spreads them out. This consideration may not be readily apparent in the spatial relationship diagrams, but it is something that should be kept in mind when evaluating a design professional's proposed building design.
- Joint-use spaces – oftentimes a space can fulfill two or more purposes in a school design. Some examples of this are a small group room located adjacent to two or more classrooms or a community room that also houses music and home economics activities. Grouping spaces and providing direct relationships between activities that may be able to take advantage of a joint-use space enhances a building design's efficiency.

It is also necessary to illustrate complex, individual activity and/or academic discipline spatial relationships. For example: science suites composed of classrooms, laboratories, chemical storage, specimen storage, animal rooms and a plant room; or metal shops composed of multiple task areas such as welding, forging, storage, finishing, grinding, instruction, clean-up, student project, tools, etc. These detailed spatial diagrams that depict the intra-relationships within a complex activity setting should be provided in the Activity Setting Descriptions section for the

specific activity setting. However, the relationship of the complex activity setting to other activity settings in the school should be included in the Spatial Relationship section.

As the planning team develops the spatial relationships between activity settings, the~~y~~ team may ~~note a basic~~ divide~~sion of~~ the building into four basic types of space~~s~~: Instructional or Resource, Support Teaching, General Support, and Supplementary. Appendix C provides a breakdown of different school spaces and their categorization within the space structure. The Instructional or Resource areas are learning environments ~~that are~~ designed to house students and teachers involved in learning activities. The Support Teaching and General Support areas provide ~~an~~ infrastructure ~~that~~ to support~~s~~ the Instructional or Resource areas' achievement of educational goals~~.~~ ~~T~~they do not necessarily house students. Some of the Support Teaching and General Support areas are more directly related to the learning and teaching functions than others; for example, the Auditorium serves more as a teaching area than the Kitchen. The Supplementary spaces are areas that support the overall function of the building; these are necessary building spaces ~~that are~~ required for the operation of the building not just as an educational facility, but also as a suitable, habitable structure.

It may be desirable to group ~~some of these~~ spaces ~~in~~ of a particular category together in a zone of the facility; for example, Supply Storage & Receiving and Mechanical/Electrical areas may have many of the same building requirements that would make it desirable to locate them close to one another, even though there is not a direct relationship between the two space types. Often, overlap between categories occurs based on the functional needs of a building, such as the direct relationship between corridors and classrooms. Other times, overlap occurs in response to the aforementioned factors that influence the spatial relationship of a building; for example, a facility's Gym, Auditorium, and Entry may be related because of their common inclusion in a community-use zone. The use of building zones may help in depicting the desired relationships between the school spaces.

# Space Requirements Summary

The Space Requirement Summary is a statistical square foot summary of all program spaces identified in the detailed activity area requirements. This summary provides a quick reference to the design professional to the space requirements of each activity setting. It also assists the planning team in determining whether functionality and balance have been maintained throughout the facility by enabling the comparison of space requirements between activity settings. Coordination between this section and the Activity Setting Description section is imperative.

The space guideline regulations define eligible space in terms of gross square footage that includes partition (wall) footprint area. Typically, educational planning documents state spatial requirements in terms of net square footage that excludes partition footprint area. The planning team needs to be aware of this distinction when preparing the space summary and clearly state how space is defined in the summary. If the planning team chooses to utilize a net square footage tabulation, then a percentage of the eligible project square footage must be set aside for the partition footprint area. Eventually, the conversion between net and gross square footage must be made. It is the department's belief that identifying spaces in terms of gross square footage in the educational specification facilitates the transition from educational specifications to an actual building design, the generation of a project construction budget, especially if the department's Cost Model estimating tool is utilized, and the subsequent evaluation of project design solutions.

The Space Requirements section should also define how "assignable" and "non-assignable" square footage is to be calculated. Non-assignable or supplementary space is primarily composed of circulation, restroom, mechanical, and partition footprint areas. Appendix D contains a breakdown of space categorizations. Categories A through C are assignable spaces, whereas Category D contains non-assignable spaces. The desired ratio or percentage of instructional assignable space to total square footage, generally ~~a~~ 70% to 80%, should be defined. While the department does not regulate assignable and non-assignable space, ~~it~~the percentage provides a good indication ~~of~~ as to the efficiency of a particular design solution, and as such, merits consideration by the planning team in the creation of the educational specifications and subsequent design evaluation.

Adjustments to the activity settings may be necessary to ensure conformity to state space requirements and budget allowances. This is the most critical activity in the entire programming effort for the school~~s~~. Priorities may have to be established that balance the educational program and community use needs. The planning committee should keep in mind that it is planning a school facility that can accommodate the educational program rather than a "community center". Design of the school, however, should provide for use of the facility by the community to the extent possible.

# Furnishing & Equipment Summary

Regulation 4 AAC 31.020 (a) (4), by means of referencinge to the department's publication entitled *Guidelines for School Equipment Purchases*, provides for and identifies equipment and furnishings that can be included in a school capital project budget. Generally, equipment and furnishings required for the facility to provide the intended educational program are eligible. However, the purchase of extra consumable supplies, such as toner cartridges, copier paper, light bulbs, etc., are not eligible capital project costs. Please kKeep this in mind when defining the Furnishing and Equipment requirements of a facility in the educational specifications.

The general scope of necessary equipment purchases shallshould be a part of the educational specifications developed for the project. The document willshould provide the recommended equipment requirements for each space identified. Good educational specifications shall include a tabular summary of the project's equipment and furnishing requirements. This summary should be coordinated with the equipment and furnishings requirements noted in the Activity Setting Description section. The school district's project manager will use this equipment summary to make initial budget projections for the project and to begin the process of equipment procurement based on the design team's design development (DD) documents. Final purchasing lists will also identify any existing equipment serving the educational program that can be used in the new, remodeled, or expanded facility.

If the district has equipment and furnishing standards, it is important that they are either referenced or included in the educational specifications. This is especially important if the project architect's professional services include responsibilities for preparing furnishing, fixtures, and equipment documents, often referred to as FF&E documents. The identification of desired brand names and model numbers is an invaluable tool in communicating district needs and ensuring their inclusion in the project. While a complete list of furnishings and equipment may not be feasible until final design is complete, a thoughtful and thorough analysis of the project's FF&E requirements is essential in effective educational specifications.

# Project Budget & Financing

## Project Budget

The Department of Education & Early Development has prepared a tool entitled the *Program Demand Cost Model for Alaskan Schools* that is useful for conceptual construction cost estimates. Construction costs are established based on the project's type and size of the school spaces, the proposed foundation system, the site development requirements, the geographic project location, and the date of construction. A reasonable estimate of the building's base construction cost can be calculated by consolidation of the project's Space Requirements Summary into the Cost Model's space type categories. Additional assumptions regarding foundation systems, site development costs, and date of construction are required to complete the cost estimate.

Based on the estimated construction cost, an overall project budget can be established. The project budget should address the following budget categories.~~:~~

**Construction Management (CM)~~–~~**

- Construction management is divided into two categories: CM accomplished by a private contractor and CM accomplished by district/borough staff. Costs may be incurred for one or the other and in some cases both. Estimates for "in-house" construction management should include actual staff time allocated to the project, staff travel and per diem, and direct costs of telephone, etc. It should include construction management costs done by staff and all on site representation. For private contractors it should include costs as anticipated to include oversight of any phase of the project. Construction management includes management of the project's scope, schedule, quality, and budget during any phase of the planning, design and construction of the facility. The maximum for construction management by consultant ~~+~~ and 'in-house' ~~=~~ is 5%. The cost of construction management furnished by a private contractor is limited from 2% to 4% the cost of construction based on AS 14.11.020-(c). The recommended budget for ~~I~~in-house construction management is 2% to 5% of the construction cost.

- Land – Site acquisition costs are a project cost variable that is unrelated to construction cost. Budgets for site acquisition should include the actual purchase price plus title insurance, fees, and closing costs. Land value is established as the appraised value of the land not to exceed the amount for land in the project agreement. The eligibility of site acquisition costs is governed by 4 AAC 31.023-(c)(2)(B) and 4 AAC 31.025. Land costs are excluded from project percent calculations.

**Site Investigation –**

- Site investigation costs are also a project cost variable unrelated to construction cost. Budgets for site investigation should include land survey, preliminary soil testing, environmental and cultural survey costs, but not site preparation. Site investigation costs are excluded from project percent calculations.

**Design Services –**

- The design services budget should include full standard architectural and engineering services as described in AIA Document B~~141-1997~~101-2017. Architectural and engineering fees can be budgeted based upon a percentage of construction costs. Because construction costs vary by region and size, so may the percentage fee to accomplish the same effort. Additional design services such as educational specifications, condition surveys, commissioning, and post-occupancy evaluations may increase fees beyond the recommended percentages. The recommended range for the standard design services is between 7% and 9% of the construction cost. Renovation design budgets might run 2% higher.

**Construction –**

- The construction budget should include all contract and force account work for facility construction, site preparation and utilities. This is the base cost upon which other category's percentage costs are estimated.

**Equipment/Technology –**

- The equipment and technology budget includes all moveable furnishings, instructional devices or aids, electronic and mechanical equipment ,with associated software and peripherals. Consultant services necessary to make equipment operational may also be included. It does not include installed equipment or consumable supplies, with the exception of the initial purchase of library books. Items purchased should meet the district definition of a fixed asset and be accounted for in an inventory control system. Equipment/Technology budgets have two benchmarks for standard funding: percentage of construction costs and per-student costs as discussed in DEED's *Guideline for School Equipment Purchases*. If special technology plans call for higher levels of funding, itemized costs should be presented in the project budget separate from standard equipment. The recommended budget for equipment and technology is the lesser of either 0-7% of the construction cost **or** between $~~1850~~ 2,300 - $~~3050~~ 3,800 per student depending on school size and type.

**~~Indirect/~~District Administrati~~ve~~~~on~~ Overhead –**

- The ~~indirect~~district ~~/~~administrati~~ve~~~~on~~ overhead budget includes an allocable share of district overhead costs, such as payroll, accounts payable, procurement services, and preparation of the six-year capital improvement plan and specific project applications. ~~It also includes the Department of Education & Early Development overhead charges for projects funded by state grants.~~ The recommended budget range for indirect/administration expenses is between 2% and 4% of the construction cost.

**Percent for Art –**

- This budget category addresses the statutory allowance for art in public places. Eligible project expenses in this category may fund selection, design and fabrication, and installation of artwork. The required art budget is 1% of the construction cost, except for ~~REAA~~ projects in rural areas that require only 0.5% of the construction cost.

**Project Contingency –**

- The project contingency is a safety factor to allow for unforeseen changes in the cost of the project. Standard cost estimating by A/E or professional estimators includes a construction contingency in the estimated base bid. Because that figure is included in the construction budget, the project contingency is intended to address project changes and unanticipated costs in other budget areas. The project contingency is fixed at 5% of the construction cost.

### Overall Guidelines

As a general rule, the overall project budget should not exceed 130% of the construction cost. However, the project budget defined in the educational specifications is a preliminary planning budget so many assumptions regarding the estimated scope of work and cost of the budget categories is required. It is important that these assumptions are documented in the educational specifications so that the design professionals are better able understand the scope of the project and assess the reasonableness of the budget. To formulate an accurate project budget the planning team may need to draw from a number of resources such as past project experience, professional publications, and the DEED Cost Model, etc. All relevant back up for the project budget should be included in the educational specifications.

## Financing

It is important that the planning team identify the funding mechanism that the project intends to utilize to secure funding for the project. This will facilitate compliance by the design professionals with the pertinent regulations that may limit the eligibility of project costs. It is also important for the planning team to identify the required local contribution to the project and identify some methods that may be utilized to satisfy their contribution. It should be noted that nothing precludes school districts or municipalities from funding 100% of a project; however, with state assistance available, most entities choose to pursue the aforementioned funding mechanisms.

While there is little federal funding available for school construction or major school renovation projects, the State of Alaska has two funding mechanisms that provide financial aid for these types of capital improvement projects. Below is a brief overview of the eligibility requirements, application process, and fund allocation process of the two mechanisms.~~:~~

### Capital Improvement Project Grants

~~Grants —~~Capital improvement project (CIP) grants are available to all school districts and municipalities. School construction and renovation projects are typically funded through direct legislative funding allocations to the Department of Education & Early Development. The Bond Reimbursement and Grant Review Committee establishes the department's CIP grant review process that determines eligibility, defines budget, and prioritizes the projects submitted annually by the school districts. The product of the department's review is furnished to the Governor and Legislature, as is a recommendation of funding levels. Ultimately, the Legislature determines project funding levels. Refer to 4 AAC 31.021 and 4 AAC 31.022 for the regulations that govern the grant application process.

- Upon receipt of legislative grant appropriation, the department establishes a project agreement with the recipient entity that defines the scope and budget of the project. Grant funds are distributed from the department to the recipient entity based on the achievement of predefined payment milestones identified in the project agreement. Participating share or local contributions for the grant projects varies by school district ranging from 2% to 35% of the total project cost.

## Debt Reimbursement

- ~~Debt Reimbursement –~~ The debt ~~retirement~~ reimbursement mechanism is available to all school districts and municipalities that have the ability to sell bonds. Thus, the Regional Education Attendance Area school districts are not eligible to receive state aid through this funding mechanism. After debt authorization is issued by the legislature with an amendment to AS 14.11.100, the department accepts capital improvement project applications from the school districts. ~~If the legislative debt authorization is broad enough to allow competition between school districts for debt funds, then the department evaluates and prioritizes projects following the same process identified for the grant mechanism. Otherwise, t~~The department determines a project's eligibility based on statutes and regulations. A project agreement between the department and the school district or municipality is developed that defines the scope and budget for the project. After local approval of bond issuance to fund the approved projects, the project is undertaken. The department reimburses a percentage ~~(typically 70%)~~ of the bond principal, interest, and transaction costs incurred by the school district or municipality based on their annual debt reimbursement request to the department. Refer to 4 AAC 31.060, 4 AAC 31.061, and 4 AAC 31.063 for regulations that govern bond projects.

~~It is important that the planning team identify the funding mechanism that the project intends to utilize to secure funding for the project. This will facilitate compliance by the design professionals with the pertinent regulations that may limit the eligibility of project costs. It is also important for the planning team to identify the required local contribution to the project and identify some methods that may be utilized to satisfy their contribution. It should be noted that nothing precludes school districts or municipalities from funding 100% of a project; however, with state assistance available, most entities choose to pursue the aforementioned funding mechanisms.~~

# Scheduling & Assignment of Responsibility

The educational specification should include a schedule or timeline for the proposed project. While the project schedule is most likely not set in stone at the educational specification stage of the planning and design process, it should provide a goal that the planning team deems reasonable and achievable in a best case scenario. The schedule will enable design professionals to determine the most reasonable and effective solution to meet the project's requirements. For example, if the project schedule establishes the substantial completion date of a new facility to be in fifteen months time and architectural selection has yet to occur, respondents to a design RFP may offer creative design solutions, such as use of a prototype design or a design build contracting methodology, that they may not have provided had the information regarding the desired project schedule not been provided. It is also important to define the project schedule to determine the date of five-year post occupancy that is used in calculating the project student design population, and ultimately, the overall size of the facility.

The project schedule should identify at a minimum the following project milestones:

1. Application for funding assistance;
2. Design selection Request for Proposals (RFP);
3. Award of design contract;
4. Schematic design submittal, review, and approval;
5. Design development submittal, review, and approval;
6. Construction and bid document submittal, review, and approval;
7. Advertisement for construction bids;
8. Opening of construction bids;
9. Award of construction contract;
10. Notice to proceed with construction;
11. 50% construction completion;
12. Substantial construction completion;
13. Building occupancy;
14. Final construction completion; and
15. Final project closeout and termination of project agreement.

If diligent thought and effort is put into drafting a project schedule, there will probably be a good deal more milestones established than those listed above. As these milestones are established, the planning team may want to identify whose responsibility it is to reach each milestone. The more effort and study dedicated to this effort, the more individuals and entities that will be drawn into the project's web of responsibilities. One can then begin to appreciate the magnitude and complexity of their undertaking. The educational specifications stage is not too early to alert persons involved to their anticipated schedule and duties.

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# Appendix A – Population Projection Tools

## Survival Ratio Average Daily Membership Projection

School District: Pacific Rim
Attendance Area: North Star
School Name: Lone Wolf K-12
Birth Growth Rate: 2.00%

| BIRTH YEAR | LIVE BIRTHS | SCHOOL YEAR | ACTUAL AVERAGE DAILY MEMBERSHIP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | K-6 | 7-12 | TOTAL |
| FY 1991 | 8 | FY 1996 | 13 | 6 | 6 | 9 | 9 | 9 | 6 | 6 | 4 | 5 | 1 | 9 | 0 | 58 | 15 | 83 |
| FY 1992 | 8 | FY 1997 | 11 | 5 | 4 | 7 | 7 | 8 | 7 | 6 | 4 | 5 | 1 | 3 | 5 | 49 | 14 | 73 |
| FY 1993 | 8 | FY 1998 | 7 | 4 | 5 | 6 | 6 | 8 | 6 | 7 | 1 | 6 | 7 | 1 | 2 | 42 | 16 | 66 |
| FY 1994 | 8 | FY 1999 | 6 | 7 | 5 | 5 | 6 | 6 | 8 | 8 | 6 | 4 | 11 | 2 | 1 | 43 | 18 | 75 |
| FY 1995 | 8 | FY 2000 | 3 | 3 | 7 | 5 | 5 | 5 | 6 | 7 | 6 | 6 | 7 | 5 | 1 | 34 | 19 | 66 |
| FY 1996 | 6 | FY 2001 | 11 | 1 | 3 | 6 | 6 | 7 | 6 | 7 | 7 | 6 | 5 | 3 | 6 | 40 | 20 | 74 |
| FY 1997 | 8 | FY 2002 | 14 | 3 | 1 | 3 | 6 | 5 | 8 | 10 | 8 | 9 | 3 | 4 | 1 | 40 | 35 | 75 |

| SURVIVAL RATIO | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B-K | K-1 | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 |
| 122.62% | 47.57% | 98.61% | 108.73% | 97.25% | 101.64% | 97.84% | 117.36% | 76.39% | 167.26% | 108.61% | 99.48% | 70.93% |

| BIRTH YEAR | LIVE BIRTHS | SCHOOL YEAR | PROJECTED AVERAGE DAILY MEMBERSHIP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | K-6 | 7-12 | TOTAL |
| FY 1998 | 8 | FY 2003 | 10 | 7 | 3 | 1 | 3 | 6 | 5 | 9 | 8 | 13 | 10 | 3 | 3 | 34 | 46 | 80 |
| FY 1999 | 7 | FY 2004 | 9 | 5 | 7 | 3 | 1 | 3 | 6 | 6 | 7 | 13 | 15 | 10 | 2 | 33 | 52 | 85 |
| FY 2000 | 8 | FY 2005 | 10 | 4 | 5 | 7 | 3 | 1 | 3 | 7 | 4 | 12 | 14 | 14 | 7 | 33 | 59 | 91 |
| FY 2001 | 8 | FY 2006 | 10 | 5 | 4 | 5 | 7 | 3 | 1 | 3 | 5 | 7 | 13 | 14 | 10 | 35 | 53 | 88 |
| FY 2002 | 8 | FY 2007 | 10 | 5 | 5 | 4 | 5 | 7 | 3 | 1 | 3 | 9 | 8 | 13 | 10 | 39 | 44 | 82 |
| FY 2003 | 8 | FY 2008 | 10 | 5 | 5 | 5 | 4 | 5 | 7 | 4 | 1 | 4 | 10 | 8 | 9 | 41 | 36 | 76 |
| FY 2004 | 8 | FY 2009 | 10 | 5 | 5 | 5 | 5 | 4 | 5 | 8 | 3 | 2 | 5 | 10 | 6 | 39 | 32 | 71 |
| FY 2005 | 9 | FY 2010 | 11 | 5 | 5 | 5 | 5 | 5 | 4 | 6 | 6 | 5 | 2 | 5 | 7 | 40 | 30 | 69 |
| FY 2006 | 9 | FY 2011 | 11 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 4 | 10 | 5 | 2 | 3 | 41 | 30 | 70 |

## ADM Projection Comparison

School District: enter district name
School Name: enter school name
Project Number: enter project number
School Type: Elementary, Secondary, Mixed or K-12
Attendance Area: community

### Historical Attendance Area ADM by Fiscal Year

| | FY1996 | FY1997 | FY1998 | FY1999 | FY2000 | FY2001 | FY2002 | FY2003 | FY2004 | Average Annual ADM Change | Overall ADM Growth |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Attendance Area | | | | | | | | | | | |

### Future School ADM Projections by School Year

| | | 2004-2005 | 2005-2006 | 2006-2007 | 2007-2008 | 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | Average Annual ADM Change | Overall ADM Growth |
|---|---|---|---|---|---|---|---|---|---|---|---|
| District's K-6 Projection | -- | | | | | | | | | | |
| District's 7-12 Projection | -- | | | | | | | | | | |
| EED's K-6 Projection | -- | | | | | | | | | | |
| EED's 7-12 Projection | -- | | | | | | | | | | |

Future school projections based on school ADM population for the 2003-2004 school year of: K-6 students; 7-12 students

MS Excel files for these student population projection tools are available at the department's website: ~~http://www.eed.state.ak.us/~~education.alaska.gov/facilities

# Appendix B – Activity Settings

**Activity Setting**: Kindergarten Classroom

**Occupancy**: 24 students, 1 teacher, 2 teacher's aides or parents

**Area (SF)**: 1,200SF including toilet room

**Height**: 9' minimum

**Natural Light**: Minimum 5% of floor area with at least 10LF window seat for exterior viewing.

**Floors**: Entry, sink, and water closet areas to be a resilient sheet vinyl and the remainder of the floor to be carpeted. See district's construction standards for material specifications.

**Walls**: 1 storage wall, 1 teaching wall, 1 exterior wall, and 1 display wall. Teaching wall to have 12LF white board with tack rail above. Display wall to have tackable surface.

**Ceiling**: Acoustical treatment of ceiling desired.

**Acoustics**: Room to meet RC-25N as defined by ASHRAE. Acoustic treatment at ceiling.

**Storage**: Storage wall along corridor wall. Coat hooks, book cubbies, and boot shelf provided for 24 students. Lockable teacher's wardrobe and full height storage cabinet. Child height counter and sink with upper cabinets at adult height. Base cabinets along window wall with standard counter height and open shelves below.

**Fixed Furnishings**: 6' x 6' projection screen, paper towel and soap dispenser ~~@~~ at sink, ~96SF of white board, ~64SF of tackboard.

**Signage**: ADA compliant

**Plumbing**: Sink with bubbler and anti-scald valve.

**Heating**: In-floor radiant heat desired.

**Ventilation**: System should be designed to meet reasonable requirements not maximum. Maintain 68F to 75F temperature range

**Lighting**: Natural light desired. Fixtures should have 3 switch settings for varied light levels. Maximum of 70 foot-candles at work surfaces.

**Communications**: Phone/intercom located near teaching station and TV monitor.

**Security**: Visual supervision of all areas from teaching station desired.

**Audio/Visual**: Cable outlet, TV bracket, and 27" TV, ~~/VCR combination unit~~ [media unit – DVD? Blu-Ray?].

**Technology**: Wireless hub to connect 27 users to school network.

**Equipment &Furnishings**: (2) 72"l x 48"w x 24"d storage cases on rollers with pull-out bins, (6) 42" x 60" child height tables, (24) child chairs, (1) 36" x 60" teacher desk and chair, (1) 36" x 72" adult height table with (2) adult chairs, black.

**Special Construction**: 10LF window seat.

**Flexibility**: Geometry of the space should allow for flexible use of the space.

**Durability**: Painted wall surfaces to be washable & mildew resistant. Floors to mar, stain, and slip resistant

**Functionality**: Geometry of the space should enhance uses of the space.

**Ambiance**: Playful not sterile, kid friendly not institutional.

**Colors**: Primary colors, avoid white and low chroma colors.

**Adjacencies**: Near: exterior access, other young student classrooms, private area. Not near: secondary students, primary circulation or gathering points.

**Activities**: Art, music, lettering, story time, show and tell, naptime, class instruction, small group, computer learning games, science projects, see kindergarten curriculum for additional information.

# Appendix C – Spatial Diagram

[SPATIAL DIAGRAM TO GO HERE]

# Appendix D – Space Types

**Category A - Instructional or Resource**

Kindergarten
Elementary
General Use Classrooms
Secondary
Library/Media Center
Special Education
Bi-Cultural/Bilingual
Art
Science
Music/Drama
Journalism
Computer Lab/Technology Resource
Business Education
Home Economics
Gifted/Talented
Wood Shop
General Shop
Small Machine Repair Shop
Darkroom
Gym

**Category B - Support Teaching**

Counseling/Testing
Teacher Workroom
Teacher Offices
Educational Resource Storage
Time-out Room
Parent Resource Room

**Category C - General Support**

Student Commons/Lunch Room
Auditorium
Pool
Weight Room
Multipurpose Room
Boys Locker Room
Girls Locker Room
Administration
Nurse
Conference Rooms
Community Schools/PTA Administration
Kitchen/Food Service
Student Store

**Category D - Supplementary**

Corridors/Vestibules/Entryways
Stairs/Elevators
Mechanical/Electrical
Passageways/Chaseways
Supply Storage & Receiving Areas
Restrooms/Toilets
Custodial
Other Special Remote Location Factors
Other Building Support

Department of Education & Early Development
Division of Finance & Support Services/Facilities

# Work Topics for the BR & GR Committee

As Of: October 17, 2018

| BR&GR 2018-2019 Work Items | Responsibility | Due Date |
|---|---|---|
| **1. CIP Grant Priority Review – [(b)(1)]** | | |
| 1.1. FY20 MM & SC Grant Fund Final Lists (4 AAC 31.022(a)(2)(B)) | Committee | Mar 2019 |
| 1.2. FY20 MM & SC Grant Fund Initial List | Committee | Dec 2018 |
| **2. Grant & Debt Reimbursement Project Recommendations – [(b)(2)]** | | |
| 2.1. Six-year Capital Plan (14.11.013(a)(1); 4 AAC 31.022(2)) | Dept | Annually, Nov |
| **3. Construction Standards for Cost-effective Construction – [(b)(3)]** | | |
| 3.1. Model School Costs (DEED Cost Model) | | |
| 3.1.1. Geographic Cost Adjustments | | Aug-Nov |
| 3.1.1.1. Prepare statement of services | Dept | Aug 2018 |
| 3.1.1.2. Solicit, award and manage contract | Dept | Nov 2018 |
| 3.1.2. Site Work + Major Maintenance Line Items | | Oct-Jan |
| 3.1.2.1. Prepare statement of services | Subcommittee | Oct 2018 |
| 3.1.2.2. Solicit, award, manage contract | Dept | Jan 2019 |
| 3.1.3. Cost Model as Cost Control Tool | | May-Dec |
| 3.1.3.1. Analyze, recommend Cost Model as cost control | Subcommittee | May 2019 |
| 3.1.3.2. Draft regulation language for cost control use | Subcommittee | May 2019 |
| 3.1.3.3. Review draft reg language, recommend to state board | Commmittee | July 2019 |
| 3.1.3.4. Manage regulation development and implementation | Dept | Dec 2019 |
| 3.1.4. Model School Analysis & Updates (Allowable Elements) | | Apr-May |
| 3.1.4.1. Establish procedures for updating the Model School | Subcommittee | Jan 2019 |
| 3.1.4.2. Implement Model School updates w/Committee Resource | Committee | Apr 2019 |
| 3.1.4.3. Evaluate success of Committee-driven updates | Subcommittee | May 2019 |
| 3.1.4.4. Develop statement of services for consultant update | Subcommittee | May 2019 |
| 3.1.4.5. Solicit, award, and manage Model School update | Dept | Apr 2020 |
| 3.2. Cost Standards | | |
| 3.2.1. Cost/Benefit, Cost Effectiveness Guidelines | Dept | TBD |
| 3.2.2. Life Cycle Cost Guidelines | Dept | TBD |
| 3.3. Commissioning | Committee | 2018 |
| 3.3.1. Project Categories Requiring Commissioning | Committee | 2018 |
| 3.3.1.1. Draft Regulation | Committee | July 2018 |
| 3.3.1.2. SBOE Public Comment on Regulation | Dept | Sept 2018 |
| 3.3.1.3. SBOE Action on Regulation | Dept | Dec 2018 |
| 3.3.2. Commissioning Agent Qualifications | Committee | 2018 |
| 3.3.2.1. Draft Regulation | Committee | July 2018 |
| 3.3.2.2. SBOE Public Comment on Regulation | Dept | Sept 2018 |
| 3.3.2.3. SBOE Action on Regulation | Dept | Dec 2018 |
| 3.3.3. System Requirements for Commissioning | Committee | 2018 |
| 3.3.3.1. Draft Regulation | Committee | July 2018 |
| 3.3.3.2. SBOE Public Comment on Regulation | Dept | Sept 2018 |
| 3.3.3.3. SBOE Action on Regulation | Dept | Dec 2018 |
| 3.4. Model School Building Systems Standards | | |
| 3.4.1. State Building Systems Standards | | Sep-Jun |
| 3.4.1.1. Complete CostFormat outline of system standards | Dept | Sep 2018 |
| 3.4.1.2. Review outline Model School system standards | Committee | Oct 2018 |
| 3.4.1.3. Develop statement of services for feasibility analysis | Subcommittee | Nov 2018 |
| 3.4.1.4. Solicit, award, manage feasibility & cost/benefit analysis | Dept | Jun 2019 |
| 3.4.1.5. Review feasibility report on comprehensive standards | Committee | Jul 2019 |
| 3.4.1.6. Solicit, award, manage final standards development | Dept | Dec 2019 |
| 3.4.1.7. Implement system standards via regulation as needed | Dept | Apr 2020 |
| 3.4.2. School District Building Systems | Dept | TBD |

| | | | |
|---|---|---|---|
| 3.5. | Design Ratios | | |
| 3.5.1. | Climate Zones | | Aug-Nov |
| 3.5.1.1. | Confirm availability of BEES for use in Design Ratios | Subcommittee | Aug 2018 |
| 3.5.1.2. | Compare use of BEES vs. ASHRAE; are regs needed | Subcommittee | Sep 2018 |
| 3.5.1.3. | Recommend regulation to state board | Committee | Jun 2019 |
| 3.5.1.4. | Manage regulation development and implementation | Dept | Dec 2019 |
| 3.5.2. | Baseline Design Ratios [(O:EW), (FPA:GSF), (V:NSF), and (V:ES)] | | Sep-Dec 2019 |
| 3.5.2.1. | Prepare statement of services for energy modeling | Subcommittee | Sep 2018 |
| 3.5.2.2. | Compare existing school ratios and energy use | Subcommittee | Nov 2018 |
| 3.5.2.3. | Solicit, award, manage energy/cost analysis | Dept | Mar 2019 |
| 3.5.2.4. | Manage regulation development and implementation | Dept | Sep-Dec 2019 |

**4. Prototypical Design Analysis – [(b)(4)]**

| | | | |
|---|---|---|---|
| 4.1. | Seek Peer Consensus on Reuse of School Plans and Systems | | |
| 4.1.1. | Develop and Schedule AEC Peer Workshop on Reuse | Committee | TBD |
| 4.1.2. | Update Aug 4, 2004 Committee Position Paper | Committee | TBD |
| 4.2. | Develop CIP Application Response to Reuse of School Plans/Systems | | |
| 4.2.1. | Draft Criteria to Reward Reuse of School Plans/Systems | Dept | Feb 2019 |
| | Approve Criteria to Reward Reuse of School Plans/Systems | Committee | Apr 2019 |
| 4.2.2. | Draft Criteria to Evaluate Reuse of School Plans/Systems | Dept | Feb 2019 |
| | Approve Criteria to Evaluate Reuse of School Plans/Systems | Committee | Apr 2019 |
| 4.2.3. | Draft Criteria to Require Reuse of School Plans/Systems | Dept | Feb 2019 |
| | Draft Criteria to Require Reuse of School Plans/Systems | Committee | Apr 2019 |
| 4.3. | Codify Regulations As Needed for Reuse of Plans/Systems Policy | | |
| 4.3.1. | Make Recommendations to State Board on Prototypes | Committee | July 2019 |
| 4.3.2. | Manage Regulation Development and Implementation | Dept | Sep 2019 |

**5. CIP Grant Application & Ranking – [(b)(5) & (6)]**

| | | | |
|---|---|---|---|
| 5.1. | FY21 CIP Draft Application & Instructions | Dept | Apr 2019 |
| 5.1.1. | Facility Condition Survey Minimum Standards | Dept | Mar 2019 |
| 5.1.2. | Emergency Rater Scoring Matrix | Dept | TBD |
| 5.1.3. | Priority Weighting Factors Review | Dept | TBD |
| 5.2. | FY21 CIP Final Application & Instructions | Committee | Apr 2019 |
| 5.3. | FY20 CIP Briefing – Issues and Clarifications | Dept | Dec 2018 |

**6. CIP Approval Process Recommendations – [(b)(7)]**

| | | | |
|---|---|---|---|
| 6.1. | Publication Updates | | |
| 6.1.1. | Program Demand Cost Model for Alaskan Schools | Dept | Annually, Apr |
| 6.1.2. | Alaska School Facilities Preventive Maintenance Handbook Initial | Dept | 2018 |
| | Alaska School Facilities Preventive Maintenance Handbook Final | Committee | 2018 |
| 6.1.3. | A/E Services for School Construction - Initial | Dept | May 2018 |
| | A/E Services for School Construction - Final | Committee | Aug 2018 |
| 6.1.4. | Swimming Pool Guidelines - Initial | Dept | Dec 2018 |
| | Swimming Pool Guidelines - Final | Committee | Feb 2019 |
| 6.1.5. | Handbook to Writing Educational Specifications- Initial | Dept | Feb 2019 |
| | Handbook to Writing Educational Specifications - Final | Committee | April 2019 |
| 6.1.6. | Guide for School Facility Condition Surveys - Initial | Dept | Oct 2019 |
| | Guide for School Facility Condition Surveys - Final | Committee | Dec 2019 |
| 6.2. | New Publications | | |
| 6.3. | Regulations | | |
| 6.3.1. | Facility “Clean-up” Reg Project | Dept (w/Cmte) | July 2018 |
| 6.3.1.1. | Review Public Comments from SBOE Comment Period | Committee | Dec 2018 |

**7. Energy Efficiency Standards – [(b)(8)]**

7.1. (None)

**Projected Meeting Dates**

December 12, 2018 (Anchorage), Full day, CIP
April 2019 (TBD) (TBD), CIP Application

# Bond Reimbursement and Grant Review Committee

As of: August 7, 2018

| Member | Appointed | Re-appointed | Term Expires |
|---|---|---|---|
| Heidi Teshner — Chair<br>Commissioner or Commissioner's Designee | Commissioner's Designee | | |
| Representative Sam Kito III<br>House of Representatives Member | Appointed by Speaker | | |
| Senator Anna MacKinnon<br>Senate Member | Appointed by President | | |
| Mark Langberg<br>Professional Degrees & Experience in School Construction | 03/01/2016 | *Initial Term* | 02/28/2019 |
| Dale Smythe<br>Professional Degrees & Experience in School Construction | 03/01/2017 | *Initial Term* | 02/28/2021 |
| Robert Tucker<br>Experience in Urban or Rural School Facilities Management | 03/01/2016 | *Initial Term* | 02/28/2019 |
| Vacant (as of August 2018)<br>Experience in Urban or Rural School Facilities Management | 03/01/2017 | *Initial Term* | 02/28/2021 |
| Doug Crevensten<br>Public Representative | 03/01/2016 | *Initial Term* | 02/28/2019 |
| Don Hiley<br>Public Representative | 03/01/2017 | *Initial Term* | 02/28/2021 |

Members appointed by commissioner unless noted. See AS 14.11.014 and 4 AAC 31.087.