


THE J. BYER GROUP, INC.
A GEOTECHNICAL CONSULTING FIRM
1461 E. CHEVY CHASE DR. #200, GLENDALE, CA 91206
818.549.9959 TEL 818.543.3747 FAX
"Trust the Name You Know"

August 28, 2001
JB 18457-I

Palisades Landmark LLC
10600 Santa Monica Boulevard
Los Angeles, California 90025

Attention: Ken Kahan

Subject

Addendum Geologic and Soils Engineering Exploration Report #3
Proposed Landslide Repair and Multi-Unit Condominium and Town Home Buildings
Tentative Tract 52928, Lot 1 (Condominiums)
17331-17333 Tramonto Drive
Pacific Palisades, California

Grading Section Log # 31587-01

References: Report by The J. Byer Group, Inc.:

Geologic and Soils Engineering Exploration, Proposed Landslide Repair and Multi-Unit Condominium and Town Home Buildings, Tentative Tract 52928, 17331-17333 Tramonto Drive, Pacific Palisades, California, dated August 16, 2000;

Addendum Geologic and Soils Engineering Exploration Report, Proposed Landslide Repair and Multi-Unit Condominium and Town Home Buildings, November 29, 2000;

Addendum Geologic and Soils Engineering Exploration Report #2, Proposed Landslide Repair and Multi-Unit Condominium and Town Home Buildings, dated June 29, 2001.

City of Los Angeles Department of Building and Safety, Grading Section, review letters, dated September 21, 2000, January 22, 2001, and July 30, 2001.

Gentlemen:

The J. Byer Group has prepared this addendum report to provide additional information to the Grading Section for the design and construction of the proposed project. The city review letter dated July 30, 2001 is attached for reference.

Item - 1 *Revise recommendations for piles P31 through P40; section "K" now indicates that a calculation for support of up to 45 feet of bedrock is required adjacent to the landslide. In addition, the recommended embedment of the piles below 1½:1 is not acceptable. Temporary piles shall be embedded below a plane with safety factor of 1.25, revise recommendations.*

Calculations within our June 26, 2001 report indicate that the proposed system of temporary piles and 1½:1 setback plane have a safety factor of greater than 1.25. Section K, which is the most critical with respect to the temporary slopes, has a temporary safety factor of 1.309. A 1.25 failure plane would be steeper than the 1½:1 plane and less conservative. It is the opinion of The J. Byer Group that the soldier piles should be embedded below a 1½:1 plane projected up from the base of the slide.

Item - 2 *Revise analyses for overtopping of the landslide over the proposed retaining wall to include groundwater.*

The safety factor of a potential failure surface that overtops the soldier piles and the proposed repair was analyzed based upon Section H. For a conservative analysis, it was assumed that the subdrain system fails and the repair acts as a dam. Under such conservative assumptions, the safety factor is greater than 1.3. The low safety factor is not considered reasonable because there is no evidence that groundwater has ever been within 10 feet of the ground surface and a draw down in the groundwater surface adjacent to the subdrain system was ignored. It is not possible to grade or de-water offsite and the calculated safety factor is considered sufficient for the proposed project.

Item - 3 *Revise slope stability calculations for the proposed repair (Section H-H). The computer input indicates that locations of the external forces 1 & 2 are assigned away from the true locations of soldier pile walls. Explain the assumed magnitude of EFP=30 PCF for the uphill piles and EFP=65 PCF for the downhill piles. Also, correct the "Y" boundary coordinates for the upper soldier pile wall, they are in the reverse order.*

The resultant horizontal forces assumed for the soldier piles were modeled as anchors. The y-coordinates are assigned to $\frac{1}{3}$ the retained height. For the upper and lower rows, $\frac{1}{3}$ the retained height is 147.33 and 105.67 feet, respectively. Section H was revised to show the correct x and y coordinates at the top and bottom of piles for the anchor method. The x-coordinate need only be located upslope (lower x value) than the intersection of the slide plane, the bedrock, and the elevation of the y-coordinate. The exact location of the x-coordinate is not important as the magnitude of the anchor force is not a function of the embedment distance. The force is applied at the intersection of the failure plane and the y-coordinate. The anchor force methodology is contained within the REAME User's Manual (pages 58-60), which has been provided to the reviewing engineer.

The design fluid pressure on the lower row of soldier piles (equivalent fluid pressure = 65 pcf) is based upon Calculation Sheet #38 within our August 16, 2000 report. The calculation assumes that the piles support future compacted fill. As discussed on page 7 of our November 29, 2000 report, the upper row of soldier piles will have two loading conditions. During removal and recompaction of the slide debris, piles 1 through 30 will support slide debris. The design load on piles 1 through 30 will range between 145 and 175 kips per foot as determined in the previous reports. Recommended piles 31 through 40 will support bedrock above a 1½:1 plane projected up from the base of the slide. The recommended design fluid pressure on piles P31 through P40 is 65 pounds per cubic foot. The second loading condition occurs after the slide debris has been removed and replaced with compacted fill. Piles 1 through 30 should be designed for an equivalent fluid pressure of 30 pcf. Piles 31 through 40 are not needed for permanent stability. Tie backs or rakers may be utilized to assist the piles in resisting the higher temporary pressures.

Item - 4 *Show the proposed grade on sections A, B, C, G, E-H, K, L and Q-Q.*

Formal grading and development plans have not been developed yet. However, it is planned to balance the earthwork within the site. Thus, the finish grades will not be much different than the existing. The proposed grades are shown on Sections A, B, C, G, E-H, K, L and Q-Q.

Item - 5 *Correct the apparent typographic error on the second line on the response to item 17, with regard to the pile numbers.*

The second sentence of our response to Item 17 of the referenced July 30, 2001 should read, "Soldier piles near Sections I and K should be embedded 20 feet below a 2:1 plane projected up from the toe of slope, Piles P30 through P40 should be embedded 20 feet below a 1½:1 plane projected up from the base of the slide, and the remaining soldier piles should be embedded below the slide."

Item - 6 *Provide a statement of responsibility indicating that shear strength obtained from Moran et al. report were reviewed and concurred with. Also provide shear strength diagram for the basalt and terrace stratum and conditions of the tests.*

The November 29, 2000 addendum report referenced a GeoSoils report for the property located at 17315 Sunset Boulevard (intersection of Sunset Boulevard and Los Liones Drive). Shear Diagram SH-2 from their report indicates a cohesion value/phi angle combination of 750 psf/33 degrees for the diabase (basalt). A copy of the shear diagram is contained within our June 29, 2001 report, and is enclosed again for ease. The diagram indicates the diabase (basalt) sample was obtained from an outcrop.

A study of the Pacific Palisades by Moran, Proctor, Muesser & Rutledge, 1959 (*Final Report, Pacific Palisades Landslide Study*) contains shear test results of nearby terrace. Table 6 - Summary of Strength Test Results of Principal Subsoil Strata and Plate No. 10 - Strength Summary of Pleistocene-Pliocene Materials are enclosed.

The J. Byer Group, has reviewed the reports and published findings by GeoSoils and Moran, Proctor, Muesser & Rutledge and concurs with their findings. The J. Byer Group, accepts geotechnical responsibility for utilizing the GeoSoils shear strength of the basalt and the Moran, et al., strength of the terrace.

The J. Byer Group appreciates the opportunity to continue as your geotechnical consultants. Any questions regarding this or the referenced report should be directed to the undersigned.

Respectfully submitted,
THE J. BYER GROUP, INC.

Jon A. Irvine
E. G. 1691/R. C. E. 55005

JAI:RIZ:JWB:flh

Y:\FINAL\ADDENDUM\18457-i1.add.wpd



Enc: City of Los Angeles Department of Building and Safety, Grading Section review letter dated July 30, 2001 (2 pages)
Calculation Sheets (3)
Table 6 - Summary of Strength Test Results of Principal Subsoil Strata, from Moran et al., 1956
Plate 10 - Pacific Palisades Landslide Study, from Moran et al., 1956
Shear Diagram SH-2 by GeoSoils
Section Q-Q

In Pocket: Geologic Map
Sections A,B,C, (1 Sheet)
Sections D, E, F, & G (1 Sheet)
Section H (1 Sheet)
Sections L & K (1 Sheet)

xc: (3) Addressee
(1) Gary Safronoff
(1) William Rose & Associates
(3) City of Los Angeles Department of Building & Safety, Grading Section

**BOARD OF
BUILDING AND SAFETY
COMMISSIONERS**

MABEL CHANG
PRESIDENT

JOYCE L. FOSTER
VICE-PRESIDENT

CORINA R. ALARCON

BILL EHRlich

JOHN SCHAFFER

**CITY OF LOS ANGELES
CALIFORNIA**



JAMES K. HAHN
MAYOR

**DEPARTMENT OF
BUILDING AND SAFETY**
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ANDREW A. ADELMAN
GENERAL MANAGER

TOM WHELAN
EXECUTIVE OFFICER

July 30, 2001

Log # 31587-02
SOILS/GEOLOGY FILE - 2

Palisades Landmark LLC
10600 Santa Monica Bl
Los Angeles, CA 90025

TRACT: (Tentative Tract 52928)
LOT: 1 (condominiums)
LOCATION: 17331-17333 Tramonto Dr

<u>CURRENT REFERENCE REPORT/LETTER(S)</u>	<u>REPORT NO.</u>	<u>DATE(S) OF DOCUMENT</u>	<u>PREPARED BY</u>
Geology/Soil Report Ovrszd Doc	18457-I ..	06/29/01 ..	J. Byer Group ..
<u>PREVIOUS REFERENCE REPORT/LETTER(S)</u>	<u>REPORT NO.</u>	<u>DATE(S) OF DOCUMENT</u>	<u>PREPARED BY</u>
Geology/Soil Report ..	18457 18457-I	08/16/00 11/29/0	J. Byer Group ..
Department letter ..	29828 31587	02/07/00 09/21/00	LADBS ..
..	31587-01	01/22/01	..

The referenced reports concerning a proposed condominium development have been reviewed by the Grading Section of the Department of Building and Safety. The reports cannot be approved as they lack sufficient information to determine the stability or safety of the proposed development. An addendum to the reports shall be submitted which contains the following information:

1. Revise recommendations for piles P31 through P40; section "K" now indicates that a calculation for support of up to 45 feet of bedrock is required adjacent to the landslide. In addition, the recommended embedment of the piles below 1 1/2 :1 is not acceptable. Temporary piles shall be embedded below a plane with safety factor of 1.25, revise recommendations.
2. Revise analyses for overtopping of the landslide over the proposed retaining wall to include groundwater.
3. Revise slope stability calculations for the proposed repair (Section H-H). The computer input indicates that locations of the external forces 1 & 2 are assigned away from the true locations of soldier pile walls. Explain the assumed magnitude of EFP=30 PCF for the uphill piles and EFP=65 PCF for the downhill piles. Also, correct the "Y" boundary coordinates for the

Page 2

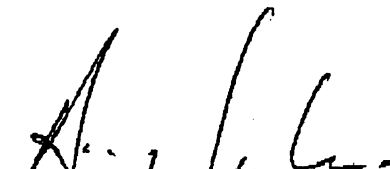
17331-17333 Tramonto Dr

upper soldier pile wall, they are in the reverse order.

4. Show the proposed grade an sections A, B, C, G, H-H, K, L and Q-Q.
5. Correct the apparent typographic error on the second line of the response to item 17, with regard to the pile numbers.
6. Provide a statement of responsibility indicating that shear strength obtained from Moran at al. report were reviewed and concurred with. Also provide shear strength diagram for the basalt and terrace stratum and conditions of the tests.

DAVID HSU
Chief of Grading Section


DANA PREVOST
Engineering Geologist II


ANDRZEJ T. SZPIKOWSKI
Geotechnical Engineer I

DP/ATS:dp/ats
31587-02
(213) 977-6329

cc: J. Byer Group
WLA District Office

THE J. BYER GROUP, INC.
SLOPE STABILITY CALCULATIONS

CLIENT: PALISADES LANDMARK

JB 18457-I

CALCULATION SHEET #1

REAME (ROTATIONAL EQUILIBRIUM ANALYSIS OF MULTILAYERED EMBANKMENT), Windows
95 THIS 1999 VERSION OF REAME IS LICENSED BY CIVIL ENGINEERING SOFTWARE CENTER TO
The J. Byer Group, Inc.

**TITLE: CALCULATE SAFETY FACTOR OF A POTENTIAL FAILURE THAT OVER-TOPS THE SOLDIER
 PILES ALONG THE UPSLOPE PROPERTY LINE - SECTION K-K**

NO. OF STATIC AND SEISMIC CASES (NCASE) = 1
NO. OF NONCIRCULAR SLIP SURFACES (NSS) = 1
TWO-DIMENSIONAL ANALYSIS (THREED = 0)
CASE NO. 1 SEISMIC COEFFICIENT (SEIC) =0.000
NO. OF BOUNDARY LINES (NBL) = 5

NO. OF POINTS ON BOUNDARY LINE 1 = 2
1 X COORD.= 0 Y COORD.= 0
2 X COORD.= 500 Y COORD.= 0

NO. OF POINTS ON BOUNDARY LINE 2 = 6
1 X COORD.= 0 Y COORD.= 1
2 X COORD.= 161 Y COORD.= 1
3 X COORD.= 161 Y COORD.= 163
4 X COORD.= 220 Y COORD.= 178
5 X COORD.= 220 Y COORD.= 1
6 X COORD.= 500 Y COORD.= 1

NO. OF POINTS ON BOUNDARY LINE 3 = 5
1 X COORD.= 220 Y COORD.= 178
2 X COORD.= 220 Y COORD.= 132
3 X COORD.= 320 Y COORD.= 109
4 X COORD.= 388 Y COORD.= 90
5 X COORD.= 388 Y COORD.= 137

NO. OF POINTS ON BOUNDARY LINE 4 = 2
1 X COORD.= 0 Y COORD.= 252
2 X COORD.= 65 Y COORD.= 230

NO. OF POINTS ON BOUNDARY LINE 5 = 15
1 X COORD.= 0 Y COORD.= 252
2 X COORD.= 31 Y COORD.= 252
3 X COORD.= 65 Y COORD.= 230
4 X COORD.= 96 Y COORD.= 216
5 X COORD.= 114 Y COORD.= 216
6 X COORD.= 114 Y COORD.= 211
7 X COORD.= 138 Y COORD.= 198
8 X COORD.= 160 Y COORD.= 192
9 X COORD.= 200 Y COORD.= 182
10 X COORD.= 220 Y COORD.= 178
11 X COORD.= 240 Y COORD.= 176
12 X COORD.= 257 Y COORD.= 172

THE J. BYER GROUP, INC.

SLOPE STABILITY CALCULATIONS

CLIENT: PALISADES LANDMARK

JB 18457-I

CALCULATION SHEET #2

13 X COORD.= 388	Y COORD.= 137
14 X COORD.= 388	Y COORD.= 90
15 X COORD.= 500	Y COORD.= 90

LINE NO. AND SLOPE OF EACH SEGMENT ARE:

1	0.000					
2	0.000	99999.000	0.254	99999.000	0.000	
3	99999.000	-0.230	-0.279	99999.000		
4	-0.338					
5	0.000	-0.647	-0.452	0.000	99999.000	-0.542
	-0.273	-0.250	-0.200	-0.100	-0.235	-0.267
	99999.000	0.000				

UNIT WEIGHT OF WATER (GW) = 62.4

SOIL NO.	COHESION	FRIC. ANGLE	UNIT WEIGHT	
SLIDE DEBRIS	1	320	25	130
BASE OF SLIDE	2	0	16	130
BEDROCK	3	400	29	130
TENSION CRACK ZONE	4	0	0	62.4

USE PHREATIC SURFACE

NO. OF SLICES (NSLI) = 10

NO. OF ADD. CIRCLES (NAC) = 3

ANALYSIS BY MODIFIED SPENCER METHOD (MTHD=4)

NUMBER OF FORCES (NFO) = 0

SOFT SOIL NUMBER (SSN) = 0

NO. OF POINTS ON WATER TABLE (NPWT) = 6 -

ASSUME THAT PILES, REMEDIAL GRADING, AND
SUBDRAIN SYSTEM ACT AS A DAM

1 X COORD.= 0	Y COORD.= 200
2 X COORD.= 120	Y COORD.= 200
3 X COORD.= 220	Y COORD.= 170
4 X COORD.= 220	Y COORD.= 132
5 X COORD.= 452	Y COORD.= 50
6 X COORD.= 500	Y COORD.= 50

NO. OF SOILS WITH DIFFERENT WATER TABLE (NSDW) = 0

NO. OF SOILS WITH DIFFERENT PORE PRESSURE RATIO (NSDP) = 0

SLICES WILL BE SUBDIVIDED

NO. OF POINTS ON SLIP SURFACE (NPSS) 1 = 5

1 X COORD.= 66	Y COORD.= 222
2 X COORD.= 68	Y COORD.= 217
3 X COORD.= 71	Y COORD.= 208
4 X COORD.= 161	Y COORD.= 162
5 X COORD.= 220	Y COORD.= 178

SLIP SURFACE NO. 1

FOR SLIP SURFACE NO. 1 FACTOR OF SAFETY IS 1.303

THE J. BYER GROUP, INC.

SLOPE STABILITY CALCULATIONS

CLIENT: PALISADES LANDMARK

JB 18457-1

CALCULATION SHEET #3

SUMMARY OF SLICE INFORMATION FOR MOST CRITICAL SLIP SURFACE

SL. NO.	SOIL NO.	SLICE WIDTH	BOTTOM TANGENT	BOTTOM SHEAR	INTERSLICE NORMAL	FORCE SHEAR	RESISTING FORCE	DRIVING FORCE	THRUST HEIGHT
2	2	2.544	-2.500	2.663E+02	1.051E+03	-2.756E+02	.93E+03	.17E+04	3.023
3	2	3.000	-2.500	9.224E+02	4.600E+03	-1.206E+03	.32E+04	.60E+04	4.813
4	2	3.000	-3.000	1.757E+03	1.162E+04	-3.047E+03	.72E+04	.13E+05	7.637
5	2	6.829	-0.511	3.598E+03	1.586E+04	-4.157E+03	.53E+04	.83E+04	7.067
6	2	15.797	-0.511	8.612E+03	2.599E+04	-6.814E+03	.13E+05	.20E+05	7.470
7	2	2.375	-0.511	1.184E+03	2.770E+04	-7.262E+03	.17E+04	.30E+04	7.581
8	2	13.422	-0.511	7.163E+03	3.964E+04	-1.039E+04	.10E+05	.20E+05	8.129
9	2	4.578	-0.511	2.702E+03	4.469E+04	-1.172E+04	.40E+04	.81E+04	8.284
10	2	11.219	-0.511	4.743E+03	5.630E+04	-1.476E+04	.69E+04	.17E+05	9.075
11	2	12.781	-0.511	4.778E+03	6.987E+04	-1.832E+04	.70E+04	.19E+05	10.180
12	2	3.016	-0.511	1.067E+03	7.316E+04	-1.918E+04	.16E+04	.45E+04	10.454
13	2	15.797	-0.511	6.083E+03	9.199E+04	-2.412E+04	.89E+04	.26E+05	11.838
14	2	3.187	-0.511	1.328E+03	9.611E+04	-2.520E+04	.19E+04	.56E+04	12.105
15	2	1.000	-0.511	4.241E+02	9.742E+04	-2.554E+04	.62E+03	.18E+04	12.188
16	1	11.610	0.271	1.642E+04	6.734E+04	-1.765E+04	.22E+05	-.13E+05	10.051
17	1	15.797	0.271	1.857E+04	3.488E+04	-9.145E+03	.25E+05	-.13E+05	7.046
18	1	11.594	0.271	1.087E+04	1.729E+04	-4.532E+03	.15E+05	-.63E+04	4.878
19	1	4.203	0.271	3.390E+03	1.216E+04	-3.188E+03	.46E+04	-.16E+04	4.217
20	1	15.797	0.271	8.902E+03	-9.766E-03	0.000E+00	.12E+05	-.29E+04	0.000
		SUM					.15E+06	.12E+06	

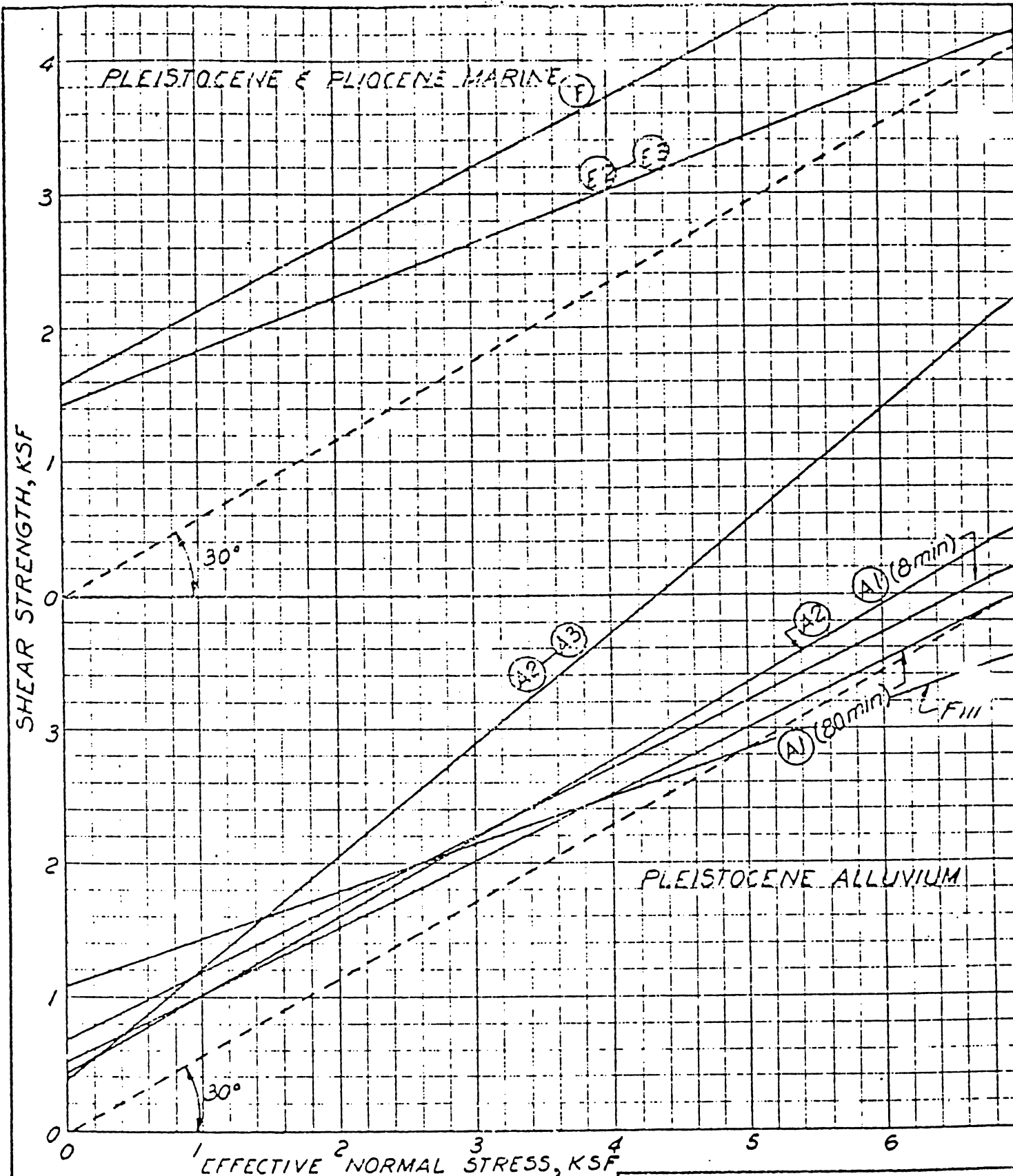
FOR SLIP SURFACE NO. 1 WITH SEISMIC COEFFICIENT 0.000
 BY MODIFIED SPENCER METHOD, DEL ANGLE = 0.256 AND FACTOR OF SAFETY IS 1.303

CONCLUSIONS: THE SAFETY FACTOR OF SECTION H FOR A POTENTIAL FAILURE THAT OVER-TOPS THE SOLDIER PILES IS GREATER THAN 1.3. THE CALCULATION AND GROUNDWATER SURFACE ASSUMES THAT THE SUBDRAIN SYSTEM FAILS AND ACTS AS A DAM.

TABLE 6
SUMMARY OF STRENGTH TEST RESULTS OF PRINCIPAL SUBSOIL STRATA

Formation	Stratum	Time To Failure Min.	Speed of Test		Effective Stress Envelope			Total Stress Envelope			Number of Tests
			Rate of Vertical Strain % Min.	Rate of Shear Strain Radians/Day	Cohesion kips/sq. ft.	ϕ_E Degrees	$\tan \phi_E$	Cohesion kips/sq. ft.	ϕ_T Degrees	$\tan \phi_T$	
Pleistocene Alluvium	A1	80	.05	100	.55	26	.49	.55	20.5	.37	11
	A1	8	.75	1400	.70	26.5	.50	.70	22	.40	12
	A2	15	.5	950	.45	30	.58	.40	24	.44	9
	A2 - A3	30	.1	150	.40	39.5	.83	.40	39.5	.83	11
Pleistocene Marine Materials	E2 - E3	85	.04	80	1.45	21.5	.39	1.45	21.5	.39	2
Pliocene Marine Materials	F	35	.07	130	1.60	28	.53	1.60	28	.53	6
Modelo Formation	B1*	5	1.25	2510	3.25	22	.40	3.25	22	.40	11
	B1	6	1.2	2460	.65	27	.51	.65	23.5	.43	6
	B1	150	.02	40	.50	24.5	.46	.50	20.5	.37	8
	B1	6000	.0006	1.2	.45	17.5	.32	.45	11.5	.20	7
	B2*	7	1.3	2610	2.00	21	.38	2.00	17.5	.32	11
	B2	7	1.3	2810	.80	14	.25	.80	14	.25	7
	B2	60	.04	85	.70	11.5	.20	.70	11.5	.20	15
	B2	4500	.0013	2.8	.65	10.5	.19	.65	10.5	.19	7
Martinez Formation	C1	45	.07	135	.50	26	.49	.50	26	.49	8
	C4	80	.06	125	.20	20.5	.37	.20	20.5	.37	8
Fill	**	5	1.0	2030	1.10	19.5	.35	1.10	17.0	.31	4

- * Indicates tests on intact materials or materials of high blow count from interior of large slides in City of Los Angeles.
- ** Fill tested was obtained from Boring 102A at Central Pacific Palisades Slide Location 1.



Note:

Fill tested was obtained from boring 102A at Central Pacific Palisades, Slide Location 1.

**PACIFIC PALISADES
LANDSLIDE STUDY**

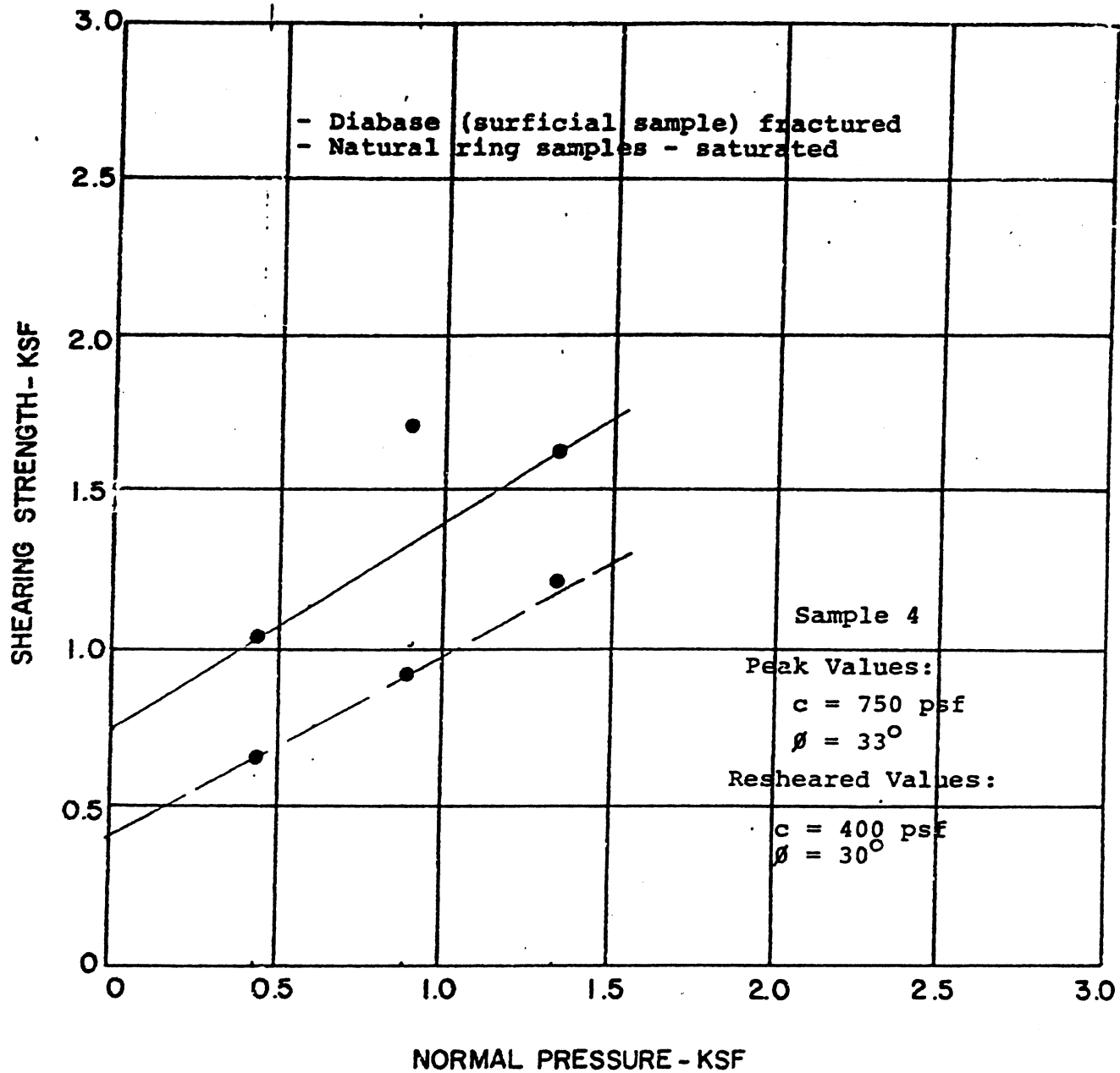
MGRAN, PROCTOR, HUESER & RUTENFRANZ
CONSULTING ENGINEERS
415 MADISON AVE. NEW YORK 17, N.Y.

MADE BY: WR	DATE: 6-59
CH'D BY: JPO	DATE: 6-59

**STRENGTH SUMMARY
PLEISTOCENE-PLIOCENE MTLs.**

FILE NO. 1245A	PLATE NO. 10
-------------------	-----------------

12300300137



KEY:

- TESTS AT FIELD MOISTURE CONTENT
- TESTS AT SATURATED MOISTURE CONTENT

SHEAR TEST DIAGRAM



LA MANCHA/SCHURGIN

Date 1/81 W.O. No. 644-VN By _____

Soil Mechanics • Geology • Foundation Engineering

THE J. BYER GROUP, INC.

A GEOTECHNICAL CONSULTING FIRM

1461 E. CHEVY CHASE DRIVE, SUITE 200, GLENDALE, CA 91206
818•549•9959 Tel 818•543•3747 Fax

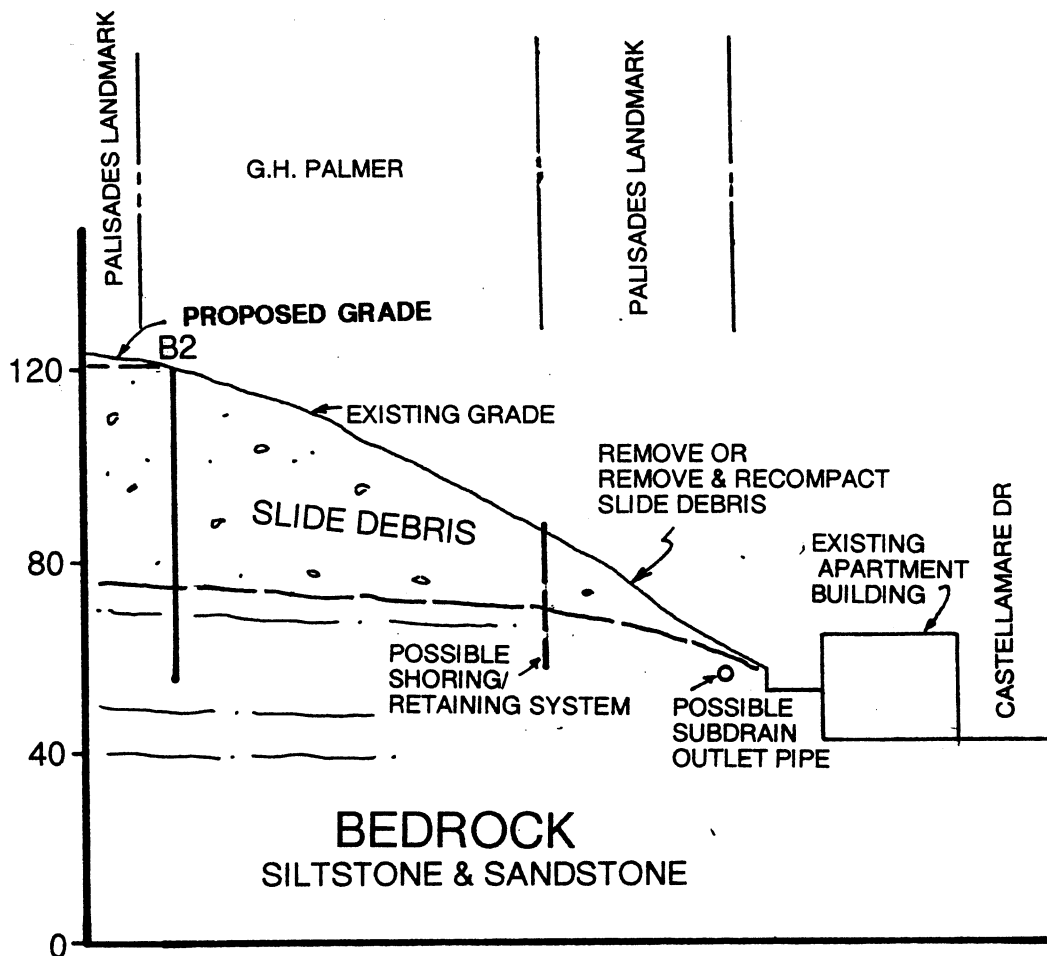
SECTION Q-Q

JB 18457-I PALISADES LANDMARK

CONSULTANT: JAI

SCALE: 1" = 40'

JUNE 29, 2001



SECTION Q-Q



- LEGEND**
- B6 ● LOCATION AND NUMBER OF BORINGS BY THE J. BYER GROUP
 - C-3 ● LOCATION AND NUMBER OF BORINGS BY LAW CRANDALL CONSULTANTS INC., 1998
 - LC3 ● LOCATION AND NUMBER OF BORINGS BY LEROY CRANDALL, 1980
 - MAA2 ● LOCATION AND NUMBER OF BORINGS BY MAA ENGINEERING, 1999
 - GSB4 ● LOCATION AND NUMBER OF BORINGS BY GEOSOLS, 1978
 - GEO1 ● LOCATION AND NUMBER OF BORINGS BY GEOSYSTEMS, 1994
 - A4 ● LOCATION AND NUMBER OF BORINGS BY AAKO, 1988
 - LS3 ● LOCATION AND NUMBER OF BORINGS BY LOCKWOOD-SINGH, 1999
 - SB3 ● LOCATION AND NUMBER OF BORINGS BY SOLUS GEOTECHNICAL, 1991
 - PSR1 ● LOCATION AND NUMBER OF BORINGS BY PACIFIC SOILS, 1965
 - M3 ● LOCATION AND NUMBER OF BORINGS BY J.D. MERRILL
 - PW2 ● LOCATION AND NUMBER OF BORINGS BY CITY OF LA. PUBLIC WORKS, 1965
 - 30 STRIKE AND DIP OF SHEAR
 - 65 STRIKE AND DIP OF BEDDING
 - 75 STRIKE AND DIP OF JOINT
 - GEOLOGIC CONTACT
 - P38 ● LOCATION AND NUMBER OF RECOMMENDED SOLDIER PILES
 - LIMITS OF 1965 BENCH

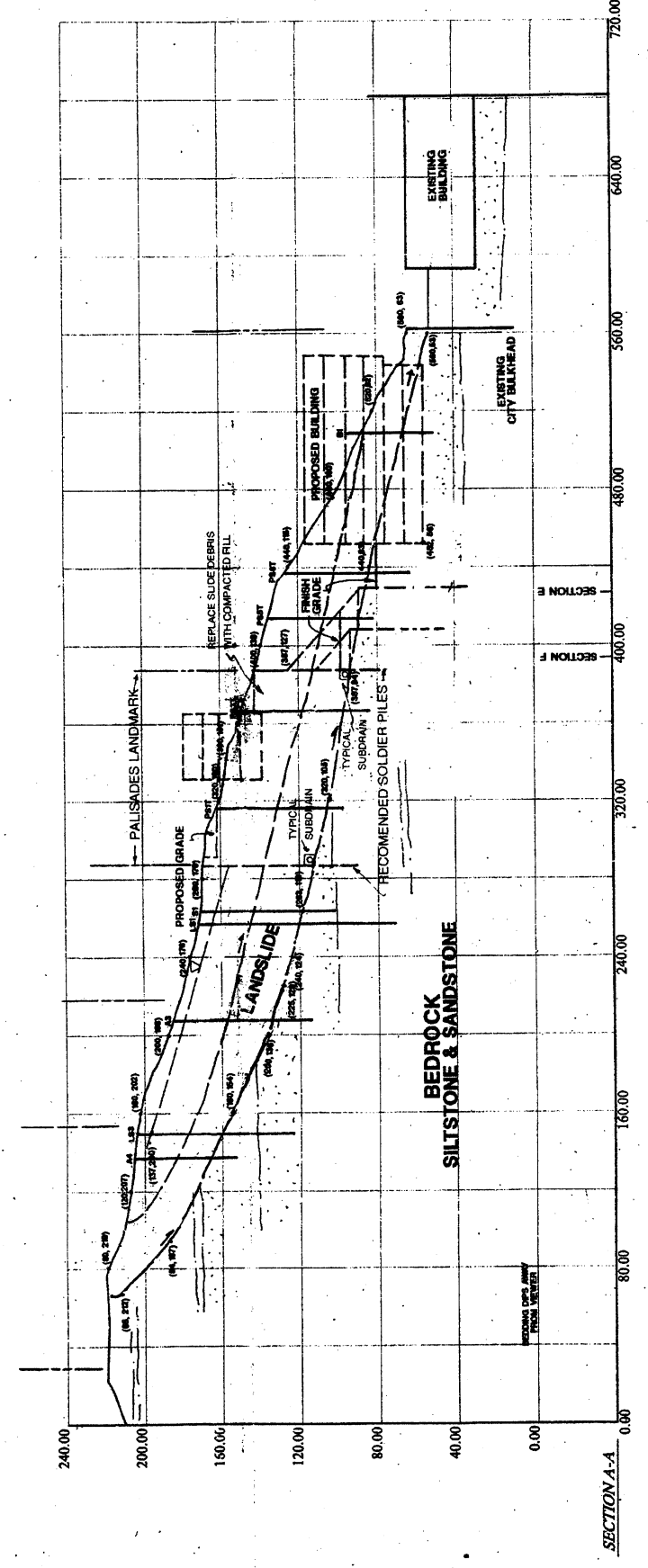
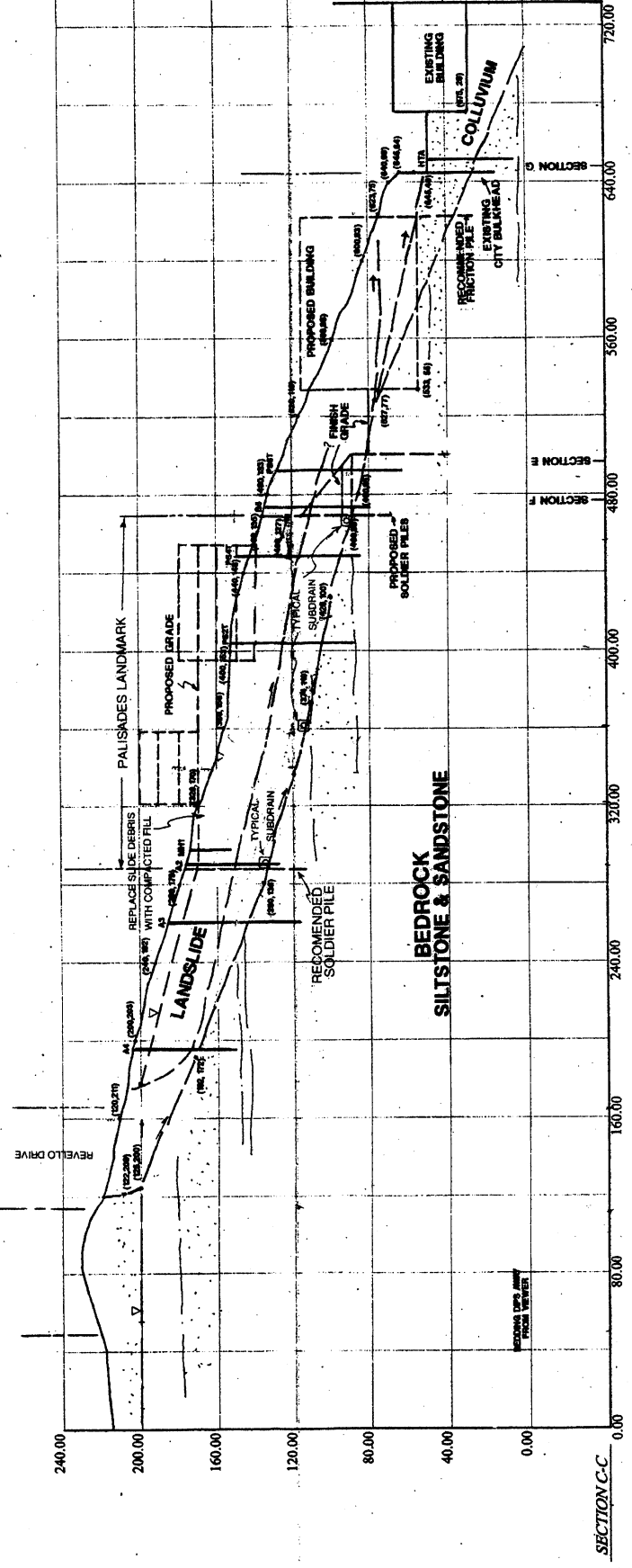
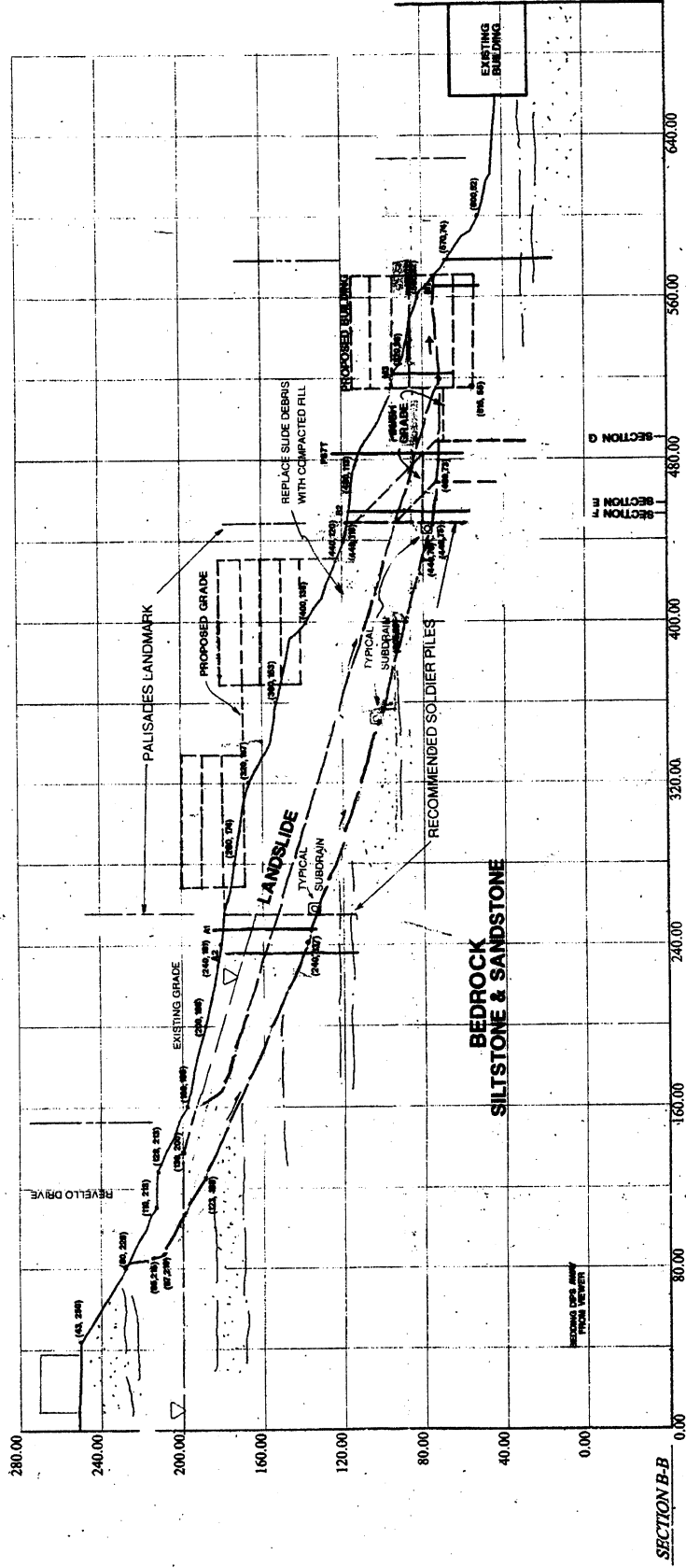
already scanned + reduced

THE J. BYER GROUP, INC. A GEOTECHNICAL CONSULTING FIRM 1401 E. CHEVY CHASE DRIVE, OAKLAND, CALIFORNIA 94616-1409 TEL: (916) 435-3171 FAX: (916) 435-3172	GEOLOGIC MAP	
	#18457-1 PALISADES LANDMARK LLC CONSULTANT: JAI	SCALE: 1" = 40' OCTOBER 2, 2001 AUGUST 28, 2001 JUNE 29, 2001

THE J. BYER GROUP, INC.
 A GEOTECHNICAL CONSULTING FIRM
 1461 E. GREY CRANE DRIVE, OAKLAND, CA 94626
 (415) 549-9959 FAX (415) 543-3747 FAX

SECTIONS A, B, C
 18457-1 PALISADES
 LANDMARK LLC.
 CONSULTANT: JAI SCALE: 1" = 40'-0"

JUNE 29, 2001
 AUGUST 28, 2001



A B C D

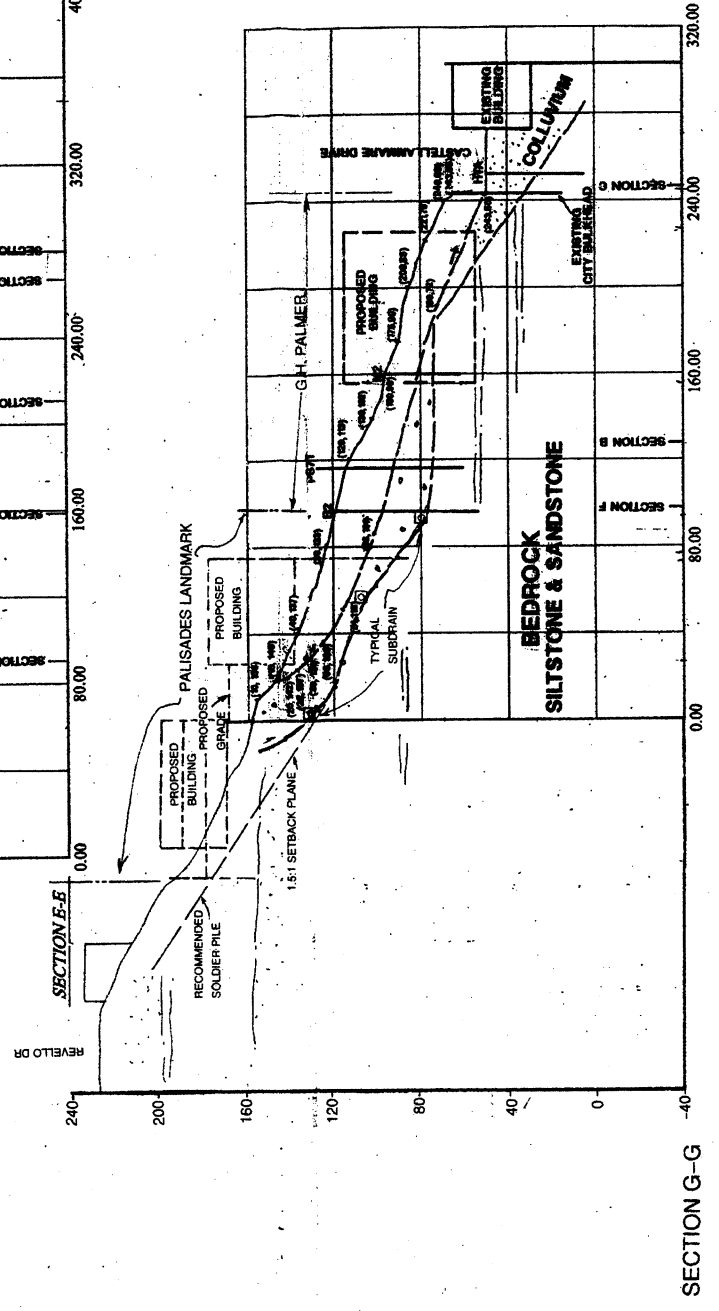
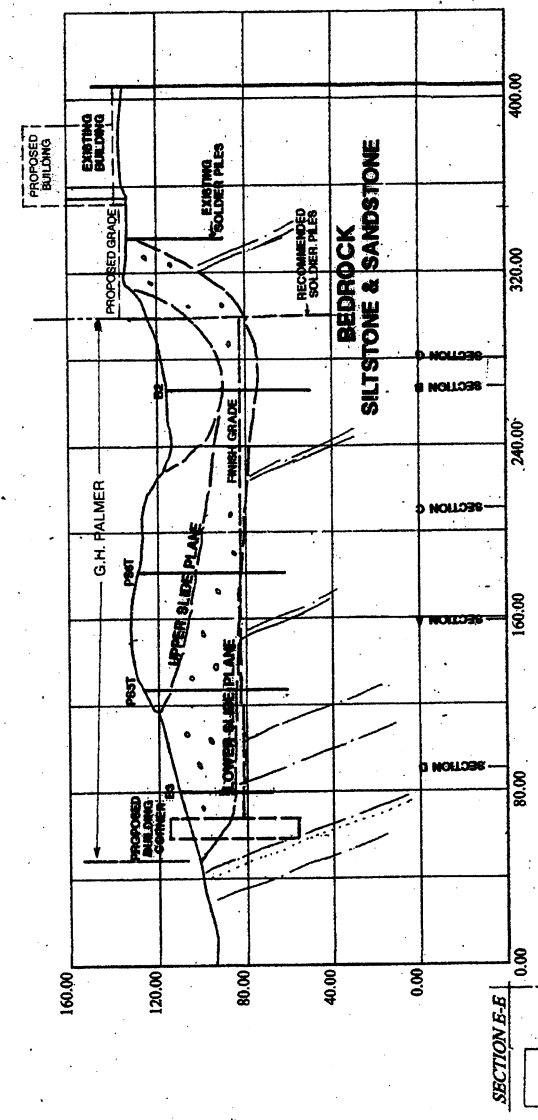
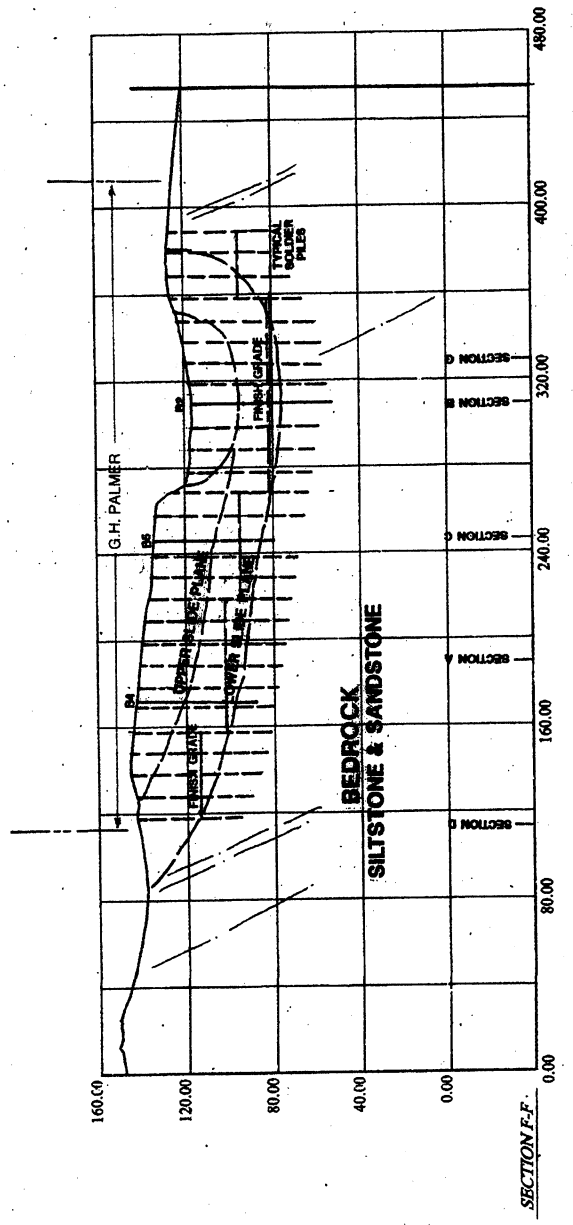
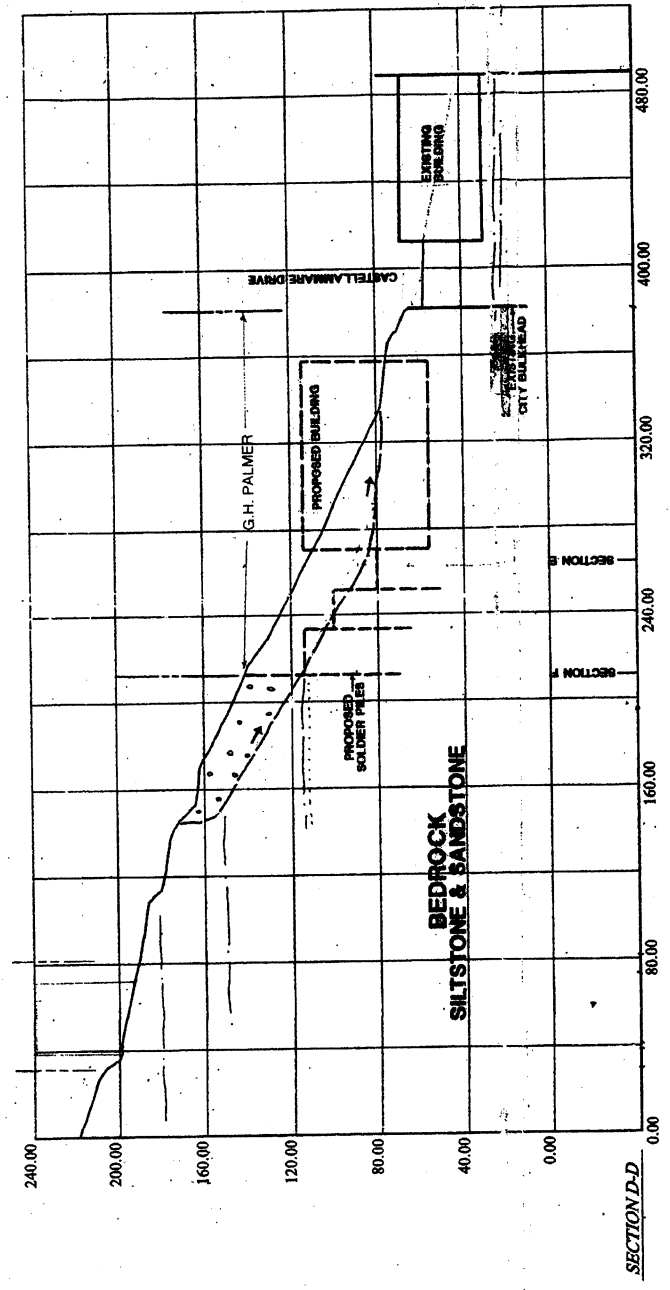
A B C D

8 7 6 5 4 3 2 1

8 7 6 5 4 3 2 1

JUNE 29, 2001
 AUGUST 28, 2001

A B C D



A B C D

8

7

6

5

4

3

2

1

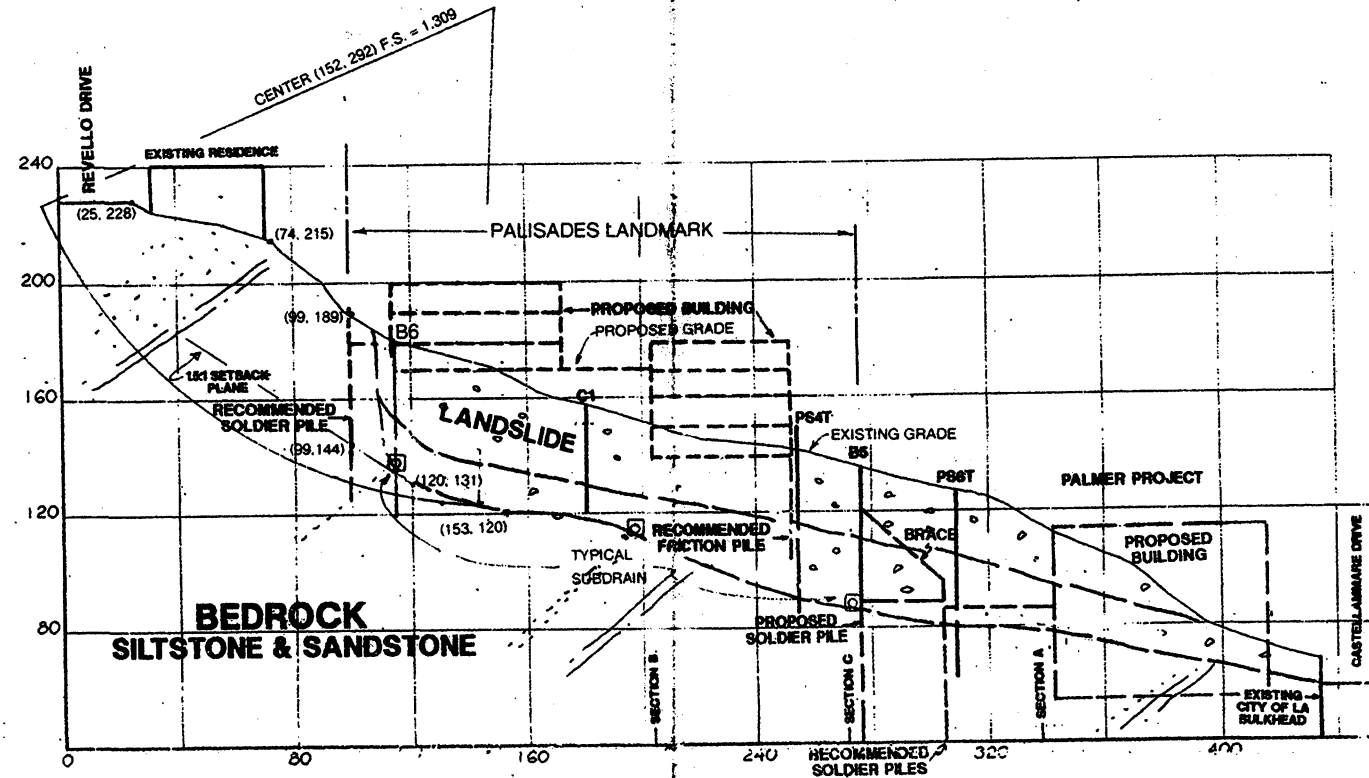
SECTIONS L & K

JB: 18457-I PALISADES LANDMARK LLC.

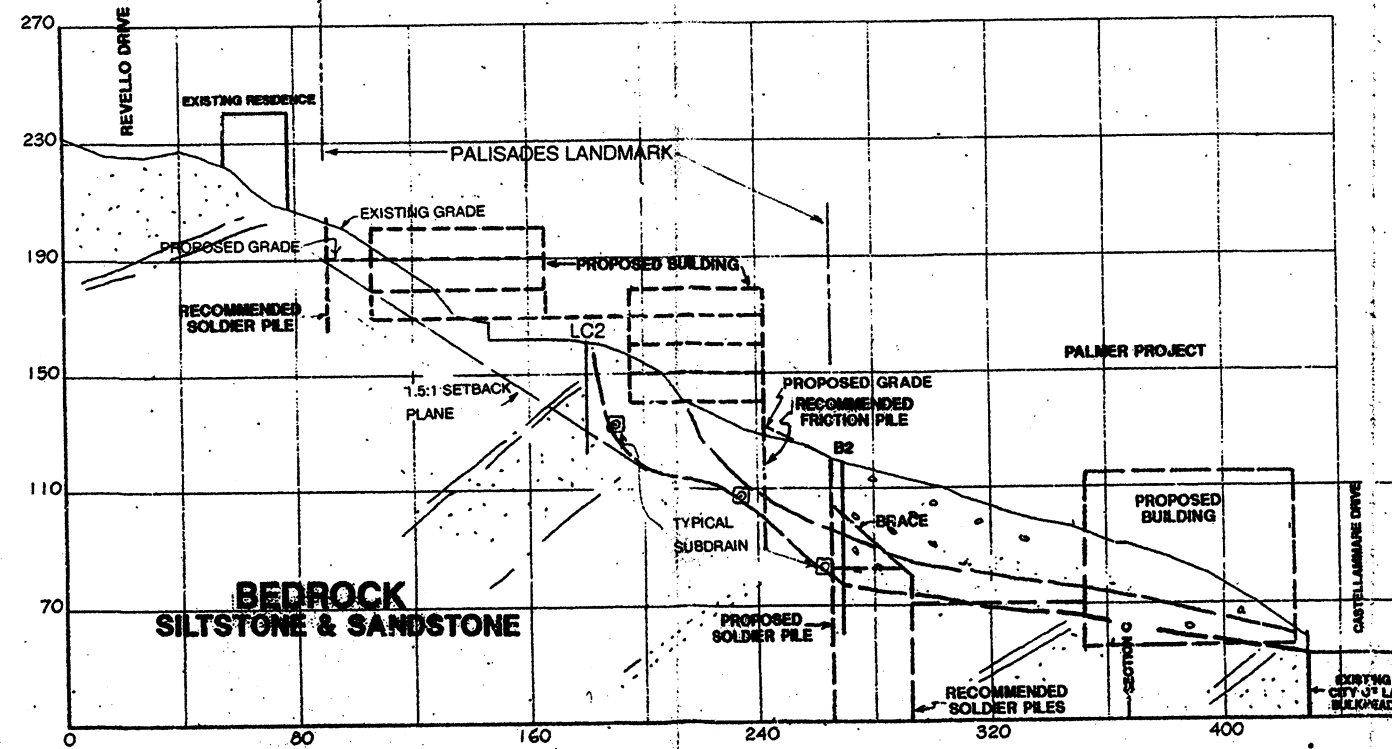
CONSULTANT: JAI

SCALE: 1" = 40'

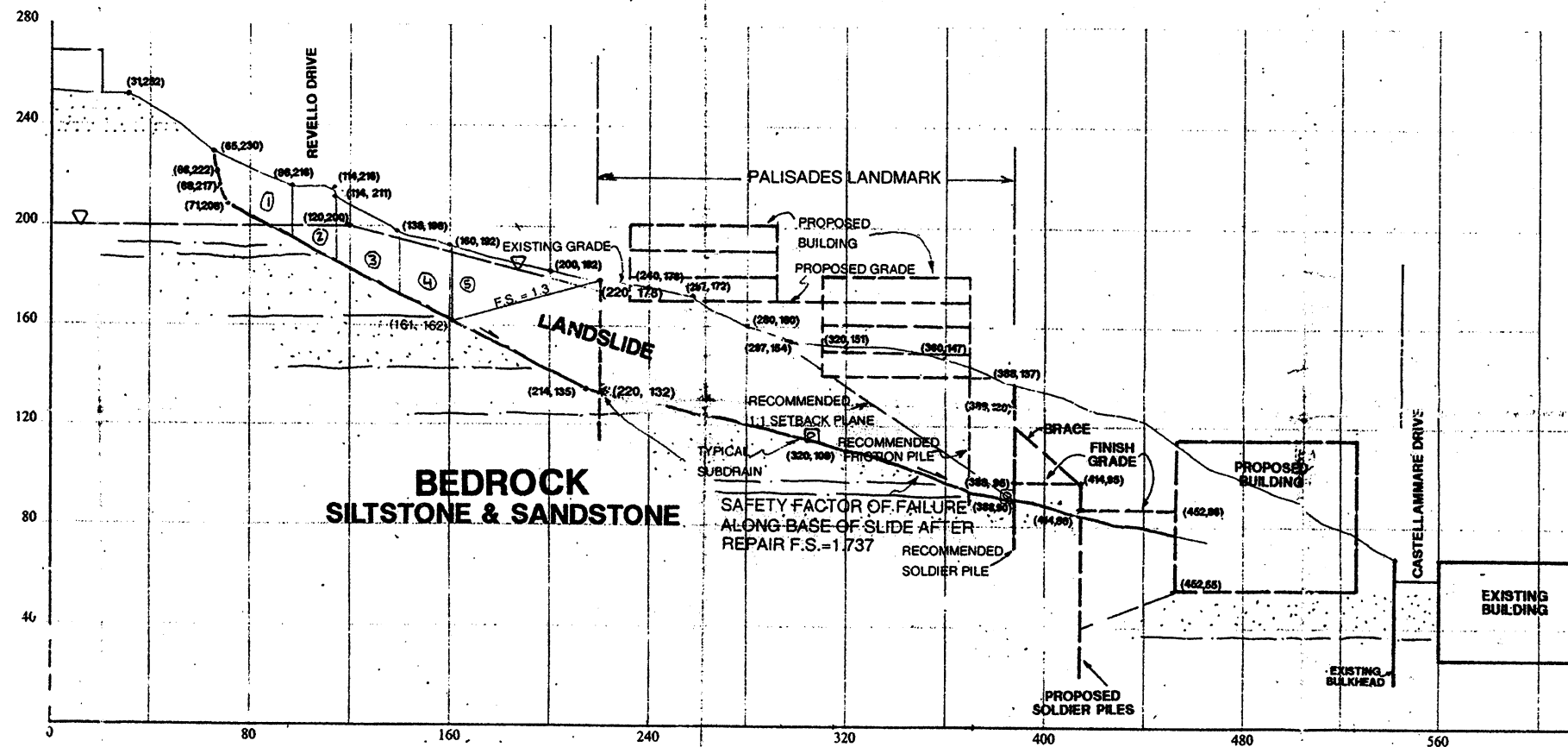
JUNE 29, 2001
 AUGUST 28, 2001
 OCTOBER 2, 2001



SECTION K



SECTION L



SECTION H-H

OCTOBER 2, 2001
 AUGUST 28, 2001
 JUNE 29, 2001

THE J. BYER GROUP, INC.
 A GEOTECHNICAL CONSULTING FIRM
 1441 E. Chevy Chase Dr. Suite 200, Glendale, CA 91206
 (818) 549-9999 Tel (818) 543-3737 Fax

SECTION H-H	
18457-1 PALISADES LANDMARK LLC.	
CONSULTANT: JAI	SCALE: 1" = 40'

1/25/01