

ENGINEER'S REPORT

FALLON CROSSING
GEOLOGIC HAZARD ABATEMENT DISTRICT
TASSAJARA HILLS DEVELOPMENT
DUBLIN, CALIFORNIA

The logo for ENGEEO is rendered in large, white, 3D block letters. The letters are set against a background that is a composite of three images: a blurred waterfall on the left, a green rolling hill in the center, and a pile of large, reddish-brown rocks at the bottom. The letters 'E', 'N', 'G', 'E', and 'O' are positioned over the waterfall, the hill, and the rocks respectively, while the 'G' and 'E' are positioned over the hill. The 'O' is positioned over the rocks.

ENGEEO

Expect Excellence

Prepared by:
ENGEEO Incorporated

May 30, 2017

Project No:
5661.002.000

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ENGINEER'S REPORT

Fallon Crossing
GEOLOGIC HAZARD ABATEMENT DISTRICT
TASSAJARA HILLS DEVELOPMENT ANNEXATION
(Pursuant to the Public Resources Code of the State of California, Section 26500 et seq.)

CERTIFICATION OF FILING

The Geologic Hazard Abatement District (“GHAD”) provides monitoring and maintenance of improvements related to geologic hazard management and other responsibilities as a landowner, within the Tassajara Hills Development portion of the Fallon Crossing GHAD and levies, and collects assessments in order to perform its activities.

The improvements, which are the subject of this report, are defined as any activity necessary or incidental to the prevention, mitigation, abatement, or control of a geologic hazard, construction, maintenance, repair, or operation of improvement; or the issuance and servicing of bonds issued to finance any of the foregoing (Section 26505).

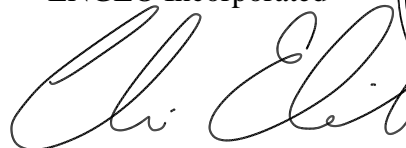
This report consists of eight parts, as follows:

- I. INTRODUCTION
- II. BACKGROUND
- III. GEOLOGIC HAZARD ABATEMENT DISTRICT BOUNDARIES
- IV. SERVICE LEVELS
- V. DESCRIPTION OF GHAD MAINTAINED IMPROVEMENTS
- VI. ASSESSMENT METHOD
- VII. ASSESSMENT LIMIT - BUDGET PROJECTION
- VIII. DEVELOPER RESPONSIBILITIES

The undersigned respectfully submits the enclosed Engineer's Report.

Date: May 30, 2017

By: ENGEO Incorporated



_____, GE

Uri Eliahu

I HEREBY CERTIFY that the enclosed Engineer's Report was approved and confirmed by the GHAD Board on the ___ day of _____ 2017.

David Haubert
Chair of the Board
Fallon Crossing Geologic Hazard Abatement District
Dublin, California

ENGINEER’S REPORT

for

FALLON CROSSING GEOLOGIC HAZARD ABATEMENT DISTRICT TASSAJARA HILLS DEVELOPMENT DUBLIN, CALIFORNIA for the ESTABLISHMENT OF AN ASSESSMENT LIMIT

I. INTRODUCTION

The Dublin City Council formed the Fallon Crossing Geologic Hazard Abatement District (“GHAD” or “District”) on August 16, 2011, with approval of Resolution 147-11, under authority of the California Public Resources Code (Division 17, commencing with Section 26500). Included within the District were 106 single-family residences and adjacent open spaces within the Fallon Crossing development (Tract 7617). The Dublin City Council members act as the Board of Directors of the Fallon Crossing GHAD.

II. BACKGROUND

The developer of the Tassajara Hills development (“Site”) previously prepared the Fallon Crossing GHAD Plan of Control (“Plan of Control”) for the Tassajara Hills Development under separate cover. The Plan of Control describes the GHAD’s responsibilities to permanently monitor and maintain GHAD improvements within the Site. This Engineer’s Report describes the establishment of an assessment level to fund GHAD activities necessary or incidental to geologic hazard mitigation, abatement and control.

III. GEOLOGIC HAZARD ABATEMENT DISTRICT BOUNDARIES

The boundaries for the GHAD Annexation Area are shown in the legal description and plat attached hereto as Exhibit A.

IV. SERVICE LEVELS

The GHAD’s activities are those that are necessary or incidental to the prevention, mitigation, abatement, or control of geologic hazards including construction, maintenance, repair, or operation of any improvement; and the issuance and servicing of bonds issued to finance any of the foregoing.

The GHAD provides for the administration and review of facilities within the budgeted limits, including the following services:

1. Oversight of GHAD operations, including reporting to the GHAD Board of Directors.

2. In conjunction with the County Assessor's Office, setting the annual levying of assessments on the property tax rolls.
3. Engagement of technical professionals to perform the monitoring duties as described in the Plan of Control.
4. Performance of GHAD maintenance activities in accordance with the Plan of Control. These maintenance activities and areas include:
 - Developer or GHAD-constructed retaining walls, including repair if structural integrity of a wall or adjacent structure(s) is threatened
 - Water detention, bioretention cells, and vegetated bio-swales facility maintenance, including access road
 - Slopes
 - Debris benches
 - Emergency vehicle access (EVA) and maintenance roads
 - Lined and unlined drainage ditches in developed areas and open space
 - Vegetation control within open space
 - Storm drain system improvements
 - Subdrains and subdrain outlets
 - Fuel management for fire suppression
 - Fencing
 - Mitigation swales
 - Slope and subdrain maintenance within GHAD easements.
5. The GHAD will also have maintenance, monitoring and repair responsibilities for slopes, which will include natural, reconstructed or partially reconstructed landslides.
6. Preparation of annual GHAD budgets for approval by the GHAD Board of Directors.

V. DESCRIPTION OF IMPROVEMENTS MAINTAINED BY THE GHAD

The GHAD-maintained improvements are described in the Plan of Control. In general, these improvements include water quality facilities; drainage systems, including lined and unlined ditches in developed areas and open space; open-space storm drain inlets and outlets; subdrains and outlets; retaining walls; access roadways; and habitat features.

VI. ASSESSMENT METHOD

The improvements and GHAD responsibilities described in Section V are distributed within the GHAD Annexation Area. The improvements described in this document will confer the following special benefits to the assessed parcels:

1. Protection from slope instability.
2. Protection from erosion due to uncontrolled surface water.
3. Protection of water quality.
4. Protection from wild land fires associated with unmanaged vegetation.
5. Protection of habitat features within the deed restricted parcels.

The GHAD assessment is distributed among all residential property owners within the GHAD Annexation Area. The improvements and responsibilities listed in Section V provide specific benefits to the properties within the GHAD Annexation Area and the improvements are constructed for the benefit of those assessed and not the general public.

As listed above and in Section 2.3 of the Plan of Control, the GHAD will monitor and maintain drainage facilities on the adjacent parcel. Although this area is outside the GHAD boundary, the maintenance of these facilities (including drainage pipes, slopes and mitigation swales, storm drains, and concrete-lined drainage ditches) is necessary to reduce the potential for uncontrolled stormwater infiltration, erosion, and other potential geologic hazards that could affect properties and improvements within the GHAD Annexation Area.

Single-family residential lots are assessed as one unit. The Site consists of 370 single-family residences. The total number of residential units within the Site was considered in light of the annual GHAD Annexation Area budget in developing the annual assessment amount. The Engineer hereby finds that residential properties within the GHAD Annexation Area receive substantially equal special benefit.

A financial analysis was performed to provide a framework for an operating budget for the on-going abatement, mitigation, prevention and control of geologic hazards within the GHAD Annexation Area. In preparation of the budget, several factors were considered including:

- Site geology
- Remedial grading
- Proximity of geologic hazards to proposed residences
- Improvements or structures
- Site access considerations
- Elements Requiring Routine Maintenance, including:
 1. Surface Drainage Facilities
 2. Graded Slopes
 3. Retaining Walls
 4. Detention Basin Facilities
 5. Fire Breaks
 6. Habitat Features

VII. ASSESSMENT- BUDGET

The purpose of this Engineer's Report is to establish the assessment level and the apportionment of the assessment within the GHAD Annexation Area as required under Proposition 218. The annual budget in each subsequent fiscal year will apprise the GHAD Board of Directors of the estimated budget for the upcoming year.

Based on the estimated expenses for on-going operations, and allowing for larger (approximately \$1,100,000, adjusted in subsequent years for inflation) geologic events at 10-year intervals, a budget was prepared for the purpose of estimating initial assessment levels (Exhibit B).

The Engineer recommends an annual assessment limit for the Tassajara Hills portion of the Fallon Crossing GHAD of \$1,200 per detached single-residential unit (Fiscal Year 2016/17 dollars). The proposed initial assessment level will be automatically adjusted annually on December 1 to reflect the percentage change in the San Francisco-Oakland-San Jose Consumers Price Index plus 0.5 percent for All Urban Consumers. The initial levy for the Tassajara Hills development should be set to \$1,200 per single-family unit. The 10-year budget (Exhibit C) assumes a 2-percent inflation rate.

While the assumptions, estimated expenses, and reserve listed in Exhibit B were used to determine the assessment levels for the GHAD Annexation Area, they do not represent the actual budget for any 1 year of the GHAD's operation, since assessment of the individual parcels will be based on the issuance of building permits, which will occur over a number of years. In addition, the Engineer anticipates that the projected expense amounts will be reached over time and that these amounts will be inflation-adjusted in the year that the expenses occur.

Pursuant to the schedule set forth in Funding and Acceptance of Responsibility by the District (Exhibit E within the Plan of Control), the GHAD reserve at the time of transfer will be approximately \$350,000. Additionally, a minimum of 250 residences will be subject to the levy of the assessment at the time of transfer. Funds collected and remaining from the levy of assessments during the period that the developer is responsible for performing monitoring and maintenance activities shall be applied to meet the required GHAD reserve amount. In addition, receivables from the Alameda County Tax Collector will be included to meet the minimum reserve amount.

VIII. DEVELOPER RESPONSIBILITIES

The developer of the Site is responsible for managing and maintaining the Tassajara Hills portion of the Fallon Crossing GHAD until the GHAD accepts responsibility for the GHAD Improvements as set forth in the Plan of Control. In addition, the developer is responsible for funding any necessary GHAD functions or business undertaken for the Tassajara Hills portion of the Fallon Crossing GHAD that the GHAD Officers or Board of Directors determine are necessary before the GHAD accepts the GHAD Improvements. If the developer fails to fund all or a portion of these costs, these costs shall be covered by the funds generated by and for the

Tassajara Hills portion of the Fallon Crossing GHAD (i.e., through the assessment) and the developer shall be required to reimburse the GHAD for such costs before the GHAD can accept monitoring and maintenance responsibilities for the GHAD Improvements.

The GHAD may utilize funds generated by or for the Tassajara Hills development to conduct any necessary GHAD functions or business for the Tassajara Hills portion of the Fallon Crossing GHAD required before the GHAD accepts the GHAD improvements. Such functions and business can include periodic reporting to the GHAD Board of Directors and work performed by GHAD Officers to verify the GHAD is implemented in accordance with the Plan of Control and GHAD Law.

EXHIBIT A

Legal Description and Plat to Accompany Legal Description

EXHIBIT "A"
LEGAL DESCRIPTION

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE CITY OF DUBLIN, COUNTY OF ALAMEDA, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

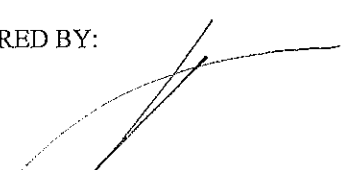
BEING A PORTION OF THE LAND AS DESCRIBED IN THE DEED TO RICHEY TRUST, ET AL, RECORDED ON NOVEMBER 09, 2001 IN DOCUMENT NUMBER 2001440482, OFFICIAL RECORDS OF ALAMEDA COUNTY, LYING SOUTH OF THE ALAMEDA AND CONTRA COSTA COUNTY LINE, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHEAST CORNER OF SECTION 21, TOWNSHIP 2 SOUTH, RANGE 1 EAST, MOUNT DIABLO BASE AND MERIDIAN; THENCE ALONG THE SOUTHERN LINE OF SAID SECTION 21, NORTH 89°20'13" WEST, 1866.14 FEET TO THE MOST EASTERN CORNER OF SAID PARCEL 2; THENCE LEAVING SAID SOUTHERN LINE AND ALONG THE SOUTHEASTERN LINE OF SAID PARCEL 2, SOUTH 31°01'01" WEST, 953.28 FEET; THENCE SOUTH 33°22'51" WEST, 92.98 FEET TO THE EASTERLY LINE OF COUNTY ROAD NO. 2568 (TASSAJARA ROAD); THENCE LEAVING SAID SOUTHEASTERN LINE, ALONG SAID CENTER LINE NORTH 13°02'45" WEST, 165.79 FEET TO A CURVE TO THE LEFT HAVING A RADIUS OF 833.00 FEET, A DELTA OF 26°03'30"; THENCE ALONG SAID CURVE AN ARC LENGTH OF 378.85 FEET; THENCE NORTH 39°06'15" WEST, 637.44 FEET TO A CURVE TO THE RIGHT HAVING A RADIUS OF 767.00 FEET, A DELTA OF 45°10'30"; THENCE ALONG SAID CURVE AN ARC LENGTH OF 604.74 FEET; THENCE NORTH 06°04'15" EAST, 99.53 FEET TO THE ALAMEDA/CONTRA COSTA COUNTY LINE; THENCE ALONG SAID COUNTY LINE, NORTH 73°50'31" EAST, 6067.92 FEET; THENCE LEAVING SAID COUNTY LINE, SOUTH 01°07'46" WEST, 2503.12 FEET TO THE SOUTHERN LINE OF SECTION 22, TOWNSHIP 2 SOUTH, RANGE 1 EAST, MOUNT DIABLO BASE AND MERIDIAN; THENCE ALONG LAST SAID LINE, NORTH 89°20'57" WEST, 2609.11 FEET TO THE POINT OF BEGINNING.

APN.: 985-0001-001-01

END OF DESCRIPTION

PREPARED BY:


IAN MACDONALD
LICENSED LAND SURVEYOR NO. 8817
(EXP. 12/31/17)
STATE OF CALIFORNIA



4/19/17
DATE

MACKAY & SOMPS
CIVIL ENGINEERING • LAND PLANNING • LAND SURVEYING
5142 Franklin Drive Suite B, Pleasanton, CA. 94588-3355
19251 225-0690

MOLLER RE INVESTORS, LLC
 SERIES NO. 2013065087
 N1°07'46"E 2503.12' BNDY

EXHIBIT "A"
 PAGE 1 OF 1



0 400 800 1600

SCALE: 1"=800'

PARCEL 1
 SERIES NO. 2013065087
 (APN 985-0001-001-01)

LIN, ET. AL.
 SERIES NO. 1999-445131

MOLLER RE INVESTORS, LLC
 SERIES NO. 2013065087
 ALAMEDA COUNTY
 CONTRA COSTA COUNTY

MOLLER RE INVESTORS, LLC
 PARCEL 3
 SERIES NO. 2013065087

21 22 27 28
 M.D.B. & M.
 P.O.B.

PARCEL A
 TRACT 7617
 321 M 14-26

N89°20'13"W 1866.14' BNDY

PARCEL H
 TRACT 7617
 321 M 14-26

N31°01'01"E 953.28' BNDY

N33°22'51"E 92.98' BNDY

N13°02'45"W 165.79' BNDY

R=833.00'
 $\Delta=26^\circ 03' 30''$
 L=378.85 BNDY

N39°06'15"W 637.44' BNDY

PARCEL H
 TRACT 7617
 321 M 14-26

N6°04'15"E 99.53' BNDY
 R=767.00'
 $\Delta=45^\circ 10' 30''$
 L=604.74 BNDY

TASSAJARA ROAD

LEGEND

- BOUNDARY OF DESCRIPTION
- EXISTING PARCEL
- P.O.B.
- POINT OF BEGINNING

PLAT TO ACCOMPANY DESCRIPTION			
TASSAJARA HILLS OVERALL PROPERTY BOUNDARY (APN 985-0001-001-01)			
CITY OF DUBLIN		CALIFORNIA	
MACKAY & SOMPS			
ENGINEERS		PLANNERS	
5142B FRANKLIN DR, PLEASANTON, CA 94588		SURVEYORS (925)225-0690	
DRAWN	DATE	SCALE	JOB NO.
TDM	AUGUST, 2016	1"=800'	19569.01AX

EXHIBIT B

Fallon Crossing GHAD Budget

Tassajara Hills Development

**Fallon Crossing Geologic Hazard Abatement District
Tassajara Hills Development**

Budget

ASSUMPTIONS

Total No. of Single Family Residential Units	370
Annual Assessment per Unit (FY 2017 \$)	\$1,200
Annual Adjustment in Assessment (estimated)	2.5%
Inflation (estimated)	2.0%
Investment Earnings (estimated)	3.5%
Frequency of Large-Scale Repair (years)	10
Cost of Large-Scale Repair (current \$)	\$1,100,000

ESTIMATED ANNUAL EXPENSES IN FY 2017 DOLLARS

Administration and Accounting	\$30,636
Basin Monitoring Program	\$12,500
GHAD Monitoring Program	\$12,500
Creek Bank Maintenance/Erosion Protection	\$30,000
EVA/Fire Road Maintenance and Resurfacing	\$3,533
Sediment/Debris Removal from Concrete Ditches	\$5,011
Mitigation Swales	\$15,996
Fence Maintenance/Fire Suppression	\$19,596
Biofiltration Maintenance	\$2,013
Detention Basin Maintenance	\$33,264
Slope Stabilization (incl. minor landsliding)	\$30,000
Subdrain/Outfall Maintenance	\$2,300
V-Ditch Replacement (Annualized)	\$6,681
Open Space Pipelines (Annualized)	\$5,973
Retaining Wall Replacement (Annualized)	\$1,100
Fence Replacement (Annualized)	\$8,890
Gravel EVA/Fire Road (Annualized)	\$15,077
Major Repair (Annualized)	\$110,000
Miscellaneous/Contingency (10%)	\$34,507
Total	<u>\$379,577</u>

EXHIBIT C

10-year GHAD Budget

EXHIBIT C

Tassajara Hills - Fallon Crossing Geologic Hazard Abatement District

Estimated Budget - May 2017

YEAR	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>
Cumulative No. of Units	9	102	218	315	370	370	370	370	370	370	370
A. INCOME											
Assessment	10,800	125,460	274,844	407,065	490,093	502,345	514,904	527,776	540,971	554,495	568,358
B. PROJECTED EXPENSES											
1. Administration and Accounting	15,318	15,624	31,874	32,511	33,161	33,825	34,501	35,191	35,895	36,613	37,345
County Fees	257	334	432	519	575	586	598	610	622	635	648
2. Consultants (Prof. Services)	-	-	26,010	26,530	27,061	27,602	28,154	28,717	29,291	29,877	30,475
3. Maintenance & Operation	-	-	68,479	100,928	120,922	123,340	125,807	128,323	130,890	133,507	136,178
4. Slope Stabilization (M&O)	-	-	18,390	27,104	32,473	33,122	33,785	34,461	35,150	35,853	36,570
5. Capital Improvements	-	-	23,123	34,079	40,830	41,647	42,480	43,330	44,196	45,080	45,982
6. Repair	-	-	-	-	-	-	-	-	-	-	1,340,894
7. Misc Expenses	-	-	21,153	31,176	37,351	38,099	38,860	39,638	40,430	41,239	42,064
8. Debt Service	-	-	-	-	-	-	-	-	-	-	-
SUBTOTAL - EXPENSES	15,575	15,958	189,460	252,848	292,374	298,221	304,186	310,269	316,475	322,804	1,670,154
RESERVE	225	109,502	85,383	154,217	197,719	204,124	210,718	217,507	224,496	231,691	(1,101,797)
EARNINGS	8	8	3,841	6,964	12,605	19,967	27,810	36,158	45,036	54,470	64,486
CUMULATIVE RESERVE	233	109,743	198,967	360,147	570,472	794,562	1,033,090	1,286,755	1,556,288	1,842,449	805,138