



# County of Santa Barbara Planning and Development

## Building and Safety Division

Santa Barbara 568-3030 Fax 568-3103/Santa Maria 934-6230 Fax 934-6258/Santa Ynez 686-5020 Fax 686-5028

**Grading Permit**  
**06GRD-00000-00068**

**Application Date: 04/19/2006**

**Issuance Date: 05/31/2006**

**Issued By:**

### Project Details

|   |   |                                     |  |
|---|---|-------------------------------------|--|
| <b>Site Information:</b>  | 5597 W CAMINO CIELO SANTA BARBARA 93105 |                                     |  |
| <b>Acreage:</b> 3.00  | <b>Zoning:</b> RR-5                     | <b>Assessor Parcel:</b> 153-100-018 |  |
| <b>Work Description:</b>  |   |                                     |  |
| 100' long tieback and grade beam system to stabilize slope below residence. Two parallel grade beams approx. 8'high by 100' long, 22 tiebacks 130' deep, cement retaining wall on top of top beam. 200 cu.yds. cut, 200 cu.yds. fill. |   |                                     |  |

### Owner, Agent, Contractor, Architect, Engineer

|                          |   |                       |        |                |
|--------------------------|---|-----------------------|--------|----------------|
| <b>Owner:</b>            | SWANSON DAVID ERIC<br>5597 W CAMINO CIELO, SANTA BARBARA CA 93105 |                       |        |                |
| <b>Contractor</b>        | AIS CONSTRUCTION  | 4285 CROOKED PALM RD. |        |                |
| <b>License#</b> 759390 A | ANDY SHEAFFER   | VENTURA               | 930001 | (805) 643-6996 |
| <b>Engineer</b>          | CAMPBELL-GEO, INC   | 327-A EAST HALEY ST   |        |                |
| <b>License#</b> 790426   | STEVE CAMPBELL  | SANTA BARBARA         | 93103  | (805) 965-5003 |
| <b>Engineer</b>          | FRED H SCHOTT AND ASSOCIATES                                      | 200 SUBURBAN RD. #A   |        |                |
| <b>License#</b>          | FRED SCHOTT   | SAN LUIS OBISPO       |        | (805) 544-1246 |
| <b>Financially Respo</b> | SWANSON DAVID ERIC  | 5597 W CAMINO CIELO   |        |                |
| <b>License#</b>          |   | SANTA BARBARA         | 93105  | (805) 692-8444 |

### Additional Information

### Valuation Detail

| Description                   | Units                   | Factor   | Value            |           |
|-------------------------------|-------------------------|----------|------------------|-----------|
| Face Ara frm bttm of ftng top | Retaining Wall & Fence  | 2,500.00 | 11.00            | 27,500.00 |
| NA                            | Grading Only - Unit Fee | 200.00   | 2.00             | 400.00    |
| <b>Total Value:</b>           |                         |          | <b>27,900.00</b> |           |

### Required Clearances/Conditions

*See following Page for legal declarations*

## Worker's Compensation

I hereby affirm and declare under penalty of perjury that I will maintain a Certificate of Consent to self insure for Worker's Compensation or a Certificate of Worker's Compensation Insurance on file with the Santa Barbara County Building and Safety Division (Sec. 3700 of the California Labor Code). I have, and will maintain worker's compensation insurance as required by the

Code, for the performance of the work for which this permit is issued.

Policy#

Exp.Date

I further affirm and declare that I shall not employ any person in any manner so as to violate the Worker's compensation Laws of the State of California

### OWNER BUILDER/CONTRACTOR DECLARATION

- I Affirm and declare that I am a licensed contractor under the provisions of Chapter 9 of the California State Contractor's Law and my license is in full force and effect.
- I affirm and declare that I am exempt from the Cal. State Contractor's Law for the following reasons:
- I, as owner of the property, or my employees with the wages as their sole compensation, will perform the work and the structure is not intended or offered for sale within one year from date of issuance of this permit (Business and Professions Code, Sec. 7044).

Signature of Permittee



Date

5/31/06

Grading Permit

# CAMPBELL·GEO, INC.

ENGINEERING GEOLOGY · HYDROLOGY · GEOENVIRONMENTAL SERVICES

March 13, 2006

**06GRD-00000-00068**

SWAWNSON EMERGENCY RETAINING W

5597 W CAMINO CIELO

Mr. David Swanson  
5597 West Camino Cielo  
Santa Barbara, CA 93105

SANTA BARBARA 153-100-018

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APR 19 2006

S.B. COUNTY  
BUILDING DIVISION

Reference: Slide Stabilization Plan  
5597 West Camino Cielo, Santa Barbara, California  
(Sheets T1 and S1 through S6) by Fred H. Schott & Associates,  
dated October 31, 2005 / Revised January 10, 2006

Dear Mr. Swanson:

In response to your request, we have reviewed the referenced plan prepared by Fred H. Schott and Associates, date-stamped January 10, 2006. Based on our review, it appears that the plan has incorporated the geotechnical recommendations contained in the Campbell·Geo report dated August 8, 2005 and the plan is considered suitable from a geotechnical standpoint. We understand that you intend to construct a tieback and a grade beam system that is approximately 100 feet long. Our report anticipated a 160-foot long structure; however, the 100-foot length should be adequate to protect the main residence that was "yellow-tagged" by the County of Santa Barbara. Only minimal re-grading is planned downslope of the grade beam. That re-graded slope is not intended to provide buttress support to the grade beam or landslide headscarp.

We also understand that you intend to construct a 5- to 11-foot high (vertical height) retaining wall extended up from the top of the grade beam at the same angle as the grade beam. Backfill to be placed behind the wall will flatten the slope somewhat and increase surficial slope stability there. We do recommend that subsurface drainage of the backfill behind the wall be accommodated with a continuous underdrain pipe equivalent or similar to the drain shown on Detail E, Sheet S4 of the plans.

PROJECT: SWANSON TIE BACK SYSTEM  
TO PREVENT FUTURE SLIDES

Date: 1/10/06

FRED H. SCHOTT  
and ASSOCIATES  
STRUCTURAL ENGINEERS

CLIENT: DAVID SWANSON  
5597 WEST CAMINO CIELO

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BY: VED FS

APR 19 2006

Sheet 1 of 2

200 SUBURBAN ROAD STE. A  
SAN LUIS OBISPO, CALIFORNIA  
TEL (805) 544-1216 FAX (805) 544-2004

S.E. COUNTY  
OFFICE OF ENGINEERING

ORIGINAL RECOMMENDATIONS BY CAMPBELL GEO. INC. C.E.G  
& MARK HEATHERINGTON G.E.  
TIE BACKS

2 ROWS TIE BACKS G.F. 35' <sup>14</sup>/<sub>ft</sub> TO PROVIDE F.S. = 1.25  $\frac{35}{1.25} = 28'$

TRY 12-0.6 A416 STRANDS/TENDON TO INCREASE F.S. TO 1.5  $28 \times 1.5 = 42'$

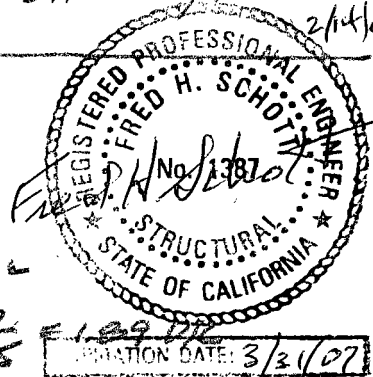
$F_{ULT} = 703.2'$   $703.2 \times .80 = 563'$  MAX IF TESTED TO 1.5 "DL"

MAX LONG TERM CAPACITY =  $703.2 \times .6 = 422'$   $\frac{422}{9.5} = 44.4'$  F.S. =  $\frac{44.4}{28} = 1.58$

$28 \times 9.5 = 266'$  TENDON w/ F.S. = 1.0

w/ F.S. = 1.5  $F = 266 \times 1.5 = 399' < 422'$   $\frac{399}{42} = 9.5'$

USE 12-0.6 A416 STRANDS/TENDON @ 9.5'



TENDON BOND LENGTH

PER SOILS REPORT ULT. BOND  $\sigma = 50$  PSI

USING F.S. = 2  $\sigma_{ALLOW} = 25$  PSI

TRY  $B'' \phi \times 50'$   $P = 25 \times B \times \pi \times 12 \times 50 = 376,991' = 377'$

w/  $399'$   $\sigma = \frac{399}{50 \times 12 \times B \times \pi} = .0245$

F.S. =  $\frac{50}{.0245} = 2041$

EXPIRATION DATE: 3/31/07

USE  $B'' \phi \times 50'$  BOND LENGTH

BEARING PLATE

$2 \times .75 \times .85 \times 4 = 5.1$  KSI  $B'' \phi = 50.2 \phi$

$\frac{563}{5.1} = 110$   $110 + 50.2 = 160.2$  PER DWIDAG ASSUME  $14''$  SQ PL  
 $\sqrt{160.2} = 12.66$

BEARING BLANKET

$w = \frac{422}{9.5} = 44.4'$   $V = 44.4 \times \frac{9.5}{2} = 211'$   $\frac{211 \times 7}{2 \times 12} = 61.5'$  RED. IN - M.

-M<sub>max</sub>  $44.4 \times \frac{9.5^2}{12} = 333.9'$   $333.9 - 61.5 = 272.4$   $272.4 \times 1.7 = 463.1'$

+M<sub>max</sub>  $44.4 \times \frac{9.5^2}{24} = 167.0$   $167.0 + 20.5 = 187.5'$   $187.5 \times 1.7 = 318.8'$

OK

-M<sub>try</sub> TRY 14-#6  $14 \times .44 \times 60 = 369.6'$   $a = \frac{369.6}{.85 \times 4 + 96} = 1.13$   $M_u = \frac{369.6 \times 17}{12} \times .9 = 471.2 > 369.6$

+M<sub>try</sub> TRY 14-#5  $14 \times .31 \times 60 = 260.4$   $M_u = \frac{260.4 \times 17}{12} \times .9 = 332.0 > 318.8$

OK

TRANSVERSE REINF.

$\frac{44.4}{8} = 5.55$  #5  $V = 5.55 \times 4 = 22.2$   $\frac{22.2 \times 7}{2 \times 12} = 6.5$

$M = 5.55 \times \frac{4^2}{2} - 0.5 = 37.9$   $37.9 \times 9.5 = 360.1$   $360.1 \times 1.7 = 612$

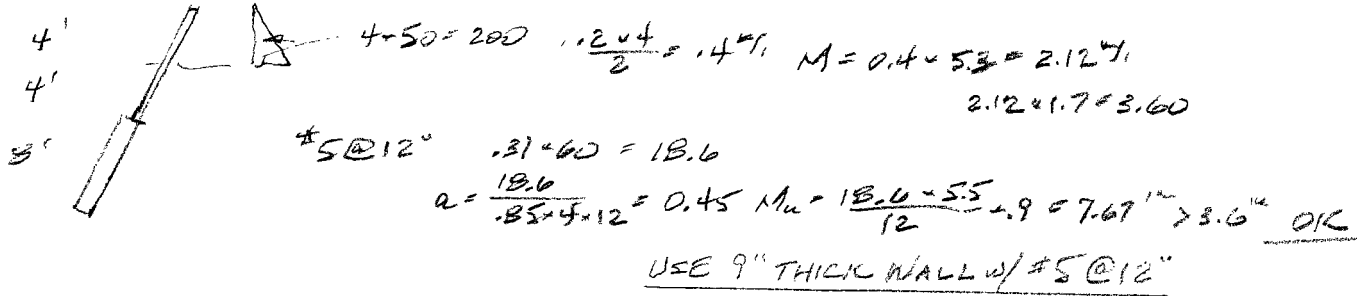
7 STIRRUPS

10 #5

+ 6-#5 CHANGE TO B  $23-#5$   $23 \times .31 \times 60 = 427.8'$   $M_u = \frac{427.8 \times 17.5}{12} \times .9 = 561.5$   
 $25-#5$   $25 \times .31 \times 60 = 465'$   $610.3$  VS 612 OK

06GR-00000-00068  
SWANSON EMERGENCY RETAINING WALL  
5597 W CAMINO CIELO  
SANTA BARBARA 153-100-018

BLANKET EXTENSION - TO ALLOW MORE LEVEL AREA @ TOP  
ADJACENT TO ESCARPMENT.



✓ SHEAR IN BEARING BLANKET.

$V = 44.4 \left( 4.75 - 1.25 \right) = 155.4 \text{ lb} \quad V_u = 155.4 \times 1.7 = 264.2 \text{ lb}$

$V_c = 2 \sqrt{4000} \times 96 \times 17 \times .85 = 175.5 \text{ lb} \quad \#5 @ 6" \quad V_s = \frac{.62 \times 60 \times 17}{6} \times .85 = 89.6$

PUNCHING SHEAR  $P = 422 - 5.55 - 2.58 = 385 \text{ lb}$

$V_c = 4 \sqrt{4000} \times 31 \times 4 \times 17 \times .85 = 453.3 \text{ lb}$

OR  $V_c = \left( \frac{40 \times 17}{124} + 2 \right) \frac{\sqrt{4000} \times 17 \times 124 \times .85}{1000} = 848.1 \text{ lb}$

$24 \times .31 \times 60 \times .707 \times .85 = 268.3 \text{ lb}$

$\frac{453.3}{721.6} > 654.5 \text{ lb} \text{ OK}$

Mr. David Swanson  
Slope Stabilization  
5597 West Camino Cielo  
March 13, 2006  
Page 2

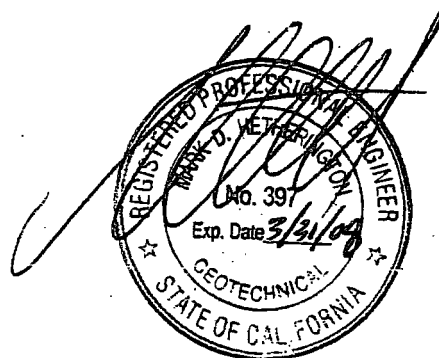
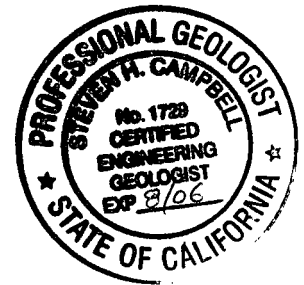
Please send us a copy of your final plans, when available.

If you wish to have a proposal for construction inspections from us or if you have any questions concerning this letter, please do not hesitate to contact us.

Sincerely,  
Campbell-Geo, Inc.



Steven H. Campbell  
Professional Geologist  
State of California, #5576  
Certified Engineering Geologist  
State of California, #1729



Mark D. Hetherington  
Registered Civil Engineer  
State of California, #30488  
Geotechnical Engineer  
State of California, #397

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cc: Fred H. Schott & Associates  
Attn: Mr. Fred Schott

06021-68

**FRED H. SCHOTT & ASSOCIATES**  
**CIVIL AND STRUCTURAL ENGINEERS**

FILE COPY

January 22, 2007

David Swanson  
5597 W. Camino Cielo  
Santa Barbara, CA 93105

Subject: Tie back stabilization system to prevent future progression of the landslide head scrap upslope.

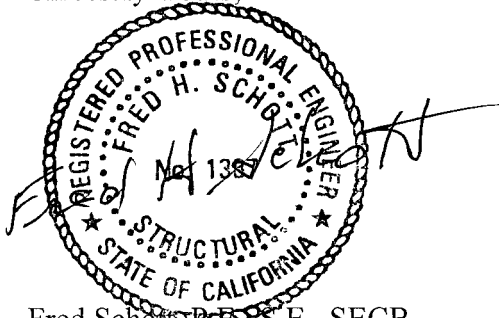
Dear Mr. Swanson:

This is to confirm that we coordinated the tie back location survey and drilling of the tie back holes. Then we inspected the installation and grouting of the tie back tendons. We also inspected the reinforcing and shotcreting operations for the lower and upper bearing pads, as well as, the stressing operations and grouting of the stressing heads. Finally, we have reviewed the finish grading of the landslide area to prevent ponding on the surface, which could cause seepage downward lubricating the slip plane and reactivating the slide.

It is my professional opinion that the tie back stabilization system was installed in a workmanlike manner and that the completed project is in substantial conformance to the approved construction documents.

If you have any questions regarding this manner, please do not hesitate to contact me.

Sincerely Yours,



Fred Schott, P.E., S.E., SECB

EXPIRATION DATE 3/31/07

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**APR 03 2007**  
S.B. COUNTY  
PLANNING & DEVELOPMENT