ATTACHMENT Z: DRAFT SUSTAINABILITY REPORT

Lynnwood Link Extension | Northgate Station to Lynnwood Transit Center

L200

Draft Sustainability Report Update

IP90% Design Submittal

July 6th, 2018

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CITY OF SHORELINE

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1.0 INTRODUCTION

Background

The Lynnwood Link Extension Project is an 8.5-mile extension of light rail from Seattle into neighboring suburban communities to the north. Sound Transit is currently in Final Design for the project; most recently an in-progress 90% submittal has been published.

Consistent with its board-adopted sustainability policy, Sound Transit integrates sustainable design in the development of its capital project. Chapter 30 of Sound Transit's Design Criteria Manual establishes requirements for sustainability-related design approaches, including a sustainability checklist. This checklist identifies both required and optional design elements to be included or considered as part of the planning and design phases of project development.

Purpose

The purpose of this Draft Sustainability Report is to document the results of the review and evaluation conducted by the HNTB|Jacobs Trusted Design Partners final design team (FD team), and Sound Transit sustainability team, regarding integration of sustainability measures into the Lynnwood Link Extension Project, L200, at the In-Progress 90% Milestone, and to address specific City of Shoreline proposed conditions. That evaluation, and the results presented in this report, encompass both refinements and updates to the sustainability measures identified in previous sustainability reports and checklists. The measures selected for inclusion have been, and will continue to be, refined to integrate into Final Design.

A key finding of this report is that while the two Shoreline Link light rail stations shall not pursue Leadership in Energy and Environmental Design (LEED) third-party certification, these stations' sustainability features meet the LEED Silver standards for sustainable design. Our analysis found that the LEED equivalent scores for the two Shoreline stations (145th and 185th) both fall within the LEEDv4 Silver criteria threshold, scoring comparably to the Lynnwood City Center Station.

2.0 SHORELINE PROPOSED CONDITIONS FOR SPECIAL USE PERMIT

This section introduces and addresses the Municipal Code requirements, Guiding Principles, and proposed conditions in relation to sustainability and the special use permit from the City of Shoreline. Sound Transit responses note how each station meets or exceeds sustainability best practices as outlined in the Sound Transit Design Criteria Manual (Chapter 30).

This section also presents all sustainability measures designed & specified within the Lynnwood Link corridor, as outlined in the Draft IP90% L200 Sustainability Checklist (as part of design criteria manual, chapter 30: Sustainability). The HNTB|Jacobs L200 Sustainability Checklist is included as **Appendix A** to this report. Within parentheses below, the checklist number is listed for convenience.

Prior to review of the integrated sustainability components, it is essential to note the additional Lynnwood project context when evaluating sustainability within the Corridor. Due to budget constraints and significant rising local construction cost projections, Sound Transit undertook a corridor-wide value engineering cost reduction exercise in the second half of 2017, to bring the project within budget, where each major project component was independently evaluated for cost-effectiveness, return-on-investment, utilization, safety, and need.

2.1 Sustainable Design Criteria at Sound Transit

As the Sound Transit Design Criteria Manual is referenced in the Shoreline Municipal Code (SMC) 20.30.330(C), the intent of the manual has been included here. The purpose of integrating sustainability into Sound Transit projects is to implement environmental stewardship and sustainable development; reduce environmental risks and liabilities; ensure regulatory compliance; improve environmental performance with a focus on reducing the impacts of our natural resource use and on the long-term operations and maintenance implications of building approaches and materials; identify cost-effective solutions; and enhance public education and outreach around sustainability with regulators, other agencies and stakeholders.

The Sound Transit Sustainable Design Criteria provides guidance for sustainable building and infrastructure and is intended to prioritize the following cascading considerations:

1. Conserve Natural Resources. Design Teams shall strive to:

    a) Use building approaches and materials that result in reduced use of energy and water over the lifetime of the assets being constructed. Maximize efficiency with a focus on energy and water. Focus on energy efficiency opportunities for lighting, HVAC and systems; reduce the use of water through low-flow fixtures, plant selection, planting techniques and irrigation approaches.

    b) Use less. Design facilities and infrastructure to use materials wisely. Consider resource conservation in the composition and durability of the materials selected for use. Where possible, utilize salvaged materials, materials with recycled content or materials with low-embodied energy and water contents.

c) Implement features with restorative functions such as renewable energy production and advanced low-impact development approaches only after conservation efforts have been pursued.

2. Design and build for the long term. Consider the long-term operations and maintenance impacts of facility and infrastructure designs:
    a) Design buildings and infrastructure for long-term use.
    b) Evaluate the use of long lasting products in lieu of replacing items over time. Materials shall be selected based on durability, design life or service life, and maintenance requirements to minimize replacement and maintenance costs.
3. Consider sustainable building and infrastructure solutions in coordination with agency Transit Oriented Development and Access Improvement teams.

A recap of Sound Transit sustainability priorities reads that first and foremost, attention is focused on building design that is both energy efficient and durable, within its available utilities and resources.

2.2 Shoreline Municipal Code & Guiding Principles

The City of Shoreline adopted light rail specific criteria that must be met to obtain approval of the required Special Use Permit (SUP). The adopted criteria includes sustainability in the following section of the Municipal Code:

Shoreline Municipal Code (SMC) 20.30.330(C):

"C. In addition to the criteria in subsection B of this section, a special use permit for a light rail transit system/facilities located anywhere in the City may be granted by the City only if the applicant demonstrates the following standards are met:

1. *The proposed light rail transit system/facilities uses energy efficient and environmentally sustainable architecture and site design consistent with the City's guiding principles for light rail system/facilities and Sound Transit's design criteria manual used for all light rail transit facilities throughout the system and provides equitable features for all proposed light rail transit system/facilities;*
2. *The applicant demonstrates that the design of the proposed light rail transit system/facility is generally consistent with the City's guiding principles for light rail system/facilities."*

In review, it is Sound Transit's belief that the Municipal Code stresses that proposed light rail facilities must be energy efficient, and align to the City's Guiding Principles, and Sound Transit's Design Criteria Manual.

The City of Shoreline has also adopted light rail specific criteria that must be met to obtain approval of the required Special Use Permit (SUP) – known as the Guiding Principles, as referenced in the Municipal Code. The adopted criteria includes sustainability in the following section of the document:

Guiding Principles for Light Rail System/Facilities:

"3. Sustainability – all Sound Transit development should consider sustainable and climate friendly practices such as:

a) *Incorporating energy-efficient and "green building" features, including Low-Impact Development techniques for storm water management;*

b) *Restoring impacted streams, wetlands, and other critical areas and associated buffers;*

c) *Providing information about the functions and values of adjacent critical areas through interpretive signage or other means; and*

d) *Preserving significant trees when possible.*

2.3 Application of Sound Transit Sustainability at Shoreline Stations

Sustainability plays a central role within the design and construction of capital projects at Sound Transit. Energy efficiency, carbon mitigation, emission reduction, and smart allocation of our resources are high priorities, as evidenced by our strict criteria within the Design Criteria Manual and our use of Total Cost of Ownership as a means of evaluating the true cost of design elements. Sound Transit sustainable design criteria prioritizes conservation and efficient building design through use of established building approaches and materials that result in reduced use of energy & water over the lifetime of the building before considering additional features such as renewable energy systems to offset additional energy demands. As a means to ensure our facilities are energy efficient, Sound Transit utilizes the Seattle Energy Code amendments (more stringent) to the Washington State Energy Code (E-1). As a comparison to LEEDv4 standards, which require compliance with ASHRAE 90.1-2010 National energy efficiency standards, independent research confirms that use of the Seattle Energy Code typically provides an energy cost savings of 10% above that of ASHRAE or LEED requirements.

Specific to the stations within the limits of the City of Shoreline, current design includes LED lighting in 24 hr areas (E-14), photocell & occupancy controls (E-8, E-15) to save on energy and maintenance costs, maximization of daylight to reduce lighting loads (E-9), and no upward facing lights to reduce night sky pollution which may otherwise affect avian species and local neighbors (E-12). Advanced energy sub-metering equipment is included for real-time cloud-based monitoring and verification (E-16, E-17) as part of ensuring these buildings operate as intended and reduce costly inefficiencies and risks. Lastly, passive design elements such as high-SRI roofing materials (E-18) and minimal HVAC components (E-5) ensure the overall energy-use intensity index for the building remains low when compared to other similar facility designs.

Site landscaping design at each station prioritizes local, adaptive, and drought tolerant plant species (WL-12, WL-14) combined with an Integrated Pest Management (IPM) Plan (WL-11) and

appropriate soil amendments (WL-9, WL-10) for minimal maintenance. Additionally, landscaping irrigation design has been specified to target at a minimum a 50% reduction in potable water use when compared to industry standard systems (WL-6). Such a target will be achieved through use of drip irrigation systems combined with rain sensors and automatic shutoff valves for leak detection (WL-7). Direct benefits of such measures include potable landscape water savings and additional native habitat and corridor connections for local fauna, while improving local biodiversity.

Green stormwater infrastructure (Low Impact Development) design follows guidance provided in the Design Criteria Manual, Chapter 6, related to sustainability in order to meet the requirements of the 2014 Department of Ecology Stormwater Management Manual for Western Washington. In total, five separate flow-control facilities for non-pollution generating surfaces and separate water-quality facilities for pollution-generating surfaces are proposed. Currently, the 145th and 185th stations within the City of Shoreline, as per geotechnical analysis and testing, do not provide feasible locations for on-site infiltration due to failing to meet the minimum soil drainage rate requirements.

Similar to the measurement & verification efforts for energy management, Sound Transit will also separately meter and monitor all operational landscape water use (WL-2), and independently commission the irrigation system and LID measures at substantial completion (WS-2, WL-8). These efforts will save on energy, water, and operational maintenance.

Choice of materials also play a significant factor in assessing sustainability of our facilities. Sustainable use of materials within the stations ranges the entire material life-cycle, from procurement to salvage and demolition. As part of site preparation, Sound Transit requires the salvage and deconstruction of existing buildings to be demolished, in addition to landscape materials, ensuring maximum reuse of appropriate materials within the greater community (MP-3). Specific to the Lynnwood Link Extension Corridor, Sound Transit held a plant and hardscape salvage event April 7th, 2018, which included salvaged items such as shrubs, grasses, and pavers (MP-6) that would otherwise have been demolished.

As part of material procurement, Sound Transit requires that 25% of total materials include salvaged, renewable, recycled, and/or regionally sourced items, by cost, within the design (MP-1). Materials that pose significant environmental threats, such as refrigerants with CFCs, HCFCs, or Halon, are banned from use (MP-7, MP-8). Exterior materials are also free of zinc, copper, and lead, which would Sound Transit identified otherwise pose potential pollution problems into local groundwater (MP-10).

Over the course of construction, Sound Transit also requires that a minimum 80% of total waste produced as a byproduct of construction be diverted from landfills (MP-2). Lastly, as the stations are equipped for operations, each are provided with appropriate recycling facilities for materials such as glass, paper, cardboard, metal, and plastics (MP-5).

In review, Sound Transit's current station designs for both the 145th and 185th stations meet the sustainability requirements as outlined in our Design Criteria Manual, and align to the guiding principles as written by the City of Shoreline.

2.4 Shoreline Proposed Conditions

In addition to the sustainability elements already included in the project design, City of Shoreline staff have recommended the following draft SUP conditions to confirm that the LLE project will meet the SUP sustainability criterion and guiding principles. Each proposed condition has been addressed by Sound Transit and construction staff below:

2.4.1 Solar/Photovoltaic Power

Sound Transit shall design both stations/garages with conduit, space for related equipment, and building design compatible for future installation of solar panels in the following locations at the Shoreline South/145th Station and Shoreline North/185th Station:

- *South facing shear wall of the parking garage for the Shoreline South/145th Station,*
- *South facing roof over the stairs at the north end of the platforms, and potentially for the roof of the ancillary building at the Shoreline North/185th Station,*
- *South facing canopy over the south entrance to the platforms located on the plaza fronting on NE 185th Street for the Shoreline North/185th Station, and*
- *Consider other roof or wall areas that are well suited to photo voltaic equipment installation.*

The City or other groups in the community may be interested in the future to partner on installation of photovoltaic equipment or it may become more financially feasible to add solar power equipment as technology advances in the future. It is much harder and more expensive to add the conduit for such equipment installation after a building is constructed, but the equipment itself can be added at any time.

Sound Transit Response: During the Lynnwood Link Corridor cost cutting exercises, Sound Transit determined that pursuing renewable energy in the form of PV on the entire LLE corridor was not a cost effective expenditure, over the life of the building, of sustainability dollars for the following reasons:

a) Emissions/GHGs: It was determined not to be the most cost effective means of reducing greenhouse gases from overall electricity usage. Utility-provided enrollment programs such as Puget Sound Energy's "Green Direct" program provide a more cost effective avenue to achieve this priority. While electricity derived from Seattle City Light is 90% hydro (which has both pros and cons as a sustainable source, but is defined as carbon neutral), over 50% of electricity derived in Puget Sound Energy territory is from coal and natural gas.

b) Energy Generation: With limited resources, Sound Transit has focused its' PV installations in utility service areas determined to have the highest greenhouse gas emissions, and therefor lowest quality air emissions in the region. Through a regional analysis of the Sound Transit system, we have found that to ensure equality in sustainability across our entire system, we have had to focus on reducing our energy needs from the dirtier areas.

An initial evaluation of the Lynnwood Link Corridor for suitable PV placement was undertaken as part of the Preliminary Engineering process prior to the 60% set being released, as required by the Sound Transit Design Criteria Manual, Chapter: 30 checklist. The report evaluated the corridor and identified three locations for further evaluation: The Lynnwood City Center Station parking garage, the Lynnwood station canopy, and the 145th Street station in Shoreline. The Preliminary Engineering recommendation was that of the three proposed locations, the most feasible location would be at the Lynnwood City Center Station parking garage.

Subsequent evaluation of the proposed most feasible location at LCCS found that the total cost of ownership of such a system, measured at 25 years, would be a net negative cost to the owner of $245,000 to $270,000, signifying there would not be a return on investment should PV be incorporated into any design. In this case, PV was not shown to provide an economic or social benefit to the design, and only a marginal environmental return.

The final design team alternatively evaluated building-integrated PV (BIPV) for both Shoreline stations, though as implementations costs on a 'per/watt' basis would be higher than standard PV, it was not recommended to pursue.

Following these analyses, and as part of the cost reduction evaluation in autumn 2017, it was recommended that PV be removed from the project due to better use of limited resources within the project design.

2.4.2 Small Scale Solar Equipment

Sound Transit shall use small scale solar power equipment for minor electrical elements (e.g., CCTV, emergency phones, and illumination, where panels could be located with the equipment or locally on bus shelters, poles, etc.).

Sound Transit Response: The intent of using small scale solar is to reduce on-site energy requirements by offsetting the energy load through on-site generation. Sound Transit supports use of solar, though values efficient building design before considering on-site renewables to recover building inefficiencies. On equipment such as CCTV and emergency phones, Sound Transit's safety requirements for these features (as also outlined in Guiding Principle 4C), such as dedicated electricity in case of emergencies, would make small scale solar a redundant measure for these services, and provide a marginal return on initial cost over the life of the system.

After further evaluation, bike lockers were identified as an area where small scale solar would be feasible due to the energy need, their remote locations, and lack of conflict with safety requirements. As this would be a good location for such application, small scale solar shall be used as part of the new on-demand bike lockers. While procurement for these is not yet finalized and a manufacturer has not been selected, criteria shall note these to be solar powered.

2.4.3 Car Sharing Program

Sound Transit shall actively seek a car sharing program to be located at the Shoreline South/145th and Shoreline North/185th Stations and shall physically designate parking spaces in each parking garage as car sharing spaces by the opening of revenue service for the LLE Light Rail Project.

Sound Transit Response: Sound Transit aims to promote multiple forms of alternative transportation to/from the stations in Shoreline. As such, station garage designs shall incorporate 5% of stalls designated for carpools (S-1), and bicycle parking and lockers shall be included at both stations (S-2). Additionally, each station is designed to manage local bus infrastructure for connections to/from each station, providing a hub of options to riders. After further evaluation, station designs shall also incorporate shared-vehicle parking (car-sharing programs) as a means to provide additional options to riders, achieved by dedicated stalls within each garage for such uses while also actively seeking partnerships with programs (S-5).

Within the facilities for both the 145th and 185th stations, physically designated parking spaces for car sharing programs shall be included. As part of Sound Transit's ongoing efforts to actively promote alternative forms of transportation to/from light rail facilities, we plan to seek partnerships with car-sharing services such as Car2Go, ReachNow, and ZipCar, which will be coordinated by the PEPD Office of Planning and Innovation. Alternative rideshare services such as Uber and Lyft will also be allowed to use the patron drop-off areas as needed. Please note that due to federal funding restrictions, we are unable to list company-specific names.

While signage is not currently present in the IP90%, parking signage is done after construction, before the facility is to open, as this is not something within the contractor's scope of work. Sound Transit will work with the City of Shoreline to determine the appropriate percent of stalls designated to these services in order to accurately plan for their inclusion. We would anticipate 1-2% of stalls (5-10 per garage) to be used for such purposes, with opportunity for growth.

2.4.4 Electric Vehicle Charging Stations

Consistent with Sound Transit's Design Criterial Manual, Chapter 30 Sustainability, at both Shoreline parking garages Sound Transit shall provide parking stalls with access to receptacles to recharge LEFE vehicles for up to three percent (3%) as follows:

- *Install electrical vehicle (EV) charging stations for a minimum of one percent of the total number of parking spaces (5 stalls per garage), and*
- *Install conduit for future EV charging stations for a minimum of two percent of the total number of parking spaces.*

Sound Transit Response: It is a high priority within Sound Transit Sustainability to promote use of electricity as energy source over carbon-intensive options. Electric vehicle charging stations were evaluated for the entire Lynnwood Link Corridor extension during cost-cutting exercises of fall 2017. During this exercise, charging stations were determined to provide less benefit or return-on-investment to the

project, per dollar allocated, than other sustainability measures currently in the design. In order for the project to remain within budget, adoption of EV charging stations would have otherwise come at the expense of other project features determined to provide greater value to the light rail user.

The adoption of technology to support electric vehicles is intended to reduce the amount of carbon produced through transportation. This is also an agency goal, as we aim to provide carbon neutral means of alternative transportation via Light Rail beginning in 2019.

Sound Transit has also been evaluating the piloted four EV charging stations installed at the LEED-Certified Angle Lake station to determine if such features provide a sustainable allocation of project funds, and to understand the use-case. The results confirmed that such stalls, within a typical Sound Transit parking garage setting where stalls are used by each driver for an 8-10 hour period (average 9.2 hours), were significantly underutilized (ports remain idle/unused 74% of time they are plugged in, per figure 1). Charging of most electric vehicles would typically complete within the first hour of service, and the charger would then remain idle or out-of-use for the remainder of the day. With limited vehicle capacity within each parking garage, the EV Charging stalls also pose a dilemma in ensuring the space allocated for vehicle parking is used as efficiently as possible. As a costly implementation feature (>$19,000 per stall) with high maintenance costs (net $1,500/year average), the adoption of EV charging stalls was removed from the project design during the cost-cutting evaluation phase in autumn 2017.

Figure 1: Average session idle & charge time from Angle Lake Station in last 30 days

Market growth of electric vehicles is moving at a rapid pace, with forecasts anticipating up to 10-14% of new single-occupant vehicles sold by 2025 to be electric. Electric vehicle charging technology is also moving at a breakneck pace. Current DC fast chargers provide an 80% charge in under 30 minutes, which provides a range of 120 miles. The next generation of car chargers are anticipated to provide up to 240 miles of range in less than 15 minutes of charge time by 2022. Under these expectations, one charger would be able to service well over 40 vehicles in less than a 10-hour period, the typical time a vehicle sits idly in a Sound Transit parking garage factoring in standard workday and commute times. Additionally, auto manufacturers such as Nissan, Tesla, Ford, and Audi have announced significant investments into wireless charging technology, and anticipate further growth in this market. Car charging in its current form is very likely to become obsolete by 2030.

Based on today's EV market, EV charging station installations within the current facilities have shown that these have been significantly underutilized at Sound Transit properties. Looking to the anticipated growth in the industry, as new car purchases approach 14% electric, car chargers are anticipated to become so efficient that we are much more likely to see stop-and-go stations, where a top-up of battery charge would be done in similar time to that of refueling a gas tank. Sound Transit remains open to the possibility of including electric vehicle car charging infrastructure within our station facilities as a means to support market growth; however, we do not believe installation within a commute-centric parking garage setting is an efficient or smart use of these resources.

2.4.5 Construction Commute Trip Reduction

In order to minimize air emissions from employee vehicles to construction sites for the Lynnwood Link Extension Light Rail Project, Sound Transit shall consider providing employee incentives such as provision of transit passes or instituting a carpool/shuttle program.

Sound Transit Response: Instead of focusing on emissions from commuting habits of construction workers, Sound Transit is providing deeper emissions savings by requiring cleaner on-site equipment above and beyond state and federal regulations. The resulting reduction in localized air pollution from this requirement is likely to have a greater impact on the quality of air than that of a commute trip reduction program. With the intent to minimize pollutant air emissions and improve exhaust emission standards local to the project area, Sound Transit has revised construction specifications to address this issue through construction equipment standards. Specifically, special conditions "Article 2.06 on Contractor Plant & Equipment" requires that 75% of equipment shall be EPA Tier 3 and above, while EPA Tier 1 equipment is prohibited.

This is a new requirement to Sound Transit projects, with the Lynnwood Link Extension being the first to use the requirement. By banning EPA Tier 1 equipment (for which allowable pollutant levels are 5 times higher than Tier 4), significant pollutants are thereby removed from the project locale. For additional information, please see figure 2 below on allowable pollutants by EPA Tier, and how Tiers 3 and 4 seek to significantly curb such pollutants.

In addition to air quality management during construction, Sound Transit makes substantial effort to ensure sustainable best practices are incorporated and implemented on site.

Construction staging areas are required to be at least 100 feet from any stormwater discharge areas, wetlands, streams, or sensitive habitat (C-3). Additional efforts are placed on the contractor to minimize air emissions from disposal by reducing the frequency & distance of truck trips (C-1). Policies designed to minimize vehicle idling shall also be incorporated (C-6). Water usage for wheel-washes are restricted to reused non-potable, following Sound Transit standard construction specifications (C-12).

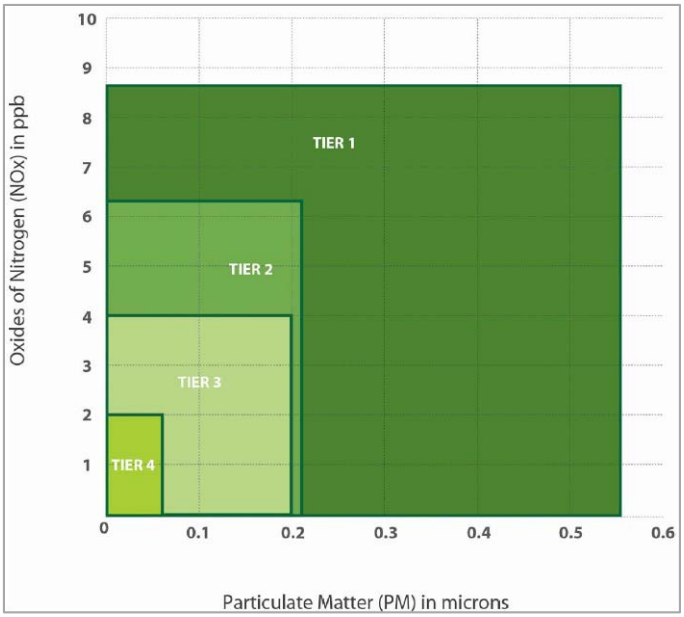

Figure 2: EPA Emission Reduction for Tiers 1 through 4

Lastly, mitigation efforts are in place to ensure minimum loss of existing forms of alternative transportation (C-5), and to enhance access to local businesses that may be affected by construction (C-16) and reduce construction noise & vibration (C-7).

2.4.6 Water Reuse during Construction

Sound Transit shall use recycled or non-potable water in construction of the LLE Light Rail Project: e.g. wheel wash, dust control, etc. where practicable. Sound Transit should consider developing and implementing a water conservation plan for the LLE Light Rail Project construction.

Sound Transit Response: Construction sustainable practices shall focus on the management of water-needs, ensuring minimized use of potable water, and recycling of water where practicable.

Specifically, Sound Transit has included within the project's construction specification section "01 57 00 3.06 / F / 8C Wheel/Truck Wash" the requirement that a closed-loop recirculating system be used to maximize the efficiency and reuse of recycled non-potable water in construction practices. Where practicable, Sound Transit shall use recycled or non-potable water.

2.4.7 Local Soil Reuse

Sound Transit shall reuse soil excavated from the LLE Light Rail Project area through site balancing of earthwork on site or within the LLE Light Rail Project or for City projects requiring fill and/or needing soil amendments. Sound Transit should coordinate with the City of Shoreline to identify City projects that require fill or need soil amendments.

Sound Transit Response: When practical and soil quality and site conditions allow, Sound Transit will re-use material within the Lynnwood Link Corridor. Additionally, Sound Transit will coordinate with other internal projects and the City of Shoreline to identify potential projects with reuse opportunities for any excavated soils that are either not suitable for Lynnwood Link, or that are in excess to required fill needs.

2.4.8 Sustainability Interpretive Signage

Sound Transit shall provide interpretative signage at the Shoreline South/145th and Shoreline North/185th Stations to educate and promote public awareness of the sustainable design features used in the LLE Light Rail Project. This could use QR codes to direct people to a website for actual content or could explain the feature directly.

Sound Transit Response: Sound Transit Sustainability Team agrees with the request to include sustainability interpretive signage at the Shoreline stations. Particularly, as these stations shall not pursue LEED Certification, though are designed with comparable elements, such signage is integral in ensuring public awareness of the sustainable features and strategies within each station.

After further evaluation, within the facilities at both 145th and 185th stations, sustainability interpretive signage will be coordinated to be included by Sound Transit to promote awareness of the sustainable design features, as requested by the City of Shoreline. Signs are unlikely to include QR codes and will be static, providing direct content of features and benefits. Additional internal coordination within Sound Transit will further develop how interpretive signage is to be included within the project design.

While not all proposed conditions as outlined by the City of Shoreline have been wholly met by Sound Transit, as outlined within the responses above, it is the organization's belief that the intent behind each of these proposed conditions has been met through alternative means.

Due to limited financial resources available at this stage of the corridor design, concessions have been made to ensure the goal of each proposed condition be met through strategies outlined in Sound Transit's Design Criteria, the City of Shoreline's Guiding Principles, and Municipal code: an energy-efficient durable building design, with site low-impact development techniques, minimal operational costs, and sustainable material procurement among other strategies.

3.0 THIRD-PARTY CERTIFICATION EQUIVALENCY

Sound Transit conducted an equivalent LEED-score assessment to understand and compare the Shoreline stations to a third-party's sustainable best-practice rating system for project design and construction. A LEEDv4 Silver Certification would need to achieve greater than 50 points from a minimum of 7 categories.

In summary, as these stations' design elements mirror those of the Lynnwood City Center Station, an overall score for each station would be between 50 and 53 points, which falls within the LEEDv4 Silver thresholds and is in alignment with the Sound Transit Design Criteria Manual, Chapter 30 provisions. Such a score would place each facility above industry standards for light-rail stations in regards to sustainable design criteria. A sample LEED Scorecard and credit-by-credit evaluation is included as **Appendix B** to this report, for each Shoreline station.

Below is a brief synopsis of the LEED-equivalent information for the 145th and 185th Shoreline Stations. Please see Appendix A for a detailed review of each station against the LEED Rating system.

Location & Transportation: 11 points
Through constructing on previously developed land at both sites, with 10+ diverse uses nearby and multiple options of quality transit and alternative transportation, including bicycle facilities, 11 points would be achieved on a LEED application for the current design.
Sustainable Sites: 8 points
Sound Transit has specified use of high-SRI reflective materials, trees for shading on impermeable areas, pedestrian-oriented open space, reduction in light pollution at night, and local adapted vegetation for on-site infiltration and habitat creation. These strategies would result in eight points in the LEED rating system.
Water Efficiency: 5 points
Use of drip irrigation has been specified, which would ensure >50% reduction in landscape water needs. Additional low-flow interior fixtures, sensor activated faucets, and water metering devices would provide five points total for water efficient measures.
Energy & Atmosphere: 8 points
Sound Transit facilities are designed to meet Seattle Energy Code amendments to the Washington State Energy Code, even where projects are not within the City of Seattle limits. This code is considerably stricter than the ASHRAE 90.1-2010 requirements of LEEDv4. Independent comparison of ASHRAE 90.1-2010 to the Seattle energy code has shown that these facilities average 9.7% more energy cost savings per square foot due to the stricter requirements around allowable lighting levels and energy controls. Additionally, Sound Transit has specified use of advanced energy metering equipment and ongoing continuous commissioning / monitoring & verification procedures into occupancy,

which would ensure the facility operates as the design intended. These strategies would result in at least eight points.
Materials & Resources: 5 points
Sound Transit requires use of long-lasting materials, as identified through life-cycle analyses. Standard selection of regularly-used materials show that many of them publish material transparency forms of their ingredients (such as EPDs and HPDs). Sound Transit targets a minimum construction waste management diversion of 80% from landfills as written within the construction specifications. All combined, this would account for five to eight points.
Indoor Environmental Quality: 7 points
While many credits within this section are not applicable to the design due to limited interior regularly occupied space, those credits that are applicable would be achieved where feasible. Sound Transit specifies the use of low-VOC applications and provides significant amounts of daylight & quality views within the designed facilities. Additionally, with required acoustic performance for light rail, the stations would achieve seven points for its Environmental Quality initiatives within the project scope.
Innovation: 6 points
Up to 6 total points are awarded for innovation credits. As part of the project, Integrated Pest Management specifications have been included. Healthy material procurement efforts plan to avoid use of materials containing zinc, copper, lead, or cadmium, and to specify predominantly LED lighting to reduce mercury levels within lighting fixtures. Additionally, as an organization Sound Transit meets the requirements of the "Social Equity: Organization" LEED Pilot credit and Community Outreach credit for its efforts in community engagement through open houses and workshops. Lastly, Sound Transit has over 20 LEED AP Accredited staff within the planning, design, construction, and operations teams, which would result in full points in the innovation category for these two projects.

End of Report