

Q.5.4 - Geology

The following impact evaluation is based on the environmental setting, regulatory setting, and thresholds of significance discussions provided for the proposed projects in Draft EIR Section 5.4, Geology, and in Appendix F-1, Expanded Geology Analysis. These previous discussions are not repeated in the following evaluation. The evaluation is a comparative analysis between the Preferred Project and Proposed Project 4.

An additional geotechnical investigation (Preliminary Geotechnical Report) was conducted by Fugro West Inc. on January 29, 2009 and is provided in Section Q7. This report found no new significant geological impacts related to the Los Osos Wastewater Project. The following evaluation includes information provided in this report. In addition, the Preliminary Geotechnical Report prepared by Fugro West, Inc. on May 21, 2008 was inadvertently left out of Appendix F-2 of the Draft EIR and is also include in Section Q7. Although this report was inadvertently left out of the Draft EIR, it was summarized in Appendix F-1, Expanded Geology Analysis and in Section 5.4 in the Draft EIR. It was also available for review during the public review period of the Draft EIR at the County of San Luis Obispo Department of Public Works.

Faulting

Q5.4-A:	The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving a 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.
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Project Specific Impact Analysis

Collection System

Similar to Proposed Project 4, the collection system under the Preferred Project is a gravity system. As described in Table Q.5-1, the Preferred Project includes additional collection system facilities such as pump stations, standby power stations, and pipelines, as well as modifications to specific locations and size of facilities such as the central pump station, pipelines within streets, and pipelines crossing creeks compared to Proposed Project 4. Based on a review of the additions and modifications of the collection system facilities and the location of existing faults, the Preferred Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving a rupture of a known earthquake fault. This finding is the same for Proposed Project 4.

Treatment Plant Site

Similar to Proposed Project 4, the proposed treatment plant facilities under the Preferred Project include treatment facilities, appurtenant structures and storage facilities located on the Tonini parcel. As described in Table Q.5-1, the Preferred Project will include an Oxidation Ditch or Biolac® facility that encompasses less area and requires substantially less grading than the facultative ponds proposed under Proposed Project 4. Based on the revision to the proposed treatment process, the Preferred Project, similar to Proposed Project 4, would not expose people or structures to potential substantial

adverse effects, including the risk of loss, injury or death involving a rupture of a known earthquake fault.

Disposal Sites

Similar to Proposed Project 4, the proposed disposal systems under the Preferred Project include sprayfields at the Tonini parcel and leachfields at the Broderson parcel. Under the Preferred Project, the type of spray was revised to exclude percolation and as a result, approximately 73 more acres of sprayfields are necessary to accommodate the 842 acre-feet of spray at Tonini compared to Proposed Project 4. Based on a review of the increase in sprayfield area and the location of the existing faults, the proposed facilities would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving a rupture of a known earthquake fault. This finding is the same finding for Proposed Project 4.

Combined Project Effects

Similar to Proposed Project 4, the proposed facilities for the treatment and sprayfields under the Preferred Project would be located on the Tonini parcel. The combination of the two facilities on the Tonini parcel would encompass approximately 268 acres of the approximate 650-acre parcel. Similar to Proposed Project 4, the facilities at the Tonini parcel under the Preferred Project encompass a relatively small area and would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving a rupture of a known earthquake fault.

Since the remainder of each component of the Preferred Project would not result in not exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving a rupture of a known earthquake fault, the combined effect of implementing the proposed collection, treatment plant, and disposal facilities within the existing urban area and agricultural area of Los Osos would not result in exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving a rupture of a known earthquake fault.

Cumulative Impact Analysis

Similar to Proposed Project 4, the Preferred Project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving a rupture of a known earthquake fault. Therefore, the Preferred Project would not contribute to any potential cumulative impacts related to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving a rupture of a known earthquake fault.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project-Specific

No impact.

Cumulative

No impact.

Seismic Ground Shaking

Q5.4-B: **The project could expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving a strong seismic ground-shaking.**

Project Specific Impact Analysis

Collection System

Similar to Proposed Project 4, the collection system under the Preferred Project is a gravity system. As described in Table Q.5-1, the Preferred Project includes additional collection system facilities such as pump stations, standby power stations, and pipelines, as well as modifications to specific locations and size of facilities such as the central pump station, pipelines within streets, and pipelines crossing creeks compared to Proposed Project 4. Similar to the sites for Proposed Project 4, the sites under the Preferred Project are located within a seismically active area, and the potential exists for strong ground motion to affect the proposed facilities at the sites under the Preferred Project during the design lifetime. In general, the primary effects will be those phenomena associated with shaking and/or ground acceleration. Given that it is likely for the proposed facilities under the Preferred Project to be impacted by strong ground motion, potential seismic ground-shaking impacts are considered significant similar to Proposed Project 4.

Treatment Plant Site

Similar to Proposed Project 4, the proposed treatment plant facilities under the Preferred Project include treatment facilities, appurtenant structures and storage facilities located on the Tonini parcel. As described in Table Q.5-1, the Preferred Project will include an Oxidation Ditch or Biolac® facility that encompasses less area and requires substantially less grading than the facultative ponds proposed under Proposed Project 4. Similar to the sites for Proposed Project 4, the sites under the Preferred Project are located within a seismically active area, and the potential exists for strong ground motion to affect the proposed facilities at the sites under the Preferred Project during the design lifetime. In general, the primary effects will be those phenomena associated with shaking and/or ground acceleration. Given that it is likely for the proposed facilities under the Preferred Project to be impacted by strong ground motion, potential seismic ground-shaking impacts are considered significant similar to Proposed Project 4.

Disposal Sites

Similar to Proposed Project 4, the proposed disposal systems under the Preferred Project include sprayfields at the Tonini parcel and leachfields at the Broderson parcel. Under the Preferred Project,

the type of spray was revised to exclude percolation and as a result approximately 73 more acres of sprayfields are proposed to accommodate the 842 acre-feet of spray at Tonini compared to Proposed Project 4. Similar to the sites for Proposed Project 4, the sites under the Preferred Project are located within a seismically active area, and the potential exists for strong ground motion to affect the proposed facilities at the sites under the Preferred Project during the design lifetime. In general, the primary effects will be those phenomena associated with shaking and/or ground acceleration. Given that it is likely for the proposed facilities to be impacted by strong ground motion, potential seismic ground-shaking impacts are considered significant similar to Proposed Project 4.

Combined Project Effects

Similar to Proposed Project 4, the proposed facilities for the treatment and sprayfields under the Preferred Project would be located on the Tonini parcel. The combination of the two facilities on the Tonini parcel would encompass approximately 268 acres of the approximate 650-acre parcel. In addition, the facilities at the Tonini parcel under the Preferred Project encompass a relatively small area. Similar to the sites for Proposed Project 4, the sites under the Preferred Project are located within a seismically active area, and the potential exists for strong ground motion to affect the proposed facilities at the sites under the Preferred Project during the design lifetime. In general, the primary effects will be those phenomena associated with shaking and/or ground acceleration. Given that it is likely for the proposed facilities to be impacted by strong ground motion, potential seismic ground-shaking impacts are considered significant similar to Proposed Project 4.

Since the remainder of each component of the Preferred Project may result in potential seismic ground-shaking impacts, the combined effect of implementing the proposed collection, treatment plant, and disposal facilities within the existing urban area and agricultural area of Los Osos are considered significant.

Cumulative Impact Analysis

Similar to Proposed Project 4, the Preferred Project would not affect the level of intensity at which a seismic event on an adjacent property is experienced. Therefore, the Preferred Project in conjunction with other projects or conditions will not result in cumulative impacts related to seismic ground shaking,

Mitigation Measures

5.4-B1 Prior to the approval of building plans for each proposed facility, the design of each facility shall be based on a facility-specific geotechnical report prepared by a California registered geotechnical engineer and professional geologist. The geotechnical report shall provide seismic data for use with at least the minimum requirements of the California Building Code (2007), as adopted by the County of San Luis Obispo.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project-Specific

Less than significant.

Cumulative

No impact.

Seismic-Related Ground Failure

Q5.4-C: **The project may expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction.**

Project Specific Impact Analysis

Collection System

Similar to Proposed Project 4, the collection system under the Preferred Project is a gravity system. As described in Table Q.5-1, the Preferred Project includes additional collection system facilities such as pump stations, standby power stations, and pipelines, as well as modifications to specific locations and size of facilities such as the central pump station, pipelines within streets, and pipelines crossing creeks compared to Proposed Project 4. Based on a review of the additions and modifications of the collection system facilities, the proposed collection system for the Preferred Project may experience significant liquefaction impacts. Furthermore, this potentially significant impact could result in pipeline breaks and release of untreated and/or treated effluent along the proposed collection/conveyance system, including within Los Osos Creek and Warden Creek similar to Proposed Project 4. Because the Preferred Project includes the placement of the collection/conveyance pipeline on the bridges that cross Los Osos Creek and Warden Creek, slightly less pipeline impacts may occur but the overall impact would remain significant similar to Proposed Project 4.

Treatment Plant Site

Similar to Proposed Project 4, the proposed treatment plant facilities under the Preferred Project include treatment facilities, appurtenant structures and storage facilities located on the Tonini parcel. As described in Table Q.5-1, the Preferred Project will include an Oxidation Ditch or Biolac® facility that encompasses less area and requires substantially less grading than the facultative ponds proposed under Proposed Project 4. Based on the revision to the proposed treatment process, the proposed facilities at the treatment plant site may experience significant liquefaction impacts similar to the finding provided for Proposed Project 4.

Disposal Sites

Similar to Proposed Project 4, the proposed disposal systems under the Preferred Project include sprayfields at the Tonini parcel and leachfields at the Broderson parcel. Under the Preferred Project, the type of spray was revised to exclude percolation and as a result, approximately 73 more acres of sprayfields are necessary to accommodate the 842 acre-feet of spray at Tonini compared to Proposed

Project 4. Based on a review of the increase in sprayfield area, the sprayfield irrigation at Tonini would have little impact in the potential for liquefaction. Should liquefaction occur at the site, it is unlikely that the occurrence of liquefaction would impact the suitability of the site for spray irrigation. This finding is similar to the finding for Proposed Project 4.

Combined Project Effects

Similar to Proposed Project 4, the proposed facilities for the treatment and sprayfields under the Preferred Project would be located on the Tonini parcel. The combination of the two facilities on the Tonini parcel would encompass approximately 268 acres of the approximate 650-acre parcel. Similar to Proposed Project 4, the facilities at the Tonini parcel under the Preferred Project encompass a relatively small area and may expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction.

Since the remainder of each component of the Preferred Project may expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction, the combined effect of implementing the proposed collection, treatment plant, and disposal facilities within the existing urban area and agricultural area of Los Osos may expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction.

Cumulative Impact Analysis

Similar to Proposed Project 4, the Preferred Project may expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction. Therefore, the Preferred Project may contribute to potential cumulative impacts related to exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving seismic-related ground failure, including liquefaction.

Mitigation Measures

Project-Specific

In addition to the implementation of Mitigation Measure 5.7-B.1 to reduce impacts from accidental spills due to seismic conditions, the following mitigation measures shall be implemented.

- 5.4-C1** Prior to approval of the improvement plans for the proposed facilities that are part of the collection system and at the treatment plant site, a geotechnical report that addresses liquefaction hazards shall be prepared and approved by the County of San Luis Obispo. The geotechnical report shall state the recommended actions for the collection system and treatment plant site so that potential impacts from seismically-induced liquefaction would be reduced to less than significant.

5.4-C2 Prior to operation of the facility, an Emergency Response Plan (ERP) shall be prepared as part of the operation and maintenance plan for the proposed collection system. The ERP shall recognize the potential for liquefaction, seismic hazards and ground lurching, to impact the pipeline or other proposed facilities, and specific high hazard areas shall be inspected for damage following an earthquake. “Soft Fixes” shall be incorporated in the ERP. Soft fixes typically consist of having a plan in-place to address the hazards, such as can be achieved by storing supplies and equipment for repair.

Cumulative

Implementation of Mitigation Measures 5.7-B.1, 5.4-C1 and 5.4-C2 are required.

Level of Significance After Mitigation

Project-Specific

Less than significant.

Cumulative

Less than significant.

Landslides

Q5.4-D: The project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving landslides.

Project Specific Impact Analysis

Collection System

Similar to Proposed Project 4, the collection system under the Preferred Project is a gravity system. As described in Table Q.5-1, the Preferred Project includes additional collection system facilities such as pump stations, standby power stations, and pipelines, as well as modifications to specific locations and size of facilities such as the central pump station, pipelines within streets, and pipelines crossing creeks compared to Proposed Project 4. Based on a review of the additions and modifications of the collection system facilities and the location of potential landslide area, the Preferred Project, similar to Proposed Project 4, would not result in landslide impacts.

Treatment Plant Site

Similar to Proposed Project 4, the proposed treatment plant facilities under the Preferred Project include treatment facilities, appurtenant structures and storage facilities located on the Tonini parcel. As described in Table Q.5-1, the Preferred Project will include an Oxidation Ditch or Biolac® facility that encompasses less area and requires substantially less grading than the facultative ponds proposed under Proposed Project 4. Based on the revision to the proposed treatment process, the Preferred Project would also not result in landslide impacts in the vicinity of the Tonini parcel similar to the finding provided for Proposed Project 4.

Disposal Sites

Similar to Proposed Project 4, the proposed disposal systems under the Preferred Project include sprayfields at the Tonini parcel and leachfields at the Broderson parcel. Under the Preferred Project, the type of spray was revised to exclude percolation and as a result approximately 73 more acres of sprayfields are necessary to accommodate the 842 acre-feet of spray at Tonini compared to Proposed Project 4. Based on a review of the increase in sprayfield area and potential landslide areas, the proposed facilities would not result in landslide impacts within the sprayfield area. This finding is similar to the finding for Proposed Project 4.

Combined Project Effects

Similar to Proposed Project 4, the proposed facilities for the treatment and sprayfields under the Preferred Project would be located on the Tonini parcel. The combination of the two facilities on the Tonini parcel would encompass approximately 268 acres of the approximate 650-acre parcel. Similar to Proposed Project 4, the facilities at the Tonini parcel under the Preferred Project encompass a relatively small area and would not result in landslide impacts within the proposed developed area of the Tonini parcel.

Since the remainder of each component of the Preferred Project would not result in landslide impacts, the combined effect of implementing the proposed collection, treatment plant, and disposal facilities within the existing urban area and agricultural area of Los Osos would not result in landslide impacts.

Cumulative Impact Analysis

Similar to Proposed Project 4, the Preferred Project would result in no impacts relating to landslides. Therefore, the Preferred Project would not contribute to any potential cumulative impacts on exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving landslides.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project-Specific

No impact.

Cumulative

No impact.

Soil Erosion or Loss of Topsoil

Q5.4-E: The project could result in substantial soil erosion or the loss of topsoil.

Project Specific Impact Analysis

Collection System

Similar to Proposed Project 4, the collection system under the Preferred Project is a gravity system. As described in Table Q.5-1, the Preferred Project includes additional collection system facilities such as pump stations, standby power stations, and pipelines, as well as modifications to specific locations and size of facilities such as the central pump station, pipelines within streets, and pipelines crossing creeks compared to Proposed Project 4. Based on a review of the additions and modifications of the collection system facilities, construction and periodic maintenance activities associated with the proposed facilities under the Preferred Project could result in substantial soil erosion or the loss of topsoil; thus, a significant impact could occur similar to Proposed Project 4.

Treatment Plant Site

Similar to Proposed Project 4, the proposed treatment plant facilities under the Preferred Project include treatment facilities, appurtenant structures and storage facilities located on the Tonini parcel. As described in Table Q.5-1, the Preferred Project will include an Oxidation Ditch or Biolac® facility that encompasses less area and requires substantially less grading than the facultative ponds proposed under Proposed Project 4. Based on the revision to the proposed treatment process, construction and periodic maintenance activities associated with the proposed facilities under the Preferred Project could result in substantial soil erosion or the loss of topsoil in the vicinity of the Tonini parcel similar to the finding provided for Proposed Project 4.

Disposal Sites

Similar to Proposed Project 4, the proposed disposal systems under the Preferred Project include sprayfields at the Tonini parcel and leachfields at the Broderson parcel. Under the Preferred Project, the type of spray was revised to exclude percolation and as a result, approximately 73 more acres of sprayfields are necessary to accommodate the 842 acre-feet of spray at Tonini compared to Proposed Project 4. Based on a review of the increase in sprayfield area, construction and periodic maintenance activities associated with the proposed facilities under the Preferred Project could result in substantial soil erosion or the loss of topsoil in the vicinity of the Tonini parcel. This finding is similar to the finding for Proposed Project 4.

Combined Project Effects

Similar to Proposed Project 4, the proposed facilities for the treatment and sprayfields under the Preferred Project would be located on the Tonini parcel. The combination of the two facilities on the Tonini parcel would encompass approximately 268 acres of the approximate 650-acre parcel. Similar to Proposed Project 4, the facilities at the Tonini parcel under the Preferred Project encompass a relatively small area. However, both construction and periodic maintenance activities associated with

the proposed facilities under the Preferred Project could result in substantial soil erosion or the loss of topsoil in the vicinity of the Tonini parcel.

Since the remainder of each component of the Preferred Project could result in substantial soil erosion or the loss of topsoil, the combined effect of implementing the proposed collection, treatment plant, and disposal facilities within the existing urban area and agricultural area of Los Osos could result in substantial soil erosion or the less of topsoil.

Cumulative Impact Analysis

Similar to Proposed Project 4, the Preferred Project could result in significant impacts relating to soil erosion or the loss of topsoil. Therefore, the Preferred Project's contribution would be considered cumulatively considerable and, therefore significant similar to Proposed Project 4.

Mitigation Measures

Project-Specific

- 5.4-E1** Prior to the approval of grading plans for each facility, erosion control measures shall be incorporated into the grading plans to minimize the potential for erosion or loss of top soil during grading to the satisfaction of the County of San Luis Obispo.
- 5.4-E2** Prior to the approval of grading plans for each facility, vegetation/landscaping shall be provided on the graded cut and fill slopes to reduce the long-term potential for soil erosion or loss of topsoil to the satisfaction of the County of San Luis Obispo.
- 5.4-E3** Prior to the approval of grading plans for each facility, the plans shall provide for the control of surface water away from slopes to the satisfaction of the County of San Luis Obispo.

Cumulative

Implementation of Mitigation Measures 5.4-E1 through 5.4-E3 is required.

Level of Significance After Mitigation

Project-Specific

Less than significant.

Cumulative

Less than significant.

Unstable Geologic Location

Q5.4-F: **The project could 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.**

Project Specific Impact Analysis

Collection System

Similar to Proposed Project 4, the collection system under the Preferred Project is a gravity system. As described in Table Q.5-1, the Preferred Project includes additional collection system facilities such as pump stations, standby power stations, and pipelines, as well as modifications to specific locations and size of facilities such as the central pump station, pipelines within streets, and pipelines crossing creeks compared to Proposed Project 4. Based on a review of the additions and modifications of the collection system facilities, the Preferred Project facilities may be located on a geologic unit or soil that is unstable and could potentially result in lateral spreading, subsidence, liquefaction or collapse similar to Proposed Project 4. Unlike Proposed Project 4, the pipeline facilities under the Preferred Project that are proposed to cross the creeks would be placed on bridges, thus reducing the potential for landslides to less than significant. In addition, there is a potential for ground lurching to impact the project site under the Preferred Project. Ground lurching is generally not a geologic hazard that can be prevented, and therefore it would be considered a significant impact.

Treatment Plant Site

Similar to Proposed Project 4, the proposed treatment plant facilities under the Preferred Project include treatment facilities, appurtenant structures and storage facilities located on the Tonini parcel. As described in Table Q.5-1, the Preferred Project will include an Oxidation Ditch or Biolac® facility that encompasses less area and requires substantially less grading than the facultative ponds proposed under Proposed Project 4. Based on the revision to the proposed treatment process, the Preferred Project may be located on a geologic unit or soil that is unstable and could potentially result in lateral spreading, subsidence, liquefaction or collapse similar to Proposed Project 4. In addition, there is a potential for ground lurching to impact the project site under the Preferred Project. Ground lurching is generally not a geologic hazard that can be prevented, and therefore it would be considered a significant impact.

Disposal Sites

Similar to Proposed Project 4, the proposed disposal systems under the Preferred Project include sprayfields at the Tonini parcel and leachfields at the Broderson parcel. Under the Preferred Project, the type of spray was revised to exclude percolation and as a result, approximately 73 more acres of sprayfields are necessary to accommodate the 842 acre-feet of spray at Tonini compared to Proposed Project 4. The Preferred Project also includes setbacks from Turri Road and the property south of Tonini, and Proposed Project 4 did not include setbacks. Based on a review of the increase in sprayfield area, the Preferred Project may be located on a geologic unit or soil that is unstable and could potentially result in lateral spreading, subsidence, liquefaction or collapse similar to Proposed Project 4. In addition, there is a potential for ground lurching to impact the project site under the

Preferred Project. Ground lurching is generally not a geologic hazard that can be prevented, and therefore it is considered a significant impact.

Combined Project Effects

Similar to Proposed Project 4, the proposed facilities for the treatment and sprayfields under the Preferred Project would be located on the Tonini parcel. The combination of the two facilities on the Tonini parcel would encompass approximately 268 acres of the approximate 650-acre parcel. Similar to Proposed Project 4, the facilities at the Tonini parcel under the Preferred Project encompass a relatively small area. The Preferred Project may be located on a geologic unit or soil that is unstable and could potentially result in lateral spreading, subsidence, liquefaction, or collapse similar to Proposed Project 4. In addition, there is a potential for ground lurching to impact the project site under the Preferred Project. Ground lurching is generally not a geologic hazard that can be prevented, and therefore it is considered a significant impact.

Since the remainder of each component of the Preferred Project may be located on a geologic unit or soil that is unstable and could potentially result in lateral spreading, subsidence, liquefaction or collapse, the combined effect of implementing the proposed collection, treatment plant, and disposal facilities within the existing urban area and agricultural area of Los Osos would may be located on a geologic unit or soil that is unstable and could potentially result in lateral spreading, subsidence, liquefaction or collapse.

Cumulative Impact Analysis

Similar to Proposed Project 4, the Preferred Project could result in impacts relating to exposure to unstable soils or geologic unit due to the potential for lateral spreading, ground subsidence and ground lurching. Therefore, implementation of the Preferred Project may contribute to cumulative impacts associated with lateral spreading, ground subsidence and ground lurching within the vicinity of Los Osos. This contribution is considered cumulatively considerable and, therefore, significant for the Preferred Project.

Mitigation Measures

Project-Specific

5.4-F1 Prior to approval of the improvement plans for the proposed facilities, a geotechnical report that addresses the potential for lateral spreading, ground subsidence, and ground lurching and provides measures to reduce potential impacts to less than significant shall be prepared and approved by the County of San Luis Obispo.

Cumulative

Implementation of Mitigation Measure 5.4-F1 is required.

Level of Significance After Mitigation

Project-Specific

Less than significant.

Cumulative

Less than significant.

Expansive Soil

Q5.4-G: The projects would be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

Project Specific Impact Analysis

Collection System

Similar to Proposed Project 4, the collection system under the Preferred Project is a gravity system. As described in Table Q.5-1, the Preferred Project includes additional collection system facilities such as pump stations, standby power stations, and pipelines, as well as modifications to specific locations and size of facilities such as the central pump station, pipelines within streets, and pipelines crossing creeks compared to Proposed Project 4. Based on a review of the additions and modifications of the collection system facilities, the Preferred Project could be located on expansive soil, and therefore could experience a significant impact similar to Proposed Project 4.

Treatment Plant Site

Similar to Proposed Project 4, the proposed treatment plant facilities under the Preferred Project include treatment facilities, appurtenant structures and storage facilities located on the Tonini parcel. As described in Table Q.5-1, the Preferred Project will include an Oxidation Ditch or Biolac® facility that encompasses less area and requires substantially less grading than the facultative ponds proposed under Proposed Project 4. Based on the revision to the proposed treatment process, the Preferred Project could also be located on expansive soil, and therefore could experience a significant impact similar to the finding provided for Proposed Project 4.

Disposal Sites

Similar to Proposed Project 4, the proposed disposal systems under the Preferred Project include sprayfields at the Tonini parcel and leachfields at the Broderson parcel. Under the Preferred Project, the type of spray was revised to exclude percolation and as a result, approximately 73 more acres of sprayfields are necessary to accommodate the 842 acre-feet of spray at Tonini compared to Proposed Project 4. The Preferred Project also includes setbacks from Turri Road and the property south of Tonini, and Proposed Project 4 did not include setbacks. Based on a review of the increase in sprayfield area, the proposed facilities could be located on expansive soil, and therefore could experience a significant impact. This finding is similar to the finding for Proposed Project 4.

Combined Project Effects

Similar to Proposed Project 4, the proposed facilities for the treatment and sprayfields under the Preferred Project would be located on the Tonini parcel. The combination of the two facilities on the Tonini parcel would encompass approximately 268 acres of the approximate 650-acre parcel. Similar to Proposed Project 4, the facilities at the Tonini parcel under the Preferred Project encompass a relatively small area and could be located on expansive soil.

Since the remainder of each component of the Preferred Project would be located on expansive soil, the combined effect of implementing the proposed collection, treatment plant, and disposal facilities within the existing urban area and agricultural area of Los Osos would be significant.

Cumulative Impact Analysis

Similar to Proposed Project 4, the Preferred Project could result in impacts relating to expansive soils. Therefore, implementation of the Preferred Project may contribute to cumulative impacts associated with expansive soils within the vicinity of Los Osos. This contribution is considered cumulatively considerable and, therefore, significant for the Preferred Project.

Mitigation Measures

Project-Specific

5.4-G1 Prior to approval of improvement and building plans for the proposed collection system facilities, facilities at the treatment plant site, and facilities at Broderson, a design-level geotechnical report shall be prepared that addresses and reduces potential expansive soil impacts to less than significant. The expansive soil data shall be used with the requirements of the California Building Code (2007), as adopted by the County of San Luis Obispo.

Cumulative

Implementation of Mitigation Measure 5.4-G1 is required.

Level of Significance After Mitigation

Project-Specific

Less than significant.

Cumulative

Less than significant.

Wastewater Disposal Systems

Q5.4-H: The project would not 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.

Project Specific Impact Analysis

Collection System

Similar to Proposed Project 4, the collection system under the Preferred Project is a gravity system. As described in Table Q.5-1, the Preferred Project includes additional collection system facilities such as pump stations, standby power stations, and pipelines, as well as modifications to specific locations and size of facilities such as the central pump station, pipelines within streets, and pipelines crossing creeks compared to Proposed Project 4. Based on a review of the additions and modifications of the collection system facilities, the capability of soils adequately supporting the use of septic tanks does not apply to Preferred Project because no septic tanks are proposed as part of the collection system.

Therefore, the Preferred Project would result in no impacts related to soils incapable of adequately supporting septic tanks.

Treatment Plant Site

Similar to Proposed Project 4, the proposed treatment plant facilities under the Preferred Project include treatment facilities, appurtenant structures and storage facilities located on the Tonini parcel. As described in Table Q.5-1, the Preferred Project will include an Oxidation Ditch or Biolac® facility that encompasses less area and requires substantially less grading than the facultative ponds proposed under Proposed Project 4. Based on the revision to the proposed treatment process, the Preferred Project would result in no impacts related to soils incapable of adequately supporting septic tanks. This finding is similar to the finding for Proposed Project 4.

Disposal Sites

Similar to Proposed Project 4, the proposed disposal systems under the Preferred Project include sprayfields at the Tonini parcel and leachfields at the Broderson parcel. Under the Preferred Project, the type of spray was revised to exclude percolation and as a result, approximately 73 more acres of sprayfields are necessary to accommodate the 842 acre-feet of spray at Tonini compared to Proposed Project 4. The Preferred Project also includes setbacks from Turri Road and the property south of Tonini, and Proposed Project 4 did not include setbacks. Based on a review of the increase in sprayfield area, the Preferred Project would result in no impacts related to soils incapable of adequately supporting septic tanks. This finding is similar to the finding for Proposed Project 4.

Combined Project Effects

Similar to Proposed Project 4, the proposed facilities for the treatment and sprayfields under the Preferred Project would be located on the Tonini parcel. The combination of the two facilities on the Tonini parcel would encompass approximately 268 acres of the approximate 650-acre parcel. Similar to Proposed Project 4, the facilities at the Tonini parcel under the Preferred Project encompass a relatively small area and the capability of soils adequately supporting the use of septic tanks does not apply to Preferred Project because no septic tanks are proposed as part of the collection system.

Since the remainder of each component of the Preferred Project would result in no impacts related to soils incapable of adequately supporting septic tanks, the combined effect of implementing the proposed collection, treatment plant, and disposal facilities within the existing urban area and agricultural area of Los Osos would not result in impacts related to soils incapable of adequately supporting septic tanks.

Cumulative Impact Analysis

Similar to Proposed Project 4, the Preferred Project would result in no impacts relating to the capability of soils adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. Therefore, the Preferred

Project would not contribute to cumulative impacts related to soils incapable of adequately supporting septic tanks.

Mitigation Measures

Project-Specific

No mitigation measures are required.

Cumulative

No mitigation measures are required.

Level of Significance After Mitigation

Project-Specific

No impact.

Cumulative

No impact.