



Whitman Middle School, Portable Classrooms Demolition

Final Project SEPA Checklist

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For questions and more information about this document, please contact the following:

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While the Whitman Middle School Classroom Demolition Project State Environmental Policy Act (SEPA) Project Checklist is accessible and Americans with Disabilities Act (ADA) compliant, the figures contained in the appendices which support the checklist, contain material that is not accessible. The following is a description of what is contained in the figures and appendices:

Figure 1, Site Plan and Portables to be Removed

Figure 1 is a drawing depicting the features within the property lines of the Whitman Middle School site including the main school building, parking lots, playfields and the location of the portable classrooms proposed to be demolished. The portables are generally located in an area west of the north end of the main building.

Figure 2, Site Location and Vicinity

Figure 2 is a site map which shows Whitman Middle School and the surrounding streets within two to three blocks of the site in all compass directions.

Appendix A: Transportation Technical Memorandum

Appendix A is the Transportation Technical Memorandum. It describes the Transportation Element.

Appendix B: Greenhouse Gas Emissions Worksheet prepared by ESA.

The worksheet is a table listing the lifespan emissions (MTCO₂e) for an education building per thousands of square feet.

Appendix C: Response to Public Comments.

This appendix contains each comment submitted by the public with the response provided to the comment from Seattle Public Schools.

Appendix D: Subsurface Exploration and Geotechnical Engineering Report prepared by Associated Earth Sciences, Inc. for Whitman Middle School Athletic Field Lighting

This appendix summarizes the results of the subsurface exploration and geotechnical engineering studies conducted in 2017 for the Whitman Middle School Athletic Field Lighting project.

This concludes the description of the Final SEPA Checklist figures and appendices for the Whitman Middle School Classroom Demolition Project SEPA Checklist.

DATE: September 29, 2023

TO: Recipients of the State Environmental Policy Act Determination of Nonsignificance (SEPA DNS) for Whitman Middle School Portable Classrooms Demolition Project

FROM: Fred Podesta, SEPA official



Seattle Public Schools (SPS) has determined that the final SEPA environmental checklist dated September 2023, meets our environmental review needs for the current proposal for demolition of portable classrooms at Whitman Middle School. The proposal received funding through the Building, Technology, and Academics/Athletics (BTA) Capital Levy that was approved by Seattle voters in February 2022. SPS plans to demolish the portables in the summer of 2024.

After conducting an independent review, SPS has determined that the project does not have significant adverse impacts on the environment as documented in the checklist and the enclosed DNS.

The final SEPA checklist discusses the potential environmental impacts that could result from construction of the project. A draft of the checklist was released for public comment from April 6, 2023, to May 8, 2023. Comments received informed revisions to the final SEPA checklist on which the DNS is based. The responses to written comments received are summarized in the SEPA Public Comments and Seattle Public Schools Responses, included with the SEPA checklist.

Thank you for your participation in the SPS SEPA process. Your involvement has helped to make the Whitman Middle School Portable Classroom Demolition proposal a much better project.

Fred Podesta, Chief Operations Officer

P.O. Box 34165, MS 22-183, Seattle WA 98124 * 206-252-0102

**STATE ENVIRONMENTAL POLICY ACT
DETERMINATION OF NONSIGNIFICANCE (DNS)
WHITMAN MIDDLE SCHOOL PORTABLE CLASSROOMS DEMOLITION PROJECT**

Date of issuance: October 6, 2023
Lead agency: Seattle Public Schools
Location of proposal: Whitman Middle School, 9201 15th Ave. NW, Seattle, WA
(Section 33, Township 26, Range 3)

Description of proposal – SPS is proposing the demolition and removal of aging portables located on an existing asphalt paved area at the west side of the main building near the north end of the asphalt paved areas for safety. After removal of the portables, the paved area would be patched and re-stripped for 32 parking stalls with the existing fencing and gates to remain for outdoor school use. The project includes demolition and removal of nine modular building structures totaling approximately 9,300 square feet (SF) of building area. The outdoor school use will be determined at a future date. SPS has indicated that the removal of the portables would reduce the school’s student capacity from 1,150 to 826, a reduction of 324 students. The portables were last used in the 2015-16 school year.

The lead agency for this proposal has determined that this project will not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request at the following location: John Stanford Center, 2445 3rd Ave. S, Seattle, WA 98124-1165 (Attn: Gary Kaczynski, Phone: 206-252-0221) and online at: <https://www.seattleschools.org/departments/sepa/>

This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal prior to October 23, 2023 (at least 15 days from the issuance date listed above) following a concurrent comment and appeal period. Comments and appeals (appealed by written notice setting forth specific factual objections) are to be received no later than October 23, 2023 (15 days), sent to:

Superintendent
Seattle Public Schools
P.O. Box 34165, MS 32-151
Seattle, WA 98124-1165

Name of agency making threshold determination: Seattle Public Schools
Responsible Official: Fred Podesta, Chief Operations Officer, Seattle Public Schools
Phone: 206-252-0102
Address: MS 22-183, P.O. Box 34165, Seattle, WA 98124-1165

Date: Sept. 29, 2023 **Signature:** 

**Whitman Middle School,
Portable Classrooms
Demolition**

FINAL SEPA Checklist

September 2023

Prepared By:

Seattle Public Schools
2445 Third Avenue South
Seattle, WA 98134

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APPENDIX A – *Transportation Technical Memorandum Whitman Middle School Portable Classroom Demolition – SEPA Checklist Transportation Element*

APPENDIX B – *Greenhouse Gas Emissions Worksheet*

APPENDIX C – *Response to Public Comments*

APPENDIX D – *Subsurface Exploration and Geotechnical Engineering Report prepared by Associated Earth Sciences, Inc. for Whitman Middle School Athletic Field Lighting*

ENVIRONMENTAL CHECKLIST

A. Background

1. Name of proposed project, if applicable:

Whitman Middle School, Portable Classroom Demolition

2. Name of applicant:

Seattle Public Schools (SPS)

3. Address and phone number of applicant and contact person:

Gary Kaczynski
Seattle Public Schools
2445 3rd Avenue South
Seattle, WA 98134
(206) 252-0211

4. Date checklist prepared:

September 25, 2023

5. Agency requesting checklist:

Seattle Public Schools (SPS)

6. Proposed timing or schedule (including phasing, if applicable):

SPS plans to demolish portable classroom structures (hereafter referred to as portables) in summer 2024. Demolition of the portables will take place over approximately a period of two weeks.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

There are no plans for future additions, expansions, or further activity related to or connected with this proposal.

SPS may consider other development at Whitman Middle School at some point in the future. Before pursuing a project at Whitman, the School Board would need to determine that the project should be included in a potential future capital projects levy. The capital projects levy would be subject to approval by a public vote, and development at the school would be subject to SEPA review as appropriate.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Whitman Middle School Athletic Field Lighting Subsurface Exploration and Geotechnical Engineering Report, February 23, 2017, prepared by Associated Earth Sciences, Incorporated.

Whitman Middle School Portable Classroom Removal Limited Hazardous Materials Survey Report Survey, April 2019, prepared by PBS Engineering and Environmental, Inc.

Transportation Technical Memorandum: Whitman Middle School Portables Demolition / Removal – SEPA Checklist Transportation Element, prepared by Heffron Transportation, Inc. February 27, 2023.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

There are no pending applications for governmental approval of other proposals for this site.

10. List any government approvals or permits that will be needed for your proposal, if known.

Demolition Permit from the City of Seattle.

11. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

SPS is proposing the demolition and removal of aging portables located on an existing asphalt paved area at the west side of the main building near the north end of the asphalt paved areas for safety. After removal of the portables, the paved area would be patched and re-stripped for 32 parking stalls with the existing fencing and gates to remain for outdoor school use. The project includes demolition and removal of nine (9) modular building structures totaling approximately 9,300 square feet (SF) of building area. The outdoor school use will be determined at a future date. SPS has indicated that the removal of the portables would reduce the school's student capacity from 1,150 to 826, a reduction of 324 students. The portables were last used in the 2015-2016 school year.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans

required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The school site is located at 9201 15th Avenue Northwest, Seattle, WA 98117. The school site is bounded by single-family homes to the immediate north and west, 15th Avenue Northwest to the east, and Soundview Playfield to the south. The site is in the southeast quarter of Section 35, Township 26, Range 3. The site is made up of one parcel (parcel 352603-9131) with the following legal description:

NE 1/4 OF NE 1/4 OF SE 1/4 & E 1/2 OF NW 1/4 OF NE 1/4 OF SE 1/4 LESS CO RD

Figures illustrating the project vicinity, the locations of the portable classrooms proposed to be demolished as well as the proposed location of parking to be provided are attached.

B. Environmental Elements

1. Earth

A geotechnical investigation was performed at the project site by Associated Earth Sciences, Inc. (2017). The work included a review of existing subsurface information for the property as well as drilling six soil borings on the project site. Information from the report is summarized in this section and incorporated throughout the SEPA Checklist as appropriate.

a. General description of the site: Circle or highlight one: Flat, rolling, hilly, steep slopes, mountainous, other.

The subject site includes steeply sloping areas leading down to the existing baseball/softball field, both from nearby properties to the west and from the area of the main school building east of the fields. These slopes are delineated as “Steep Slope Environmentally Critical Areas (ECAs)” in the City of Seattle Department of Construction and Inspections (SDCI) maps. It is likely that these slopes were created during the original grading for the existing baseball/softball field. Because the project will not include construction of new buildings and will be limited to the demolition and removal of portables in the central area of the subject site, a detailed analysis of the existing slopes around the perimeter of the project is not needed.

Typically, such analyses are required if structures are planned adjacent to slopes, or if substantial cuts or fills are proposed that could affect slope stability (Associated Earth Sciences, Inc. 2017). Demolition of the portable classrooms will not impact steep slopes.

b. What is the steepest slope on the site (approximate percent slope)?

The City of Seattle designates slopes greater than 40% with a rise of at least 10 feet as critical areas (Seattle Municipal Code [SMC] 25.09.012).

Steep slopes (greater than 40%) are in areas that lead down to the existing baseball/softball field, from nearby residential properties located to the west. It is likely that these slopes were created during the original grading done for the existing baseball field. No portion of the demolition and removal of portables project is located within any of the steep slopes on the site.

- c. **What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.**

The types of soils encountered during site exploration were mostly surficial fill, generally dense to very dense sand with some silt and gravel.

- d. **Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.**

According to the Associated Earth Sciences, Inc. report (2017), the existing fill is relatively loose and presents some risk of greater than normal post-construction settlement. The project consists of demolition and removal of above-grade portables. The existing gas line will be abandoned in place and disconnected from the source. No ground disturbance will result from any aspect of the project.

- e. **Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.**

No filling or grading is proposed for the demolition and removal of portables project.

- f. **Could erosion occur because of clearing, construction, or use? If so, generally describe.**

The erosion potential of the site soils is generally low, though it is high along steeply sloping areas. However, no soils on the slopes will be disturbed because of this demolition and removal of portables project.

- g. **About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

The proposed project would not construct any buildings or add new impervious surfaces to the project site.

- h. **Proposed measures to reduce or control erosion, or other impacts to the earth, if any.**

No erosion is anticipated from the demolition and removal of portables project.

2. Air

- a. **What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.**

During the demolition and removal of portables project, there may be a small increase in exhaust emissions from construction vehicles and equipment and a temporary increase in fugitive dust. When the project is complete it will not generate additional vehicular trips; therefore, there will be no increase in exhaust emissions.

A hazardous materials survey conducted in 2019 by PBS Engineering + Environmental of materials in the portable classrooms found the presence of asbestos in window glazing compound and in 60 square feet of cement asbestos board. Also, lead was detected in various paint coatings. During demolition and removal of portables, release of asbestos and lead could be released into the air if not handled properly.

Best management practices will be taken to properly handle asbestos and lead in accordance with policies set in the Asbestos Management Plan and the Seattle Public Schools Lead Compliance/Work Plan. Practices include asbestos training provided by the district via Vector Training or Argus Pacific, signs at the entrance of restricted access areas that may contain asbestos and/or lead, use of respirators and protective clothing for staff, and work practices for the safe removal and disposal materials.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no off -site sources of emissions or odors that would affect the proposed project.

c. Proposed measures to reduce or control emissions or other impacts to air, if any.

Contractors will use best management practices to minimize construction-related emissions. Relative to hazardous materials, the contractor will be required to follow safe handling and disposal procedures per state and federal regulations. Third party monitoring by trained professionals would be provided to ensure compliance with regulations. Additionally, construction equipment would be equipped with the appropriate emission controls.

3. Water

a. Surface Water:

1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

There are no known surface water bodies on or in the immediate vicinity of the site.

2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The project would not require any work over, in, or adjacent to any surface water bodies.

3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

The proposed project would not require any work in or near surface water and would not place any amount of fill or dredge material in surface waters or associated wetlands.

- 4. Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.**

The project would not require surface water withdrawals or diversions.

- 5. Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

According to the Federal Emergency Management Agency (FEMA), Flood Insurance Maps, the site is not located within a 100-year floodplain.

- 6. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

The project would not involve the discharge of waste materials to any surface waters.

b. Ground Water:

- 1. Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.**

The proposed project does not involve withdrawal of groundwater or discharge of water to groundwater.

- 2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

No waste material would be discharged into the ground. The project site would not utilize septic tanks.

c. Water Runoff (including stormwater):

- 1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

The demolition and removal of portables will occur on an existing impervious surface and would not generate additional runoff.

- 2. Could waste materials enter ground or surface waters? If so, generally describe.**

It is unlikely that sediment generated during demolition and removal of portables could leave the

site. Once the portables are removed, the existing asphalt pavement will be repaired.

3. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

The proposed project would not alter drainage patterns.

4. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any.

No impacts to surface or groundwater are expected, nor is runoff expected to increase. Therefore, no measures are proposed to reduce impacts.

4. Plants

a. Check the types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- orchards, vineyards, or other permanent crops.
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

No vegetation would be removed or altered during demolition and removal of portables.

c. List threatened and endangered species known to be on or near the site.

No threatened or endangered plant species or critical habitat are known to be on or near the site (USFWS, 2023).

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

No landscaping is proposed as part of the demolition and removal of portables project. Existing landscaping would not be affected by the project.

e. List all noxious weeds and invasive species known to be on or near the site.

No plant surveys were conducted for the Checklist. Himalayan blackberry was observed on the slope west of the football/soccer field. The project would not disturb this area.

5. Animals

- a. **List any birds and other animals that have been observed on or near the site or are known to be on or near the site.**

Animals observed on the site are restricted to typical urban birds and animals.

Examples include:

- **Birds: hawk, heron, eagle, songbirds, other:**

Birds observed are species adapted to urban areas such as gulls, American crow, rock pigeon, chickadee, robin, Steller's jay, northern flicker, and Bewick's wren.

- **Mammals: deer, bear, elk, beaver, other:**

Mammals observed are species adapted to urban areas such as Norway rat and other rodents, raccoon, opossum.

- **Fish: bass, salmon, trout, herring, shellfish, other:**

Not applicable or none observed.

- b. **List any threatened and endangered species known to be on or near the site.**

According to the WDFW Priority Habitats and Species program maps, no threatened or endangered species are known to be on or near the site.

- c. **Is the site part of a migration route? If so, explain.**

The Puget Sound area is located within the Pacific Flyway, which is a flight corridor for migrating waterfowl and other avian fauna. The Pacific Flyway extends south from Alaska to Mexico and South America. No portion of the proposed project would interfere with or alter the Pacific Flyway.

- d. **Proposed measures to preserve or enhance wildlife, if any.**

The proposed project is not expected to result in any impacts to wildlife or wildlife habitat. The existing asphalt paved area on which the portables are currently situated is not a quality habitat area for wildlife. Wildlife would avoid the area.

- e. **List any invasive animal species known to be on or near the site.**

No animal surveys were conducted for this checklist. Invasive animal species likely to be in the area include rats and opossums, typical of an urban area.

6. Energy and Natural Resources

- a. **What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.**

There are no energy needs for the demolition and removal of portables project once demolition is completed.

- b. **Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

No, the demolition and removal of portables project will not affect the potential use of solar energy by adjacent properties.

- c. **What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.**

None.

7. Environmental Health

- a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.**

A hazardous materials survey conducted in 2019 by PBS Engineering + Environmental of materials in the portable classrooms found the presence of asbestos in window glazing compound and in cement asbestos board and lead in various paint coatings. In addition, mercury is presumed to be present in fluorescent light tubes. During demolition and removal of portables, release of these health hazards could potentially occur if the materials containing them are not handled properly. The contractor will be required to follow safe handling and disposal procedures per state and federal regulations. Third party monitoring by trained professionals would be provided to ensure compliance with regulations.

Accidental spills of hazardous materials from equipment and vehicles could occur during construction. Demolition of portables would require limited construction equipment and few vehicles, so the potential for spills would be minimal. The contractor would develop a spill prevention and control plan to prevent the accidental release of contaminants into the environment.

1. **Describe any known or possible contamination at the site from present or past uses.**

According to the Department of Ecology Facility/Sites(s) database, the Whitman Middle School site is not known to be contaminated (Ecology, 2017).

- a. **Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

There are no existing hazardous chemicals or conditions that would affect project development.

- b. **Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

Chemicals stored and used during construction would be limited to gasoline and

other petroleum-based products required for maintenance and operation of construction equipment and vehicles.

c. Describe special emergency services that might be required.

The project would not require any special emergency services.

d. Proposed measures to reduce or control environmental health hazards, if any.

Site-specific pollution prevention plans, and spill prevention and control plans would be developed to prevent or minimize impacts from hazardous materials.

b. Noise

1. What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

There are no existing sources of noise in the area that would affect the demolition and removal of portables project.

2. What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site)?

Minor, short-term noise impacts could result from construction vehicles and equipment during daylight hours when the portables are being demolished and removed. The demolition of the portables is anticipated to occur over a two-week period. During this two-week period, construction noise may be heard from the site between 7:00 am and 5:00 pm on weekdays. The Seattle Municipal Code allows construction activities between 7 AM and 10 PM on weekdays and 9 AM and 10 PM on weekends and holidays.

3. Proposed measures to reduce or control noise impacts, if any.

None.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The site is used as a school and is comprised of one large rectangular building with portable classrooms to the west, a parking lot, a baseball/softball field, and an athletic field with surrounding track.

The school is in a predominantly single-family residential neighborhood. Areas to the east are single family and low-rise residential and areas on the south are low-rise residential. Soundview Playfield is located adjacent to the south boundary of the school.

The project would not affect current land uses. The site has been used as a school and would continue to be used as a school.

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?**

The site is not currently and has not been previously used for working farmlands or working forest lands. No agricultural or forest land would be converted to other uses. The site has been developed as a school since the 1950s (Johnson Partnership, 2014).

- 1. Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?**

No working farm or forest lands are located near the proposed project, so the project would not affect or be affected by farm or forest land operations.

- c. Describe any structures on the site.**

Structures on the school site include one rectangular school building with two courtyards, approximately 10 free-standing portable buildings; a baseball/softball field, a football/soccer field and track; and a parking lot.

- d. Will any structures be demolished? If so, what?**

Yes, a total of nine (9) free-standing portable building structures will be demolished.

- e. What is the current zoning classification of the site?**

The current zoning classification of the school site is Neighborhood Residential 2 (NR2).

- f. What is the current comprehensive plan designation of the site?**

The City of Seattle comprehensive plan designation of the site as a Neighborhood Residential 2 (NR2).

- g. If applicable, what is the current shoreline master program designation of the site?**

The project site is not within a shoreline jurisdiction; therefore, there is no applicable shoreline master plan designation.

- h. Has any part of the site been classified as a critical area by the city or county? If so, specify.**

Review of the City of Seattle DCI GIS mapping database for environmental critical areas indicated an

area of steep slopes bordering the east and west side of the baseball/softball field on the site as stated above in B.1(a), it is likely that these slopes were created during the original grading for the existing baseball/softball field (Associated Earth Sciences, Inc., 2017). The steep slopes would not be affected by the project.

i. Approximately how many people would reside or work in the completed project?

No people would reside or work in the completed project.

j. Approximately how many people would the completed project displace?

The completed project would not displace any people. SPS has indicated that the removal of the portables would reduce the school's student capacity from 1,150 to 826, a reduction of 324 students.

k. Proposed measures to avoid or reduce displacement impacts, if any.

No displacement would occur; therefore, no mitigation measures are needed.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

None.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any.

The project is not located near any agricultural or forest lands, so not measures to ensure compatibility are required.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units would be provided as part of the project.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units would be eliminated.

c. Proposed measures to reduce or control housing impacts, if any.

The project would not cause housing impacts; therefore, mitigation measures to control housing impacts would not be required.

10. Aesthetics

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

Nine (9) free-standing portable building structures are being demolished and removed. There are no new structures included in this proposal.

- b. What views in the immediate vicinity would be altered or obstructed?**

No views in the immediate vicinity would be obstructed by this demolition and removal of portables project.

- c. Proposed measures to reduce or control aesthetic impacts, if any.**

The demolition and removal of portables project would not cause aesthetic impacts; therefore, mitigation measures to control aesthetic impacts would not be required.

11. Light and Glare

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?**

The demolition and removal of portables project would not produce light or glare because it is removing existing lighting from the portable buildings.

- b. Could light or glare from the finished project be a safety hazard or interfere with views?**

The demolition and removal of portables project removes buildings and lighting from the buildings and would not pose a safety hazard or interfere with views from off-site locations.

- c. What existing off-site sources of light or glare may affect your proposal?**

No off-site sources of light or glare would affect this proposal.

- d. Proposed measures to reduce or control light and glare impacts, if any.**

The demolition and removal of portables project would not cause light or glare impacts; therefore, mitigation measures to control light or glare impacts would not be required.

12. Recreation

- a. What designated and informal recreational opportunities are in the immediate vicinity?**

Recreational opportunities on the Whitman Middle School site include a baseball/softball field, a football/soccer field surrounded by a track.

City of Seattle Parks in the vicinity of Whitman Middle School include:

- Soundview Playfield, located immediately south of the project site, featuring two baseball fields, a soccer field, a playground, and open space.
- Crown Hill Park, located approximately 1,150 feet to the east of the project site, featuring trail access, open space, and a skate dot.

b. Would the proposed project displace any existing recreational uses? If so, describe.

The proposed project would not displace any existing recreational uses. City of Seattle Parks in the vicinity of the project site would not be impacted by the project.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.

The demolition and removal of portables project would not cause impacts on recreation or recreational opportunities; therefore, measures to reduce impacts on recreation or recreational opportunities would not be required.

13. Historic and Cultural Preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

There are no buildings, structures, or archaeological sites located in the Project area that are currently listed in the National Register of Historic Places (NRHP), Washington Heritage Register, or designated as Seattle Landmarks (DAHP, 2023; Seattle Department of Neighborhoods, 2023). The existing school opened in 1959 as Northwest Junior High and was later renamed Whitman Junior High School. The school building is older than 45 years and has not yet undergone review by the Seattle Landmarks Preservation Board. Soundview Playfield is on the south side of the school property. It was constructed in 1962 and has been determined eligible for listing in the NRHP.

According to SPS records, the portables were placed on the school property in 1989. When placed, one of the portables was new; documentation of the age of the other portables was not found (SPS Archives, 2023). Based on available information, the portables are assumed to be at least 34 years old.

There are five buildings adjacent to the project. These are: Whitman Middle School building and four single-family residences on parcels adjacent to the project area (1805 NW 95th Street, 1801 NW 95th Street, and 9506 17th Ave NW). The first two residences were built in 1946, and the other in 1956 (King County Assessor, 2023). These residences are over 45 years old.

The minimum-age threshold for consideration as a Seattle Landmark is 25 years old. The

portables, Whitman school building, and adjacent residences are all over 25 years old and have not been evaluated for their potential eligibility as Seattle Landmarks, nor for listing in the NRHP and WHR. SPS does not anticipate any impacts to any of these buildings, nor to Soundview Playfield, as a result of this project.

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.**

To date, no archaeological sites, cemeteries, or traditional cultural properties have been recorded with DAHP as within or adjacent to the Project area (DAHP, 2023).

The project is located within the ancestral lands of the Duwamish people whose traditional language is Southern Lushootseed and who are part of a larger cultural group known generally as the Southern Coast Salish people (Lane, 1975a; Suttles and Lane, 1990). The Southern Coast Salish group encompasses the Duwamish, Snoqualmie, Suquamish, and Tulalip Tribes, and additional groups in the Puget Sound region whose ancestral lands were primarily farther from the project site: the Puyallup, Nisqually, and Squaxin people (Suttles and Lane, 1990). The memberships of the Snoqualmie, Suquamish, Muckleshoot, and Tulalip Tribes include successors of the Duwamish at the time of the 1855 Treaty of Point Elliott (Lane, 1974; Lane, 1975b; Lane, 1988; Miller and Blukis Onat, 2004:24–25, 56–108; Muckleshoot Indian Tribe, 2023; Suquamish Tribe, 2023).

The Duwamish, Snoqualmie, and Suquamish Tribes state they have been in the Puget Sound region since time immemorial; this is also supported by archaeological evidence within the region (Duwamish Tribal Services, 2018; Kopperl et al., 2016; Snoqualmie Indian Tribe, 2020; Suquamish Tribe, 2023; Tulalip Tribes, 2023).

The nearest known location with a Lushootseed name is one-mile north at the outlet of Piper’s Creek: *qWátub*, or “Dropped Down.” This was where Piper’s Creek ran through a deep canyon (Thrush, 2007:222).

The earliest survey map of the project area did not record any trails or development in the vicinity of the project (U.S. Surveyor General, 1856). The first recorded property owner was Christopher P. Higgins from 1872 to 1907 (Anderson Map Company, 1907; U.S. Bureau of Land Management, 2012). The land was subdivided by 1912 with owners Arthur E. Ronald, Gerald and Grant C. Higgins, and Hulda A. Cavley (Kroll Map Company, 1912) and by 1926 the Olympic Golf & Country Club took ownership (NETRonline, 2023; Kroll Map Company, 1926; Metsker Map Company, 1936). The Crown Hill neighborhood and project area were annexed by the City in 1953. In 1953, Northwest Elementary School was established on the tract. A few years after the closing of this portable school, Northwest Junior High was constructed on the property.

No cultural resources assessments have been conducted in the project area. Two assessments have occurred in close proximity: one for Whitman Athletic Field Lighting projects (ESA, 2017) and another for Soundview Playfield (Scott and Durkin, 2023). No archaeological resources were identified during either project. No other assessments have occurred within 0.25-mile of the project.

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.**

The existing portables are installed on above-grade foundations. There is an in-ground gas line that will be capped and abandoned in place. The demolition and removal of portables and capping and abandonment of the gas line will not result in any ground disturbance; therefore, there are no potential impacts to archaeological resources. Further, SPS does not anticipate any impacts to any existing buildings, nor to Soundview Playfield, as a result of this project. SPS contacted the cultural resources technical staff at the Duwamish Tribe, Muckleshoot Indian Tribe, Snoqualmie Indian Tribe, Suquamish Tribe, and Tulalip Tribes via email on August 30, 2023, requesting any tribal knowledge of the project location for consideration as part of the SEPA review. The Duwamish Tribe requested an inadvertent discovery plan if ground disturbance was expected. As ground disturbance is not anticipated, an inadvertent discovery plan has not been prepared. No other Tribes responded.

The following information was reviewed: previous archaeological survey reports and property inventories (DAHP, 2023), historical maps (Anderson Map Company, 1907; Kroll Map Company, 1912, 1926; Metsker Map Company, 1936; U.S. Surveyor General, 1856), government landowner records (U.S. Bureau of Land Management, 1995), aerial imagery (NETRonline, 2023; King County Assessor, 2023), published ethnographies and regional histories (Duwamish Tribal Services, 2018; Kopperl et al. 2016; Lane 1975a, 1975b, 1988; Miller and Blukis Onat, 2004; Muckleshoot Indian Tribe, 2023; Snoqualmie Indian Tribe, 2020; Suquamish Tribe, 2023; Thompson and Marr, 2002; Thrush, 2007; Tulalip Tribes, 2023), City records (Seattle Department of Neighborhoods, 2023), and geotechnical reports (AES, 2017).

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.**

The project will not involve any ground-disturbing excavations, nor alterations to any historic-aged buildings or structures; therefore, no additional cultural resources work is recommended.

14. Transportation

A *Transportation Technical Memorandum* (Heffron Transportation, Inc., 2023) has been prepared for the proposed project, and the results of the report are summarized in the section (see Appendix A).

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.**

The Whitman Middle School site is bound on the east by 15th Avenue NW, on the south by Soundview Playfield, and on the north and west by private residential properties. The

school has one primary parking lot with 55 striped spaces with two one-way driveways on 15th Avenue NW (entrance on the north and exit on the south). In addition to the main parking lot, there is a paved surface located between the football/soccer field and the school building with gated access from 17th Avenue NW. That area is used for school employee parking and has an estimated capacity of 32 vehicles (striping has faded or no longer exists). The project would not change access to the school site.

The *SEPA Determination*¹ and the *Master Use Permit (MUP)*² issued for the school's athletic field lighting project require that the District and Whitman Middle School Ensure that the off-street parking lots are open and available for users during all times that the fields are being used. In addition, a condition of the City permit required SPS to install a sign on the gate at 19th Avenue NW (that allows access to the northwest corner of the site) to state, *"Please park in the parking lot which is accessed by 17th Avenue NW. This gate is to be used for Maintenance and Emergency use ONLY. No Parking."*

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

King County Metro Transit (Metro) provides bus service in the site vicinity. There are Metro bus stops for both directions on 15th Avenue NW directly in front of the school to the south of NW 96th Street and at NW 92nd Street. These stops have been served by Metro's Route 15; however, that route was one of several temporarily suspended by Metro in December 2022 due to vehicle manufacturing issues. Metro's RapidRide D Line and Route 40 operate along Holman Road NW and 15th Avenue NW. These routes offer all-day service seven-days per week with headways of 6 to 15 minutes. The nearest stops are on Holman Road NW, about a 1,200-foot walking distance from the school.

c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

No, the project would not require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities.

d. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The project would not use or occur in the immediate vicinity of water, rail, or air transportation.

e. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?

The demolition volume of the portables is estimated to generate about 35 truckloads. The total demolition effort is expected to take up to two weeks which could result in an average of 3 or 4 truckloads per day and about 1 truckload every two hours over a typical eight-hour day (or 2 truck trips – reflecting one truck trip in and one out for each load).

The project would also generate some limited employee and equipment trips to and from the site. It is anticipated that construction workers would arrive at the construction site before the AM peak traffic period on local area streets and depart the site prior to the PM peak period; construction work shifts are usually from 7:00 A.M. to 5:00 P.M., with workers arriving between 6:30 and 6:45 A.M. The number of workers at the project site at any one time would vary depending upon the element being implemented.

While the traffic activity may be noticeable to residents that live along 17th Avenue NW, project-related trips would be far fewer than generated by the school on a typical day and would be limited to about two weeks over the summer. They would not result in adverse operational impacts to the surrounding roadway network.

After demolition and removal of portables, the number of vehicular trips would be reduced. If formal striping of the parking makes that area more attractive for staff, it could result in 5 to 10 additional trips entering from 17th Avenue NW in the morning and exiting to 17th Avenue NW in the afternoon. These would not be new to the overall roadway network since they would be shifted or relocated from either on-site or on-street parking in the vicinity. This potential shift in trips would not represent a significant adverse impact to traffic or operations. As noted, SPS has indicated that the removal of the portables would reduce the school's student capacity from 1,150 to 826, a reduction of 324 students and would reduce the school's potential daily and peak hour trip generation. Based on standard rates published by the Institute of Transportation Engineers (ITE), the reduction in capacity would reduce potential school traffic by about 700 trips per day (350 in, 350 out), about 300 morning peak hour trips (165 in, 135 out); about 140 afternoon peak hour trips (65 in, 75 out); and about 50 PM peak hour trips (25 in, 25 out).

f. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

The proposal would not interfere with the movement of agricultural or forest products on streets in the area because no agricultural or working forest lands are located within the vicinity of the project site.

g. Proposed measures to reduce or control transportation impacts, if any.

The demolition and re-striping project is not expected to result in adverse impacts to traffic or parking conditions in the vicinity. The District would follow City of Seattle requirements for demolition and construction of this type. The contractor may also include measures to keep adjacent streets clean on a daily basis at the truck exit points to reduce tracking dirt offsite. The contractor would identify parking locations for the workers; employee parking would be contained on-site.

15. Public Services

- a. **Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**

None.

- b. **Proposed measures to reduce or control direct impacts on public services, if any.**

The demolition and removal of portables project will not result in an increased need for public services; therefore, measures to reduce or control direct impact on public services would not be required.

16. Utilities

- a. **Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:**

Existing utilities currently at the site include electricity, natural gas, water, refuse service, telephone, storm drain and sanitary sewer.

- b. **Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

Electricity, telephone, restrooms, and natural gas would continue to be provided to the school. No additional utilities are required for the project.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

X *Gary Kaczynski*

Type name of signee: Gary Kaczynski, PE

Position and agency/organization: Project Manager, Seattle Public Schools

Date submitted: 9/22/2023

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APPENDIX A - *Transportation Technical Memorandum Whitman Middle School Portable Classroom Demolition – SEPA Checklist Transportation Element*

(Follows)

TECHNICAL MEMORANDUM

Project: Whitman Middle School Portable Classroom Demolition

Subject: SEPA Checklist Transportation Element

Date: February 27, 2023

Author: Tod S. McBryan, P.E. – Principal 

This technical memorandum presents supporting analysis for Seattle Public Schools' SEPA Checklist being prepared for the demolition of nine portable buildings (containing 12 classrooms) located on the Whitman Middle School site. It evaluates the transportation-related impacts of the proposed demolition.

1. Project Description

1.1. Existing Whitman Middle School Site

Whitman Middle School is located at 9201–15th Avenue NW in the North Beach / Blue Ridge neighborhood of Seattle. The site is bounded on the east by 15th Avenue NW, on the south by Soundview Playfield, and on the north and west by private residential properties. The main school building occupies the eastern third of the site; athletic fields (a football / soccer field, a four-lane track, and a softball / baseball diamond) are located on the western portion of the site. The school has one primary parking lot with 55 striped spaces and two driveways on 15th Avenue NW. In addition to the main parking lot, the paved surface located between the football / soccer field and the main school building contains nine portable classroom buildings around which parking occurs. That paved area has a gated access from 17th Avenue NW, and is used for school employee parking on school days as well as by athletic field users and school event attendees on evenings and weekends. It currently has an estimated capacity for at least 32 vehicles (striping has faded or no longer exists). The *SEPA Determination*¹ and the *Master Use Permit (MUP)*² issued for the school's athletic field lighting project require that the District and Whitman Middle School ensure that the off-street parking lots are open and available for users during all times that the fields are being used. In addition, a condition of the City permit required SPS to install a sign on the gate at 19th Avenue NW (that allows access to the northwest corner of the site) to state *"Please park in the parking lot which is accessed by 17th Avenue NW. This gate is to be used for Maintenance and Emergency use ONLY. No Parking."*

1.2. Proposed Project

Seattle Public Schools (SPS) proposes to demolish and remove the nine portables (12 classrooms) located in the northern central portion of the Whitman Middle School site. After removal of the portables, the existing asphalt pavement will be patched and repaired at selective surface areas to correct any trip hazards and the paved area would be re-striped for 32 parking stalls with the remainder fenced for outdoor school use. The demolition, re-striping, and fencing effort is expected to occur during summer 2023 (sometime between June and August) and be complete by fall 2023. Removal of the portables will allow for some additional outdoor space to support the educational program.

The removal and demolition of the portable classrooms would reduce the school's operational enrollment capacity by about 240 students (from 1,033 to about 794).³

¹ Seattle Public Schools, 2019.

² Seattle Department of Construction and Inspections (SDCI), MUP-21-020 / 3035996-LU, November 18, 2021.

³ Estimated change in capacity based on data in *2021 Facilities Master Plan Update*, Seattle Public Schools, 2021.

The project would not involve any ground disturbing excavations nor import or export of earth. The demolition volume of the nine portables is estimated to be about 1,370 cubic yards (cy).⁴ Figure 1 shows the site plan with the location of the portables to be removed and the re-use of the paved area.

2. Transportation Conditions & Potential Impacts

Short-term construction access and long-term daily access to the area associated with the planned demolition is expected to occur using 15th Avenue NW, NW 96th Street, and 17th Avenue NW. Figure 2 shows these streets, which are described below.

15th Avenue NW is a north-south arterial that connects between the south side of Carkeek Park at NW 100th Street and the Magnolia Bridge, south of which it becomes Elliott Avenue W. Adjacent to the site (between Holman Road NW and NW 100th Street) it is a Collector Arterial; south of Holman Road it is a Principal Arterial. Within the site vicinity, there is one travel lane in each direction, with a few segments that have curb on both sides. On the west side, there is sidewalk between NW 90th and NW 95th Streets. There are marked and signed crosswalks at NW 95th Street (south leg) and NW 92nd Street (north leg). There are Metro bus stops serving both travel directions immediately south of NW 96th Street and at NW 92nd Street. The posted speed limit is 25 miles per hour (mph) adjacent to the site with a 20-mph school zone speed limit in the school vicinity that is in effect when beacons flash. South of Holman Road NW, the speed limit is 30 mph.

17th Avenue NW is a north-south local access street between the school site and NW 96th Street to the north. It is about 20-foot wide for most of its length, but narrows to about 20 feet at the gated school access driveway where the street ends. It provides access to residential properties which have off-street driveways and/or garages. There are no curbs or sidewalks on either side. Its approaches to NW 96th Street are controlled with stop signs.

NW 96th Street is an east-west Collector Arterial that connects between 24th and 15th Avenues NW. The roadway has one lane in each direction. On the north side of the street there is no curb or sidewalk and parking is accommodated on a gravel shoulder. On the south side, there is a raised curb separating a pedestrian pathway from the roadway and no parking allowed. The posted speed limit is 25 mph.

2.1. Traffic Volumes

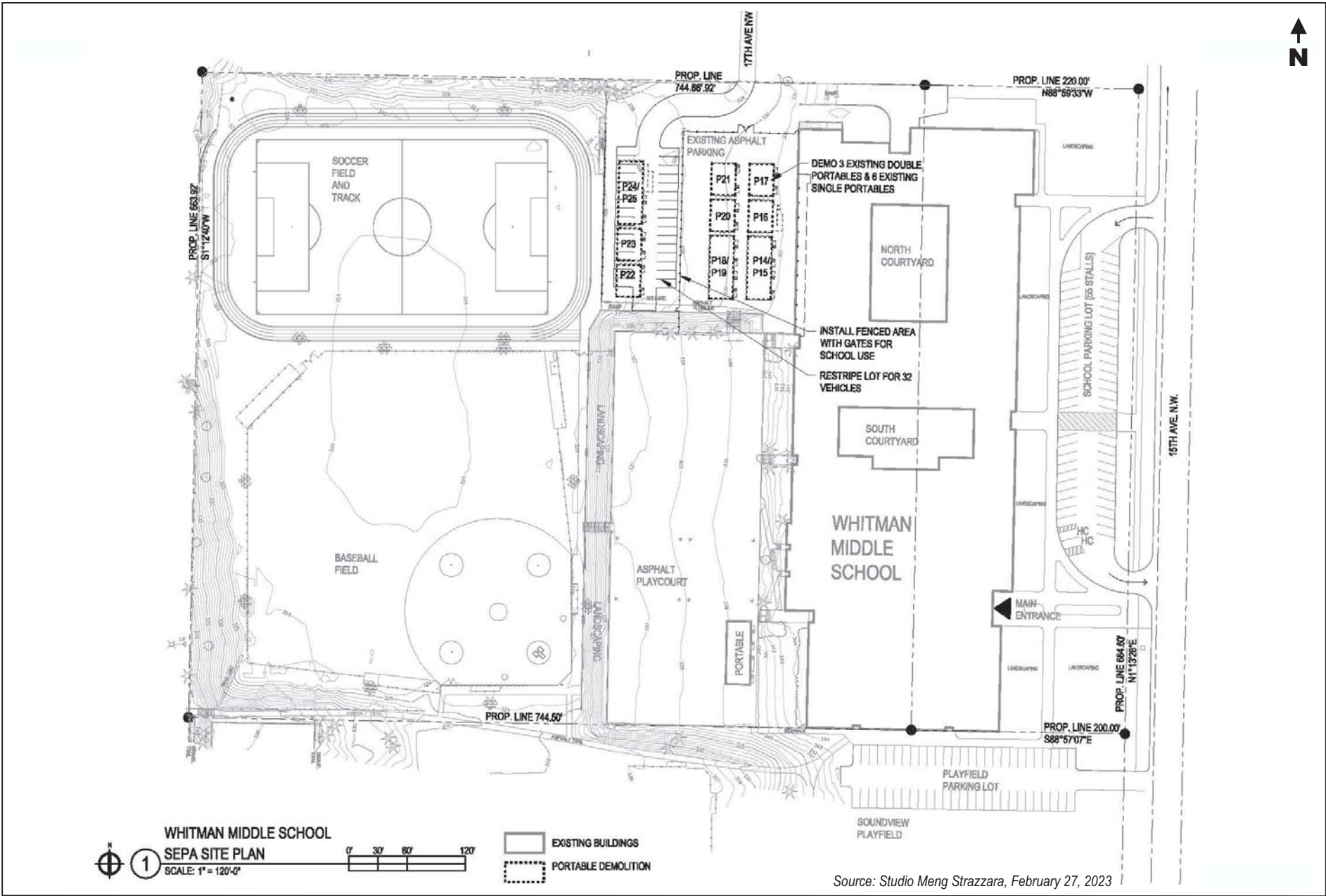
Short-Term Demolition Activities

The demolition volume of the portables is estimated to be about 1,370 cy, which is estimated to generate about 35 truckloads (assuming 40 cy per demolition transport container). The total demolition effort is expected to take up to two weeks which could result in 3 or 4 truckloads per day and about 1 truckload every two hours over a typical eight-hour day (or 2 truck trips—reflecting one truck trip in and one out for each load).

The project would also generate some limited employee and equipment trips to and from the site. It is anticipated that construction workers would arrive at the construction site before the AM peak traffic period on local area streets and depart the site prior to the PM peak period; construction work shifts are usually from 7:00 A.M. to 3:30 P.M., with workers arriving between 6:30 and 6:45 A.M. The number of workers at the project site at any one time would vary depending upon the element being implemented.

Although the traffic activity may be noticeable to residences that live along 17th Avenue NW, project-related trips would be far fewer than generated by the overall school on a typical day and would be limited to about two weeks over the summer. They would not result in adverse operational impacts to the surrounding roadway network.

⁴ Estimated from *FEMA Debris Estimating Field Guide*, Sept. 2010.



WHITMAN MIDDLE SCHOOL
 Portable Classroom Demolition

Figure 1

Site Plan and Portables to be Removed





WHITMAN MIDDLE SCHOOL
Portable Classroom Demolition

Figure 2
Site Location and Vicinity



Long-Term Operations

The area currently occupied by the portables would be re-striped to formally designate 32 parking spaces—the same number estimated for that existing area that is not currently striped. It is anticipated that it would still be available for school employee parking on school days as it is currently used. Based on a review of historical (Google Earth) aerials of the site, the area around the portables has long been used for employee parking on school days. Images from 2015 to 2021 show between 9 and 21 vehicles parked in that area. Assuming the same typical use of that area when it is more formally established as striped parking with 32 spaces, the number of trips generated at the access on 17th Avenue NW may not change on typical school days. If formal striping of the parking makes that area more attractive for staff, it could result in 5 to 10 additional trips entering from 17th Avenue NW in the morning and exiting to 17th Avenue NW in the afternoon. These would not be new to the overall roadway network, since they would be shifted or relocated from either on-site or on-street parking in the vicinity. This potential shift in trips would not represent a significant adverse impact to traffic or operations.

The project area would continue to be used by participants and attendees of activities and events on the lighted athletic play fields to the west and within the school building on evenings and weekends. The removal of portables and formal striping of 32 parking spaces is not expected to change the volume of traffic generated to and from this area or along 17th Avenue NW for those activities.

2.2. Parking

Short-Term Demolition Activities

Since the proposed demolition project is planned to occur during summer, when the school is not in session, project-related parking demand could occur within the existing on-site parking lots. As described previously, the Whitman Middle School site has a main on-site parking lot with 55 spaces accessed from 15th Avenue NW. It is possible that some construction workers may park in the main lot or within the hard-surface area near the portables. The on-site parking can accommodate the demand that may be generated by project employees.

Long-Term Operations

The project would formalize and retain the same number of parking stalls as currently is estimated to exist. These newly striped spaces would be available for school employee parking on school days and on evenings and weekends for events and users of the athletic fields. The removal of the portables and formal striping of 32 parking spaces could result a few additional staff choosing to parking in that area, but that change in activity would reduce demand elsewhere on the site or on-street near the school. The proposal is not expected to result in adverse impacts to parking conditions at or near the school.

3. Findings & Recommendations

The demolition and re-striping effort is not expected to result in adverse impacts to traffic or parking conditions in the vicinity. The District would follow City of Seattle requirements for demolition and construction of this type. The contractor may also include measures to keep adjacent streets clean on a daily basis at the truck exit points to reduce tracking dirt offsite. The contractor should identify parking locations for the workers; employee parking should be contained on-site.

APPENDIX B – *Greenhouse Gas Emissions Worksheet*

APPENDIX B



Section I: Buildings

Type (Residential) or Principal Activity (Commercial)	# Units	Square Feet (in thousands of square feet)	Emissions Per Unit or Per Thousand Square Feet (MTCO2e)			Lifespan Emissions (MTCO2e)
			Embodied	Energy	Transportation	
Single-Family Home.....	0		98	672	792	0
Multi-Family Unit in Large Building	0		33	357	766	0
Multi-Family Unit in Small Building	0		54	681	766	0
Mobile Home.....	0		41	475	709	0
Education		0.0	39	646	361	0
Food Sales		0.0	39	1,541	282	0
Food Service		0.0	39	1,994	561	0
Health Care Inpatient		0.0	39	1,938	582	0
Health Care Outpatient		0.0	39	737	571	0
Lodging		0.0	39	777	117	0
Retail (Other Than Mall).....		0.0	39	577	247	0
Office		0.0	39	723	588	0
Public Assembly		0.0	39	733	150	0
Public Order and Safety		0.0	39	899	374	0
Religious Worship		0.0	39	339	129	0
Service		0.0	39	599	266	0
Warehouse and Storage		0.0	39	352	181	0
Other		0.0	39	1,278	257	0
Vacant		0.0	39	162	47	0

Section II: Pavement.....

Pavement.....		0.00				0
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Total Project Emissions:

0

Data entry fields

APPENDIX C – *Response to Public Comments*

APPENDIX C

SEPA Public Comments and Seattle Public Schools Responses Whitman Middle School, Portable Classrooms Demolition

SEPA regulations recommend that public comments on draft Checklists be considered and responded to but provides flexibility in how the comments are presented. The comment period on the Draft SEPA Checklist for the Whitman Middle School, Portable Classrooms Demolition was from April 6 to May 8, 2023. Six comment letters, emails, or fax were received from the 5 individuals listed below.

1. Brian Lee (via email on April 24, 2023)
2. Rob Banga (via email April 24, 2023)
3. Chris Jackins (via fax on April 30, 2023)
4. Eriko Moore (via email on May 2, 2023)
5. Maureen O'Donnell (via email on May 2, 2023)
6. Maureen O'Donnell (via email on May 4, 2023)

For efficiency, the comments have been summarized and similar comments have been grouped together and responded to below. Following each comment, the numbers in brackets refer to the commenter number (above) who submitted a similar comment. Any person interested in reading the individual comments may contact SPS for access to them.

1. Project Funding

Reassign funds earmarked for a grade school lighting project (in the most recent levy) to make improvements to the playground areas that students actually use, here and elsewhere. [Commenter 1 and 2]

Response: That is outside of the scope for these improvements associated with the demolition of the portable classrooms.

2. Further review

Further review is needed. [Commenter 3]

Response: Preparing a SEPA Checklist is the first step in determining the significance of impacts. The SPS SEPA Responsible Official is reviewing the revised SEPA Checklist and taking all comments received on the Draft SEPA Checklist into consideration in making a determination of non-significance for the Whitman Middle School, Portable Classrooms Demolition.

3. Background

- a. “SPS is proposing the demolition and removal of portables located on an existing asphalt paved area at the west side of the main building near the north end of the asphalt paved areas. After removal of the portables, the paved areas would be patched and restriped for 32 parking stalls with the remainder fenced for outdoor school use. The project includes demolition and removal of nine (9) modular building structures totaling approximately 9,300 square feet (SF) of the building area. [page 2, A.11]”. [Commenter 3]

Response: Comment noted. A. 11 has been updated to say “existing fencing and gates to remain for outdoor school use”.

- b. “SPS [Seattle Public Schools] plans to demolish portable classroom structures... in summer 2023... over approximately a period of two weeks. [page 1, A.6]” [Commenter 3]

Response: At the time of writing the Draft SEPA Checklist, the portable classroom structures were planned to be removed in summer 2023. Due to scheduling constraints, the portables are planned to be demolished in summer 2024.

4. Lack of Description

“There seems no description as to the District’s motivation for the project.” [Commenter 3]

Response: The portable classroom structures are aging and in poor condition and are being demolished for safety. This information has been added to A.11. of the Final SEPA checklist.

5. Air

During demolition and removal of portables... “asbestos and lead could be released into the air if not handled properly”. [page 4, B.2.a]. [Commenter 3]

Response: Best management practices will be taken to not release asbestos and lead into the air. **Section B.2.a of the draft SEPA checklist has been** updated to reflect the policies set in the Asbestos Management Plan in accordance with the Federal Asbestos Hazard Emergency Response Act (AHERA) and the Seattle Public Schools Lead Compliance/Work Plan. The Seattle Public Schools Lead Compliance/Work Plan outlines engineering and work practice controls to reduce employee exposure to lead below the permissible exposure limit. Best management practices for lead include training for employees, use of respirators and protective clothing for staff removing lead, a demarcated lead work area with caution tape at least 20 feet around the lead work activities, and work practices for the safe removal and disposal of lead.

6. Increased plants

The Demolition Project SEPA Checklist describes that the project will not increase impermeable surfaces, will not remove trees, etc. It’s nice that no new paving and plant destruction will occur as a result of the Demolition Project, but this also represents a missed opportunity for improvements- such as reducing impermeable surface area, adding trees and plants to improve visual appeal and carbon capture, and especially to provide a more pleasant space for students at the school. The playground is deplorably sad, with weeds breaking up the asphalt play surface, little landscaping, and virtually nowhere to sit other than on crumbling asphalt and weeds. In tearing down the portables and dedicating some of the recovered space for “school use”, why not use the opportunity to make a more pleasing, landscaped space with seating so students have a more pleasant outside space? [Commenter 1 and 2]

Response: Additional improvements are outside of the scope for the demolition of the portable classrooms, but will be considered in future projects at the school.

7. Noise during Construction

- a. The checklist states that “Minor, short-term noise impacts could result from construction vehicles and equipment during daylight hours when the portables are being demolished and removed” [page 10, B.2.a] The checklist states construction work “shifts are usually from 7:00 A.M. to 3:30 P.M., with workers arriving between 6:30 and 6:45 A.M.” Traffic activity “may be noticeable to residents that live along 17th Ave NW” [page 16, B.14.e].

How early in the morning and how late at night is the work allowed to be done?
[Commenter 3]

Response: The Seattle Municipal Code 25.08.425 allows construction work between 7 AM and 10 PM on weekdays and 9 AM and 10 PM on weekends and holidays. The project will have construction shifts from 7 AM to 5 PM on weekdays.

- b. Please tell crew and drivers for the demolition project to be mindful of unnecessary noise before 8 am. [Commenter 5]

Response: Comment noted.

- c. The checklist states that “the demolition volume of the portables is estimated to generate about 35 truckloads... an average of 3 or 4 truckloads per day and about 1 truckload every two hours over a typical eight-hour day (or 2 truck trips- reflecting one truck trip in and one out for each load.” [page 16, B.14.e] [Commenter 3]

Response: Comment noted.

8. Long term impacts to Noise

- a. The parking and area changes (“more attractive”) could draw increased use and times of use of the adjacent playfields, some of which recently had lighting installed. Such parking could increase associated traffic. Noise on the fields could increase. Noise at the new parking lot could increase (slamming doors, post-athletic event parties). [Commenter 3]

Response: Comment noted. It is the responsibility of the school to ensure that the playfield lights are turned off by 10:00 pm. There is a sign that notes “Playgrounds are closed dusk to 6:00 am”. Long-term noise on the field is not expected to increase.

- b. We don’t want the parking lot to be a place for gathering for young kids, homeless people or drug dealers. We are already dealing with noise and traffic when sports events are happening. [Commenter 4]

Response: Comment noted. The school will ensure that all gates are closed and locked after hours and that proper signage about hours of operation are posted.

- c. It’s wonderful that there are lights and nighttime athletic events- great for students and the community. Would you please ask the students and parents to keep their music down at these events? Pre and post game there’s often cars with windows or doors open and the stereos turned up. Students need somewhere where they can change into their uniforms and listen to music before games- and a place to party after- where they won’t disturb those of us who live by the school. Is the school going to provide an option for that? Is not please ask that they keep the car radios at a low volume. Even better, start a rotation home party circuit or something to break up the noise impact. If more people start gathering in this restriped parking lot for night games, what will you do to make sure the gatherings aren’t loud? I live right next to the parking lot and I don’t mind

marching band practice or people parking in front of my house for events and practices, extra garbage dropped accidentally as people go to and from the events, etc. But noise from radios and stereos carries and it's harder to ignore than crowd noise and voices. [Commenter 5]

Response: SPS will request that the principal remind students periodically to be good neighbors and keep noise volumes down when using the lot.

9. Construction Impacts

We appreciate it if construction workers do not drop nails and pieces of sharp things. We have experienced flat tires near construction sites. Please respect our road. [Commenter 4]

Response: Comment noted. SPS will remind construction workers to clean up the site.

10. Historic and Cultural Preservation

The Checklist states that “The portables to be demolished are also older than 45 years, but do not appear to be eligible for listing in national, state, or local preservation registers” [page 14, B.13.a]. Some further analysis would seem useful. The ‘appearance’ of a portable or other building would not necessarily reveal whether it was associated with important events or individuals. [Commenter 3]

Response: Further analysis has been conducted, and Question 13 (Historic and Cultural Preservation) of the SEPA checklist has been updated with more detailed information. According to SPS records, the portables were placed on the school property in 1989. When placed, one of the portables was new; documentation of the age of the other portables was not found (SPS Archives, 2023). Based on available information, the portables are assumed to be at least 34 years old.

11. Impacts to Parking

- a. “The Checklist does not evaluate parking impact- apparently state law no longer requires analysis of parking impacts.” [Commenter 3]

Response: That is correct. On January 20, 2023, amendments to Chapter 197-11 WAC SEPA Rules became effective. Questions relating to parking, previously 14.c. of the SEPA Checklist, were eliminated.

- b. “The Transportation Memorandum [Appendix A] notes that the current parking at the portables area would not change, but that there would be “formal striping of 32 parking spaces” there [page 5, 2.1, Appendix A]. [Commenter 3]

Response: This comment partially restates text in the referenced *Transportation Memorandum* (Heffron 2023). The complete text in context states: “*The area currently occupied by the portables would be re-striped to formally designate 32 parking spaces- the same number estimated for that existing area that is not currently striped*”.

- c. There are several errors in the baseline assumptions stated in the Demolition Project SEPA Checklist regarding the historical use of the parking lot at 17th Avenue NW. Access to the 17th Ave NW parking lot is required by the MUP as described in section 14a, that requirement has yet to be met by SPS. Prior to the Lighting Project MUP requirement for access to the 17th Ave NW parking lot, this lot was also not available for use by the public. I have found the gate to be typically closed and locked except when school is in session. There has been very little use of the lot by the public in the past due to SPS management prohibitions and uses of the lot. [Commenter 1 and 2]

Response: Seattle Public Schools is aware of these issues and is updating signage to allow public access to the 17th Avenue NW parking lot. The lot will remain open and available to users of the field after school and on weekends when it is scheduled for activities.

- d. The Demolition Project SEPA checklist and included Traffic Report assumes as a baseline that the 17th Avenue NW lot has been available for public use and assesses the changes from that level due to this Demolition Project. That baseline assumption is false. [Commenter 1 and 2]

Response: SPS is aware of the issues and is updating signage to allow public access to the 17th Avenue NW parking lot. The lot will remain open and available to users of the field after school and on weekends when it is scheduled for activities.

- e. The new design narrows the two-way entrance and egress space versus the current lot and narrows the remaining lot. Its two-way, dead-end design provides no way for vehicles to turn around, other than to make a Y turn using an open parking space- if there's an available space. In addition to having a two-way dead-end flow with no turnaround space, there is also no means provided for a simple passenger drop off. The design appears to be optimized to encourage accidents between vehicles and between vehicles and kids. The total space made available by the portable classroom removal provides sufficient space to create a smoothly functioning, safe parking area to support both SPS school and Seattle Parks field use needs. Reassessing the overall design of the demolition space to create a much safer parking solution should be pursued. [Commenter 1 and 2]

Response: Comment noted. Reassessing the overall traffic design is outside of the scope of the demolition of the portable classrooms. Once the portables are removed, parking for the playfield will be re-established at the western end of the parking lot where designated parking will be clearly marked on the pavement. The new design takes into consideration turning radius for large vehicles.

- f. Please make sure to keep the yellow gate after the demolition OR add a new gate if you need to put it down before demolition. Please close the gate at certain time every night after it becomes a parking lot. [Commenter 4]

Response: The two yellow gates and existing fencing will remain following removal of the portables.

- g. Making the portables area more attractive as a parking lot would require having a gate. It would be good to have signs noting the hours the parking lot is open and/or reminding people not to play loud music or gather there when the lot is closed. [Commenter 6]

Response: As noted above, the two yellow gates and existing fencing will remain following removal of the portables. Signage will be updated and installed.

12. No Public Meeting

On other projects, for decades, the District held public meetings to discuss Draft Checklists. Did the district hold and provide a public notice about such a SEPA public meeting for Whitman? [Commenter 3]

Response: SPS is not required to hold public meetings under SEPA prior to a threshold determination. Instead, while not required by SEPA, SPS offers an opportunity for the public to comment on a draft SEPA checklist prior to finalizing its SEPA Checklist and prior to making its threshold determination. An additional public comment opportunity under SEPA will occur after issuance of the SPS threshold determination. Additional public comment opportunities are available as part of the City’s permitting process; the Seattle Department of Neighborhoods (DON) posted the project’s Departures presentation on their website to secure public comments. This process followed the City’s modified Covid-19 pandemic procedure for the safety of staff and community members.

13. Outdoor School Use

- a. “And what ‘outdoor school use’ is planned besides parking?” [Commenter 3]

Response: The outdoor school use will be determined at a future date.

- b. The space in the current plan that is dedicated to create a dreary fenced and gated area for “school use” does not appear to have much thought behind it. [Commenter 1 and 2]

Response: Comment acknowledged. The outdoor school use will be determined at a future date.

14. School Attendance

The Checklist states “the removal and demolition of the portable classroom would reduce the school’s operational enrollment capacity by about 240 students (from 1,033 to about 794).” [page 1, 1.2, Appendix A]. This could require a shift in locations of student attendance, with impacts on traffic and parking in other areas of the city. [Commenter 3]

Response: The description [SEPA checklist A-11] has been updated to reflect current projections. The student capacity at Whitman Middle School is currently 1,150 with the portables. Removal of the portables would reduce capacity by 324 students to 826 students. The portables have not been used for classroom instruction since the 2015-2016 school year.

15. Portable Restroom Maintenance

The previous Whitman Field Lighting Project required “For Life: Provide one portable restroom near the lighted field as designated on the site plan that will be open when the fields are lit and that it must be regularly maintained”. The portable restroom was installed in the wrong location was not regularly maintained. [Commenter 1 and 2]

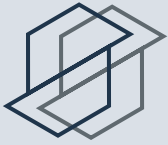
Response: SPS is aware of the issue and has since relocated the portable restroom. It is scheduled to be regularly serviced by United Services, a contracted maintenance company.

16. Signage on 17th Ave NW

After the demolition is over and it becomes a parking lot, is it possible to add traffic signs on our street (17th Ave. NW) NOT TO BLOCK neighbors’ garages, driveways or gates. When the event is happening (and the parking is closed for some reason), people park on our street and they sometimes block neighbors’ driveways, gates, and garages...17th is a dead-end street, we don’t want so many cars park on our street. [Commenter 4]

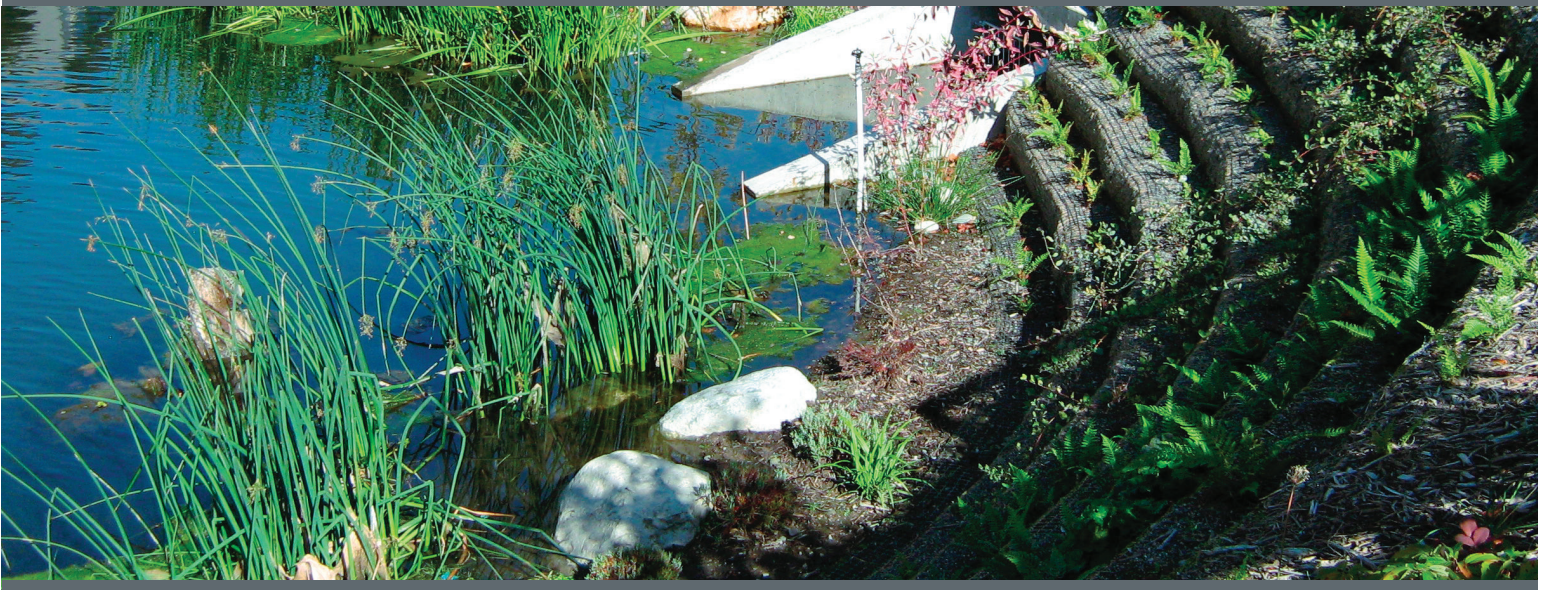
Response: SPS does not have jurisdiction over signage along 17th Ave NW outside of SPS property. SPS suggests contacting the Seattle Department of Transportation to request signage.

APPENDIX D – *Subsurface Exploration and Geotechnical Engineering Report prepared by Associated Earth Sciences, Inc. for Whitman Middle School Athletic Field Lighting*



a s s o c i a t e d
e a r t h s c i e n c e s
i n c o r p o r a t e d

APPENDIX D



*Subsurface Exploration and
Geotechnical Engineering Report*

WHITMAN MIDDLE SCHOOL ATHLETIC FIELD LIGHTING

Prepared For:

D.A. HOGAN & ASSOCIATES, INC.

February 23, 2017

Project No. KE170043A



Associated Earth Sciences, Inc.
911 5th Avenue
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associated
earth sciences
incorporated

February 23, 2017
Project No. KE170043A

D.A. Hogan & Associates, Inc.
119 1st Avenue South, Suite 110
Seattle, Washington 98104

Attention: Mr. Jeffrey A. Burke, P.E.

Subject: Subsurface Exploration and Geotechnical Engineering Report
Whitman Middle School Athletic Field Lighting
9201 15th Avenue NW
Seattle, Washington

Dear Mr. Burke:

Associated Earth Sciences, Inc. (AESI) is pleased to present the enclosed copies of our geotechnical engineering report for the referenced project. This report summarizes the results of our subsurface exploration and geotechnical engineering studies and offers geotechnical engineering recommendations for the design and development of the proposed project.

We have enjoyed working with you on this study and are confident that the recommendations presented in this report will aid in the successful completion of your project. Please contact us if you have any questions or if we can be of additional help to you.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington

Kurt D. Merriman, P.E.
Senior Principal Engineer

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**SUBSURFACE EXPLORATION AND
GEOTECHNICAL ENGINEERING REPORT**

**WHITMAN MIDDLE SCHOOL
ATHLETIC FIELD LIGHTING**

Seattle, Washington

Prepared for:

D.A. Hogan & Associates, Inc.
119 1st Avenue South, Suite 110
Seattle, Washington 98104

Prepared by:

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911 5th Avenue
Kirkland, Washington 98033
425-827-7701
Fax: 425-827-5424

February 23, 2017
Project No. KE170043A

I. PROJECT AND SITE CONDITIONS

1.0 INTRODUCTION

This report presents the results of our subsurface exploration and geotechnical engineering studies for the proposed Whitman Middle School athletic field lighting improvements. The site location is shown on the "Vicinity Map," Figure 1. Existing site features, and the approximate locations of the subsurface explorations completed for this study are presented on the "Site and Exploration Plan," Figure 2. This report is based on a project layout provided to us by D.A. Hogan & Associates, Inc.

1.1 Purpose and Scope

The purpose of this study was to provide subsurface soil and shallow ground water data to be utilized in the design and development of the proposed Whitman Middle School athletic field lighting improvements. Our study included a review of selected available geologic literature, completing five hollow-stem auger soil borings, and performing geologic studies to assess the type, thickness, distribution, and physical properties of the subsurface sediments and shallow ground water. A geotechnical engineering study was completed to formulate general recommendations regarding site preparation, grading and structural fill, and foundation design recommendations for new field lights. This report summarizes our current fieldwork and offers development recommendations based on our present understanding of the project.

1.2 Authorization

Our study was accomplished in general accordance with our proposal dated January 27, 2017. This report has been prepared for the exclusive use of D.A. Hogan & Associates, Inc., and its agents, for specific application to this project. Within the limitations of scope, schedule, and budget, our services have been performed in accordance with generally accepted geotechnical engineering and engineering geology practices in effect in this area at the time our report was prepared. No other warranty, express or implied, is made.

2.0 PROJECT AND SITE DESCRIPTION

The project site is that of the existing athletic fields at Whitman Middle School in Seattle, Washington. The project area includes existing baseball and soccer fields to the west of the main school building. The existing soccer field and baseball infield are synthetic turf playfields designed and constructed in 2005 - 2007. We understand that the proposed project will

include the placement of steel light poles supported by cast-in-place foundation elements poured in drilled holes.

The subject site includes steeply sloping areas leading down to the existing baseball field, both from nearby properties to the west and from the area of the main school building to the east. A staircase leads down to the field from the main school building area. We understand that these slopes are delineated as Steep Slope Environmentally Critical Areas (ECAs) in the City of Seattle Department of Construction and Inspections (SDCI) maps. It is likely that these slopes were created during the original grading for the existing baseball field.

Because the proposed project will not include construction of new buildings and will be limited to the installation of light poles for the existing athletic fields, we have assumed that a detailed analysis of the existing slopes around the perimeter of the project is not needed. Typically, such analyses are required if structures are planned adjacent to slopes, or if substantial cuts or fills are proposed that could affect slope stability.

3.0 SITE EXPLORATION

We completed five hollow-stem auger borings at the locations shown on Figure 2. The borings were completed by advancing a 3-inch inside-diameter, hollow-stem auger with a track-mounted drill rig. During the drilling process, samples were obtained at generally 2.5- to 5-foot-depth intervals. The exploration borings were continuously observed and logged by an engineer from our firm. The various types of soils, as well as the depths where characteristics of the soils changed, are indicated on the exploration logs presented in the Appendix of this report. The exploration logs presented in the Appendix are based on the field logs, drilling action, and inspection of the samples secured. Our explorations were approximately located by measuring from known site features shown on the drawing that was provided to us. Because of the nature of exploratory work, interpolation of subsurface conditions between field explorations is necessary. Differing subsurface conditions may be present due to the random nature of natural sediment deposition and the alteration of topography by past grading and filling. The nature and extent of any variations between the field explorations may not become fully evident until construction. If variations are observed at the time of construction, it may be necessary to re-evaluate specific recommendations in this report and make appropriate changes.

Disturbed, but representative samples were obtained by using the modified Standard Penetration Test (SPT) procedure. This test and sampling method consists of driving a 2-inch outside-diameter, split-barrel sampler a distance of 18 inches into the soil with a 140-pound hammer free-falling a distance of 30 inches. The number of blows for each 6-inch interval is recorded, and the number of blows required to drive the sampler the final 12 inches is known

as the Standard Penetration Resistance (“N”) or blow count. If a total of 50 is recorded within one 6-inch interval, the blow count is recorded as the number of blows for the corresponding number of inches of penetration. The resistance, or N-value, provides a measure of the relative density of granular soils or the relative consistency of cohesive soils; these values are plotted on the attached exploration boring logs.

The samples obtained from the split-barrel sampler were classified in the field and representative portions placed in watertight containers. The samples were then transported to our laboratory for further visual classification and laboratory testing, as necessary.

4.0 SUBSURFACE CONDITIONS

Subsurface conditions on the project site were inferred from the field explorations conducted for this study, visual reconnaissance of the site, and a review of selected applicable geologic literature. As shown on the field logs, most of our exploration borings encountered surficial fill. Observed fill depths are depicted on exploration logs in the Appendix. Below the fill, our exploration borings encountered generally dense to very dense sand with some silt and gravel interpreted as advance outwash sediments.

4.1 Stratigraphy

Fill

Three of the five exploration borings depicted on Figure 2 encountered existing fill that was observed to range from 2 to 9 feet thick. The below Table 1 summarizes the depth of the fill encountered at each exploration location.

Table 1

Exploration Boring	Depth of fill encountered (in feet below the ground surface)
EB-1	3
EB-2	2
EB-3	0
EB-4	9
EB-5	0

The existing fill was typically loose to medium dense and typically consisted of silty sand with gravel and variable organic content, including trace amounts of charcoal encountered in EB-4.

One should refer to the exploration logs attached with this report for more detailed information regarding the texture, density, and moisture content of the existing fill observed in our explorations.

Vashon Advance Outwash

Exploration borings EB-1 through EB-5 encountered medium dense to very dense sand, stratified in places, with small amounts of silt and fine gravel. These sediments, interpreted as Vashon advance outwash, were deposited by flowing water from the base of the southward advancing Vashon glacial front. The advance outwash has been overridden by several thousand feet of ice resulting in a very dense soil unit. The reduced density observed within a few feet of the original ground surface is interpreted to be due to weathering. Advance outwash sediments are suitable for support of light poles with proper preparation. Reuse of excavated advance outwash sediments in structural fill applications is feasible if such reuse is explicitly allowed by project specifications, and if the material is dried to achieve a moisture condition such that it can be compacted to a firm and unyielding condition at the specified level of compaction.

4.2 Hydrology

Ground water seepage was not encountered in our explorations. Seasonal saturation of shallow soils at this site is expected to occur when perched ground water develops above siltier subsurface materials. Perched ground water occurs when rain or surface water infiltrates through upper, looser, and more permeable soils, such as the fills and weathered surficial soils on the site, and is trapped on top of or in the upper portions of the underlying less-permeable materials. It should be noted that fluctuations in the level of the ground water may occur due to the time of the year, changes in on- and off-site land use, and variations in the amount of rainfall.

4.3 Published Geologic Map

We reviewed a published geologic map of the area (K.G. Troost, D.B. Booth, A.P. Wisher, and S.A. Shimel, 2005, *The Geologic Map of Seattle -- A Progress Report*: U.S. Geological Survey [USGS], Open-File Report OF-2005-1252). The referenced map indicates that the site vicinity is characterized by Vashon advance outwash. Our interpretations of the sediments encountered during our study are in general agreement with this regional geologic map.

II. DESIGN RECOMMENDATIONS

5.0 INTRODUCTION

It is our opinion that, from a geotechnical engineering standpoint, the proposed new light poles are feasible provided that the recommendations contained herein are properly followed. The existing fill is relatively loose and presents some risk of greater than normal post-construction settlement. Light pole foundations should be designed with lateral and vertical capacities that are applicable to the materials in which they are embedded. Existing fill will provide less support to light pole foundations than lodgement till and advance outwash. The depth of weaker surficial soils at each light pole location is expected to be different. We are available to assist in identification of appropriate soil support parameters to be used at specific light locations, as requested.

6.0 EROSION HAZARDS AND MITIGATION

The erosion potential of the site soils is generally low to moderate, and high along steeply-sloping areas. Maintaining cover measures atop disturbed ground typically provides the greatest reduction to the potential generation of turbid runoff and sediment transport. During the local wet season (October 31st through March 31st), exposed soil should not remain uncovered for more than 2 days unless it is actively being worked. Ground-cover measures can include erosion control matting, plastic sheeting, straw mulch, crushed rock or recycled concrete, or mature hydroseed.

Project planning and construction should follow local standards of practice with respect to temporary erosion and sedimentation control (TESC). Best management practices (BMPs) should include but not be limited to:

- Provide storm drain inlet protection;
- Route surface water away from work areas;
- Keep staging areas and travel areas clean and free of track-out;
- Cover work areas and stockpiled soils when not in use;
- Complete earthwork during dry weather and site conditions, if possible.

7.0 SITE PREPARATION

Site preparation for the planned light poles should include removal of all brush, debris, and any other deleterious materials in the immediate construction zone. Vegetation removal should be kept to the minimum required for site access and construction with small equipment. These unsuitable materials should be properly disposed of. Additionally, any areas of organic topsoil should be removed and the remaining roots grubbed. Areas where loose surficial soils exist due to grubbing operations should be considered as fill to the depth of disturbance and treated as subsequently recommended for structural fill placement. Any buried utilities should be removed or relocated if they are under building areas. The resulting depressions should be backfilled with structural fill, as discussed under the "Structural Fill" section of this report.

7.1 Permanent Cut and Fill Slopes

We do not anticipate that significant new permanent cut and fill slopes will be necessary for this project. However, the following recommendations may be applied to slopes shorter than 8 feet in height, if needed.

Permanent cut and structural fill slopes should be graded no steeper than 2H:1V (Horizontal:Vertical). Slopes should be hydroseeded as soon as possible after grading. Cut slopes in natural soils that are steeper than 2H:1V may be protected by a rockery up to 4 feet tall or an engineered retaining wall. Rockeries should not be used to face fills unless the fills are reinforced. Unsupported temporary cut slopes into unsaturated existing fill should be made no steeper than 1.5H:1V. Unsupported temporary cuts in unsaturated advance outwash sediments may be planned at 1H:1V or flatter. Actual cut slope angles may have to be adjusted depending upon actual field conditions at the time of construction.

8.0 STRUCTURAL FILL

All references to structural fill in this report refer to subgrade preparation, fill type, placement, and compaction of materials, as discussed in this section. Our recommendations for the placement of structural fill are presented in the following sections.

8.1 Fill Placement

After stripping, excavation, and any required overexcavation have been performed to the satisfaction of the geotechnical engineer/engineering geologist, the upper 12 inches of exposed ground should be recompacted to 90 percent of the modified Proctor maximum density using *American Society for Testing and Materials* (ASTM) D-1557 as the standard. If the subgrade contains too much moisture, adequate recompaction may be difficult or impossible to obtain

and should probably not be attempted. In lieu of recompaction, the area to receive fill should be blanketed with washed rock or quarry spalls to act as a capillary break between the new fill and the wet subgrade. Where the exposed ground remains soft and further overexcavation is impractical, placement of an engineering stabilization fabric may be necessary to prevent contamination of the free-draining layer by silt migration from below.

After recompaction of the exposed ground is tested and approved, or a free-draining rock course is laid, structural fill may be placed to attain desired grades. Structural fill is defined as non-organic soil, acceptable to the geotechnical engineer, placed in maximum 8-inch loose lifts, with each lift being compacted to 95 percent of the modified Proctor maximum density using ASTM D-1557 as the standard. In the case of utility trench filling, the backfill may also need to be placed and compacted in accordance with current local codes and standards. The top of the compacted fill should extend horizontally outward a minimum distance of 3 feet beyond the locations of athletic field and pavement edges before sloping down at a maximum angle of 2H:1V.

The contractor should note that any proposed fill soils must be evaluated by Associated Earth Sciences, Inc. (AESI) prior to their use in fills. This would require that we have a sample of the material 72 hours in advance of filling activities to perform a Proctor test and determine its field compaction standard. Soils in which the amount of fine-grained material (smaller than the No. 200 sieve) is greater than approximately 5 percent (measured on the minus No. 4 sieve size) should be considered moisture-sensitive. Use of moisture-sensitive soil in structural fills should be limited to favorable dry weather conditions. The on-site soils contain variable amounts of silt and are considered moisture-sensitive. Existing fill was observed to contain organic material in some areas, and excessive organic content is not suitable in structural fill applications. Existing soils wetter than optimum moisture content for compaction purposes will not be available for reuse in structural fill applications without drying during favorable dry site and weather conditions. The reuse of on-site soils in structural fill applications is contingent on removal of excessive organic material, moisture-conditioning to a moisture content that allows compaction to a firm and unyielding condition at the specified level, and is only permitted if specifically allowed by project plans and specifications.

Construction equipment traversing the site when the soils are wet can cause considerable disturbance. If fill is placed during wet weather or if proper compaction cannot be obtained, a select import material consisting of a clean, free-draining gravel and/or sand should be used. Free-draining fill consists of non-organic soil with the amount of fine-grained material limited to 5 percent by weight when measured on the minus No. 4 sieve fraction with at least 25 percent retained on the No. 4 sieve.

9.0 LIGHT POLE FOUNDATIONS

We anticipate that light pole foundations for this project will consist of concrete piers cast neat against the sidewalls of drilled holes without the use of forms.

9.1 Vertical Compressive Capacities

For this project, we anticipate that lateral capacities will be the most critical design factor for the light pole foundations, and will likely exert the most control over the depth of embedment. We recommend that the end-bearing portion of the allowable axial compressive capacity be assumed to be 500 pounds per square foot (psf) for light poles embedded at least 5 feet below the ground surface. Vertical capacity can also be achieved through friction along the shafts of the poles, as described below.

9.2 Frictional Resistance

For frictional resistance along the shaft of the drilled piers used for light pole foundations, acting both in compression and in uplift, an allowable skin friction value of 250 psf for the existing fill is recommended; a value of 500 psf may be used for advance outwash. We recommend that frictional resistance be neglected in the uppermost 2 feet below the ground surface. The allowable skin friction value includes a safety factor of at least 2.0.

9.3 Lateral Capacities

Passive Pressure Method

Lateral loads on the proposed light pole foundations, caused by seismic or transient loading conditions, may be resisted by passive soil pressure against the side of the foundation. An allowable passive earth pressure of 200 pounds per cubic foot (pcf), expressed as an equivalent fluid unit weight, may be used for that portion of the foundation embedded within existing fill. A value of 400 pcf may be used in advance outwash. The above values only apply to foundation elements cast "neat" against undisturbed soil. For new structural fill placed around the pier shaft, a passive earth pressure value of 250 pcf is recommended. All fill must be placed as structural fill and compacted to at least 95 percent of ASTM D-1557. Passive values presented are assumed a triangular pressure distribution over 2-pier diameters beginning at the surface and held at a constant depth greater than 8 feet. The triangular pressure distribution is truncated above 2 feet.

Light Pole Foundation Construction Considerations

In our opinion, the light pole foundation excavations will need to be cased during drilling to facilitate construction and limit caving. The contractor should include temporary casing for the

light pole foundation holes in their base bid, in our opinion. Though not observed in our exploration borings for this project, advance outwash typically contains occasional boulders. The contractor should have the ability to excavate and remove obstacles encountered during light pole foundation drilling, or light pole locations should be shifted to avoid obstacles that are encountered.

10.0 PROJECT DESIGN AND CONSTRUCTION MONITORING

We are available to provide additional geotechnical consultation as the project design develops and possibly changes from that upon which this report is based. We recommend that AESI perform a geotechnical review of the plans prior to final design completion. In this way, our earthwork and foundation recommendations may be properly interpreted and implemented in the design.

We are also available to provide geotechnical engineering and monitoring services during construction. The integrity of the light poles depends on proper site preparation and construction procedures. In addition, engineering decisions may have to be made in the field in the event that variations in subsurface conditions become apparent. Construction monitoring services are not part of this current scope of work. If these services are desired, please let us know, and we will prepare a cost proposal.

We have enjoyed working with you on this study and are confident that these recommendations will aid in the successful completion of your project. If you should have any questions or require further assistance, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Kirkland, Washington

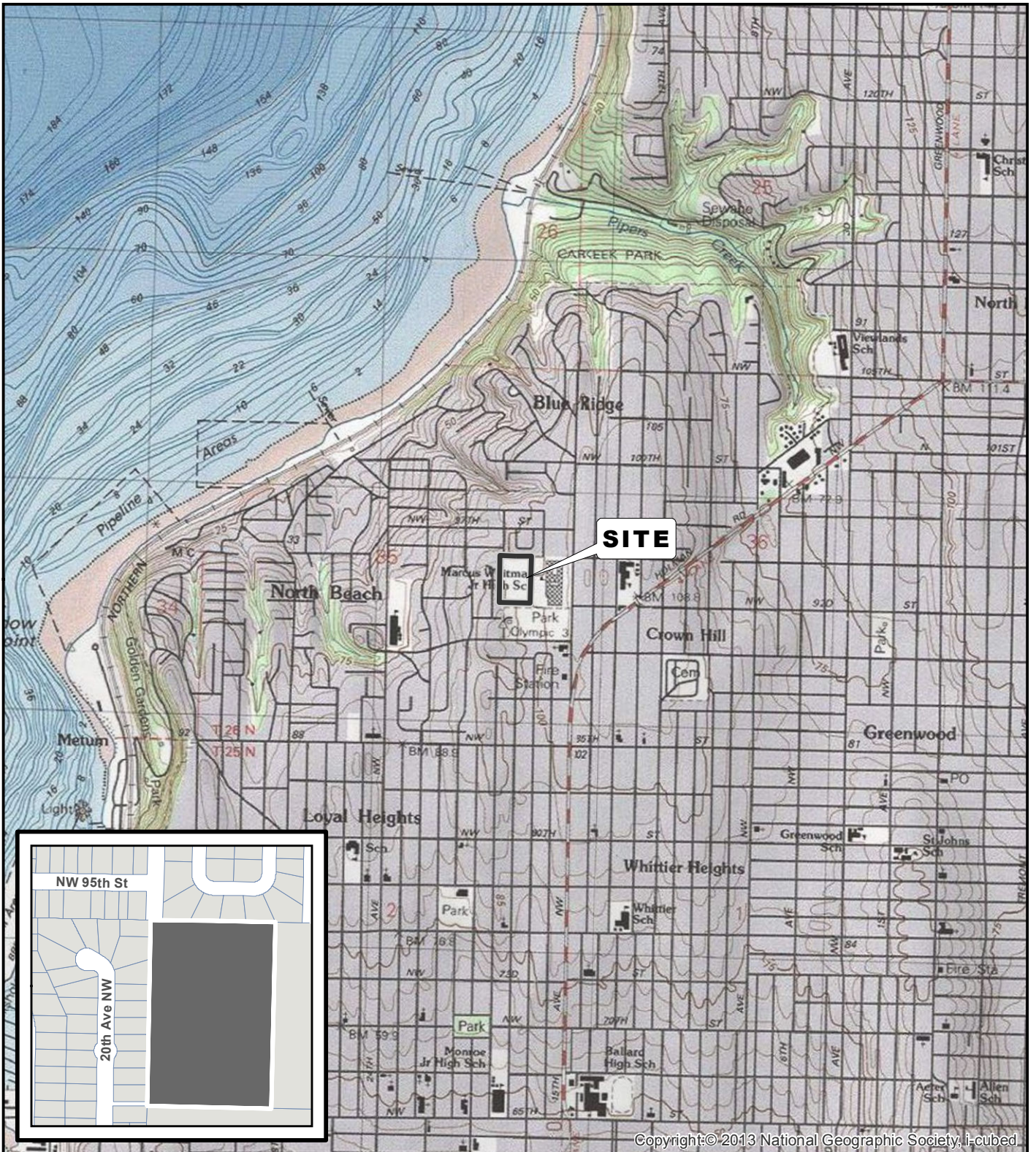


Jeffrey P. Laub, L.G., L.E.G.
Senior Project Engineering Geologist

Kurt D. Merriman, P.E.
Senior Principal Engineer

Attachments: Figure 1: Vicinity Map
 Figure 2: Site and Exploration Plan
 Appendix: Exploration Logs

Document Path: G:\GIS_Projects\Templates\VM_Template\VM_MXD\170043 Fig1 VM_Whitman.mxd

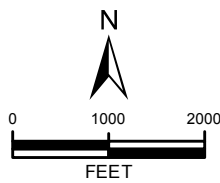


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DATA SOURCES / REFERENCES:
 USGS: 24K SERIES TOPOGRAPHIC MAPS
 KING CO: STREETS, CITY LIMITS, PARCELS 2016

LOCATIONS AND DISTANCES SHOWN ARE APPROXIMATE



NOTE: BLACK AND WHITE
 REPRODUCTION OF THIS COLOR
 ORIGINAL MAY REDUCE ITS
 EFFECTIVENESS AND LEAD TO
 INCORRECT INTERPRETATION

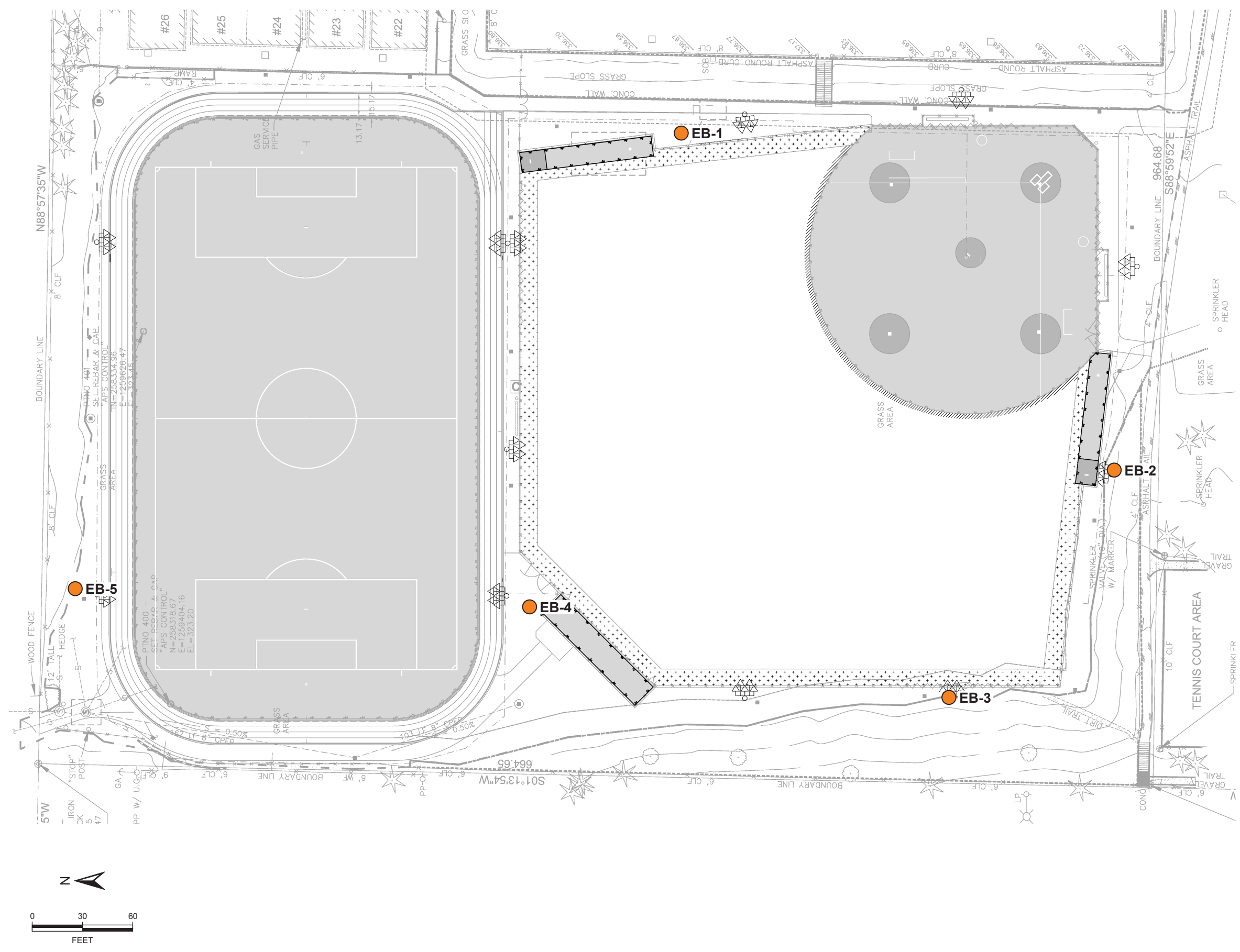


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VICINITY MAP
 WHITMAN MIDDLE SCHOOL ATHLETIC
 FIELD LIGHTING
 SEATTLE, WASHINGTON

PROJ NO.	DATE:	FIGURE:
KE170043A	2/17	1

170043 Whitman MS \170043 F2 Site-Explr.cdr



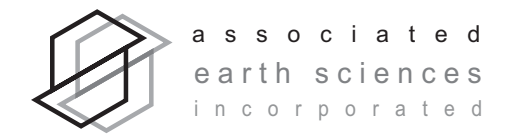
LEGEND:
 ● EB EXPLORATION BORING

CONTOUR INTERVAL = UNKNOWN

NOTE: LOCATION AND DISTANCES SHOWN ARE APPROXIMATE.

NOTES:
 1. BASE MAP REFERENCE: D.A. HOGAN, WHITMAN MIDDLE SCHOOL, LAYOUT PLAN, SHEET W-1.1, 2/14/17.

BLACK AND WHITE REPRODUCTION OF THIS COLOR ORIGINAL MAY REDUCE ITS EFFECTIVENESS AND LEAD TO INCORRECT INTERPRETATION.



SITE AND EXPLORATION PLAN

WHITMAN MS ATHLETIC FIELD LIGHTING
 SEATTLE, WASHINGTON

PROJ NO.	DATE:	FIGURE:
KE170043A	2/17	2

APPENDIX

Exploration Logs

Soil Classification		Terms Describing Relative Density and Consistency		
		Density	SPT ⁽²⁾ blows/foot	
Coarse-Grained Soils - More than 50% ⁽¹⁾ Retained on No. 200 Sieve	Gravels - More than 50% ⁽¹⁾ of Coarse Fraction Retained on No. 4 Sieve	GW	Well-graded gravel and gravel with sand, little to no fines	Test Symbols G = Grain Size M = Moisture Content A = Atterberg Limits C = Chemical DD = Dry Density K = Permeability
		GP	Poorly-graded gravel and gravel with sand, little to no fines	
		GM	Silty gravel and silty gravel with sand	
	Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	GC	Clayey gravel and clayey gravel with sand	
		SW	Well-graded sand and sand with gravel, little to no fines	
		SP	Poorly-graded sand and sand with gravel, little to no fines	
Fine-Grained Soils - 50% ⁽¹⁾ or More Passes No. 200 Sieve	Sands - 50% ⁽¹⁾ or More of Coarse Fraction Passes No. 4 Sieve	SM	Silty sand and silty sand with gravel	
		SC	Clayey sand and clayey sand with gravel	
		ML	Silt, sandy silt, gravelly silt, silt with sand or gravel	
	Silt and Clays Liquid Limit Less than 50	CL	Clay of low to medium plasticity; silty, sandy, or gravelly clay, lean clay	
		OL	Organic clay or silt of low plasticity	
		Silt and Clays Liquid Limit 50 or More	MH	Elastic silt, clayey silt, silt with micaceous or diatomaceous fine sand or silt
CH	Clay of high plasticity, sandy or gravelly clay, fat clay with sand or gravel			
OH	Organic clay or silt of medium to high plasticity			
Highly Organic Soils	PT	Peat, muck and other highly organic soils		

Component Definitions	
Descriptive Term	Size Range and Sieve Number
Boulders	Larger than 12"
Cobbles	3" to 12"
Gravel	3" to No. 4 (4.75 mm)
Coarse Gravel	3" to 3/4"
Fine Gravel	3/4" to No. 4 (4.75 mm)
Sand	No. 4 (4.75 mm) to No. 200 (0.075 mm)
Coarse Sand	No. 4 (4.75 mm) to No. 10 (2.00 mm)
Medium Sand	No. 10 (2.00 mm) to No. 40 (0.425 mm)
Fine Sand	No. 40 (0.425 mm) to No. 200 (0.075 mm)
Silt and Clay	Smaller than No. 200 (0.075 mm)

⁽³⁾ Estimated Percentage		Moisture Content
Component	Percentage by Weight	
Trace	<5	Dry - Absence of moisture, dusty, dry to the touch Slightly Moist - Perceptible moisture Moist - Damp but no visible water Very Moist - Water visible but not free draining Wet - Visible free water, usually from below water table
Some	5 to <12	
<i>Modifier</i> (silty, sandy, gravelly)	12 to <30	
<i>Very modifier</i> (silty, sandy, gravelly)	30 to <50	

Symbols	
Sampler Type	Description
2.0" OD Split-Spoon Sampler (SPT)	3.0" OD Split-Spoon Sampler
Bulk sample	3.25" OD Split-Spoon Ring Sampler
Grab Sample	3.0" OD Thin-Wall Tube Sampler (including Shelby tube)
	Portion not recovered

⁽¹⁾ Percentage by dry weight	⁽⁴⁾ Depth of ground water
⁽²⁾ (SPT) Standard Penetration Test (ASTM D-1586)	▼ ATD = At time of drilling
⁽³⁾ In General Accordance with Standard Practice for Description and Identification of Soils (ASTM D-2488)	▽ Static water level (date)
	⁽⁵⁾ Combined USCS symbols used for fines between 5% and 12%

Classifications of soils in this report are based on visual field and/or laboratory observations, which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field or laboratory testing unless presented herein. Visual-manual and/or laboratory classification methods of ASTM D-2487 and D-2488 were used as an identification guide for the Unified Soil Classification System.





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Exploration Log

Project Number
KE170043A

Exploration Number
EB-1

Sheet
1 of 1

Project Name Whitman Middle School Athletic Field Lighting Ground Surface Elevation (ft) ~323
 Location Seattle, WA Datum N/A
 Driller/Equipment Boretac / Track Drill Date Start/Finish 2/10/17, 2/10/17
 Hammer Weight/Drop 140# / 30" Hole Diameter (in) 8 inches

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests		
							10	20	30	40			
				Fill									
				Gray-brown, silty, fine to medium SAND, some fine gravel, trace rootlets; from cuttings.									
				Becomes red-brown, fine to medium SAND some fine gravel at 2 feet.									
		S-1		Upper 2 inches of sample: Medium dense, moist, reddish brown, silty, fine to medium SAND, trace fine gravel (SM).		10							
				Vashon Advance Outwash		13							
				Medium dense, moist, gray-brown, fine to medium SAND, trace silt; massive (SP).		14							
5		S-2		Dense, moist, gray-brown, fine to medium SAND, trace silt; massive (SP).		12							
						17							
						18							
		S-3		As above.		13							
						18							
						14							
10		S-4		Very dense, moist, gray-brown, fine SAND, trace to some silt; stratified (SP-SM).		23							
						34							
						37							
15		S-5		Very dense, moist, gray-brown, medium SAND, trace to some fine gravel, trace silt; massive (SP).		30							
						36							
						42							
20		S-6		Very dense, moist, gray-brown, fine to medium SAND; massive (SP).		23							
						33							
						33							
				Bottom of exploration boring at 21.5 feet No ground water encountered.									

AESIBOR 170043.GPJ February 14, 2017

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample
- M - Moisture
- Water Level ()
- Water Level at time of drilling (ATD)

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Exploration Log

Project Number
KE170043A

Exploration Number
EB-2

Sheet
1 of 1

Project Name Whitman Middle School Athletic Field Lighting Ground Surface Elevation (ft) ~323
 Location Seattle, WA Datum N/A
 Driller/Equipment Boretac / Track Drill Date Start/Finish 2/10/17, 2/10/17
 Hammer Weight/Drop 140# / 30" Hole Diameter (in) 8 inches

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot				Other Tests
								10	20	30	40	
				Fill Brown, fine to medium SAND, some silt; from cuttings.								
		S-1		Weathered Vashon Advance Outwash Medium dense, moist, brown, fine to medium SAND, some fine to coarse gravel; stratified (SP). Reddish brown, silty, fine SAND lens (1 inch thick) at ~3 feet.			5 7 17			▲24		
5		S-2		Vashon Advance Outwash Very dense, moist, gray-brown, fine to medium SAND, trace fine gravel, trace silt; stratified (SP). Reddish brown lenses (<1/2 inch thick) at ~5.5 and ~6 feet.			11 41 20					▲61
		S-3		Very dense, moist, gray-brown, fine to medium SAND, trace silt; stratified (SP). Trace rootlets at 7.5 feet.			18 25 35					▲60
10		S-4		Very dense, moist, gray-brown, fine to medium SAND, trace to some fine gravel; stratified (SP). Reddish brown layer in bottom 4 inches of sample.			21 28 27					▲55
15		S-5		Dense, moist, gray-brown, fine to medium SAND, trace fine to coarse gravel; stratified (SP).			26 30 19					▲49
20		S-6		Dense, moist, gray-brown, fine to medium SAND; massive (SP).			12 15 15					▲30
				Bottom of exploration boring at 21.5 feet No ground water encountered.								

AESIBOR 170043.GPJ February 14, 2017

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample
- M - Moisture
- Water Level ()
- Water Level at time of drilling (ATD)

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Exploration Log

Project Number
KE170043A

Exploration Number
EB-3

Sheet
1 of 1

Project Name Whitman Middle School Athletic Field Lighting Ground Surface Elevation (ft) ~323
 Location Seattle, WA Datum N/A
 Driller/Equipment Boretac / Track Drill Date Start/Finish 2/10/17, 2/10/17
 Hammer Weight/Drop 140# / 30" Hole Diameter (in) 8 inches

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/6"	Blows/Foot				Other Tests
								10	20	30	40	
				Vashon Advance Outwash Gray-brown, fine to medium SAND; from cuttings.								
		S-1		Very dense, moist, gray-brown, fine to medium SAND, trace fine gravel; massive (SP).			13 24 29					▲53
5		S-2		Dense, moist, gray-brown, fine to medium SAND, trace silt; massive (SP).			23 23 26					▲49
		S-3		Very dense, moist, gray-brown, fine to medium SAND, trace silt; massive (SP). Coarse SAND seam (3 inches thick) at 7.75 feet.			19 31 39					▲70
10		S-4		Very dense, moist, gray-brown, fine to medium SAND, trace silt; massive (SP).			24 34 40					▲74
15		S-5		Very dense, moist, gray-brown, fine to medium SAND, trace fine gravel, trace silt; stratified (SP).			21 41 50/5"					▲91/11"
20		S-6		As above.			50/6"					▲50/6"
				Bottom of exploration boring at 20.5 feet No ground water encountered.								

AESIBOR 170043.GPJ February 14, 2017

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample
- M - Moisture
- Water Level ()
- Water Level at time of drilling (ATD)

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Exploration Log

Project Number
KE170043A

Exploration Number
EB-4

Sheet
1 of 1

Project Name: Whitman Middle School Athletic Field Lighting Ground Surface Elevation (ft): ~323
 Location: Seattle, WA Datum: N/A
 Driller/Equipment: Boretac / Track Drill Date Start/Finish: 2/10/17, 2/10/17
 Hammer Weight/Drop: 140# / 30" Hole Diameter (in): 8 inches

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests
							10	20	30	40	
Fill											
				Brown, silty, fine to medium SAND, trace to some fine gravel; from cuttings.							
		S-1		Medium dense, moist, brown, silty, fine to medium SAND, trace charcoal (SM).		7 8 6		▲14			
5				Loose, moist, brown, silty, fine to medium SAND (SM). Organic layer (<1/4 inch thick) at ~5.5 feet.		2 2 2		▲4			
		S-2									
		S-3		Loose, moist, gray-brown, silty, fine to medium SAND (SM). Becomes fine to medium SAND at bottom 3 inches of sample.		4 4 5		▲9			
Weathered Vashon Advance Outwash											
10		S-4		Upper 5 inches of sample: Medium dense, moist, brown, fine to medium SAND, trace to some silt (SP-SM). Bottom 11 inches of sample: Medium dense, moist, gray-brown, fine to medium SAND, trace silt (SP). Brown layer (<1/4 inch thick) at ~11.25 feet.		6 9 11		▲20			
		S-5		Medium dense, moist, gray-brown, fine to medium SAND, trace silt; stratified (SP).		10 13 15		▲28			
Vashon Advance Outwash											
15		S-6		Dense, moist, gray-brown, fine SAND, trace to some silt; stratified (SP-SM).		15 17 23		▲40			
		S-7		Dense, moist, gray-brown, fine SAND, trace to some silt; stratified (SP-SM). Reddish stained layering at ~18 feet.		15 22 23		▲45			
20		S-8		Very dense, moist, gray-brown, fine SAND, trace to some silt; stratified (SP-SM).		19 25 25		▲50			
				Bottom of exploration boring at 21.5 feet No ground water encountered.							

AESIBOR 170043.GPJ February 14, 2017

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample
- M - Moisture
- Water Level ()
- Water Level at time of drilling (ATD)

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Exploration Log

Project Number
KE170043A

Exploration Number
EB-5

Sheet
1 of 1

Project Name Whitman Middle School Athletic Field Lighting Ground Surface Elevation (ft) ~323
 Location Seattle, WA Datum N/A
 Driller/Equipment Boretac / Track Drill Date Start/Finish 2/10/17, 2/10/17
 Hammer Weight/Drop 140# / 30" Hole Diameter (in) 8 inches

Depth (ft)	S T	Samples	Graphic Symbol	DESCRIPTION	Well Completion	Water Level	Blows/Foot				Other Tests
							10	20	30	40	
				Weathered Vashon Advance Outwash Brown, fine to medium SAND, trace to some silt; from cuttings.							
		S-1		Vashon Advance Outwash Medium dense, moist, gray-brown, fine to medium SAND, trace silt; stratified (SP). Brown layer (~1/2 inch thick) at ~3 feet.		8 11 15		▲26			
5		S-2		Dense, moist, gray-brown, fine to medium SAND, trace silt; massive (SP).		12 18 17		▲35			
		S-3		Very dense, moist, gray-brown, fine to medium SAND, trace silt; massive (SP).		16 24 29					▲53
10		S-4		As above.		18 28 30					▲58
15		S-5		As above; stratified.		25 28 31					▲59
20		S-6		Very dense, moist, gray-brown, fine SAND, trace silt; massive (SP).		28 50/6"					▲50/6"
				Bottom of exploration boring at 21 feet No ground water encountered.							

Sampler Type (ST):

- 2" OD Split Spoon Sampler (SPT)
- 3" OD Split Spoon Sampler (D & M)
- Grab Sample
- No Recovery
- Ring Sample
- Shelby Tube Sample
- M - Moisture
- Water Level ()
- Water Level at time of drilling (ATD)

Logged by: SKL

Approved by: JHS

AESIBOR 170043.GPJ February 14, 2017