



ENGEOTM INCORPORATED, GHAD Consultant

Project No.
4663.002.023

June 28, 2024

Ms. Laurie Sucgang
Fallon Village Geologic Hazard Abatement District
100 Civic Plaza
Dublin, CA 94568

Subject: Jordan Ranch and Positano Developments
Dublin, California

GEOLOGIC HAZARD ABATEMENT DISTRICT MONITORING SPRING 2024

Dear Ms. Sucgang:

ENGEOTM is pleased to submit this monitoring report for the Fallon Village Geologic Hazard Abatement District (GHAD). As described in the Fallon Village Plans of Control (References 1 and 2), the purpose of this monitoring was to observe and report on the conditions of the open space and associated improvements within the Jordan Ranch and Positano developments (Figure 1). This monitoring event was completed on May 30, 2024. The previous monitoring event was completed on October 24, 2023 (Reference 3).

SCOPE

Site monitoring included observation of the following features.

- Open-space slopes
- Debris benches
- Asphaltic and decomposed granite trails, including footbridge
- Fences
- Retaining walls
- Drainage courses
- Detention basins and water quality basin
- Bioretention cells
- Emergency vehicle, maintenance, and access roadways
- Sediment removal from concrete structures
- Subdrains and subdrain outlets
- Concrete-lined and earthen-lined surface drainage ditches
- Storm drain system improvements

OPEN-SPACE SLOPES, DEBRIS BENCHES, AND SWALES

Open-space slopes, debris benches, and swales were observed for evidence of slope instability, including landslides, mudflows, erosion, diverted drainage, or standing water. It should be noted that there are a number of unrepairs landslides within the ungraded portions of the GHAD-owned parcels. These landslides have moved in the past and will likely move again in the future when wet conditions occur. The landslides within the ungraded portion of the site appear to be in a similar condition to that described during development of the site.

During winter 2016/2017, a landslide occurred on the slope above Viento Court. In December 2017, the Fallon Village GHAD completed a permanent slope repair (Reference 4). During our most recent monitoring, the slope appeared to be vegetated and in stable condition. The GHAD will continue to monitor the repair area and note in future monitoring reports if any changes are observed.

In spring 2019, on the slope at the northern end of Volterra Court, we observed a shallow landslide measuring approximately 20 feet long and 10 feet wide, with a headscarp about 1 foot deep. At the time of our monitoring event, the minor landslide was vegetated and unchanged since our previous monitoring event and was not affecting any GHAD-maintained land. The GHAD will continue to monitor this area and note in future monitoring reports if any changes are observed.

During fall 2023, a surficial slope failure measuring approximately 6 feet in width, 10 feet in length, and 1 foot in depth was observed east of N Terracina Drive. During this monitoring event, the slope failure appeared to be unchanged and partially vegetated (Site Condition A, Appendix A, Figure 2). The GHAD will continue to monitor this condition and repair the slope failure, if needed.

During our site visit, we observed several areas with surficial erosion to the slopes adjacent to the site improvements (Site Conditions B.1 through B.5, Appendix A, Figure 2). These areas will continue to be monitored during future monitoring events.

Animal burrows were observed during this monitoring event at various locations across the site (Figures 2 and 3). In some locations, the burrowing activity has deposited soil into the earthen- and concrete-lined ditches (Site Conditions C.1 and C.2, Appendix A, Figures 2 and 3). The deposited soil should be removed as part of annual maintenance.

Debris Benches

In general, the debris benches were observed to be in good condition. Maintenance is not needed at this time.

TRAILS AND FOOTBRIDGE

Since fall 2018 and spring 2022, we have observed and noted the presence of cracks on the asphalt-paved trail that transects both the Positano and Jordan Ranch developments. Most of these cracks are narrow with some cracks that measure up to 40 feet long, 3 inches wide, and 5 inches deep. During the recent site monitoring event, we observed the cracking to be relatively unchanged (Site Conditions D.1 through D.3). It appears that expansive soils and soil creep are the possible causes of the distress to the trail surface. As a short-term solution, the cracks will be sealed or resealed as part of routine site maintenance.

FENCES, LOCKS, AND SIGNAGE

Fences, locks, and signage within the GHAD were observed for loss or damage. Locks and signage were in good condition and will be replaced, as necessary. We previously noted in May 2020 that some segments of the wildlife fencing along the open-space boundary were damaged. During this monitoring event, the wildlife exclusion fence continued to be in very poor condition with many fallen sections. The GHAD will inform the conservation easement manager that the exclusion fencing is in need of repair and/or replacement.

RETAINING WALLS

In general, the retaining walls were observed to be in good condition on the GHAD-accepted parcels. No maintenance measures are recommended at this time.

DRAINAGE COURSES

Several unnamed creek channels cross the GHAD-owned open space. In general, the creeks have slightly to moderately incised channels with a moderate to dense vegetation cover. Some segments of the creek banks were oversteepened due to previous downcutting and are generally in a stable condition. We expect that local creek bank failures will continue to occur in the future as the creek banks adjust to lowered creek bed levels. As stated in the Plan of Control, the GHAD shall not have responsibility to control isolated or remote slope instability that does not involve damage to or pose a significant threat to damage site improvements, with the exception of mitigation areas. We did not observe areas of the creek channels with the potential to impact site improvements.

As first reported in 2017, the outfall for Bioretention Cell 4, located south of South Terracina Drive, temporarily drains into the creek along the southern edge of the Positano Development. Discharge from the bioretention cell drain outlet has created a significant erosion gully between the outlet and the creek channel. During this monitoring event, we observed that the condition of the erosion gully was unchanged from the previous monitoring event and stabilized. Although this erosion does appear to affect improvements within the development at this time, sediment discharge into the creek can contribute to the overall amount of sediment buildup within the mitigation pond in the Jordan Ranch Development. The GHAD will review mitigation alternatives, if needed, for this area to reduce future erosion once the Bioretention Cell 4 has been constructed to its final configuration in conjunction with the construction of the adjacent East Ranch (Francis Ranch) property. The GHAD will continue to monitor the temporary outlet area and will note if any changes are observed.

BIORETENTION CELLS AND WATER QUALITY BASIN

Four bioretention cells and one water quality basin are located within the boundaries of the Fallon Village GHAD. In the referenced Plans of Control, the basins are identified as Bioretention Cell 1, Bioretention Cell 2, Bioretention Cell 3, Bioretention Cell 4, and Water Quality Basin. Bioretention Cell 4 is currently configured and used as a detention basin, and monitoring and maintenance responsibilities of this water detention element have not yet been transferred to the Fallon Village GHAD. Monitoring of the basin and cells (Figures 2 and 3) was conducted as part of the open-space monitoring. The observed conditions for the water quality basin and bioretention cells were described in the attached monitoring reports.

A berm located in Bioretention Cell 2 failed during the heavy rain event in December 2022 and January 2023 (Site Condition E, Appendix A). The berm failure is approximately 4 feet in width, 3 feet in height, and 10 feet in length. The failure has resulted in a decreased capacity of the bioretention cell. A temporary repair has been implemented but the berm should be permanently repaired with engineered fill and excess soil removed to ensure design capacity is maintained.

EMERGENCY VEHICLE, MAINTENANCE, AND ACCESS ROADWAYS

We observed the condition of the gravel-covered access roadways within the GHAD, and the gravel-surfaced roadways appeared to be in good condition. Vegetation removal and ongoing vegetation management of the roadways are included in the GHAD's scheduled annual maintenance.

SUBDRAIN OUTLETS

Subdrain outlets were observed and monitored during this monitoring event. Discharge levels flowing from the subdrain outlets are shown in Table A. Several subdrain outlets were buried, unable to access, or unable to locate, as noted in Table A. As part of annual maintenance, the GHAD will remove soil and expose these subdrain outlets for future monitoring and will attempt to locate the missing subdrain outlets.

SURFACE DRAINAGE DITCHES

Concrete-lined drainage ditches were checked for accumulation of debris/sediment and for obvious distress, such as cracking or shifting of the concrete. As shown in Figures 2 and 3, there are approximately 4,650 linear feet of concrete-lined drainage ditches within the Fallon Village GHAD. As part of the scheduled routine site maintenance, the GHAD removes vegetation, soil, and other unwanted material from the concrete-lined ditches. We observed minor cracks in the concrete ditches. At the time of the site visit, these minor cracks did not appear to compromise the integrity of the concrete-lined drainage ditches and will be patched as needed.

Earthen-lined drainage ditches were checked for overall shape, accumulation of sediment and debris, and significant distress. The earthen-lined drainage ditches were in relatively good condition. A few sections have accumulated sediment from slope erosion and animal burrow activity, as discussed, and will need to be cleared out, as needed, during annual maintenance to restore the original ditch profiles.

STORM DRAIN INLETS

Storm drain inlets within the open-space area of the GHAD appeared to be relatively clear of debris. The storm drain inlets are cleaned as part of annual routine maintenance.

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If you have any questions concerning the observations made during this reconnaissance, please do not hesitate to contact us.

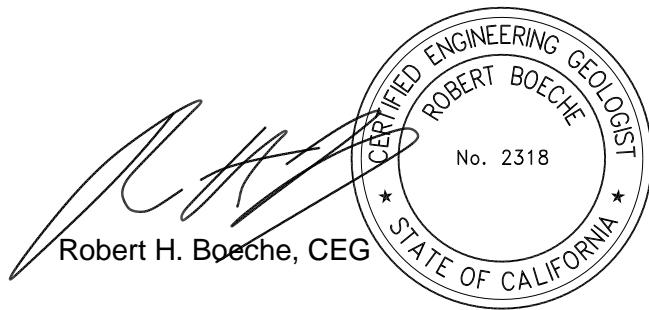
Sincerely,

ENGEO Incorporated



Greg Hudson

gh/rhb/jg



Robert H. Boeche, CEG

Attachments: List of Selected References
Table A - Subdrains
Bioretention Cell and Water Quality Basin Monitoring Reports
Appendix A – Site Conditions Summary with Photographs
Figures 1 through 3 – Site Plans

LIST OF SELECTED REFERENCES

1. ENGEO. 2013. Plan of Control for Fallon Village Geologic Hazard Abatement District, Fallon Village, Dublin, California. May 8, 2007; Latest Revision July 3, 2013. Project No. 4663.101.001.
2. ENGEO. 2011. Fallon Village Geologic Hazard Abatement District, Plan of Control, Jordan Ranch Development Annexation. February 11, 2011; Latest Revision August 3, 2011. Project No. 7828.000.000.
3. ENGEO. 2023. Geologic Hazard Abatement District Monitoring – Fall 2023, Jordan Ranch and Positano Developments, Dublin, California. February 2, 2023. Project No. 4663.002.023.
4. ENGEO. 2018. Testing and Observation during Slope Repair, Viento Court Landslide Repair, Positano Development, Dublin, California. January 9, 2018. Project No. 4663.002.017.

TABLE A: Subdrains

| SUBDRAIN LABEL | FLOW (GALLONS/DAY) | COMMENTS |
|----------------|-----------------------|---|
| CELL | - | UTM, visible flow in drainage inlet |
| GOLF | 0 | Dry |
| K-12 | - | UTL |
| K-1AC | - | UTM, area wet |
| K-1AE | 0 | Dry |
| K-1AW | - | UTM, pipe buried, area wet |
| K-1B | - | UTM, pipe outlet obstructed by vegetation, area wet |
| K-1CN | 0 | Dry |
| K-1CS | - | UTL |
| K-1D | - | UTL |
| RB-4 | - | UTM, visible flow in drainage inlet |
| S-28 | 0 | Dry |
| S-32E | 0 | Dry |
| S-32W | 114 | Est. |
| S-33 | 0 | Wet |
| S-34 | 0 | Dry |
| S-36 | - | UTM, obstructed by SWPPP protection |
| S-4 | 0 | Wet |
| S-41 | - | UTM, obstructed by SWPPP protection |
| S-44 | - | UTM, obstructed by SWPPP protection |
| S-47 | - | UTM, obstructed by SWPPP protection |
| S-51 | - | UTM, obstructed by SWPPP protection |
| S-6 | - | UTA, visible low flow |
| S-7 | - | UTM, pipe submerged, area wet |
| S-8 | - | UTA, active grading |
| S-9 | - | UTA, active grading |
| SR-13E | 0 | Wet |
| SR-13W | 0 | Dry |
| SR-19 | 0 | Dry |
| SR-8 | 0 | Dry |
| SR-8 | 0 | Wet |
| SR-9E | 0 | Wet |
| SRR | 0 | Dry |

LEGEND

EST - Estimate
 UTM - Unable to monitor
 UTL - Unable to locate
 UTA - Unable to access

TABLE A: Subdrains (Continued)

| SUBDRAIN LABEL | FLOW (GALLONS/DAY) | COMMENTS |
|----------------|-----------------------|----------|
| VIENTO | 0 | Dry |

LEGEND
EST - Estimate
UTM - Unable to monitor
UTL - Unable to locate
UTA - Unable to access

**BIORETENTION CELL
AND WATER QUALITY BASIN MONITORING REPORTS**

BIORETENTION FACILITY MONITORING PROGRAM MONITORING REPORT FORM

Please refer to Figure 2 for Bioretention Cell No. 1 location.

This monitoring report form was completed for:

Bioretention Cell #1 Bioretention Cell #2 Bioretention Cell #3 Bioretention Cell #4 (Not yet a GHAD-maintained improvement)

A separate monitoring form should be completed for each bioretention facility.

Reason for inspection:

Scheduled inspection (in May, August, or November)

Inspection after major rain event (greater than 1 inch in 24 hours)

Inspector Name: Mary Johnson

Company: ENGEO Incorporated

Date of Inspection: 5/30/2024

Date of Last Inspection: 10/24/2023

Plant Health (check during every inspection):

Do plants appear to be in generally good health? Yes No

Were plants over 3 feet in height (excluding trees)? Yes No

Does it appear that the top layer of mulch needs to be replaced? Yes No

Describe Conditions:

Small shrubs, grasses, and trees were in good health but exceeding 5 feet in height.

Corrective Actions (if needed):

We recommend trimming of small shrubs, grasses, and trees exceeding 5 feet in height.

Irrigation System Functioning (check during every inspection):

Does irrigation system appear to be functioning properly? Yes No

Describe Conditions: Yes, the irrigation system appears to be functioning properly.

Corrective Actions (if needed):

Drainage and Filter Medium Monitoring (check in May, August, and November, and additionally after large storm events):

Was standing water or soggy, saturated soil present in the bioretention cell? Yes No

Was there a build-up of excess clayey sediment, leaves or other debris at the surface of facility at inflow locations? Yes No

Was there a sediment build-up at the locations of rock apron inlet protection? Yes No

Were any of the inflow or outflow structures clogged with sediment/debris? Yes No

Was water draining freely from the subdrain system? Yes No

Describe Conditions:

No standing water visible, soil was saturated at inlet area.

Corrective Actions (if needed):

N/A

Access Road Monitoring (check once per year):

Was the access road suitable for vehicle access? Yes No

Describe Conditions:

N/A

Corrective Actions (if needed):

Other (check during every inspection):

Was litter/garbage present within the bioretention cells? Yes No

Describe Conditions:

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Corrective Actions (if needed):

N/A

BIORETENTION FACILITY MONITORING PROGRAM MONITORING REPORT FORM

Please refer to Figure 3 for Bioretention Cell No. 2 location.

This monitoring report form was completed for:

Bioretention Cell #1 Bioretention Cell #2 Bioretention Cell #3 Bioretention Cell #4

A separate monitoring form should be completed for each bioretention facility.

Reason for inspection:

Scheduled inspection (in May, August, or November)

Inspection after major rain event (greater than 1 inch in 24 hours)

Inspector Name: Mary Johnson

Company: ENGEO Incorporated

Date of Inspection: 5/30/2024

Date of Last Inspection: 10/24/2023

Plant Health (check during every inspection):

Do plants appear to be in generally good health? Yes No

Were plants over three feet in height (excluding trees)? Yes No

Does it appear that the top layer of mulch needs to be replaced? Yes No

Describe Conditions:

A failure of the upper retention berm occurred during heavy rainfall in December/January 2023. The failure measures approximately 3 feet wide and 2 feet in depth. The failure deposited sediment into the lower portion of the bioretention facility. The failure continued to erode over the Winter 2024 and continues to be exposed.

Corrective Actions (if needed):

We recommend an earthwork repair with geo-grid reinforcement to restore the functionality of the basin.

Irrigation System Functioning (check during every inspection):

Does irrigation system appear to be functioning properly? Yes No

Describe Conditions:

N/A

Corrective Actions (if needed):

Drainage and Filter Medium Monitoring (check in May, August and November, and additionally after large storm events):

Standing water or soggy, saturated soil present in the bioretention cell? Yes No

Was there a build-up of excess clayey sediment, leaves or other debris at the surface of facility at inflow locations? Yes No

Was there a sediment build-up at the locations of rock apron inlet protection? Yes No

Were any of the inflow or outflow structures clogged with sediment/debris? Yes No

Was water draining freely from the subdrain system? X Yes No

Describe Conditions:

Sediment deposited on surface of facility from berm failure.

Corrective Actions (if needed):

We recommend removing the sediment and replacing the filter medium as needed.

Access Road Monitoring (check once per year):

Was access road suitable for vehicle access? Yes No

Describe Conditions:

N/A

Corrective Actions (if needed):

Other (check during every inspection):

Was litter/garbage present within the bioretention cells? Yes No

Describe Conditions:

Cell was clear of debris.

Corrective Actions (if needed):

Was the berm in good condition? Yes No

Describe Conditions:

See above, berm repair needed.

Corrective Actions (if needed):

BIORETENTION FACILITY MONITORING PROGRAM MONITORING REPORT FORM

Please refer to Figure 2 for Bioretention Cell No. 3 location.

This monitoring report form was completed for:

Bioretention Cell #1 Bioretention Cell #2 Bioretention Cell #3 Bioretention Cell #4

A separate monitoring form should be completed for each bioretention facility.

Reason for inspection:

Scheduled inspection (in May, August, or November)

Inspection after major rain event (greater than 1 inch in 24 hours)

Inspector Name: Mary Johnson

Company: ENGEO Incorporated

Date of Inspection: 5/30/2024

Date of Last Inspection: 10/24/2023

Plant Health (check during every inspection):

Do plants appear to be in generally good health? Yes No

Were plants over three feet in height (excluding trees)? Yes No

Does it appear that the top layer of mulch needs to be replaced? Yes No

Describe Conditions:

Shrubs and willows exceeded 3 feet in height at time of inspection.

Corrective Actions (if needed):

We recommend that shrubs and willows be trimmed in order to allow for water flow.

Irrigation System Functioning (check during every inspection):

Does irrigation system appear to be functioning properly? Yes No

Describe Conditions:

Corrective Actions (if needed):

N/A

Drainage and Filter Medium Monitoring (check in May, August and November, and additionally after large storm events):

Was standing water or soggy, saturated soil present in the bioretention cell? Yes No

Was there a build-up of excess clayey sediment, leaves or other debris at the surface of facility at inflow locations? Yes No

Was there a sediment build-up at the locations of rock apron inlet protection? Yes No

Were any of the inflow or outflow structures clogged with sediment/debris? Yes No

Was water draining freely from the subdrain system? X Yes No

Describe Conditions:

Drainage and filter medium were in good condition.

Corrective Actions (if needed):

Access Road Monitoring (check once per year):

Was access road suitable for vehicle access? Yes No

Describe Conditions:

N/A

Corrective Actions (if needed):

Other (check during every inspection):

Was litter/garbage present within the bioretention cells? Yes No

Describe Conditions:

Cell was clear of debris.

Corrective Actions (if needed):

N/A

STORMWATER FACILITY MONITORING REPORT FORM

Please refer to Figure 3 for Water Quality Basin location.

This monitoring report form was completed for:

Flow-Through Planter Common Area Bioretention Vegetation Buffer Strip
 Extended Detention Basin with Biotreatment Soil

A separate monitoring form should be completed for each facility.

Reason for inspection:

Scheduled inspection (in May or November)
 Inspection after major rain event (greater than 1 inch in 24 hours)

Inspector Name: Mary Johnson

Company: ENGEO Incorporated

Date of Inspection: 5/30/2024

Date of Last Inspection: 10/24/2023

Plant Health (check during every inspection):

Do plants appear to be in generally good health? Yes No

Does it appear that the top layer of mulch needs to be replaced? Yes No

Describe Conditions:

Shrubs and willows exceeded 3 feet in height at time of inspection.

Corrective Actions (if needed):

Drainage and Filter Medium Monitoring (check in May and November, and additionally after large storm events):

Was standing water or soggy, saturated soil present at the base of the pond? Yes No

Was there a build-up of excess clayey sediment, leaves or other debris at the surface of facility at inflow locations? Yes No

Was there a sediment build-up at the locations of rock apron inlet protection? Yes No

Were any of the inflow or outflow structures clogged with sediment/debris? Yes No

Was water draining freely from the subdrain system, water quality orifice and riser pipe? Yes No

Describe Conditions:

Drainage and filter medium were in good condition.

Corrective Actions (if needed):

Access Road Monitoring (check once per year):

Was access road suitable for vehicle access?

Yes No

Describe Conditions:

Vegetation was cleared from access road.

Corrective Actions (if needed):

Other (check during every inspection):

Was litter/garbage present within the ponds?

Yes No

Describe Conditions:

Corrective Actions (if needed):

APPENDIX A

Site Conditions Summary with Photographs

Site Condition: A
Observation Date: 05/30/2024

Description: Surficial earthflow.

Recommendation: Continue to monitor.

Field Representative: MJ



Site Condition: B.1
Observation Date: 05/30/2024

Description: Surficial slope erosion.

Recommendation: Continue to monitor.

Field Representative: MJ



Site Condition: B.2
Observation Date: 05/30/2024

Description: Surficial slope erosion.

Recommendation: Continue to monitor.

Field Representative: MJ



Site Condition: B.3
Observation Date: 05/30/2024

Description: Surficial slope erosion.

Recommendation: Continue to monitor.

Field Representative: MJ



Site Condition: B.4
Observation Date: 05/30/2024
Description: Surficial slope erosion.



Recommendation: Continue to monitor.

Field Representative: MJ

Site Condition: B.5
Observation Date: 05/30/2024
Description: Surficial slope erosion.



Recommendation: Continue to monitor.

Field Representative: MJ

Site Condition: C.1
Observation Date: 05/30/2024
Description: Animal burrowing.



Recommendation: Continue to monitor.

Field Representative: MJ

Site Condition: C.2
Observation Date: 05/30/2024
Description: Animal burrowing.



Recommendation: Continue to monitor.

Field Representative: MJ

Site Condition: D.1
Observation Date: 05/30/2024

Description: Distress cracking within asphaltic concrete trail.

Recommendation: Seal/reseal, as needed.

Field Representative: MJ



Site Condition: D.2
Observation Date: 05/30/2024

Description: Distress cracking within asphaltic concrete trail.

Recommendation: Seal/reseal, as needed.

Field Representative: MJ



Site Condition: D.3
Observation Date: 05/30/2024

Description: Distress cracking within asphaltic concrete trail.

Recommendation: Seal/reseal, as needed.

Field Representative: MJ



Site Condition: E
Observation Date: 05/30/2024

Description: Bioretention cell berm failure.

Recommendation: Earthwork repair with geo-grid to reinforce berm.

Field Representative: MJ



FIGURES

- Figure 1: Vicinity Map**
- Figure 2: Site Plan – Positano**
- Figure 3: Site Plan – Jordan Ranch**

