# BUSINESS COMMITTEE OF THE WHOLE
# AGENDA

**Tuesday, February 23, 2016, 4:00 P.M.**
**SCHOOL BOARD OFFICE**
**425 Jermyn Avenue**

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**Pages**

## 1. Call to Order

## 2. Adoption of Agenda

RECOMMENDED MOTION:

That the agenda be approved.

## 3. Presentations

## 4. Information Items

### 4.1 Cheque and ePAYMENT Listing — 1

A cheque and ePAYMENT listing for January 2016 will be reviewed. (Attachment)

### 4.2 2016-17 CNCP Project Submission — 8

A copy of the 2016-17 CNCP Project submission is attached.

### 4.3 2015 Health and Safety Report — 16

A copy of the 2015 Health and Safety Report for the district is attached.

## 5. Action Items

### 5.1 Police Liaison

District Principal (Student Services) Susan Thomson will speak to the committee with respect to approaching the City of Penticton, District of Summerland, and the Regional District regarding a dedicated Police Liaison officer for SD67 schools.

RECOMMENDED MOTION:

That the committee recommends that the Board of Education write to the City of Penticton, District of Summerland, and RDOS to request their financial support for the re-instatement of a Police Liaison Officer for SD67 schools.

### 5.2 2016-17 Budget Process

The 2016-17 budget process and dates will be reviewed.

## 6. Upcoming Policies

- Policy No. 720 - Security of Premises (last reviewed February 9, 2004)
- Policy No. 530 - Employee Wellness, Health and Safety (last reviewed September 10, 2007)
- Policy No. 610 - Records Retention (last reviewed September 10, 2007)
- Policy No. 201 - School Fundraising and School Financial Records (last reviewed September 10, 2007)
- Policy No. 212 - Trespassers on School Property (last reviewed September 10, 2007)

## 7. Question Period

## 8. Adjournment

RECOMMENDED MOTION:

That the meeting be adjourned.

Ministry of Education
Planning and Major Projects Division

| | |
|---|---|
| Submission Date (yyyy-mm-dd) | 05/02/2016 |
| *School District Ref. No.* | 2016-01 |
| *Project Priority* | 1 |

# 16/17 CNCP Project Data Sheet

**(Complete one Project Data Sheet per project and attach supporting documentation)**

## Long Range Facility Plan

How many years will this facility be active, as per the Long Range Facility Plan for the School District? Over 20 Years

## Project Identification

| | | | | | |
|---|---|---|---|---|---|
| School District No. | 67 | School District Name: | Okanagan Skaha | | |
| Facility Name | Penticton Secondary School | | | | |
| Project Contact | Name: | Doug Gorcak | Phone: (250) 770-7701 | Email: | dgorcak@summer.com |

| | | | |
|---|---|---|---|
| Project Type | Solar | Project Benefits | The addition of the solar panels will reduce energy costs for the district but will also show students & staff the power of the sun. The schools internal TV broadcasting system will be used to display |
| If "Other" please describe: | | | |

Project Description: Installation of a 63KW photovoltaic system complete with net metering for power sale back to utility during peak periods.

## Project Cost

| | | |
|---|---|---|
| Total Project Cost (A) | $158,000 | |
| CNCP Funding | $125,000 | **79%** |
| School District Funding * | $33,000 | **21%** |
| Third Party Funding * | | **0%** |
| Total Project Cost (B) | **$158,000** | **100%** |
| Variance (B-A) | **$0** | **0%** |

* Sources of Other Funding:

## Project Schedule

| | | |
|---|---|---|
| Start Date (yyyy-mm-dd) | 2016/05/15 | |
| Completion Date (yyyy-mm-dd) | 2016/08/15 | |
| Current Project Phase | Tender Ready | |
| If "Other", please describe | | |

## Energy Cost Savings

| | |
|---|---|
| Annual Fuel Cost Savings ($) | $0 |
| Annual Electricity Cost Savings ($) | $8,900 |
| Total Annual Energy Cost Savings ($) | **$8,900** |

## Stationary GHG Emissions

| | |
|---|---|
| 2015 SmartTool Emissions (TCO2e) | 47 |

## Energy and Emission Reductions

| | |
|---|---|
| Fuel Type | |
| Annual Fuel Usage Reduction (GJ) | |
| Annual Avoided Emissions (TCO2e) | - |
| Electricity Supplier | 07. City of Penticton |
| Annual Electricity Usage Reduction (kWh) | 99,246 |
| Annual Avoided Emissions (TCO2e) | 0 |
| Total Annual Avoided Emissions (TCO2e) | **0** |
| Annual Emissions Reduction from 2015 | **1%** |
| Annual Avoided Carbon Offsets | **$6** |
| Payback Period (years) | **18** |

## Consultant Reports

| | | Attached |
|---|---|---|
| Energy Study Date (yyyy-mm-dd) | 2016/02/05 | Yes |
| Mechanical Study Date (yyyy-mm-dd) | | |

## Technology

| | |
|---|---|
| Technology Industry-Proven? (Y/N) | Yes |
| Technology Previously Used by SD? (Y/N) | No |

## VFA Facility Condition Assessment

| | |
|---|---|
| Is this a VFA requirement? | No |
| If yes what priority is the requirement? | |
| VFA 1-page report attached | |

Proposal Prepared by: Name: Dan LeBlanc | Phone: (250) 762-9993 | Email: dan.leblanc@smithandandersenfalcon.co

# Kaleden Elementary School

**Kaleden , B.C.**

## School District No. 67 (Okanagan Skaha)
## Boiler Systems Assessment Report

**10 September 2015**

Natural draft boilers

## 1.0 Executive Summary

- The school appears to be well utilized and is well populated.
- The existing boiler systems are in **POOR** condition. The boiler systems are at the end of the service life.
- The existing mechanical systems use a disproportionate amount of **ENERGY**.
- Significant upgrades to boiler systems are required to bring systems to good design practices, guidelines and standards.
- A Boiler upgrade is estimated at ..... **$155,000**.
- A Boiler upgrade will save **19 tonnes** of CO2 and **$4,700 in utility costs** Per Year.
- This upgrade could be completed by March 31, 2016 if the design process could start early in the fall of 2015. There is enough room in the mechanical room to switch over the system in the spring break of 2016.

## 2.0 Description of Existing Building

- Area of building: 2,339 m²
- Original building date: 1992.
- Description of existing building: The building is single storey with non-combustible construction.

## 3.0 Discussion of Existing Mechanical Systems

### Primary Energy Systems

| | |
|---|---|
| The hydronic heating system is natural draft super hot boiler. This system was installed in 1992. This system is near the end of the service life. | The boilers will need to be upgraded to a sealed combustion condensing style. |

### Energy Transportation Systems

| | |
|---|---|
| The primary water circulators are original. These systems were installed in 1992. These systems are at the end of the service life. | Pumping systems will need to be upgraded. |

### Controls

| | |
|---|---|
| The building is serviced by older generation digital control systems. | These systems should be upgraded but the recommendations and cost are covered under a separate report. |

## 4.0 Considerations for Mechanical System Upgrade

Caveat. This review is intended to provide a quick review of the conditions and configuration of the existing mechanical systems where they are apparent. The main purpose of this report is to identify and then develop budgets for upgrades to mechanical systems.

A boiler upgrade to the existing mechanical system will improve the operation, comfort, energy consumption and maintenance of the facility. The recommendations are listed in the text of the report

Don Poole P.Eng.

BRITISH COLUMBIA
Ministry of Education

# *Requirement List Report*
## *By Category*

| Category | Requirement Name | Prime System | Priority | System Group | Action Year | Action Date | Finish Date | Status | Linked System | Requirement Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| Beyond Useful Life | Air Handling Unit - Const Volume - 7500 CFM - AHU Only - AHU-1, AHU-2 Renewal | D3040 - Distribution Systems | 3- Long Term | HVAC System | 2021 | Jul 10, 2021 | | Open | Air Handling Unit - Const Volume - 7500 CFM - AHU Only - AHU-1, AHU-2 | 145,400 |
| Beyond Useful Life | Boilers HW - Gas Fired - 300 MBTUH - 1994 Renewal | D3020 - Heat Generating Systems | 3- Long Term | HVAC System | 2018 | Jul 10, 2018 | | Open | Boilers HW - Gas Fired - 300 MBTUH - 1994 | 75,580 |
| Beyond Useful Life | Branch Wiring - Equipment & Devices - Original and 1960's and 1977 Additions Renewal | D5021 - Branch Wiring Devices | 3- Long Term | Electrical System | 2021 | Jul 10, 2021 | | Open | Branch Wiring - Equipment & Devices - Original and 1960's and 1977 Additions | 30,080 |
| Beyond Useful Life | Built-Up-Roof (BUR) Renewal | B30 - Roofing | 3- Long Term | Exterior Enclosure | 2018 | Jul 10, 2018 | | Open | Built-Up-Roof (BUR) | 120,479 |
| Beyond Useful Life | Carpeting - Broadloom Renewal | C3020 - Floor Finishes | 3- Long Term | Interior Construction and Conveyance | 2018 | Jul 10, 2018 | | Open | Carpeting - Broadloom | 88,301 |
| Beyond Useful Life | Ceramic Floor Tile Renewal | C3020 - Floor Finishes | 3- Long Term | Interior Construction and Conveyance | 2018 | Jul 10, 2018 | | Open | Ceramic Floor Tile | 34,342 |

Smith + Andersen
210 - 1715 Dickson Avenue Kelowna British Columbia V1Y 9G6
250 762 9993 f 250 861 3290 smithandandersenfalcon.com

# ELECTRICAL SCHEMATIC DESIGN REPORT

**PROJECT NAME:**

PENTICTON SECONDARY SCHOOL – PHOTOVOLTAIC SYSTEM

**DATE:**

2016-02-05

## 1. INTRODUCTION

1. The purpose of this report is to describe the electrical systems for a proposed Photovoltaic system for Penticton Secondary School.

## 2. DESCRIPTION OF THE SYSTEM

1. The proposed photovoltaic system would consist of 210 photovoltaic panels rated 300 W each for a peak power output of 63 kW located on the Northeast corner of the roof. The panels will be Canadian UL listed with a 25 year warranty.

2. The ballasted racking system will consist of 9 rows of a 23 photovoltaic panels mounted on an aluminum frame with stainless steel fasteners. The panels will be mounted at a 15 degree angle. The racking system will be reviewed by a Structural Engineer.

3. The photovoltaic panels will be string connected in series via roof mounted disconnecting combiner boxes.

2. Three 20kW (208Volt-3 Phase) grid tie inverters will be provided in Mechanical Room 239, Space will be provided to allow for future addition of the photovoltaic panels. The inverter has an efficiency rating of 97%.

5. The system will be connected via a disconnect switch to a 3P-225 Amp breaker into the Sub Distribution Centre #4 in Electrical Room inside Mechanical Room 239.

6. A utility disconnect will be provided on the exterior of the building to allow for fire department/local utility to disconnect the system if required.

7. The system will come with a monitoring gateway interfaced with the internet to provide web-based monitoring of the system to provide real time data such as energy production and Green House Gas reduction. In addition, this gateway will provide connection to the Building Management System.

## 3. DESIGN CRITERIA

1. The design is based 1923.3 hours of sun light for the City of Penticton.

2. System losses soiling, connections, light-inducted degradation and other factors, are calculated at 14%.

3. The Photovoltaic panels will be installed in an Azimuth (South facing) array.

4. The total losses in the system (inverter and the system losses) are calculated at 17%.

## 4. SYSTEM PREFORMACE

1. The proposed system is expected to produce approximately 99,246 kW-hr per year. A with approximate electric utility rate of $0.09 per kW-hr the estimated income is $8,900 per year.

2. The system will provide an estimated 68.4 metric tons of reduction in carbon dioxide greenhouse gas emission.

## 5. PROJECT SCHEDULE

- Preparation of tender documents – April 1 to 15, 2016
- Tender Period – April 16, to May 10, 2016
- Review and Award contract - May 11, 2016
- Construction – May 20, 2016 to August 15, 2016

## 6. BUDGET

1. Following is a class C budget:

    1. PV Panels
    2. Racking
    3. Three (3) inverters
    4. Disconnect switches, breakers, and misc.
    5. Permits
    6. Installation
    7. Structural Engineering

    Total $158,000

2. The budget does not include any required building renovations, changes to the racking system due to structural requirements, design fees and Taxes. Photovoltaic equipment is not subject to PST.

END OF ELECTRICAL SCHEMATIC DESIGN REPORT

Ministry of Education
Planning and Major Projects Division

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