



TECHNICAL SUPPORT DOCUMENT

**Air Discharge Permit 24-3622
Air Discharge Permit Application CL-3256**

Issued: January 24, 2024

Glacier Northwest, Inc. – East Vancouver Ready Mix

SWCAA ID – 135

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ABBREVIATIONS

List of Acronyms

ADP.....	Air Discharge Permit	NOV.....	Notice of Violation/
AP-42	Compilation of Emission Factors, AP-42, 5th Edition, Volume 1, Stationary Point and Area Sources – published by EPA	NSPS	New Source Performance Standard
ASIL.....	Acceptable Source Impact Level	PSD	Prevention of Significant Deterioration
BACT	Best available control technology	RACT.....	Reasonably Available Control Technology
BART	Best Available Retrofit Technology	RCW	Revised Code of Washington
CAM	Compliance Assurance Monitoring	SCC.....	Source Classification Code
CAS#.....	Chemical Abstracts Service registry number	SDS	Safety Data Sheet
CFR.....	Code of Federal Regulations	SQER	Small Quantity Emission Rate listed in WAC 173-460
EPA.....	U.S. Environmental Protection Agency	Standard	Standard conditions at a temperature of 68°F (20°C) and a pressure of 29.92 in Hg (760 mm Hg)
EU	Emission Unit	SWCAA	Southwest Clean Air Agency
LAER	Lowest achievable emission rate	T-BACT	Best Available Control Technology for toxic air pollutants
MACT.....	Maximum Achievable Control Technologies	WAC	Washington Administrative Code
mfr.....	Manufacturer		
NESHAP.....	National Emission Standards for Hazardous Air Pollutants		

List of Units and Measures

µg/m ³	Micrograms per cubic meter	kW.....	Kilowatt
µm	Micrometer (10 ⁻⁶ meter)	MMBtu.....	Million British thermal unit
acfm.....	Actual cubic foot per minute	MMcf	Million cubic feet
bhp.....	Brake horsepower	ppm	Parts per million
dscfm.....	Dry Standard cubic foot per minute	ppmv	Parts per million by volume
g/dscm.....	Grams per dry Standard cubic meter	ppmvd	Parts per million by volume, dry
gpm	Gallon per minute	ppmw.....	Parts per million by weight
gr/dscf	Grain per dry standard cubic foot	psig.....	Pounds per square inch, gauge
hp.....	Horsepower	rpm	Revolution per minute
hp-hr	Horsepower-hour	scfm.....	Standard cubic foot per minute
		tph	Ton per hour
		tpy	Tons per year

List of Chemical Symbols, Formulas, and Pollutants

C ₃ H ₈	Propane	O ₃	Ozone
CH ₄	Methane	PM.....	Particulate Matter with an aerodynamic diameter 100 μm or less
CO	Carbon monoxide	PM ₁₀	PM with an aerodynamic diameter 10 μm or less
CO ₂	Carbon dioxide	PM _{2.5}	PM with an aerodynamic diameter 2.5 μm or less
CO ₂ e.....	Carbon dioxide equivalent	SO ₂	Sulfur dioxide
H ₂ S	Hydrogen sulfide	SO _x	Sulfur oxides
HAP.....	Hazardous air pollutant listed pursuant to Section 112 of the Federal Clean Air Act	TAP	Toxic air pollutant pursuant to Chapter 173-460 WAC
HCl.....	Hydrochloric acid	TGOC.....	Total Gaseous Organic Carbon
Hg.....	Mercury	TOC.....	Total Organic Carbon
N ₂ O	Nitrous oxide	TSP.....	Total Suspended Particulate
NH ₃	Ammonia	VOC	Volatile organic compound
NO ₂	Nitrogen dioxide		
NO _x	Nitrogen oxides		
O ₂	Oxygen		

Terms not otherwise defined have the meaning assigned to them in the referenced regulations or the dictionary definition, as appropriate.

1. FACILITY IDENTIFICATION

Applicant Name: Glacier Northwest, Inc
Applicant Address: 703 Broadway, Suite 510, Vancouver, WA 98660

Facility Name: Glacier Northwest, Inc. – East Vancouver Ready Mix
Facility Address: 18606 SE 1st Street, Vancouver, WA 98684

SWCAA Identification: 135

Contact Person: Bryan Wigginton, Sr. Environmental Manager

Primary Process: Concrete Manufacturing and Distribution
SIC/NAICS Code: 3273: Ready Mixed Concrete
327320: Concrete batch plants (including temporary)

Facility Latitude and Longitude: 45°37'19" N
-122°28'51" W

Facility Classification: Natural Minor

2. FACILITY DESCRIPTION

Glacier Northwest, Inc.- East Vancouver Ready Mix (Glacier Northwest) is a supplier of ready mixed concrete, sand, gravel, rock, cement and building materials in the Pacific Northwest. Glacier Northwest operates concrete plants throughout the Puget Sound Region, Southwest Washington, and the Greater Portland Region. The concrete plant affected by this permitting action is located in Vancouver, Washington (English Pit).

3. CURRENT PERMITTING ACTION

This permitting action is in response to Air Discharge Permit (ADP) application number CL-3256 dated December 13, 2023. Glacier Northwest, Inc. submitted ADP application CL-3256 requesting the following:

- Replacing four existing bin vents with four new, higher efficiency bin vents
- Updating naming for silos
- Replacement of the QuickWater hot water heater with an electric hot water heater
- Update concrete batch plant emission factors

ADP 24-3622 will supersede ADP 20-3402 in its entirety.

4. PROCESS DESCRIPTION

- 4.a. Concrete Production. Concrete is generally composed of water, cement, sand (fine aggregate), and coarse aggregate. The coarse aggregate used in concrete may consist of gravel, crushed stone, or iron blast furnace slag. Some specialty aggregate products use either heavyweight or lightweight aggregates. Supplementary cementing materials, such as fly ash, may be added to make concrete mixtures more economical, reduce permeability, increase strength, or influence other properties. Individual constituents are metered into the production process using dedicated weigh hoppers to maintain the proper ratio of materials for a given product specification. The concrete plant has a truck mix truck design in which aggregate, fly ash, and cement are weighed and dumped into a cement truck with water and mixed inside the truck before delivery offsite.

All raw materials will be delivered to the concrete plant in bulk via truck. Portland cement and other powdered additives will be received pneumatically and stored in one of four storage silos. Sand and coarse aggregate will be handled with front-end loaders and stored in one of five aggregate bins. Emissions from plant operations will be controlled with a combination of vent filters, baghouses, and wet suppression techniques. Glacier Northwest has specified a maximum annual throughput of approximately 225,000 cubic yards per year (yd³/yr).

- 4.b. Hot Water Production. During cold weather, it is often necessary to temper the water used in the concrete plant in order to ensure that the concrete mixes and cures properly. Glacier Northwest has a single electrically-powered hot water heater in conjunction with the concrete plant for this purpose. Hot water heater operation is dependent on weather conditions and production demands.

5. EQUIPMENT/ACTIVITY IDENTIFICATION

- 5.a. Concrete Batch Plant. The concrete batch plant is a SPOMAC (Spokane Machinery) with a theoretical capacity of 175 yd³/hr. This concrete batch plant is a truck mix configuration and was manufactured in 1978. Emissions during truck loading/batching are controlled by the dust collector below with a manufacturer guarantee of 99.35% filtration efficiency.

Manufacturer:	C&W Manufacturing and Sales Co., Dust Collector
Model:	CP 2250-3078 / SN 252
Number of Bags:	30
Bag Size:	8" diameter by 78" length
Air-to-Cloth Ratio:	5.3:1
Filter Type:	Polyester Spun Bond, 7.8 oz/yd ²
Filtration Area:	2,280 ft ²
Air Flow:	12,400 acfm
Exhaust:	4.19 ft ²
Cleaning Method:	pulse jet

The unit has four aggregate feed hoppers with a capacity of 60 tons each and one aggregate feed hopper with a capacity of 20 tons.

- 5.b. Cement Silo (modified). Emissions from the 2,350 ft³ storage silo (SN 067476-01-01) are controlled by a passive vent filter (Bin Vent #1) rated at 99.9% filtration efficiency.

Manufacturer: C&W
 Model: CP-LPR-8-S-FS-GREY
 Number of Bags: 8
 Bag Size: 8" diameter by 39" length
 Filter Type: 7.8 oz/yd² 100% Polyester spunbound media with a point bond finish
 Filtration Area: 420 ft²
 Air Flow: 2,340 acfm
 Cleaning Method: Pulse jet

- 5.c. Slag Silo (modified). Emissions from the 2,150 ft³ storage silo (SN 067476-01-02) are controlled by a passive vent filter (Bin Vent #2) rated at 99.9% filtration efficiency.

Manufacturer: C&W
 Model: CP-LPR-8-S-FS-GREY
 Number of Bags: 8
 Bag Size: 8" diameter by 39" length
 Filter Type: 7.8 oz/yd² 100% Polyester spunbound media with a point bond finish
 Filtration Area: 420 ft²
 Air Flow: 2,340 acfm
 Cleaning Method: Pulse jet

- 5.d. Cement Silo (modified). Emissions from the 2,150 ft³ storage silo (SN 067476-01-03) are controlled by a passive vent filter (Bin Vent #3) rated at 99.9% filtration efficiency.

Manufacturer: C&W
 Model: CP-LPR-8-S-FS-GREY
 Number of Bags: 8
 Bag Size: 8" diameter by 39" length
 Filter Type: 7.8 oz/yd² 100% Polyester spunbound media with a point bond finish
 Filtration Area: 420 ft²
 Air Flow: 2,340 acfm
 Cleaning Method: Pulse jet

- 5.e. SCM AUX Silo (modified). Emissions from the 225-barrel capacity storage silo (SN 067476-01-04) are controlled by a passive vent filter (Bin Vent #4) with a manufacturer rating of 99.9% filtration efficiency.

Manufacturer: C&W
 Model: CP-LPR-8-S-FS-GREY
 Number of Bags: 8
 Bag Size: 8" diameter by 39" length
 Filter Type: 7.8 oz/yd² 100% Polyester spunbound media with a point bond finish
 Filtration Area: 420 ft²
 Air Flow: 2,340 acfm
 Cleaning Method: Pulse jet

- 5.f. Cement Weigh Hopper. Emissions from the 3-ton capacity fly ash weigh hopper are controlled by a passive vent filter (Bin Vent #5) with a manufacturer rating of 99.9% filtration efficiency.

Manufacturer: C&W
 Model: CP-70-S / 051765-01-01
 Number of Bags: 4
 Bag Size: 8" diameter by 19" length
 Filter Type: Spun polyester, 7.7 oz/yd²
 Filtration Area: 90 ft²
 Air Flow: 432 acfm
 Cleaning Method: Pulse jet

- 5.g. Haul Roads. Vehicle roads are primarily paved and provide operational access to mobile equipment and trucks. Haul road length will depend on the location of the equipment. A total round-trip haul distance of 0.5 miles of paved road per trip was assumed for emission calculation purposes.

Insignificant Emission Units

Hot Water Heater. An electrically-powered hot water heater is used to heat water for the process during the winter months. It has two 20,000-gallon Frac tanks. There are four heating elements in one tank, recirculating the hot water into the second tank so that a total of 40,000-gallons is available.

- 5.h. Equipment/Activity Summary.

ID No.	Equipment/Activity	Control Equipment/Measure
1	Concrete Batch Plant	Dust Collector
2	Cement Silo – 2,350 ft ³	Dust Collector
3	Slag Silo – 2,150 ft ³	Dust Collector
4	Cement Silo – 2,150 ft ³	Dust Collector
5	SCM AUX Silo – 255 barrel	Dust Collector
6	Cement Weigh Hopper	Dust Collector

ID No.	Equipment/Activity	Control Equipment/Measure
7	Haul Roads	Low-Pressure Wet Suppression

6. EMISSIONS DETERMINATION

Unless otherwise specified by SWCAA, actual emissions must be determined using the specified input parameter listed for each emission unit and the following hierarchy of methodologies:

- (a) Continuous emissions monitoring system (CEMS) data;
- (b) Source emissions test data (EPA reference method). When source emissions test data conflicts with CEMS data for the time period of a source test, source test data must be used;
- (c) Source emissions test data (other test method); and
- (d) Emission factors or methodology provided in this TSD.

Nothing precludes the use, including the exclusive use of any credible evidence or information relevant to identifying or quantifying emissions if methods identified above, in the ADP, or elsewhere in this TSD have not provided adequate quantification of actual emissions.

- 6.a. Concrete Production. PM emissions from concrete production are calculated assuming a maximum production of 225,000 yd³/yr of concrete (453,000 tons) and the controlled emission factors from AP-42 Section 11.12 "Concrete Batching" (October 2006) Tables 11-12.5 and 11-12.2 for truck mix loading. For evaluation of PM_{2.5} emissions, Glacier Northwest has previously provided a sizing analysis for cement that showed 10.4% of the PM was PM_{2.5}; the AP-42 emission factors were adjusted by this amount to calculate PM_{2.5} emissions. PM_{2.5} emissions from cement supplement are assumed to be equal to the PM₁₀ emissions.

For AP-42 Equation 11.12-2 moisture is assumed to be 5% and wind speed 4 mph.

Concrete Produced =	225,000	cubic yards		
	PM	PM ₁₀	PM _{2.5}	
Concrete Emission Factors	lb/yd ³	lb/yd ³	lb/yd ³	Emissions Factor Source
aggregate delivery to ground storage	0.0064	0.0031	0.0031	AP-42 Table 11.12-5 (6/06)
sand delivery to ground storage	0.0015	0.0007	0.0007	AP-42 Table 11.12-5 (6/06)
aggregate transfer to conveyor	0.0064	0.0031	0.0031	AP-42 Table 11.12-5 (6/06)
sand transfer to conveyor	0.0015	0.0007	0.0007	AP-42 Table 11.12-5 (6/06)
aggregate transfer to elevated storage	N/A	N/A	N/A	AP-42 Table 11.12-5 (6/06)
sand transfer to elevated storage	N/A	N/A	N/A	AP-42 Table 11.12-5 (6/06)
cement delivery to silo	0.0002	0.0001	0.0001	AP-42 Table 11.12-5 (6/06)
cement supplement delivery to silo	0.0003	0.0002	0.0002	AP-42 Table 11.12-5 (6/06)
weight hopper loading	0.0079	0.0038	0.0038	AP-42 Table 11.12-5 (6/06)
truck mix loading	0.0087	0.0035	0.0035	AP-42 Equa. 11.12-2 (6/06)
Total	0.0329	0.0152	0.0152	
Emissions	lb/yd concrete	lb/yr	tpy	
PM	0.0329	7,404	3.70	
PM ₁₀	0.0152	3,416	1.71	
PM _{2.5}	0.0152	3,416	1.71	

- 6.b. Haul Roads. Emissions from paved haul roads were calculated using AP-42 Section 13.2.2 (November 2006) emission factors and assuming an average load weight of 21 tons, an average silt content of 4.8%, an average round trip distance of 0.26 miles, and the density of mixed concrete to be 4,024 lb/yd³. The total vehicle miles travelled (VMT) is calculated to be 7,500 mile/yr. The use of wet suppression is expected to provide an overall control efficiency of 80% for haul road emissions.

$$E = k \left(\frac{s}{12} \right)^a \left(\frac{w}{3} \right)^b (100\% - CE)$$

Where:

E = Emission factor, in lb/VMT, for PM, PM₁₀, or PM_{2.5};

k = Emission constants for PM (k=4.9), PM₁₀ (k=1.5), or PM_{2.5} (k=0.15);

a = Emission constants for PM (a=0.7), PM₁₀ (a=0.9), or PM_{2.5} (a=0.9);

b = Emission constants for PM (b=0.45), PM₁₀ (b=0.45), or PM_{2.5} (b=0.45);

s = Road surface silt content, in percent;

w = Average truck weight, in tons; and

CE = Control efficiency, in percent.

Activity	Total VMT (mile/yr)	Pollutant	Emission Factor (lb/VMT)	Emissions (lb/yr)
Haul Roads	7,500	PM	0.63	4,681
		PM ₁₀	0.12	913
		PM _{2.5}	0.018	137

6.c. Emissions Summary

Air Pollutant	Potential to Emit (tpy)	Project Impact (tpy)
NO _x	0.0	- 0.95
CO	0.0	- 0.97
VOC	0.0	- 0.14
SO ₂	0.0	- 0.02
PM	6.04	- 1.02
PM ₁₀	2.16	- 0.31
PM _{2.5}	1.79	- 0.31
CO ₂ /CO ₂ e	0.0	- 3,077

7. REGULATIONS AND EMISSION STANDARDS

Regulations have been established for the control of emissions of air pollutants to the ambient air. Regulations applicable to the proposed facility that have been used to evaluate the acceptability of the proposed facility and establish emission limits and control requirements include, but are not limited to, the following regulations, codes, or requirements. These items establish maximum emissions limits that could be allowed and are not to be exceeded for new or existing facilities. More stringent limits are established in this ADP consistent with implementation of Best Available Control Technology (BACT):

- 7.a. Revised Code of Washington (RCW) 70A.15.2040 empowers any activated air pollution control authority to prepare and develop a comprehensive plan or plans for the prevention, abatement and control of air pollution within its jurisdiction. An air pollution control authority may issue such orders as may be necessary to effectuate the purposes of the Washington Clean Air Act (RCW 70A.15) and enforce the same by all appropriate administrative and judicial proceedings subject to the rights of appeal as provided in Chapter 62, Laws of 1970 ex. sess. This law applies to the facility.
- 7.b. RCW 70A.15.2210 provides for the inclusion of conditions of operation as are reasonably necessary to assure the maintenance of compliance with the applicable ordinances, resolutions, rules and regulations when issuing an ADP for installation and establishment of an air contaminant source. This law applies to the facility.

- 7.c. Washington Administrative Code (WAC) 173-460 "Controls for New Sources of Toxic Air Pollutants" requires BACT for toxic air pollutants (T-BACT), identification and quantification of emissions of toxic air pollutants and demonstration of protection of human health and safety. The facility emits TAPs; therefore, this regulation applies to the facility.
- 7.d. WAC 173-476 "Ambient Air Quality Standards" establishes ambient air quality standards for PM₁₀, PM_{2.5}, lead, SO₂, NO_x, ozone, and CO in the ambient air, which must not be exceeded. The facility emits PM₁₀, PM_{2.5}, SO_x, NO_x, and CO; therefore, certain sections of this regulation apply. The facility does not emit lead; therefore, the lead regulation section does not apply.
- 7.e. SWCAA 400-040 "General Standards for Maximum Emissions" requires all new and existing sources and emission units to meet certain performance standards with respect to Reasonably Available Control Technology (RACT), visible emissions, fallout, fugitive emissions, odors, emissions detrimental to persons or property, SO₂, concealment and masking, and fugitive dust. This regulation applies to the facility.
- 7.f. SWCAA 400-040(1) "Visible Emissions" requires that emissions of an air contaminant from any emissions unit must not exceed twenty percent opacity for more than three minutes in any one hour at the emission point, or within a reasonable distance of the emission point. This regulation applies to the facility.
- 7.g. SWCAA 400-040(2) "Fallout" requires that emissions of PM from any source must not be deposited beyond the property under direct control of the owner(s) or operator(s) of the source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited. This regulation applies to the facility.
- 7.h. SWCAA 400-040(3) "Fugitive Emissions" requires that reasonable precautions be taken to prevent the fugitive release of air contaminants to the atmosphere. This regulation applies to the facility.
- 7.i. SWCAA 400-040(4) "Odors" requires any source which generates odors that may unreasonably interfere with any other property owner's use and enjoyment of their property to use recognized good practice and procedures to reduce these odors to a reasonable minimum. This source must be managed properly to maintain compliance with this regulation. This regulation applies to the facility.
- 7.j. SWCAA 400-040(8) "Fugitive Dust Sources" requires that reasonable precautions be taken to prevent fugitive dust from becoming airborne and to minimize emissions. This regulation applies to the facility.
- 7.k. SWCAA 400-060 "Emission Standards for General Process Units" requires that all new and existing general process units do not emit PM in excess of 0.23 g/Nm³_{dry} (0.1 gr/dscf) of exhaust gas. The facility has general process units; therefore, this regulation applies to the facility.

- 7.l. SWCAA 400-109 "Air Discharge Permit Applications" requires that an ADP application be submitted for all new installations, modifications, changes, or alterations to process and emission control equipment consistent with the definition of "new source". Sources wishing to modify existing permit terms may submit an ADP application to request such changes. An ADP must be issued, or written confirmation of exempt status must be received, before beginning any actual construction, or implementing any other modification, change, or alteration of existing equipment, processes, or permits. This regulation applies to the facility.
- 7.m. SWCAA 400-110 "New Source Review" requires that SWCAA issue an ADP in response to an ADP application prior to establishment of the new source, emission unit, or modification. The new units meet the definition of a new source; therefore, this regulation applies to the facility.
- 7.n. SWCAA 400-111 "Requirements for Sources in a Maintenance Plan Area" requires that no approval to construct or alter an air contaminant source will be granted unless it is evidenced that:
- (1) The equipment or technology is designed and will be installed to operate without causing a violation of the applicable emission standards;
 - (2) Emissions will be minimized to the extent that the new source will not exceed emission levels or other requirements provided in the maintenance plan;
 - (3) BACT will be employed for all air contaminants to be emitted by the proposed equipment;
 - (4) The proposed equipment will not cause any ambient air quality standard to be exceeded; and
 - (5) If the proposed equipment or facility will emit any toxic air pollutant regulated under WAC 173-460, the proposed equipment and control measures will meet all the requirements of that Chapter.

The facility is located in a maintenance plan area; therefore, this regulation applies to the facility.

- 7.o. SWCAA 400-114 "Requirements for Replacement or Substantial Alteration of Emission Control Technology at an Existing Stationary Source" requires that no approval to replace or substantially alter emission control technology at an existing source will be granted unless it is evidenced that Reasonably Available Control Technology (RACT) will be employed for all air contaminants to be emitted by the proposed equipment.

8. RACT/BACT/BART/LAER/PSD/CAM DETERMINATIONS

The proposed equipment and control systems incorporate BACT for the types and amounts of air contaminants emitted by the processes as described below:

- 8.a. BACT Determination – Concrete Batch Plant. The use of process enclosure, fabric filtration, and wet suppression has been previously determined to meet the requirements

of BACT for fugitive emissions from the aggregate storage/handling, material transfer, and truck loading operations associated with the concrete batch plant at this facility.

- 8.b. BACT Determination – Storage Silos and Weigh Hoppers. The proposed use of process enclosure and fabric filtration has been previously determined to meet the requirements of BACT for the cement handling and storage at this facility.
- 8.c. BACT Determination – Fugitive Dust Emissions. Wet suppression is the only control measure in general use at this type of facility, and its effectiveness is well documented. The use of low-pressure wet suppression systems has been previously determined to meet the requirements of BACT for fugitive dust emissions from storage piles, material transfer points, and haul roads at this facility.
- 8.d. Prevention of Significant Deterioration (PSD) Applicability Determination. This permitting action will not result in a potential increase in emissions equal to or greater than the PSD thresholds. Therefore, PSD review is not applicable to this action.
- 8.e. Compliance Assurance Monitoring (CAM) Applicability Determination. CAM is not applicable to any emission unit at this facility because it is not a major source and is not required to obtain a Part 70 (Title V) permit.

9. AMBIENT IMPACT ANALYSIS

- 9.a. Criteria Air Pollutant Review. Emissions of PM are emitted at levels where no adverse ambient air quality impact is anticipated.

Conclusions

- 9.b. The replacement bin vents, as proposed in ADP application CL-3256, will not cause the ambient air quality requirements of 40 CFR 50 "National Primary and Secondary Ambient Air Quality Standards" to be violated.
- 9.c. The replacement bin vents, as proposed in ADP application CL-3256, will not cause the requirements of WAC 173-460 "Controls for New Sources of Toxic Air Pollutants" or WAC 173-476 "Ambient Air Quality Standards" to be violated.
- 9.d. The replacement bin vents, as proposed in ADP application CL-3256, will not violate emission standards for sources as established under SWCAA General Regulations Sections 400-040 "General Standards for Maximum Emissions," 400-050 "Emission Standards for Combustion and Incineration Units," and 400-060 "Emission Standards for General Process Units."

10. DISCUSSION OF APPROVAL CONDITIONS

SWCAA has made a determination to issue ADP 24-3622 in response to ADP application CL-3256. ADP 24-3622 contains approval requirements deemed necessary to assure compliance with applicable regulations and emission standards as discussed below.

- 10.a. Supersession of Previous Permits. ADP 24-3622 supersedes ADP 20-3402 in its entirety. Compliance will be determined under this ADP, not previously superseded ADPs. Existing approval conditions for units not affected by this project have been carried forward unchanged.
- 10.b. Emission Limits. Emission limits are established consistent with the calculations in Section 6. The concrete batch plant has PM emission limits that are based on an assumed maximum production rate of 225,000 yd³/yr. Opacity is also limited to 0% since it is not expected that significant amounts of opacity would result from this operation.
- 10.c. Operating Limits and Requirements. There are few permit requirements associated with the proposed concrete plant due to the simplicity of the affected operations and the fugitive nature of the resulting PM emissions. Emissions from material handling equipment, storage piles, and haul roads will generally be controlled using wet suppression methods. Emissions from cement handling in specific will be minimized through the use of fabric filtration. The concrete batch plant has been permitted assuming a maximum production rate of 225,000 yd³/yr.
- 10.d. Monitoring and Recordkeeping Requirements. Monitoring and recordkeeping requirements are established to provide sufficient documentation to ensure compliance with applicable emission limits, ensure proper operation of approved equipment, and provide for compliance with generally applicable requirements. Specific monitoring requirements are established for concrete production and maintenance activities.
- 10.e. Emission Monitoring and Testing Requirements. Emission monitoring of the concrete batch plant is not considered to be necessary. Monitoring of throughput and opacity is expected to be sufficient to ensure compliance.
- 10.f. Reporting Requirements. General reporting requirements are established for annual air emissions, upset conditions, and excess emissions. Specific reporting requirements are established for production. Reports are to be submitted on an annual basis.

11. START-UP AND SHUTDOWN/ALTERNATIVE OPERATING SCENARIOS/POLLUTION PREVENTION

- 11.a. Start-up and Shutdown Provisions. Pursuant to SWCAA 400-081 "Start-up and Shutdown", technology-based emission standards and control technology determinations must take into consideration the physical and operational ability of a source to comply with the applicable standards during start-up or shutdown. Where it is determined that a source is not capable of achieving continuous compliance with an emission standard

during start-up or shutdown, SWCAA will include appropriate emission limitations, operating parameters, or other criteria to regulate performance of the source during start-up or shutdown.

To SWCAA's knowledge, this facility can comply with all applicable standards during startup and shutdown.

- 11.b. Alternate Operating Scenarios. SWCAA conducted a review of alternate operating scenarios applicable to equipment affected by this permitting action. The permittee did not propose or identify any applicable alternate operating scenarios. Therefore, none were included in the approval conditions.
- 11.c. Pollution Prevention Measures. SWCAA conducted a review of possible pollution prevention measures for the facility. No pollution prevention measures were identified by either the permittee or SWCAA separate or in addition to those measures required under BACT considerations. Therefore, none were included in the approval conditions.

12. EMISSION MONITORING AND TESTING

There are no emission monitoring or testing requirements.

13. FACILITY HISTORY

- 13.a. General History. Aphix Ready Mix - English Pit was renamed to Glacier Northwest, Inc. - East Vancouver Ready Mix on October 31, 2003.
- 13.b. Previous Permitting Actions. SWCAA has previously issued the following Permits to Glacier Northwest:

Permit	Application	Date Issued	Description
20-3402	CL-3104	April 23, 2020	Replacement of an existing bin vent with another bin vent on the cement weight hopper. This ADP superseded ADP 03-2515 and 80-532.
03-2515	CL-1621	January 14, 2004	Replacement of three existing hot water heaters with one QuikWater boiler. This ADP superseded ADP 01-2391.
01-2391	CL-1534	October 2, 2001	Installation and operation of a new dust collector at an existing portable concrete batch plant. This ADP superseded ADP 78-403.
80-532	CL-421	July 14, 1980	Approval for new construction of a truck paint booth. (Equipment is no longer onsite).
78-403	CO-394	October 26, 1978	Approval for cement storage and batching of concrete.
72-1116LET	CL-102	November 16, 1972	Approval for installation of a Wixco dust collector.

- 13.c. Compliance History. A search of source records on file at SWCAA did not identify any previous or outstanding compliance issues over the past five (5) years.

14. PUBLIC INVOLVEMENT OPPORTUNITY

- 14.a. Public Notice for ADP Application CL-3256. Public notice for ADP application CL-3256 was published on the SWCAA website for a minimum of fifteen (15) days beginning on December 13, 2023.
- 14.b. Public/Applicant Comment for ADP Application CL-3256. SWCAA did not receive specific comments, a comment period request, or any other inquiry from the public or the applicant regarding ADP application CL-3256. Therefore, no public comment period was provided for this permitting action.
- 14.c. State Environmental Policy Act. After review of the SEPA Checklist for this project, SWCAA has determined that it is exempt from SEPA requirements pursuant to WAC 197-11-800(3) and has issued Determination of SEPA Exemption 24-003. This project only involves repair, remodeling, maintenance, or minor alteration of existing structures, equipment or facilities, and will not involve material expansions or changes in use. There is no physical change proposed in the project that would have an adverse impact on the environment beyond that which has already been evaluated under previous SEPA reviews.