Item No. SS 2 (a)
December 6, 2010

CITY COUNCIL STUDY SESSION ITEM

SUBJECT:
Update on the proposed contract with ARUP North America Ltd. to develop a conceptual engineering and environmental screening assessment of the B7 – Revised alternative.

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FISCAL IMPACT:
The proposed contract with ARUP North America Ltd. would obligate the City up to $670,723 to develop conceptual engineering, conduct environmental screening and prepare a Concept Design Report (Phase 1) for the East Link light rail B7 – Revised alternative. This contract will be fully funded by the East Link Analysis and Development project (CIP Plan No. PW-R-159) proposed for funding in the 2011-2017 Capital Investment Program preliminary budget.

In July 2009, Council adopted Ordinance No. 5891, which amended the 2009-2015 Capital Investment Program (CIP) Plan by creating the East Link Analysis and Development Project (CIP Plan No. PW-R-159). This ordinance allocated $1,070,000 for the project. To date, the expenditure or obligation of resources in CIP PW-R-159 totals approximately $800,000, leaving a remaining balance of approximately $270,000. The proposed 2011-2017 CIP update includes an increased allocation to CIP Plan No. PW-R-159 of approximately $6.2 million for 2011 and 2012. A portion of these funds ($650,000 per year) would be allocated to fund consultant contracts, including the balance of the contract expense authorized by this action.

POLICY ISSUES:
On April 22, the Sound Transit Board revised their preliminary preferred alternative for the East Link Project to include a downtown tunnel, C9T 110th Tunnel, and an at-grade option, C11A 108th At-Grade. The revised preliminary preferred alternative also included the B2M option in South Bellevue, traveling along Bellevue Way and 112th Avenue Southeast from I-90 to downtown Bellevue. Subsequently, Sound Transit led the evaluation of six alternatives for the specific routing of light rail on 112th Avenue SE. On July 22, the Sound Transit Board identified a west-side running alignment based on technical analysis and feedback from affected stakeholders.

Concurrent with the 112th Avenue SE options evaluation, the City pursued additional analysis of issues related to the B7 alignment, Council's preferred route for Segment B of the East Link Project. Areas of analysis included review of environmental analysis and constructability issues, assessment of Mercer Slough wetland functions and values, and alternative South Bellevue Station locations. The findings of this analysis were presented to Council on July 19.

At the September 13 Study Session, Council discussed the need for additional analysis of the East Link B7 alignment and design variations to improve performance, reduce impacts, and reduce costs. The Council directed staff to return with a scope of work to allow an "apples-to-apples" comparison of the B7 alignment with modifications ("B7-Revised"). A phased approach to the scope was presented to Council on October 4. Council directed staff to proceed with Phase 1 of the B7-Revised analysis (5% Conceptual Engineering and Concept Design Report), which resulted in a Request for Proposals that was issued on October 14.

DIRECTION NEEDED FROM COUNCIL:

_X_ Action
_X_ Discussion
___ Information

If Council concurs with the consultant selection, Council will be asked to take action on tonight's agenda under Other Ordinances and Resolutions to authorize execution of a contract with ARUP North America Ltd. to develop conceptual engineering, conduct environmental screening and prepare a concept design report for the East Link light B7 – Revised alternative.

BACKGROUND/ANALYSIS:

East Link Analysis

Council has consistently recognized the need for City-led analysis to support their preferences and advance policy objectives related to the East Link Project. In July 2009, Council adopted Ordinance No. 5891 which approved the creation of the East Link Analysis and Development Project (CIP Plan No. PW-R-159) to provide resources for independent City analysis and review of Sound Transit East Link analysis. At Council's direction, staff have pursued a number of specific areas of analysis with these resources, including supplemental downtown traffic analysis, tunnel funding evaluations and peer review of Sound Transit cost estimates, supplemental visual analysis, and strategic legal advice.

In early May, Council discussed the need for additional information and analysis of the B7 alignment and for review of comparative analysis between the B2M and B7 alignments. In response to Council direction, staff proceeded with four contracts to address the need for additional information within the resources available in CIP PW-R-159 and timeframe identified by Council. The full reports were provided to Council and made available to the public in advance of the July 19 Council meeting. They are available online at: http://www.bellevuewa.gov/light-rail-documents.htm.

Additional City Analysis

Recent Council discussions have continued to focus on the sufficiency of the analysis in Segment B. On September 13, Council directed staff to prepare a scope of work to allow an "apples-to-apples" comparison of the B7 alignment with modifications ("B7-Revised"). The scope was divided into three sequential phases to provide Council check-ins before proceeding with each phase. A diagram summarizing the phases is provided as Attachment 2. At the October 4 meeting, Council approved the scope of work and directed staff to proceed with Phase 1 (5% Conceptual Engineering and Concept Design Report). Staff proceeded with the process of issuing a Request for Proposal (RFP) and selecting a consultant.

B7-Revised Consultant Selection Process
ARUP North America Ltd. was selected to be the City's engineering consultant for the B7-Revised study. This selection was in accordance with the City's contracting policies and state law which directs that the most qualified firm perform the services. Below is a brief summary of the selection process:

A notice of the request for proposal (RFP) was published in *The Seattle Times* and the *Seattle Daily Journal of Commerce* on October 14, 19, and 26, 2010. Also, the City sent out a notice of the RFP via email to all of the current consulting firms listed on the City's roster under Professional Services/Architectural and Engineering (A & E).

On November 4, 2010, at the close of the RFP period, the following firms submitted proposals:

- ARUP North America Ltd.
- DKS Associates
- William Popp Associates.

A review team, consisting of five City staff members from three departments (Transportation, PCD, and Development Services), reviewed and ranked the proposals based on the evaluation criteria listed in the RFP, which included:

- The team's experience and history in successful completion of similar projects and work elements;
- Qualifications, experience and performance track record of the designated project manager and other key personnel; and,
- The team's method and approach to known and potential critical issues, risks, and challenges.

The review team recommended inviting all three firms to participate in interviews.
The interview panel consisted of:
- Dave Berg, Deputy Director (Transportation)
- Kevin O'Neill, Assistant Director, Long Range Planning (Transportation)
- Mike Mattar, Design Division Manager (Transportation)
- Mike Katterman, Senior Planner (PCD)
- Michael Paine, Environmental Planning Manager (PCD)
- Paul Inghram, Comprehensive Planning Manager (PCD)
- Myrna Basich, Assistant City Manager (CCO).

In the interviews, each firm was asked to explain their proposed strategy and methodology to meet key elements of the work including project management practices, engineering design and environmental issues, and their ability to provide sufficient resources to meet an aggressive schedule.

ARUP North America Ltd. was the firm that best addressed all required disciplines by demonstrating a broad understanding, well developed approach, and in developing a strong and collaborative team structure addressing the critical aspects and challenges associated with the B7-Revised Concept Report.

ATTACHMENT:

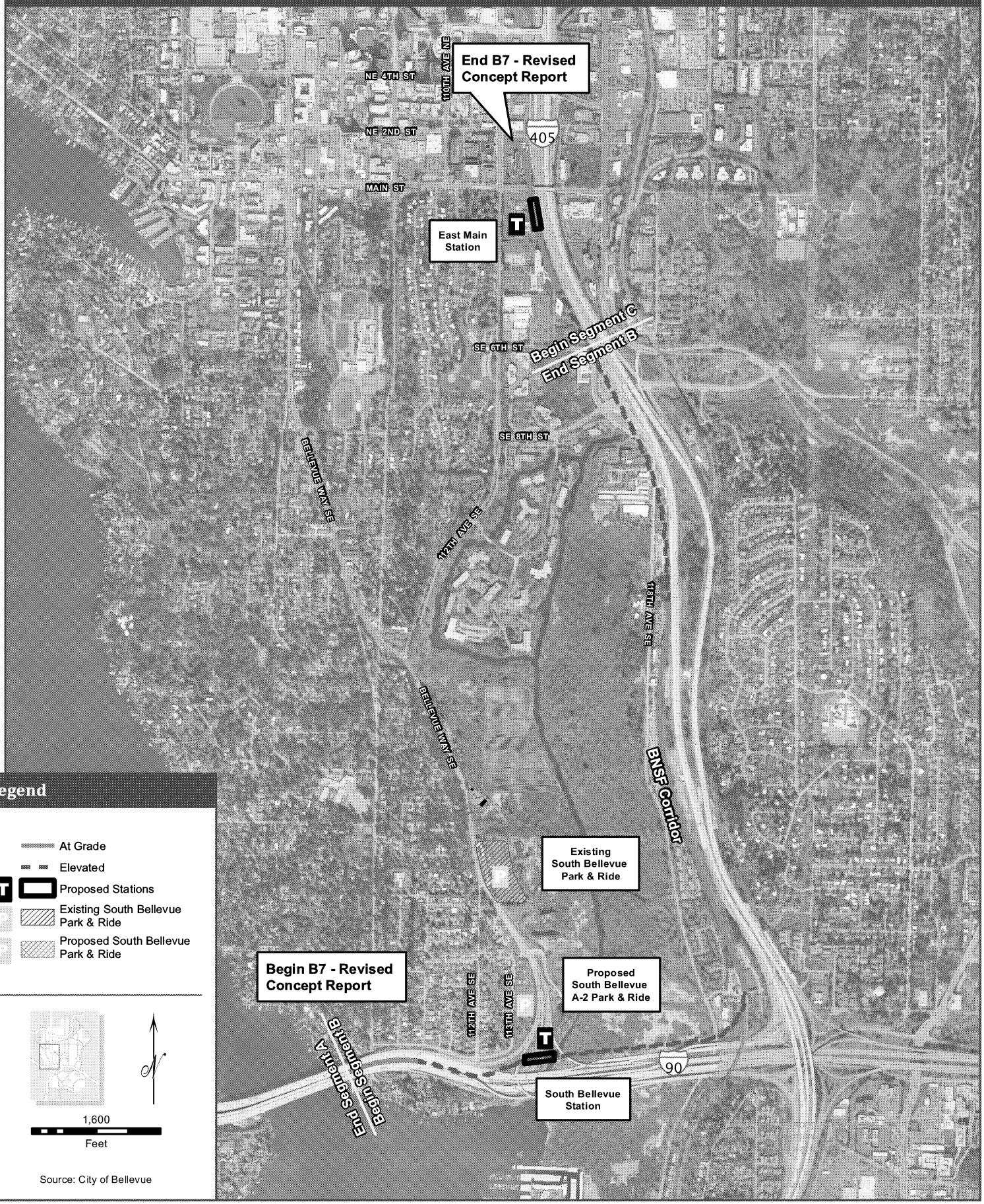
1. B7-Revised/C9T to NE 2nd Portal – Preliminary Map
2. Diagram summarizing the three phases
3. Contract scope of work (attachment from RFP)

Attachment 1

B7-Revised/C9T to NE 2nd Portal

Nov 2, 2010

City of Bellevue
GIS Services



Plot Date: 11/3/2010 File Name: V:\City\EastLink\FEIS\arcgis\B7_Revised_C9T_to_NE_2nd_s.mxd IT Department

B7 – Revised Analysis

Proposed Process and Phases

1 Concept Report

- Layout new alternative
- Preliminary design & transportation analysis of A-2 park-and-ride
- Up to 5% CE for better analysis and costing
- Screen alternatives based on selected criteria
- Prepare report with findings
- *Cost: $670,000*
- *Timeframe: 6-7 months*
- *Council direction: Proceed to next phase?*

2 Environmental Analysis

- Detailed environmental assessment of alternative to allow full comparison to B7
- Elements would include land use, displacements, transportation, housing, aesthetics, air quality, noise; watersheds, geology, etc.
- Prepare reports
- *Cost: + $450,000*
- *Timeframe: + 4-6 months*
- *Council direction: Proceed to next phase?*

3 15% Conceptual Engineering

- CE up to 15% to allow for comparison to B2M.
- 15% CE will identify wetland delineation; geotechnical information; construction risk; etc.
- Update cost estimate
- Update drawings
- *Cost: $2.5 million*
- *Timeframe: + 12 – 24 months*

Council & Community Check-Ins

ATTACHMENT "A"
SCOPE OF WORK

East Link B7-Revised Concept Report

Phase 1: Conceptual Engineering and Screening Assessment of B7-Revised Alternative

Key Outcome:	**Definition of B7/C9T to NE 2nd portal ("B7-Revised") alignment, 5% Conceptual Engineering (CE) and environmental analysis based on screening criteria**
Deliverable:	**Concept Design Report for B7-Revised alignment and 5%CE drawings**
Timeline:	**6-7 months**
Cost:	**$670,000**

Task A: Confirm Layout of B7-Revised Alternative

1. Review available analysis of DEIS B7 alignment, including Sound Transit East Link Project DEIS, KPFF South Bellevue Station Location Analysis, OTAK Mercer Slough Wetlands review, and David Evans B7 DEIS Peer Review. Review available documents regarding C9T and its NE 2nd Street variants. Review City of Bellevue NE 2nd Street plans, WSDOT I-405 Master Plan, and WSDOT Main Street and NE 2nd interchange plans.
2. Based on Council direction, identify optimum location for B7-Revised alignment. For the purposes of this scope and budget, utilize the East Link DEIS B7 alignment and C9T 2nd Street portal as a base to develop a new alternative alignment with the following modifications:

- Near the Bellevue Way/I-90 Interchange, add the KPFF "A-2" station and park and ride, and adjust B7 light rail line as needed to meet station requirements and provide connectivity from park-and-ride
- On the BNSF ROW, based on independent legal analysis of rail banking status, locate tracks to minimize costs (not necessary to accommodate planned regional trail).
- Exiting the BNSF corridor and travelling north on 118thAvenue SE, locate guideway to minimize property impacts and right-of-way acquisition costs.
- Eliminate 118th Station (as in DEIS B7 alignment)
- At existing Red Lion site, add East Main station (no park and ride)
- On 114th, transition from elevated to at-grade adjacent to the Hilton Hotel and travel north under Main St. to connect to a NE 2nd portal compatible with the C9T tunnel alternative

3. If consultant determines that a design deviation is necessary, prepare a technical memo discussing the feasibility issues and make recommendations on design deviations to be advanced.
4. Project Management: Develop Project Management Plan, detailed timeline for tasks and deliverables, and identify process for incorporating public and Council input into analysis.
5. Agency Coordination: Kick-off meeting with City staff. Introductory meetings with WSDOT and Sound Transit staff to gain background knowledge on issues along B7-Revised analysis.
6. Public Involvement: Project kick-off open house to share B7-Revised base alignment, analysis process and timeline, and information about key opportunities for public input in process. (See "Public Involvement Scope" Section later in document for more detail.)
7. Council check-in: Provide direction on B7-Revised design to be advanced to next tasks and confirm screening criteria for Concept Design Report analysis.
8. Update layout based on Council direction.

Task A

Key Outcome:	**Confirmation of base B7-Revised to be advanced to next steps; introduction of study and process to the community.**
Deliverable:	**Layout of B7-Revised alignment and technical memo discussing major feasibility issues and design recommendations.**
Timeline:	**1 month**

Task B. Conceptual Engineering and Transportation Analysis of "A-2" Station

A critical focus in this analysis is the design of the South Bellevue Park-and-Ride based on the proposed A-2 option identified by KPFF. As indicated by KPFF, further design and transportation analysis is needed to advance the A-2 concept. As this has been identified by Council as a critical element for improving ridership on the B7-Revised alignment, an initial detailed review of design, transportation, and costs is proposed to assess access, feasibility, ridership, and neighborhood impacts.

1. Design: Building upon the KPFF analysis, the design analysis will include looking at topography issues, ingress and egress geometrics including grades, turning radii and sight distances, cut/fill necessary to construct a park-and-ride and parking structure on the site, and other issues relating to the park and ride footprint and construction impacts and feasibility. The design work will be undertaken in conjunction with the transportation analysis below. Any design modifications based on the transportation access analysis will be identified and assessed during this phase.
2. Transportation: Assess both the macro and site-specific traffic impacts of proposed A-2 station.
    a. Transportation Modeling: Using 2030 as a horizon year, use the BKR model to provide overall volume and turning movement information in proximity to the station, and identify level of service (LOS) at key intersections along, and in close proximity to, the identified new station location. Update modeling based on more focused transportation access analysis noted below.
    b. Assess ingress and egress feasibility for both cars and buses at the proposed station and park-and-ride site. Start with work done by KPFF in their July, 2010 report, and modify as necessary based on additional work. Analyze the implications of the A-2 site and access on any potential impacts of bus routing and travel times, as well as traffic impacts on adjacent arterials and local streets.
3. Visual simulation: Develop two visual simulations for A-2 station. Develop massing models for stations and park-and-ride and conduct technical work to compose simulations.
4. Cost: Update KPFF cost estimate to reflect more advanced design information, while staying consistent with Sound Transit's cost estimating methodology.
5. Project Management: Up to four meetings with City staff to advance design and transportation analysis; contract administration.
6. Agency Coordination: Meetings with Sound Transit and King County to discuss specific design and programmatic requirements and to review cost estimates. Meeting with WSDOT to discuss location and transportation impacts relative to I-90 mainline and interchange.
7. Public Involvement: Open house to share A-2 Station conceptual design and traffic analysis results with community, and seek community feedback.
8. Council check-in to provide results of A-2 Station conceptual design and traffic analysis results, share community feedback and seek Council direction.
9. Adjustment to design based on public and Council feedback.
10. Write tech memo summarizing analysis and design recommendations.

Task B

Key Outcome:	**Advance design of A-2 station, constructability review, and transportation analysis; gain public input on A-2 station.**
Deliverable:	**Technical Memo summarizing design updates and transportation analysis, including renderings of design concepts.**
Timeline:	**2 months**

The next tasks, Task C, Conceptual Engineering to 5%, and Task D, environmental screening analysis, are performed in tandem to inform one another. Conceptual Engineering will bring the new alternative to the same level of CE as the other alternatives in the East Link DEIS. The environmental screening analysis will bring the information available about the B7-Revised alignment to an equivalent level of the 112th Avenue Concept Design Report. These are parallel processes to allow adjustment of the design of the alignment to avoid, minimize, and mitigate impacts. The process would begin with a basic (approx. 1%) level of CE work to better define the alternative and inform the first stages of the screening analysis.

Task C. Conceptual Engineering (CE) up to 5% Design

Design B7-Revised to allow for environmental analysis and cost estimates comparable to DEIS.

1. Define preliminary conceptual B7-Revised horizontal and vertical alignments (1" = 50' scale) utilizing the following information:
    a. Proposed B7-Revised alignment layout from Task A above shown on aerial photo
    b. Ortho photos with two-foot contours information
    c. Approximate locations of Right-of-way and private property lines
    d. Sound Transit's Draft Environmental Impact Statement and associated plans and reports (December 2008)
    e. City of Bellevue's South Bellevue Station Alternative Location Analysis (prepared by KPFF, July 2010)
    f. City of Bellevue's Analysis of Potential Impacts from Sound Transit on Mercer Slough (prepared by OTAK, August 2010)
    g. City of Bellevue's Peer Review of Segment B7 of Sound Transit's East Link Light Rail Project (prepared by DEA, July 2010)
    h. Existing sensitive areas (Mercer Slough) information
    i. WSDOT record drawings for I-90 and I-405
    j. Existing WSDOT and other available geotechnical information
    k. WSDOT I-90 South Bellevue Interchange Structure and Soil Monitoring Program reports
    l. Sound Transit light rail design criteria
    m. Legal analysis of freight rail compatibility in BNSF corridor.
    n. WSDOT I-405 Master Plan
    o. Bellevue Light Rail Best Practices

    The CE design will include further refinement of the B7-Revised alignment to include, but not be limited to, layout of the transition from the A segment to B7-Revised, placement of the alignment in the BNSF right of way, horizontal and vertical alignment along I-405 including affects to the Main Street overcrossing of I-405, layout of the East Main P&R station, and layout of the transition to the C9T segment. For the elevated section along I-405, conceptual pier placements will be identified.

2. Determine locations of abutments and piers through Mercer Slough, including conceptual pier design.
3. Perform iterative refinements of horizontal and vertical alignments to avoid and/or minimize adverse impacts to private properties, businesses, sensitive areas, and noise and visual impacts. The refined preliminary conceptual alignment will provide the basis for determining general feasibility and conducting environmental review in Task D.

4. Project Management: Up to five meetings with City staff, regular progress reports and check-ins, and contract administration.
   (Agency coordination, public involvement, and Council check-ins covered under Task D.)

Task C	
Key Outcome:	**Definition of alignment sufficient to conduct environmental analysis based on screening criteria**
Deliverables	**Defined 5% conceptual engineering, horizontal and vertical alignments** **Conceptual cross sections at typical sections throughout the B7-R route** **Conceptual pier design through Mercer Slough** **Conceptual design for connection with Segment C**
Timeline:	**3-4 months**

Task D. Environmental Screening Analysis

Environmental analysis based on screening criteria of B7-Revised Alternative to a level consistent with Sound Transit's 112th Avenue Concept Design Report.

1. Conduct independent environmental analysis of up to eight environmental screening criteria (to be confirmed by the City Council). Develop methodologies consistent with Sound Transit's Concept Design Reports. Analysis should include discussion of potential avoidance and mitigation opportunities for impacts. The following criteria are proposed for discussion and budget scoping purposes:
   a. Transportation: Assess traffic impacts of new alternative, using 2030 as a horizon year. Identify level of service (LOS) at key intersections along, and in close proximity to, the entire alignment and station locations. Identify major transportation impacts on local arterials. Assess impacts on bus travel times and routing based on new (A-2) station design and location. Identify other major transportation impacts and proposed mitigation, particularly in close proximity to park-and-rides and stations.
   b. LRT Ridership: Prepare light rail ridership forecasts for the alignment by station, for Segment B, and for East Link as a whole. Ridership forecasts will be for 2030, and would be based on the proposed alignment identified in Tasks A and B; an optional task, not included in this scope and budget, would be to prepare additional ridership forecasts of other options. In order to be consistent with earlier work done by Sound Transit on other alternatives, the scope assumes that Sound Transit's light rail ridership model and methodology would be utilized.
   c. ROW and Property Impacts: Define ROW needs and property impacts for B7-Revised alignment. Identify number of businesses and residences impacted and estimated time to secure all property rights.
   d. Visual: Develop two visual simulations at each of four locations along B7-Revised alignment: (1) the crossing of Mercer Slough just north of I-90; (2) light rail in BNSF corridor as it passes by residential uses accessed off of 118th Avenue SE; (3) at an East Main station; and (4) the light rail approach to downtown connecting to a NE 2nd Street tunnel including the Red Lion and Sheraton sites. Develop massing models for stations and park-and-ride and conduct technical work to compose simulations.
   e. Environmental: Identify and evaluate potential construction and operational impacts to the affected ecosystem, including but not limited to water bodies, wetlands, wetland buffers, vegetation and wildlife habitat, particularly for priority, threatened or endangered species. The analysis will consider habitat loss, water quality and hydrology and discuss functions and values of impacted areas. The evaluation will be based on existing, available information from local, state and

federal resources for screening purposes. A more detailed analysis, including field reconnaissance, would be conducted as part of Phase 2.

f. Cost estimates: Develop 5% engineering cost estimate range that includes design completion, construction, ROW acquisition and all mitigation costs for property impacts and environmental impacts, including appropriate contingencies. The cost estimate shall be consistent with Sound Transit's cost estimating methodology for similar work.

g. Noise: Conduct noise analysis to predict potential noise levels associated with B7-Revised alignment. Analysis includes independent measurement of ambient sound at six locations; construct computer noise models to predict sound levels, utilizing Sound Transit noise data; review FTA regulations and identify "impact" per FTA regulations; develop mitigation recommendations.

h. Constructability: Discussion of construction methods; constructability assessment; construction impacts and potential mitigation approaches.

2. Prepare a Concept Design Report presenting the CE drawings, environmental analysis, and additional analysis in a format accessible to the public and decision-makers. Include Draft, Review Draft, and Final Concept Design Report. (Allow for two reviews and production costs.)
3. Project Management: Up to five meetings with City staff, regular progress reports and check-ins, and contract administration.
4. Agency Coordination: Up to five meetings and coordination as necessary with appropriate agencies (e.g. Sound Transit, WSDOT, Corp, DOE) to conduct analysis.
5. Public Involvement: Open House to share 5% CE and Concept Design Report findings; seek community reaction and feedback on next steps. (See "Public Involvement Scope" Section later in document for more detail.)
6. Council Check-in: Brief Council on 5% CE design, screening analysis, and public feedback. Seek Council direction on next steps.

Task D

Key Outcome:	**Completion of Phase 1, definition of B7-Revised alignment, 5% CE, and environmental screening**
Deliverable:	**Final Concept Design Report**
Timeline:	**3-4 months**