Project Development Summary

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Alignment Considerations

- Widening shall occur substantially to the north of the existing roadway.
- Minimize the damages to on-going operations of adjacent industrial business owners.
- Safe Geometric Design.
  - Sight Distance
  - Lane Taper
  - Curve Radius

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Nordstrom Impacts

- Gate Relocations
- Fuel Tank Relocation
- Closing Center Driveway
- Combine Shipping and Receiving
- Reduction of Buffer
- Removal of Trees

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Stormwater Quality

Treatment Alternatives Analysis

Bio-swales and ponds

- Large foot-print
- Poor ecological "fit" - Create potential habitat for undesirable and/or competitor species

Stormwater Quality

Treatment Alternatives Analysis

Sedimentation chambers and filters

- Equivalent or better treatment effectiveness than ponds
- Good ecological "fit" - No habitat concerns
- Regular maintenance schedule

Stormwater Drainage

Goals

- Provide WQ treatment where none currently exists
- Minimize the number of outfalls
- Design facilities to fit with other amenities

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Stormwater Drainage

Guidelines and Constraints

- BES policy - Stormwater Management Manual
- Hydraulics - Grade and distance
- Maintenance and cost considerations

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Stormwater Drainage

Outfall Locations and Elevations

- Locations and elevations are not known at this time, as drainage design is in very preliminary stages. A principle objective of the project is to minimize the total number of outfalls.
- BES policy guidelines and other goals are drivers for the location of outfalls. These include:

  + BES requirement that outfalls be located above "ordinary low water" level (approximately 3 feet elevation - City of Portland datum)

  + A desire to discharge to the lakes proper, and not the near shore "pools."
- A goal of minimizing the total number of outfalls.

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Stormwater Drainage

Pollutant Loading: Future Roadway vs. Existing Roadway

- Projected traffic volume is fixed. Pollutant loading will be at least as great for the future roadway, if not greater. Congested traffic may produce higher loading.
- BES has agreed to provide water quality treatment for the entire roadway where discharging to the lakes, as well as look for opportunities to provide additional treatment where none currently exists, e.g. the SBL parking lot drains.
- BES policy guidelines - The Stormwater Management Manual directs the design of water quality facilities based on the impervious area and the design runoff.

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Stormwater Drainage

Design Issue	Design Criteria
Water Quality Design Storm	24-hour storm, 0.83 inches of rainfall
Water Quality Facility	Select from Approved List
Treatment/Removal Efficiency	70% Total Suspended Solids + Total Maximum Daily Load (TMDL) requirements
Impervious Area Treatment	Management Level based on area

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Hazardous Spill Containment

- Capacity requirement of 20,000 gallons

Alternatives include:

- Combined Water Quality/Spill Containment Facilities
- In-line storage
- Off-line storage vaults

Hazardous Spill Containment

Off-line storage vaults

- Approximate size 15 ft x 15 ft x 15 ft
- Separated from the storm drain outfall by a manual gate valve

Budget

- Total Project Cost - $15.5 Million
  - Design / Public Process - $ 2.1 M
  - Construction Cost - $ 13.4 M

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Project Milestones

- End of June 1999: Initiate Type III review (Pre-App)
- Middle of July 1999: 50% Design Review
- End of July 1999: Workshop
- Fall 1999: Open House
- Fall 1999 (after open house): City Council
- First of December 1999: Final Design Review
- December 1999/January 2000: IGA to City Council
- January/February 2000: Open House
- January/February 2000: Bid (subject to permit approvals and right-of-way acquisition)

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