



**2009/10
Capital Plan**

Capital Plan Instructions

Resource Management Division
January 2009

2009/10 CAPITAL PLAN - CAPITAL PLAN INSTRUCTIONS

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PART I: OVERVIEW

1 Introduction

One of the core functions of the Ministry of Education is to allocate funds for the K-12 public education system. These funds include capital funding for school construction and operating funding for ongoing renovations and upgrading required to maintain the condition of existing capital assets. The Ministry is fiscally responsible for all aspects of the management of the capital procurement process with all costs associated with capital and operating funding incorporated within its budget. This includes any debt service costs associated with long-term debentures and the amortization of capital expenditures.

Capital Asset Management Framework

In keeping with Government's Capital Asset Management Framework, the Ministry has transferred accountability and responsibility for capital expenditures to boards of education, while retaining public accountability for ensuring that schools are planned, designed, constructed, and maintained in a cost-effective manner.

To enable the Ministry and boards to more effectively fulfill their respective capital asset management accountabilities, the Ministry has adopted a new planning and procurement process based on the Education Facilities Planning and Procurement Process Review completed in consultation with the then-BC School District Secretary-Treasurers' Association.

The review provided a number of recommendations being adopted by the Ministry, two of which will directly impact the annual capital plan submission process. In particular, boards of education will be required to develop and maintain a comprehensive School District Facilities Plan (SDFP), and to submit a Project Identification Report (PIR) for each capital project defined as a priority and included in a five-year capital plan.

School District Facilities Plan

As described in the resulting Education Facilities Planning and Procurement Process Review report, a district-wide comprehensive SDFP should form the basis for investment decisions. Such plans should take into consideration education program requirements and trends, operating capacities and current condition of existing facilities, current land use, anticipated changes in land use, absorption rates, yield rates, community demographics, local community and economic development strategies, and other considerations.

In terms of capital plan submissions to the Ministry, the SDFP would provide a comprehensive rationale for specific capital projects that may be proposed as part of the district's five-year capital plan. In addition, the SDFP provides a district-wide framework for other key local decisions such as school consolidations, locations for district programs and maintenance priorities. The SDFP should outline concrete plans for a ten-year planning horizon with more general consideration for the longer term. The scope and emphasis of each SDFP will vary depending on the specific circumstances and priorities of each school district.

Project Identification Report

The Education Facilities Planning and Procurement Process Review report further provides that a PIR must document a study that has:

- confirmed, updated and expanded the project rationale and definition of scale as first presented in the School District Facilities Plan;
- developed comprehensive cost estimates for each option, including appropriate contingency allowances;
- assessed the relative costs and merits of relevant physical development options;
- identified and evaluated partnership opportunities;
- reviewed the relative merits of various procurement methods in relation to the project and its market context;
- prepared a comprehensive business case for the project; and
- identified the range of risks associated with the project and outlined ways to transfer, reduce or mitigate those risks.

2009/10 Capital Plan Submission

Given the contracted timeline for the development of 2009/10 Capital Plan submissions, boards will not be required to be in full compliance with the new planning and procurement process. While boards will not be expected to complete a SDFP for this capital plan submission, a PIR must be provided to each of the highest priority project included in their 2009/10 Capital Plan submissions. The key goals of the PIR are to correctly identify the most effective solution to an identified facilities problem and to estimate the cost of the required project, as accurately as possible. Notably, without a SDFP in place, any submitted PIR will have to present more comprehensive information regarding the rationale for the project.

Further details regarding the development of a PIR, specifically for the 2009/10 Capital Plan submission, are provided in Appendix A – Project Identification Report (PIR) Guidelines.

2. Capital Funding

Each year, boards of education are required to submit a five-year capital plan providing details on high priority capital projects needed for their school districts. Eligible capital projects include the provision of new educational space required for enrolment growth, and the replacement or rehabilitation of existing school facilities with significant deficiencies, including seismic vulnerability.

Upon receipt of all capital plan submissions, the Ministry analyzes individual capital project requests, which are then assigned a priority ranking on a provincial basis. Based on further analysis of the highest priority requests, the Ministry establishes a long-term capital plan that will inform the decisions of the Minister and Government's corporate capital plan.

3. Capital Cost Drivers

Four primary capital cost drivers should be considered with respect to the management of a board of education's capital asset base:

(a) Enrolment Changes

The Ministry develops ten-year enrolment projections based on the analysis and interpretation of data from BC Stats. School districts are required to provide projected enrolments at individual schools so that the sum of the individual schools agrees with the Ministry projections. School districts may choose to develop their own ten-year projections based on local knowledge of future development and enrolment trends; however, these projections may only be submitted upon written agreement from the Ministry.

School districts are required to develop a capital plan based on a ten-year projection horizon to allow identification of future site acquisition needs. All districts requesting the acquisition of new school sites or the expansion of existing school sites, in response to potential enrolment growth generated by new residential development, must have School Site Acquisition Charges (SSAC) in place before the Ministry will support a site request. Once SSAC have been established in a school district, updated ten-year enrolment projections will inform the districts' annual consultations with its local government regarding the need for new school sites and the calculated values of the per-unit SSAC.

(b) Facility Age and Building Condition

Where facilities have been maintained in accordance with a long-term maintenance program but have reached the end of their functional or economic life, building renovation may be necessary to return a facility to an appropriate working condition. Alternatively, replacement of a facility may be warranted. School districts must provide the results an independent facility audit in support of a requested replacement or rejuvenation project.

To qualify for capital funding, renovation or replacement project requests must exceed \$1.5 million. Any renovation projects less than \$1.5 million are expected to be managed using Annual Facility Grant funding, with work scheduled over several years, if necessary, to complete the project.

(c) Seismic Risk

The Ministry remains committed, under the Provincial Seismic Mitigation Program, to improving the safety of our public schools through the mitigation of seismic risks. This mitigation work includes structural upgrading projects that make existing schools more resistant to earthquakes, and non-structural seismic upgrading of operational and functional components that reduce life safety hazards within schools. Seismic remediation must be integrated into a board's overall capital planning strategy to effectively plan and implement priority seismic projects.

(d) Student Transportation Services

School buses are considered capital assets and any new or replacement buses are funded as part of a board of education's capital plan submission. Replacement of an existing school bus will be considered based on age, condition and mileage. New school buses will only be supported due to increased district enrolment, whereas buses required as a result of school consolidations are expected to be funded from operating cost savings.

PART II: DEVELOPING THE 2009/10 CAPITAL PLAN

1. 2009/10 Capital Plan Timelines

2009/10 Capital Plan Timelines	
January 2009	<ul style="list-style-type: none"> • 2009/10 Capital Plan Instructions available on the Ministry's Capital Planning Resources webpage
January – May 2009	<ul style="list-style-type: none"> • School districts to work with Planning Officers in developing Project Identification Reports (PIR) and 2009/10 Capital Plan submissions
May 15, 2009	<ul style="list-style-type: none"> • Boards of education submit 2009/10 Capital Plans to Ministry, including: <ul style="list-style-type: none"> - electronic capital planning forms - hard copy documentation to support project requests, including PIR for highest priority projects - board resolution adopting the 2009/10 capital plan submission
May – June 2009	<ul style="list-style-type: none"> • Ministry reviews all submissions and applies provincial ranking criteria to requested capital projects • Ministry sends echo reports to school districts with assigned provincial project rankings and, where applicable, approved site acquisition projects for the purposes of establishing school site acquisition charges
July 2009	<ul style="list-style-type: none"> • Minister reviews and approves recommended project list
July 31, 2009	<ul style="list-style-type: none"> • Ministry submits capital plan to Capital Planning Secretariat

2. Capital Plan Submission

(a) Project Identification Report

Under the new process, boards must complete Project Identification Reports (PIR) for the highest priority projects being submitted to the Ministry as part of their capital plan submissions. The PIR will provide the project rationale, scope, costs and consider various solutions and options.

Completion of a PIR will be funded using existing school district financial resources, which includes Annual Facility Grant (AFG) funding. Regardless of whether a proposed project is supported in the Ministry consolidated capital plan and approved as part of Government's corporate capital plan, school districts will not be reimbursed or credited for the cost of a PIR.

(b) Capital Plan Forms

The Ministry has a series of forms and reports available on its web-based Remote Data Entry Capital Planning (RDECP) system to assist school districts with their capital plan development and submission. Access to designated users will be available by mid-February 2009 at:

http://rdecpl.educ.gov.bc.ca/pls/rdecpl/rde_html_main_pk.rdecpl

The Ministry prepares ten-year enrolment projections for the province and for each school district based on population trends identified by BC Stats. School inventories and school district projections are reported in the CP-3 School District Summary of Capacities and Projected Enrolment Form. School districts should use this form to enter their ten-year enrolment projections on an individual school basis for Kindergarten, elementary and secondary students.

When capital projects are requested in a board of education's capital plan, a CP-1 Capital Project Request Form must be completed for each project. Supporting documentation for the project requests must also be provided as part of the capital plan submission.

Capital rejuvenation or replacement requests included in the capital plan must be supported by the results of a recent facility audit assessing the condition of the existing school building.

Each project request will appear on the CP-2 Five-Year Capital Plan Summary, which should form the basis of the submission that is approved by a board of education.

A CP-4 School Capacity and Enrolment Worksheet should be completed for each newly requested space project. The form allows identification of all neighbouring schools potentially affected by a proposed space project and calculates the space ranking for that project.

For the purposes of mandatory school site acquisition legislation, requests for new school sites should be outlined in the CP-2 Five-Year Capital Plan Summary of proposed capital expenditures over the next ten years. School site acquisition charges are established by boards of education based on the value of Ministry-approved eligible school sites. For further information, please refer to the Implementation Guide: School Site Acquisition Charge on the Ministry's Capital Planning Resources webpage at:

<http://www.bced.gov.bc.ca/capitalplanning/resources/>

3. Project Budgets for Capital Planning Purposes

(a) Area Standards

Ministry of Education Area Standards (01/2003) data are incorporated into the CP-1 Project Request Forms. Two versions of the CP-1 Form (Elementary; Middle and Secondary) are linked to space standard tables according to the specified facility type. Space requests are entered in the design aid sheets, which are linked to the tables for elementary, middle or secondary schools.

(b) Allowances, Rates and Costing Factors

All factors associated with the development of capital budgets are published in the 2009/10 Capital Plan Allowances, Rates and Costing Factors Supplement. These will be updated to adjust project budgets prior to the signing of the Project Agreement.

Unit Rate

An estimated capital budget will be calculated for each school construction project (i.e., new schools, additions and renovations to existing schools) included in a capital plan on the basis of set unit rates for new construction of elementary, middle and secondary school space, and calculated unit rate for renovated space.

Note: Unit rates do not apply to administration and maintenance facilities, which must be considered for budgeting on an individual project basis.

Supplementary Building Allowance

School districts are required to determine the ground conditions of a site prior to its acquisition, as outlined in the Ministry's School Site Selection Guide, which can be found on the Ministry's Capital Planning Resources webpage at:

<http://www.bced.gov.bc.ca/capitalplanning/resources/>

Where an unusual ground condition exists, a preliminary analysis of the site condition and its associated costs will be required prior to acquisition of the site.

Note: The unit rate used to provide a budget estimate of construction costs for a capital project assumes a level site with normal load bearing capacity; otherwise, an appropriate ground factor should be selected to reflect the abnormal site conditions within the building footprint.

Site Development and Supplementary Site Allowances

A Site Development Allowance has been developed for differently sized new buildings and additions. This allowance is intended to provide for the completion of most items associated with the scale of development, with the exception of any additional costs associated with any abnormal site conditions. The Supplementary Site Allowance must be calculated separately to include items not covered under the Site Development Allowance.

Development Cost Charges and Off-Site Service Charges

School districts must comply with Government guidelines related to funding support for local government Development Cost Charges, off-site service charges, and bylaw requirements. For further details, please refer to the Capital Project Budget Guidelines for Local Government Service Charges and Bylaw Requirements (issued September 15, 1994) on the Ministry's Capital Planning Resources webpage at:

<http://www.bced.gov.bc.ca/capitalplanning/resources/>

Planning Fees

For the purposes of capital planning, planning fees for school projects will be calculated as a percentage of the estimated construction and site development costs. Basic fee rates of 10 percent for new construction and 16 percent for renovations, including seismic mitigation work, have been set for new project requests. Planning fees for new construction are further subject to adjustment, based on project size, on a sliding scale.

Equipment and Freight Rate Allowances

Equipment allowances for elementary, middle, and secondary schools are determined as a percentage of the base budget rate for construction. For replacement or rejuvenation projects, the equipment allowance is based on 25 percent of the equivalent new allowance. A Freight Rate Allowance is included to reflect the variations in shipping costs associated with the acquisition of equipment.

Location Factors

Costing factors for location have been developed for all school districts, with some allowances for variations within specific school districts. The Location Factor is based on a combination of two variables:

- Geographical Factor, which includes an allowance for climate, amount of snow and/or rain, and seismic zone
- Economic Factor, which reflects market conditions for building construction.

School Buses

All requests for school bus acquisitions included as part of a board of education's capital plan submission will be reviewed on an individual basis. Where approved by the Ministry, bus acquisition funding will be based on a capital allowance.

(See Appendix G – Base 70-Passenger School Bus Tender Specification Document; and Appendix H: Base 84-Passenger School Bus Tender Specifications Document)

Replacement of an existing school bus will be considered for the following situations:

- Mini-buses, which are 10-years old with at least 250,000 km;
- Conventional buses (24 to 76 passengers), which are 12-years old with at least 325,000 km;
- 84-passenger buses, which are 15-years old with at least 400,000 km; or
- None of the above apply, but the need for replacement can be substantiated.

Funding requests for school buses will be considered for inclusion in a Ministry's capital plan only where school districts have submitted all supporting documentation, as follows:

- For additional buses for new routes or trips, documentation includes rationale for the request, and copies of route sheets and route maps
- For replacement of existing buses, documentation includes the latest inspection report verifying age, condition and kilometers:
 - if bus replacement is earlier than provided in Ministry guidelines, documentation also includes rationale for the request and maintenance costs record
 - where the capacity of a replacement bus is to be upgraded, documentation must include rationale for the request, and copies of route sheets and route maps.

Note: Once a bus has been replaced, it may not be used for any permanent routes.



**2009/10
Capital Plan**

Appendices

Resource Management Division
January 2009

APPENDIX A: PROJECT IDENTIFICATION REPORT (PIR) GUIDELINES

Purpose

School districts must prepare a Project Identification Report (PIR) in support of each high priority project requested as part of their 2009/10 Capital Plan submissions. While the scale, complexity and cost of preparation may vary considerably, the PIR should estimate the scope, budget and schedule of the project as accurately as possible and provide sufficient information to enable the Ministry to decide whether to include the project as part of its consolidated capital plan.

The task of project identification can be complex, requiring the services of experts in demographics, land use planning, community planning, building design, and building renewal. This work often requires the engagement of a multi-disciplinary team.

Project Rationale and Scale

The background to the proposed capital project will typically be established in the SDFP. Where a SDFP has been previously developed by a school district, then a summary and update must be included as part of the PIR that:

- Provides a brief description of the reasons for the project — need for new space, renovation or replacement of a poor facility or other reason.
- Confirms validity of long-term role for the facility — reference to the SDFP with respect to how the facility fits the plans for all schools in the district.
- Updates enrolment forecasts and context as outlined in SDFP with the objective of confirming or modifying capacity.
- Estimates the required area of the facility using design aid calculations augmented with additional analysis where necessary.
- Confirms area requirements for site based on capacity and expectations for future expansion.

Where a SDFP has not been completed by a school district, then the PIR must demonstrate that proper facility planning has taken place and provide sufficient detail regarding:

- The rationale for the project
- Long-term role for the facility with reference to other capital needs in the district
- Exploration and evaluation of meeting demands at alternative sites or facilities
- Enrolment forecasts and capacity utilization in the context of surrounding schools
- Potential reconfiguration of district programs to optimize capacity utilization
- Area requirements for the facility using design aid calculations
- Area requirements for site based on school capacity and expectations for future expansion

Review of Physical Development Options

In many instances, the focus of the PIR will be on assessing the relative costs and merits of relevant physical development options such as:

- Redevelopment of the existing facility that could include several alternative architectural schemes
- Replacement on the existing site — this, too, could involve several approaches to site development
- Replacement on a new site — this may involve comparing the fit, cost and location merits of several alternative sites, including general types of sites as well as specific sites
- Additions to neighbouring schools

The financial analysis of the options should include all associated costs, including preliminary estimates of:

- Temporary accommodation costs
- Site development and other local development charges
- Operating and maintenance costs over the life of the facilities

Cost estimates must be as inclusive and accurate as possible, since the cost will be primary factor in the business case to select a preferred option.

Where new sites are needed, conduct sufficient site search analysis to determine that suitable properties are available and provide a realistic estimate for the cost to acquire a candidate property.

Seismic Mitigation

The primary objective of the Seismic Mitigation Program is to provide an acceptable level of safety for school building occupants and the general public as the building responds to strong ground motion; in other words, to reduce the life-safety risk. For capital project requests that include structural seismic upgrading, the 2004 seismic assessments should form the basis of the request, with an indication of how the highest structural priorities will be addressed. Soil conditions can be an important consideration, and for schools located on Type E or Type F soils, further site-specific soils analysis should be undertaken.

The seismic structural analysis and proposed retrofit of schools should be based on the Bridging Guidelines for the Performance Based Seismic Retrofit of British Columbia School Buildings – Second Edition (Bridging Guidelines) as directed by the Ministry of Education and endorsed by the Association of Professional Engineers and Geoscientists of BC (APEGBC) as good engineering practice. The Ministry and APEGBC are continuing to develop a common engineering approach to the seismic retrofit of school buildings and will encourage the implementation of new retrofit techniques to achieve the life safety performance objective.

Structural seismic mitigation of a school facility may be a stand-alone capital project request or included as part of the scope of a more comprehensive renovation request. In either case, the PIR must consider the long-term educational need for the school facility and include an assessment of the other major building systems, as well as any other risk assessments (i.e., hazardous materials), and give consideration to other government priorities and initiatives (i.e., sustainability).

Consideration of Partnership Opportunities

Partnership opportunities should be identified as early as possible, including:

- Exploration of the facilities, operational, management and funding aspects of a possible joint development with public or private partners.
- Development of the facilities program to sufficient detail that operational issues are addressed and realistic cost estimates for the joint development can be prepared.
- Preparation of capital and operating cost estimates in sufficient detail to obtain commitment from all parties.
- Development of a business case for the partnership opportunity — the business case must be sufficiently developed to demonstrate viability for private sector involvement.

Procurement Method

Review the relative merits of the various procurement methods in relation to the project and its market context, given due consideration to the best approach to maximizing value for money and managing project risks. It is not necessary to conclude this analysis except if a public-private partnership is being proposed.

Financial Plan

Prepare a comprehensive business case for the project that includes:

- An estimate of the total project cost.
- The identification of all associated capital costs that will be avoided as a result of the project.
- An estimate of the long-term operational cost impacts of the project, including an analysis of the facility life cycle costs, where applicable.
- The identification of all local funds that will be contributed to the project, including proceeds from the sale of surplus property and revenue that may be realized as a result of the project.
- A budget that is sufficiently detailed and comprehensive to accurately compare options as well as provide the Ministry with a realistic capital cost estimate for budget development.
- An analysis that demonstrates that the proposed development is within the Ministry's defined construction cost unit rates and supported supplementary costs.
- Sufficient site analysis to allow the identification of site development and other costs associated with site variables.
- The identification of the scope of renovations and upgrades should be sufficiently investigated to generate a realistic cost estimate.

Risk Management

Identify all significant issues that may affect the project's scope, cost or schedule, and outline ways to transfer, reduce or mitigate those risks. Cost estimates for applicable contingencies must be identified and included in the budgets for the various options being considered.

SCHEDULE A – Project Budget Estimate

A detailed project budget estimate must be submitted as part of the PIR. The project budget must be summarized on the Financial Summary form, as shown on page A-7.

Ministry Area Standards

Ministry space allowances, unit rates and cost factors will apply to all capital plan projects irrespective of the procurement process.

Ministry Unit Rates

Unit rates do not apply to renovation projects, seismic mitigation projects, or the construction of administration or maintenance space, which must be considered for budgeting on an individual project basis.

Allowances, Rates and Costing Factors

All factors associated with the development of capital budgets are published in the 2009/10 Capital Plan Allowances, Rates and Costing Factors Supplement.

Development Cost Charges and Off-Site Service Charges

School districts must comply with government guidelines related to funding support for local government Development Cost Charges, off-site service charges, and bylaw requirements. For further details, please refer to the Capital Project Budget Guidelines for Local Government Service Charges and Bylaw Requirements (issued September 15, 1994) on the Ministry's Capital Planning Resources webpage at:

<http://www.bced.gov.bc.ca/capitalplanning/resources/>

Site Development

A Site Development Allowance has been developed for differently sized new buildings and additions. This allowance is intended to provide for the completion of most items associated with the scale of development, with the exception of any additional costs associated with any abnormal site conditions.

Supplementary Site

Supplementary site and building costs are defined as those costs that are *unavoidable, extraordinary, significant, site-specific costs, not accounted for and not affordable within the construction budget*. The Supplementary Site Allowance must be calculated separately to include items not covered under the Site Development Allowance.

The construction budget is established using Ministry unit rates, cost allowances and factors. Supplementary costs therefore cover only premium costs for extraordinary work that do not form part of the normal costs of building and are not covered under the Ministry's unit rates or allowances for site development e.g. demolition, asbestos removal, site contamination, retention ponds required during construction, temporary accommodation, etc.

One area of concern to “Supplementary Costs” is where expensive design or servicing stipulations are being placed by third party entities, (e.g. the local municipality or Work Safe BC). In a situation such as this, it is important that the design team identify clearly the source of the expense, the value and the impact on the budget.

Care should be taken that supplementary funding is not overused or inappropriately used. Where high cost supplementary issues are raised, it is especially important that the design team review options. Supplementary funding should be considered a funding of “last resort.”

Fees

For the purposes of capital planning, planning fees for school projects will be calculated as a percentage of the estimated construction and site development costs. Basic fee rates of 10 percent for new construction and 16 percent for renovations have been set for new project requests. Planning fees for new construction are further subject to adjustment, based on project size, on a sliding scale.

Contingency Planning and Allowances

The use of contingency planning and allowances affords the design team a measure of flexibility within their budget and schedule to effectively manage project costs.

For other items, where the cost of a specific item of work cannot be determined within a reasonable level of confidence, an appropriate contingency may be assigned:

- a. For items of work covered by a fixed Ministry allowance, such as the approved unit rate or site development allowance, the estimated cost of the work plus the design contingency and any economic adjustment must remain within the Ministry allowance.
- b. For an item of work that meets the definition of a supplementary cost, a design contingency, up to a maximum of 10 percent of the estimated cost, may be included in the project budget.
- c. The Ministry contingency allowance of 3 percent for new space and 5 percent for renovations should be considered as construction contingencies and not used during design.

Equipment and Freight Rate Allowances

Equipment allowances for elementary, middle, and secondary schools are determined as a percentage of the base budget rate for construction. For replacement or rejuvenation projects, the equipment allowance is based on 25 percent of the equivalent new allowance.

A Freight Rate Allowance is included to reflect the variations in shipping costs associated with the acquisition of equipment.

Location Factors

Costing factors for location have been developed for all school districts, with some allowances for variations within specific school districts. The Location Factor is based on a combination of two variables:

- Geographical Factor, which includes an allowance for climate, amount of snow and/or rain, and seismic zone
- Economic Factor, which reflects market conditions for building construction.

Other

All costs of the project not specifically provided for elsewhere in Schedule B – Financial Summary are to be included in this section. In addition to the items listed and any other items particular to the capital project, the PIR is required to provide an estimate of the costs expected for the completion of the Project Development Report.

Identified Risks

Provide cost estimates for all significant issues identified in the PIR as risks potentially affecting project scope, cost or schedule.

Economic Adjustments

For 2009/10, school districts will provide escalation only to May 15, 2009.

The Ministry, through its cost consultants, will review project cost factors on a quarterly basis and make adjustments to construction cost forecasts. The Ministry will be responsible for any economic adjustments between May 15, 2009 and the scheduled start of construction.

Financial Summary Form

School Name:
Project No:
Project Description:

Nominal Capacity	Kindergarten	Grade 1 - 7	Grade 8 - 12	Grade Configuration
Existing				
Approved				
Additional				

Allowable Site Area (ha)

Allowable Building Area (sqm)
 Total Allowable Area
 Less: Previously Existing Space
 Add: Area to be Demolished
 Area of New Space
 Allowable Area of Renovations

Unit Rate for Construction (\$/sqm)
 New
 Renovations

Maximum Allowable Budget
 Site Acquisition
 Development Cost Charges
 Offsite Costs
 Site Development
 Supplementary Site
 Construction: New
 Renovation
 Supplementary Building
 Fees
 Contingency: Design
 Construction
 Equipment
 Other: Project Insurance
 LEED Gold Measures & Certification
 Hazardous Material Removal
 Environmental & Site Remediation Costs
 Temporary Facilities
 Project Management
 Demolition

Escalation: To Capital Project Agreement

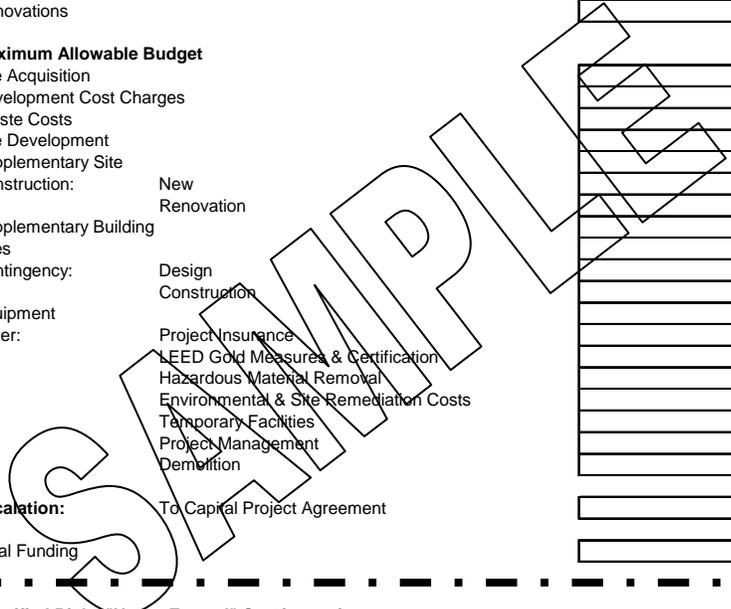
Total Funding

Identified Risks "Not to Exceed" Contingencies
 Environmental Site Risks
 LEED Gold Measures & Certification
 Asbestos Remediation
 Mould Remediation
 Hazardous Material Removal During Construction
 Unexpected Soil Conditions
 Third Party Partnership Agreements
 Land Value Adjustments

Total Identified Risks

Escalation From CPA to Effective Start of Construction

Funding Source
 Capital Plan
 Capital Reserve
 Land Capital Reserve
 Local Capital Reserve
 Annual Capital Grant
 Other
 Total



SCHEDULE B – Design Aid Sheet

A design aid sheet for the project must be provided as part of the PIR.

DESIGN AID SHEET FOR ELEMENTARY SCHOOLS

Grades: K to 7

School Name: ABC ELEMENTARY Facility Code: _____ Date: _____

District: XX (XXXXXXXXXX)

School Capacity: • Nominal: Kindergarten - 40 Elementary - 250
 • Operating: Kindergarten - 38 Elementary - 233

Agreed Nominal / Operating Capacity:

 Ministry of Education Date

This sheet is for use with the procedures in the Ministry of Education - Area Standards

PART 1 - BASIC AREAS				
Space Function	A - Existing	B - Allowable	C - Deficit	D - New
Administration / Health				80
Gen. Instruction				800
Gen. Storage				40
Gym Activity				380
Gym Ancillary				65
Media / Tech. Centre				160
Multi-Purpose				100
Spec. Education				120
Mechanical				65
Kindergarten				90
Design Space				430
* Other				
Sub-Total	Ai	Bi		Di 2,330.0
• Surplus classroom area included in DESIGN space = <input type="text"/>				
PART 2 - TOTAL AREAS				
	E - Existing		F - New	
Total Basic Areas	Ai		Di	2,330.0
			Ji	
Total Gross Allowable Area				2,330.0

Comments:

* Other:

SCHEDULE C – Facility Audit

The results of a building facility audit must be provided as part of the PIR for a renovation or replacement project, including a seismic mitigation project. If the school district determines that a new facility audit is required, it must follow the standard format utilized in the Ministry’s Facility Audit Manual. If necessary, the audit report may be supplemented, as required for the capital project.

For further details, please refer to the Revised Facility Audit Process documents on the Ministry’s Capital Planning Resources webpage at:

<http://www.bced.gov.bc.ca/capitalplanning/resources/>

Facility Audit Summary			Summary Page 05 1 2
A. Substructure	Foundations	Standard Foundations	0
		Slab on Grade	0
B. Shell	Superstructure	Floor Construction	0
		Roof Construction	0
	Exterior Closure	Exterior Walls	0
		Exterior Windows	0
		Exterior Doors	0
	Roofing	Roof Coverings	0
		Roof Opening	0
Projections		0	
C. Interiors	Interior Construction	Fixed and Moveable Partitions	0
		Interior Doors	0
		Specialties	0
	Staircases	Stair Construction	0
		Stair Finishes	0
	Interior Finishes	Wall Finishes	0
		Floor Finishes	0
	Ceiling Finishes	0	
D. Services	Plumbing	Plumbing Fixtures	0
		Domestic Water Distribution	0
		Sanitary Waste	0
		Rain Water Drainage	0
		Special Plumbing Systems	0
			0
	HVAC	Energy Supply	0
		Heat Generating Systems	0
		Cooling Generating Systems	0
		Distribution Systems	0
		Terminal and Package Units	0
		Controls and Instrumentation	0
		Special HVAC Systems & Equipment	0
			0
	Fire Protection	Fire Protection Sprinkler Systems	0
		Stand-Pipe and Hose Systems	0
		Fire Protection Specialties	0
		Special Fire Protection Systems	0
	Electrical	Electrical Service and Distribution	0
		Lighting and Branch Wiring	0
Communication and Security Systems		0	
Special Electrical Systems		0	
E. Equipment & Furnishings	Furnishings	Fixed Furnishings	0
		Moveable Furnishings	0
F. Special Construction	Special Construction	Integrated Construction & Special Construction Systems	0
		Special Controls and Instrumentation	0
G. Building Siteworks	Site Improvements	Roadways	0
		Parking Lots	0
		Pedestrian Paving	0
		Rain Water Drainage	0
		Site Development	0
		Landscaping	0
	Site Civil / Mechanical / Electrical Utilities	Water Supply & Distribution Systems	0
		Sanitary Sewer Systems	0
		Storm Sewer Systems	0
		Fuel Supply	0
	Electrical Supply	0	
Total Score			0
Percentage			0%

SCHEDULE D – Life Cycle Cost Analysis

The results of a life cycle cost analysis generally should be provided as part of the PIR for a renovation or replacement project, including a seismic mitigation project.

The life cycle study period will be 40 years.

The following are the minimum criteria to be considered in the life cycle analysis:

- Capital investment
- Unplanned maintenance
- Planned annual maintenance, including interior retrofit
- Operating costs including energy
- Utility costs
- Status of non-structural seismic
- Cyclical renewals including roofing
- Planned expenditures to bring the facility into compliance with the building code (e.g., accessibility, fire suppression, electrical, exits, etc.)
- Residual value of existing building
- Residual value of replacement building

The life cycle cost analysis is expected to determine the most cost-effective option, based on capital and life-cycle cost assessments, functional and educational program requirements, energy and operating efficiency, and life expectancy targets.

APPENDIX B: CP-1 CAPITAL PROJECT REQUEST FORM

As part of the web-based capital planning system, school districts must complete a CP-1 Form for each capital project provided in Year One to Year Five of their capital plan submission. All information related to those projects not supported for funding in a previous year can be brought forward by one year and updated. Only new requests require completion of a new CP-1 Form.

Please note the following significant aspects of the CP-1 Capital Project Request Form:

1. School board project ranking categories (i.e., High, Medium or Low) are provided on the CP-1 Form. Planning Officers will work with school districts to ensure that project evaluation criteria and methodologies are consistent with those of the Ministry, in order to produce a closely correlated rank order. The Ministry will then apply standard technical criteria to evaluate and rank all requests from across the province. The Ministry will 'echo' its ranking back to each school district.
2. Project codes are used by the Ministry to sort capital project requests into various categories for evaluation and prioritization. A list of the project codes is provided on page A-13.

The project codes are assembled into two distinguishing categories, capacity or non-capacity, which are ranked based on different sets of criteria. Capacity projects include those projects that result in an increase in student capacity, change in grade structure (e.g., elementary school to middle) through the construction of new space, or the reconfiguration of internal spaces with changes in use. These projects are ranked based on capacity/enrolment and capacity utilization. Projects that do not result in an increase in the capacity or change in grade configuration of a facility are considered non-capacity projects, even though they may result in increased area. These projects are ranked based on facility condition (i.e., facility audit score or seismic risk ranking).

Addition projects that include significant renovations or replacement projects that include an increase in capacity may be supported by the Ministry. However, for the purposes of capital planning, a separate CP-1 Form must be completed for each of these two construction activities (i.e., one ADD and one RENO/REPLACEMENT), as different evaluative criteria are applied to each of these project types. A determination may also be made as to the feasibility and benefits of combining an upgrade with an increase in capacity.

3. Unlike the prescribed project codes, there is an expanded field where project descriptions must be entered by school districts. The description should identify project specifics, such as the change in capacity; type of additional spaces; and location (where this may be ambiguous). Sample phrases are provided on page A-14. Although the description is not limited to these phrases it is expected that they will be used wherever possible.
4. For the existing capacity of a school, the capacity will appear as recorded on the CP-3 School District Summary of Capacity and Projected Enrolments Form.
5. Financial estimates must be provided in current dollars and not inflated for future years.
6. The source of funding included for site acquisition projects may include land capital funds, which are generated through the collection of school site acquisition charges.
7. The source of funding for other capital projects may include "local capital", "restricted capital", or "other" community funds.

CAPITAL PROJECT CODES

Capacity Related School Projects

- ADD Addition [increases the area of an existing school with a resulting increase in capacity; includes planning and completion phases]
- ALTER School Alteration [changes the grade configuration of a school; includes planning and completion phases]
- NEW New School [new facility; includes site acquisition, planning and completion phases]

Non-Capacity Related School Projects

- REPLACE Replacement School [completely replaces an existing school with a new facility or partially replaces a portion of an existing school; may include site acquisition phase; includes planning and completion phases.]
- RENO Renovation [upgrades an existing facility with no change in capacity; includes planning and completion phases]
- SITEEXP Site Expansion [increases site size of an existing school]
- SPN Seismic Project Non-Structural [non-structural seismic mitigation, includes planning and completion phases]
- SPS Seismic Project Structural [structural seismic mitigation, includes planning and completion phases]

Other Projects

- BUSNEW New School Bus
- BUSREP Replacement School Bus

CAPITAL PROJECT DESCRIPTIONS

<u>Project Code</u>	<u>Project Title</u>	<u>Project Description</u>
NEW	Name of School	New 40K/300 capacity elementary
ADD	Name of School	Increase capacity from 40K/200 to 40K/300
ALTER	Name of School	Convert 40K/300 capacity elementary to 450 capacity junior middle school
REPLACE	Name of School	Replace existing 40K/350 capacity elementary with new 40K/300 capacity elementary
	Name of School	Replace 1953 classroom block
RENO	Name of School	Renovations required to upgrade facility
SITEEXP	Name of School	Expand site to accommodate school addition
SPS	Name of School	Upgrade resistance to seismic loading
SPN	Name of School	Non structural seismic upgrading
BUSNEW		One new 72 passenger bus
BUSREP		Replace buses no. 1234 & 1235 (1 – 84, 1 - 72 PASS)

APPENDIX C: CP-2 FIVE-YEAR CAPITAL PLAN SUMMARY

The intent of the CP-2 Five-Year Capital Plan Summary is to communicate to the Ministry how a school board wishes to schedule capital projects proposed for a five-year planning timeframe, including site acquisitions. Site acquisitions proposed for the sixth through tenth years of this planning timeframe are collapsed into Year Five of the CP-2 Five-Year Capital Plan Summary.

The CP-2 Summary allows projects to be organized, as follows:

1. Group Projects by Year

Projects are to be listed segregated by year, with each year's projects then placed in rank order. The Five-Year Capital Plan reflects an orderly sequence of capital works, and is an indication of funding needs by year. The amount indicated for each project is only an estimate for capital planning purposes.

Under the capital project approval process, a project requiring purchase of a site must be entered as two separate project phases normally requiring financial information in two different capital years. The two phases are:

- site acquisition; and
- planning/completion.

2. Project Priority

Each capital project must be assigned a numerical ranking, ordered from highest to lowest priority. Indicate the priority from "1 to n" sequentially, starting with "1" as the school board's highest priority. The same priority number may not be assigned to more than one project.

Note: It is expected that the priority of projects will follow the year of request; however, bus requests entered in the first two years of a district's capital plan may be classified as lower priority than a year three capital project.

APPENDIX D: CP-3 SCHOOL DISTRICT SUMMARY OF CAPACITY AND PROJECTED ENROLMENT FORM

Each school district should review the enrolment data provided in the CP-3 School District Summary of Capacity and Projected Enrolment Form. The facility statistics, such as nominal capacity, reflects data from the Ministry's facility inventory. The historical enrolment reflects the approved student headcount enrolment with the following exclusions:

- Continuing Education
- Correspondence
- Home School Registrations
- Students Younger than School Age
- Students Older than School Age
- Offshore Students

The Ministry projection of school district enrolment is shown as district totals for Kindergarten, elementary and secondary. Using the Ministry enrolment projections as a base, enrolment breakdowns by grade-type and school must be provided on the CP-3- School District Summary of Capacities and Projected Enrolment Form. School Districts must ensure that the sum of the individual schools agrees with the Ministry projections.

If a school district chooses to develop its own ten-year projections based on local knowledge of future development and enrolment trends, these projections may only be entered into its CP3 Form following written agreement from the Ministry.

School districts may submit all projected school-based enrolments in a prescribed spreadsheet format, which in turn will be uploaded by the Ministry into its web-based system for use by school district users.

Note: To arrive at the total Kindergarten student enrolment for individual schools providing full-day Kindergarten classes, the full-day Kindergarten student enrolment must first be multiplied by two (to arrive at an equivalent half-day Kindergarten enrolment), with the resulting number added to any other half-day Kindergarten student enrolment.

APPENDIX E: CP-4 SCHOOL CAPACITY AND ENROLMENT WORKSHEET

Priority of capital funding requests for the construction of new space is determined by the overall need in a particular geographic area within a school district. The CP-4 School Capacity and Enrolment Worksheet calculates the level of need, based on the operating capacities, current enrolments and projected enrolments of all schools in an area. This analysis applies to funding requests for new schools, additions to existing school, school alterations, and school replacements.

Note: When calculating the need in an area, the new space associated with any currently approved project or a higher priority project in the same capital plan year is considered as existing, even if an approved project is not yet complete or the higher priority project(s) has not been approved.

Completion of the CP-4 Worksheet consists of identifying all neighbouring schools that may be affected by a project. Neighbouring schools include all schools in the area that may be considered part of a single large catchment area and whose enrolments are likely to be affected by the requested project. In urban areas, this catchment area is usually a three-kilometer radius for elementary schools and a five-kilometer radius for secondary schools. In rural areas, where busing is common, this radial distance should be increased.

Geographic features, such as rivers, ravines, or major arterial roads, may reduce the catchment area in some instances.

APPENDIX F: BOARD OF EDUCATION CAPITAL PLAN RESOLUTION SAMPLE

For the Ministry to process a capital plan submission, a copy of the board of education's resolution that adopts the capital plan must be included as part of the hard copy supporting documentation submitted to the Ministry. A sample resolution is provided below.

(District Letterhead)

(Date)

That the Board of Education of School District No. __ *(school district name)* approve the Capital Plan as outlined on the attached summary.

I hereby certify this to be a true copy of the resolution for approval of the Capital Plan adopted by the Board of Education, the _____ day of _____, 200x

(Signature)

Secretary Treasurer

**APPENDIX G: BASE 70-PASSENGER BUS SCHOOL BUS
 TENDER SPECIFICATIONS DOCUMENT**

Each vehicle must meet all standards of current Federal and Provincial Regulations and the latest CSA D250-00 requirements. Components not listed are expected to meet the CSA D250 standards, as a minimum.		
ITEM	YES/NO	COMMENTS
AIR BRAKES To meet D250 Standards plus heated air dryer Front - 16 ½ x 5 Rear - 16 ½ x 7 Manual drain valve on each tank		
ALTERNATOR Minimum 145 amps, 12 volts		
AXLES Front – 10,000 lb. GAWR - state make Rear – 21,000 lb. GAWR - state make Front axle must be oil bath type		
BATTERY As per engine requirements Enclosed compartment complete with sliding tray		
CHASSIS Make: _____ Model: _____ Year: _____ Wheelbase: _____		
DEFROSTERS Windshield defroster and 2 center-mounted defroster fans 2-speed with separate switches		
DOMELIGHTS Separate switch for driver Separate switches for front half and rear half of bus		
EMERGENCY EXITS (not including roof hatches) To meet D250 Standards		
ENGINE Diesel - approximately 210 hp, minimum 520 ft. lb. torque Engine warning System for low oil pressure and high temperature Inline 6-cylinder design		

ITEM	YES/NO	COMMENTS
ENTRANCE DOOR To meet D250 Standards Air operated outward opening Vandalock systems for all doors		
EXTERIOR LIGHTS To meet D250 Standards		
EXTERIOR MIRRORS To meet D250 Standards		
FLOOR To meet D250 Standards Include aisle strips – state colour		
HEATERS Defroster capable of clearing all front windows; 2 approximately 80,000 BTU underseat heaters, one located mid-ship and one located in the rear of the bus		
INSTRUMENTS AND INSTRUMENT PANEL To meet D250 Standards plus transmission temperature gauge, tachometer, engine hour meter		
INSULATION To meet D250 Standards		
INTERIOR REARVIEW MIRROR & SUN SHIELD To meet D250 Standards		
LUGGAGE COMPARTMENT (Exterior) Right hand side (passenger side) to accommodate vehicle equipment, (e.g., chains, tires) and provide for some student storage (band instruments, etc.) Minimum 60” wide		
MUD FLAPS Front and rear mud flaps		
NOISE ABATEMENT PACKAGE Acoustic headliner in the vestibule		
PAINT To meet D250 Standards Including bus number and belt lettering: “SCHOOL DISTRICT NO. __ (_____)” “No Smoking” - “No Standees” inside above windshield Body fully undercoated for noise and rust		
POWER STEERING Full power steering with tilt and telescopic steering column		
RADIATOR Includes long-life coolant		
RADIO – ENTERTAINMENT AM/FM/CD Player with PA and 6 speakers		
RADIO – COMMUNICATION Supply and install VHF radio as per School District specifications		

ITEM	YES/NO	COMMENTS
RETROREFLECTIVE MARKING To meet D250 Standards		
ROOF EMERGENCY ESCAPE HATCH 2 emergency roof hatches, spaced equidistant from each end		
RUB RAILS To meet D250 Standards		
SAFETY EQUIPMENT To meet D250 Standards		
SEATING To meet D250 Standards – state upholstery colour Deluxe driver’s seat fully adjustable, high back, air suspension, tilt back, lap and shoulder belt, vinyl with cloth insert covering		
SHOCK ABSORBERS To meet D250 Standards		
SPLIT SASH SIDE WINDOWS To meet D250 Standards		
SPRINGS To meet D250 Standards and equal to or greater than the axle rating		
STOP ARM 2 - with the word “STOP” in LED lights on blade Control to be in conjunction with front door opening With wind guard One to be located below the driver’s window and one located below the last side window on the driver’s side State electric or air operated		
TIRES 11R22.5 tubeless radial 14-ply rating Steer axle tread pattern on front Traction tread pattern on rear State make and model		
TRANSMISSION Allison automatic or equivalent To be matched with engine output and include synthetic fluid		
WARNING LIGHTS 8 light warning system - sequential operation with master switch		
WHEELS 8.25 x 22.5 heavy duty 10-stud disc hub pilot painted black		
WINDSHIELD Tinted Hand holds for windshield cleaning on exterior		
WIPERS Dual electric 2-speed intermittent windshield wipers with wet arm washer		

OPTIONS & OTHER EQUIPMENT NOT INCLUDED IN BASE	YES/NO	COST & COMMENTS
2 rows of dome lights		
Rear two lights on separate switch		
Dimmer switches for dome lights		
Air brake application gauge		
Tinted windows		
Back-up alarm		
Block heater - as appropriate for capacity		
Air horn mounted left side front roof corner		
Dual side directional lights - 2 left side, 2 right side		
Air-operated fan clutch		
Emergency equipment compartment, upper front (where available)		
Diesel fired coolant pre heater with timer		
Raised roof / high headroom option		
Fireproof upholstery		
LED lights – 8-way system		
LED lights – Stop/Turn/Tail/Clearance		
Electric oil pan heater		
Outside speaker		
Electric fans for roof hatches		
Rubber fenders, front & rear		
Sanders		
Strobe light on rear roof section		
Restraining seat frames		
Seat belts		
Video monitoring system – digital, with 2 cameras		
Stop arm with strobe instead of standard LED		
Tow hooks - 2 front and 2 rear		
Traction control through ABS		
Driver controlled differential lock		
Limited slip rear axle		
Additional luggage compartments		
Auto greasing system		
Remote air tank drains		
Dual 8 D batteries		
3 Group 31 batteries		
Driving lights – clear lens		
Fog lights – amber lens		
Locking fuel door		
Locking luggage bay door(s)		
GPS tracking system		
Air ride suspension - front		
Air ride suspension - rear		

**APPENDIX H: BASE 84-PASSENGER SCHOOL BUS
 TENDER SPECIFICATIONS DOCUMENT**

**Each vehicle must meet all standards of current Federal and Provincial Regulations and the latest CSA D250-00 requirements.
 Components not listed are expected to meet the CSA D250 standards, as a minimum.**

ITEM	YES/NO	COMMENTS
AIR BRAKES To meet D250 Standards plus heated air dryer Front - 16 ½ x 5 Rear - 16 ½ x 7 Manual drain valve on each tank		
ALTERNATOR Minimum 180 amps, 12 volts		
AXLES Front – 13,000 lb. GAWR - state make Rear – 23,000 lb. GAWR - state make Front axle must be oil bath type		
BATTERY As per engine requirements Enclosed Compartment complete with sliding tray		
CHASSIS Make: _____ Model: _____ Year: _____ Wheelbase: _____		
DEFROSTERS Windshield defroster and 2 center mounted defroster fans 2-speed with separate switches		
DOME LIGHTS Separate switch for driver Separate switches for front half and rear half of bus		
EMERGENCY EXITS (not including roof hatches) To meet D250 Standards		
ENGINE Diesel - approximately 250 hp, minimum 600 ft. lb. torque Engine warning system for low oil pressure and high temperature Hydraulically driven fan Inline 6 cylinder design		
ENTRANCE DOOR To meet D250 Standards Air operated outward opening Vandalock systems for all doors		
EXTERIOR LIGHTS To meet D250 Standards		

ITEM	YES/NO	COMMENTS
EXTERIOR MIRRORS To meet D250 Standards		
FLOOR To meet D250 Standards Include aisle strips – state colour		
HEATERS Defroster capable of clearing all front windows 2 approximately 80,000 BTU underseat heaters, one located mid-ship and one located in the rear of the bus		
INSTRUMENTS AND INSTRUMENT PANEL To meet D250 Standards, plus transmission temperature gauge, tachometer, engine hour meter		
INSULATION To meet D250 Standards		
INTERIOR REARVIEW MIRROR & SUN SHIELD To meet D250 Standards		
LUGGAGE COMPARTMENT (Exterior) Right hand side (passenger side) to accommodate vehicle equipment, (e.g., chains, tires) and provide for some student storage (band instruments, etc.) Minimum 60” wide		
MUD FLAPS Front and rear mud flaps		
NOISE ABATEMENT PACKAGE Acoustic headliner in the vestibule		
PAINT To meet D250 Standards Including bus number and belt lettering: “SCHOOL DISTRICT NO. __ (_____)” “No Smoking” - “No Standees” inside above windshield Body fully undercoated for noise and rust		
POWER STEERING Full power steering with tilt and telescopic steering column		
RADIATOR Comes with long life coolant		
RADIO – ENTERTAINMENT AM/FM/CD Player with PA and 6 speakers		
RADIO – COMMUNICATION Supply and install VHF Radio as per School District specifications		
RETROREFLECTIVE MARKING To meet D250 Standards		
ROOF EMERGENCY ESCAPE HATCH 2 emergency roof hatches, spaced equidistant from each end		
RUB RAILS To meet D250 Standards		

ITEM	YES/NO	COMMENTS
SAFETY EQUIPMENT To meet D250 Standards		
SEATING To meet D250 Standards – state upholstery colour Deluxe driver’s seat fully adjustable, high back, air suspension, tilt back, lap and shoulder belt, vinyl with cloth insert covering		
SHOCK ABSORBERS To meet D250 Standards		
SPLIT SASH SIDE WINDOWS To meet D250 Standards		
SPRINGS To meet D250 Standards and equal to or greater than the axle rating		
STOP ARM 2 - with the word “STOP” in LED Lights on blade Control to be in conjunction with front door opening With wind guard One to be located below driver’s window and one located below last side window on driver’s side State electric or air operated		
TIRES 11R22.5 tubeless radial 16-ply rating Steer axle tread pattern on front Traction tread pattern on rear State make and model		
TRANSMISSION Allison automatic or equivalent To be matched with engine output and include synthetic fluid		
WARNING LIGHTS 8-light warning system - sequential operation with master switch		
WHEELS 8.25 x 22.5 heavy duty 10-stud disc hub pilot painted black		
WINDSHIELD Tinted Hand holds for windshield cleaning on exterior		
WIPERS Dual electric 2-speed intermittent windshield wipers with wet arm washer		

OPTIONS & OTHER EQUIPMENT NOT INCLUDED IN BASE	YES/NO	COST & COMMENTS
2 rows of dome lights, rear two on separate switch		
Dimmer switches for dome lights		
Air brake application gauge		
Tinted Windows		
Back-up alarm		
Block heater - as appropriate for capacity		
Air Horn mounted left side front roof corner		
Dual side directional lights, 2 left side, 2 right side		
LED "Caution Stopping" sign for rear of bus		
Emergency equipment compartment, upper front (where available)		
Diesel fired coolant pre heater with timer		
Raised roof / high headroom option		
Fireproof upholstery		
LED lights – 8-way system		
LED lights – Stop/Turn/Tail/Clearance		
Electric oil pan heater		
Outside speaker		
Electric fans for roof hatches		
Rubber fenders, front & rear		
Sanders		
Strobe light on rear roof section		
Restraining seat frames		
Seat belts		
Video monitoring system – digital, with 2 cameras		
Stop arm with strobe instead of standard LED		
Tow hooks - 2 front and 2 rear		
Traction control through ABS		
Additional luggage compartments		
Auto greasing system		
Remote air tank drains		
Dual 8 D batteries		
3 Group 31 batteries		
Driving lights – clear lens		
Fog lights – amber lens		
Locking fuel door		
Locking luggage bay door(s)		
GPS tracking system		
Air ride suspension – front		
Air ride suspension - rear		