1910 Northfield Road,
Nanaimo, BC, V9S 3B5
250-585-3830
admin@islandehs.ca

January 24, 2025

**School District 70**
4690 Roger St
Port Alberni, BC
V9Y 3Z4

**Attention: Alex Taylor**

**Reference: Potable Water Lead Testing – Albert District Secondary School**

***Introduction***

**Island EHS Ltd** has collected thirty-four (34) water samples from tap / bottle filling stations at **Albert District Secondary School**, located at 4000 Roger Street, Port Alberni, B.C. The purpose of the sampling is to evaluate potential lead exposure risk from water consumed from the tap / bottle-filling stations. The samples were collected on January 15, 2025 and we report the following.

***Sampling Methodology***

Sampling locations were selected by the client. All samples were taken from cold water lines.

The lead samples were collected using the methodology taken from "Guidelines on Evaluating and Mitigating lead in Drinking Water Supplies, Schools, Daycares & Other Buildings" (published April 2019 by the British Columbia Health Protection Branch), using the Random Daytime Sampling method. A 125mL First Draw sample was followed by a 125mL sample taken after a 30-second flush. This methodology was conducted to determine if a 30-second flush is sufficient to reduce the lead concentrations to below the Maximum Acceptable Concentration (MAC).

The samples were collected in an appropriate bottle supplied by an accredited laboratory. The samples were chilled and immediately submitted to the testing laboratory and tested for lead.

Samples were analyzed by the Island EHS in-house laboratory, using procedures based on methods recommended by the American Public Health Association (APHA) and the US Environmental Protection Agency (US-EPA) (EPA 200.9). Our laboratory is accredited by CALA to ISO/IEC 17025:2017 standards. Results were compared to the latest edition of the Canadian Drinking Water Quality Guidelines (CDWQG) published by Health Canada's Water Quality and Health Bureau.

***Results***

Table 1: Lead concentration from tested locations for First Draw and Flushed Sampling, compared to the Maximum Allowable Concentration (MAC) for Lead (0.005 mg/L).

| Sample Location | MAC[1] (mg/L) | Random Daytime Sample (mg/L) | Comments |
|---|---|---|---|
| **01-S** | 0.005 | <0.0006 | **Main floor - Work Office** |
| **02-F** | | <0.0006 | **C202 - Sink** |
| **03-S** | 0.005 | <0.0006 | **Main floor - Washroom** |
| **04-F** | | <0.0006 | **B238 - Sink** |
| **05-S** | 0.005 | <0.0006 | **Main floor - Staffroom** |
| **06-F** | | <0.0006 | **B241 - Sink** |
| **07-S** | 0.005 | 0.0006 | **Main floor - Staffroom** |
| **08-F** | | <0.0006 | **B240 - Sink** |
| **09-S** | 0.005 | <0.0006 | **Main floor - Staffroom** |
| **10-F** | | <0.0006 | **B242 - Sink** |
| **11-S** | 0.005 | 0.0011 | **Main floor - Lifeskills B207** |
| **12-F** | | <0.0006 | **- Sink** |
| **13-S** | 0.005 | <0.0006 | **Lower floor - Male Change** |
| **14-F** | | <0.0006 | **Room - Sink** |
| **15-S** | 0.005 | 0.0009 | **Lower floor - Female** |
| **16-F** | | <0.0006 | **Change Room - Sink** |
| **17-S** | 0.005 | 0.0010 | **Lower floor - Male** |
| **18-F** | | 0.0007 | **Washroom B131 - Sink** |
| **19-S** | 0.005 | 0.0007 | **Lower floor - Female** |
| **20-F** | | <0.0006 | **Washroom B130 - Sink** |
| **21-S** | 0.005 | 0.0013 | **Lower floor - Kitchen C110** |
| **22-F** | | <0.0006 | **- Sink by entrance** |
| **23-S** | 0.005 | 0.0010 | **Lower floor - Kitchen C110** |
| **24-F** | | 0.0010 | **Sink at back right** |
| **25-S** | 0.005 | 0.0019 | **Lower floor - Public** |
| **26-F** | | 0.0013 | **Washroom C117 - Sink** |
| **27-S** | 0.005 | 0.0015 | **Lower floor - Washroom** |
| **28-F** | | 0.0010 | **D126 - Sink** |
| **29-S** | 0.005 | 0.0031 | **Lower floor - Washroom** |
| **30-F** | | 0.0012 | **D127 - Sink** |
| **31-S** | 0.005 | 0.0009 | **Lower floor - Male** |
| **32-F** | | 0.0008 | **Washroom D103 - Sink** |
| **33-S** | 0.005 | 0.0007 | **Lower floor - Female** |
| **34-F** | | 0.0008 | **Washroom D109 - Sink** |

[1] MAC = Maximum acceptable concentrations
Results in **RED** indicate values that exceed the CDWQG

Full analytical results can be found in Appendix A.

Locations of the samples can be found in Appendix B.

***Discussion***

The school is supplied by the municipal potable water distribution system. According to the BC Health Protection Branch, “Lead is usually not found in drinking water when it leaves the treatment plant. Instead lead tends to leach out of pipes and fixtures in buildings…” Until 1989, the BC Building Code did not have provisions for restricting the use of lead-containing materials in potable water lines. Under the Canadian Standards Association (CSA) B125.1 standard, plumbing, fitting and fixtures produced as

recently as 2012 that were considered “lead-free” could contain as much as 8% lead by weight. Since 2012, the maximum percent of lead in fixtures that are considered “lead-free” is 0.25%.

### *Conclusions and Recommendations*

Of the thirty-four (34) locations from which water samples were collected by Island EHS on January 15, 2025, within Albert District Secondary School, located at 4000 Roger Street, Port Alberni, BC, no locations were found to have an average lead concentration which exceeded the maximum acceptable concentration (MAC) in the first draw bottles. No locations were above the MAC after a 30 second flush.

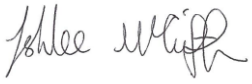
Based on the above, it is recommended that annual testing for lead continues to be conducted at this location as part of the School District’s drinking water testing program.

### *Limitations*

This report has been prepared in accordance with established Industrial Hygiene practices. It is intended for the exclusive use of School District 70 to assist in the assessment of the drinking water quality in the sampled locations. The use of this document for any other purposes is at the sole risk of the users.

**Island Environmental Health & Safety Ltd.**

Katie Bain
Occupational Hygiene Technician
Field Investigation & Report



Ashlee McGiffin
Senior Occupational Hygienist
Report Review

# Appendix A:
# Analytical Results

Island Environmental Health and Safety
201 - 990 Hillside Avenue
Victoria B.C, V8T 2A1
(778)406-0933
admin@islandehs.ca

# Certificate of Analysis

| | | | |
|---|---|---|---|
| Client Name | School District 70 | Report # | 61711 |
| Site Address | Alberni District Secondary | Report Date | 2025-01-23 |
| Collection Date | 2025-01-15 | Analysis Date | 2025-01-22 |
| Received by Lab | 2025-01-17 | PO | |
| Collected By | KB | Notes | |

## Analysis Summary: Stagnant/Flush

| | | | | |
|---|---|---|---|---|
| Sample # | 1&2 | Result (mg/L) | <0.0006 | Stagnant |
| Location | Main Floor - Work Office C202 - Sink | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:10 AM | Comments | | |
| Sample # | 3&4 | Result (mg/L) | <0.0006 | Stagnant |
| Location | Main Floor - Washroom B238 - Sink | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:12 AM | Comments | | |
| Sample # | 5&6 | Result (mg/L) | <0.0006 | Stagnant |
| Location | Main Floor - Staff Room B241 - Sink | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:15 AM | Comments | | |
| Sample # | 7&8 | Result (mg/L) | 0.0006 | Stagnant |
| Location | Main Floor - Staff Room B240 - Sink | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:17 AM | Comments | | |
| Sample # | 9&10 | Result (mg/L) | <0.0006 | Stagnant |
| Location | Main Floor - Staff Room B242 - Sink | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:18 AM | Comments | | |
| Sample # | 11&12 | Result (mg/L) | 0.0011 | Stagnant |
| Location | Main Floor - Lifeskills B207 - Sink | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:21 AM | Comments | | |

Notes

Results are compared to the latest Canadian Drinking Water Quality Guideline (CDWQG), published by Health Canada

Results in **green** are below the CDWQG limit of 0.005 mg/L
Results in **red** are at or above the CDWQG limit of 0.005 mg/L
Analysed using EPA 200.9

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| Received by Lab | 2025-01-17 | PO | |
| Collected By | KB | Notes | |

## Analysis Summary: Stagnant/Flush

| | | | | |
|---|---|---|---|---|
| Sample # | 13&14 | Result (mg/L) | <0.0006 | Stagnant |
| Location | Lower Fl. - Male Change Rm - Sink | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:24 AM | Comments | | |
| Sample # | 15&16 | Result (mg/L) | 0.0009 | Stagnant |
| Location | Lower Fl. - Female Change Rm - Sink | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:26 AM | Comments | | |
| Sample # | 17&18 | Result (mg/L) | 0.0010 | Stagnant |
| Location | Lower Fl. - Male WC B131 - Sink | Result (mg/L) | 0.0007 | Flush |
| Sampling Time | 6:30 AM | Comments | | |
| Sample # | 19&20 | Result (mg/L) | 0.0007 | Stagnant |
| Location | Lower Fl. - Female WC B130 - Sink | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:31 AM | Comments | | |
| Sample # | 21&22 | Result (mg/L) | 0.0013 | Stagnant |
| Location | Lower Fl. - Kitchen C110 - Sink by Entrance | Result (mg/L) | <0.0006 | Flush |
| Sampling Time | 6:10 AM | Comments | | |
| Sample # | 23&24 | Result (mg/L) | 0.0010 | Stagnant |
| Location | Lower Fl. - Kitchen C110 - Sink at back right | Result (mg/L) | 0.0010 | Flush |
| Sampling Time | 6:12 AM | Comments | | |

Notes

Results are compared to the latest Canadian Drinking Water Quality Guideline (CDWQG), published by Health Canada

Results in **green** are below the CDWQG limit of 0.005 mg/L
Results in **red** are at or above the CDWQG limit of 0.005 mg/L
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| Collection Date | 2025-01-15 | Analysis Date | 2025-01-22 |
| Received by Lab | 2025-01-17 | PO | |
| Collected By | KB | Notes | |

## Analysis Summary: Stagnant/Flush

| | | | | |
|---|---|---|---|---|
| Sample # | 25&26 | Result (mg/L) | **0.0019** | Stagnant |
| Location | Lower Fl. - Public Washroom C117 - Sink | Result (mg/L) | **0.0013** | Flush |
| Sampling Time | 6:15 AM | Comments | | |
| Sample # | 27&28 | Result (mg/L) | **0.0015** | Stagnant |
| Location | Lower Fl. - Washroom D126 - Sink | Result (mg/L) | **0.0010** | Flush |
| Sampling Time | 6:17 AM | Comments | | |
| Sample # | 29&30 | Result (mg/L) | **0.0031** | Stagnant |
| Location | Lower Fl. - Washroom D127 - Sink | Result (mg/L) | **0.0012** | Flush |
| Sampling Time | 6:18 AM | Comments | | |
| Sample # | 31&32 | Result (mg/L) | **0.0009** | Stagnant |
| Location | Lower Fl. - Male WC D103 - Sink | Result (mg/L) | **0.0008** | Flush |
| Sampling Time | 6:21 AM | Comments | | |
| Sample # | 33&34 | Result (mg/L) | **0.0007** | Stagnant |
| Location | Lower Fl. - Female WC D109 - Sink | Result (mg/L) | **0.0008** | Flush |
| Sampling Time | 6:24 AM | Comments | | |

Notes

Results are compared to the latest Canadian Drinking Water Quality Guideline (CDWQG), published by Health Canada

Results in **green** are below the CDWQG limit of 0.005 mg/L
Results in **red** are at or above the CDWQG limit of 0.005 mg/L
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| Collected By | KB | Notes | |

# Quality Control Report

| | Result | Unit | Limits | Pass/Fail? |
|---|---|---|---|---|
| **Duplicate** | 0 | Rel. % Diff | 0 - 15 % | **PASS** |
| **LFM** | 94 | % Recovery | 85-115% | **PASS** |
| **LRB** | <0.0006 | mg/L | <0.0132 mg/L | **PASS** |
| **LFB** | 92 | % Recovery | 85-115% | **PASS** |

**Duplicate**: Paired analysis of two portions of the same sample. Used to evaluate the variance in the measurement and homogenity of the sample.
**Laboratory Fortified Matrix (LFM)**: A client sample that has been fortified with a known amount of analyte. Used to evaluate matrix effects.
**Laboratory Reagent Blank (LRB)**: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.
**Laboratory Fortified Blank (LFB)**: A blank matrix to which a known amount of analyte is added. Used to verify instrument calibration.

Note: Duplicate sample below limit of quantitation
Results relate only to the items tested

This report is issued by Island EHS, accredited by CALA to ISO/IEC 17025:2017 standards for the scope of testing.

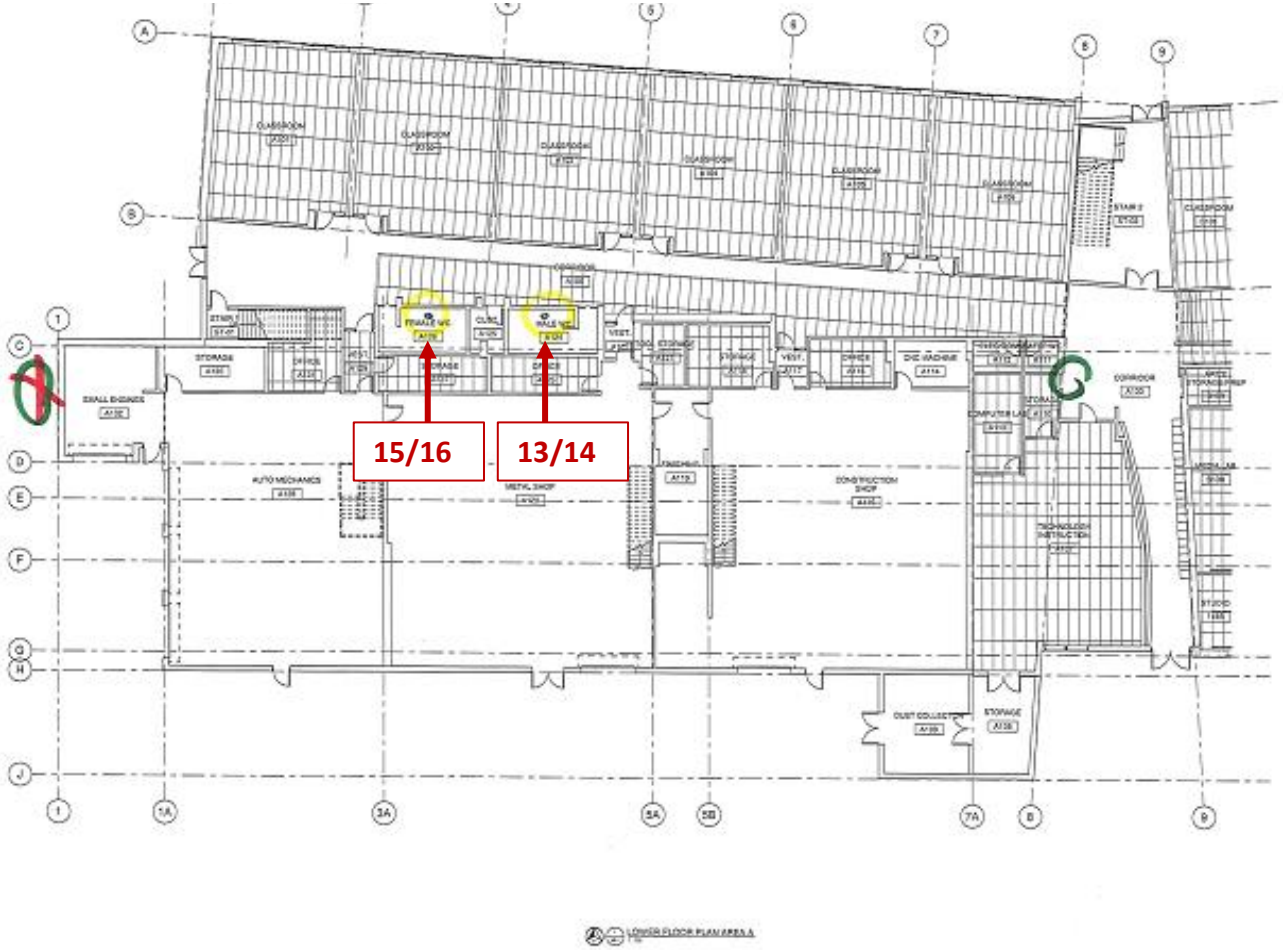
CALA
Testing
Accreditation No. 1005043

Laura Martin
Laboratory Analyst

End of Report

# Appendix B:
# Sample locations

# Alberni District Secondary School
# Lower floor plan – Area A – M-1




**LEGEND:**

XX — Water Sample Location

N

| | |
|---|---|
| Project 61711 | Date of Issue January 2025 |
| Lead in water testing Sample Locations | |
| Prepared for: **School District 70 – Pacific Rim** Sampling Site: **4000 Roger Street, Port Alberni, BC** | |
| Not to Scale | Island EHS |

# Alberni District Secondary School
# Lower floor plan – Area B – M-2

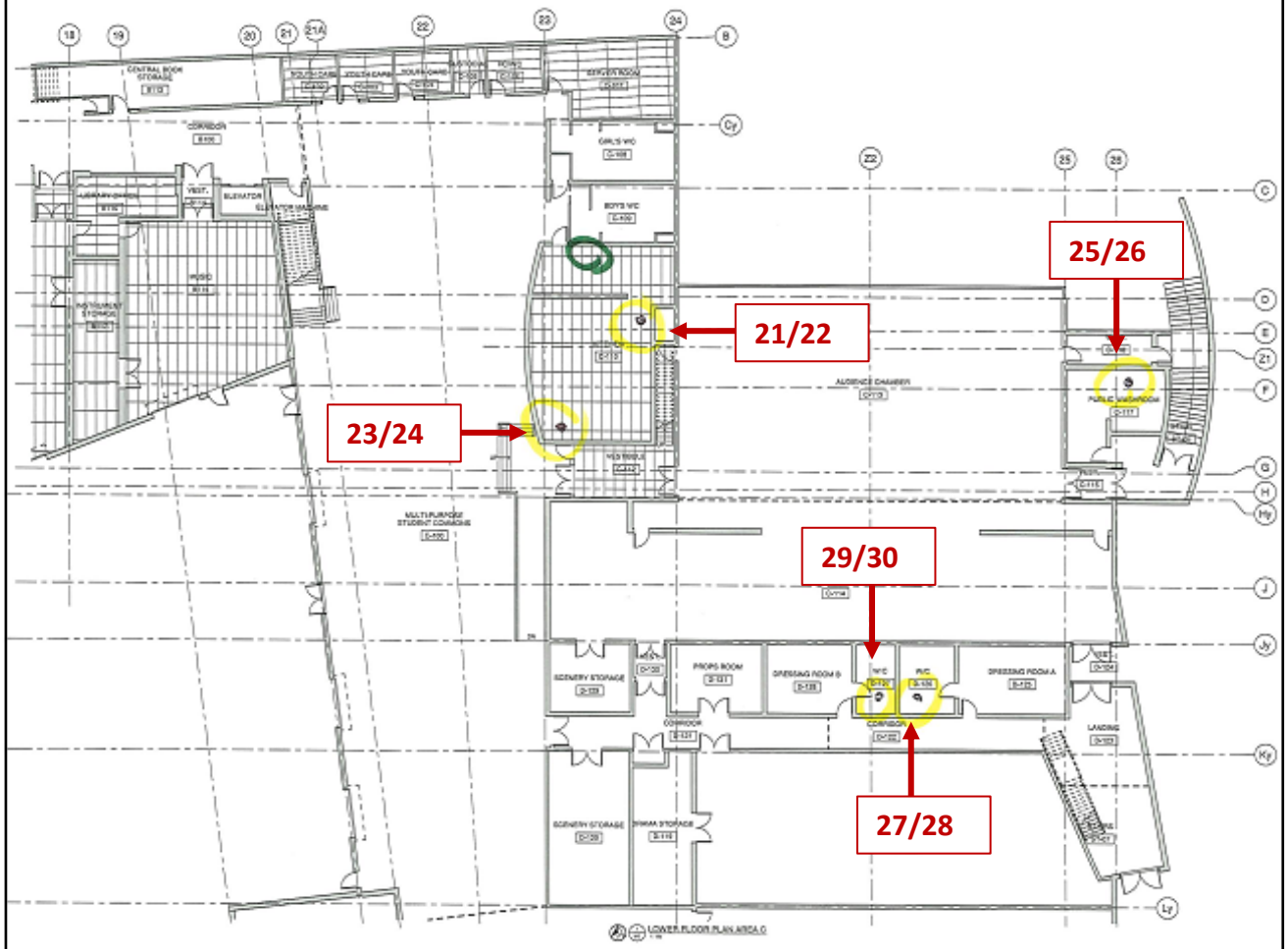

**LEGEND:**

XX — Water Sample Location

N

| | |
|---|---|
| Project 61711 | Date of Issue January 2025 |
| Lead in water testing Sample Locations | |
| Prepared for: **School District 70 – Pacific Rim** Sampling Site: **4000 Roger Street, Port Alberni, BC** | |
| Not to Scale | Island EHS |

# Alberni District Secondary School
# Lower floor plan – Area C – M-3



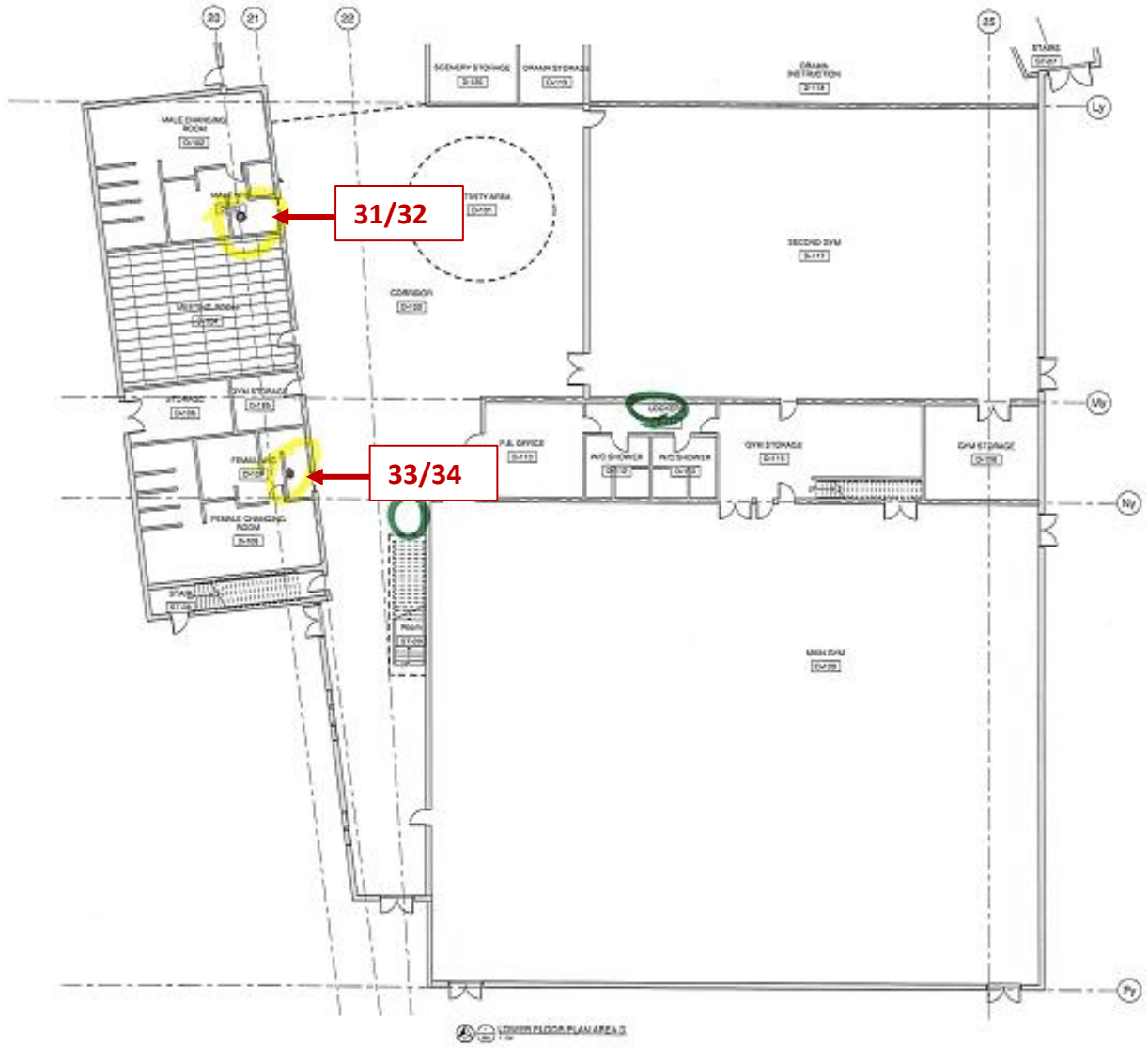

**LEGEND:**

XX — Water Sample Location

N

| | |
|---|---|
| Project 61711 | Date of Issue January 2025 |
| Lead in water testing Sample Locations | |
| Prepared for: **School District 70 – Pacific Rim** Sampling Site: **4000 Roger Street, Port Alberni, BC** | |
| Not to Scale | Island EHS |

# Alberni District Secondary School
# Lower floor plan – Area D – M-4



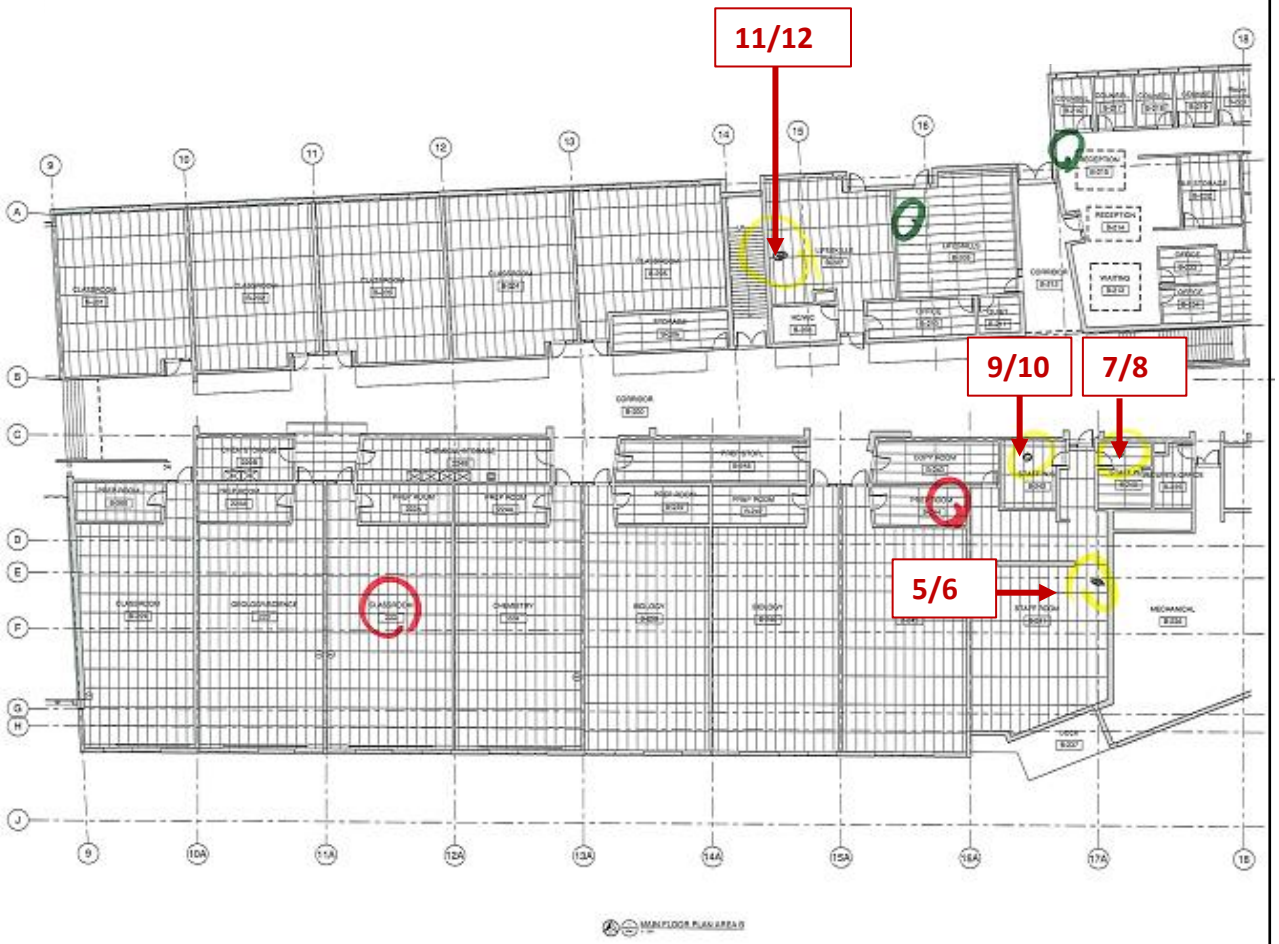

**LEGEND:**

XX — Water Sample Location

N

| | |
|---|---|
| Project 61711 | Date of Issue January 2025 |
| Lead in water testing Sample Locations | |
| Prepared for: **School District 70 – Pacific Rim** Sampling Site: **4000 Roger Street, Port Alberni, BC** | |
| Not to Scale | Island EHS |

# Alberni District Secondary School
# Main floor plan – Area B – M-6



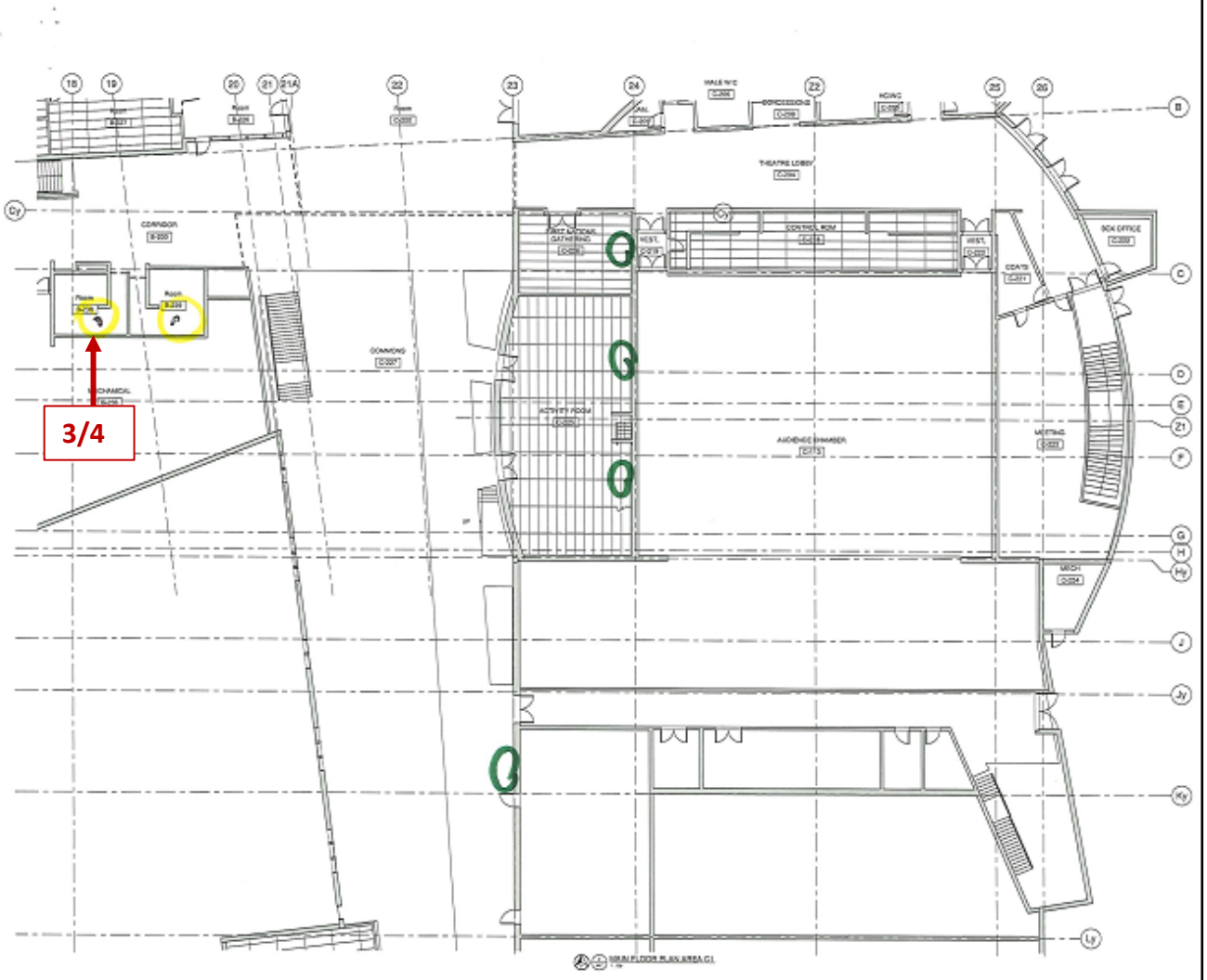

**LEGEND:**

XX — Water Sample Location

N

| | |
|---|---|
| Project 61711 | Date of Issue January 2025 |
| Lead in water testing Sample Locations | |
| Prepared for: **School District 70 – Pacific Rim** Sampling Site: **4000 Roger Street, Port Alberni, BC** | |
| Not to Scale | Island EHS |

# Alberni District Secondary School
# Main floor plan – Area C1 – M-7



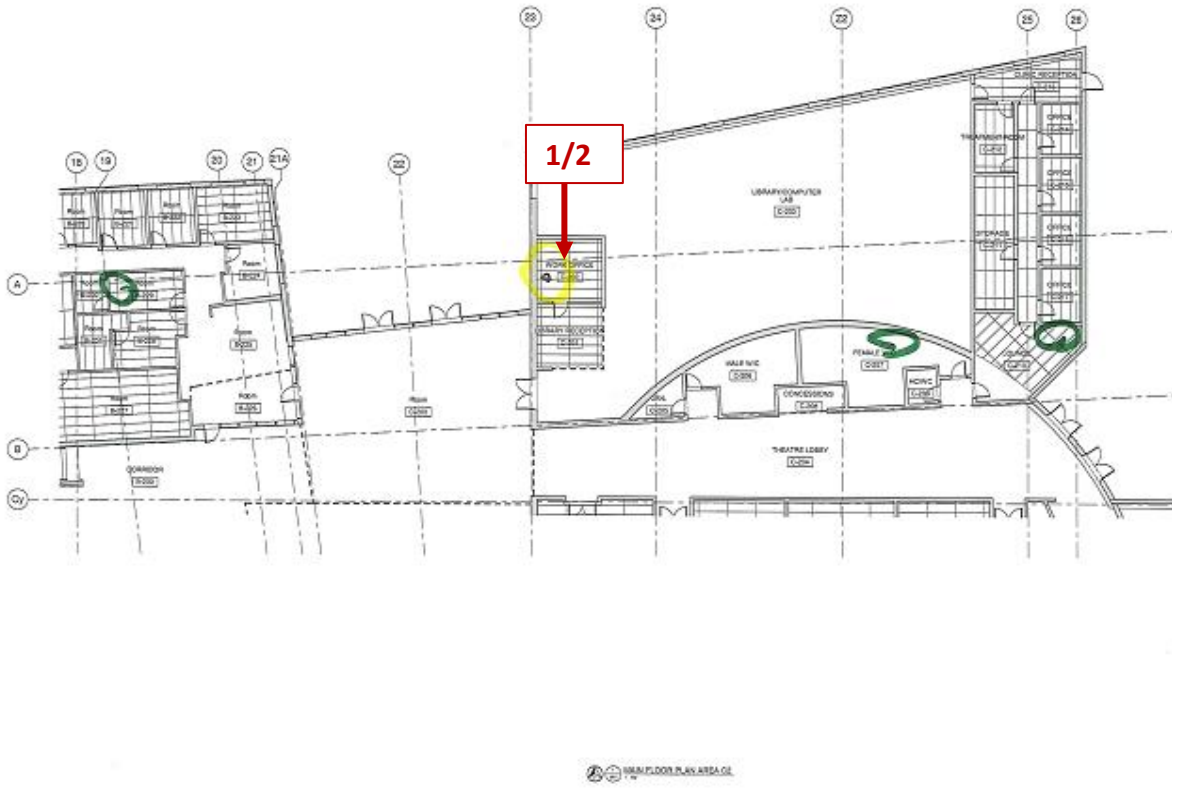

**LEGEND:**

XX — Water Sample Location

N

| | |
|---|---|
| Project 61711 | Date of Issue January 2025 |
| Lead in water testing Sample Locations | |
| Prepared for: **School District 70 – Pacific Rim** Sampling Site: **4000 Roger Street, Port Alberni, BC** | |
| Not to Scale | Island EHS |

# Alberni District Secondary School
# Main floor plan – Area C2 – M-8




**LEGEND:**

XX — Water Sample Location

N

| | |
|---|---|
| Project 61711 | Date of Issue January 2025 |
| Lead in water testing Sample Locations | |
| Prepared for: **School District 70 – Pacific Rim** Sampling Site: **4000 Roger Street, Port Alberni, BC** | |
| Not to Scale | Island EHS |