

**ATTACHMENT Z.1: L200 90PCT DRAFT SUSTAINABILITY
CHECKLIST**

E-1	Design projects to reduce energy use. Use current Seattle Energy Code as the basis of design. See DCM Ch. 20.	Required	Design complies with Seattle Energy Code	Design complies with Seattle Energy Code	Design complies with Seattle Energy Code	Design complies with Seattle Energy Code								
E-2	At 100% design, provide energy use calculations using an energy modeling tool for projected monthly and annual usage of both gas and electric. If facility is submetered, calculations to align with submetered equipment.	Required												
EP	EARLY PLANNING > PEPD RESPONSIBILITY. FINAL DESIGN TEAMS WILL NOT FILL OUT THIS SECTION.													
E-3	Perform independent commissioning of all facilities to assure all vertical circulation, mechanical, electrical and plumbing systems are operational, fully integrated with all systems and appropriate training has occurred. See DCM Ch. 32	Required												
E-4	Establish and conduct post-occupancy evaluation of systems and design elements to guide future design standards.	Required												
HEATING AND COOLING														
E-5	Only heat and cool rooms that require conditioned spaces. See DCM Ch. 20.	Required	Yes	Yes	Yes	Yes								
E-6	Adjust automatic temperature control set points to correspond with primary activities and hours of occupation of conditioned spaces. See DCM Ch. 20.	Required	Yes	Yes	Yes	Yes								
E-7	Use natural ventilation in lieu of mechanical systems to cool facilities.		Comm closets are cooled with fans rather than mechanically conditioned	Comm closets are cooled with fans rather than mechanically conditioned	Comm closets are cooled with fans rather than mechanically conditioned	Comm closets are cooled with fans rather than mechanically conditioned		No			None.		Sound Transit staff expressed security concerns with louvered openings in structures. No louvered openings are assumed in the current project design.	
LIGHTING														
E-8	Provide photocell controls for separate areas of the facility that have different lighting needs to permit lights to come on in darker areas before coming on in areas with more daylight - e.g., mezzanine zoned separate from platform.	Required	Yes	Only 1 Exterior Zone	Yes	Only 1 Exterior Zone	NA	Yes						
E-9	Maximize daylight to reduce lighting use.	Required	Glazing or perforated panels used in lobbies and stairways in addition to platform	Panels used at ground floor and stairwells; otherwise open deck	Glazing or perforated panels used in lobbies and stairways in addition to platform	Panels used at ground floor and stairwells; otherwise open deck								
E-10	Use full cut-off and glare screening on fixtures.	Required	Yes	Yes	Yes	Yes	NA							
E-11	Position lights to avoid shining outside of property boundaries.	Required	Yes	Yes	Yes	Yes	Yes	No						
E-12	Eliminate lights pointing up to the sky - No up lights to be used to accent structures or other elements of the facility.	Required	Design does not include any uplights	Design does not include any uplights	Design does not include any uplights	Design does not include any uplights								
E-13	Reduce lighting power density of light fixtures to less than the Washington State Energy Code for non-public spaces.		Yes	Yes	Yes	Yes	NA	Yes Cost	Minimal		NA	Could reduce maintenance needs if lighting is used more efficiently (less changing of lamps)	Proven	Reduced lighting power density would reduce capital costs. Alternatively, LED lighting can be installed in ancillary rooms (i.e. fixtures or lamps). Current WEC? What year?
E-14	Use LED lights in areas that require 24 hour lighting, such as tunnels.		Yes	Yes	Yes	Yes	Yes	Yes Cost	\$1.50 - \$2.50 / SF ADDITIONAL COST (does not include rebates that may be available)	Completed for other projects		Could reduce maintenance needs if lighting is used more efficiently (less lamps or less changing of lamps)	Proven	A TCO analysis conducted for tunnel lighting as part of East Link Final Design indicated that use of LEDs would save money long-term, due primarily to lower energy costs. Less frequent replacement would also help, but the parts are significantly more expensive. It is possible that cost of LED lighting will become more comparable to other exterior lighting in the future and could be reassessed. Consider LED lighting at parking garages and station platforms.
CONTROLS														
E-15	Use controls to minimize energy use of lights, escalators, elevators, signs, and other equipment wherever feasible, including: Occupancy sensors, photo controls, etc.	Required	Yes	Yes	Yes	Yes	NA							
E-16	Provide sub-meters for lighting, HVAC, vertical circulation (elevators/escalators), Tunnel/Trackway (any equipment on track powered by station), parking garages (if fed from station), and miscellaneous (station loads not covered by the above categories, including but not limited to BMS, emergency fans, fire equipment, miscellaneous plug loads, etc.). Provide infrastructure to accommodate sub-meters. If provided or anticipated, include sub-meters for on-site energy production. Connect meters to the communication room to track energy and water use via the Sound Transit network. Track utility meter numbers and corresponding function.	Required (ST Action)	Yes	Yes	Yes	Yes	NA							
E-17	Provide separate electrical meters for traction power substations from any other facility meters. Track utility meter numbers and corresponding function.	Required	NA	NA	NA	NA	Yes, separate meters will be provided for 152nd and 189th TPSS's							
OTHER														

E-18	Provide SRI of 78 for roofs under 2:12 slope. Provide SRI of 29 for roofs steeper than 2:12.	Required	All roofs are under 2:12 slope and are specified as either TPO membrane (07 54 23), or metal roof panels (07 41 13) - both have SRI of 78	All roofs are under 2:12 slope and are specified as either TPO membrane (07 54 23), or metal roof panels (07 41 13) - both have SRI of 79	All roofs are under 2:12 slope and are specified as either TPO membrane (07 54 23), or metal roof panels (07 41 13) - both have SRI of 80	All roofs are under 2:12 slope and are specified as either TPO membrane (07 54 23), or metal roof panels (07 41 13) - both have SRI of 81	NA						
E-19	Use instantaneous hot water heaters. See DCM Ch. 24.	Required	Yes	Yes	Yes	Yes	NA						
E-20	Ensure that utility capacity of the site has been considered based on projected growth and future development for the site such as TOD. Study and review TOD opportunities as related to utility and infrastructure requirements. Document potential utility and infrastructure needs for TOD. Document if the infrastructure and utilities will be installed as part of the ST facility or deferred to the TOD	(ST action)	NA TOD is happening on off-site parcels. Capacity is sufficient for kiosks, etc	NA	NA	NA	NA						
E-21	For non-roof areas, use combination of the following strategies to reduce heat island effect: Provide shade for at least 50% of pedestrian hardscape area within 5 years of project completion. Provide paving materials with an SRI of 29 or higher. (Consider glare when designing high SRI paving and restrict to areas not exposed to direct southern exposure from sun.)		No	No	No	No	NA	No (See Comments)	NA	NA	No additional maintenance required.	Proven	Vegetation necessary to fulfill requirement is rarely more than typically installed/required by development code - negligible cost; High SRI paving has no additional installation or maintenance cost over other types of paving;
E-22	Evaluate if envelope commissioning should be required based on size of facility and risk of leakage. If determined beneficial, require envelope commissioning. Identify best approach: e.g. blower or water leakage, etc.		Washington State Energy code C402.5 requires a continuous air barrier and air leakage testing to .04 cfm/sf according to ASTM E779. This requirement is included in spec	Washington State Energy code C402.5 requires a continuous air barrier and air leakage testing to .04 cfm/sf according to ASTM E779. This requirement is included in spec	Washington State Energy code C402.5 requires a continuous air barrier and air leakage testing to .04 cfm/sf according to ASTM E779. This requirement is included in spec	Washington State Energy code C402.5 requires a continuous air barrier and air leakage testing to .04 cfm/sf according to ASTM E779. This requirement is included in spec	NA	NA	NA	NA	NA	NA	Current assumption is that envelope will not be included in commissioning.
E-23	Evaluate renewable energy options including solar, geothermal or other feasible means to the greatest extent possible.		Photovoltaic panels not included in project per ST direction	Photovoltaic panels not included in project per ST direction	Photovoltaic panels not included in project per ST direction	Photovoltaic panels not included in project per ST direction		Yes	Included in TCO Analysis for 60% Sustainability Report; update to be provided in 90% Report	Yes	Yes	Proven	
E-24	Use and upgrade minor electrical elements for use of solar power (e.g., CCTV, emergency phones, illumination, and garbage compactors). Panels could be located with the equipment or locally on bus shelters, light poles, etc.		No	No	No	No	No	No	NA	NA	Additional maintenance could be required for PV panels.	Proven	PV is to be backfeed into electrical system. Self-contained units (i.e. solar-powered compactors) are the exception.
E-25	Use thermal conditioning capacity in tunnels						No No tunnels	NA	NA	NA	NA	NA	
WS	WATER QUALITY AND STORMWATER												
WS-1	Use low-impact development (LID) methods for handling storm water per DCM Ch. 6.4. [Chapter covers Washington State Department of Ecology guidelines, WSDOT Drainage Requirements, City of Seattle Drainage requirements and other local agency requirements where applicable.]	Required	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	Yes	Approach described in 60% Sustainability Report; to be updated in 90% Report	Yes	Yes	Proven	Although this measure is a 'required' item, the team agreed to perform further analysis, including a TCO. There may be additional environmental benefits to this measure due to its proximity to Scriber Creek. Generally use of LID measures will be limited due to existing soil conditions and groundwater elevation that do not meet AHJ requirements for infiltration. Use of porous pavement will be limited due to existing soil conditions and groundwater elevation.
WS-2	Ensure that LID techniques are properly installed and commissioned by a qualified contractor with oversight by a qualified designer or inspector.	Required	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	Yes					
WS-3	FLOW CONTROL: Reduce storm water run-off by volume by implementing a Management Plan that reduces impervious cover, promotes infiltration, captures and provides <u>flow control</u> for 100% of the of the design rainfall storm event for non-pollution generating impervious surface meeting using acceptable best management practices (BMPs) based on AHJ requirements. See DCM Ch. 6.	Required	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	Yes					
WS-4	TREATMENT CONTROL: Reduce storm water run-off by implementing a Management Plan that reduces impervious cover, promotes infiltration and captures and <u>treats</u> 100% of the of the design rainfall storm event for pollution generating impervious surface using acceptable best management practices (BMPs) based on AHJ requirements. See DCM Ch. 6.	Required	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	See City of Shoreline SUP narrative for current design approach	Yes					
WS-5	Reuse water flows generated on the site to the maximum extent feasible.		No	No	No	No	No	Yes	Approach described in 60% Sustainability Report; to be updated in 90% Report	High level	Yes	TBD	
WS-6	Evaluate constructing structured parking in lieu of planned surface parking to reduce impervious surface. If determined beneficial to ST, construct parking garage in lieu of planned surface parking.			Garage designed for maximum efficiency and optimal footprint, resulting in minimized impervious surface area		Garage designed for maximum efficiency and optimal footprint, resulting in minimized impervious surface area		Yes					
WS-7	Install ballasted trackways for at-grade facilities to reduce impervious areas.		NA	NA	Yes	NA	Yes	Yes					
WS-8	Use geotextiles, vegetative treatments and reinforced earth in place of hard structures such as concrete retaining walls.		No	No	No	No	No	Yes	Approach described in 60% Sustainability Report; to be updated in 90% Report	High level	Yes	TBD	
WL	WATER EFFICIENCY AND LANDSCAPING												

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WL-1	At 100% design, provide water use calculations for projected monthly and annual usage. Separate irrigation water from other water uses in calculations.	Required	Yes Water calculations will be submitted with irrigation water separate from other water uses	Yes Water calculations will be submitted with irrigation water separate from other water uses	Yes Water calculations will be submitted with irrigation water separate from other water uses	Yes Water calculations will be submitted with irrigation water separate from other water uses	MAYBE For corridor, irrigation will be a temporary system, until time the native planting is established.						
WL-2	Provide separate irrigation or deduct meters for irrigation. Connect meters to the building management system to track water use. Track utility meter numbers and corresponding function. See DCM Ch. 10.	Required	Yes Separate irrigation meters are provided, and will be connected to central control software used by ST to manage and track water use	Yes Separate irrigation meters are provided, and will be connected to central control software used by ST to manage and track water use	Yes Separate irrigation meters are provided, and will be connected to central control software used by ST to manage and track water use	Yes Separate irrigation meters are provided, and will be connected to central control software used by ST to manage and track water use	MAYBE For corridor, irrigation will be a temporary system, until time the native planting is established.						
WL-3	Specify efficient water use fixtures. (Target 20% reduction)		Yes Water efficient fixtures are required in specifications; project is targeting 20% reduction	No	Yes Water efficient fixtures are required in specifications; project is targeting 20% reduction	No	No	Yes Cost	Due to number of fixtures the incremental cost increase should be minimal. (See Comments)	NA	Yes, public and staff restrooms are planned. Staff restroom should see less maintenance than a public restroom.	Proven	Station program for 145th, 185th, and Mountlake Terrace includes: - 1 toilet and 1 lavatory for 2 staff restrooms, 1 toilet and 1 lavatory for 2 Public restrooms + 1 mop sink for janitor room Station program for Lynnwood Transit Center Station includes: - 1 toilet and 1 lavatory X 2 staff restrooms
WL-4	Provide low flow toilets (≤1.1 gpf) and dual flush valves.	Required	No 1.28 gpf provided in public restrooms (see comments)	NA	No 1.28 gpf provided in public restrooms (see comments)	NA	NA			NA	Potential clogging issues due to lower flow		1.1 gpf not available that meet ST performance requirements (stainless / vandalism-resistant)
WL-5	Provide automatic shut off for lavatory faucets	Required	Yes Public restrooms only; employee restrooms have non-metered faucets	NA	Yes Public restrooms only; employee restrooms have non-metered faucets	NA	NA	Yes		NA	Sensor / metering faucets will require periodic maintenance	Proven	
WL-6	Reduce or eliminate potable water usage for landscape irrigation. (Target 50% reduction in potable water usage for irrigation.)	Required	Yes Targeting 50% reduction - low-flow irrigation systems and native / adaptive plant material that does not require permanent irrigation	Yes Targeting 50% reduction - low-flow irrigation systems and native / adaptive plant material that does not require permanent irrigation	Yes Targeting 50% reduction - low-flow irrigation systems and native / adaptive plant material that does not require permanent irrigation	Yes Targeting 50% reduction - low-flow irrigation systems and native / adaptive plant material that does not require permanent irrigation	Yes Targeting 50% reduction - low-flow irrigation systems and native / adaptive plant material that does not require permanent irrigation						
WL-7	Provide water efficient landscape irrigation with drip systems, rain sensors, automatic shut off if leak detected. See DCM Ch. 10.	Required	Yes Drip systems provided where applicable or high efficient nozzles. All systems to have rain sensors and master control valves for leak detection and shut off.	Yes Drip systems provided where applicable or high efficient nozzles. All systems to have rain sensors and master control valves for leak detection and shut off.	Yes Drip systems provided where applicable or high efficient nozzles. All systems to have rain sensors and master control valves for leak detection and shut off.	Yes Drip systems provided where applicable or high efficient nozzles. All systems to have rain sensors and master control valves for leak detection and shut off.	Yes Drip systems provided where applicable or high efficient nozzles. All systems to have rain sensors and master control valves for leak detection and shut off.						
WL-8	Contract documents shall include requirements to verify irrigation systems are installed properly by a qualified contractor with oversight by a qualified landscape designer or inspector.	Required	Yes Specification 32 84 00 provides qualifications for contractor. Oversight during construction will include qualified personnel.	Yes Specification 32 84 00 provides qualifications for contractor. Oversight during construction will include qualified personnel.	Yes Specification 32 84 00 provides qualifications for contractor. Oversight during construction will include qualified personnel.	Yes Specification 32 84 00 provides qualifications for contractor. Oversight during construction will include qualified personnel.	Yes Specification 32 84 00 provides qualifications for contractor. Oversight during construction will include qualified personnel.						
WL-9	Construction documents shall clearly identify soil amendments and amended soil depths.	Required	Yes Specifications and details provided, soil amendments and depths meet or exceed jurisdictional requirements	Yes Specifications and details provided, soil amendments and depths meet or exceed jurisdictional requirements	Yes Specifications and details provided, soil amendments and depths meet or exceed jurisdictional requirements	Yes Specifications and details provided, soil amendments and depths meet or exceed jurisdictional requirements	Yes Specifications and details provided, soil amendments and depths meet or exceed jurisdictional requirements						
WL-10	Landscape Designers and construction management shall monitor the installation of soil including on-site testing to assure good plant root development.	Required	Yes Specification 32 91 13 requires Resident Engineer review of soil installation. Specification also includes soil testing requirements.	Yes Specification 32 91 13 requires Resident Engineer review of soil installation. Specification also includes soil testing requirements.	Yes Specification 32 91 13 requires Resident Engineer review of soil installation. Specification also includes soil testing requirements.	Yes Specification 32 91 13 requires Resident Engineer review of soil installation. Specification also includes soil testing requirements.	Yes Specification 32 91 13 requires Resident Engineer review of soil installation. Specification also includes soil testing requirements.						
WL-11	Use an Integrated Pest Management System (IPM), including fertilization program to promote healthy plants that will require less water over the long term. See DCM Ch. 10.	Required	Yes IPM requirements specified in 32 90 00 and fertilizing specified in 32 91 13.	Yes IPM requirements specified in 32 90 00 and fertilizing specified in 32 91 13.	Yes IPM requirements specified in 32 90 00 and fertilizing specified in 32 91 13.	Yes IPM requirements specified in 32 90 00 and fertilizing specified in 32 91 13.	Yes IPM requirements specified in 32 90 00 and fertilizing specified in 32 91 13.						
WL-12	Use native and adaptive plantings (salvaged from the site when possible) to promote habitat and minimize or eliminate use of potable water during construction, landscape establishment and operation. See DCM Ch. 10.	Required	Yes Native or adaptive plants are included, shown on N15-LPP and N15-LPS sheets.	Yes Native or adaptive plants are included, shown on N15-LPP and N15-LPS sheets.	Yes Native or adaptive plants are included, shown on N17-LPP and N17-LPS sheets.	Yes Native or adaptive plants are included, shown on N17-LPP and N17-LPS sheets.	Yes Native or adaptive plants are included, shown on N17-LPP and N17-LPS sheets.						
WL-13	Evaluate reuse of storm water to irrigate landscape, fill toilets, and any other acceptable uses. If evaluation is acceptable to ST, include reuse of storm water in project.		See WS-5	Note: Comments should be included in WS-5; leave this item blank									

WL-14	Remove invasive plant species and replant with native and adaptive species where applicable. See DCM Ch. 10.	Required	Yes Specifications include procedures for removing invasives during construction (clearing / grubbing). Native / adaptive plant material specified	Yes Specifications include procedures for removing invasives during construction (clearing / grubbing). Native / adaptive plant material specified	Yes Specifications include procedures for removing invasives during construction (clearing / grubbing). Native / adaptive plant material specified	Yes Specifications include procedures for removing invasives during construction (clearing / grubbing). Native / adaptive plant material specified	Yes Specifications include procedures for removing invasives during construction (clearing / grubbing). Native / adaptive plant material specified							
WL-15	Landscape only areas that are maintainable. Consider other alternatives for areas that may be problematic to maintain such as under guideway or bridge structures.		Yes Project planting areas are accessible and maintainable. No guideway associated with this station	Yes Project planting areas are accessible and maintainable. No guideway associated with this garage	Yes Project planting areas are accessible and maintainable. No under-guideway planting specified (guideway is within trench)	Yes Project planting areas are accessible and maintainable. No guideway associated with this garage	MAYBE Height of guideway may allow for planting underneath, per rain shadow analysis and use of short stature trees and shrubs. Evaluation to continue as design progresses	Possibly	Minimal increase	NA	Potential opportunities for self-sustaining (low maintenance) landscaped areas; such areas would need to be approved.	Proven	Ensure maintenance access to planted areas; design for low maintenance landscapes; specify drought tolerant, long-lived adaptive plant species that have a proven record of establishing self-sustaining plant communities; evaluate rain water harvesting from non-polluting guideway surface to irrigate plants under guideway	
MP	MATERIALS AND PURCHASING													
	RECYCLING AND SALVAGE													
MP-1	Incorporate a percentage (by cost) of materials made from salvaged, renewable, recycled, and / or regional materials within the project. (Cumulative Target 25%)	Required	Specifications encourage re-use of existing materials; final percentage depends on adequate materials to be calculated after substantial completion.	Specifications encourage re-use of existing materials; final percentage depends on adequate materials to be calculated after substantial completion.	Specifications encourage re-use of existing materials; final percentage depends on adequate materials to be calculated after substantial completion.	Specifications encourage re-use of existing materials; final percentage depends on adequate materials to be calculated after substantial completion.	Specifications encourage re-use of existing materials; final percentage depends on adequate materials to be calculated after substantial completion.							
MP-2	Require 80% (minimum) of demolition and construction waste to be recycled, reused or repurposed. Contractor to provide area for cutting up materials and clearly identify recycling dumpsters or contract with an off-site recycling sorter. Recycling containers to be clearly identified for source separated or commingled recycling. Contractor to contract with appropriate recycling facilities for disposal.	Required						Yes	This requirement will be included in the project specifications.	NA	NA	proven		
MP-3	Require salvage and deconstruction of buildings to be demolished.	Required (ST Action)	Yes ST to engage 3rd-party salvage company prior to demolition	Yes ST to engage 3rd-party salvage company prior to demolition	Yes ST assessment complete - salvage to be conducted in Q2 2017	Yes ST assessment complete - salvage to be conducted in Q2 2017	Yes ST to engage 3rd-party salvage company prior to demolition	No		NA	NA	proven		
MP-4	Evaluate moving buildings off-site to be reused elsewhere in lieu of demolition.	Required (ST Action)	Yes ST to engage 3rd-party house-moving company to assess viability prior to demolition	Yes ST to engage 3rd-party house-moving company to assess viability prior to demolition	Yes ST to engage 3rd-party house-moving company to assess viability prior to demolition	Yes ST to engage 3rd-party house-moving company to assess viability prior to demolition	Yes ST to engage 3rd-party house-moving company to assess viability prior to demolition	No		NA	NA	proven		
MP-5	Provide stations and facilities with permanent locations for collection of trash and recyclables. See DCM Ch. 9.	Required	See locations on drawings	See locations on drawings	See locations on drawings	See locations on drawings								
MP-6	Salvage landscape materials: Plants, rockeries, etc. prior to demolition.	Required (ST Action)	Yes ST to assess salvage opportunities and coordinate with ST community engagement, if assessment warrants	Yes ST to assess salvage opportunities and coordinate with ST community engagement, if assessment warrants	ST site assessment conducted and materials identified. Determination of ST-sponsored salvage event pending	ST site assessment conducted and materials identified. Determination of ST-sponsored salvage event pending	Yes ST to assess salvage opportunities and coordinate with ST community engagement, if assessment warrants - building-adjacent only	No		NA	NA	proven		
	OTHER													
MP-7	Do not use Chlorofluorocarbon (CFC), Hydrochlorofluorocarbon (HCFC) or Halon refrigerants in HVAC and refrigeration. See DCM Ch. 20.	Required	Yes Refrigerant for all systems is R410A (HFC)	Yes Refrigerant for all systems is R410A (HFC)	Yes Refrigerant for all systems is R410A (HFC)	Yes Refrigerant for all systems is R410A (HFC)	NA							
MP-8	Do not use Halon in fire suppression systems and extinguisher equipment. Use either Ketone (PFC) type chemical clean agents or inert gas systems. See DCM Ch. 24.	Required												
MP-9	Evaluate the use of high-quality and long-lasting products (such as stainless steel) in lieu of replacing items over time. Materials shall be selected based on durability, service life, and maintenance requirements when making material choices to minimize replacement and maintenance costs.	Required	All material selections comply with the DCM. See Spec divisions 5,8,9,12 and 32 for specifics	All material selections comply with the DCM. See Spec divisions 5,8,9,12 and 32 for specifics	All material selections comply with the DCM. See Spec divisions 5,8,9,12 and 32 for specifics	All material selections comply with the DCM. See Spec divisions 5,8,9,12 and 32 for specifics	All material selections comply with the DCM. See Spec divisions 5,8,9,12 and 32 for specifics							
MP-10	Do not use exterior finishes with zinc, galvanizing, lead, or copper where subject to rainwater or run-off, except where required for operational systems.	Required	Design does not incorporate any of these materials	Design does not incorporate any of these materials	Design does not incorporate any of these materials	Design does not incorporate any of these materials	Design does not incorporate any of these materials							
MP-11	Avoid using materials that require ongoing painting or staining.	Required	Factory finishes are utilized wherever possible, to minimize field painting. See spec 09 96 00	Factory finishes are utilized wherever possible, to minimize field painting. See spec 09 96 00	Factory finishes are utilized wherever possible, to minimize field painting. See spec 09 96 00	Factory finishes are utilized wherever possible, to minimize field painting. See spec 09 96 00	Factory finishes are utilized wherever possible, to minimize field painting. See spec 09 96 00							

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MP-12	Maximize the use of pozzolans in concrete mix.		Use of cementitious materials to be measured but % not specified	Use of cementitious materials to be measured but % not specified	Use of cementitious materials to be measured but % not specified	Use of cementitious materials to be measured but % not specified	Use of cementitious materials to be measured but % not specified	Use of cementitious materials to be measured but % not specified	Yes	Increased cost of \$6 per SY Assume 15,000 SY in the project \$6 x 15,000 = \$90,000 ADDITIONAL COST	NA	None	Proven	Unit Prices derived from SDOT unit cost history; however history of unit costs without pozzolans is limited, since their standard appears to use pozzolans. Sidewalk= \$63/SY Sidewalk w/ Pozz = \$69/SY
MP-13	Use pre-manufactured and pre-cast materials to reduce the amount of waste left on site.		Precast girders used in station platforms; Public and Egress stairs will be precast	Public and Egress stairs will be precast	Precast girders used in station platforms; Public and Egress stairs will be precast	Public and Egress stairs will be precast; Pedestrian bridge will be premanufactured	Precast tubs used for aerial guideway, precast panels used for MSE walls and noise walls	Yes Savings	Using precast elements as cost reduction approach	NA	None	Proven		
MP-14	Use bio-based products where applicable. (Target 1%)		Primary considerations are DCM compliance and durability of materials	Primary considerations are DCM compliance and durability of materials	Primary considerations are DCM compliance and durability of materials	Primary considerations are DCM compliance and durability of materials		Material-dependent	Unknown (see Comments)	NA	Product-dependent	Product-dependent	May include: acoustical ceiling tiles, composite panels (casework), composite exterior wall panels, flooring (composition tiles, linoleum, cork, bamboo), interior doors, insulation (cellulose blanket & batt, cork roof), and soy oil polymer roofing. Costs can be higher, depending on product, quantity, and specific application. Currently the majority of these materials would be difficult to incorporate into the project due to: conflicts with the DCM materials requirements; a limited quantity of interior spaces at the stations; proprietary products or lack of three	
AQ	AIR QUALITY / GHG EMISSIONS													
AQ-1	Establish a volatile organic compound (VOC) budget to reduce overall VOC's on the project. Refer to ST Chemical Management System.	Required (ST action)	ST to provide VOC budget	NA	ST to provide VOC budget	NA	NA							This item will be specified during Final Design. Any cost associated with this should be included in the project cost estimate
AQ-2	Do not use project materials that contain urea-formaldehyde.	Required	Specs do not incorporate products with urea-formaldehyde	Specs do not incorporate products with urea-formaldehyde	Specs do not incorporate products with urea-formaldehyde	Specs do not incorporate products with urea-formaldehyde	Specs do not incorporate products with urea-formaldehyde							
AQ-3	Restrict smoking to designated areas at ST Facilities during operations.	Required (ST Action??)												
AQ-4	Provide operable windows and natural ventilation at facilities and staff areas located above ground.	Required	No occupied conditioned space	No occupied conditioned space	Security Room is still under design	No occupied conditioned space								
AQ-5	Determine the potential presence of emissions from transit vehicles and installed equipment. Design facilities to avoid intake of fumes/emissions into occupied interior and exterior spaces.		This is the design intent; design specifics still TBD	No occupied spaces	This is the design intent; design specifics still TBD	No occupied spaces	NA	NA	NA	NA	NA	NA		No installed equipment with fumes/emissions such as diesel generators.
AQ-6	Include in construction specifications a requirement to submit and adhere to a GHG Emission Reduction Plan that identifies measures that they will implement during construction. See ESMS Procedures.		Yes	Yes	Yes	Yes	Yes	No	ST construction spec (EPA Emissions Tier requirements for equipment / vehicles)	NA	None	Proven	This requirement is included in Lynnwood EIS Air Quality Report and is assumed to be "Best Practice" and included in the project.	
C	CONSTRUCTION													
	CONSTRUCTION PRACTICES													
C-1	Minimize air emissions from disposal of construction spoils by reducing number of truck trips or distance traveled to disposal site.	Required	Distance to be used as one criteria for selecting disposal sites	Distance to be used as one criteria for selecting disposal sites	Distance to be used as one criteria for selecting disposal sites	Distance to be used as one criteria for selecting disposal sites	Distance to be used as one criteria for selecting disposal sites							
C-2	Construction documents shall clearly define the limits of the site disturbed during construction.	Required	Clearing limits defined in IP-90% drawings	Clearing limits defined in IP-90% drawings	Clearing limits defined in IP-90% drawings	Clearing limits defined in IP-90% drawings	Clearing limits defined in IP-90% drawings							
C-3	Where possible, do not locate construction staging areas within 100 feet of storm water discharge areas, wetlands, streams, buffers, or other sensitive areas	Required	Not possible at 145th Station site due to limited available footprint between I-5 and private property. Construction staging is within 100 feet of drainage course. These temporary impacts are being mitigated by environmental permitting	Construction staging for 145th garage is not within 100 feet of sensitive areas	Construction staging for 185th Station is not within 100 feet of sensitive areas	Construction staging for 185th Garage is not within 100 feet of sensitive areas	Not possible in all areas. Due to limited available footprint between I-5 and private property, construction staging is at times within 100 feet of a sensitive area. These temporary or permanent impacts are being mitigated by environmental permitting							
C-4	Restrict smoking to designated areas on the project site during construction.	Required	Yes	Yes	Yes	Yes	Yes	No						
C-5	Mitigate loss of existing alternative transportation modes during construction (e.g. bicycle facilities, sidewalks, paths, transit stops/facilities). Document temporary facilities that will be constructed during the construction phase.		Yes TMP Plans show alternative pedestrian paths during construction in WSDOT areas. GCCM is preparing alternative routes for City local roadways	Yes TMP Plans show alternative pedestrian paths during construction in WSDOT areas. GCCM is preparing alternative routes for City local roadways	Yes TMP Plans show alternative pedestrian paths during construction in WSDOT areas. GCCM is preparing alternative routes for City local roadways	Yes TMP Plans show alternative pedestrian paths during construction in WSDOT areas. GCCM is preparing alternative routes for City local roadways	Yes TMP Plans show alternative pedestrian paths during construction in WSDOT areas. GCCM is preparing alternative routes for City local roadways	Yes	Costs not specific to sustainability measures	NA				
C-6	Reduce idling and institute no-idle zones at construction sites.		Existing SKH policy + ST construction spec	Existing SKH policy + ST construction spec	Existing SKH policy + ST construction spec	Existing SKH policy + ST construction spec	Existing SKH policy + ST construction spec	No		NA	None	Proven	See SKH Draft Sustainability Report.	
C-7	Minimize noise and vibration generated during construction and in the operation of the constructed works to maintain and improve community livability.		ST construction spec	ST construction spec	ST construction spec	ST construction spec	ST construction spec	No		NA	None	Proven	Past projects have used temporary noise walls. Evaluate installing permanent noise walls early in construction, where feasible.	

C-8	NoT USED												
C-9	NoT USED												
C-10	Contractor to develop and implement an Indoor Air Quality Management Plan for the construction of enclosed facilities such as tunnels and tunnel stations. Meet or exceed the recommended control measures of the Sheet Metal and Air Conditioning National Contractors Association IAQ Guidelines for Occupied Buildings Under Construction, 2nd edition 2007, ANSI/SMACNA 008-2008 (Chapter 3).							Yes Minimal	Cost of monitoring is assumed to be minimal.	NA	None	Proven	
C-11	When permanently installed mechanical systems are used during construction, filtration media with a minimum efficiency reporting value of MERV 8 shall be used at each return air grille, as determined by ASHRAE Standard 52.2-1999 (with errata but without addenda). Replace all filtration media just prior to final acceptance.							Yes Minimal	Cost of monitoring is assumed to be minimal.	NA	None	Proven	
WATER & MATERIALS													
C-12	Use recycled or non-potable water in construction: e.g. wheel wash, etc.		ST construction spec	ST construction spec	ST construction spec	ST construction spec	ST construction spec			NA	None	Proven	See SKH Draft Sustainability Report.
C-13	Use alternatives to impervious temporary surfaces in construction areas: Hogs fuel, quarry spill, peat, pervious pavement, etc.		Existing SKH policy	Existing SKH policy	Existing SKH policy	Existing SKH policy	Existing SKH policy	Possibly, depending on material selected		NA	None	Proven	Contractors typically do not use temporary impervious surfaces so it's unknown where or if this would need to be specified.
C-14	Contractor shall track water and energy usage. Contractor to provide data to Sound Transit.							Yes. Minimal	ST construction spec	NA	None	Proven	See SKH Draft Sustainability Report.
OTHER													
C-15	Use temporary public art at construction sites as mitigation.	(ST action)	Awaiting direction from ST	Awaiting direction from ST	Awaiting direction from ST	Awaiting direction from ST	Awaiting direction from ST	Awaiting direction from ST	No	NA	NA	NA	Proven
C-16	Enhance access to business during construction and communicate this to the public. When determined by ST, include contractor's responsibility for this in contract documents.	(ST action)	Awaiting direction from ST	Awaiting direction from ST	Awaiting direction from ST	Awaiting direction from ST	Awaiting direction from ST	Awaiting direction from ST	No	NA	NA	NA	Proven

- NOTES:**
- Heading: Required Measures**
 - Required measures that are relevant to LLE are noted as "Yes" under the "Project Incorporation" heading per DCM 30.4.C.1. (These sustainability items "shall be integrated into the project without any further evaluation.") Required measures that are not relevant to LLE are noted as "No" and accompanied by an explanation under the "Project Incorporation" heading per DCM 30.4.C.1.
 - Required measures are assumed to be part of the project and included in the project cost; therefore, "Impacts capital cost," "Capital costs," and "Lifecycle costs (TCO)" are left blank.
 - Required measures are assumed to be free of maintenance considerations or maintenance considerations known to Sound Transit; therefore, "Maintenance considerations" are left blank.
 - Required measures are assumed to be proven technology; therefore, "New or proven technology?" is left blank.
 - There are some required measures that are not currently incorporated into preliminary engineering but will be incorporated during final design or construction. The appropriate project phase is noted in the "Yes" column under "Project Incorporation".
 - Required measures that include "ST action" are not evaluated unless specific direction has been provided by Sound Transit staff. Those measures receive similar treatment to 1b and 1c above, however, the "Comments" column includes ideas and recommendations by the Project Team to implement those measures.
 - Measures that require "ST action" but are not required and no specific direction has been provided by Sound Transit staff receive "Maybe, no direction provided" under the "Project Incorporation" heading and all other columns are left blank.
 - Heading: Project Incorporation**
 - Yes – includes required measures (discussed above) and measures currently designed as part of the project and included in current cost estimate. At this project phase, a % achieved for project incorporation is not provided. As the project moves into final design and construction, it will be possible to determine that percentage.
 - Maybe – includes measures Sound Transit may want to consider adding to the project. A high-level cost estimate is included for each measure, but may provided as a "per unit" estimate depending on availability of information. Assumed project phase for possible incorporation is included.
 - No – includes measures that are not included in the project either because the measure is "not applicable," and so noted (See #1a above) or not included for a reason described in the "Comments" column.
 - Heading: Project Impacts if not a Required Measure**
 - "Required" measures are assumed to have no affect on "Impacts capital cost," so this item is left blank.
 - Capital costs are included for all items except "Required" measures and measures not incorporated in the project. Rationale for not incorporating a measure is included under the "Comments" heading. If there is no impact to the capital cost, the measure receives "No" in this column. If the capital cost is estimated to be minimal, "Minimal" is listed in the "Capital Cost" column. For example, "E-4: Establish and conduct post-occupancy evaluation of systems and design elements to guide future design standards" may require contracting services with a specialist, but does not have a significant cost impact. "Minimal" would be used to describe the cost and a dollar amount would not be included.
 - "Life cycle costs (TCO)" are completed only for those items selected by Sound Transit LLE project management for further analysis. Items that are not selected for further analysis receive "NA".
 - "Maintenance issues" has been changed to "Maintenance considerations" to capture potential maintenance benefits.
 - "New or proven technology" is based on best practices knowledge. Only those items receiving a "Yes" under "Project Incorporation" receive responses.
 - Heading: Comments**