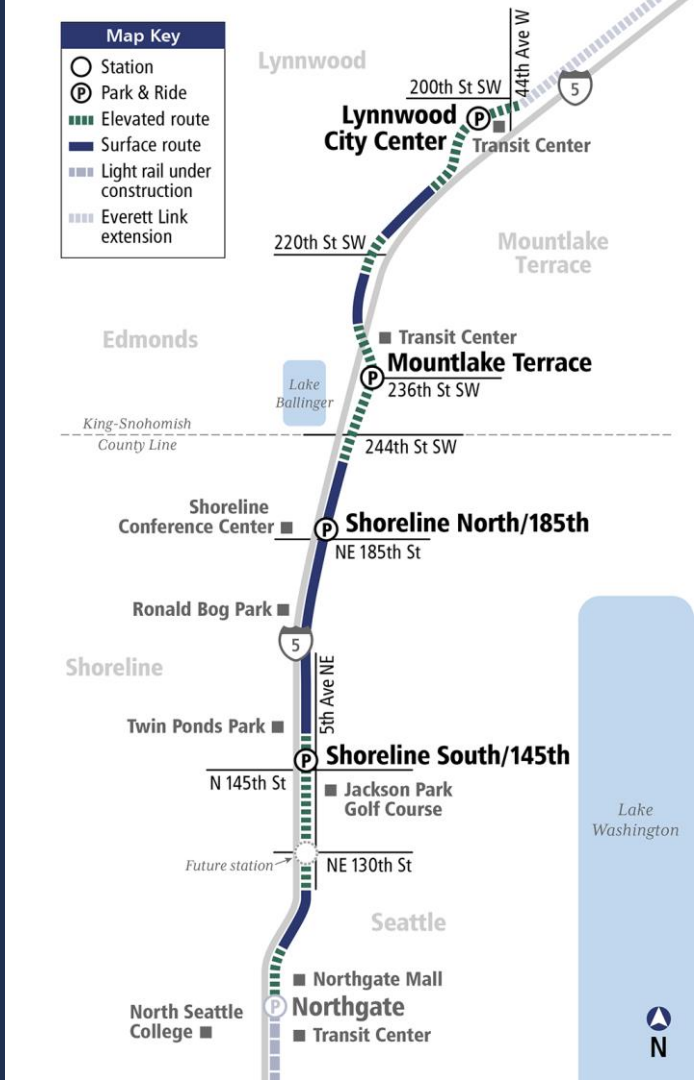
Critical Areas Special Use Permit #PLN19-0019
Landslide Hazard Area – I-5 NB Off-Ramp

Public Hearing – April 10, 2019

Lynnwood Link Extension

- Extends light rail 8.5 miles north from Northgate to Lynnwood
- Includes transit guideway and 2 stations with garages in Shoreline
- Peak service every 4 minutes
- Construction begins early 2019
- Start of service: 2024

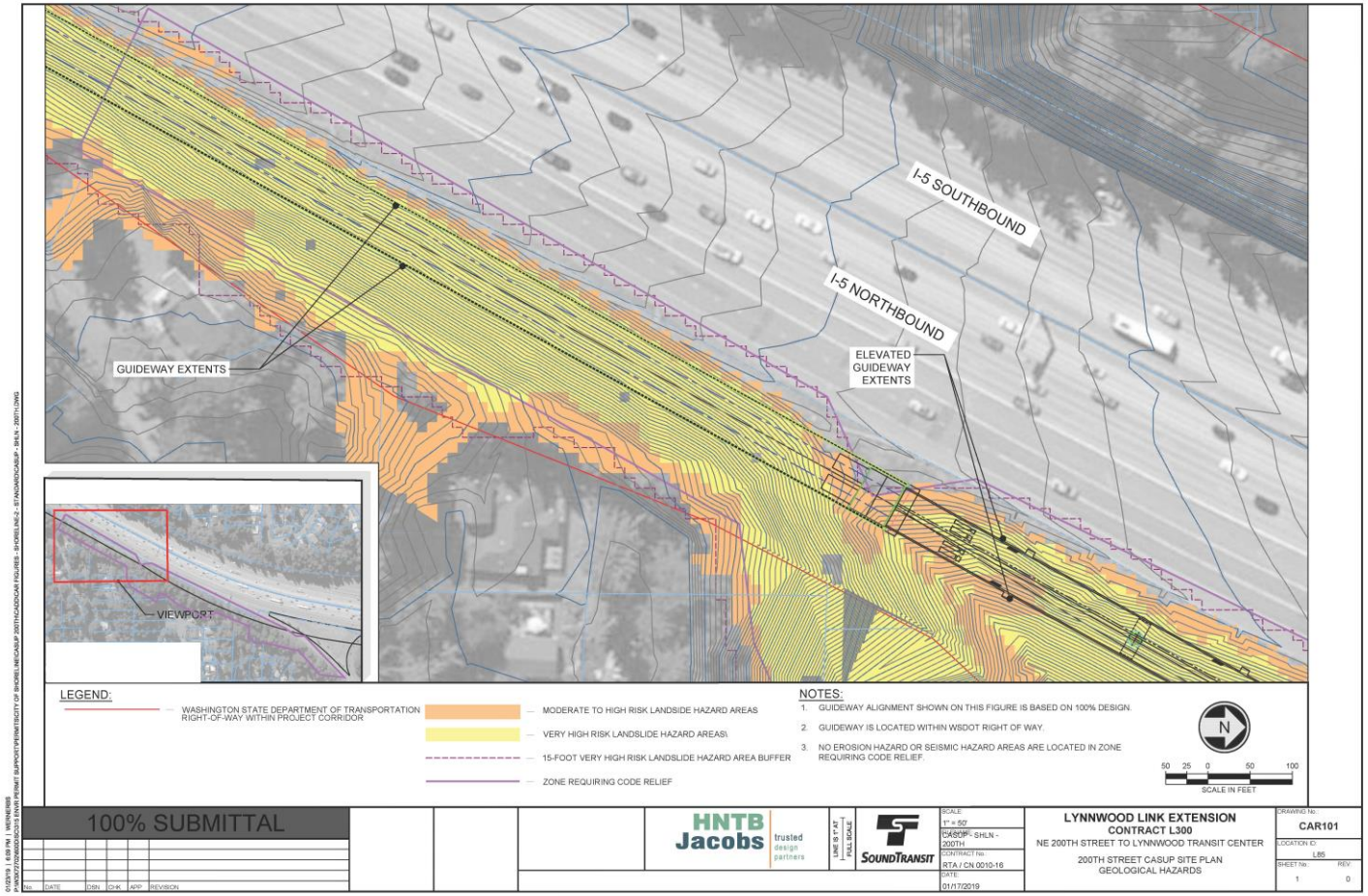


Proposal

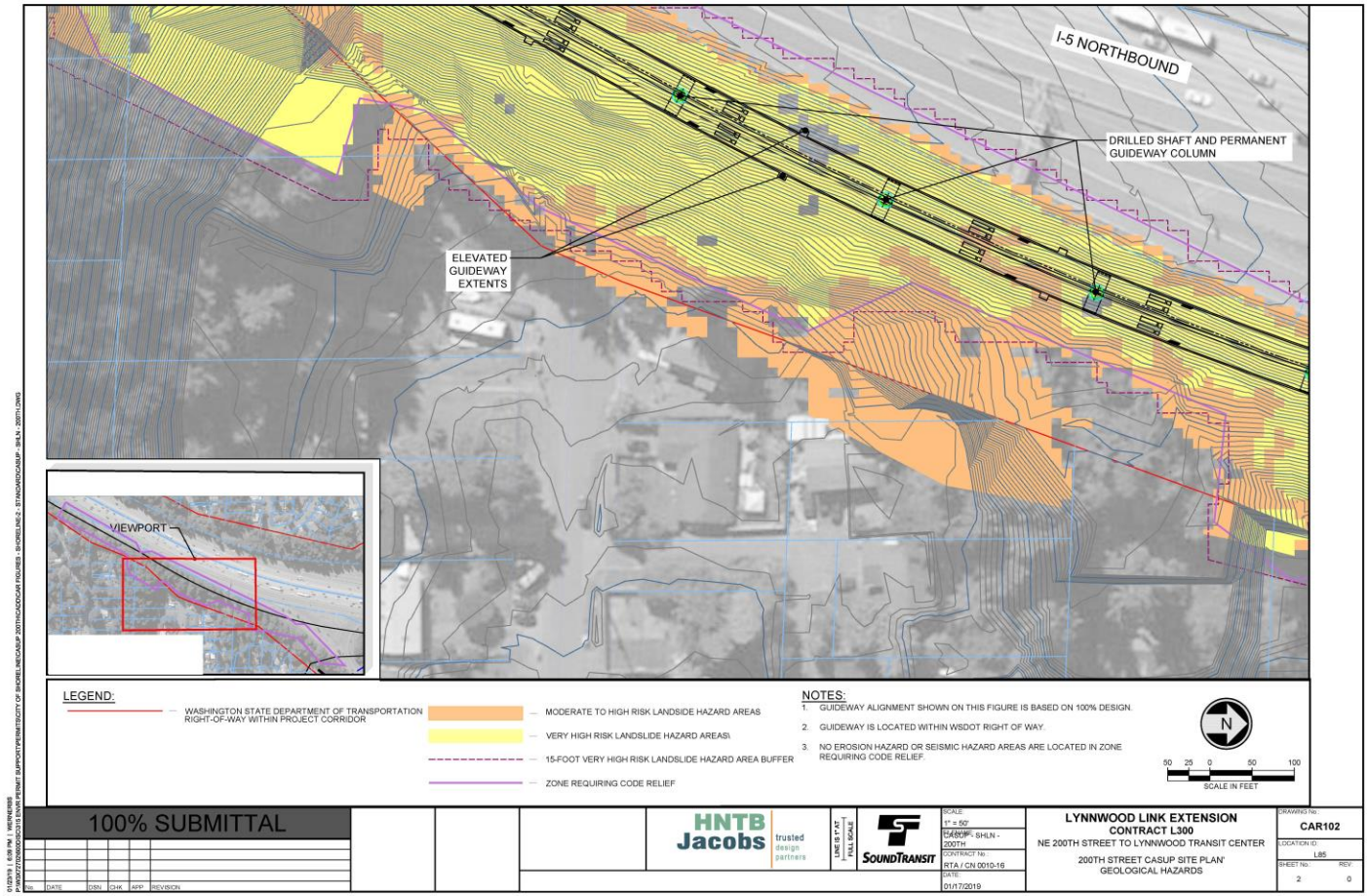
As part of the Lynnwood Link Extension (LLE), Sound Transit proposes to construct a portion of the elevated guideway in a WSDOT-owned embankment that currently does not meet City's minimum factor of safety for dynamic conditions.

- Factor of safety is the ratio of resisting forces to driving forces, and in this context, refers to the resisting force from the soil embankment to sliding forces
- Requesting relief from SMC 20.80.224, Item F – Design Criteria for Alteration of Very High Risk Landslide Areas
- Sound Transit's proposal meets all of the decision criteria set forth in SMC 20.30.333(B)

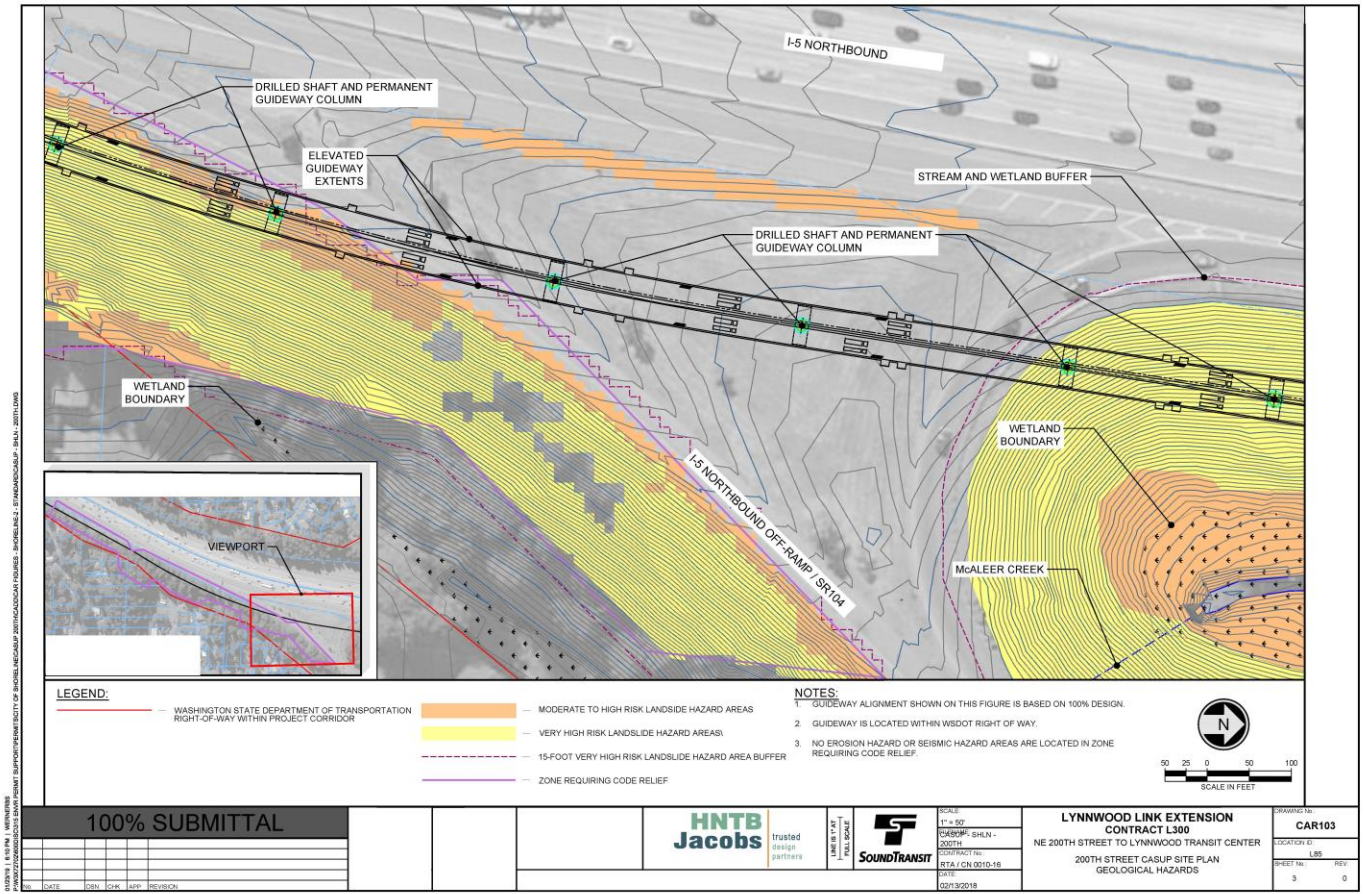
Site Plan


I-5 SOUTHBOUND
I-5 NORTHBOUND
GUIDEWAY EXTENTS
ELEVATED GUIDEWAY EXTENTS
VIEWPORT
LEGEND:
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY WITHIN PROJECT CORRIDOR
MODERATE TO HIGH RISK LANDSLIDE HAZARD AREAS
VERY HIGH RISK LANDSLIDE HAZARD AREAS\
15-FOOT VERY HIGH RISK LANDSLIDE HAZARD AREA BUFFER
ZONE REQUIRING CODE RELIEF
NOTES:
1. GUIDEWAY ALIGNMENT SHOWN ON THIS FIGURE IS BASED ON 100% DESIGN.
2. GUIDEWAY IS LOCATED WITHIN WSDOT RIGHT OF WAY.
3. NO EROSION HAZARD OR SEISMIC HAZARD AREAS ARE LOCATED IN ZONE REQUIRING CODE RELIEF.
N
50 25 0 50 100
SCALE IN FEET
100% SUBMITTAL
HNTB Jacobs trusted design partners
SOUNDTRANSIT
SCALE: 1" = 50'
CAD FILE: - SHLN - 200TH
CONTRACT No.: RTA / CN 0010-16
DATE: 01/17/2019
LYNNWOOD LINK EXTENSION
CONTRACT L300
NE 200TH STREET TO LYNNWOOD TRANSIT CENTER
200TH STREET CASUP SITE PLAN
GEOLOGICAL HAZARDS
DRAWING No.: CAR101
LOCATION ID: L85
SHEET No.: 1
REV: 0

Site Plan


I-5 NORTHBOUND
DRILLED SHAFT AND PERMANENT GUIDEWAY COLUMN
ELEVATED GUIDEWAY EXTENTS
VIEWPORT
LEGEND:
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY WITHIN PROJECT CORRIDOR
MODERATE TO HIGH RISK LANDSIDE HAZARD AREAS
VERY HIGH RISK LANDSLIDE HAZARD AREAS\
15-FOOT VERY HIGH RISK LANDSLIDE HAZARD AREA BUFFER
ZONE REQUIRING CODE RELIEF
NOTES:
1. GUIDEWAY ALIGNMENT SHOWN ON THIS FIGURE IS BASED ON 100% DESIGN.
2. GUIDEWAY IS LOCATED WITHIN WSDOT RIGHT OF WAY.
3. NO EROSION HAZARD OR SEISMIC HAZARD AREAS ARE LOCATED IN ZONE REQUIRING CODE RELIEF.
N
50 25 0 50 100
SCALE IN FEET
100% SUBMITTAL
HNTB Jacobs trusted design partners
SOUNDTRANSIT
SCALE: 1" = 50'
CONTRACT No: RTA / CN 0010-16
DATE: 01/17/2019
LYNNWOOD LINK EXTENSION
CONTRACT L300
NE 200TH STREET TO LYNNWOOD TRANSIT CENTER
200TH STREET CASUP SITE PLAN'
GEOLOGICAL HAZARDS
DRAWING No: CAR102
LOCATION ID: L85
SHEET No: 2
REV: 0

Site Plan

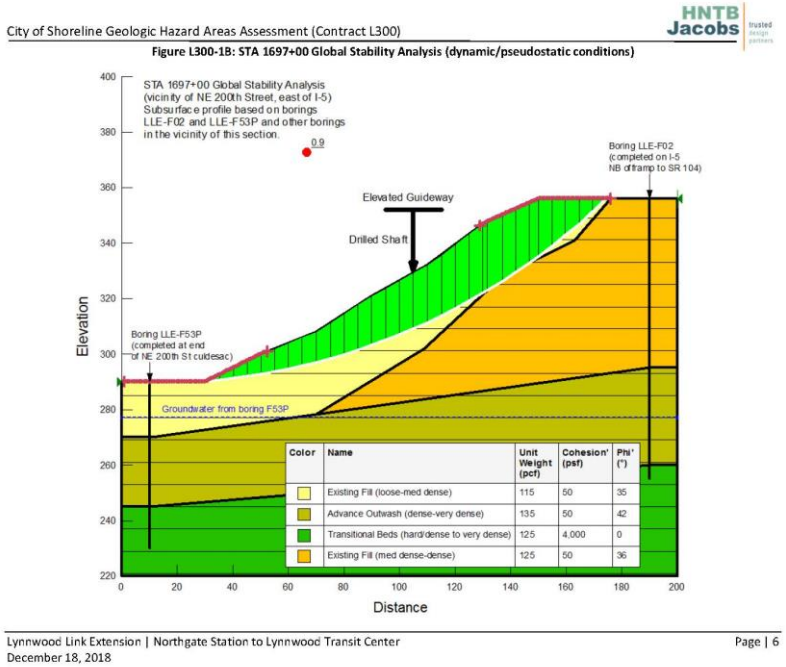

I-5 NORTHBOUND
DRILLED SHAFT AND PERMANENT GUIDEWAY COLUMN
ELEVATED GUIDEWAY EXTENTS
STREAM AND WETLAND BUFFER
DRILLED SHAFT AND PERMANENT GUIDEWAY COLUMN
WETLAND BOUNDARY
WETLAND BOUNDARY
VIEWPORT
I-5 NORTHBOUND OFF-RAMP / SR104
McALEER CREEK
LEGEND:
WASHINGTON STATE DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY WITHIN PROJECT CORRIDOR
MODERATE TO HIGH RISK LANDSLIDE HAZARD AREAS
VERY HIGH RISK LANDSLIDE HAZARD AREAS\
15-FOOT VERY HIGH RISK LANDSLIDE HAZARD AREA BUFFER
ZONE REQUIRING CODE RELIEF
NOTES:
1. GUIDEWAY ALIGNMENT SHOWN ON THIS FIGURE IS BASED ON 100% DESIGN.
2. GUIDEWAY IS LOCATED WITHIN WSDOT RIGHT OF WAY.
3. NO EROSION HAZARD OR SEISMIC HAZARD AREAS ARE LOCATED IN ZONE REQUIRING CODE RELIEF.
N
50 25 0 50 100
SCALE IN FEET
100% SUBMITTAL
HNTB Jacobs
trusted design partners
SOUNDTRANSIT
LYNNWOOD LINK EXTENSION
CONTRACT L300
NE 200TH STREET TO LYNNWOOD TRANSIT CENTER
200TH STREET CASUP SITE PLAN
GEOLOGICAL HAZARDS
CAR103
02/13/2018

Existing Conditions

Geologic Hazard Areas

1. Very high risk landslide hazard area – steep WSDOT embankment

- Existing slopes consist of structural fill placed by WSDOT during construction of I-5
- Slope does not meet minimum factor of safety of 1.2 for dynamic/seismic condition required per SMC 20.80.224(F)



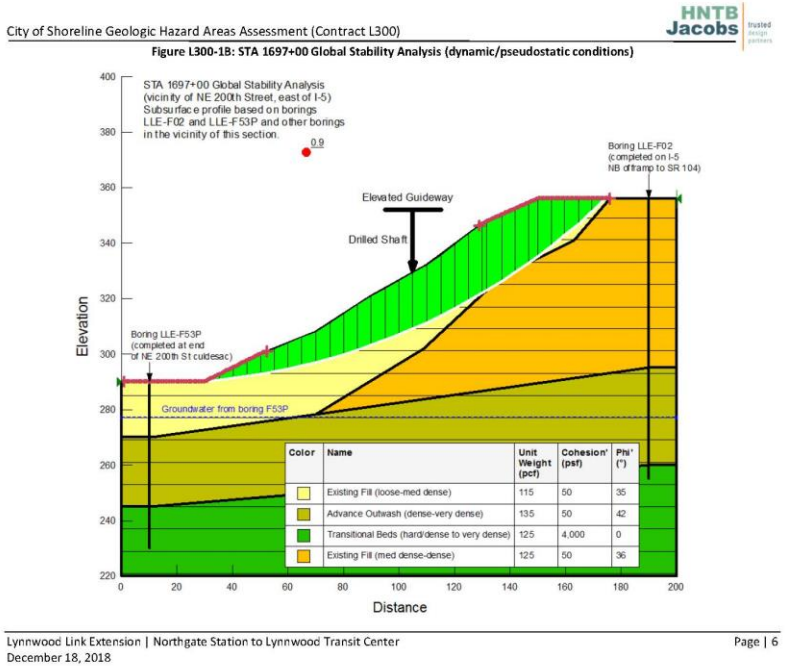
Impacts

Geologic Hazard Areas

1. Placement of guideway columns and drilled shafts in slope area
   - ➢ Will provide permanent reinforcement and moderately improve stability

2. Vegetation removal, cut slopes, retaining walls
   - ➢ Will not decrease factor of safety for landslide occurrences

3. As designed, project will not increase risk of hazard to people or property



Mitigation

Restoration of Temporarily Impacted Areas

1. Implement appropriate Best Management Practices during construction
2. Replanting and restoring disturbed areas after construction
3. Efforts to bring WSDOT-owned steep slopes up to SMC standards for factors of safety are not practical or feasible
    - Sound Transit is not authorized to modify WSDOT-owned and constructed embankment
    - Improving WSDOT's embankment is beyond scope of light rail project
    - It would require extensive reconstruction that could adversely impact I-5 traffic and operations

Conclusion

Request for Release from SMC 20.80.224(F)

1. The intent of the design criteria are met

   - Slopes are not naturally-occurring – they are engineered embankments
   - Project will not increase risk of landslide and measures to reduce risk are incorporated into plans
   - Project will not decrease slope stability on site or adjacent properties but will increase stability