



**City of  
Richmond**

**Report to Development Permit Panel**

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**To:** Development Permit Panel

**Date:** December 21, 2017

**From:** Wayne Craig  
Director, Development

**File:** DV 17-790824

**Re: Application by Lafarge Canada Inc. for a Development Variance Permit at  
7611 No. 9 Road**

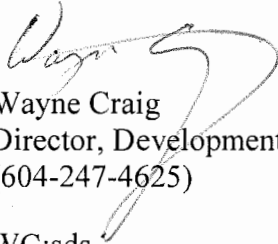
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**Staff Recommendation**

That a Development Variance Permit be issued which would vary the provisions of Richmond Zoning Bylaw 8500 to:

1. Increase the maximum height for buildings from 12.0 m to 15.0 m; and
2. Increase the maximum height for accessory structures from 20.0 m to 65.0 m;

in order to permit the construction of a new storage building and conveyor structure on a site zoned "Industrial (I)".

  
Wayne Craig  
Director, Development  
(604-247-4625)

WC:sds  
Att. 5

## Staff Report

### Origin

Lafarge Canada Inc. has applied to the City of Richmond for permission to vary the maximum height of a building and the maximum height of an accessory structure within the “Industrial (I)” zone:

1. From 12 m to 15 m for buildings to accommodate the construction of a new storage building; and
2. From 20 m to 65 m for accessory structures to accommodate the construction of a new conveyor structure.

The subject property is occupied by an existing cement plant (Attachment 1), owned and operated by the applicant.

### Development Information

Please refer to the attached Development Application Data Sheet (Attachment 2) for a comparison of the proposed development data with the relevant bylaw requirements.

### Background

Development surrounding the subject site is as follows:

- To the north, across a rail corridor, additional area zoned “Industrial (I)” owned by Lafarge Canada Inc. used for commercial vehicle parking and storage. Beyond that, agricultural lots zoned “Agriculture (AG1)” located in the Agricultural Land Reserve (ALR).
- To the east, across No. 9 Road, commercial vehicle parking and storage on a lot zoned “Light Industrial (IL)”.
- To the south, the Fraser River.
- To the west, additional industrial sites zoned “Industrial (I)”.

### Staff Comments

The proposal is part of the applicant’s Alternative Fuel Project, supported by a program administered by the Climate Action Secretariat of the Province of British Columbia’s Ministry of Environment & Climate Change Strategy. The primary objective of this program (Cement Low Carbon Fuel Program) is to reduce greenhouse gas emissions from cement operations through the transition from fossil fuels to low carbon fuels. A letter of support from the Office of the Deputy Minister of Climate Change is provided in Attachment 3, which includes further details of the Alternative Fuel Project and how it supports the objectives of the Provincial program. The Alternative Fuel Project is also supported by Natural Resource Canada’s Clean Energy Innovation Program, which supports the transition towards a low carbon economy.

The Alternative Fuel Project involves increasing the re-use of waste materials that result from cement production processes (from 25% to 50%) as a low carbon fuel source. In order to accomplish this goal, the project includes installing a new alternative fuel handling system (the proposed conveyor structure) to feed calciners (burners) in the preheater tower and main burner. The project also includes additional storage capacity (the proposed storage building) to allow stockpiling of preferred alternative fuels during major maintenance shutdowns. The project will result in a reduction of greenhouse gas emissions (approximately 50,000 tonnes CO<sub>2</sub>e (carbon dioxide equivalent)) and reduce the amount of waste placed into local landfills (approximately 100,000 tonnes per year of waste).

The proposed development plans attached to this report (Plans #1 & #2) have addressed the planning issues identified as part of the review of the subject Development Variance Permit application. In addition, the proposal complies with the applicable policies of the Official Community Plan (OCP) and is generally in compliance with the "Industrial (I)" zone with the exception of the zoning variances noted below.

**Zoning Compliance/Variiances** (staff comments in **bold**)

The applicant requests to vary the provisions of Richmond Zoning Bylaw 8500 to:

1. Increase the maximum height for buildings from 12.0 m to 15.0 m; and
2. Increase the maximum height for accessory structures from 20.0 m to 65.0 m.

***Staff recommend support for the proposed variances for the following reasons:***

- a) The proposal is part of the applicant's Alternative Fuel Project at the subject site, which would result in a 20% reduction of stationary combustion emissions, approximately 50,000 tonnes of CO<sub>2</sub>e, making the Richmond Plant the most carbon efficient cement plant in Canada. The project supports the City's greenhouse gas emission reduction targets identified in the OCP and the City's Community Energy and Emissions Plan.***
- b) The completion of the Alternative Fuel Project would also result in significant waste reduction. The existing cement plant currently co-processes (utilization of waste) up to 25% of low carbon fuels (primarily fuels of non-recyclable waste by-products bound for the landfill). The project is designed to increase co-processing of waste to 50%; which would result in the diversion of approximately 100,000 tonnes per year of waste from local landfills.***
- c) The proposed height of the storage building (15 m) and the conveyor structure (65 m) is not impacted by aircraft height restrictions. A signed and sealed letter from a registered land surveyor is provided in Attachment 4, confirming compliance to the aeronautical zoning regulations.***
- d) The proposed additions to the existing cement plant have been appropriately designed to match the existing buildings on-site.***

- e) *The proposed additions are not expected to significantly affect the view lines from adjacent properties. There are existing buildings on-site that are greater in height than the proposed additions.*

## **Analysis**

### ***Conditions of Adjacency***

- The subject site is located in the Fraser Lands industrial area and surrounded by industrial and light industrial sites to the east and west.
- Agricultural lots to the north are located over 200 m from the proposed additions and separated by a rail corridor.
- The subject site is bounded by the Fraser River to the south.
- The proposed storage building will be approximately 3,759 m<sup>2</sup> (40,461 ft<sup>2</sup>) in area and located in the middle of the site, rather than adjacent to neighbouring lots. The proposed conveyor structure will be attached to the existing main tower, connecting the proposed storage building.

### ***Site Planning***

- The design of the storage building is consistent with the existing buildings on-site, including a matching blue colour scheme.
- The location of the proposed additions is influenced by the internal layout needed in the cement production processes.
- The applicant has made adjustments to the site's parking arrangements and truck loading maneuvering to respond to Transportation staff's requests, consistent with Zoning Bylaw 8500 requirements, including adding bicycle parking stalls.
- Proposed parking and loading conform to the City's Zoning Bylaw.
- The City's Engineering and Fire Departments have no concerns with the proposed Development Variance Permit.

### ***Sustainability Measures***

- The proposed storage building will be constructed using recycled concrete.
- The proposal is part of the Alternative Fuel Project, which is a project to reduce the carbon footprint of the cement plant operations by increasing the co-processing potential of the existing cement plant from 25% to 50%. Co-processing refers to the utilization of waste as a thermal energy source or raw material.
- Achieving a 50% substitution rate of alternative fuels will result in a 20% reduction of stationary combustion emissions, which is approximately 50,000 tonnes of CO<sub>2</sub>e.
- Fulfillment of the project will result in a diversion of approximately 100,000 tonnes per year of waste from local landfills.
- All alternative fuels used in this process undergo a rigorous screening process prior to being approved as a fuel in cement production.
- The Alternative Fuel Project is supported by the Ministry of Environment and Climate Change Strategy and Natural Resource Canada's Clean Energy Innovation Program.
- A letter has been provided by the applicant quantifying and confirming the major sustainability benefits (Attachment 5).

- The City's Sustainability Department has no concerns with the proposed Development Variance Permit.

### Conclusions

The applicant has applied to the City of Richmond for permission to increase the maximum permitted height for buildings from 12.0 m to 15.0 m and increase the maximum permitted height for accessory structures from 20.0 m to 65.0 m, to permit the construction of a new storage building and conveyor structure on a site zoned "Industrial (I)".

The proposed development would meet applicable policies in the OCP and would generally comply with all aspects of the "Industrial (I)" zone, with the exception of the two variances discussed. On this basis, staff recommend support for this application.



Steven De Sousa  
Planning Technician – Design  
(604-204-8529)

SDS:blg

Attachment 1: Location Map

Attachment 2: Development Application Data Sheet

Attachment 3: Letter of Support from the Ministry of Environment & Climate Change Strategy

Attachment 4: Letter Regarding Compliance to Aeronautical Zoning

Attachment 5: Letter Regarding Sustainability Benefits

The following are to be met prior to forwarding this application to Council for approval:

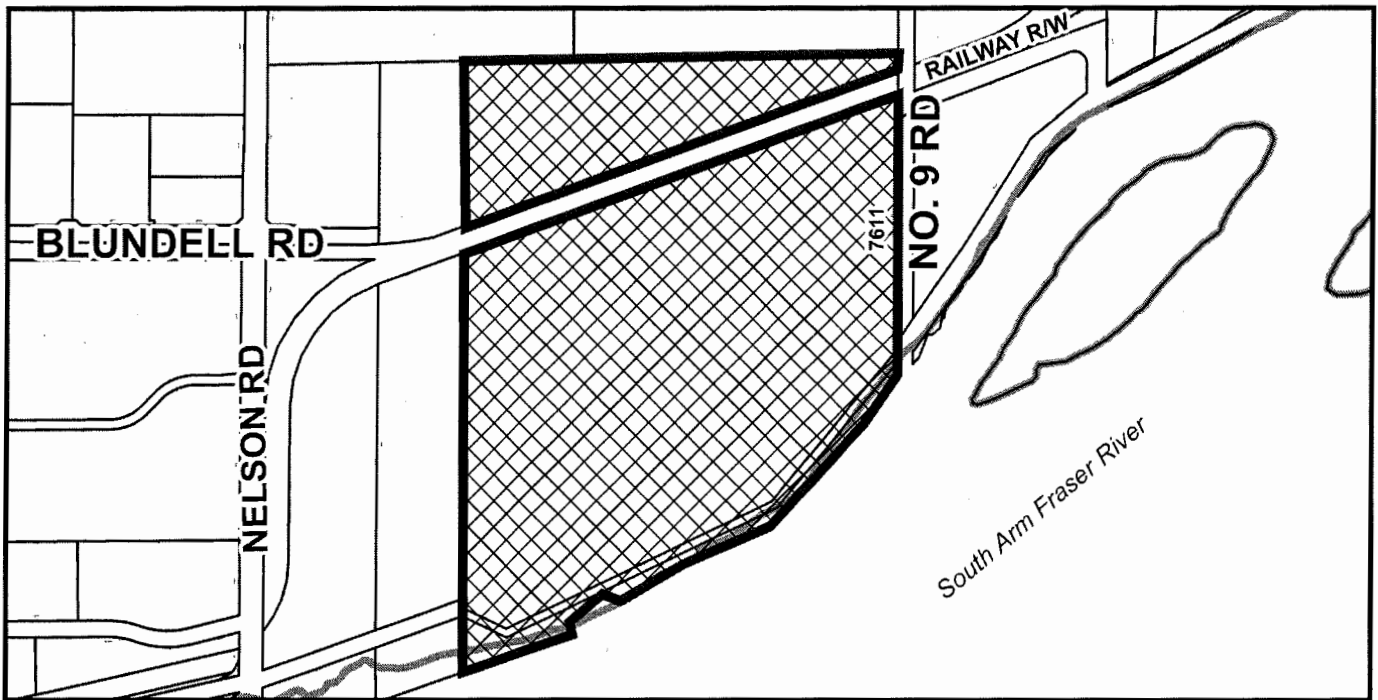
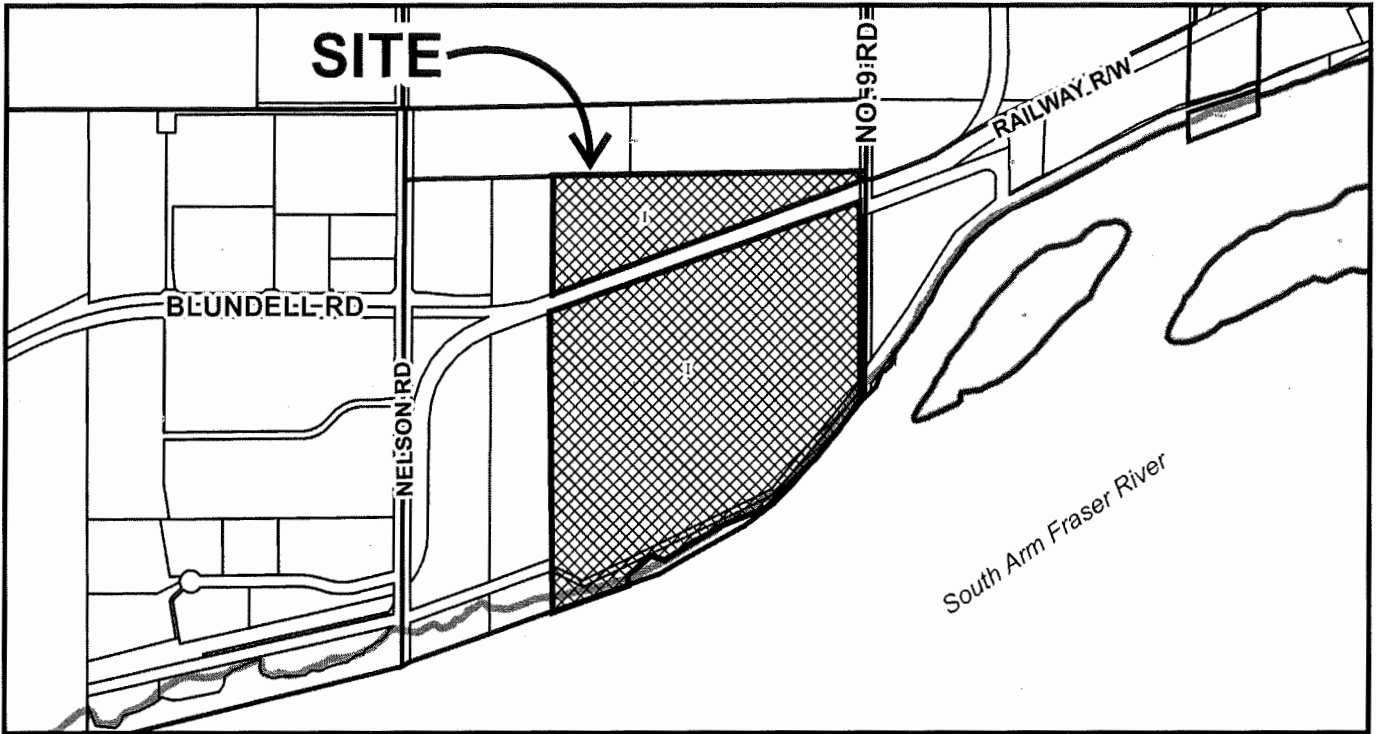
- N/A

Prior to future Building Permit issuance, the developer is required to complete the following:

- Submit Building Permit plans consistent with Plan #1 and Plan #2.
- The applicant is required to obtain a Building Permit for any construction hoarding associated with the proposed development. If construction hoarding is required to temporarily occupy a street, or any part thereof, or occupy the air space above a street or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. *For further information on the Building Permit, please contact Building Approvals Department at 604-276-4285.*
- Submission of a construction traffic and parking management plan to the satisfaction of the City's Transportation Department (<http://www.richmond.ca/services/ttp/special.htm>).



City of  
Richmond



DV 17-790824

Original Date: 11/16/17

Revision Date:

Note: Dimensions are in METRES



DV 17-790824

Attachment 2

Address: 7611 No. 9 Road

Applicant: Lafarge Canada Inc.

Owner: Lafarge Canada Inc.

Planning Area(s): Fraser Lands

	Existing	Proposed
Site Area:	304,680 m <sup>2</sup>	No change
Land Uses:	Heavy industrial	No change
OCP Designation:	Industrial	Complies
Zoning:	Industrial (I)	Complies

	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	1.0	0.1	None permitted
Lot Coverage - Buildings	Max. 60%	8%	None
Setback – Front Yard:	Min. 3.0 m	Conforms	None
Setback – Side Yard:	N/A	Conforms	None
Setback – Rear Yard:	N/A	Conforms	None
Height - Buildings:	Max. 12.0 m	15.0 m	Variance requested
Height – Accessory Structures:	Max. 20.0 m	65.0 m	Variance requested
Lot Size:	N/A	304,680 m <sup>2</sup>	None
Off-street Parking Spaces – Regular:	38	44	None
Off-street Parking Spaces – Accessible:	1	1	None
Total off-street Spaces:	39	45	None
Loading Spaces:	2 Medium 1 Large	2 Medium 1 Large	None
Bicycle Spaces:	10 Class 1 10 Class 2	10 Class 1 10 Class 2	None



Reference: 312398

November 15, 2017

George Duncan  
Chief Administrative Officer  
City of Richmond  
6911 No. 3 Road  
Richmond BC V6Y 2C1

*Wayne Craig*

**RE: IMPROVEMENTS TO LAFARGE CEMENT PLANT IN RICHMOND**

Dear Mr. Duncan:

It has come to my attention that the Lafarge Richmond Cement Plant is in the process of seeking a development permit from the City of Richmond for their Alternative Fuel Injection project. This letter is to affirm that the proposed project is an approved project under the Cement Low Carbon Fuel Program and the Climate Action Secretariat, BC Ministry of Environment and Climate Change Strategy, is fully supportive of this project. The proposed project represents a concrete opportunity to significantly reduce greenhouse gas emissions in British Columbia.

Manufacturing cement results in the release of carbon dioxide and other greenhouse gases from the combustion of fossil fuels necessary to carry out the chemical processes involved. Given the ongoing demand for this critical building material and the desire to ensure British Columbia cement manufacturing remains competitive under the province's carbon tax regime, the Climate Action Secretariat has developed a landmark 5-year initiative to enable cleaner cement production. The objectives of the Cement Low Carbon Fuel Program are to lower the cement industry's greenhouse gas emissions by supporting a transition from coal to low carbon fuels. We believe the program will also provide the ancillary benefit of supporting development of a low carbon fuel industry in the Lower Mainland.

Lafarge's proposed project will go a long way toward meeting these objectives, and the company is keen to resolve any development permit issues as expeditiously as possible in order to ensure they have access to the Cement Low Carbon Fuel Program funding and can achieve the desired reduction in emissions.

To date, Lafarge has achieved year-over-year greenhouse gas reductions in the first two years of the Program. The proposed Alternative Fuel Injection project will enable the plant to reduce its future use of coal by up to 50%. These improvements will also enhance Lafarge's capacity to

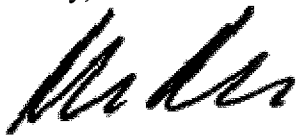
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receive low carbon fuel from a broader range of fuel providers. This sourcing of low carbon fuels has important knock-on environmental benefits including waste reduction and local job creation.

In conclusion, I offer my support for Lafarge's Alternative Fuel Injection project as a key component of the Cement Low Carbon Fuel Program and hope you and the City of Richmond will recognize and support their efforts to contribute to reducing greenhouse gas emissions in British Columbia. Please do not hesitate to contact me if I can answer any questions about the Cement Low Carbon Fuel Program, or otherwise be of assistance.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bobbi Plecas', written in a cursive style.

Bobbi Plecas  
Deputy Minister, Climate Change

ARCS: 280-30

ORCS:

# DAVID H. BURNETT & ASSOCIATES

A Division of Papove Professional Land Surveying Inc.

December 12, 2017

File: B1207

Lafarge Canada Inc.  
7611 No. 9 Road  
Richmond, B.C.  
V6W 1H4

Attention: **Martin Spiekermann**  
**Technical Manager**

Dear Mr. Spiekermann:

Re: Alternative Fuel Storage & Conveying Project  
Richmond Plant, No. 9 Road, Richmond, B.C.



Further to your request, we have reviewed Plan 61216 filed under the Aeronautics Act (Canada), which establishes the height restriction of structures on Parcel A, Sections 17 and 20, Block 4 North, Range 4 West, New Westminster District, Plan LMP24356.

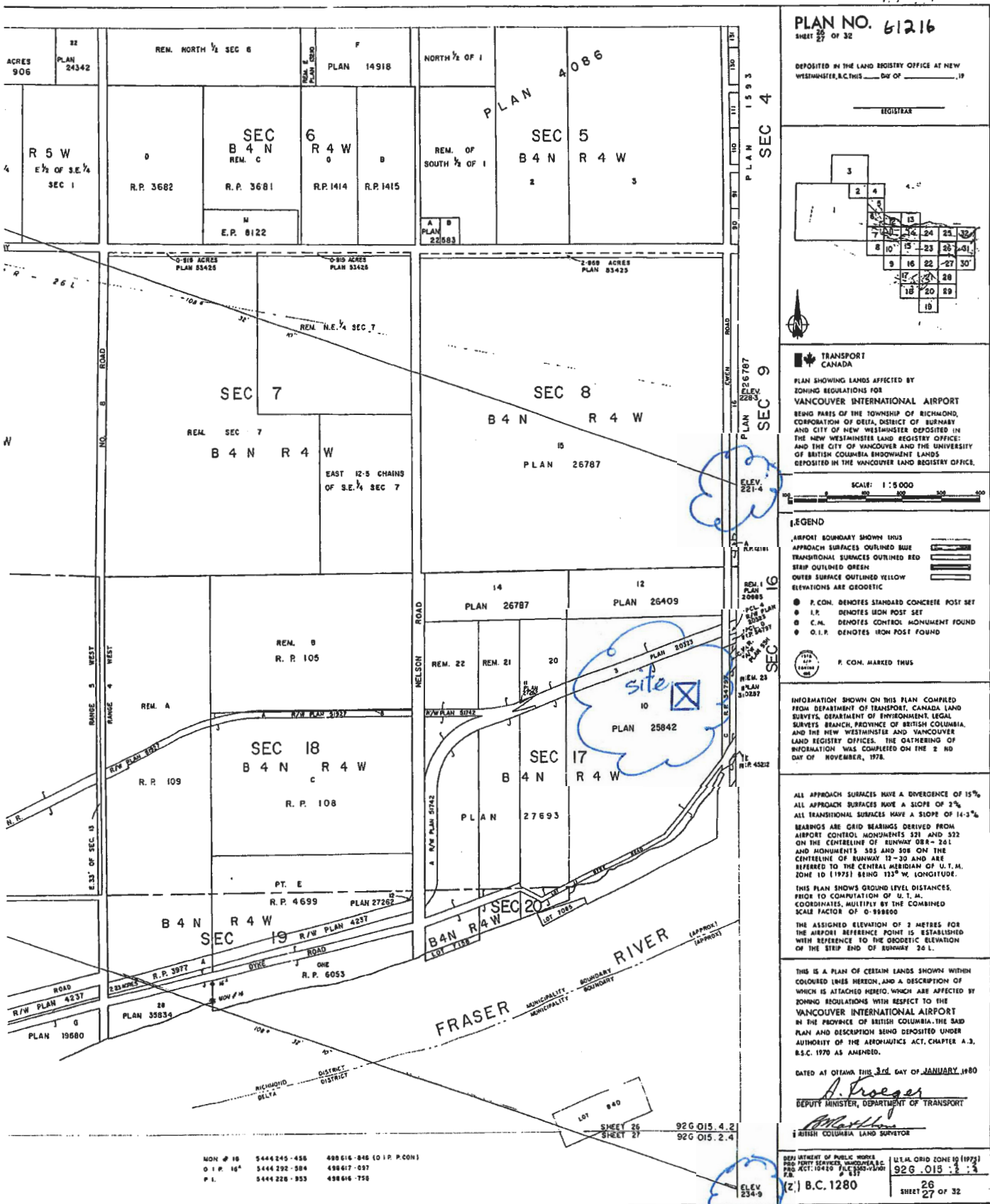
From the information you provided, the height of the proposed new equipment is to be constructed to an elevation of 73 metres geodetic. The maximum allowable height in the vicinity of the project according to Plan 61216 is 221.4 metres geodetic, as shown on the attached copy of a part of Plan 61216. Therefore, the top of the new equipment is below the height restriction.

We trust this satisfies your requirements. Should you have any questions or require additional information, please do not hesitate to call.

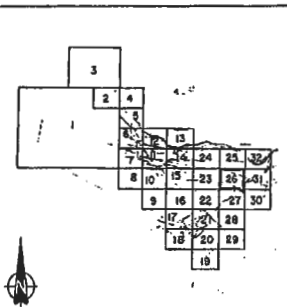
Yours truly,

DAVID H. BURNETT & ASSOCIATES

  
William Papove, **B.C.L.S.**  
WP/nt  




**PLAN NO. 61216**  
 SHEET 26 OF 32  
 DEPOSITED IN THE LAND REGISTRY OFFICE AT NEW WESTMINSTER, B.C. THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 19\_\_\_\_  
 REGISTERED



**TRANSPORT CANADA**  
 PLAN SHOWING LANDS AFFECTED BY ZONING REGULATIONS FOR VANCOUVER INTERNATIONAL AIRPORT. BEING PARTS OF THE TOWNSHIP OF RICHMOND, CORPORATION OF DELTA, DISTRICT OF BURNABY AND CITY OF NEW WESTMINSTER DEPOSITED IN THE NEW WESTMINSTER LAND REGISTRY OFFICE; AND THE CITY OF VANCOUVER AND THE UNIVERSITY OF BRITISH COLUMBIA ENDOWMENT LANDS DEPOSITED IN THE VANCOUVER LAND REGISTRY OFFICE.  
 SCALE: 1:5 000  
 ELEV. 221.4

**LEGEND**  
 AIRPORT BOUNDARY SHOWN IN BLUE  
 APPROACH SURFACES OUTLINED BLUE  
 TRANSITIONAL SURFACES OUTLINED RED  
 STRIP OUTLINED GREEN  
 OUTER SURFACE OUTLINED YELLOW  
 ELEVATIONS ARE GEODETIC  
 P.C.M. DENOTES STANDARD CONCRETE POST SET  
 I.R. DENOTES IRON POST SET  
 C.M. DENOTES CONTROL MONUMENT FOUND  
 O.I.R. DENOTES IRON POST FOUND  
 P.C.M. MARKED THUS

INFORMATION SHOWN ON THIS PLAN COMPILED FROM DEPARTMENT OF TRANSPORT, CANADA LAND SURVEY, DEPARTMENT OF ENVIRONMENT, LEGAL SURVEYS BRANCH, PROVINCE OF BRITISH COLUMBIA, AND THE NEW WESTMINSTER AND VANCOUVER LAND REGISTRY OFFICES. THE GATHERING OF INFORMATION WAS COMPLETED ON THE 2ND DAY OF NOVEMBER, 1978.

ALL APPROACH SURFACES HAVE A DIVERGENCE OF 15%  
 ALL APPROACH SURFACES HAVE A SLOPE OF 2%  
 ALL TRANSITIONAL SURFACES HAVE A SLOPE OF 14-3%  
 BEARINGS ARE GRID BEARINGS DERIVED FROM AIRPORT CONTROL MONUMENTS 321 AND 322 ON THE CENTRELINE OF RUNWAY 08R-26L AND MONUMENTS 503 AND 508 ON THE CENTRELINE OF RUNWAY 12-30 AND ARE REFERRED TO THE CENTRAL MERIDIAN OF U.T.M. ZONE 10 (1973) BEING 113° W. LONGITUDE.  
 THIS PLAN SHOWS GROUND LEVEL DISTANCES. PRIOR TO COMPUTATION OF U.T.M. COORDINATES, MULTIPLY BY THE COMBINED SCALE FACTOR OF 0.998600  
 THE ASSIGNED ELEVATION OF 3 METRES FOR THE AIRPORT REFERENCE POINT IS ESTABLISHED WITH REFERENCE TO THE GEODETIC ELEVATION OF THE STRIP END OF RUNWAY 26 L.

THIS IS A PLAN OF CERTAIN LANDS SHOWN WITHIN COLOURED LINES HEREON, AND A DESCRIPTION OF WHICH IS ATTACHED HERETO, WHICH ARE AFFECTED BY ZONING REGULATIONS WITH RESPECT TO THE VANCOUVER INTERNATIONAL AIRPORT IN THE PROVINCE OF BRITISH COLUMBIA. THE SAID PLAN AND DESCRIPTION BEING DEPOSITED UNDER AUTHORITY OF THE AERONAUTICS ACT, CHAPTER A.3, B.S.C. 1970 AS AMENDED.

DATED AT OTTAWA THIS 3RD DAY OF JANUARY, 1980  
*A. Kroeger*  
 DEPUTY MINISTER, DEPARTMENT OF TRANSPORT  
*W. H. ...*  
 BRITISH COLUMBIA LAND SURVEYOR

MON # 18	5444245-458	498616-848 (O.P. P.C.M.)
O.I.P. 16"	5444292-584	498617-057
P.I.	5444228-953	498616-758

DEPARTMENT OF PUBLIC WORKS  
 PRO. SERV. DIVISION, VANCOUVER  
 P.O. BOX 1810, VANCOUVER, B.C.  
 V.6J 1Y7  
 U.T.M. GRID ZONE 10 (1973)  
 92G 015 2 3  
 SHEET 26 OF 32  
 (Z) B.C. 1280



November 22, 2017

City of Richmond  
6911 No. 3 Road  
Richmond BC V6Y 2C1  
Canada

RE: Lafarge Development Variance Permit – DV 17-790824

Attention: Development Applications Department – Steven De Sousa

Good Day Sir,

Greenhouse gas (GHG) emissions from cement manufacturing come from the combustion of fuels to heat up the kiln and calcining, the process of liberating carbon dioxide (CO<sub>2</sub>) from the limestone feed into the kiln. Emissions from calcining make up 60% of the total GHG emissions from cement manufacturing and are unavoidable; however the emissions from combustion can be mitigated through co-processing. Co-processing refers to the utilization of waste as a thermal energy source and/or raw material.

The primary objective of the Richmond Cement Plant Alternative Fuel (AF) project is to reduce the carbon footprint of the cement plant operations by increasing the co-processing potential of the cement plant to 50%. Achieving a 50% substitution rate of AF will result in a 20% reduction of stationary combustion emissions, approximately 50,000 tonnes of CO<sub>2</sub>e, making the Richmond Plant the most carbon efficient plant in Canada.

The AF Project is an approved project under the Cement Low Carbon Fuel (LCF) Program supported by the BC Ministry of Environment Climate Action Secretariat because of the project's ability to significantly reduce GHG emissions in BC. The provincial government is in full support of a project that transitions the plant from coal, while also supporting the development of a LCF industry in the lower mainland. The AF project is also supported by the Clean Energy Fund, a program run by the Government of Canada to support clean energy research, development and demonstration projects, including carbon capture and storage.

Lafarge respects the regional waste hierarchy and seeks to use its assets to be a part of the solution. The plant can currently co-process up to 25% LCF, including fuels such as construction and demolition waste, non-recyclable plastic, shredded carpet, asphalt shingles, nylon fibre (from tire recycling), and waste wood from industrial processes. This LCF is comprised primarily of non-recyclable waste byproducts; waste that does

**LAFARGE CANADA INC.**

7611 No. 9 Road, Richmond, BC V6W 1H4  
Office: (604)-244-4300 Fax: (604)-244-4301  
Web: [www.lafarge.ca](http://www.lafarge.ca)



not have an existing or economically viable recycling outlet and is bound for landfills. Achieving a LCF substitution of 50% will allow Lafarge to divert approximately 100,000 tonnes per year of waste from local landfills. With an ever growing population, co-processing of waste is the future to waste management and waste disposal because the direct benefits can be seen in the reduced need for incineration or landfilling of waste.

Lafarge works together with Metro Vancouver to permit all fuels used in the kiln. All AF undergo a rigorous screening process prior to being approved as a fuel in the cement kiln, and are subject to a series of tests and analysis to determine its suitability, MSDs or material handling procedures are also reviewed. Hazardous material as per the BC Environmental Management Act do not qualify as potential AF. After the screening material is reviewed and approved by Metro Vancouver, industrial trials are arranged including stack tests to determine how the material reacts with the process and the emissions from combustion. Results after the trials are submitted to Metro Vancouver for review and approval.

We hope that the City of Richmond recognizes Lafarge's efforts to reduce GHG emissions and supports its application for a development permit. If you have any questions, I can be reached at 6046909950.

Sincerely,

Stephanie Voysey, P.Eng, EP  
Environment and Public Affairs Manager, BC

cc. Pascal Bouchard, Plant Manager, Lafarge Richmond Cement Plant

**LAFARGE CANADA INC.**  
7611 No. 9 Road, Richmond, BC V6W 1H4  
Office: (604)-244-4300 Fax: (604)-244-4301  
Web: [www.lafarge.ca](http://www.lafarge.ca)



# City of Richmond

## Development Variance Permit

No. DV 17-790824

To the Holder: LAFARGE CANADA INC.  
 Property Address: 7611 NO. 9 ROAD  
 Address: C/O MARTIN SPIEKERMANN  
 7611 NO. 9 ROAD  
 RICHMOND, BC V6W 1H4

1. This Development Variance Permit is issued subject to compliance with all of the Bylaws of the City applicable thereto, except as specifically varied by this Permit.
2. This Development Variance Permit applies to and only to those lands shown cross-hatched on the attached Schedule "A" and any and all buildings, structures and other development thereon.
3. The "Richmond Zoning Bylaw 8500" is hereby varied as follows:
  - a) Increase the maximum height for buildings from 12.0 m to 15.0 m; and
  - b) Increase the maximum height for accessory structures from 20.0 m to 65.0 m.
4. The land described herein, and any buildings, structures, off-street parking facilities, landscaping and screening shall be developed generally in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit which shall form a part hereof (Plan #1 & Plan #2).
5. If the Holder does not commence the construction permitted by this Permit within 24 months of the date of this Permit, this Permit shall lapse.

This Permit is not a Building Permit.

AUTHORIZING RESOLUTION NO.  
DAY OF

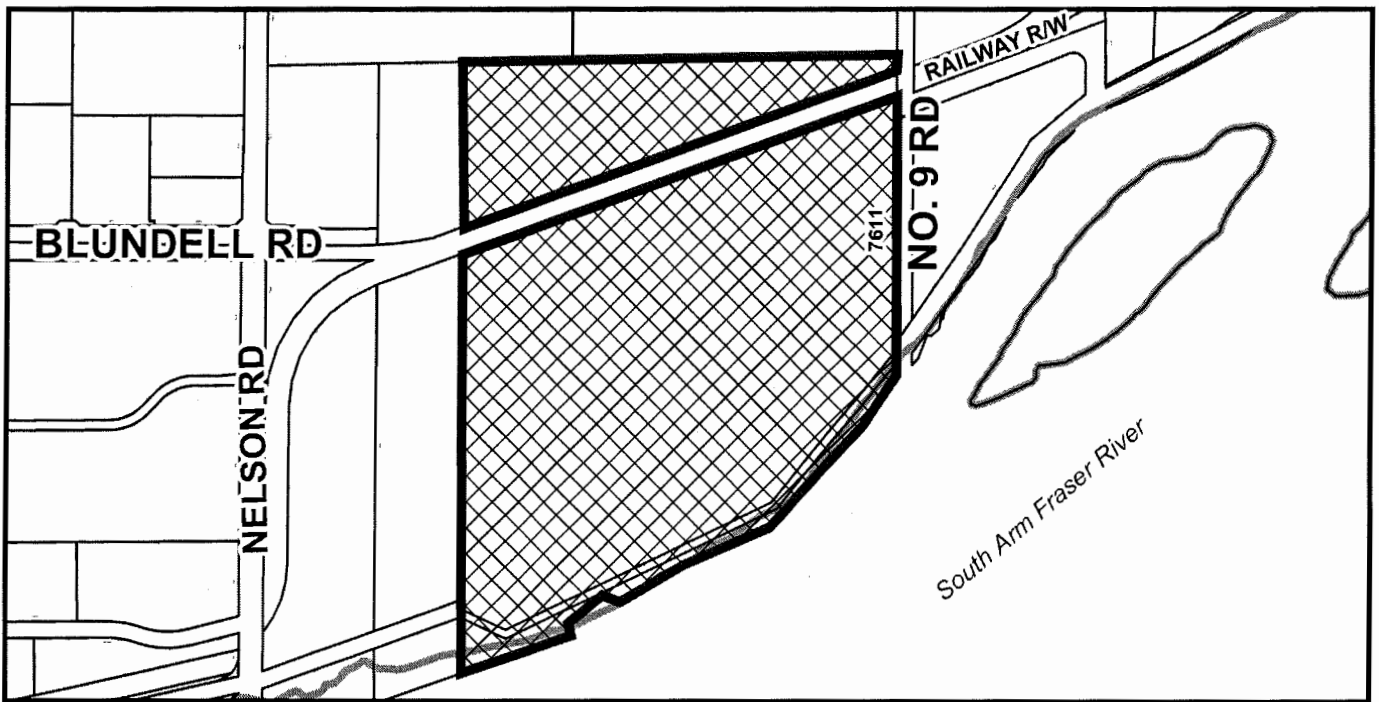
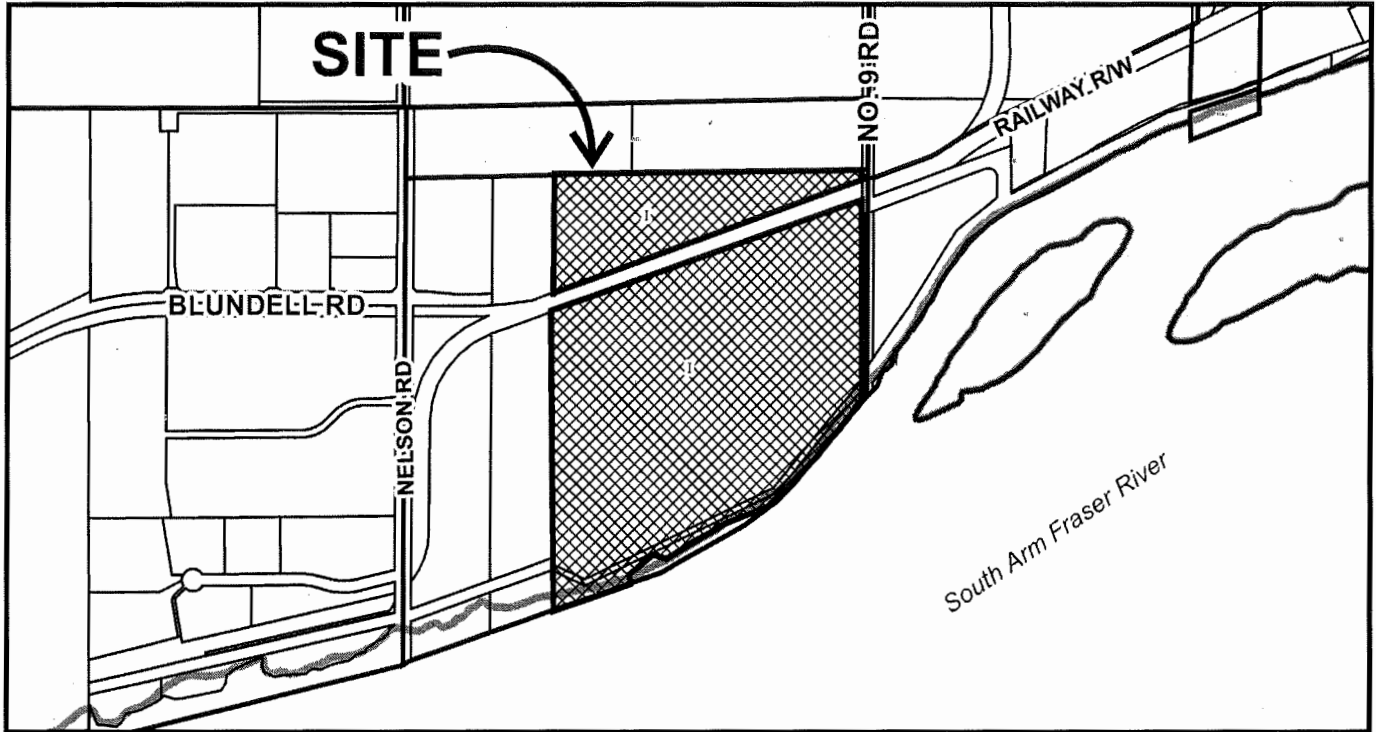
ISSUED BY THE COUNCIL THE

DELIVERED THIS DAY OF

\_\_\_\_\_  
MAYOR



City of  
Richmond

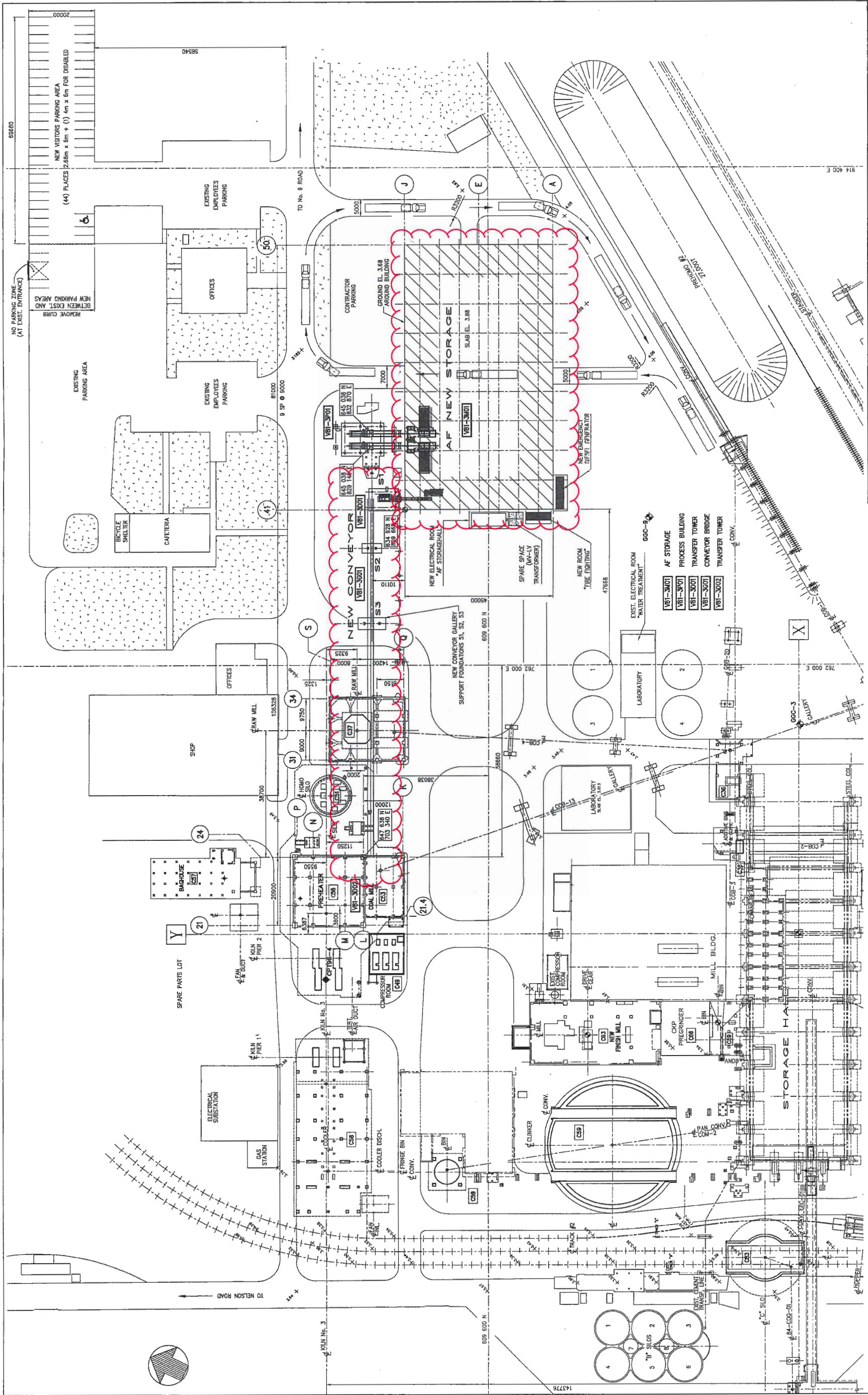


DV 17-790824  
SCHEDULE "A"

Original Date: 11/16/17

Revision Date:

Note: Dimensions are in METRES



NO.	REV.	DATE	DESCRIPTION
5	E	XX/12/2017	ISSUED FOR REVIEW
4	D	30/11/2017	ISSUED FOR REVIEW
3	C	24/10/2017	ISSUED FOR COMMENTS
2	B	11/08/2017	ISSUED FOR BID
1	A	13/07/2017	ISSUED FOR COMMENTS

REV.	DATE	BY	CHK.	DATE	DESCRIPTION

<b>ZSIRUDS</b> INDUSTRIAL PARKS 1401, St. Charles, N. Ste. 403 Winnipeg, MB R2H 1Y8	<b>LafargeHolcim</b> RICHMOND ALTERNATIVE FUEL STORAGE AND CONVEYING AF STORAGE AND CONVEYING SITE PLAN OF: RMD01-STRU-GA01-V810000-0001_E
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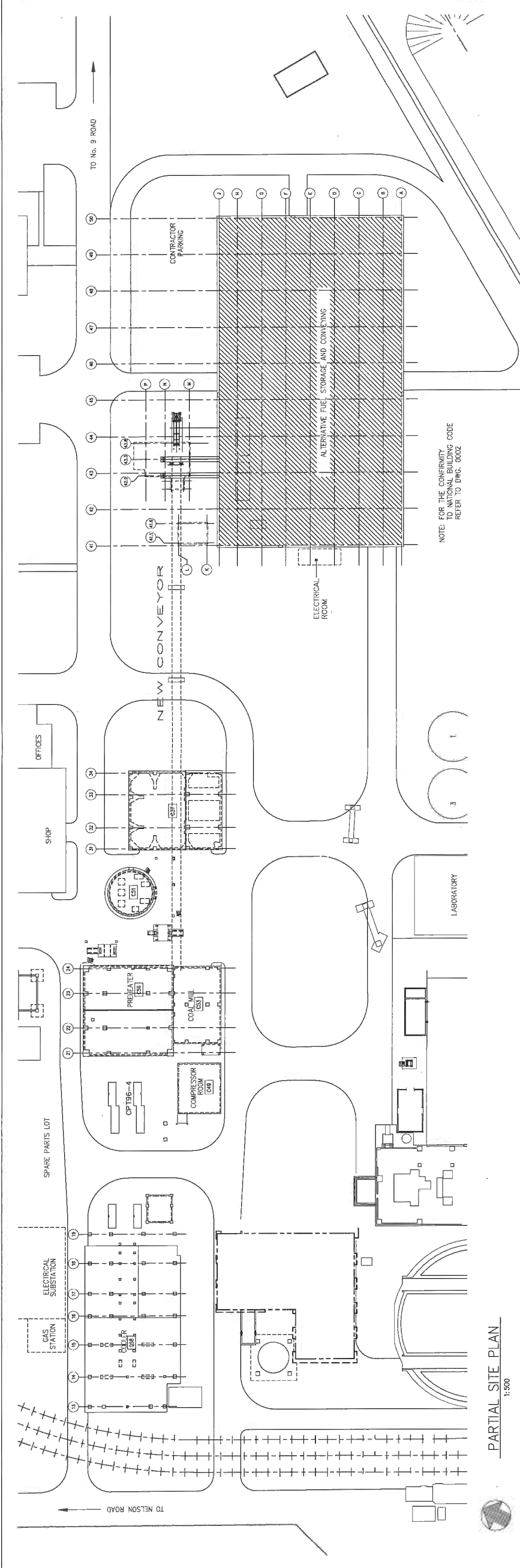
  

<b>STEREIS INC.</b> 1401, St. Charles, N. Ste. 403 Winnipeg, MB R2H 1Y8	REFERENCE RMD01-STRU-GA01-RE000-0001 Scale: 1:500 Date: H.L. Drawn: R.P. Checked: R.P. Approved: H.A.
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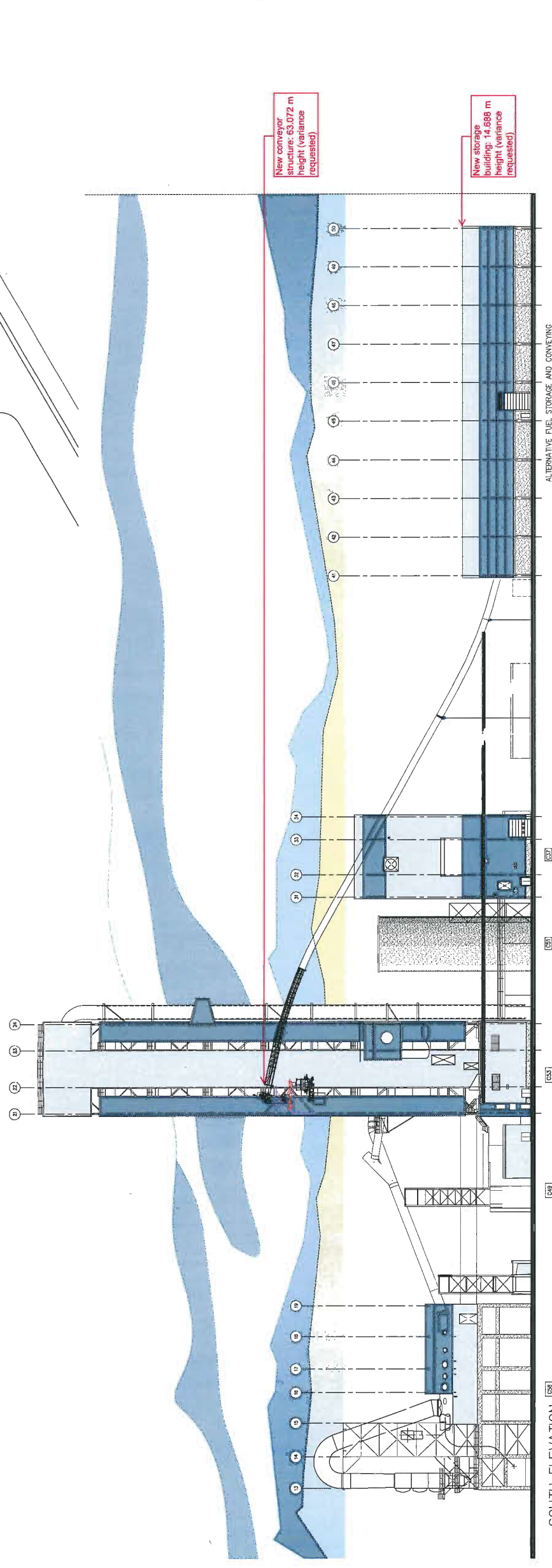
REV. E IN PROGRESS

SITE PLAN  
1:500



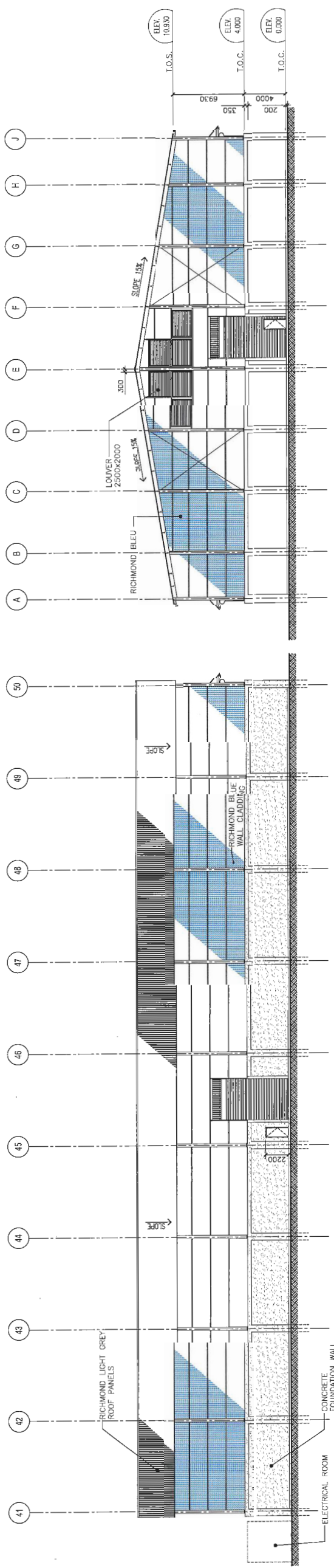


PARTIAL SITE PLAN  
1:500

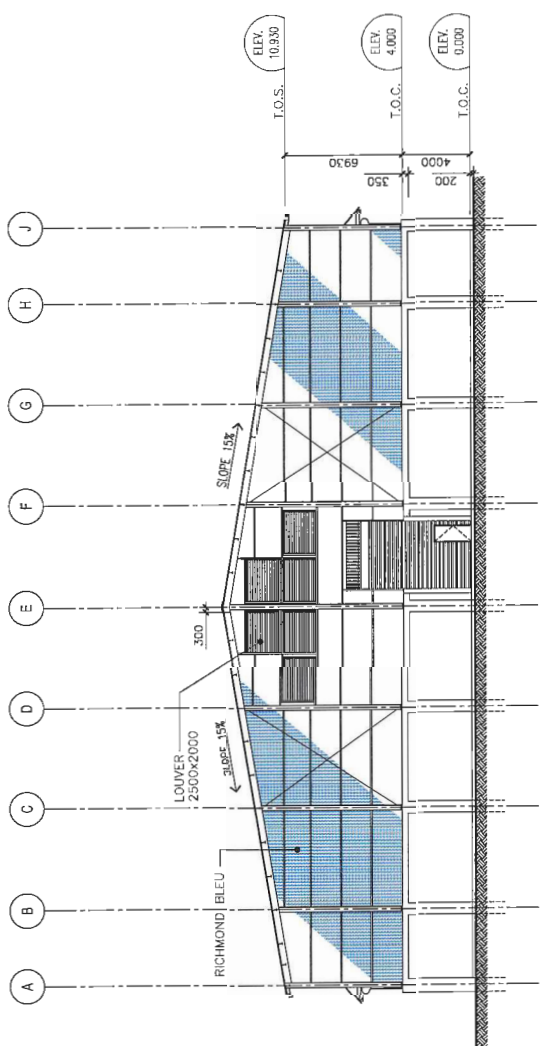


SOUTH ELEVATION  
1:500

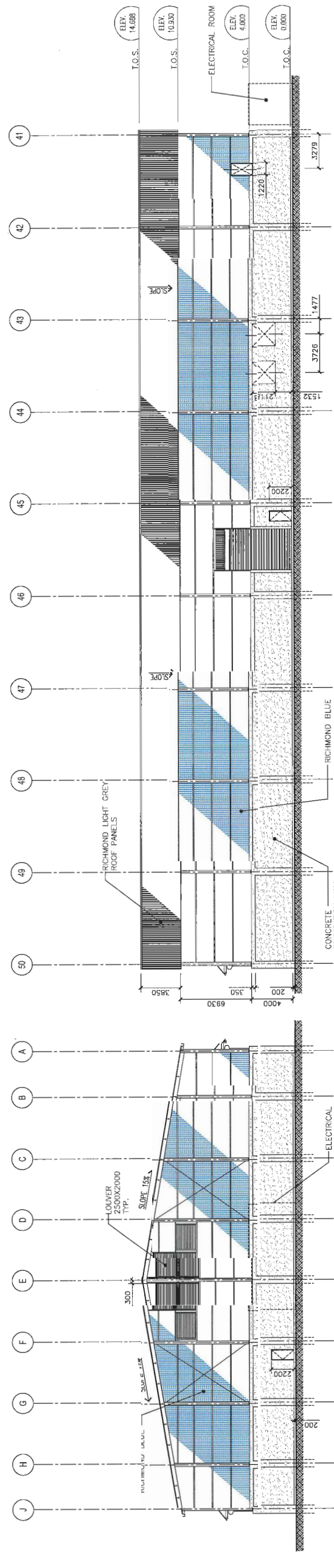
						7611 No. 9 Rd. RICHMOND, BC V6W 1H4 ALTERNATIVE FUEL STORAGE AND CONVEYING COLOUR RENDERING-PLANT SILHOUETTE PARTIAL SITE PLAN	
10/09/2017 FOR BID & CONSTRUCTION PERMIT ISSUE:		10/09/2017 DATE:		1:500 SCALE:		T. KANG DRAWN:	
A.C. A.C. BY:		DATE:		DATE:		17-010 DRAWING NUMBER:	
DESCRIPTION:		DESCRIPTION:		DESCRIPTION:		RMD01-SIRU-GA12-VR10000-0001 PROJECT NUMBER:	
BY:		BY:		BY:		A. CHMIELEWSKI REVIEWED:	
DATE:		DATE:		DATE:		17-010 PROJECT NUMBER:	



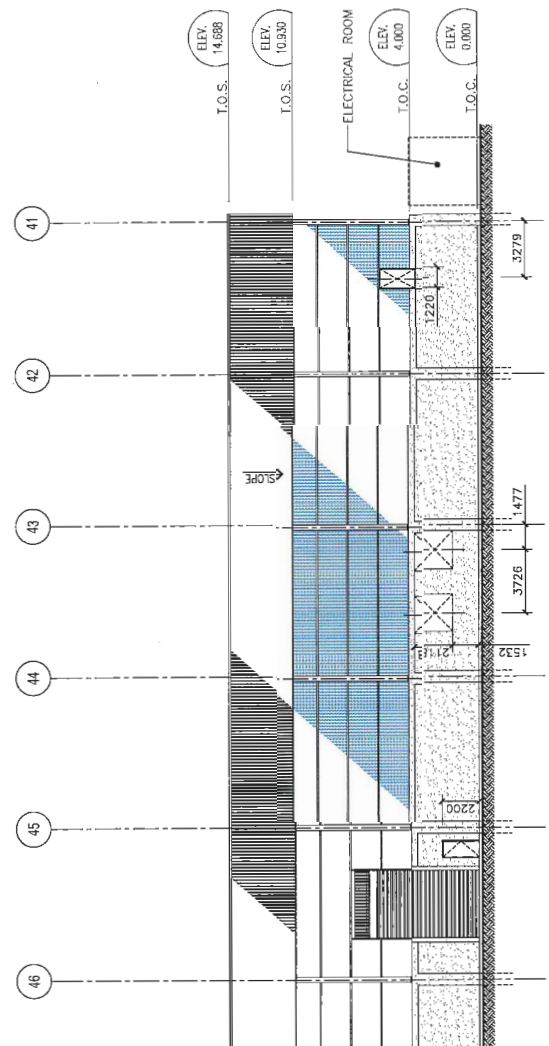
SOUTH ELEVATION 4  
Echelle: 1:200 0002



EAST ELEVATION 3  
Echelle: 1:200 0002



WEST ELEVATION 2  
Echelle: 1:200 0002



NORTH ELEVATION 1  
Echelle: 1:200 0002

NO.	REV.	DATE	DESCRIPTION	BY.	CHK.	REV.	DATE	DESCRIPTION	BY.	CHK.	REV.	DATE	DESCRIPTION
1	0	10/09/2017	FOR BID & CONSTRUCTION PERMIT	A.C.	A.C.								

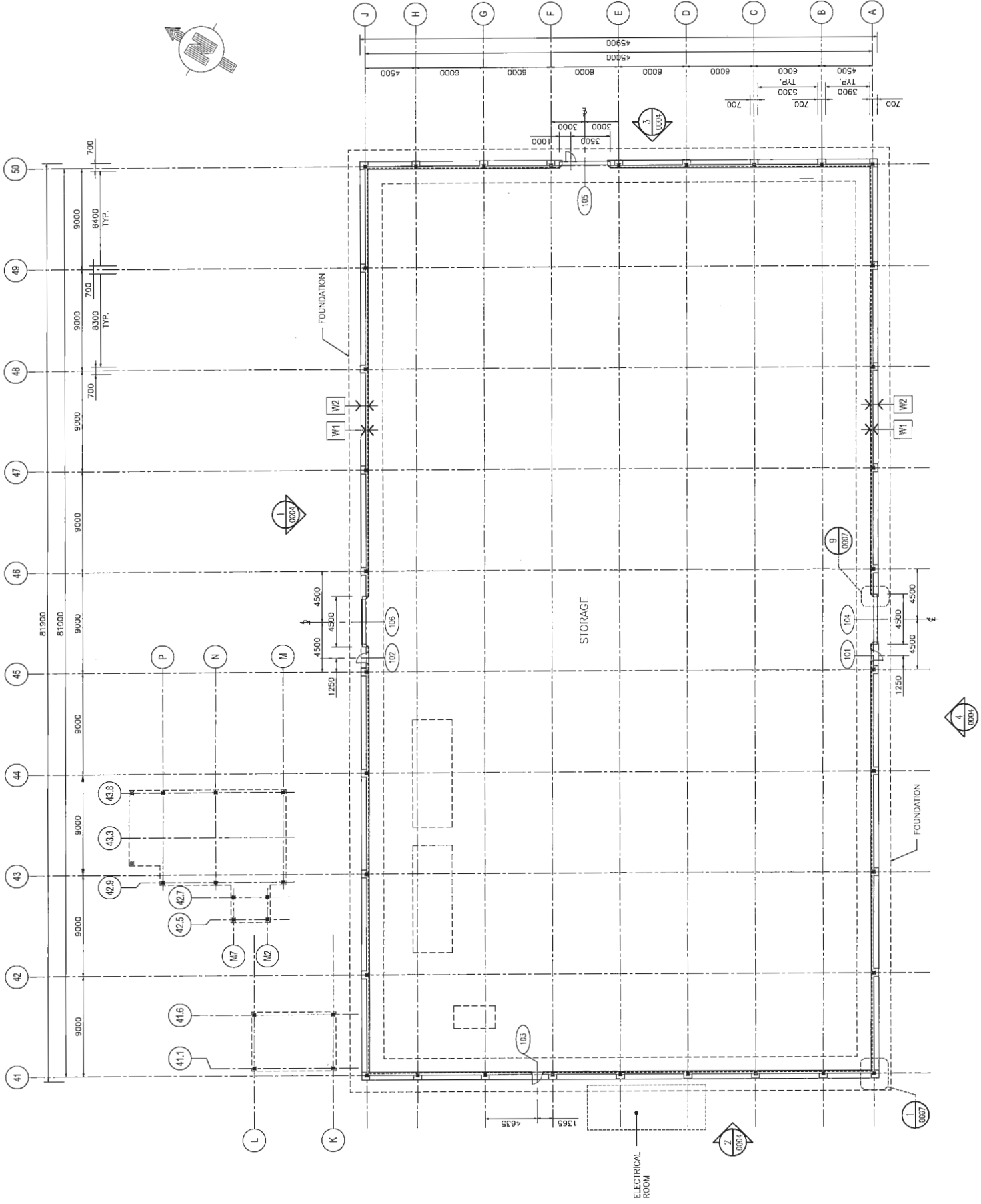
SCALE:	1:200
DRAWN:	T.KANG
CHECKED:	A.CHMIELEWSKI
DATE:	27-04-2017
PROJECT NUMBER:	17-010
DRAWING NUMBER:	RM001-STRIU-GA12-V610000-0004


7611 No. 9 Rd. RICHMOND, BC.V6V 1H4
ALTERNATIVE FUEL STORAGE AND CONVEYING
STORAGE BUILDING
ELEVATIONS

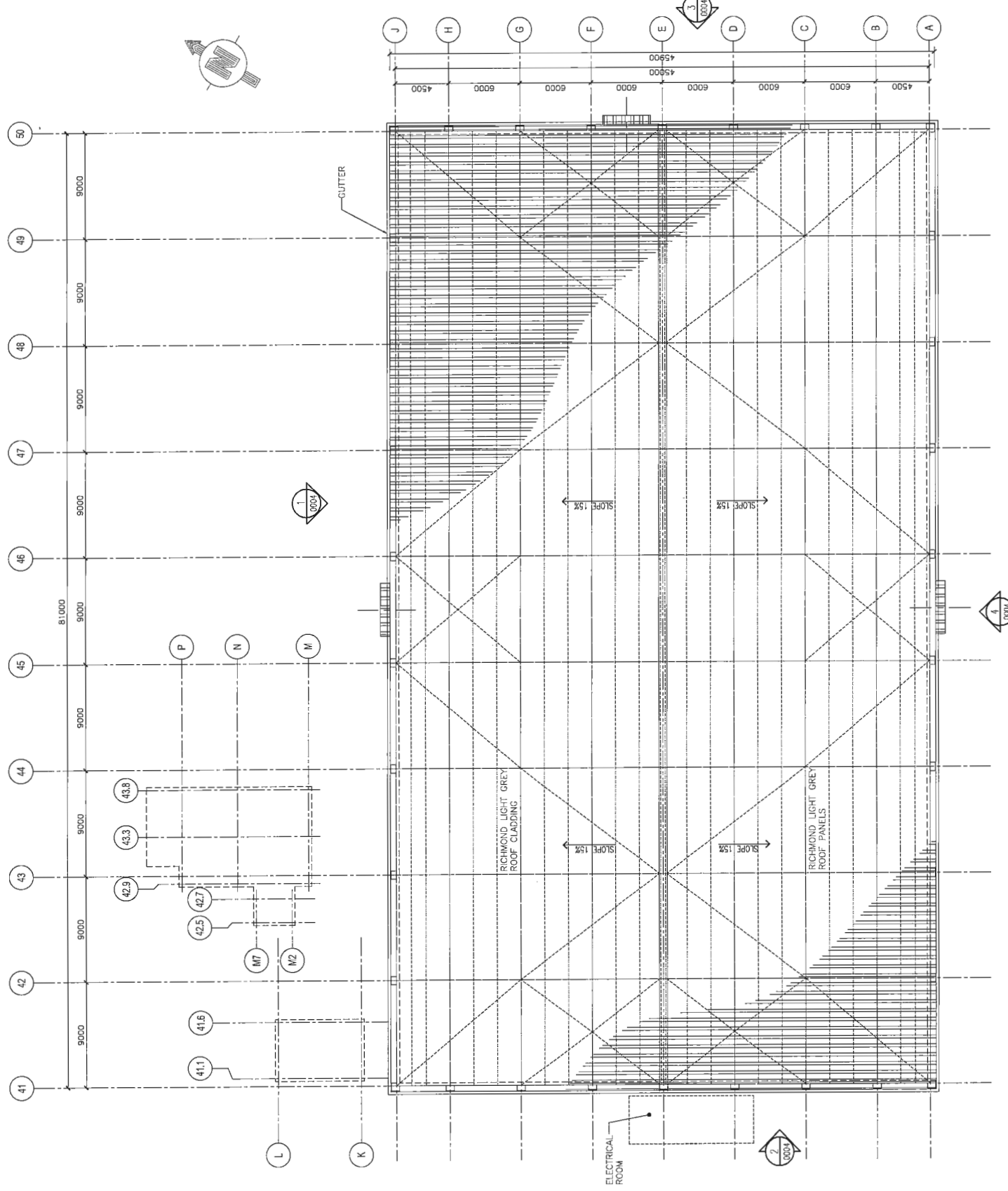
  

 <b>LafargeHolcim</b> STRUBBS INC. 1440, St-Catherine W. Suite 205 Montreal, Quebec, Canada H3G 1G5	 <b>CHMIELEWSKI</b> ARCHITECTURE 277 RUE DE LA MONTAGNE SUITE 100 MONTREAL, QUEBEC H3G 1M5
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FLOOR PLAN 1  
Echelle: 1/200

					
7611 No. 9 Rd. RICHMOND, BC V6W 1H4 ALTERNATIVE FUEL STORAGE AND CONVEYING STORAGE BUILDING GROUND FLOOR					
SCALE:	1:200	DATE:	27-04-2017	PROJECT NUMBER:	17-010
DRAWN:	T.KANG	CHECKED:	A.CHMIELEWSKI	DRAWING NUMBER:	17-010
DESIGNED:	A.CHMIELEWSKI	REVIEWED:	A.CHMIELEWSKI	PROJECT NUMBER:	RM7001-SIRJ-GA12-V810000-0002
REVISION:		REVISION:		PROJECT NUMBER:	17-010



ROOF PLAN 2  
Echelle: 1:200

RICHMOND B.C. ALTERNATIVE FUEL STORAGE AND CONVEYING		NBC Reference	Part 3
1	National Building Code Data Matrix Parts 3 Project Description: NEW CONSTRUCTION, ONE STOREY Change of Use: <input type="checkbox"/> New <input type="checkbox"/> Addition <input type="checkbox"/> Alteration		
2	Major Occupancy(s): Group F2 Medium-Hazard Industrial Occupancies	3.1.2.1 (1)	
3	Building Area(m <sup>2</sup> ): Existing 0 New 2750m <sup>2</sup>	1.4.1.2 [A]	
4	Number of Storeys: Above Grade 1 Below Grade 0	1.4.1.2 [A], 3.2.1.1	
5	Height of Building(m): 15 m	1.4.1.2 [A]	
6	Number of Streets / Access Routes: 3-Street	3.2.2.10, 3.2.5.4	
7	Building Classification: Group F, Division 2 up to 4 Storeys, Sprinklered	3.2.2.75	
8	Sprinkler System Proposed: <input type="checkbox"/> Entire Building <input type="checkbox"/> Basement Only <input type="checkbox"/> In Lieu of Roof <input type="checkbox"/> Not Required	3.2.2.18.1	
9	Sprinkler System Proposed: <input type="checkbox"/> Yes <input type="checkbox"/> No	3.2.5.12	
10	Fire Alarm Required: <input type="checkbox"/> Yes <input type="checkbox"/> No	3.2.5.8	
11	Water Service/Supply is Adequate: <input type="checkbox"/> Yes <input type="checkbox"/> No	3.2.4.1	
12	High Building: <input type="checkbox"/> Yes <input type="checkbox"/> No	3.2.5.7	
13	Permitted Construction: <input type="checkbox"/> Heavy Timber <input type="checkbox"/> Non-Combustible <input type="checkbox"/> Both Actual Construction: <input type="checkbox"/> Combustible <input type="checkbox"/> Non-Combustible <input type="checkbox"/> Both	3.2.2.75	
14	Occupant Load Based On: <input type="checkbox"/> m <sup>2</sup> /person <input type="checkbox"/> Building	3.1.17.1 (2)	
15	Barrier-Free Design: <input type="checkbox"/> Yes <input type="checkbox"/> No (explore) <input type="checkbox"/> Not Applicable	3.8.1.1 (c)	
16	Hazardous Substances: <input type="checkbox"/> Yes <input type="checkbox"/> No Confirm	3.3.6	
17	Required Fire Resistance Rating (FRR) Horizontal Assemblies FRR(hours): Listed Design No. or Description (SR-2) Floors: 0 Hours Roof: 0 Hours Mezzanine: 0 Hours FRR of Supporting Members: not applicable - no supported assembly - 0 Hours	3.2.2.75	
18	Spatial Separation - Construction of Exterior Walls: Wall (Construction) Area of EEP (m <sup>2</sup> ) Limiting Distance (m) Permitted % of Opening North: 553.3 > 15 m 100 % 2 HRS - 4 m South: 553.3 > 15 m 100 % 2 HRS - 4 m West: 366.4 > 15 m 100 % 2 HRS - 4 m East: 358.4 > 15 m 100 % 2 HRS - 4 m	3.2.3.1.E	Type of Construction Required / Provided Non-Combustible Non-Combustible Non-Combustible Non-Combustible

<b>LafargeHolcim</b> <b>STRUOS</b> 1440 St. Charles W. Suite 505 Montreal, Quebec, Canada H3G 1G5		<b>IAA</b> 1111 15th Street Vancouver, BC V6Z 1Y7 Tel: 604-271-1111 E: info@iaa-direct.ca	
SCALE: 1:200	DATE: 27-04-2017	PROJECT NUMBER: 17-010	DRAWING NUMBER: RMD01-STRU-GA12-V810000-0003
7611 No. 9 Rd. RICHMOND, BC V6W 1H4 ALTERNATIVE FUEL STORAGE AND CONVEYING STORAGE BUILDING ROOF PLAN			
REV. DATE	BY. CHG. REV. DATE	DESCRIPTION	
1 0 10/08/2017	A.C. A.C.	FOR BID & CONSTRUCTION PERMIT ISSUE	