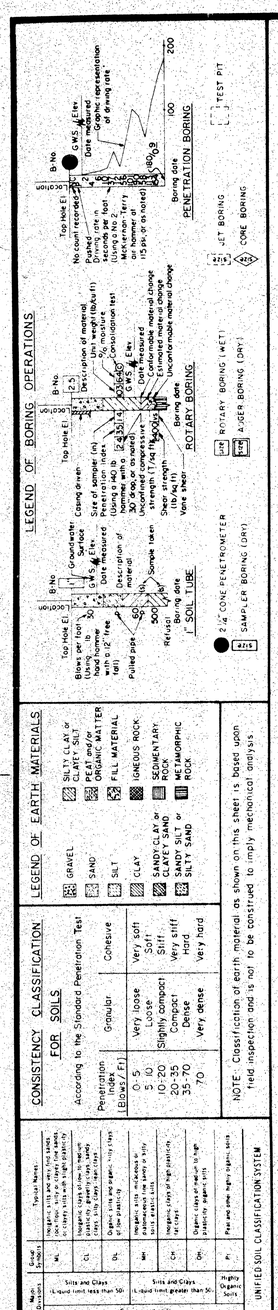
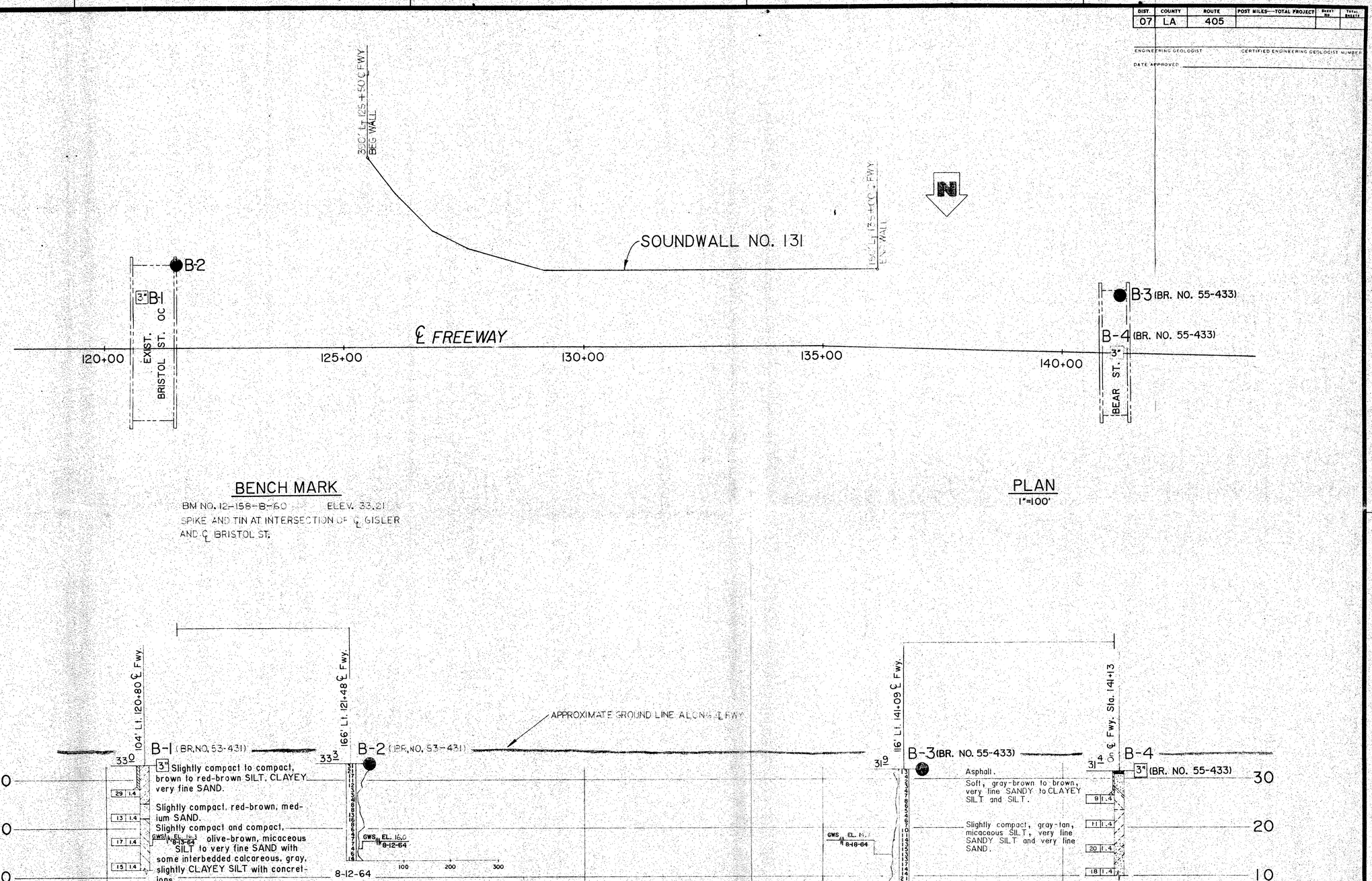
DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	Total Sheets
07	LA	405			

ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER

DATE APPROVED





GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY B. COHOLAN 8-86

CHECKED BY ROBERT C. DORIA 8/86

PROJECT GEOLOGIST — Approved Recommended By — ENGINEERING GEOLOGIST — C.E.G. NO. 732

CHARGE UNIT | EXPEND. AUTHOR. | SPEC. DESIGN.

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO. NONE

POST MILE 0.2 / 10.3

SOUNDWALL NO. 131
LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07210
WO 019641

Disregard prints bearing earlier revision dates

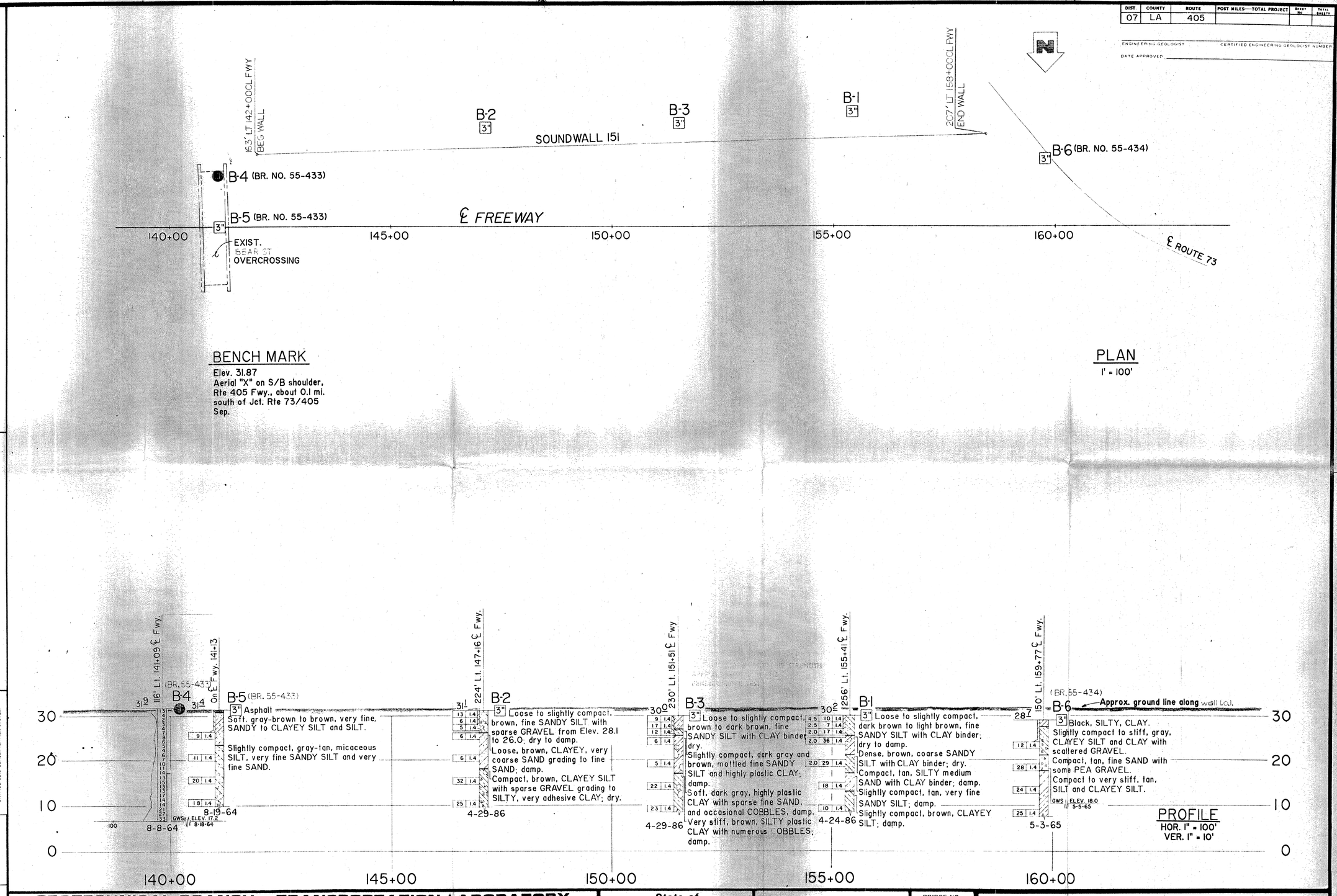
REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET — OF

BS 0146

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	LA	405			

ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER

DATE APPROVED



LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Penetration Index (Blows/Ft)	Granular	Cohesive
0-5	Very loose	Very soft
5-10	Loose	Soft
10-20	Slightly compact	Stiff
20-35	Compact	Very stiff
35-70	Dense	Hard
70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions	Group Symbols	Typical Names
Gravels	GW	Well graded gravels, gravel sand mixtures, little or no fines
	GP	Poorly graded gravels, gravel sand mixtures, little or no fines
	GM	Silty gravels, gravel sand silt mixtures
	GC	Clayey gravels, gravel sand clay mixtures
Sands	SW	Well graded sands, gravelly sands, little or no fines
	SP	Poorly graded sands, gravelly sands, little or no fines
	SM	Silty Sands, sand silt mixtures
	SC	Clayey sands, sand clay mixtures

Coarse grained Soils

Major Divisions	Group Symbols	Typical Names
Silts and Clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
Silts and Clays (Liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sands or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
Highly Organic Soils	PL	Peat and other highly organic soils

Fine grained soils

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY	B. COHOLAN 8-86	Robert Carl Doria	Approval Recommended By: W. C. Cain 732	CHARGE UNIT	EXPEND. AUTHOR.	SPEC. DESIGN.
CHECKED BY	ROBERT C. DORIA 8/86	PROJECT GEOLOGIST	ENGINEERING GEOLOGIST — C.E.G. NO.			

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO. NONE

POST MILE 0.2/10.3

SOUNDWALL NO. 151 — SEP 10 1986

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES

CU 07210

Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET — OF

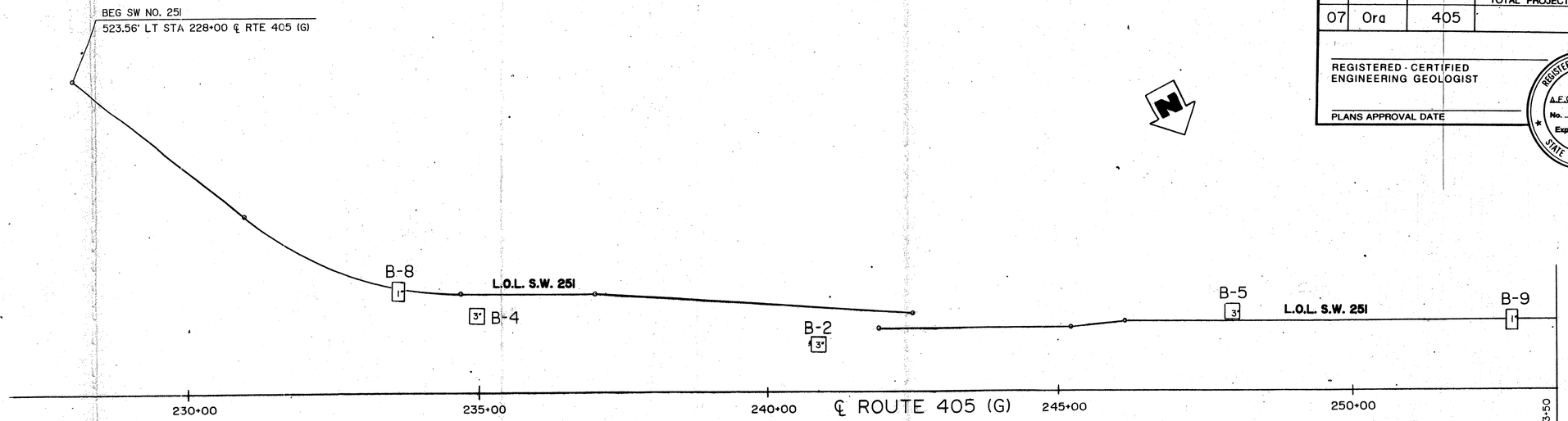
DS 0146

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ora	405			

REGISTERED - CERTIFIED ENGINEERING GEOLOGIST

PLANS APPROVAL DATE

REGISTERED GEOLOGIST — A.F. GOLDSCHMIDT — No. 596 — Exp. 6-30-88 — STATE OF CALIFORNIA



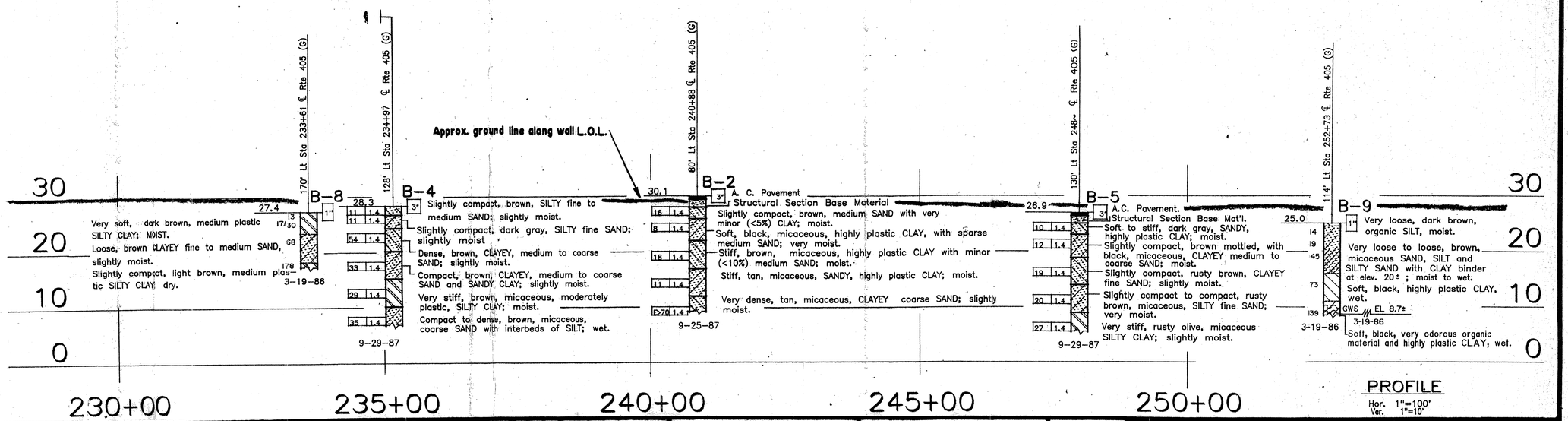
PLAN
1" = 100'

BENCH MARK

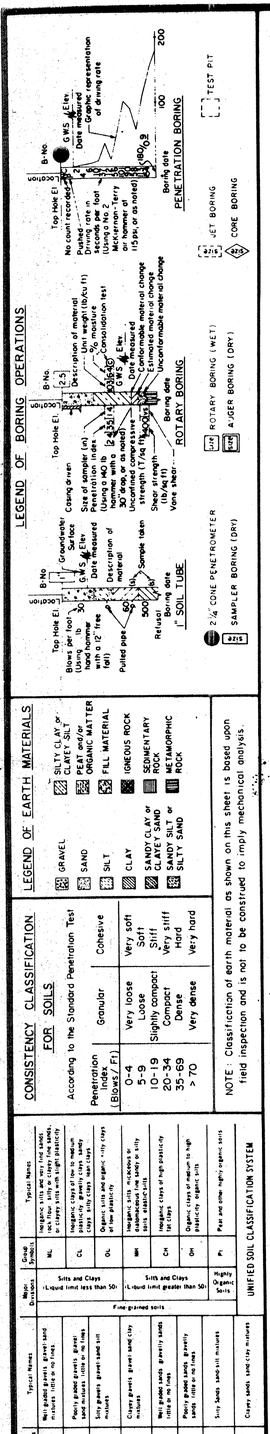
Aerial targets on S/B Rte 405 Fwy shldr:
(Elev's taken from site plans)

Marker No.	Elev.
V-159	31.31
V-161	29.55
V-162	29.58
V-164	31.19
V-166	30.05
V-167	30.02

NOTE:
GROUND WATER WAS NOT ENCOUNTERED ALONG THE WALL L.O.L. DURING THE SEPTEMBER 1987 SUBSURFACE INVESTIGATION.



PROFILE
Hor. 1" = 100'
Ver. 1" = 10'



GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY					
DRAWN BY	P. Hamblin 11/87	Approval Recommended By		CHARGE UNIT	EXPEND. AUTHOR
CHECKED BY	Robert Carl Doria 11/87	Robert Carl Doria — PROJECT GEOLOGIST — CEG NO	W. C. Brown 732 — ENGINEERING GEOLOGIST — CEG NO	SPEC. DESIGN.	

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN
PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO. ------
POST MILE R10.3/R12.4

SOUNDWALL NO. 251
LOG OF TEST BORINGS 1 of 2

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07210
EA 019654

Disregard prints bearing earlier revision dates →

REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET — OF

DS 8146

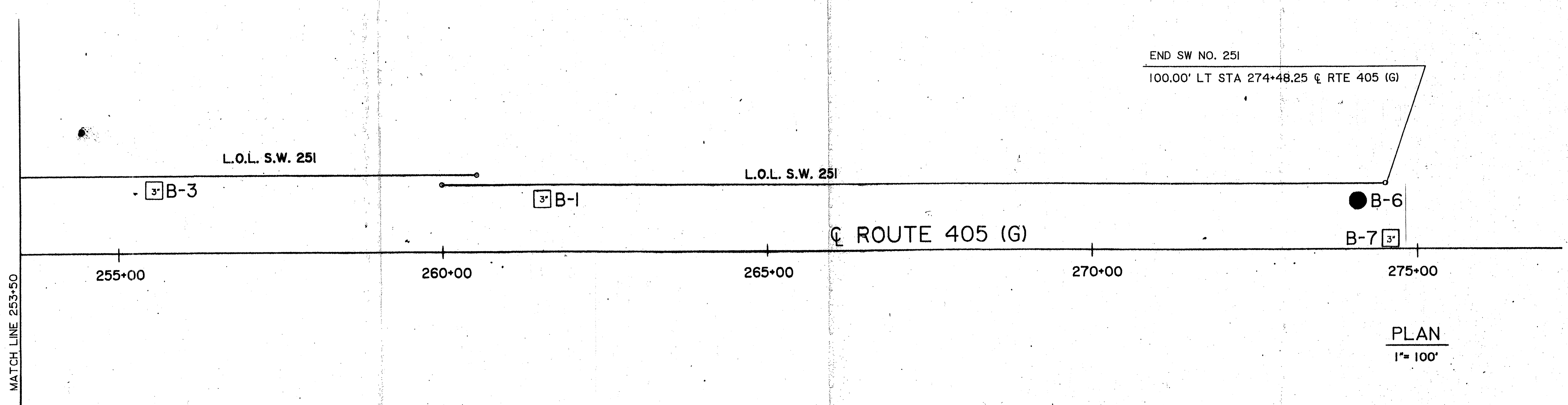
88 38960

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ora	405			

REGISTERED · CERTIFIED ENGINEERING GEOLOGIST

PLANS APPROVAL DATE

REGISTERED GEOLOGIST — A.F. GOLDSCHMIDT — No. 596 — Exp. 6-30-88 — STATE OF CALIFORNIA

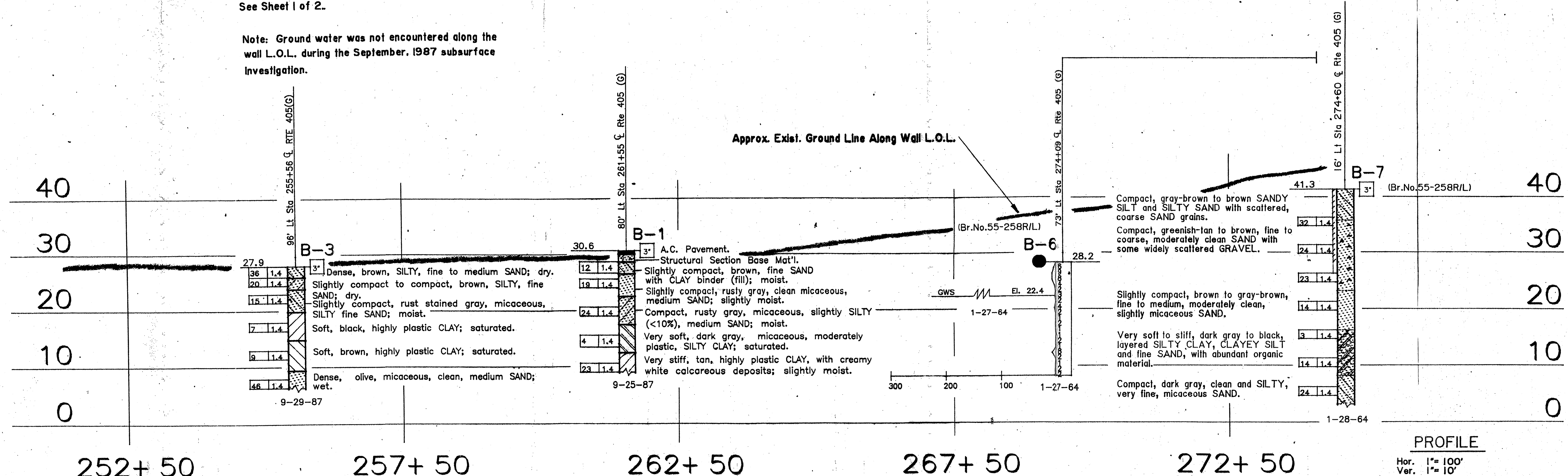


PLAN
1"= 100'

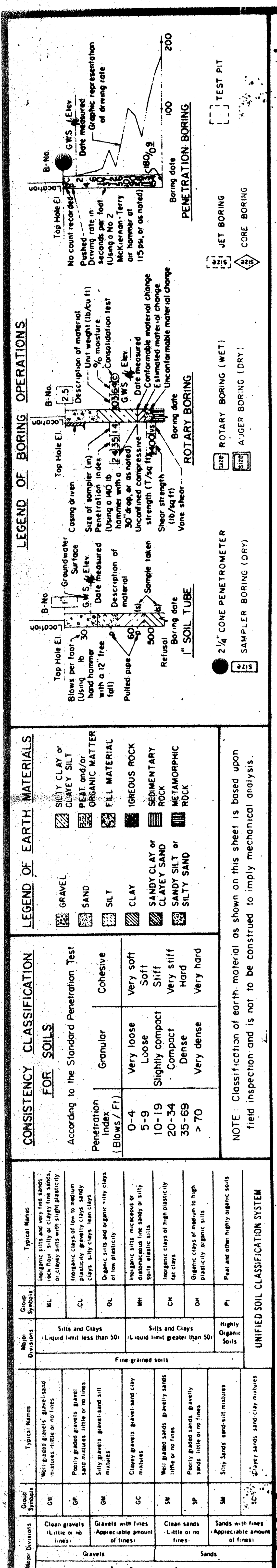
BENCH MARK

See Sheet 1 of 2.

Note: Ground water was not encountered along the wall L.O.L. during the September, 1987 subsurface investigation.



PROFILE
Hor. 1"= 100'
Ver. 1"= 10'



GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY	P. Franklin 11/87		Approval Recommended By	CHARGE UNIT	EXPEND. AUTHOR	SPEC. DESIGN.
CHECKED BY	Robert Carl Doria 11/87	Robert Carl Doria — PROJECT GEOLOGIST — C.E.G. NO.	W.C. Cain 732 — ENGINEERING GEOLOGIST — C.E.G. NO.			

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO. --------
POST MILE R10.3/R12.4

SOUNDWALL NO. 251
LOG OF TEST BORINGS 2 of 2

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07210
EA 019654

Disregard prints bearing earlier revision dates

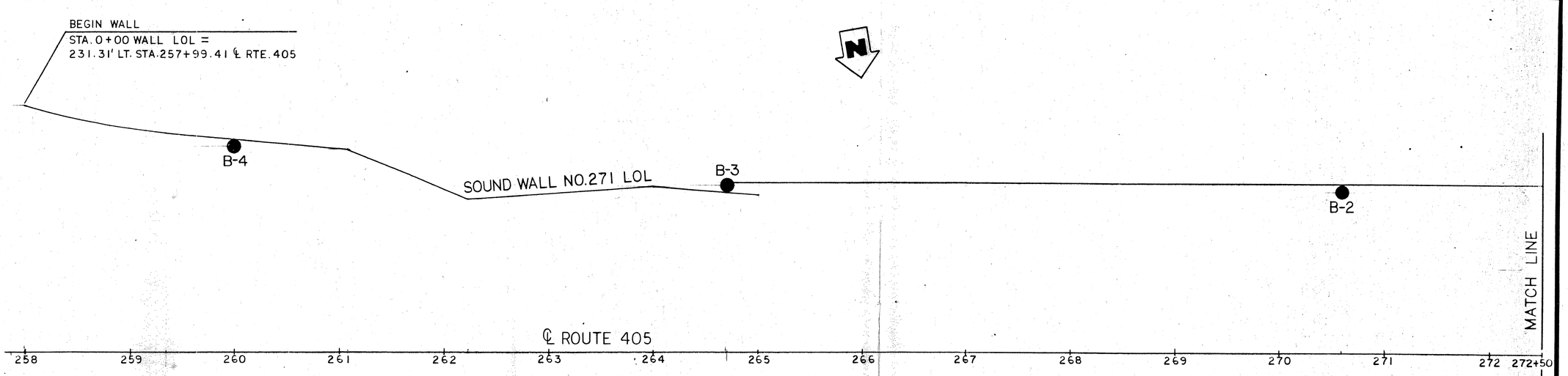
REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

DS 0146

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	ORA	405			

ENGINEERING GEOLOGIST • CERTIFIED ENGINEERING GEOLOGIST NUMBER

DATE APPROVED



BENCH MARKS

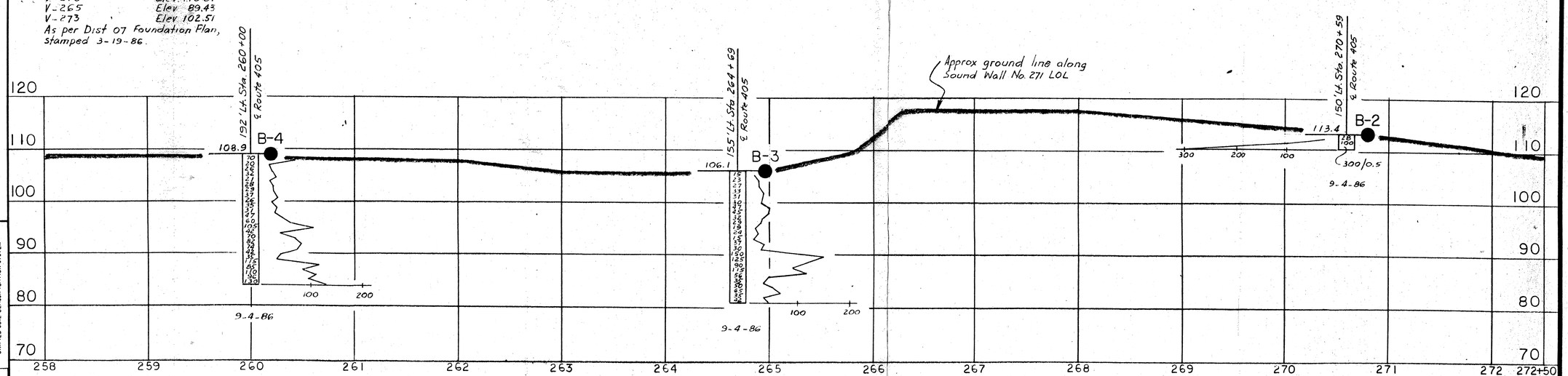
TBM "C" Elev. 97.39
Found nail in steel disc approx. 500 ft N. of Yale St P.O.C. on shoulder, S/B Rte 405
Aerial Bench Marks:

V-274	Elev. 105.45
V-276	Elev. 109.18
V-278	Elev. 110.84
V-265	Elev. 89.43
V-273	Elev. 102.51

As per Dist 07 Foundation Plan, stamped 3-19-86.

NO GROUND WATER ENCOUNTERED DURING THIS INVESTIGATION BY CALTRANS LABORATORY ENGINEERING GEOLOGY AND TECHNICAL SERVICES BRANCH
DATE 9-11-86

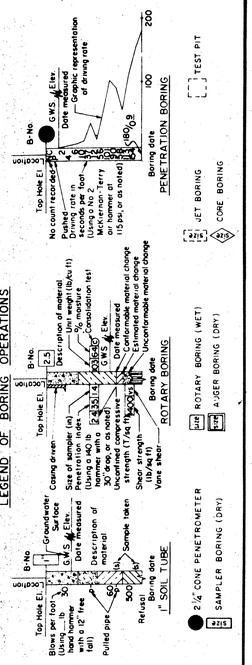
PLAN
1" = 50'



PROFILE
HORIZ. 1" = 50'
VERT. 1" = 10'

SHEET 1 OF 2

LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

GRAVEL
SAND
SILT
CLAY
SILTY CLAY or CLAYEY SILT
PEAT and/or ORGANIC MATTER
FILL MATERIAL
IGNEOUS ROCK
SEDIMENTARY ROCK
METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Penetration Index (Blows/Ft)	Granular	Cohesive
0-5	Very loose	Very soft
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20-35	Compact	Very stiff
35-70	Dense	Hard
70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions	Group Symbols	Typical Names
Coarse-grained Soils: Gravels (Clean gravels (Little or no fines))	GW	Well graded gravels, gravel-sand mixtures, little or no fines
	GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
(Gravels with fines (Appreciable amount of fines))	GM	Silty gravels, gravel-sand-silt mixtures
	GC	Clayey gravels, gravel-sand-clay mixtures
Sands (Clean sands (Little or no fines))	SW	Well graded sands, gravelly sands, little or no fines
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Fine-grained Soils: Silts and Clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
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	OH	Organic clays of medium to high plasticity, organic silts
Highly Organic Soils	Pt	Peat and other highly organic soils

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY	VICTOR SESTOKAS 10-8-86	R.C. DORIA PROJECT GEOLOGIST	Approval Recommended By: M. C. Brice ENGINEERING GEOLOGIST	732 CEG NO.	CHARGE UNIT / EXPEND. AUTHOR / SPEC. DESIGN.
CHECKED BY	CHRIS BRACE 10-21-86				

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN
PROJECT ENGINEER REGISTERED CIVIL ENGINEER NO.

BRIDGE NO.
POST MILE 0.2 / 10.3

SOUND BARRIER WALL NO. 271
LOG OF TEST BORINGS

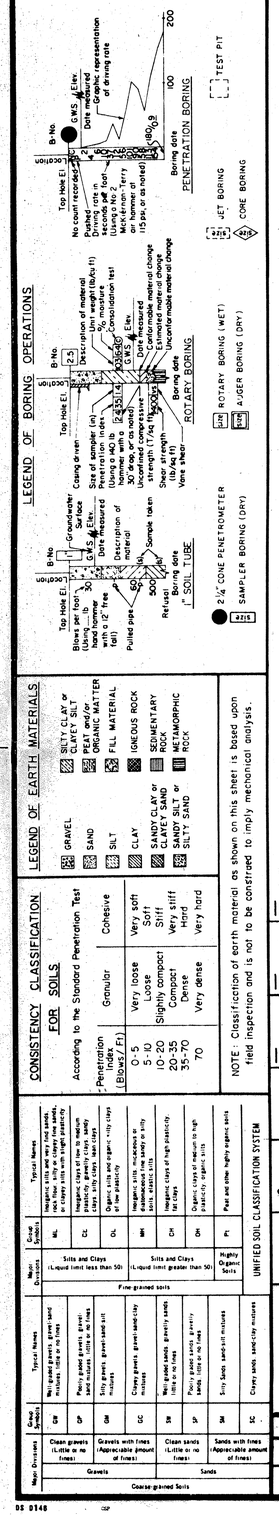
REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

DS D148 ORIGINAL SCALE IN INCHES CU 07210

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT
07	ORA	405	

ENGINEERING GEOLOGIST CERTIFIED ENGINEERING GEOLOGIST

DATE APPROVED



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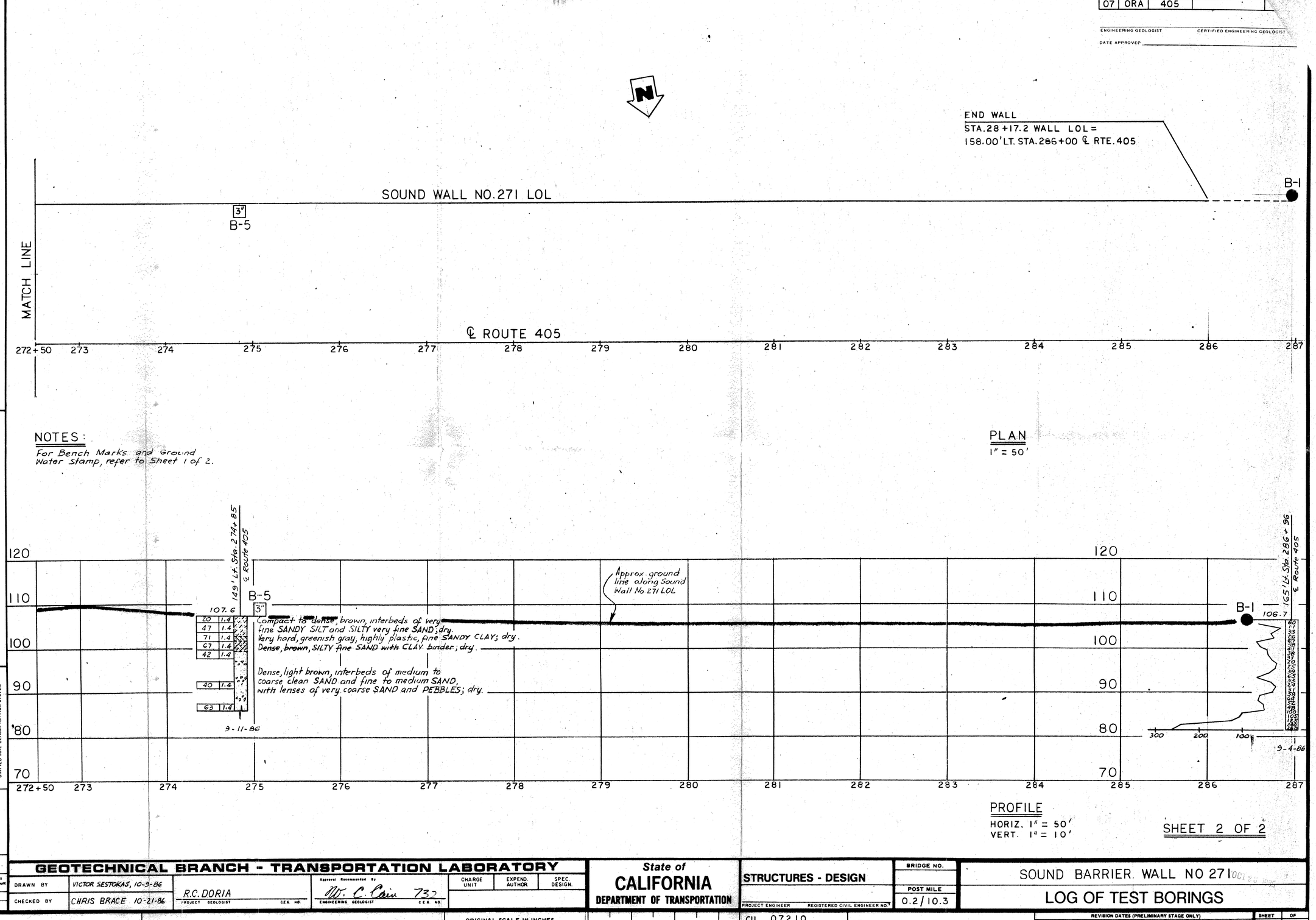


SHEET 2 OF 2

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY VICTOR SESTOKAS, 10-9-86

CHECKED BY CHRIS BRACE 10-21-86

R.C. DORIA — PROJECT GEOLOGIST — C.E.G. NO.

Approval Recommended By: W. C. Cain 737 — ENGINEERING GEOLOGIST — C.E.G. NO.

CHARGE UNIT | EXPEND. AUTHOR. | SPEC. DESIGN.

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

CU 07210

BRIDGE NO.

POST MILE 0.2/10.3

SOUND BARRIER WALL NO 271

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES

Disregard prints bearing earlier revision dates

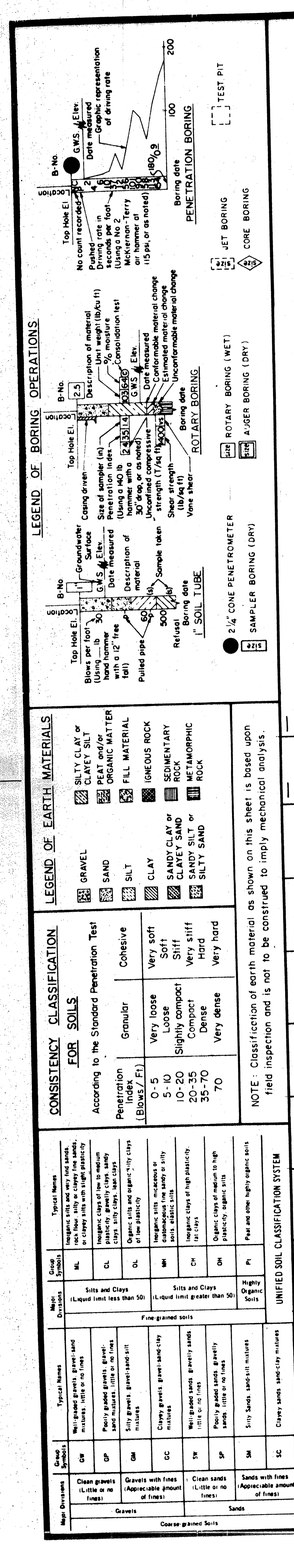
REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

DS 0148

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	ORA	405			

ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER

DATE APPROVED



LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SILTY CLAY or CLAYEY SILT
- PEAT and/or ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK
- SANDY CLAY or CLAYEY SAND
- SANDY SILT or SILTY SAND

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

CONSISTENCY CLASSIFICATION FOR SOILS

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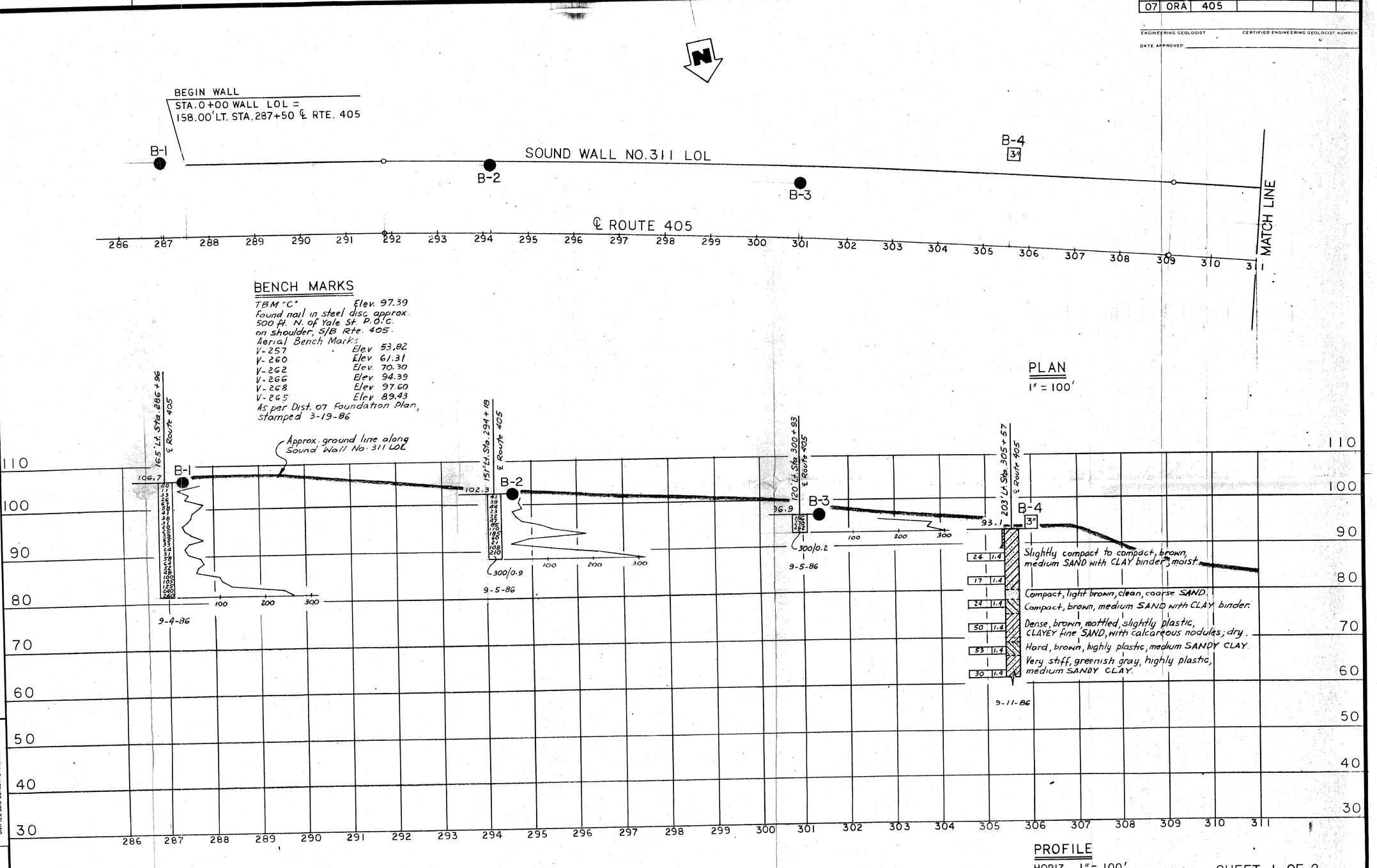


SHEET 1 OF 2

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY					
DRAWN BY VICTOR SESTOKAS 10-17-86	R.C. DORIA PROJECT GEOLOGIST C.E.G. NO.	Approval Recommended By: R. C. Doria ENGINEERING GEOLOGIST	732 C.E.G. NO.	CHARGE UNIT	EXPEND. AUTHOR. / SPEC. DESIGN.
CHECKED BY CHRIS BRACE 1-21-86					

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO.

POST MILE 0.2/10.3

SOUND BARRIER WALL NO. 311

LOG OF TEST BORINGS

CU 07210

Disregard prints bearing earlier revision dates

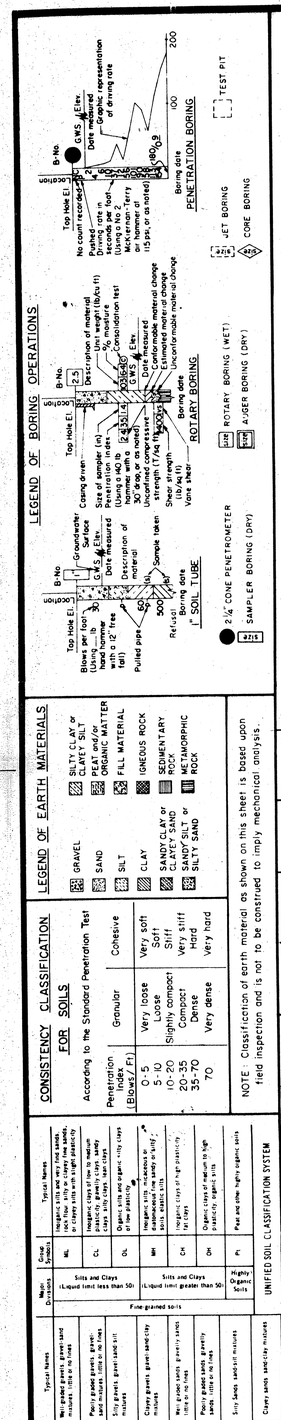
REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET — OF

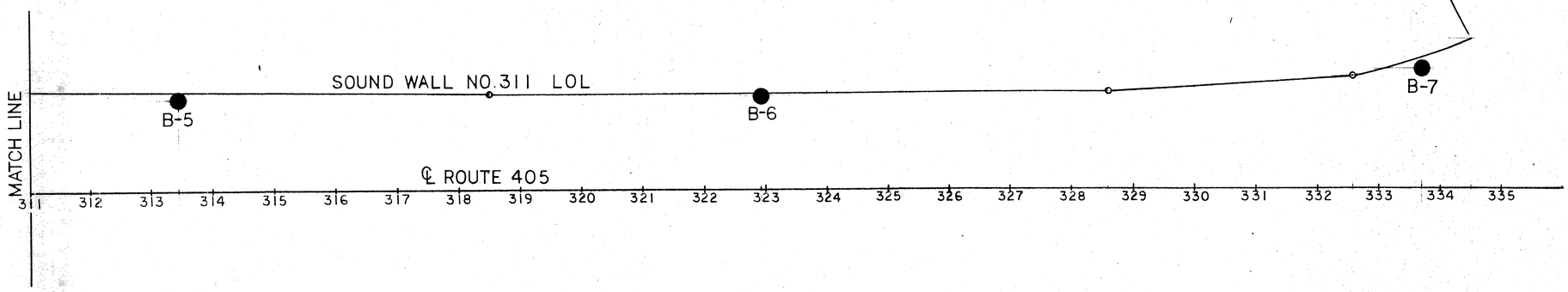
ORIGINAL SCALE IN INCHES

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	ORA	405			

ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER

DATE APPROVED



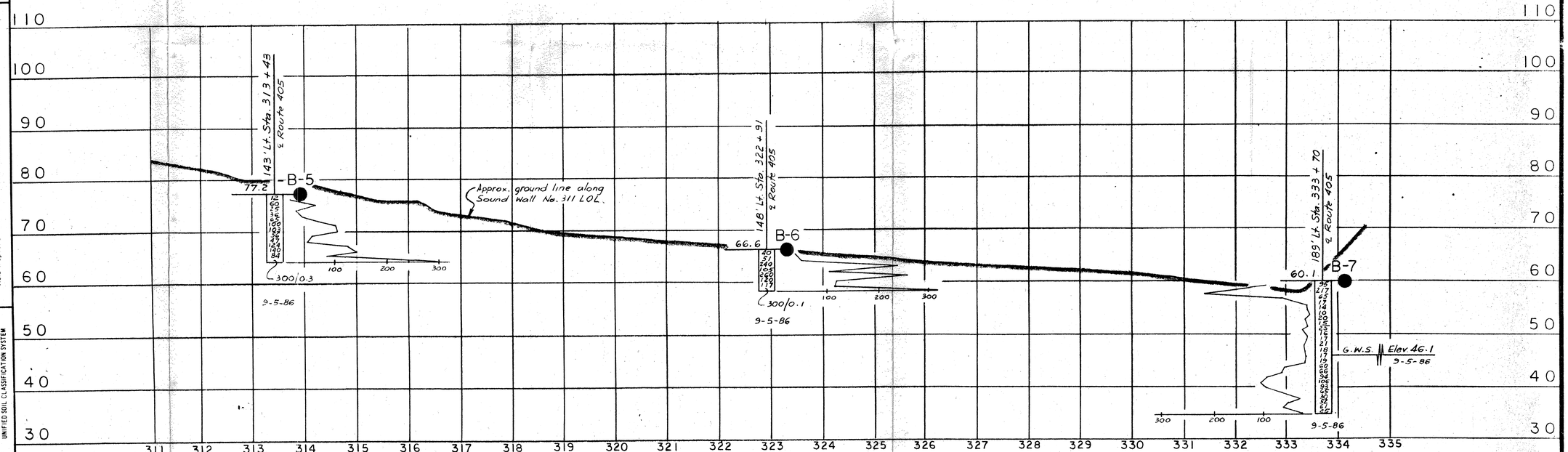


NOTES:

For Bench Marks refer to Sheet 1 of 2.

PLAN

1" = 100'



PROFILE

HORIZ. 1" = 100'

VERT. 1" = 10'

SHEET 2 OF 2

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY	VICTOR SESTOKASIO-20-86	R.C. DORIA PROJECT GEOLOGIST	Approved Recommended By: W. C. Cain 732 ENGINEERING GEOLOGIST C.E.G. NO.	CHARGE UNIT	EXPEND. AUTHOR. / SPEC. DESIGN.
CHECKED BY	CHRIS BRACE -21-86				

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO.

POST MILE 0.2 / 10.3

SOUND BARRIER WALL NO. 311

LOG OF TEST BORINGS

REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET — OF

DS 0148

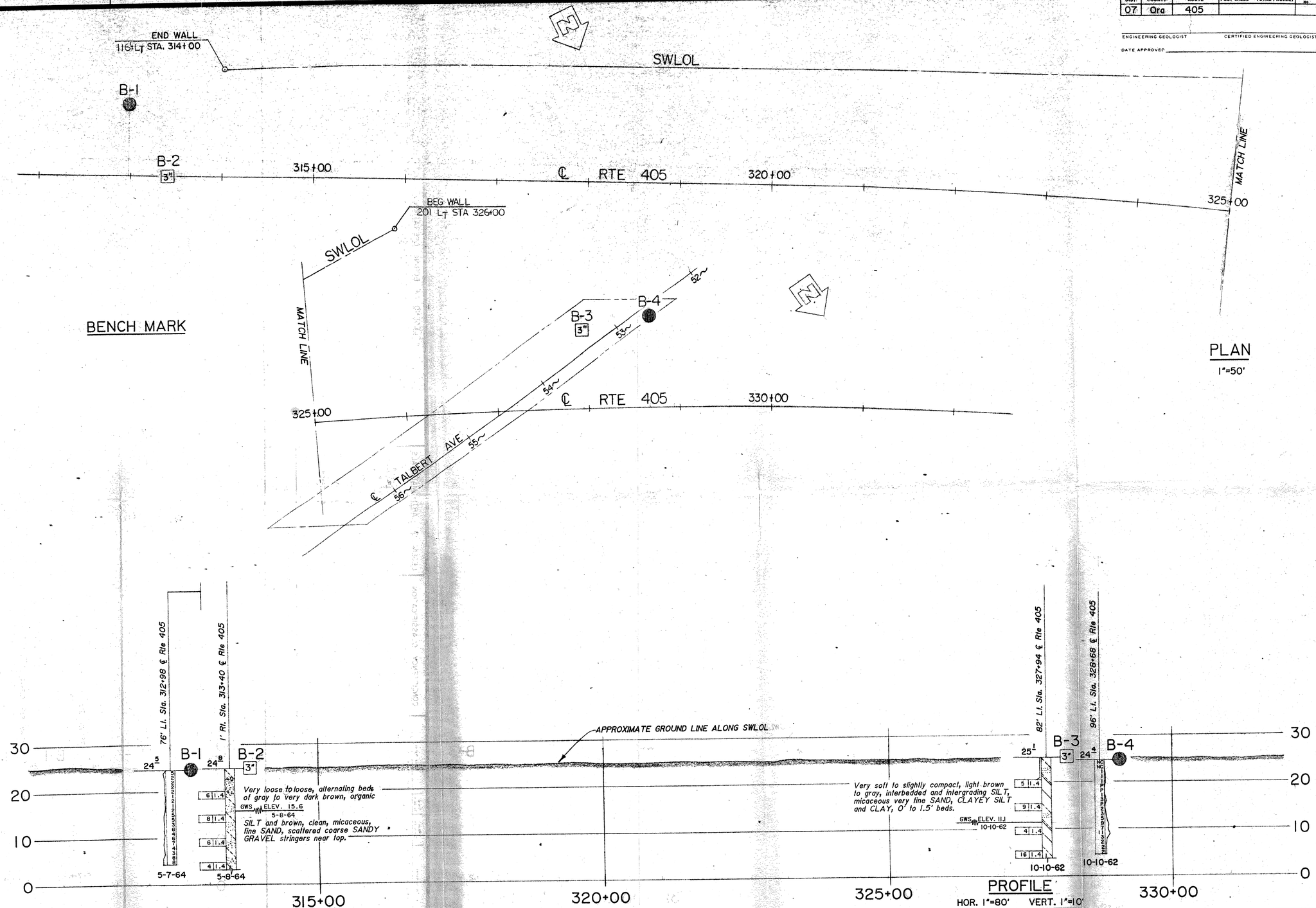
ORIGINAL SCALE IN INCHES

CU 07210

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ora	405			

ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER

DATE APPROVED



LEGEND OF EARTH MATERIALS

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- SILT
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- SANDY CLAY or CLAYEY SAND
- SANDY SILT or SILTY SAND
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	GC	Clayey gravels, gravel sand clay mixtures		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	SW	Well graded sands, gravelly sands, little or no fines		CH	Inorganic clays of high plasticity, fat clays
	SP	Poorly graded sands, gravelly sands, little or no fines		OH	Organic clays of medium to high plasticity, organic silts
	SM	Silty sands, sand silt mixtures		Pt	Peat and other highly organic soils
	SC	Clayey sands, sand clay mixtures			

Gravels: Clean gravels (Little or no fines); Gravels with fines (Appreciable amount of fines)

Sands: Clean sands (Little or no fines); Sands with fines (Appreciable amount of fines)

Fine grained soils: Silts and Clays (Liquid limit less than 50); Silts and Clays (Liquid limit greater than 50); Highly Organic Soils

Major Divisions: Coarse grained Soils; Fine grained soils

Gravels	Clean gravels (Little or no fines)	Gravels with fines (Appreciable amount of fines)	Sands
Sands	Clean sands (Little or no fines)	Sands with fines (Appreciable amount of fines)	

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY	Leony L. Lopez 3/86	Robert Carl Doria	Approval Recommended By W. C. Cain 732	CHARGE UNIT	EXPEND. AUTHOR	SPEC. DESIGN.
CHECKED BY	Robert Carl Doria 4/86	PROJECT GEOLOGIST C.E.G. NO.	ENGINEERING GEOLOGIST C.E.G. NO.			

State of **CALIFORNIA** DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO.

POST MILE 13.15/14.50

SOUNDWALL NO. 319

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07210
WO 019651

Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET — OF

0146

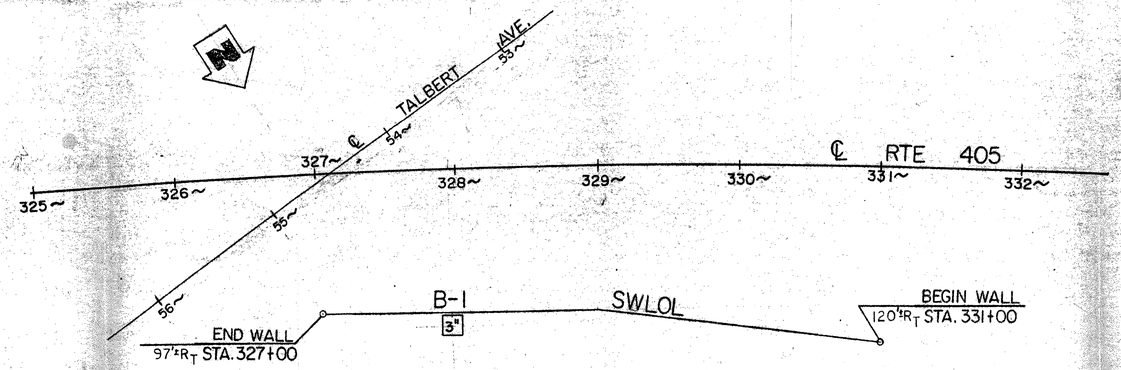
DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ora	405			

ENGINEERING GEOLOGIST CERTIFIED ENGINEERING GEOLOGIST

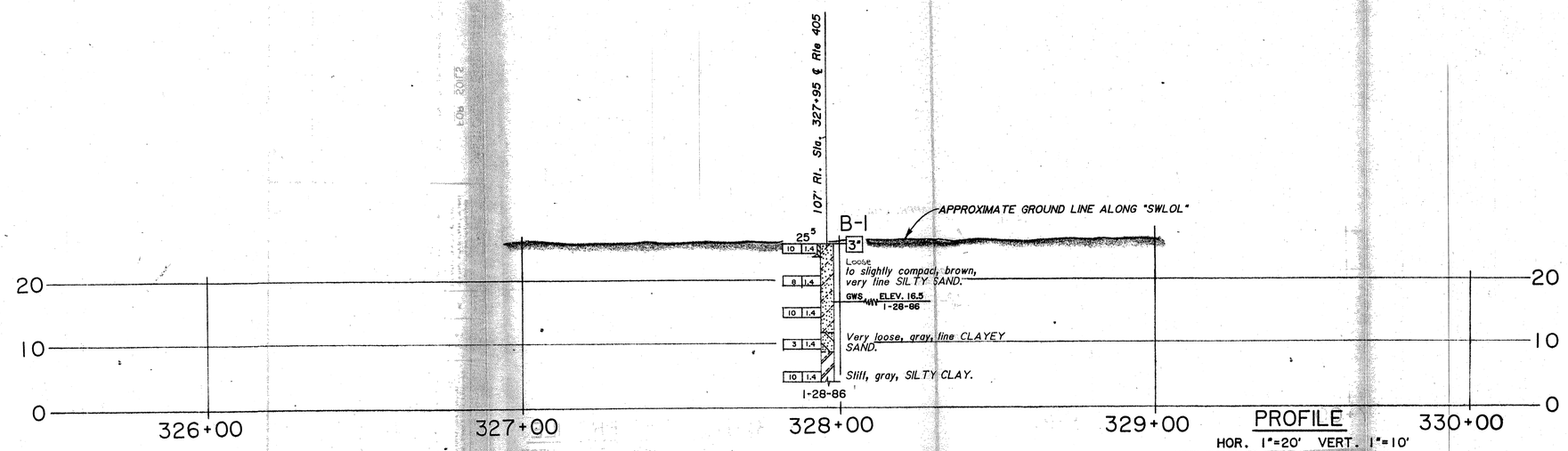
DATE APPROVED

BENCH MARK

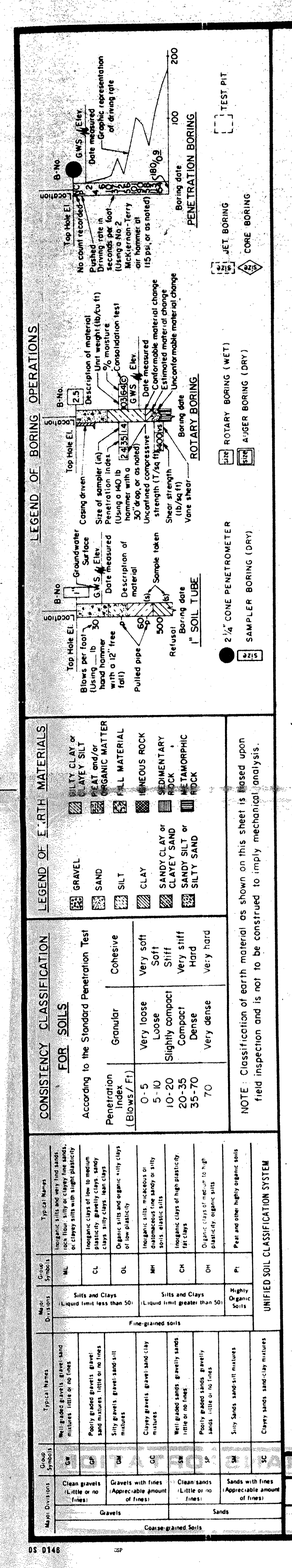
BM V-141 AERIAL "X" S.B. SIDE RTE 405 ON SHOULDER APPROX. 112' N/O TALBERT AVE. O.C. ELEV. 30.32'



PLAN
1"=50'



PROFILE
HOR. 1"=20' VERT. 1"=10'



GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY					
DRAWN BY	Leony L. Lopez 3/86	Robert Carl Dorin	Approved Recommended By	CHARGE UNIT	EXPEND. AUTHOR
CHECKED BY	Robert Carl Dorin 4/86	PROJECT GEOLOGIST C.E.G. NO.	W. C. Coin 732		SPEC. DESIGN.
			ENGINEERING GEOLOGIST C.E.G. NO.		

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER REGISTERED CIVIL ENGINEER NO.

BRIDGE NO.

POST MILE 13.15/14.50

SOUNDWALL NO. 328

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07210
WO 019651

Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET OF

DS 0148

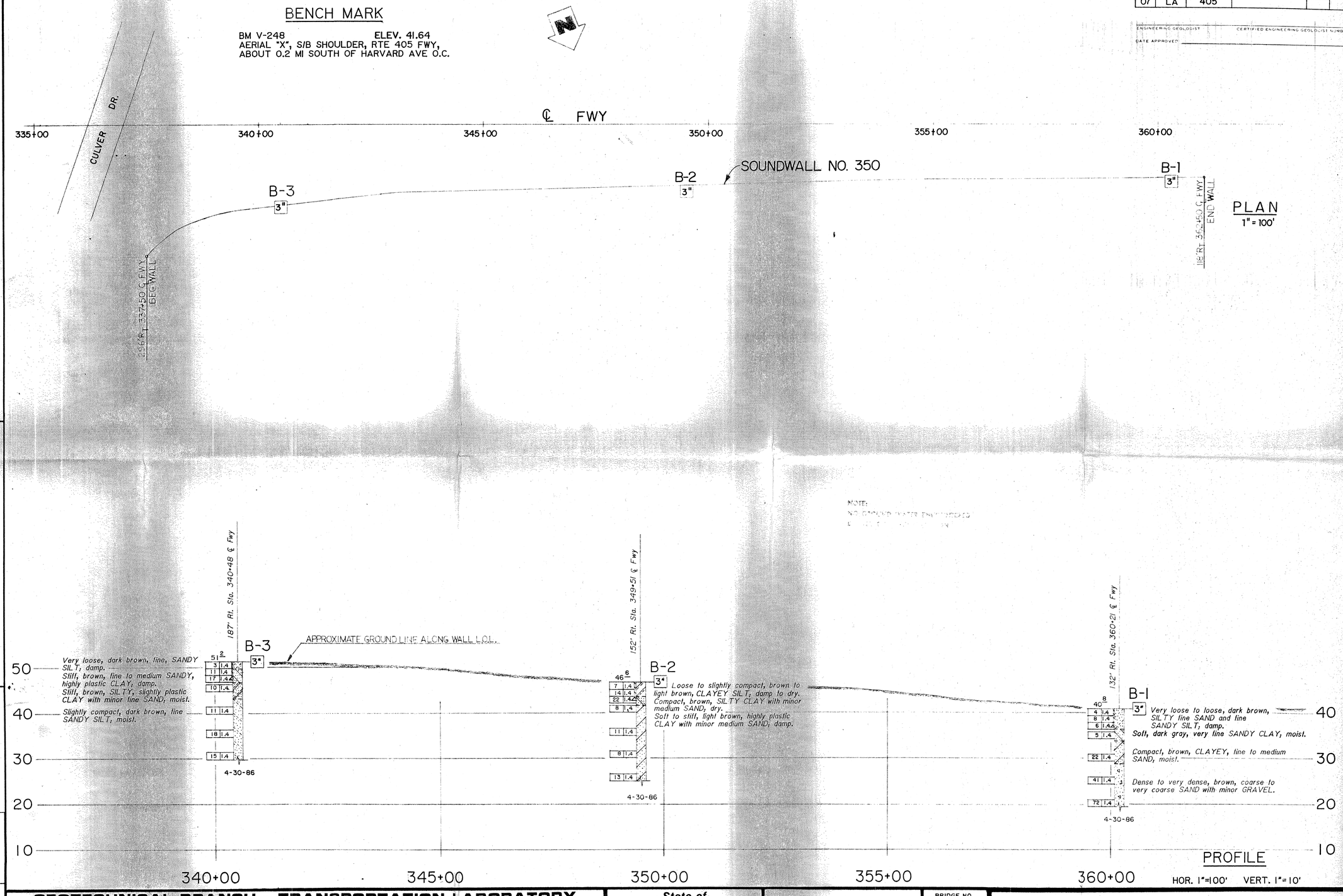
DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET No.	TOTAL SHEETS
07	LA	405			

ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER

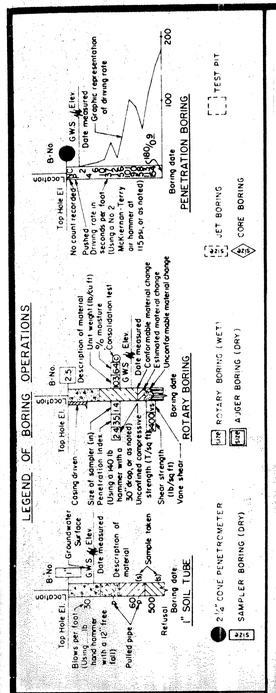
DATE APPROVED

BENCH MARK

BM V-248 ELEV. 41.64
AERIAL "X", S/B SHOULDER, RTE 405 FWY,
ABOUT 0.2 MI SOUTH OF HARVARD AVE O.C.



LEGEND OF BORING OPERATIONS



LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY or CLAYEY SAND
- SANDY SILT or SILTY SAND
- SILTY CLAY or CLAYEY SILT
- PEAT and/or ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Penetration Index (Blows/Ft.)	Granular	Cohesive
0-5	Very loose	Very soft
5-10	Loose	Soft
10-20	Slightly compact	Stiff
20-35	Compact	Very stiff
35-70	Dense	Hard
70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

UNIFIED SOIL CLASSIFICATION SYSTEM

Major Divisions	Group Symbols	Typical Names
Clean gravels (Little or no fines)	GW	Well graded gravels, gravel sand mixtures, little or no fines
	GP	Poorly graded gravels, gravel sand mixtures, little or no fines
Gravels with fines (Appreciable amount of fines)	GM	Silty gravels, gravel sand silt mixtures
	GC	Clayey gravels, gravel sand clay mixtures
Clean sands (Little or no fines)	SW	Well graded sands, gravelly sands, little or no fines
	SP	Poorly graded sands, gravelly sands, little or no fines
Sands with fines (Appreciable amount of fines)	SM	Silty Sands, sand silt mixtures
	SC	Clayey sands, sand clay mixtures

Coarse grained Soils

Major Divisions	Group Symbols	Typical Names
Silts and Clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity
	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
	OL	Organic silts and organic silty clays of low plasticity
Silts and Clays (Liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
	CH	Inorganic clays of high plasticity, fat clays
	OH	Organic clays of medium to high plasticity, organic silts
Highly Organic Soils	Pt	Peat and other highly organic soils

Fine grained soils

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY	Leony L. Lopez 8/86	Robert Carl Doria	Approval Recommended By	CHARGE UNIT	EXPEND. AUTHOR	SPEC. DESIGN
CHECKED BY	ROBERT C. DORIA 8/86	PROJECT GEOLOGIST	ENGINEERING GEOLOGIST C.E.G. NO. 732			

State of CALIFORNIA
DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO. NONE
POST MILE 0.2/10.3

SOUNDWALL NO. 350
LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES

CU 07210

REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET — OF

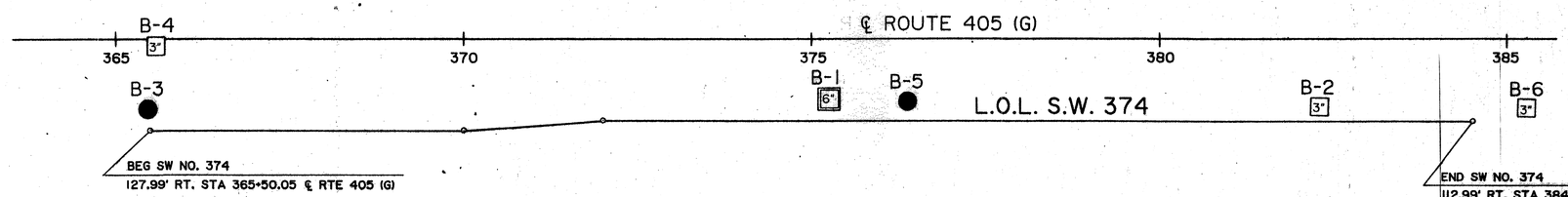
DS 0146

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ora	405			

REGISTERED · CERTIFIED ENGINEERING GEOLOGIST

PLANS APPROVAL DATE

REGISTERED GEOLOGIST A.F. GOLDSCHMIDT No. 598 Exp. 6-30-88 STATE OF CALIFORNIA

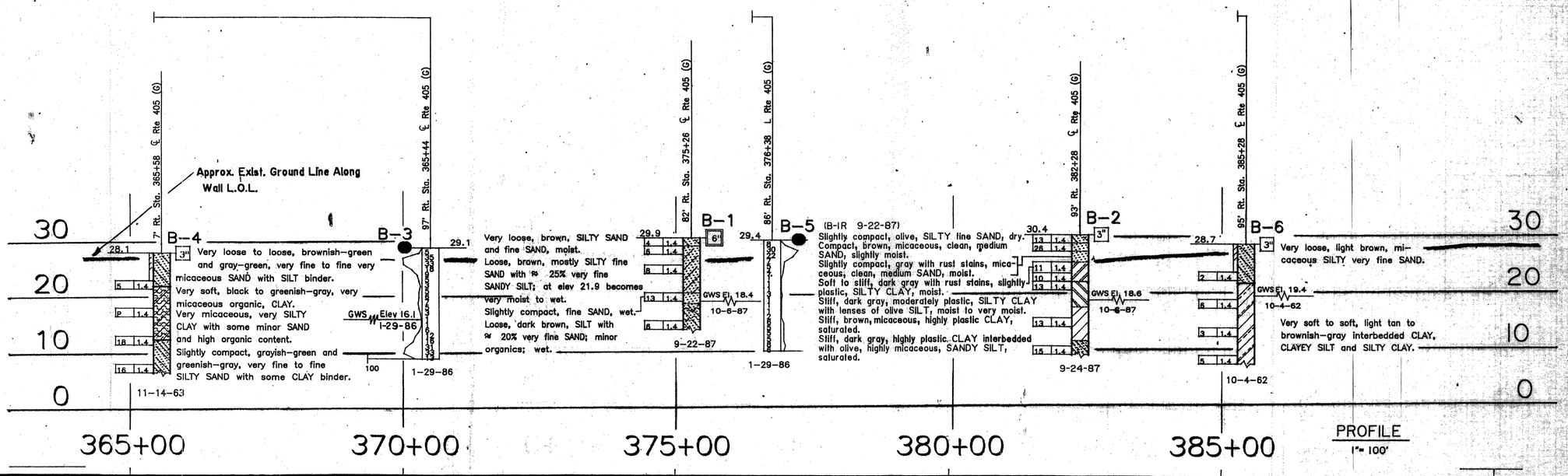


PLAN
1" = 100'

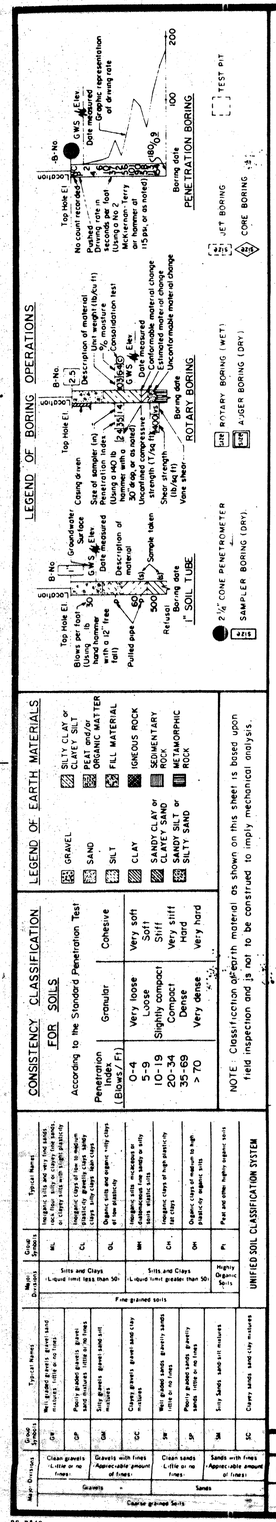
BENCH MARK

Aerial Targets on S/B Rte 405 Fwy Shldr
(Elev's Taken From Site Plans)

Marker No.	Elev.
V-128	31.05
V-129	30.49
V-131	29.22



PROFILE
1" = 100'



GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY	P. Franklin 11/87	Approved Recommended By	CHARGE UNIT	EXPEND. AUTHOR	SPEC. DESIGN
CHECKED BY	Robert Carl Doria 11/87	Robert Carl Doria PROJECT GEOLOGIST CEG NO	W. C. Bain 732 ENGINEERING GEOLOGIST CEG NO		

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER REGISTERED CIVIL ENGINEER NO.

BRIDGE NO. ——

POST MILE R3.2/R5.5

SOUNDWALL NO. 374
LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 07210
EA 019654

Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

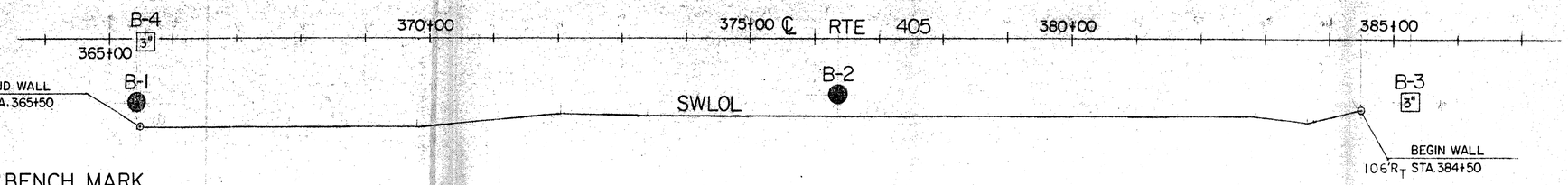
DS D146

BS 30656

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ora	405			

ENGINEERING GEOLOGIST: CERTIFIED ENGINEERING GEOLOGIST NUMBER:

DATE APPROVED:

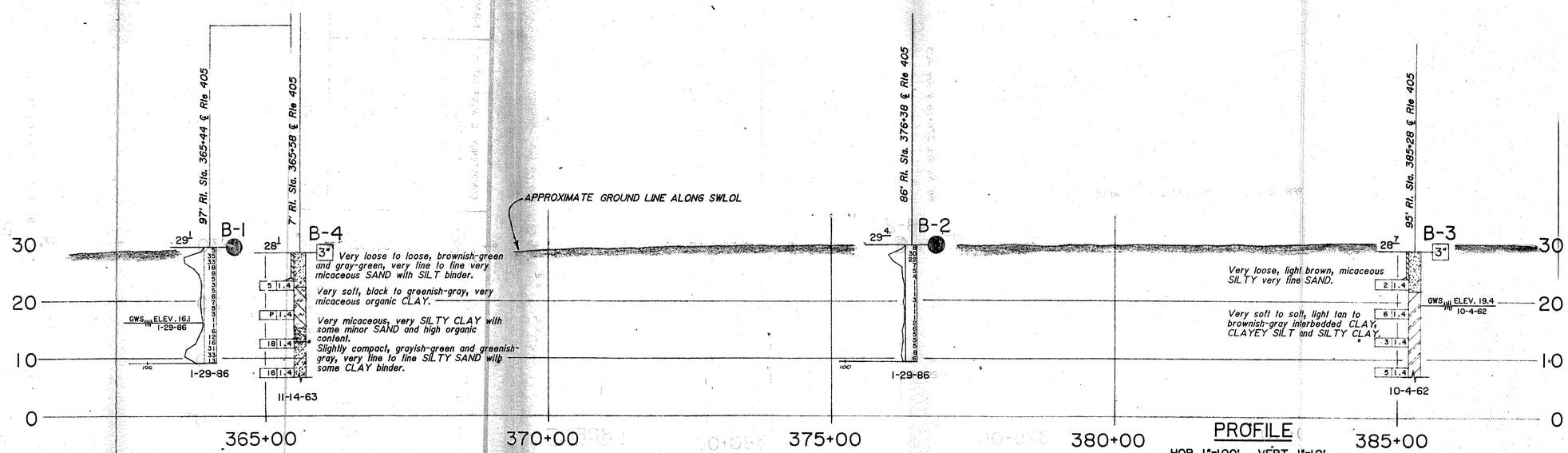


BENCH MARK

BM V-131: AERIAL BENCH MARK PAINTED "X" LOCATED S.B. RTE 405 ON SHOULDER ≈ 300' N/O SLATER O.C. ELEV. 29.22

PLAN

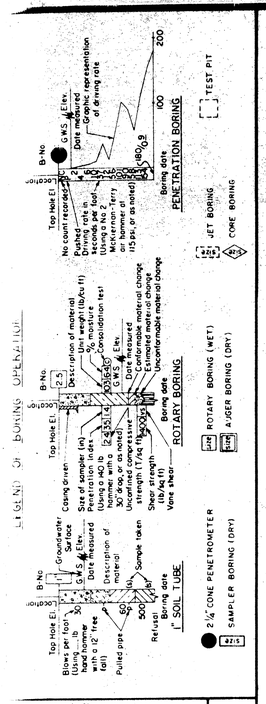
1"=100'



PROFILE

HOR. 1"=100' VERT. 1"=10'

LEGEND OF BORING OPERATION



LEGEND OF EARTH MATERIALS

- GRAVEL
- SAND
- SILT
- CLAY
- SANDY CLAY or CLAYEY SAND
- SANDY SILT or SILTY SAND
- SILTY CLAY or CLAYEY SILT
- PEAT and/or ORGANIC MATTER
- FILL MATERIAL
- IGNEOUS ROCK
- SEDIMENTARY ROCK
- METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

Penetration Index (Blows/Ft)	Granular	Cohesive
0-5	Very loose	Very soft
5-10	Loose	Soft
10-20	Slightly compact	Stiff
20-35	Compact	Very stiff
35-70	Dense	Hard
70	Very dense	Very hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

UNIFIED SOIL CLASSIFICATION SYSTEM

Fine grained soils								
Silts and Clays (Liquid limit less than 50)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	OL	Organic silts and organic silty clays of low plasticity	Silts and Clays (Liquid limit greater than 50)	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts	CH	Inorganic clays of high plasticity, fat clays	OH	Organic clays of medium to high plasticity, organic silts	Highly Organic Soils	Pt	Peat and other highly organic soils
Coarse grained Soils																
Gravels							Sands									
Clean gravels (Little or no fines)			Gravels with fines (Appreciable amount of fines)				Clean sands (Little or no fines)			Sands with fines (Appreciable amount of fines)						
GW	Well graded gravels, gravel-sand mixtures, little or no fines		GC	Clayey gravels, gravel-sand-clay mixtures			SW	Well graded sands, gravelly sands, little or no fines		SC	Clayey sands, sand-clay mixtures					
GP	Poorly graded gravels, gravel-sand mixtures, little or no fines		GM	Silty gravels, gravel-sand-silt mixtures			SP	Poorly graded sands, gravelly sands, little or no fines		SM	Silty sands, sand-silt mixtures					

GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY	Leony L. Lopez	3/86	Approved Recommended By	CHARGE UNIT	EXPEND. AUTHOR.	SPEC. DESIGN.
CHECKED BY	Robert Carl Dorio	4/86	Robert Carl Dorio — PROJECT GEOLOGIST, C.E.G. NO. / W. C. Cain 732 — ENGINEERING GEOLOGIST, C.E.G. NO.			

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER: REGISTERED CIVIL ENGINEER NO.:

BRIDGE NO.

POST MILE 13.15 / 14.50

SOUNDWALL NO. 374

LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS: 0 1 2 3

CU 07210
WO 019651

Disregard prints bearing earlier revision dates →

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

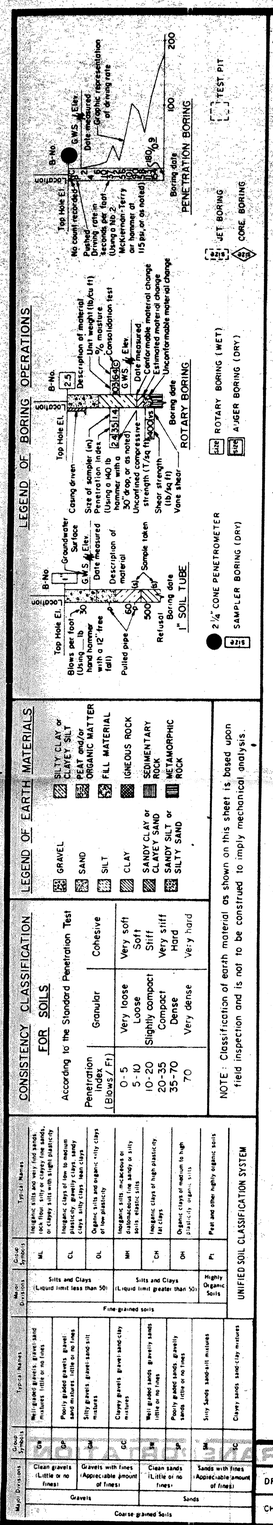
0146 32

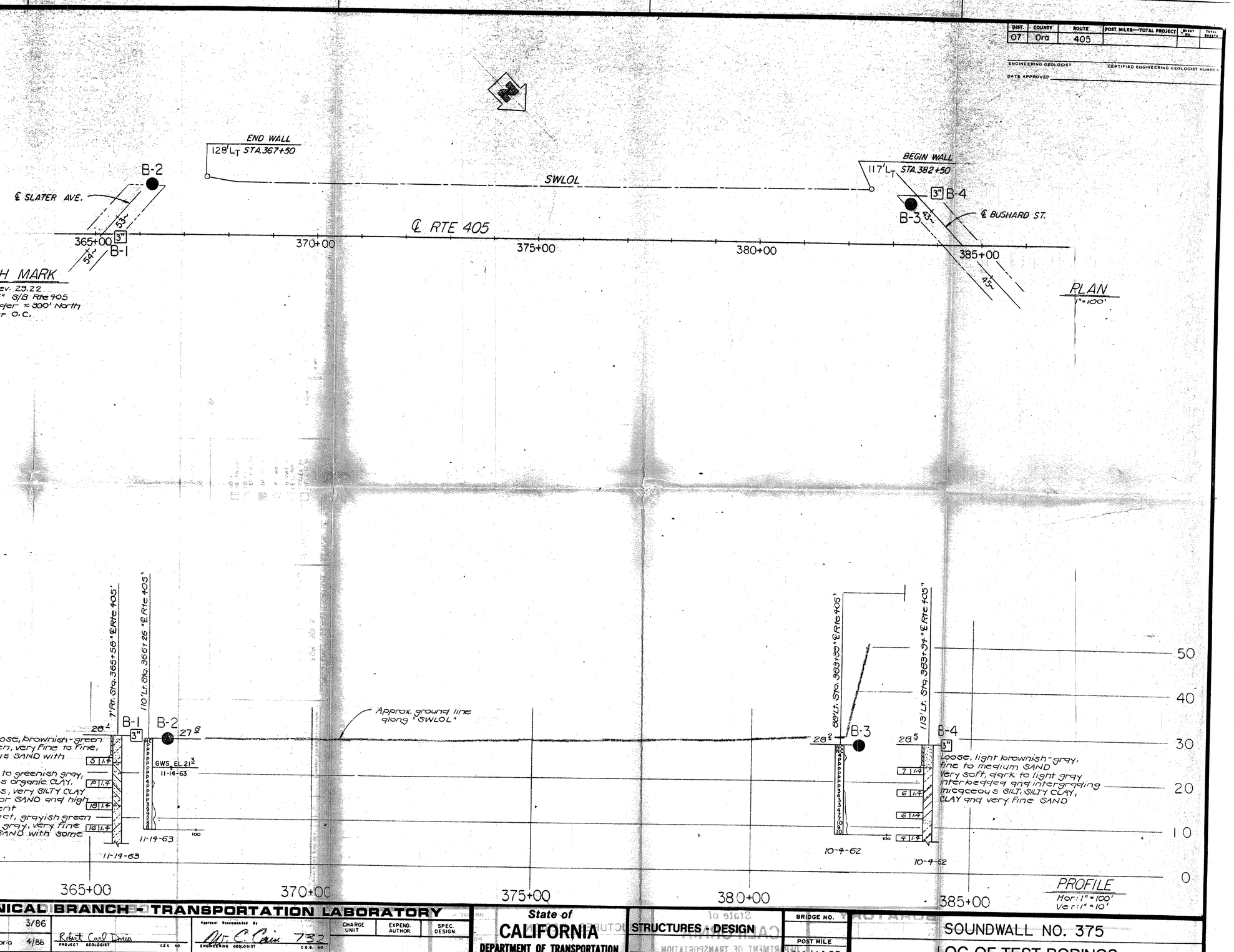
84 3212

DIST.	COUNTY	ROUTE	POST MILES—TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ora	405			

ENGINEERING GEOLOGIST — CERTIFIED ENGINEERING GEOLOGIST NUMBER

DATE APPROVED





GEOTECHNICAL BRANCH - TRANSPORTATION LABORATORY

DRAWN BY ED FONG 3/86

CHECKED BY Robert C. Doria 4/86

Robert Carl Doria — PROJECT GEOLOGIST — C.E.G. NO.

Approved Recommended By — Mr. C. Cain 732 — ENGINEERING GEOLOGIST — C.E.G. NO.

CHARGE UNIT | EXPEND. AUTHOR. | SPEC. DESIGN.

State of CALIFORNIA DEPARTMENT OF TRANSPORTATION

STRUCTURES - DESIGN

PROJECT ENGINEER — REGISTERED CIVIL ENGINEER NO.

BRIDGE NO.

POST MILE 13.15/14.50

CU 07210
WO 019651

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

Disregard prints bearing earlier revision dates

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

SOUNDWALL NO. 375

LOG OF TEST BORINGS

05 0146

84 32124

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
07	Ora	405			

REGISTERED · CERTIFIED ENGINEERING GEOLOGIST

PLANS APPROVAL DATE

REGISTERED GEOLOGIST — A.F. GOLDSCHMIDT — No. 596 — Exp. 6-30-88 — STATE OF CALIFORNIA

LEGEND OF BORING OPERATIONS

- B-No. — Boring Number
- Ground Surface
- Groundwater Contours
- Direction of Boring
- Boring Data
- Boring Data (Not Plotted)
- Boring Data (Not Plotted) Groundwater Encountered
- Boring Data (Not Plotted) Groundwater Not Encountered
- Boring Data (Not Plotted) Groundwater Not Encountered Caved
- Boring Data (Not Plotted) Groundwater Not Encountered Dry
- Boring Data (Not Plotted) Groundwater Not Encountered Caved Dry
- Boring Data (Not Plotted) Groundwater Not Encountered Caved Dry Not Logged
- Boring Data (Not Plotted) Groundwater Not Encountered Caved Dry Not Logged Not Sampled
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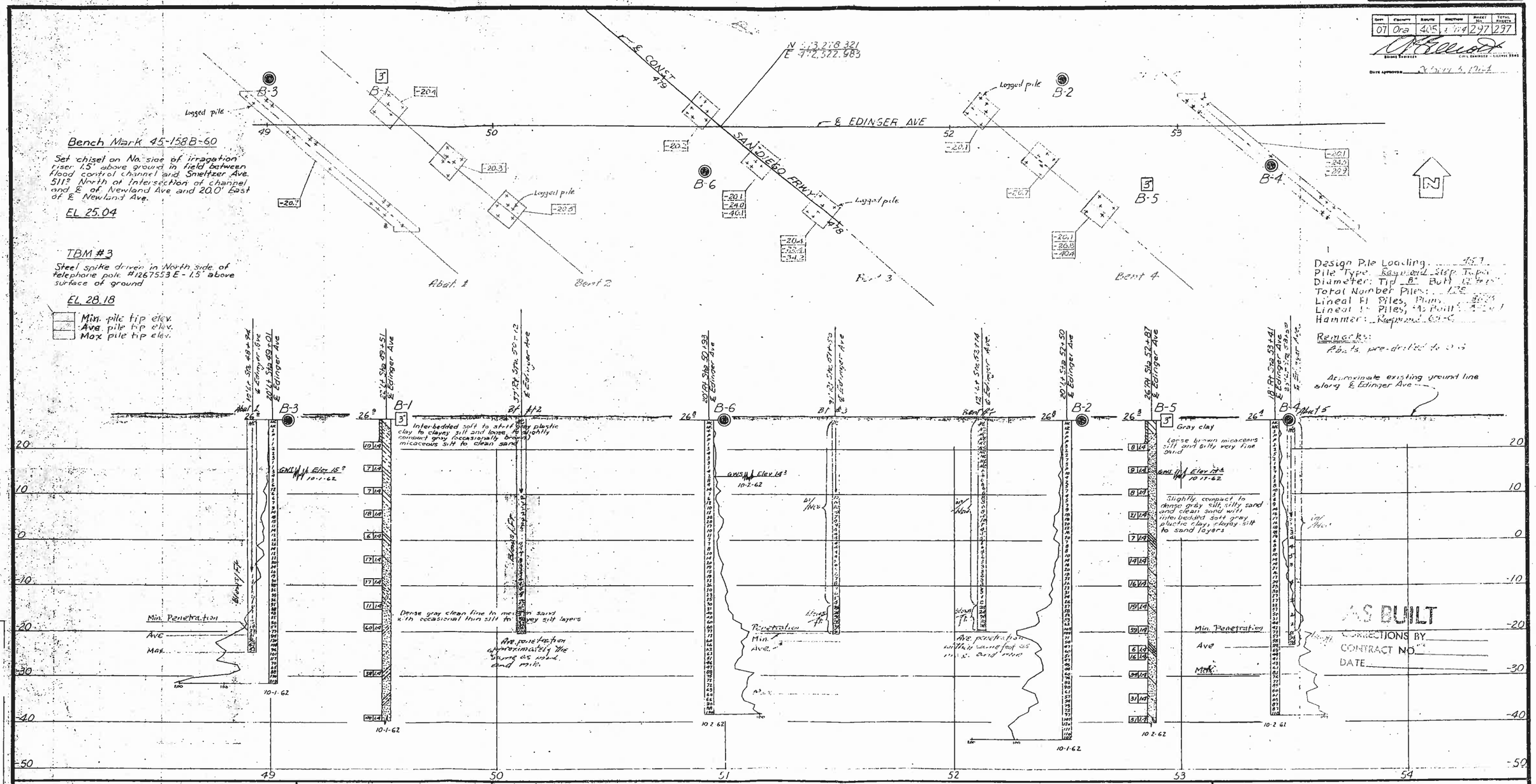
- Boring Data (Not Plotted) Groundwater Not Encountered Caved Dry Not Logged Not Sampled Not Tested Not Analyzed Not Reported Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable
- Boring Data (Not Plotted) Groundwater Not Encountered Caved Dry Not Logged Not Sampled Not Tested Not Analyzed Not Reported Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available
- Boring Data (Not Plotted) Groundwater Not Encountered Caved Dry Not Logged Not Sampled Not Tested Not Analyzed Not Reported Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available Not Applicable Not Available
- Boring Data (Not Plotted) Groundwater Not Encountered Caved Dry Not Logged Not Sampled Not Tested Not Analyzed Not Reported Not Applicable Not Available

(Old VII-Ora-158-B)

FED. ROAD DIV No	STATE	PROJ No	FISCAL YEAR	SHEET No	TOTAL SHEETS
7	CAL.				

DIST	COUNTY	ROUTE	SECTION	SHEET No	TOTAL SHEETS
07	Ora	405	[illegible]	297	297

DATE APPROVED [illegible]



CLASSIFICATION OF MATERIAL BASED ON STANDARD GRADE SIZE LIMITS

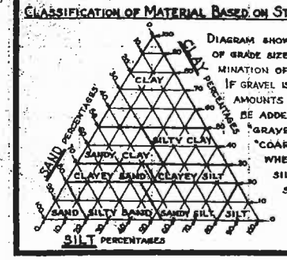


DIAGRAM SHOWING THE BASIS FOR ESTIMATES OF GRADE SIZE DISTRIBUTION USED IN DETERMINATION OF CLASS NAMES.

IF GRAVEL IS PRESENT IN APPRECIABLE AMOUNTS THE TERM "GRAVELLY" MAY BE ADDED TO THE CLASS NAME, VIZ. "GRAVELLY SAND." THE TERMS "COARSE", "MEDIUM" AND "FINE" WHEN USED TO DESCRIBE SAND, SILT AND GRAVEL REFER TO STANDARD GRADE SIZE LIMITS.

LEGEND

GRAVEL
SAND
SILT
CLAY
SANDY CLAYEY
SANDY SILTY S

Revisions made to this Log of Test Borings from the original 1962 Log of Test Borings are the addition of the following table and notes:

Boring	Station	Offset from C/L Edinger Ave
B-1	9+54.491	6.705 m Lt
B-2	10+45.622	6.096 m Lt
B-3	9+39.252	6.096 m Lt
B-4	10+73.357	5.486 m Rt
B-5	10+56.899	7.924 m Rt
B-6	9+97.771	6.096 m Rt

Notes:

1. See the General Plan and/or Foundation Plan for Metric Stationing.
2. Structure Design produced the data presented in the table above. The data are the metric locations for the As-Built Test Borings referenced to the proposed new structure location. This table is presented on the As-Built Log of Test Boring sheet for the convenience of any bidder, contractor or other interested party.

DIVISION OF ENGINEERING SERVICES - GEOTECHNICAL SERVICES

As-Built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date confirm that this is a true and accurate copy of the original document. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST.	COUNTY	ROUTE	KILOMETER POST-TOTAL PROJECT	Sheet No.	Total Sheets
12	Ora	405			

REGISTERED CIVIL ENGINEER — DATE 09/23/2004

REGISTERED PROFESSIONAL ENGINEER — Deepa Wathugala — No. C63838 — Exp. 9-30-06 — CIVIL — STATE OF CALIFORNIA

RETAINING WALL NO. 74

LOG OF TEST BORINGS 2 OF 2

NOTE: A COPY OF THIS LOG OF TEST BORINGS IS AVAILABLE AT OFFICE OF STRUCTURE MAINTENANCE AND INVESTIGATIONS, SACRAMENTO, CALIFORNIA

CU: 12
EA: 0A7611

BRIDGE No. 55E0001

Sheet of

NOTE

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

SHEET 10 OF 10

EDINGER AVENUE OVERCROSSING

LOG OF TEST BORINGS

SCALE Horiz: 1"=20' Vert: 1"=10' | BRIDGE 55-266 | FILE | DRAWING 55266-10

PREL. DRAW... NO P.

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	405			

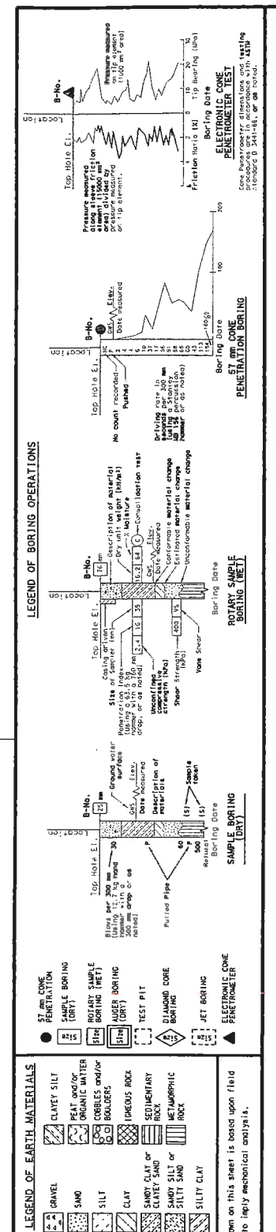
REGISTERED CIVIL ENGINEER 9-23-04

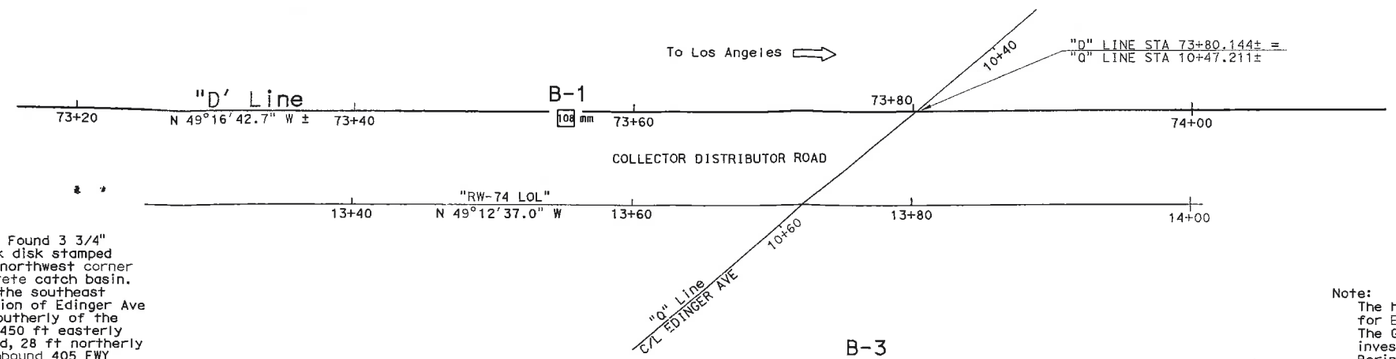
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Deepa Wathugala No. C63838 Exp. 9-30-06 CIVIL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

Caltrans Metric





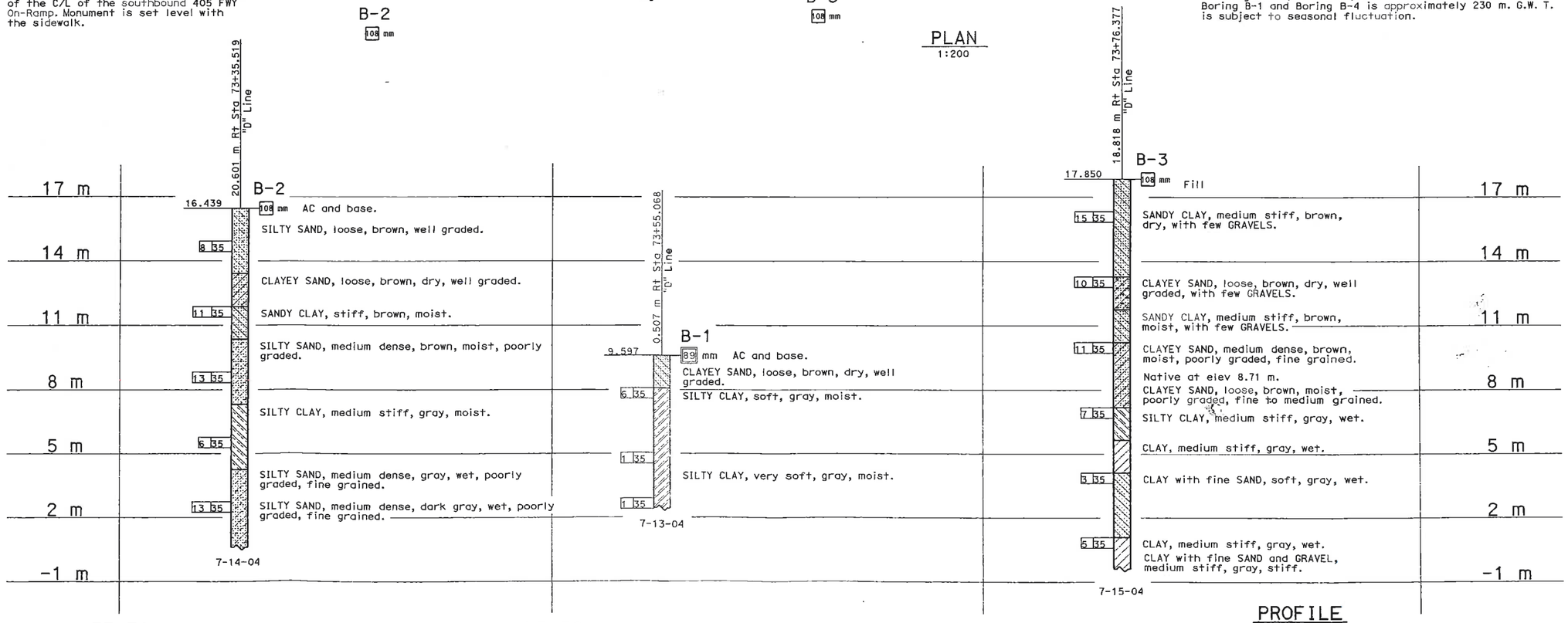
PLAN
1:200

BENCH MARK

Elev. 12.010 m

Described by OCS 2002 - Found 3 3/4" OCS aluminium benchmark disk stamped "HB-231-75", set in the northwest corner of a 4 ft by 8 ft concrete catch basin. Monument is located in the southeast corner of the intersection of Edinger Ave and Beach Blvd, 39 ft southerly of the C/L of Edinger Ave and 450 ft easterly of the C/L of Beach Blvd, 28 ft northerly of the C/L of the southbound 405 FWY On-Ramp. Monument is set level with the sidewalk.

Note:
The highest G.W.T. elevation shown on the As-Built LOTB for Edinger Avenue O.C. is at an elevation of +4.6 MSL. The G.W.T. elevation measured in Boring B-4 during recent investigation (on 9/2/04) is +6.6 m. The distance between Boring B-1 and Boring B-4 is approximately 230 m. G.W. T. is subject to seasonal fluctuation.



PROFILE
HOR. 1:100
VER. 1:100

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN

ENGINEERING SERVICES	GEOTECHNICAL SERVICES
DRAWN BY W. Tang 08/04	FIELD INVESTIGATION BY: D. Wathugala
CHECKED BY D. Wathugala	

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN

BRIDGE NO. 55E0001
KILOMETER POST 25.6/26.3

RETAINING WALL NO. 74

LOG OF TEST BORINGS 1 OF 2

OGS CIVIL LOG OF TEST BORINGS SHEET (METRIC) (REV. 3/02)

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

CU 12
EA 0A7611

FILE => rw74.dgn

DISREGARD PRINTS BEARING EARLIER REVISION DATES 9-16-04

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

USERNAME = tpomorin DATE PLOTTED = 24-SEP-2004 TIME PLOTTED = 14:46

BENCHMARK:

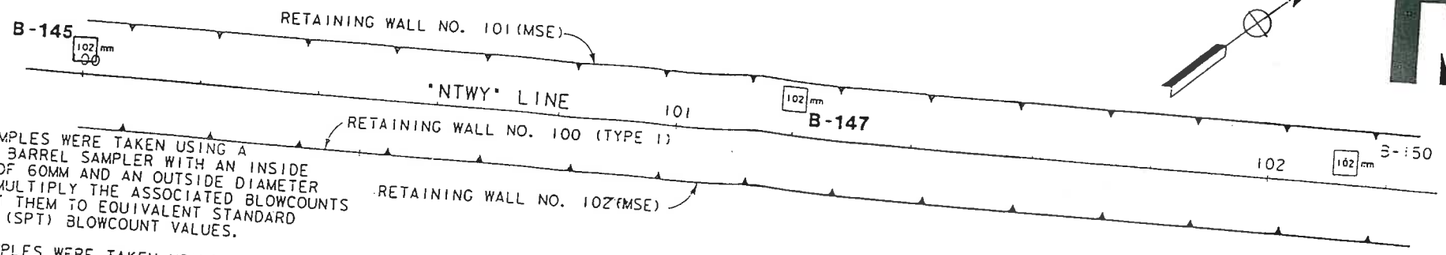
TTS-2Y RESET 1964. ELEV. 12.49
STANDARD USC&GS BENCHMARK DISK STAMPED
'TT NO 2-Y RESET 1964' IN CONCRETE POST
AT THE NORTHWEST CORNER OF NEWPORT AVE.
AND PULARINO AVE.

NOTE:

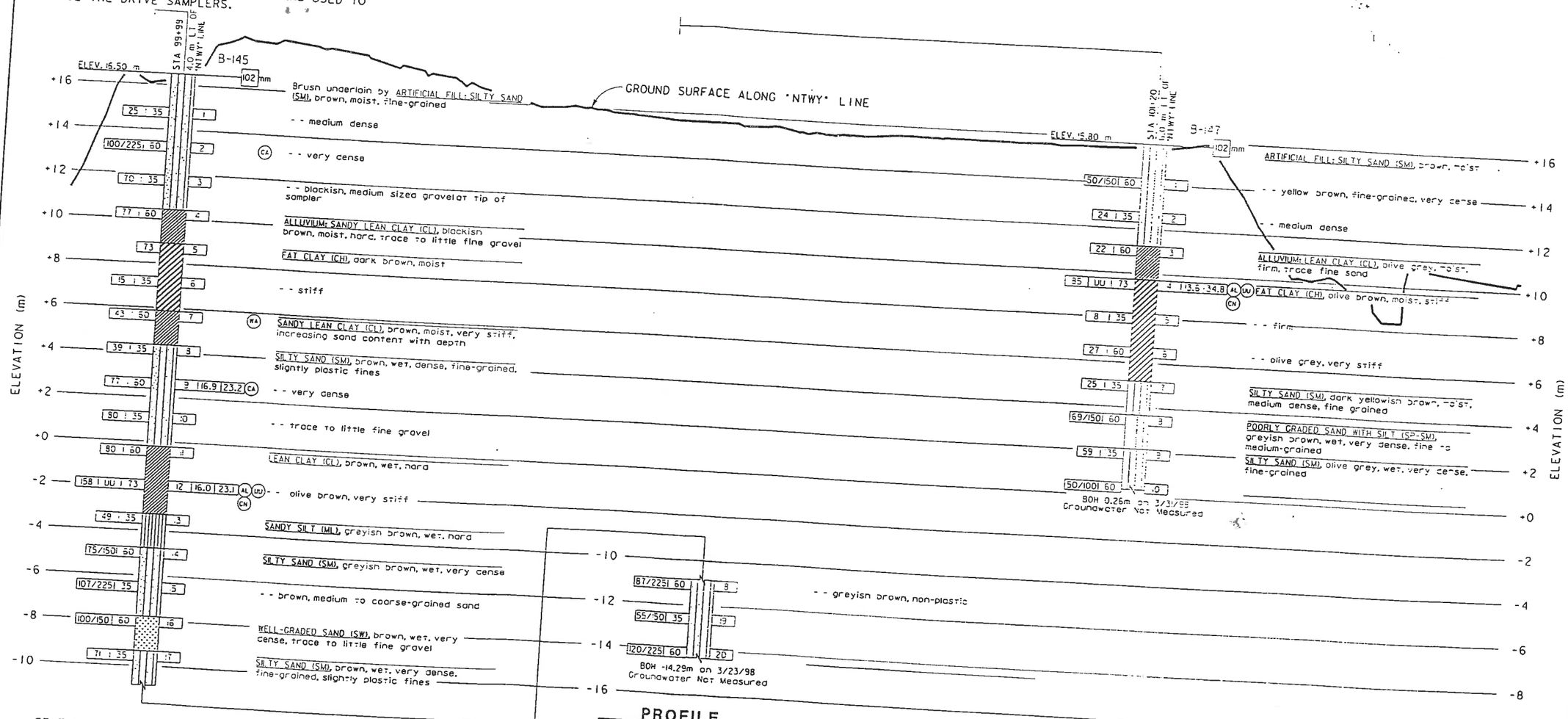
60MM DIAMETER SAMPLES WERE TAKEN USING A CALIFORNIA SPLIT BARREL SAMPLER WITH AN INSIDE DIAMETER (I.D.) OF 60MM AND AN OUTSIDE DIAMETER (O.D.) OF 83MM. MULTIPLY THE ASSOCIATED BLOWCOUNTS BY 2/3 TO CONVERT THEM TO EQUIVALENT STANDARD PENETRATION TEST (SPT) BLOWCOUNT VALUES.

73MM DIAMETER SAMPLES WERE TAKEN USING A SHELBY SAMPLER, PUSHED HYDRAULICALLY AND RETAINED IN 73MM I.D. AND 76MM O.D. THIN-WALL SAMPLE TUBES.

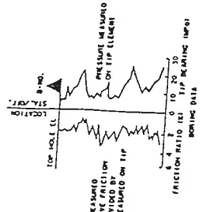
A ROPE AND CATHEAD HAMMER SYSTEM WAS USED TO ADVANCE THE DRIVE SAMPLERS.

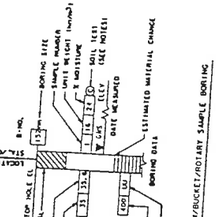


PLAN
SCALE: 1:500



PROFILE
HORIZONTAL SCALE: 1:500
VERTICAL SCALE: 1:100





LEGEND OF BORING OPERATIONS

NOTES:
1. TYPES OF BORINGS
- 32mm CONE PENETROMETER
- ROTARY WASH
- ELECTRONIC CONE PENETROMETER
- AUGER BORING (DRY)
- TEST PIT
2. SOIL TEST DESIGNATIONS
- CONSOL. (CO)
- ATTERBERG LIMITS (AL)
- CHEMICAL ANALYSIS (CA)
- MAX. DRY DENSITY (MD)
- CONSOLIDATED UNDRAINED TRIAXIAL (CU)
- UNCONFINED COMPRESSION (UC)
- DIRECT SHEAR (DS)
- UNCONSOLIDATED UNDRAINED TRIAXIAL (UU)
- HYDROMETER ANALYSIS (H)
- GRAIN SIZE ANALYSIS (G)
- WASH ANALYSIS (W)
- R-VALUE (R)

BASED ON ASTM D2487, D2488
- CL, LEAN CLAY
- ML, SILT
- OL, ORGANIC CLAY OR SILT
- CH, FAT CLAY
- MH, ELASTIC SILT
- OH, ORGANIC CLAY OR SILT
- GW, WELL-GRADED GRAVEL
- GP, POORLY-GRADED GRAVEL
- GM, SILTY GRAVEL
- GC, CLAYEY GRAVEL
- SW, WELL-GRADED SAND
- SP, POORLY-GRADED SAND
- SM, SILTY SAND
- SC, CLAYEY SAND
- CL-ML, SILTY CLAY
- SHALE
- CLAYSTONE
- SILTSTONE

BASED ON ASTM D1586 AND SOWERS, 1979

SANDS AND GRAVELS

CONSISTENCY	BLOWS/305mm
VERY LOOSE	0 - 4
LOOSE	5 - 10
MEDIUM DENSE	11 - 30
DENSE	31 - 50
VERY DENSE	OVER 50

CLAYS AND SILTS

CONSISTENCY	BLOWS/305mm
VERY SOFT	0 - 2
SOFT	2 - 4
FIRM	5 - 8
STIFF	9 - 15
VERY STIFF	16 - 30
HARD	OVER 30

DIST	COUNTY	ROUTE	TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405,55	13.9/15.8 R8.9/R11.7		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
MOHAMMED AZEEMUDDIN
No. 2057 CE
Exp. 2/3/01
CIVIL
STATE OF CALIFORNIA

OCTA
550 SOUTH MAIN STREET
ORANGE, CA 92613-1584

CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

CALTRANS DESIGN OVERSIGHT

DRAWN BY	K. REYES
CHECKED BY	B. HARDESTY

M. AZEEMUDDIN (ENG)/ CH2M HILL & K. KAEKUL (TECH)/AP ENG
FIELD INVESTIGATOR
DATE 3/23/98 - 3/31/98

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BRADLEY MIELKE
PROJECT ENGINEER

BRIDGE NO. X
KILOMETER POST R9.3

FOR REDUCED PLANS ORIGINAL SCALE IN MILLIMETERS 0 10 20 30 40 50

RET WALLS 100, 101 AND 102
LOG OF TEST BORINGS NO.

D ST	COUNTY	ROUTE	POSTMILE	TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405, 55	13.9/15.8 R8.9/R11.7			

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — MOHAMMED AZEEMUDDIN — No. C057 08 — Exp. 2/3/00 — CIVIL — STATE OF CALIFORNIA

OCTA
550 SOUTH MAIN STREET
ORANGE, CA 92613-1584

CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707

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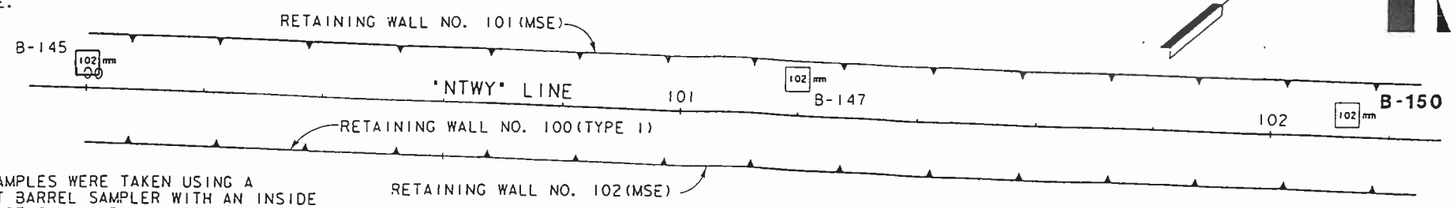
Caltrans Metric

BENCHMARK:

TTS-2Y RESET 1964. ELEV. 12.49
STANDARD USC&GS BENCHMARK DISK STAMPED
'TT NO 2-Y RESET 1964' IN CONCRETE POST
AT THE NORTHWEST CORNER OF NEWPORT AVE.
AND PULARINO AVE.



NOTE:

60MM DIAMETER SAMPLES WERE TAKEN USING A CALIFORNIA SPLIT BARREL SAMPLER WITH AN INSIDE DIAMETER (I.D.) OF 60MM AND AN OUTSIDE DIAMETER (O.D.) OF 83MM. MULTIPLY THE ASSOCIATED BLOWCOUNTS BY 2/3 TO CONVERT THEM TO EQUIVALENT STANDARD PENETRATION TEST (SPT) BLOWCOUNT VALUES.

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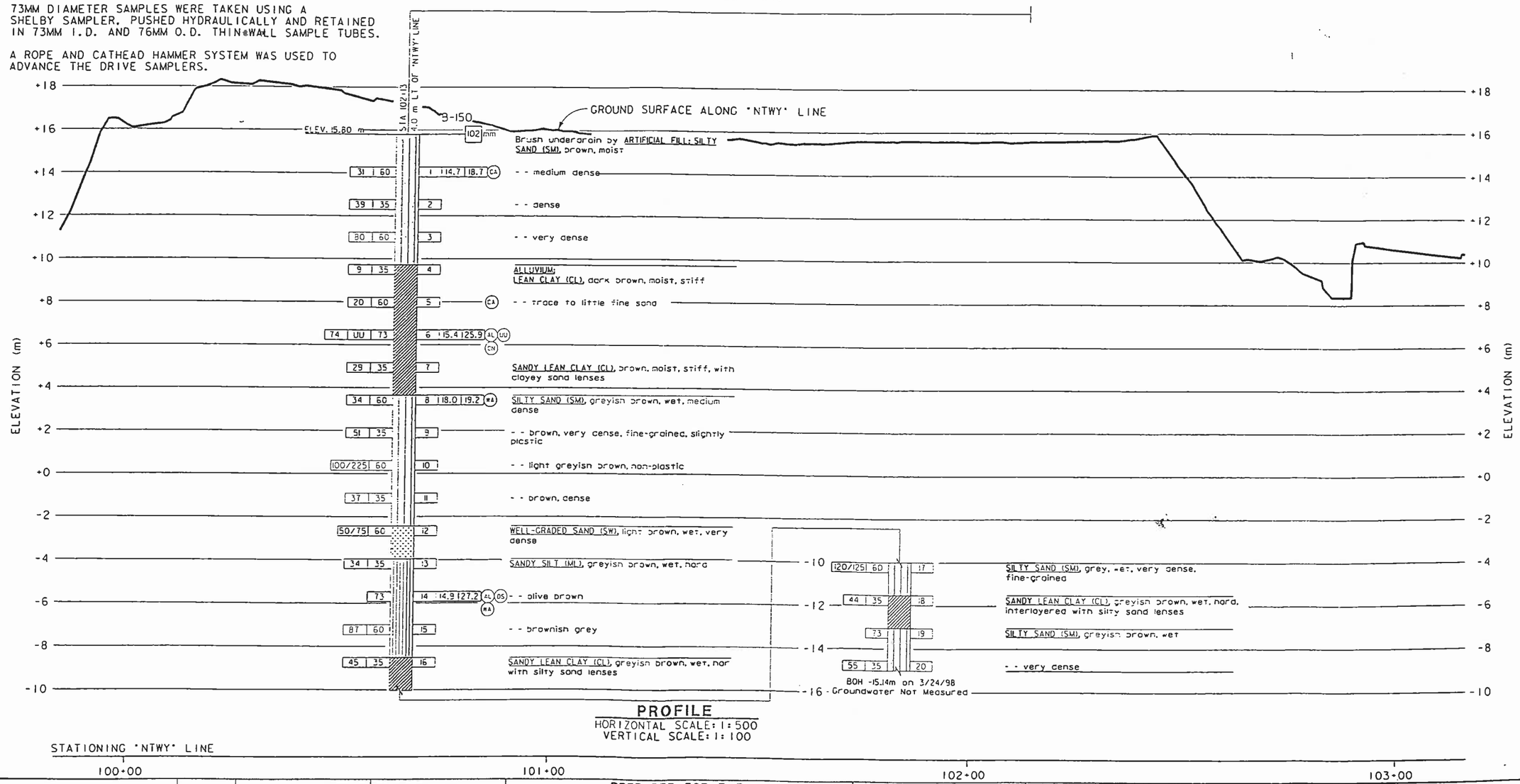
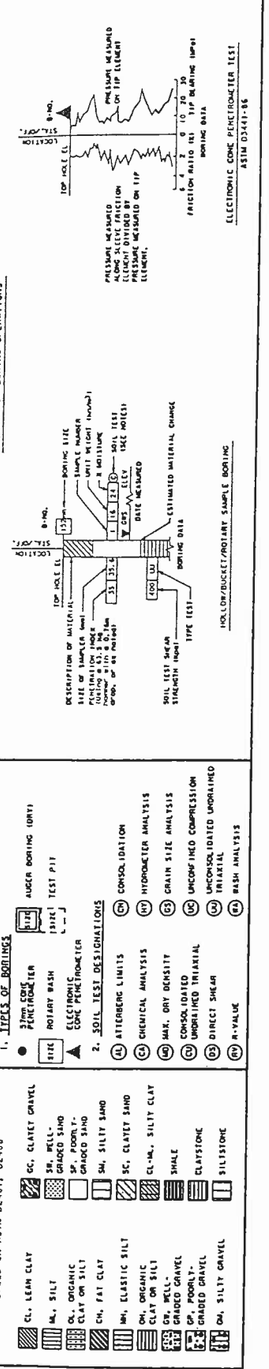
A ROPE AND CATHEAD HAMMER SYSTEM WAS USED TO ADVANCE THE DRIVE SAMPLERS.

PLAN
SCALE: 1:500



PROFILE
HORIZONTAL SCALE: 1:500
VERTICAL SCALE: 1:100

STATIONING 'NTWY' LINE
100+00 101+00 102+00 103+00



CALTRANS DESIGN OVERSIGHT	DRAWN BY K. REYES	M. AZEEMUDDIN (ENG)/ CH2M HILL	BRADLEY MIELKE
	CHECKED BY B. HARDESTY	FIELD INVESTIGATOR DATE 3/24/98	PROJECT ENGINEER

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BRIDGE NO.	KILOMETER POST	POST MILE
X	R9.3	R8.9

RET WALLS 100, 101 AND 102
LOG OF TEST BORINGS NO. 2

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

FOR REDUCED PLANS ORIGINAL SCALE IN MILLIMETERS 0 10 20 30 40 50

CU 12208

BENCHMARK:

TTS-2Y RESET 1964. ELEV. 12.49
STANDARD USC&GS BENCHMARK DISK STAMPED
'TT NO 2-Y RESET 1964' IN CONCRETE POST
AT THE NORTHWEST CORNER OF NEWPORT AVE.
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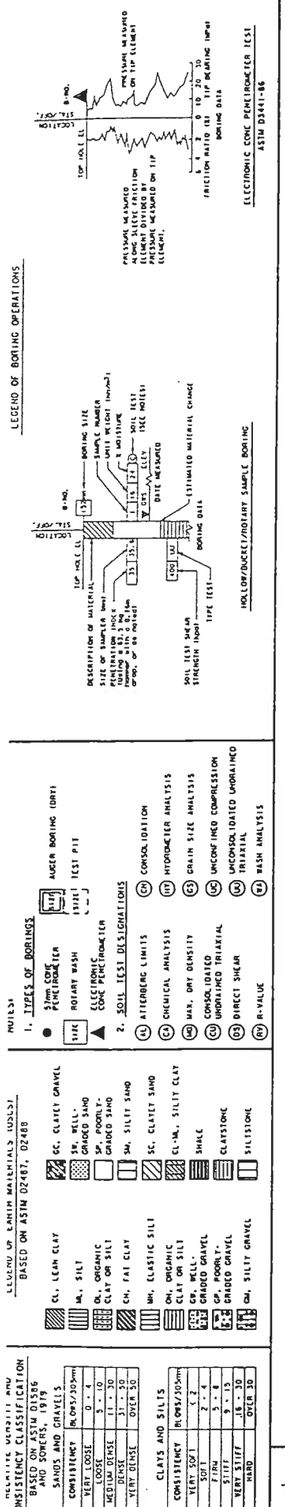
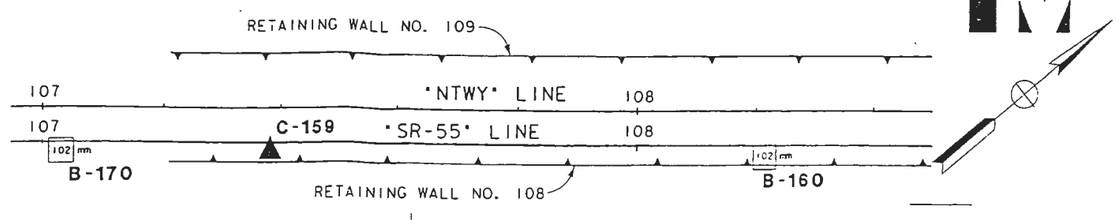
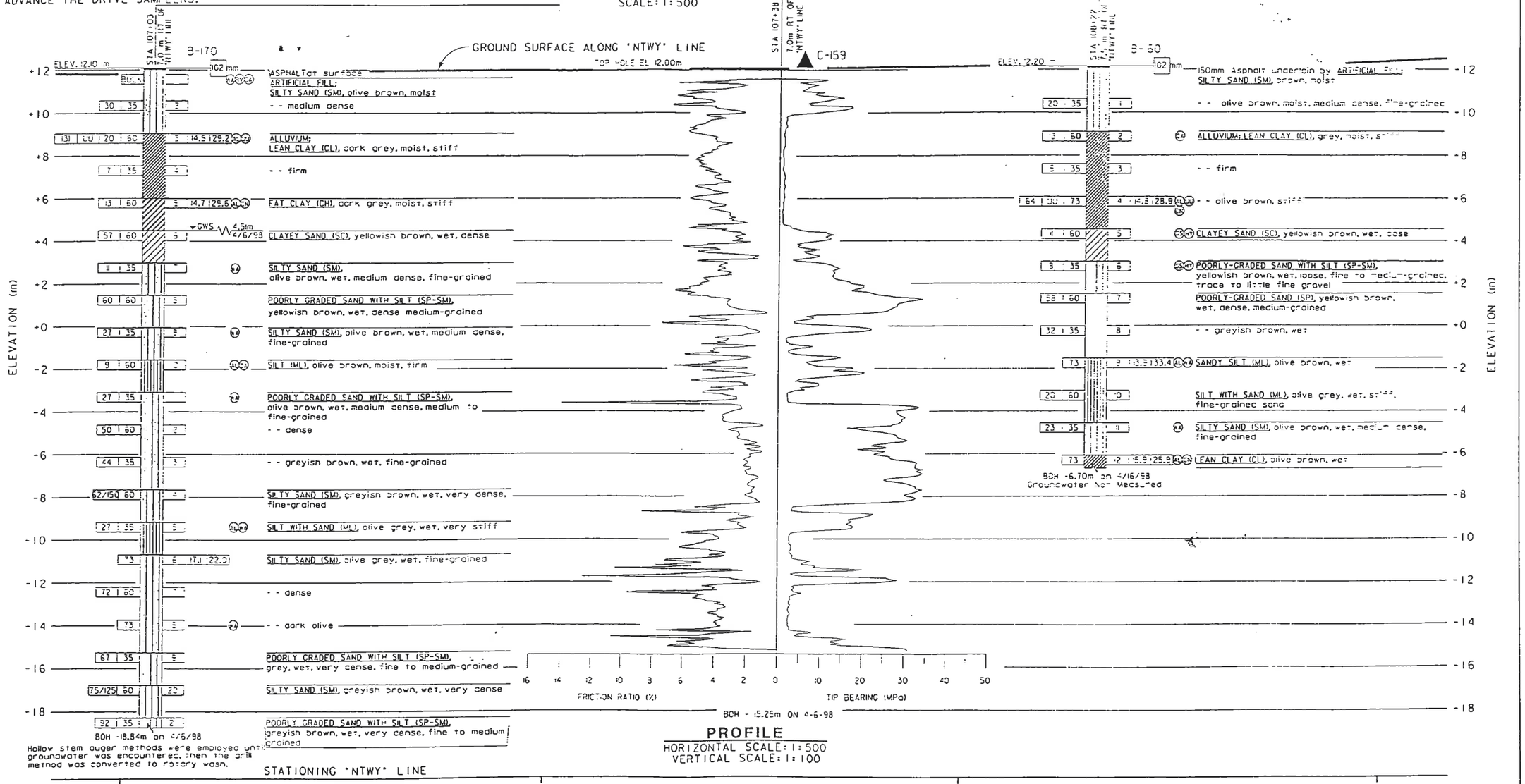




PLAN
SCALE: 1:500



Hollow stem auger methods were employed until groundwater was encountered, then the drill method was converted to rotary wash.

PROFILE
HORIZONTAL SCALE: 1:500
VERTICAL SCALE: 1:100

STATIONING 'NTWY' LINE
106+00 107+00 108+00 109+00

Caltrans Metric

District	County	Route	Total Project Km	Total Project No. Sheets
12	Ora	405.55	13.9/15.8 R8.9/R11.7	

REGISTERED CIVIL ENGINEER
PLANS APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER No. 2057 Exp. 2/3/00 CIVIL STATE OF CALIFORNIA
OCTA
550 SOUTH MAIN STREET
ORANGE, CA 92613-1584
CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707

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CALTRANS DESIGN OVERSIGHT	DRAWN BY K. REYES	K. KAEKUL (TECH)/AP ENG	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
	CHECKED BY B. HARDESTY	FIELD INVESTIGATOR DATE 4/6/98-4/16/98	

BRADLEY WIELKE
PROJECT ENGINEER

BRIDGE NO. X
KILOMETER POST R10.0
POST MILE

MSE WALLS 108 AND 109
LOG OF TEST BORINGS NO. 1

CU 12208

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET X OF X

FOR REDUCED PLANS 0 10 20 30 40 50

BENCHMARK:

TTS-2Y RESET 1964, ELEV. 12.49
STANDARD USC&GS BENCHMARK DISK STAMPED
"TT NO 2-Y RESET 1964" IN CONCRETE POST
AT THE NORTHWEST CORNER OF NEWPORT AVE.
AND PULARINO AVE.

DIST	COUNTY	ROUTE	TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405,55	13.9/15.8 R8.9/R11.7		

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

OCTA
550 SOUTH MAIN STREET
ORANGE, CA 92613-1584

CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707

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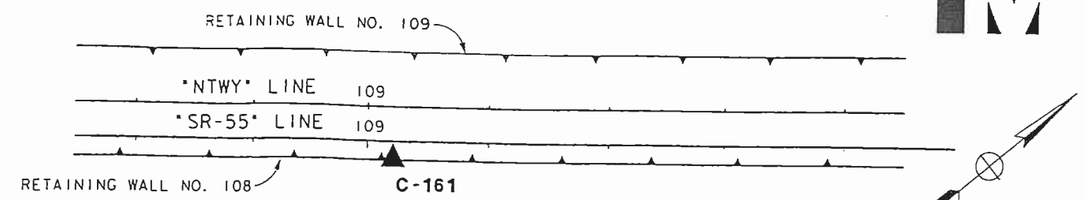
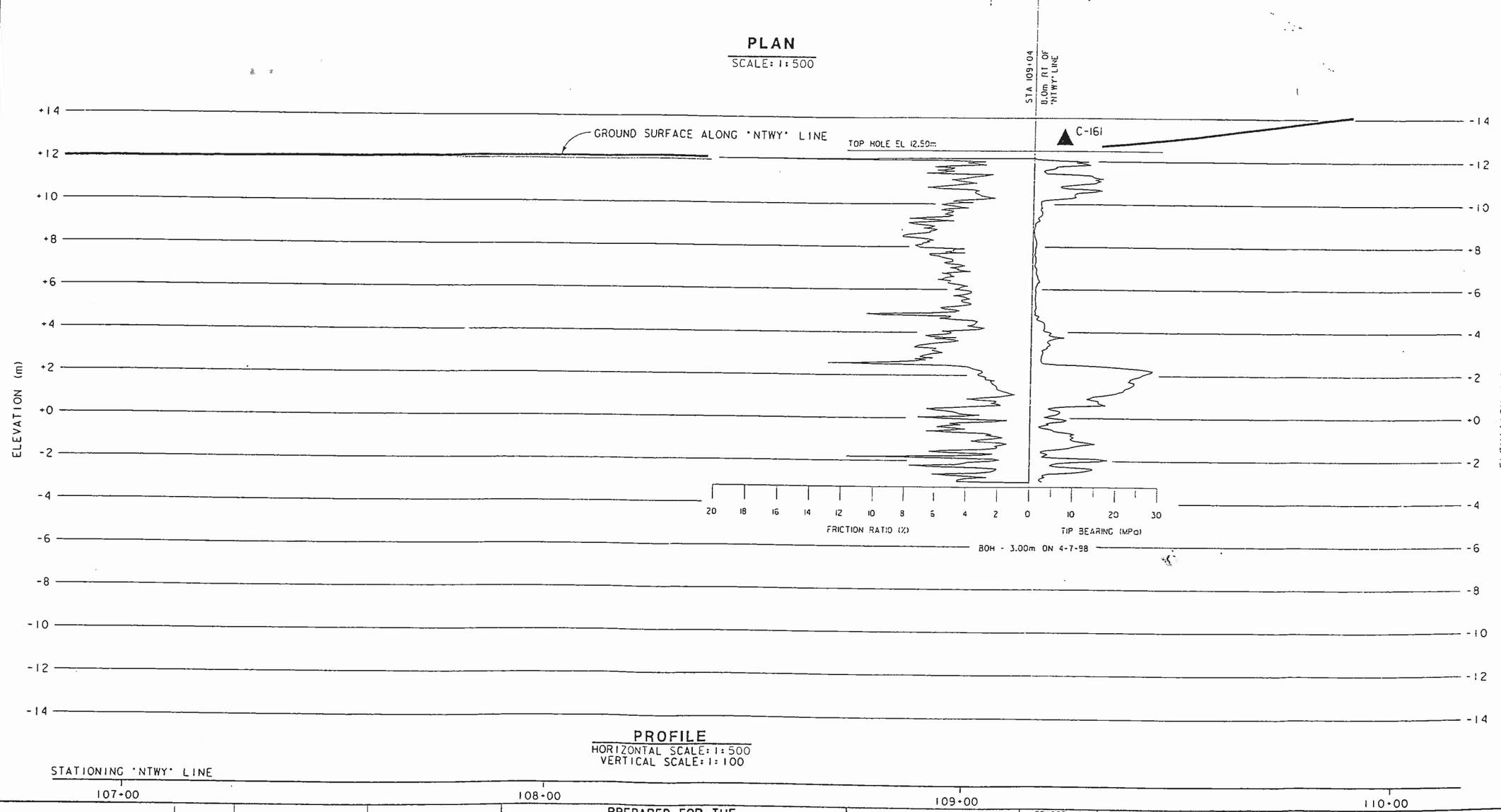


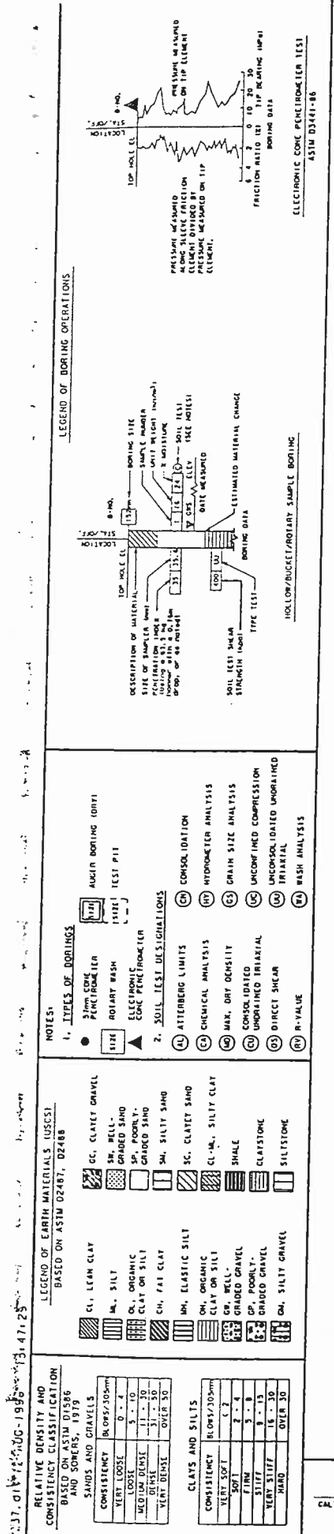
PLAN

SCALE: 1:500



PROFILE

HORIZONTAL SCALE: 1:500
VERTICAL SCALE: 1:100



CALTRANS DESIGN OVERSIGHT	DRAWN BY	K. REYES	K. KAEKUL (TECH)/AP ENG
	CHECKED BY	B. HARDESTY	FIELD INVESTIGATOR
			DATE 4/7/98

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

FOR REDUCED PLANS ORIGINAL SCALE IN MILLIMETERS 0 10 20 30 40 50

BRADLEY MIELKE
PROJECT ENGINEER

CU 12208
EA 12-0695U1

BRIDGE NO. X
KILOMETER POST R10.0
POST MILE R6.2

MSE WALLS 108 AND 109
LOG OF TEST BORINGS NO. 2

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET X OF X

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	ORG	405	11.5 TO 11.5	1	2

REGISTERED CIVIL ENGINEER
PRINCIPAL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER JULIAN VIBIKI No. 045350 Exp. 09-30-98 CIVIL STATE OF CALIFORNIA

NINYO & MOORE
9272 JERONIMO RD. STE. 123A
IRVINE, CA 92718

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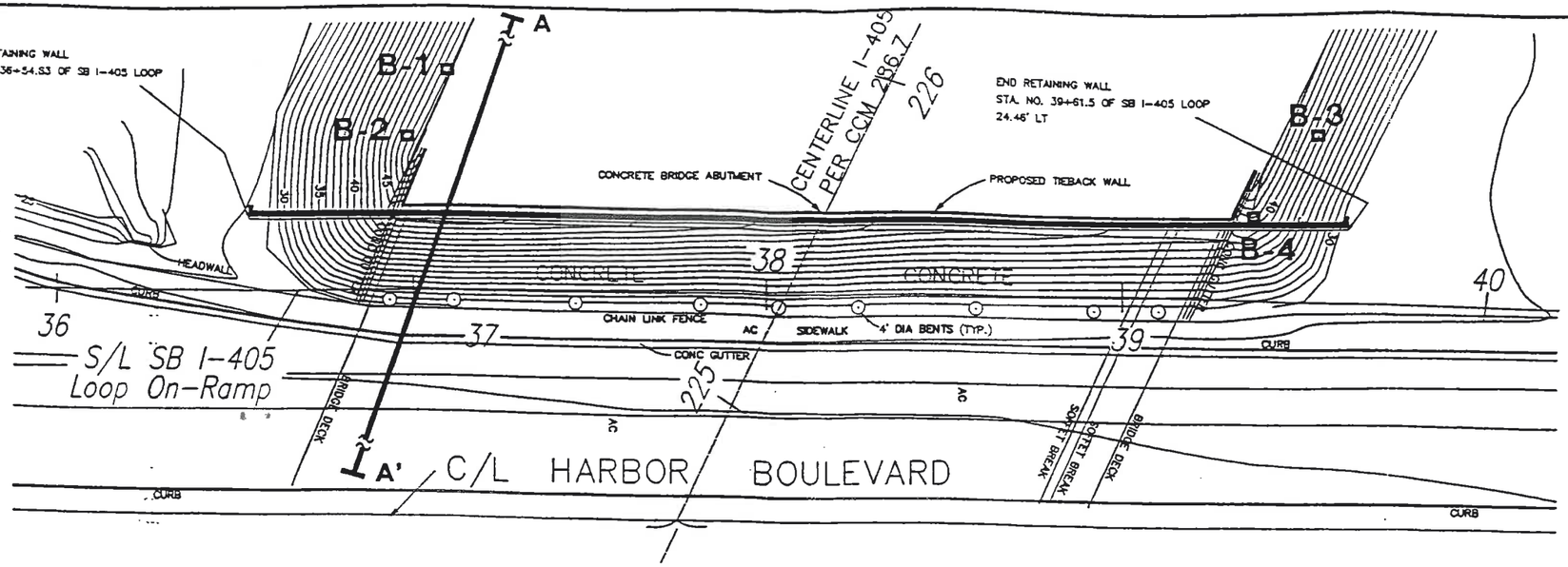
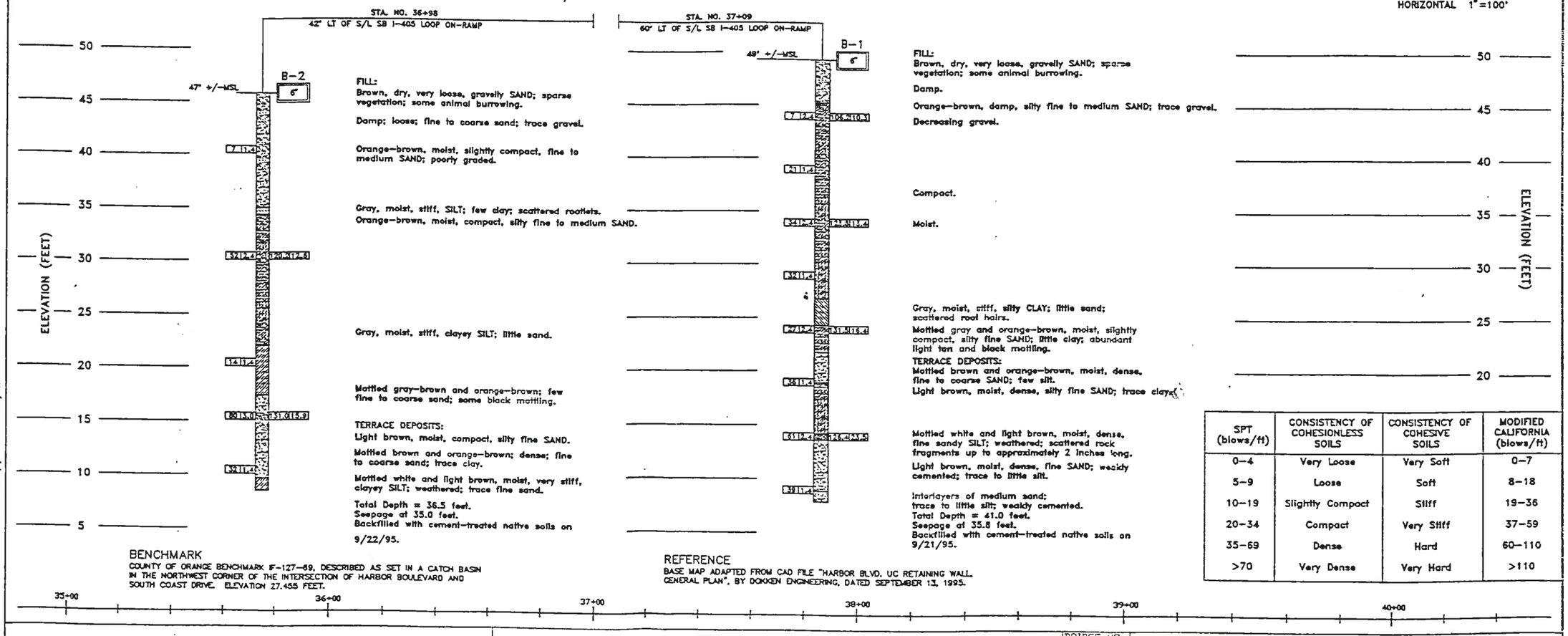
NOTE:
FOR BORING B-3 AND B-4, SEE SHEET 2.

SCALE:
PLAN 1"=20'
PROFILE
VERTICAL 1"=5'
HORIZONTAL 1"=100'

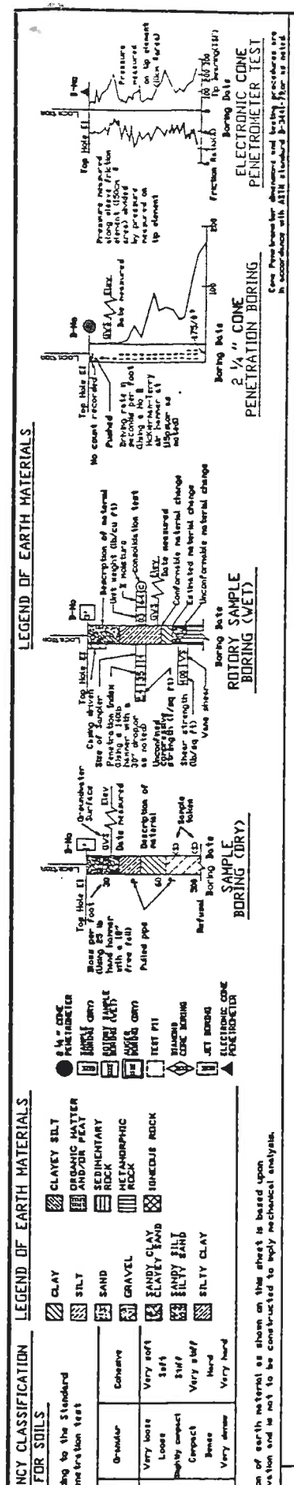




BENCHMARK
COUNTY OF ORANGE BENCHMARK IF-127-69, DESCRIBED AS SET IN A CATCH BASIN IN THE NORTHWEST CORNER OF THE INTERSECTION OF HARBOR BOULEVARD AND SOUTH COAST DRIVE. ELEVATION 27.455 FEET.

REFERENCE
BASE MAP ADAPTED FROM CAD FILE "HARBOR BLVD. UC RETAINING WALL GENERAL PLAN", BY DOKKEN ENGINEERING, DATED SEPTEMBER 13, 1995.

SPT (blows/ft)	CONSISTENCY OF COHESIONLESS SOILS	CONSISTENCY OF COHESIVE SOILS	MODIFIED CALIFORNIA (blows/ft)
0-4	Very Loose	Very Soft	0-7
5-9	Loose	Soft	8-18
10-19	Slightly Compact	Stiff	19-36
20-34	Compact	Very Stiff	37-59
35-69	Dense	Hard	60-110
>70	Very Dense	Very Hard	>110



DRAWN BY	LR	DERON VAN HOFF, SENIOR STAFF ENGINEER FIELD INVESTIGATOR
CHECKED BY	JV	SEPTEMBER 1995 DATE

PREPARED FOR STATE OF:
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BRIDGE NO 55-257 R/W
POST MILE 11.5

HARBOR BOULEVARD UC RETAINING WALL
LOG OF TEST BORINGS

ORIGINAL SCALE IS IN INCHES FOR REDUCED PLANS 0 1 2 3

EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 1 OF 2

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	ORG	405	11.5 TO 11.5	2	2

REGISTERED CIVIL ENGINEER
PRINCIPAL ENGINEER

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER JALAL VAKILI No. 045350 Exp. 09-30-98 CIVIL STATE OF CALIFORNIA

NINYO & MOORE
9272 JERONIMO RD. STE. 123A
IRVINE, CA 92718

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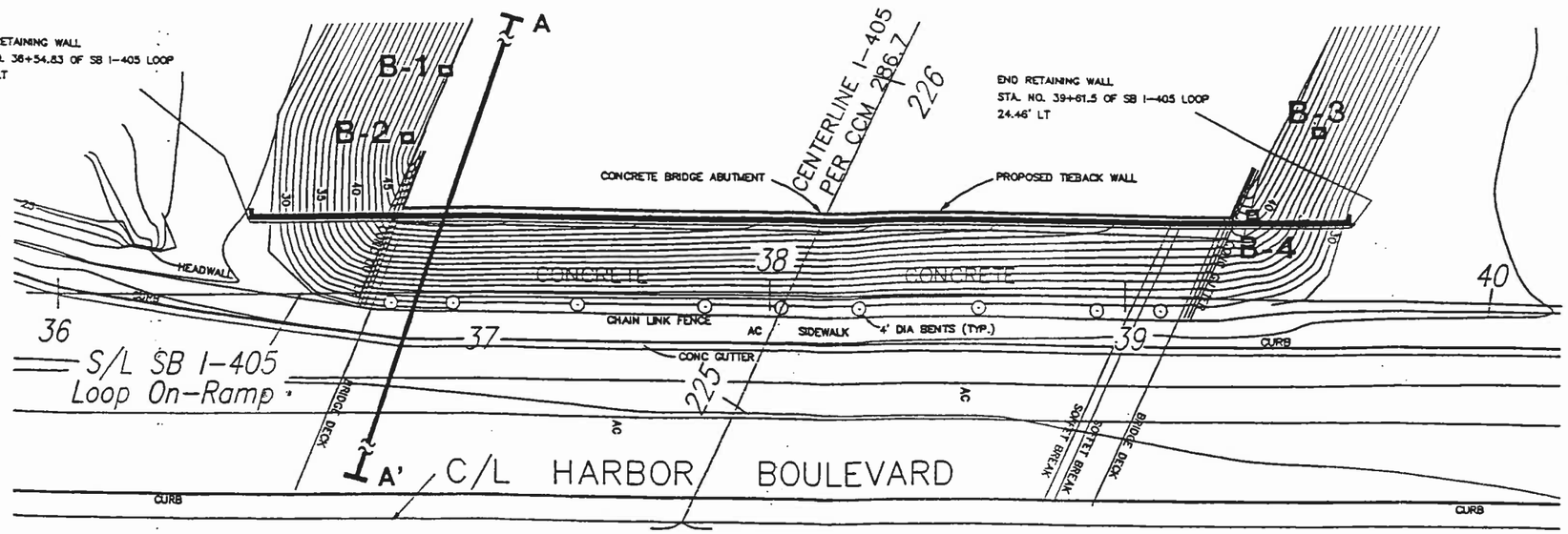
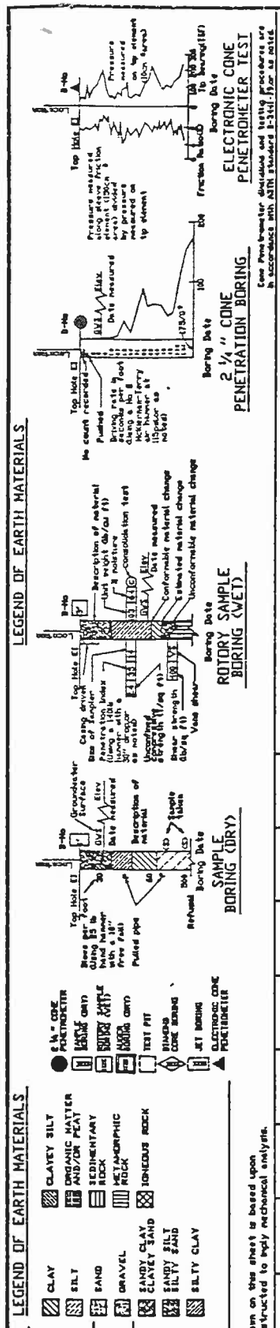
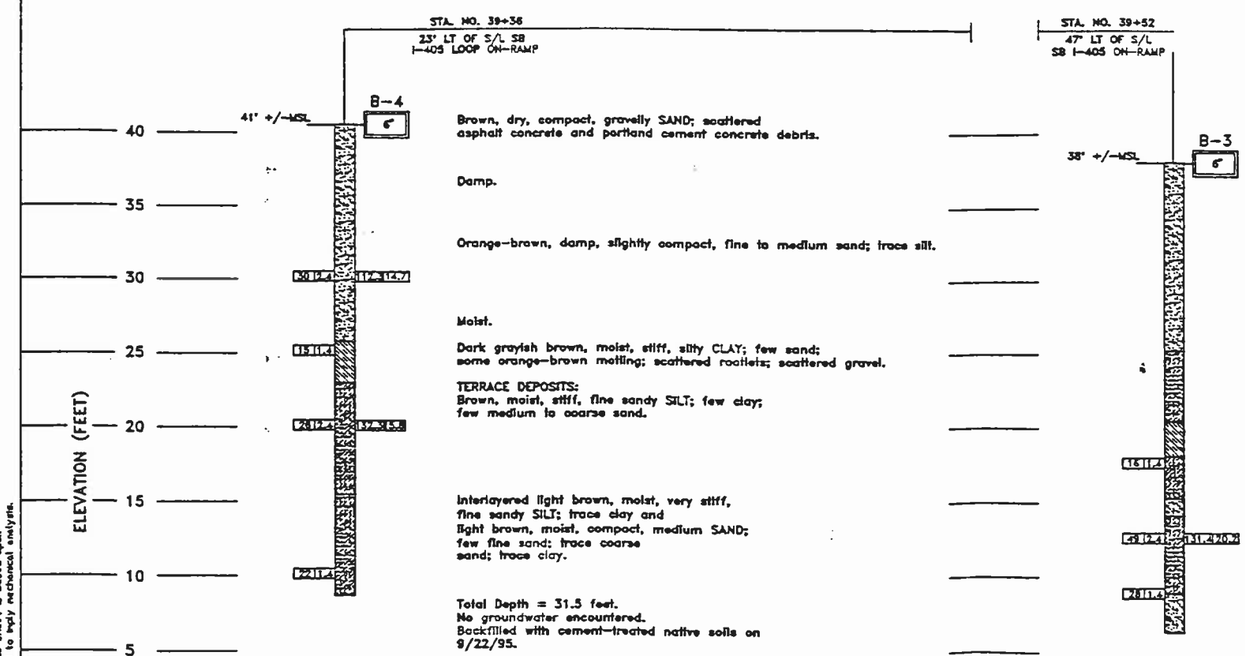
NOTE:
FOR BORINGS B-1 AND B-2, SEE SHEET 1.



SCALE:
PLAN 1"=40'
PROFILE
VERTICAL 1"=5'
HORIZONTAL 1"=100'



NOTE:
Classification of earth material as shown on this sheet is based upon field observation and is not to be constructed to imply mechanical analysis.



SPT (blows/ft)	CONSISTENCY OF COHESIONLESS SOILS	CONSISTENCY OF COHESIVE SOILS	MODIFIED CALIFORNIA (blows/ft)
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10–19	Slightly Compact	Stiff	19–36
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35–69	Dense	Hard	60–110
>70	Very Dense	Very Hard	>110

BENCHMARK

COUNTY OF ORANGE BENCHMARK IF-127-69, DESCRIBED AS SET IN A CATCH BASIN IN THE NORTHWEST CORNER OF THE INTERSECTION OF HARBOR BOULEVARD AND SOUTH COAST DRIVE. ELEVATION 27.455 FEET.

REFERENCE

BASE MAP ADAPTED FROM CAD FILE "HARBOR BLVD UC RETAINING WALL GENERAL PLAN," BY DOKKEN ENGINEERING, DATED SEPTEMBER 13, 1995.

37+00 38+00 39+00 40+00 41+00 42+00

DRAWN BY	LR	DERON VAN HOFF, SENIOR STAFF ENGINEER FIELD INVESTIGATOR
CHECKED BY	JV	SEPTEMBER 1995 DATE

PREPARED FOR STATE OF:
CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BRIDGE NO. 55-237 R/L
POST MILE 11.5

HARBOR BOULEVARD UC RETAINING WALL
LOG OF TEST BORINGS

ORIGINAL SCALE IS IN INCHES FOR REDUCED PLANS 0 1 2 3

EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 2 OF 2

BENCHMARK

TTS-2Y reset 1964, Elev. +12.49
Standard USC&GS Benchmark disk stamped "TT NO 2-Y RESET 1964" in concrete post at the northwest corner of Newport Ave. and Paularino Ave.

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	ORA	55			

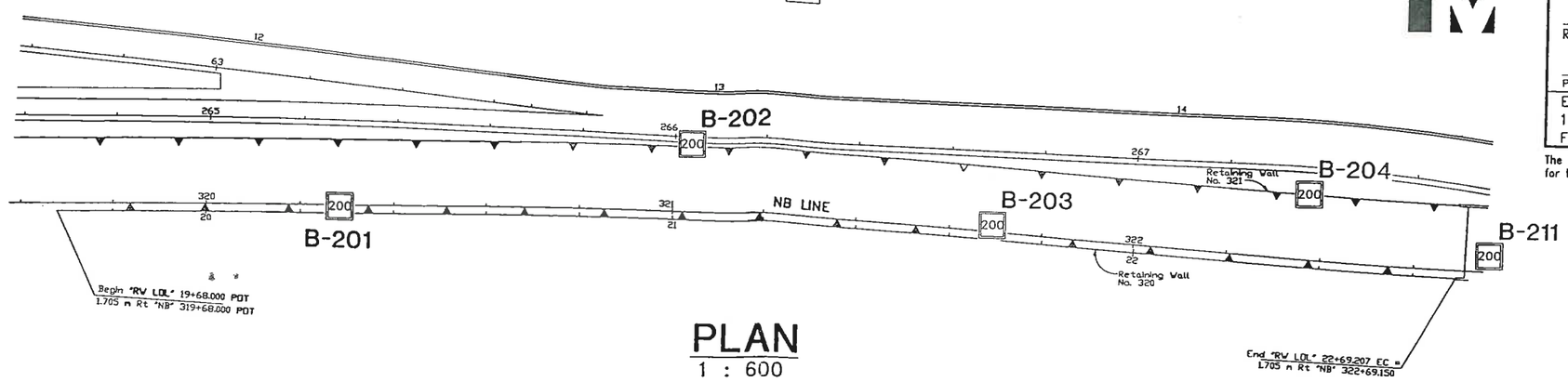
REGISTERED CIVIL ENGINEER

PLAN APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KANDIAH ARULMOLI NO. GE-002090 EXP. 12-31-2001 GEOTECHNICAL STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

The State of California or its officers or agents shall not be responsible for the completeness or accuracy of electronic copies of this plan sheet



PLAN
1 : 600

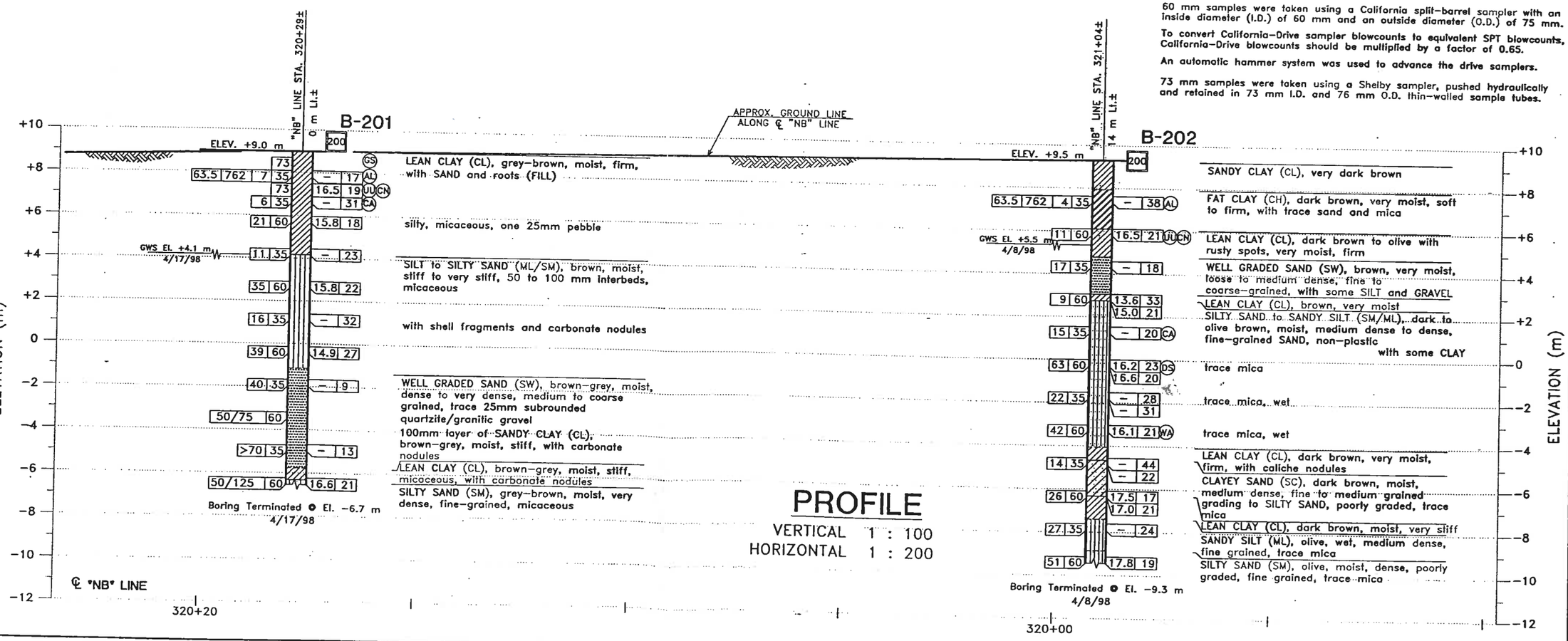
NOTES:

60 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 60 mm and an outside diameter (O.D.) of 75 mm.

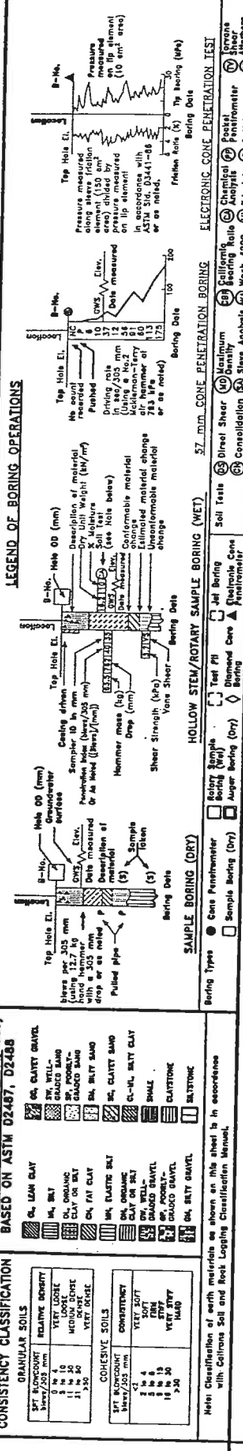
To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65.

An automatic hammer system was used to advance the drive samplers.

73 mm samples were taken using a Shelby sampler, pushed hydraulically and retained in 73 mm I.D. and 76 mm O.D. thin-walled sample tubes.



PROFILE
VERTICAL 1 : 100
HORIZONTAL 1 : 200



DESIGN OVERSIGHT Ba Nguyen
SIGNOFF DATE

DESIGN	M. CHOW	7/1/98
CHECKED	T. POE	7/9/98

B. SCHELL/GEOLOGIST
FIELD INVESTIGATOR/TITLE
DATE 4/8/98, 4/17/98

ORIGINAL SCALE IN mm FOR REDUCED PLANS

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

K. ARULMOLI
PROJECT ENGINEER

CU 12208

BRIDGE No.
KILOMETER POST KP 9.1/9.2
POST MILE

MSE WALL RW 320 & RW 321
LOG OF TEST BORINGS NO. 1

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	ORA				

REGISTERED CIVIL ENGINEER

PLAN APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KAMIAH ARLEMONT NO. GE-002090 EXP. 12-31-2001 GEOTECHNICAL STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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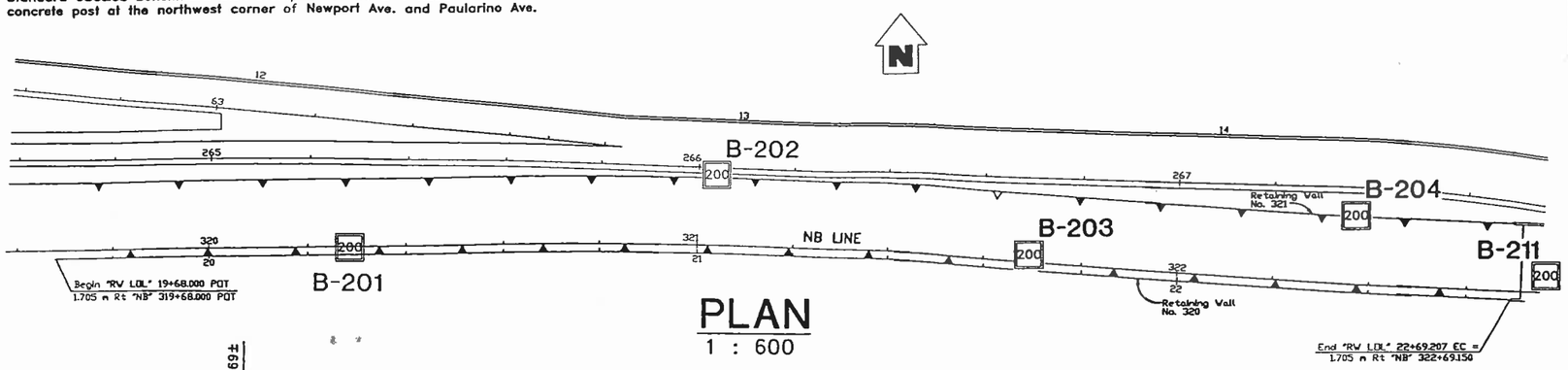
Caltrans Metric

BENCHMARK

TTS-2Y resel 1964, Elev. +12.49
Standard USC&GS Benchmark disk stamped "TT NO 2-Y RESET 1964" in concrete post at the northwest corner of Newport Ave. and Paularino Ave.



PLAN
1 : 600

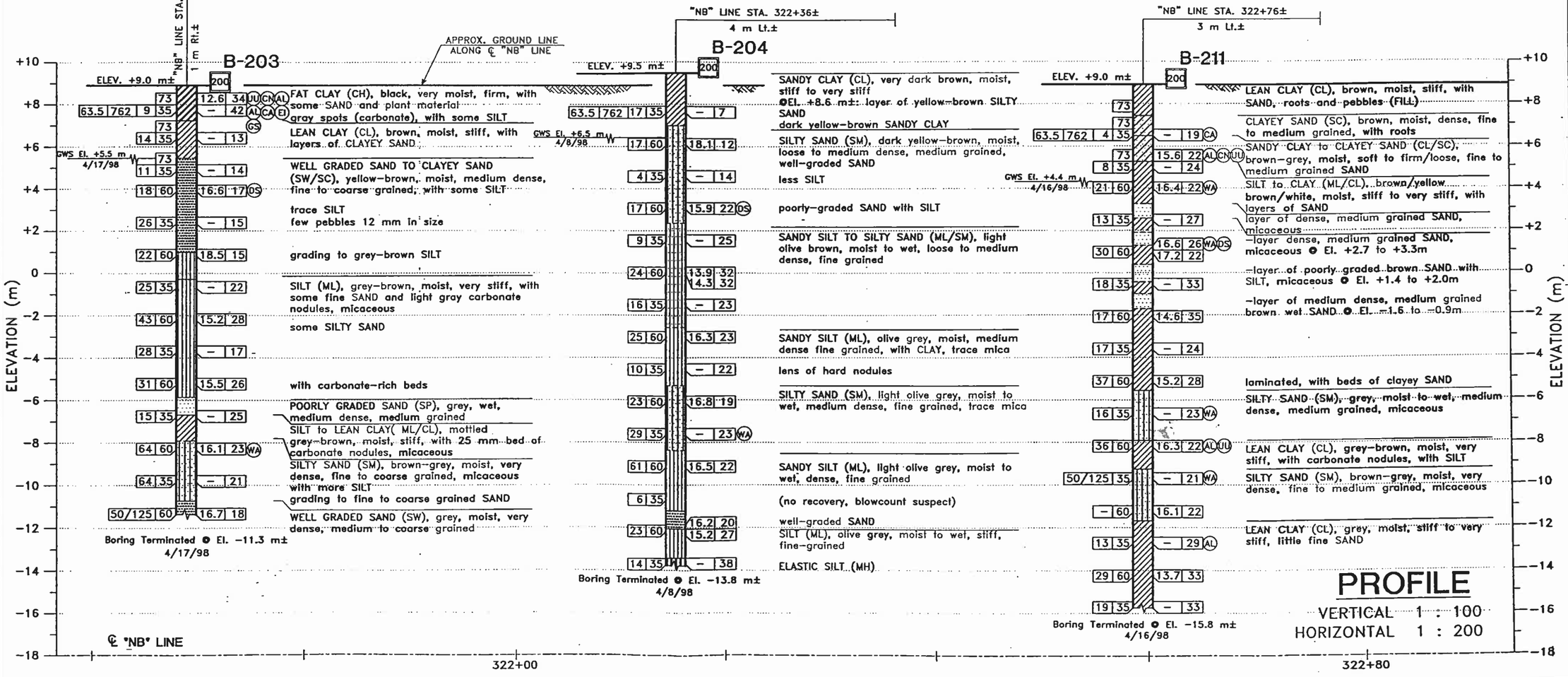
NOTES:

60 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 60 mm and an outside diameter (O.D.) of 75 mm.

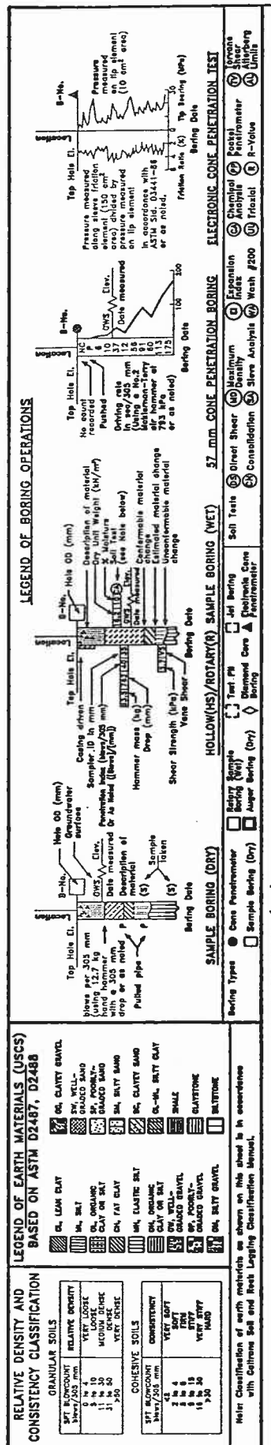
To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65.

An automatic hammer system was used to advance the drive samplers.

73 mm samples were taken using a Shelby sampler, pushed hydraulically and retained in 73 mm I.D. and 76 mm O.D. thin-walled sample tubes.



PROFILE
VERTICAL 1 : 100
HORIZONTAL 1 : 200



DESIGN OVERSIGHT: Be Nguyen	DESIGN	BY M. KAPUSKAR 7/8/98	R. JIE/FIELD TECHNICIAN B. SCHELL/GEOLOGIST FIELD INVESTIGATORS/TITLE DATE 4/8/98, 4/17/98	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	K. ARULMOLI PROJECT ENGINEER
EIGNOFF DATE	CHECKED	BY T. POE 7/9/98			

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12208
EA 12-0695U1

BRIDGE No.
KILOMETER POST KP 9.1/9.2
POST MILE P 14.7/14.8

MSE WALL RW 320 & RW 321
LOG OF TEST BORINGS NO. 2

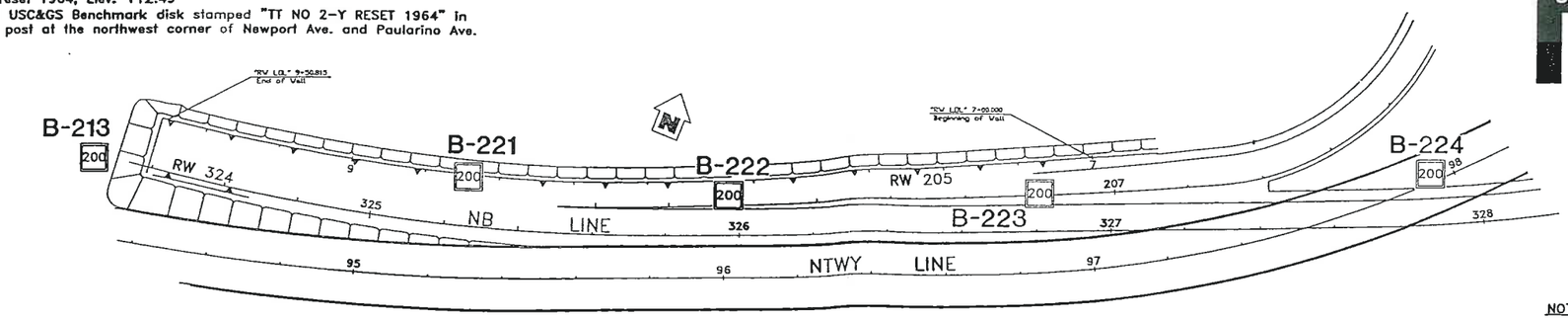
DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 7/9/98 7/28/98

SHEET 17 OF 19

BENCHMARK

TTS-2Y reset 1964, Elev. +12.49
Standard USC&GS Benchmark disk stamped "TT NO 2-Y RESET 1964" in concrete post at the northwest corner of Newport Ave. and Paularino Ave.



Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEET
12	ORA				

REGISTERED CIVIL ENGINEER

PLAN APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER KARNAH ARULMOLI NO. GE-002090 EXP. 12-31-2001 GEOTECHNICAL STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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NOTES:

60 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 60 mm and an outside diameter (O.D.) of 75 mm.

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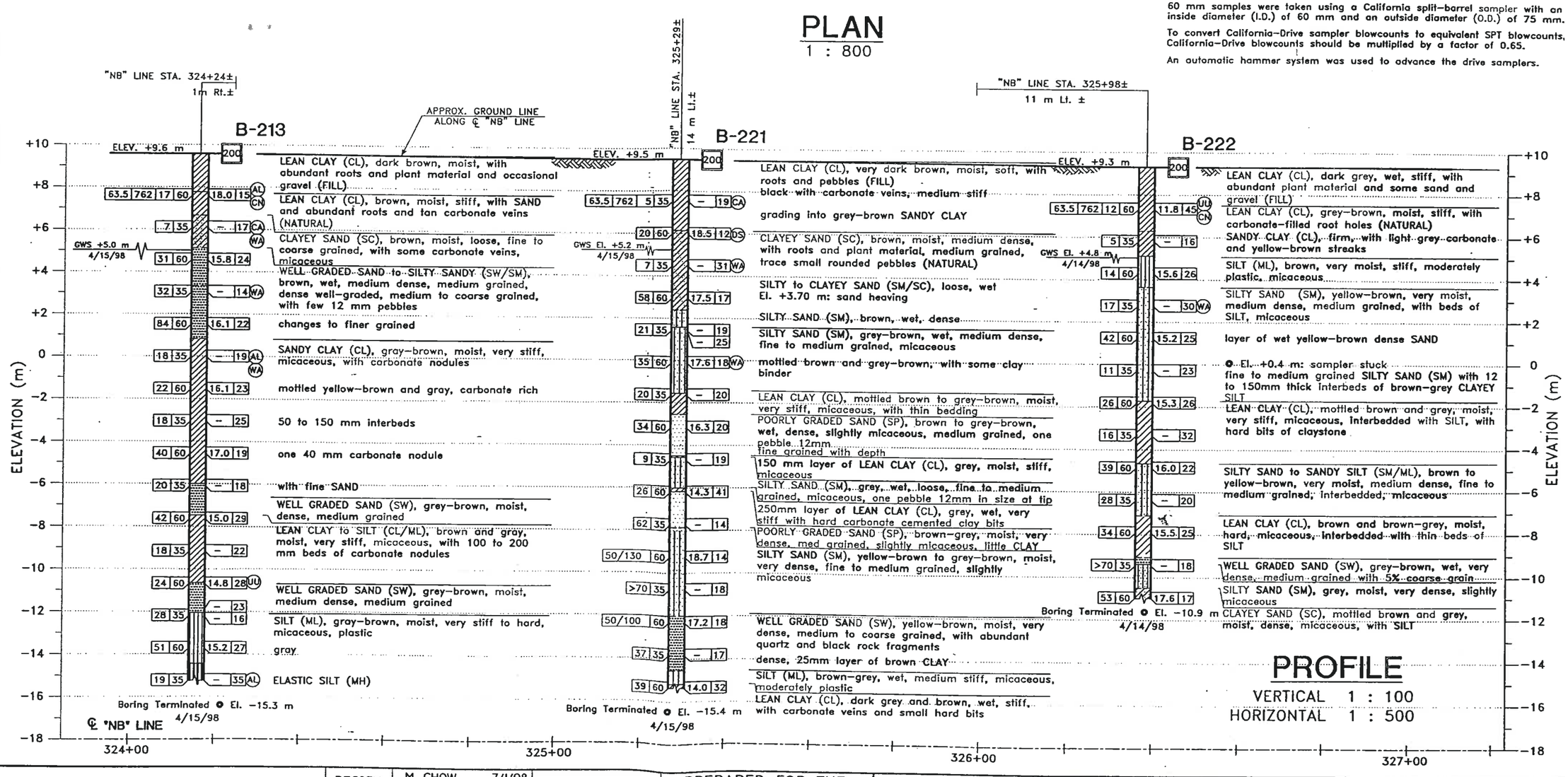
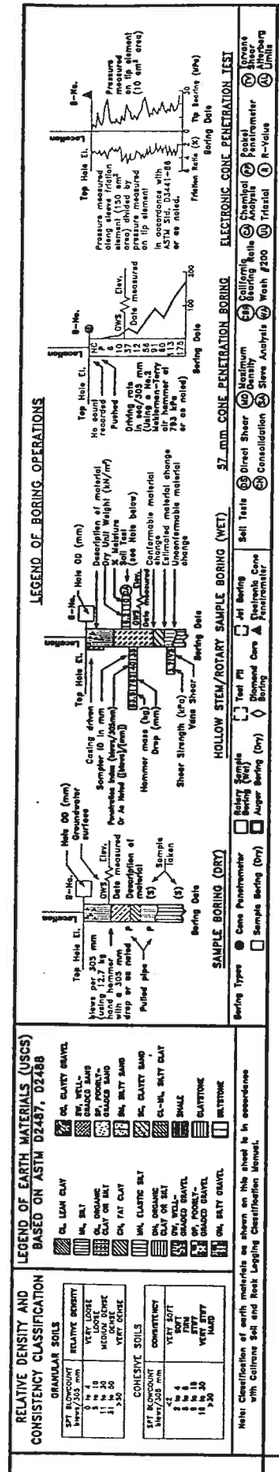
An automatic hammer system was used to advance the drive samplers.

PLAN
1 : 800



PROFILE
VERTICAL 1 : 100
HORIZONTAL 1 : 500



DESIGN OVERSIGHT	Be Nguyen		
SIGNOFF DATE			
DESIGN	BY M. CHOW 7/1/98; M. KAPUSKAR 7/8/98	B. SCHELL/GEOLOGIST, FIELD INVESTIGATOR/TITLE; DATE 4/14/98, 4/15/98	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	BY T. POE 7/9/98		

K. ARULMOLI, PROJECT ENGINEER

BRIDGE No.

KILOMETER POST 14.3

POST MILE

CU 12208

DISREGARD PRINTS BEARING EARLIER REVISION DATES

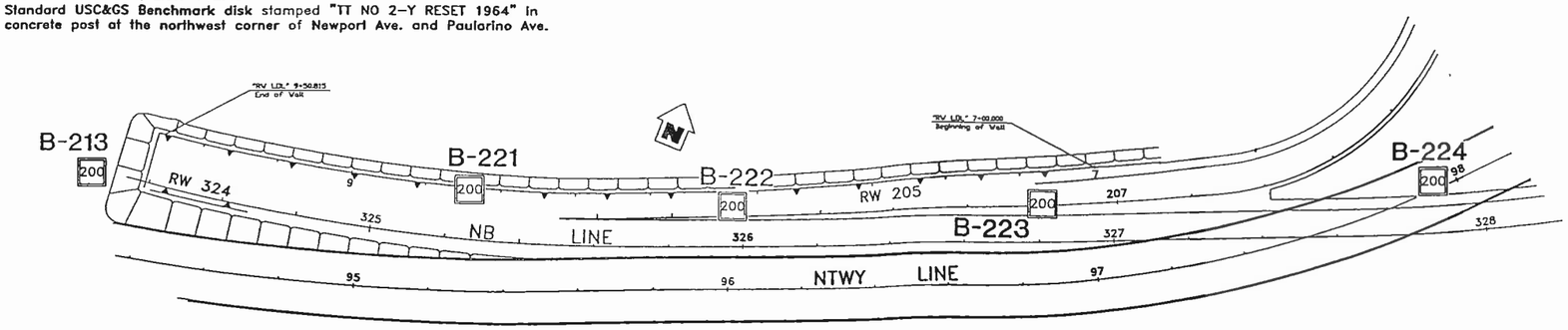
REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

ORIGINAL SCALE IN mm FOR REDUCED PLANS

MSE WALL RW 205 & RW 324
LOG OF TEST BORINGS NO. 1

BENCHMARK

TTS-2Y reset 1964, Elev. +12.49
Standard USC&GS Benchmark disk stamped "TT NO 2-Y RESET 1964" in concrete post at the northwest corner of Newport Ave. and Paularino Ave.



PLAN
1 : 800

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	ORA				

REGISTERED CIVIL ENGINEER

PLAN APPROVAL DATE

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

REGISTERED PROFESSIONAL ENGINEER KAMDIAH ARULMOLI NO. GE-002090 EXP. 12-31-2001 GEOTECHNICAL STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the completeness or accuracy of electronic copies of this plan sheet.

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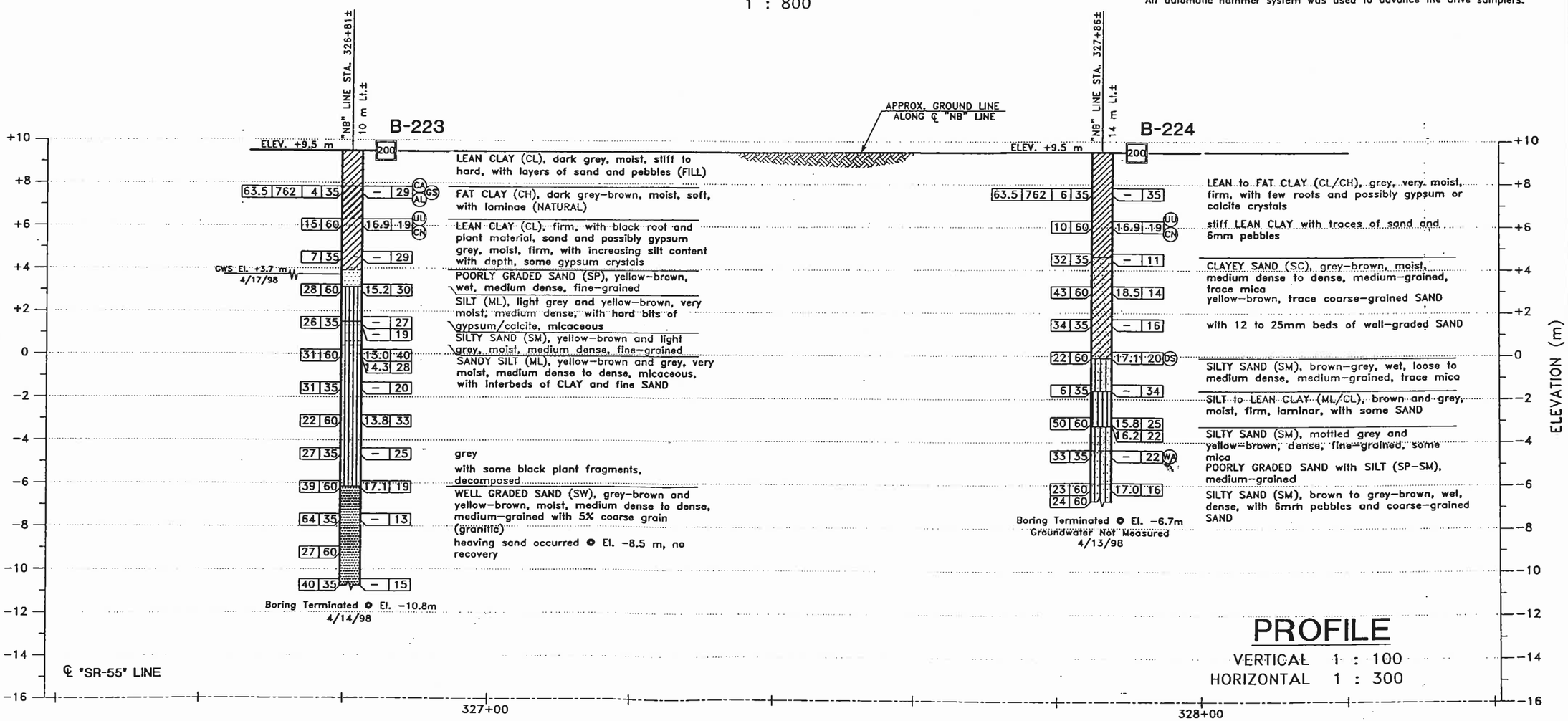
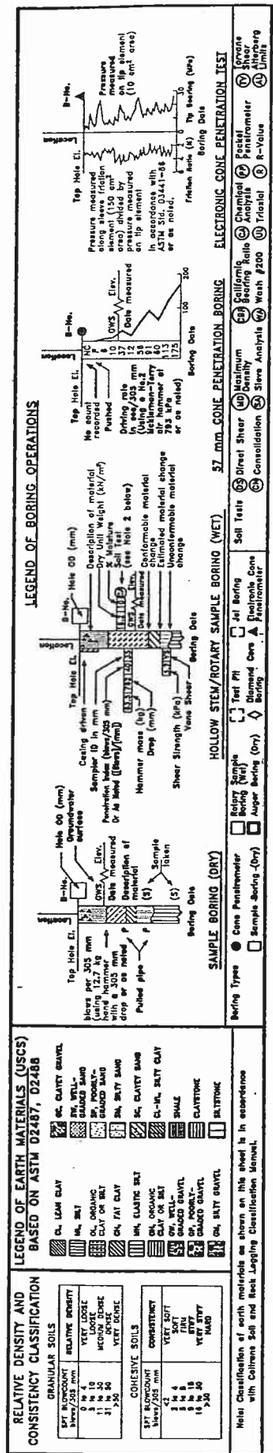


PROFILE
VERTICAL 1 : 100
HORIZONTAL 1 : 300



DESIGN OVERSIGHT	Be Nguyen		
DESIGN	BY M. CHOW 7/1/98	B. SCHELL/GEOLOGIST FIELD INVESTIGATORS/TITLE	DATE 4/13/98, 4/14/98
CHECKED	BY T. POE 7/9/98		

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

K. ARULMOLI
PROJECT ENGINEER

BRIDGE No.
KILOMETER POST 14.3
POST MILE

MSE WALLS RW 205 & RW 324
LOG OF TEST BORINGS NO. 2

ORIGINAL SCALE IN mm FOR REDUCED PLANS

CU 12208

DISREGARD PRINTS BEARING

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

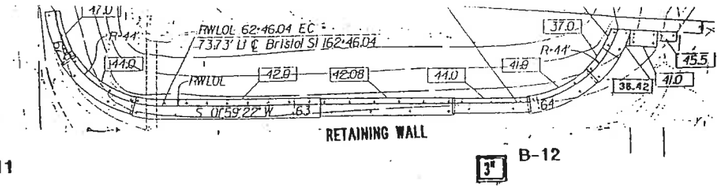
12	ORA	405	R9.3/R9.9	117

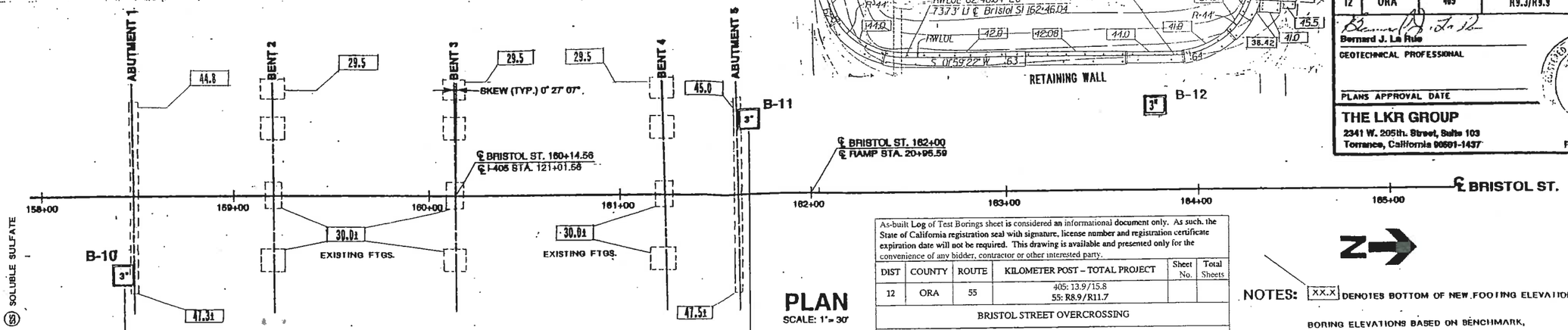
Bernard J. La Rue
GEOTECHNICAL PROFESSIONAL

PLANS APPROVAL DATE

THE LKR GROUP
2341 W. 205th. Street, Suite 103
Torrance, California 90501-1437

Project No.: 93-1019





PLAN
SCALE: 1" = 30'

As-built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date will not be required. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST	COUNTY	ROUTE	KILOMETER POST – TOTAL PROJECT	Sheet No.	Total Sheets
12	ORA	55	405: 13.9/15.8 55: R8.9/R11.7		

BRISTOL STREET OVERCROSSING

LOG OF TEST BORINGS

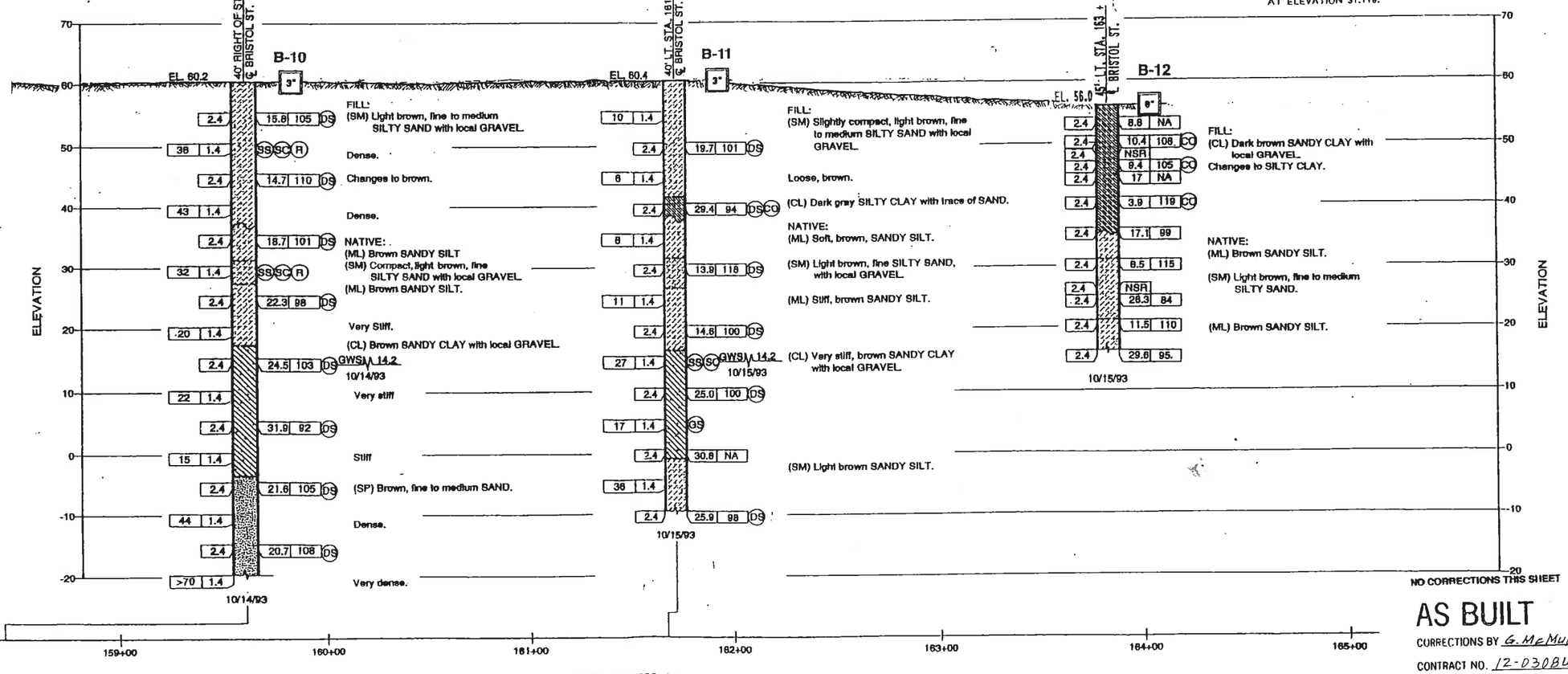
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

CU: 12208
EA: 12-0695U1

BRIDGE No. 55-431

NOTES: XX.X DENOTES BOTTOM OF NEW FOOTING ELEVATION

BORING ELEVATIONS BASED ON BENCHMARK, 'HV-5, ORANGE COUNTY WELL MONUMENT' AT THE INTERSECTION OF ANTON AND BRISTOL. AT ELEVATION 31.118.



PROFILE
VERTICAL SCALE: 1" = 10'

NO CORRECTIONS THIS SHEET

AS BUILT
CORRECTIONS BY G. McMurtrey
CONTRACT NO. 12-030BU4
DATE 4-17-96
KE 7-26-97

in folder for RW #1166

LABORATORY TESTING: CO CONSOLIDATION R RESTIVITY PH DS DIRECT SHEAR GS GRAIN SIZE SC SOLUBLE CHLORIDE SS SOLUBLE SULFATE
NSR NO SAMPLE RECOVERY

LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS

CONSISTENCY CLASSIFICATION FOR SOILS
According to the Standard Penetration Test

Penetration Index (Blows / Ft)	Granular	Cohesive
0-4	Very loose	Very soft
5-9	Loose	Soft
10-19	Slightly compact	Stiff
20-34	Compact	Very stiff
35-69	Dense	Hard
>70	Very dense	Very hard

NOTE Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

DESIGN OVERSIGHT 2-16-95 SIGN OFF DATE	DRAWN BY JAP	FIELD INVESTIGATOR JAP	Prepared for CITY OF COSTA MESA	PROJECT ENGINEER	BRIDGE NO. 55-431
	CHECKED BY EK	DATE 10/14 and 10/15/93			POST MILE 9.5

BRISTOL STREET OVERCROSSING
LOG OF TEST BORINGS NO. 1

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 5 OF 6

07	ORA	405	9.5	55	55

June 22, 1965

Ht "E-159-E-60 Sta. 33.21

Spike and Tin at intersection of ℄ Gates and ℄ Bristol St.

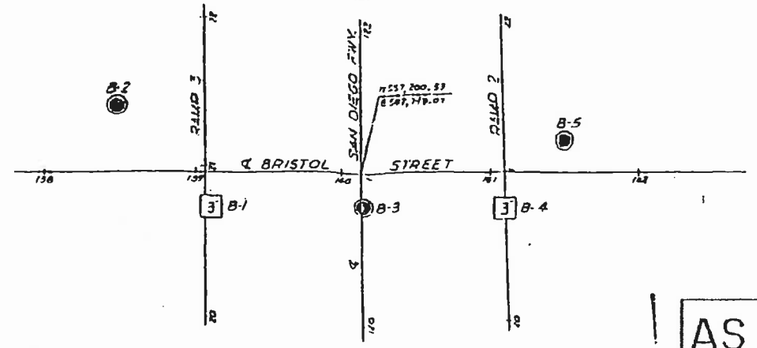
As-built Log of Test Borings sheet is considered an informational document only. As such, the State of California registration seal with signature, license number and registration certificate expiration date will not be required. This drawing is available and presented only for the convenience of any bidder, contractor or other interested party.

DIST	COUNTY	ROUTE	KILOMETER POST – TOTAL PROJECT	Sheet No.	Total Sheets
12	ORA	55	405: 13.9/15.8 55: R8.9/R11.7		

BRISTOL STREET OVERCROSSING

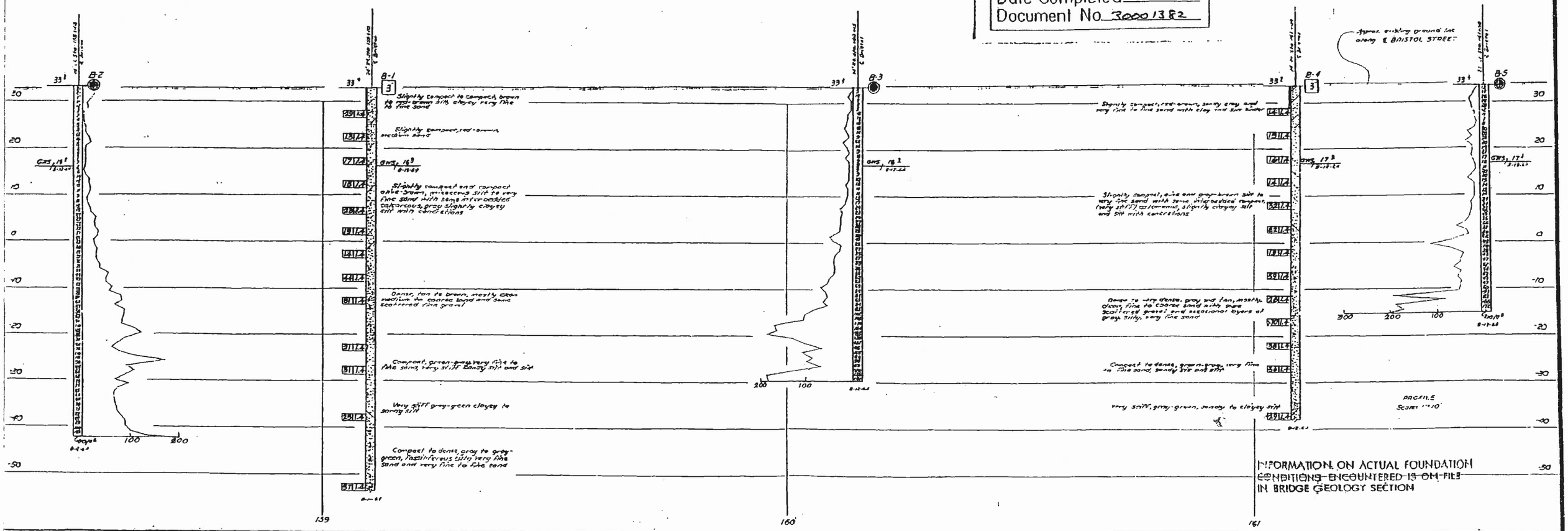
LOG OF TEST BORINGS

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.	CU: 12208 EA: 12-0695U1	BRIDGE No. 55-431



PLAN
Scale: 1" = 50'

AS BUILT PLANS
Contract No. 03-055414
Date Completed
Document No. 30001382



INFORMATION ON ACTUAL FOUNDATION ~~CONDITIONS ENCOUNTERED IS ON FILE~~ IN BRIDGE GEOLOGY SECTION

Classification of Material Based on Standard Grade Size Limits

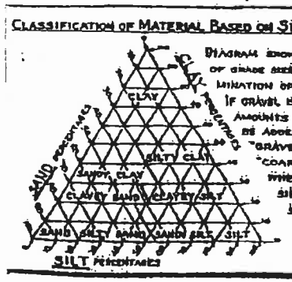


Diagram shows the basis for estimates of grade size distribution used in determination of class names.

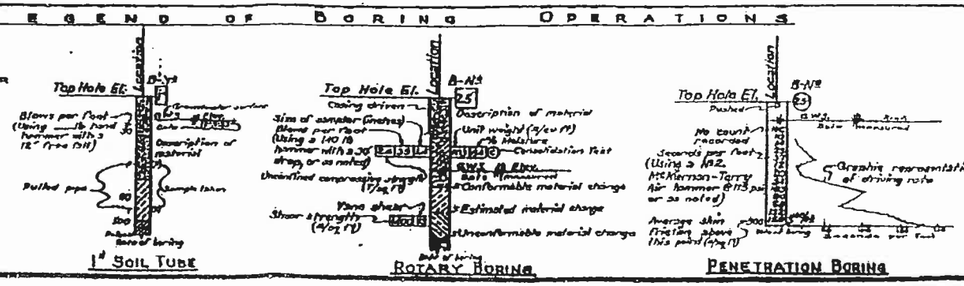
If gravel is present in appreciable amounts the term "gravelly" may be added to the class name, viz. "gravelly sand." The terms "coarse," "medium" and "fine" when used to describe sand, silt and gravel refer to standard grade size limits.

Legend of Earth Materials

- Gravel
- Sand
- Silt
- Clay
- Sandy Clay or Clayey Sand
- Sandy Silt or Silty Sand
- Silty Clay or Clayey Silt
- Peat and/or Organic Matter
- Fill Material
- Igneous Rock
- Sedimentary Rock
- Metamorphic Rock

Legend of Boring Operations

- Penetrometer
- 2½" Core Penetrometer
- Sampler Boring (dry)
- Rotary Boring (wet)
- Auger Boring (dry)
- Jet Boring
- Core Boring
- Test Pit



NOTE

Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

SHEET	OF
15	15

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

BRISTOL STREET OVERCROSSING

LOG OF TEST BORINGS No. 2

SCALE As Noted	BRIDGE 55-431	DIST 12 FILE 250	DRAWING 55431-14

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO	TOTAL SHEETS
12	Ora	405	16.4/20.0	608	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-00
PLAN APPROVAL DATE

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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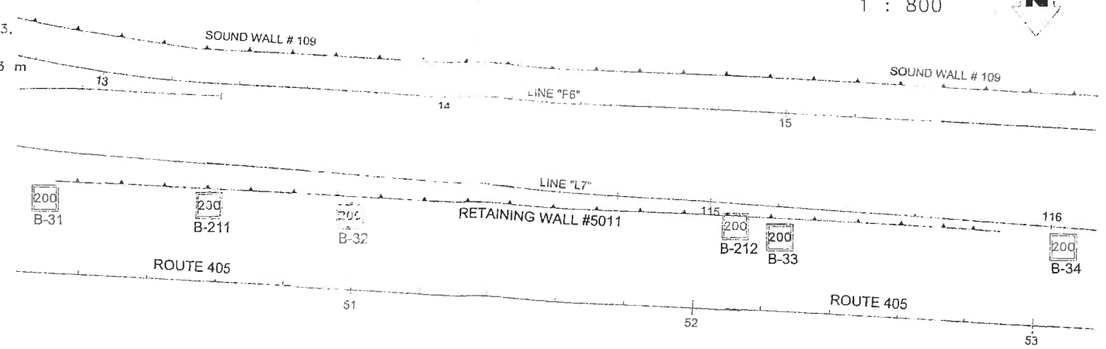
Caltrans Metric

BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.

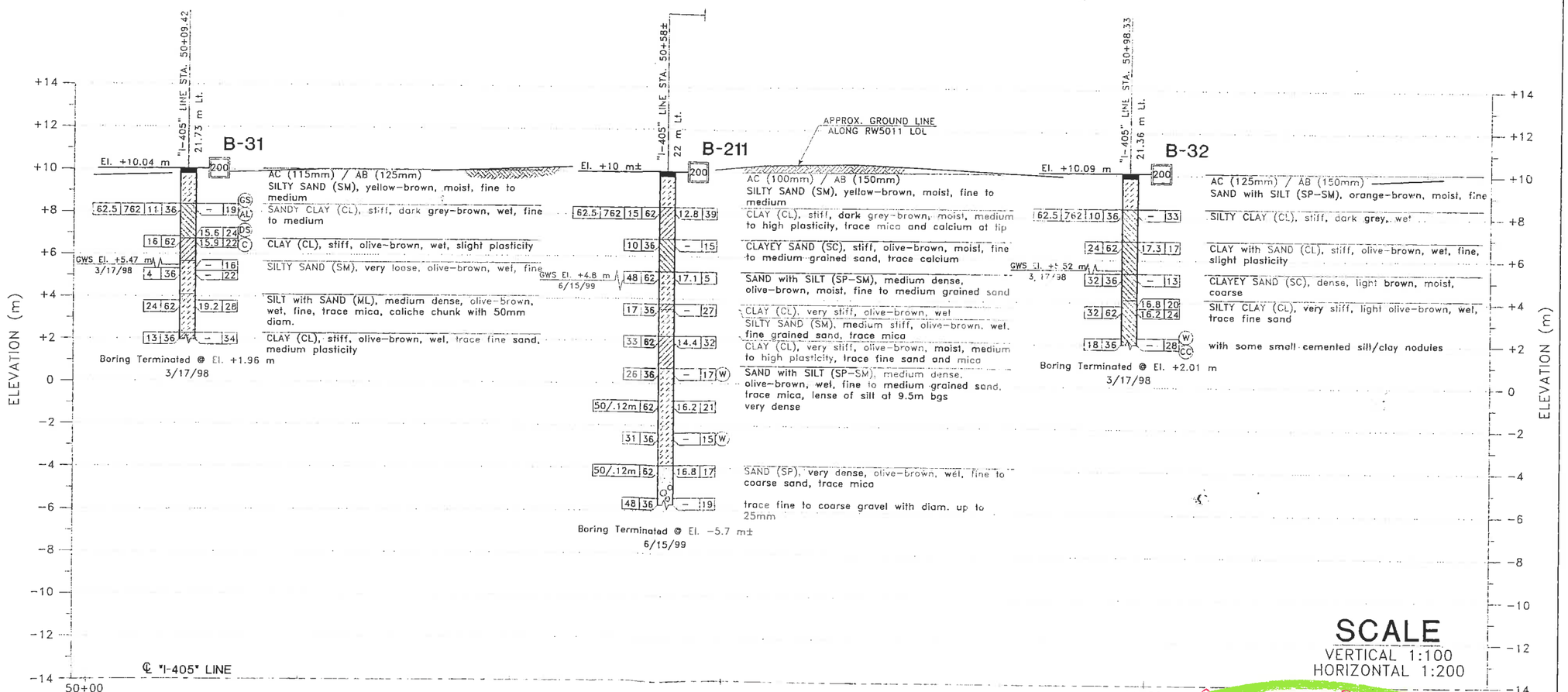


NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers



SCALE
VERTICAL 1:100
HORIZONTAL 1:200

Costa mesa

LEGEND OF BORING OPERATIONS

LEGEND OF EARTH MATERIALS: GRAVEL, SAND, SILT, CLAY, SANDY CLAY or CLAYEY SAND, SANDY SILT or SILTY SAND, SILTY CLAY, CLAYEY SILT, PEAT and/or ORGANIC MATTER, FILL MATERIAL, IGNEOUS ROCK, SEDIMENTARY ROCK, METAMORPHIC ROCK

RELATIVE DENSITY AND CONSISTENCY CLASSIFICATION

Note: Visual classifications of earth materials based on field inspection are confirmed or revised with laboratory test results as necessary.

Ken Hamasaki
DESIGN ENGINEER
3/3/00
CHECKER DATE

DESIGN	M. CHOW	7/21/99
CHECKED	E. BROWN	7/23/99

M. MCDONALD/ENGINEER
R. JIE/TECHNICIAN
FIELD INVESTIGATORS
DATE 3/17/98-6/15/99

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

K. ARULMOL
PROJECT ENGINEER

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 0R3R01

BRIDGE No.
KILOMETER POST 16.89

RETAINING WALL RW5011 (NO. 1 OF 2)

LOG OF TEST BORINGS

DIPPEGAPE PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 6 OF 7

retwall5011#06of07.tif

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	609	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-00
PLAN APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER JOSHUA ARULMOLI NO. GE-002690 EXP. 12-31-2001 GEOTECHNICAL STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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Caltrans now has a web site! To get to the web site, go to: http://www.dot.ca.gov

Caltrans Metric

BENCHMARK

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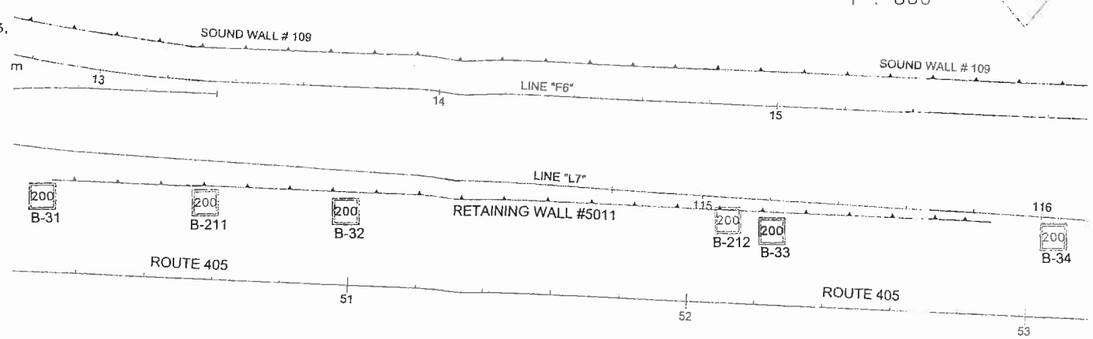
PLAN
1 : 800



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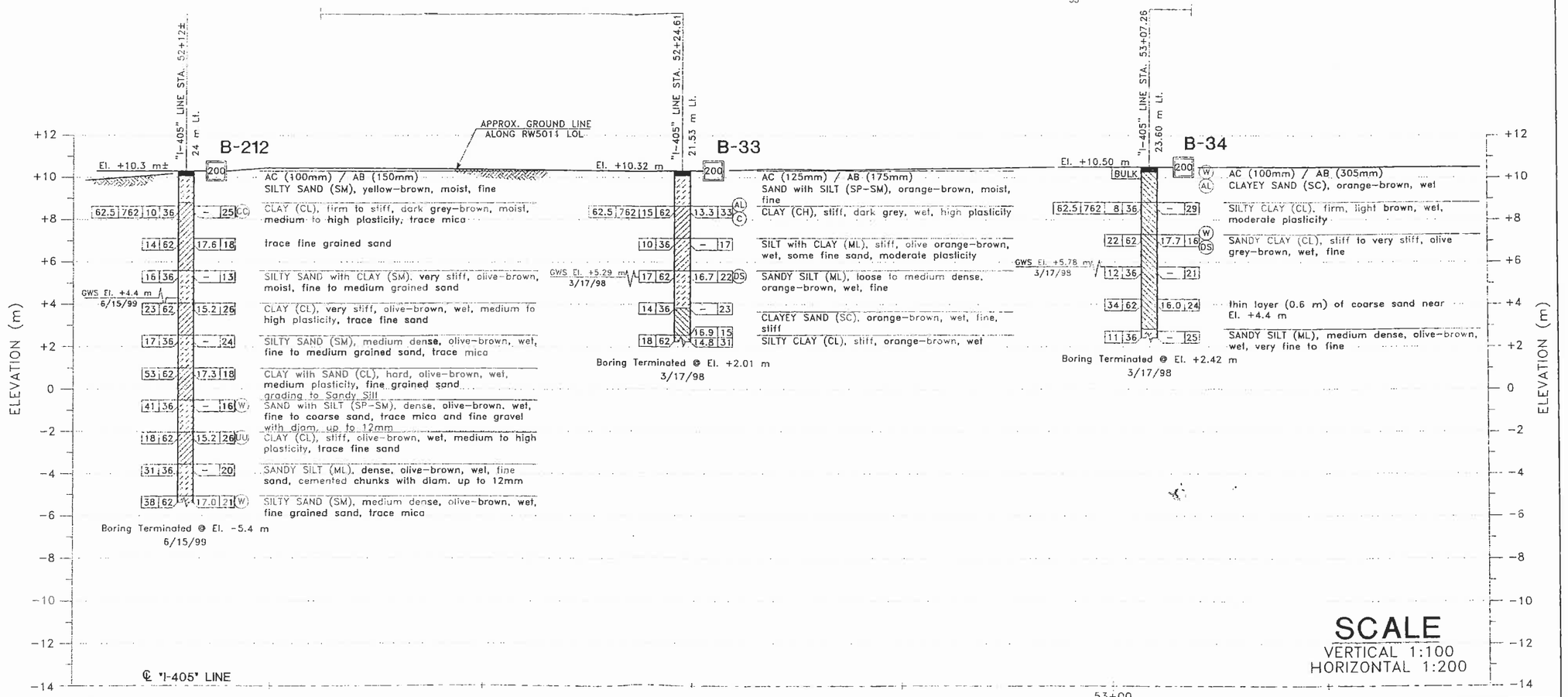
To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers



SCALE
VERTICAL 1:100
HORIZONTAL 1:200

DESIGN	M. CHOW 7/21/99	M. MCDONALD/ENGINEER R. GE/TECHNICIAN FIELD INVESTIGATORS/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	E. BROWN 7/23/99	DATE 3/17/98-6/15/99	

K. ARULMOLI
PROJECT ENGINEER

EFFICIENT NO.
ALONG TOP FUNCT
16.89

RETAINING WALL RW5011 (NO. 2 OF 2)
LOG OF TEST BORINGS

Jim Hamazaki 3/3/00
RETAINING WALL DESIGN — Be Nguyen
SIGNOFF DATE

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12221
EA 063801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET 7 OF 7

retwall5011#07of07.tif

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	525	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-00
PLAN APPROVAL DATE

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

REGISTERED PROFESSIONAL ENGINEER — LINO C. CHEANG — NO. 2345 — EXP. 9/30/00 — GEOTECHNICAL — STATE OF CALIFORNIA

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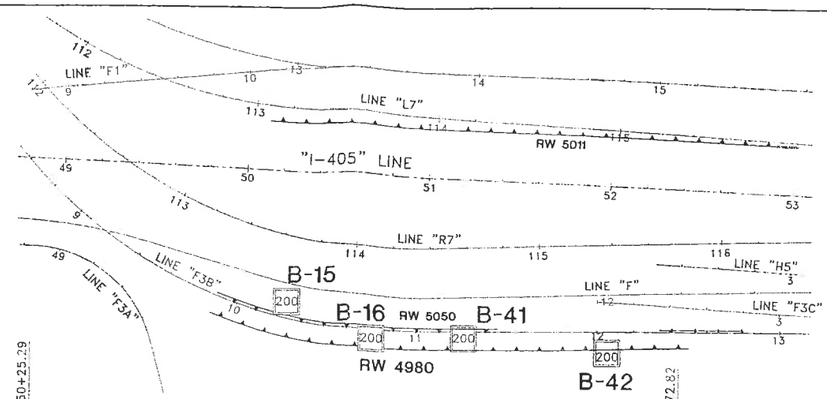
Caltrans Metric

PLAN
1 : 1500



BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

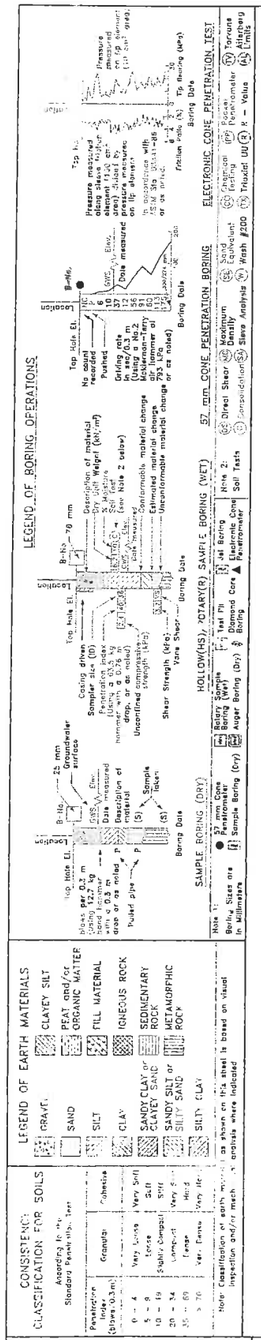
Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.

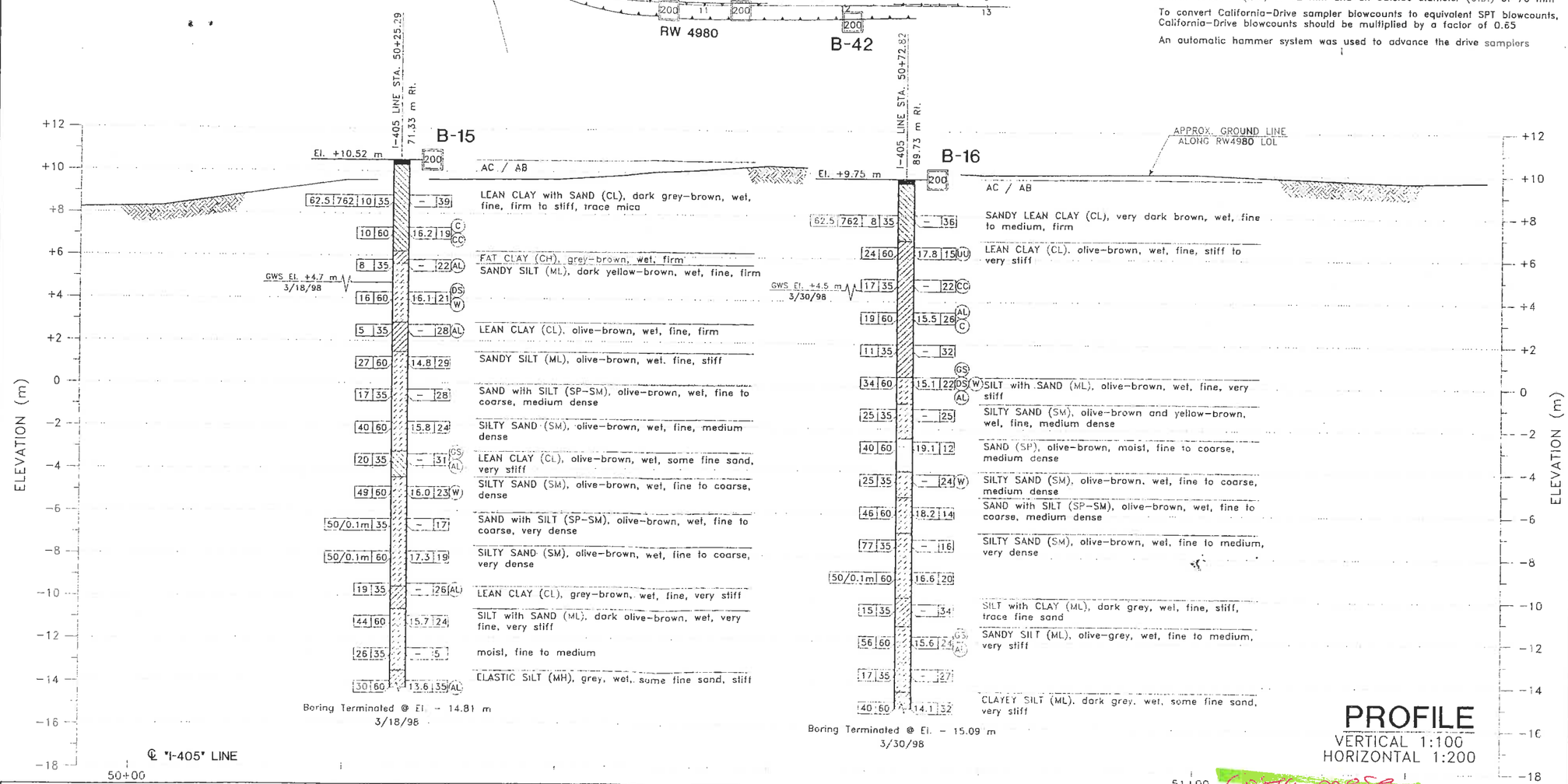
NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers





PROFILE
VERTICAL 1:100
HORIZONTAL 1:200

DESIGN	M. CHOW 8/20/98	M. MCDONALD ENGINEER R. DE/TE/ENG.LAB FIELD INVESTIGATOR(S)/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	E. BROWN 8/27/98	DATE 3/18/98, 3/30/98	

DESIGN OVERSIGHT — SIGNATURE — DATE 3/3/00

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

L. CHEANG, PROJECT ENGINEER

CU 12222
EA 083801

BRIDGE No.
KILOMETER POST 16.86

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

RETAINING/SOUND WALL NO. 4980
LOG OF TEST BORINGS (1 of 2)

SHEET 12 OF 13

rswall4980#12of13.tif

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	526	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-00
PLAN APPROVAL DATE

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

REGISTERED PROFESSIONAL ENGINEER — LINO C. CHEANG — NO. 2365 — EXP. 9/30/02 — GEOTECHNICAL — STATE OF CALIFORNIA

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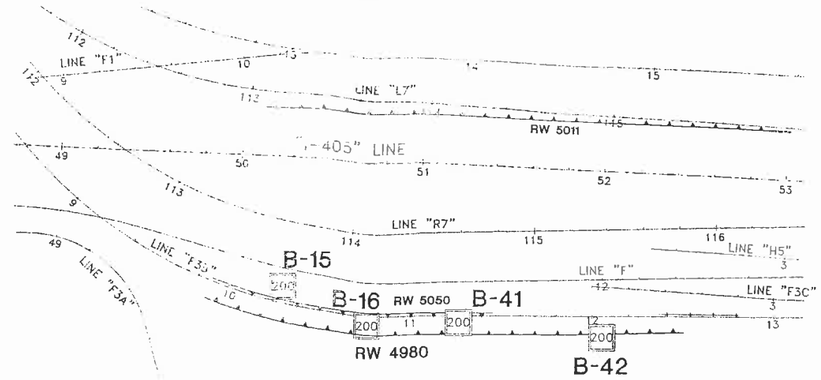
Caltrans Metric

BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.



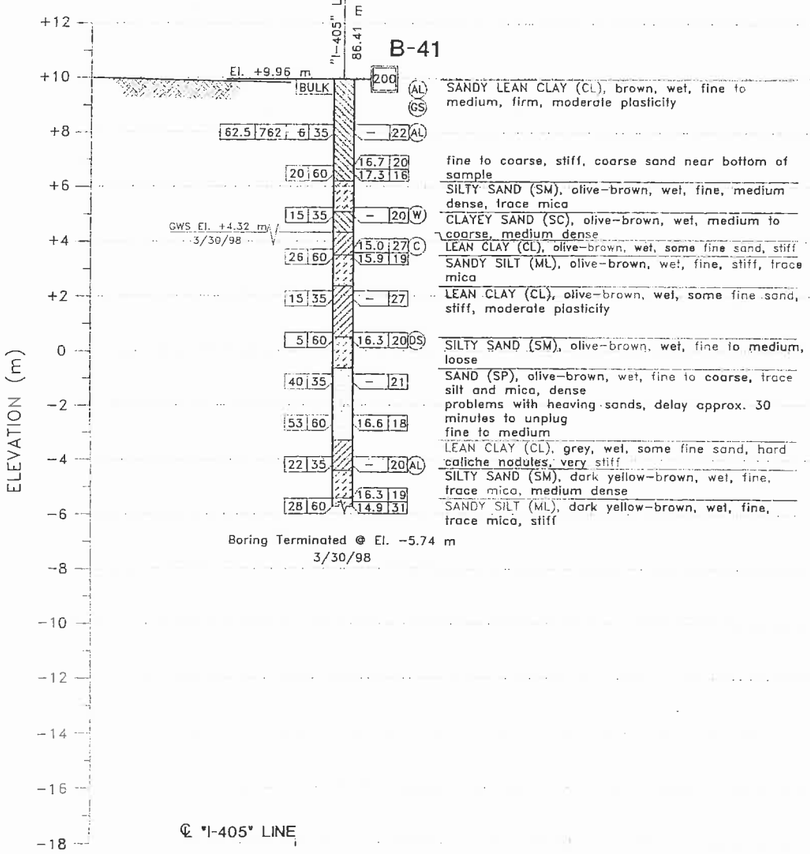
PLAN
1 : 1500

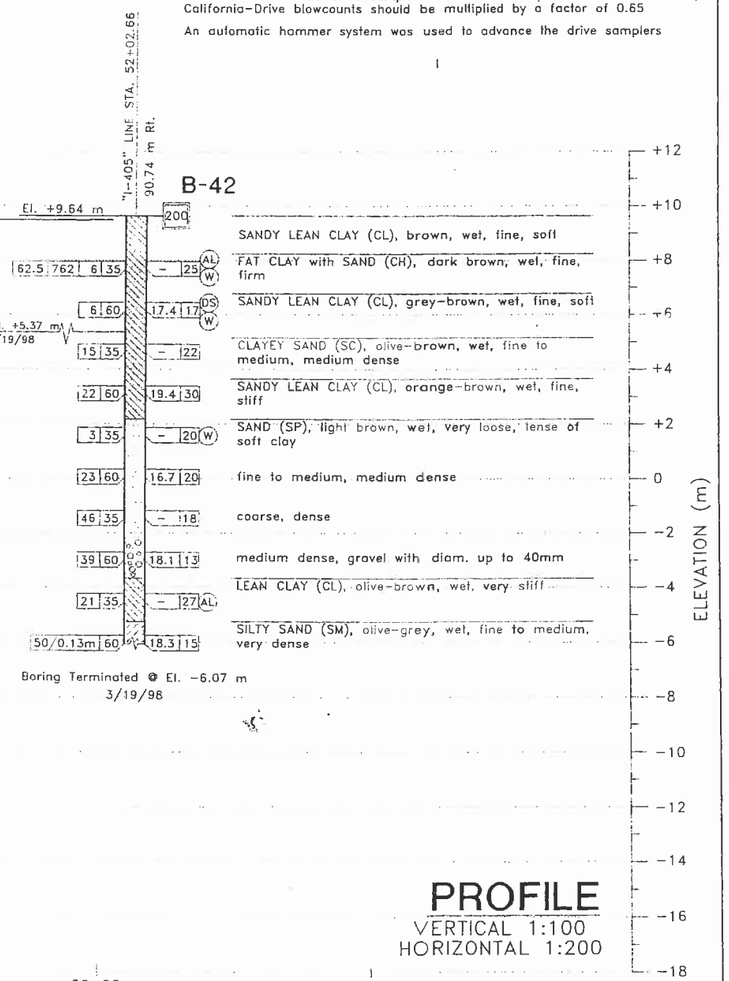
NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

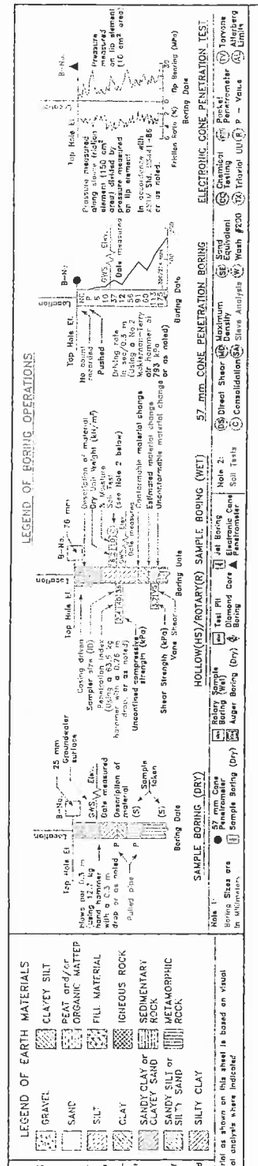
To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers





PROFILE
VERTICAL 1:100
HORIZONTAL 1:200



DESIGN	CHOW 8/20/98	M. McDONALD/ENGINEER E. DE/TECHNICIAN FIELD INVESTIGATOR(S)/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	E. BROWN 8/27/98	DATE 3/19/98, 3/30/98	

L. CHEANG
PROJECT ENGINEER

BRIDGE No. 52+00
KILOMETER POST 16.86

RETAINING/SOUND WALL NO. 4980
LOG OF TEST BORINGS (2 OF 2)

Jim Hamaguchi / Joe Nguyen
REGIONAL ENGINEER 3/3/00
SIGNOFF DATE

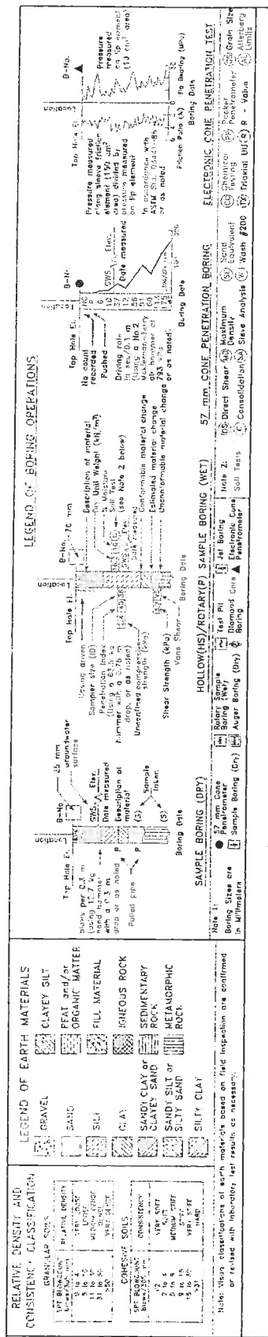
ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 083801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) — SHEET 13 OF 13

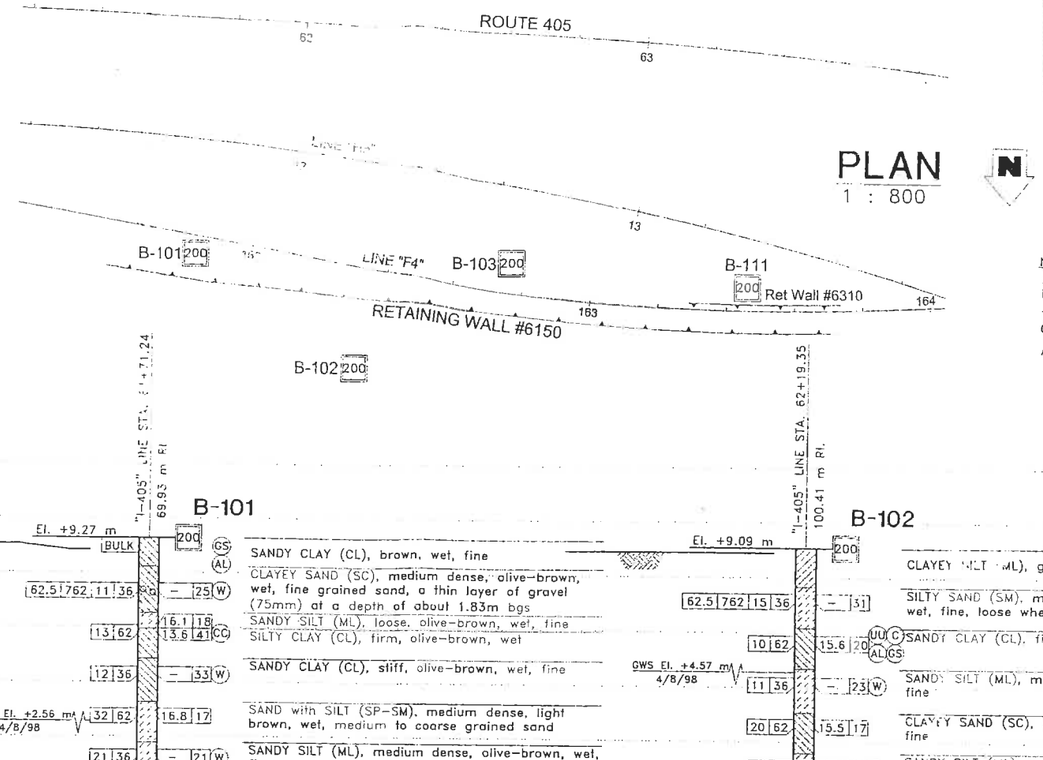
rswall4980#13of13.tif

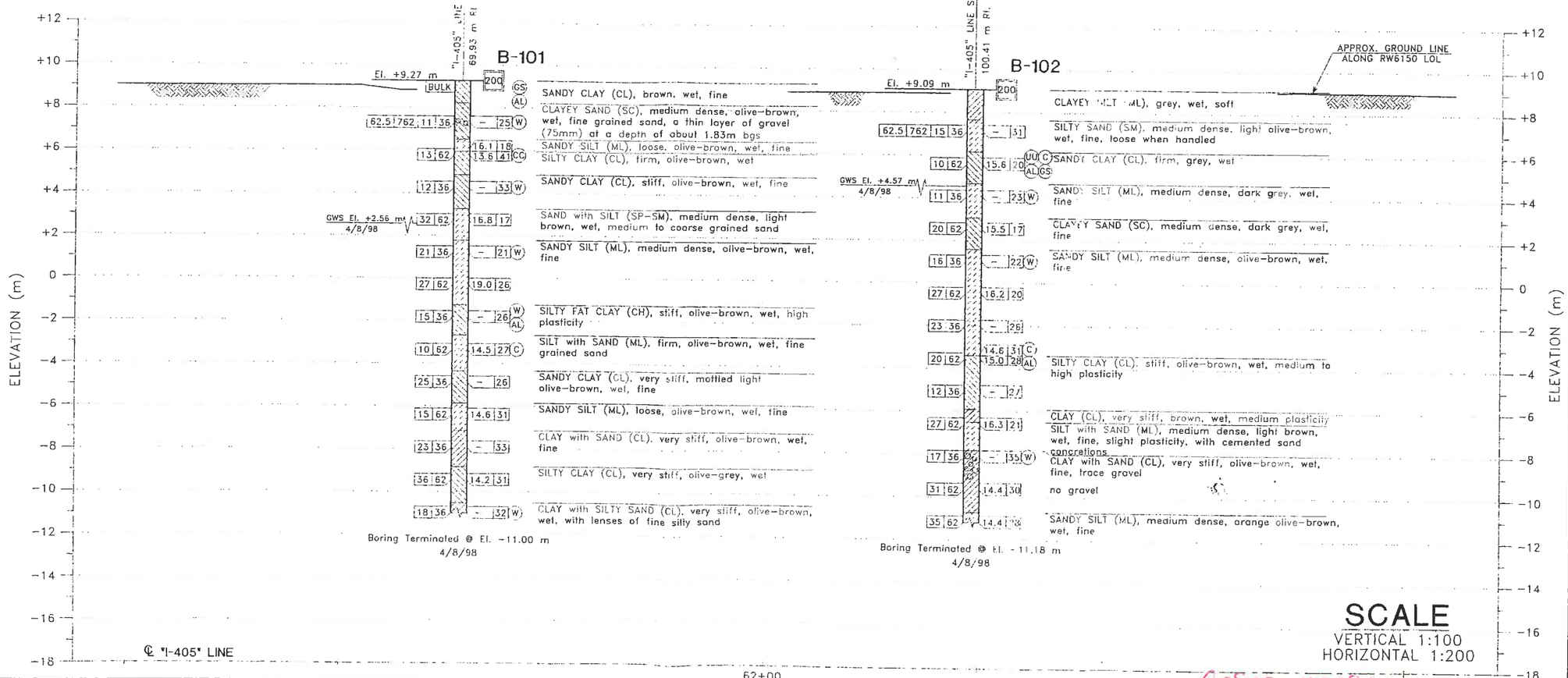


BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.





Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	628	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-99
PLAN APPROVAL DATE

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers

SCALE
VERTICAL 1:100
HORIZONTAL 1:200

Costa Mesa

DESIGN	M. CHOW 7/21/99	M. MIDDAS ENGINEER FIELD INVESTIGATION UNITS	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	E. BROWN 7/22/99	DATE 4/8/98	

K. ARULMOLI
PROJECT ENGINEER

Be Nguyen
3/3/00

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

DISTRICT NO. 12
LOCATION NO. 16.04

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

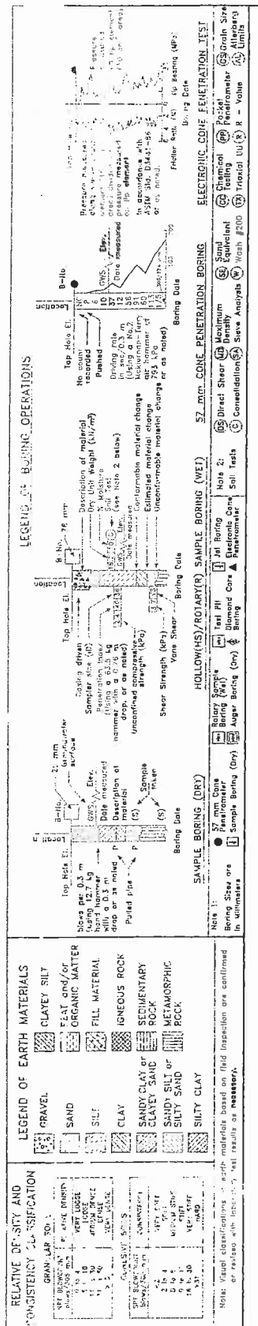
RETAINING WALL RW6150 (NO. 1 OF 2)

LOG OF TEST BORINGS

SHEET 5 OF 6

PROJECT NO. 0012000001
EA 083801

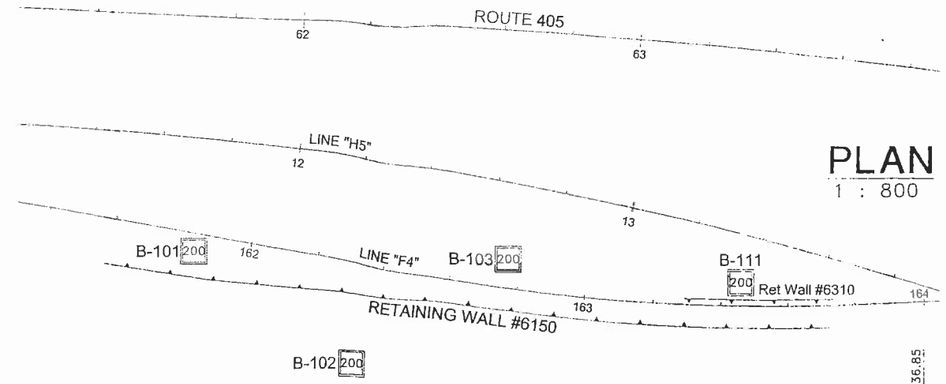
retwall6150#05of06.tif



BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.



PLAN
1 : 800

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	629	651

REGISTERED GEOTECHNICAL ENGINEER
7-10-99
PLAN APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER PAUL KARKOUSKY NO 295717 EXP. 12-31-2000 CIVIL STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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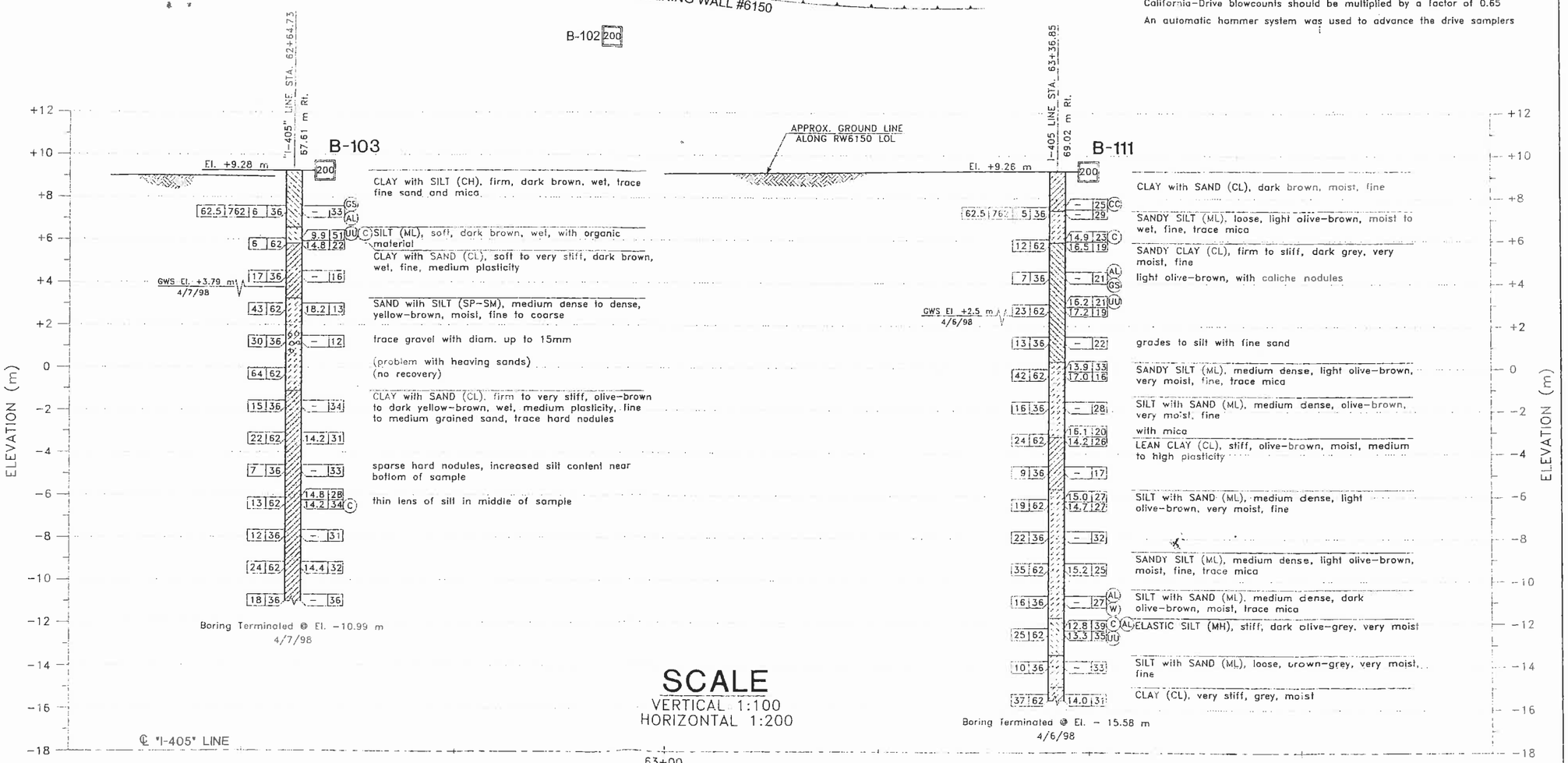
NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers



SCALE
VERTICAL 1:100
HORIZONTAL 1:200

DESIGN	M. CHOW 7/21/99	R. JIFI/TECHNICIAN FIELD INVESTIGATION TEAM	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	M. E. BROWN 7/22/99	DATE 4/6/98, 4/7/98	

K. ARULMOLI
PROJECT ENGINEER

BRIDGE NO.
KILOMETER POST 18.04

RETAINING WALL RW6150 (NO. 2 OF 2)
LOG OF TEST BORINGS

OVERSIGHT 3/3/00 Ric Nguyen

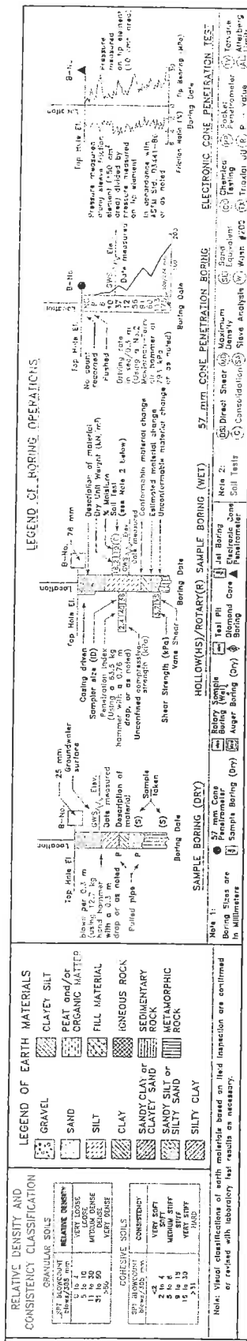
ORIGINAL SCALE IN MM FOR REDUCED PLANS 0 20 40 60 80 100

C.O. 122002
A. 0932C1

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET 6 OF 6

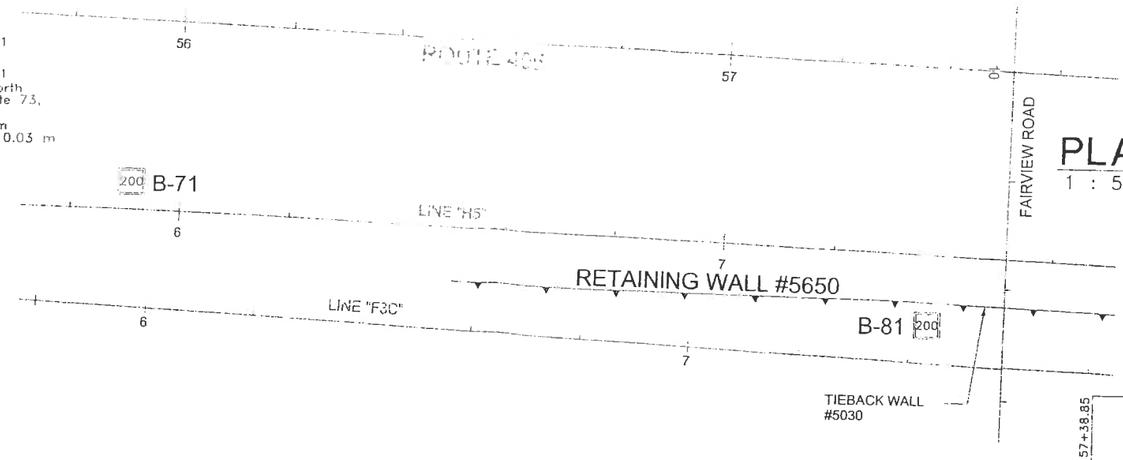
retwall6150#06of06.tif



BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.



PLAN
1 : 500

DIST	COUNTY	ROUTE	KILOMETER POST / TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	616	651

REGISTERED GEOTECHNICAL ENGINEER
7-10-99
PLAN APPROVAL DATE
EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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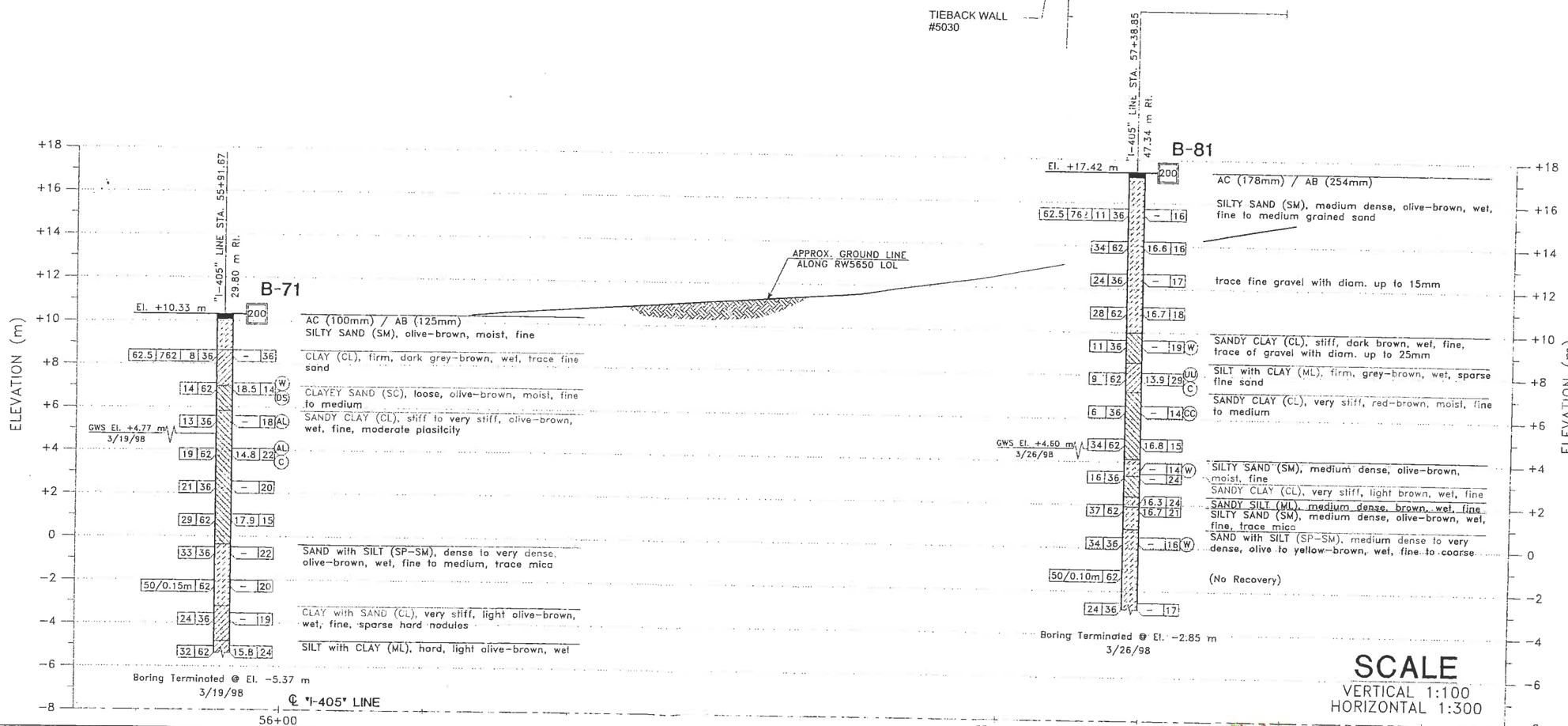
NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers



SCALE
VERTICAL 1:100
HORIZONTAL 1:300

Costa Mesa

Be Nguyen 3/3/00	DESIGN BY A. DODDS 7/21/99	R. JIE/TECHNICIAN FIELD INVESTIGATOR(S)/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	K. ARULMOLI PROJECT ENGINEER	BRIDGE No.
	CHECKED BY E. BROWN 7/22/99	DATE 3/19/98, 3/26/98			KILOMETER POST 17.53

RETAINING WALL RW5650
LOG OF TEST BORINGS

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 083801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 7/23/99 8/30/99 10/18/99

SHEET 3 OF 3

retwall5650#03of03.tif

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	632	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-99
PLAN APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — AVIK KARUSKAR — NO. CS5717 — EXP. 12-31-2000 — CIVIL — STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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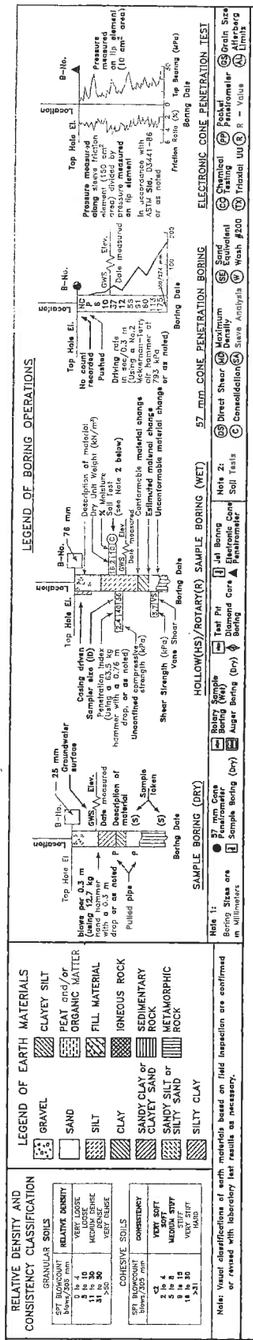
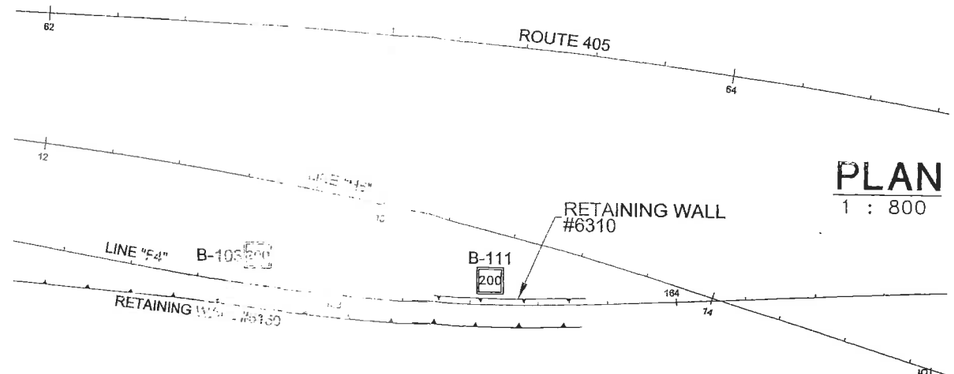
BENCHMARK

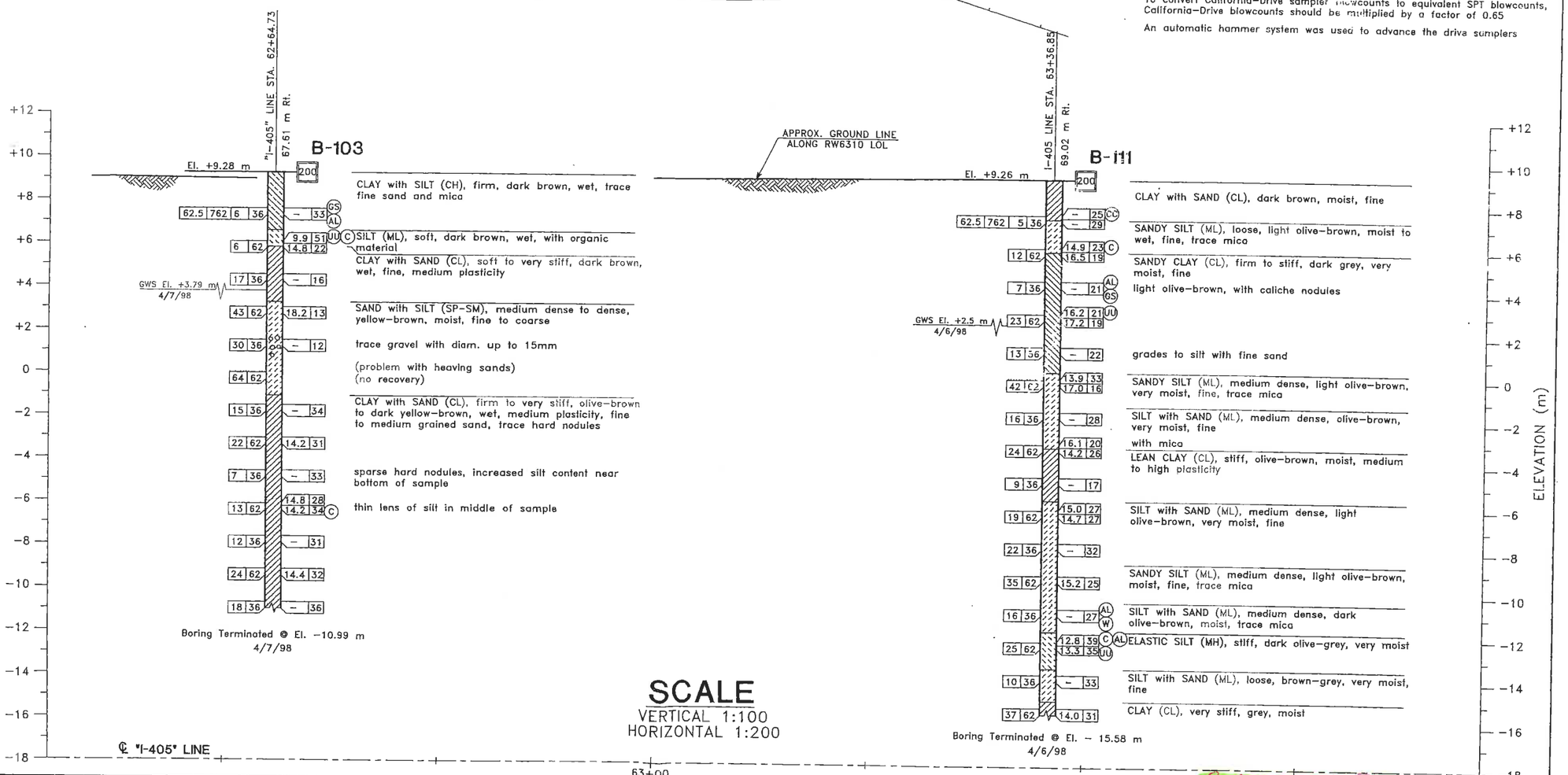
Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.





PLAN
1 : 800



SCALE
VERTICAL 1:100
HORIZONTAL 1:200

NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers

Costa Mesa

DESIGN	BY M. CHOW 7/21/99	R. JIE/TECHNICIAN FIELD INVESTIGATOR(S)/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	BY E. BROWN 7/22/99	DATE 4/6/98, 4/7/98	K. ARULMOLI PROJECT ENGINEER

REGIONAL OVERSIGHT 3/3/00 — Ge Nguyen — SIGNOFF DATE

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 083801

BRIDGE No.
KILOMETER POST 18.19

RETAINING WALL RW6310
LOG OF TEST BORINGS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 7/20/99 10/26/99 10/15/99

SHEET 3 OF 3

rw6310f03of03.tif

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	651	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-00

PLAN APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER ABDIHAK AROUSHIEV NO. GE-002090 EXP. 12-31-2001 GEOTECHNICAL STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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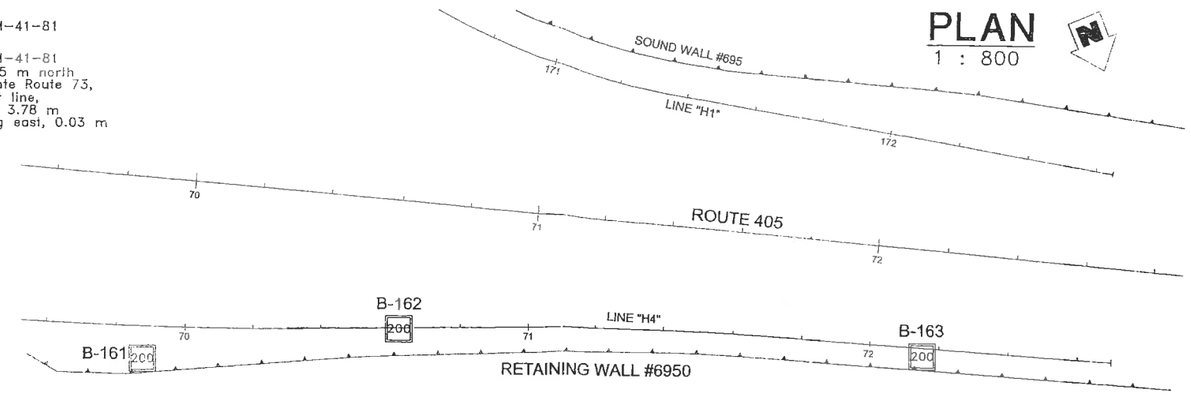
Caltrans Metric

PLAN
1 : 800



BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

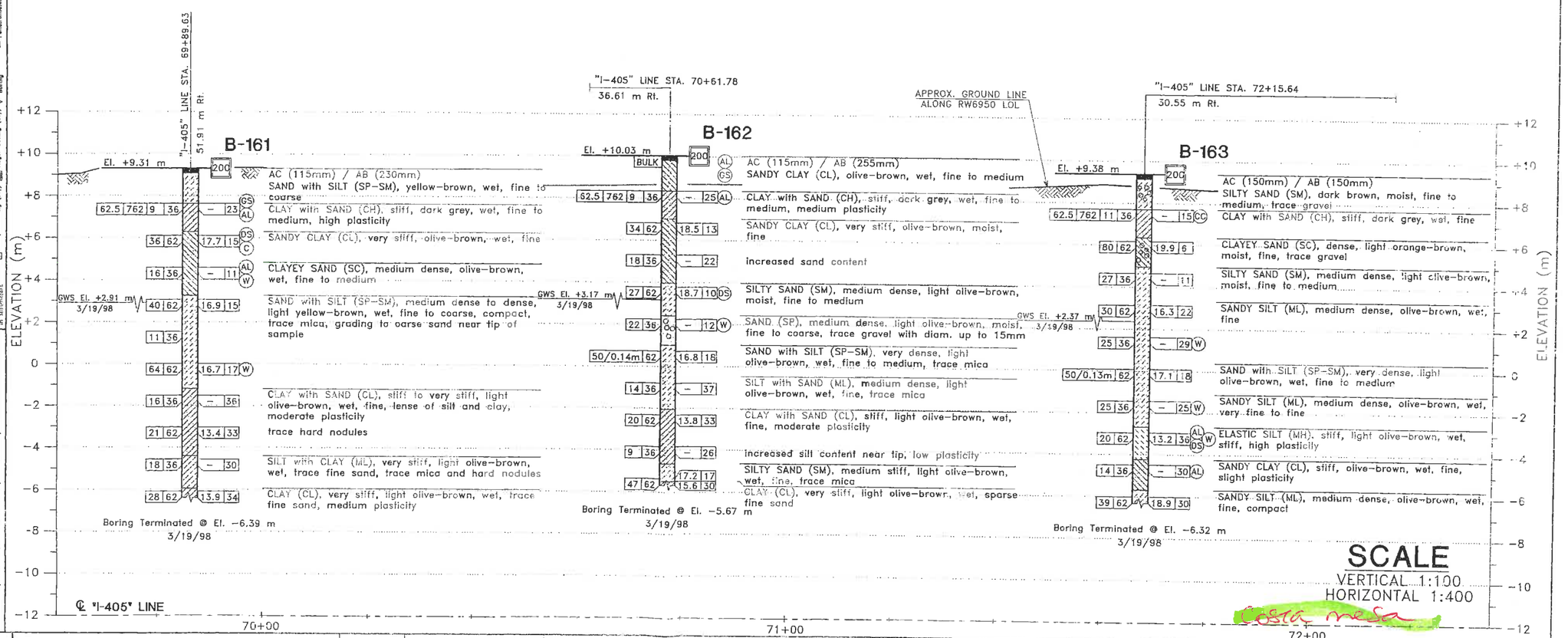
Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.

NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 52 mm and an outside diameter (O.D.) of 76 mm

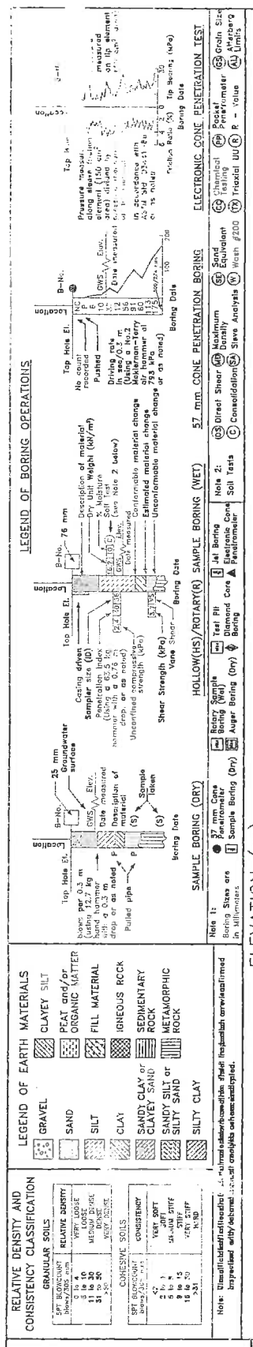
To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers



SCALE
VERTICAL 1:100
HORIZONTAL 1:400

Costa Mesa



DESIGN	BY M. CHOW 7/21/99	M. MCDONALD/ENGINEER R. JIE/TECHNICIAN FIELD INVESTIGATOR(S)/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	BY E. BROWN 7/22/99	DATE 3/19/98	

DESIGN OVERSIGHT 3/3/00
SIGNOFF DATE

K. ARULMOLI
PROJECT ENGINEER

BRIDGE NO.
KILOMETER POST 18.83

RETAINING WALL RW6950
LOG OF TEST BORINGS

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

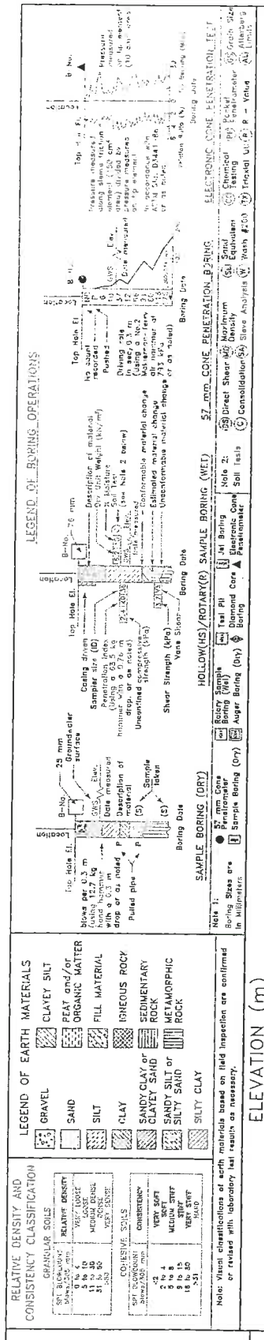
CU 12222
EA 093801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 7/19/99 7/20/99 7/21/99

SHEET 5 OF 5

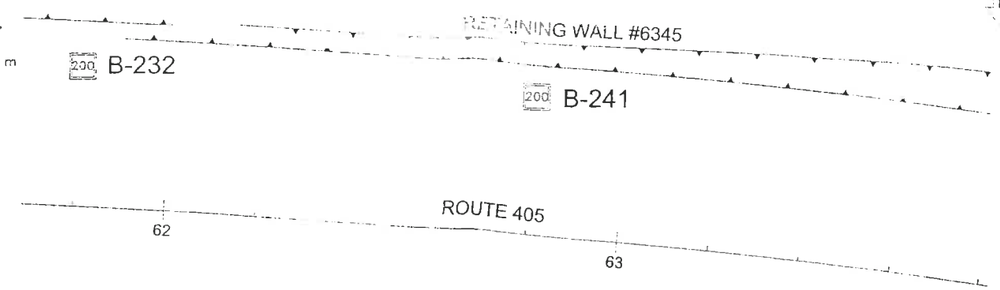
rw6950#05of05.tif



BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.



PLAN
1 : 600

Caltrans Metric

DIST	COUNTY	ROUTE	COLUMBIA POSTAL PROJECT	SHEET	TOTAL SHEETS
12	Ora	405	16.4/20.0	644	651

REGISTERED GEOTECHNICAL ENGINEER
7-10-00
PLAN APPROVAL DATE
EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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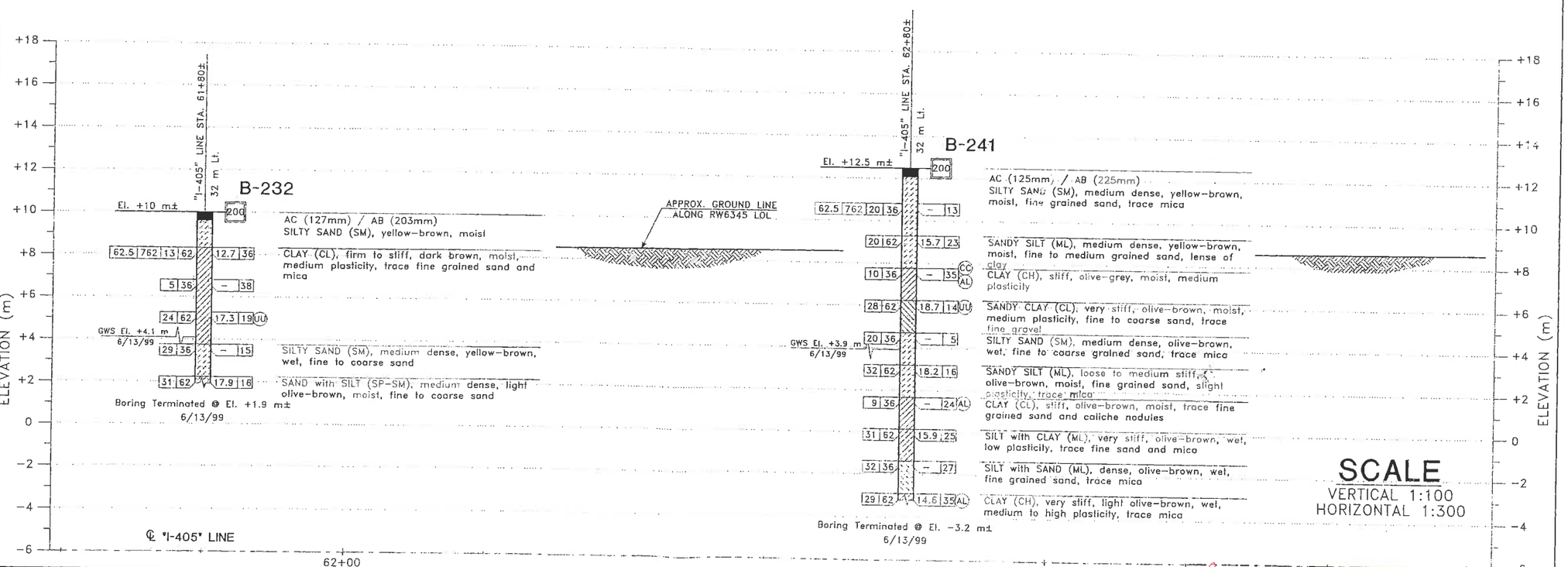
CalTrans now has a web site! To get to the web site, go to: http://www.dot.ca.gov

NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers



SCALE
VERTICAL 1:100
HORIZONTAL 1:300

Logia mesa

DESIGN OVERSIGHT By Nguyen
3/3/00
SIGNATURE DATE

DESIGN	BY M. CHOW 7/21/99	R. JE/TECHNICIAN FIELD INVESTIGATOR(S)/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	K. ARULMOLI PROJECT ENGINEER	BRIDGE No.	RETAINING WALL RW6345 (No. 1 of 3)
CHECKED	BY E. BROWN 7/22/99	DATE 6/13/99			KILOMETER POST 18.09	LOG OF TEST BORINGS

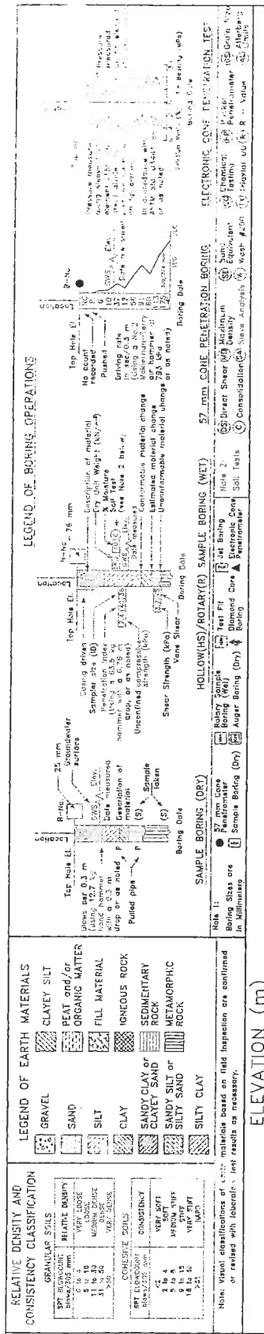
OPIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 083801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET 12 OF 14

retwall6345#12of14.tif



BENCHMARK

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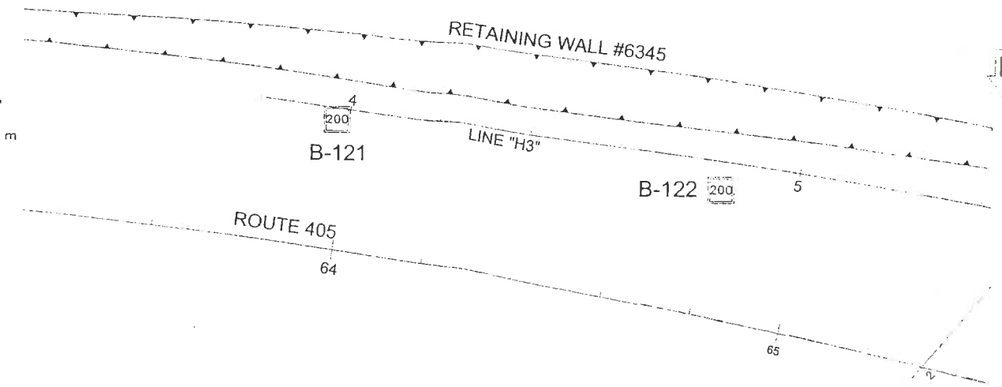

Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	645	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-00
PLAN APPROVAL DATE

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

REGISTERED PROFESSIONAL ENGINEER KENNETH P. WOLF No. GE-2038 EXP. 12-31-2000 STATE OF CALIFORNIA

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PLAN
1 : 600

NOTES:

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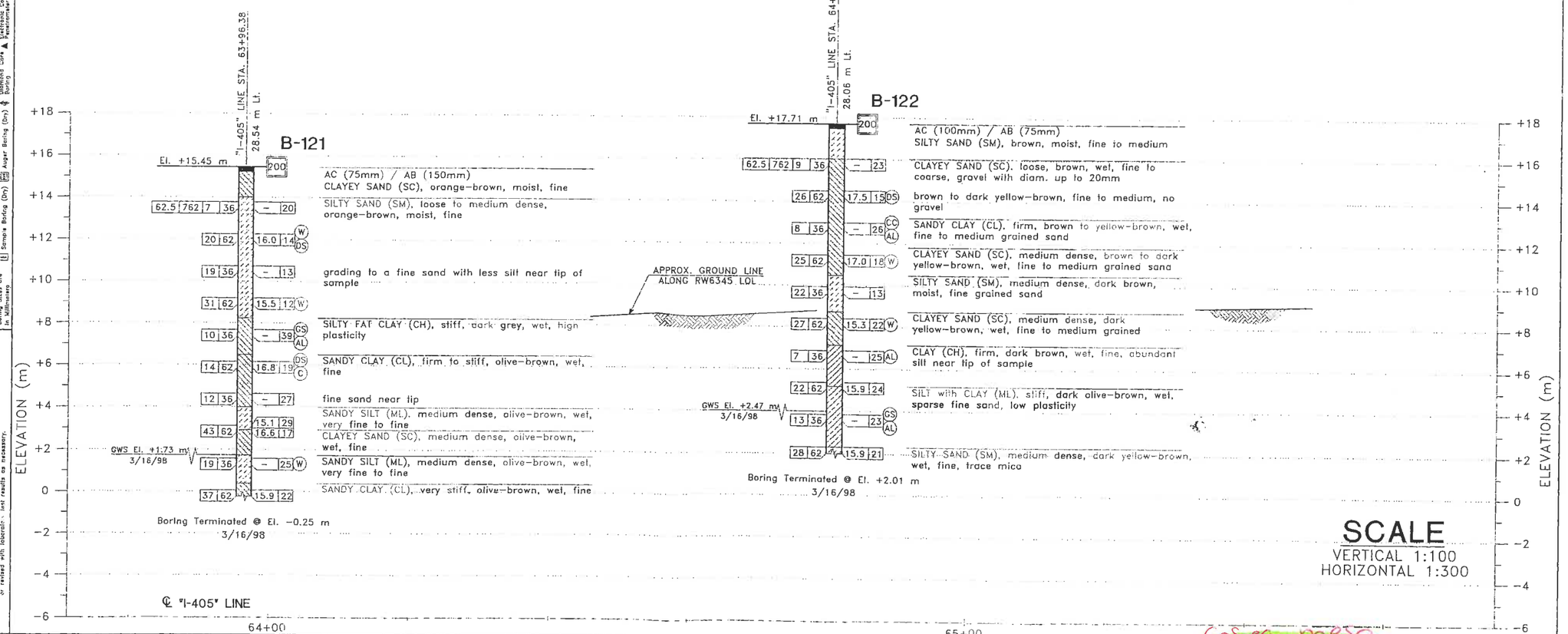

SCALE
VERTICAL 1:100
HORIZONTAL 1:300

DESIGN	M. CHOW 7/21/99	M. McDONALD/ENGINEER R. JIE/TECHNICIAN FIELD INVESTIGATION/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	K. ARULMOLI PROJECT ENGINEER	BRIDGE NO.
CHECKED	E. BROWN 7/22/99	DATE 3/16/98			KILOMETER POST 18.09

3/3/00

ORIGINAL SCALE IN MM FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 08380

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 7/21/99 8/30/99 10/18/99

SHEET 13 OF 14

RETAINING WALL RW6345 (No. 2 of 3)
LOG OF TEST BORINGS

retwall6345#13of14.tif

DIST	COUNTY	ROUTE	TOTAL PROJECT	SHEET	TOTAL SHEETS
12	Ora	405	16.4/20.0	646	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-00
PLAN APPROVAL DATE

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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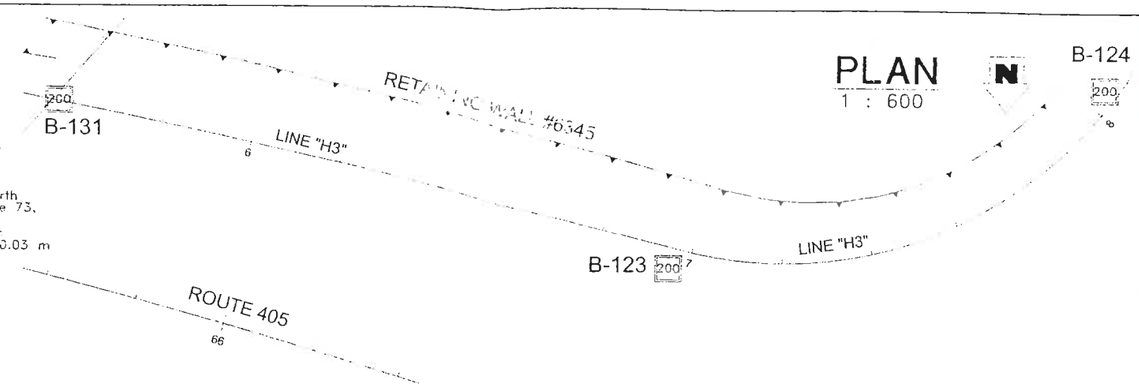
Caltrans Metric

PLAN
1 : 600



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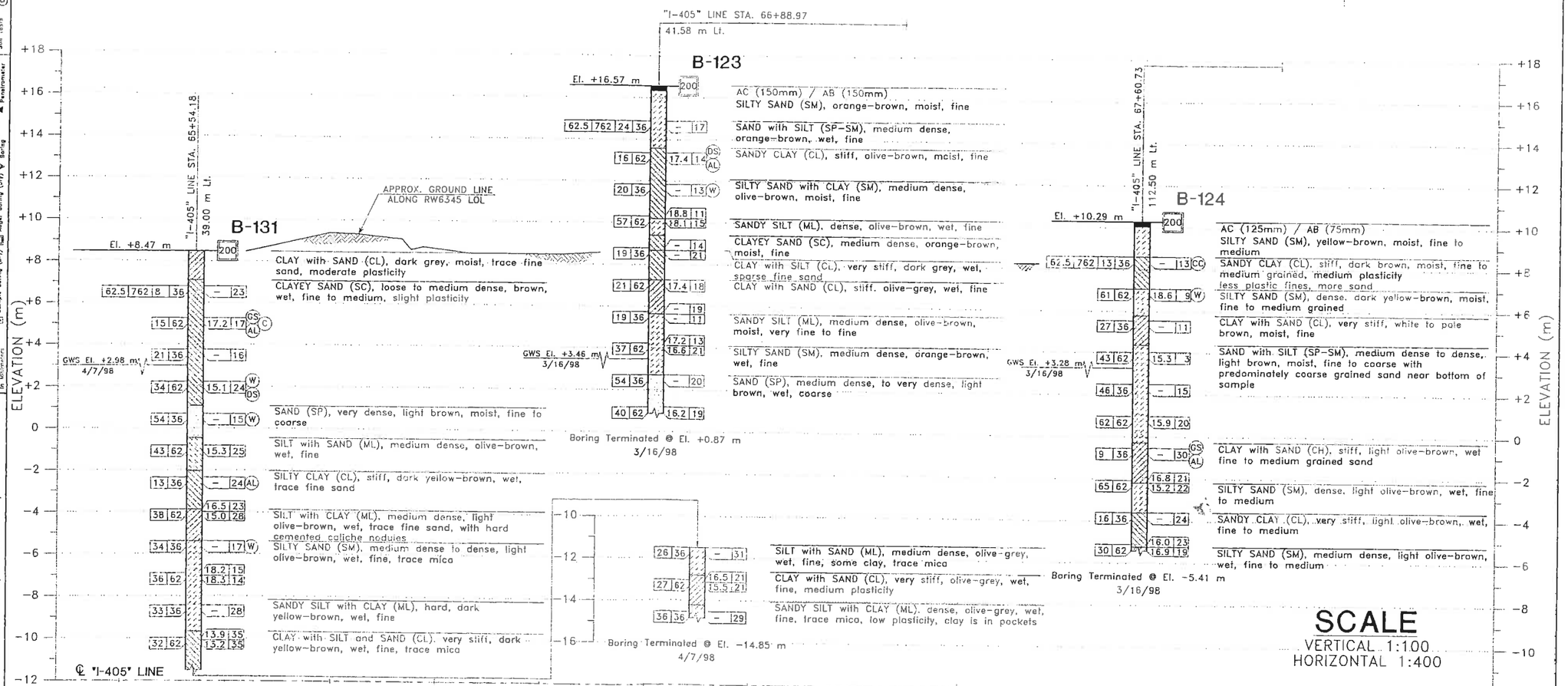
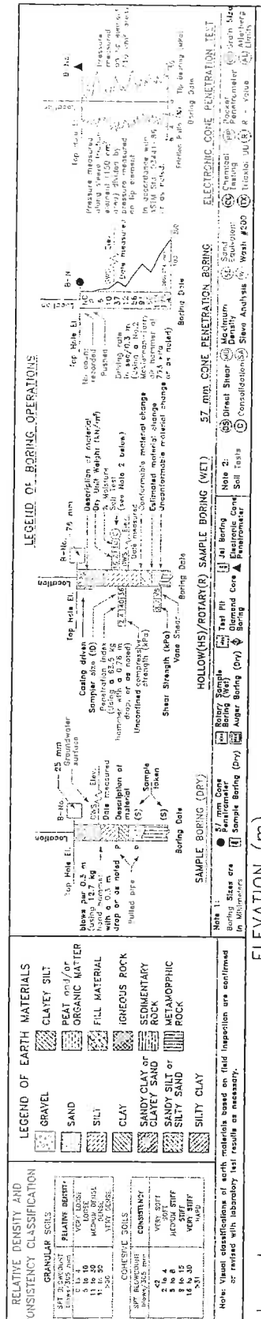


SCALE
VERTICAL 1:100
HORIZONTAL 1:400



DESIGN	BY M. CHOW 7/21/99	M. MCDONALD/ENGINEER R. J'E/TECHNICIAN FIELD INVESTIGATORS/TITLE DATE 3/16/98, 4/7/98	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	BY E. BROWN 7/22/99		

K. ARULMOLI
PROJECT ENGINEER

BRIDGE NO.
KILOMETER POST 18.09

RETAINING WALL RW6345 (No. 3 of 3)
LOG OF TEST BORINGS

Costa Mesa

BY Nguyen
3/3/00
SIGNOFF DATE

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 083801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 7/22/99 8/26/99 10/15/99

SHEET 14 OF 14

retwall6345#14of14.tif

55 RW

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	405			

REGISTERED ~~CIVIL~~ ENGINEER 4-11-03

PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

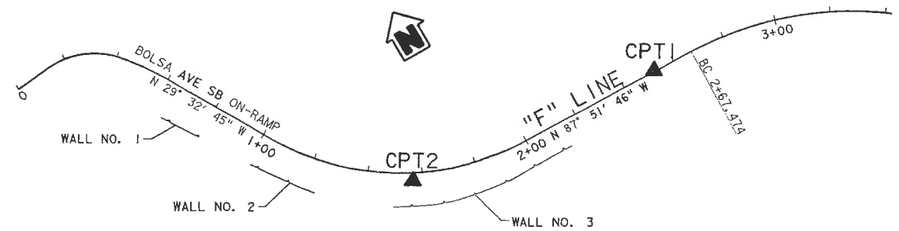
REGISTERED PROFESSIONAL ENGINEER Deepa Wathugala No. C63838 Exp. 9-30-06 CIVIL STATE OF CALIFORNIA

Caltrans Metric

BENCH MARK

BM FV-47-70 Elev. 8.216 m

Located at the northwest part of the intersection of Newland St. and Edinger Ave.

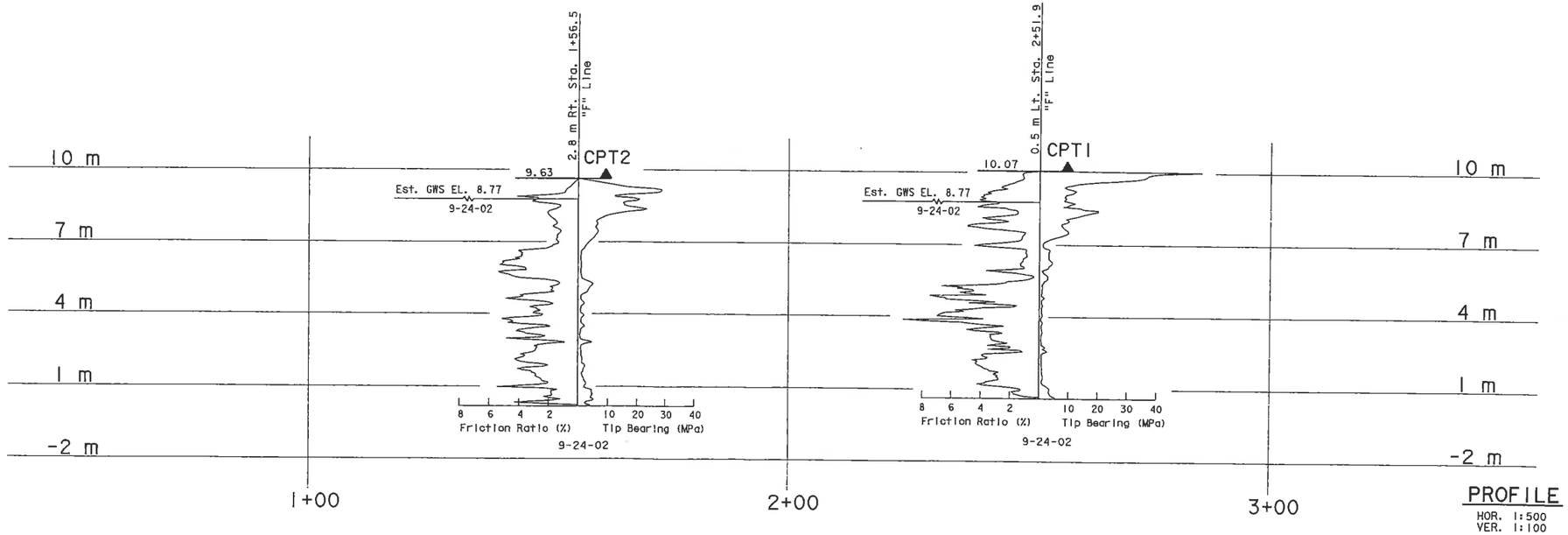


PLAN

1:500

NOTE:

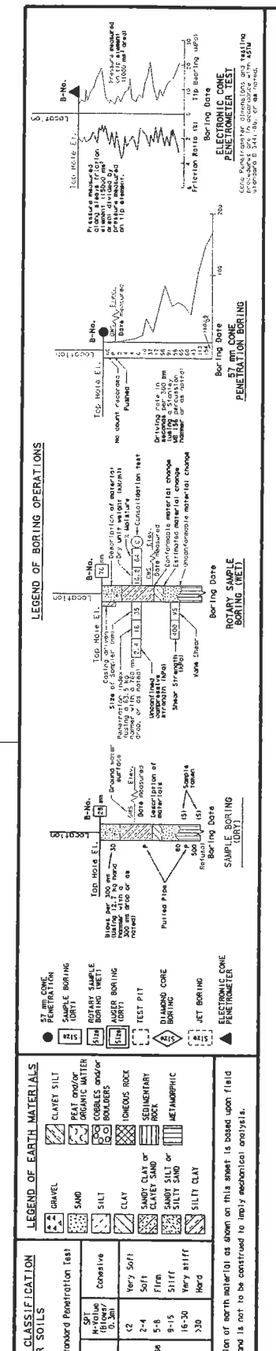
The ground water elevation (8.77 m) was calculated using the data obtained by piezometric cone penetration and pore water dissipation measurements. This high elevation may be due to irrigation. The highest G.W.T. table at the vicinity of the site (Log of Test Borings for Bolsa Ave. Overcrossing, Bridge No. 55-270, dated 1959) is 6.4 m. G.W.T. elevation is subject to seasonal fluctuations.



PROFILE

HOR. 1:500
VER. 1:100

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN



ENGINEERING SERVICES	GEOTECHNICAL SERVICES
DRAWN BY	Irma G-Remmen 4/03
CHECKED BY	D. Wathugala

FIELD INVESTIGATION BY: K Barker

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES STRUCTURE DESIGN

BRIDGE NO.

KILOMETER POST

RETAINING WALL NO. 1

LOG OF TEST BORINGS

CU 12
EA 099401

DISREGARD PRINTS BEARING EARLIER REVISION DATES 4-11-03

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

FILE => rwl.dgn

OGS CIVIL LOG OF TEST BORINGS SHEET (METRIC) (REV. 3/02)

USERNAME => fnguyen DATE PLOTTED => 11-APR-2003 TIME PLOTTED => 09:52

DIST	COUNTY	ROUTE	KILOMETER POST TOTAL PROJECT	SHEET No	TOTAL SHEETS
12	Ora	405			

REGISTERED ~~CIVIL ENGINEER~~ 4-11-03

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — Deepa Wattugala — No. C63838 — Exp. 9-30-06 — CIVIL — STATE OF CALIFORNIA

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Caltrans Metric

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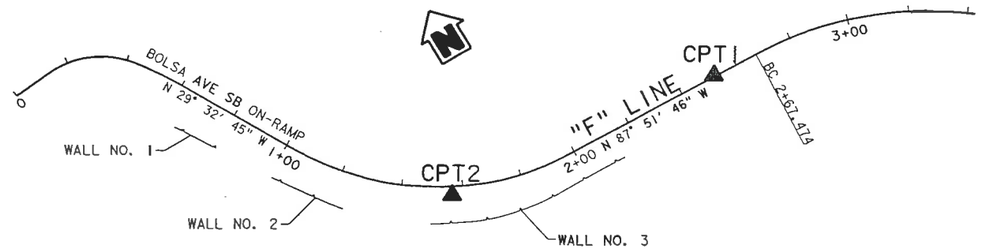
BM FV-47-70 Elev. 8.216 m

Located at the northwest part of the Intersection of Newland St. and Edinger Ave.



PLAN

1:500

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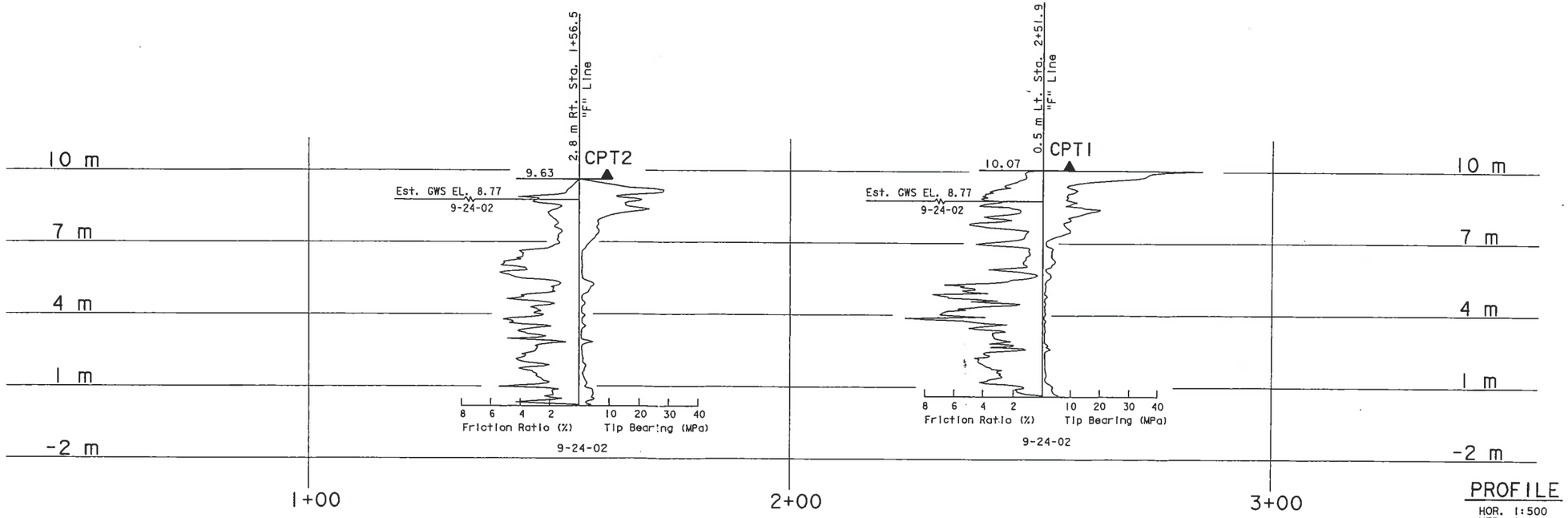
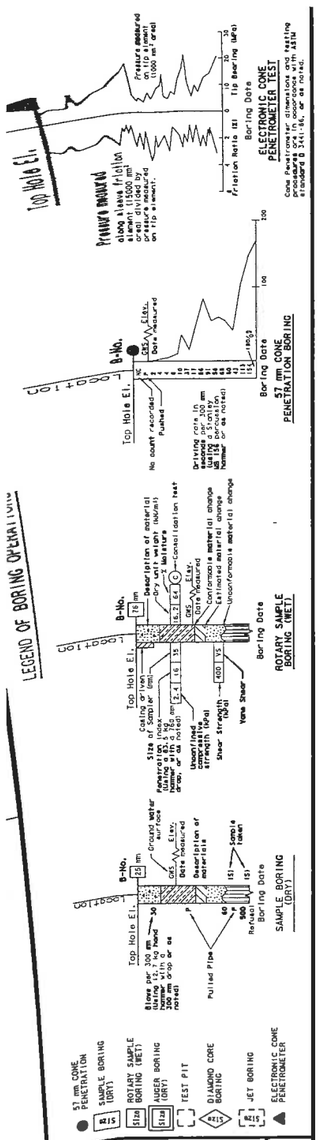


PROFILE

HOR. 1:500
VER. 1:100

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN



LEGEND OF EARTH MATERIALS

GRAVEL, SAND, SILT, CLAY, SANDY CLAY or CLAYEY SAND, SANDY SILT or SILTY SAND, SILTY CLAY, CLAYEY SILT, PEAT and/or ORGANIC WATER, COBBLES and/or BOULDERS, IGNEOUS ROCK, SEDIMENTARY ROCK, METAMORPHIC ROCK

CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test

SPT N-Value (Blows/0.3m)	Granular	SPT N-Value (Blows/0.3m)	Cohesive
0-4	Very Loose	<2	Very Soft
5-10	Loose	2-4	Soft
11-30	Medium Dense	5-8	Firm
31-50	Dense	9-15	Stiff
>50	Very Dense	16-30	Very stiff
		>30	Hard

NOTE: Classification of earth material as shown on this sheet is based upon field inspection and is not to be construed to imply mechanical analysis.

ENGINEERING SERVICES	GEOTECHNICAL SERVICES
DRAWN BY	Irma G-Remmen 4/03
CHECKED BY	D. Wathugala

FIELD INVESTIGATION BY: K. Barker

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES STRUCTURE DESIGN

BRIDGE NO.

KILOMETER POST

CU 12
EA 099401

RETAINING WALL NO. 2

LOG OF TEST BORINGS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 4-11-03

SHEET OF

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

FILE => rw2.dgn

DGS CIVIL LOG OF TEST BORINGS SHEET (METRIC) (REV. 3/02)

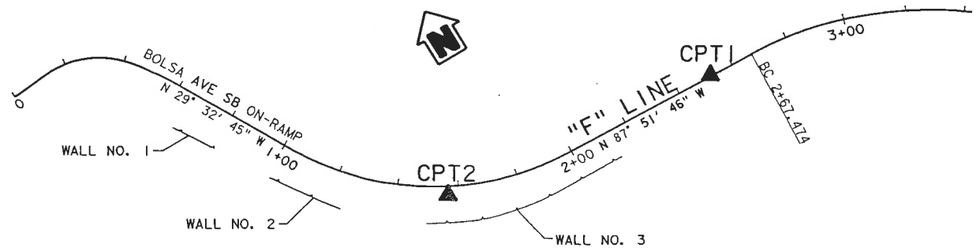
USERNAME => laanarro DATE PLOTTED => 16-APR-2003 TIME PLOTTED => 08:53

55

BENCH MARK

BM FV-47-70 Elev. 8.216 m

Located at the northwest part of the intersection of Newland St. and Edinger Ave.



PLAN

1:500

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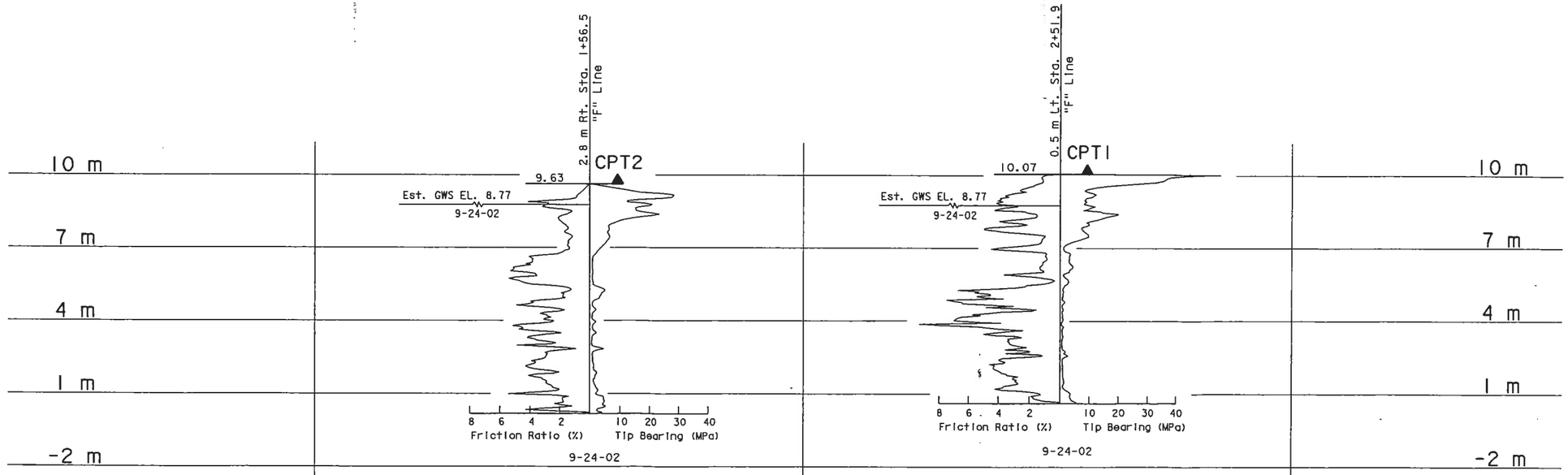
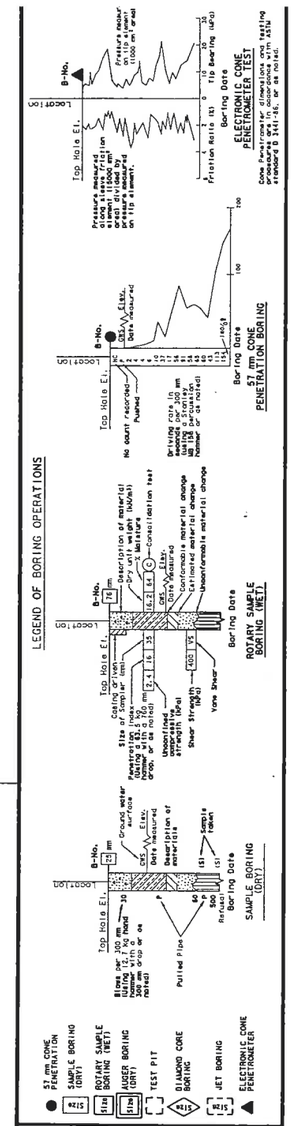


PROFILE

HOR. 1:500
VER. 1:100

ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SHOWN



Dist.	County	Route	TOTAL PROJECT	No	SHEETS
12	Ora	405			

REGISTERED CIVIL ENGINEER 4-11-03

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER Deepa Wathugala No. C63838 Exp. 9-30-06 CIVIL STATE OF CALIFORNIA

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Caltrans Metric

ENGINEERING SERVICES	GEOTECHNICAL SERVICES
DRAWN BY: Irma G-Remmen 4/03	
CHECKED BY: D. Wathugala	

FIELD INVESTIGATION BY: K. Barker

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES STRUCTURE DESIGN

BRIDGE NO.

KILOMETER POST

RETAINING WALL NO. 3

LOG OF TEST BORINGS

CU 12
EA 099401

DGS CIVIL LOG OF TEST BORINGS SHEET (METRIC) (REV. 3/02)

ORIGINAL SCALE IN MILLIMETERS FOR REDUCED PLANS 0 10 20 30 40 50 60 70 80 90 100

DISREGARD PRINTS BEARING EARLIER REVISION DATES 4-11-03

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET OF

FILE => rw3.dgn

USERNAME => lgamarra DATE PLOTTED => 16-APR-2003 TIME PLOTTED => 08:54

BENCHMARK:

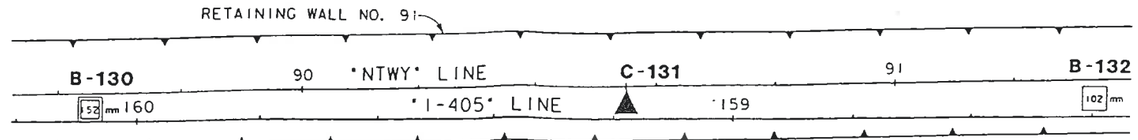
TTS-2Y RESET 1964. ELEV. 12.49
STANDARD USC&GS BENCHMARK DISK STAMPED
'TT NO 2-Y RESET 1964' IN CONCRETE POST
AT THE NORTHWEST CORNER OF NEWPORT AVE.
AND PULARINO AVE.

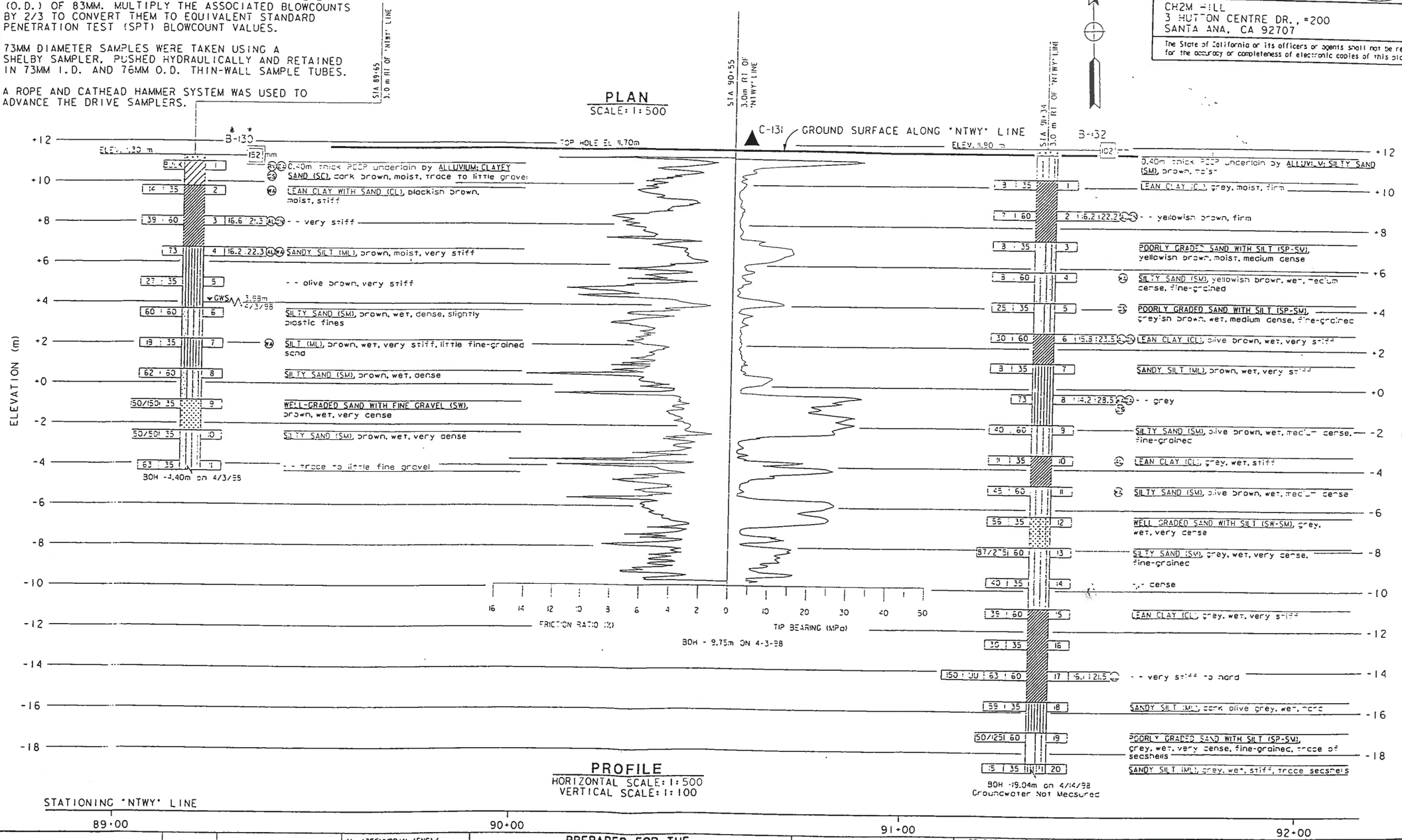
NOTE:

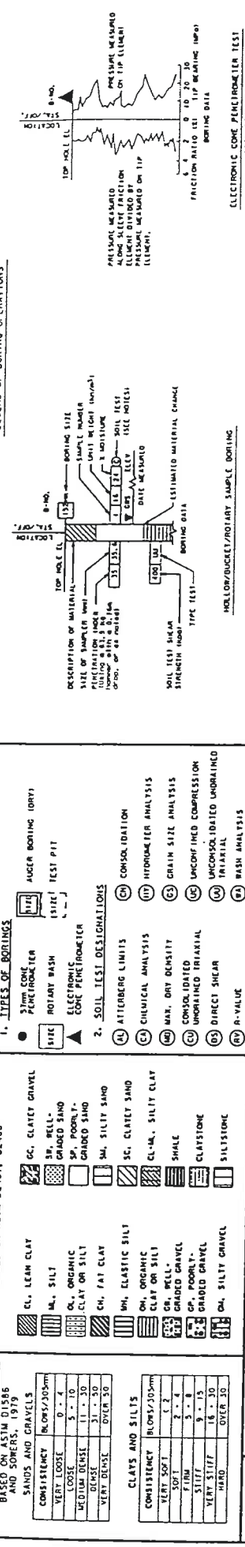
60MM DIAMETER SAMPLES WERE TAKEN USING A CALIFORNIA SPLIT BARREL SAMPLER WITH AN INSIDE DIAMETER (I.D.) OF 60MM AND AN OUTSIDE DIAMETER (O.D.) OF 83MM. MULTIPLY THE ASSOCIATED BLOWCOUNTS BY 2/3 TO CONVERT THEM TO EQUIVALENT STANDARD PENETRATION TEST (SPT) BLOWCOUNT VALUES.

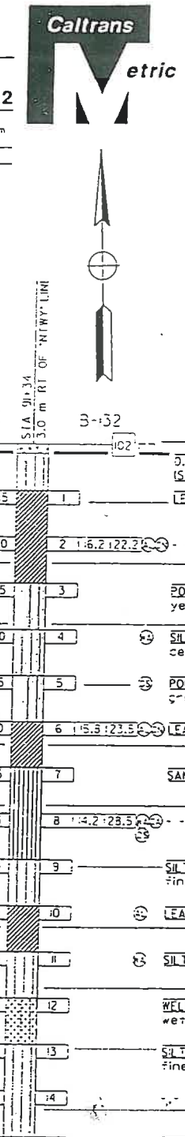
73MM DIAMETER SAMPLES WERE TAKEN USING A SHELBY SAMPLER, PUSHED HYDRAULICALLY AND RETAINED IN 73MM I.D. AND 76MM O.D. THIN-WALL SAMPLE TUBES.

A ROPE AND CATHEAD HAMMER SYSTEM WAS USED TO ADVANCE THE DRIVE SAMPLERS.









DIST	COUNTY	ROUTE	TOTAL PROJECT POST MILE	TOTAL PROJECT SHEET NO.
12	Ora	I405, 55	13.9/15.8 R8.9/R11.7	

REGISTERED CIVIL ENGINEER

PLANS APPROVAL DATE

OCTA
550 SOUTH MAIN STREET
ORANGE, CA 92613-1584

CH2M HILL
3 HUTTON CENTRE DR., #200
SANTA ANA, CA 92707

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CALTRANS DESIGN OVERSIGHT	DRAWN BY K. REYES	M. AZEEMUDDIN (ENG)/ CH2M HILL & K. KAEKUL (TECH)/AP ENG
	CHECKED BY B. HARDESTY	FIELD INVESTIGATOR DATE 4/3/98 - 4/14/98

PREPARED FOR THE
STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

BRADLEY MIELKE
PROJECT ENGINEER

BRIDGE NO. X
KILOMETER POST 14.7
POST MILE

MSE WALLS 90 AND 91
LOG OF TEST BORINGS

FOR REDUCED PLANS ORIGINAL SCALE IN MILLIMETERS 0 10 20 30 40 50

CU 12208

DISREGARD PRINTS BEARING

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET OF

TO ACCOMPANY PLANS DATED	DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
	07	ORA	405	11.5		

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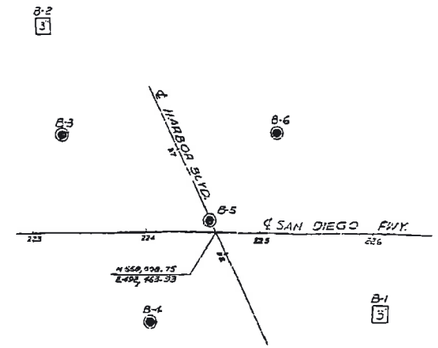
(Old VII-Ora-158-CMS)

DIST	COUNTY	ROUTE	POST MILES	SHEET NO.	TOTAL SHEETS
07	ORA	405	10.2/14.5	191	222

November 9, 1964

BM. #25-158-5-60 E 'X' 28.43

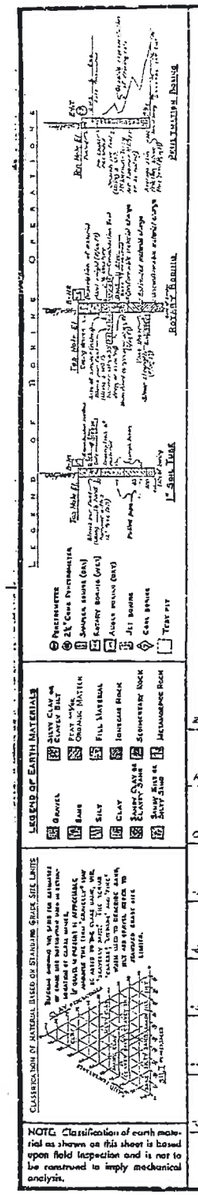
Set chiseled square in south end of concrete headwall of Flood Control Channel on east side of Harbor Blvd. between Gisler Ave. and Huntzinger Ave., 0.3 mile south of Huntzinger Ave. and 40 Ft. east of ℄ Harbor Blvd.

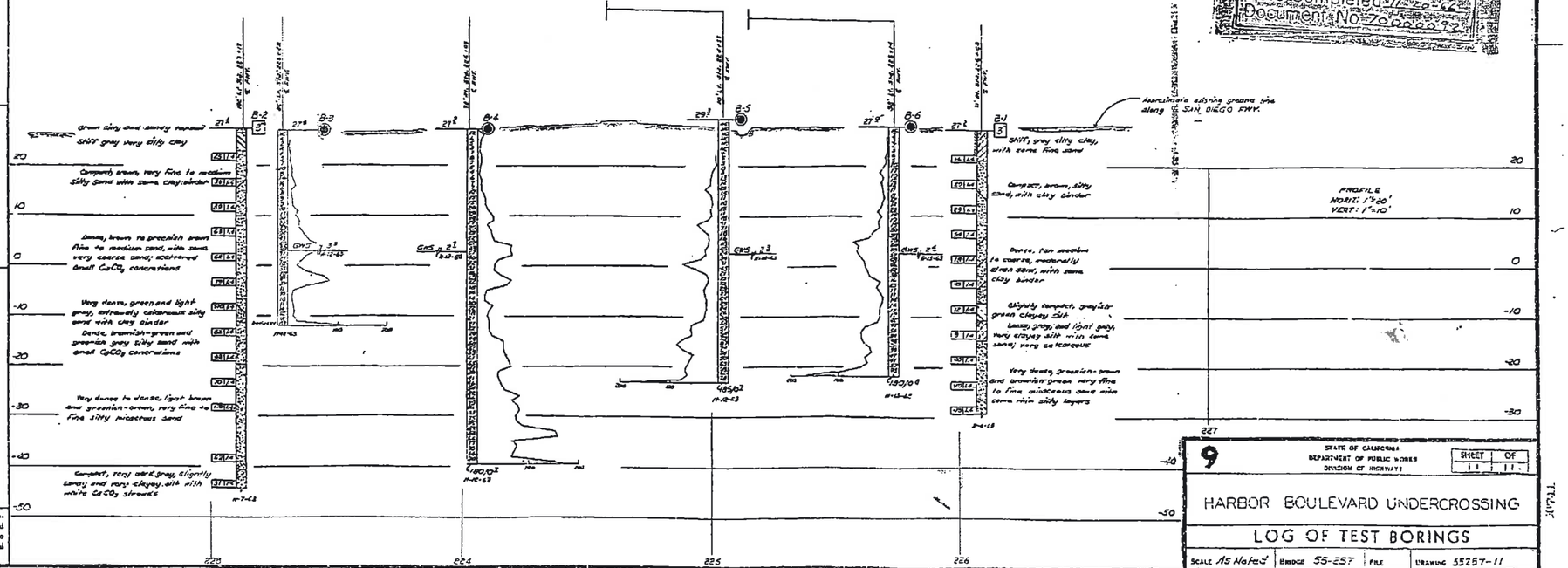


PLAN
Scale: 1"=50'

INFORMATION ON ACTUAL FOUNDATION CONDITIONS ENCOUNTERED IS ON FILE IN BRIDGE GEOLOGY SECTION

AS BUILT PLANS
Contract No. 07-283632
Date Completed 5/20/66
Document No. 70000042





Disregard prior boring number markers

PREL. DRAWING No. PR-

9

STATE OF CALIFORNIA
DEPARTMENT OF PUBLIC WORKS
DIVISION OF HIGHWAYS

SHEET	OF
11	11

HARBOR BOULEVARD UNDERCROSSING

LOG OF TEST BORINGS

SCALE As Noted | BRIDGE 55-257 | FILE | DRAWING 55257-11

DESIGN OVERSIGHT	DESIGN	B. Meyer	CHECKED H. Hamzawi	LOAD FACTOR DESIGN		
	DETAILS	T-Dee	CHECKED H. Hamzawi	LAYOUT	BY B. Meyer	CHECKED H. Hamzawi
SIGNOFF DATE	QUANTITIES	J. Corn	CHECKED K. Hallsten	SPECIFICATIONS	BY K. Hallsten	PLANS AND SPECS COMPARED H. Hamzawi

PREPARED FOR THE
CITY OF COSTA MESA

D. Vandershaf
PROJECT ENGINEER

BRIDGE NO. 55-257 R/L
POST MILE 11.5

HARBOR BLVD UC RETAINING WALL

AS-BUILT LOG OF TEST BORINGS

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU
EA

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET 13 OF 13

949LTB.DWG REV00 T-DEE 12/13/95

DIST.	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	613	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-99

PLAN APPROVAL DATE

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

REGISTERED PROFESSIONAL ENGINEER — KRISHNAM ARULMOLI — NO. GE-662096 (EXP. 12-31-2001) — GEOTECHNICAL — STATE OF CALIFORNIA

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Caltrans Metric

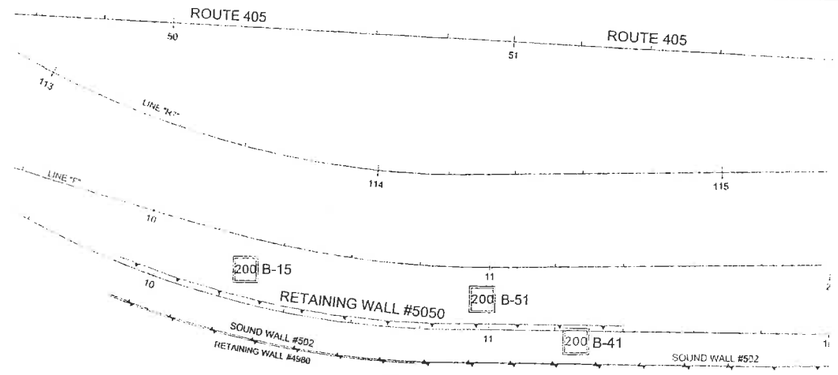
PLAN

1 : 800

BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.

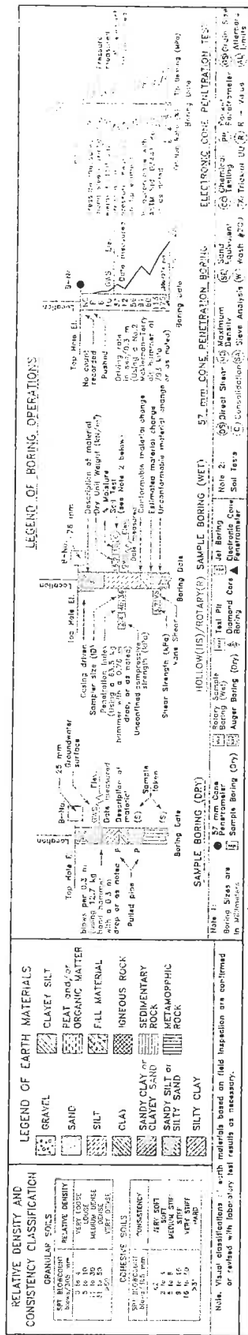


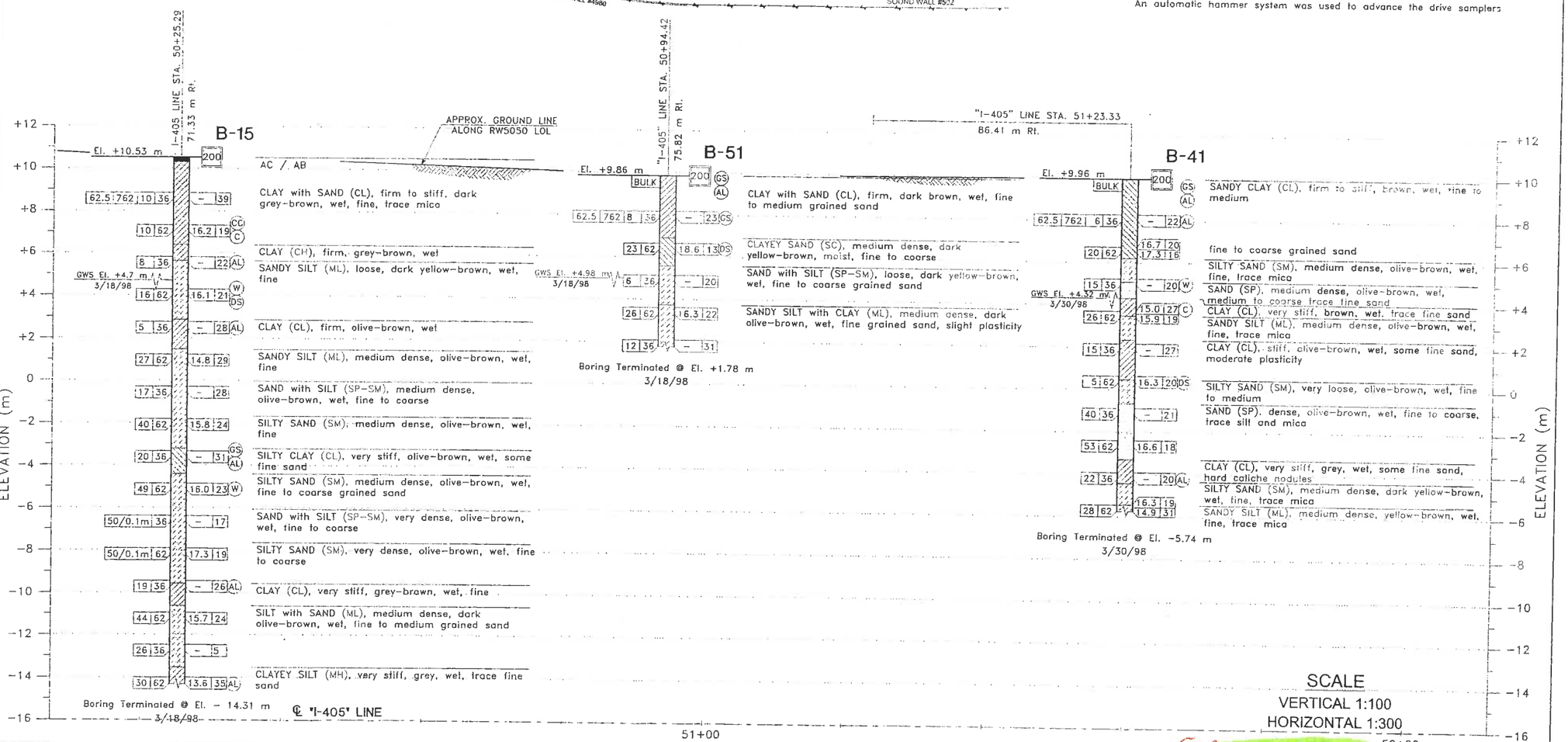
NOTES.

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers





SCALE
VERTICAL 1:100
HORIZONTAL 1:300

Costa mesa

DESIGN	M. CHOW 7/19/99	R. JIE/TECHNICIAN FIELD INVESTIGATOR/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	K. ARULMOLI PROJECT ENGINEER	BRIDGE NO.
CHECKED	E. BROWN 7/22/99	DATE 3/18/98, 3/30/98			KILOMETER POST 16.86

RETAINING WALL RW5050

LOG OF TEST BORINGS

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 08380

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 7/22/99 7/19/99 10/18/99

SHEET 4 OF 4

Jim Hauenstein
PROJECT OVERSIGHT
Bo Nguyen
3/3/00
SIGNAL DATE

retwall5050#04of04.tif

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	619	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-99
PLAN APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER GEOTECHNICAL ENGINEERING No. GE-002890 EXP. 12-31-2001 STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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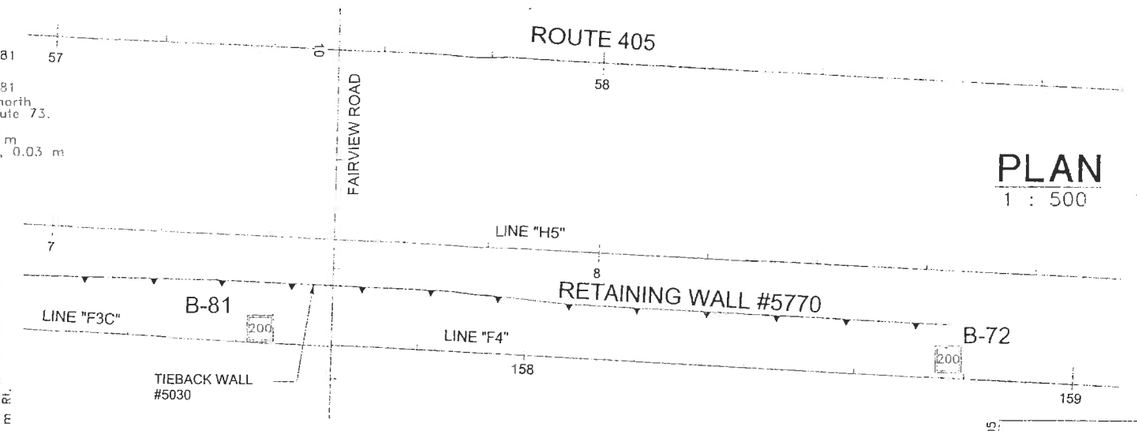
BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.



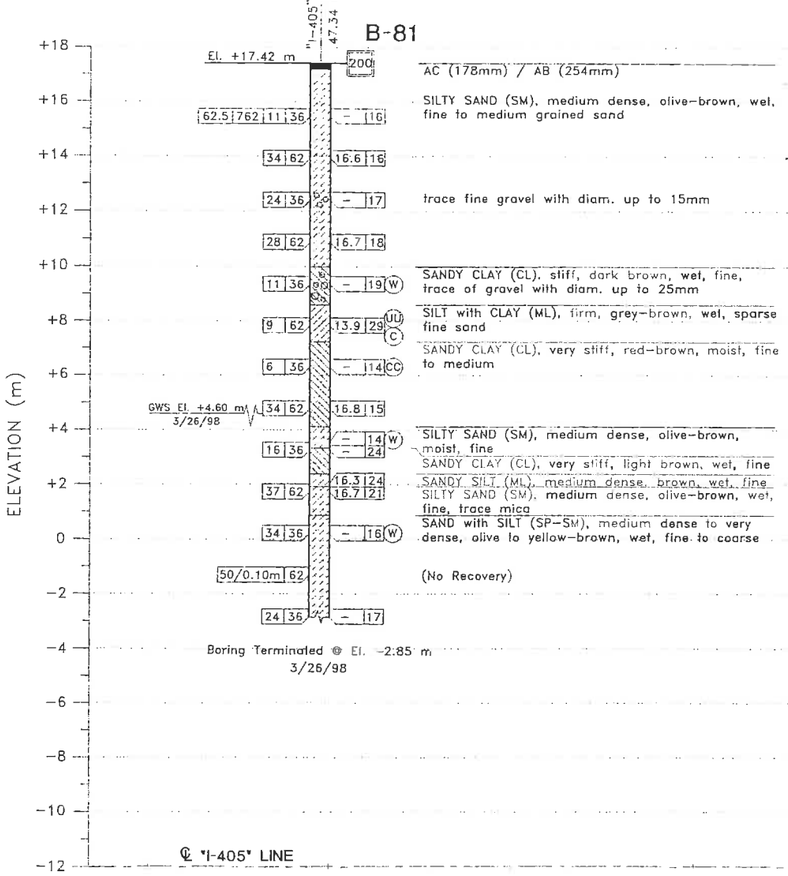
PLAN
1 : 500

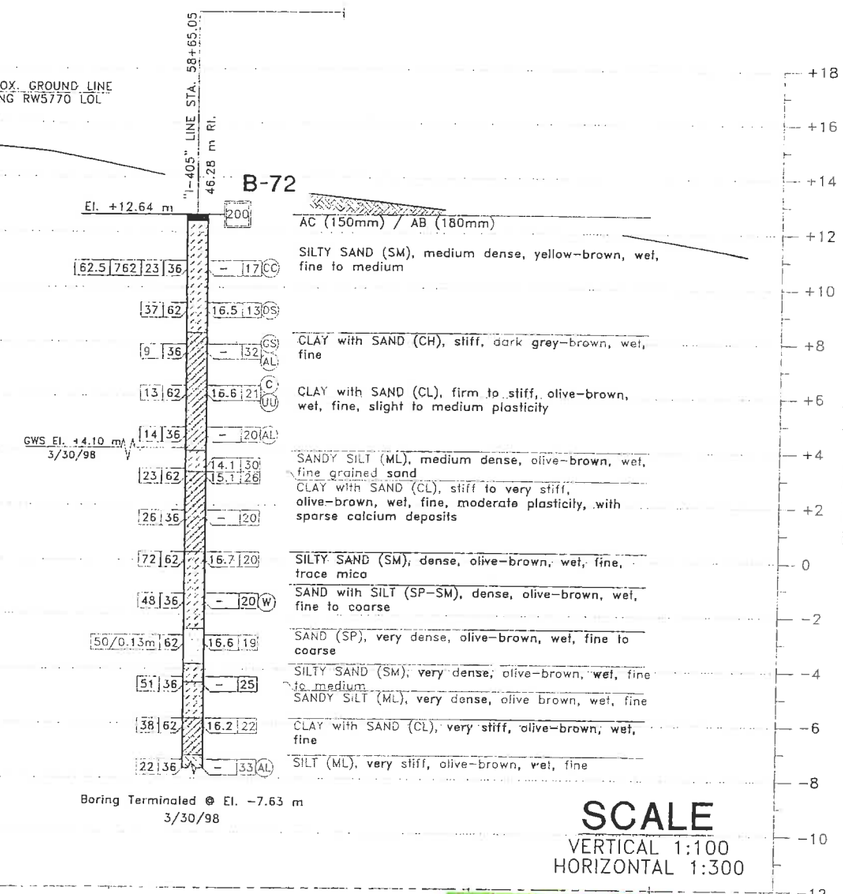
NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

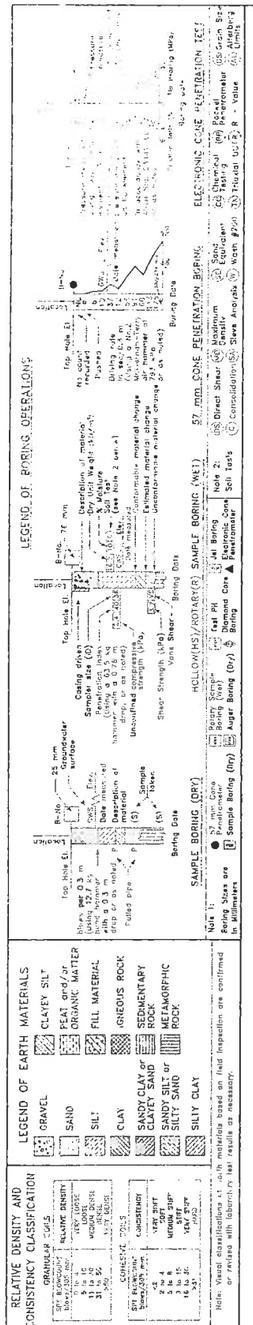
To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers





SCALE
VERTICAL 1:100
HORIZONTAL 1:300



DESIGN	M. CHOW 7/21/99	R. JIE/TECHNICIAN FIELD INVESTIGATOR(S)/TITLE	K. ARULMOLI PROJECT ENGINEER	BRIDGE NO.
CHECKED	E. BROWN 7/22/99	DATE 3/26/98, 3/30/98		ALIGNMENT EP POST 17.65

PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

RETAINING WALL RW5770

LOG OF TEST BORINGS

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

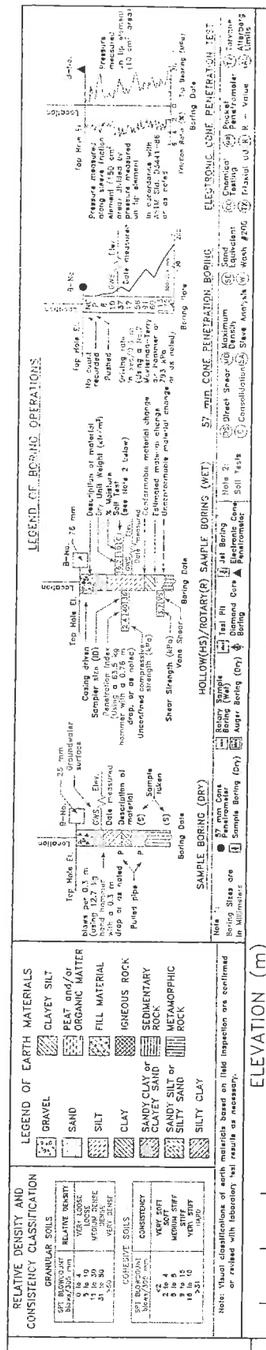
CU 12222
EA 083801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 7/23/99 8/26/99 7/5/99

SHEET 3 OF 3

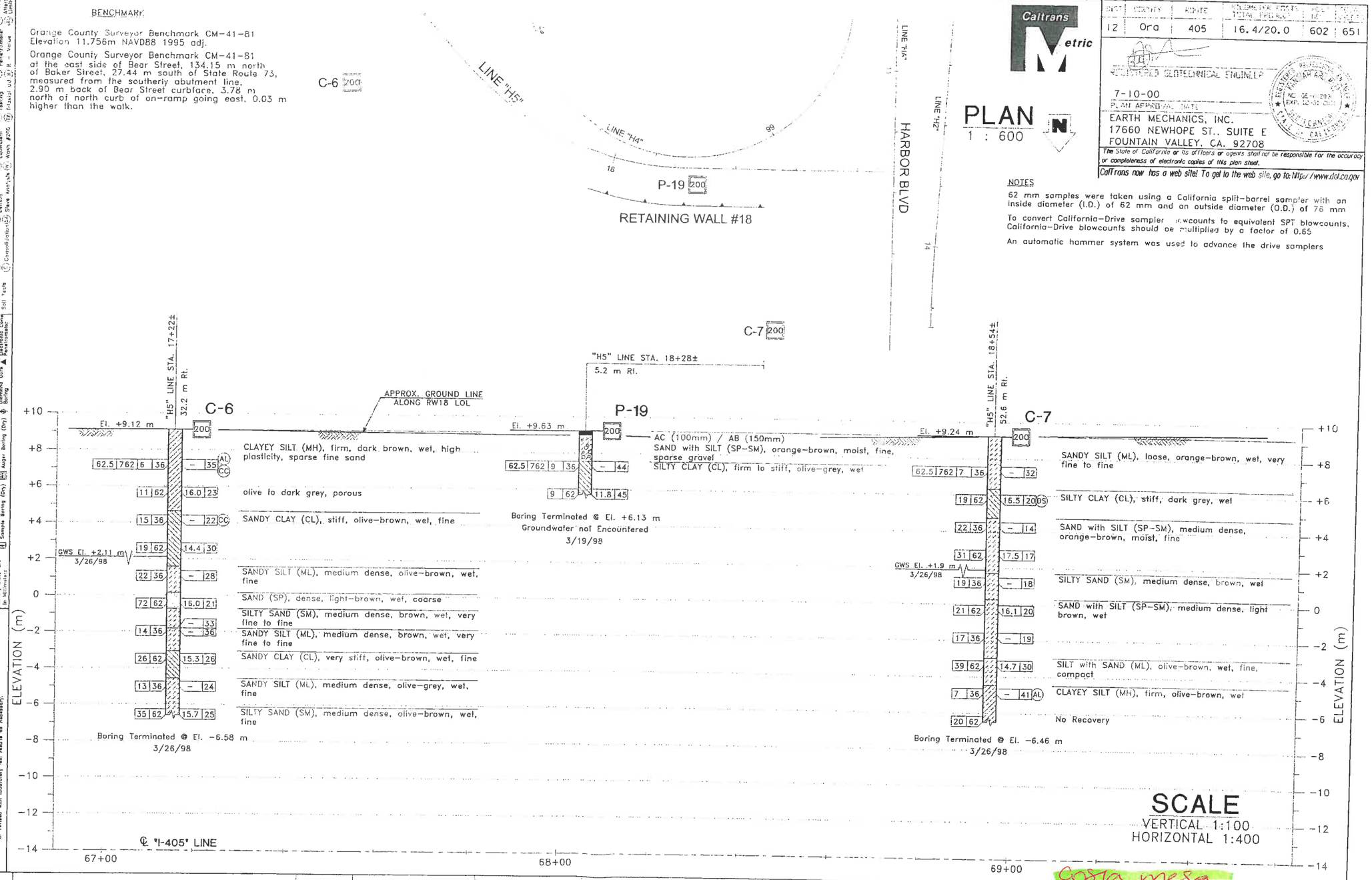
retwall5770#03of03.tif



BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street, 134.15 m north of Baker Street, 27.44 m south of State Route 73, measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.



Caltrans Metric

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	602	651

REGISTERED GEOTECHNICAL ENGINEER
7-10-00
PLAN APPROVAL DATE
REGISTERED PROFESSIONAL ENGINEER PAUL GERARD PAPE No. GE 2193 Exp. 12-31-2000 STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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PLAN
1 : 600

NOTES

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To convert California-Drive sampler blowcounts to equivalent SPT blowcounts, California-Drive blowcounts should be multiplied by a factor of 0.65

An automatic hammer system was used to advance the drive samplers

SCALE
VERTICAL 1:100
HORIZONTAL 1:400

Costa mesa

DESIGN	M. CHOW 7/21/99	M. MCDONALD/ENGINEER FIELD INVESTIGATOR(S)/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION
CHECKED	E. BROWN 7/22/99	DATE 3/19/98, 3/26/98	K. ARULMOLI PROJECT ENGINEER

DESIGN-IN-CHARGE 3/3/00 SIGNOFF DATE

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 083801

BRIDGE NO.
KILOMETER POST 18.68

RETAINING WALL RW18
LOG OF TEST BORINGS

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 7/23/99 3/30/00 10/16/00

SHEET 3 OF 3

retwall18#03of03.tif

DIST	COUNTY	ROUTE	KILOMETER POSTS TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
12	Ora	405	16.4/20.0	623	651

REGISTERED GEOTECHNICAL ENGINEER

7-10-99
PLAN APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — NO. GE-002899 EXP. 12-31-2001 — STATE OF CALIFORNIA

EARTH MECHANICS, INC.
17660 NEWHOPE ST., SUITE E
FOUNTAIN VALLEY, CA. 92708

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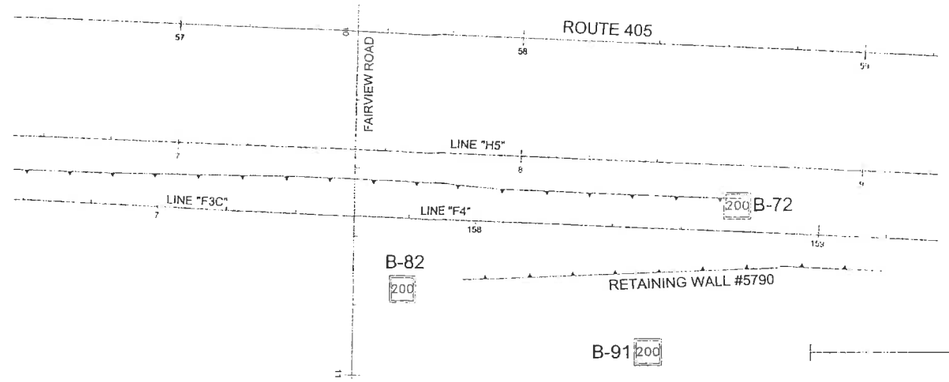
BENCHMARK

Orange County Surveyor Benchmark CM-41-81
Elevation 11.756m NAVD88 1995 adj.

Orange County Surveyor Benchmark CM-41-81 at the east side of Bear Street. 134.15 m north of Baker Street, 27.44 m south of State Route 73. measured from the southerly abutment line, 2.90 m back of Bear Street curbface, 3.78 m north of north curb of on-ramp going east, 0.03 m higher than the walk.



PLAN
1 : 800

NOTES:

62 mm samples were taken using a California split-barrel sampler with an inside diameter (I.D.) of 62 mm and an outside diameter (O.D.) of 76 mm

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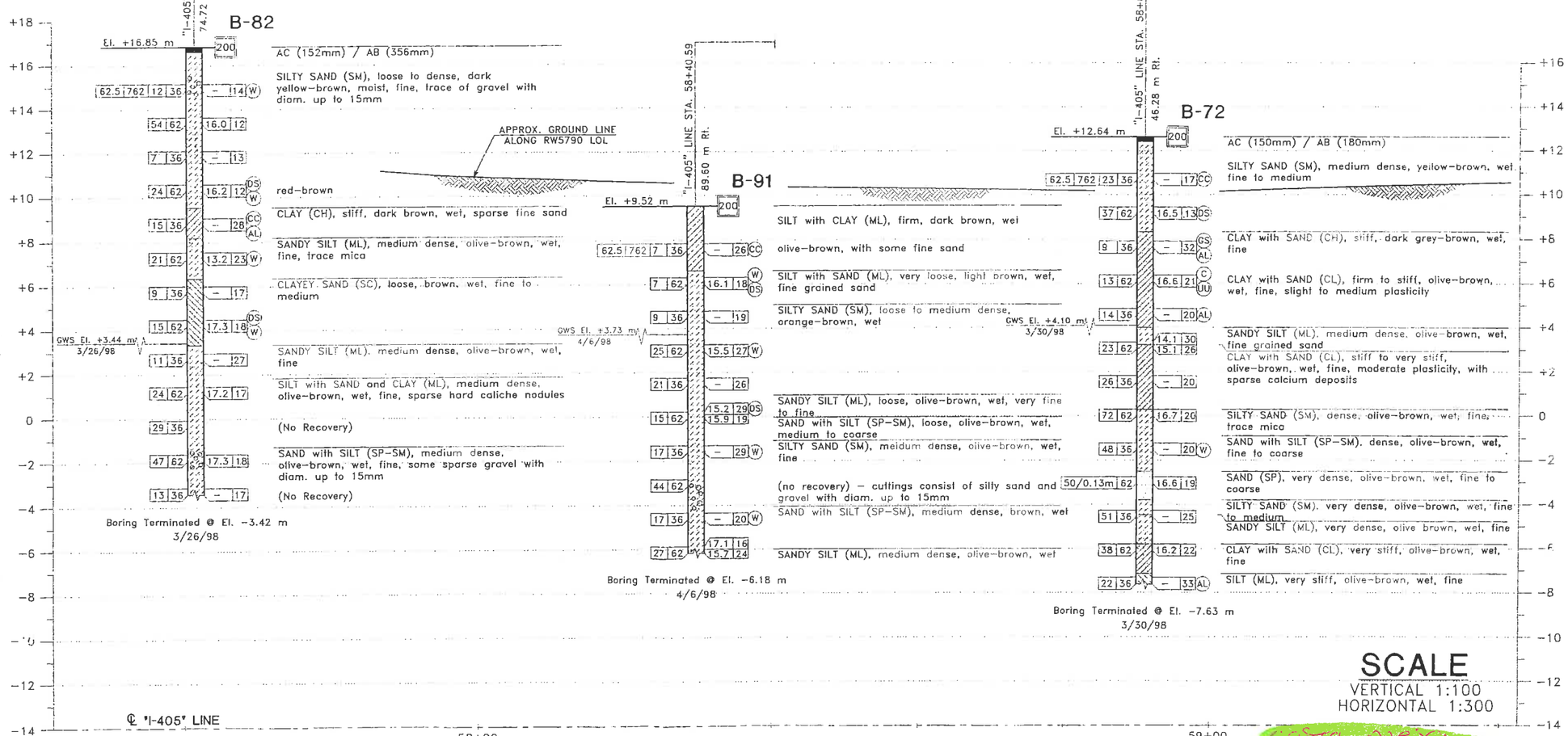
An automatic hammer system was used to advance the drive samplers



SCALE
VERTICAL 1:100
HORIZONTAL 1:300

DESIGN	M. CHOW 7/21/99	M. McDONALD/ENGINEER R. JIE/TECHNICIAN FIELD INVESTIGATOR/TITLE	PREPARED FOR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	K. ARULMOLI PROJECT ENGINEER	ENGINEER NO.
CHECKED	E. BROWN 7/22/99	DATE 3/26/98-4/6/98			KILOMETER POST 17.67

RETAINING WALL RW5790

LOG OF TEST BORINGS

3/3/00
DESIGN DATE

ORIGINAL SCALE IN mm FOR REDUCED PLANS 0 20 40 60 80 100

CU 12222
EA 083801

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) SHEET 4 OF 4

rw5790#04of04.tif