Agenda

Bond Reimbursement and Grant Review Committee Meeting Agenda

April 3, 2018 1:15 pm to 4:30 pm
April 4, 2018 9:00 am to 4:30 pm

State Board Room
801 W. 10th Street
Juneau, Alaska

Chair:	Heidi Teshner
Tuesday April 3rd	**Agenda Topics**
1:00 – 1:15 PM	**Committee Preparation** • **Arrival, Packet Review**
1:15 – 1:30 PM	**Welcome & Introduction** • **Roll Call, Introductions** • **Chair's Opening Remarks** **Review & Approval of Agenda and Past Meeting Minutes** **New Business, Additions to the Agenda**
1:30 – 1:45 PM	**Public Comment**
1:45 – 3:00 PM	**Department Briefing** • **FY2019 CIP Report** o **Reconsideration & Final Lists** • **Report: School Capital Project Funding Under SB 237** • **REAA and Small Municipality Fund Report** • **Publication Updates** o ***Preventive Maintenance & Facility Management Handbook*** o ***Life Cycle Cost Analysis Handbook***
3:00 - 3:15 PM	**BREAK**
3:15 – 3:45 PM	**Department Briefing** • **CIP Application & Support Materials** o **Scoring Emergency** o **Condition Surveys** o **Six-year Plan**
3:45 - 4:30 PM	**FY 2020 Application Review** • **FY 2020 Application** • **FY 2020 Application Instructions** • **FY 2020 CIP Eligibility and Scoring Criteria** • **FY 2020 Rater's Guide** o **New Matrix: Code Deficiencies / Protection of Struture / Life Safety**
4:30 PM	**Recess**

Audio and public comment: call toll-free 1-855-244-8681 (US/Canada); meeting number 807 635 252

Wednesday, April 4th	# Agenda Topics
8:45 – 9:00 AM	**Committee Preparation**
9:00 – 9:10 AM	**Welcome & Introduction** • **Roll Call, Introductions**
9:10 – 9:25 AM	**Public Comment**
9:25 – 10:15 AM	**FY 2020 Application Review (continued)** • **FY 2020 Application** • **FY 2020 Application Instructions** • **FY 2020 CIP Eligibility and Scoring Criteria** • **FY 2020 Rater's Guide** **Action Item** • **Approve FY 2020 Application and Supporting Documents**
10:15 – 10:30 AM	**BREAK**
10:30 AM – 11:15 AM	**Subcommittee Reports** • **Commissioning (Mark Langburg)** • **Design Ratios (Dale Symthe)** • **Model School (Doug Crevensten)**
11:15 AM – 12:00 PM	**Regulation Updates** • **4 AAC 31 Cleanup** • **Commissioning Standards**
12:00 – 1:15 PM	**LUNCH**
1:15 – 3:15 PM	**Cost Model Update** • **17th Edition Model School Elements, Proposed Changes** • **HMS, Inc. Teleconference**
3:15 – 3:30 PM	**BREAK**
3:30 – 4:00 PM	**BR&GR Calendar and Work Plan Review & Update**
4:00 – 4:05 PM	**Set Date for Next Meeting**
4:05 - 4:15 PM	**DEED Wrap-up**
4:15 – 4:30 PM	**Committee Member Comments**
4:30 PM	**Adjourn**

Audio and public comment: call toll-free 1-855-244-8681 (US/Canada); meeting number 807 635 252

BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE
May 2, 2017
Teleconference
FOR REVIEW & APPROVAL - MEETING MINUTES

Committee Members Present	**Staff**	**Additional Participants**
Heidi Teshner, Chair	Tim Mearig	Paul Baril, nvision, A4LE
Rep. Sam Kito III	Wayne Marquis	Julie Cisco, Kenai Peninsula Borough School District
Mark Langberg	Lori Weed	Craig Fredeen, Cold Climate Engineering
Dale Smythe		Kevin Lyon, Kenai Pen. Borough
Robert "Bob" Tucker		Kathy Christy, A4LE
William "Bill" Murdock		
Doug Crevensten		
Don Hiley		

CALL TO ORDER and ROLL CALL at 2:32pm

Heidi Teshner, chair, called the meeting to order at 2:32 p.m. Roll call of members: Bob Tucker is absent; Sen. MacKinnon and Rep. Kito are excused. Quorum of 6 members.

REVIEW and APPROVAL of AGENDA

Agenda reviewed and approved by unanimous consent.

REVIEW and APPROVAL of MINUTES

Minutes for March 30, 2017 reviewed and approved as submitted by unanimous consent.

DEPARTMENT BRIEFING

Tim introduced construction standard topic by noting the committee's statute touching on standards indicates the committee will "develop criteria ... to achieve cost-effective school construction." He emphasized that the state does have standards relating to cost-effective school construction; the department and the committee have been diligent in implementing them over time. It began with the formation of the committee in 1994 and with the change in staffing at the department from grant administrators to technical expertise.

Paul Baril expressed that the Association for Learning Environments (A4LE) is highly excited to provide its membership's expertise, ranging from architects and engineers to facilities planners and facilities maintenance personnel. They would like to provide support to committee in development of construction standards.

Tim continued to highlight elements of the briefing paper. Envisions end result is likely to be a document that establishes rules for the design of a high-performing school, with construction standards that deal with a variety of building systems, system selection and implementation.

Rep. Kito joined the meeting.

Original legislative intent was not clear regarding construction standards. The committee formed a subcommittee around 2002, but its efforts were not completed. Two differing documents were offered by individuals involved with the subcommittee. One, by then-DEED Architect Assistant

Nathan Coffee, is a short draft guidelines giving narrative support for particular systems and providing a framework for standards. The other, by Harly Hightower, is a long (200+ page) document with a traditional Construction Specifications Institute (CSI) specification standard for 36 architectural sections. Mr. Hightower estimated that there would need to be over 100 sections (900+ pages) to cover all building systems.

Tim believes that the committee will be able to identify a particular standard or a "sweet spot" in the range of construction standards content and format that is applicable and unique to Alaska for cost-effective school construction. The two examples provide a clear example, by sheer size, of the level of effort that would be needed by the committee to develop a standard.

Bob Tucker joined the meeting.

Dale sought clarification that the end goal of reviewing design standards is the reduction of school construction and operating costs and whether there has been a perception that recent schools have not met a quality standard. Rep. Kito noted that what turned into the energy efficiency standards was a look at the U.S. Green Building Council LEED for School Standards, which have efficiency of cost and operations as part of their criteria. Taking a renewed look may be beneficial.

In response to Dale, Tim stated that reducing the cost of school construction is important, but really looking at trying to provide an increased, more transparent, more well-developed framework for supporting the costs of schools at an appropriate level for Alaska. There have been lots of efforts to reduce or remove pieces of projects to contain costs; the department has many tools at its discretion, but it may be difficult to know when those will be applied. It can depend on the capabilities of the department in any particular year or CIP cycle. Cost reduction is always on the table and will be a part of this effort, but the discussion does not need to be limited to reducing school costs. The department needs to be able to support costs to constituencies as cost-effective, i.e. getting the most "bang for the buck".

Dale agreed with Rep. Kito on including operational costs as good value. A goal is also, where needed, a reduction of operating costs, and to insure quality facilities. Helpful to define what the real goal is in reexamining the standards, to provide a clear direction before starting.

Tim noted he would like to work towards developing design and building material standards that allow for more even-handedness, because there can be different school projects applying current standards and arriving at very different project costs, even at neighboring schools.

Tim offered discussion on the construction standards and cost control elements outlined in the briefing paper. *Program Demand Cost Model*, first developed as a tool for managing debt reimbursement projects in the 1980s, contains a "model Alaskan school" that lists the systems and features based on an Anchorage school project. The state could determine which systems and features would be eligible for state aid. Alternatively, the *Cost Model* could be used to determine a maximum cost per square foot for schools, beyond which the local education agency would be responsible for the cost; this is a common way of allocating in some other states, but is an admittedly challenging standard to maintain due to changing costs. Discussion followed regarding current and potential uses of existing *Cost Model*.

Tim reviewed the examples of material and systems standards, noting it was likely more than half of districts had some variation of standards based on lessons learned from accomplishing projects. It would be challenging to implement a set of standards across the state. Bob stated his preference for districts to be able to establish individual standards, with a central database maintained to allow districts to review what standards others have determined successful for a geographic area.

Tim noted that design ratios are a common tool to tell how efficiently a building is performing. Life-span standards try to identify what the life expectancy of particular building materials and systems should be; this can be valuable for forecasting capital renewal. Value analysis and commissioning may be useful in incorporating into other adopted standards.

CONSTRUCTION STANDARDS FOR COST-EFFECTIVE CONSTRUCTION - STRATEGY

Tim proposed the department's recommendation of a standard based on building systems, in cost formatting; focusing on model Alaska school, design ratios, and life-span standards.

Mark stated his advocacy of commissioning, as it is money well-spent to establish an initial benchmark, and recommissioning every few years can provide valuable feedback on building system operations. Bob agreed that commissioning is valuable, but noted it is expensive. Julie remarked that including commissioning has the potential to put the project over the grant's percentage allowances.

Don expressed that the model school seems a manageable way to proceed; it is already being updated for materials and costs, it allows districts to choose options within the cost limits. He is more supportive of life-span costs than specific material standards, due to large amount of variables technologically, geographically, etc. Bob agreed with upgrading the cost standards and including commissioning as a line item. He suggested a requirement in regulation, akin to the current energy and custodial requirements, to have the districts do a districtwide material systems analysis. Bill stated his concern for any standards based on a cost per square foot, transportation costs in particular can vary hugely from site to site. Tim agreed that cost per square foot allocations can have limited use beyond new construction projects. Dale noted that DEED may have historical data of past five to ten years of project costs, which could be used to look into regional costs.

Don believes that an overhaul and enhancement of the *Cost Model* tool would be a way to go, it has been an accurate tool over the years. Comments at prior meetings noted that the *Cost Model* was more accurate than some professional design estimates. Bob suggested individual meetings to focus on each of the various construction standards topics and review potential implementation.

Tim assured committee that the department would continue to invest in the *Cost Model*, with regular review of components and systems incorporated in the model school. Currently identifying costs of updating geographic cost factor. Proposes to remove material/system standards from current discussion of a construction cost standard element to be put in regulation. Reiterated that the purpose of presenting it was to have committee give up or down vote on whether it should be incorporated into regulation. He has no objection to developing a department “cost limit”. Can the committee and department identify a base model Alaskan school that can provide an adequate education? Incorporating geographic adjustments and other factors.

Suggests focusing on design ratios to see what kinds of effective design elements can be measured or identified; possibly reviewing plans of last 20 schools and trying to quantify and evaluate design ratios. Broaden from energy codes looking at watts per square foot to building volume per square foot, or number of doors or entries, length of piling, etc. This is an area the state could influence that would be outside of what national codes do and what districts get involved in.

Life-span standards were presented because of Tim’s belief that the state needs to get more involved in forecasting capital spending. The state needs to work with districts on a better methodology for forecasting capital renewal, and lifespans need to be established as part of that. Bob commented that the state needs to forecast farther than six years, and it needs to provide funding. District six-year plans are not being funded and turn into twenty-year plans.

Kathy Christy commented that the information on the renewal and replacement schedules could be refined, but it is being collected in a general sense. Years ago there was a formula used to project out future renewal costs, but the number was so huge the state could never afford to do it. Based on her work with both urban and rural districts, she expressed satisfaction with the square footage allocation based on student population. A community or district can be told they have this amount of square feet and they can make the choices to support their educational program. If the model school gave everyone the same types of spaces, vocational education or other, it would be a departure from the current 21st century school.

Doug agreed with the last comment, the temptation to define a model school can lead to defining education to fit the model. Local communities need to be able to choose the types of spaces to include or not, to define their own education program.

Tim agreed and noted that until the last few days he hadn’t considered the educational components of the model school. As being a place to define gym sizes, etc. Defining sizes of space can get complicated. However, Tim’s perspective is this is the place to establish minimum system standards: e.g., does every school get flush toilets? Is that a standard in Alaska, because the cost of it varies widely. The “model school” has that. But what about headbolt heaters? Is that part of the model school or would that be a local choice? These kinds of elements of the building he was looking at, not whether there is a classroom or if teaching would happen in a project area. Tim’s recommendation would be to identify features of a model Alaskan school that can be extrapolated across the state and doesn’t support a turf field with a six lane running track as part of the model, then that would not be a part of the model.

Doug agreed that that makes sense, elements of a building could be done. There should be caution; you don’t want a model school to limit program choices.

Bob asked Tim which of the standards listed will save the state the most money, because that is what the legislature is going to look for and focus on. Relating to the materials and systems item, if districts were required make standard determination, they would save money in maintenance costs; Kodiak is an example of this. Commissioning saves money in the long run.

Bob expressed uncertainty on how other items would save districts money. Tim summarized that other items place limitations on state monetary involvement.

Tim noted a current concern is that schools are being built with a lot of double height volume in common areas and other public spaces, but if there were a design ratio of a volume per foot of floor area, it could limit that feature without prohibiting it. Reducing double height volumes to achieve a design ratio would save the state and districts money.

Don referred back to the cost model, noting there is an existing “kit of parts” of different spaces that have different costs associated with them. District are given a maximum square footage based on enrollment projection and then determine the configuration of those defined spaces; geographic and other factors are added on as well. It gives the districts maximum flexibility.

Dale agrees that the space allocation method works, although he would like to see a few tweaks. He has the most trouble with setting the budget number that can be comparable across the state. The piece he sees as missing from state regulation is design ratios for monitoring energy use or cost consumption. No means for the state or district to track how much fuel a district is using per year. He would like to see some of those elements of energy savings incorporated into this discussion. Tim agreed that this is not a focus in any one of these areas.

SUBCOMMITTEE ASSIGNMENTS

Heidi asked for members what subcommittees would be useful at this time. Dale suggested that members be solicited for subcommittee ideas, ask them to provide the idea, intent, and reason for the subcommittee. He would like one on energy management or further development of cost consumption reporting. Heidi concurred with the process, the committee can conduct the process via e-mail. Tim commented that the framework can be started from the meeting notes, with proposed subcommittees and via e-mail gather feedback and members to serve. General agreement to have process of subcommittee determination by e-mail.

FUTURE MEETING DATE

Heidi noted a tentative May meeting to discuss the *Preventive Maintenance Handbook* is on the calendar. Tim stated that based on department workload it is unlikely to occur. However, the committee may wish to have another May meeting on the topic of construction standards.

CLOSING COMMENTS

Members expressed their consensus with the plan as discussed. Bob and Heidi included their appreciation for the department’s work that went into gathering the data and presenting.

Heidi asked the members of the public in attendance if there was interest in being involved in the subcommittee process. Kathy Christy, Kevin Lyon, Paul Baril, and Craig Fredeen would like to be informed as ideas progress. Paul also asked if the information could be forwarded to the A4LE statewide membership to see if they would be interested in serving on any subcommittees once established.

MEETING ADJOURNED

The committee adjourned at 4:09 p.m.

BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE
December 6, 2017
Teleconference
FOR REVIEW & APPROVAL - WORK SESSION MINUTES

Committee Members Present	**Staff**	**Additional Participants**
Heidi Teshner, Chair	Tim Mearig	None
Sen. Anna MacKinnon	Wayne Marquis	
Rep. Sam Kito III	Larry Morris	
Dale Smythe	Lori Weed	
Robert “Bob” Tucker		
Doug Crevensten		

CALL TO ORDER and ROLL CALL at 2:06 p.m.

Heidi Teshner, chair, called the meeting to order at 2:06 p.m. Roll call of members present; Mark Langberg, William Murdock, Don Hiley are excused, Robert Tucker is absent. Quorum of 5 members.

PACKET REVIEW

Tim offered to provide an overview of the packet and the purpose of the meeting. His understanding is that the committee will review the packet content, particularly those elements that may suggest action items or determination of outcomes by the committee, in order to review while Sen. MacKinnon is available, as she will be absent at the December 12 meeting. Tim proposed that the standard department briefing information did not need to be addressed at this meeting, focusing on the construction standards work.

STANDARDS FOR COST-EFFECTIVE CONSTRUCTION: REPORT TO THE LEGISLATURE

As a suggested starting place, Tim pointed out the document put together by Facilities staff, listing items and prompts for committee review. A draft table of contents, outlined executive summary language, and compiled general public comments are places for the committee to weigh in on big picture themes. Tim noted that the word “recommendation” is used throughout the report due to the process of the subcommittees bringing their recommendations to the committee at the meeting on the 12th. For purposes of the report, the action of the committee will be to adopt the subcommittee recommendations as the criteria the committee proposes for cost-effective school construction.

Robert Tucker joined the teleconference. Quorum of 6 members.

Sen. MacKinnon expressed, in response to the first prompt, her belief that the report should be addressed to the legislature, as the legislature had requested the information. Tim asked for further questions on item 1 or other questions on how to move from subcommittee recommendations to the completed report to adopted criteria. Tim recalled the early 2017 meeting where the committee met to set out the year’s agenda work topics, one of which was to start a process to develop and publish cost-effective school construction criteria. Instead of taking place over a couple of years, that original timeline was compressed at Sen. MacKinnon’s suggestion to have the proposed criteria to be used by the legislature and department in this upcoming year.

Heidi solicited comments on the draft report. Sen. MacKinnon asked for clarification on the commissioning recommendation #2 “industry certification”. Tim noted that the two BR&GR members on that subcommittee were absent, but his understanding is that there is industry credentialing for commissioning agents that could be cited. The subcommittee has been doing additional work on this topic. Rep. Kito remarked that commissioning is, in a way, a formalization of the department’s post-occupancy review process, ensuring expectation that systems were installed as designed and the knowledge to operate and maintain was provided. He recommended that the final documents provide a way to retain the knowledge gained through the commissioning process within the district, which is often lost through personnel turnover.

Sen. MacKinnon asked for additional information on the design ratio implementation strategy that envisions coordinating with the model Alaska school criteria. Tim responded that the recommendations from the model school committee include development of three tools, including building standards. Public comment on the two draft sections of facility standards was that the standards need updating. Department staff will work on updates and development of seven to eight more sections describing building systems and components that are acceptable or Alaskan schools.

Tim recommended moving on to the draft table of contents. The table of contents is the department’s recommendation on how to organize the information of the report. Heidi wondered about the absence of ‘attachments’ after the design ratio subcommittee recommendations. Lori confirmed the subcommittee did not have any that would directly follow the recommendation. To keep the recommendation section from getting too lengthy, only attachments that directly related or were referenced were attached behind each paper. Dale noted that there will be an additional design ratio subcommittee resource for the energy modeling example.

Tim observed that the next section is “in development” and contains outline headings with some paragraphs of developed content.

Sen. MacKinnon asked whether it was an appropriate time to address questions to the backup documents; Tim confirmed. In the commissioning recommendations, Sen. MacKinnon asked for clarification on why “fuel oil” was included as one of the system categories. Tim stated that there are a number of districts that operate large fuel oil storage functions, the subcommittee felt it was an important system that had merit to verify fuel system and operations through commissioning. Wayne confirmed Bill Murdock’s conversation about flaws in the system or design that can be very costly to repair afterward. Rep. Kito noted that many district bulk fuel farms are shared with other entities, an important commissioning component would be to ensure protections are in place - reviewing valves, connections, and metering, etc. can be important to try to manage costs.

Sen. MacKinnon followed up with Tim to confirm that the state regarded bulk fuel storage as an allowable expense. Tim stated that typically a project may allow a two-year operating supply; it is very common in rural Alaska. Rep. Kito offered that bulk fuel includes heating as well as fuel for district vehicles and equipment; in smaller communities there may not publically available fuel sales in larger quantities.

Sen. MacKinnon asked whether the commissioning agent qualification is available in-state or if would require development in state regulation. Tim responded that industry certifications are available to Alaskans, but he is uncertain how much can be done web-based, there may be travel necessary if specific training is not available. Commissioning does come with a "who's going to pay for it" question. Sen. MacKinnon observed one of the public comments expressed concern about commissioning in rural Alaska. Tim pointed out that the commissioning recommendation applies to major projects, it wouldn't be required on smaller projects. When there is a large, substantial project, it is likely to have credentialed people involved in the project. Rep. Kito noted two primary ways for commissioning: incorporate requirement into design contract or having a third-party commissioner that would probably also fall under a design line item.
Sen. MacKinnon brought up the Alaska Energy Authority, wondering if they would be available to go out and monitor some of these items for us. She is aware of personnel available to help with maintenance and construction when communities lose power. She would like to utilize resources that may be available to assist the department in carrying out these subcommittee strategies. Tim noted lack of response from state agencies during public comment, but hopes to continue to reach out. Commissioning will require project-specific knowledge, so commissioning personnel are likely to be involved early in the design process to develop a commissioning protocol.

Bob shared that his district has done commissioning in its rural schools, it is not a huge expense, especially if it is a specific portion of the building (e.g. controls). He observed that the recommendation is for new projects, but committee should consider including renovations or, at a minimum, renovations that touches controls. Bob agrees with Senator's statement that not every component needs to be unique; procurement is a stumbling block.

Sen. MacKinnon asked Tim about the Model School subcommittee recommendation for the legislature to expand the list of facility types for which state-aid would be limited. Rep. Kito recalled the conversations, specifically for facilities outside the building that are potentially of more benefit to the community than the educational program. Tim noted the statute that currently limits certain types of facilities and stated that the recommendation asks the legislature to take a look at expanding the list. Sen. MacKinnon countered that other public uses should be considered "core" to a school, like emergency management, dependent on location. Tim recalled instances under AS 14.11, where the department limited funding for emergency generators in urban schools. Bob offered that every community should have an emergency management plan, if the school is identified by that plan, as number one, that could be a criteria to allow that kind of "additional" funding. Rep. Kito recalled it is pretty straightforward to make a determination on those costs; typically the educational specification included expectation of ability to serve as an emergency shelter. Doug reminded members that the recommendation came from a desire for cost savings and cost-effective schools, and to provide parity in facilities between communities.

Sen. MacKinnon reiterated that the state may pay to lease or maintain multiple facilities in a community, but co-locating could benefit the community. Doug noted that multiple funding sources could then be available for construction. Sen. MacKinnon confirmed and noted it could assist in long-term operating costs too. Rep. Kito stated that most community clinics have been built by the Denali commission in recent years; it would be hard to convince communities to move from a relatively new facility to a co-location. This will need to be a long-term outlook.

Doug offered that health care is growing and a satellite clinic could be incorporated into a school as needs increase. Discussion on co-location benefits and draw-backs.

Sen. MacKinnon asked if Massachusetts was a good comparison to decide that prototypical schools would not serve Alaska. The report states Massachusetts districts wanted freedom to choose designs for educational programs, but did not state how cost-effective was it. Tim stated that prototypical designs have been used successfully within Alaskan districts during population growth conditions. Sen. MacKinnon reflected that the large amount of major maintenance projects should be used to install standard components. Tim noted the Model School subcommittee efforts with the draft construction standards to help identify systems and components that work in Alaska and that the state could pay for. Districts are interested in standardization. Bob confirmed that standardizing within his district has saved money and maintenance hours, he is uncertain that it would be useful outside of a single district. Doug inquired whether getting the big five school districts together to discuss standardization would be helpful. Bob commented that breaking into regions is important, for example, Kodiak does not get Anchorage’s extreme temperatures and Anchorage does not get Kodiak’s high winds. Bob believes that mandating districts to standardize would save the district and the state, primarily through maintenance costs (long-term knowledge retention, training, on-hand parts).

Sen. MacKinnon observed that a general worry in the public comments is that the recommendation may cost districts money; hopes the committee will provide a long lead-time in its actions. Bob remarked that his district standardization did not happen all at once.

Doug queried the legislative members on how to useful the subcommittee recommendations will be to the legislative discussion; and how will the committee know. Rep. Kito said that without data points there will be no way to know the cost-savings for Alaska. Bob asked if there was a particular area in the report that would be helpful to develop more. Sen. MacKinnon offered that energy monitor that occurs before and after a renovation should show a cost savings. Hopefully a commissioning inspector will be able to provide feedback on their findings so communities can benefit from earlier solutions. Bob cautioned that there is not always the capability in a community to utilize some high-level technologies.

FUTURE MEETING DATE
Next committee meeting December 12, 2017. Wrap-up meeting on December 19, 2017 to finalize the report from changes discussed on December 12.

MEETING ADJOURNED
The committee adjourned at 3:35 p.m.

BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE
December 12, 2017
Teleconference
FOR REVIEW & APPROVAL - MEETING MINUTES

Committee Members Present	**Staff**	**Additional Participants**
Heidi Teshner, Chair	Tim Mearig	Craig Fredeen, Cold Climate Engineering
Mark Langberg	Wayne Marquis	Brittany Hartmann, Legislative Staff
Dale Smythe	Larry Morris	
Robert "Bob" Tucker	Lori Weed	
Doug Crevensten		
Don Hiley		

CALL TO ORDER and ROLL CALL at 1:35 p.m.

Heidi Teshner, chair, called the meeting to order at 1:35 p.m. Roll call of members present; Sen. MacKinnon, Rep. Kito, and Bill Murdock are excused, Bob Tucker is absent. Quorum of 5 members.

REVIEW and APPROVAL of AGENDA

Agenda reviewed and 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 introduced the department briefing papers, noting the standard information as well as a CIP specific briefing paper, and a "rater's briefing" by Larry Morris. FY19 had the lowest year of CIP applications received, except for the year the legislature restricted municipal districts from submitting applications. Major maintenance total project request costs continued to trend slightly down; school construction had a small uptick. Publications are being refreshed. New *Project Delivery Method Handbook* issued in August. The *Preventive Maintenance Handbook* slipped from a scheduled update in 2017 to 2018. The conceptual *School Design and Construction Standards Handbook* is replaced in part by the committee's current efforts. Also looking to update the *DEED Cost Format* and *Life Cycle Cost Analysis Handbook*.

Bob Tucker joined the teleconference. Quorum of 6 members.

Tim presented the CIP briefing paper, which touches on various issues that arose during the rating cycle. For evaluative scoring, the department is working on a matrix to more fully utilize the code deficiency, protection of structure, life safety scoring and the department would like to re-look at the emergency category to ensure it is serving its purpose well. The rater's briefing will touch on these more fully. In formula-driven scoring, the department is bringing back for consideration an expanded requirement for a condition survey, with a few example scenarios where best practice would call for a condition survey to define and support the project. This year the department had to make a determination on whether a condition survey's "age" is in relation to the application or to the project. Tim noted one project with procurement issues was determined to be ineligible; the district has requested reconsideration of that determination. The department has begun to compile potential application changes to be addressed in the spring.

Tim offered that a new rater always lends a valuable perspective on how the written guidelines fit in with experience and practicable knowledge. He shared that Larry's paper has a lot of interesting discussion topics, including changes to life/safety scoring and a former committee favorite on district maintenance. Topics will be reviewed at the committee's spring meeting.

FY19 reconsideration lists will be produced soon, three projects requested reconsideration of department decisions on eligibility and budget; no requests for point changes. A compilation of district-submitted six-year plans is in the packet to give an idea of districts' long-range planning and accruing capital costs. Last two items in this section are school capital funding reports: CIP grant request and funding history from FY09 to FY19 and inception-to-date REAA fund.

Heidi asked if the committee wanted to make a motion to approve the initial lists to the State Board of Education. Don asked how the soon-to-be-released reconsideration list would impact this motion. Tim responded that statute says committee will recommend to the board, this would set that in motion; more an approval of the process under which the lists were created. Bob suggested making the motion on the initial lists, then revisiting it in March.

Bob moved that the Bond Reimbursement and Grant Review Committee recommend the State Board of Education & Early Development adopt the department's FY2018 Capital Improvement Program list of projects eligible for funding under the School Construction Grant Fund and the Major Maintenance Grant Fund, as presented. Seconded by Mark. No objections, motion passed by unanimous consent.

Moving to the subcommittee reports on construction standards, Tim recommended subcommittees highlight the salient elements: recommendations, support statements for recommendations, responses to public comment, etc.

SUBCOMMITTEE REPORT - Commissioning Construction Standards

Mark reviewed subcommittee efforts that occurred over the summer. He noted that the criteria developed in each of the five areas, mechanical, fuel oil, electrical, controls, and building envelope, were left fairly broad because commissioning is project-specific. Tim reminded the committee that the first recommendation in the report limits applying the requirement for commissioning to larger renovations or construction projects. Mark concurred that smaller projects don't warrant a full-blown commissioning process, but may benefit from "commissioning lite". The second recommendation speaks to the level of qualifications of a commissioning agent, recommending a third-party, certified person be the overseer of commissioning activities. The final recommendation identifies the minimum recommended systems and criteria; it provides a reference document for districts that may lack knowledge or expertise when drafting or reviewing construction specifications. General concurrence by committee that commissioning is beneficial, regardless of project size or agent certification.

Tim noted the current recommended implementation is that the subcommittee will continue to define when and what projects require commissioning; a subset of best-practice and how a district can do commissioning on its own, can find a way into a guideline that does not have binding criteria on whether a district gets funding or not. Doug asked whether one person can commission all five systems or whether it would require five people with specialization to accomplish. Mark responded that one person can oversee the commissioning but it typically takes a team of people, especially on a major project.

SUBCOMMITTEE REPORT - Design Ratio Construction Standards
Dale shared the overall goal was for design ratios that could reduce first costs and operating costs. Subcommittee realized early the complexity of trying to determine specific ratios within the given timeframe and skill set. Subcommittee undertook two efforts to assist in defining ratios: collecting design data from recently built school projects and creating an energy model to compare two different building forms. First recommendation is to adopt the Alaska BEES climate zones, as opposed to a nationwide standard, to allow greater definition in applying any construction standards. For recommendations two through five, the subcommittee was able to pull data on recent school projects but was only able to model the building footprint to total area ratio. Essential to selecting ratio data was ease of district, department, and designers to identify, review, and compare data to the to-be-developed ratio ranges to see if a design element was “out of whack”. Design ratios have good potential to reduce costs, but it needs more study to provide specific brackets. Dale believe it would be helpful to gather operational data from schools in the recent school data set.

Bob agreed there is room for improvement in design ratios, but asked what the committee can do to assist the legislature in its upcoming deliberations. Why would the committee breakdown regions if there isn’t the other data to support the need. Dale responded that adopting the Alaska BEES is recognizing an established climate zone breakdown and is helpful as a tool to compare facilities. The other recommendations allow monitoring of Alaska school design to ensure designs follow good northern design strategies and building compactness. Tim offered that the recommendations are the committee supporting to the legislature that these four measures, and future brackets within each, are appropriate criteria for cost-effective school construction that state-funded projects have to meet for funding. Lori pointed out that the design ratio implementation strategies specify funds needed for modeling to allow further definition of the ratios; the subcommittee did not have sufficient resources to develop proposed ratio ranges.

SUBCOMMITTEE REPORT - Model Alaskan School Construction Standards
Doug stated that the subcommittee looked at various sets of standards that could define model Alaskan schools. Recommendations one and two are for refinement of the existing DEED Cost Model tool and establishing a process for vetting updates. Recommendation three is for the department to further develop system standards, which may integrate back to the Cost Model. The final recommendation is to identify school elements that do not further the core educational mission, to bookend limits of state aid. Potential option that community pays more for those elements that have more community benefit. Tim identified the related topic paper included with the report; ideally the committee as a whole would review it prior to adoption of the report.

BREAK

STANDARDS FOR COST-EFFECTIVE CONSTRUCTION: REPORT TO THE LEGISLATURE

Tim outlined possible approaches for the committee to move ahead with finalizing the report. Dale sought clarification on desired response to the report or next steps. Tim stated that the committee itself has statutory authority to develop criteria, standards, and processes relating to school construction funded with state-aid. This report is letting the legislature know of the committee's proposed criteria, which are based on the subcommittee recommendations. Lori indicated where the report summarizes actions requested by the committee for other entities, like the department and the legislature. Dale observed this is also a notification or request for funding of future committee efforts.

Mark moved that the committee adopt the commissioning subcommittee recommendations as presented, seconded by Dale. Tim summarized the scope of the recommendations; main focus on new and major renovations, but may broaden to specific types of smaller projects. Likely regulation language will be developed. Mark noted that there is a placeholder for discussion in the building envelope commissioning standard. Committee decided to leave it as an open item for review during development of regulation. Approved as presented by unanimous consent.

Dale moved that the committee adopt the design ratio subcommittee recommendations as presented, seconded by Mark. Doug supported continuing to look into these recommendations; noting potential for great return. Approved as presented by unanimous consent.

Doug moved that the committee adopt the model school subcommittee recommendations as presented, seconded by Bob. Tim reviewed the recommendations, noting it would make the cost model an official costing tool that would set a maximum project cost. Tim expressed that he didn't think the exclusion topic paper was a final product, but it is the best available. Doug responded that it provides examples for discussion and the legislature can provide feedback or request action by the committee or the department. He personally disagrees with recommendation four, but thinks it should remain in the report as a potential cost-saving measure. In response to Dale's question, Don clarified that soft costs are identified in the cost model but are based on percentages of the construction cost. Tim followed up that those percentages are based on the CIP application approved by the committee. Approved as presented by unanimous consent.

Tim stated that the subcommittee responses to public comments are included in the report and are presented as coming from the committee. There are also comments that didn't fall under any one committee; responses to those were prepared by the department for committee review.

Dale moved the that committee approve the responses to public comment, set out on pages 86 and 87, seconded by Doug. Discussion followed on individual comments and responses. Approved as presented by unanimous consent.

Heidi stated that the department would finalize the report for committee review on December 19.

BR&GR WORK TOPICS REVIEW

Tim identified the standard committee items or publication schedule and application review. There are two documents, one for the upcoming year and one a master list. Recommended moving this agenda item to the next meeting. Heidi tabled the item.

FUTURE MEETING DATE
Heidi asked whether the last week of March or the first week of April would be preferred for an in-person one or two day meeting in Juneau. Don noted his absence the last week of March. Tim asked whether members would be available April 3-4. Members confirmed.

Next committee teleconference is December 19, 2017 to review the final report.

CLOSING COMMENTS
Dale offered that it has been a pleasure to be involved in the process.

Doug was impressed by the support and knowledge from the state. Impressed by all the work each subcommittee has done.

Mark echoed Doug’s comments, appreciating department support in organizing work. This has been the most intense committee work effort he’s been involved with, but it has been fruitful.

Bob stated that he will likely be retiring from the Borough on May 1, and queried whether that affects his eligibility for the position. Lori clarified that the position requires urban or rural facilities management, he would remain eligible. The appointment to the seat terms on February 28, 2019, with an option for reappointment. Bob expressed kudos to all who participated in this large committee undertaking, he hopes the legislature reads and considers the report.

Heidi thanked the committee members and department staff for their work and stated she is looking forward to the final product.

MEETING ADJOURNED
The committee adjourned at 4:14 p.m.

BOND REIMBURSEMENT & GRANT REVIEW COMMITTEE
December 19, 2017
Teleconference
FOR REVIEW & APPROVAL - WORK SESSION MINUTES

Committee Members Present	Staff	Additional Participants
Heidi Teshner, Chair	Tim Mearig	Brittany Hartmann, Legislative Staff
Rep. Sam Kito III	Larry Morris	
Robert "Bob" Tucker	Lori Weed	
William "Bill" Murdock		
Doug Crevensten		
Don Hiley		

CALL TO ORDER and ROLL CALL at 2:02 p.m.

Heidi Teshner, chair, called the meeting to order at 2:02 p.m. Roll call of members present; Sen. MacKinnon, Mark Langberg, Dale Smythe are excused. Quorum of 5 members.

STANDARDS FOR COST-EFFECTIVE CONSTRUCTION: REPORT TO THE LEGISLATURE

Tim stated that it was critical for the committee to address the executive summary of the report. Asked members to also review organization of report for potential changes that would assist first-time readers. Doug believes the summary is very thorough and flows, a lot of useful data.

At Heidi's call for specific edits, Doug pointed out lack of consistency with "cost-effective", he would like first sentence to address the "why" of the report, and in the last paragraph he questioned use of the word "items" instead of "recommendations. Tim responded that the attempt was to differentiate between the subcommittee "recommendations" to the committee and the committee's adopted proposals to the legislature. Tim offered that "criteria" could be used but some of the items are processes. Lori suggested adding a sentence or phrase denoting the use of "criteria" to include criteria, standards, and processes. General consensus to change "item" to "criteria". Heidi noted that a few minor edits for consistency may be made, as well as correction of formatting issues; however, no substantial edits will be made after this committee review. Lori asked whether this version included the additional design ratio energy modeling information, Tim confirmed that it did not, so that element will be included in the final version.

Roll call vote to approve final report with minor edits to be made as noted. Approval by unanimous roll call vote.

Tim stated the department aimed to deliver the report by December 29, 2018, if not sooner. Lori inquired on anticipated delivery method. Heidi stated that she would confirm the department's standard process.

BR&GR WORK TOPICS REVIEW

Tim introduced the master work list and the 2018 specific topic list; recommended beginning with the 2018 topics. Noted major change is the work currently being engaged in; the previous version did not plan for construction standard work occurring in 2018. Rep. Kito asked if there were priorities that could see a more immediate benefit to the state, perhaps the commissioning recommendations. Tim confirmed that what was presented is the most attainable without additional funding. Bob thought it could be achievable. Heidi reviewed the regulation process: the department works with Department of Law to ensure the changes are appropriate prior to the Board of Education putting out the proposed regulation for comment, after the public comment period the board could adopt the regulations, propose changes, or put them out for comment again. This will happen at quarterly meetings in March, June, September, or December. Heidi recommends presenting draft language at the September board meeting, working with Law to finalize it prior the board packet deadline.

Tim acknowledged that the committee work outlined on the drafted work plan, without the construction standards items, would keep the committee busy at its typical levels. The committee has been working very diligently for the past six months, Tim is uncertain whether that pace can continue.

Tim summarized the cost model work, noting that the work currently occurs in an ad hoc way every April. The department has a contract with HMS to do an annual update, which addresses elements in the model school. There is an opportunity for the committee to have a trial run at reviewing the model school from the cost model perspective. Bob expressed his approval of the idea, as there are people on the committee that could have some valuable input. Discussion followed on options for a subcommittee or the whole committee to review the elements. The model school subcommittee recommendation to expand site work would be harder to implement without funding. Updates of the building systems standards require additional work by the department, so could be achievable. Tim noted that funding is needed before the committee could recommend language to the board on design ratio recommendations. Work could be done within the subcommittee to refine goals and criteria.

Continuing to CIP application tasks, Tim anticipated that work occurring the first week of April. A few items, the life safety/code and emergency scoring matrices, will be dependent on timelines for department development and whether the committee decides any action is needed. Tim stated he had updated the publication list where the department desires committee input this year: *Preventive Maintenance Handbook*, *Life Cycle Cost Analysis Handbook*, and the *DEED Cost Format*. Additional teleconference work would be needed to achieve the target dates.

Tim reviewed the anticipated meeting schedule. All of the above is subject to committee feedback and schedules. Heidi observed this could be another busy year. Tim noted space standards are noticeably absent again. Lori suggested the possibility of a placeholder date in the master topic list.

Tim highlighted the regulations portion of the master topic list. There are several changes the department is tracking for cleanup in 4 AAC 31, like the requirement for advertising for construction contracts in a newspaper. Commissioning regulations have been identified for a number of years now; the date can now be updated to 2018.

Master Topic Work Plan and 2018 Work Plan adopted by unanimous roll call vote.

MEETING ADJOURNED

The committee adjourned at 2:57 p.m.

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Education & Early Development
FINANCE & SUPPORT SERVICES
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PO Box 110500
Juneau, Alaska 99811-0500
Telephone: 907.465.6906

To: Bond Reimbursement & Grant Review Committee
From: School Facilities
Date: April 3, 2018

DEPARTMENT BRIEFING

Preventive Maintenance Update (PM State of the State)

The Preventive Maintenance State of the State Report was updated on August 15, 2017, and is included in the packet. Initial determinations of FY2020 CIP eligibility will be sent to districts by June 1, 2018. Currently, 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 working with the department to develop a full year of reports (Provisional Certification) include:

- Chatham
- Copper River
- Hoonah City
- Klawock City
- Nome City
- Southeast Island

Each of these have passed the initial 6-month data checkpoint and could be removed from provisional status in May 2018.

Site visits have occurred at the following school districts:

- Anchorage
- Chugach
- Fairbanks North Star Borough
- Galena City
- Kenai Peninsula Borough
- Tanana City

The following school districts will be visited prior to June 1:

- Pelican City
- Valdez City
- North Slope Borough

FY 2019 CIP Report

Between the initial November 6 lists and the December 20 reconsideration lists, the department awarded $7.8 million to 16 projects on the FY18 Major Maintenance Grant Fund list. Eleven of these projects were on the FY19 major maintenance initial list and were removed from the reconsideration list. Also of note are two projects which received Design Phase funding—*Galena Interior Learning Academy Classroom Building Upgrade* and

St. Mary's Campus Upgrades—resulting in the award of prior funding points (30 pts) to those projects.

The department received reconsideration requests from three districts on three projects. In the lists issued December 20, 2017, the department reconsidered its position on Denali Borough School District's Cantwell K-12 School Roof Replacement project and St. Mary's Campus Upgrades project and adjusted the project budgets.

No appeals were received to the reconsideration decisions, so no changes were made to the final lists issued January 19, 2018. The final lists are included in the packet, and were approved at the State Board of Education meeting on March 20, 2018.

The major maintenance list contains a total of 84 projects amounting to a total state share request of $142,892,281, and the school construction list currently contains 11 projects with a state share request of $178,649,670.

Cost Model Update

The DEED Program Demand Cost Model, which is a tool used to assist school districts in estimating construction and renovation costs, will be updated again in 2018. This will be the 17th Edition of the tool and will largely be a housekeeping, unit price and escalation update. Some specific work related to implementation of the ASHRAE 90.1 energy standard was also addressed. The contract with HMS, Inc. calls for final products on April 28 for use in the FY2020 application cycle and will be posted on the department's website before the annual CIP training workshop.

Task Order 17-02 was issued to HMS in June 2017 with a completion date of November 15, 2017. This task order was to formulate a mechanism for use in updating the Cost Model's geographic factors. The factors have not been updated since the 2008 version of the 11th Edition. The report received at the completion of the task order recommended seven elements be included in developing the geographic factor and applied these elements to Anchorage (base), Bering Strait, and Fairbanks. The following table shows the results:

	General Requirements	Local Costs	Productivity Factor	Structural Factor	Architectural Factor	Mechanical Factor	Risk Factors	Cost Adjustment Factor
Anchorage	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Bering St	138.64	103.05	106.69	105.67	102.50	105.24	115.75	177.53
Fairbanks	100.20	100.55	102.84	105.44	101.00	100.80	101.00	111.83

Table 1. 2017 Geographical Cost Factors.

The department is continuing to evaluate the recommendations and to seek funding for completing the study for all remaining geographic cost areas.

A teleconference with HMS, Inc. has been scheduled to allow the committee to provide input on potential changes to the elements of the Model School Building Escalation Study per the Model Alaska School Subcommittee recommendation. See agenda item and support materials included in the packet.

School Capital Project Funding Report (SB 237)

AS 14.11.035 requires, beginning in February 2013, an annual report on school construction and major maintenance funding. The statute requires reports of spending from each of the three funding programs providing state aid for capital improvement projects—school construction and major maintenance grants under AS 14.11.011, REAA and small municipal district allocations under AS 14.11.025, and school construction debt reimbursement under AS 14.11.100. Summary tables from the 2018 report showing the funding activity by program, fiscal year, and category are included in the packet. The final report is available on the department's website.

The statute requires that the SB 237 Report include information on both the effectiveness of the funding sources and analysis of those sources on the short-term and long-term of the fiscal effects of the funding on the state. With the amount of data available following this sixth report, the department may have the ability to provide such analysis.

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". Since the first appropriation in FY 2013, $222,161,906 has been deposited into the Regional Education Attendance Area and Small Municipal School District (REAA) fund. A total of ten projects have obligated $213,590,505.

The projected FY19 REAA fund appropriation is anticipated to provide the construction funding to the FY19 number one project, and provide design funding to the FY19 second priority project. A summary sheet is included in the packet.

DEED Mission & Vision

An important initiative has been underway since February 2017 under the leadership of the State Board of Education and the department called Alaska's Education Challenge. A final report on the initiative was released in January which will lead to an implementation phase. Areas related to school facilities can be found throughout the report. One primary area might be in the Cultivate Safety and Well-Being segment of the initiative. Report excerpts are provided in the packet.

Legislative Action

Governor introduced the budget bills for the Second Session of the 30th Legislature. HB 286 is the operating budget vehicle with $108,057,575 allocated for state aid for costs of school construction under AS 14.11.100 (Sec. 20(m)) and $39,661,000 to the regional education attendance area and small municipal school district fund (Sec. 22(k)). As of March 23, 2018, the operating budget is under consideration on the floor of the House. SB 142 is the capital budget vehicle; no school construction or major maintenance grants were proposed in the governor's bill.

The governor introduced HB 282/SB 140, a capital budget appropriation bill that is contingent on passage of a broad-based tax. If the language takes effect, $70 million is identified for appropriation to the major maintenance grant fund in FY2019, $65,000,000 in FY2020, and $55,000,000 in FY2021, for a total of $190,000,000 over the three years.

HB 135 by Rep. Lincoln extends the time period in which the district shall provide its participating share and allows the commissioner to authorize an extension of up to three additional years if requested by a district. HB 135 has passed the House and is in the Senate Finance Committee.

HB 212 by Rep. Foster requires the six-year grant schedule developed by the department to include a separate list for projects funding by the REAA fund and allows REAA fund to also be used for major maintenance projects. HB 212 is in the House Finance Committee.

SB 12 by Sen. Bishop proposes an employment tax for education facilities. Revenues would be accounted for in the fund established under AS 37.05.560 (Educational facilities maintenance and construction fund) for the design, construction, and maintenance of public school facilities and for maintenance of University of Alaska facilities. SB 12 is in the Senate Labor & Commerce Committee.

SB 87 by Sen. MacKinnon proposes new grant eligibility criteria: compliance with energy efficiency standards, incorporation of standardized components, and documentation of a building commissioning process. The bill requires DEED to adopt energy efficiency standards appropriate to each climate zone, set maximum acceptable costs per square foot, and create a maintenance manual for the adopted standardized components in adopted standards. The bill amends the BR&GR Committee's duties to conform to other parts of the bill, including analyzing school designs acquired by the department and setting energy efficiency standards based on those adopted by the department. It limits designers and contractors from seeking architectural or design awards that are not for energy efficient or innovative designs, if the state funded 50 percent or more of the project cost. The bill establishes a working group to develop recommendations for energy efficiency standards, standardized component options, best practices, and maximum acceptable costs. SB 87 is in the Senate Finance Committee.

Regulations Update

In addition to the regulations to be drafted by the BR&GR Committee through the Commissioning Subcommittee, the department is undertaking a scrub of 4 AAC 31 to clean-up discrepancies and provide additional clarity on department processes. A summary and draft language is included in the packet for discussion under a separate agenda item.

Publications Update

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

1. **Alaska School Facilities Preventive Maintenance Handbook** (1999) *[Proposed update 2018]*
2. **Life Cycle Cost Analysis Handbook** (1999) *[Proposed update 2018]*
3. Architectural and Engineering Services for School Facility Construction (new) *[Proposed 2018]*

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

Alaska School Facilities Preventive Maintenance Handbook
Included in the packet is the draft 2018 update to the preventive maintenance handbook retitled as *Alaska School Facilities Preventive Maintenance & Facilities Management Handbook* which was released for public comment. This draft incorporates the comments and direction from the Committee's March 15 work session on this topic. The 1999 edition is available for reference on the internet at: https://education.alaska.gov/facilities/publications/PreventiveMaintenance.pdf.

Major elements addressed in the update include:

- Expansion to cover all five areas of facility management outlined in statute and regulation
- A three-part structure comprised of developing, implementing, and sustaining with a goal of encouraging better integration practices and use of data
- Additional tools and industry standards for district consideration and use

Life Cycle Cost Analysis Handbook
Included in the packet is the draft 2018 update to the *Life Cycle Cost Analysis Handbook*; the 1999 edition is available for reference on the department's website at: https://education.alaska.gov/facilities/publications/LCCAHandbook.pdf

Major elements addressed in the update include:

- Updated to include requirements for system replacements
- Reconfirmed source material and links
- Added appendix example and instructions

Architectural and Engineering Services for School Facility Construction
The department is finalizing a draft of *Architectural and Engineering Services for School Facility Construction* publication to be reviewed by the committee in an upcoming work session prior to its release for public comment. The purpose of this publication is to provide general guidance to school districts and other entities in soliciting and contracting with consultants, as well as provide specific assistance to complying with related Alaska statute and regulations.

State of Alaska
Department of Education and Early Development
Capital Improvement Projects (FY2019)
School Construction Grant Fund

Final List

Jan 19	Dec 20	Nov 6	School District	Project Name	Amount Requested	Eligible Amount	Prior Funding	DEED Recommended Amount	Participating Share	State Share	Aggregate Amount
1	1	1	Lower Kuskokwim	J Alexie Memorial K-12 School Replacement, Atmautluak	$45,263,955	$43,691,585	$3,328,232	$40,363,353	$807,267	$39,556,086	$39,556,086
2	2	2	Lower Kuskokwim	Eek K-12 School Renovation/Addition	$35,534,103	$33,760,170	$0	$33,760,170	$675,203	$33,084,967	$72,641,053
3	3	3	Lower Kuskokwim	Anna Tobeluk Memorial K-12 School Renovation/Addition, Nunapitchuk	$63,237,913	$53,661,875	$0	$53,661,875	$1,073,237	$52,588,638	$125,229,691
4	4	4	Galena City	Galena Interior Learning Academy Classroom Building Upgrade	$7,445,277	$8,039,669	$594,392	$7,445,277	$372,264	$7,073,013	$132,302,704
5	5	5	Lower Kuskokwim	Mertarvik K-12 School Newtok Replacement	$49,272,786	$39,705,503	$0	$39,705,503	$794,110	$38,911,393	$171,214,097
6	6	6	Aleutians East	Sand Point K-12 School Paving	$450,463	$450,463	$0	$450,463	$157,662	$292,801	$171,506,898
7	7	7	Lower Kuskokwim	Water Storage and Treatment, Kongiganak	$5,930,074	$5,930,074	$0	$5,930,074	$118,601	$5,811,473	$177,318,371
8	8	8	Southeast Island	Kasaan K-12 School Covered Play Area Construction	$449,421	$449,421	$0	$449,421	$8,988	$440,433	$177,758,804
9	9	9	Aleutians East	King Cove K-12 School Paving	$112,250	$112,250	$0	$112,250	$39,287	$72,963	$177,831,767
10	10	10	Southeast Island	Thorne Bay K-12 School Playground Upgrades	$226,137	$226,137	$0	$226,137	$4,523	$221,614	$178,053,381
11	11	11	Yupiit	Playground Construction, 3 Schools	$608,458	$608,458	$0	$608,458	$12,169	$596,289	$178,649,670
				TOTALS:	**$208,530,836**	**$186,635,605**	**$3,922,624**	**$182,712,981**	**$4,063,311**	**$178,649,670**	

State of Alaska
Department of Education and Early Development
Capital Improvement Projects (FY2019)
Major Maintenance Grant Fund

Final List

Jan 19	Dec 20	Nov 6	School District	Project Name	Amount Requested	Eligible Amount	Prior Funding	DEED Recommended Amount	Participating Share	State Share	Aggregate Amount
1	1	6	Saint Marys	St. Mary's Campus Upgrades	$4,899,885	$4,242,253	$409,000	$3,833,253	$383,325	$3,449,928	$3,449,928
2	2	4	Denali Borough	Cantwell K-12 School Roof Replacement	$1,107,009	$926,829	$0	$926,829	$185,366	$741,463	$4,191,391
3	3	8	Bristol Bay Borough	Bristol Bay School Renovation Phase II	$14,736,892	$13,022,838	$0	$13,022,838	$4,557,993	$8,464,845	$12,656,236
4	4	9	Ketchikan	Houghtaling Elementary Roof Replacement	$3,361,695	$3,361,695	$0	$3,361,695	$1,008,508	$2,353,187	$15,009,423
5	5	11	Yukon-Koyukuk	Allakaket K-12 School Renovation	$10,594,143	$9,381,581	$0	$9,381,581	$187,632	$9,193,949	$24,203,372
6	6	12	Northwest Arctic	Davis Ramoth K-12 School Window Replacement, Selawik	$241,245	$241,245	$0	$241,245	$48,249	$192,996	$24,396,368
7	7	14	Southeast Island	Thorne Bay Maintenance Building Roof Replacement	$231,462	$161,680	$0	$161,680	$3,234	$158,446	$24,554,814
8	8	15	Lower Kuskokwim	Bethel Campus Fire Pump House and Fire Protection Upgrades	$2,982,088	$2,982,088	$0	$2,982,088	$59,642	$2,922,446	$27,477,260
9	9	19	Craig City	Craig Middle School Gym Floor Replacement	$522,692	$522,692	$0	$522,692	$104,538	$418,154	$27,895,414
10	10	22	Petersburg Borough	Petersburg Middle/High School Entry Renovation	$48,303	$46,974	$0	$46,974	$16,441	$30,533	$27,925,947
11	11	17	Nome City	Nome Beltz Jr/Sr High School Partial Roof Replacement	$2,223,488	$2,223,488	$0	$2,223,488	$667,046	$1,556,442	$29,482,389
12	12	18	Chugach	Chenega Bay K-12 School Rehabilitation	$5,542,562	$5,542,562	$0	$5,542,562	$110,851	$5,431,711	$34,914,100
13	13	25	Denali Borough	Tri-Valley School Coal Heat Conversion	$89,923	$89,923	$0	$89,923	$17,985	$71,938	$34,986,038
14	14	21	Alaska Gateway	Tok K-12 School Sprinkler Renovation	$1,799,001	$1,799,001	$0	$1,799,001	$35,980	$1,763,021	$36,749,059
15	15	32	Petersburg Borough	Petersburg Middle/High School Underground Storage Tank Replacement	$177,695	$177,695	$0	$177,695	$62,193	$115,502	$36,864,561
16	16	23	Lower Kuskokwim	Nuniwaarmiut K-12 School Wastewater Upgrades, Mekoryuk	$1,123,319	$894,480	$0	$894,480	$17,890	$876,590	$37,741,151
17	17	24	Chugach	Tatitlek K-12 School Rehabilitation	$5,243,249	$5,243,249	$0	$5,243,249	$104,865	$5,138,384	$42,879,535
18	18	29	Craig City	Craig Elementary School Door And Flooring Replacement	$138,462	$138,462	$0	$138,462	$27,692	$110,770	$42,990,305
19	19	30	Craig City	Craig Middle School Siding and Windows	$149,167	$149,167	$0	$149,167	$29,833	$119,334	$43,109,639

State of Alaska
Department of Education and Early Development
Capital Improvement Projects (FY2019)
Major Maintenance Grant Fund

Final List

Jan 19	Dec 20	Nov 6	School District	Project Name	Amount Requested	Eligible Amount	Prior Funding	DEED Recommended Amount	Participating Share	State Share	Aggregate Amount
20	20	26	Copper River	District Office Roof Renovation and Energy Upgrade	$1,022,041	$1,022,041	$0	$1,022,041	$20,441	$1,001,600	$44,111,239
21	21	27	Nenana City	Nenana K-12 School Flooring and Asbestos Abatement	$399,436	$385,191	$0	$385,191	$19,260	$365,931	$44,477,170
22	22	28	Hoonah City	Hoonah Central Boiler Replacement	$262,100	$262,100	$0	$262,100	$78,630	$183,470	$44,660,640
23	23	31	Nenana City	Nenana K-12 School Boiler Replacement	$143,070	$143,070	$0	$143,070	$7,153	$135,917	$44,796,557
24	24	33	Aleutians East	Sand Point K-12 School Pool Major Maintenance	$104,660	$104,660	$0	$104,660	$36,631	$68,029	$44,864,586
25	25	34	Yupiit	Tuluksak K-12 School Fuel Tank Replacement	$2,430,410	$2,430,410	$0	$2,430,410	$48,608	$2,381,802	$47,246,388
26	26	35	Lower Yukon	Hooper Bay K-12 School Exterior Repairs	$2,567,788	$2,567,788	$0	$2,567,788	$51,356	$2,516,432	$49,762,820
27	27	36	Haines Borough	Haines High School Locker Room Renovation	$779,739	$779,739	$0	$779,739	$272,909	$506,830	$50,269,650
28	28	37	Kuspuk	Jack Egnaty Sr. K-12 School Roof Replacement, Sleetmute	$1,660,924	$1,660,924	$0	$1,660,924	$33,218	$1,627,706	$51,897,356
29	29	38	Southeast Island	Thorne Bay K-12 Fire Suppression System	$480,867	$480,867	$0	$480,867	$9,617	$471,250	$52,368,606
30	30	39	Lower Yukon	Hooper Bay K-12 School Emergency Lighting and Retrofit	$232,730	$232,730	$0	$232,730	$4,655	$228,075	$52,596,681
31	31	40	Yukon Flats	Chalkyitsik K-12 School Water Tank Replacement	$1,272,216	$1,272,216	$0	$1,272,216	$25,444	$1,246,772	$53,843,453
32	32	41	Nome City	Nome Elementary School Gym Flooring Replacement	$107,692	$103,740	$0	$103,740	$31,122	$72,618	$53,916,071
33	33	42	Yukon Flats	Venetie K-12 School Generator Building Renovation	$2,754,866	$2,388,911	$0	$2,388,911	$47,778	$2,341,133	$56,257,204
34	34	44	Chatham	Fire Alarm Upgrades - 3 Sites	$104,572	$104,572	$0	$104,572	$2,091	$102,481	$56,359,685
35	35	43	Southwest Region	Manokotak K-12 School Sewer and Water Upgrade	$232,467	$232,467	$0	$232,467	$4,649	$227,818	$56,587,503
36	36	46	Anchorage	Roof Replacement and Upgrades, 4 Schools	$21,174,967	$12,434,633	$0	$12,434,633	$4,352,122	$8,082,511	$64,670,014
37	37	45	Lower Yukon	Scammon Bay K-12 School Emergency Lighting and Retrofit	$119,467	$117,829	$0	$117,829	$2,357	$115,472	$64,785,486
38	38	47	Yukon Flats	Beaver and Chalkyitsik K-12 School Boiler and Control Upgrades	$1,366,954	$1,323,900	$0	$1,323,900	$26,478	$1,297,422	$66,082,908
39	39	48	Southwest Region	Twin Hills K-8 School Renovations	$2,004,615	$2,004,615	$0	$2,004,615	$40,092	$1,964,523	$68,047,431

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40	40	49	Haines Borough	Haines High School Roof Replacement	$2,399,203	$2,399,203	$0	$2,399,203	$839,721	$1,559,482	$69,606,913
41	41	50	Sitka City Borough	Keet Gooshi Heen Elementary Covered PE Structure Renovation	$475,238	$475,238	$0	$475,238	$166,333	$308,905	$69,915,818
42	42	51	Yukon-Koyukuk	Ella B. Vernetti K-8 School Entry Access Repairs, Koyukuk	$277,052	$277,052	$0	$277,052	$5,541	$271,511	$70,187,329
43	43	53	Chatham	Klukwan K-12 School Roof Replacement	$1,832,400	$1,770,420	$0	$1,770,420	$35,408	$1,735,012	$71,922,341
44	44	52	Annette Island	Metlakatla High School Gym Acoustical Upgrades	$142,669	$142,669	$0	$142,669	$2,853	$139,816	$72,062,157
45	45	54	Southeast Island	Thorne Bay K-12 School Carpet Replacement	$71,549	$69,579	$0	$69,579	$1,392	$68,187	$72,130,344
46	46	55	Mat-Su Borough	Districtwide Seismic Upgrades, Phase 1	$7,326,904	$6,994,745	$0	$6,994,745	$2,098,423	$4,896,322	$77,026,666
47	47	56	Lower Kuskokwim	Bethel Regional High School Boardwalk Replacement	$738,394	$738,394	$0	$738,394	$14,768	$723,626	$77,750,292
48	48	57	Mat-Su Borough	Water System Replacement, Big Lake, Butte, Snowshoe Elementary Schools	$6,321,087	$5,754,270	$0	$5,754,270	$1,726,281	$4,027,989	$81,778,281
49	49	58	Nome City	Anvil City Charter School Restroom Renovations	$431,240	$431,240	$0	$431,240	$129,372	$301,868	$82,080,149
50	50	64	Anchorage	Mears Middle School Roof Replacement and Upgrades	$10,654,171	$9,530,938	$0	$9,530,938	$3,335,828	$6,195,110	$88,275,259
51	51	59	Copper River	Glenallen Voc-Ed Facility Renovation	$702,997	$702,997	$0	$702,997	$14,060	$688,937	$88,964,196
52	52	60	Nenana City	Nenana K-12 School Fire Suppression System Replacement	$1,382,689	$1,382,689	$0	$1,382,689	$69,134	$1,313,555	$90,277,751
53	53	61	Kake City	Kake High School Plumbing Replacement	$639,172	$639,172	$0	$639,172	$127,834	$511,338	$90,789,089
54	54	62	Lower Yukon	Scammon Bay K-12 School Siding Replacement	$960,216	$960,216	$0	$960,216	$19,204	$941,012	$91,730,101
55	55	66	Craig City	Craig High School Biomass Boiler	$544,148	$544,148	$0	$544,148	$108,830	$435,318	$92,165,419
56	56	63	Southeast Island	Thorne Bay K-12 Mechanical Control Upgrades	$1,408,445	$1,408,445	$0	$1,408,445	$28,169	$1,380,276	$93,545,695
57	57	65	Southwest Region	William "Sonny" Nelson K-8 School Renovations, Ekwok	$3,206,193	$3,206,193	$0	$3,206,193	$64,124	$3,142,069	$96,687,764
58	58	70	Anchorage	Steller Secondary School Fire Alarm Replacement	$322,875	$322,875	$0	$322,875	$113,006	$209,869	$96,897,633

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59	59	67	Southwest Region	Aleknagik K-8 School Renovations	$3,136,609	$3,136,609	$0	$3,136,609	$62,732	$3,073,877	$99,971,510
60	60	68	Nome City	Nome Beltz Jr/Sr High School Generator and Electrical Service Replacement	$1,818,227	$1,818,227	$0	$1,818,227	$545,468	$1,272,759	$101,244,269
61	61	74	Anchorage	East High School Safety and Building Upgrades	$11,743,819	$4,966,760	$0	$4,966,760	$1,738,366	$3,228,394	$104,472,663
62	62	69	Yukon Flats	Fort Yukon K-12 School Soil Remediation and Fuel Tank Replacement	$10,818,586	$4,642,888	$0	$4,642,888	$92,858	$4,550,030	$109,022,693
63	63	71	Kake City	Exterior Upgrades - Main School Facilities	$242,861	$242,861	$0	$242,861	$48,572	$194,289	$109,216,982
64	64	72	Lower Kuskokwim	Akula Elitnauvik K-12 School Renovation, Kasigluk-Akula	$4,498,235	$3,889,212	$0	$3,889,212	$77,784	$3,811,428	$113,028,410
65	65	73	Kake City	Kake High School Gym Floor and Bleacher Replacement	$548,148	$531,076	$0	$531,076	$106,215	$424,861	$113,453,271
66	66	77	Anchorage	Service High School Gym Sprinkler and Fire Alarm Upgrades	$6,439,147	$2,103,547	$0	$2,103,547	$736,241	$1,367,306	$114,820,577
67	67	75	Yukon Flats	Cruikshank K-12 School Soil Remediation and Fuel Tank Replacement, Beaver	$1,327,572	$1,102,255	$0	$1,102,255	$22,045	$1,080,210	$115,900,787
68	68	76	Lower Yukon	Ignatius Beans K-12 School Marine Header Pipeline	$1,542,993	$1,476,069	$0	$1,476,069	$29,521	$1,446,548	$117,347,335
69	69	78	Yukon-Koyukuk	Ella B. Vernetti K-8 School Boiler Replacement, Koyukuk	$438,678	$438,678	$0	$438,678	$8,774	$429,904	$117,777,239
70	70	85	Anchorage	Bartlett High School Intercom Upgrades	$2,703,997	$1,284,739	$0	$1,284,739	$449,659	$835,080	$118,612,319
71	71	79	Southeast Island	Thorne Bay K-12 School Underground Storage Tank Replacement	$335,085	$335,085	$0	$335,085	$6,702	$328,383	$118,940,702
72	72	80	Iditarod Area	Blackwell K-12 School HVAC Control Upgrades, Anvik	$121,892	$121,892	$0	$121,892	$2,438	$119,454	$119,060,156
73	73	81	Lower Kuskokwim	Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk	$4,103,065	$3,449,411	$0	$3,449,411	$68,988	$3,380,423	$122,440,579
74	74	82	Yukon Flats	Venetie K-12 School Soil Remediation and Fuel Tank Replacement	$2,069,628	$1,806,394	$0	$1,806,394	$36,128	$1,770,266	$124,210,845
75	75	83	Southeast Island	Port Alexander K-12 Domestic Water Pipe Replacement	$85,289	$107,717	$0	$107,717	$2,154	$105,563	$124,316,408

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76	76	84	Iditarod Area	David-Louis Memorial K-12 School HVAC Control Upgrades, Grayling	$287,139	$343,542	$0	$343,542	$6,871	$336,671	$124,653,079
77	77	86	Lower Yukon	LYSD Central Office Renovation	$5,257,426	$5,006,308	$0	$5,006,308	$100,126	$4,906,182	$129,559,261
78	78	87	Mat-Su Borough	Windows and Lighting Upgrades, Butte Elementary, Palmer High School	$4,231,918	$4,231,918	$0	$4,231,918	$1,269,575	$2,962,343	$132,521,604
79	79	88	Iditarod Area	David-Louis Memorial K-12 School Roof Replacement, Grayling	$511,334	$1,530,387	$0	$1,530,387	$30,608	$1,499,779	$134,021,383
80	80	89	Southeast Island	Port Alexander and Thorne Bay K-12 Schools Roof Replacement	$4,906,853	$4,906,853	$0	$4,906,853	$98,137	$4,808,716	$138,830,099
81	81	90	Yupiit	Mechanical System Improvements, 3 Schools	$168,484	$168,484	$0	$168,484	$3,370	$165,114	$138,995,213
82	82	91	Lower Yukon	Sheldon Point K-12 School Siding Replacement, Nunam Iqua	$260,799	$260,799	$0	$260,799	$5,216	$255,583	$139,250,796
83	83	92	Lower Yukon	Security Access Project, 6 Sites	$1,532,578	$1,532,578	$0	$1,532,578	$30,652	$1,501,926	$140,752,722
84	84	93	Lower Yukon	Kotlik and Pilot Station K-12 Schools Renewal and Repair	$2,183,223	$2,183,223	$0	$2,183,223	$43,664	$2,139,559	$142,892,281
				TOTALS:	**$205,584,088**	**$170,568,300**	**$409,000**	**$170,159,300**	**$27,267,019**	**$142,892,281**	

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Total Points - Formula-Driven and Evaluative
Final List

Pri. #	School District	Project Name	School Dist Rank	Weight Avg Age	Prev. 14.11 Fund	Plan and Design	Avg Expend Main	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-na-tives	Op-tions	Total Points
1	Lower Kuskokwim	J Alexie Memorial K-12 School Replacement, Atmautluak	30.00	10.32	30.00	10.00	3.16	23.04	22.30	24.18	10.00	15.00	10.00	4.00	3.67	3.00	3.00	4.33	0.00	29.33	16.67	14.67	4.33	2.67	16.00	289.66
2	Lower Kuskokwim	Eek K-12 School Renovation/Addition	27.00	23.56	0.00	10.00	3.24	25.53	22.74	21.86	10.00	15.00	10.00	4.33	3.67	3.00	3.00	4.33	1.67	15.33	21.33	17.00	4.33	3.00	19.33	269.27
3	Lower Kuskokwim	Anna Tobeluk Memorial K-12 School Renovation/Addition, Nunapitchuk	24.00	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	268.62
4	Galena City	Galena Interior Learning Academy Classroom Building Upgrade	30.00	17.75	30.00	25.00	4.67	0.00	0.00	0.00	10.00	15.00	10.00	4.00	4.33	3.67	4.00	3.67	0.00	21.00	5.67	23.67	6.67	0.00	19.00	238.08
5	Lower Kuskokwim	Mertarvik K-12 School Newtok Replacement	15.00	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	182.50
6	Aleutians East	Sand Point K-12 School Paving	27.00	16.82	0.00	25.00	1.94	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.33	2.00	2.67	2.67	0.00	4.67	0.00	28.00	4.33	2.33	9.33	158.09
7	Lower Kuskokwim	Water Storage and Treatment, Kongiganak	18.00	0.00	0.00	20.00	3.16	0.00	0.00	0.00	10.00	15.00	10.00	4.00	3.67	3.00	3.00	4.33	0.00	19.33	0.00	18.00	3.00	2.33	11.33	148.16
8	Southeast Island	Kasaan K-12 School Covered Play Area Construction	12.00	21.25	0.00	0.00	3.04	0.00	5.48	15.00	0.00	15.00	10.00	3.33	3.33	2.33	3.00	3.00	0.00	0.00	17.00	13.00	0.00	3.33	9.00	139.11
9	Aleutians East	King Cove K-12 School Paving	24.00	0.00	0.00	25.00	1.94	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.33	2.00	2.67	2.67	0.00	5.33	0.00	28.00	4.33	2.33	9.33	138.94
10	Southeast Island	Thorne Bay K-12 School Playground Upgrades	15.00	9.17	0.00	10.00	2.93	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.33	2.67	2.33	2.67	0.00	12.67	0.00	13.33	1.33	3.00	9.33	115.77
11	Yupiit	Playground Construction, 3 Schools	24.00	0.69	0.00	10.00	1.97	0.00	0.00	0.00	0.00	10.00	10.00	3.00	2.33	2.00	3.33	2.67	0.00	6.67	2.67	10.00	0.00	1.00	8.00	98.33

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Pri. #	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	Alter-na-tives	Op-tions	Total Points
1	Saint Marys	St. Mary's Campus Upgrades	30.00	30.00	30.00	25.00	1.36	0.00	0.00	0.00	8.00	15.00	10.00	3.67	3.33	4.00	4.00	3.67	0.00	11.00	0.00	25.33	6.00	0.00	9.67	220.03
2	Denali Borough	Cantwell K-12 School Roof Replacement	27.00	24.53	0.00	25.00	3.99	0.00	0.00	0.00	10.00	15.00	10.00	3.67	4.00	4.33	3.33	4.33	0.00	20.33	1.67	24.00	6.33	0.00	9.00	196.51
3	Bristol Bay Borough	Bristol Bay School Renovation Phase II	30.00	27.86	0.00	20.00	1.54	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.67	3.33	4.00	4.00	0.00	15.00	1.00	20.00	8.00	0.00	12.67	189.39
4	Ketchikan	Houghtaling Elementary Roof Replacement	30.00	30.00	0.00	20.00	4.61	0.00	0.00	0.00	8.00	15.00	10.00	3.67	3.33	3.00	2.00	3.33	0.00	22.67	0.00	20.00	3.67	0.00	9.67	188.94
5	Yukon-Koyukuk	Allakaket K-12 School Renovation	30.00	23.97	0.00	20.00	2.99	0.00	0.00	0.00	8.00	15.00	10.00	3.33	3.33	3.33	2.67	3.00	0.00	19.67	4.33	18.67	4.67	0.00	14.67	187.63
6	Northwest Arctic	Davis Ramoth K-12 School Window Replacement, Selawik	30.00	9.70	0.00	25.00	2.77	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.00	3.00	2.67	3.67	0.00	12.67	0.00	26.00	20.67	0.00	10.00	187.47
7	Southeast Island	Thorne Bay Maintenance Building Roof Replacement	27.00	30.00	0.00	20.00	3.04	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.33	2.33	3.00	3.00	5.00	19.33	0.00	15.67	2.33	0.00	10.33	182.71
8	Lower Kuskokwim	Bethel Campus Fire Pump House and Fire Protection Upgrades	12.00	30.00	0.00	20.00	3.24	0.00	0.00	0.00	10.00	15.00	10.00	4.33	3.67	3.00	3.00	4.33	5.00	19.67	0.00	19.67	1.67	0.00	18.00	182.57
9	Craig City	Craig Middle School Gym Floor Replacement	24.00	24.75	0.00	25.00	2.74	0.00	0.00	0.00	8.00	15.00	10.00	3.33	3.67	3.00	3.00	3.00	6.67	8.00	2.00	27.33	2.33	0.00	10.00	181.82
10	Petersburg Borough	Petersburg Middle/High School Entry Renovation	27.00	30.00	0.00	25.00	1.31	0.00	0.00	0.00	8.00	15.00	10.00	4.67	5.00	4.33	4.00	4.00	0.00	5.00	0.00	28.33	1.67	0.00	8.33	181.65
11	Nome City	Nome Beltz Jr/Sr High School Partial Roof Replacement	30.00	30.00	0.00	10.00	2.19	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.67	2.67	3.33	4.00	0.00	20.00	0.00	20.00	7.67	0.00	8.33	180.19
12	Chugach	Chenega Bay K-12 School Rehabilitation	30.00	10.09	0.00	20.00	1.16	0.00	0.00	0.00	10.00	15.00	10.00	3.67	3.00	3.00	2.67	3.00	0.00	29.00	0.00	20.33	2.67	0.00	15.33	178.92
13	Denali Borough	Tri-Valley School Coal Heat Conversion	30.00	3.50	0.00	25.00	4.69	0.00	0.00	0.00	10.00	15.00	10.00	4.00	4.33	3.67	4.00	4.67	0.00	0.00	0.00	28.67	21.33	0.00	9.00	177.86
14	Alaska Gateway	Tok K-12 School Sprinkler Renovation	30.00	6.50	0.00	20.00	2.27	0.00	0.00	0.00	8.00	15.00	10.00	3.33	4.00	3.00	3.67	3.00	7.00	24.33	0.00	21.00	5.00	0.00	10.00	176.10
15	Petersburg Borough	Petersburg Middle/High School Underground Storage Tank Replacement	30.00	16.00	0.00	25.00	1.31	0.00	0.00	0.00	10.00	15.00	10.00	4.67	5.00	4.33	4.00	4.00	0.00	11.00	0.00	24.67	1.33	0.00	9.67	175.98
16	Lower Kuskokwim	Nuniwaarmiut K-12 School Wastewater Upgrades, Mekoryuk	21.00	21.81	0.00	20.00	3.24	0.00	0.00	0.00	8.00	15.00	10.00	4.33	3.67	3.00	3.00	4.33	7.33	14.00	0.00	16.33	2.67	0.00	17.67	175.38
17	Chugach	Tatitlek K-12 School Rehabilitation	27.00	15.12	0.00	20.00	1.16	0.00	0.00	0.00	10.00	15.00	10.00	3.67	3.00	3.00	2.67	3.00	0.00	27.00	0.00	19.67	0.00	0.00	14.67	174.95

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Pri. #	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	Alter-na-tives	Op-tions	Total Points
18	Craig City	Craig Elementary School Door And Flooring Replacement	30.00	23.00	0.00	25.00	2.74	0.00	0.00	0.00	5.00	15.00	10.00	3.33	3.67	3.00	3.00	3.00	0.00	5.67	2.00	28.00	2.33	0.00	9.33	174.07
19	Craig City	Craig Middle School Siding and Windows	27.00	21.56	0.00	10.00	2.99	0.00	0.00	0.00	10.00	15.00	10.00	3.67	3.67	3.67	3.33	3.33	0.00	17.67	0.00	28.00	3.67	0.00	9.67	173.22
20	Copper River	District Office Roof Renovation and Energy Upgrade	30.00	30.00	0.00	10.00	1.59	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.33	3.00	3.00	3.67	0.00	21.00	0.00	15.00	4.00	0.00	9.33	172.26
21	Nenana City	Nenana K-12 School Flooring and Asbestos Abatement	30.00	30.00	0.00	25.00	3.16	0.00	0.00	0.00	0.00	15.00	10.00	3.67	3.33	3.67	3.00	4.00	0.00	5.67	0.00	23.67	3.00	0.00	9.00	172.16
22	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
23	Nenana City	Nenana K-12 School Boiler Replacement	27.00	30.00	0.00	20.00	3.16	0.00	0.00	0.00	0.00	15.00	10.00	3.67	3.33	3.67	3.00	4.00	0.00	14.67	0.00	19.67	3.67	0.00	9.33	170.16
24	Aleutians East	Sand Point K-12 School Pool Major Maintenance	30.00	16.82	0.00	25.00	1.94	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.33	2.00	2.67	2.67	0.00	9.67	0.00	29.00	8.33	0.00	9.67	169.09
25	Yupiit	Tuluksak K-12 School Fuel Tank Replacement	30.00	30.00	0.00	10.00	1.97	0.00	0.00	0.00	8.00	10.00	10.00	3.00	2.33	2.00	3.33	2.67	4.00	20.00	0.00	15.67	2.67	0.00	9.67	165.30
26	Lower Yukon	Hooper Bay K-12 School Exterior Repairs	27.00	0.00	0.00	25.00	2.24	0.00	0.00	0.00	8.00	15.00	10.00	2.67	3.00	3.00	3.33	4.33	0.00	17.67	0.00	27.33	4.33	0.00	12.33	165.24
27	Haines Borough	Haines High School Locker Room Renovation	30.00	30.00	0.00	10.00	1.82	0.00	0.00	0.00	5.00	15.00	10.00	3.33	3.00	2.67	2.67	3.33	0.00	18.33	0.00	14.00	4.33	0.00	10.00	163.49
28	Kuspuk	Jack Egnaty Sr. K-12 School Roof Replacement, Sleetmute	30.00	24.75	0.00	0.00	1.65	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.00	2.33	2.00	2.67	7.33	30.67	0.67	15.33	3.67	0.00	9.33	161.40
29	Southeast Island	Thorne Bay K-12 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	160.30
30	Lower Yukon	Hooper Bay K-12 School Emergency Lighting and Retrofit	30.00	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	160.26
31	Yukon Flats	Chalkyitsik K-12 School Water Tank Replacement	30.00	23.73	0.00	10.00	2.67	0.00	0.00	0.00	8.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	7.67	11.33	0.00	13.67	2.33	0.00	9.67	158.39
32	Nome City	Nome Elementary School Gym Flooring Replacement	27.00	12.50	0.00	25.00	2.19	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.67	2.67	3.33	4.00	0.00	6.67	2.33	28.67	1.33	0.00	9.67	157.35
33	Yukon Flats	Venetie K-12 School Generator Building Renovation	24.00	14.25	0.00	10.00	2.67	0.00	0.00	0.00	8.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	6.00	20.00	0.00	14.33	4.67	0.00	13.67	156.92
34	Chatham	Fire Alarm Upgrades - 3 Sites	27.00	30.00	0.00	10.00	1.47	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.33	3.00	3.33	3.00	0.00	17.33	0.00	18.67	1.67	0.00	9.00	156.14

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35	Southwest Region	Manokotak K-12 School Sewer and Water Upgrade	30.00	2.50	0.00	25.00	2.07	0.00	0.00	0.00	0.00	15.00	10.00	3.33	2.67	2.67	2.67	2.33	0.00	12.00	0.00	28.00	7.00	0.00	10.67	155.90
36	Anchorage	Roof Replacement and Upgrades, 4 Schools	30.00	30.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	13.67	0.00	18.00	1.67	0.00	6.33	155.00
37	Lower Yukon	Scammon Bay K-12 School Emergency Lighting and Retrofit	24.00	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	152.76
38	Yukon Flats	Beaver and Chalkyitsik K-12 School Boiler and Control Upgrades	27.00	16.96	0.00	10.00	2.67	0.00	0.00	0.00	10.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	0.00	15.67	0.00	12.67	7.00	0.00	8.67	149.96
39	Southwest Region	Twin Hills K-8 School Renovations	27.00	26.50	0.00	0.00	2.07	0.00	0.00	0.00	8.00	15.00	10.00	3.33	2.67	2.67	2.67	2.33	0.00	17.33	0.00	12.00	6.67	0.00	10.00	148.24
40	Haines Borough	Haines High School Roof Replacement	27.00	30.00	0.00	0.00	1.82	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.00	2.67	2.67	3.33	0.00	24.33	0.00	13.67	2.33	0.00	9.00	148.15
41	Sitka City Borough	Keet Gooshi Heen Elementary Covered PE Structure Renovation	30.00	11.00	0.00	10.00	1.35	0.00	0.00	0.00	10.00	15.00	10.00	3.67	3.33	3.00	3.33	3.00	0.00	15.33	0.00	15.00	3.00	0.00	10.00	147.02
42	Yukon-Koyukuk	Ella B. Vernetti K-8 School Entry Access Repairs, Koyukuk	27.00	14.28	0.00	10.00	3.02	0.00	0.00	0.00	0.00	15.00	10.00	3.67	2.67	3.00	2.33	3.00	5.00	19.67	0.00	16.67	2.33	0.00	9.33	146.97
43	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
44	Annette Island	Metlakatla High School Gym Acoustical Upgrades	30.00	30.00	0.00	10.00	1.97	0.00	0.00	0.00	0.00	15.00	10.00	3.33	2.67	2.67	3.33	3.00	0.00	0.00	4.00	21.33	0.00	0.00	9.33	146.64
45	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	143.30
46	Mat-Su Borough	Districtwide Seismic Upgrades, Phase 1	27.00	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	142.10
47	Lower Kuskokwim	Bethel Regional High School Boardwalk Replacement	9.00	30.00	0.00	10.00	3.16	0.00	0.00	0.00	10.00	15.00	10.00	4.33	3.67	3.00	3.00	4.00	0.00	11.67	0.00	14.00	2.33	0.00	8.67	141.83
48	Mat-Su Borough	Water System Replacement, Big Lake, Butte, Snowshoe Elementary Schools	30.00	25.80	0.00	10.00	2.43	0.00	0.00	0.00	0.00	10.00	10.00	3.67	2.67	2.67	3.33	3.00	6.33	12.67	1.67	11.33	0.67	0.00	4.67	140.89
49	Nome City	Anvil City Charter School Restroom Renovations	24.00	30.00	0.00	10.00	2.19	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.67	2.67	3.33	4.00	0.00	8.67	2.33	13.33	2.33	0.00	6.00	140.85
50	Anchorage	Mears Middle School Roof Replacement and Upgrades	27.00	16.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	14.67	0.00	18.00	1.67	0.00	6.33	139.00

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51	Copper River	Glenallen Voc-Ed Facility Renovation	27.00	5.44	0.00	10.00	1.59	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.33	3.00	3.00	3.67	0.00	15.67	0.00	15.33	3.33	0.00	8.67	138.36
52	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
53	Kake City	Kake High School Plumbing Replacement	30.00	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	137.92
54	Lower Yukon	Scammon Bay K-12 School Siding Replacement	18.00	0.50	0.00	20.00	2.24	0.00	0.00	0.00	8.00	15.00	10.00	2.67	3.00	3.00	3.33	4.33	0.00	14.67	0.00	16.67	4.00	0.00	11.00	136.41
55	Craig City	Craig High School Biomass Boiler	21.00	3.00	0.00	10.00	2.99	0.00	0.00	0.00	5.00	15.00	10.00	3.67	3.67	3.67	3.33	3.33	0.00	1.00	0.00	15.67	17.00	0.00	18.00	136.32
56	Southeast Island	Thorne Bay K-12 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	136.30
57	Southwest Region	William "Sonny" Nelson K-8 School Renovations, Ekwok	21.00	24.75	0.00	0.00	2.07	0.00	0.00	0.00	8.00	15.00	10.00	3.33	2.67	2.67	2.67	2.33	0.00	17.00	0.00	11.67	3.33	0.00	9.33	135.82
58	Anchorage	Steller Secondary School Fire Alarm Replacement	18.00	30.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	14.67	0.00	14.00	2.33	0.00	4.00	133.33
59	Southwest Region	Aleknagik K-8 School Renovations	24.00	19.50	0.00	0.00	2.07	0.00	0.00	0.00	8.00	15.00	10.00	3.33	2.67	2.67	2.67	2.33	0.00	16.00	0.00	12.33	3.00	0.00	9.33	132.90
60	Nome City	Nome Beltz Jr/Sr High School Generator and Electrical Service Replacement	21.00	30.00	0.00	10.00	2.19	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.67	2.67	3.33	4.00	0.00	7.33	0.00	13.33	0.67	0.00	6.33	132.85
61	Anchorage	East High School Safety and Building Upgrades	24.00	30.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	7.33	0.00	10.00	1.00	0.00	3.33	131.00
62	Yukon Flats	Fort Yukon K-12 School Soil Remediation and Fuel Tank Replacement	21.00	30.00	0.00	0.00	2.67	0.00	0.00	0.00	0.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	5.00	12.67	0.00	11.00	0.00	0.00	9.00	130.67
63	Kake City	Exterior Upgrades - Main School Facilities	27.00	23.24	0.00	0.00	1.50	0.00	0.00	0.00	0.00	15.00	10.00	4.33	5.00	3.33	4.00	4.00	0.00	5.67	0.00	13.33	2.33	0.00	10.00	128.74
64	Lower Kuskokwim	Akula Elitnauvik K-12 School Renovation, Kasigluk-Akula	3.00	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	128.66
65	Kake City	Kake High School Gym Floor and Bleacher Replacement	24.00	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	128.26
66	Anchorage	Service High School Gym Sprinkler and Fire Alarm Upgrades	21.00	19.50	0.00	0.00	5.00	0.00	0.00	0.00	5.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	15.67	0.33	11.33	1.00	0.00	3.33	127.50

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67	Yukon Flats	Cruikshank K-12 School Soil Remediation and Fuel Tank Replacement, Beaver	18.00	30.00	0.00	0.00	2.67	0.00	0.00	0.00	3.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	0.00	12.00	0.00	11.67	0.00	0.00	8.67	125.33
68	Lower Yukon	Ignatius Beans K-12 School Marine Header Pipeline	21.00	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	124.95
69	Yukon-Koyukuk	Ella B. Vernetti K-8 School Boiler Replacement, Koyukuk	24.00	14.28	0.00	0.00	3.02	0.00	0.00	0.00	0.00	15.00	10.00	3.67	2.67	3.00	2.33	3.00	0.00	10.67	0.00	12.33	6.00	0.00	11.67	121.63
70	Anchorage	Bartlett High School Intercom Upgrades	15.00	30.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	5.00	0.00	14.33	1.33	0.00	3.33	119.33
71	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	119.30
72	Iditarod Area	Blackwell K-12 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
73	Lower Kuskokwim	Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk	6.00	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	118.40
74	Yukon Flats	Venetie K-12 School Soil Remediation and Fuel Tank Replacement	15.00	30.00	0.00	0.00	2.67	0.00	0.00	0.00	0.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	0.00	11.00	0.00	10.67	0.00	0.00	8.67	117.33
75	Southeast Island	Port Alexander K-12 Domestic Water Pipe Replacement	6.00	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	116.76
76	Iditarod Area	David-Louis Memorial K-12 School HVAC Control Upgrades, Grayling	30.00	12.50	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	12.33	2.67	13.00	4.00	0.00	8.00	116.49
77	Lower Yukon	LYSD Central Office Renovation	15.00	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	114.79
78	Mat-Su Borough	Windows and Lighting Upgrades, Butte Elementary, Palmer High School	24.00	28.06	0.00	0.00	2.43	0.00	0.00	0.00	0.00	10.00	10.00	3.67	2.67	2.67	3.33	3.00	0.00	5.67	1.33	10.00	3.33	0.00	2.67	112.83
79	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
80	Southeast Island	Port Alexander and Thorne Bay K-12 Schools Roof Replacement	9.00	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	108.87
81	Yupiit	Mechanical System Improvements, 3 Schools	27.00	0.69	0.00	0.00	1.97	0.00	0.00	0.00	0.00	10.00	10.00	3.00	2.33	2.00	3.33	2.67	0.00	8.00	0.00	15.33	5.33	0.00	9.67	101.33

Alaska Department of Education and Early Development
Capital Improvement Projects (FY2019)
Major Maintenance Grant Fund
Total Points - Formula-Driven and Evaluative
Final List

Pri. #	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	Alter-na-tives	Op-tions	Total Points
82	Lower Yukon	Sheldon Point K-12 School Siding Replacement, Nunam Iqua	12.00	0.00	0.00	0.00	2.24	0.00	0.00	0.00	5.00	15.00	10.00	2.67	3.00	3.00	3.33	4.33	0.00	9.67	0.00	12.67	3.33	0.00	8.00	94.24
83	Lower Yukon	Security Access Project, 6 Sites	9.00	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	77.03
84	Lower Yukon	Kotlik and Pilot Station K-12 Schools Renewal and Repair	6.00	2.00	0.00	0.00	2.24	0.00	0.00	0.00	5.00	15.00	10.00	2.67	3.00	3.00	3.33	4.33	0.00	2.00	0.00	12.33	0.00	0.00	5.00	75.91

Alaska Department of Education and Early Development
Capital Improvement Projects (FY2019)
School Construction/Major Maintenance by District

Total Points - Formula-Driven and Evaluative
Final List

Jan 19	Dec 20	Nov 6		Project Name	School District Ranking	Weighted Avg Age Facilities	Previous 14.11 Funding	Plan and Design	Avg Expend Maint	Un-housed Today	Un-housed 7 Years	Type of Space Add/Imp	Cond Survey	Maint Labor	Maint Type	Maint Mgt	Energy Mgt	Cusd Pgm	Maint Train	Capital Plan	Emerg ency	Life/Safety and Code Conditions	Exist-ing Space	Cost Est-imate	Proj vs Oper Cost	Alter-na-tives	Op-tions	Total Points
				Alaska Gateway																								
14	14	21	M	Tok K-12 School Sprinkler Renovation	30.00	6.50	0.00	20.00	2.27	0.00	0.00	0.00	8.00	15.00	10.00	3.33	4.00	3.00	3.67	3.00	7.00	24.33	0.00	21.00	5.00	0.00	10.00	176.10
				Aleutians East																								
6	6	6	C	Sand Point K-12 School Paving	27.00	16.82	0.00	25.00	1.94	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.33	2.00	2.67	2.67	0.00	4.67	0.00	28.00	4.33	2.33	9.33	158.09
9	9	9	C	King Cove K-12 School Paving	24.00	0.00	0.00	25.00	1.94	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.33	2.00	2.67	2.67	0.00	5.33	0.00	28.00	4.33	2.33	9.33	138.94
24	24	33	M	Sand Point K-12 School Pool Major Maintenance	30.00	16.82	0.00	25.00	1.94	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.33	2.00	2.67	2.67	0.00	9.67	0.00	29.00	8.33	0.00	9.67	169.09
				Anchorage																								
36	36	46	M	Roof Replacement and Upgrades, 4 Schools	30.00	30.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	13.67	0.00	18.00	1.67	0.00	6.33	155.00
50	50	64	M	Mears Middle School Roof Replacement and Upgrades	27.00	16.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	14.67	0.00	18.00	1.67	0.00	6.33	139.00
58	58	70	M	Steller Secondary School Fire Alarm Replacement	18.00	30.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	14.67	0.00	14.00	2.33	0.00	4.00	133.33
61	61	74	M	East High School Safety and Building Upgrades	24.00	30.00	0.00	0.00	5.00	0.00	0.00	0.00	5.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	7.33	0.00	10.00	1.00	0.00	3.33	131.00
66	66	77	M	Service High School Gym Sprinkler and Fire Alarm Upgrades	21.00	19.50	0.00	0.00	5.00	0.00	0.00	0.00	5.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	15.67	0.33	11.33	1.00	0.00	3.33	127.50
70	70	85	M	Bartlett High School Intercom Upgrades	15.00	30.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	15.00	10.00	4.67	3.33	3.67	3.67	5.00	0.00	5.00	0.00	14.33	1.33	0.00	3.33	119.33
				Annette Island																								
44	44	52	M	Metlakatla High School Gym Acoustical Upgrades	30.00	30.00	0.00	10.00	1.97	0.00	0.00	0.00	0.00	15.00	10.00	3.33	2.67	2.67	3.33	3.00	0.00	0.00	4.00	21.33	0.00	0.00	9.33	146.64
				Bristol Bay Borough																								
3	3	8	M	Bristol Bay School Renovation Phase II	30.00	27.86	0.00	20.00	1.54	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.67	3.33	4.00	4.00	0.00	15.00	1.00	20.00	8.00	0.00	12.67	189.39
				Chatham																								
34	34	44	M	Fire Alarm Upgrades - 3 Sites	27.00	30.00	0.00	10.00	1.47	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.33	3.00	3.33	3.00	0.00	17.33	0.00	18.67	1.67	0.00	9.00	156.14
43	43	53	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
				Chugach																								
12	12	18	M	Chenega Bay K-12 School Rehabilitation	30.00	10.09	0.00	20.00	1.16	0.00	0.00	0.00	10.00	15.00	10.00	3.67	3.00	3.00	2.67	3.00	0.00	29.00	0.00	20.33	2.67	0.00	15.33	178.92
17	17	24	M	Tatitlek K-12 School Rehabilitation	27.00	15.12	0.00	20.00	1.16	0.00	0.00	0.00	10.00	15.00	10.00	3.67	3.00	3.00	2.67	3.00	0.00	27.00	0.00	19.67	0.00	0.00	14.67	174.95
				Copper River																								
20	20	26	M	District Office Roof Renovation and Energy Upgrade	30.00	30.00	0.00	10.00	1.59	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.33	3.00	3.00	3.67	0.00	21.00	0.00	15.00	4.00	0.00	9.33	172.26
51	51	59	M	Glenallen Voc-Ed Facility Renovation	27.00	5.44	0.00	10.00	1.59	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.33	3.00	3.00	3.67	0.00	15.67	0.00	15.33	3.33	0.00	8.67	138.36

Alaska Department of Education and Early Development
Capital Improvement Projects (FY2019)
School Construction/Major Maintenance by District

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Final List

Jan 19	Dec 20	Nov 6		Project Name	School District Ranking	Weighted Avg Age Facilities	Previous 14.11 Funding	Plan and Design	Avg Expend Maint	Un-housed Today	Un-housed 7 Years	Type of Space Add/Imp	Cond Survey	Maint Labor	Maint Type	Maint Mgt	Energy Mgt	Cusd Pgm	Maint Train	Capital Plan	Emerg ency	Life/Safety and Code Conditions	Exist-ing Space	Cost Est-imate	Proj vs Oper Cost	Alter-na-tives	Op-tions	Total Points
				Craig City																								
9	9	19	M	Craig Middle School Gym Floor Replacement	24.00	24.75	0.00	25.00	2.74	0.00	0.00	0.00	8.00	15.00	10.00	3.33	3.67	3.00	3.00	3.00	6.67	8.00	2.00	27.33	2.33	0.00	10.00	181.82
18	18	29	M	Craig Elementary School Door And Flooring Replacement	30.00	23.00	0.00	25.00	2.74	0.00	0.00	0.00	5.00	15.00	10.00	3.33	3.67	3.00	3.00	3.00	0.00	5.67	2.00	28.00	2.33	0.00	9.33	174.07
19	19	30	M	Craig Middle School Siding and Windows	27.00	21.56	0.00	10.00	2.99	0.00	0.00	0.00	10.00	15.00	10.00	3.67	3.67	3.67	3.33	3.33	0.00	17.67	0.00	28.00	3.67	0.00	9.67	173.22
55	55	66	M	Craig High School Biomass Boiler	21.00	3.00	0.00	10.00	2.99	0.00	0.00	0.00	5.00	15.00	10.00	3.67	3.67	3.67	3.33	3.33	0.00	1.00	0.00	15.67	17.00	0.00	18.00	136.32
				Denali Borough																								
2	2	4	M	Cantwell K-12 School Roof Replacement	27.00	24.53	0.00	25.00	3.99	0.00	0.00	0.00	10.00	15.00	10.00	3.67	4.00	4.33	3.33	4.33	0.00	20.33	1.67	24.00	6.33	0.00	9.00	196.51
13	13	25	M	Tri-Valley School Coal Heat Conversion	30.00	3.50	0.00	25.00	4.69	0.00	0.00	0.00	10.00	15.00	10.00	4.00	4.33	3.67	4.00	4.67	0.00	0.00	0.00	28.67	21.33	0.00	9.00	177.86
				Galena City																								
4	4	4	C	Galena Interior Learning Academy Classroom Building Upgrade	30.00	17.75	30.00	25.00	4.67	0.00	0.00	0.00	10.00	15.00	10.00	4.00	4.33	3.67	4.00	3.67	0.00	21.00	5.67	23.67	6.67	0.00	19.00	238.08
				Haines Borough																								
27	27	36	M	Haines High School Locker Room Renovation	30.00	30.00	0.00	10.00	1.82	0.00	0.00	0.00	5.00	15.00	10.00	3.33	3.00	2.67	2.67	3.33	0.00	18.33	0.00	14.00	4.33	0.00	10.00	163.49
40	40	49	M	Haines High School Roof Replacement	27.00	30.00	0.00	0.00	1.82	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.00	2.67	2.67	3.33	0.00	24.33	0.00	13.67	2.33	0.00	9.00	148.15
				Hoonah City																								
22	22	28	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																								
72	72	80	M	Blackwell K-12 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
76	76	84	M	David-Louis Memorial K-12 School HVAC Control Upgrades, Grayling	30.00	12.50	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	12.33	2.67	13.00	4.00	0.00	8.00	116.49
79	79	88	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
				Kake City																								
53	53	61	M	Kake High School Plumbing Replacement	30.00	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	137.92
63	63	71	M	Exterior Upgrades - Main School Facilities	27.00	23.24	0.00	0.00	1.50	0.00	0.00	0.00	0.00	15.00	10.00	4.33	5.00	3.33	4.00	4.00	0.00	5.67	0.00	13.33	2.33	0.00	10.00	128.74
65	65	73	M	Kake High School Gym Floor and Bleacher Replacement	24.00	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	128.26
				Ketchikan																								
4	4	9	M	Houghtaling Elementary Roof Replacement	30.00	30.00	0.00	20.00	4.61	0.00	0.00	0.00	8.00	15.00	10.00	3.67	3.33	3.00	2.00	3.33	0.00	22.67	0.00	20.00	3.67	0.00	9.67	188.94

Alaska Department of Education and Early Development
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Final List

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				Kuspuk																								
28	28	37	M	Jack Egnaty Sr. K-12 School Roof Replacement, Sleetmute	30.00	24.75	0.00	0.00	1.65	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.00	2.33	2.00	2.67	7.33	30.67	0.67	15.33	3.67	0.00	9.33	161.40
				Lower Kuskokwim																								
1	1	1	C	J Alexie Memorial K-12 School Replacement, Atmautluak	30.00	10.32	30.00	10.00	3.16	23.04	22.30	24.18	10.00	15.00	10.00	4.00	3.67	3.00	3.00	4.33	0.00	29.33	16.67	14.67	4.33	2.67	16.00	289.66
2	2	2	C	Eek K-12 School Renovation/Addition	27.00	23.56	0.00	10.00	3.24	25.53	22.74	21.86	10.00	15.00	10.00	4.33	3.67	3.00	3.00	4.33	1.67	15.33	21.33	17.00	4.33	3.00	19.33	269.27
3	3	3	C	Anna Tobeluk Memorial K-12 School Renovation/Addition, Nunapitchuk	24.00	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	268.62
5	5	5	C	Mertarvik K-12 School Newtok Replacement	15.00	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	182.50
7	7	7	C	Water Storage and Treatment, Kongiganak	18.00	0.00	0.00	20.00	3.16	0.00	0.00	0.00	10.00	15.00	10.00	4.00	3.67	3.00	3.00	4.33	0.00	19.33	0.00	18.00	3.00	2.33	11.33	148.16
8	8	15	M	Bethel Campus Fire Pump House and Fire Protection Upgrades	12.00	30.00	0.00	20.00	3.24	0.00	0.00	0.00	10.00	15.00	10.00	4.33	3.67	3.00	3.00	4.33	5.00	19.67	0.00	19.67	1.67	0.00	18.00	182.57
16	16	23	M	Nuniwaarmiut K-12 School Wastewater Upgrades, Mekoryuk	21.00	21.81	0.00	20.00	3.24	0.00	0.00	0.00	8.00	15.00	10.00	4.33	3.67	3.00	3.00	4.33	7.33	14.00	0.00	16.33	2.67	0.00	17.67	175.38
47	47	56	M	Bethel Regional High School Boardwalk Replacement	9.00	30.00	0.00	10.00	3.16	0.00	0.00	0.00	10.00	15.00	10.00	4.33	3.67	3.00	3.00	4.00	0.00	11.67	0.00	14.00	2.33	0.00	8.67	141.83
64	64	72	M	Akula Elitnauvik K-12 School Renovation, Kasigluk-Akula	3.00	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	128.66
73	73	81	M	Akiuk Memorial K-12 School Renovation, Kasigluk-Akiuk	6.00	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	118.40
				Lower Yukon																								
26	26	35	M	Hooper Bay K-12 School Exterior Repairs	27.00	0.00	0.00	25.00	2.24	0.00	0.00	0.00	8.00	15.00	10.00	2.67	3.00	3.00	3.33	4.33	0.00	17.67	0.00	27.33	4.33	0.00	12.33	165.24
30	30	39	M	Hooper Bay K-12 School Emergency Lighting and Retrofit	30.00	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	160.26
37	37	45	M	Scammon Bay K-12 School Emergency Lighting and Retrofit	24.00	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	152.76
54	54	62	M	Scammon Bay K-12 School Siding Replacement	18.00	0.50	0.00	20.00	2.24	0.00	0.00	0.00	8.00	15.00	10.00	2.67	3.00	3.00	3.33	4.33	0.00	14.67	0.00	16.67	4.00	0.00	11.00	136.41
68	68	76	M	Ignatius Beans K-12 School Marine Header Pipeline	21.00	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	124.95
77	77	86	M	LYSD Central Office Renovation	15.00	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	114.79
82	82	91	M	Sheldon Point K-12 School Siding Replacement, Nunam Iqua	12.00	0.00	0.00	0.00	2.24	0.00	0.00	0.00	5.00	15.00	10.00	2.67	3.00	3.00	3.33	4.33	0.00	9.67	0.00	12.67	3.33	0.00	8.00	94.24
83	83	92	M	Security Access Project, 6 Sites	9.00	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	77.03
84	84	93	M	Kotlik and Pilot Station K-12 Schools Renewal and Repair	6.00	2.00	0.00	0.00	2.24	0.00	0.00	0.00	5.00	15.00	10.00	2.67	3.00	3.00	3.33	4.33	0.00	2.00	0.00	12.33	0.00	0.00	5.00	75.91

Alaska Department of Education and Early Development
Capital Improvement Projects (FY2019)
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Final List

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				Mat-Su Borough																								
46	46	55	M	Districtwide Seismic Upgrades, Phase 1	27.00	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	142.10
48	48	57	M	Water System Replacement, Big Lake, Butte, Snowshoe Elementary Schools	30.00	25.80	0.00	10.00	2.43	0.00	0.00	0.00	0.00	10.00	10.00	3.67	2.67	2.67	3.33	3.00	6.33	12.67	1.67	11.33	0.67	0.00	4.67	140.89
78	78	87	M	Windows and Lighting Upgrades, Butte Elementary, Palmer High School	24.00	28.06	0.00	0.00	2.43	0.00	0.00	0.00	0.00	10.00	10.00	3.67	2.67	2.67	3.33	3.00	0.00	5.67	1.33	10.00	3.33	0.00	2.67	112.83
				Nenana City																								
21	21	27	M	Nenana K-12 School Flooring and Asbestos Abatement	30.00	30.00	0.00	25.00	3.16	0.00	0.00	0.00	0.00	15.00	10.00	3.67	3.33	3.67	3.00	4.00	0.00	5.67	0.00	23.67	3.00	0.00	9.00	172.16
23	23	31	M	Nenana K-12 School Boiler Replacement	27.00	30.00	0.00	20.00	3.16	0.00	0.00	0.00	0.00	15.00	10.00	3.67	3.33	3.67	3.00	4.00	0.00	14.67	0.00	19.67	3.67	0.00	9.33	170.16
52	52	60	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
				Nome City																								
11	11	17	M	Nome Beltz Jr/Sr High School Partial Roof Replacement	30.00	30.00	0.00	10.00	2.19	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.67	2.67	3.33	4.00	0.00	20.00	0.00	20.00	7.67	0.00	8.33	180.19
32	32	41	M	Nome Elementary School Gym Flooring Replacement	27.00	12.50	0.00	25.00	2.19	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.67	2.67	3.33	4.00	0.00	6.67	2.33	28.67	1.33	0.00	9.67	157.35
49	49	58	M	Anvil City Charter School Restroom Renovations	24.00	30.00	0.00	10.00	2.19	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.67	2.67	3.33	4.00	0.00	8.67	2.33	13.33	2.33	0.00	6.00	140.85
60	60	68	M	Nome Beltz Jr/Sr High School Generator and Electrical Service Replacement	21.00	30.00	0.00	10.00	2.19	0.00	0.00	0.00	0.00	15.00	10.00	3.33	3.67	2.67	3.33	4.00	0.00	7.33	0.00	13.33	0.67	0.00	6.33	132.85
				Northwest Arctic																								
6	6	12	M	Davis Ramoth K-12 School Window Replacement, Selawik	30.00	9.70	0.00	25.00	2.77	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.00	3.00	2.67	3.67	0.00	12.67	0.00	26.00	20.67	0.00	10.00	187.47
				Petersburg Borough																								
10	10	22	M	Petersburg Middle/High School Entry Renovation	27.00	30.00	0.00	25.00	1.31	0.00	0.00	0.00	8.00	15.00	10.00	4.67	5.00	4.33	4.00	4.00	0.00	5.00	0.00	28.33	1.67	0.00	8.33	181.65
15	15	32	M	Petersburg Middle/High School Underground Storage Tank Replacement	30.00	16.00	0.00	25.00	1.31	0.00	0.00	0.00	10.00	15.00	10.00	4.67	5.00	4.33	4.00	4.00	0.00	11.00	0.00	24.67	1.33	0.00	9.67	175.98
				Saint Marys																								
1	1	6	M	St. Mary's Campus Upgrades	30.00	30.00	30.00	25.00	1.36	0.00	0.00	0.00	8.00	15.00	10.00	3.67	3.33	4.00	4.00	3.67	0.00	11.00	0.00	25.33	6.00	0.00	9.67	220.03
				Sitka City Borough																								
41	41	50	M	Keet Gooshi Heen Elementary Covered PE Structure Renovation	30.00	11.00	0.00	10.00	1.35	0.00	0.00	0.00	10.00	15.00	10.00	3.67	3.33	3.00	3.33	3.00	0.00	15.33	0.00	15.00	3.00	0.00	10.00	147.02
				Southeast Island																								
8	8	8	C	Kasaan K-12 School Covered Play Area Construction	12.00	21.25	0.00	0.00	3.04	0.00	5.48	15.00	0.00	15.00	10.00	3.33	3.33	2.33	3.00	3.00	0.00	0.00	17.00	13.00	0.00	3.33	9.00	139.11
10	10	10	C	Thorne Bay K-12 School Playground Upgrades	15.00	9.17	0.00	10.00	2.93	0.00	0.00	0.00	0.00	15.00	10.00	3.00	3.33	2.67	2.33	2.67	0.00	12.67	0.00	13.33	1.33	3.00	9.33	115.77

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Final List

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7	7	14	M	Thorne Bay Maintenance Building Roof Replacement	27.00	30.00	0.00	20.00	3.04	0.00	0.00	0.00	10.00	15.00	10.00	3.33	3.33	2.33	3.00	3.00	5.00	19.33	0.00	15.67	2.33	0.00	10.33	182.71
29	29	38	M	Thorne Bay K-12 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	160.30
45	45	54	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	143.30
56	56	63	M	Thorne Bay K-12 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	136.30
71	71	79	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	119.30
75	75	83	M	Port Alexander K-12 Domestic Water Pipe Replacement	6.00	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	116.76
80	80	89	M	Port Alexander and Thorne Bay K-12 Schools Roof Replacement	9.00	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	108.87
				Southwest Region																								
35	35	43	M	Manokotak K-12 School Sewer and Water Upgrade	30.00	2.50	0.00	25.00	2.07	0.00	0.00	0.00	0.00	15.00	10.00	3.33	2.67	2.67	2.67	2.33	0.00	12.00	0.00	28.00	7.00	0.00	10.67	155.90
39	39	48	M	Twin Hills K-8 School Renovations	27.00	26.50	0.00	0.00	2.07	0.00	0.00	0.00	8.00	15.00	10.00	3.33	2.67	2.67	2.67	2.33	0.00	17.33	0.00	12.00	6.67	0.00	10.00	148.24
57	57	65	M	William "Sonny" Nelson K-8 School Renovations, Ekwok	21.00	24.75	0.00	0.00	2.07	0.00	0.00	0.00	8.00	15.00	10.00	3.33	2.67	2.67	2.67	2.33	0.00	17.00	0.00	11.67	3.33	0.00	9.33	135.82
59	59	67	M	Aleknagik K-8 School Renovations	24.00	19.50	0.00	0.00	2.07	0.00	0.00	0.00	8.00	15.00	10.00	3.33	2.67	2.67	2.67	2.33	0.00	16.00	0.00	12.33	3.00	0.00	9.33	132.90
				Yukon Flats																								
31	31	40	M	Chalkyitsik K-12 School Water Tank Replacement	30.00	23.73	0.00	10.00	2.67	0.00	0.00	0.00	8.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	7.67	11.33	0.00	13.67	2.33	0.00	9.67	158.39
33	33	42	M	Venetie K-12 School Generator Building Renovation	24.00	14.25	0.00	10.00	2.67	0.00	0.00	0.00	8.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	6.00	20.00	0.00	14.33	4.67	0.00	13.67	156.92
38	38	47	M	Beaver and Chalkyitsik K-12 School Boiler and Control Upgrades	27.00	16.96	0.00	10.00	2.67	0.00	0.00	0.00	10.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	0.00	15.67	0.00	12.67	7.00	0.00	8.67	149.96
62	62	69	M	Fort Yukon K-12 School Soil Remediation and Fuel Tank Replacement	21.00	30.00	0.00	0.00	2.67	0.00	0.00	0.00	0.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	5.00	12.67	0.00	11.00	0.00	0.00	9.00	130.67
67	67	75	M	Cruikshank K-12 School Soil Remediation and Fuel Tank Replacement, Beaver	18.00	30.00	0.00	0.00	2.67	0.00	0.00	0.00	3.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	0.00	12.00	0.00	11.67	0.00	0.00	8.67	125.33
74	74	82	M	Venetie K-12 School Soil Remediation and Fuel Tank Replacement	15.00	30.00	0.00	0.00	2.67	0.00	0.00	0.00	0.00	15.00	10.00	2.33	2.67	2.67	3.33	3.33	0.00	11.00	0.00	10.67	0.00	0.00	8.67	117.33
				Yukon-Koyukuk																								
5	5	11	M	Allakaket K-12 School Renovation	30.00	23.97	0.00	20.00	2.99	0.00	0.00	0.00	8.00	15.00	10.00	3.33	3.33	3.33	2.67	3.00	0.00	19.67	4.33	18.67	4.67	0.00	14.67	187.63
42	42	51	M	Ella B. Vernetti K-8 School Entry Access Repairs, Koyukuk	27.00	14.28	0.00	10.00	3.02	0.00	0.00	0.00	0.00	15.00	10.00	3.67	2.67	3.00	2.33	3.00	5.00	19.67	0.00	16.67	2.33	0.00	9.33	146.97

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69	69	78	M	Ella B. Vernetti K-8 School Boiler Replacement, Koyukuk	24.00	14.28	0.00	0.00	3.02	0.00	0.00	0.00	0.00	15.00	10.00	3.67	2.67	3.00	2.33	3.00	0.00	10.67	0.00	12.33	6.00	0.00	11.67	121.63
	Yupiit																											
11	11	11	C	Playground Construction, 3 Schools	24.00	0.69	0.00	10.00	1.97	0.00	0.00	0.00	0.00	10.00	10.00	3.00	2.33	2.00	3.33	2.67	0.00	6.67	2.67	10.00	0.00	1.00	8.00	98.33
25	25	34	M	Tuluksak K-12 School Fuel Tank Replacement	30.00	30.00	0.00	10.00	1.97	0.00	0.00	0.00	8.00	10.00	10.00	3.00	2.33	2.00	3.33	2.67	4.00	20.00	0.00	15.67	2.67	0.00	9.67	165.30
81	81	90	M	Mechanical System Improvements, 3 Schools	27.00	0.69	0.00	0.00	1.97	0.00	0.00	0.00	0.00	10.00	10.00	3.00	2.33	2.00	3.33	2.67	0.00	8.00	0.00	15.33	5.33	0.00	9.67	101.33

PM State-of-the-State

Report of DEED Maintenance Assessments and Related Data

AS OF 8/15/2017

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	Maximo*	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	**4/1/2013**	**2018**	**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	**4/3/2013**	**2018**	**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	**5/7/2013**	**2018**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**5 of 5**	**W**	**Web Help Desk**	**Yes**
Galena	**5/8/2013**	**2018**	**Y**	**Y**	**Y**	**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^P	Y	5 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	2019	Y	Y	Y	Y	Y	Y	5 of 5	W	Maximo*	Yes
Kenai Peninsula	**2/26/2013**	**2018**	**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^P	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	L	File Maker Pro	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^P	Y	Y	Y	5 of 5	W	School Dude	Yes
North Slope Borough	**5/21/2013**	**2018**	**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	**2/14/2013**	**2018**	**Y**	**Y**	**Y**	**Y**	**Y**	**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^P	Y	Y^P	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	**5/9/2013**	**2018**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**5 of 5**	**W**	**Maximo***	**Yes**
Unalaska City	12/18/2014	2019	Y	Y	Y	Y	Y	Y	5 of 5	W	School Dude	Yes
Valdez City	**3/14/2013**	**2018**	**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	51			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.

School Capital Project Funding Under SB 237

Excerpts from 2018 Report

Total Funding Summary by Fiscal Year

	Construction		Maintenance	
Fiscal Year	City/Borough	REAA	City/Borough	REAA
FY2011	$500,000	$128,500,000	$112,973,055	$2,965,455
FY2012	$317,164,997	$61,910,901*	$87,306,741	$21,752,950
FY2013	67,875,000	$60,973,515	$12,616,492	$16,012,693
FY2014	$36,839,182	$60,619,572	$109,210,116	$15,563,759*
FY2015	$18,018,647	$31,516,900	$7,097,638	$0
FY2016	$43,237,400	$0	$0	$2,623,689*
FY2017	$10,867,503	$62,867,968	$0	$0
FY2018	$7,238,422	$39,067,055	$0*	$0*
Totals	$501,741,151	$445,455,911	$329,204,042	$58,918,546

Total Funding Summary by Program

	Construction		Maintenance	
Program	City/Borough	REAA	City/Borough	REAA
Grant	$73,106,216	$445,455,911	$35,317,035*	$58,918,546*
Debt	$428,634,935	$0	$293,887,007	$0
Totals	$501,741,151	$445,455,911	$329,204,042	$58,918,546

Total Funding Summary by Fiscal Year and Program

	Construction		Maintenance	
Program	City/Borough	REAA	City/Borough	REAA
FY2011 Grant	$0	$128,500,000	$21,821,504	$2,965,455
FY2011 Debt	$500,000	$0	$91,151,551	$0
FY2012 Grant	$0	$61,910,901*	$4,101,741	$21,752,950
FY2012 Debt	$317,164,997	$0	$83,205,000	$0
FY2013 Grant	$0	$60,973,515	$1,966,492	$16,012,693
FY2013 Debt	$67,875,000	$0	$10,650,000	$0
FY2014 Grant	$0	$60,619,572	$7,427,298	$15,563,759*
FY2014 Debt	$36,839,182	$0	$101,782,818	$0
FY2015 Grant	$11,762,891	$31,516,900	$0	$0
FY2015 Debt	$6,255,756	$0	$7,097,638	$0
FY2016 Grant	$43,237,400	$0	$0	$2,623,689*
FY2016 Debt	$0	$0	$0	$0
FY2017 Grant	$10,867,503	$62,867,968	$0	$0
FY2017 Debt	$0	$0	$0	$0
FY2018 Grant	$7,238,422	$39,067,055	$0*	$0*
FY2018 Debt	$0	$0	$0	$0
Totals	$501,741,151	$445,455,911	$329,204,042	$58,918,546

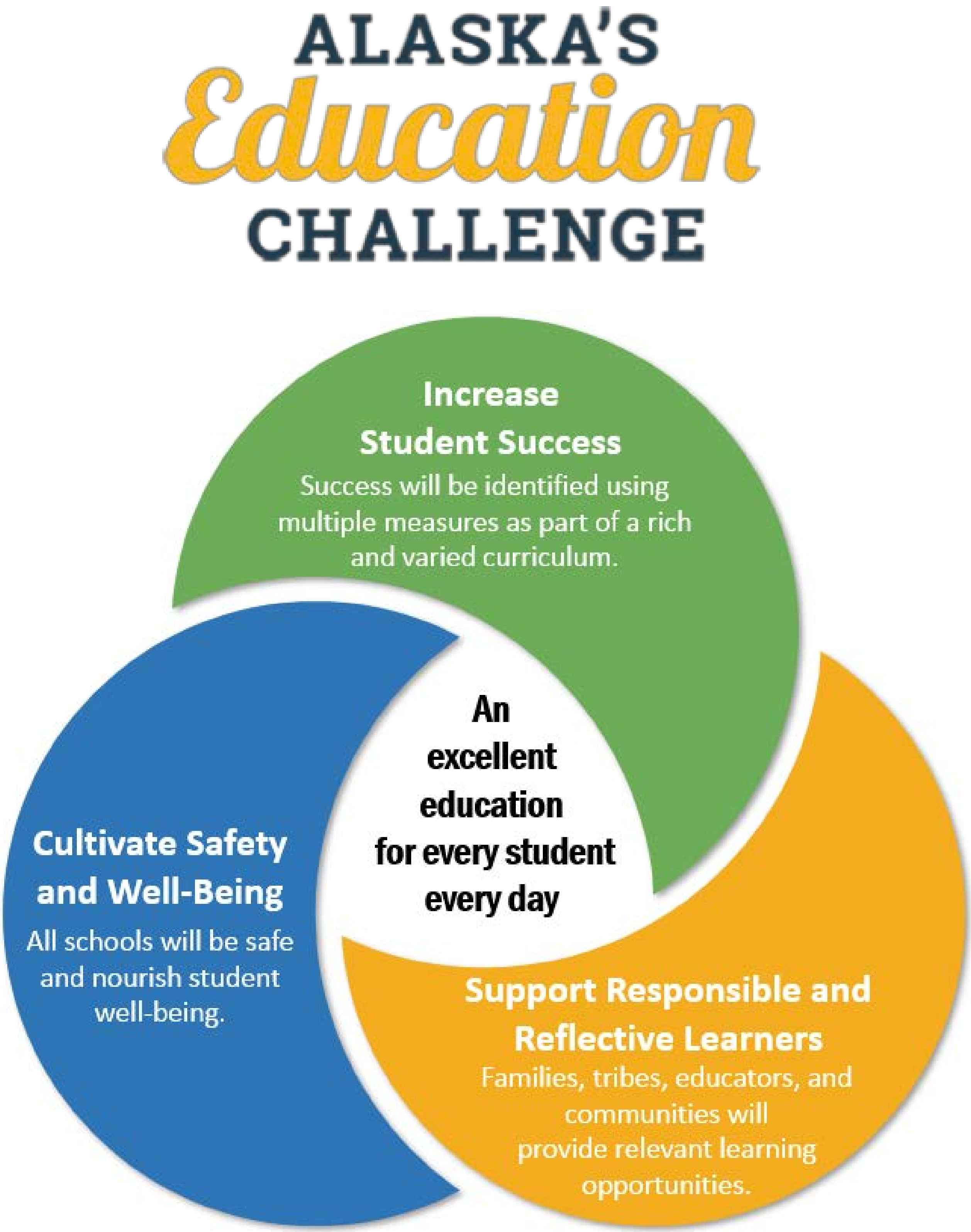
**Grant projects with funds approved before 7/1/2010 show the amount less the reappropriated money so that this report accurately represents funding only during the stated reporting period.*

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

As of:
Wednesday, February 21, 2018

	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	*Projected* FY2019	Total
Deposits:								
REAA Fund Capitalization	35,512,300	35,200,000	39,921,078	38,789,000	31,230,000	40,640,000	39,661,000	260,953,378
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	261,822,906
REAA-funded Capital Project Funded Projects:								
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			40,343,416
Jimmy Huntington K-12 Renovation/Addition, Huslia	-	-	-	-	15,394,787	980,000		16,374,787
Shishmaref K-12 School Renovation/Addition	-	-	-	-	-	16,184,008		16,184,008
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*	2,481,373
	-	-	-	-	-	-		-
Subtotal REAA-funded Projects	-	71,180,482	40,475,000	-	62,867,968	39,067,055	42,037,459	255,627,964
Reconciliation of Available Funds:	**35,630,506**	**18,166**	**(152,576)**	**38,636,424**	**6,998,456**	**8,571,401**	**6,194,942**	**6,194,942**

Meeting Alaska's Education Challenge



Commitment: Cultivate Safety and Well-Being

Recommendations and rationale are presented as submitted by the Alaska's Education Challenge committees.

Recommendation: School Climate

Every Alaska school must work to create a sustainable and positive school climate that is safe, supportive, and engaging for all students, families, staff, and communities.

Rationale

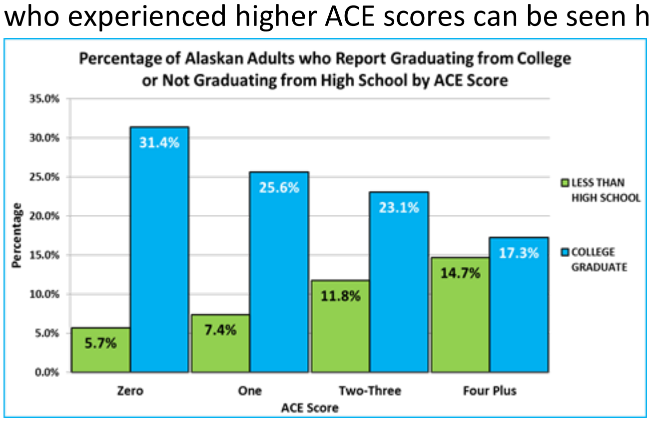
- School Climate
  - The climate of a school is the visceral, almost palpable, 'sense' of safety and belonging that people experience on site. It can be described as warm or cool, safe or unsafe.
  - Research shows that a positive school climate directly impacts indicators of school success such as increased teacher retention, lower dropout rates, decreased incidences of violence, and higher student achievement. A positive school climate promotes student learning and healthy development.
  - To transform our schools in Alaska and achieve breakthrough results, we must place school climate as one of our highest priorities.
- School Connectedness and Understanding of School Expectations
  - In a 2012 study conducted by Anchorage United for Youth, it was found that the more protective factors youth report in their life, the greater their likelihood of decreased risk factors (alcohol use, binge drinking, marijuana use, school absenteeism) and increased positive behaviors (attending school regularly, getting As and Bs in school). School climate factors such as believing teachers care about students, clear boundaries and consequences, feeling safe at school, having positive norms, and positive, meaningful youth engagement, all bolster these protective factors that create an environment in which students make healthy choices.
  - 2015 Statewide Alaska Youth Risk Behavior Survey data shows that 62% of students in traditional high schools feel their teachers really care about them and show them encouragement and 66% feel that their schools have clear rules and consequences for behavior. These data points indicate a tremendous opportunity to improve school climate.
- Bullying
  - Bullying of students both on and off school grounds is a growing concern.
  - 2015 Youth Risk Behavior Survey: 8.8% of Alaska high school students reported not going to school on at least one day in the last 30 days before the survey because they felt unsafe at school or on their way to or from school. This percentage has been increasing since 2007.
  - Every school year since DEED began collecting data in 2007, between 1400 and 2100 student suspensions for bullying, harassment, and intimidation have occurred in Alaska K-12 public schools. This data reflects only the most severe incidents.
  - According to the 2015 Alaska Youth Risk Behavior Survey, 22.8% of high school students at traditional high schools were bullied on school property and 17.7% were electronically bullied in the last year.
- Absenteeism

- School climate impacts school attendance and Alaska's rate of chronic absenteeism is about twice the national average.
- Alaska Department of Education data show 243,772 full-day unexcused absences were reported by Alaska school districts during 2015-2016 school year. (129,588 students were enrolled in public schools in 2015-2016 school year.)
- The Alaska Department of Education data shows 15,154 students, or approximately one in every 9 students were truant during the 2015-2016 school year. (Truancy in Alaska is defined as five or more full days of unexcused absence during any school year.)

Recommendation: Trauma-Engaged Schools

Alaska's schools will create a culturally humble (responsive) and safe environment that recognizes the needs of the whole child, institutes trauma informed practices, and understands the vital importance of building all relationships surrounding every child to improve resiliency, health, and academic outcomes.

Rationale

- Adverse Childhood Experiences
  - Unfortunately, Adverse Childhood Experiences or ACEs are common for our children in Alaska as well as for children nationwide. Indeed, in Alaska, for preschool children from birth to age 5, 40.2%; for elementary students age 6-11, 51.9%; and for middle and high school aged students ages 6-12, 61.7%; have already experienced at least one ACE. As educators, we see the impact trauma has on children and youth every day, as they cannot help but bring it to school.
  - ACEs often adversely impact students' behavior and their ability to learn, but exciting advances in understanding of trauma and how to address it in school settings have emerged over the past decade. This understanding offers public education a tremendous opportunity to improve the health and academic outcomes for countless students.
  - Changes to current school practices, policies, and philosophy that better meet the needs of students struggling with the impacts of trauma will strengthen relationships with students, educators, families, and their communities and transform the educational experience for both vulnerable students and the school staff who support them.
- Adverse Childhood Experiences and Educational Achievement
  - Alaskan adults who have experienced four ACEs are approximately two and a half times less likely to have graduated from high school. Additionally, Alaskans with four ACEs are about half as likely to have graduated from college. Educational achievement outcomes for Alaskan adults who experienced higher ACE scores can be seen here.
  - 

- Disciplining Trauma-Based Behavior
  - In the 2015-2016 School Year, there were 10,160 in-school and 10,381 out-of-school suspensions for a total of 20,585 student suspensions in Alaska public schools.
  - 1 in every 13 students was suspended or expelled during the 2015-2016 school year. Most of these suspensions were for non-violent student behaviors.
  - A review of the data suggests that a majority of these suspensions and expulsions were for nonviolent and non-safety-related incidents. With our growing awareness of the impact of trauma, we are compelled to find alternatives that reduce disciplinary actions that remove students from the classroom.
  - Restorative Practices: "The widespread overuse of suspensions and expulsions has tremendous costs. Students who are suspended or expelled from school may be unsupervised during daytime hours and cannot benefit from great teaching, positive peer interactions, and adult mentorship offered in class and in school. Suspending students also often fails to help them develop the skills and strategies they need to improve their behavior and avoid future problems. Suspended students are less likely to graduate on time and more likely to be suspended again, repeat a grade, drop out of school, and become involved in the juvenile justice system." (US Department of Education 2014)

Recommendation: Student Health

To ensure the physical and mental health needs of all students in all schools are addressed, students enrolled in public education will have direct access to school nursing/health and counseling services.

Rationale

- Universal school access to nursing and counseling services
  - We know that in order to learn, a student must first be healthy and safe. Despite this understanding, the physical and mental health needs of too many students go unaddressed in our schools.
  - Healthy students are better learners and academic achievement bears a lifetime of benefits for health.
  - School health services and counseling, psychological and social services are part of the Whole School, Whole Community, Whole Child model (WSCC) which promotes a collaborative approach designed to improve learning and health in our nation's schools.
  - School nurses, school counselors and other professionals play a key role in providing services and coordinating care by communicating with families and health care providers outside of the school setting. Unfortunately, not all students in all schools have the benefit of access to these professionals and the critical services they provide.
- Nurses
  - Traditionally, the school nursing role was designed to support educational achievement by promoting student attendance. Over the past century, the role of the school nurse has expanded to include critical components, such as surveillance, chronic disease management, emergency preparedness, behavioral health assessment, ongoing health education, extensive case management, and much more. Although the position has taken on a more comprehensive approach, the core focus of keeping students healthy and in school remains unchanged.

- Nationally:
  - 6% of children missed 11 or more days of school in the past 12 months due to illness or injury.
  - 13% to 18 % of children and adolescents have some sort of chronic health condition.
  - Seven million, or 9.4% of all children have asthma.
  - 8% of all children have a food allergy, with almost 40% of them having a history of a severe reaction.
  - It is estimated that at least twenty percent of Alaska school children do NOT have a school nurse to provide health services in their schools. At least another 10% percent have less than the absolute minimum level of services as recommended by the American Academy of Pediatrics (AAP), the National Association of School Nurses (NASN) and Healthy People 2020. Only 18.2% of secondary schools in Alaska have a full-time registered nurse, compared to 43.9% nation-wide. (2012 CDC School Profiles Survey for Alaska)

- School Counselors
  - School counselors serve as a first line of defense in identifying and addressing student social/emotional/mental health needs within the school setting. They provide education, prevention, and crisis and short-term intervention until the student is connected with available community resources. Students' unmet mental health needs can be a significant obstacle to student academic achievement, career and social/emotional development and even compromise school safety. Schools are often one of the first places where mental health crises and needs of students are recognized and initially addressed.
  - 20% of students are in need of mental health services, yet only 1 out of 5 of these students receive the necessary services.
  - In Alaska, 33.6% to 44.6% high school students reported feeling so sad or hopeless almost every day for two or more weeks in a row that they stopped doing some of their usual activities.
  - Alaska's overall suicide rate is almost twice the national average—currently Alaska's rate is the highest in the nation. In 2015, suicide was the leading cause of death for people ages 14-19.
  - Of school-age children who receive any behavioral and mental health services, 70%–80% receive them at school.
  - 31% of Alaska school districts do not have school counselors & 36% of Alaska schools do not have access to school counseling services.

How DEED Can Support Implementation of the Recommendations

In October 2017, five committees presented 13 recommendations to the State Board of Education. The recommendations were comprehensive and connected. DEED staff reviewed the recommendations and created an inward-focusing graphic that identifies and organizes the overlapping ideas based on where the work would best fit within the department. Many of the recommendations overlap across divisions, DEED as a whole, as well as with stakeholders. This overlap provides the opportunity to continue the collaborative work that built these recommendations, which will be required to accomplish the work.

DEED is comprised of three K-12 divisions that have a specific focus. The Division of Student Learning is responsible for academic standards, statewide assessments, and federal programs. The Division of Educator and School Excellence is responsible for educator professional development, teacher certification, school improvement efforts, and student health and well-being. The Division of Finance and Support Services is responsible for providing services and support to districts through funding, facilities, and child nutrition.

Effective planning and facilitation of this work will benefit from a variety of voices with a broad range of experience.

THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Education
and Early Development

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M E M O R A N D U M

To: Interested Parties

Date: March 23, 2018

From: Tim Mearig
Facilities Manager
Finance & Support Services

Subject: Department Publication Update:
Release for Public Comment
Reimbursement Request

All,

The Department of Education & Early Development (DEED) is opening a period of public comment on its draft 3rd Edition Alaska School Facilities Preventive Maintenance and Facility Management Handbook. The purpose of this memorandum is to highlight several unique elements of the draft document which may require unusual levels of comment and participation. Excerpted below is the purpose statement for the document along with a description of its structure.

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 the 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.

In order to function effectively; in order to achieve the goals set out in purpose statements two and three, sections of the publication are dependent on a broader base of real-world experience than is available solely at DEED. Input and assistance in the following areas is needed:

1. Sustaining a Maintenance Management Program
2. Implementing and Sustaining an Energy Management Program
3. Implementing and Sustaining a Custodial Program
4. Implementing and Sustaining a Capital Planning Program
5. Facility Audits and Periodic Inspections
6. Facility Management Budgeting and Funding
7. Commissioning
8. Managing Contracted Staff and Privatized Activities
9. Evaluating Your Maintenance Program
10. Environmental Safety
11. Portable Devices in the Maintenance Workflow
12. Electronic O&M Manuals

The department intends to invite interested parties to a series of conference calls over the next 8 weeks to facilitate assistance in developing this draft document. Please feel free to contact me if you are interested but have not been contacted by the department.

Alaska School Facilities Preventive Maintenance & Facility Management Handbook

State of Alaska - Department of Education & Early Development
~~Education~~ Finance & Support Services / Facilities

3rd Edition
July 2018

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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 ~~1997~~ earlier editions and responded to the Department of Education & Early Development with comments for this 3rd Edition.

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Background

~~Preventive Maintenance Handbook~~

The primary focus of the original 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 merely a 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 legislations 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 all districts beyond a point of being stuck in a world of perpetual “breakdown maintenance” where nothing is done until the equipment breaks down. This type of maintenance is detrimental to the taxpayer, maintenance personnel, and to the students and staff in our schools.

Statutory Authority

~~Alaska Statutes~~

Alaska ~~statutes~~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 14.11.011
(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;

Statutory Authority

(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.

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 school construction fund or major maintenance fund 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))

~~Facility Management~~Regulatory Requirements

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

~~Facility Management~~Regulatory Requirements

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

~~Overview~~Facility Management as a Strategy

~~The goal of preventive maintenance, as a component of a facilities maintenance system, is to maximize the useful life of all building systems. Just as maintenance is an aspect of facility management that impacts most other areas of the total facility operation, so to preventive maintenance, as a philosophy, has a broad influence on the total maintenance effort. At its heart, preventive maintenance asks, "What can I do to make this item – be it an automobile, building, or piece of equipment – remain as good as new for as long as practicable?"~~

~~Many discussions of maintenance relegate preventive maintenance to a small role, for example:~~

> ~~"Preventive maintenance (PM) is defined in the maintenance management audit as periodically scheduled work on selected equipment, usually dynamic, to provide for required inspection, lubrication and adjustment."[1]~~

~~However, a broader application of the term 'preventive maintenance' is desirable to avoid fragmentation of the maintenance system into multiple subcomponents where routine, preventive, regular, scheduled, recurring and other variations of maintenance each have their own definition. For the purposes of meeting the requirements and intent of Alaska Statutes, the Department of Education & Early Development (EED) encourages a vision of preventive maintenance as all activities that can be **regularly scheduled** to prevent premature failure or to maximize the useful life of a facility. Preventive maintenance applies to all building systems and components. Scheduled activities will include items such as roof inspections, repainting, and door hardware adjustments, as well as more traditional items such as bearing lubrication and belt replacements on HVAC equipment.~~

~~It is essential that school boards and school district administrators and staff demonstrate a commitment to this vision – scheduled maintenance on the full range of building systems – when acting on their responsibility to manage district facility assets. To meet the duties of school boards specified in statute, preventive maintenance should be a key element of a school board's mission statement.~~

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, 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

Facility Management Overview

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 through integration and local 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 and replacing components 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 for implementing a comprehensive facility management program 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 Overview

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.

~~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 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 school construction fund or major maintenance fund must provide "evidence that the project should be a capital improvement project and not part of a preventive maintenance program, or regular custodial care."~~

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

Facility Management Overview

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
[Forum Guide to Facility Information Management: A Resource for State and Local Education Agencies, 2018, p.15] *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]

[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* at https://nces.ed.gov/forum/pub_2005801.asp and the *Forum Guide to Taking Action with Education Data* at 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* at 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* at https://nces.ed.gov/forum/pub_2013801.asp.

Facility Management Overview

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 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.

[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
X

Retro Commissioning
X

Example/Vignette

Maintenance Management

Developing a ~~Preventive~~ 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 and appurtenances. 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;

Maintenance Management

- 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 computer programs on the market that are specifically designed for such purpose; the 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.

While selecting a suitable CMMS to meet the needs of their school district, school officials are cautioned about purchasing extra options which are neither required by statute or regulation nor useful to the school district. Marketing companies 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 offer poor customer service which quickly becomes problematic during initial setup. Most of these programs are web-based and consume a good portion of band-width 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 preceding description of modern CMMS has 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 may be somewhat crude, it can possibly meet the needs of 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 specifically designed for school districts is measureable, especially for larger school districts. The bottom line is that good school maintenance costs money, but the long-term return on investment is invaluable. Each district needs to implement a functional maintenance management plan that meets its needs and those mandated by state statutes and regulations.

Record keeping is part of maintenance. ~~By law, school districts have two main~~

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~~responsibilities regarding preventive maintenance. The first of these responsibilities is to *develop* a preventive maintenance program, the second is to *implement* the program. This section offers guidance in developing an effective preventive maintenance program.~~

~~Preventive maintenance has to be intentional. The Encyclopedia of Architecture states, "Preventive maintenance programs should not be thought of as spontaneous natural events that will occur in the passage of time to meet the needs of the systems in place. Preventive maintenance programs begin with the acceptance of a need and the development of a considered, planned program for addressing the individual and different needs of each specific unit or system in a project."[2]~~

~~Many districts have already developed a traditional preventive maintenance program for various types of mechanical and some electrical equipment and components. Industry leaders in the design and manufacture of this type of equipment have long advocated for and effectively promoted maintenance of their equipment. In the early stages, this effort consisted of operations and maintenance manuals. While these are still in use, advanced microprocessor-based diagnostic and control systems have supplemented their use.~~

~~In extending the scope of preventive maintenance to maintenance work on any building system or component that can be regularly scheduled, each district will be required to reassess their program's breadth and enhance it as necessary. The first step in this process is to identify the facilities that require preventive maintenance and their particular building systems and components that will respond effectively to preventive maintenance. The next step is to determine the present condition, establish a level of maintenance and write preventive maintenance tasks for each system or component.~~

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, affected 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. 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.

[ADDRESS NAMING CONVENTIONS AND EQUIPMENT ID HERE?]

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,

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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.
~~The department has established a baseline for a comprehensive preventive maintenance program by identifying facility systems and components that should be included in such a program. A list of the components can be found in Appendix A. While thorough, the list is not intended to be an exhaustive list of every component. From the list, select those systems and components that apply to each of the district's facilities. Districts may add items if necessary to create a complete plan.. Many buildings will 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, a specific preventive maintenance plan will need to be developed. The greater the number of differing systems and components, the greater effort will be necessary in both developing and implementing the preventive maintenance plan. Standardizing systems and components within a district offers measurable benefits to a district preventive maintenance plan. These benefits include reductions in inventory, reductions in preventive maintenance training and increases in productivity and quality of work.~~

~~The Appendix A list of systems and components is designed to dovetail with other facility assessment devices such as the CEFPI *Alaska School Facility Appraisal* and the EDD *Guide for School Facility Condition Survey*, as well as facilities audits outlined by literature from the Association of Physical Plant Adminstrators (APPA).~~

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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 ~~tracks or approaches are required~~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 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).

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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.

Maintenance Management

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.

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,~~For consideration,~~ 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.

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> 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.

Maintenance Management

Sustaining a Maintenance Management 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.].

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

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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

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(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.

Energy Management

Implementing an Energy Management Plan

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

Energy Management

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. One common, and helpful, step in establishing and communicating a vision is to provide a mission

> **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.
>
> **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 Program

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?

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:

Custodial Tasks	*Building Element/Feature*
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

Custodial Program

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

Equipment Needs

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.

Custodial Program

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.

Custodial Program

Implementing a Custodial Program

Implementation of a custodial program requires gathering and deploying resources you have identified in the planning stage.

Custodial Program

Sustaining a Custodial Program

[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 "

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.

Maintenance 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.

Maintenance 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

> **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.

Maintenance Training

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.

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.

Maintenance Training

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.

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.

> **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.

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.*

Capital planning is managing renewal and replacement plus so much more. A school district cannot efficiently maintain their facilities only through capital planning alone, nor can a school district manage 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 of the components, track repairs, maintenance, upgrades performed during the life, establish protocols for inspections during the life, modify the life expectancy based on condition and plan for the eventual replacement or rehabilitation of the component. 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.

Planning

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 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

Capital Planning

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.

Capital Planning

Implementing a Capital Planning Program

Introduction

Now that 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.

Capital Planning

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	6/02/1990
B-2	03MC02OB02	03MC02OB04	Wiel-Mclain Model 886	8/21/2018

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 Planning

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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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

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

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

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

Appendix A
Sample Systems and Components Inventory List

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

Air Handling Systems
- Air handling units
- Unit ventilators
- Fans
- Inlets/outlets
- Ducting systems
  - dampers
  - filters
  - mixing boxes
  - sound attenuators
- Humidifiers
- Dust collection systems

Cooling Systems
- Condensing units
- Compressors
- Heat exchangers
- Packaged A/C units
- Chillers
- Absorption units

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

Appendix A
Sample Systems and Components Inventory List

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

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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.	☐	

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Appendix D
Checklists

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(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.)

Appendix D
Checklists

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Best Practice

- ☐ Show comparison of energy consumption in each building over multi-year period.
- ☐ Identify causes of increased or decrease energy consumption.

(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.

(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?

Appendix D
Checklists

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(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 4-18-97.

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]

Life Cycle Cost Analysis Handbook

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Table of Contents

Introduction

For years, the architecture and construction industries have focused on two primary concerns in the creation of buildings. The first, of utmost importance to architects, is the design of a building. Is the building enjoyable to view and occupy? Does the organization of spaces enhance the user's program? The client expects an architect to be able to design a building that satisfies their aesthetic and functional goals.

The second concern, the primary focus of contractors, is the construction of a building. How will the building be built? How much will the building cost? The client expects a contractor to be able to construct a sound building for the estimated construction cost.

These are typically the primary concerns of a client when the idea of constructing a building is addressed, so it is no surprise that architects and contractors focus their efforts to this end. Granted, these are significant concerns; however, they are not the only concerns that should be addressed when planning for the future.

A third concern that is receiving more attention as building owners investigate the economics of facility management, is the cost of building operations over the life of a building. The combination of economic theory and computer technology allows for a more sophisticated approach to the design and construction of a facility than ever before. Instead of merely looking at the facility in terms of cost to design and build, owners can broaden their perspective to include operations, maintenance, repair, replacement, and disposal costs. The sum of initial and future costs associated with the construction and operation of a building over a period of time is called the life cycle cost of a facility.

The National Institute of Standards and Technology (NIST) Handbook 135, 1995 edition, defines **Life Cycle Cost (LCC)** as "the total discounted dollar cost of owning, operating, maintaining, and disposing of a building or a building system" over a period of time. Life Cycle Cost Analysis (LCCA) is an economic evaluation technique that determines the total cost of owning and operating a facility over period of time.

Life Cycle Cost Analysis can be performed on large and small buildings or on isolated building systems. Many building owners apply the principles of life cycle cost analysis in decisions they make regarding construction or improvements to a facility. From the homeowner who opts for vinyl siding in lieu of wood to the federal highway commission that chooses concrete paving over asphalt, both owners are taking into consideration the future maintenance and replacement costs in their selections. While initial cost is a factor in their decisions, it is not the only factor.

The guidelines incorporated in this handbook have been developed to assist Alaskan school districts, their consultants, and communities in evaluating the life cycle cost of school construction decisions. The guidelines are based on AS 14.11.013, which directs the Department of Education & Early Development (DEED) to review projects to ensure they are in the best interest of the state, and AS 14.11.014, which stipulates the development of criteria intended to achieve cost-effective school construction.

In response to these legislative directives, the department evaluates all school construction and major maintenance grant requests based on their initial and long-term costs, i.e. their life cycle cost. This handbook establishes the Life Cycle Cost Analysis technique and criteria by which educational facility construction alternatives are to be evaluated. It is important to note that the usefulness of a LCCA lies not in the determination of a total cost of a project alternative, but in the ability to compare the cost of project alternatives and to determine which alternative provides the best value per dollar spent.

Terminology of Life Cycle Cost Analysis

Life Cycle Cost Analysis is an essential design process for controlling the initial and the future cost of building ownership. LCCA can be implemented at any level of the design process and can also be an effective tool for evaluation of existing building systems. LCCA can be used to evaluate the cost of a full range of projects, from an entire site complex to a specific building system component. The Department of Education & Early Development has been charged with the responsibility of determining if a school capital project is in the best interest of the State of Alaska. The effective use of LCCA is vital in demonstrating that a school district's project request is not only the best solution for the district themselves, but also for the State of Alaska.

As defined earlier, Life Cycle Cost is the total discounted dollar cost of owning, operating, maintaining, and disposing of a building or a building system over a period of time. Keeping this definition in mind, one can breakdown the LCC equation into the following three variables: the pertinent **costs** of ownership, the period of **time** over which these costs are incurred, and the **discount rate** that is applied to future costs to equate them with present day costs.

Initial & Future Expenses

The first component in a LCC equation is cost. There are two major cost categories by which projects are to be evaluated in a LCCA. They are Initial Expenses and Future Expenses. **Initial Expenses** are all costs incurred prior to occupation of the facility. **Future Expenses** are all costs incurred after occupation of the facility. Appendix A outlines the individual costs that are to be evaluated within the two major cost categories.

Defining the exact costs of each expense category can be somewhat difficult since, at the time of the LCC study, nearly all costs are unknown. However, through the use of reasonable, consistent, and well-documented assumptions, a credible LCCA can be prepared.

One should also note that not all of the cost categories are relevant to all projects. The preparer is responsible for the inclusion of the pertinent cost categories that will produce a realistic LCC comparison of project alternatives. If costs in a particular cost category are equal in all project alternatives, they can be documented as such and removed from consideration in the LCC comparison.

Residual Value

One future expense that warrants further explanation is that of residual value. **Residual value** is the net worth of a building at the end of the LCCA study period. Unlike other future expenses, an alternative's residual value can be positive or negative, a cost or a value.

Since a LCC is a summation of costs, a negative residual value indicates that there is value associated with the building at the end of the study period. Perhaps, the value is a roof that was recently replaced or it is the building's superstructure that could function for another thirty years. Whatever the reason for the remaining value, it is a tangible asset of building ownership and should be included in the LCCA.

A positive residual value indicates that there are disposal costs associated with the building at the end of the study period. Perhaps, the costs are related to abatement of hazardous material or demolition of the structure. Whatever the cause, these are costs of building ownership and should be included in the LCCA.

Zero residual value indicates that there is no value or cost associated with the building at the end of the study period. This rare instance occurs if the intended use of the building terminates concurrent to the end of the study period, the owner is unable to sell the building, and the owner is able to abandon the building at no expense.

Study Period

The second component of the LCC equation is time. The **study period** is the period of time over which ownership and operations expenses are to be evaluated. Typically, the study period can range from twenty to forty years, depending on owner's preferences, the stability of the user's program, and the intended overall life of the facility. While the length of the study period is often a reflection of the intended life of a facility, the study period is usually shorter than the intended life of the facility.

The NIST breaks the study period into two phases: the planning/construction period and the service period. The planning/construction period is the time period from the start of the study to the date the building becomes operational (the service date). The service period is the time period from date the building becomes operational to the end of the study.

Due to the uncertainty of construction funding and the short construction season, the planning/construction period can take several years to complete for an Alaskan school project. To remove the uncertainty regarding the appropriate length of the planning/construction period and to simplify the LCC calculation, the department approves of the assumption that all initial costs will be incurred in the base year of the study. Thus, all initial costs will be entered into the LCCA at their full value.

The DEED recommended study period for LCCA is twenty years. This is due to population fluctuations within communities, the ever-changing nature of educational programs, the relative life span of individual building systems, and the reduced economic impact of costs incurred after twenty years.

The department's LCCA Spreadsheet is designed for a twenty year study period. It can be used to evaluate project options for complete school facilities (new construction and renovation projects), as well as evaluate project options related to individual building systems (roof replacement projects, mechanical upgrade projects, etc.).

Real Discount Rate

The third component in the LCC equation is the discount rate. The **discount rate**, as defined by Life Cycle Costing for Design Professionals, 2nd Edition, is "the rate of interest reflecting the investor's time value of money." Basically, it is the interest rate that would make an investor indifferent as to whether he received a payment now or a greater payment at some time in the future.

The NIST takes the definition of discount rates a step further by separating them into two types: real discount rates and nominal discount rates. The difference between the two is that the **real discount rate** *excludes* the rate of inflation and the **nominal discount rate** *includes* the rate of inflation. This is not to say that real discount rates ignore inflation, their use simply eliminates the complexity of accounting for inflation within the present value equation. The use of either discount rate in its corresponding present value calculation derives the same result. For simplicity, this handbook will focus on the use of real discount rates in the calculation of LCC for project alternatives.

Obviously, as the economics of the world around us change, so to does the discount rate. To establish a standard discount rate to be used in LCCA, the department has adopted the U.S. Department of Energy's real discount rate. This rate is updated and published annually in the Energy Price Indices and Discount Factors for Life-Cycle Cost Analysis – Annual Supplement to NIST Handbook 135. The publication can be found at https://www.nist.gov/publications/

Constant-Dollars

Just as discount rates can be defined as either real or nominal, so too can costs. The NIST Handbook 135, 1995 edition, defines **constant-dollars** as "dollars of uniform purchasing power tied to a reference year and exclusive of general price inflation or deflation." The NIST defines **current-dollars** as "dollars of nonuniform purchasing power, including general price inflation or deflation, in which actual prices are stated."

When using the real discount rate in present value calculations, costs must be expressed in constant-dollars. Likewise, when using the nominal discount rate in present value calculations, costs must be expressed in current-dollars. In the rare case that the inflation rate is zero, constant-dollars are equal to current-dollars and the real discount rate is equal to the nominal discount rate.

In practice, the use of constant-dollars simplifies LCCA. For example, suppose one wants to evaluate roofing products over a 30-year period. However, one roofing product must be replaced after 20 years. How much will the replacement of the roof cost in 20 years? By using constant dollars, the guesswork of estimating the escalation of labor and material costs is eliminated. The future constant dollar cost (excluding demolition) to install a new roof in 20 years is the same as the initial cost to install the roof. Any change in the value of money over time will be accounted for by the real discount rate.

Present Value

To accurately combine initial expenses with future expenses, the present value of all expenses must first be determined. The NIST Handbook 135, 1995 edition, defines **present value** as "the time-equivalent value of past, present or future cash flows as of the beginning of the base year."

The present value calculation uses the discount rate and the time a cost was or will be incurred to establish the present value of the cost in the base year of the study period. Since most initial expenses occur at about the same time, initial expenses are considered to occur during the base year of the study period. Thus, there is no need to calculate the present value of these initial expenses because their present value is equal to their actual cost.

The determination of the present value of future costs is time dependent. The time period is the difference between the time of initial costs and the time of future costs. Initial costs are incurred at the beginning of the study period at Year 0, the base year. Future costs can be incurred anytime between Year 1 and Year 20. The present value calculation is the equalizer that allows the summation of initial and future costs.

Along with time, the discount rate also dictates the present value of future costs. Because the current discount rate is a positive value (inflation), future expenses will have a present value less than their cost at the time they are incurred.

Future costs can be broken down into two categories: one-time costs and recurring costs. **Recurring costs** are costs that occur ever year over the span of the study period. Most operating and maintenance costs are recurring costs. **One-time costs** are costs that do not occur ever year over the span of the study period. Most replacement costs are one-time costs.

To simplify the LCCA, all recurring costs are expressed as annual expenses incurred at the end of each year and one-time costs are incurred at the end of the year in which they occur. To determine the present value of future one-time costs the following formula is used:

$$PV = A_t \times \frac{1}{(1 + d)^t}$$

Where:

- PV = Present Value
- A_t = Amount of one-time cost at a time t
- d = Real Discount Rate
- t = Time (expressed as number of years)

Terminology of Life Cycle Cost Analysis

To determine the present value of future recurring costs the following formula is used:

$$PV = A_0 \times \frac{(1 + d)^t - 1}{d \times (1 + d)^t}$$

Where:

PV = Present Value
A_0 = Amount of recurring cost
d = Real Discount Rate
t = Time (expressed as number of years)

Selection of Project Alternatives

Prior to beginning a LCCA, project alternatives need to be established. These alternatives should be distinctly different and viable solutions to the facility issue being addressed. The chosen alternative is to be the most reasonable and cost-effective solution to the project problem. A minimum of three different project alternatives should be incorporated into the LCCA. A brief description of each project alternative and why it was chosen should be included in the LCCA.

Listed below are some possible project options that should be considered while selecting the most viable, reasonable, and cost-effective alternatives. These options are based on statutory language found in AS 14.11 and are included in the instructions to the annual CIP grant applications.

- Renovation and addition to the existing school facility.
- Rental and remodel of an existing local facility.
- Purchase and remodel of an existing local facility.
- Alteration of the attendance area boundary.
- Demolition of existing school and construction of a new school on the same site.
- The use of double shifting or year round school.
- Sale of existing school and construction of a new school on a new site.

Renovation and addition to the existing facility must be considered as at least one of the project alternatives for replacement school projects. A "No Action" alternative is not an acceptable project alternative. Options for the replacement of a building system could include replacement of select items, refurbishment, phasing the replacement in sections or different materials or equipment type.

A LCCA for each of the selected project alternatives is to be generated using DEED's LCC spreadsheet or other software. The department's spreadsheet is available online at its website.

Completion of the Life Cycle Cost Analysis

A LCCA can be performed a variety of ways without compromising the results if the assumptions that shape the LCCA employ reasonable and consistent judgement. Given the various methods used to perform a LCCA, the Department of Education & Early Development has outlined the basic steps for preparation of a LCCA below.

This is not intended to be the only way a LCCA should be prepared, but it is meant to clarify the department's expectations. This outline should also enable school districts to judge for themselves the quality of services provided by their consultants.

The LCCA need only address cost categories that are pertinent to the scope of the project. However, to insure accurate comparison of alternatives, all LCCA evaluations of the project alternatives must incorporate the same cost categories. The LCCA of each project alternative should include:

- A brief description of the project alternative.
- A brief explanation as to why the project alternative was selected.
- A brief explanation of the assumptions made during the LCCA.
- Conceptual or schematic documentation indicating design intent of the alternative.
- A site plan showing the integration of the proposed facility on the site and necessary site improvements (for projects involving additions or new construction).
- A detailed LCCA of the project alternative.
- A summary table that compares the total life cycle costs of Initial Investment, Operations, Maintenance & Repair, Replacement, and Residual Value of all the project alternatives.

Initial Investment Costs

The first step in the completion of the LCCA of a project alternative is to define all the initial investment costs of the alternative. **Initial investment costs** are costs that will be incurred prior to the occupation of the facility. All initial costs are to be added to the LCCA total at their full value. Appendix A lists the minimum initial investment cost categories that are to be addressed.

The level of detail of these costs should be commensurate with the level of project detail. Construction costs can be derived by using DEED's Cost Model spreadsheet, construction cost literature, contractor quotes, or professional cost consultants.

Operation Costs

The second step in the completion of the LCCA of a project alternative is to define all the future operation costs of the alternative. The **operation costs** are annual costs, excluding maintenance and repair costs, involved in the operation of the facility. Most of these costs are related to building utilities and custodial services. All operation costs are to be discounted to their present value prior to addition to the LCCA total. Appendix A lists the minimum operation cost categories that are to be addressed in the LCCA.

Operation costs that are not directly related to the building should usually be excluded from the LCCA. An example of a cost that should be excluded is the cost of office materials. While it is an annual operating expense, it has nothing to do with the operation of the building but is rather, a function of the building user.

However, should project alternatives generate different requirements of the user, it is appropriate to include these costs. An example of such a situation is the comparison of a year round school alternative with an alternative that uses the traditional nine month school season. It is quite possible that the two alternatives would have different staffing requirements. While staffing is hardly a building operation cost, it should be included in the LCCA to provide an accurate comparison of the alternatives.

Maintenance & Repair Costs

The third step in the completion of the LCCA of a project alternative is to define all the future maintenance and repair costs of the alternative. For simplicity, maintenance and repair costs have been combined in the department's LCCA spreadsheet. It should be noted that there is a distinct difference between the two costs.

Maintenance costs are scheduled costs associated with the upkeep of the facility. An example of a maintenance cost is the cost of an annual roof inspection and caulking of the building's roof penetrations. This task is a scheduled event that is intended to keep the building in good condition.

Repair costs are unanticipated expenditures that are required to prolong the life of a building system without replacing the system. An example is the repair of a broken window. This is an unscheduled event that does not entail replacement of the entire window unit, merely the replacement of the broken pane.

Some maintenance costs are incurred annually and others less frequently. Repair costs are by definition unforeseen so it is impossible to predict when they will occur. For simplicity, maintenance and repair costs should be treated as annual costs. All maintenance and repair costs are to be discounted to their present value prior to addition to the LCCA total. Appendix A lists the minimum maintenance and repair cost categories that are to be addressed in the LCCA.

Completion of the Life Cycle Cost Analysis

It is important to note that all options are not created equal. At first glance, maintenance and repair costs could be judged to be equal for all alternatives. However, the department urges districts to delve deeper and ask "Is it possible that an alternative is more susceptible to damage than others?" Facility location, age of building systems, and variations in exterior envelope area are just a few factors that should be considered when estimating maintenance and repair costs for project alternatives. Credible explanation of the district's evaluation assumptions should be included in the LCCA.

Due to the variation in the Alaskan climate and building conditions, the department recommends using actual historical data and the district's preventative maintenance plan to generate maintenance and repair costs. Since maintenance and repair costs are typically part of the school's operating budget, historical costs for this work should be available. When actual maintenance costs are unavailable, costs can be derived from use of available literature or cost consultants.

Replacement Costs

The fourth step in the completion of the LCCA of a project alternative is to define all the future replacement costs of the alternative. **Replacement costs** are anticipated expenditures to major building system components that are required to maintain the operation of a facility. All replacement costs are to be discounted to their present value prior to addition to the LCCA total. Appendix A lists the minimum replacement cost categories that are to be addressed in the LCCA.

Replacement costs are typically generated by replacement of a building system or component that has reached the end of its useful life. An example of a replacement cost is the replacement of a boiler. A boiler has a life expectancy that is shorter than that of the facility it serves. At some point it will fail and require replacement to keep the facility operational.

Since this handbook assumes the use of the constant-dollar approach to LCCA, the cost to replace a building component in the future will be the same as the current cost of the building component plus demolition costs and any alterations of existing systems required for the new component(s). Replacement costs can be derived from use of DEED's Cost Model spreadsheet, construction cost literature, contractor quotes, historical data, or cost consultants.

Residual Value

The fifth step in the completion of the LCCA of a project alternative is to define the residual value of the alternative. **Residual value**, as defined earlier, is the net worth of a building or building system at the end of the LCCA study period. This is the only cost category in a LCCA where a negative value, one that reduces cost, is acceptable.

The residual value of a facility or building system is especially important when evaluating project alternatives that have different life expectancies. An example is the evaluation of two roofing alternatives, a metal roof and a composition shingle roof.

Completion of the Life Cycle Cost Analysis

The shingle roof has a life span of 20 years where as the metal roof is expected to last 40 years. In a LCCA over a 30-year study period the shingle roof will have to be replaced, thus incurring replacement costs. The metal roof will not require replacement; thus no replacement costs will be incurred. The residual value of each option is to be calculated as follows:

Metal Roof Residual Value = (Initial Cost) x (Age of Metal Roof/Metal Roof Life - 1)

Shingle Roof Residual Value = (Initial Cost) x (Age of Shingle Roof/Shingle Roof Life - 1)

The metal roof has a residual value of one quarter its initial cost because at the end of the study period three-quarters of its intended life will have been consumed. The shingle roof has a residual value of half its initial cost because a replacement roof was installed ten years prior. Thus, at the end of the study period, half of the *current* shingle roof's intended life will have been consumed.

The residual value of a project alternative can be established several different ways depending on level of detail available. However, project solutions that opt for a new replacement facility in lieu of renovation and addition to the existing facility should establish residual value on a building systems basis.

Finalize LCCA

Once all pertinent costs have been established and discounted to their present value, the costs can be summed to generate the total life cycle cost of the project alternative. After this has been done for all the viable project alternatives, a summary of the results should be prepared. The summary of project alternatives should compare the total life cycle costs of Initial Investment, Operations, Maintenance & Repair, Replacement, and Residual Value of all the project alternatives.

It is anticipated that the project alternative with the lowest overall life cycle cost will be the project alternative presented in the school district's Capital Improvement Project (CIP) request.

Summary

This handbook was created to assist school districts and consultants in the Life Cycle Cost Analysis of proposed educational facility construction projects. The Department of Education & Early Development is responsible for ensuring that funded projects are in the best interest of the State of Alaska and are cost-effective solutions. The submittal of realistic LCCAs assists in such a determination.

Unfortunately, not all grant applications have convinced the department that the proposed project was the best and most cost-effective solution. Problems encountered with LCCAs have ranged from faulty methodology to the use of “straw man” alternatives. To assist school districts in avoiding the problems that have surfaced in previous LCCAs, the following list of suggestions is provided:

- Evaluate all project alternatives by the same cost categories, over the same study period, using the same discount rate.
- Include only cost categories that are pertinent to the project scope. If one project alternative incurs costs in a specific cost category, that cost category must be included in all other project alternatives even if no costs are incurred.
- Use the constant-dollar approach to LCCA. This is especially important when defining Replacement Costs.
- Include demolition costs of a building component or system when calculating its Replacement Cost.
- Project alternatives that surplus buildings to the State of Alaska are required to include the cost of demolition in their LCCA.
- Project alternatives that surplus buildings to the local community are required to include the cost of hazardous material abatement in their LCCA.
- Define at least three viable project alternatives for further study. The selected alternatives should be distinctly different to cover the spectrum of possible options. A “No Action” alternative is not considered a viable project alternative.
- All project alternatives must be viable options (i.e. no “straw man” alternatives).
- Address why a project alternative is in the best interest of the State of Alaska.

Closing

The guidelines incorporated in this handbook are intended to assist Alaska school districts with the evaluation of various educational facility project alternatives using LCCA. The process of performing a LCCA will heighten understanding of the proposed project among designers and district representatives. Often, cost saving ideas are generated that can be applied to more than one alternative. These ideas can direct the final design of a project toward cost-effective construction and enhance the overall value of a project.

The use of LCCA enables projects to be evaluated by their long-term costs rather than just their initial construction cost. This requires facility owners to consider the long-term operations and maintenance costs of a facility design. The emphasis on future facility costs directly benefits school districts. A building design that minimizes future operations and maintenance expenses leaves more money in the school district’s operating budget, thus making more funds available for the education of the students.

The Department of Education & Early Development believes the implementation of proper LCCA techniques will promote cost-effective design and construction practices. The long-term savings generated by these efforts will benefit students, teachers, school districts, as well as the State of Alaska.

Samples

Life Cycle Cost Analysis Sample

And

Instructions

Samples

Complete these fields in the summary sheet and it will populate the workbook

Insert length of study

Insert discount rate per latest NIST update

District:	District Name
School:	School Name
Project:	Project Name
Project #:	Project Number
Study Period:	20
Discount Rate:	3.10%

Life Cycle Costs of Project Alternatives			
	Alternate #1	**Alternate #2**	**Alternate #3**
Initial Investment Cost	**$0**	**$0**	**$0**
Operations Cost	**$0**	**$0**	**$0**
Maintenance & Repair Cost	**$0**	**$0**	**$0**
Replacement Cost	**$0**	**$0**	**$0**
Residual Value	**$0**	**$0**	**$0**
Total Life Cycle Cost	**$0**	**$0**	**$0**
GSF of Project	1 GSF	1 GSF	1 GSF
Initial Cost/ GSF	$0.00	$0.00	$0.00
LCC/ GSF	$0.00	$0.00	$0.00

The summary will auto-fill from the Alternate 1, 2 and 3 worksheets

Samples

Insert GSF of this alternate

District:	District Name
School:	School Name
Project:	Project Name
Project #:	Project Number
GSF:	1 GSF

	Quantity	Unit	Unit Cost	Total Cost	Years	Present Value
Initial Expenses						
Initial Investment Cost (one time start-up costs)						
Construction Management	1	LPSM	$0	$0	0	$0
Land Acquisition	1	LPSM	$0	$0	0	$0
Site Investigation	1	LPSM	$0	$0	0	$0
Design Services	1	LPSM	$0	$0	0	$0
Construction	1	LPSM	$0	$0	0	$0
Equipment	1	LPSM	$0	$0	0	$0
Technology	1	LPSM	$0	$0	0	$0
Indirect/Administration	1	LPSM	$0	$0	0	$0
Art	1	LPSM	$0	$0	0	$0
Contingency	1	LPSM	$0	$0	0	$0
Future Expenses						
Operations Cost (annual costs)						
Heating Fuel	1	GALS	$0.00	$0	20	$0
Electricity	1	KWH	$0.00	$0	20	$0
Water and Sewer	1	LPSM	$0	$0	20	$0
Garbage Disposal	1	LPSM	$0	$0	20	$0
Custodial	1	LPSM	$0	$0	20	$0
Grounds	1	LPSM	$0	$0	20	$0
Lease	1	LPSM	$0	$0	20	$0
Insurance	1	LPSM	$0	$0	20	$0
Other	1	LPSM	$0	$0	20	$0
Maintenance & Repair Cost (upkeep costs…estimate on annual basis)						
Site Improvements	1	LPSM	$0	$0	20	$0
Site Utilities	1	LPSM	$0	$0	20	$0
Foundation/Substructure	1	GSF	$0.00	$0	20	$0
Superstructure	1	GSF	$0.00	$0	20	$0
Exterior Wall Systems	1	EWSF	$0.00	$0	20	$0
Exterior Windows	1	GLSF	$0.00	$0	20	$0
Exterior Doors	1	LEAF	$0.00	$0	20	$0
Roof Systems	1	RFSF	$0.00	$0	20	$0
Interior Partitions	1	PTSF	$0.00	$0	20	$0
Interior Doors	1	LEAF	$0.00	$0	20	$0
Interior Floor Finishes	1	FFSF	$0.00	$0	20	$0
Interior Wall Finishes	1	WFSF	$0.00	$0	20	$0
Interior Ceiling Finishes	1	CFSF	$0.00	$0	20	$0
Interior Specialities	1	GSF	$0.00	$0	20	$0
Conveying Systems	1	LPSM	$0	$0	20	$0
Plumbing Piping	1	GSF	$0.00	$0	20	$0

Samples

District: District Name
School: School Name
Project: Project Name
Project #: Project Number
GSF: 1 GSF

	Quantity	Unit	Unit Cost	Total Cost	Years	Present Value
Plumbing Fixtures	1	FIXT	$0.00	$0	20	$0
Fire Protection Systems	1	GSF	$0.00	$0	20	$0
HVAC Distribution	1	GSF	$0.00	$0	20	$0
HVAC Equipment	1	LPSM	$0	$0	20	$0
HVAC Controls	1	GSF	$0.00	$0	20	$0
Electrical Service/Generation	1	LPSM	$0	$0	20	$0
Electrical Distribution	1	GSF	$0.00	$0	20	$0
Electrical Lighting	1	GSF	$0.00	$0	20	$0
Special Electrical Systems	1	GSF	$0.00	$0	20	$0
Equipment & Furnishings	1	LPSM	$0	$0	20	$0
Other	1	LPSM	$0	$0	20	$0
Replacement Cost (scheduled replacement of building system or component)						
Site Improvements	1	LPSM	$0	$0	1	$0
Site Utilities	1	LPSM	$0	$0	1	$0
Foundation/Substructure	1	GSF	$0.00	$0	1	$0
Superstructure	1	GSF	$0.00	$0	1	$0
Exterior Wall Systems	1	EWSF	$0.00	$0	1	$0
Exterior Windows	1	GLSF	$0.00	$0	1	$0
Exterior Doors	1	LEAF	$0.00	$0	1	$0
Roof Systems	1	RFSF	$0.00	$0	1	$0
Interior Partitions	1	PTSF	$0.00	$0	1	$0
Interior Doors	1	LEAF	$0.00	$0	1	$0
Interior Floor Finishes	1	FFSF	$0.00	$0	1	$0
Interior Wall Finishes	1	WFSF	$0.00	$0	1	$0
Interior Ceiling Finishes	1	CFSF	$0.00	$0	1	$0
Interior Specialities	1	GSF	$0.00	$0	1	$0
Conveying Systems	1	LPSM	$0	$0	1	$0
Plumbing Piping	1	GSF	$0.00	$0	1	$0
Plumbing Fixtures	1	FIXT	$0.00	$0	1	$0
Fire Protection Systems	1	GSF	$0.00	$0	1	$0
HVAC Distribution	1	GSF	$0.00	$0	1	$0
HVAC Equipment	1	LPSM	$0	$0	1	$0
HVAC Controls	1	GSF	$0.00	$0	1	$0
Electrical Service/Generation	1	LPSM	$0	$0	1	$0
Electrical Distribution	1	GSF	$0.00	$0	1	$0
Electrical Lighting	1	GSF	$0.00	$0	1	$0
Special Electrical Systems	1	GSF	$0.00	$0	1	$0
Equipment & Furnishings	1	LPSM	$0	$0	1	$0
Other	1	LPSM	$0	$0	1	$0
Residual Value (value of facility at end of study period)						
Site Improvements	1	LPSM	$0	$0	1	$0
Site Utilities	1	LPSM	$0	$0	1	$0
Foundation/Substructure	1	GSF	$0.00	$0	1	$0
Superstructure	1	GSF	$0.00	$0	1	$0

Samples

District:	District Name
School:	School Name
Project:	Project Name
Project #:	Project Number
GSF:	1 GSF

	Quantity	Unit	Unit Cost	Total Cost	Years	Present Value
Exterior Wall Systems	1	EWSF	$0.00	$0	1	$0
Exterior Windows	1	GLSF	$0.00	$0	1	$0
Exterior Doors	1	LEAF	$0.00	$0	1	$0
Roof Systems	1	RFSF	$0.00	$0	1	$0
Interior Partitions	1	PTSF	$0.00	$0	1	$0
Interior Doors	1	LEAF	$0.00	$0	1	$0
Interior Floor Finishes	1	FFSF	$0.00	$0	1	$0
Interior Wall Finishes	1	WFSF	$0.00	$0	1	$0
Interior Ceiling Finishes	1	CFSF	$0.00	$0	1	$0
Interior Specialities	1	GSF	$0.00	$0	1	$0
Conveying Systems	1	LPSM	$0	$0	1	$0
Plumbing Piping	1	GSF	$0.00	$0	1	$0
Plumbing Fixtures	1	FIXT	$0.00	$0	1	$0
Fire Protection Systems	1	GSF	$0.00	$0	1	$0
HVAC Distribution	1	GSF	$0.00	$0	1	$0
HVAC Equipment	1	LPSM	$0	$0	1	$0
HVAC Controls	1	GSF	$0.00	$0	1	$0
Electrical Service/Generation	1	LPSM	$0	$0	1	$0
Electrical Distribution	1	GSF	$0.00	$0	1	$0
Electrical Lighting	1	GSF	$0.00	$0	1	$0
Special Electrical Systems	1	GSF	$0.00	$0	1	$0
Equipment & Furnishings	1	LPSM	$0	$0	1	$0
Other	1	LPSM	$0	$0	1	$0

Total Life Cycle of Alternate #1 **$0**

Life Cycle Cost Analysis – Example (un-used rows hidden)

Samples

Comparing life-cycle costs for three roof insulation R-values to determine appropriate R-value over 40 years.

- Location Fairbanks
- 10,000 sqft

	Alternate 1	Alternate 2	Alternate 3
Description	R-40 insulation under 30 yr. EPDM	R-60 insulation under 30 yr. EPDM	R-80 insulation under 30 yr. EPDM
Initial Investment Costs	Cost of insulation and roof from contractor estimate, heating system base -55F design temp $165,700	Cost of insulation and roof from estimate less heating system demand reduction (-10,417btu) $178,600-$7,500	Cost of insulation and roof from estimate less heating system demand reduction (-15,625 btu) $194,800-$14,350
Energy Costs (Operational)	Energy modeling using 13,500 hdd and 75% AFUE for oil fired boiler. 818 gal/yr.	Energy modeling using 13,500 hdd and 75% AFUE for oil fired boiler 545 gal/yr.	Energy modeling using 13,500 hdd and 75% AFUE for oil fired boiler 409 gal/yr.
Maintenance and Repair	Same for all alternates	Same for all alternates	Same for all alternates
Replacement Costs	EPDM at 30 years Insulation-60 years	EPDM at 30 years Insulation-60 years	EPDM at 30 years Insulation-60 years
Discount Rate NIST 2016	3%	3%	3%

Samples

District:	ABC School District
School:	ZYX Elementary
Project:	New School
Project #:	DR-xx-1xx
Study Period:	40
Discount Rate:	3.00%

Life Cycle Costs of Project Alternatives

	Alternate #1	Alternate #2	Alternate #3
Initial Investment Cost	**$165,700**	**$171,100**	**$180,450**
Operations Cost	**$56,724**	**$37,793**	**$28,362**
Maintenance & Repair Cost	**$0**	**$0**	**$0**
Replacement Cost	**$0**	**$0**	**$0**
Residual Value	**-$27,684**	**-$30,083**	**-$33,036**
Total Life Cycle Cost	**$194,740**	**$178,810**	**$175,776**
GSF of Project	10,000 GSF	10,000 GSF	10,000 GSF
Initial Cost/GSF	$16.57	$17.11	$18.05
LCC/GSF	$19.47	$17.88	$17.58

District:	ABC School District	
School:	ZYX Elementary	
Project:	New School	
Project #:	DR-xx-1xx	
GSF:	10,000 GSF	

	Quantity	Unit	Unit Cost	Total Cost	Years	Present Value
Initial Expenses						
Initial Investment Cost (one time start-up costs)						
Construction	1	LPSM	$165,700	$165,700	0	$165,700
Future Expenses						
Operations Cost (annual costs)						
Heating Fuel	818	GALS	$3.00	$2,454	40	$56,724
Maintenance & Repair Cost (upkeep costs…estimate on annual basis)						
Replacement Cost (scheduled replacement of building system or component)						
Roof Systems	10,000	RFSF	$4.60	$46,000	30	$0
Roof Insulation	10,000	RFSF	$6	$58,000	60	$0
Residual Value (value of facility at end of study period)						
Roof Systems	10,000	RFSF	$4.60	$46,000	30	-$16,979
Roof Insulation	10,000	RFSF	$6	$58,000	60	-$10,704
Total Life Cycle of Alternate #1						**$194,740**

Samples

District:	ABC School District
School:	ZYX Elementary
Project:	New School
Project #:	DR-xx-1xx
GSF:	10,000 GSF

	Quantity	Unit	Unit Cost	Total Cost	Years	Present Value
Initial Expenses						
Initial Investment Cost (one time start-up costs)						
Construction	1	LPSM	$171,100	$171,100	0	$171,100
Future Expenses						
Operations Cost (annual costs)						
Heating Fuel	545	GALS	$3.00	$1,635	40	$37,793
Maintenance & Repair Cost (upkeep costs…estimate on annual basis)						
Replacement Cost (scheduled replacement of building system or component)						
Roof Systems	10,000	RFSF	$4.60	$46,000	30	$0
Roof Insulation	10,000	RFSF	$7	$71,000	60	$0
Residual Value (value of facility at end of study period)						
Roof Systems	10,000	RFSF	$4.60	$46,000	30	-$16,979
Roof Insulation	10,000	RFSF	$7	$71,000	60	-$13,104
Total Life Cycle of Alternate #2						**$178,810**

District:	ABC School District
School:	ZYX Elementary
Project:	New School
Project #:	DR-xx-1xx
GSF:	10,000 GSF

	Quantity	Unit	Unit Cost	Total Cost	Years	Present Value
Initial Expenses						
Initial Investment Cost (one time start-up costs)						
Construction	1	LPSM	$180,450	$180,450	0	$180,450
Future Expenses						
Operations Cost (annual costs)						
Heating Fuel	409	GALS	$3.00	$1,227	40	$28,362
Maintenance & Repair Cost (upkeep costs…estimate on annual basis)						
Replacement Cost (scheduled replacement of building system or component)						
Roof Systems	10,000	RFSF	$4.60	$46,000	30	$0
Roof Insulation	10,000	RFSF	$9	$87,000	60	$0
Residual Value (value of facility at end of study period)						
Roof Systems	10,000	RFSF	$4.60	$46,000	30	-$16,979
Roof Insulation	10,000	RFSF	$9	$87,000	60	-$16,057
Total Life Cycle of Alternate #3						**$175,776**

APPENDIX A – Life Cycle Cost Categories

Initial Expenses

Initial Investment Cost (one time start-up costs)
- Construction Management
- Land Acquisition
- Site Investigation
- Design Services
- Construction
- Equipment
- Technology
- Indirect/Administration
- Art
- Contingency

Future Expenses

Operation Cost (annual costs)
- Heating Fuel
- Electricity
- Water and Sewer
- Garbage Disposal
- Custodial
- Grounds
- Lease
- Insurance

Maintenance and Repair Cost (scheduled & unscheduled upkeep costs)
- Site Improvements
- Site Utilities
- Foundation/Substructure
- Superstructure
- Exterior Wall Systems
- Exterior Windows
- Exterior Doors
- Roof Systems
- Interior Partitions
- Interior Doors
- Interior Floor Finishes
- Interior Wall Finishes
- Interior Ceiling Finishes
- Interior Specialties
- Conveyance Systems

APPENDIX A – Life Cycle Cost Categories

Maintenance and Repair Cost (cont.)

Plumbing Piping
Plumbing Fixtures
Fire Protection Systems
HVAC Distribution
HVAC Equipment
HVAC Controls
Special Mechanical Systems
Electrical Service/Generation
Electrical Distribution
Electrical Lighting
Special Electrical Systems
Equipment & Furnishings
Special Construction

Replacement Cost (scheduled replacement of building systems or components)

Site Improvements
Site Utilities
Foundation/Substructure
Superstructure
Exterior Wall Systems
Exterior Windows
Exterior Doors
Roof Systems
Interior Partitions
Interior Doors
Interior Floor Finishes
Interior Wall Finishes
Interior Ceiling Finishes
Interior Specialties
Conveyance Systems
Plumbing Piping
Plumbing Fixtures
Fire Protection Systems
HVAC Distribution
HVAC Equipment
HVAC Controls
Special Mechanical Systems
Electrical Service/Generation
Electrical Distribution
Electrical Lighting Special Electrical Systems
Equipment & Furnishings
Special Construction

APPENDIX A – Life Cycle Cost Categories

Residual Value (value of facility at end of study period)
- Site Improvements
- Site Utilities
- Foundation/Substructure
- Superstructure
- Exterior Wall Systems
- Exterior Windows
- Exterior Doors
- Roof Systems
- Interior Partitions
- Interior Doors
- Interior Floor Finishes
- Interior Wall Finishes
- Interior Ceiling Finishes
- Interior Specialties
- Conveyance Systems
- Plumbing Piping
- Plumbing Fixtures
- Fire Protection Systems
- HVAC Distribution
- HVAC Equipment
- HVAC Controls
- Special Mechanical Systems
- Electrical Service/Generation
- Electrical Distribution
- Electrical Lighting
- Special Electrical Systems
- Equipment & Furnishings
- Special Construction

APPENDIX B – Quantity Abbreviations

CFSF – Ceiling Finish Square Feet: sum of all interior areas that receive a ceiling finish.

EWSF – Exterior Wall Square Feet: sum of all exterior wall surfaces excluding windows and doors but including exterior soffits.

FIXT – Plumbing Fixtures: sum of all plumbing fixtures that are connected to both supply and waste piping.

FFSF – Floor Finish Square Feet: sum of all interior areas that receive a floor finish.

GALS – Gallons: sum of annual fuel consumed for heating and electrical generation.

GLSF – Glazing Square Feet: square feet of exterior windows.

GSF – Gross Square Feet: sum of the building's interior spaces including wall area and mechanical mezzanines.

KWH – Kilowatt Hour: sum of annual electricity usage.

LPSM – Lump Sum: estimated financial allowance for a work item.

LEAF – Door Leafs: sum of the number of door leafs. Double doors count as two leafs where as single doors count as one leaf.

PTSF – Partition Square Feet: square feet of interior partitions. Exclude all exterior walls and count only one face of the partition.

RFSF – Roof Square Feet: square feet of roof surface.

WFSF – Wall Finish Square Feet: sum of all interior areas that receive a wall finish, including interior face of exterior walls.

Glossary

Constant-Dollars: dollars that have uniform purchasing power over time and that are not affected by general price inflation or deflation.

Current-Dollars: dollars that do not have uniform purchasing power over time and that are affected by general price inflation or deflation.

Discount Rate: the rate of interest that balances an investor's time value of money.

Initial Investment Cost: any cost of creation of a facility prior to its occupation.

Life Cycle Cost: a sum of all costs of creation and operation of a facility over a period of time.

Life Cycle Cost Analysis: a technique used to evaluate the economic consequences over a period of time of mutually exclusive project alternatives.

Maintenance Cost: any cost of scheduled upkeep of building, building system, or building component.

Nominal Discount Rate: a discount rate that includes the rate of inflation.

Operating Cost: any cost of the daily function of a facility.

Present Value: the current value of a past or future sum of money as a function of an investor's time value of money

Real Discount Rate: a discount rate that excludes the rate of inflation.

Repair Cost: any cost of unscheduled upkeep of a building system that does not require replacement of the entire system

Replacement Cost: any cost of scheduled replacement of a building system or component that has reached the end of its design life.

Residual Value: the value of a building or building system at the end of the study period.

Study Period: the time period over which a Life Cycle Cost Analysis is performed.

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To: Bond Reimbursement & Grant Review Committee
From: School Facilities
Date: April 3, 2018

FY2020 CIP Proposed Revisions

Code Deficiencies/Protection of Structure/Life Safety

Background

Prior briefing papers presented to the Committee in December 2017 renewed past discussion regarding the difficulty of maintaining parity among multiple projects and multiple raters in this category. Those papers discussed the benefit of developing a matrix-type scoring basis for the code/protection of structure/life safety category. Since the close of the FY19 CIP rating period, Facilities staff have been diligently investigating options for the creation of such a scoring matrix. Options considered included:

- Developing categories based on code standards (i.e. IBC, IMC, UPC, NEC, etc.);
- Categories based on specification divisions;
- Estimating categories based on the departments cost model format;
- Department's R&R schedule

Proposal

The proposed scoring matrix uses a combination of building system and code/standards to establish a comprehensive framework for known deficiencies. For example, the category "Architectural/Interiors/ADA" identifies both systems (i.e., floor, wall, and ceiling finishes) and standards (i.e., Americans with Disabilities Act (ADA)) in order to build a comprehensive list of deficiency measurements. It was necessary to find a manageable number of categories that was neither too detailed nor too broad. The matrix proposed for the rater guidelines includes 8 categories as follows:

- Site – surfacing, drainage, utilities, playgrounds, etc.;
- Structural – Seismic, foundations, and structural components;
- Roof/Envelope – Siding, roofs, doors, windows and insulation;
- Architecture/ Interiors/ADA – ADA, sanitation, finishes, egress, and rated assemblies;
- Mechanical – Heating, ventilation, and plumbing;
- Electrical – Power, lighting, emergency power, and intercom;
- Fire Alarm/Sprinkler; and
- UST/AST/HazMat.

Within each category a deficiency list made up of known and anticipated issues is developed, each of which is assigned a point value corresponding roughly to its impact on the facility or the facility's occupants. A two-page graphic depicting the matrix scoring elements and their proportionate share of the category's total 50 points available is provided as an attachment to this paper.

Condition/Component Survey

Background

The scoring matrix for condition survey points includes provisions for the age of the survey with increments at under 6yrs, under 10yrs, and over 10yrs. A situation arose this rating period where a two condition surveys, both dating to 2008, were awarded differing points, one 10pts, and the other 8pts. Following is the rationale for that award for the two projects:

- 19-018 Chatham Klukwan K-12 Boiler Replacement – the condition survey for this project was dated 8/26/2008 and was deemed to be over 6yrs but less than 10yrs old. However, the project was completed by the district in August 2013 when the survey was only 5 years old. Requiring the district to update a condition survey on a completed project in order to gain the full 10 points didn't seem appropriate. 10 points were awarded to the project under Condition/component Survey.
- 19-078 Petersburg District Food Service Renovations – the condition survey for this project was dated 6/15/2008 and was deemed to be over 6yrs but less than 10yrs old. The project is still in the planning phase and has not been completed. 8 points were awarded to the project under Condition/component Survey. [Note: portions of the condition survey were updated in 2013 but the update did not address this project.]

Proposal

No changes to the application or instructions. As the application instructions refer back to the rater guidelines for scoring criteria, which includes age, add language to Rater's Guide clarifying a survey's age is relative to the earlier of either the application submittal deadline or the project's substantial completion.

Planning & Design

Background

A condition assessment of the facility systems and components being proposed for work is an essential building block for a CIP application. However, with the new application for the FY17 CIP cycle, condition surveys were only required for Planning and Design points—any phase—if the project was a rehabilitation. As a result, applicants that submit a project based on an estimated renewal cycle and without any assessment of their conditions, get the same consideration for planning and design points as applicants that inspect the system and take the time to document its condition. Following are four vignettes from past years' evaluations that demonstrate the need to make condition/component surveys required beyond rehabilitation projects:

- 19-023 Craig Districtwide Energy Upgrades – this project to replace 205 light fixtures, replace a DDC controller, and replace AHU motors with VFDs was completed in-house and without a formalized condition survey. Because it did not meet the definition of a rehabilitation, no condition survey was required and it received 25pts in Planning & Design. Component replacement, especially in the HVAC system, should have been based on the condition of the components. Best practice would have required a condition survey, which in this case, could have been provided by qualified district personnel.
- 19-064 Mat-Su Water System Replacement – this project to completely replace the water service system to the school was defined without a formalized condition survey. Because it was questionable to define the project as a rehabilitation (the current definition could, but does not explicitly support a by-system determination but, rather, a whole-building determination) this project received 25pts in Planning & Design. System replacement of a major utility service should have been based on the condition of the system and its

components. Best practice would have required a condition survey, probably from a qualified professional, on which to base a project solution.

- 19-072 Nome Anvil Charter School Restroom Renovation – this project to convert current restroom and additional storage space into new restrooms was designed without a formalized condition survey. Because it was questionable to define the project as a rehabilitation (the current definition could, but does not explicitly support a by-space determination but, rather, a whole-building determination) this project received 25pts in Planning & Design. Rehabilitation involving substantial interior work on architectural, mechanical, and electrical systems of a portion of school space should have been based on the condition of those systems and space(s). Best practice would have required a condition survey, probably from a qualified professional, on which to base a project solution.
- 19-036 Iditarod Grayling School Roof Replacement – this project for the complete roof replacement (at $1M), in-house, without scoped and defined without a formalized condition survey. Because it was questionable to define the project as a rehabilitation (the current definition could, but does not explicitly support a by-system determination but, rather, a whole-building determination) this project received 25pts in Planning & Design. System replacement of a major building assembly should have been based on the condition of the system and its components. This scenario also applied to Anchorage's 4 Roof Replacement project where $20M roofs were programed for complete replacement based on a Facility Condition Index life-expectancy. Best practice would have required a condition survey, probably from a qualified professional, on which to base a project solution.

Proposal

No revisions to the CIP Application are proposed, only revisions to the Application Instructions as follows:

- Sec. 6. Planning & Design - Replace language stating a "facility survey is optional" with language that survey is required for rehabilitation projects to receive further planning and design points. Also include that projects with scope warranting an in-depth examination will require a scope-specific condition survey to receive design development points.
- Appendix B - adjust condition survey note to "Required if applicable to scope" for design development (additional instructions in Sec. 6).
- Add "Required" elements to Phase III Construction to guide scoring of completed projects.

Project Cost Escalation

Currently escalation of project cost is provided for districts requesting a re-use of score for projects that are seeking reimbursement of funds. This does not seem appropriate as the costs for these projects are known and fixed, they do not need to be escalated. The Facilities section is proposing a regulation change to remove language stating that the department "will" add an inflation factor.

Six-Year Plan

Department has drafted a revised six-year plan form for review. The new format incorporates six-year plan requirements noted in AS 14.11.011(b)(1) by providing space for detailing the scope of work and conditions. The revised form adds language to certify that that capital plan has been approved by the school board as required in AS 14.08.101(7).

Potential FY2020 Application Changes

The following changes have been identified as potential changes to the FY2020 CIP application and support materials.

Application Changes

Sec. 3. Project Information

- Modify language regarding transition plans.
- Remove Q.3g and Q.3f relating to energy audits.

Sec. 6 Project Planning & Design

- Add language requesting justification for lack of schematic design or design development documents on a completed project.

Application Instruction Changes

Adjustments will be made to the Application Instructions that correspond to the above Application Changes. In addition --

Sec. 2 Eligibility Requirements

- Add language on potential ineligibility if project caused by lack of maintenance.
- Revisions clarifying when information is provided to department outside of application process (Q.2e, Q.2f).

Sec. 3 Project Information

- Changes to project description and scope (Q.3d) conforming to information requests in other questions. Add language for information on districtwide projects.

Sec. 4. Code Deficiencies / Life Safety / Protection of Structure

- Revisions to reflect the changes to the *Rater's Guide* point matrix.

Sec. 6. Project Planning & Design

- Supplement the language that indicates a survey is required for rehabilitation projects with language that projects with scope warranting an in-depth examination will require a scope-specific condition survey to receive design development points.

Sec. 8. Additional Project Factors

- Add cross-reference to eligibility item I (Q.8c)

Appendix B

- Adjust certain "Required" notes with "if necessary to adequately scope and complete the project".

Eligibility Form Changes

Item F, Evidence of Capital Project

- Add language stating project ineligible if only due to lack of maintenance or custodial care.

Item I, Cost Benefit Analysis

- Qualify that life cycle cost analysis, cost benefit analysis, etc., are "as needed".

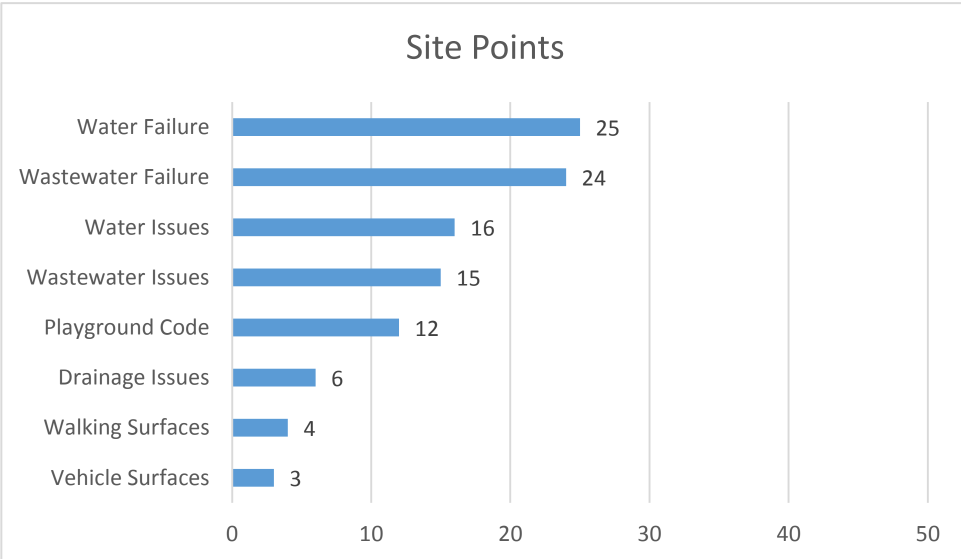
Rater's Guide Changes

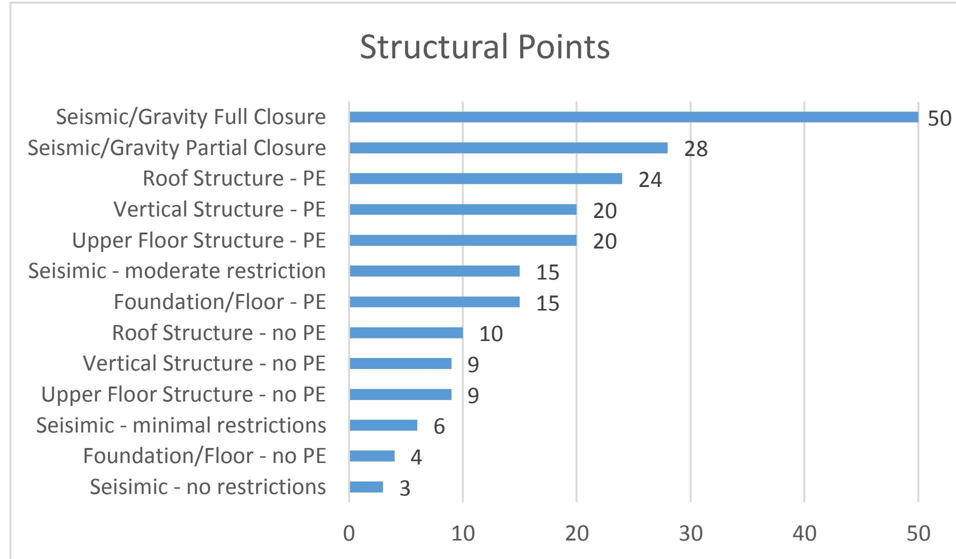
- Add language clarifying condition/component survey "age" (Q.6a).
- Implement a scoring matrix for Code Deficiencies / Life Safety / Protection of Structure (Q.4a) (see discussion previous). Revised bullet considerations.
- Add bullet to Cost Estimate (Q.7a) regarding completed project documentation.
- Add consideration of six-year plan ranking to Emergency (Q.8a).
- Add review of six-year plan in relation to capital planning process (Q.9h).

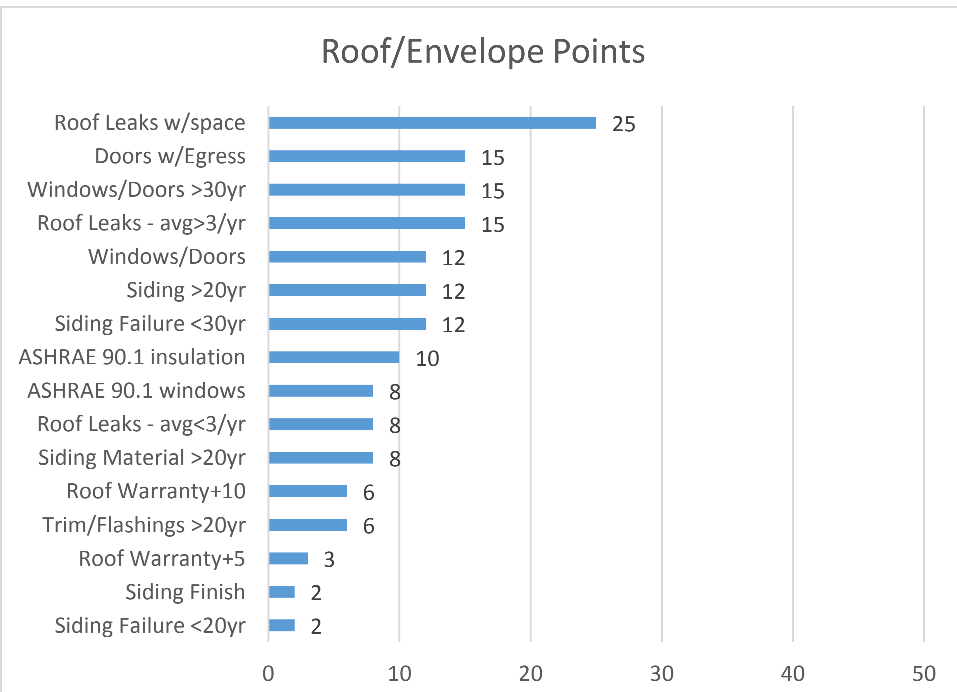
Rating Form Changes

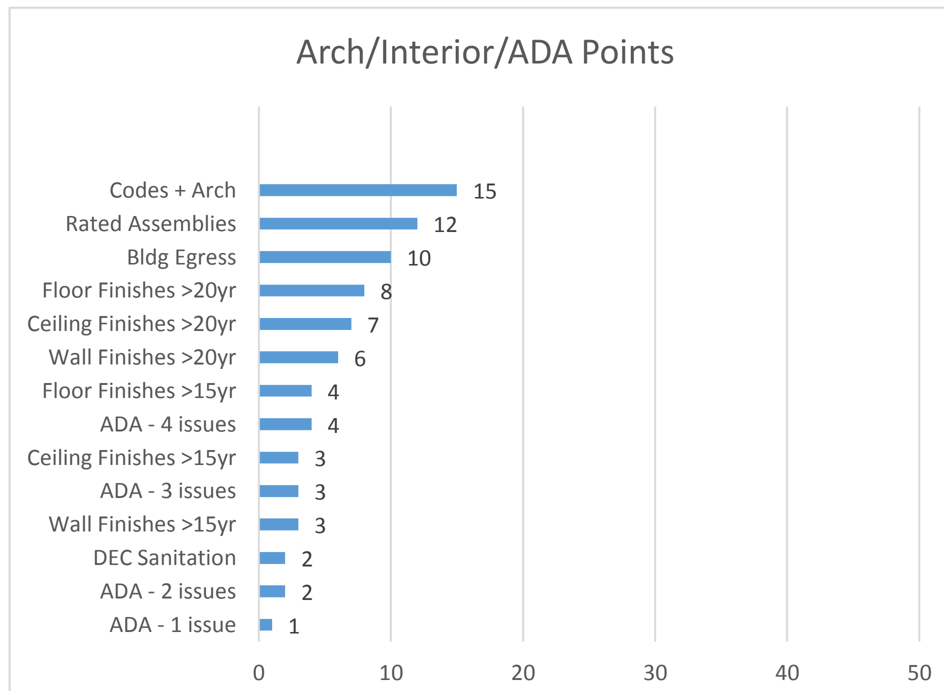
Formula-Driven Rating Form

- Add clarifying language on scoring of district ranking.

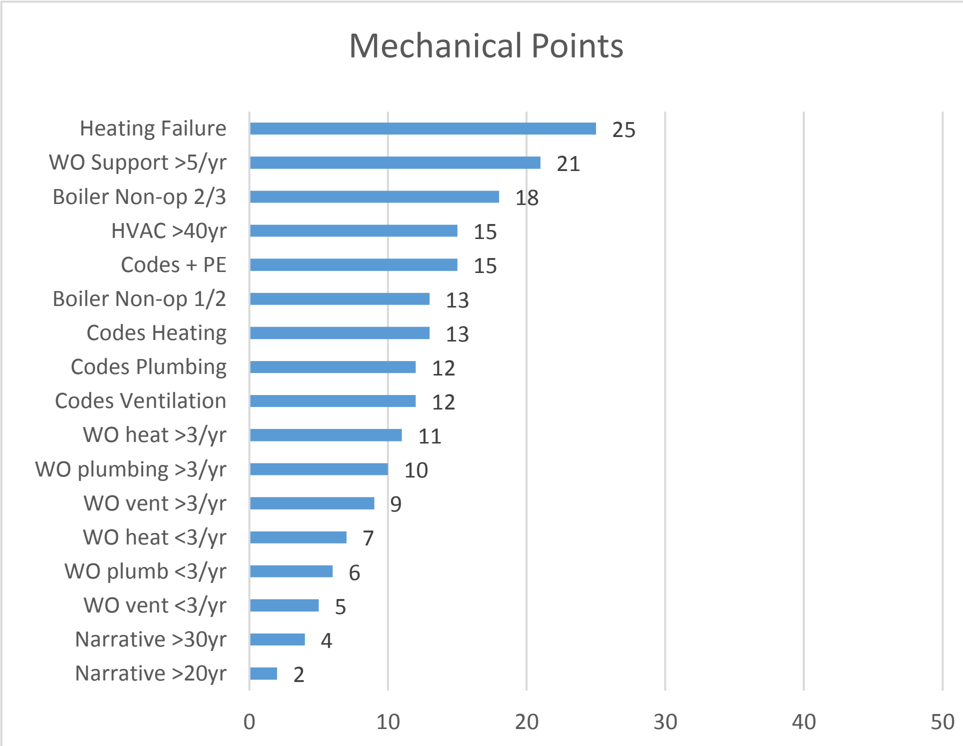


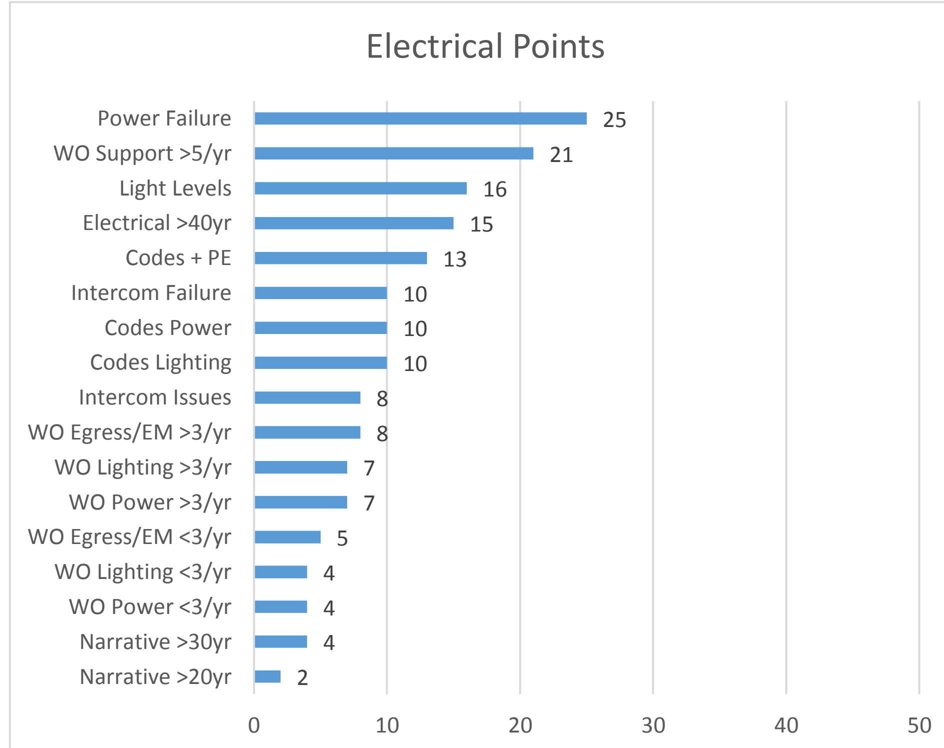


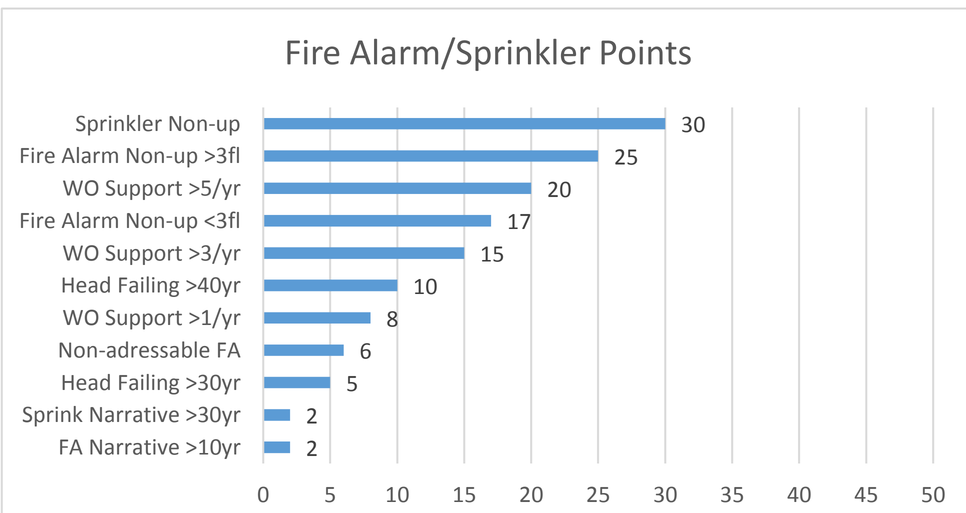


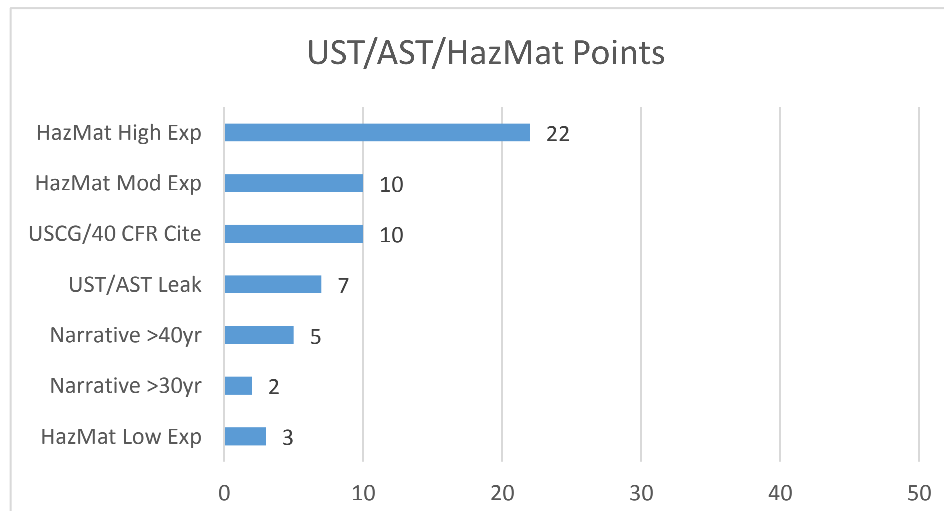


Point Comparison of Proposed FY2020 Rater Guidelines Matrix for Scoring Code Deficiencies / Protection of Structure / Life Safety (Q.4a)
Presented April 3, 2018 to Bond Reimbursement and Grant Review Committee









Point Comparison of Proposed FY2020 Rater Guidelines Matrix for Scoring Code Deficiencies / Protection of Structure / Life Safety (Q.4a)
Presented April 3, 2018 to Bond Reimbursement and Grant Review Committee

INSTRUCTIONS TO COMPLETE FORM

Six-Year Capital Improvement Plan

OVERVIEW

A six-year plan is a vital document for districts in planning and anticipating necessary capital improvement projects. A capital improvement project is a substantial, non-recurring expenditure for a physical improvement with a long useful life. Capital projects are not part of the district's preventive (including routine) maintenance or custodial care programs.

Projects may be derived from reviewing renewal and replacement schedules or population projections, needs identified by school personnel or professional architect or engineer through a condition survey, or recommendations from an energy audit, etc.

The district is encouraged to use and submit this form, required under AS 14.11.011 for grant or debt reimbursement applications, as a planning and presentation tool for all capital projects, regardless of whether the project will be submitted for AS 14.11 state aid funding consideration. It can be a valuable aid to a school board in fulfilling its duty under AS 14.08.101 to approve the district's six-year capital plan.

For questions on completing this form, contact DEED Facilities section staff.
https://education.alaska.gov/Facilities/

SET UP

1. **Header**
   Open up the existing document header to add the school district name and update the fiscal year (FY) span. Note: the first fiscal year of a six-year capital plan is typical two years after the current calendar year (e.g. a capital plan reviewed in March of 2018 will address FY 2020 - FY 2025).

2. **Tables**
   Adjust the "**FY 20YY TOTAL**" in each table to reflect the six years of the plan.

3. **Certification**
   Edit the text at the end of the document to fill in the name of the school district board and the date of the meeting when the six-year capital plan is approved and adopted.

PROJECT TABLE

1. **District Priority**
   Projects should be listed in district priority order. Priority is continuous through all fiscal years (e.g. the first fiscal year lists 6 projects, the second fiscal year list will begin with district priority #7, and so on). Inclusion of non-AS .14.11 project do not adversely affect CIP application scoring.

2. **Primary Purpose**
   A project must meet one of the project definitions outlined in AS 14.11.014 to qualify for AS 14.11 state aid. Reference also Appendix A, "Instructions to completing the Application for Funding for a Capital Improvement Project".

3. **Project Title & Description**
   Provide a short, descriptive project title that includes the facility name, major project scope, and town/village (if a borough or REAA serving multiple communities). The project title should match any

CIP application submitted to the department for AS 14.11 funding. Include a detailed scope of work that includes impacted facilities, systems, or components, and necessitating conditions. Note: including the estimated funding from non-district sources can be helpful for internal district fiscal planning.

4. **SOA Aid**
   If a district is anticipating AS 14.11 state aid, grant or debt reimbursement, include an asterisk.

5. **Estimated Project Cost**
   Enter the estimated or actual amount of total projects costs, which include design, construction, equipment, administrative costs, etc. This includes all funding sources: district, local, state, or federal.

6. **Adding or Deleting**
   Each fiscal year should include as many rows as needed to encompass anticipated district projects. To preserve formatting, insert a new row(s) by selecting a middle row then inserting by right-clicking or through the table layout tab. Delete any unnecessary rows.

7. **FY Total Project Costs**
   Right click the "$0.00" in the bottom right cell of the table to open a dialog box. Select "Update Field" to automatically sum the above column of estimated project costs.

EXAMPLE TABLE

District Priority	Primary Purpose	Project Title & Description	SOA Aid	Estimated Project Cost
1	D	**Very Wet Elementary School Roof Replacement** Very Wet Elementary is a 50,120 sqft single-story school built in 1980. The roof is original to the school. It is an IRMA roof and has had numerous leaks in the last 10 year. This project will remove the old roof system, including abatement, and inspect the substrate. The new roof will be an EPDM 30 year roof with R80 insulation. Includes new rain drains, new mechanical curbs and pre-painted metal flashing.	*	6,000,000
2	E	**Damp Middle School Lighting Upgrades** Damp MS is a 38,009 sqft school built in 1987. The majority of the original lighting fixtures were replaced in 2001 with T-8 fluorescents. Modern LED technology will provide an energy savings, with a payback of four years. This project will upgrade all interior and exterior lighting fixtures with energy-efficient LEDs and replace all original wiring and switches.		882,900
			FY 2020 TOTAL:	**$6,882,900.00**

CIP SUBMITTAL

Minimum project cost for consideration in the DEED CIP grant process is $25,000.

If submitting for AS 14.11 funding, submit two (2) copies with the application packet, regardless of the number of applications submitted.

______________________ School District

FY 2020 - 2025 Six-Year Capital Improvement Plan

District Priority	Primary Purpose	Project Title & Description	SOA Aid	Estimated Project Cost
1				
2				
3				
4				
5				
			FY 2020 TOTAL:	$ 0.00

District Priority	Primary Purpose	Project Title & Description	SOA Aid	Estimated Project Cost
			FY 2021 TOTAL:	$ 0.00

District Priority	Primary Purpose	Project Title & Description	SOA Aid	Estimated Project Cost
			FY 2022 TOTAL:	$ 0.00

District Priority	Primary Purpose	Project Title & Description	SOA Aid	Estimated Project Cost
			FY 2023 TOTAL:	$ 0.00

District Priority	Primary Purpose	Project Title & Description	SOA Aid	Estimated Project Cost
			FY 2024 TOTAL:	$ 0.00

______________________ School District

FY 2020 - 2025 Six-Year Capital Improvement Plan

District Priority	Primary Purpose	Project Title & Description	SOA Aid	Estimated Project Cost
			FY 2025 TOTAL:	**$ 0.00**

Adopted [enter date] at a duly convened meeting of the [enter school district board name] at which a quorum was present and voting. I hereby certify that the information presented is true and correct to the best of my knowledge.

Superintendent ______________________ Date ______________

School Board President ______________________ Date ______________

Submit to the Department of Education & Early Development by September 1 Form #05-18-XXX

Application for Funding

Capital Improvement Project by Grant

or

State Aid for Debt Retirement

FY2020

PREPARING AND SUBMITTING THIS APPLICATION

For each funding request, submit **one original** and **three complete copies of this application** and **two copies of each attachment**, it is helpful for one attachment copy to be provided in a portable document file (pdf) format. The grant application deadline is September 1st.

When answering application questions, provide verifiable supporting documentation. Answers that cannot be verified will be considered unsubstantiated and may result in the department finding the application ineligible due to incompleteness.

The department will only score ten project applications from each district during a single rating period. In addition, a district can submit a letter to request reuse of an application's score for one year after the application was filed.

For instructions on completing this application, please refer to the department's Capital Improvement Project Application and Support website at:

http://education.alaska.gov/facilities/FacilitiesCIP.html

PROJECT INFORMATION

School District: ______________________________

Community: ______________________________

School Name: ______________________________

Project Name: ______________________________

CERTIFICATION

I hereby certify that this information is true and correct to the best of my knowledge, and that the application has been prepared under the direction of the district school board and is submitted in accordance with law.

______________________________ ______________

Superintendent or Chief School Administrator Date

1. CATEGORY OF FUNDING AND PROJECT TYPE

1a. Type of funding requested. Choose only **one** funding source.

☐ Grant Funding ☐ Aid for Debt Retirement (Bonding)

1b. Primary purpose of project. Choose only **one** category. The department will change a project category as necessary to reflect the primary purpose of the project.[1]

Grant Funding Categories per AS 14.11.013(a)(1)	**Debt Funding Categories per AS 14.11.100(j)(4)**
School Construction: ☐ Health and life-safety (Category A) ☐ Unhoused students (Category B) ☐ Improve instructional program (Category F)	☐ Unhoused students ☐ Health and safety or building code deficiencies ☐ Achieve operating cost savings ☐ Improve instructional program
Major Maintenance: ☐ Protection of structure (Category C) ☐ Building code deficiencies (Category D) ☐ Achieve operating cost savings (Category E)	

1c. Phases of project to be covered by this funding request. Indicate **all** applicable phases:

☐ Planning (Phase I) ☐ Design (Phase II) ☐ Construction (Phase III)

2. ELIGIBILITY REQUIREMENTS TO SUBMIT AN APPLICATION

Questions 2a-2e require a "yes" response, with substantiating documentation as necessary, in order to be eligible for review and rating.

2a. Has a six-year Capital Improvement Plan (CIP) been approved by the district school board? ☐ yes ☐ no

(Refer to AS 14.11.011(b), and 4 AAC 31.011(c); attach a copy of the 6-year plan.)

2b. Does the school district have a functional fixed asset inventory system? ☐ yes ☐ no

[1] The department's authority to assign a project to its correct category is established in AS 14.11.013(c)(1) and in AS 14.11.013(a)(1) under its obligation to verify a project meets the criteria established by the Bond Reimbursement & Grant Review Committee under AS 14.11.014(b).

2c. Is evidence of required insurance attached to this application or has evidence been submitted as required to the department? ☐ yes ☐ no

2d. Is the project a capital improvement project and not part of a preventive maintenance program or custodial care? ☐ yes ☐ no

(Supporting evidence must be outlined in the project description, question 3d.Reference AS 14.11.011(b)(3))

2e. Is the district's preventive maintenance program certified by the department? ☐ yes ☐ no

2f. Districtwide replacement cost insurance for the last five years will be gathered by the department from annual insurance certification and schedule of values.

3. PROJECT INFORMATION

3a. Priority assigned by the district. (Up to 30 points)
What is the rank of this project under the district's six-year Capital Improvement Plan? Rank: ______________

3b. School facilities within scope (Up to 30 points)
What buildings or building portion (i.e., original building or addition) will be included in the scope of work of the project?

(The department will utilize GSF records to establish project points (up to 30) in the "Weighted Average Age of Facilities" scoring element. For facility number, name, year, and size information on record, refer to the DEED Facilities Database at http://education.alaska.gov/Facilities/SchoolFacilityReport/SearchforSchoolFac.cfm.)

Facility #	Building or Building Portion	Year	GSF
TOTAL GSF			**0**

3c. Facility status. Does this project change the status of any facility within the project scope to one of the below? The existing building(s) will be (check all that apply):

☐ renovated ☐ added to ☐ demolished ☐ surplused ☐ other

NOTE: If the project changes the current status of a facility to "demolished" or "surplused," a transition plan is required as part of this application. ~~A transition plan should describe how surplused~~ For state-owned or state-leased facilities, the transition plan should describe how surplused facilities will be secured and maintained during transition. See instructions.

3d. Project description/Scope of work. The project description/scope of work narrative is a required element of this application (Reference AS 14.11.013(c)(3)(A)). Ensure project aligns with selected funding category.

Project description

Provide a clear, detailed description of the project. At a minimum, include the following:

- Facilities impacted by the project
- Age of facility/system(s)
- Facility/system conditions requiring capital improvement
- Explain why this project is not preventive maintenance
- Other discussion

Scope of work

Provide a clear, detailed description of the scope of work that addresses the items in the project description. At a minimum, include the following:

- Work items to be completed with this project
- Work items already completed (if any)
- Other discussion

3e. Project schedule. Provide estimated or actual dates for the following project milestones.

Estimated receipt of funding date	________________________
Contract with design team	________________________
Begin design	________________________
Design work 100% complete	________________________
Project out to bid	________________________

Begin construction ____________________

Complete construction ____________________

Provide additional information regarding the project schedule, if needed.

~~**3f.** Has any facility in the scope of work received an investment grade audit (IGA) within the past five years?~~ ☐ ~~yes~~ ☐ ~~no~~

~~If the answer is yes, attach two copies of the IGA(s).~~

~~IGA prepared by:~~ ____________________

~~Date prepared:~~ ____________________

~~Have all energy efficiency measures (EEMs) for any specific upgrades within a qualified IGA, which have an estimated payback of 10 years or less, been excluded from the project?~~ ☐ ~~yes~~ ☐ ~~no~~

~~**3g.** Does the organizational charter of the capital funding entity for the school district require authorization from local voters before entering into a debt instrument similar or equal to the Alaska Energy Efficiency Revolving Loan Fund (AEERLF)?~~ ☐ ~~yes~~ ☐ ~~no~~

~~If yes, attach two copies of that documentation.~~

3~~h~~f. Is the work identified in this project request partially or fully complete? ☐ yes ☐ no

If the answer is yes, attach 2 copies of documentation that establishes compliance with the department's requirements for bids and awards of construction contracts. (Reference 4 AAC 31.080)

3~~i~~g. Will this project require acquisition of additional land or utilization of a new school site? ☐ yes ☐ no

If the answer is yes, attach site description or site requirements. If a new site has been identified, attach the site selection analysis used to select the new site. Note the attachment on the last page of the application.

4. CODE DEFICIENCY / PROTECTION OF STRUCTURE / LIFE SAFETY

4a. Code deficiency / Protection of structure / Life safety (Up to 50 points)
Describe in detail the issue, impact, and severity of code deficiency, protection of structure, and/or life safety conditions; attach supporting documentation.

5. REQUIREMENTS FOR SPACE TO BE ADDED OR REPLACED

NOTE: If this project is classified as Major Maintenance (Category C, D, or E) and is not including any new space, skip to 5j. **All applications requesting new or replacement space, or classified as School Construction (Category A, B, or F), must provide the information requested in this section.** For the purposes of this section, gross square footage is calculated in accordance with 4 AAC 31.020(e). Worksheets to be completed are available at the department's website at: http://education.alaska.gov/facilities/FacilitiesCIP.html

5a. Indicate the student grade levels to be housed in the proposed project facility: ______________

5b. Is there any work (other than this project) within the attendance area that has been approved by local voters, or has been funded, or is in progress that houses any student grade levels included in the proposed project? ☐ yes ☐ no

(If the answer is yes, provide information below about size, student capacity, and grades to be served in the table below.)

Project Name	GSF	Grades	Capacity

5c. Are there school facilities within the attendance area that house any student grade levels included in the proposed project? ☐ yes ☐ no

(If the answer is yes*, provide information below about size, student capacity, and grades served in the table below.)*

School Name	GSF	Grades	Capacity

In lieu of data in the format above for questions 5b and 5c, we are providing detailed attachments. ☐ yes ☐ no

5d. What is the anticipated date of occupancy for the proposed facility? ______________

5e. Unhoused students (Up to 80 points)
In the table below, provide the attendance area's current and projected ADM:

Table 5.1 ATTENDANCE AREA ADM			
School Year	**K-6 ADM**	**7-12 ADM**	**Total ADM**
2016-2017			
2017-2018			
2018-2019			
2019-2020			
2020-2021			
2021-2022			
2022-2023			
2023-2024			
2024-2025			
2025-2026			

5f. Were the ADM projections used by the district based on the department's worksheets? ☐ yes ☐ no

Attach calculations and justifications.

5g. Confirm space eligibility: Qualifies for ________ additional SF

Applying for ________ additional SF

5h. Regional community facilities (Up to 5 points)
List below any alternative regional, community, and school facilities in the area that are capable of meeting all, or part, of the project needs. Identify the facility by name, its condition, and provide the distance from current school. If attached documentation is intended to address this question, note the attachment on the last page of the application.

5i. Are educational specifications attached? ☐ yes ☐ no

ALL PROJECTS CONTINUE FROM THIS POINT

5j. Project space utilization (Up to 30 points)
Completion of this table is **mandatory for all projects that add space or change existing space utilization**. If the project does not alter the configuration of the existing space, it is not necessary to complete this table. Use gross square feet for space entries in this table.

Table 5.2 PROJECT SPACE EQUATION

Space Utilization	**A** Existing Space	**I** Space to remain "as is"	**II** Space to be Renovated	**III** Space to be Demolished	**IV** New Space	**B** Total Space upon Completion
Elem. Instructional/Resource						
Sec. Instructional/Resource						
Support Teaching						
General Support						
Supplementary						
Total School Space						

6. PROJECT PLANNING & DESIGN

NOTE: Reference Appendix B of the instructions for required elements. More developed design documents can be attached in lieu of previous documents.

6a. Condition/Component survey (0 to 10 points)

1. Is a facility or component condition survey attached? ☐ yes ☐ no

   Document title: ______________________

   Date prepared: ______________________

6b. Planning/Concept design (0 or 10 points, all elements required for 10 points)

1. Has an architectural or engineering consultant been selected (as required)? ☐ yes ☐ no
2. Are concept design studies/planning cost estimates attached? ☐ yes ☐ no
3. New construction projects: are educational specifications, site selection analysis, and student population projections attached (as required)? ☐ yes ☐ no

6c. Schematic design - 35% (0 or 10 points, all elements required for 10 points as applicable to the project)

1. Are complete schematic design documents attached? Schematic design documents include approximate dimensioned site plans, floor plans, elevations, and engineering narratives for all necessary disciplines. If no and project is complete, provide a justification for why documents are not needed. ☐ yes ☐ no
2. Is a schematic design level cost estimate attached? ☐ yes ☐ no

6d. Design development - 65% (0 or 5 points, all elements required for 5 points as applicable to the project)

1. Are design development documents attached? Design development documents include dimensioned site plans, floor plans, complete exterior elevations, draft technical specifications and engineering plans. If no, and project is complete, provide justification as to why documents are not needed. ☐ yes ☐ no
2. Is a design development cost estimate attached? ☐ yes ☐ no

6e. Planning/Design team List parties who have contributed to the evaluation and/or design services thus far for this project. When applicable, a district employee with special expertise should be listed, along with the basis for his or her expertise.

Provider	Expertise

7. COST ESTIMATE

Cost estimate for total project cost (Up to 30 points)

7a. Project cost estimate Complete the following tables using the Department of Education & Early Development's current Cost Model edition or an equivalent cost estimate. Completion of the tables is mandatory.

Percentages are based on construction cost. See Appendix C for additional information. If your project exceeds the recommended percentages, you must provide a detailed justification for each item exceeding the percentage. The total of all additive percentages should not exceed 130%. If the additive percentages exceed 130%, a detailed explanation must be provided or the department will adjust the percentages to meet the individual and overall percentage guidelines.

Table 7.1. TOTAL PROJECT COST ESTIMATE

Project Budget Category	Maximum % without justification	I Prior AS 14.11 Funding	II Current Project Request	III % of Total Construction Cost	IV Project Total
CM - By Consultant [1]	2 - 4%				
Land [2]					
Site Investigation [2]					
Seismic Hazard [3]					
Design Services	6 - 10%				
Construction [4]					
Equipment & Technology [2,5]	up to 10%				
District Administrative Overhead [6]	up to 9%				
Art [7]	0.5% or 1%				
Project Contingency	5%				

1. Percentage is established by AS 14.11.020(c) for consultant contracts (Maximum allowed percentage by total project cost: $0-$500,000 – 4%; $500,001- $5,000,000 – 3%; over $5,000,000 – 2%).
2. Include only if necessary for completion of this project; address need in the project description (Question 3d). Amounts included for Land and Site Investigation costs need to be supported in the cost estimate discussion (Question 7c), and supporting documentation should be provided in the attachments.
3. Costs associated with assessment, design, design review, and special construction inspection services associated with seismic hazard mitigation of a school facility. This amount needs to be provided by a design consultant, and should not be estimated based on project percentage.
4. Attach detailed construction cost estimate and life cycle cost if project is new-in-lieu-of-renovation.
5. Equipment and technology costs should be calculated based on the number of students to be served by the project. See the department's publication, *Guidelines for School Equipment Purchases* for calculation methodology (2016). Technology is included with Equipment.
6. Includes district/municipal/borough administrative costs necessary for the administration of this project; this budget line will also include any in-house construction management cost.
7. Only required for renovation and construction projects over $250,000 that require an Educational Specification (AS 35.27.020(d)).

Table 7.2 CONSTRUCTION COST ESTIMATE						
	New Construction			Renovation		
Construction Category	**Cost**	**GSF**	**Unit Cost**	**Cost**	**GSF**	**Unit Cost**
Base Building Construction [1]						
Special Requirements [2]		n/a			n/a	
Sitework and Utilities		n/a			n/a	
General Requirements		n/a			n/a	
Geographic Cost Factor		n/a			n/a	
Size/Dollar Adj. Factor		n/a			n/a	
Contingency		n/a			n/a	
Escalation		n/a			n/a	
Construction Total						

1. If using the Cost Model, Base Construction = Divisions (1.0+2.0) for new construction, and Division 11.00 for Renovation, otherwise, Base Construction = the total construction cost less the costs that correspond with other cost categories in the table.
2. Explain in detail and justify special requirements.

7b. Cost estimate source. Identify and describe as needed the specific source of the costs provided in Table 7.1 (e.g. professional estimators, solicited vendor quotes, paid invoices).

7c. Cost estimate discussion & justifications. Identify and explain cost estimate assumptions, lump sums, and percentages in excess of the recommended percentages in Table 7.1. Provide a detailed justification for each item exceeding a recommended percentage.

8. ADDITIONAL PROJECT FACTORS

Emergency conditions are those that pose a high level of threat for building use by occupants.

8a. Is this project an emergency? (Up to 50 points) ☐ yes ☐ no

Has the district submitted an insurance claim? ☐ yes ☐ no
If no, explain below.

If the project is an emergency, describe below in detail the nature, impact, and immediacy of the emergency and actions the district has taken to mitigate the emergency conditions.

Categorize the issues described and explained above by checking the boxes that apply to the building condition(s).

Building is destroyed or rendered functionally unsafe for occupancy and requires the building to be demolished and rebuilt. (50 points)	☐
Building is unsafe and the entire student population is temporarily unhoused. The building requires substantial repairs to be made safe for the student population to occupy the building. (25-45 points)	☐
Building is occupied by the student population. A local or state official has issued an order that the building will need to be repaired by a certain date or the district will have to vacate the building. (5-25 points)	☐
A portion of the building requires significant repair or replacement of damaged portion of building. The damaged portion of the building cannot be used for educational purposes. (5-45 points)	☐
A major building component or system has completely failed and is no longer repairable. The failed system or component has rendered the facility unusable to the student population until replaced. (25-45 points)	☐
A major building component or system has a high probability of completely failing in the near future. The component or system has failed, but has been repaired and has limited functionality. If the component fails, the district may be required to restrict use of the building until the component or system is repaired or replaced. (5-25 points)	☐

8b. Inadequacies of existing space (Up to 40 points)

Describe how the inadequacies of the existing space impact mandated instructional programs or existing or proposed local programs and how the project will improve the existing facilities to support the instructional programs.

8c. Other options (Up to 25 points)

Describe, in addition to the proposed project, at least two or more viable and realistic options that have been considered in the planning and development of this project to address the best solution for the facility.

Major maintenance projects should include consideration of project design options, material or component options, phasing, cost comparisons, or other considerations.

New school construction or addition/replacement of space projects should include a discussion of existing building renovation versus new construction, acquisition or use of alternative facilities, a life cycle cost analysis and cost benefit analysis, service area boundary changes where there are adjacent attendance areas, or other considerations.

8d. Annual operating cost savings (Up to 30 points)
Quantify the project's annual operational cost savings, if any, in relation to the project total cost.

8e. Phased funding (Up to 30 points)
Provide AS 14.11 administered grants that have been appropriated by the legislature as partial funding in support of this project. This category is score-able only in instances where project funding was intentionally phased.

Applications seeking funds for cost overages, change in scope, or other actions not noted in the original application or legislative appropriation will not be considered eligible for these points.

DEED grant #: ____________________

8f. Is the district applying for a waiver of participating share? ☐ yes ☐ no

Only municipal districts with a full value per ADM less than $200,000 are eligible to apply for a waiver of participating share. REAA's are not eligible to request a waiver of participating share.
(If the district is applying for a waiver, attach justification. Refer to AS 14.11.008(d) and Appendix F of the application instructions.)

9. DISTRICT PREVENTIVE MAINTENANCE & FACILITY MANAGEMENT

District preventive maintenance and facility management (55 points possible)

Ensure that documents related to the district's maintenance and facility management program have been provided with district CIP submittals. Include management reports, renewal and replacement schedules, work orders, energy reports, training schedules, custodial activities, and any other documentation that will enhance the requirements listed in the instructions. Include the following documents:

9a. Maintenance Management Narrative (Up to 5 Evaluative Points)

9b. Maintenance Labor Reports (Up to 15 Formula-Driven Points)

9c. PM/Corrective Maintenance Reports (Up to 10 Formula-Driven Points)

9d. 5-Year Average Expenditure on Maintenance. Districtwide maintenance expenditures for the last 5 years will be gathered by the department from audited financial statements. (Up to 5 Formula-Driven Points)

9e. Energy Management Narrative (Up to 5 Evaluative Points)

9f. Custodial Narrative (Up to 5 Evaluative Points)

9g. Maintenance Training Narrative (Up to 5 Evaluative Points)

9h. Capital Planning Narrative (Up to 5 Evaluative Points)

ATTACHMENTS CHECKLIST

Note all attachments included with the application.

Project eligibility attachments: Eligibility item is required on all projects. Submit two copies, regardless of the number of project applications.

- ☐ Six-year Capital Improvement Plan (CIP) (question 2a)

District eligibility attachments: Submit two copies, regardless of the number of project applications.

- ☐ Preventive maintenance and facility management narratives (questions 9a, 9e-9h)
- ☐ Preventive maintenance reports (questions 9b, 9c)

Project description attachments: List all attachments referred to or noted in the application. Some items may not be applicable to a specific project. Submit two copies of each attachment with application.

- ☐ Transition plan for state-owned or state-leased properties (question 3c)
- ☐ Investment grant audit (IGA) (question 3f)
- ☐ Organizational charter citation on voter approval of debt (question 3g)
- ☐ For fully or partially completed projects: documentation establishing compliance with 4 AAC 31.080 (question 3h)
- ☐ Site description, site requirements, and/or site selection analysis (question 3i)
- ☐ Facility condition survey (question 6a)
- ☐ Facility appraisal (question 6b)
- ☐ Educational specification (question 5i, 6b)
- ☐ Concept design documentation (question 6b)
- ☐ Schematic design documentation (question 6c)
- ☐ Design development documentation (question 6d)
- ☐ Cost estimate worksheets (question 7a)
- ☐ Appropriate compliance reports *(i.e., Fire Marshal, AHERA, ADA, etc.)* (questions 4a, 8a)
- ☐ Cost/benefit analysis (question 8d)
- ☐ Life cycle cost analysis (question 8d)
- ☐ Value analysis (question 8d)
- ☐ Justification for waiver of participating share (question 8f)
- ☐ Capacity calculations of affected schools in the attendance area/areas (question 5e)
- ☐ Enrollment projections and calculations (question 5e)
- ☐ Other: ____

Instructions for completing the Application for Funding
for a
Capital Improvement Project

FY2020

These instructions support DEED Form #05-18-XXX
***Application for Funding Capital Improvement Project by Grant or State Aid for Debt Retirement**.*

PREPARING AND SUBMITTING THIS APPLICATION

Answer all questions: Each question on the application form must be answered in order for the application to be considered complete. **Only complete applications will be accepted. Incomplete applications will be considered ineligible and returned unranked**. If a question is not applicable, please note as NA. The department has the authority to reject applications due to incomplete information or documentation provided by the district. The grant application deadline is September 1st (postmarked or shipped on or before September 1st is acceptable).

Project name to be accurate and consistent: The project name on the first page of the application should be consistent with project titles approved by the district school board and submitted with the six-year Capital Improvement Plan (CIP). The project name should begin with the name of the school and type of school (ex: K-12). Multi-school projects should list the schools that are part of the scope unless the work is districtwide at most or all school sites in the district.

Limited to ten applications: The department will only score up to ten individual project applications from each district during a single rating period. In addition, a district can submit a letter to request reuse of an application's score for one year after the application was filed.

The department may adjust parts of the application: Project scope and budget may be altered based on the department's review and evaluation of the application. The department will correct errors noted in the application and make necessary increases or decreases to the project budget. The department may decrease the project scope, but will not increase the project scope beyond that requested in the original application submitted by the September 1st deadline.

CERTIFICATION

Authorizing signature: The application must be signed by the appropriate official. Unsigned applications cannot be accepted for ranking.

Application packages should be submitted to:
Alaska Department of Education & Early Development
Division of School Finance, Facilities
801 W. 10th Street, Suite 200
P.O. Box 110500
Juneau, AK 99811-0500

For further information contact:
School Facilities Manager

1. CATEGORY OF FUNDING AND PROJECT TYPE

1a. Type of funding requested. Check **one** box to indicate which type of state aid is being requested.

Grant Funding: applications are submitted to the department by September 1st of each year, or on a date at the beginning of September designated by the department in the event that the 1st falls on a weekend or holiday (postmarked or shipped on or before September 1st is acceptable).

Aid for Debt Retirement: applications can be submitted at any time during the year if there is an authorized debt program in effect. **To verify if there is an authorized debt program in effect, contact the department.**

1b. Primary purpose. Based on whether the application is for grant funding or aid for debt retirement, check **one** box in the appropriate column to indicate the primary purpose of the project. Each application should be for a single project for a particular facility, and should be independently justified. The district may include work in other categories in a proposed project. These projects will be reviewed and evaluated as mixed-scope projects. Refer to Appendix A of these instructions for descriptions of categories and the limitations associated with grant category C, category D, and category E projects. Application of scoring criteria will be on a weighted basis for mixed scope projects. The department will change a project category as necessary to reflect the primary purpose of the project.[1]

1c. Phases of project. Check the applicable phase(s) covered by this funding request. Refer to Appendix B for descriptions of phases.

2. ELIGIBILITY REQUIREMENTS TO SUBMIT AN APPLICATION

2a. District six-year plan. Attach a current six-year Capital Improvement Plan (CIP) for the district. Use AKEED Form 05-11-068. The project requested in the application must appear on the district's six-year plan in order to be considered for either grant funding or debt reimbursement.

2b. Fixed asset inventory system. The district does not need to submit any fixed asset inventory system information to the department as part of the CIP application. The department will verify the existence of a Fixed Asset Inventory System during its on-site Preventive Maintenance program review every five years. The department will annually review the district's most recently submitted annual audit for information regarding its fixed asset inventory system. School districts that do not have an approved fixed asset inventory system, or a functioning fixed asset inventory system (i.e., cannot be audited) will be ineligible for grant funding under AS 14.11.011.

[1] The department's authority to assign a project to its correct category is established in AS 14.11.013(c)(1) and in AS 14.11.013(a)(1) under its obligation to verify a project meets the criteria established by the Bond Reimbursement & Grant Review Committee under AS 14.11.014(b)

2c. Property insurance. The department may not award a school construction grant to a district that does not have replacement cost property insurance. AS 14.03.150, AS 14.11.011(b)(2) and 4 AAC 31.200 set forth property insurance requirements. The district should annually review the level of insurance coverage as well as the equipment limitations of the policy, and the per-site and per-incident limitations of the policy to assure compliance with state statute and regulation.

2d. Capital improvement project. AS 14.11.011(b)(3) requires a district to provide evidence that the funding request ~~is for~~should be a capital project and not part of a preventive maintenance or regular custodial care program. If the evidence supports that a funding request should not be a capital project except for a lack of preventive maintenance or regular custodial care, that funding request could be deemed ineligible. Refer to Appendix E for an explanation of maintenance activities.

2e. Preventive maintenance program. Under AS 14.11.011(b)(4), a district must have a certified preventive maintenance program to be eligible for funding. Initial notification of district certification is provided by June 1; final determination of a district maintenance program is issued August 15. For more information contact the department.

2f. Insurance. District facility insurance data is required to be provided by districts to the department under AS 14.03.150 and 4 AAC 31.200. Insured replacement value will include all district facilities reported in the department's School Facility database:

https://education.alaska.gov/Facilities/SchoolFacilityReport/SearchforSchoolFac.cfm

Note: This information is used in calculating scores for question 9d. The five-year average expenditure for maintenance is divided by the five-year average insured replacement value, districtwide.

3. PROJECT INFORMATION

3a. Priority assigned by the district. (30 points possible) The district ranking of each project application must be a unique number approved by the district school board and must place each discrete project in priority sequence. The project having the highest priority should receive a ranking of one, and each additional project application of lower priority should be assigned a unique number in priority order. The department will accept only one project with a district ranking of priority one. The ranking of each application should be consistent with the board-approved six-year Capital Improvement Plan. Refer to AS 14.11.013(b)(2). Both major maintenance projects and school construction projects should be combined into a single six-year plan. There are up to 30 points available for a district's #1 priority. Points drop off in increments of 3 for each corresponding drop in district priority ranking.

The district should provide a listing of *projects anticipated for the full six years* of the district's six-year plan, not just the first year of the plan.

Alaska Department of Education & Early Development

3b. School facilities within scope. (30 points possible) This question requests information on the year the facility was constructed and size of each element of the facility to establish the "weighted average age of facilities" score. If a project's scope of work is limited to a portion of a building (i.e., the original or a specific addition), the age of *that building portion* will be used in the "weighted average age of facilities" point calculation. If the project's scope of work expands to multiple portions of a building, the ages of *all building portions receiving work* will be used in the "weighted average age of facilities" point calculation. *Year built* refers to the year the original facility and any additions were completed or were first occupied for educational purposes. If a date of construction is not available, use an estimate indicated by an (*). *Gross square footage (GSF)* of each addition should be the amount of space added to the original facility. *Total size* should equal the total square footage of the existing facility. There are up to 30 points possible depending on the age of the building. Facility number, name, year built, and size are available online at:

http://education.alaska.edu/Facilities/SchoolFacilityReport/SearchforSchoolFac.cfm

Department data will be used for calculations, if there is an error in the database, contact the department prior to September 1.

3c. Facility status. The response to this question should be consistent with column III of the space utilization table in question 5i. Projects that will result in demolition or surplusing of existing ~~state-~~owned or ~~state-~~leased facilities ~~should~~ must include a detailed plan for the transition from existing facilities to replacement facilities. If a facility is to be demolished or surplused, the project must provide for the abatement of all hazardous materials as part of the project scope. The transition plan should describe how surplused state-owned or state-leased facilities will be secured and maintained during transition. The detailed plan for demolishing or surplusing state-owned or -leased properties should incorporate a draft of the department's Form 05-96-007, Excess Building. For the CIP process, furnish building data and general information; signatures and board resolutions may be excluded.

3d. Project description/Scope of work. Describe the scope of work of the entire project. The project description/scope of work should include: (1) a detailed description of the project, (2) documentation of the conditions justifying the project, and (3) a description of the scope of the project and what the project will accomplish. The scope should also contain sufficient quantifiable analysis to show how the project is in the best interest of both the district and the state.

The description of project scope should include information that will allow the department to evaluate the criteria specified in AS 14.11.013; ensure project aligns with selected category. ~~Please refer to Appendix C for guidelines covering project cost estimate percentages for factored cost items.~~ Project scope should be sufficiently defined to assure bidding a single contract. If proposing a "districtwide" project, applicant should provide justification of how it is more cost-effective to combine multi-site (multi-community) projects.

It is helpful to identify the question number if you are providing detail to support another application question in the project description.

Question 2d: AS 14.11.011(b)(3) requires the district to provide sufficient evidence that the ~~project is~~funding request should be a capital improvement project and not preventive maintenance~~,~~ (including routine maintenance)~~,~~ or custodial care. Evidence should also support how the funding request is not the result of inadequate maintenance or custodial care. Refer to Appendix E of these instructions for information regarding the definitions of maintenance terms related to this question.

Question 3b: If the project impacts multiple facilities, the project description shall identify the facilities impacted and describe how each will be impacted. For facilities with both original and addition space, identify the discrete section(s) of the portion being impacted. For "districtwide" projects, a detailed description and scope is required for each facility. ~~This applies to districtwide projects as well as projects adding space. For projects adding space, use this question to summarize gross square footage and student capacity of the impacted facilities.~~

Question 3c: The detailed plan for demolishing or surplusing state-owned or -leased properties should incorporate a draft of the department's Form 05-96-007, Excess Building. For the CIP process, furnish building data and general information; signatures and board resolutions may be excluded.

Question 3g~~f~~: Site description should include location, size, availability, cost, and other pertinent information as appropriate. If a site selection and evaluation report is attached, the information can be referenced with a brief summary, rather than being reproduced in this section.

Question 3f~~h~~: If project is complete or partial complete, identify which scope elements have been completed.

Question 5c: If this project will (1) result in renovated or additional educational space, and (2) serve students of the same grade levels currently housed or projected to be housed in other schools, the project description should indicate the:

- attendance areas that will be impacted (i.e. will contribute students) by this project,
- current and projected student populations in each facility (school) affected by the project, and
- DEED gross square footage for each affected facility (school) in the attendance area.

Question 6a-6d: If a facility condition survey, facility appraisal, schematic design, and/or design development documents are attached, they can be summarized and referenced, rather than reproduced in the description of project need, justification, and scope. If project is complete, and schematic design or design development documents are not attached, provide a justification for why documents are not needed.

Question 8c: When a new, renovation, new-in-lieu-of-renewal, or Category E project is proposed, the project description should include a brief discussion of the cost/benefit and life cycle cost principles which guided this project solution. The detailed cost/benefit analysis and life cycle cost analysis documents shall provide data documenting conditions that justify the project [AS 14.11.011(b)(1)]. If these documents are attached, they can be referenced and summarized, rather than reproduced in the project description.

3e. Project Schedule. Provide an estimated project timeline that includes, at a minimum, the estimated date for receipt of funding, estimated construction start date, and estimated construction completion date. Identify any additional project schedule milestones or special circumstances that are applicable to the project.

~~**3f. Ineligible Energy Upgrades.** Identify whether any facility in the scope of work has received an investment grade audit (IGA) in the five years prior to the application submittal, funded through any source or mechanism, that meets the qualifications of the Alaska Housing and Finance Corporation's (AHFC) Retrofit Energy Assessment for Loans (REAL) program.~~

~~Provide the name of the individual or company that prepared the IGA and the date the IGA was completed.~~

~~Confirm that the energy efficiency measures (EEMs) with a payback of 10 years or less (unless a greater number of years is specifically stated within the REAL program guidance), as identified in the AHFC-qualified IGA, have been excluded from the scope of the application project.~~

~~3g. Some entities have organizational charters that prohibit the use of a loan program or other debt instrument similar to the Alaska Energy Efficiency Revolving Loan Fund (AEERLF) without prior authorization from local voters. Indicate whether the applicant's capital funding entity is prohibited from utilizing the AEERLF or similar program without voter approval and provide supporting documents if this is the case.~~

3f~~h~~. Complete or partially completed project. Indicate whether the work identified by the project request is partially or fully complete. In question 3d, clearly identify which scope elements have been completed. If the construction work is partially or fully complete, attach documentation that establishes that the construction was procured in accordance with 4 AAC 31.080.

- Competitive sealed bids must be used unless alternative procurement has been previously approved by the department.
- Projects under $100,000 can be constructed with district employees if prior approval is received from the department. For projects that utilized in-house labor, attach the DEED approval of the use of in-house labor [4 AAC 31.080(a)]. If a project utilized in-house labor, or was constructed with alternative procurement methods, and does not have prior approval from the department, the project's construction budget will ~~not~~ be reduced~~scored~~ [4 AAC 31.080(e)].
- For construction contracts under $100,000, districts may use any competitive procurement method practicable. Provide an explanation of circumstances requiring selected procurement method with attachment.

For projects with contracted construction services, attach construction and bid documents utilized to bid the work, advertising information, bid tabulation, construction contract, and performance and payment bonds for contracts exceeding $100,000. Projects shall be advertised three times beginning a minimum of 21 days before bid opening. The bid protest period shall be at least 10 days. Construction awards must NOT include provisions for local hire.

3g~~i~~. Acquisition of additional land. *Acquisition of additional land* refers to expansion of an existing school site using property immediately adjacent to, or in close proximity to, the existing school site. Land acquisition may result from long-term lease, purchase, or donation of land. *Utilization of a new school site* refers to use of a site previously acquired by the district, or a new site acquired as a result of this application and not previously utilized as a public school.

If the project site is not yet known, the site description should be the district's best estimate of specific site requirements for the project, and it should be included in the project description. The department's 2011 publication, *Site Selection Criteria and Evaluation Handbook*, may be useful in responding to this question. A site selection study is required for those projects involving new sites in order to qualify for schematic design points (reference Appendix B).

4. CODE DEFICIENCY / PROTECTION OF STRUCTURE / LIFE SAFETY

4a. Code deficiency / Protection of structure / Life safety. (Up to 50 points) Describe in detail the issue, impact, and severity of code deficiency, protection of structure, and life safety conditions being addressed by the project scope in question 3d; attach supporting documentation. If construction of a new school is proposed, describe any code issues at existing facilities in the attendance area that will be relieved by the project.

Code deficiency, protection of structure, and life safety-related categories:

Code Deficiency: Deficiencies related to building code conditions where there is no threat to life safety. This includes compliance with various current building and accessibility codes.

Protection of Structure: Deficiencies that, when left unrepaired, will lead to new or continued damage to the existing structure, building systems, and finishes resulting in a shortened life of the facility.

Life Safety: Deficiencies representing unsafe conditions threatening the health and life safety of students, staff, and the public. For example, required fire alarm and/or suppressant systems are non-existent or inoperative posing a life safety risk.

Note: Complete or imminent building failure caused by code deficiency, protection of structure, or life safety conditions resulting in unhoused students may be viewed as a more critical project.

The project could contain a single severe condition or multiple moderate conditions. Multiple conditions will be rated collectively, but may not necessarily rank as high as a single severe condition. For projects, such as districtwide projects, that combine critical and non-critical work, points for the critical portion of the project will be weighted proportionally.

The scoring matrix for this category (ref. Guidelines for Raters of the CIP Application) groups deficiencies into the following eight categories: Site, Structural, Roof/Envelope, Arch/Interior/ADA, Mechanical, Electrical, Fire Alarm/Sprinkler, and UST/AST/Hazmat. While extensive, the discrepancies listed in the matrix may not be exhaustive. If a deficiency is not listed, note that in the description and use the listed deficiencies as a context for determining appropriate documentation. ~~Examples of specific code deficiency, protection of structure, and life safety conditions that may be present include, but are not limited to:~~

~~Fire Protection: fire-resistant materials and construction, interior finishes, fire protection systems;~~
~~Occupant Needs: means of egress, accessibility (ADA), interior environment (asbestos/hazmat);~~
~~Building Envelope: energy conservation (windows/doors), exterior wall coverings (siding), roofs and roof structures;~~
~~Structural Systems: structural loads, foundations, seismic;~~
~~Building Services: mechanical systems (heating and ventilation systems), plumbing systems, electrical wiring, equipment, and systems;~~
~~Building Support: septic system, standby generator, fuel tanks, water/waste water treatment (includes water tanks), other.~~

As indicated in the matrix, code deficiency, protection of structure, or life safety conditions scoring will be assessed based on the severity of the conditions and upon the documentation provided to support the reported severity. Supporting documentation of the conditions is critical. Documentation that supports the conditions can be documents such as: condition surveys, third party communications, maintenance work orders, or other records verifying the conditions. This is not an exclusive list and applicants are encouraged to provide other sources of quantitative information to support the building or component condition. The primary purpose of this documentation is to present objective, primary, specific, and verifiable data.

For matrix scores based on average number of work orders over time, include copies of the relevant work orders. Work order detail should match that required under 4 AAC 31.013(a)(1).

Supporting documentation elsewhere in the application can be summarized and referenced, rather than reproduced in the narrative. When citing information elsewhere in the application or application attachments, provide the specific location of the referenced information.

5. REQUIREMENTS FOR SPACE TO BE ADDED OR REPLACED

NOTE: Gross square footage entries in this section should reflect the measurements specified by 4 AAC 31.020. Space variance requests not already approved by the department must be submitted in accordance with 4 AAC 31.020 by the application deadline in order to receive consideration with the current request. The department will not consider space variance requests during the application review process for work proposed in the application.

5a. Project grade levels. The response to this question should reflect the grade levels that will be served by the facility at the completion of the project.

5b. District voter-approved projects. Any additional square footage that is funded for construction or approved by local voters for construction should be listed with a descriptive project name, additional GSF, grade levels to be served, and anticipated student capacity. Include these projects in any capacity/unhoused calculations provided in the year of anticipated occupancy.

5c. Other school facilities. List all schools in the attendance area that serve grade levels equivalent to those of the proposed project. If the project includes any elementary grades, all schools in the attendance area serving elementary students are to be listed. If the project includes any secondary grades, all schools in the attendance area serving secondary students are to be listed. For each school listed, include its size, the grades served, and the school's total student capacity. Use the department's "2017 Attendance Area ADM & GSF Calculations" MS Excel worksheet to calculate the total student capacity for each school. A link to this form and the "Attendance Areas" report can be found under at http://education.alaska.gov/facilities/FacilitiesCIP.html

5d. Date of anticipated occupancy. The date provided here should be the anticipated date the facility will be occupied. This will be the starting point for looking at five-year post-occupancy population projections. If a project schedule is available, it should be provided to substantiate the projected date.

5e. Unhoused students. (80 points possible) All projects that are adding new space or replacing existing space must complete Table 5.1 ATTENDANCE AREA ADM and worksheets in the department's MS Excel workbook, "217 Attendance Area ADM & GSF Calculations" found under "Space Guidelines" at http://education.alaska.gov/facilities/FacilitiesCIP.html. These worksheets are the tools for determining space eligibility.

Include copies of the worksheets "ADM", "Current Capacity", and "Projected Capacity" with the application. The department may adjust the submitted ADMs and allowable space as necessary for corrections.

The points for this question are based on the following formulas:

1. Current Unhoused Students: If current capacity is at or below 100%, 0 points will be awarded. If current capacity is over 100%, then one point for every 3% percent over 100% capacity will be awarded. For projects that have a current capacity over 250%,

the full 50 points will be awarded.

2. Unhoused Students in Seven Years: If capacity five years post-occupancy is at or below 100%, 0 points will be awarded. If capacity five years post-occupancy is over 100%, then one point for every 5% over 100% capacity will be awarded. For projects that have a capacity five years post-occupancy over 250%, the full 30 points will be awarded.

5f. ADM projection method. Identify the method(s) that were utilized to determine the student population projections listed in Table 5.1. The department will compare the projections to historic growth trends for the attendance area. The department will revise population projections that exceed historical growth rates, show disparate growth between elementary and secondary populations, or are unlikely to be sustained as an attendance area's overall population grows. The application should include student population projection calculations and sufficient demographic information (e.g., housing construction, economic development, etc.) to justify the project's population projection.

5g. Confirm space eligibility. The amount of additional qualified square footage from the GSF calculations workbook should be entered on "qualifies for additional SF" line. The amount of additional square footage that will be added in this project should be entered on the "applying for additional SF" line. The amount of square footage that is applied for may be the same or less than the amount of the qualified square footage.

5h. Regional community facilities. (5 points possible) Statutes require an evaluation of other facilities in the area that may serve as an alternative to accomplishing the project as submitted. Information regarding the availability of such facilities and the effort (e.g. cost, time, etc.) required to make the facility usable for the school needs represented by the project should be provided. The area is not restricted to the attendance area served by the project.

Projects in Category F, which may not relate to providing alternate facilities for unhoused students, should describe existing community facilities (parking, sporting, or outdoor recreation areas) related to the project scope.

There are up to 5 points available for an adequate description showing that the district has considered alternatives to the proposed project for housing unhoused students or providing the desired feature.

Statutory and Regulatory Reference: AS 14.11.013(b)(4), 4 AAC 31.022(c)(5)

5i. Educational Specifications. A district planning a project to add or reconfigure space is required to develop an educational specifications document and provide it to the department for review. [See AS 14.07.020(11), 4 AAC 31.010] For projects adding or reconfiguring space, an educational specification is a required planning document in Appendix B for planning/concept design points.

5j. Project space utilization. (30 points possible) Table 5.2 Project Space Equation summarizes space utilization in the proposed project expressed in gross square feet. Space figures represented should tabulate to match the gross building square footages reported in question 3b as well as those shown in Table 7.2 of the cost estimate section. The worksheet at Appendix D lists types of school space that fit in each category. There are up to 30 points possible on the school construction list for the type of space being constructed.

6. PROJECT PLANNING & DESIGN

There are four distinct items in this question. Each one has the potential to generate points.

6a. Condition/Component survey. (0 to 10 points possible – refer to Rater Guidelines for scoring criteria) A *facility condition survey* is a technical survey of facilities and buildings, using the department's Guide for School Facility Condition Survey or a similar format, for the purpose of determining compliance with established building codes and standards for safety, maintenance, repair, and operation. Portions of the condition survey, such as that information pertaining to building codes and analysis of structural and engineered systems including site assessment may be completed by an architect, engineer, or personnel with documented expertise in a building system. For project scopes that are component or system renovations, a condition survey of the component or system is acceptable.

A facility condition survey is required for major rehabilitation projects to receive further planning and design points. Projects with scopes that warrant identification of in-depth examination of deteriorated systems will require a scope-specific facility or component condition survey to receive points beyond Phase I Planning/Concept Design. Condition surveys should be clearly identified and establish a specific date or date range when the survey occurred or was produced.

The department does not consider submittal of a Spill Prevention, Control, and Countermeasures (SPCC) Plan as a condition survey for fuel tank or fuel facility projects. In addition, an energy audit, although useful and informative, will not receive condition survey points if the project's scope warrants additional facility condition survey data.

6b. Planning / Concept design. (0 or 10 points possible) *Planning* work includes the items listed under planning in Appendix B of this document. At the planning phase, existing conditions may be assumed based on standard life expectancies and other industry norms. Condition/component surveys are only required for projects proposing major rehabilitation. ~~The department's Program Demand Cost Model is acceptable as a planning/concept level cost estimate.~~ Some projects may not require the services of an architect or engineer; typically these projects are limited in scope where drawings and extensive technical specifications are not necessary in order to issue an Invitation to Bid. Provide a justification in question 6e if no consultant was selected. Some projects do not require concept design or educational specifications. Reference Appendix B for projects which require these planning documents. The department's Program Demand Cost Model is acceptable as a planning/concept level cost estimate. There are 10 points possible for completed planning/concept design work.

If design has progressed further than planning/concept design, then schematic design (35%)~~,~~

~~design development (65%), or construction~~ level drawings and cost estimates may be submitted in lieu of concept design documents.

A *facility appraisal* is an educational adequacy appraisal following the format or similar formats of the Council of Educational Facility Planners, International "Guide for School Facility Appraisal". An appraisal is optional; however, an appraisal document is useful to the department in evaluating the overall merits of the project request.

6c. Schematic design – 35%. (0 or 10 points possible) *Schematic design* work includes the items listed under schematic design in Appendix B of this document. There are 10 points possible for completed schematic design work.

Project development to schematic design on most projects requires a condition/component survey to assess existing conditions. Condition/component surveys are required for projects proposing major rehabilitation and may be required for other projects if necessary to adequately support the scope of the proposed work.

Some projects may not require a schematic design in order to issue an Invitation to Bid. Typically these projects are limited in scope where drawings and extensive technical specifications are not necessary. Provide a justification if schematic design documents were not needed. The department's Program Demand Cost Model is not an acceptable Schematic level estimate.

If design has progressed further than schematic design (35%), then design development (65%) ~~or construction~~ level drawings and cost estimates may be submitted in lieu of schematic design documents.

6d. Design development – 65%. (0 or 5 points possible) *Design development* work includes items listed under design development in Appendix B of this document. There are 5 points possible for completed design development work.

Project development to schematic design on most projects requires a condition/component survey to assess existing conditions. Condition/component surveys are required for projects proposing major rehabilitation and may be required for other projects if necessary to adequately support the scope of the proposed work.

Construction level drawings and cost estimates may be submitted in lieu of design development documents.

6e. Planning / Design team. The application needs to identify the district's architectural or engineering (A/E) consultant for the Condition Survey, Planning, Schematic Design and Design Development work. If there is no consultant, the district must provide a detailed explanation of why a consultant is not required for the project. For others besides licensed design professionals currently registered in the State of Alaska, provide the qualifications for design team members that the district accepted. For example, if one is a school board member who is also an electrician, please note both. Likewise, note a district employee with

X years as a licensed roofing contractor, or a maintenance person with X years as the lead mechanical custodian for the district.

7. COST ESTIMATE

Cost estimate for total project cost. (30 points possible)

7a. Project cost estimate. For all applications, including those for planning and design, cost estimates should be based on the district's most recent information and should address the project being requested. Refer to Appendix C for descriptions of elements of the total project cost. The cost estimate should be of sufficient detail that its reasonableness can be evaluated. If a project is projected to cost significantly more than would be predicted by the Department's current Program Demand Cost Model, provide attachments justifying the higher cost. If there are special requirements, a detailed explanation and justification should be provided in question 7c.

Table 7.1 Total Project Cost Estimate. In Table 7.1, all prior AS 14.11 funding for this project should be listed by category and totaled in Column I. If a grant has not been issued, but an appropriation has been made, use the appropriated amount plus participating share in lieu of the issued grant or bond amount. Column II should list the amount of funding being requested in this application, by category and in total. Column III should show a percentage breakdown for the total project allocated costs as a percentage of the total construction cost. Column IV should list the total project cost estimate from inception to completion, all phases. Calculate the percent of construction for all cost categories except Land, Site Investigation, and Seismic Hazard. To calculate the percent of construction, divide the category costs by the Construction cost and multiply by 100%. Use Column IV costs to calculate the percent of construction. Other categories should be within the ranges listed. Construction Management (CM) by consultant must be less than 4% if the total project cost is less than or equal to $500,000; 3% for project costs between $500,000 - $5,000,000; and 2% for projects of $5,000,000 or greater [AS 14.11.020(c)]. The percent for art, required for all renovation and construction projects with a cost greater than $250,000, and which requires an Educational Specification, is given a separate line. Project Contingency is fixed at 5%. The total project cost should not exceed 130% of construction cost, excluding land and site investigation. If the project exceeds the recommended percentages, add a detailed justification in question 7c.

Seismic Hazard costs include the costs required to assess, design, and perform special construction inspections for a school facility. These costs include the costs for an assessment of seismic hazard at the site by a geologist or geotechnical engineer with experience in seismic hazard evaluation, an initial rapid visual screening of seismic risk, investigation of the facility by a structural engineer, design of mitigation measures by a structural engineer, third party review of seismic mitigation measures, and special inspections required during construction of the seismic mitigation components of the project. The costs associated with this budget item must be prepared by a licensed professional engineer with experience in seismic design. The district should refer to the department's website to review information on Peak Ground Acceleration information for various areas of the state. The website location for the information is: http://education.alaska.gov/Facilities/FacilitiesCIP.html

Table 7.2 Construction Cost Estimate. This summarization of construction costs is structured to be consistent with the DEED cost model. Other estimating formats may not provide an exact correlation; however, the following categories **MUST** be reported to allow adequate comparisons between projects: basic building, site work and utilities, general requirements, contingency, and escalation. Do not blank out or write over this table. If the application includes a cost estimate from a designer or professional cost estimating firm, Table 7.2 must still be filled out as described above.

Up to 30 points are possible for reasonableness and completeness of the cost estimate provided in support of the project.

7b. Cost estimate source. Identify the source of the cost estimate. A cost estimate could be from a professional design or estimating firm, vendor quotes, actual invoices, or based on the documented costs of a similar project in the district.

7c. Cost estimate discussion and justifications. Provide sufficient information to support meaningful evaluation of the project cost and the reasonableness of the cost estimate. Though basic cost information is incorporated into Tables 7.1 and 7.2, many cost elements reported in standard estimates will require further explanation or support. Please refer to Appendix C for guidelines covering project cost estimate percentages for factored cost items. Provide justification for any lump-sum elements used in the cost estimate, including site work and utilities. If the project exceeds a recommended percentage for a specific category or if the project is requesting more than 30% in additional percentage costs, provide a detailed justification. The project ~~description~~ scope and cost estimate should be increasingly detailed as project phases advance.

Identify attachments with additional information regarding project cost that may aid in evaluating the reasonableness of the cost estimate. Documents may include a life cycle cost analysis, cost benefit analysis, bid documents, actual cost estimates, final billing statement for completed projects, and any additional supporting documentation justifying project costs.

8. ADDITIONAL PROJECT FACTORS

8a. Emergency conditions. (50 points possible) Emergencies are conditions that pose a high level of threat for building use by occupants. An emergency exists when students are currently unhoused due to the loss of the facility, or damage to the facility due to circumstances associated with the emergency. An emergency also exists when the district's ability to utilize the facility is impacted or there is an immediate or high probability of a threat to property, life, health, or safety.

Not all systems or components that have reached the end of their useful life or are starting to fail are considered to be emergencies. A system or component that has reached the end of its useful life or has started to fail, but routine or preventive maintenance prolongs the life of the system or component, is not considered to be an emergency. Example: A roof that has started to leak and the leaking is stopped with routine maintenance would not constitute an emergency. A roof that is leaking, where rot has been found in the structure of the roof and routine maintenance no longer prevents water from entering the building, could be considered an emergency.

Describe in detail the nature, impact, and immediacy of the emergency and actions the district has taken to mitigate the emergency conditions. At a minimum, include the following:

- the nature of the emergency,
- the facility condition related to the emergency,
- the threat to students and staff,
- the consequence of continued utilization of the facility,
- the individuals or groups affected by the condition,
- what action the district has taken to mitigate the emergency conditions, and
- the extent to which any portion of the project is eligible for insurance reimbursement or emergency funding from any state or federal agency.

Supporting documentation of the conditions is critical. Documentation that supports the conditions can be documents such as: condition surveys, photos, third party communications, insurance claims, or other records verifying the conditions. This is not an exclusive list and applicants are encouraged to provide other sources of quantitative information to support the emergency condition. The primary purpose of this documentation is to present objective, primary, specific, and verifiable data.

The emergency descriptions with check boxes contained in question 8a are to help the applicant identify the type of emergency the project is resolving. The applicant must provide a description of the particular emergency in the application and include all relevant documentation that supports the immediacy or high probability of the threat or emergency. An application that checks an emergency building condition box without a description of the emergency will receive no points.

The matrix below incorporates the emergency conditions categories listed in the application with supporting examples.

Building

Building is destroyed or rendered functionally unsafe for occupancy and requires the building to be demolished and rebuilt. Example: A flood or fire event has destroyed or left the building so structurally compromised that the building must be demolished.

Building is unsafe and the entire student population is temporarily unhoused. The building requires substantial repairs to be made safe for the student population to occupy the building. Example: The roof of a school came off in a severe wind storm with water damage to interior finishes.

Building is occupied by the student population. A local or state official has issued an order that the building will need to be repaired by a certain date or the district will have to vacate the building. Example: It is discovered that the building does not meet current specified safety standards and the building will need to be made current with the standards within the next 90 days. Documentation substantiating the order needs to be supplied.

A portion of the building requires significant repair or replacement of damaged portion of building. The damaged portion of the building cannot be used for educational purposes. Example: The roof leaked over a classroom causing structural damage to the walls, which restricts the use of the room until the repairs are made.

Components or Systems
A major building component or system has completely failed and is no longer repairable. The failed system or component has rendered the facility unusable to the student population until replaced. Example: The heating plant has completely failed leaving the building unusable to the student population and susceptible to freezing and further damage.

A major building component or system has a high probability of completely failing in the near future. The component or system has failed, but has been repaired and has limited functionality. If the component fails, the district may be required to restrict use of the building until the component or system is repaired or replaced. Example: A fire alarm system has a history of components failing and given the age of the system, parts are no longer available. The system has a high probability of failing completely and district may have to vacate the building.

Statutory and Regulatory Reference: AS 14.11.013(b)(1)

8b. Inadequacies of space. (40 points possible) Describe how the project will improve existing facilities to support the instructional program. The response should address how the inadequacies of the facility impact the instructional program and whether that instructional program is a mandatory, existing local, or a proposed new local program. Types of inadequacies addressed may include the quality of space, amount of space, or configuration of the space.

Statutory and Regulatory Reference: AS 14.11.013(b), 4 AAC 31.022(c)(4)

8c. Other options. (25 points possible) In an effort to support the project submitted as the best possible, districts should consider a full range of options during planning and project development.

- A cost/benefit analysis, life cycle cost analysis, or other evaluative processes used by the district in reaching its design solution should be included. See also Item I, Project Eligibility Checklist, which requires a life cycle cost analysis, a cost benefit analysis, or any other quantifiable analysis, when needed, to demonstrate that the project is in the best interest of the district and the state.

- A project that proposes component replacement should discuss the merits of alternative products, material options, construction methods, alternative design, or other solutions to the problem as applicable.
- A project that proposes roof replacement should discuss the merits of different roofing materials, the addition of insulation, or altering the roof slope and provide an explanation as to why these options were not selected.
- If the proposed project will add new or additional space, districts may consider options such as double shifting, service area boundary changes, and any space available in adjacent attendance areas that are connected by road. In districts that contain adjacent attendance areas, at least one of the options considered must be an evaluation of potential boundary changes.
- Projects that propose construction of a new school should discuss other options, such as renovation of the existing building or acquisition of alternative facilities, and provide an explanation as to why these options were not selected.
- Scoring in this area will be related to factors such as: the range of options, the rigor of comparison, the viability of options considered, and the quality of data supporting the analysis of the option. Options also need to consider the results of cost benefit analysis, life cycle cost analysis, and value analysis as necessary.

There are up to 25 points available for a documented comprehensive discussion on the options considered by the district that would accomplish the same goals as the proposed project.

Statutory and Regulatory Reference: AS 14.11.013(b)(6), 4 AAC 31.022(c)(6)

8d. Annual operating cost savings. (30 points possible) Information (and evaluation points) related to operational costs is not limited to Category E projects. Explain and document ways in which the completion of the project would reduce current operational costs. This analysis should be consistent with a life cycle cost analysis or cost benefit analysis. Consider energy costs, costs related to wear-and-tear, maintenance of existing facilities costs, and costs incurred by current functional inadequacies at the facility and attendance area level. Provide benchmark values such as fuel costs, specific labor costs affected by the project, and historical record of problems to be addressed by this project.

For new facilities, discuss design choices that will provide periodic and long-term savings in the operation and maintenance of the facility. Although the addition of square footage may increase overall operational costs, project descriptions for this category of project should include information on methods and strategies used to minimize operational costs over the life of the building. Include cost benefit analyses that were accomplished on building systems and materials.

Up to 30 points are possible based on the projected cost savings payback with a full and complete description.

Statutory and Regulatory Reference: AS 14.11.013(b), 4 AAC 31.022(c)(3)

8e. Phased funding. (30 points possible) Prior state funding refers to **grant funds appropriated by the legislature to the department and administered under AS 14.11 as partial funding for this project only.** Any amounts noted here should also be included in Table 7.1 of the Cost Estimate, question 7a. No other fund sources apply, including debt retirement. There are up to 30 points available if a project includes previous grant funding under AS 14.11, and the project was intentionally short funded~~ by the legislature~~.

8f. Participating share waiver. Waivers of participating share should be in accordance with AS 14.11.008(d). Justification should be documented. See Appendix F in the attachments to these instructions for detailed information. Only municipal districts with a full value per ADM less than $200,000 that are not REAAs are eligible to request a waiver of participating share. Contact the department for a district's most recent full-value per ADM calculation.

9. DISTRICT PREVENTIVE MAINTENANCE & FACILITY MANAGEMENT

District preventive maintenance and facility management. (55 points possible)

AS 14.11.011(b)(1) and 4 AAC 31.011(b)(2) require each school district to include with its application submittals a description of its preventive maintenance program, as defined by AS 14.11.011(b)(4), AS 14.14.090(10), and 4 AAC 31.013. Refer to Appendix E for details.

The scoring criteria for this area reflect efforts beyond just preventive maintenance. For each element of a qualifying plan outlined in 4 AAC 31.013, documents, including reports, narratives, and schedules, have been identified for eight separate evaluations. These documents will establish the extent to which districts have moved beyond the minimum eligibility criteria and have tools in place for the active management of all aspects of their facility management. The documents necessary for each evaluation are listed below. They are grouped according to the five areas of effort established in statute and are annotated as to the type of evaluation (i.e., evaluative or formula-driven). Refer to the Guidelines for Raters of the CIP Application for additional information on scoring.

Up to 55 points possible for a clear and complete reporting of the district's maintenance program.

Only two sets, one of which may be an electronic copy, should be provided by the district, regardless of the number of submitted applications.

Maintenance Management

9a. Maintenance management narrative (Evaluative) (up to 5 points available)
Provide a narrative description of the effectiveness of your work order based maintenance management system.

How *effective* is the district's work order-based maintenance management system? How does the district assess the program's effectiveness? Describe the formal system in place that tracks timing and costs as stated in regulation and attach documentation (sample work orders, etc.). Discuss the quality of the program as it is reflected in the submitted formula-driven reports for 9b (i.e., diversity in work types, hours available is accurate, there is a high percentage of reported hours).

9b. Maintenance labor reports (Formula-Driven) (up to 15 points available)

Item A: Produce a districtwide report showing total maintenance labor hours collected on work orders by type of work (e.g., preventive, corrective, operations support, etc.) vs. labor hours available by month for the previous 12 months.

Item B: Produce a districtwide report that shows a comparison of completed work orders to all work orders initiated, by month, for the previous 12 months.

Item C: Produce a districtwide report showing the number of incomplete work orders sorted by age (30 days, 60 days, 90 days, etc.) and status for the previous 12 months (deferred, awaiting materials, assigned, etc.).

These reports will demonstrate a district's ability to manage maintenance activities related to the level and scope of labor requirements.

9c. PM/corrective maintenance reports (Formula-Driven) (up to 10 points available)

Item A: Provide a districtwide report that compares scheduled (preventive) maintenance work order hours to unscheduled maintenance work order hours by month for the previous 12 months.

Item B: Provide a districtwide report with monthly trend data for unscheduled work orders showing both hours and numbers of work orders by month for the previous 12 months.

These reports support the district's ability to manage maintenance activities related to scheduled (preventive) maintenance and unscheduled work (repairs). One factor in determining the effectiveness of a preventive maintenance program is a comparison of the time and costs of scheduled maintenance in relation to the time and costs of unscheduled maintenance.

9d. 5-year average expenditure for maintenance (Formula-Driven) (5 points available)

Districtwide maintenance expenditures for the last five years will be gathered by the department from audited financial statements. (Costs for teacher housing, utilities, or expenditures for which reimbursement is being sought will be excluded.) The department will calculate these items based on the Alaska Department of Education & Early Development Uniform Chart of Accounts and Account Code Descriptions for Public School Districts, ~~2014~~ 2018 Edition annual audited district-wide operations expenditure as the sum of Function 600 Operations & Maintenance of Plant expenditures in Fund 100 General Fund, excluding Object Code 430 Utilities, Object Code 435 Energy, Object Code 445 Insurance, all expenditures for teacher housing, and capital projects funded through AS 14.11. In addition, expenditures included in this calculation will not be eligible for reimbursement under AS 14.11.

The five-year average expenditure for maintenance is divided by the five-year average insured replacement value, districtwide. Insured value will include all district facilities reported in the department's facility database:

https://education.alaska.gov/Facilities/SchoolFacilityReport/SearchforSchoolFac.cfm

No information need be submitted with the application for this question.

Energy Management

9e. Energy management narrative (Evaluative) (5 points available)

Provide a narrative description of the district's energy management program and energy reduction plan.

Address how the district is engaged in reducing energy consumption in its facilities. Energy *management* should address energy utilization with the goal of reducing consumption. This objective can be achieved through a number of methods: some related to the building's systems, some related to the way the facilities are being used. The results of the energy management program should also be discussed.

Custodial Program

9f. Custodial narrative (Evaluative) (5 points available)

Provide a narrative description of the district's custodial program and evidence to show it was developed using data related to inventories and frequency of care.

Minimal custodial programs do not have to be quantity-based nor time-based relative to the level of care. Quality custodial programs take both these factors into account and customize a custodial plan for a facility on the known quantities and industry standards for a given activity (e.g., vacuuming carpet, dusting horizontal surfaces, etc.). Describe how the scope of custodial services is directly related to the type of surfaces and fixtures to be cleaned, the quantity of those items, and the frequency of the care for each. Describe how the district has customized its program to deal with different surfaces and care needs on a site-by-site basis.

Maintenance Training

9g. Maintenance training narrative (Evaluative) (5 points available)

Provide a narrative description of the district's training program including, but not limited to: identification of training needs, training methods, and numbers of staff receiving building-system-specific training in the past 12 months. In addition to the narrative description, provide a copy of the district's training log for the past year. The training log should include the name of the person trained, the training received, and the date training was received. Districts utilizing a computerized maintenance management system can track training and job shadowing activities through work orders and labor hours.

Training may include on-the-job training of junior personnel by qualified technicians on staff. For systems or components that are scheduled for replacement, or have been replaced as part of a capital project, manufacturer or vendor training could be made available to the maintenance staff to attain these goals and objectives. In-service training as well as on-line training could be provided for the entire staff. Safety and equipment specific videos are also an inexpensive training resource.

Capital Planning (Renewal & Replacement)

9h. Capital planning narrative (Evaluative) (5 points available)
Provide a narrative giving evidence the district has a process for developing a long-range plan for capital renewal.

Discuss the district's process for identifying capital renewal needs. Renewal and replacement schedules can form the basis for this work, but building user input should also be considered. It is important to move the capital planning process from general data on renewal schedules to actual assessments of conditions on site. This helps to validate the process and allows the district to create capital projects that reflect actual needs. A final step would be to review the systems needing replacement and to organize the work into logical projects (e.g., if a fire alarm and roof are confirmed to be in need of renewal, they may need to be placed in separate projects versus renewal of a fire alarm and lighting which could be effectively grouped in a single project).

ATTACHMENTS CHECKLIST

Eligibility and project description attachments. An application must include adequate documentation to verify the claims made in the application. The department may reject an application that does not have complete information or adequate documentation. See AS 14.11.013(c)(3)(A) and 4 AAC 31.022(d)(1). The eligibility and project description attachments checklist is provided to identify required materials and additional materials that are referenced in support of the project. The eligibility attachments are required for all projects. Projects with missing eligibility attachments will not be ranked. Check to see that your application is complete and indicate additional attachments the department should be referencing while evaluating the project.

Alaska Department of Education & Early Development
APPENDIX A: CATEGORIES OF GRANTS
Adopted by the Bond Reimbursement & Grant Review Committee
September 10, 2014

AS 14.11.013(a)(1) - annually review the six-year plans submitted by each district under AS 14.11.011(b) and recommend to the board a revised and updated six-year capital improvement project grant schedule that serves the best interests of the state and each district; in recommending projects for this schedule, the department shall verify that each proposed project meets the criteria established under AS 14.11.014(b) and qualifies as a project required to:[1, 2]

A. "Avert imminent danger or correct life threatening situations." This category is generally referred to as "Health and Life Safety." A project classified under "A" must be documented as having unsafe conditions that threaten the physical welfare of the occupants. Examples might be that the seismic design of structure is inadequate; that the required fire alarm and/or suppressant systems are non-existent or inoperative; or that the structure and materials are deteriorated or damaged seriously to the extent that they pose a health/life-safety risk. The district must document what actions it has taken to temporarily mitigate a life-threatening situation.

B. "House students who would otherwise be unhoused." This category is referred to as "Unhoused Students." A project to be classified under "B" must have inadequate space to carry out the educational program required for the present and projected student population. Documentation should be based on the current Department of Education & Early Development Space Guidelines. (Refer to 4 AAC 31.020)

C. "Protection of the structure of existing school facilities." This category is intended to include projects that will protect the structure, enclosure, foundations and systems of a facility from deterioration and ensure continued use as an educational facility. Work on individual facility systems may be combined into one project. However, the work on each system must be able to be independently justified and exceed $25,000. The category is for major projects, which are not a result of inadequate preventive, routine, and/or custodial maintenance. An example could be a twenty-year-old roof that has been routinely patched and flood coated, but is presently cracking and leaking in numerous locations. A seven-year-old roof that has numerous leaks would normally only require preventive maintenance and would not qualify. In addition, no new space for unhoused students is permitted in this category, limiting its ability to be combined with other project types.

D. "Correct building code deficiencies that require major repair or rehabilitation in order for the facility to continue to be used for the educational program." This category, Building Code Deficiencies, was previously referred to as "Code Upgrade." The key words are "major repair." A "D" project corrects major building, fire, mechanical, electrical, environmental, disability (ADA), and other conditions required by codes. Work on individual facility systems may be combined into one project. However, the work on each system must be able

[1] Projects can combine work in the different categories with the majority of work establishing the project's type. For the purpose of review and evaluation, projects which include significant work elements from categories other than the project's primary category will be evaluated as **mixed scope** projects [4 AAC 31.022(c)(8)].

[2] Projects will be considered for replacement-in-lieu-of-renewal when project costs exceed 75% of the current replacement cost of the existing facility, based on a twenty-year life cycle cost analysis that includes disposition costs of the existing facility.

to be independently justified and exceed $25,000. An example could be making all corridors one-hour rated. Making one or two toilet stalls accessible would not fit this category. In addition, no new space for unhoused students is permitted in this category, limiting its ability to be combined with other project types.

E. "Achieve an operating cost saving." This category is intended to improve the efficiency of a facility and therefore, save money. Examples that might qualify are increasing insulation, improving doors and windows, modifying boilers and heat exchange units for more energy efficiency. The project application must include an economic analysis comparing the project cost to the operating cost savings generated by the project. In addition, no new space for unhoused students is permitted in this category, limiting its ability to be combined with other project types.

F. "Modify or rehabilitate facilities for purpose of improving the instructional unit." Category "F", Improve Instructional Program, was previously referred to as "Functional Upgrade." This category is limited to changes or improvements within an existing facility such as, modifications for science programs, computer installation, conversion of space for special education classes, or increase of resource areas. It also covers improvements to outdoor education and site improvements to support the educational program.

G. "Meet an educational need not specified in (A)-(F) of this paragraph, identified by the department." Any situation not covered by (A)-(F), and mandated by the Department of Education. (Currently, there are no such mandates.)

Alaska Department of Education & Early Development
APPENDIX B: CAPITAL IMPROVEMENT PROJECT PHASES
Adopted by the Bond Reimbursement & Grant Review Committee
February 28, 2017

The application form requires designation of the phase(s) for which the district requests funding. Below is a basic scope of effort for each phase. Items marked **Required** are mandatory (where project scope dictates) in order for projects to receive planning, schematic design and/or design development points. Required documents must be submitted by September 1st.

CONDITION/COMPONENT SURVEY (0 to 10 points possible)

PHASE I - PLANNING/CONCEPT DESIGN (0 or 10 points possible)

1. Select architectural or engineering consultants (4 AAC 31.065) - (**Required if necessary to accomplish scope of project**)
2. Prepare a school facility appraisal (optional)
3. Include a condition/component survey as referenced above - (**Required if project is a major rehabilitation**[1])
4. Identify need category of project - (**Required**)
5. Verify student populations and trends - (**Required for new facilities and additions to existing facilities**)
6. Complete education specifications (4 AAC 31.010) - (**Required for new facilities, additions, and ~~major rehabilitations to existing facilities~~for projects that reconfigure or repurpose existing space**)

~~8~~7. Complete concept design studies ~~and planning cost estimate~~ - (**Required for new facilities, additions, and for projects that reconfigure or repurpose existing space**)

8. Complete planning cost estimate – (**Required**)

~~7~~9. Identify site requirements and potential sites - (**Required for new facilities**)

~~8. Complete concept design studies and planning cost estimate - (**Required**)~~

PHASE IIA - SCHEMATIC DESIGN – 35% (0 or 10 points possible)

1. Perform site evaluation and site selection analysis (4 AAC 31.025) - **(Required for new facilities)**
2. Prepare plan for transition from old site to new site, if applicable - (**Required for new facilities**)
3. Accomplish site survey and perform preliminary site investigation (topography, geotechnical) - (**Required for new facilities**)
4. Obtain letter of commitment from the landowner allowing for purchase or lease of site - (**Required for new facilities**)
5. Complete schematic design documents including development of approximate dimensioned site plans, floor plans, elevations and engineering narratives for all necessary disciplines - (**Required if necessary to adequately scope and complete the project**)
6. Complete preliminary cost estimate appropriate to the phase - (**Required**)
7. Accomplish a condition/component survey relevant to scope - (**Required if project is a major rehabilitation**[1] **or is necessary to adequately scope and complete the project.**)

PHASE IIB - DESIGN DEVELOPMENT – 65% (0 or 5 points possible)

1. Complete required elements of planning/design not finished in the previous phases - (**Required**)
2. Review and confirm planning (4 AAC 31.030)
3. Accomplish a condition/component survey relevant to scope - (**Required if project is a major rehabilitation**[1] **or is necessary to adequately scope and complete the project.**)
4. Obtain option to purchase or lease site at an agreed upon price and terms - (**Required for new facilities**)

[1] Under 4 AAC 31.900(7): "rehabilitation" means adapting an existing facility to improve the opportunity to provide a contemporary educational program; and includes major remodeling, repair, renovation, and modernization with related capital equipment.

Alaska Department of Education & Early Development
APPENDIX B: CAPITAL IMPROVEMENT PROJECT PHASES
Adopted by the Bond Reimbursement & Grant Review Committee
February 28, 2017

5. Complete design development documents, including dimensioned site plans, floor plans, complete exterior elevations, draft technical specifications, and engineering plans - (**Required if necessary to adequately scope and complete the project**)
6. Prepare proposed schedule and method of construction
7. Prepare revised cost estimate appropriate to the phase - (**Required**)
8. Energy consumption and cost report

PHASE III - CONSTRUCTION

1. Complete required elements of planning and design not previously completed - (**Required**)
2. Prepare final cost estimate - (**Required**)
3. Complete final contract documents and legal review of construction documents (4 AAC 31.040)
4. Advertising, bidding and contract award (4 AAC 31.080) - (**Required for contracts over $100,000**)
5. Submit signed construction contract
6. Construct project
7. Procure furniture, fixtures, and equipment, if applicable
8. Substantial completion
9. Final completion and move-in
10. Post occupancy survey
11. Obtain project audit/close out

Construction Management (CM) by a private contractor. Costs may include oversight of any phase of the project by a private contractor. 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 is 4% of the total project cost as defined in statute [AS 14.11.020(c)].

Land is a variable unrelated to construction cost and should include actual purchase price plus title insurance, fees, and closing costs. Land cost is limited to the lesser of the appraised value of the land or the actual purchase price of the land. Land costs are excluded from project percent calculations.

Site Investigation is also a variable unrelated to construction cost and should include land survey, preliminary soil testing, and environmental and cultural survey costs, but not site preparation. Site investigation costs are excluded from project percent calculations.

Design Services should include full standard architectural and engineering services as described in AIA Document B141-1997. 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, and post occupancy evaluations may increase fees beyond the recommended percentages.

Recommended: 6-10% (Renovation, complexity of scope, and scale might run 2% higher)

Construction includes all contract work as well as force account for facility construction, site preparation, and utilities. This is the base cost upon which others are estimated and equals 100%.

Equipment/Technology includes all moveable furnishing, 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, nor 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. The Equipment/Technology budget has two benchmarks for standard funding: percentage of construction costs and per-student costs as discussed in DEED's *Guidelines 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.

Recommended: 0-10% of construction cost **or** between $2,300 - $3,800 per student depending on school size and type.

District Administrative Overhead 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. In-house construction management should be included as part of this line item. The total of in-house construction management costs and construction management by consultant should not exceed 5% of the construction budget.

Recommended: 2-9%

Percent for Art includes the statutory allowance for art in public places. This may fund selection, design/fabrication and installation of works of art. One percent of the construction budget is required except for rural projects which require only one-half of one percent. For this category, projects are rural if they are in communities under 3,000 or are not on a year-round, publicly-maintained road system and have a construction cost differential greater than 120% of Anchorage as determined in the Cost Model for Alaskan Schools. The department recommends budgeting for art.

Project Contingency is a safety factor to allow for unforeseen changes. Standard cost estimating by A/E or professional estimators use a built in contingency in the construction cost of ± 10%. Because that figure is included in the construction cost, this item is a project contingency for project changes and unanticipated costs in other budget areas.

Recommended: 5% Fixed

Total Project Request is the total project cost, as a percent of the construction cost; except in extreme cases, should average out close to the same for all projects, when the variables of land cost and site investigation are omitted. This item is the best overall gauge of the efficiency of the project.

Recommended: Not to exceed 130%

Alaska Department of Education & Early Development
APPENDIX D: TYPE OF SPACE ADDED OR IMPROVED
Adopted by the Bond Reimbursement & Grant Review Committee
April 18, 1997

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

Alaska Department of Education & Early Development
APPENDIX E: DEFINITIONS OF MAINTENANCE
Adopted by the Bond Reimbursement & Grant Review Committee
April 18, 2001

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 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. Programs shall contain the elements defined in AS 14.11.011(b)(4) and 4 AAC 31.013 to be eligible for funding.

Renewal or Replacement
A scheduled and anticipated systematic upgrading or replacement of a facility system or component to establish its ability to function for a new life cycle.

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.

Alaska Department of Education & Early Development
APPENDIX F: INFORMATION REGARDING PARTICIPATING SHARE & IN-KIND CONTRIBUTIONS OR REQUEST FOR FULL WAIVER
Adopted by the Bond Reimbursement & Grant Review Committee
April 23, 1999

Current law – AS 14.11.008(d) - requires that a district provide a participating share for all school construction and major maintenance projects funded under AS 14.11. The department administers all funds for capital projects appropriated to it under the guidelines of AS 14.11 and 4 AAC 31. The following points should be considered by those districts requesting a waiver of the local participating share.

1. A district has three years before and after the appropriation to fulfill the participating share requirement.

A review of the annual financial audits and school district budgets indicate that no district is in a financial condition which warrants a full waiver. Local dollars are available to fund all or a portion of the match during the six years. Districts continue to generate and budget for, local interest earnings, facility rental fees, and other forms of discretionary revenue adequate to fund some or all of the required local match. If properly documented and not already funded by AS 14.11, prior expenditures for planning, design, and other eligible costs may be sufficient to meet the match requirement.

2. Both the administration and the Legislature have strong feelings that local communities should at least be partially engaged in the funding of projects.

In recognition of the inability of some communities to levy a tax or raise large amounts of cash from other sources, the legislation provides an opportunity for in-kind contributions, in lieu of cash. All districts need to make a directed effort to provide the local match, utilize fund balances and other discretionary revenue, consider sources of in-kind contributions, document that effort, and then request a full or partial waiver, as necessary.

3. All waiver requests require sufficient documentation.

Requests should be accompanied by strong, compelling evidence as to overall financial condition of the school district and in the case of a city/borough school district, the financial condition of the city/borough as well. The attachments should include, at a minimum, cash account reconciliations, balance sheets, cash investment maturity schedules, revenue projection, cash flow analysis and projected use of all fund balances and documentation in support of attempts to meet the local match. Historical expenditures do not provide sufficient evidence of future resource allocations. Consideration should be given to new and replacement equipment purchases, travel, and other expenditures that support classroom activity, but may be delayed until the local match is funded. Each district has an opportunity to help itself and provide a safe, efficient school facility through shared responsibility.

4. Districts may request consideration of in-kind contributions of labor, materials, or equipment.

Under regulation 4 AAC 31.023(d), in-kind contributions are allowed. This also affords an opportunity for community participation through contributions to the art requirements for new buildings or other means. This option should be fully explored, as well as the documentation mentioned above, prior to requesting a waiver of all or part of the participating share.

Alaska Department of Education & Early Development
Capital Improvement Project Application
Project Eligibility Checklist

Date _______________

District ______________________________ Project ____

Is the project eligible? Yes ☐ No ☐

The following items are requirements for projects to be eligible for grants or bond reimbursement as required by statute or regulations. Please check YES or NO if project application is in compliance or not.

	Primary Application Question(s)		Yes	No
A	All	The application is complete and all questions are fully answered – AS 14.11.013(c)(3)(A)		
B	2a	The district's CIP-6 year plan has been submitted – AS 14.11.011(b)(1)		
C	2b	The district has an auditable fixed asset inventory system – AS 14.11.011(b)(1)		
D	2c	Evidence of replacement cost property insurance – AS 14.11.011(b)(2)		
E	8f	If the district has requested a waiver of participating share, is the request attached? (If not applicable, leave blank) – AS 14.11.008(d)		
F	2d & 3d	Evidence that project should be a capital improvement project and not preventive maintenance or custodial care – AS 14.11.011(b)(3). This also applies to a funding request that should not be a capital project except for a lack of preventive maintenance or custodial care.		
G	3d	Evidence that project meets the criteria of one of the A-F categories – AS 14.11.013 (a)(1)		
H	3d, 4a, & Sec. 7	A detailed scope of work, project budget, and documentation of need – AS 14.11.011 (b)(1)		
I	3d, Sec. 7, & 8c	The scope of work should include all information requested in the application instructions and should include life cycle cost analysis, cost benefit analysis or any other quantifiable analysis, as needed, which demonstrates that the project is in the best interest of the district **AND** the state – AS 14.11.013(c)(3)(C)		
J	5a, 5b, 5c, 5d, 5e, 5f, & 5g	For projects requesting additional space, evidence of space eligibility based on supported 2-year and 5-year-post-occupancy student population projection data – 4 AAC 31.021(c)(1)&(c)(3)		
K	3d, 4a, 5h, 8b, & 8c	Evidence that the existing facility can not adequately serve or that alternative projects are in the best interest of the state – AS 14.11.013(c)(3)(B)		
L	5h & 8c	Evidence that the situation can not be relieved by adjusting service area boundaries and transportation – 4 AAC 31.021(c)(2) & AS 14.11.013(b)(6)		
M	2e & Sec. 9	DEED certification that the school district has a facility management program that complies with 4 AAC 31.013 and a description of the district's preventive maintenance program – AS 14.11.011(b)(1)		
N	All	Adequate documentation supporting the project request – AS 14.11.013(c)(3)(A) and 4 AAC 31.022(d)(1)		

Alaska Department of Education & Early Development
Capital Improvement Project Application
Formula-Driven Rating Form

Adopted by the Bond Reimbursement and Grant Review Committee

District: ____________ **Project Title:** ____________

Fund: ____________

Rater: ____________ **CIP ID Number:** ____________ **Category:** ____________

Date: ____________ **Ineligible?:** ____________ ☐

	School Construction A, B, F	Major Maintenance C, D, E
1. Preventive maintenance (Questions 9b - 9d) A. Maintenance Management Program 1. Detailed summary reports of maintenance labor parameters (9b) 15 points	/15	/15
2. Detailed summary reports of PM/corrective maintenance parameters (9c) 10 points	/10	/10
3. The 5-year average expenditure for maintenance divided by the 5-year average insured replacement value, district wide. (9d) 5 points If % < 4, then (% x 1.25) If % > 4, then 5	/5	/5
2. District ranking (Question 3a) Only eligible project requests are used to calculate ranking points Project #1 request = 30 points, #2 = 27 points, #3 = 24 points, Each additional project 3 points less	/30	/30
3. Weighted average age of facility (Question 3b) A. 0-10 years = 0 points B. > 10 ≤20 years = .5 / year in excess of 10 years C. > 20 ≤30 years = 5 + .75 per year in excess of 20 years D >30≤40 years = 12.5 + 1.75 per year in excess of 30 years E. > 40 years = 30 points	/30	/30
4. Condition/Component Survey (Question 6a) Condition survey = 0, 3, 5, 8, or 10 points	/10	/10
5. Planning & design phase has been completed (Question 6b-6e and Appendix B) A. All required elements of planning = 10 points B. All elements planning + required elements of schematic design = 20 points C. All elements of planning and schematics + required elements of design development = 25 points	/25	/25
6. Previous AS 14.11 funding for this project (Questions 8e & 7a) Previous funding = 30 points No previous funding = 0 points	/30	/30
7. Unhoused students today (Questions 5a-5g) A 100 % of capacity = 0 points B. > 100% of capacity = One point for each 3% of excess capacity C. 250 % of capacity = 50 points	/50	N/A
8. Unhoused students in seven years (5 year Post-occupancy) (Questions 5a-5g) A 100 % of capacity = 0 points B. > 100% of capacity = One point for each 5% of excess capacity C. 250 % of capacity = 30 points	/30	N/A
9. Type of space added or improved (Question 5j) A. Instructional or resource 30 points B. Support teaching 25 points C. Food service, recreational, and general support 15 points D. Supplemental 10 points	/30	N/A
Formula-Driven Total Points	**/265**	**/155**

Alaska Department of Education & Early Development
Capital Improvement Project Application
Evaluative Rating Form

Adopted by the Bond Reimbursement and Grant Review Committee

District: ____________________ **Project Title:** ____________________

Fund: ____________________

Rater: ____________________ **CIP ID Number:** __________ **Category:** __________

Date: ____________________ **Ineligible?:** ____________________ ☐

Note: Points for elements two through eight will be weighted to apply to each specific category of a mixed-scope project.	**School Construction A, B, F**	**Major Maintenance C, D, E**
1. Effectiveness of preventive maintenance program (Question 9)		
A. Maintenance Management Narrative (9a)	/5	/5
B. Energy Management Narrative (9e)	/5	/5
C. Custodial Narrative (9f)	/5	/5
D. Maintenance Training Narrative (9g)	/5	/5
E. Capital Planning Narrative (9h)	/5	/5
2. Seriousness of life/safety and code conditions (Question 4a)	/50	/50
3. Reasonableness & completeness of cost or cost estimate (Questions 7a-7c)	/30	/30
4. Emergency conditions (Question 8a) Did application check “yes”? ☐ Did discussion support emergency status? ☐	/50	/50
5. Existing space fails to meet or inadequately serves existing or proposed elementary or secondary programs (Question 8b)	/40	/5+
6. Thoroughness in considering a full range of options for the project (Question 8c)	/25	/25
7. Relationship of the project cost to the annual operational cost savings (Question 8d)	/30	/30
8. Thoroughness in considering use of alternative facilities to meet the needs of the project (Question 5g)	/5	N/A
Evaluative Total Points	**/255**	**/215**

Guidelines for Raters of the CIP Application

Introduction

The Department of Education & Early Development is charged with the task of compiling a prioritized list of projects to be used in preparing a six-year capital plan for submittal to the governor and the legislature (AS 14.11.013(a)(3)). The criteria for accomplishing the priorities are established in statute (AS 14.11.013(B)) and are awarded points based on a scoring system developed by the Bond Reimbursement and Grant Review Committee under its statutorily imposed mandate (AS 14.11.014(b)(6)).

The guidelines provided here are to assure that raters are using a common set of terms and standards when awarding points for the evaluative scoring criteria.

Basis for Rating Applications

The following positions will define the base philosophy for rating applications.

Since districts are required to submit a request for a capital project no later than September 1 of the year preceding the fiscal year for which they are applying, no rater shall review, rank, or give feedback regarding scoring a project prior to this deadline.

Applications will be ranked based on the information submitted with the application, or applicants may use information submitted to the department in support of a project, provided the submission occurs on or before September 1 and is identified as an attachment to an application. Each rater shall arrive at the initial ranking of each project independently. Raters will be expected to go through each application question by question. They will also review all attachments for content, completeness, and bearing on each scoring element. Consistency in scores from year-to-year shall be considered. It is expected that projects will demonstrate different levels of completeness in descriptions and detail depending on the stage of project development.

Projects are prioritized in two lists, the School Construction List and the Major Maintenance List, and reflect the two statutory funds established for education capital projects. Under the definitions provided in statute and regulation, projects which add space to a facility are classed as School Construction projects and must fall in categories A, B, F, or G. Major maintenance projects (categories C, D, and E) may not include additional space for unhoused students. Only projects in which the primary purpose is Protection of Structure, Code Compliance, or Achieve an Operating Cost Savings, where the work includes renewal, replacement, or consolidation of existing building systems or components, should be considered as maintenance projects.

Each rater should have an eligibility checklist available during rating. Eligibility items A, F, G, I, J, L, and N will be evaluated by each rater. Other eligibility items will be the responsibility of support team members doing data input and capacity/allowable calculations. Discussion regarding project eligibility should be brought to the attention of the rating team as soon as it becomes an issue in one person's mind.

Alaska Department of Education & Early Development

Evaluative Rating Guidelines

For each of the evaluative rating categories, raters will consider the factors listed when evaluating and scoring applications. The list is not exclusive, nor exhaustive. As raters read and evaluate projects, review of the listed elements is to be done for referential purposes. Raters should also refer to the Application Instructions for each question.

Condition/Component survey (Application question 6a; Points possible: 0-10 – non-evaluative)

- Condition/component survey age is relative to the earlier of either the application submittal deadline or the project's substantial completion.

Points will be assigned in increments using the following suggested guidelines:

Condition/component survey is a comprehensive product that informs the project. It includes a full description of existing systems, including code deficiencies, and provides recommendations for upgrades related to all deficiencies described. Costs associated with each deficiency and upgrades are provided as applicable. Supplements may be included such as special inspections, engineering calculations, photographs, drawings, etc. Floor plans, with building area designations and room identifications, are encouraged. Portions of the condition survey, such as that information pertaining to building codes and analysis of structural engineered systems, may have been completed by an architect, engineer, or persons with documented expertise in a building system. It is less than 6 years old.	10 points
Condition/component survey contains many of the required elements as listed above, but not all. It is less than 10 years old.	8 points
Condition/component survey informs the project. Supplements such as special inspections, engineering calculations and drawings that would further document conditions justifying the project are not provided or documentation is not substantial. It is less than 10 years old.	5 points
Condition/component survey is more than 10 years old, but may still contain some relevant building information pertaining to the project.	3 points
Condition/component survey has not been submitted or does not inform the project.	0 points

Alaska Department of Education & Early Development

Code deficiencies / Protection of structure / Life safety (Application Question 4a; Points possible: 50)

- Points will be assigned for code deficiency, protection of structure, or life safety conditions when the application documents the deficiency, the need for correction, and how the project corrects the deficiency.
- Simply identifying a condition in the application will not necessarily generate points. A well-described and documented condition that provides for full evaluation and point awards will include specificity, with attached documentation to support the narrative.
- ~~Consider how information provided on the type and nature of code deficiency, protection of structure, or life safety conditions relates to definitions provided in Appendix A of the application instructions.~~
- A project can address a single condition or multiple conditions. Evaluate the severity of each condition. Incremental point~~s~~ adjustments from those provided in the below matrix may be provided for severity, the nature of the item, and effect on the school facility. ~~A single condition where the severity and criticalness of the issue is evident may receive more points than a combination of conditions.Based on severity and criticalness, individual conditions in a project will be evaluated and the rating will reflect each condition's portion of the project scope. When a combination of code deficiency, protection of structure, or life safety conditions create a situation where utilization of the facility is significantly impacted, the project may be awarded higher points.~~
- ~~For code issues, higher consideration will be given for immediate code upgrades, as compared to upgrades necessary due to other repairs and replacements or updates to older buildings to meet current codes.~~
- Does the project scope combine severe and non-severe or critical and non-critical conditions? Inclusion of unrelated non-severe or non-critical conditions in a project ~~may~~ will reduce the overall score of the project based on a percentage of project cost.
- ~~The highest level of points is rare but is reserved to address a situation where the severity of code deficiency, protection of structure, and life safety conditions are to the point that the project takes a higher position over other projects. Those rare projects that demonstrate situations with building failure may reach the highest category of need and points.~~
- Complete or imminent building failure caused by code deficiency, protection of structure, or life safety conditions resulting in unhoused students. The narrative is supported by documentation that details the failure or imminent failure of the building with evidence that the student population will be vacated. Projects at this level will likely have an emergency situation that will be addressed in the emergency question. (35 to 50 points)
- Per 4 AAC 31.022(c)(8), scoring of mixed-scope projects will be weighted.

Points will be assigned ~~in increments~~ using the following suggested guidelines. Points for mixed-conditions will be combined and weighted using a ratio of construction cost for correcting scored conditions to the total requested construction cost of the project:

Site		Structural		Roof/Envelope	
Condition Issue	Pts	Condition Issue	Pts	Condition Issue	Pts
Vehicle Surfaces	3	Seismic - no restrictions	3	Siding Failure, age <20yr	2
Walking Surfaces	4	Foundation/Floor - no PE	4	Siding Finish	2

Alaska Department of Education & Early Development

Drainage Issues	6	Seismic - minimal restrictions	6	Roof, age >Warranty +5	3
Playground Code	12	Upper Floor Structure - no PE	9	Trim/Flashings, age >20yr	6
Wastewater Issues	15	Vertical Structure - no PE	9	Roof, age Warranty +10	6
Water Issues	16	Roof Structure - no PE	10	Siding Material, age >20yr	8
Wastewater Failure	24	Foundation/Floor - PE	15	Roof Leaks - avg WO<3/yr[2]	8
Water Failure	25	Seismic - moderate restriction	15	ASHRAE 90.1 Windows	8
		Upper Floor Structure - PE	20	ASHRAE 90.1 Insulation	10
		Vertical Structure - PE	20	Siding Failure, age <30yr	12
		Roof Structure - PE	24	Siding, age >20yr	12
		Seismic/Gravity Partial Closure[1]	28	Windows/Doors, age >20yrs	12
		Seismic/Gravity Full Closure[1]	50	Roof Leaks, avg WO >3/yr[2]	15
				Windows/Doors, age >30yr	15
				Doors w/Egress issues	15
				Roof Leaks affect space	25

Arch/Interior/ADA		Mechanical		Electrical	
Condition Issue	Pts	Condition Issue	Pts	Condition Issue	Pts
ADA - 1 issue	1	Narrative, System age >20yr	2	Narrative, Lighting age >20yr	2
ADA - 2 issues	2	Narrative, System age >30yr	4	Narrative, Electrical age >30yr	4
DEC Sanitation	2	Ventilation, WO <3/yr[2]	5	Power, WO <3/yr[2]	4
ADA - 3 issues	3	Plumbing, WO <3/yr[2]	6	Lighting, WO <3/yr[2]	4
Ceiling Finishes age >15yr	3	Heating, WO <3/yr[2]	7	Egress/EM lights, WO <3/yr[2]	5
Wall Finishes age >15yr	3	Ventilation, WO >3/yr[2]	9	Power, WO >3/yr[2]	7
ADA - 4 issues	4	Plumbing, WO >3/yr[2]	10	Lighting, WO >3/yr[2]	7
Floor Finishes >15yr	4	Heating, WO >3/yr[2]	11	Egress/EM lights, WO >3/yr[2]	8
Wall Finishes >20yr	6	Codes: Ventilation	12	Intercom Issues, WO >3/yr[2]	8
Ceiling Finishes >20yr	7	Codes: Plumbing	12	Codes, Lighting	10
Floor Finishes >20yr	8	Codes: Heating	13	Codes, Power	10
Bldg Egress	10	Boilers, 1 of 2 Non-op	13	Intercom Failure	10
Rated Assemblies	12	Codes + PE	15	Codes + PE	13
Codes + Arch	15	HVAC age >40yr	15	Electrical, age >40yr	15
		Boilers, 2 of 3 Non-op	18	Light Levels, <50% of code	16
		Mechanical Systems, WO >5/yr[2]	21	Electrical Systems, WO >5/yr[2]	21
		Heating Failure	25	Power Failure	25

Fire Alarm/Sprinkler		UST/AST/HazMat	
Issue	Pts	UST/AST/HazMat	Pts
Narrative, Fire Alarm age >10yr	2	HazMat (all) Low Exposures	3
Narrative, Sprinkler >30yr	2	Narrative, UST age >30yr	2
Heads Failing, age >30yr	5	Narrative, AST age >40yr	5
Non-addressable FA	6	UST/AST Leak	7

DEFINITIONS:
PE = documented by a Professional Engineer
No PE = not documented by Professional Engineer

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FA/Sprinkler, WO >1/yr[2]	8	USCG/40 CFR Cite	10
Heads Failing, age >40yr	10	HazMat (all) Mod Exposures	10
FA/Sprinkler, WO >3/yr[2]	15	HazMat (all) High Exposures	22
Fire Alarm Non-op, <3 floors	17		
FA/Sprinkler, WO >5/yr[2]	20		
Fire Alarm Non-op, >3 floors	25		
Sprinkler Non-op	30		

WO = Work Orders provided w/ appln

~~Deficiencies related to building code where there is no threat to life safety. These issues include compliance with various current building and accessibility codes. The narrative is supported by documentation that details the type and nature of the building and accessibility code deficiencies. The documentation supports the condition and severity of the violation.~~	~~0 to 35 points~~
~~Deficiencies in the protection of the structure that, when left unrepaired, will lead to new or continued damage to the existing structure, building systems, and finishes resulting in a shortened life of the facility. The narrative is supported by documentation that details the type and nature of the deficiencies in the protection of the structure. The documentation supports the condition and severity of the deficiencies.~~	~~0 to 35 points~~
~~Deficiencies representing unsafe conditions threatening the health and life safety of students, staff, and the public; building code conditions impacting health and life safety. The narrative is supported by documentation that details the type and nature of the health and life safety deficiencies. The documentation supports the condition and severity of the deficiencies.~~	~~0 to 35 points~~

Notes:

[1] If district does not qualify for space, points limited to 15.

[2] Average of prior 3 years, provide work orders. See application instructions.

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Regional community facilities (Application Question 5h; Points possible: 5)

- Is a community "inventory" provided?
- Where reasonable alternative facilities have been identified, is there documentation with the facility owner regarding availability?
- Consider the effort/results in identifying alternative facilities and the rationale behind the viability of the alternative facility.
- Were judgments about the viability of alternate facilities made with "institutional knowledge", professional assessment, third party objectivity, and/or economic analysis?
- Are facilities listed in a narrative discussion or are they documented with supplemental data such as photos, maps, facility profile, etc.?
- This point category is only applicable to construction projects.

Points will be assigned in increments using the following suggested guidelines:

A community inventory is provided and reasonable alternative facilities have been identified. The rationale behind the viability of the alternative facilities has been provided and judgments are made using institutional knowledge, third party objectivity, economic analysis, etc. The narrative discussion is documented with photos, maps, facility profiles, etc.	5 points
A community inventory is provided and reasonable alternative facilities have been identified. The rationale behind the viability of the alternative facilities has been provided and judgments are made using institutional knowledge, third party objectivity, economic analysis, etc.	4 points
A community inventory is provided and reasonable alternative facilities have been identified. The rationale behind the viability of the alternative facilities has been provided.	3 points
A community inventory is provided and reasonable alternative facilities have been identified.	2 points
A community inventory is provided.	1 point
Question has not been answered	0 points

Cost estimate for total project cost (Application Questions 7a - 7c; Points possible: 0-30)

- Check to assure that the estimate matches the proposed project scope.
- Primary evaluation should test both the "reasonableness" and the "completeness" of the cost estimate (i.e., How well can this estimate be used to advocate for this project?).
- Check for double entries, including factored items, cost after adjustment for geographic factor, and percentages and justification (with backup) when percentages exceed DEED guidelines.
- Review and evaluate backup for cost estimate including lump sum or actual construction costs.

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- Rating considers the full range of estimates: from conceptual to detail design to actual construction costs. It should be noted that because this scoring element covers the full range of estimate possibilities, it is anticipated that conceptual estimates score less than more detailed construction estimates and actual construction cost documentation.
- Completed project costs are supported by competitive selection documentation, and DEED-approval of in-house labor or an alternative procurement method, as needed.

Points reflect the reasonableness and completeness evaluation and will be assigned in increments using the following suggested guidelines:

The estimate matches the scope of work, is reasonable and complete with no double entries, adjustments are accurate, justification and backup is provided when estimate exceeds DEED guidelines, and all lump sums amounts are described and supported. The estimate is based on construction document level cost estimate, bid tabulations, or actual invoices.	27-30 points
The estimate matches the scope of work, is reasonable and complete with no double entries, adjustments are accurate, justification and backup is provided when estimate exceeds DEED guidelines, and all lump sums amounts are described and supported. The estimate is based on 65% design development level specifications and drawings.	23-26 points
The estimate matches the scope of work, is reasonable and complete with no double entries, adjustments are accurate, justification and backup is provided when estimate exceeds DEED guidelines, and all lump sums amounts are described and supported. The estimate is based on 35% schematic design level documents.	18-22 points
The estimate matches the scope of work, is reasonable and complete with no double entries, adjustments are accurate, justification and backup is provided when estimate exceeds DEED guidelines, and all lump sums amounts are described and supported. The estimate is based on concept design level documents. The DEED demand cost model is acceptable as a planning/ concept level cost estimate.	12-17 points
The cost estimate is not adequately developed to support concept level costs. Components may not be present to confirm scope of work, reasonableness and completeness or other elements. Project may be at an early preliminary stage.	6-11 points
Construction costs are not supported or many cost elements are missing.	1-5 points

Emergency conditions (Application Question 8a; Points possible: 50)

- If the district doesn't declare the project an emergency, points will not be awarded.
- Consider the ranking of the project on the district six-year plan.
- Consider the "level of threat" to both people and property in assessing the emergency.

- Consider the "nature" of the emergency.
- Consider the "impact" on the use of the facility due to the emergency condition.
- Consider the "immediacy" of the emergency (how time critical is it?).
- Consider the level of description and documentation provided.
- Consider whether the description provided is congruent with other application elements.
- Does the project scope include non-emergency conditions? Scoring of mixed-scope projects, which address both emergency and non-emergency conditions, should be weighted based on the amount of emergency work that is included in the project.

Points will be assigned in increments according to the level of threat using the following suggested guidelines. High threat emergency projects with high emergency points are infrequent.

Building is destroyed or rendered functionally unsafe for occupancy and requires the building to be demolished and rebuilt. The emergency narrative is supported by documentation that addresses the immediacy of the emergency, the circumstances of the loss of the building, and that the students are currently unhoused.	50 points
Building is unsafe and the entire student population is temporarily unhoused. The building requires substantial repairs to be made safe for the student population to occupy the building. The emergency narrative is supported by documentation that addresses the immediacy of the emergency and the narrative explains any mitigation the district has taken to address the emergency.	25-45 points
Building is occupied by the student population. A local or state official has issued an order that the building will need to be repaired by a certain date or the district will have to vacate the building. The emergency narrative is supported by documentation from the local or state official providing the date when the repairs need to be completed. The documentation addresses the immediacy of the emergency and the narrative explains any mitigation the district has taken to address the emergency.	5-25 points
A portion of the building requires significant repair or replacement of damaged portion of building. The damaged portion of the building cannot be used for educational purposes. The emergency narrative is supported by documentation that addresses the immediacy for the emergency, the circumstances surrounding the damaged portion of the building, and the portion of the building that is not available for educational purposes.	5-45 points
A major building component or system has completely failed and is no longer repairable. The failed system or component has rendered the facility unusable to the student population until replaced. The emergency narrative is supported by documentation that addresses the immediacy of the emergency, the circumstances of the failure, and that the students are currently unhoused.	25-45 points

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A major building component or system has a high probability of completely failing in the near future. The component or system has failed, but has been repaired and has limited functionality. If the component fails the district may be required to restrict use of the building until the component or system is repaired or replaced. The emergency narrative is supported by documentation that addresses the high probability of the failure and documents the requirement to restrict use of the building until corrected.	5-25 points

Inadequacies of Existing Space (Application Question 8b; Points possible: 40)

- Scoring is based on the described and documented inability of existing space to adequately serve the instructional program. Points are not awarded for code violations.
- Consider the adequacy of the space in terms of both form and function, crowding, and upgrades to space that support the instructional program.
- Balance consideration of educational adequacy of physical arrangement versus functional factors.
- Scoring should take into consideration whether the inadequate space is for a mandatory instructional program or a new or existing local program.
- Does the project include improvements to functionally adequate space? Scoring of projects with functionally adequate space and inadequate space should weight the amount of work improving inadequate space that is included in the project.

Points will be assigned in increments using the following suggested guidelines:

The existing space as described and documented is significantly inadequate to meet state mandated instructional programs, facility is severely overcrowded, and the project is to add or upgrade state mandated instructional space. Documentation such as a condition survey, design narrative, or space calculations can be used to support the inadequacies of the existing space.	25-40 points
The existing space as described and documented is not adequate to meet state mandated or proposed new or existing local instructional programs, facility is moderately overcrowded, and the project is to add or upgrade state mandated instructional or proposed new or existing local instructional space. Documentation such as a condition survey, design narrative, or space calculations can be used to support the inadequacies of the existing space.	11-24 points
The existing space as described and documented is not adequate to meet state mandated or proposed new or existing local instructional programs, facility has minor or no overcrowding, and the project is to add or upgrade state mandated instructional or proposed new or existing local instructional space.	1-10 points
A major maintenance project that describes and documents the inadequacy of the existing space that is an additional condition being addressed in the project.	0-5 points

Other options (Application Question 8c; Points possible: 25)

- Consider how completely this topic is addressed. Does the discussion provide alternatives and details that support a strong vetting of the project options?
- Consider the range of options considered and the rigor of the comparison to each other. Does the comparison of options support the project chosen?
- Scoring should increase in accordance with the amount of detailed information; graduated into three levels of: 1) unsupported narrative, 2) well supported narrative, and 3) detailed cost analysis.
- Consider boundary changes where applicable.
- For installed mechanical equipment, was a re-conditioned or re-built option considered in lieu of new?
- For over-crowding, was double shifting or other alternatives considered?

Points will be assigned in increments using the following suggested guidelines:

Were the options considered viable alternatives? The options are fully described viable options that are supported by a life-cycle cost analysis and cost benefits analysis that compare the cost of the options; an explanation is provided for the rationale behind the selection of the preferred option. Documentation is submitted that supports the options, analysis, and conclusion. The options contain the proposed project and at least two other viable options.	21-25 points
The options are fully described viable options that include cost comparisons between options. An explanation is provided for the rationale behind the selection of the preferred option; however, no life cycle cost analysis is included. Documentation is submitted that supports the options, analysis, and conclusion. The options contain the proposed project and at least two other viable options.	11-20 points
A description is included for each option; however, the options are not supported with additional documentation or cost analysis. The options contain the proposed project and at least one other viable option.	1-10 points

Annual operating cost savings (Application question 8d; Points possible: 30)

- This should be rated based on information provided which specifically address this issue.
- Evaluation should be based on district provided data and analysis rather than opinion.
- Top scores should be reserved for those projects that can demonstrate a payback within a relatively brief period of time.
- Should be consistent with life cycle cost analysis and cost benefit analysis (if provided). This may have either a positive or a negative relationship to justification of a project.
- Evaluation may reward efforts to contain or reduce operating costs even if the project doesn't save money or have a payback (i.e. – utilizing LEED or CHPS standards for construction).

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Points will be assigned in increments using the following suggested guidelines:

A detailed breakdown of projected annual operational cost savings compared to the project cost. The analysis should be consistent with a life cycle cost analysis or cost benefit analysis which is submitted with the project. The projected operational cost savings have a documented, detailed payback of 10 years or less.	21-30 points
A detailed breakdown of projected annual operational cost savings compared to the project cost. The analysis should be consistent with a life cycle cost analysis or cost benefit analysis which is submitted with the project. The projected operational cost savings have a documented, detailed payback of between 10 and 20 years.	11-20 points
A summary analysis that includes a projected annual operational cost savings compared to the project cost. The projected operational cost savings documents efforts to contain or reduce operating costs and has a payback that exceeds 20 years.	6-10 points
Stated opinion regarding estimated cost savings that could be achieved with the project.	1-5 points

District preventive maintenance and facilities management (Application Questions 9a, 9e-9h; Points possible: 25 evaluative)

Maintenance Management Narrative (Application Question 9a; Points possible: 5)

- Does the described program address preventive maintenance as well as routine?
- How well does the program work for each individual school?
- Does the program address all building components? Mechanical, electrical, structural, architectural, exterior/civil?
- Is there evidence supplied which demonstrates that the program is effective?
- Who participates in the program and how does it function?

Energy Management Narrative (Application Question 9e; Points possible: 5)

- Is the district engaged in reducing energy consumption in its facilities?
- Is a comprehensive set of methods being used?
- Is the program districtwide in scope?
- Is the program achieving results?
- Is there a method for reviewing and monitoring energy usage?

Custodial Narrative (Application Question 9f; Points possible: 5)

- Is the district's custodial program complete?
- Is custodial program based on quantities from building inventories and frequency of care based on industry practice?
- Has the district customized its program to be specific to each facility?
- Is the program districtwide in scope?
- Is the program achieving results?

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Maintenance Training Narrative (Application Question 9g; Points possible: 5)

- Does the program address training and on-going education of the maintenance staff?
- Are maintenance personnel being trained in specific building systems?
- Are training schedules attached?
- How is Training Recorded?
- How is effectiveness measured?

Capital Planning Narrative (Application Question 9h; Points possible: 5)

- Does the district have a process for identifying capital renewal needs?
- Are component/subsystem replacement cycles identified and used?
- Does the system involve building occupants and users?
- Are renewal schedules comprehensive and vetted for credibility?
- Are systems up for renewal grouped into logical capital projects?
- Does review of projects on six-year plan show evidence of use of capital planning process, including renewal and replacement scheduled.

Summary of 4 AAC 31 Changes Under Review & Development

Regulation	Purpose of Change
4 AAC 31.013(f)	Allow department to change its PM compliance determination on based information other than the on-site inspection.
4 AAC 31.016(i) (new)	Provide guidance on when to include or exclude attendance area enrollment when housed in leased facilities.
4 AAC 31.020(a)	Update publication titles and editions.
4 AAC 31.020(d)	Provide department flexibility to reduce or not reduce a project budget at the design development stage.
4 AAC 31.021(f)	Remove requirement to provide inflation/escalation to completed project costs.
4 AAC 31.022(b)	Conform primary purpose types to statute (move "(E)" projects from school construction to major maintenance)
4 AAC 31.023(c)	Specify that application costs are allowable project costs. Define when the 36/120 month reimbursable costs begins.
4 AAC 31.026(d)	Conform who appoints a hearing officer for CIP process appeals to statute.
4 AAC 31.030(a)	Change statute reference from AS 14.11.020 to more common "grant funded under" AS 14.11.011. Specify that elements of a plan for DEED review must be submitted prior to solicitation of a construction contract.
4 AAC 31.040(a)	Change statute reference from AS 14.11.020 to more common AS 14.11.011. Specify that DEED review and approval must be submitted prior to solicitation of a construction contract, as inferred from timeline requirements in (a)(1)-(3).
4 AAC 31.060(i)	Conform dollar value of reimbursement project costs to statute ($200,000).
4 AAC 31.061(b)(2)	Repeal language related to applications submitted before 1/1/1996.
4 AAC 31.061(d)	[revisions under consideration]
4 AAC 31.064	Clarify when remaining bond proceeds can be redirected.
4 AAC 31.065(a)	Allow solicitation of contracts for design and construction management consultants by "other appropriate media" including electronic media.
4 AAC 31.080(b)	Allow solicitation of construction contracts in local circulation newspaper or "another appropriate media" including electronic media.
4 AAC 31.080(e)	Allow DEED discretion to deny/limit participation in costs of construction for grants that did not comply with this section; currently DEED may not allow payment for construction contract costs.
4 AAC 31.080(f)	Update publication edition reference.
4 AAC 31.080(g)	Add "lease" and "donated" to methods a school district may acquire facilities with prior department approval. [note -- most leased facilities are not eligible for AS 14.11 funding already]
4 AAC 31.080 (new)	Allow sole source procurement option.
4 AAC 31.080 (new)	Allow denial or limiting of participation cost of school construction for facilities acquired under specific circumstances.
4 AAC 31.085(a)	Clarify responsibilities of a district use permit for a property are terminated with DEED's interest in the property. Specify that a school district is still responsible for liabilities caused by its use of the property.
4 AAC 31.220	Change date districts shall provide a certificate of insurance to DEED from July 1 to July 15.
4 AAC 31.900(2)	Update publication edition reference.
4 AAC 31.900(21)	Change minimum value of "school capital project" to $50,000.

4 AAC 31.013(f) is amended to read:

(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**, or based on other evidence acquired by the department**.

(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 five 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:

(1) for a school capital project application submitted to the department, 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, 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, as published by the Alaska Department of Education and Early Development, 1997 edition; and

(8) Site Selection Criteria and Evaluation **Handbook**[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 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 that has not received a grant under AS 14.11 **or**[,] a project that has received money from the department for planning**.** [, AND] **The department may proportionally reduce a project budget of** 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(f) is amended to read:

(f) If, under (e) of this section, a district requests use of its previous year's application during the second year after application was filed, the department will add an inflation factor based on an industry accepted method **to costs scheduled to occur after the award of the grant**.

(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 **original** submission of the grant **or other financial assistance** application; and

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

(3) in this subsection "original submission" means the first iteration of an application ranked by the department for a specific project, regardless of the number of times the application is submitted or a reuse of scores is requested, so long as the project scope has not significantly changed.

ALTERNATE:

(A) for **application costs,** planning costs, design costs, and construction costs incurred not more than 36 months before the submission of the grant application **for which a grant award or other financial assistance is allocated** ; and

(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;

(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 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:

(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 ___/___/____;

4 AAC 31.061(d) is amended to read:

(d) The costs of planning, design, or construction of an otherwise approved facility are not eligible for debt retirement if they are incurred for or arise out of

(1) costs of change orders, contract amendments, contractor's claims, or other modifications that enlarge the scope of a project, or that increase the total cost of the project budget above an amount that is the lesser of the amount approved by the voters at the bond election required under AS 14.11.100(j), the amount approved by the department, or the initial contract amount, except for unavoidable or unforeseeable circumstances that are not the result of imprudent management;

(2) the cost of repairing or replacing items that the department determines are not essential to operation of the physical plant or not normally scheduled for routine maintenance or replacement unless the repair or replacement extends the useful life of the building and the cost exceeds $100,000; or

(3) the payment of accrued interest to bond holders.

(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:

If a municipality has bond proceeds remaining after **termination of all design, construction, and equipment contracts in** [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 design or provide construction management 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 **at least 21 days before the proposals are due by providing notice by one or more of the following methods:**

(1) publication[BY ADVERTISING] in a newspaper of general circulation**; or** [AT LEAST 21 DAYS BEFORE THE PROPOSALS ARE DUE.]

(2) communication in another appropriate media, including postings in electronic media, and, if practicable, in a way calculated to reach prospective consultants located in the state.

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(b) is amended to read:

(b) The school district shall provide 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 offer and will result in an adequate number of responses. **The school district shall provide notice of its solicitation by one or more of the following methods:**

(1) publication at least three times in a newspaper of general circulation in this state;

(2) publication at least three times in a newspaper of local circulation in an area pertinent to the procurement; or

(3) communication in another appropriate media, including postings in electronic media, and, if practicable, in a way calculated to reach prospective consultants located in the state.

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.

4 AAC 31.080(e) is amended to read: // Confirm no AS reason that grants were limited? //

(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, **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) 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) [Language adding a sole source procurement option].

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

(j) The department may deny or limit its participation in the costs of school construction for real property acquired by a school district through purchase, lease, or donation that was not approved 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, **or termination of the department's interest in the property,** 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 responsibilities or liabilities arising out of its use or operation of the property, including maintaining the property in good repair and operating condition.**

(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:

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, **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 maintenance exceed **$50,000** [$25,000];

(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		

March 23, 2018

Alaska Dept. of Education and Early Development
Division of School Finance and Facilities
801 West 10th Street, Suite 200
Juneau, Alaska 99811-0500

Attn: Larry Morris

Re: Program Demand Cost Model – Model School Estimate

Dear Mr. Morris,

Per our telephone call on March 22, 2018, I have attached a copy of bullet points for discussion regarding changes to components used in the model school, with particular attention to those changes resulting from the use of ASHRAE 90.1 Energy Standards for Buildings Except Low-Use Residential Buildings.

Note most of the information regarding ASHRAE 90.1 is derived from conversations with design professionals who are familiar with the industry and in no way constitutes a comprehensive list of all changes that may have resulted from this document.

Should you have questions or require additional information, please feel free to contact me.

Sincerely,

Kent Gamble
Principal, HMS Inc.

KG/as

Enclosure

4103 Minnesota Drive • Anchorage, Alaska 99503
P: 907.561.1653 • F: 907.562.0420 • kent@hmsalaska.com

PROGRAM DEMAND COST MODEL SCHOOL CONSIDERATIONS

ASHRAE 90.1 REQUIREMENTS

EXTERIOR ENVELOPE

Contact: Ryann Swalling of KPB Architects
Note: Insulation requirements are based on climate zone 8.

- Requires R-13 in framing cavity
- R-18 over exterior framing (typical rain screen assembly, furred rigid insulation or insulated metal panel)
- Still need vapor retarder
- Still need air barrier
- R-38 at roof insulation
- R-60 at attic roof/cold roof assembly

MECHANICAL

Contact: Jennifer Parkhurst of Coffman Engineers

- More efficient boiler (assume 84% efficiency)
- Air changes per hour increase (ventilation)
- Upsize heat supply
- Economizer with mixing box (cooling)
- Increased insulation at piping
- Tempering valves at water heater or faucets due to increased temperature required at water heaters to inhibit bacterial growth
- Drain trap insulation
- Mini split air conditioning for data room, all other cooling with outside air/economizer
- If mechanical cooling is used for the entire school, the following benefits may be realized:
    - Reduction in duct sizing
    - Reduction in fan sizing
    - Gives the option of summer use

ELECTRICAL

Contact: Ezra Gutschow of Coffman Engineers

Note that Ezra commented it is not uncommon for Alaska engineers to use International Energy Conservation Code (IECC) or International Mechanical Code (IMC), both of which meet or exceed the requirements of ASHRAE 90.1.

- 50% of outlets required to be controllable, so added circuitry
- Premium efficiency motors
- Variable frequency drives (VFDs)
- Electrical commutated motors (ECMs)

OTHER CONSIDERATIONS

- Incorporation of school lockdown system
- Price changes due to new trade tariffs
- Unknown substructure engineering changes due to climate change
- Dedicated program area for security personnel

HMS Project No. 17018

STATE OF ALASKA
ESCALATION COST STUDY

MODEL SCHOOL BUILDING
ANCHORAGE, ALASKA (BASE)
SPRING 2017

April 2017

HMS inc

4103 Minnesota Drive • Anchorage, Alaska 99503 p: 907.561.1653 • f: 907.562.0420 • e: mail@hmsalaska.com

HMS Project No.: 17018

MODIFICATIONS BASED ON THE FOLLOWING

LABOR RATES

A.S. Title 36 April 2017

SBS RATES

Price List March 25, 2017

PLUMBING PIPING

Central Plumbing and Heating March 31, 2016

CONCRETE

Alaska Sand & Gravel Spring 2017 based on Muni Class A-3-5.5SK, 4,000 psi

ELECTRICAL WIRE/CONDUIT

Copper Building Products and Nuline March 2015
Lighting - Alaska Architectural Lighting March 31, 2017

MISCELLANEOUS PRICING

Note: Based on construction cost detail from Davis Constructors

STRUCTURAL STEEL

Anchorage Steel
Bar Joists at Metal Deck, Andy Milner Company

HMS Project No.: 17018

ALASKAN CONSTRUCTION ESCALATION INDEX

Base Year 1980	Estimated Basis for Calculations	100.00
1980	$ 1,038,604	100.00
1981	1,084,425	104.40
1982	1,125,068	107.70
1983	1,200,180	115.60
1984	1,231,503	118.60
1985	1,222,949	117.70
1986	1,261,102	121.40
1987	1,277,361	123.00
1988	1,296,492	124.80
1989	1,312,471	126.40
1990	1,368,466	131.80
1991	1,394,828	134.30
1992	1,441,972	138.80
1993	1,488,141	143.30
1994	1,499,924	144.40
1995	1,488,894	143.40
1996	1,518,343	146.20
1997*	5,895,775	146.70
1998*	6,038,745	149.12
1999*	6,146,839	150.96
2000*	6,243,856	152.60
2001*	6,357,677	154.53

* These are a representative project which was updated in 1997 through 2007 to reflect, at that time, changes for a representative project including technological developments.

** Improved school including current IT electrical installation, steel structure and other improvements.

HMS Project No.: 17018

ALASKAN CONSTRUCTION ESCALATION INDEX

Base Year 1980	*Estimated Basis for Calculations*	*100.00*
2002*	$ 6,829,911	162.54
2003*	7,053,768	166.34
2004*	7,999,739	176.57
2005*	8,719,586	188.55
2006*	9,629,545	198.41
2007*	10,306,665	205.73
2008**	12,742,474	208.59
2009**	12,865,338	209.55
2010**	13,228,267	212.38
2011**	13,742,935	216.27
2012**	14,073,498	218.67
2013**	14,664,252	222.87
2014**	15,245,384	223.78
2015**	15,470,256	228.32
2016**	15,414,300	227.49
2017**	15,714,707	229.91

* These are a representative project which was updated in 1997 through 2007 to reflect, at that time, changes for a representative project including technological developments.

** Improved school including current IT electrical installation, steel structure and other improvements.

HMS Project No.: 17018

COST SUMMARY

	Material	*Labor*	*Total*	*Cost/Square Foot*
01 - EXISTING CONDITIONS	$ 0	$ 0	$ 0	0.00
02 - SUBSTRUCTURE	296,376	467,024	763,400	18.44
03 - SUPERSTRUCTURE	906,112	795,602	1,701,714	41.10
04 - EXTERIOR CLOSURE	484,966	371,819	856,785	20.70
05 - ROOF SYSTEMS	741,101	436,355	1,177,456	28.44
06 - INTERIORS				
General Contractor	321,933	325,028	646,961	15.63
Subcontractor	502,975	386,190	889,165	21.48
07 - CONVEYING EQUIPMENT	0	0	0	0.00
08 - MECHANICAL	1,437,102	794,938	2,232,040	53.91
09 - ELECTRICAL	947,369	677,834	1,625,203	39.26
10 - EQUIPMENT AND FURNISHINGS	314,206	94,409	408,615	9.87
11 - SPECIAL CONDITIONS	0	0	0	0.00
SUBTOTAL:	*$ 5,952,140*	*$ 4,349,199*	*$ 10,301,339*	
12 - GENERAL REQUIREMENTS AND PROFIT			2,761,382	66.70
SUBTOTAL:			*$ 13,062,721*	
13 - SITE AND INFRASTRUCTURE				
General Contractor	$ 742,488	$ 420,990	$ 1,163,478	28.10
Subcontractor (Site Electrical)	32,647	27,251	59,898	1.45
SUBTOTAL:			*$ 14,286,097*	
14 - CONTINGENCIES			1,428,610	34.51
TOTAL ESTIMATED CONSTRUCTION COST:			***$ 15,714,707***	*$ 379.58 /SF*
GROSS FLOOR AREA:			*41,400 SF*	

HMS Project No.: 17018

02 - SUBSTRUCTURE	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
Excavate for footings and backfilling	650	CY	9.75	6,338	0.200	130.00		
4,000 psi concrete foundations including waste	107	CY	150.73	16,128	1.125	120.38		
4,000 psi concrete bases including waste	18	CY	150.73	2,713	1.125	20.25		
4,000 psi concrete wall including waste	250	CY	150.73	37,683	1.350	337.50		
Bar reinforcement	35,000	LBS	0.66	23,100	0.010	350.00		
Formwork to footing	3,380	LF	2.73	9,227	0.100	338.00		
Formwork to wall	20,300	SF	2.95	59,885	0.145	2943.50		
2" insulation to wall	10,150	SF	1.10	11,165	0.010	101.50		
Dampproof	12,688	SF	1.20	15,226	0.026	329.89		
6" fill, Type II, 2" minus	740	CY	21.00	15,540	0.130	96.20		
4,000 psi concrete slab on grade	495	CY	137.00	67,815	1.250	618.75		
10 mil vapor retarder	40,400	SF	0.09	3,636	0.002	80.80		
6"x6" - W1.4xW1.4 welded wire mesh	40,400	SF	0.28	11,312	0.004	161.60		
Cure and finish concrete	40,400	SF	0.32	12,928	0.025	1010.00		
Saw cut joint and filler	3,000	LF	0.75	2,250	0.035	105.00		

HMS Project No.: 17018

02 - SUBSTRUCTURE	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
Expansion joint and sealant	1,000	LF	1.43	1,430	0.030	30.00		
						6,773.37 Hours		
						@	$ 68.95	
TOTAL ESTIMATED COST:				***$ 296,376***		***$ 467,024***		***$ 763,400***

03 - SUPERSTRUCTURE	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
MEZZANINE FLOOR (FAN ROOM)								
W-beams	2,850	LBS	1.35	3,848	0.010	28.50		
T.S. columns	2,500	LBS	1.45	3,625	0.020	50.00		
Plates, anchors and grout	4	EA	110.00	440	1.000	4.00		
Joists	6,000	LBS	1.25	7,500	0.011	66.00		
Angles	1,010	LBS	1.60	1,616	0.025	25.25		
1 1/2" metal deck, 20 gauge	1,000	SF	2.75	2,750	0.035	35.00		
Concrete topping	9	CY	150.73	1,357	1.400	12.60		
6"x6" - W1.4xW1.4 mesh	1,000	SF	0.28	280	0.004	4.00		
Cure and finish concrete	1,000	SF	0.32	320	0.025	25.00		
Formwork to edge	78	LF	1.73	135	0.100	7.80		
Pump concrete	9	CY	40.00	360				
8'0" access ladder with cage	1	EA	1,024.00	1,024	2.265	2.27		
ROOF STRUCTURE								
Plates, anchors and grout	120	EA	110.00	13,200	1.200	144.00		

HMS Project No.: 17018

03 - SUPERSTRUCTURE	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
ROOF STRUCTURE (Continued)								
Tube steel columns	110,000	LBS	1.45	159,500	0.020	2200.00		
Steel joists	199,000	LBS	1.25	248,750	0.011	2189.00		
W-beams	18,500	LBS	1.35	24,975	0.010	185.00		
T.S. bracing	17,000	LBS	1.50	25,500	0.025	425.00		
Angles, connectors, etc.	19,000	LBS	1.60	30,400	0.025	475.00		
3" metal deck, 20 gauge	44,170	SF	3.25	143,553	0.048	2120.16		
MISCELLANEOUS								
Testing/inspection	1	LOT	2,500.00	2,500				
Crane rental	3	MOS	27,820.00	83,460				
						7,998.58	Hours	
						@	$ 82.89	
SUBTOTAL:				*$ 755,093*		*$ 663,002*		*$ 1,418,095*
Subcontractor's Overhead and Profit on Material and Labor	20.00%			151,019		132,600		283,619
TOTAL ESTIMATED COST:				***$ 906,112***		***$ 795,602***		***$ 1,701,714***

04 - EXTERIOR CLOSURE	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
EXTERIOR WALL								
2"x10" studs, 16" o/c	15,100	LF	1.62	24,462	0.050	755.00		
2"x6" studs, 16" o/c	15,035	LF	0.92	13,832	0.022	330.77		
1/2" plywood CDX AWW sheathing	23,665	SF	1.28	30,291	0.012	283.98		
3/4" beveled cedar 10" siding, tite knot	23,665	SF	2.88	68,155	0.038	899.27		
1"x4" cedar trim	3,335	LF	0.78	2,601	0.015	50.03		
Sealant	6,670	LF	0.38	2,535	0.024	160.08		
Air barrier	23,665	SF	0.24	5,680	0.005	118.33		
R-30 batt insulation	12,100	SF	1.00	12,100	0.008	96.80		
R-19 batt insulation	11,565	SF	0.49	5,667	0.007	80.96		
10 mil vapor retarder	23,665	SF	0.09	2,130	0.002	47.33		
5/8" Type X gypboard	23,665	SF	0.57	13,489	0.020	473.30		
Tape and finish	23,665	SF	0.16	3,786	0.007	165.66		
3/4" CDX AWW plywood soffit	2,060	SF	1.76	3,626	0.032	65.92		

04 - EXTERIOR CLOSURE	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
<u>EXTERIOR WALL (Continued)</u>								
2"x6" framing and nailers to soffit	515	LF	0.92	474	0.026	13.39		
Rigid eave vent screen	1,130	LF	1.06	1,198	0.010	11.30		
Fascia 1/2" CDX plywood (both sides)	5,000	SF	0.75	3,750	0.013	65.00		
3/4" beveled cedar 10" siding to fascia, tite knot	2,500	SF	2.88	7,200	0.039	97.50		
2"x4" framing for fascia	2,900	LF	0.64	1,856	0.017	49.30		
Flashing	1,690	LF	2.55	4,310	0.027	45.63		
1"x6" interior trim	3,498	LF	1.36	4,757	0.016	55.97		
<u>DOORS</u>								
Hollow metal insulated frames for 3'0"x7'0" doors	16	EA	221.00	3,536	1.100	17.60		
Hollow metal insulated frames for 6'0"x7'0" double doors	6	EA	271.00	1,626	1.750	10.50		
3'0"x7'0" hollow metal insulated single doors	16	EA	615.00	9,840	0.750	12.00		
3'0"x7'0" hollow metal insulated doors with vision panel (for double doors, each leaf counted separately)	12	EA	730.00	8,760	1.250	15.00		
Hardware for single exterior doors	16	SETS	700.00	11,200	3.660	58.56		

HMS Project No.: 17018

04 - EXTERIOR CLOSURE	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
DOORS (Continued)								
Hardware for double exterior doors	3	SETS	1,250.00	3,750	6.150	18.45		
Hardware for double exterior doors with panic hardware	3	SETS	3,100.00	9,300	9.155	27.47		
Motorized operable accessible door and push button actuator	1	EA	3,650.00	3,650	7.500	7.50		
WINDOWS								
Metal clad insulated windows with screens	3,500	SF	57.70	201,950	0.100	350.00		
Sills	700	LF	4.54	3,178	0.028	19.60		
CAULKING								
Sealant and backer rod	3,300	LF	1.77	5,841	0.043	141.90		
						4,544.10	Hours	
						@	$ 72.29	
SUBTOTAL:				*$ 474,530*		*$ 328,493*		*$ 803,023*

STATE OF ALASKA ESCALATION COST STUDY - MODEL SCHOOL BUILDING

ANCHORAGE, ALASKA (BASE)
SPRING 2017
DATE: APRIL 2016

HMS Project No.: 17018

04 - EXTERIOR CLOSURE	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
PAINTING								
Stain siding and fascia	28,665	SF	0.26	7,453	0.019	544.64		
Stain trim	3,335	LF	0.20	667	0.014	46.69		
Stain soffit	2,060	SF	0.28	577	0.020	41.20		
						632.53	Hours	
						@	$ 57.08	
SUBTOTAL:				*$ 8,697*		*$ 36,105*		*$ 44,802*
Subcontractor's Overhead and Profit on Material and Labor	20.00%			1,739		7,221		8,960
SUBTOTAL SUBCONTRACTOR:				*$ 10,436*		*$ 43,326*		*$ 53,762*
TOTAL ESTIMATED COST:				***$ 484,966***		***$ 371,819***		***$ 856,785***

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05 - ROOF SYSTEMS	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
GENERAL CONTRACTOR								
PITCHED ROOF								
5/8" fire treated CDX plywood	44,170	SF	1.40	61,838	0.016	706.72		
R-50 rigid insulation (8" plus)	44,170	SF	5.50	242,935	0.021	927.57		
5/8" gypboard sheathing	44,170	SF	0.64	28,269	0.019	839.23		
Vapor barrier	44,170	SF	0.09	3,975	0.002	88.34		
						2,561.86	Hours	
						@	$ 72.29	
SUBTOTAL GENERAL CONTRACTOR:				*$ 337,017*		*$ 185,197*		*$ 522,214*
SUBCONTRACTOR								
Klip Rib metal roofing including fasteners, etc.	44,170	SF	7.00	309,190	0.052	2296.84		
Ice and water shield at eaves	6,000	SF	0.75	4,500	0.010	60.00		
Ridge flashing	450	LF	7.65	3,443	0.080	36.00		
Flashings	1,600	LF	5.12	8,192	0.070	112.00		
Fascia board and flashing	1,450	LF	7.87	11,412	0.120	174.00		
						2,678.84	Hours	
						@	$ 78.13	

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05 - ROOF SYSTEMS	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
SUBTOTAL:				*$ 336,737*		*$ 209,298*		*$ 546,035*
Subcontractor's Overhead and Profit on Material and Labor	20.00%			67,347		41,860		109,207
SUBTOTAL SUBCONTRACTOR:				*$ 404,084*		*$ 251,158*		*$ 655,242*
TOTAL ESTIMATED COST:				***$ 741,101***		***$ 436,355***		***$ 1,177,456***

06 - INTERIORS ***General Contractor***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
PARTITIONS								
3 5/8" metal, 20 gauge studs at 16" o/c and track	45,045	SF	1.50	67,568	0.022	981.98		
6" metal, 20 gauge studs at 16" o/c and track	4,455	SF	1.76	7,841	0.025	110.93		
5/8" Type X gypboard	88,320	SF	0.57	50,342	0.020	1766.40		
Tape and finish	83,320	SF	0.16	13,331	0.007	583.24		
1/2" cement board	1,680	SF	1.21	2,033	0.029	48.72		
1/2" plywood backing	16,000	SF	0.75	12,000	0.012	192.00		
2"x6" blockings	2,500	LF	0.92	2,300	0.025	62.50		
2 3/4" sound insulation	10,000	SF	0.32	3,200	0.007	70.00		
DOORS								
3'0"x7'0" hollow metal frames, welded	60	EA	182.00	10,920	1.000	60.00		
6'0"x7'0" hollow metal double door frames	8	PRS	200.00	1,600	1.650	13.20		
3'0"x7'0" solid core doors	54	EA	252.00	13,608	0.750	40.50		
3'0"x7'0" solid core doors with glazed opening	22	EA	367.00	8,074	1.250	27.50		

06 - INTERIORS ***General Contractor***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
DOORS (Continued)								
Hardware for single doors	60	SETS	600.00	36,000	2.880	172.80		
Hardware for double doors	8	SETS	1,350.00	10,800	5.750	46.00		
Rolling grille at kitchen serving line	1	EA	4,600.00	4,600	12.000	12.00		
GLAZING								
Relights in hollow metal frame	180	SF	37.15	6,687	0.108	19.44		
SPECIALTIES								
Toilet partitions, HDPE	5	EA	1,065.00	5,325	3.200	16.00		
Toilet partitions, handicapped	4	EA	1,140.00	4,560	4.600	18.40		
Toilet accessories	175	EA	105.00	18,375	0.750	131.25		
Lockers	50	EA	285.00	14,250	1.000	50.00		
Chalkboards/white board	768	SF	20.30	15,590	0.025	19.20		
Tack boards	768	SF	9.50	7,296	0.020	15.36		
Fire extinguishers and cabinets	8	EA	326.00	2,608	1.750	14.00		

06 - INTERIORS ***General Contractor***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
SPECIALTIES (Continued)								
Signage	55	EA	55.00	3,025	0.450	24.75		
						4,496.17 Hours @ $ 72.29		
TOTAL ESTIMATED COST - GENERAL CONTRACTOR:				***$ 321,933***		***$ 325,028***		***$ 646,961***

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06 - INTERIORS ***Subcontractor***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
FLOOR								
Carpet	3,190	SY	34.00	108,460	0.175	558.25		
Carpet inlays	1	LOT	1,400.00	1,400	50.000	50.00		
Gym flooring, wood and channels	3,600	SF	14.75	53,100	0.180	648.00		
Mosaic ceramic tile	1,400	SF	7.55	10,570	0.110	154.00		
Vinyl tile	2,000	SF	2.83	5,660	0.020	40.00		
Sheet vinyl	1,000	SF	4.87	4,870	0.018	18.00		
Linoleum	2,450	SF	4.60	11,270	0.031	75.95		
Concrete sealer and hardener	2,250	SF	0.48	1,080	0.017	38.25		
BASE								
4" rubber	7,660	LF	1.44	11,030	0.030	229.80		
6" coved	550	LF	1.65	908	0.060	33.00		
Ceramic tile base	210	LF	8.27	1,737	0.090	18.90		
Wood base	480	LF	2.40	1,152	0.035	16.80		

06 - INTERIORS Subcontractor	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
WALLS								
Paint (3 coats)	100,000	SF	0.28	28,000	0.017	1700.00		
Ceramic tile	1,680	SF	7.80	13,104	0.120	201.60		
Vinyl wall covering (14 ounce)	2,000	SF	1.70	3,400	0.025	50.00		
FRP board	2,880	SF	3.60	10,368	0.039	112.32		
Carpet	5,600	SF	4.20	23,520	0.030	168.00		
CEILINGS								
Acoustical ceiling tile glued to gypboard	6,500	SF	2.90	18,850	0.025	162.50		
Suspended acoustic ceiling	29,550	SF	3.41	100,766	0.032	945.60		
Suspended gypboard taped and sanded	1,750	SF	3.10	5,425	0.060	105.00		
Paint gypboard ceiling	5,350	SF	0.30	1,605	0.019	101.65		
PAINTING								
Interior trim and sills	4,198	LF	0.24	1,008	0.020	83.96		
Single door frames	76	EA	4.95	376	0.350	26.60		

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06 - INTERIORS ***Subcontractor***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
PAINTING (Continued)								
Double door frames	14	EA	6.00	84	0.415	5.81		
Doors	104	EA	12.60	1,310	0.850	88.40		
Paint miscellaneous metals	250	SF	0.37	93	0.023	5.75		
						5,638.14 Hours @	$ 57.08	
SUBTOTAL:				*$ 419,146*		*$ 321,825*		*$ 740,971*
Subcontractor's Overhead and Profit on Material and Labor	20.00%			83,829		64,365		148,194
TOTAL ESTIMATED COST - SUBCONTRACTOR:				***$ 502,975***		***$ 386,190***		***$ 889,165***

08 - MECHANICAL	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
PLUMBING								
Cast Iron Waste, Vent Pipes and Fittings								
4" diameter pipe	520	LF	21.32	11,086	0.200	104.00		
3" diameter pipe	490	LF	16.24	7,958	0.190	93.10		
2" diameter pipe	500	LF	14.59	7,295	0.170	85.00		
1 1/2" diameter pipe	600	LF	14.10	8,460	0.170	102.00		
4" floor cleanout	6	EA	238.81	1,433	1.100	6.60		
3" VTR	4	EA	192.00	768	1.700	6.80		
4" VTR	2	EA	255.00	510	1.800	3.60		
Hot and Cold Water Copper Pipes and Fittings								
2" diameter copper pipe	180	LF	19.36	3,485	0.190	34.20		
1 1/2" diameter copper pipe	270	LF	11.98	3,235	0.154	41.58		
1 1/4" diameter copper pipe	100	LF	8.56	856	0.138	13.80		
1" diameter copper pipe	430	LF	6.71	2,885	0.118	50.74		
3/4" diameter copper pipe	500	LF	4.48	2,240	0.105	52.50		

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PLUMBING (Continued)								
Hot and Cold Water Copper Pipes and Fittings (Continued)								
1/2" diameter copper pipe	580	LF	2.81	1,630	0.099	57.42		
2" diameter coupling	12	EA	13.15	158	0.615	7.38		
1 1/2" diameter coupling	18	EA	7.85	141	0.533	9.59		
1 1/4" diameter coupling	9	EA	5.85	53	0.471	4.24		
1" diameter coupling	29	EA	3.39	98	0.444	12.88		
3/4" diameter coupling	34	EA	1.72	58	0.381	12.95		
1/2" diameter coupling	39	EA	0.85	33	0.364	14.20		
2" diameter fittings (tee/elbow)	9	EA	36.00	324	0.727	6.54		
1 1/2" diameter fittings (tee/elbow)	14	EA	21.67	303	0.615	8.61		
1 1/4" diameter fittings (tee/elbow)	5	EA	14.22	71	0.533	2.67		
1" diameter fittings (tee/elbow)	22	EA	10.10	222	0.500	11.00		
3/4" diameter fittings (tee/elbow)	25	EA	3.60	90	0.421	10.53		
1/2" diameter fittings (tee/elbow)	29	EA	1.53	44	0.400	11.60		

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PLUMBING (Continued)								
Hot and Cold Water Copper Pipes and Fittings (Continued)								
Clips and hangers to support pipes	230	EA	10.65	2,450	0.533	122.59		
Valves and gauges	1	LOT	2,700.00	2,700	20.000	20.00		
1" insulation	2,060	LF	2.70	5,562	0.060	123.60		
Subtotal Hours:						1,029.72	Hours	
Premium Time	10.00%					102.97	Hours	
Total Hours:						1,132.69	Hours	
						@	$ 69.07	
SUBTOTAL:				*$ 64,148*		*$ 78,235*		*$ 142,383*
Subcontractor's Overhead and Profit on Material and Labor	20.00%			12,830		15,647		28,477
SUBTOTAL:				*$ 76,978*		*$ 93,882*		*$ 170,860*
PLUMBING FIXTURES								
Standard wall mounted water closets, flush valve and carrier	13	EA	625.00	8,125	4.100	53.30		
Standard water closets, handicapped	6	EA	720.00	4,320	4.500	27.00		
Urinals, flush valve and carrier	6	EA	850.00	5,100	3.350	20.10		

08 - MECHANICAL	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
PLUMBING FIXTURES (Continued)								
Counter mounted lavatory basin	18	EA	485.00	8,730	2.200	39.60		
Mop sink	2	EA	650.00	1,300	3.500	7.00		
Stainless steel drinking fountain cooler with bottle refilling station	4	EA	1,120.00	4,480	4.000	16.00		
Stainless steel classroom sink	15	EA	782.75	11,741	3.250	48.75		
Work room sink	1	EA	565.00	565	3.250	3.25		
Nurse's sink	1	EA	565.00	565	3.250	3.25		
Three compartment sink	1	EA	2,400.00	2,400	3.750	3.75		
Hand sink	1	EA	510.00	510	3.250	3.25		
Shower stall and controls	2	EA	1,540.00	3,080	4.750	9.50		
Connection to kitchen equipment	1	LOT	620.00	620	10.000	10.00		
2" to 3" diameter floor drain	8	EA	165.00	1,320	1.400	11.20		
Hose bib, non-freeze	4	EA	135.00	540	0.750	3.00		
119 gallon hot water generator	1	EA	5,300.00	5,300	16.000	16.00		
Circulation pump	1	EA	1,150.00	1,150	3.100	3.10		

08 - MECHANICAL	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
PLUMBING FIXTURES (Continued)								
20 GPM grease interceptor	1	EA	2,875.00	2,875	3.065	3.07		
Subtotal Hours:						281.12	Hours	
Premium Time	10.00%					28.11	Hours	
Total Hours:						309.23	Hours	
						@	$ 69.07	
SUBTOTAL:				*$ 62,721*		*$ 21,359*		*$ 84,080*
Subcontractor's Overhead and Profit on Material and Labor	20.00%			12,544		4,272		16,816
SUBTOTAL:				*$ 75,265*		*$ 25,631*		*$ 100,896*
HEATING								
1,600 MBH cast iron oil/gas fired boiler, hot water/glycol complete with controls	2	EA	24,500.00	49,000	73.000	146.00		
10" diameter stainless steel flue and breaching, double wall	28	LF	95.55	2,675	0.800	22.40		
Flue cap	1	EA	470.00	470	3.000	3.00		
55 gallon expansion tank	1	EA	2,075.00	2,075	5.608	5.61		
Air separator, 3" strainer	1	EA	2,350.00	2,350	1.970	1.97		

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HEATING (Continued)								
Glycol make-up tank with feed pump	1	EA	945.00	945	6.700	6.70		
Glycol fluid	330	GALS	13.50	4,455	0.045	14.85		
3" diameter circulation pump	2	EA	2,660.00	5,320	4.000	8.00		
3" diameter copper pipe	300	LF	40.22	12,066	0.286	85.80		
2 1/2" diameter copper pipe	200	LF	29.28	5,856	0.258	51.60		
2" diameter copper pipe	500	LF	19.36	9,680	0.190	95.00		
1 1/2" diameter copper pipe	550	LF	11.98	6,589	0.154	84.70		
1 1/4" diameter copper pipe	250	LF	8.56	2,140	0.138	34.50		
1" diameter copper pipe	650	LF	6.71	4,362	0.118	76.70		
3/4" diameter copper pipe	800	LF	4.48	3,584	0.105	84.00		
3" diameter coupling	15	EA	36.00	540	1.231	18.47		
2 1/2" diameter coupling	10	EA	25.50	255	1.067	10.67		
2" diameter coupling	25	EA	13.15	329	0.615	15.38		
1 1/2" diameter coupling	28	EA	7.85	220	0.533	14.92		

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HEATING (Continued)								
1 1/4" diameter coupling	13	EA	5.85	76	0.471	6.12		
1" diameter coupling	33	EA	3.39	112	0.444	14.65		
3/4" diameter coupling	40	EA	1.72	69	0.381	15.24		
3" diameter fittings (tee/elbow)	14	EA	94.00	1,316	1.231	17.23		
2 1/2" diameter fittings (tee/elbow)	8	EA	66.25	530	1.231	9.85		
2" diameter fittings (tee/elbow)	19	EA	36.00	684	0.727	13.81		
1 1/2" diameter fittings (tee/elbow)	21	EA	21.67	455	0.615	12.92		
1 1/4" diameter fittings (tee/elbow)	10	EA	14.22	142	0.533	5.33		
1" diameter fittings (tee/elbow)	25	EA	10.10	253	0.500	12.50		
3/4" diameter fittings (tee/elbow)	30	EA	3.60	108	0.421	12.63		
Clips and hangers to support pipes	300	EA	10.65	3,195	0.533	159.90		
Valves and gauges	1	LOT	6,750.00	6,750	45.000	45.00		
1 1/2" insulation	3,250	LF	7.20	23,400	0.065	211.25		

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HEATING (Continued)								
Cabinet unit heaters	6	EA	1,645.00	9,870	4.000	24.00		
Unit heaters	6	EA	570.00	3,420	3.350	20.10		
(2) rows fin tube and enclosure	880	LF	49.25	43,340	0.640	563.20		
COOLING (SUBCONTRACTOR)								
10 ton, DX type electric air conditioner unit	1	EA	16,900.00	16,900	10.800	10.80		
Make-up system equipment	1	EA	2,910.00	2,910	5.608	5.61		
Refrigerant, 30 lbs. cylinder	120	LBS	13.50	1,620		Included		
2" diameter coolant supply and return pipes with fittings	250	LF	30.25	7,563	0.160	40.00		
1" diameter coolant supply and return pipes with fittings	250	LF	13.66	3,415	0.120	30.00		
2" diameter circulation pump	1	EA	1,400.00	1,400	3.250	3.25		
Valves and gauges	1	LOT	1,350.00	1,350	10.000	10.00		
(2) rows coil (10 SF)	1	EA	2,400.00	2,400	4.000	4.00		
1 1/2" insulation	500	LF	7.20	3,600	0.065	32.50		

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AIR SYSTEMS								
32,000 CFM air handling unit	2	EA	140,000.00	280,000	54.780	109.56		
2,000 CFM to 3,000 CFM exhaust fan	2	EA	2,900.00	5,800	8.000	16.00		
750 to 1,500 CFM exhaust fan	3	EA	1,875.00	5,625	6.500	19.50		
200 CFM to 750 CFM exhaust fan	1	EA	1,075.00	1,075	4.000	4.00		
500 CFM VAV boxes	20	EA	820.00	16,400	2.250	45.00		
2 SF heating coils	20	EA	630.00	12,600	1.100	22.00		
Galvanized ductwork with hangers and connections	31,000	LBS	5.74	177,940	0.065	2015.00		
10" flexible duct	600	LF	7.05	4,230	0.150	90.00		
Outside air/exhaust louvers with bird screens	150	SF	36.30	5,445	0.100	15.00		
Dampers under 1 SF	20	EA	128.00	2,560	0.400	8.00		
1 SF to 2 SF dampers	4	EA	166.64	667	0.650	2.60		
2 SF to 5 SF dampers	1	EA	218.32	218	0.750	0.75		
1 SF to 2 SF motorized dampers	4	EA	185.00	740	2.000	8.00		

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AIR SYSTEMS (Continued)								
Small grille, register or diffuser	75	EA	66.20	4,965	0.500	37.50		
Medium grille, register or diffuser	25	EA	122.50	3,063	0.650	16.25		
Large grille, register or diffuser	6	EA	155.00	930	1.000	6.00		
2" insulation	1,000	SF	2.60	2,600	0.020	20.00		
2" lining	600	SF	3.65	2,190	0.035	21.00		
CONTROLS, TESTING AND BALANCE								
Microprocessor, digital equipment, software and programming	1	LOT	34,200.00	34,200	280.000	280.00		
DDC points	160	EA	980.00	156,800	6.600	1056.00		
Thermostats	20	EA	112.00	2,240	2.650	53.00		
Thermostats with guards	2	EA	138.00	276	2.800	5.60		
Testing and balancing	105	UNITS			2.000	210.00		
Commissioning	1	LOT	2,000.00	2,000	160.000	160.00		
FIRE PROTECTION								
Sprinkler riser and valves	1	EA	4,250.00	4,250	32.000	32.00		

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FIRE PROTECTION (Continued)								
Fire department connection	1	EA	550.00	550	3.300	3.30		
Wet sprinkler system throughout facility	41,400	SF	1.85	76,590	0.025	1035.00		
Design fee and commissioning	1	LOT	5,000.00	5,000	16.000	16.00		
GAS/FUEL OIL								
1" diameter black steel pipe supply line including fittings	120	LF	4.58	550	0.120	14.40		
Connection to equipment	5	EA	211.00	1,055	2.000	10.00		
50 gallon day tank with duplex pumps	1	EA	10,500.00	10,500	4.100	4.10		
3/4" diameter black steel pipe including fittings	25	LF	3.90	98	0.120	3.00		
Valves	1	LOT	270.00	270	1.500	1.50		
Testing, including fuel oil	1	LOT	1,500.00	1,500	8.000	8.00		
Subtotal Hours:						7,408.22	Hours	
Premium Time	10.00%					740.82	Hours	
Total Hours:						8,149.04	Hours	
						@	$ 69.07	
SUBTOTAL:				*$ 1,070,716*		*$ 562,854*		*$ 1,633,570*

08 - MECHANICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
Subcontractor's Overhead and Profit on Material and Labor	20.00%			214,143		112,571		326,714
SUBTOTAL:				*$ 1,284,859*		*$ 675,425*		*$ 1,960,284*
TOTAL ESTIMATED COST:				***$ 1,437,102***		***$ 794,938***		***$ 2,232,040***

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09 - ELECTRICAL	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
SERVICE AND DISTRIBUTION								
1,600 amp main enclosed disconnect	1	EA	13,900.00	13,900	29.000	29.00		
MDP main distribution panel with 1,600 amp bus and fused switches	1	EA	17,100.00	17,100	32.000	32.00		
3 1/2" diameter rigid steel conduit and fittings	20	LF	21.50	430	0.240	4.80		
3 1/2" diameter x 90° elbow	2	EA	116.00	232	2.200	4.40		
2" diameter IMC conduit	50	LF	9.10	455	0.125	6.25		
1 1/2" diameter IMC conduit	220	LF	7.40	1,628	0.110	24.20		
1 1/4" diameter IMC conduit	250	LF	5.60	1,400	0.080	20.00		
1" diameter IMC conduit	120	LF	4.44	533	0.076	9.12		
500 KCMIL copper wire	150	LF	9.45	1,418	0.0392	5.88		
#1/0 THHN copper wire	400	LF	2.19	876	0.018	7.20		
#2 THHN copper wire	1,150	LF	1.31	1,507	0.015	17.25		
#4 THHN copper wire	1,000	LF	0.80	800	0.012	12.00		
#4 ground wire (10'0") and connect to building	2	EA	30.00	60	1.040	2.08		

09 - ELECTRICAL	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
SERVICE AND DISTRIBUTION (Continued)								
225 amp, 120/208V, 4 wire, 3 phase, 42 circuits, MLO subpanel	2	EA	3,200.00	6,400	24.000	48.00		
100 amp, 120/280V, 4 wire, 3 phase, 30 circuits subpanel	4	EA	1,875.00	7,500	16.000	64.00		
FIXTURES								
2'0"x4'0" LED troffer	486	EA	281.00	136,566	1.650	801.90		
1'0"x4'0" LED troffer	120	EA	194.00	23,280	1.200	144.00		
4'0" surface LED wraparound	12	EA	149.00	1,788	1.200	14.40		
6" diameter surface wet location LED downlight fixture	42	EA	342.00	14,364	1.300	54.60		
LED high bay gym fixture	30	EA	705.00	21,150	2.100	63.00		
LED exit signs with battery	40	EA	211.00	8,440	2.000	80.00		
Self contained dual head emergency light	6	EA	121.00	726	2.000	12.00		
LED wall pack with cut off optics, building mounted exterior light fixtures	10	EA	567.00	5,670	2.000	20.00		
Recessed soffit LED fixture with tempered lens, tamperproof	6	EA	245.00	1,470	1.850	11.10		

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09 - ELECTRICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
DEVICES								
Single switch	60	EA	12.10	726	0.620	37.20		
Three way switch	8	EA	19.00	152	1.100	8.80		
Keyed switch	4	EA	47.30	189	0.780	3.12		
Dual technology occupancy sensor	26	EA	140.00	3,640	1.600	41.60		
Occupancy sensor/switch	30	EA	46.00	1,380	0.620	18.60		
Wall switch with built-in motion sensor and control switch	2	EA	135.00	270	1.350	2.70		
20 amp duplex outlet	320	EA	13.00	4,160	0.900	288.00		
GFI duplex outlet	48	EA	19.50	936	1.125	54.00		
Quadraplex floor outlet	16	EA	123.00	1,968	1.300	20.80		
GFI 15 amp duplex outlet, weatherproof	3	EA	62.00	186	1.250	3.75		
50 amp special outlet	3	EA	38.00	114	1.250	3.75		
30 amp special outlet	2	EA	42.00	84	1.125	2.25		
Junction box with cover	29	EA	8.10	235	0.200	5.80		
Emergency light connections	40	EA	46.00	1,840	1.000	40.00		

09 - ELECTRICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
DEVICES (Continued)								
Night light connections	30	EA	16.80	504	1.000	30.00		
100 amp, 4 pole electrical contactor	2	EA	1,210.00	2,420	3.685	7.37		
K-1900 photocell/time switch	2	EA	125.00	250	0.850	1.70		
30 HP, 3 phase, 208 volt motor connection	3	EA	136.05	408	5.500	16.50		
10 HP to 7 1/2 HP, 3 phase, 208 volt motor connection	2	EA	88.00	176	2.775	5.55		
5 HP to 1 HP, 3 phase, 208 volt motor connection	11	EA	65.00	715	1.800	19.80		
Fractional motor connection	13	EA	40.00	520	1.750	22.75		
Thermal switches	19	EA	45.00	855	0.600	11.40		
60 amp, 3 pole fused disconnect switches	4	EA	920.00	3,680	2.460	9.84		
Fused disconnect switches, weatherproof	1	EA	550.00	550	2.830	2.83		
10 HP combination motor starter/disconnect switch	11	EA	730.00	8,030	2.520	27.72		
Conduit and Wiring								
1" diameter EMT conduit	3,000	LF	2.26	6,780	0.055	165.00		

09 - ELECTRICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
DEVICES (Continued)								
Conduit and Wiring (Continued)								
3/4" diameter EMT conduit	8,500	LF	1.60	13,600	0.0505	429.25		
1/2" diameter EMT conduit	5,660	LF	0.83	4,698	0.043	243.38		
#6 THHN	9,000	LF	0.90	8,100	0.010	90.00		
#8 THHN	12,500	LF	0.82	10,250	0.009	112.50		
#10 THHN	21,000	LF	0.52	10,920	0.008	168.00		
#12 THHN	42,000	LF	0.34	14,280	0.005	210.00		
FIRE ALARM SYSTEM (ADDRESSABLE)								
16 zone fire alarm control panel, including standby batteries and charger	1	EA	5,010.00	5,010	22.000	22.00		
Fire alarm graphic annunciator	1	EA	850.00	850	15.000	15.00		
Manual pull station (break glass type)	12	EA	156.00	1,872	1.500	18.00		
Combination horn/strobe	59	EA	225.00	13,275	1.650	97.35		
Combination horn/strobe, weatherproof	11	EA	262.00	2,882	1.880	20.68		
Strobe only	15	EA	111.00	1,665	1.500	22.50		

09 - ELECTRICAL	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
FIRE ALARM SYSTEM (ADDRESSABLE) (Continued)								
Magnetic door hold release	49	EA	175.00	8,575	1.635	80.12		
Smoke detectors ionization	78	EA	130.00	10,140	1.250	97.50		
Heat detector	28	EA	77.00	2,156	0.700	19.60		
Duct detector	6	EA	360.00	2,160	2.450	14.70		
Connect to trip circuit	1	EA	109.00	109	1.150	1.15		
Connect to TTB	1	EA	112.00	112	1.150	1.15		
Connect to intercom system	1	EA	80.00	80	1.150	1.15		
Tamper switch connection	1	EA	240.00	240	1.220	1.22		
Flow switch connection	1	EA	240.00	240	1.220	1.22		
Junction box	20	EA	8.10	162	0.200	4.00		
1" diameter EMT conduit	4,400	LF	2.26	9,944	0.055	242.00		
6-strand fire alarm wiring	4,400	LF	0.41	1,804	0.015	66.00		
DATA/TELECOMMUNICATION SYSTEM								
4'0"x8'0"x3/4" AC grade plywood backboard	576	SF	2.20	1,267	0.038	21.89		

09 - ELECTRICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
DATA/TELECOMMUNICATION SYSTEM (Continued)								
48-pair telecom termination blocks	2	EA	78.00	156	0.430	0.86		
19"x84" free-standing data equipment racks	5	EA	1,350.00	6,750	4.800	24.00		
Plug strips	5	EA	120.00	600	0.720	3.60		
48-port patch panels	13	EA	79.00	1,027	2.140	27.82		
Cable management panels	10	EA	56.00	560	2.430	24.30		
Connection to fire alarm system	1	EA	180.00	180	2.500	2.50		
Single jack data/telephone outlets	10	EA	13.00	130	0.570	5.70		
Two-jack data/telephone outlets	122	EA	19.00	2,318	0.720	87.84		
Three-jack data/telephone outlet	1	EA	26.00	26	0.860	0.86		
Four-jack data/telephone outlet	1	EA	26.50	27	0.890	0.89		
Two-jack data/telephone outlets, floor mounted	3	EA	130.00	390	1.500	4.50		
Four-jack data/telephone outlets, floor mounted	4	EA	142.00	568	2.140	8.56		
Three-jack data/telephone outlet, ceiling mounted	1	EA	42.00	42	1.000	1.00		
Wireless access points	11	EA	190.00	2,090	1.100	12.10		

09 - ELECTRICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
DATA/TELECOMMUNICATION SYSTEM (Continued)								
Smart board interface	20	EA	1,650.00	33,000	17.700	354.00		
Junction boxes	20	EA	8.10	162	0.200	4.00		
12" cable tray	450	LF	18.40	8,280	0.112	50.40		
4" diameter EMT conduit	150	LF	23.00	3,450	0.160	24.00		
3" diameter EMT conduit	40	LF	16.00	640	0.120	4.80		
1" diameter EMT conduit	300	LF	2.76	828	0.055	16.50		
3/4" diameter EMT conduit	1,420	LF	1.60	2,272	0.0505	71.71		
Category 6 data cable	15,050	LF	0.58	8,729	0.015	225.75		
100 pair Cat 3 copper voice backbone	200	LF	15.00	3,000	0.033	6.60		
50 pair Cat 3 copper voice backbone	200	LF	7.50	1,500	0.018	3.60		
12-strand fiber	100	LF	0.95	95	0.012	1.20		
Single mode fiber	1,000	LF	0.30	300	0.008	8.00		
Ground bar	1	EA	110.00	110	0.600	0.60		
#2/0 bare copper ground	250	LF	2.42	605	0.016	4.00		

09 - ELECTRICAL	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
PUBLIC ADDRESS SYSTEM								
Link module	1	EA	1,625.00	1,625	12.000	12.00		
Power amplifier	1	EA	735.00	735	1.500	1.50		
Equipment rack	1	EA	950.00	950	3.000	3.00		
Power amplifier	2	EA	1,100.00	2,200	7.700	15.40		
AM/FM tuner	1	EA	730.00	730	1.500	1.50		
CD player	1	EA	950.00	950	3.000	3.00		
Clock/speaker	22	EA	444.00	9,768	2.500	55.00		
Digital clock	6	EA	400.00	2,400	0.770	4.62		
Speakers	16	EA	120.00	1,920	0.950	15.20		
Speakers, weatherproof	2	EA	239.00	478	1.100	2.20		
3/4" diameter EMT conduit	1,000	LF	1.60	1,600	0.0505	50.50		
4-pair Cat 3 wire	1,600	LF	0.14	224	0.011	17.60		
25-pair Cat 3 wire	100	LF	0.89	89	0.014	1.40		

09 - ELECTRICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
SECURITY SYSTEM								
12-zone security control panel with keypad, including stand-by batteries and charger	1	EA	2,255.00	2,255	5.500	5.50		
Headend equipment	1	LOT	5,000.00	5,000	16.000	16.00		
Classroom door lockdown hardware/interface	35	EA	900.00	31,500	7.000	245.00		
Proximity card readers	2	EA	420.00	840	3.750	7.50		
Door security contact	35	EA	135.00	4,725	1.700	59.50		
Glass break detector	30	EA	117.00	3,510	0.900	27.00		
Infrared motion detector, long coverage	9	EA	283.00	2,547	3.750	33.75		
Connection to fire alarm system	1	EA	85.00	85	1.150	1.15		
3/4" diameter EMT conduit	1,800	LF	1.60	2,880	0.0505	90.90		
6-plenum security wire	1,800	LF	0.47	846	0.015	27.00		
Cat 6 camera cable	150	LF	0.58	87	0.009	1.35		
SET, RESET AND LOCKDOWN FEATURES								
Set, reset and lockdown system interface with door access system (allowance)	1	LOT	7500.00	7,500	181.820	181.82		

09 - ELECTRICAL	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
VIDEO SURVEILLANCE SYSTEM								
Data network switch, VOIP network switches, VOIP server	1	LOT	10500.00	10,500	90.900	90.90		
CCTV server	1	EA	3500.00	3,500	12.120	12.12		
Video recording and monitoring equipment	1	LOT	7500.00	7,500	21.820	21.82		
Interior ceiling mounted cameras	8	EA	675.00	5,400	6.060	48.48		
Exterior cameras, weatherproof heated enclosure	6	EA	2750.00	16,500	10.360	62.16		
3/4" diameter EMT conduit	210	LF	1.60	336	0.062	13.02		
Category 6 cable	1,500	LF	0.58	870	0.013	19.50		
6-strand fiber optic cable	200	LF	0.66	132	0.012	2.40		
PUBLIC ADDRESS SYSTEMS (GYM AND STAGE)								
Mixer/pre-amplifier	5	EA	985.00	4,925	2.100	10.50		
Eight channel auto/gate	3	EA	890.00	2,670	1.550	4.65		
Equalizer	3	EA	575.00	1,725	1.550	4.65		
Power amp	1	EA	1,110.00	1,110	7.600	7.60		

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09 - ELECTRICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
PUBLIC ADDRESS SYSTEMS (GYM AND STAGE) (Continued)								
Power amp, dual channel	1	EA	1,420.00	1,420	7.600	7.60		
CD multi-player	3	EA	710.00	2,130	1.000	3.00		
AM/FM tuner	2	EA	520.00	1,040	1.000	2.00		
Speakers	17	EA	120.00	2,040	0.950	16.15		
Wireless receiver	2	EA	750.00	1,500	2.000	4.00		
Stand type microphones	6	EA	138.30	830	0.780	4.68		
Desk top microphones	2	EA	85.00	170	0.780	1.56		
Wireless microphones	3	EA	147.50	443	0.360	1.08		
Microphone floor outlets	4	EA	146.00	584	0.360	1.44		
Microphone stands	3	EA	121.00	363	0.180	0.54		
Equipment racks	2	EA	955.00	1,910	2.500	5.00		
Over-voltage protection	1	LOT	460.00	460	2.000	2.00		
Microphone cable	200	LF	1.10	220	0.013	2.60		
Cat 6 speaker cable	1,800	LF	0.39	702	0.015	27.00		

09 - ELECTRICAL	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
HEARING IMPAIRED AUDIO SYSTEM								
Master transmitter	1	EA	1,015.00	1,015	2.180	2.18		
Slave transmitter	8	EA	900.00	7,200	1.200	9.60		
Infrared radiator with wire guard	2	EA	365.00	730	3.130	6.26		
Stethoscope style receiver	4	EA	169.00	676	1.310	5.24		
Lanyard style receiver	2	EA	169.00	338	1.310	2.62		
3/4" diameter EMT conduit	200	LF	1.60	320	0.0505	10.10		
Cat 6 wiring	200	LF	0.58	116	0.015	3.00		
EMERGENCY POWER								
150 KW oil-fired emergency diesel generator including accessories and fuel tank	1	EA	67,850.00	67,850	81.800	81.80		
Connection to leak detection system	1	EA	35.00	35	1.666	1.67		
Connection to level indicator	1	EA	35.00	35	1.666	1.67		
600 amp automatic transfer switch	1	EA	13,500.00	13,500	17.700	17.70		
600 amp emergency distribution panel	1	EA	8,950.00	8,950	18.600	18.60		

09 - ELECTRICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
EMERGENCY POWER (Continued)								
100 amp, 120/208 volt, 30 circuits MLO emergency panel	4	EA	1,875.00	7,500	16.000	64.00		
225 amp, 120/208 volt, 42 circuits, 4 wire, 3 phase MLO standby panel	2	EA	3,200.00	6,400	24.000	48.00		
1 1/4" diameter EMT conduit	175	LF	3.82	669	0.075	13.13		
2" diameter EMT conduit	100	LF	9.80	980	0.090	9.00		
2 1/2" diameter rigid steel conduit with fittings	15	LF	16.90	254	0.165	2.48		
#2 THHN copper	350	LF	1.61	564	0.0144	5.04		
#1/0 THHN copper	600	LF	2.47	1,482	0.018	10.80		
#3/0 THHN copper	350	LF	3.90	1,365	0.0224	7.84		
#4/0 THHN copper	80	LF	4.80	384	0.0248	1.98		
MISCELLANEOUS								
Testing and certification	1	LOT	4,000.00	4,000	200.000	200.00		
Subtotal Hours:						7,096.61	Hours	
Premium Time	10.00%					709.66	Hours	
Total Hours:						7,806.27	Hours	
						@	$ 72.36	

09 - ELECTRICAL	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
SUBTOTAL:				*$ 789,474*		*$ 564,862*		*$ 1,354,336*
Subcontractor's Overhead and Profit on Material and Labor	20.00%			157,895		112,972		270,867
TOTAL ESTIMATED COST:				***$ 947,369***		***$ 677,834***		***$ 1,625,203***

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10 - EQUIPMENT AND FURNISHINGS	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
SPORTS EQUIPMENT								
Practice basketball goal, wall mounted (height adjustable)	4	EA	2,395.00	9,580	16.060	64.24		
Fixed basketball goal, structure mounted	2	EA	4,650.00	9,300	21.500	43.00		
Floor markings (subcontractor)	1	LOT	1,000.00	1,000	6.000	6.00		
Floor inserts	4	EA	185.00	740	0.600	2.40		
Chinning bar	2	EA	415.00	830	2.850	5.70		
Climbing pegboard	2	EA	377.00	754	2.200	4.40		
FOOD PREPARATION AND LAUNDRY EQUIPMENT								
Refrigerator	1	EA	1,600.00	1,600	1.000	1.00		
Freezer	1	EA	1,250.00	1,250	1.000	1.00		
Convection oven	1	EA	5,650.00	5,650	3.000	3.00		
Stacked washer and dryer	1	EA	1,910.00	1,910	1.750	1.75		
Range with hood	6	EA	3,520.00	21,120	1.750	10.50		
Under counter refrigerator	5	EA	870.00	4,350	0.750	3.75		

10 - EQUIPMENT AND FURNISHINGS	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
PROJECTION SCREENS								
70"x70" manual projection screen with glass beaded viewing surface at classrooms	16	EA	560.00	8,960	2.800	44.80		
FURNISHINGS								
Horizontal window blinds	3,000	SF	9.30	27,900	0.060	180.00		
Rubber entry mat	200	SF	11.55	2,310	0.035	7.00		
PLASTIC LAMINATED CASEWORK								
9" deep x 12 3/4" high plastic laminated boot cubbies with (2) open face compartments with top shelf	168	LF	78.50	13,188	0.520	87.36		
Overall 20'0" long x 2'6" deep x 3'0" high (2) tier receptionist desk with doors, knee space, drawers one side and plastic laminated top	1	EA	7,500.00	7,500	32.000	32.00		
3'0" high base cabinet including top	196	LF	235.00	46,060	0.750	147.00		
36" wide x 2'6" high x 14'0" tub storage cabinets	16	EA	2,550.00	40,800	11.500	184.00		
4'0" wide x 7'0" high storage cabinets with adjustable shelves	16	EA	990.00	15,840	3.300	52.80		

10 - EQUIPMENT AND FURNISHINGS	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
PLASTIC LAMINATED CASEWORK (Continued)								
3'0" wide x 7'0" high lockable cabinets with rod and shelf	16	LF	270.00	4,320	3.000	48.00		
2'6" high wall units	352	LF	158.00	55,616	0.520	183.04		
1'6" high open shelf units	96	LF	42.00	4,032	0.500	48.00		
Kitchenette base unit	12	LF	235.00	2,820	0.750	9.00		
Wall mounted cabinet	12	LF	158.00	1,896	0.520	6.24		
3'0"x3'0" music room and waiting closets	4	EA	485.00	1,940	2.000	8.00		
12" high x 17'6" wide cubbies in kindergarten	4	EA	2,900.00	11,600	12.500	50.00		
IMC stacks	6	EA	1,890.00	11,340	12.000	72.00		
						1,305.98	Hours	
						@	$ 72.29	
TOTAL ESTIMATED COST:				**$ 314,206**		**$ 94,409**		**$ 408,615**

HMS Project No.: 17018

12 - GENERAL REQUIREMENTS AND PROFIT	*QUANTITY*	*UNIT*	*MATERIAL RATE $*	*MATERIAL TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
Mobilization (temporary facilities)	1	LOT	1,750.00	1,750	100.000	100.00		
Construction fence	500	LF	6.00	3,000	0.185	92.50		
Incidental freight	50	TONS	350.00	17,500	0.750	37.50		
Final clean-up and demobilize	1	LOT	300.00	300	100.000	100.00		
<u>PROJECT OVERHEAD</u>								
Site office and temporary facilities	14	MOS	1,700.00	23,800	25.000	350.00		
Equipment including part time mechanic	14	MOS	5,500.00	77,000	50.000	700.00		
Tools, consumables, scaffold	14	MOS	1,755.00	24,570	5.000	70.00		
Utilities, lighting, power and communications	14	MOS	4,685.00	65,590	10.000	140.00		
Cleaning site/snow removal	14	MOS	500.00	7,000	16.000	224.00		
Weather protection	8	MOS	750.00	6,000	20.000	160.00		
Protection building/barriers	1	LOT	2,250.00	2,250	135.000	135.00		
Testing, submittals, as-builts	1	LOT	27,500.00	27,500				
Labor contract filing fee	1	LOT	5,000.00	5,000				

HMS Project No.: 17018

12 - GENERAL REQUIREMENTS AND PROFIT			*MATERIAL*		*LABOR*		*TOTAL*	*TOTAL*
	QUANTITY	*UNIT*	*RATE $*	*TOTAL $*	*HOURS*	*TOTAL*	*UNIT RATE $*	*MATERIAL/LABOR $*
PROJECT OVERHEAD (Continued)								
Remove construction debris	14	MOS	750.00	10,500	10.000	140.00		
Fuel for equipment	14	MOS	780.00	10,920				
Printing, photographs, videos	1	LOT	1,500.00	1,500				
Permits								By Owner
Plan check and inspection fees	1	LOT	7,500.00	7,500				
						2,249.00	Hours	
						@	$ 65.60	
SUBTOTAL:				*$ 291,680*		*$ 147,534*		*$ 439,214*
Project manager								Included in Mark-Up
Superintendent	14	MOS			13,856.000	193,984	13,856.00	193,984
Engineer	300	HRS			150.000	45,000	150.00	45,000
Scheduler and estimator	12	MOS			5,000.000	60,000	5,000.00	60,000
Shop and as-built drawings	1	LOT	21,000.00	21,000			21,000.00	21,000
Expediting	1,000	HRS	25.00	25,000	66.000	66,000	91.00	91,000
Quality control	1,000	HRS			55.000	55,000	55.00	55,000

12 - GENERAL REQUIREMENTS AND PROFIT	*QUANTITY*	*UNIT*	*MATERIAL RATE $*	*MATERIAL TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
PROJECT OVERHEAD (Continued)								
Site staff/clerk	12	MOS			3,750.000	45,000	3,750.00	45,000
SUBTOTAL:				*$ 337,680*		*$ 612,518*		*$ 950,198*
OVERHEAD AND PROFIT								
Home Office	3.50%							436,622
Contractor's Mark-Up	8.00%							1,032,923
Bonds and Insurances	2.45%							341,639
TOTAL ESTIMATED COST:								***$ 2,761,382***

HMS Project No.: 17018

13 - SITE AND INFRASTRUCTURE *General Contractor*	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
SITE PREPARATION								
Clear site, grub up roots and remove from site (excludes trees)	3.44	AC	1925.00	6,622	30.000	103.20		
Staking and survey	3.44	AC	200.00	688	60.000	206.40		
SWPPP including inspection and maintenance	1	LOT	20000.00	20,000	240.000	240.00		
Dewatering pump	12	WKS	290.00	3,480	10.000	120.00		
Excavate and remove material from site	16,660	CY	2.25	37,485	0.090	1499.40		
Geotextile fabric	2,300	SY	1.20	2,760	0.016	36.80		
Type 2 filling and compaction, 4" minus	22,200	CY	14.65	325,230	0.080	1776.00		
Dust control	1	LOT	2055.00	2,055	100.000	100.00		
Compaction tests	20	EA	225.00	4,500				
SITE IMPROVEMENTS								
Type 2 filling and compaction, 4" minus	756	CY	15.00	11,340	0.080	60.48		
4" D1 base course	117	CY	24.00	2,808	0.100	11.70		
2" asphalt paving	8,400	SF	1.30	10,920	0.014	117.60		
Joint to existing	100	LF	1.80	180	0.046	4.60		

13 - SITE AND INFRASTRUCTURE General Contractor	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
SITE IMPROVEMENTS (Continued)								
Marking	300	LF	0.35	105	0.018	5.40		
24" diameter, 14 gauge CMP culvert	40	LF	41.50	1,660	0.290	11.60		
Traffic sign, post and footing	2	EA	220.00	440	1.450	2.90		
Concrete curbs	1,000	LF	16.17	16,170	0.180	180.00		
4" concrete walks	1,800	SF	4.37	7,866	0.055	99.00		
Landscaping								
Topsoil	800	CY	24.00	19,200	0.110	88.00		
Seeding	9	MSF	80.00	720	2.450	22.05		
6'0" to 8'0" birch	20	EA	220.00	4,400	1.600	32.00		
8'0" to 10'0" mountain ash	25	EA	260.00	6,500	2.000	50.00		
6'0" to 8'0" crab apple	35	EA	185.00	6,475	1.600	56.00		
15" to 18" cotoneaster	75	EA	22.00	1,650	0.350	26.25		
3'0" to 4'0" spirea	75	EA	28.00	2,100	0.450	33.75		
1"x4" pine edging	800	LF	0.60	480	0.030	24.00		

13 - SITE AND INFRASTRUCTURE General Contractor	QUANTITY	UNIT	MATERIAL/EQUIPMENT RATE $	MATERIAL/EQUIPMENT TOTAL $	LABOR HOURS	LABOR TOTAL	TOTAL UNIT RATE $	TOTAL MATERIAL/LABOR $
SITE IMPROVEMENTS (Continued)								
Landscaping (Continued)								
Mulch wood chips	2,500	SF	0.43	1,075	0.004	10.00		
Site Furnishings								
Building sign	1	EA	2500.00	2,500	24.500	24.50		
Bike rack, 14 bikes	1	EA	700.00	700	3.300	3.30		
8'0" aluminum bench with back	1	EA	750.00	750	1.800	1.80		
24" square x 30" high trash receptacle	1	EA	1075.00	1,075	1.550	1.55		
30'0" aluminum flagpole and concrete base	1	EA	2950.00	2,950	13.900	13.90		
Playground								
50'0"x60'0" game time composite play structure	1	EA	55000.00	55,000	110.000	110.00		
Swing sets, 2 seat structure	4	EA	1140.00	4,560	8.000	32.00		
4'0" crawl tube	1	EA	1478.00	1,478	2.000	2.00		
Soccer goals (2 each)	1	SET	2525.00	2,525	15.400	15.40		
2 1/2" thick interlocking rubber tiles, 24"x24" safety surface (6'0" rated fall)	2,500	SF	16.35	40,875	0.040	100.00		

13 - SITE AND INFRASTRUCTURE ***General Contractor***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
SITE IMPROVEMENTS (Continued)								
Fence								
6'0" high chain link fence	2,500	LF	28.50	71,250	0.185	462.50		
6'0"x10'0" gate	1	EA	895.00	895	3.800	3.80		
UTILITIES								
Trench for gas pipe with bedding and tape	100	LF	3.30	330	0.080	8.00		
4" diameter sewer line	150	LF	23.50	3,525	0.210	31.50		
Manhole	1	EA	3650.00	3,650	30.000	30.00		
Connect to existing	1	EA	300.00	300	3.000	3.00		
4" diameter DI water main and fittings	200	LF	28.50	5,700	0.300	60.00		
4" hydrant	1	EA	3375.00	3,375	27.250	27.25		
4" valve, valve box and marker, 10'0" deep	1	EA	990.00	990	3.850	3.85		
Connect to existing	1	EA	390.00	390	7.240	7.24		
Excavate trench, backfill, and warning tape	350	LF	7.50	2,625	0.210	73.50		
Testing and cleaning	1	LOT	150.00	150	16.000	16.00		

13 - SITE AND INFRASTRUCTURE ***General Contractor***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
UTILITIES (Continued)								
5,000 gallon fire guard double wall above grade fuel oil tank	1	EA	32000.00	32,000	11.000	11.00		
Leak detection system	1	LOT	2350.00	2,350	6.500	6.50		
Testing oil	500	GAL	2.50	1,250	0.004	2.00		
1" diameter black steel pipe and fittings	140	LF	5.09	713	0.120	16.80		
Trench, backfilling and tape	100	LF	3.30	330	0.100	10.00		
4'0"x8'0" concrete pad	1	EA	550.00	550	7.000	7.00		
6'0" chainlink fence	28	LF	28.50	798	0.200	5.60		
6'0"x10'0" gate	1	EA	895.00	895	3.800	3.80		
Testing	1	LOT	1100.00	1,100	17.000	17.00		
						6,027.92	Hours	
						@	$ 69.84	
TOTAL ESTIMATED COST:				***$ 742,488***		***$ 420,990***		***$ 1,163,478***

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13 - SITE AND INFRASTRUCTURE ***Subcontractor (Site Electrical)***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
<u>POWER</u>								
4'0"x5'0" concrete transformer pad	1	EA	632.00	632	4.550	4.55		
6'0" chainlink fence (small quantity)	22	LF	28.50	627	0.200	4.40		
6'0"x3'0" gate	1	EA	495.00	495	3.100	3.10		
Utility transformer								By Utility Company
Primary service								By Utility Company
Trench, tape and backfilling	75	LF	3.30	248	0.100	7.50		
3/4"x10'0" ground rods, clamps and 10'0" #4 bare copper	2	EA	75.11	150	0.940	1.88		
#3/0 copper ground wire	75	LF	3.85	289	0.024	1.80		
4" diameter RGS conduit, concealed	75	LF	26.50	1,988	0.168	12.60		
Elbow	1	EA	226.00	226	3.260	3.26		
350 KCMIL secondary conductors, XHHW	330	LF	8.85	2,921	0.032	10.56		
Transformer connection and bushing	1	LOT	315.00	315	6.000	6.00		

HMS Project No.: 17018

13 - SITE AND INFRASTRUCTURE ***Subcontractor (Site Electrical)***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
AREA LIGHTING								
8" diameter x 15'0" extra strong driven steel pipe pile foundation with welded top	4	EA	780.00	3,120	12.000	48.00		
24" diameter x 36" concrete collars at base	4	EA	330.00	1,320	2.750	11.00		
6" square x 25'0" steel pole mounted to pile cap	4	EA	1337.00	5,348	9.900	39.60		
250 watt LED fixtures with mounting arms	4	EA	1250.00	5,000	3.000	12.00		
Trench, tape and backfilling	600	LF	3.30	1,980	0.080	48.00		
1" diameter PVC conduit	650	LF	1.37	891	0.032	20.80		
#10 wiring XHHW	2,600	LF	0.35	910	0.008	20.80		
DATA/COM								
Trench, tape and backfilling	75	LF	3.30	248	0.080	6.00		
2" diameter PVC empty conduit	75	LF	3.76	282	0.038	2.85		
Pull wire for cable service	75	LF	0.21	16	0.008	0.60		

HMS Project No.: 17018

13 - SITE AND INFRASTRUCTURE ***Subcontractor (Site Electrical)***	*QUANTITY*	*UNIT*	*MATERIAL/EQUIPMENT RATE $*	*MATERIAL/EQUIPMENT TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
MISCELLANEOUS								
Testing and certification	1	LOT	200.00	200	20.000	20.00		
Subtotal Hours:						285.30	Hours	
Premium Time	10.00%					28.53	Hours	
Total Hours:						313.83	Hours	
						@	$ 72.36	
SUBTOTAL:				*$ 27,206*		*$ 22,709*		*$ 49,915*
Subcontractor's Overhead and Profit on Material and Labor	20.00%			5,441		4,542		9,983
TOTAL ESTIMATED COST:				***$ 32,647***		***$ 27,251***		***$ 59,898***

14 - CONTINGENCIES	*QUANTITY*	*UNIT*	*MATERIAL RATE $*	*MATERIAL TOTAL $*	*LABOR HOURS*	*LABOR TOTAL*	*TOTAL UNIT RATE $*	*TOTAL MATERIAL/LABOR $*
ESTIMATOR'S CONTINGENCY								
The estimator's allowance for architectural and engineering requirements that are not apparent at an early level of design documentation	10.00%							$ 1,428,610
ESCALATION CONTINGENCY								
The allowance for escalation from the date of estimate to the proposed bid date								N/A
TOTAL ESTIMATED COST:								***$ 1,428,610***

HMS Project No.: 17018

APRIL 2017 LABOR RATES

TAXES AND INSURANCE BREAKDOWN

FICA and Medicare	7.65%
FUTA	0.60%
ESC	2.23%
SUBTOTAL:	10.48%

Plus Workers' Comp.

CARPENTER

Workers' Comp.	12.11%	
Base Hourly Rate		$ 38.34
Taxes and Insurance	22.59%	8.66
Fringes		25.29
TOTAL RATE:		$ 72.29 /Hour

LABORER

Workers' Comp.	12.11%	
Base Hourly Rate		$ 31.55
Taxes and Insurance	22.59%	7.13
Fringes		26.92
TOTAL RATE:		$ 65.60 /Hour

Combine

$ 68.95 /Hour

SITE WORK

Equipment Operator	$ 71.64
Laborer	65.60
Carpenter	72.29
	/ 3
	$ 69.84 /Hour

HMS Project No.: 17018

APRIL 2017 LABOR RATES

ROOFING

Workers' Comp.	29.67%	
Base Hourly Rate		$ 44.62
Taxes and Insurance	40.15%	17.91
Fringes		15.60
TOTAL RATE:		$ 78.13 /Hour

FINISHES (PAINTERS)

Workers' Comp.	10.18%	
Base Hourly Rate		$ 30.71
Taxes and Insurance	20.66%	6.34
Fringes		20.03
TOTAL RATE:		$ 57.08 /Hour

PLUMBER

Workers' Comp.	5.00%	
Base Hourly Rate		$ 39.85
Taxes and Insurance	15.48%	6.17
Fringes		23.05
TOTAL RATE:		$ 69.07 /Hour

IRON WORKERS

Workers' Comp.	34.52%	
Base Hourly Rate		$ 36.25
Taxes and Insurance	45.00%	16.31
Fringes		30.33
TOTAL RATE:		$ 82.89 /Hour

ELECTRICIAN

Workers' Comp.	3.82%	
Base Hourly Rate		$ 39.49
Taxes and Insurance	14.30%	5.65
Fringes		27.22
TOTAL RATE:		$ 72.36 /Hour

POWER EQUIPMENT OPERATORS

Workers' Comp.	11.15%	
Base Hourly Rate		$ 40.28
Taxes and Insurance	21.63%	8.71
Fringes		22.65
TOTAL RATE:		$ 71.64 /Hour

HMS Project No.: 17018

APRIL 2017 LABOR RATES

ELEVATOR MECHANIC

Workers' Comp.	3.65%	
Base Hourly Rate		$ 53.76
Taxes and Insurance	14.13%	7.60
Fringes		37.86
TOTAL RATE:		$ 99.22 /Hour

DEMOLITION LABORER

Workers' Comp.	23.05%	
Base Hourly Rate		$ 30.55
Taxes and Insurance	33.53%	10.24
Fringes		26.92
TOTAL RATE:		$ 67.71 /Hour

HAZARDOUS MATERIAL HANDLER

Workers' Comp.	26.35%	
Base Hourly Rate		$ 38.68
Taxes and Insurance	36.83%	14.25
Fringes		20.07
TOTAL RATE:		$ 73.00 /Hour

Department of Education & Early Development
Division of Finance & Support Services/Facilities

Work Topics for the BR & GR Committee

As Of: 3/15/18

BR&GR 2018 Work Items		Responsibility	Due Date
1.	**CIP Grant Priority Review – [(b)(1)]**		
1.1.	FY19 MM & SC Grant Fund Final Lists (4 AAC 31.022(a)(2)(B))	Committee	Mar 2018
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.	DEED Cost Model	Dept	2018
3.1.1.	Model School Analysis (Allowable Costs)	Commmittee	Annually, Apr
3.1.2.	Site Work + Major Maintenance Line Items	Dept	TBD
3.2.	Cost Standards	Dept	TBD
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.	Materials/Systems Analysis	Committee	TBD
3.4.1.	Model School Building Systems	Dept	2018
3.4.2.	School District Building Systems	Dept	TBD
3.5.	Design Ratios	Committee	TBD
3.5.1.	Climate Zones	Committee	TBD
3.5.2.	Opening to Exterior Wall	Committee	TBD
3.5.3.	Footprint Area to Gross Square Feet	Committee	TBD
3.5.4.	Building Volume to Net Floor Area	Committee	TBD
3.5.5.	Building Volume to Exterior Surface Area	Committee	TBD
4.	**Prototypical Design Analysis – [(b)(4)]**		
4.1.	*SB87 – Amendments to 14.11.014(b)(4)*	*Dept (w Cmte)*	*TBD*
5.	**CIP Grant Application & Ranking – [(b)(5) & (6)]**		
5.1.	FY20 CIP Draft Application & Instructions	Dept	Apr 2018
5.1.1.	Facility Condition Survey Minimum Standards	Dept	Mar 2018
5.1.2.	Life Safety/Code Rater Scoring Matrix	Dept	Mar 2018
5.1.3.	Emergency Rater Scoring Matrix	Dept	TBD
5.1.4.	Priority Weighting Factors Review	Dept	TBD
5.2.	FY20 CIP Final Application & Instructions	Committee	Apr 2018
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	Mar 2018
	Alaska School Facilities Preventive Maintenance Handbook Final	Committee	May 2018
6.1.3.	Life Cycle Cost Analysis Handbook - Initial	Dept	Apr 2018
	Life Cycle Cost Analysis Handbook - Final	Committee	Jun 2018
6.1.4.	A/E Services for School Construction - Initial	Dept	Apr 2018
	A/E Services for School Construction - Final	Committee	Aug 2018
6.1.5.			

6.2. New Publications

6.3. Regulations

6.3.1.	Facility “Clean-up” Reg Project	Dept (w/Cmte)	2018

7. Energy Efficiency Standards – [(b)(8)]

7.1. (None)

Projected Meeting Dates

January – July 2018 (TBD) (Teleconference), Subcommittees
March 15, 2018 (Teleconference), Work Session, PM Handbook
April 3-4, 2018 (Juneau), 1-1/2 Day, FY20 Application + LCCA
May 2018 (TBD) (Teleconference), A/E Services Publication & PM Handbook Final
June 2018 (TBD) (Teleconference), LCCA Publication Final
July 2018 (TBD) (Teleconference), Construction Standards Regs
August 2018 (TBD) (Teleconference), A/E Services Publication Final
December 2018 (TBD) (TBD), Half day, CIP

Department of Education & Early Development
Division of Finance & Support Services/Facilities

Work Topics for the BR & GR Committee
AS 14.11.014
Updated: 12/19/17

BR&GR Work Items – Master List	**Responsibility**	**Due Date**
1. CIP Grant Priority Review – [(b)(1)]		
1.1. FYXX MM & SC Grant Fund Initial Lists (4 AAC 31.022(a)(2)(B))	Committee	Annually
1.2. FYXX MM & SC Grant Fund Reconsideration Lists	Committee	TBD
1.3. FYXX MM & SC Grant Fund Final Lists	Committee	TBD
2. Grant & Debt Reimbursement Project Recommendations – [(b)(2)]		
2.1. Six-year Capital Plan (14.11.013(a)(3); 4 AAC 31.022(2)(A))	Dept	Annually
2.1.1. Statewide Inventory	Dept	TBD
2.1.2. Statewide Facility Appraisal	Dept	TBD
2.1.3. Statewide Condition Survey	Dept	TBD
2.1.4. Renewal & Replacement Database	Dept	TBD
2.1.5. Presentation by ASD on Facility Condition Indexing	Committee	TBD
2.2. School Capital Funding	Dept (w Cmte)	TBD
2.2.1. Review Process & Funding Streams for Rural & Urban Projects	Dept	TBD
2.3. State's Role in Design & Construction		
2.3.1. In Organized City/Boroughs		Dept TBD
2.3.2. In REAAs		Dept TBD
3. Construction Standards for Cost-effective Construction – [(b)(3)]		
3.1. DEED Cost Model	Dept	2018
3.1.1. Model School Analysis (Allowable Costs)	Commmittee	Annually, Apr
3.1.2. Site Work + Major Maintenance Line Items	Dept	TBD
3.2. Cost Standards	Dept	TBD
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
3.3.2. Commissioning Agent Qualifications	Committee	2018
3.3.3. System Requirements for Commissioning	Committee	2018
3.4. Materials/Systems Analysis	Committee	TBD
3.4.1. Model School Building Systems	Dept	2018
3.4.2. School District Building Systems	Dept	TBD
3.5. Design Ratios	Committee	TBD
3.5.1. Climate Zones	Committee	TBD
3.5.2. Opening to Exterior Wall	Committee	TBD
3.5.3. Footprint Area to Gross Square Feet	Committee	TBD
3.5.4. Building Volume to Net Floor Area	Committee	TBD
3.5.5. Building Volume to Exterior Surface Area	Committee	TBD
3.6. Construction	Committee	TBD
3.6.1. Construction Duration		
3.6.2. Value Analysis		
3.6.3. Component Use and Specifications		
4. Prototypical Design Analysis – [(b)(4)]		
4.1. SB87 – Amendments to 14.11.014(b)(4)	Committee	TBD

5. CIP Grant Application & Ranking – [(b)(5) & (6)]

5.1. FYXX CIP Draft Application & Instructions (14.11.013)	Dept	Annually
5.2. FYXX CIP Final Application & Instructions	Committee	Annually
5.3. Separate School Construction and Major Maintenance Applications	Committee	
5.4. Separate Grant and Debt Applications	Committee	2019
5.5. Appendix D Update – Type of Space Added or Improved	Committee	2019
5.5.1. New Classifications & Terminology		
5.6. Expand Cond Survey Requirements Beyond Rehabilitations	Committee	2018
5.7. Facility Condition Survey Minimum Standard	Dept (w Cmte)	2018
5.8. Review Issues with “Primary Purpose” Designations		
5.8.1. Playgrounds, Parking Lots, etc.		
5.9. Rural Definition For Art (see Instructions, Appx C)	Committee	TBD
5.10. Space Allocation Issues (4 AAC 31.020(c))	Committee	TBD
5.10.1. Career Tech		
5.10.2. Resource Rooms and Special Ed		
5.10.3. Space Related to Security		
5.10.4. Net vs. Gross		
5.10.5. Electrical/Mechanical Space		
5.10.6. Storage in Remote Areas		
5.10.7. “Found Space” (cost-effectiveness test)		
5.10.8. Replacement Schools Clarifications		
5.10.9. Non-school Facilities		
5.10.10. Educational Adequacy/Space Increase		
5.10.11. Community Use Space		
5.10.12. Pre-school		
5.10.13. Out-of-District Enrollment (vocational/charters, etc.)		
5.10.14. Second Attendance Area Schools		
5.10.15. Enrollment Projection Models		
5.10.16. Standard Gym Size		
5.11. Rater’s Guide Matrices		
5.11.1. Life Safety/Code/Protection of Structure Matrix	Dept (w/Cmte)	Mar 2018
5.11.2. Emergency Points Matrix	Dept (w/Cmte)	TBD
5.12. Scoring Category & Weighting Factors		
5.12.1. Weighting for Maintenance	Dept (w/Cmte)	TBD
5.12.2. Weighting for Type of Space	Dept (w/Cmte)	TBD
5.12.3. Weighting for Emergency	Dept (w/Cmte)	TBD
5.12.4. Weighting for Life Safety/Code	Dept (w/Cmte)	TBD

6. CIP Approval Process Recommendations – [(b)(7)]

6.1. Publication Updates (4 AAC 31.020(a))		
6.1.1. Program Demand Cost Model for Alaskan Schools	Dept	Annually
6.1.2. Capital Project Administration Handbook	Dept	2022
6.1.3. Alaska School Facilities Preventive Maintenance. Handbook	Dept (w Cmte)	2018
6.1.4. Project Delivery Method Handbook	Dept	2022
6.1.5. Cost Format – *EED Standard Construction Cost Estimate*	Dept	2018
6.1.6. Space Guidelines Handbook	Dept (w Cmte)	TBD
6.1.7. Life Cycle Cost Analysis Handbook	Dept (w Cmte)	2018
6.1.8. Swimming Pool Guidelines	Dept (w Cmte)	2019
6.1.9. Guide for School Facility Condition Surveys	Dept (w Cmte)	2019
6.1.10. A Handbook to Writing Educational Specifications	Dept (w Cmte)	2020
6.1.11. Site Selection Criteria and Evaluation Handbook	Dept	2020
6.1.12. Facility Appraisal Guide	Dept	TBD
6.1.13. Guidelines for School Equipment Purchases	Dept (w Cmte)	2021
6.2. New Publications		
6.2.1. School Design & Construction Standards	*Dept (w Cmte)*	*2018*

6.2.2.	Architectural and Engineering Services for School Facilities	Dept	2020
6.2.3.	Outdoor Facility Guidelines for Secondary Schools	Dept	TBD
6.2.4.	Renewal & Replacement Guideline	Dept	TBD

6.3. Regulations

6.3.1.	Commissioning Requirements	Dept (w Cmte)	2018
6.3.2.	CIP “Primary Purpose”	Dept (w Cmte)	TBD
6.3.3.	Facility “Clean-up” Reg Project	Dept (w/Cmte)	2018

6.4.	Online Application	Dept	TBD

6.5. Database Review

6.5.1.	Consolidate Into Single Database	Dept	TBD
6.5.2.	Coordination With Unity Project	Dept	TBD
6.5.3.	ADM By Grade Level	Dept (SERRC)	TBD

7. Energy Efficiency Standards – [(b)(8)]

7.1.	Reporting Requirements	Dept (w Cmte)	TBD
7.2.	Energy Modeling	Dept (w Cmte)	TBD

Bond Reimbursement and Grant Review Committee

As of: March 1, 2017

Member	Appointed	Re-appointed	Term Expires
Heidi Teshner Chair Commissioner or Commissioner's Designee	Commissioner's Designee		
Representative Sam Kito III House of Representatives Member	Appointed by Speaker		
Senator Anna MacKinnon Senate Member	Appointed by President		
Mark Langberg Professional Degrees & Experience in School Construction	03/01/2016		02/28/2019
Dale Smythe Professional Degrees & Experience in School Construction	03/01/2017		02/28/2021
Robert Tucker Experience in Urban or Rural School Facilities Management	03/01/2016		02/28/2019
William Murdock Experience in Urban or Rural School Facilities Management	03/01/2017		02/28/2021
Doug Crevensten Public Representative	03/01/2016		02/28/2019
Don Hiley Public Representative	03/01/2017		02/28/2021

Members appointed by commissioner unless noted. See AS 14.11.014 and 4 AAC 31.087.