

Project No.
9824.000.000

February 19, 2013

Mr. Ed Abelite, General Manager
Silver Creek Valley Country Club Geologic Hazard Abatement District
5655 Silver Creek Valley Road, Suite 454
San Jose, CA 95138

Subject: Silver Creek Valley Country Club Geologic Hazard Abatement District
San Jose, California

RESERVE FUND STUDY

Dear Mr. Abelite:

At your request, ENGEO is providing a Reserve Fund Study for the Silver Creek Valley Country Club Geologic Hazard Abatement District (GHAD) that includes the Silver Creek Valley Country Club development in San Jose, California.

The reserve fund study is based on the levels of expenditure expected to address future maintenance and responsibilities and develop appropriate long-term reserves to address larger geologic events. The projected long-term reserve requirement is based on the published work, "Estimating an Appropriate Geologic Hazard Abatement District (GHAD) Reserve" and is provided as an attachment to this study. A review of ongoing (annual) operating expenses was not included as part of this reserve study.

GHAD ASSESSMENT

As listed in the *Manager's Report Regarding the 2012/2013 Tax Roll* (Reference 1), initial assessment limits for the GHAD were established at \$150.00 per single family home, \$100.00 per condominium and \$0.03 per square foot of commercial space. Annual inflation adjustments were allowed in the resolution establishing the assessment limits. The GHAD Board of Directors suspended inflation adjustments from FY1996/1997 through FY2010/2011; therefore, the assessment limit is higher than the current levy; however, the maximum yearly increase is capped at 5 percent. Adjusted for inflation since FY 1992/1993, the current assessment limit for single family residences is \$248.01, for condominiums is \$165.34 and per square foot of commercial space is \$0.0366.

The FY 2012/2013 levy for single family residences is \$183.23, for condominiums is \$122.15 and per square foot of commercial space is \$0.0332. The total levy for the 2012/2013 FY is \$274,915.04.

CLUB CONTRIBUTION

In 1995, the Silver Creek Valley County Club GHAD Board of Directors approved Resolution 95-01, a cooperation agreement for maintenance, repairs and improvements among the GHAD, Silver Creek Valley Country Club Homeowner's Association (Association) and the Silver Creek Valley Country Club, Inc. (Club) (Reference 2).

As provided in Exhibit B of the Agreement, the Club is required to participate in certain repairs defined in Section 11 of the Agreement at a base amount of up to \$50,000 in March 1994 dollars. The base amount is adjusted annually based on the Engineering News Record Construction Cost Index. In current dollars, the base amount is approximately \$72,000.

GHAD RESPONSIBILITIES

Exhibits A, B, and C of the Agreement provide partial lists of work for each of the three parties. In general, Exhibit C, a partial list of GHAD's work includes:

- Repair damage from offsite water causing surface erosion or contributing to landslides.
- Inspection and maintenance of subdrain systems, including cleanouts and outlets.
- Inspection and maintenance of test wells and settlement observation monuments.
- Repair of ground movement or other ground failure threatening or occurring across multiple property ownerships or single properties where improvements are threatened and requires design of supervision by a geotechnical or engineering professional.
- The installation of certain additional improvements when a permanent new improvement is required to mitigate a geologic hazard; or the improvement work requires the use of a licensed engineer or geologist for design or inspection.
- The installation of certain additional improvements to be paid by the GHAD through the forces of the Club and/or Association.

PROJECTED LONG-TERM EXPENSES

Based on the GHAD responsibilities listed in the Plan of Control (Reference 3) and the Agreement, it appears that long-term expenses for the GHAD include slope repair and subdrain maintenance.

Typically, a GHAD budget will include reserve accumulation for periodic larger-scale repairs, which are, by their nature, unpredictable, infrequent, and potentially expensive to mitigate. Salient factors, which can affect budget estimates for larger-scale repairs, may include:

- Site geology.
- Proximity of geologic hazards to proposed residences, improvements or structures.
- Site access considerations.

Based on regional geology, ENGEO's involvement with similar projects in the vicinity of Silver Creek, and our experience managing and budgeting for GHADs of various sizes, we have considered a budget of \$1,000,000 for a repair or repair events that occur on average every 10 years. As shown on the Exhibit A, Reserve Spreadsheet, the inflation-adjusted expense for repair events has been subtracted as an expense at each 10-year interval.

Documentation on the location and condition of site subdrains and subdrain outfalls was not available as part of this study. While relatively small in relation to the other potential responsibilities, the GHAD should consider a budget item that provides for subdrain outlets to be located, relocated and marked as necessary.

TARGET RESERVE ESTIMATION AND METHODOLOGY

In addition to the ongoing estimated expenses described above, we consider it prudent to estimate the reserve (R) appropriate for the GHAD using the following factors from the attached paper titled, "Estimating an Appropriate GHAD Reserve" (Exhibit C).

- Number of assessed units (n).
- Level of geotechnical risk within the development boundaries (g).
- Average value of assessed properties (v).
- Relative density of construction (the approximate number of units expected to be impacted in a major geologic event) (d).

We understand that the Silver Creek Valley Country Club development will have 1,550 parcels subject to assessment at build out. This was the unit count used to calculate the reserve estimate.

Based on the reported lack of major repairs within the first 20 years of the GHAD and a review of a published geologic map for the Silver Creek Valley Country Club area it appears that the level of geotechnical risk within development is relatively low, but with any hillside development a level of geotechnical risk exists and may increase over time as slopes within the development age. Within the reserve calculation, the relative level of geologic risk can vary from a low of 0.001 to a high in the range of approximately 0.01. As discussed below, we assigned a relative geotechnical risk range of 0.002 to 0.003 for the development.

The average value of assessed residences was provided by the GHAD manager at a value of \$1,313,255 as of November 2012. We have estimated that an appropriate, weighted density factor for a major geologic event would be three.

Based on these parameters, we estimate that appropriate reasonable long-term reserve for the Silver Creek Valley Country Club GHAD would be approximately \$8,000,000 to \$10,000,000 in current dollars. The lower reserve amount assumes a relative geotechnical risk factor of 0.002 and at \$10,000,000 a relative geotechnical risk factor of 0.003.

DISCUSSION AND CONCLUSIONS

Based on the assumptions listed above, a reserve of approximately \$8,000,000 to \$10,000,000 in current dollars would be appropriate for the GHAD. The reserve amount would be in addition to funds budgeted for annual operating expenses and larger scale repairs. Subject to the income and expense assumptions shown on Exhibit A, the target reserve will be reached in approximately 2050. The reserve amount would allow the GHAD to repair anticipated relatively large event within the Silver Creek Valley Country Club development or offsite while still having funds to continue its other maintenance and monitoring functions.

We understand that the GHAD has accumulated a net worth of about \$3,300,000 as of November 2012. The GHAD Board of Directors suspended inflation adjustments from FY1996/1997 through FY2010/2011. For FY2011/2012 and 2012/2013, the annual levy has been increased by the maximum amount, 5 percent. To achieve the target reserve range, we recommend that the GHAD Board of Directors continue adjusting the annual levy at the 5 percent maximum annual increase allowed until the assessment limit is reached. After reaching the assessment limit, the annual levy would be adjusted by the inflation rate or 5 percent, whichever is lower. A 40-year budget projection is attached as Exhibit A that provides details of the estimated budget.

If you have any questions regarding the contents of this letter, please do not hesitate to contact us.

Sincerely,

ENGEO Incorporated



Eric Harrell, CEG



Uri Eliahu, GE

Attachments: Selected References
Exhibit A – Reserve Fund (FY 2011/2012 dollars)
Exhibit B – Estimating an Appropriate GHAD Reserve

SELECTED REFERENCES

1. Silver Creek Valley Country Club Geologic Hazard Abatement District, Manager's Report, May 24, 2012.
2. Silver Creek Valley Country Club Geologic Hazard Abatement District, Resolution No. 95-01 - Cooperation Agreement for Maintenance, Repairs and Improvements at Silver Creek Valley Country Club with Silver Creek Valley Country Club Homeowners Association and Silver Creek Valley Country Club, Inc. October 10, 1995.
3. Dibblee, T.W. Jr., Preliminary Geologic Map of the San Jose East Quadrangle, Santa Clara County, California; USGS Open File Report, 2005.
4. Santa Clara, County of, Special Assessment Charges for Account No. 946, FY 2012/2013, July 26, 2012.
5. Klienfelder, Inc., Silver Creek Valley Country Club Geologic Hazard Abatement District Plan of Control, September 20, 1991.

EXHIBIT A

Reserve Fund (FY 2011/2012 dollars)

9284.000.000
February 19, 2013

EXHIBIT A
Silver Creek Valley Country Club GHAD Reserve With 5% and Inflation Adjustment (FY 2011/2012 Dollars)
Estimated Budget

Year (as of JULY 1)	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
Cumulative Equivalent Units	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
A. INCOME										
Assessment (5% Increase on Bolded Figures)	263,206	274,915	288,661	303,094	318,249	334,161	350,869	368,412	386,833	406,175
B. PROJECTED EXPENSES										
1. Administration and Accounting	\$67,550	\$68,811	\$70,097	\$71,409	\$72,747	\$74,112	\$75,505	\$76,925	\$78,373	\$79,851
2. Professional Services	25,786	26,301	26,827	27,364	27,911	28,469	29,039	29,620	30,212	30,816
3. Legal, County, Miscellaneous, and Dues	29,229	29,813	30,410	31,018	31,638	32,271	32,916	33,575	34,246	34,931
4. Public Education	553	564	575	587	598	610	622	635	648	661
5. Repairs/Major Repair	-	-	-	-	-	-	-	-	-	-
6. Contingency	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100
SUBTOTAL - EXPENSES	\$130,217	\$132,589	\$135,009	\$137,477	\$139,995	\$142,563	\$145,182	\$147,854	\$150,579	\$153,358
RESERVE	3,282,988	142,326	153,652	165,616	178,254	191,598	205,687	220,559	236,254	252,816
EARNINGS	3,229	82,155	87,767	93,803	100,288	107,252	114,723	122,733	131,316	140,505
CUMULATIVE RESERVE	3,286,217	3,510,698	3,752,117	4,011,537	4,290,079	4,588,929	4,909,339	5,252,631	5,620,201	6,013,522

ASSUMPTIONS

Total No. of Units	1,550
Absorption Period (yrs)	0
Annual Assessment per Unit (Average)	\$170
Annual Increase in Assessment	2.0%
Inflation	2.0%
Investment Earnings	2.5%
Initial Fund Amount	\$3,150,000
Amount Financed	\$0
Borrowing Rate	6.0%
Term of Loan (yrs)	10
Frequency of Large-Scale Repair (yrs)	10
Cost of Large-Scale Repair (current \$)	\$1,000,000
Assessment Cap (per residential unit)	99999
Expense Deferral Period (Yrs)	0

ESTIMATED ANNUAL EXPENSES IN FY 2011/2012 DOLLARS

General Manager	\$63,050
Financial Services - Audit Services	\$4,500
GHAD Monitoring Program	\$25,786
Legal	\$18,000
Santa Clara County Fees	\$3,002
Dues and Miscellaneous	\$8,227
Public Education	\$553
Contingency	\$7,100
Major Repair (Annualized)	\$100,000
TOTAL	\$230,217

PROFORMA CATEGORY

Administration & Accounting
Administration & Accounting
Professional Services
Legal, County, Miscellaneous, and Dues
Legal, County, Miscellaneous, and Dues
Legal, County, Miscellaneous, and Dues
Public Education
Contingency
Repairs/Major Repair

EXHIBIT A
Silver Creek Valley Country Club GHAD Reserve With 5% and Inflation Adjustment (FY 2011/2012 Dollars)
Estimated Budget

Year (as of JULY 1)	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
Cumulative Equivalent Units	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
A. INCOME										
Assessment (5% Increase on Bolded Figures)	414,298	422,584	431,036	439,657	448,450	457,419	466,567	475,898	485,416	495,125
B. PROJECTED EXPENSES										
1. Administration and Accounting	\$81,358	\$82,895	\$84,463	\$86,062	\$87,693	\$89,357	\$91,054	\$92,785	\$94,551	\$96,352
2. Professional Services	31,433	32,061	32,702	33,357	34,024	34,704	35,398	36,106	36,828	37,565
3. Legal, County, Miscellaneous, and Dues	35,630	36,342	37,069	37,811	38,567	39,338	40,125	40,927	41,746	42,581
4. Public Education	674	687	701	715	729	744	759	774	789	805
5. Repairs/Major Repair	1,218,994	-	-	-	-	-	-	-	-	-
6. Contingency	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100
SUBTOTAL - EXPENSES	\$1,375,188	\$159,085	\$162,035	\$165,044	\$168,113	\$171,243	\$174,436	\$177,693	\$181,014	\$184,403
RESERVE	(960,890)	263,499	269,001	274,613	280,337	286,176	292,131	298,206	304,402	310,722
EARNINGS	150,338	130,074	139,914	150,136	160,755	171,782	183,231	195,115	207,449	220,245
CUMULATIVE RESERVE	5,202,970	5,596,543	6,005,458	6,430,207	6,871,299	7,329,257	7,804,620	8,297,941	8,809,791	9,340,758

ASSUMPTIONS

Total No. of Units	1,550
Absorption Period (yrs)	0
Annual Assessment per Unit (Average)	\$170
Annual Increase in Assessment	2.0%
Inflation	2.0%
Investment Earnings	2.5%
Initial Fund Amount	\$3,150,000
Amount Financed	\$0
Borrowing Rate	6.0%
Term of Loan (yrs)	10
Frequency of Large-Scale Repair (yrs)	10
Cost of Large-Scale Repair (current \$)	\$1,000,000
Assessment Cap (per residential unit)	99999
Expense Deferral Period (Yrs)	0

ESTIMATED ANNUAL EXPENSES IN FY 2011/2012 DOLLA

General Manager	\$63,050
Financial Services - Audit Services	\$4,500
GHAD Monitoring Program	\$25,786
Legal	\$18,000
Santa Clara County Fees	\$3,002
Dues and Miscellaneous	\$8,227
Public Education	\$553
Contingency	\$7,100
Major Repair (Annualized)	\$100,000
TOTAL	\$230,217

EXHIBIT A
Silver Creek Valley Country Club GHAD Reserve With 5% and Inflation Adjustment (FY 2011/2012 Dollars)
Estimated Budget

Year (as of JULY 1)	<u>2031</u>	<u>2032</u>	<u>2033</u>	<u>2034</u>	<u>2035</u>	<u>2036</u>	<u>2037</u>	<u>2038</u>	<u>2039</u>	<u>2040</u>
Cumulative Equivalent Units	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
A. INCOME										
Assessment (5% Increase on Bolded Figures)	505,027	515,128	525,430	535,939	546,658	557,591	568,743	580,118	591,720	603,554
B. PROJECTED EXPENSES										
1. Administration and Accounting	\$98,189	\$100,063	\$101,974	\$103,923	\$105,912	\$107,940	\$110,009	\$112,119	\$114,272	\$116,467
2. Professional Services	38,316	39,082	39,864	40,661	41,475	42,304	43,150	44,013	44,893	45,791
3. Legal, County, Miscellaneous, and Dues	43,432	44,301	45,187	46,091	47,013	47,953	48,912	49,890	50,888	51,906
4. Public Education	821	838	854	872	889	907	925	943	962	982
5. Repairs/Major Repair	1,485,947	-	-	-	-	-	-	-	-	-
6. Contingency	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100
SUBTOTAL - EXPENSES	\$1,673,806	\$191,384	\$194,980	\$198,647	\$202,388	\$206,204	\$210,096	\$214,066	\$218,115	\$222,246
RESERVE	(1,168,779)	323,744	330,451	337,292	344,270	351,387	358,647	366,052	373,605	381,309
EARNINGS	233,519	210,137	223,484	237,333	251,698	266,598	282,047	298,065	314,668	331,874
CUMULATIVE RESERVE	8,405,498	8,939,379	9,493,315	10,067,939	10,663,907	11,281,892	11,922,586	12,586,702	13,274,974	13,988,157

ASSUMPTIONS

Total No. of Units	1,550
Absorption Period (yrs)	0
Annual Assessment per Unit (Average)	\$170
Annual Increase in Assessment	2.0%
Inflation	2.0%
Investment Earnings	2.5%
Initial Fund Amount	\$3,150,000
Amount Financed	\$0
Borrowing Rate	6.0%
Term of Loan (yrs)	10
Frequency of Large-Scale Repair (yrs)	10
Cost of Large-Scale Repair (current \$)	\$1,000,000
Assessment Cap (per residential unit)	99999
Expense Deferral Period (Yrs)	0

ESTIMATED ANNUAL EXPENSES IN FY 2011/2012 DOLLAR

General Manager	\$63,050
Financial Services - Audit Services	\$4,500
GHAD Monitoring Program	\$25,786
Legal	\$18,000
Santa Clara County Fees	\$3,002
Dues and Miscellaneous	\$8,227
Public Education	\$553
Contingency	\$7,100
Major Repair (Annualized)	\$100,000
TOTAL	\$230,217

EXHIBIT A
Silver Creek Valley Country Club GHAD Reserve With 5% and Inflation Adjustment (FY 2011/2012 Dollars)
Estimated Budget

Year (as of JULY 1)	<u>2041</u>	<u>2042</u>	<u>2043</u>	<u>2044</u>	<u>2045</u>	<u>2046</u>	<u>2047</u>	<u>2048</u>	<u>2049</u>	<u>2050</u>	<u>2051</u>
Cumulative Equivalent Units	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550	1,550
A. INCOME											
Assessment (5% Increase on Bolded Figures)	615,625	627,938	640,497	653,307	666,373	679,700	693,294	707,160	721,303	735,729	750,444
B. PROJECTED EXPENSES											
1. Administration and Accounting	\$118,706	\$120,990	\$123,320	\$125,697	\$128,121	\$130,593	\$133,115	\$135,687	\$138,311	\$140,987	\$143,717
2. Professional Services	46,707	47,641	48,594	49,566	50,557	51,568	52,600	53,652	54,725	55,819	56,936
3. Legal, County, Miscellaneous, and Dues	52,944	54,003	55,083	56,184	57,308	58,454	59,623	60,816	62,032	63,273	64,538
4. Public Education	1,001	1,021	1,042	1,062	1,084	1,105	1,127	1,150	1,173	1,196	1,220
5. Repairs/Major Repair	1,811,362	-	-	-	-	-	-	-	-	-	2,208,040
6. Contingency	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100	7,100
SUBTOTAL - EXPENSES	\$2,037,820	\$230,756	\$235,139	\$239,610	\$244,170	\$248,821	\$253,566	\$258,405	\$263,341	\$268,376	\$2,481,551
RESERVE	(1,422,195)	397,182	405,358	413,697	422,203	430,879	439,729	448,755	457,962	467,354	(1,731,107)
EARNINGS	349,704	322,892	340,894	359,550	378,881	398,908	419,653	441,137	463,385	486,418	510,263
CUMULATIVE RESERVE	12,915,666	13,635,740	14,381,991	15,155,238	15,956,322	16,786,109	17,645,490	18,535,383	19,456,730	20,410,501	19,189,657

ASSUMPTIONS

Total No. of Units	1,550		Target Reserve in
Absorption Period (yrs)	0		FY 2011/2012
Annual Assessment per Unit (Average)	\$170		Dollars: 8,690,812
Annual Increase in Assessment	2.0%		
Inflation	2.0%		
Investment Earnings	2.5%		
Initial Fund Amount	\$3,150,000		
Amount Financed	\$0		
Borrowing Rate	6.0%		
Term of Loan (yrs)	10		
Frequency of Large-Scale Repair (yrs)	10		
Cost of Large-Scale Repair (current \$)	\$1,000,000		
Assessment Cap (per residential unit)	99999		
Expense Deferral Period (Yrs)	0		

ESTIMATED ANNUAL EXPENSES IN FY 2011/2012 DOLLAR

General Manager	\$63,050
Financial Services - Audit Services	\$4,500
GHAD Monitoring Program	\$25,786
Legal	\$18,000
Santa Clara County Fees	\$3,002
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Public Education	\$553
Contingency	\$7,100
Major Repair (Annualized)	\$100,000
TOTAL	\$230,217

EXHIBIT B

Estimating an Appropriate GHAD Reserve

ESTIMATING AN APPROPRIATE GHAD RESERVE

Uri Eliahu G.E., ENGEO Incorporated, June 1999

An important parameter in establishing initial GHAD budgets and in assessing the financial health of mature GHADs is the appropriate level of reserve needed to address probable future geologic events. The reserve must be unique to each GHAD, and must consider several factors, not all of which are geotechnical in nature.

As an initial approach, a loss history can be compiled based on records of actual losses that have occurred in the region in the last 20 years. If the last 20 years can be assumed to be representative of future years, this loss history can be distilled to obtain a current net present value (NPV) of the statistically-expected loss over a given time period. This can be expressed per dwelling unit, per parcel, or per dollar value of improvements. If, based on historic geologic and rainfall records, it is believed that the last two decades do not represent the full range of expected geologic activity, a correction factor can be applied to the calculated risk to arrive at the expected loss rate.



In converting the expected loss rate to an estimated reserve (**R**), consideration must be given to the following factors.

Number of assessed units (**n**) in the GHAD.

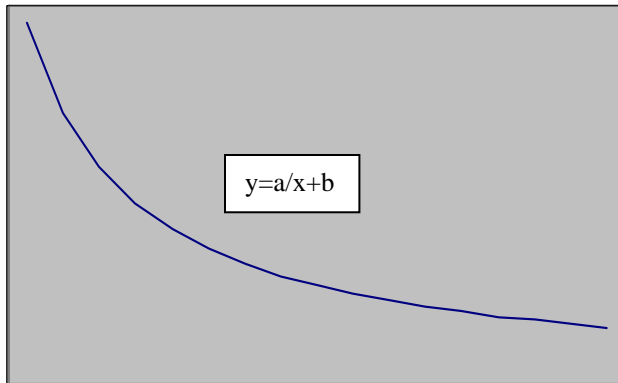
The reserve per dwelling unit (**R/n** or **average reserve**) should, in theory, diminish asymptotically with increasing unit count to a “floor” value.

Level of geotechnical risk (**g**) within the GHAD boundaries. Depending on geology, terrain, prior mitigation measures, grading techniques, irrigation and age, geotechnical risk may vary, even within a particular region.

Average value of assessed properties (**v**). In areas of high property values, repair or reconstruction of private improvements may be more costly and may require greater average reserves.

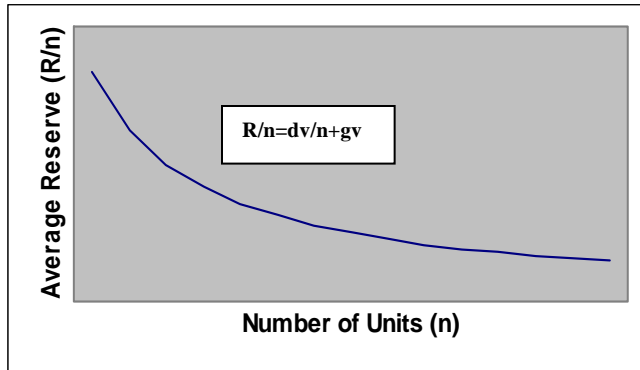
Relative density of construction (**d**). The number of units likely to be affected during a major geologic event will have an impact on the total reserve.

In consideration of the forgoing, an expression describing the average reserve may take the general hyperbolic form, $y = a/x + b$



Intuitively, this general expression may be applied to a GHAD reserve formula by substituting R/n for y , n for x , dv for a , and gv for b , to arrive at the relationship $R/n = dv/n + gv$ where:

- R** is the total reserve
- n** is the total number of assessed parcels
- v** is the average value of each residence
- g** is the geotechnical risk factor
- d** is a density factor related to the maximum number of units expected to be impacted in a major geologic event (eg. landslide)



This formula can be simplified to $R = dv + gvn$ or $R = v(d + gn)$

To apply this to a specific situation, **g** can be estimated based on historical data as described above, and **d** can be estimated by comparing regional landslide sizes to average lot sizes. Preliminarily, it appears that **d** may range from approximately 2 to 10 and **g** may range from 0.001 to 0.01, depending on the physical characteristics of the assessed areas as described above.

