4.6 GEOLOGY AND SOILS

This section of the Draft Environmental Impact Report (Draft EIR) presents an analysis of the proposed project's effect on and by the project area's geology and soils.

4.6.1 ENVIRONMENTAL SETTING

4.6.1.1 Regional Characteristics

The project site is located in the Altamont Hills, San Joaquin River Valley of the Great Valley geomorphic province, in the seismically active San Francisco Bay Area. The northwest to southeast trending ridges and valleys of the Coast Ranges have formed in response to the active tectonism of the region. Tectonics of the region is controlled by the San Andreas Fault System. The northwest to southeast striking San Andreas Fault represents the boundary between the Pacific Plate, primarily offshore to the east-southeast, and the North American Plate, primarily onshore to the west-northwest. In response to the relative northwest movement of the Pacific Plate with respect to the North American Plate, other faults have formed.

Several types of faults are mapped by the California Geological Survey CGS) (formerly the Division of Mines and Geology). These include: active faults with surface displacement within the last 11,000 years; potentially active faults with surface displacement between 11,000 and 1.6 million years ago; and inactive faults with no surface displacement within the last 1.6 million years. Active faults of the region include the Greenville, Calaveras, Concord-Green Valley, Las Positas, and San Andreas. Large magnitude earthquakes could be generated on any of the regional active faults. The Greenville Fault, an active fault within the Alquist-Priolo Special Studies Zone, occurs approximately 6.4 miles to the west of the project site along the base of the Altamont Hills. The Calaveras Fault is located approximately 8 miles to the southwest of the Project Area, the Concord-Green Valley Fault is 28 miles to the northwest, the Las Positas Fault is 2 miles to the south, and the San Andreas Fault—the largest of the regional faults—is located approximately 40 miles to the east.

4.6.1.2 Local Characteristics

The project site is located in the Coast Ranges geomorphic province of California, which is dominated by non-marine deposits of Plesistocene to early Pleistocene age. Borings advanced at the project site during the Phase II Investigation conducted by Northgate Environmental Management, Inc. (Northgate) indicate that the site is underlain by clay, silty clay, and sands to depths ranging from 15 to greater than 24 feet below ground surface (bgs), below which lies siltstone bedrock (Northgate 2005).

The project site was built by cutting and filling of the pre-development ground surface. The northern and southern portions of the project site were cut and the central portion of the site was filled. The central portion was a gently sloped valley prior to filling. The fill thickness range is estimated from zero feet in the southwest area to 32 feet in the northeast central area.

4.6.1.2.1 Groundwater

Groundwater was encountered in three of the borings advanced during an investigation conducted by Northgate. Groundwater was encountered at depths varying from 17.5 to 19 feet bgs in a topographically low area on the northeastern portion of the site, to a depth of 37 feet bgs in a boring drilled on the northeastern portion of the racetrack oval. Groundwater flow is likely to the northeast, based on local topography. No other exploratory borings or test pits encountered groundwater at the time of the geotechnical engineering investigation. (Northgate 2005)

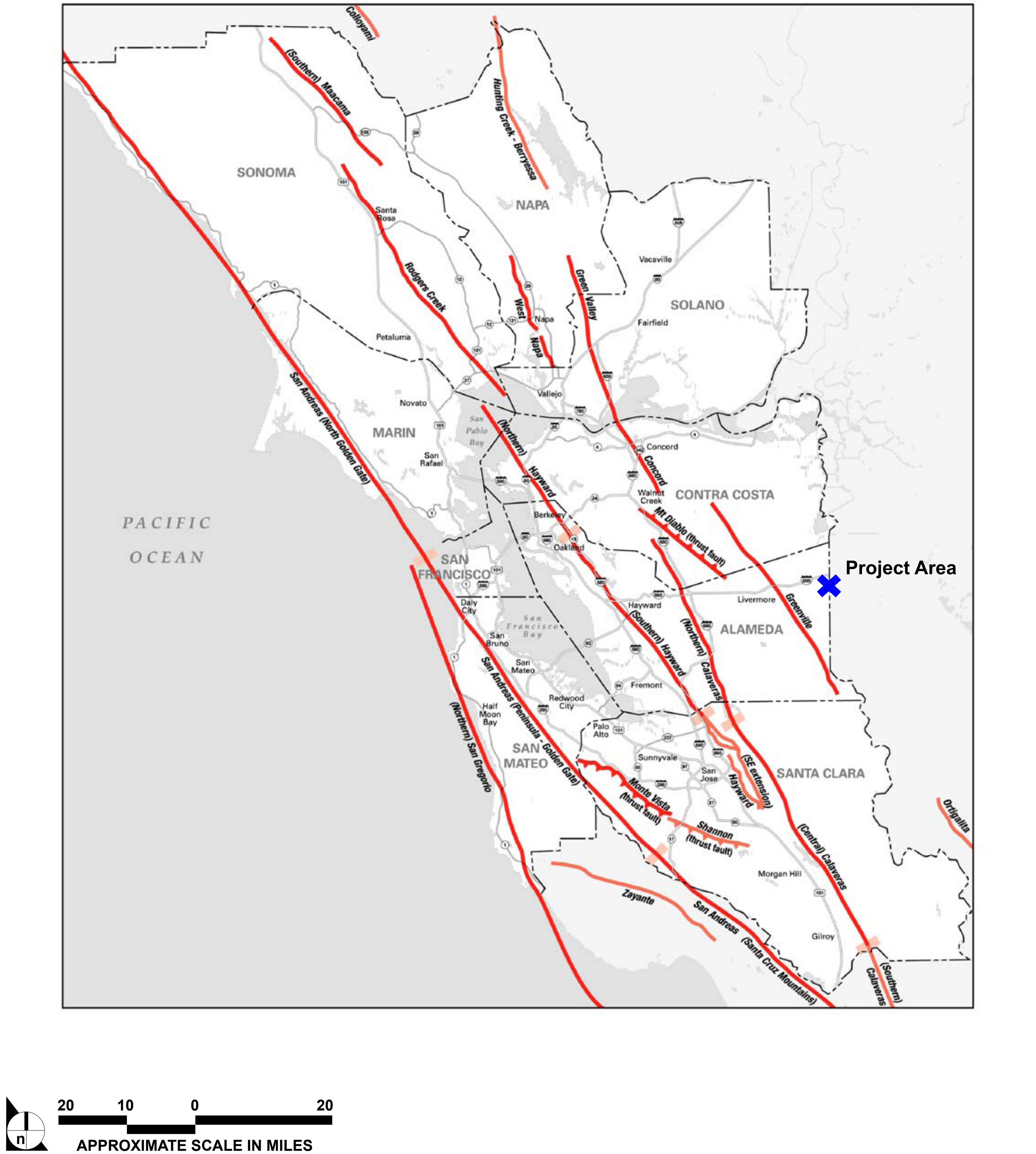
4.6.1.2.2 Faults and Seismicity

No known active faults cross the project site and the site is not located within an Alquist-Priolo Earthquake Fault Zone. However, large (>M7) earthquakes have historically occurred in the San Francisco Bay region and many earthquakes of low magnitude occur every year.

The nearest known active fault is the Greenville Fault, located approximately 6.4 miles west of the site. More distant known active faults include the Concord-Green Valley Fault, the Calaveras Fault, the Mount Diablo Fault, the Hayward Fault, and the San Andreas Fault. These and other known active faults within 100 kilometers of the site are presented in **Table 4.6-1, Known Active Faults** and shown in **Figure 4.6-1, Regional Faults.**

4.6.1.2.2.1 Fault Rupture

According to the geotechnical investigation conducted by Northgate, there are no known active faults crossing the site that would endanger the structures due to ground rupture. Furthermore, the project site is not within an Alquist-Priolo Earthquake Fault Zone. Therefore, fault rupture is unlikely at the subject property.



SOURCE: Alameda County Planning Department - May 2007, Association of Bay Area Governments - 2003

FIGURE **4.6-1**

Regional Faults

Table 4.6-1
Known Active Faults

Fault Name	Approximate Distance from the Project Site (miles)	(kilometers)	Maximum Earthquake Magnitude (M_w)
Great Valley	1.1	1.8	6.7
Greenville	6.5	10.4	6.9
Mount Diablo	14.7	23.7	6.7
Calaveras	19.5	31.3	6.8
West Napa	47.0	75.7	6.5
Hunting Creek-Berryessa	81.1	130.6	6.9
Rodgers Creek	56.1	90.4	7.0
Hayward	24.9	40.1	7.1
San Andreas	43.6	70.2	7.9

Source: ABAG 2007

4.6.1.2.2.2 Ground Motion/Ground Shaking

Ground motion is generated during an earthquake as two blocks of the earth's crust slip past each other. In general, ground motion is greatest near the epicenter, increases with increasing magnitude, and decreases with increasing distance. However, the ground motion measured at a given site is influenced by a number of criteria, including depth of the epicenter, proximity to projected or actual fault rupture, fault mechanism, duration of shaking, local geologic structure, source direction of the earthquake, underlying earth material, and topography.

Earthquake magnitude is a quantitative measure of the strength of an earthquake or the strain energy released by it, as determined by seismographic or geologic observations. Earthquake intensity is a qualitative measure of the effects a given earthquake has on people, structures, or objects. Earthquake magnitude is measured on the Richter scale or as moment magnitude, and intensity is described by the Modified Mercalli intensity scale. A related form of measurement is peak ground acceleration, which is a measure of ground shaking during an earthquake. Peak ground acceleration values are reported in units of gravity (g).

As mentioned previously, the Great Valley Fault is the closest mapped fault, located 1.1 miles west of the project site. Based on the subsurface soil conditions encountered and local seismic sources, the project site may be characterized for design based on Chapter 16 of the 1997 California Uniform Building Code (UBC) using the information from Table 4.6-2, 1997 UBC Seismic Parameters.

4.6.1.2.2.3 Liquefaction

Soil liquefaction results from loss of strength during cyclic loading, such as when imposed by earthquakes. When seismic ground shaking occurs, the soil is subject to seismic shear stresses that may cause the soil to undergo deformations. If the soil undergoes virtually unlimited deformation without developing significant resistance, it is said to have liquefied. When soils consolidate during and following liquefaction, ground settlement occurs. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded, and fine-grained sands. Liquefaction is a phenomenon that occurs in loose, saturated (i.e., below groundwater) sand deposits. Shallow groundwater is considered a factor as it creates the saturated condition of the soil.

According to the geotechnical investigation conducted by Northgate, data from test borings on the project site indicated that groundwater was encountered at depths varying from 17.5 to 19 feet below ground surface (bgs) in a topographically low area on the northeastern portion of the site, to a depth of 37 feet bgs in a boring drilled on the northeastern portion of the racetrack oval, groundwater is currently at a depth of approximately 17 feet below the existing ground surface at the southeastern end of the site. The groundwater conditions may change in the future depending on new construction, rainfall, percolation rates, or the amount of groundwater withdrawal. It is possible that higher groundwater levels may occur at the site.

4.6.1.2.2.4 Lateral Spreading

Lateral spreading typically occurs as a form of horizontal displacement of relatively flat-lying alluvial material toward an open or “free” face such as an open body of water, channel, or excavation. Generally in soils, this movement is due to failure along a weak plane, and may often be associated with liquefaction. As cracks develop within the weakened material, blocks of soil displace laterally toward the open face. Cracking and lateral movement may gradually propagate away from the face as blocks continue to break free. Lateral spreading could occur within areas having potential for liquefaction. As stated above, there is a potential for liquefaction on the project site. Therefore, there is a potential for lateral spreading on the project site.

4.6.1.2.2.5 Lurching

Ground lurching is a result of the rolling motion imparted to the ground surface during energy released by an earthquake. Such rolling motion can cause ground cracks to form. The potential for the formation of these cracks is considered greater at contacts between deep alluvium and bedrock. As stated above, there is a potential for liquefaction on the project site. Therefore, there is a potential for ground lurching on the project site.

4.6.1.2.2.6 Expansive Soils

Expansive soils shrink or swell significantly with changes in moisture content. Clay content and porosity of the soil also influence the change in volume. The most common cause of changing soil moisture content is seasonal fluctuation due to rainfall; however, improper surface drainage or underground water pipe leaks may cause shrinking or swelling of soil. The shrinking and swelling caused by expansive clay-rich soil often results in damage to overlying structures, including foundations, floor slabs, pavements, sidewalks, and other improvements that are sensitive to soil movements. As noted in the geotechnical investigation conducted by Northgate, there is evidence of longitudinal cracking in the racetrack pavement at the northeastern end of the track and in the grandstand area as concrete cracking at the far northeastern end of the concrete walkway pavement. This observation indicates that there is a moderate to high potential for shrinkage and swelling (expansive soils) of the near-surface clays with changes in moisture content.

4.6.1.2.2.7 Landslides and Slope Stability

Landslides, earthslips, mudflows, and soil creep are all expressions related to the instabilities created by steep slopes, shallow soil development, the presence of an excessive amount of water, or the lack of shear strength (essentially, the ability to resist stresses that might cause one part of a body to slide past another) in the soil or at the soil/rock interface. Earthquake activity induces some landsliding in soils. Most slippage results from the weight of rain-saturated soil and/or rock exceeding the shear strength of the underlying material. Erosion of supporting material at the toe of the slope further contributes to instability. Although existing soil materials may form the basis of an unstable condition, natural processes and human activities can initiate landslides in otherwise stable areas. According to the geotechnical investigation conducted by Northgate, the slopes analyzed show some minor signs of slope creep. Therefore, the potential for landslides or other downslope earth movements is moderate to high due to the project site topography. No landslides have been mapped at the site. However, if not properly designed and constructed, the existing cut and fill slopes may become unstable, resulting in significant earth movement. Structures overlying or at the base of unstable slopes may encounter significant structural damage due to the earth movement.

4.6.2 REGULATORY ENVIRONMENT

4.6.2.1 Federal and State

4.6.2.1.1 Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (originally enacted in 1972) is intended to regulate development on or near active fault traces to reduce the hazardous effects of fault rupture. The act prohibits the construction of most buildings intended for human occupancy across active fault traces, and therefore requires that site-specific fault-trace studies be conducted for projects within delineated fault zones to identify potential active fault traces.

4.6.2.1.2 Seismic Hazards Mapping Act

The State Geologist has delineated various seismic hazard zones related to ground shaking, liquefaction, landslides, and other ground failure to better regulate development in hazard-prone areas. Geotechnical investigations conducted within Seismic Hazard Zones must incorporate standards specified by the CGS Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards (CGS 1997c).

4.6.2.1.3 California Uniform Building Code

The UBC requires extensive geotechnical analysis and engineering for grading, foundations, retaining walls, and other structures, including criteria for seismic design. The San Francisco Bay area is located within Zone 4, which is expected to experience the greatest effects from earthquakes, and requires the most stringent requirements for seismic design.

4.6.2.2 Alameda County East County Area Plan

The Alameda East County Area Plan (ECAP) establishes policies to minimize the risks to lives and property due to seismic and geologic hazards. The County delineates areas within East County where the potential for geologic hazards (including seismic hazards, landslides, and liquefaction) warrants preparation of detailed site-specific geologic hazard assessments. Areas are delineated based on data from published sources and field investigations. The project site does not warrant a site-specific geologic hazards assessment; however, the following policies are relevant to the project:

Policy 308: The County shall not permit development within any area outside the Urban Growth Boundary exceeding 25 percent slopes to minimize hazards associated with slope instability.

Policy 315: The County shall require that buildings be designed and constructed to withstand groundshaking forces of a minor earthquake without damage, of a moderate earthquake without structural damage, and a major earthquake without collapse of the structure. The County shall require that critical facilities and structures (e.g. hospitals, emergency operation centers) be designed and constructed to remain standing and functional following an earthquake.

4.6.3 ENVIRONMENTAL ANALYSIS

4.6.3.1 Thresholds of Significance

The proposed project would result in a significant impact if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction; or
  - Landslides.
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

4.6.3.2 Methodology

The Phase II Investigation conducted by Northgate and published reports prepared by the U.S. Geological Survey (USGS) were used in determining whether impacts to geological resources would be significant environmental effects.

4.6.3.3 Impacts and Mitigation Measures

Potential Impact 4.6-1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

As stated, there are no known active faults crossing the project site and the property is not located within an Alquist-Priolo Earthquake Fault Zone. The closest fault is the Great Valley Fault, which is located approximately 1.1 miles to the west of the project site. This fault is believed to be capable of generating an earthquake of magnitude 6.7. The absence of a fault on or immediately adjacent to the project site makes the potential for on-site fault rupture unlikely. Therefore, the project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area and this is not considered an impact.

Conclusion: Less than significant

Mitigation Measure: None required

Potential Impact 4.6-2: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The project site is located in a seismically active region, and development of the proposed project would expose spectators beneath the proposed grandstand roof and residents of the two caretaker residences to seismic ground shaking. According to the geotechnical investigation prepared for the project site, the site is subject to strong seismic ground shaking. The closest fault is the Great Valley Fault, which is located approximately 1.1 miles to the west of the project site. This fault is believed to be capable of generating an earthquake of magnitude 6.7. Online maps prepared by the Association of Bay Area Governments (ABAG 2003) indicate the site area will experience a Modified Mercalli Intensity of VI (moderate shaking and objects fall) as a result of scenario earthquakes on the Greenville and Mount Diablo Faults, and a Modified Mercalli Intensity of V (light shaking and pictures move) as a result of earthquakes along the Concord-Green Valley and Calaveras Faults. These faults are considered active and have an extensive history of seismic activity.

According to the geotechnical investigation, the central portion of the project site consists of fill material, at a thickness ranging from zero feet in the southwest area to 32 feet in the northeast central area. The project site is underlain by clay, silty clay, and sands to depths ranging from 15 to greater than 24 feet below ground surface, below which lies siltstone bedrock. According to the National Earthquake Hazards Reduction Program (NEHRP), the shear wave velocity for artificial fill soils is less than 200 meters per second, while the underlying soils on the project site are expected to shake at a rate of 750 meters per second to 350 meters per second (USGS 2007). Therefore, the areas on the project site with the highest thickness of artificial fill are subject to the strongest amplification of shaking.

The UBC specifies that all proposed structures (in this instance the grandstand roof, the two caretaker residences, and the two freeway signs) should be able to: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some nonstructural damage; and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. The structures would be required to conform to the most current requirement of the UBC for Seismic Zone 4. The project applicant would be required to comply with all applicable UBC requirements with regard to the design and construction or installation of structures with regard to resisting damaging forces of seismic ground shaking. Therefore, the project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

Conclusion: Less than significant

Mitigation: None required

Potential Impact 4.6-3: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

There is a potential for seismic-related liquefaction in areas consisting of artificial fill material, which were encountered on the central portion of the project site. Without proper soil engineering, foundation design and construction, the project site could expose people and/or structures to hazards associated with seismic-related ground failure as mentioned. Some of the structural support posts for the proposed grandstand roof could be installed in artificial fill toward the northeast end of the grandstand. If the underlying soils were not properly compacted and the foundation designs did not take the soil characteristics into account, there could be introduced a potential risk to people congregated beneath or near the roof structure if there were to be a significant and sudden seismic-related ground failure. The following mitigation measure would reduce this potentially significant impact to a less than significant level.

Conclusion: Potentially significant

GEO-1: Prior to issuance of a building permit for installation of the grandstand roof, the raceway operator shall commission a geotechnical study for the locations of the grandstand support posts. The study shall be prepared by a licensed geotechnical engineer. The study shall evaluate the soil characteristics at the locations of each of the grandstand roof posts and identify foundation design parameters, based on the underlying soil characteristics that will assure the grandstand roof posts do not fail in the event of a seismically induced ground failure. The report shall be submitted to the Alameda County Building Department for review and approval prior to issuance of a building permit for the grandstand roof.

Significance After Mitigation: Less than significant

Potential Impact 4.6-4: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project applicant commissioned Northgate to conduct a stability analysis to evaluate the stability of the existing slopes in the fill area at the northeast end of the racetrack and the grandstand area. The analysis considered the variability of the soil strengths, slope geometry, and groundwater conditions**.** The study found the slopes on the northeast racetrack and grandstand sections of the track to be stable under non-earthquake conditions. However, the report indicated the safety factor for soils on the northeastern racetrack and grandstand sections would be considered unstable for overlying structures in the event of a seismic event. Furthermore, the study found minor signs of slope creep on the racetrack in the same areas, and indicated that this is caused by the changes in water levels in the slope due to seasonal changes.

Implementation of the proposed project would include construction of a grandstand roof that could be prone to damage or structural failure if the observed slope creep were to extend toward the grandstand due to earth movement stemming from changes in the water levels. This would be a potentially significant impact. The following mitigation measure would reduce this potentially significant impact to a less than significant level.

Conclusion: Potentially significant

GEO-2: The following subdrains and surface drainage improvements shall be installed to reduce the introduction of water into fill slope material:

- Within 30 days of project approval, the project applicant shall submit drainage plans to the Alameda County Department of Public Works Agency (ACDPWA). The plans shall be prepared by a licensed engineer with expertise in the design of drainage systems. The intent of the drainage plans shall be to reduce the potential for ponding of water and infiltration of surface water into the existing valley fill at the northeast end of the racetrack and grandstand areas;

- Within 30 days of project approval, the project applicant shall submit to the ACDPWA a plan, prepared by a licensed civil engineer, to construct a fill buttress at the northeastern end of the racetrack outside the toe of the slope to effectively flatten the slope inclination. The fill buttress shall be installed within 30 days of the County's approval of the plan; and

- Within 30 days of project approval, the project applicant shall repair all existing cracks in the paved pit/paddock area to prevent further infiltration of stormwater to underlying soils.

Significance After Mitigation: Less than significant

Potential Impact 4.6-5: Would the project result in substantial soil erosion or the loss of topsoil?

As discussed above, the project site is subject to soil erosion resulting from seismic activity and seasonal effects on the water table. Implementation of **Mitigation Measure GEO-2** would reduce impacts related to soil erosion and subsequent landslides due to implementation of the project to a less than significant level. The potential for substantial soil erosion or loss of topsoil is discussed further in **Section 4.8, Hydrology and Water Quality.**

Conclusion: Less than significant

Mitigation Measures: No additional mitigation required

Potential Impact 4.6-6: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

As discussed under **Impact 4.6-4** above, soils on the project site would experience unstable conditions under existing drainage conditions and with seismic activity. However implementation of **Mitigation Measure GEO-2** and compliance with the current UBC requirements for construction of the grandstand cover would reduce impacts related to soil stability and landslides to a less than significant level.

Conclusion: Less than significant

Mitigation Measures: No additional mitigation required

Potential Impact 4.6-7: Would the project be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risks to life or property?

According to the geotechnical investigation prepared by Northgate, the fill soils encountered on the project site generally consist of stiff silty clay. According to the California Department of Conservation (CDC), native soils on the site are classified as Linne clay loam, and the geotechnical investigation describes them as clayey sand soils with dense properties. The fill and native soils have moderate permeability characteristics and therefore are at some risk for expansion, so are considered expansive. However, existing structures on the project site are built according to the UBC requirements that were in place at the time they were constructed. Thus, the various structures' construction and the risks to life and property associated with construction on an expansive soil would have been considered an existing condition. Implementation of the project, including construction of the grandstand cover could increase this risk. Construction of the proposed grandstand roof, installation of the two caretaker residences, and construction of the two freeway signs could be negatively affected if the soils underlying their locations were susceptible to expansion. This would be defined as a potentially significant impact. The following mitigation measure would reduce this potentially significant impact to a less than significant level.

Conclusion: Potentially significant

GEO-3: Prior to approval of building permits for the grandstand roof, installation of caretaker residences, and freeway signs, the project applicant shall commission a detailed geotechnical investigation to be prepared by a licensed engineering geologist. The report shall evaluate the soils underlying the sites of the grandstand roof, caretaker residences, and freeway signs, and based on findings; identify specific measures to minimize the effects of expansive soils if such soils are specifically encountered. The report shall be submitted to Alameda County and implementation of identified measures identified will be required.

Significance After Mitigation: Less than significant

Potential Impact 4.6-8: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The CDC has a rating system to assess the capability of soils to support septic tanks. The ratings for septic tanks are based on soil properties that affect absorption of the effluent, construction, and maintenance of the system and public health. Linne clay loam is considered to have limitations when used for septic tank absorption, because water percolates slowly and the depth to the bedrock is considered shallow. The National Resources Conservation District (NRCD) indicates that these limitations can be overcome or minimized by special planning, design, or installation (NRCD 2007).

The proposed project includes the installation of two caretaker residences. The project applicant has not provided plans for the collection, treatment, and disposal of wastewater from the caretaker residences; however, it is assumed that each of the caretaker residences would have a septic tank and leach field system. Prior to installation of the caretaker residences the project applicant will be required to comply with all provisions of the County's applicable codes, including the design and installation of septic systems. The design of those systems will be required in accordance with applicable County code to comply with all design requirements, including for factors such as wastewater generation, soil types within the leach field, and slope of the leach field. This is not considered a potentially significant impact.

The proposed project would generate a temporary and recurring increase in demand for wastewater treatment and disposal during events held on the site. Although the maximum usage level permitted by the conditional use permit (CUP) is 8,000 people, the historic maximum baseline usage of the site is 6,150 people (comprised of spectators, drivers, crew, employees, and vendors). Thus, the proposed project would represent a net increase of 1,850 people to the permitted usage level of 8,000 people on site. This represents an approximately 30 percent potential increase in people at the site, with a corresponding increase in demand for wastewater treatment and disposal. This net increase in population at the site, even if only temporary, will increase the demands placed on the existing septic system connected to the main restroom facilities located behind the grandstand. During large events, the septic system would be supplemented by self-contained restroom trailers and port-o-lets as needed to meet on-site capacity needs. Furthermore, the existing septic tank and leach field is subject to the requirements of the Alameda County On-site Wastewater Treatment Ordinance, as detailed in **Section 4.8, Hydrology and Water Quality**, which would ensure the adequacy of the septic system design. However, given the limited adequacy of the project site soils to accommodate a septic tank and leach field, large events on the project site could result in exceedances of the system capacity. This is considered a significant impact.

Conclusion: Potentially significant

GEO-4: For all events, the project applicant shall provide sufficient port-o-lets and portable restrooms at a number to be determined by geotechnical and wastewater engineers in consultation with the Alameda County Department of Environmental Health (ACDEH).

Significance After Mitigation: Less than significant