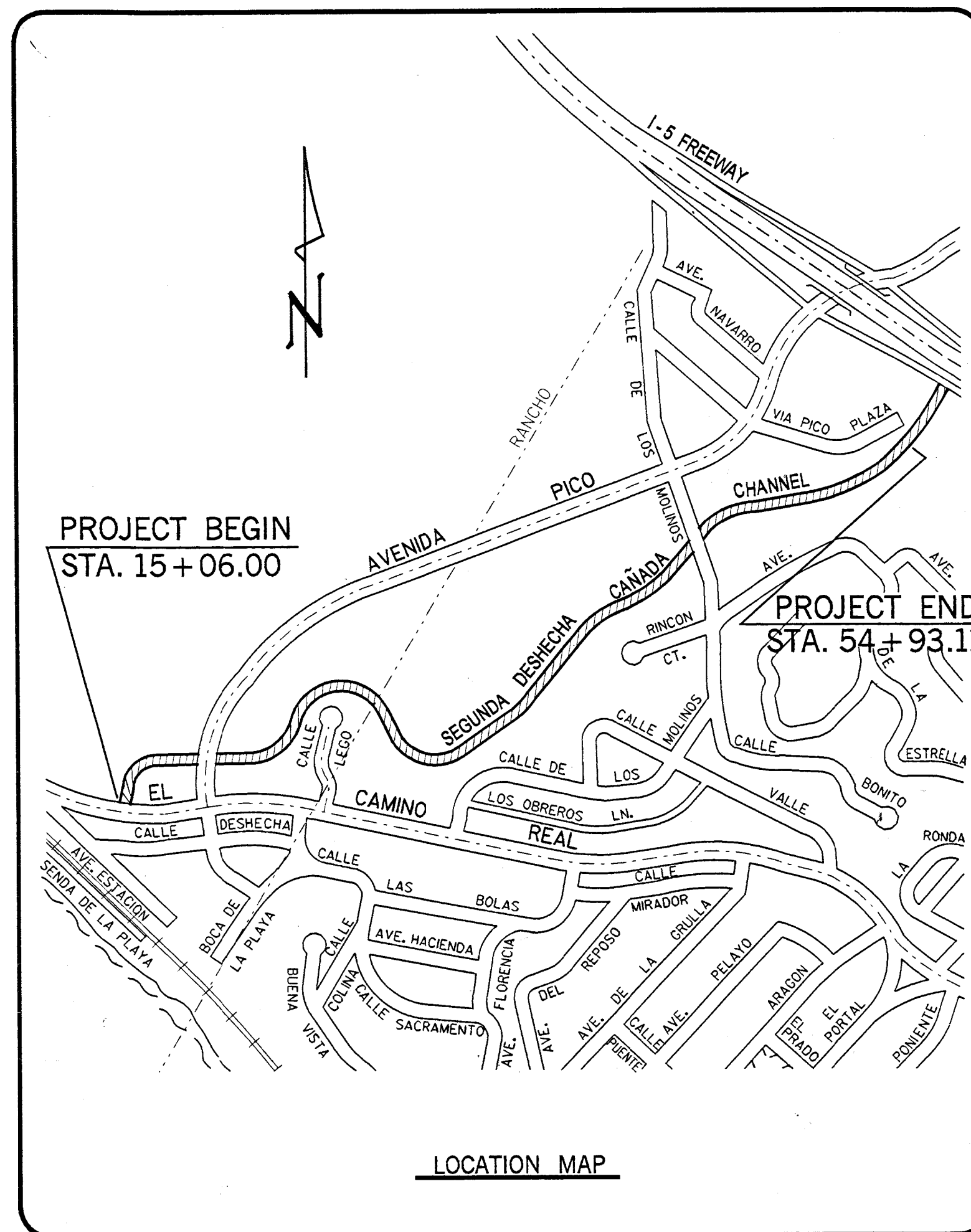
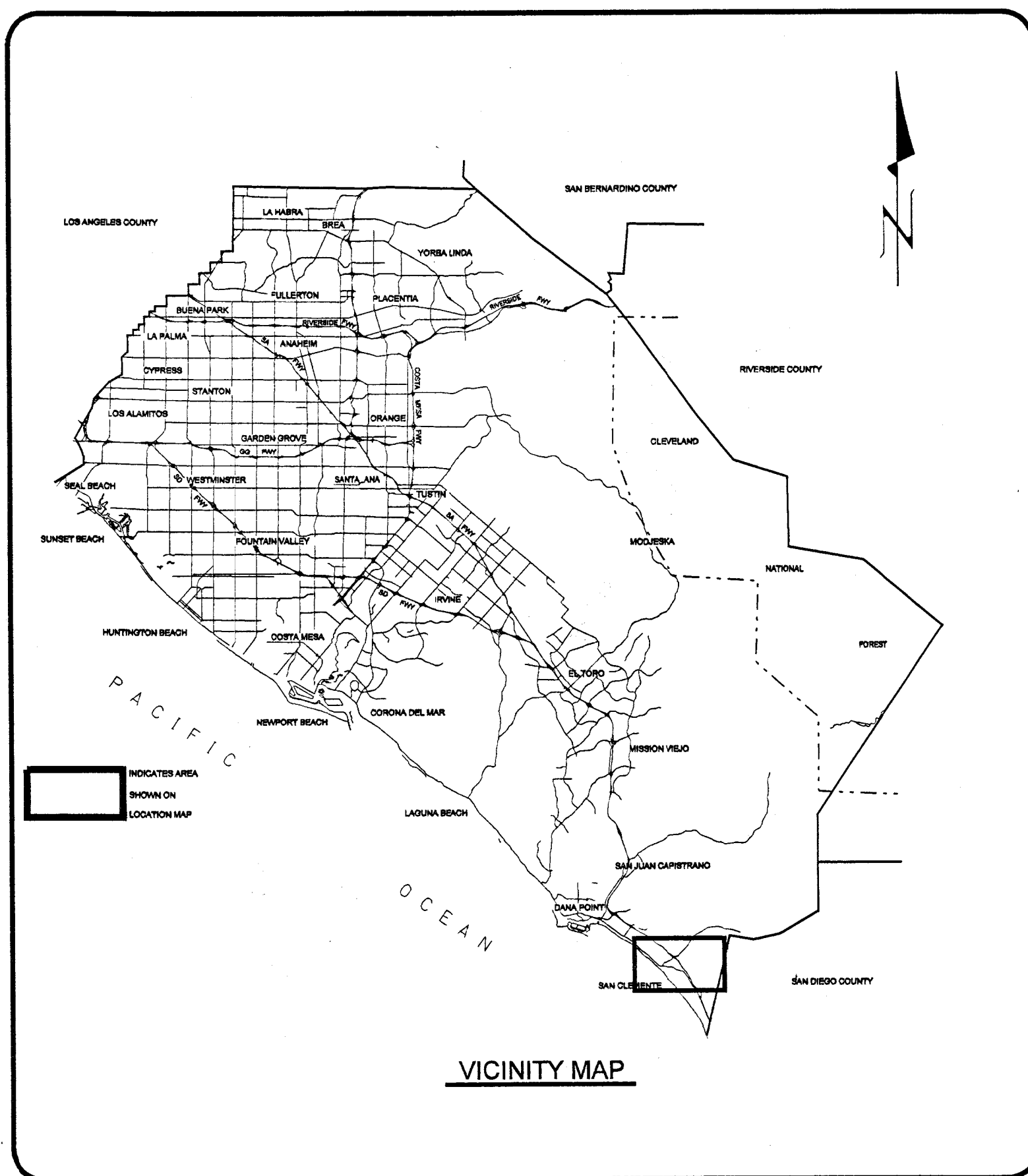


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M02-101-4R

42



ORANGE COUNTY
PUBLIC FACILITIES AND RESOURCES DEPARTMENT
SANTA ANA, CALIFORNIA
VICKI L. WILSON, DIRECTOR
PLANS FOR CONSTRUCTION OF
SEGUNDA DESHECHA CAÑADA
CHANNEL
FACILITY No. M02

RECORD DRAWINGS

START DATE : MAY 27 , 2003 .
COMPLETION DATE : MAY 24 , 2004
RESIDENT ENGINEER : BOB PARSONS .
INSPECTORS : TOM WALSH , BOB VALLE , CARLOS LOPEZ
CONTRACTOR : BELCZAK & SONS , INC .

EL CAMINO REAL (STA. 15 + 06)
TO
500 feet D/s of I-5 FREEWAY (STA. 54 + 93.11)
FEBRUARY 2003

FUNDED AND MAINTAINED BY: ORANGE COUNTY FLOOD CONTROL DISTRICT
AND CITY OF SAN CLEMENTE

APPROVALS

APPROVED: *William E. Smith* 1-6-03
CITY OF SAN CLEMENTE DATE

PUBLIC FACILITIES & RESOURCES DEPARTMENT

SUBMITTED: *Nadeem H. Majaj* 12/23/02
NADEEM H. MAJAJ, MANAGER
FLOOD CONTROL DESIGN & PROJECT MANAGEMENT DATE

RECOMMENDED: *H. Nakasone* 12/23/02
H. NAKASONE, MANAGER
FLOOD CONTROL DIVISION DATE

APPROVED: *Kenneth R. Smith* 12/23/02
KENNETH R. SMITH
DIRECTOR PUBLIC WORKS / CHIEF ENGINEER DATE

PREPARED BY

PREPARED UNDER RESPONSIBLE CHARGE OF:
Ron S. Gaut 12/23/02
RON S. GAUT, SENIOR PROJECT MANAGER
FLOOD CONTROL DESIGN & PROJECT MANAGEMENT DATE

INDEX OF SHEETS

SHEET	DESCRIPTION
1	TITLE SHEET
2, 2A	PLAN & PROFILE STA. 15+06.00 TO STA. 21+50
3	PLAN & PROFILE STA. 21+50 TO STA. 29+50
4	PLAN & PROFILE STA. 29+50 TO STA. 36+50
5	PLAN & PROFILE STA. 36+50 TO STA. 43+50
6	PLAN & PROFILE STA. 43+50 TO STA. 50+50
7	PLAN & PROFILE STA. 50+50 TO STA. 54+93.11
8	DEBRIS NOSE DETAIL AT AVENIDA PICO AND CALLE DE LOS MOLINOS
9	EL CAMINO REAL ACCESS DETAILS, ISOMETRIC VIEW OF RCB/OPEN CHANNEL (STA. 18+74.62 TO STA. 19+04.62)
10	D/S CALLE DE LOS MOLINOS CHANNEL ACCESS AND RAMP DETAILS
11	U/S CALLE DE LOS MOLINOS CHANNEL MAINTENANCE ROAD ACCESS
12	RAMP STEEL SCHEDULE
13	RC CHANNEL STEEL SCHEDULE
14	BOX CULVERT STEEL SCHEDULE
15	JOIN DETAILS, SEDIMENT RETENTION BUMPS AND RETAINING WALL DETAILS (CALLE DE LOS MOLINOS CHANNEL ACCESS)
16	RETAINING WALL DETAIL (STA. 27+75 TO STA. 33+05)
17	SIDE INLETS AND DOWNDRAIN DETAILS
18	MAINTENANCE ROAD/WALKWAY PROFILE, TYPICAL SECTIONS AND GRADING REQUIREMENTS TABLE (STA. 27+00 TO STA. 33+80 & STA. 51+60 TO STA. 54+23.11)
19	MAINTENANCE ROAD/WALKWAY DRAINAGE AND DRAINAGE HEADWALL STRUCTURAL DETAILS
20	FLAPGATE, CUT-OFF WALL & MODIFIED DRAINAGE HEADWALL (STA. 28+75) DETAILS
21	STAIR AND HANDRAIL DETAILS
22	DEBRIS BOOM DETAILS
23	DROP INLET DETAILS
24	PAYLINE AND SURVEY TIE DETAIL
25 - 26	SITE EXPLORATION MAP
27 - 30	BORING LOGS
31 - 42	CROSS SECTIONS
1 - 13	STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND POST CONSTRUCTION WATER QUALITY MANAGEMENT PLAN

UTILITY OWNER	PHONE NO.	CONTACT
SAN DIEGO GAS & ELECTRIC CO.	(949)361-8047	PATTI GOOD
THE GAS COMPANY	(714)634-3185	JOHN PAPACS
PACIFIC BELL	(714)666-5684	DOUG BLASINGHAM
COX COMMUNICATIONS	(949)546-2813	STEVE DEMORA
SOUTH COAST WATER DISTRICT OF ORANGE COUNTY	(949)499-4555	MICHAEL DUNBAR
CITY OF SAN CLEMENTE - UTILITIES DIVISION	(949)361-6120	BILL CAMERON
AT&T OSP ENGINEERING	(909)776-3914	RUBEN MARTINEZ

BENCH MARK:

O.C.S. BENCHMARK #3Y-35-84 ELEV. = 92.32'
O.C.S. BENCHMARK #3Y-12-71 ELEV. = 38.04'

NGVD 1929
(1976 O.C.S. ADJUSTMENT)

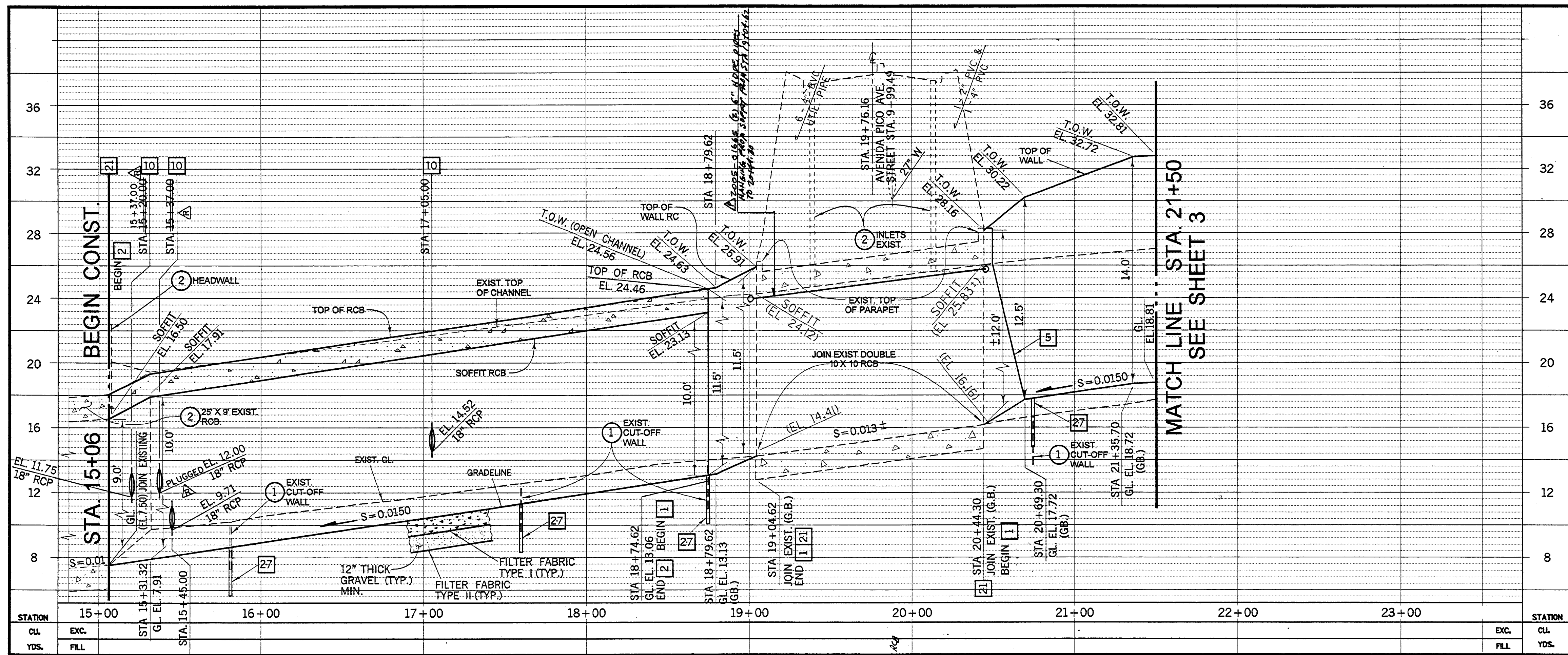
BASIS OF BEARINGS:

THE BASIS OF BEARING HEREON IS THE GRID INVERSE BETWEEN O.C.S. GPS CONTROL STATION #4332R1 AND O.C.S. GPS STATION #0146, BEING N 68°13'53" E.
COORDINATES SHOWN ARE BASED ON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM, ZONE VI, 1983 NORTH AMERICA DATUM, 1991.35 EPOCH (OCS ADJUSTMENT)
DISTANCES SHOWN ARE GROUND. MULTIPLY GROUND DISTANCES BY 0.99995957 TO OBTAIN GRID DISTANCES.

NO.	DESCRIPTION	SHT.	APPROVED	DATE
1	PERMIT 2005-01665	2/3		1/10/09
REVISIONS				

W. O. NO. EF07331
DWG. NO. M02-101-4R

SHEET 1 OF 42



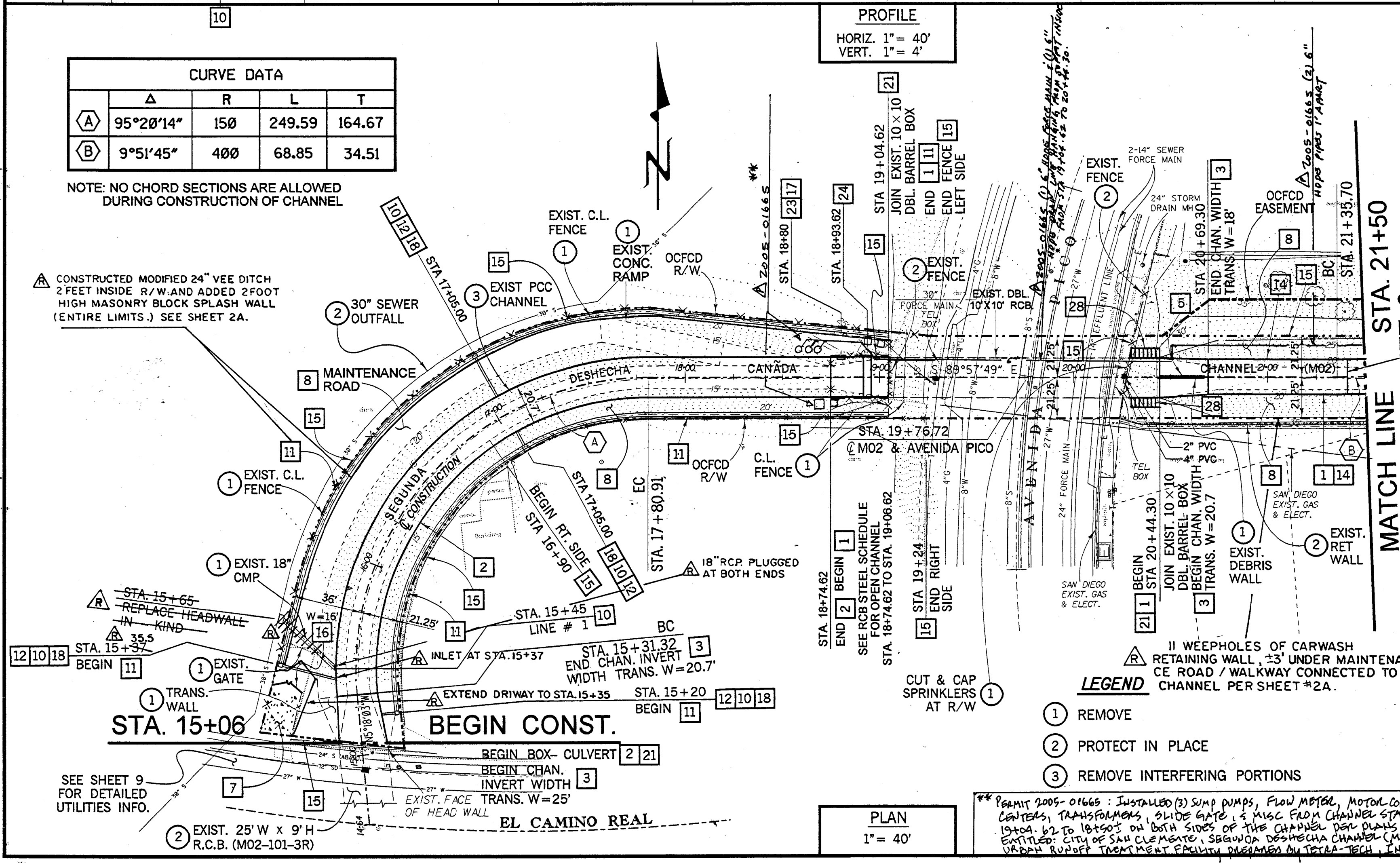
CONSTRUCTION NOTES

1. CONSTRUCT REINFORCED CONCRETE VERTICAL WALL CHANNEL PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS, SPECIAL PROVISIONS AND PFSD STD. PLAN 1803.
2. CONSTRUCT REINFORCED CONCRETE BOX-CULVERT PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS, SPECIAL PROVISIONS AND PFSD STD. PLAN 1803.
3. CONSTRUCT CHANNEL INVERT WIDTH TRANSITION PER PLAN AND PROFILE SHEETS.
5. CONSTRUCT DEBRIS NOSE AT AVENIDA PICO AND CALLE DE LOS MOLINOS PER PLAN AND DETAILS SHEET 8 AND PFSD STD. PLAN 1324.
7. CONSTRUCT PCC MAINTENANCE ROAD APPROACH WITH 0.5' PCC/NS PER PLANS, DETAILS SHEETS 9, 10, 11 AND 15 AND SPECIAL PROVISIONS.
8. CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 9, 18 AND 19 AND X-SECTIONS.
9. CONSTRUCT DOWNDRAIN TO PIPE TRANSITION PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFSD STD. PLAN 1331.
10. CONSTRUCT SIDE INLET PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFSD STD. PLAN 1314.
11. CONSTRUCT MODIFIED 24" WIDE (6" DEEP) VEE-DITCH PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 18 AND 19 AND PFSD STD. PLAN 1332.
12. CONSTRUCT INLET AND HEADWALL PER PLAN AND PROFILE SHEETS AND DETAILS SHEET 19.
14. INSTALL GUARD CABLE FENCE ON TOP OF CHANNEL WALL PER PLAN AND PROFILE SHEETS AND PFSD STD. PLAN 1413.
15. INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFSD STD. PLAN 600-0-OC.
16. INSTALL 5' HIGH CHAIN LINK DOUBLE SWING GATE, WIDTH PER PLANS AND DETAILS SHEETS 9, 10 AND 11 AND PFSD STD. PLAN 600-0-OC.
17. INSTALL 5' HIGH AND 4' WIDE CHAIN LINK GATE PER PLANS AND DETAILS SHEET AND PFSD STD. PLAN 600-0-OC.
18. INSTALL MARKER TYPE "CULVERT MARKER" PER PFSD STD. PLAN 1402, PLAN AND PROFILE SHEETS AND DETAILS SHEET 19 AND AS DIRECTED BY THE ENGINEER.
21. CONSTRUCT CHANNEL JOIN PER DETAILS SHEET 15.
22. CONSTRUCT SEDIMENT RETENTION BUMPS PER PLAN AND DETAILS SHEET 15.
23. INSTALL CHANNEL ACCESS STEPS PER PFSD STD. PLAN 1507.
24. CONSTRUCT DROP INLET PER DETAILS SHEET 23 AND SPECIAL PROVISIONS SECTION F.
27. CONSTRUCT INVERT CUT-OFF WALL PER PLAN & PROFILE SHEETS AND DETAIL SHEET 20.
28. CONSTRUCT STAIR AND HANDRAIL PER PLAN & PROFILE SHEETS AND DETAILS SHEET 21 AND AS DIRECTED BY THE ENGINEER.

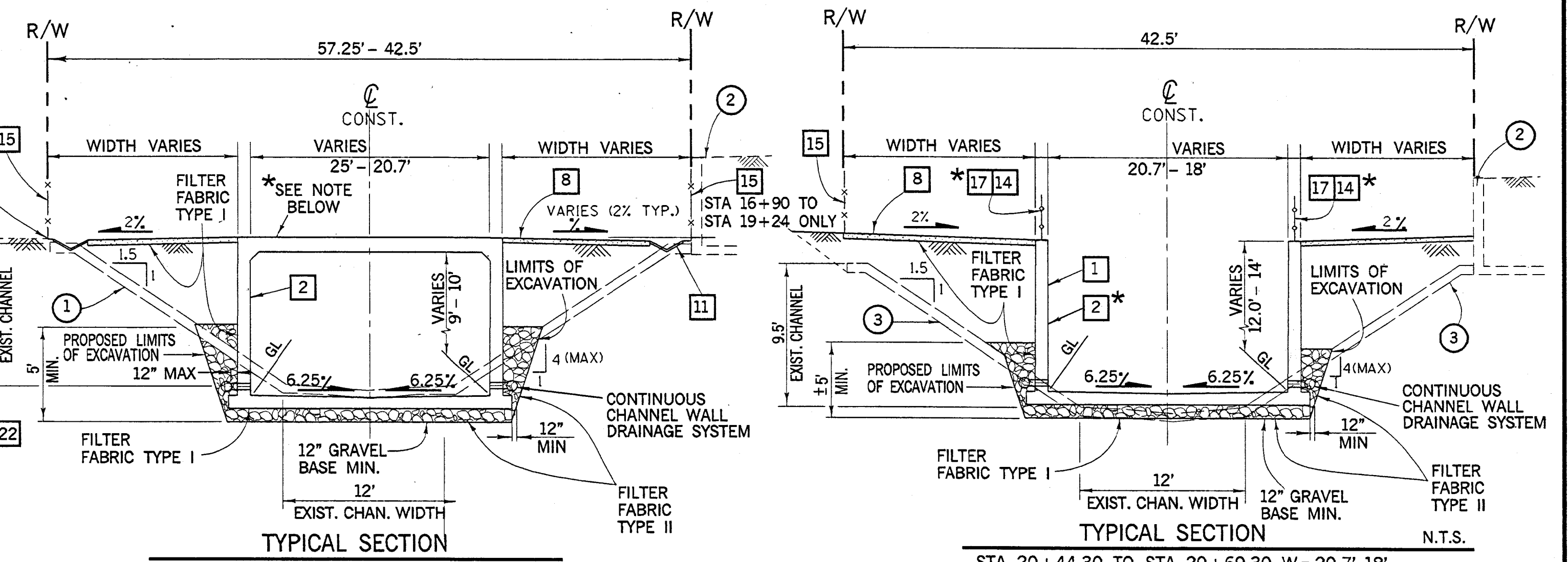
CURVE DATA				
	Δ	R	L	T
A	95°20'14"	150	249.59	164.67
B	9°51'45"	400	68.85	34.51

NOTE: NO CHORD SECTIONS ARE ALLOWED DURING CONSTRUCTION OF CHANNEL

PROFILE
HORIZ. 1" = 40'
VERT. 1" = 4'



MATCH LINE STA. 21+50
SEE SHEET 3



RECORD DRAWING

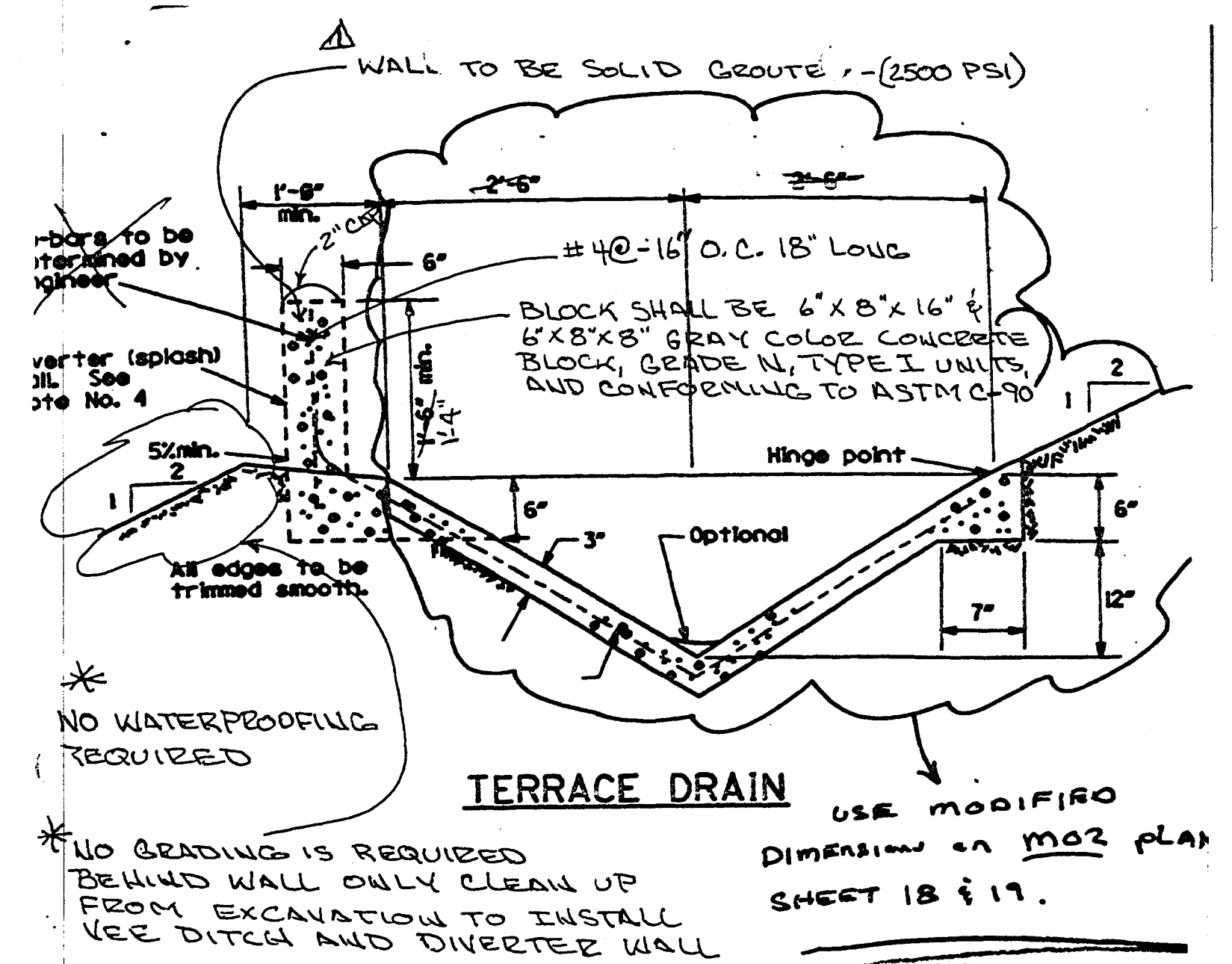
HYDRAULIC DATA									
Station to Station	Q (cfs)	b (ft)	z	S	n = 0.014		F	Dc (ft)	
					D (ft)	V (fps)			
15+06.00 TO 15+31.32	4300	25 - 20.7	0.0	0.015	5.3 TO 6.7	32.3 TO 31.0	2.5 - 2.1	9.0 TO 10.0	
15+31.32 TO 18+79.62	4300	20.7	0.0	0.015	6.7 TO 7.0	31.0 TO 29.8	2.1 - 2.0	10.0 TO 11.0	
18+79.62 TO 19+04.62	4300	20.7	0.0	±0.05	7.0 TO 7.7	29.8 TO 27.8	2.0 - 1.75	11.0	
19+04.62 TO 20+44.30 (CULVERT)	4300	20.7	0.0	±0.013	7.7 TO 7.2	27.8 TO 28.6	1.75 - 1.9	9.7	
20+44.00 TO 20+69.30	4300	20.7 - 18.0	0.0	±0.06	7.2 TO 9.6	29.0 TO 25.0	1.9 - 1.4	11.0 TO 12.1	
20+69.30 TO 21+35.70	4300	18.0	0.0	0.015	9.6 TO 10.2	25.0 TO 23.4	1.4 - 1.3	12.1	
21+35.70 TO 21+50.00	4300	18.0	0.0	0.006	10.2	23.4	1.3	12.1	

* - DOES NOT ACCOUNT FOR SUPERELEVATION AND CROSSWAVES WHEN APPLICABLE.

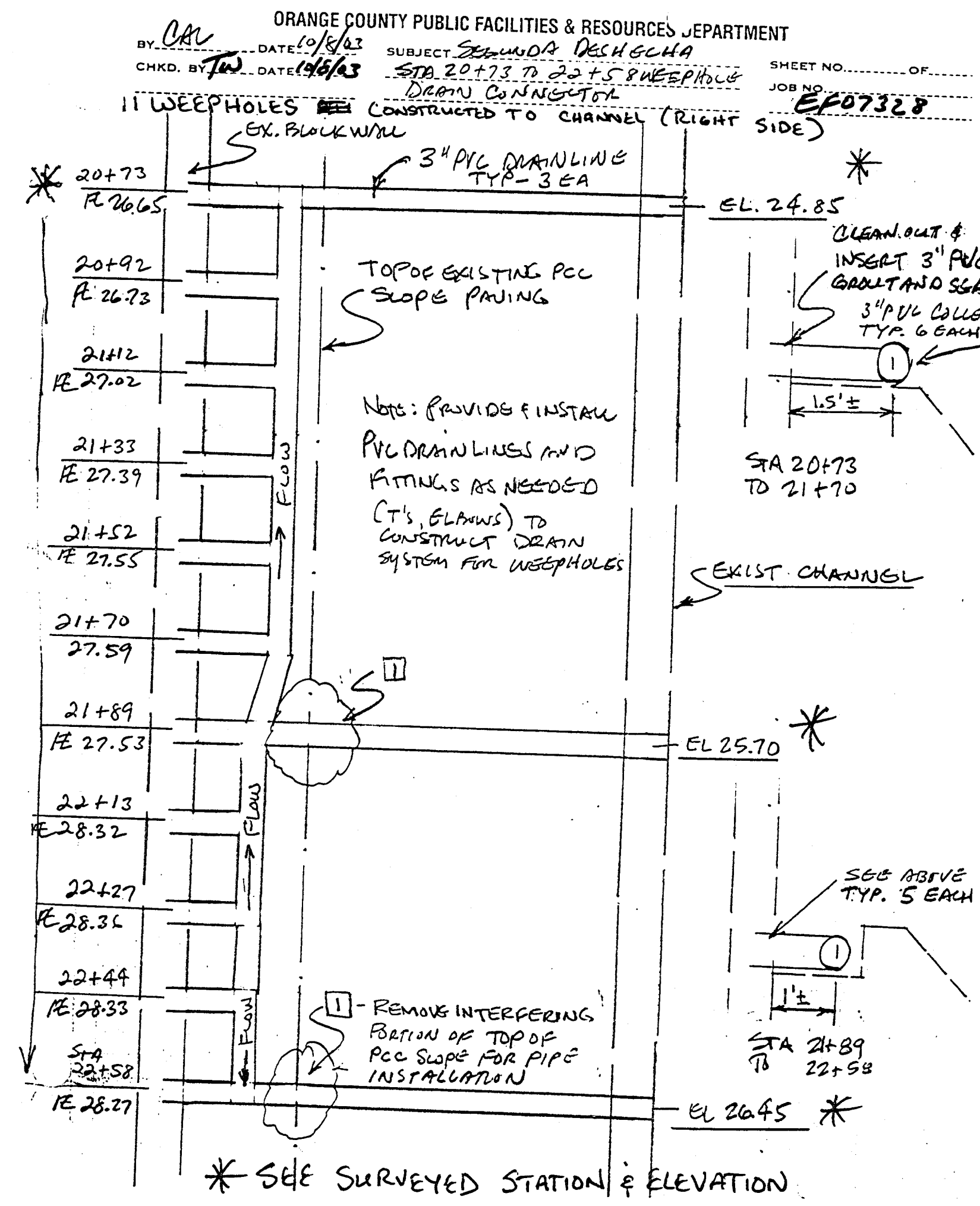
02-05
1/19/01
RECORD DRAWINGS.
PERMIT # 2005-01665

ORANGE COUNTY
PUBLIC FACILITIES AND RESOURCES DEPARTMENT
SEGUNDA DESHECHA CANADA CHANNEL
OCFCD FACILITY - MO2
PLAN & PROFILE
STA 15+06 TO STA 21+50
DESIGNED: R. GAUT
DRAWN: R.H. DE GUZMAN
CHECKED: N. MAJAJ
SCALE: AS SHOWN
DATE: 1/7/03
DRAWING NO.: M02-101-1-R
SHEET: 2 OF 42

42
2A
MO2-101-4R



- NOTES**
- Concrete shall have a minimum ultimate compressive strength at 28 days of 2500 p.s.i. Concrete may be pneumatically placed and shall conform to Section 2621 of the Uniform Building Code.
 - Reinforcing shall be 6" x 6" - W 1.4 x W 1.4 welded wire mesh (W.W.M.) OR approved equal.
 - Ground shall be pre-wetted to the satisfaction of the Building Official or Engineer prior to placement of concrete. Moisture loss retardant shall be used when required by the Building Official or Engineer.
 - Concrete or concrete block diverter (splash) wall to be constructed when down drain terminates at terrace drain. See plan for location and details. Revision to 24" MODIFIED (6" VEE) VEE-DITCH w/ SPLASH WALL FROM STA 15+35 TO STA 19+04.62 (LEFT SIDE ONLY).
- REVISED PLAN 9/11/03
▲ SOLID GROUT WALL



ORANGE COUNTY PUBLIC FACILITIES & RESOURCES DEPARTMENT
JOB NAME: SEGUNDO DESHECHA CANAL DATE: 10-16-03 CHECKED BY: CV DATE: 10/16/03
CREW: ZEISSNER WORK ORDER: # E07328 SURVEY FILE: # CM58008

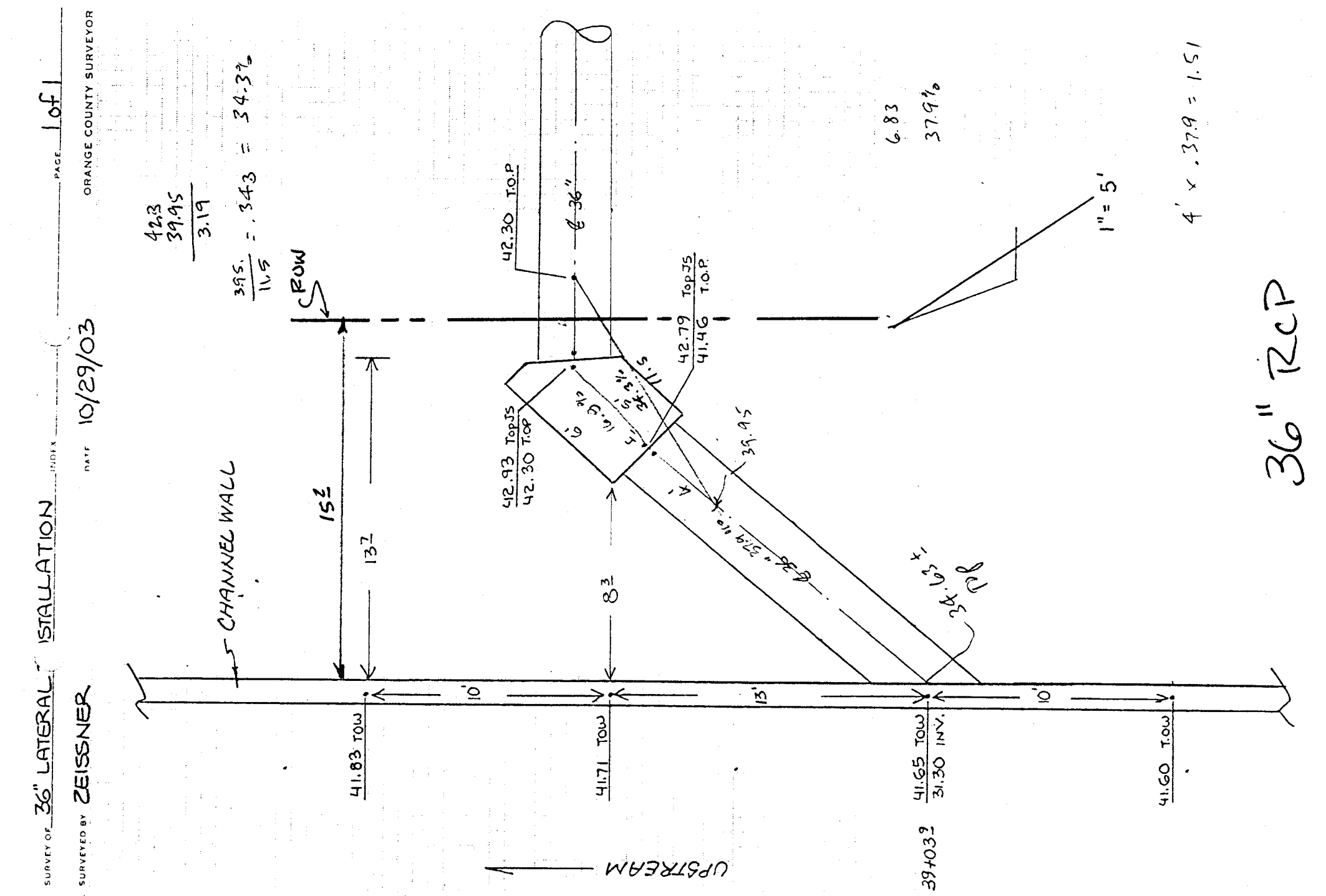
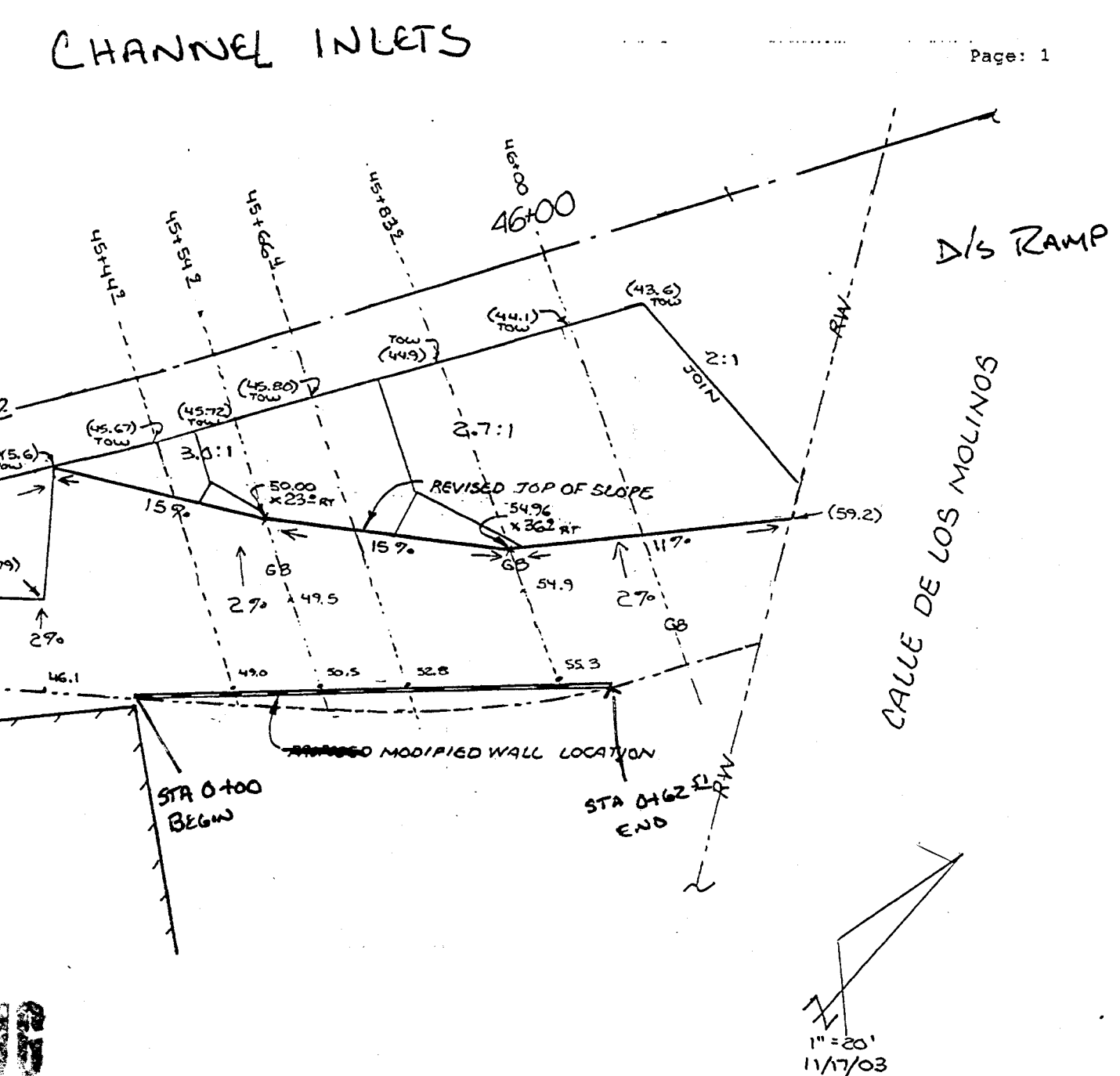
Grades are given from top of stakes or nail, unless specifically noted otherwise, grades for curb are to the top of curb and grades for pipes or flumes refer to the height of the bottom of invert, flowline or inside bottom.
Contractors are cautioned to observe the following rule in using the grade stakes given by this office for constructing curbs, walks, sewer, storm drains, flumes and all other work: Three consecutive points that are shown to be on the same rate of slope or line must be used in common in order that any such discrepancy is found, the same must be reported, otherwise this office will not be responsible for any error in the grade of the finished work.

STATION	STAKE GRADE	DESIGN GRADE	CUT/FILL	O/S	STAKE GRADE	DESIGN GRADE	CUT/FILL	O/S	REMARKS
SPLASH WALL CUT SHEET									
15+35.3	20.22	18.63	C-1.59	2.13					BEGIN WALL
19+04.62	27.41	25.09	C-2.32	2.12					END
18+79.5	24.26	24.08	C-0.18						GB
18+50	23.82	23.64	C-0.18						
18+25	23.97	23.87	C-0.10						
18+00	23.40	22.89	C-0.51						
17+80.4	23.30	22.60	C-0.70						EC
17+62.5	23.38	22.33	C-1.05						
17+50	23.23	22.14	C-1.09						
17+37.5	23.28	21.96	C-1.32						
17+25	23.15	21.77	C-1.38						
17+15	23.13	21.58	C-1.55	2.12					
17+05	22.91	21.39	C-1.52	2.12					
16+90	22.42	21.15	C-1.27	2.12					
16+75	22.13	20.90	C-1.23						
16+62.5	21.74	20.70	C-1.04						
16+50	21.08	20.49	C-0.59						
16+37.5	20.81	20.29	C-0.52						
16+25	20.86	20.09	C-0.77						
16+12.5	20.71	19.89	C-0.82						
16+00	20.21	19.69	C-0.52						
15+90.5	20.33	19.54	C-0.79						
15+81.3	20.07	19.38	C-0.69						BC
15+60	19.73	19.04	C-0.69						
15+37	20.17	18.67	C-1.50	2.2					BEGIN

ATTN: BOB VALLE
FROM: DOUG ZEISSNER

STATION AND FLOWLINE ELEVATIONS FOR CHANNEL INLETS FOR MO2 3/18/04

Station	Description	Elevation	Notes
54+12.28 R	13"	51.89	INVERT
51+55.28 R	13"	43.55	INVERT
49+76.11 R	24"	41.26	INVERT
49+46.63 L	36"	40.74	INVERT
47+64.50 L	4"	44.38	INVERT
45+60.97 L	18"	35.63	INVERT
45+27.90 L	18"	35.11	INVERT
44+39.76 L	18"	33.40	INVERT
44+20.20 R	4"	41.34	INVERT
44+03.84 L	18"	35.94	INVERT
43+21.71 R	18"	33.69	INVERT
42+52.75 L	18"	34.95	INVERT
41+27.82 L	16"	53.18	INVERT
40+39.69 L	18"	33.44	INVERT
39+55.19 L	18"	32.35	INVERT
38+65.14 R	36"	31.25	INVERT
36+62.50 R	18"	37.35	INVERT
36+46.50 L	18"	30.53	INVERT
35+50.60 R	4"	36.92	INVERT
35+36.10 R	4"	31.15	INVERT
35+03.11 R	60"	27.87	INVERT
34+67.73 R	4"	35.94	INVERT
34+90.00 R	18"	29.07	INVERT
34+80.08 R	6"	30.94	INVERT
34+60.15 R	6"	34.58	INVERT
34+15.17 L	18"	28.57	INVERT
32+69.78 R	18"	26.20	INVERT
31+86.11 L	18"	23.49	INVERT
30+77.72 R	18"	26.94	INVERT
29+69.21 L	18"	27.61	INVERT
29+38.50 R	24"	23.45	INVERT
29+12.45 L	3"	25.07	INVERT
28+95.71 L	18"	24.59	INVERT
28+75.55 R	18"	24.29	INVERT
28+62.53 L	4"	26.83	INVERT
28+24.99 L	4"	24.95	INVERT
27+75.96 R	18"	25.65	INVERT
27+51.96 L	18"	26.97	INVERT
27+27.55 L	4"	26.16	INVERT
26+74.24 L	4"	25.72	INVERT
25+84.43 R	24"	25.50	INVERT
24+73.82 L	18"	21.74	INVERT
23+42.25 R	12"	27.43	INVERT
22+86.01 R	12"	26.86	INVERT
22+66.16 R	6"	26.72	INVERT
22+58.04 R	3"	25.81	INVERT
21+85.52 R	3"	25.34	INVERT
20+73.90 R	3"	24.89	INVERT



JOB NAME: SEGUNDO DESHECHA CANAL DATE: 11-20-03 CHECKED BY: CV DATE: 11/20/03
CREW: ZEISSNER WORK ORDER: # E07328 SURVEY FILE: # CM58008

Grades are given from top of stakes or nail, unless specifically noted otherwise, grades for curb are to the top of curb and grades for pipes or flumes refer to the height of the bottom of invert, flowline or inside bottom.
Contractors are cautioned to observe the following rule in using the grade stakes given by this office for constructing curbs, walks, sewer, storm drains, flumes and all other work: Three consecutive points that are shown to be on the same rate of slope or line must be used in common in order that any such discrepancy is found, the same must be reported, otherwise this office will not be responsible for any error in the grade of the finished work.

STATION	STAKE GRADE	DESIGN GRADE	CUT/FILL	O/S	REMARKS
BLOCK RETAINING WALL AT MOLINOS					
0+22.61	58.03	55.49	C-2.54	2.54	
0+57.21	57.01	55.49	C-1.52	1.52	
0+53.20	56.46	55.49	C-0.97	0.97	
0+42.55	55.55	53.99	C-1.56	1.56	
0+41.62	54.65	53.99	C-0.66	0.66	
0+37.21	53.94	53.99	C-0.05	0.05	
0+33.82	53.07	53.99	C-0.92	0.92	
0+27.92	52.49	53.99	C-1.50	1.50	
0+22.61	51.68	53.99	C-2.31	2.31	
0+15.76	51.27	53.99	C-2.72	2.72	
0+07.18	50.91	53.99	C-3.08	3.08	
0+00	50.41	53.99	C-3.58	3.58	

RECORD DRAWING

02-05 RECORD DRAWINGS

ORANGE COUNTY
PUBLIC FACILITIES AND RESOURCES DEPARTMENT

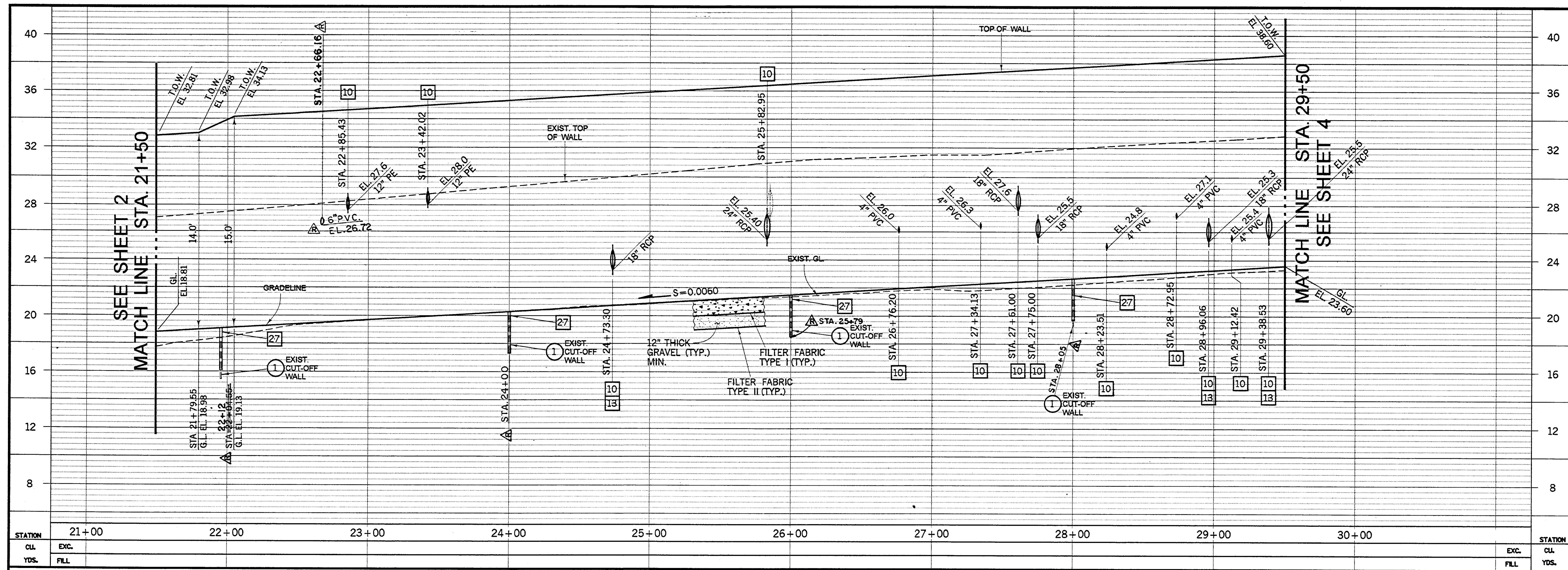
SEGUNDO DESHECHA CANAL CHANNEL
OCCFD FACILITY - MO2

PLAN & PROFILE
STA 15+06 TO STA 21+50

DESIGNED: R. GAUT
CHECKED: J. ZEISSNER

SCALE: AS SHOWN
DATE: 1/7/03
DRAWING NO.: MB2-101-4 R

SHEET 2A OF 42



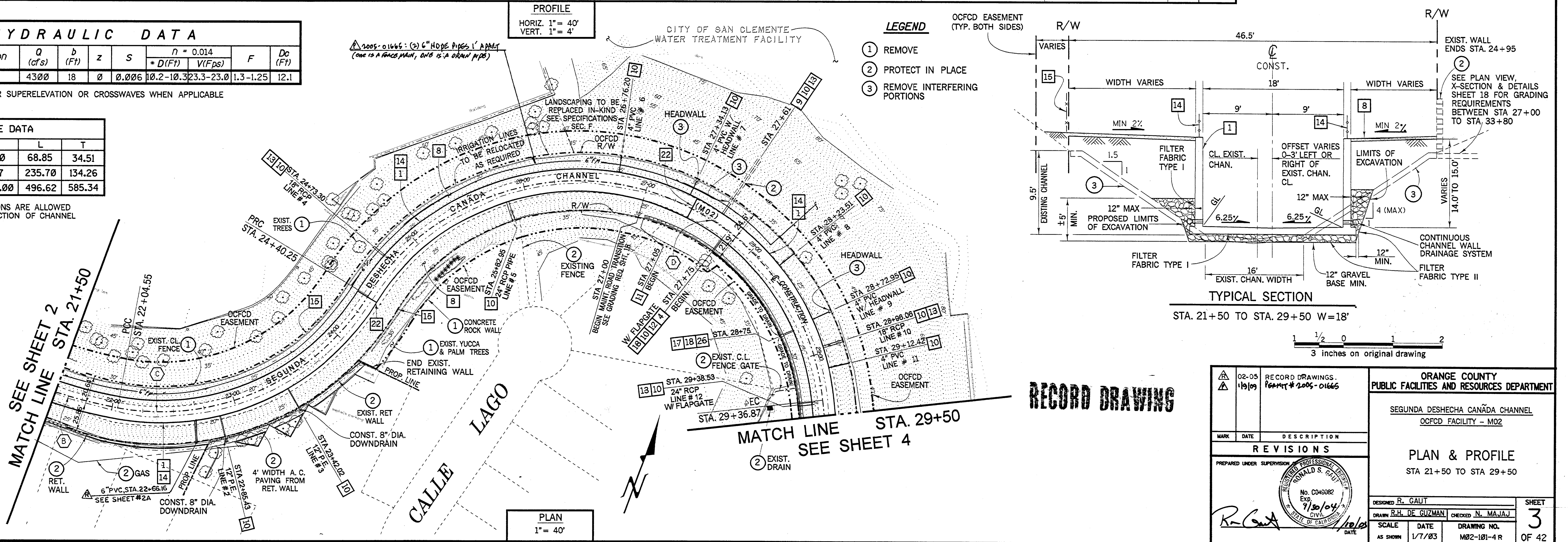
- CONSTRUCTION NOTES**
1. CONSTRUCT REINFORCED CONCRETE VERTICAL WALL CHANNEL PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS, SPECIAL PROVISIONS AND PFRD STD. PLAN 1803.
 4. CONSTRUCT REINFORCED MASONRY RETAINING WALL PER PFRD STD. PLAN 618-0-OC MODIFIED HEREIN PER PLAN AND PROFILE SHEETS, TYPICAL SECTION AND DETAILS SHEET 15 AND 16.
 5. CONSTRUCT DEBRIS NOSE AT AVENIDA PICO AND CALLE DE LOS MOLINOS PER PLAN AND DETAILS SHEET 8 AND PFRD STD. PLAN 1324.
 8. CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 9, 18 AND 19 AND X-SECTIONS.
 9. CONSTRUCT DOWNDRAIN TO PIPE TRANSITION PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1331.
 10. CONSTRUCT SIDE INLET PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1314.
 11. CONSTRUCT MODIFIED 24" WIDE (6" DEEP) VEE-DITCH PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 18 AND 19 AND PFRD STD. PLAN 1332.
 12. CONSTRUCT INLET AND HEADWALL PER PLAN AND PROFILE SHEETS AND DETAILS SHEET 19.
 13. CONSTRUCT R.C. COLLAR PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1317.
 14. INSTALL GUARD CABLE FENCE ON TOP OF CHANNEL WALL PER PLAN AND PROFILE SHEETS AND PFRD STD. PLAN 1413.
 15. INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
 17. INSTALL 5' HIGH AND 4' WIDE CHAIN LINK GATE PER PLANS AND DETAILS SHEET AND PFRD STD. PLAN 600-0-OC.
 18. INSTALL MARKER TYPE "CULVERT MARKER" PER PFRD STD. PLAN 1402, PLAN AND PROFILE SHEETS AND DETAILS SHEET 19 AND AS DIRECTED BY THE ENGINEER.
 22. CONSTRUCT SEDIMENT RETENTION BUMPS PER PLAN AND DETAILS SHEET 15.
 26. CONSTRUCT SPECIAL INLET WITH FLAPGATE AND MODIFIED DRAINAGE HEADWALL PER PLAN & PROFILE SHEETS AND DETAILS SHEET 20.
 27. CONSTRUCT INVERT CUT-OFF WALL PER PLAN & PROFILE SHEETS AND DETAIL SHEET 20.

HYDRAULIC DATA									
Station to Station	Q (cfs)	b (ft)	z	S	n = 0.014	F	Dc (ft)		
					* D(Ft) V(Fps)				
21+50 TO 29+50	4300	18	0	0.006	10.2-10.3 23.3-23.0	1.3-1.25	12.1		

* DOES NOT ACCOUNT FOR SUPERELEVATION OR CROSSWAVES WHEN APPLICABLE

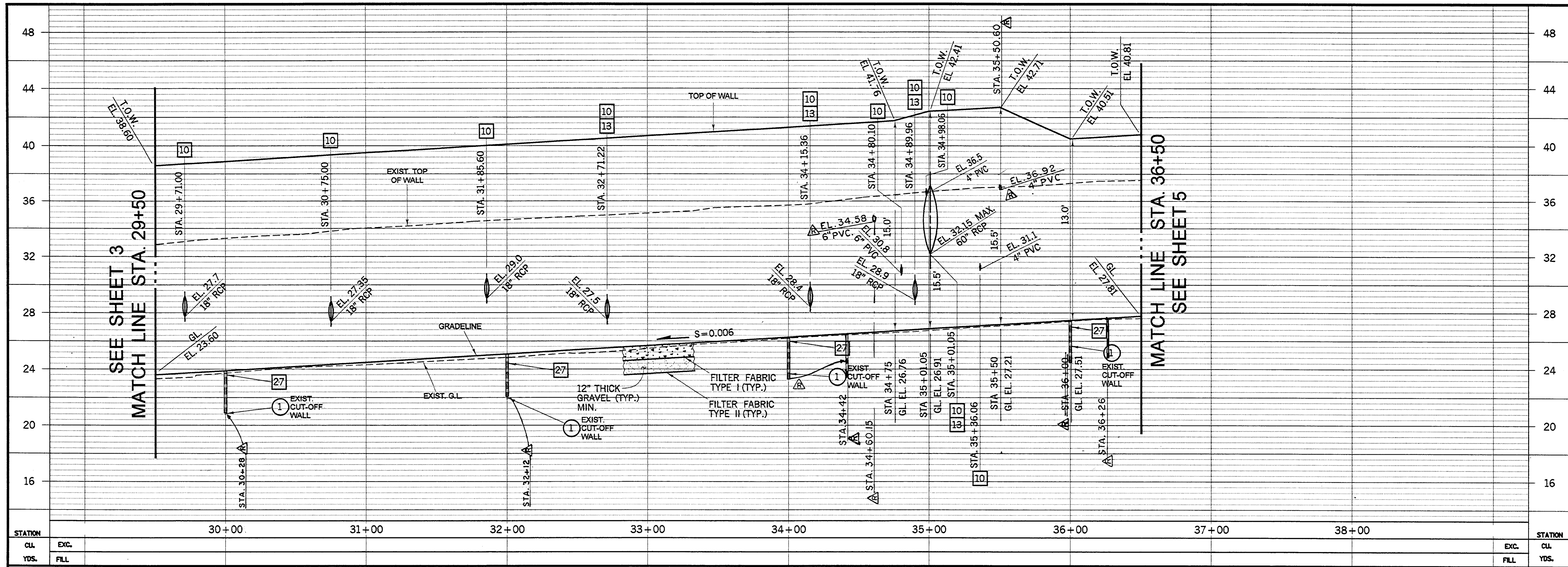
CURVE DATA				
	Δ	R	L	T
(B)	9°51'45"	400	68.85	34.51
(C)	68°33'04"	197	235.70	134.26
(D)	142°16'17"	200.00	496.62	585.34

NOTE: NO CHORD SECTIONS ARE ALLOWED DURING CONSTRUCTION OF CHANNEL



RECORD DRAWING

02-05 10/09	RECORD DRAWINGS 10/09/09 10/09/09	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT
SEGUNDA DESHECHA CANADA CHANNEL OCCFD FACILITY - M02		DESIGNED R. GAUT
PLAN & PROFILE STA 21+50 TO STA 29+50		CHECKED N. MAJAJ
SCALE 1/7/03		DRAWING NO. M02-101-4R
DATE 1/10/04		SHEET 3 OF 42



CONSTRUCTION NOTES

- CONSTRUCT REINFORCED CONCRETE VERTICAL WALL CHANNEL PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS, SPECIAL PROVISIONS AND PFRD STD. PLAN 1803.
- CONSTRUCT REINFORCED MASONRY RETAINING WALL PER PFRD STD. PLAN 618-0-OC MODIFIED HEREIN PER PLAN AND PROFILE SHEETS, TYPICAL SECTION AND DETAILS SHEET 15 AND 16.
- CONSTRUCT DEBRIS NOSE AT AVENIDA PICO AND CALLE DE LOS MOLINOS PER PLAN AND DETAILS SHEET 8 AND PFRD STD. PLAN 1324.
- CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 9, 18 AND 19 AND X-SECTIONS.
- CONSTRUCT DOWNDRAIN TO PIPE TRANSITION PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1331.
- CONSTRUCT SIDE INLET PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1314.
- CONSTRUCT MODIFIED 24" WIDE (6" DEEP) VEE-DITCH PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 18 AND 19 AND PFRD STD. PLAN 1332.
- CONSTRUCT INLET AND HEADWALL PER PLAN AND PROFILE SHEETS AND DETAILS SHEET 19.
- CONSTRUCT R.C. COLLAR PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1317.
- INSTALL GUARD CABLE FENCE ON TOP OF CHANNEL WALL PER PLAN AND PROFILE SHEETS AND PFRD STD. PLAN 1413.
- INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
- INSTALL MARKER TYPE "CULVERT MARKER" PER PFRD STD. PLAN 1402, PLAN AND PROFILE SHEETS AND DETAILS SHEET 19 AND AS DIRECTED BY THE ENGINEER.
- CONSTRUCT SEDIMENT RETENTION BUMPS PER PLAN AND DETAILS SHEET 15.
- CONSTRUCT INVERT CUT-OFF WALL PER PLAN & PROFILE SHEETS AND DETAIL SHEET 20.

CURVE DATA				
E	Δ	R	L	T
99°57'53"	200	348.94	238.20	

NOTE: NO CHORD SECTIONS ARE ALLOWED DURING CONSTRUCTION OF CHANNEL

SEE SHEET 3
MATCH LINE STA. 29+50

PROFILE
HORIZ. 1" = 40'
VERT. 1" = 4'

SEE SHEET 5
MATCH LINE STA. 36+50

LEGEND

- REMOVE
- PROTECT IN PLACE
- REMOVE INTERFERING PORTIONS

CITY OF SAN CLEMENTE
WATER TREATMENT FACILITY

PLAN
1" = 40'

HYDRAULIC DATA

Station to Station	Q (cfs)	b (ft)	z	S	n = 0.014	F	Dc (ft)
29+50 TO 35+00	4300	18	0	0.006	7.3-12.1	23.0-19.7	1.25-1.20
35+00 TO 35+35	4100	18	0	0.006	14.3-14.0	15.7-15.9	0.7
35+35 TO 36+50	4100	18	0	0.006	9.5	24.0	1.4

• DOES NOT ACCOUNT FOR SUPERELEVATION OR CROSSWAVES WHEN APPLICABLE

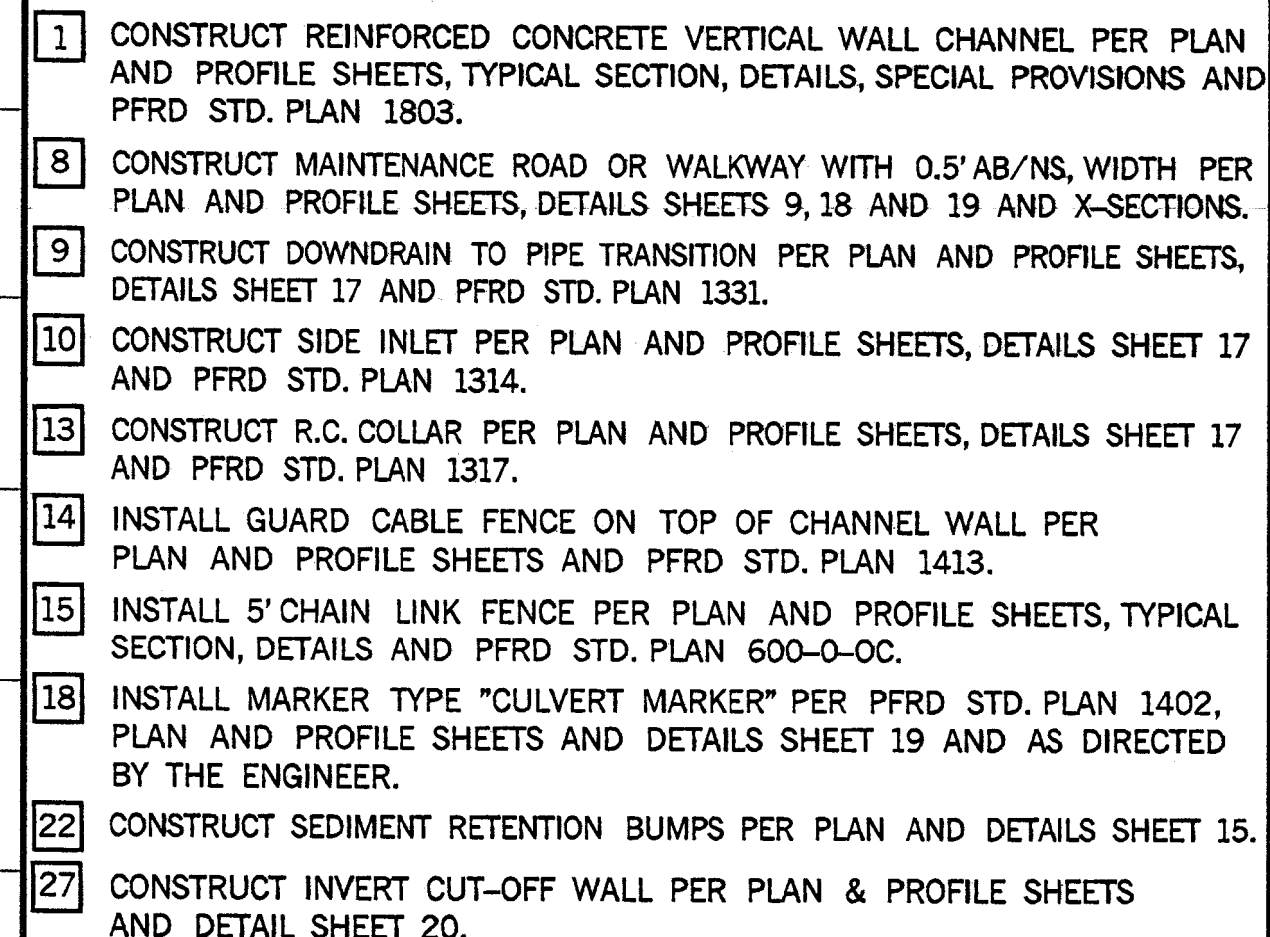
TYPICAL SECTION

STA 29+50 TO STA 36+50 W=18'

RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

02-05	RECORD DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT
MARK DATE DESCRIPTION		SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - MO2
REVISIONS		
PREPARED UNDER SUPERVISOR'S AUTHORITY		
DESIGNED R. GAUT		
DRAWN R.H. DE GUZMAN		
SCALE	DATE	DRAWING NO.
AS SHOWN	1/7/03	MO2-101-4-R
SHEET		4
OF 42		



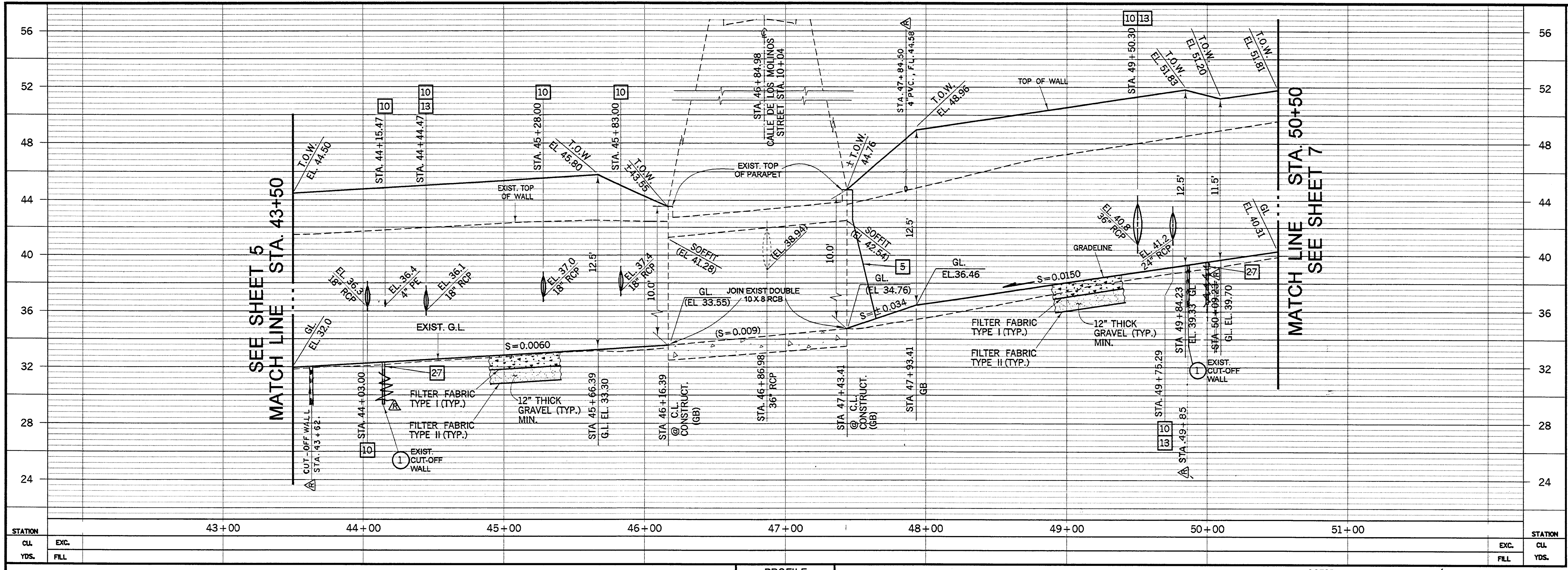
	02-05	RECORD DRAWINGS.
MARK	DATE	DESCRIPTION
R E V I S I O N S		
PREPARED UNDER SUPERVISION OF		
		
		
DATE <u>1/10/95</u>		

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT		
<u>SEGUNDA DESHECHA CANAÑA CHANNEL</u> <u>OCFCD FACILITY - M02</u>		
PLAN & PROFILE STA 36+50 TO STA 43+50		
DESIGNED <u>R. GAULT</u>		
DRAWN <u>R.H. DE GUZMAN</u>		CHECKED <u>N. MAJAJ</u>
SCALE	DATE	DRAWING NO.
AS SHOWN	1/7/93	M02-101-A R

SHEET
5
OF 42

MO2-101-4 R

6 42



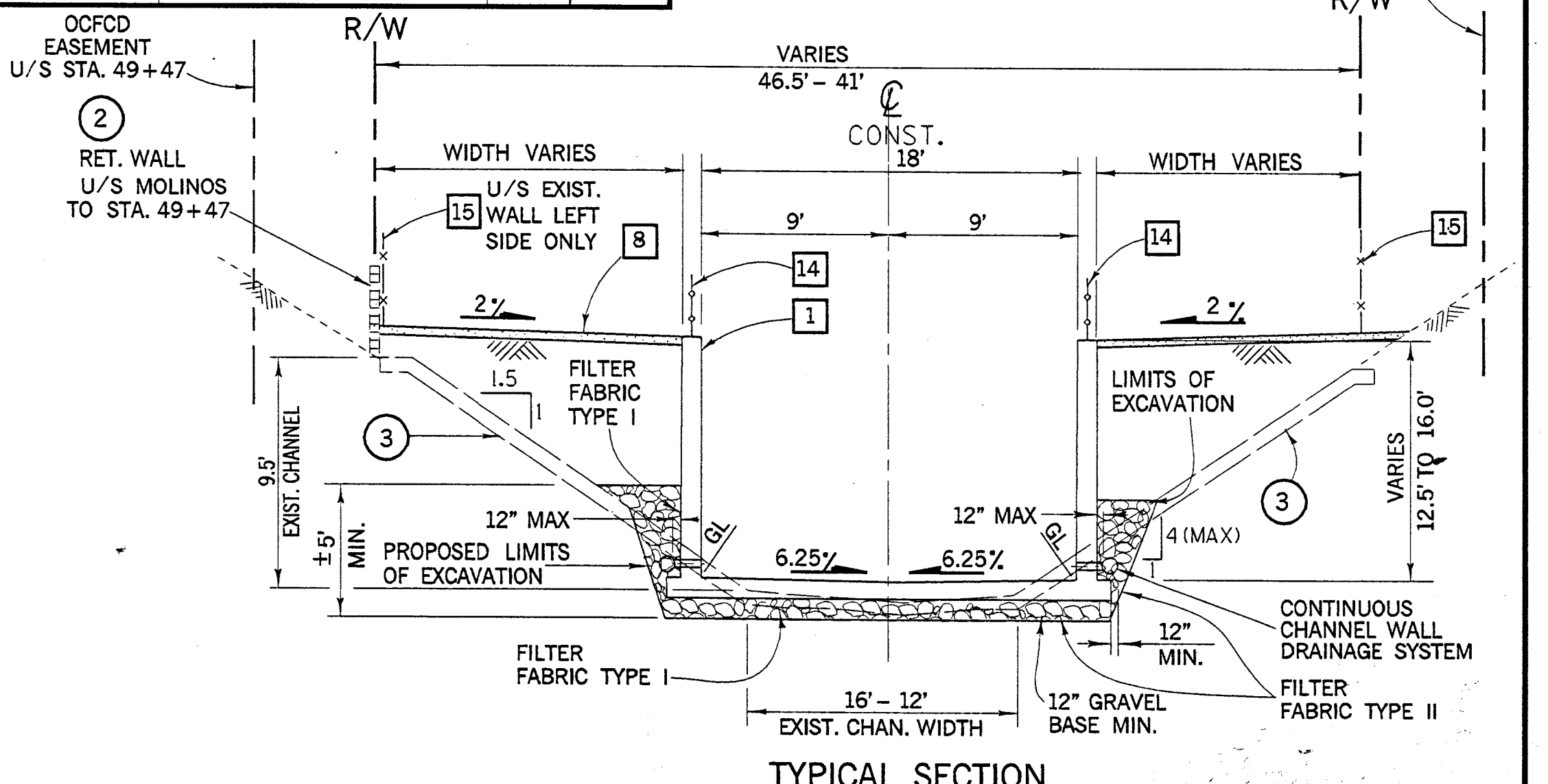
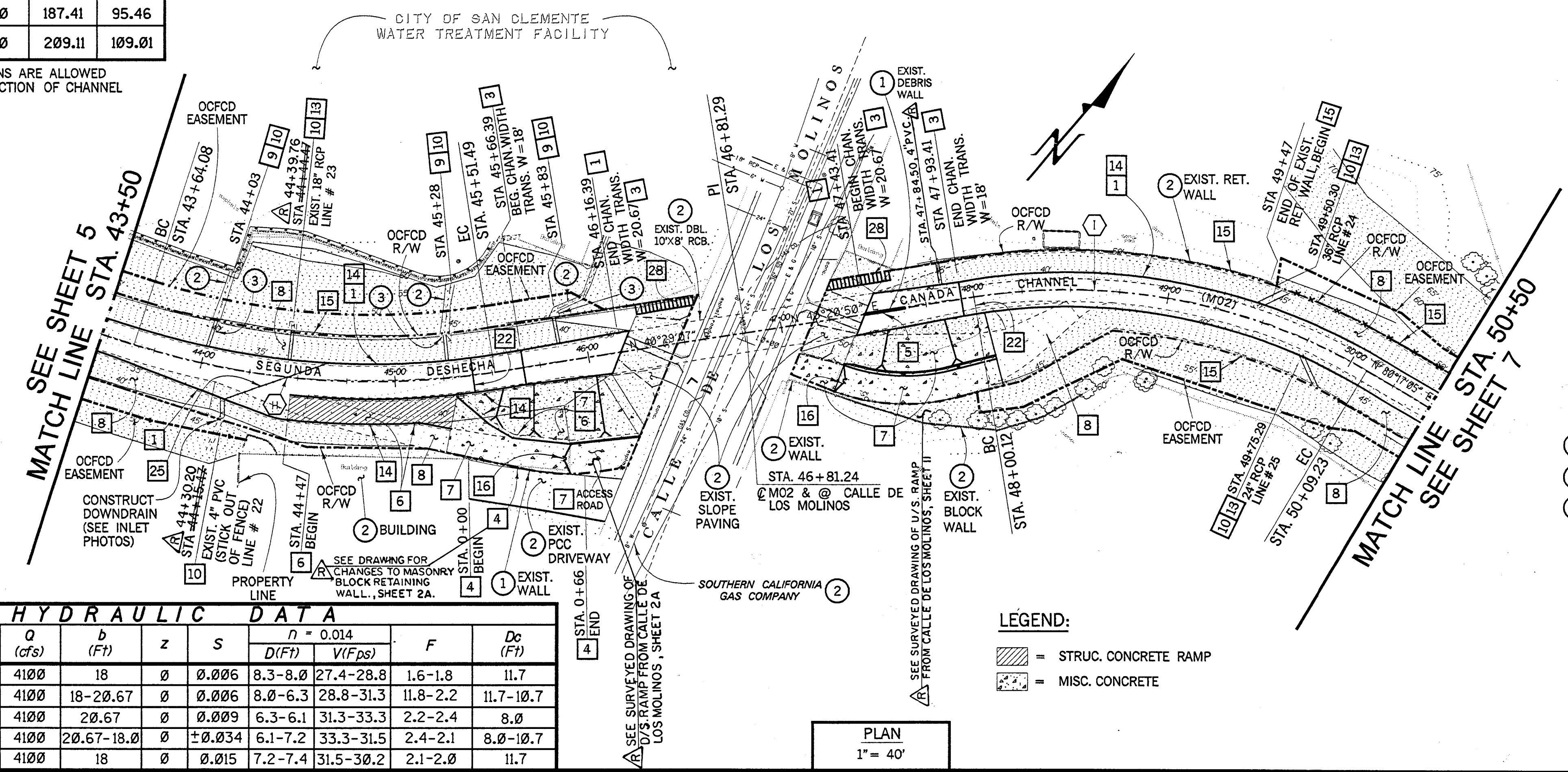
- ### CONSTRUCTION NOTES
1. CONSTRUCT REINFORCED CONCRETE VERTICAL WALL CHANNEL PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS, SPECIAL PROVISIONS AND PFRD STD. PLAN 1803.
 3. CONSTRUCT CHANNEL INVERT WIDTH TRANSITION PER PLAN AND PROFILE SHEETS.
 4. CONSTRUCT REINFORCED MASONRY RETAINING WALL PER PFRD STD. PLAN 618-0-OC MODIFIED HEREIN PER PLAN AND PROFILE SHEETS, TYPICAL SECTION AND DETAILS SHEET 15 AND 16.
 5. CONSTRUCT DEBRIS NOSE AT AVENIDA PICO AND CALLE DE LOS MOLINOS PER PLAN AND DETAILS SHEET 8 AND PFRD STD. PLAN 1324.
 6. CONSTRUCT CHANNEL ACCESS RAMP D/S OF CALLE DE LOS MOLINOS PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 10 AND 12.
 7. CONSTRUCT PCC MAINTENANCE ROAD APPROACH WITH 0.5' PCC/NS PER PLANS, DETAILS SHEETS 9, 10, 11 AND 15 AND SPECIAL PROVISIONS.
 8. CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 9, 18 AND 19 AND X-SECTIONS.
 9. CONSTRUCT DOWNDRAIN TO PIPE TRANSITION PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1331.
 10. CONSTRUCT SIDE INLET PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1314.
 13. CONSTRUCT R.C. COLLAR PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1317.
 14. INSTALL GUARD CABLE FENCE ON TOP OF CHANNEL WALL PER PLAN AND PROFILE SHEETS AND PFRD STD. PLAN 1413.
 15. INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
 16. INSTALL 5' HIGH CHAIN LINK DOUBLE SWING GATE, WIDTH PER PLANS AND DETAILS SHEETS 9, 10 AND 11 AND PFRD STD. PLAN 600-0-OC.
 22. CONSTRUCT SEDIMENT RETENTION BUMPS PER PLAN AND DETAILS SHEET 15.
 25. INSTALL DEBRIS BOOM PER PLAN AND PROFILE SHEET 6, DETAILS SHEET 22 AND SPECIAL PROVISIONS SECTION F.
 27. CONSTRUCT INVERT CUT-OFF WALL PER PLAN & PROFILE SHEETS AND DETAIL SHEET 20.
 28. CONSTRUCT STAIR AND HANDRAIL PER PLAN & PROFILE SHEETS AND DETAILS SHEET 21 AND AS DIRECTED BY THE ENGINEER.

CURVE DATA

	Δ	R	L	T
H	26°50'38"	400	187.41	95.46
I	39°56'15"	300	209.11	109.01

NOTE: NO CHORD SECTIONS ARE ALLOWED DURING CONSTRUCTION OF CHANNEL

PROFILE
HORIZ. 1" = 40'
VERT. 1" = 4'



HYDRAULIC DATA

Station to Station	Q (cfs)	b (ft)	z	S	D (ft)	V (fps)	F	Dc (ft)
43+50 TO 45+66.39	4100	18	0	0.006	8.3-8.0	27.4-28.8	1.6-1.8	11.7
45+66.39 TO 46+16.39	4100	18-20.67	0	0.006	8.0-6.3	28.8-31.3	11.8-2.2	11.7-10.7
46+16.39 TO 47+43.41	4100	20.67	0	0.009	6.3-6.1	31.3-33.3	2.2-2.4	8.0
47+43.41 TO 47+93.11	4100	20.67-18.0	0	±0.034	6.1-7.2	33.3-31.5	2.4-2.1	8.0-10.7
47+93.11 TO 50+50	4100	18	0	0.015	7.2-7.4	31.5-30.2	2.1-2.0	11.7

- ### LEGEND:
- 1. REMOVE
 - 2. PROTECT IN PLACE
 - 3. REMOVE INTERFERING PORTIONS

- ### LEGEND
- 1. REMOVE
 - 2. PROTECT IN PLACE
 - 3. REMOVE INTERFERING PORTIONS

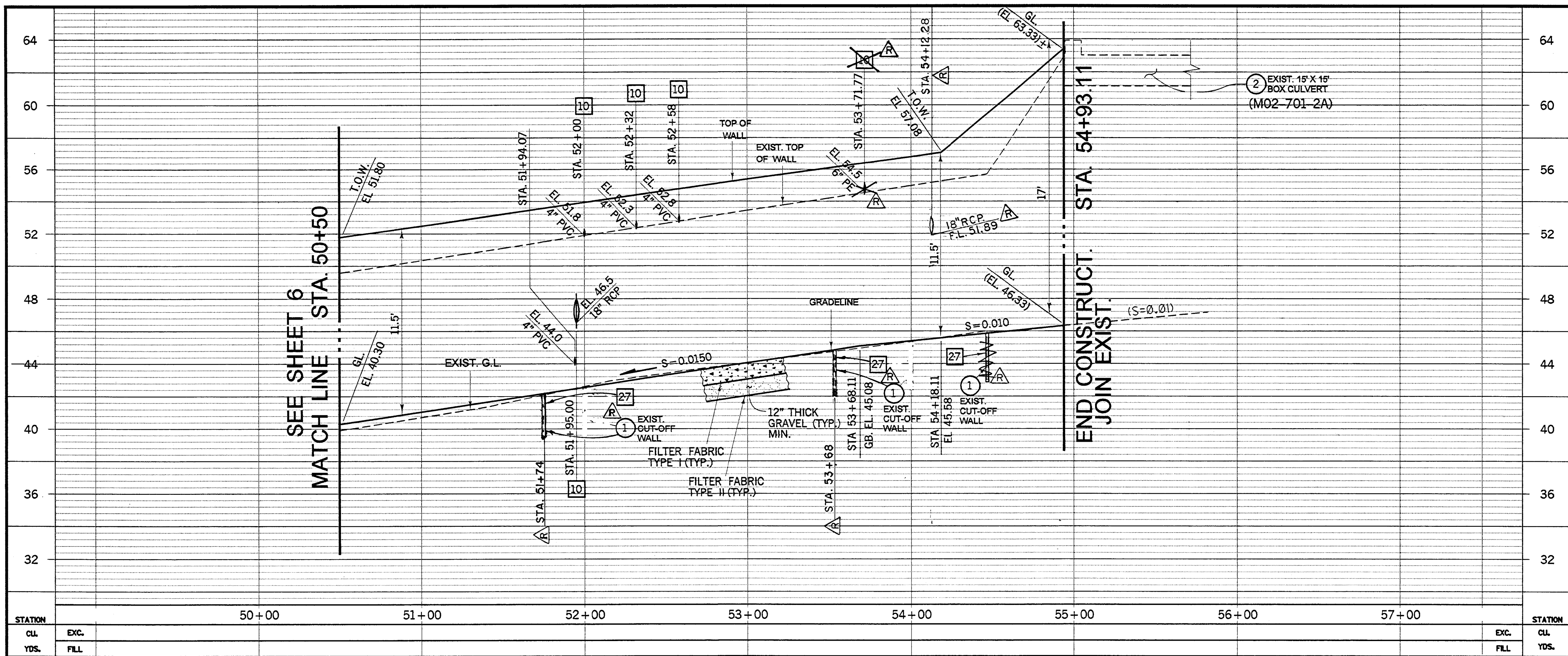
RECORD DRAWING

3 inches on original drawing

03/05	RECORD DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
MARK DATE DESCRIPTION		SEGUNDA DESHECHA CAÑADA CHANNEL OCFCD FACILITY - M02	
REVISIONS		PLAN & PROFILE STA 43+50 TO STA 50+50	
PREPARED UNDER SUPERVISION		DESIGNED: R. GAUT	
DRAWN: J.H. DE GUZMAN		CHECKED: N. MAJAJ	
SCALE: AS SHOWN		DATE: 1/10/03	
DRAWING NO. M02-101-4 R		SHEET 6 OF 42	

15 100
M02-101-4 R

7 412



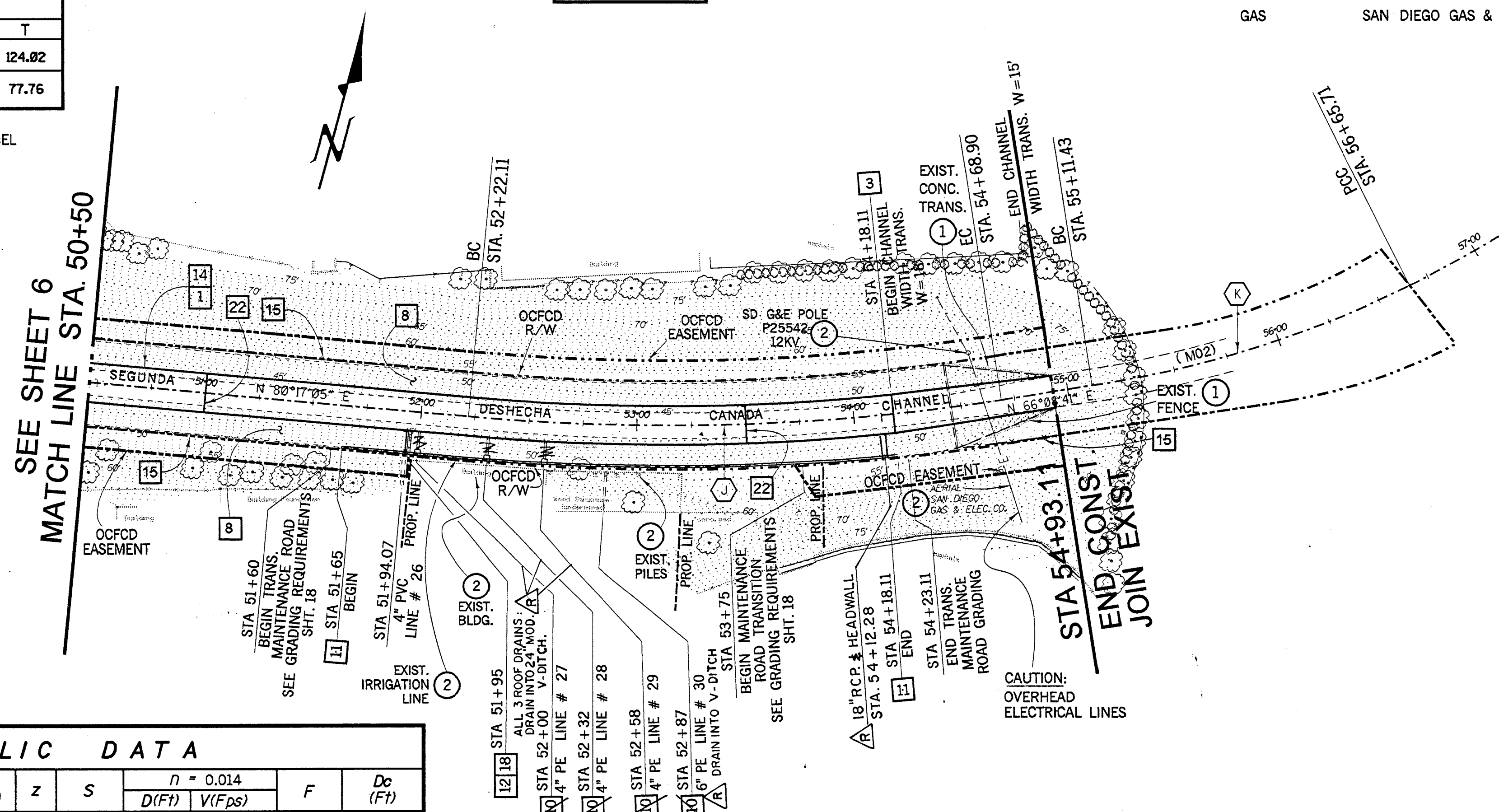
CURVE DATA				
	Δ	R	L	T
J	14°08'24"	1000	246.79	124.02
K	17°48'47"	500	154.29	77.76

NOTE: NO CHORD SECTIONS ARE ALLOWED DURING CONSTRUCTION OF CHANNEL

PROFILE
HORIZ. 1" = 40'
VERT. 1" = 4'

UTILITIES
GAS

OWNER
SAN DIEGO GAS & ELECTRIC CO.

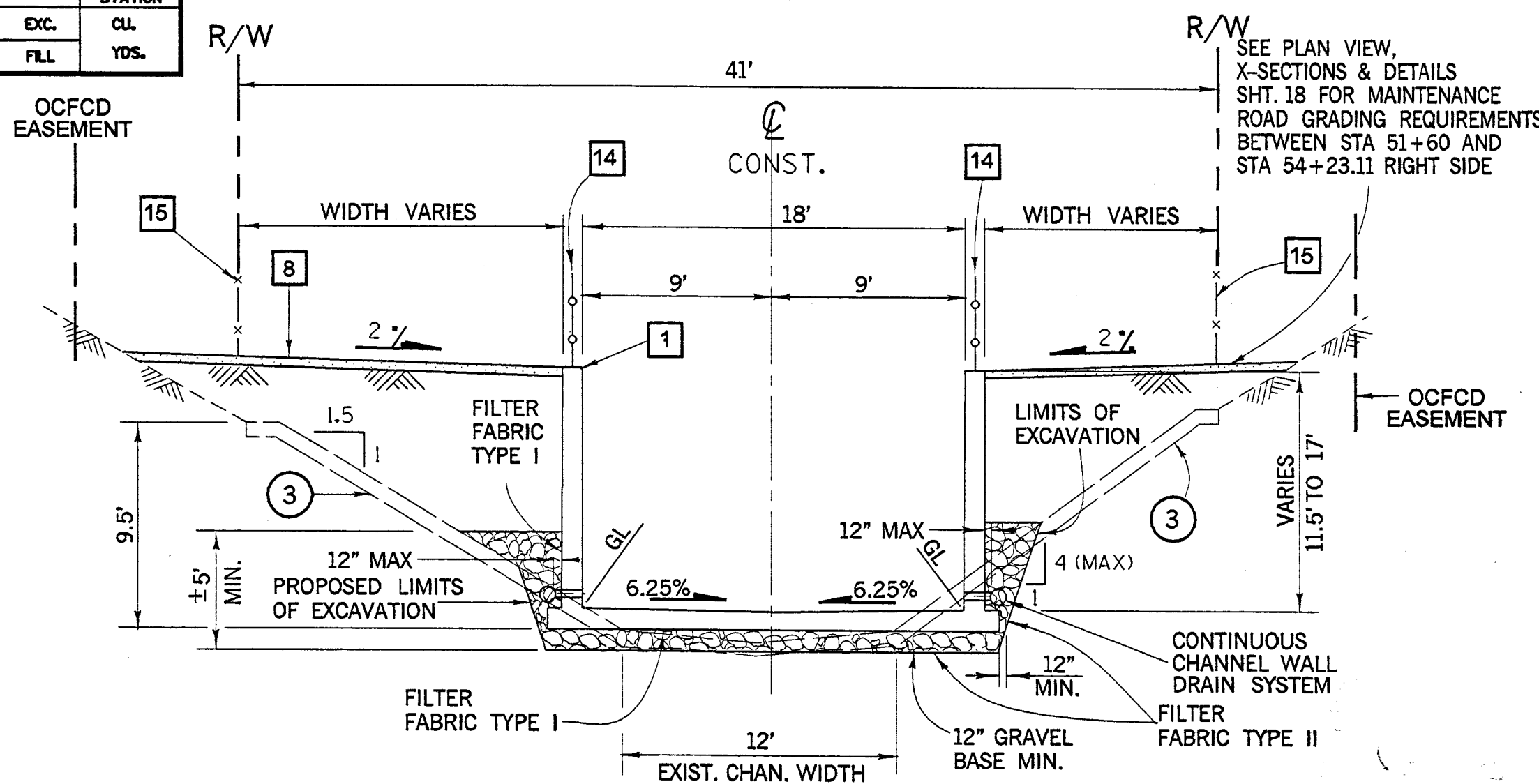


HYDRAULIC DATA							
Station to Station	Q (cfs)	b (ft)	z	S	$n = 0.014$ D (ft) V (Fps)	F	D ₀ (ft)
50+50 TO 53+68.81	4100	18	0	0.015	7.4-7.6 30.2-29.9	2.0-1.9	11.7
53+68.81 TO 54+93.81	4100	18-15	0	0.01	7.6-9.8 29.9-27.8	1.9-1.6	11.7-13.2

PLAN
1" = 40'

CONSTRUCTION NOTES

- 1 CONSTRUCT REINFORCED CONCRETE VERTICAL WALL CHANNEL PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS, SPECIAL PROVISIONS AND PFRD STD. PLAN 1803.
- 3 CONSTRUCT CHANNEL INVERT WIDTH TRANSITION PER PLAN AND PROFILE SHEETS.
- 8 CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 9, 18 AND 19 AND X-SECTIONS.
- 10 CONSTRUCT SIDE INLET PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1314.
- 11 CONSTRUCT MODIFIED 24" WIDE (6" DEEP) VEE-DITCH PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 18 AND 19 AND PFRD STD. PLAN 1332.
- 12 CONSTRUCT INLET AND HEADWALL PER PLAN AND PROFILE SHEETS AND DETAILS SHEET 19.
- 14 INSTALL GUARD CABLE FENCE ON TOP OF CHANNEL WALL PER PLAN AND PROFILE SHEETS AND PFRD STD. PLAN 1413.
- 15 INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
- 18 INSTALL MARKER TYPE "CULVERT MARKER" PER PFRD STD. PLAN 1402, PLAN AND PROFILE SHEETS AND DETAILS SHEET 19 AND AS DIRECTED BY THE ENGINEER.
- 22 CONSTRUCT SEDIMENT RETENTION BUMPS PER PLAN AND DETAILS SHEET 15.
- 27 CONSTRUCT INVERT CUT-OFF WALL PER PLAN & PROFILE SHEETS AND DETAIL SHEET 20.



TYPICAL SECTION

STA. 50+50 TO STA. 54+18.11, W=18'
STA. 54+18.11 TO STA. 54+93.11, W=18'-15'
N.T.S.

RECORD DRAWING

LEGEND

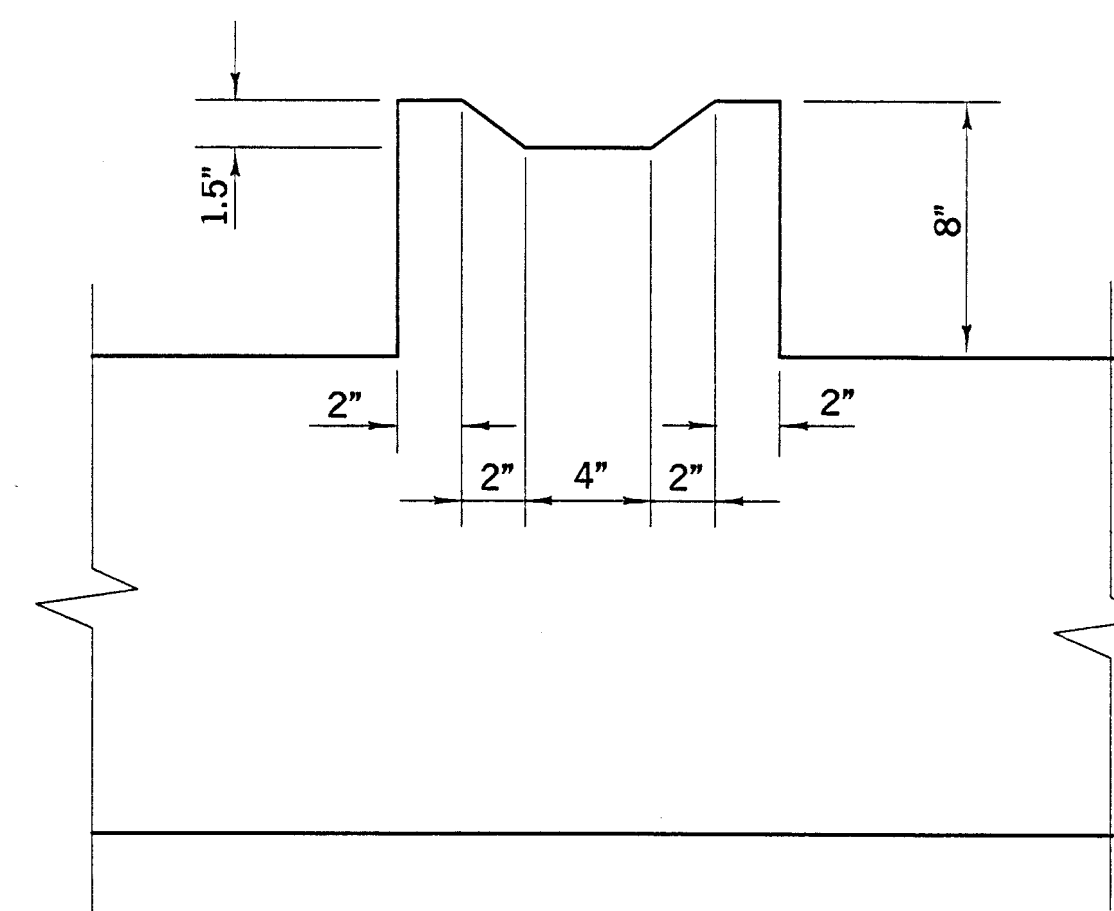
- 1 REMOVE
- 2 PROTECT IN PLACE
- 3 REMOVE INTERFERING PORTIONS

03/05	RECORD DRAWINGS	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT
MARK DATE DESCRIPTION		SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02
REVISIONS		PLAN & PROFILE STA 50+50 TO STA 54+93.11
PREPARED UNDER SUPERVISION		DESIGNED R. GAUT
No. 0049082 9/20/04 CIVIL STATE OF CALIFORNIA		DRAWN R.H. DE GUZMAN
SCALE AS SHOWN	DATE 1/7/03	CHECKED N. MAJAJ DRAWING NO. M02-101-4R
DATE 1-10-03		SHEET 7 OF 42

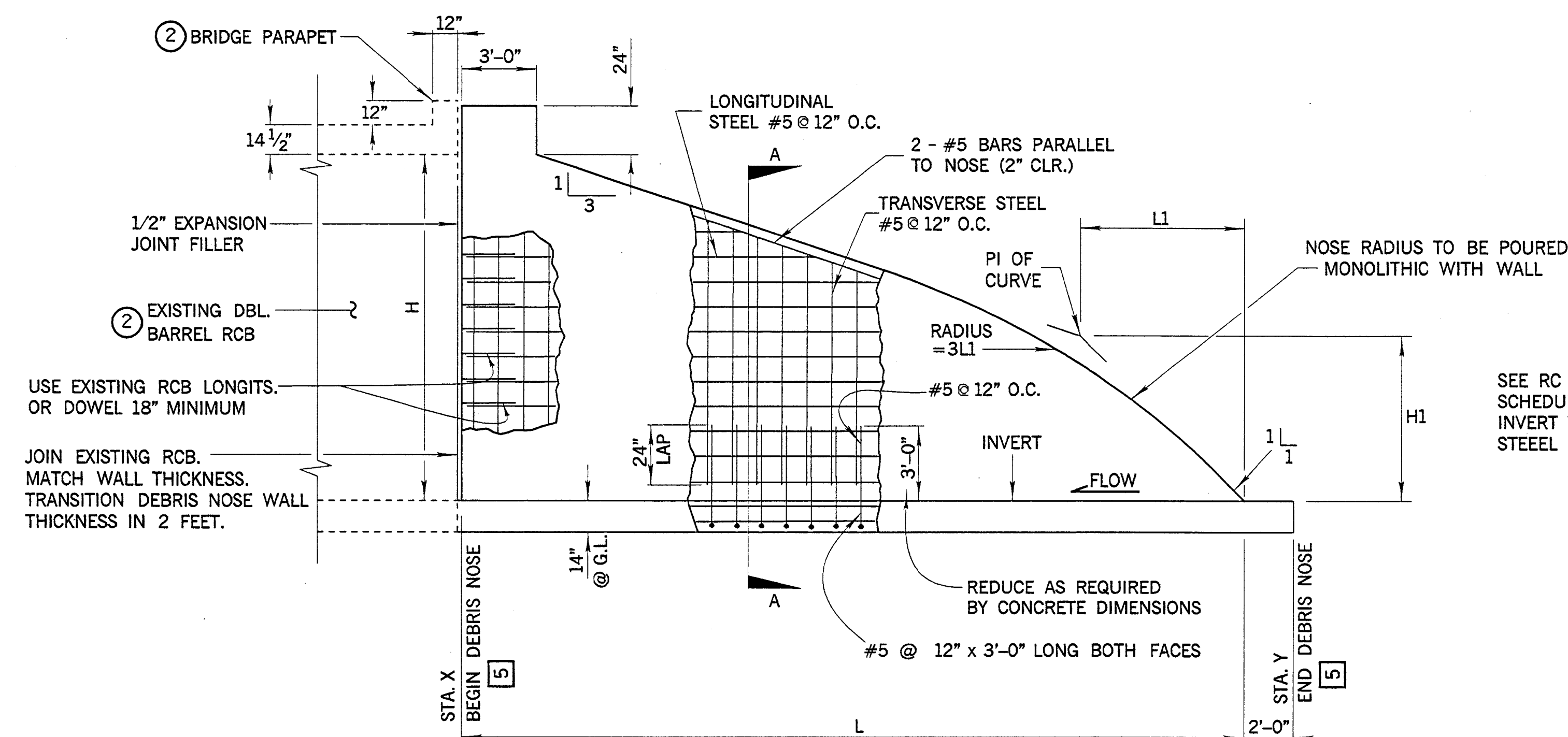
5 CONSTRUCT DEBRIS NOSE AT AVENIDA PICO AND CALLE DE LOS MOLINOS
PER PLAN AND DETAILS SHEET 8 AND PFRD STD. PLAN 1324.

	AVENIDA PICO	CALLE DE LOS MOLINOS
STATION X	20+44.30	47+43.41
STATION Y	20+69.30	47+65.91
RADIUS	25 FT	20 FT
H	9.75 FT	8.00 FT
H1	4.2 FT	3.25 FT
L	23 FT	20.50 FT
L1	4.2 FT	3.25 FT

DEBRIS NOSE DIMENSION SCHEDULE

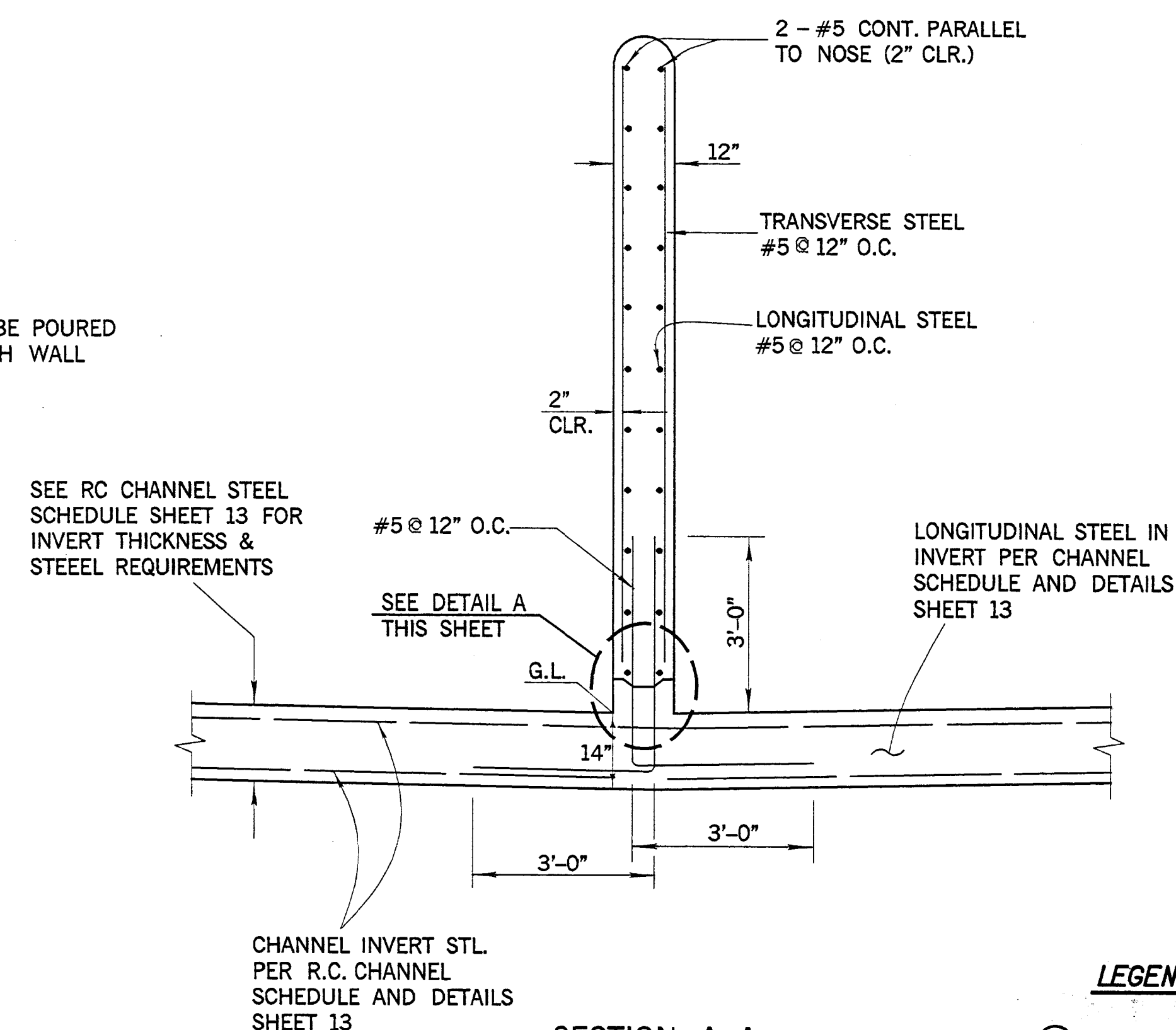


DETAIL A
KEYWAY
SCALE: 1"=1/2'



PROFILE
SCALE: N.T.S.

DEBRIS NOSE



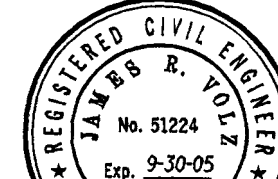
SECTION A-A
SCALE: 1"=2'

LEGEND

② PROTECT IN PLACE

RECORD DRAWING

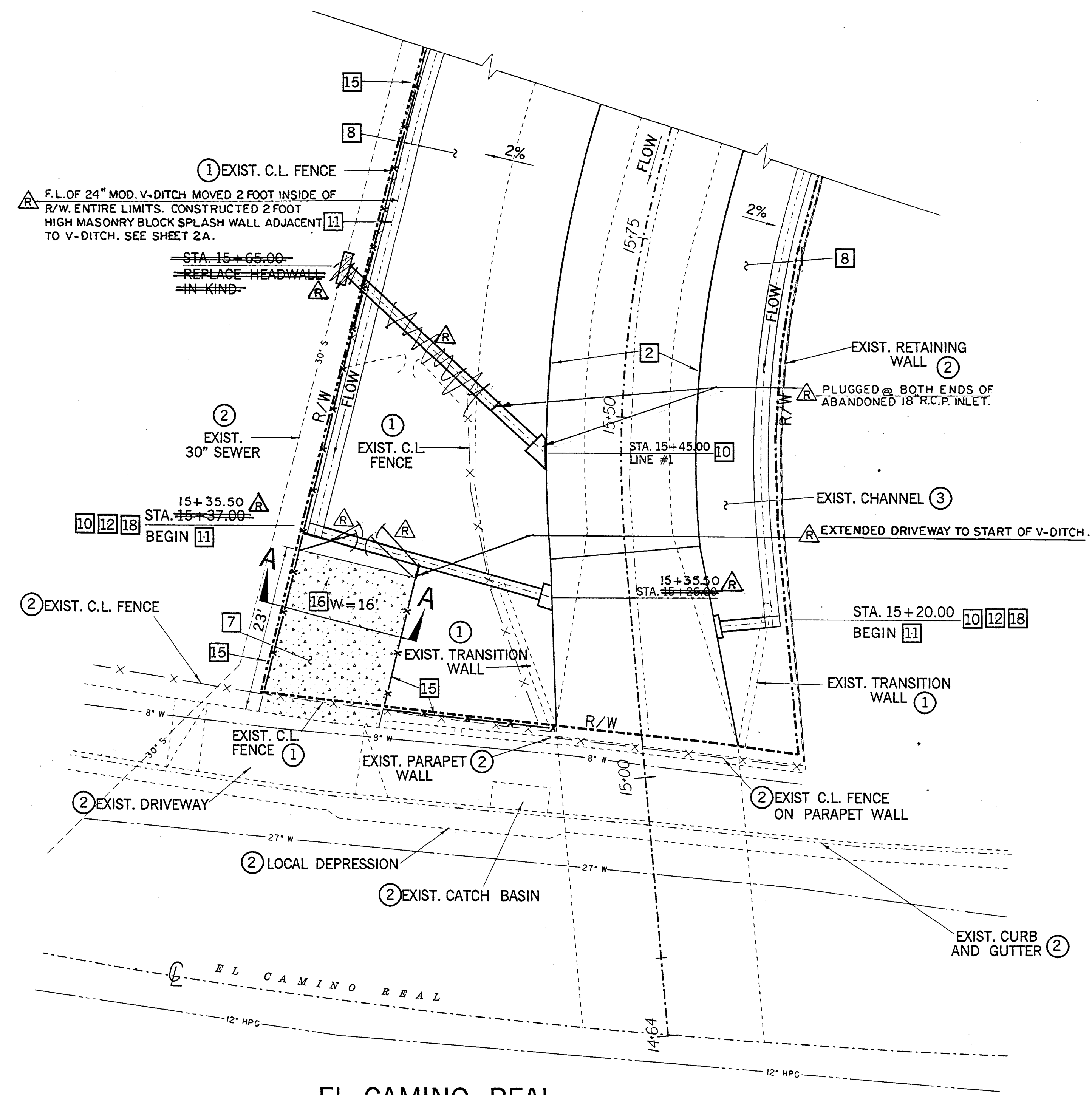
3 inches on original drawing

			ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT											
			<u>SEGUNDA DESHECHA CAÑADA CHANNEL</u> <u>OCFCD FACILITY NO. M02</u>											
MARK	DATE	DESCRIPTION	DEBRIS NOSE DETAILS AT AVE. PICO AND CALLE DE LOS MOLINOS											
REVISIONS														
PREPARED UNDER SUPERVISION OF 			1 <u>12/03</u> DATE											
														
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">DESIGNED <u>J. VOLZ</u></td> <td rowspan="2" style="text-align: center; vertical-align: middle;"> CHECKED <u>R. GAUT</u> </td> </tr> <tr> <td colspan="2">DRAWN <u>R.H. DE GUZMAN</u></td> </tr> <tr> <td>SCALE</td> <td>DATE</td> <td>DRAWING NO.</td> </tr> <tr> <td>AS SHOWN</td> <td><u>1/7/03</u></td> <td><u>M02-101-4 R</u></td> </tr> </table>	DESIGNED <u>J. VOLZ</u>		CHECKED <u>R. GAUT</u>	DRAWN <u>R.H. DE GUZMAN</u>		SCALE	DATE	DRAWING NO.	AS SHOWN	<u>1/7/03</u>	<u>M02-101-4 R</u>
DESIGNED <u>J. VOLZ</u>		CHECKED <u>R. GAUT</u>												
DRAWN <u>R.H. DE GUZMAN</u>														
SCALE	DATE	DRAWING NO.												
AS SHOWN	<u>1/7/03</u>	<u>M02-101-4 R</u>												
			8 OF 42											

MO2-101-4 R

42

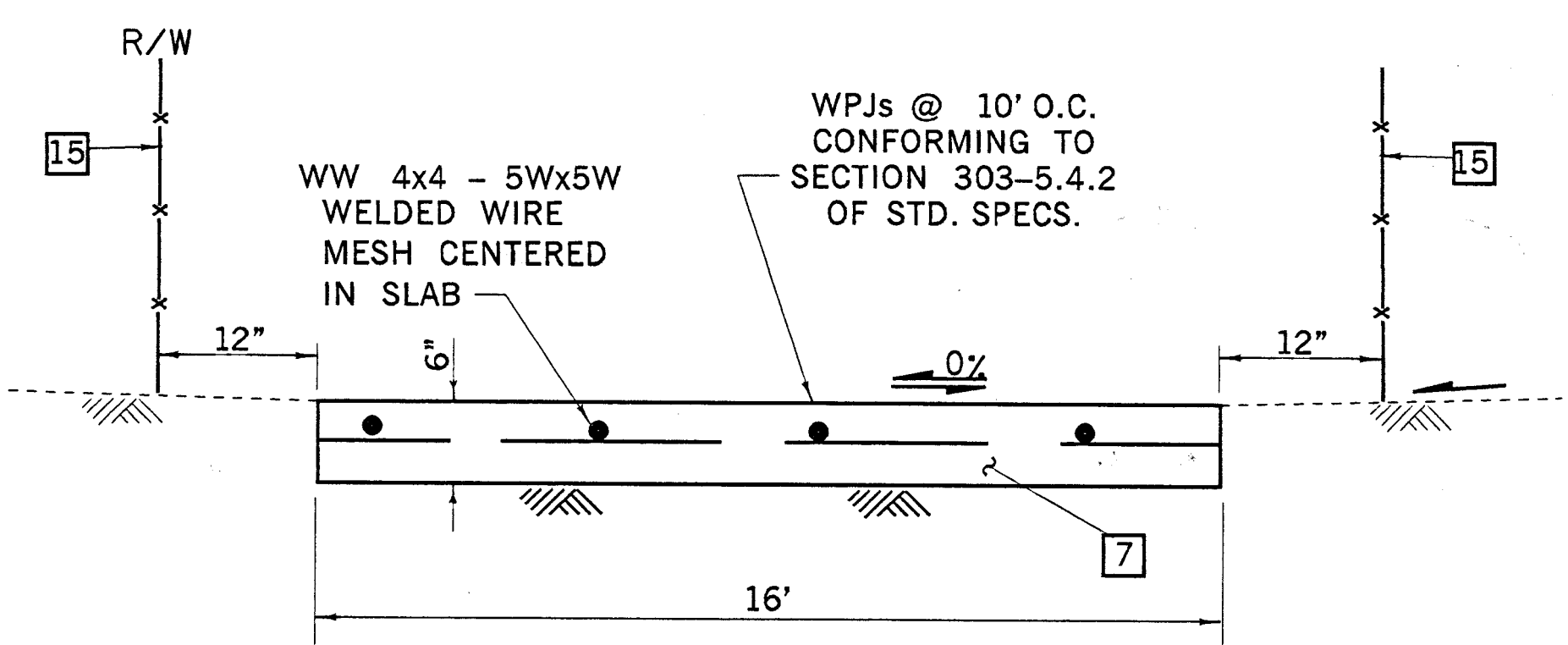
9



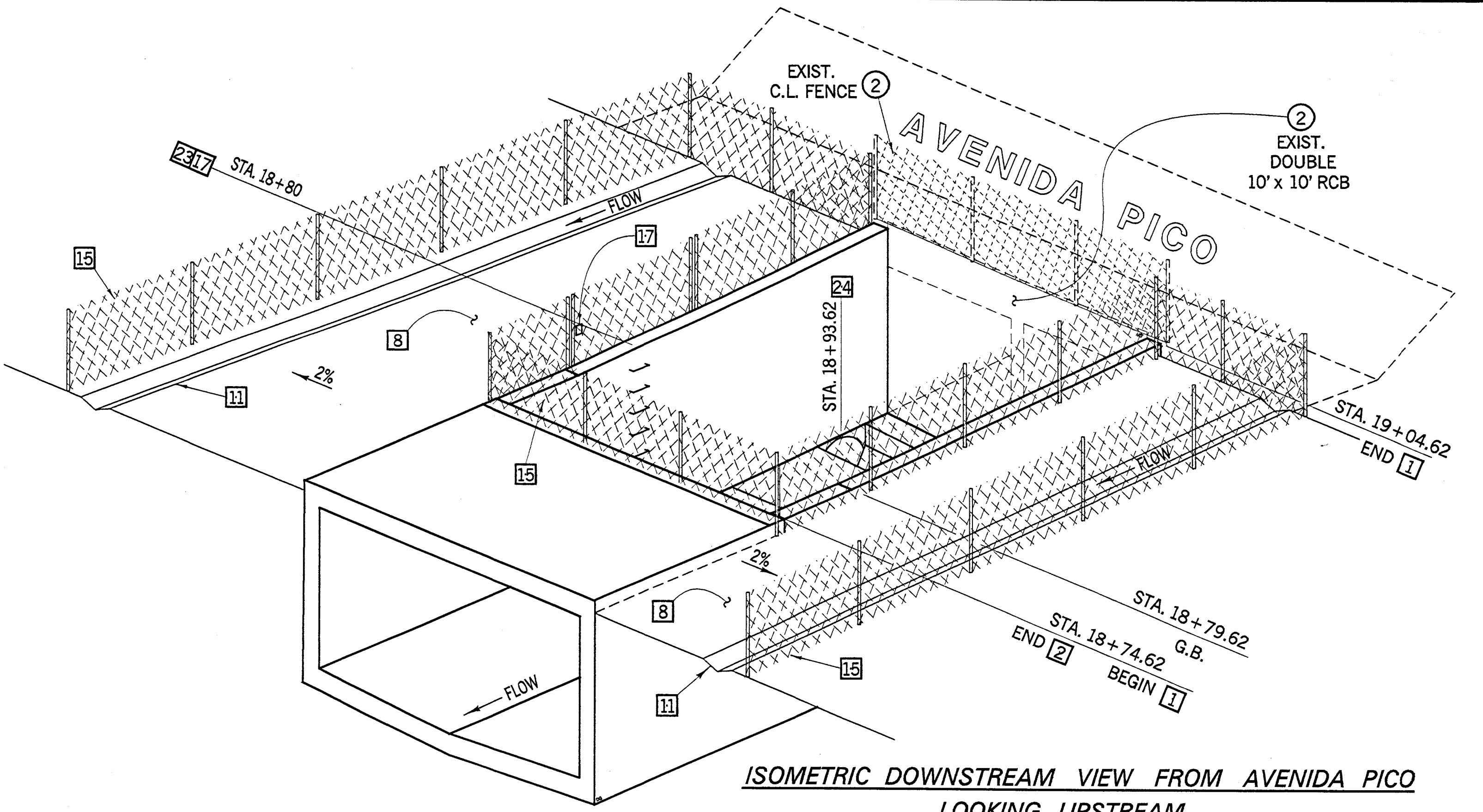
EL CAMINO REAL
DRIVEWAY/MAINTENANCE ROAD
ACCESS DETAIL
SCALE: 1"=10'

LEGEND

- ① REMOVE
- ② PROTECT
- ③ REMOVE INTERFERING PORTIONS



SECTION A-A
N.T.S.



ISOMETRIC DOWNSTREAM VIEW FROM AVENIDA PICO
LOOKING UPSTREAM
N.T.S.

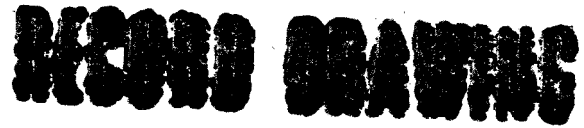
CONSTRUCTION NOTES

1. CONSTRUCT REINFORCED CONCRETE VERTICAL WALL CHANNEL PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS, SPECIAL PROVISIONS AND PFRD STD. PLAN 1803.
2. CONSTRUCT REINFORCED CONCRETE BOX-CULVERT PER PLAN AND PROFILE, SHEETS, TYPICAL SECTION, DETAILS, SPECIAL PROVISIONS AND PFRD STD. PLAN 1803.
7. CONSTRUCT PCC MAINTENANCE ROAD APPROACH WITH 0.5' PCC/NS PER PLANS, DETAILS SHEETS 9, 10, 11 AND 15 AND SPECIAL PROVISIONS.
8. CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 9, 18 AND 19 AND X-SECTIONS.
10. CONSTRUCT SIDE INLET PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1314.
11. CONSTRUCT MODIFIED 24" WIDE (6" DEEP) VEE-DITCH PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 18 AND 19 AND PFRD STD. PLAN 1332.
12. CONSTRUCT INLET AND HEADWALL PER PLAN AND PROFILE SHEETS AND DETAILS SHEET 19.
15. INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
16. INSTALL 5' HIGH CHAIN LINK DOUBLE SWING GATE, WIDTH PER PLANS AND DETAILS SHEETS 9, 10 AND 11 AND PFRD STD. PLAN 600-0-OC.
17. INSTALL 5' HIGH AND 4' WIDE CHAIN LINK GATE PER PLANS AND DETAILS SHEET AND PFRD STD. PLAN 600-0-OC.
18. INSTALL MARKER TYPE "CULVERT MARKER" PER PFRD STD. PLAN 1402, PLAN AND PROFILE SHEETS AND DETAILS SHEET 19 AND AS DIRECTED BY THE ENGINEER.
23. INSTALL CHANNEL ACCESS STEPS PER PFRD STD. PLAN 1507.
24. CONSTRUCT DROP INLET PER DETAILS SHEET 23 AND SPECIAL PROVISIONS SECTION F.

1 1/2 0 1 2
3 inches on original drawing

03/05	RECORD DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT
		SEGUNDA DESHECHA CANADA CHANNEL OFCFD FACILITY - MO2
		EL CAMINO REAL ACCESS DETAILS & ISOMETRIC VIEW OF RCB/ OPEN CHANNEL DS OF AVENIDA PICO
DESIGNED	R. GAUT	SHEET
DRAWN	RHS/T.G.	9
SCALE	DATE	DRAWING NO.
AS SHOWN	1/7/03	MO2-101-4 R
		OF 42

RECORD DRAWING

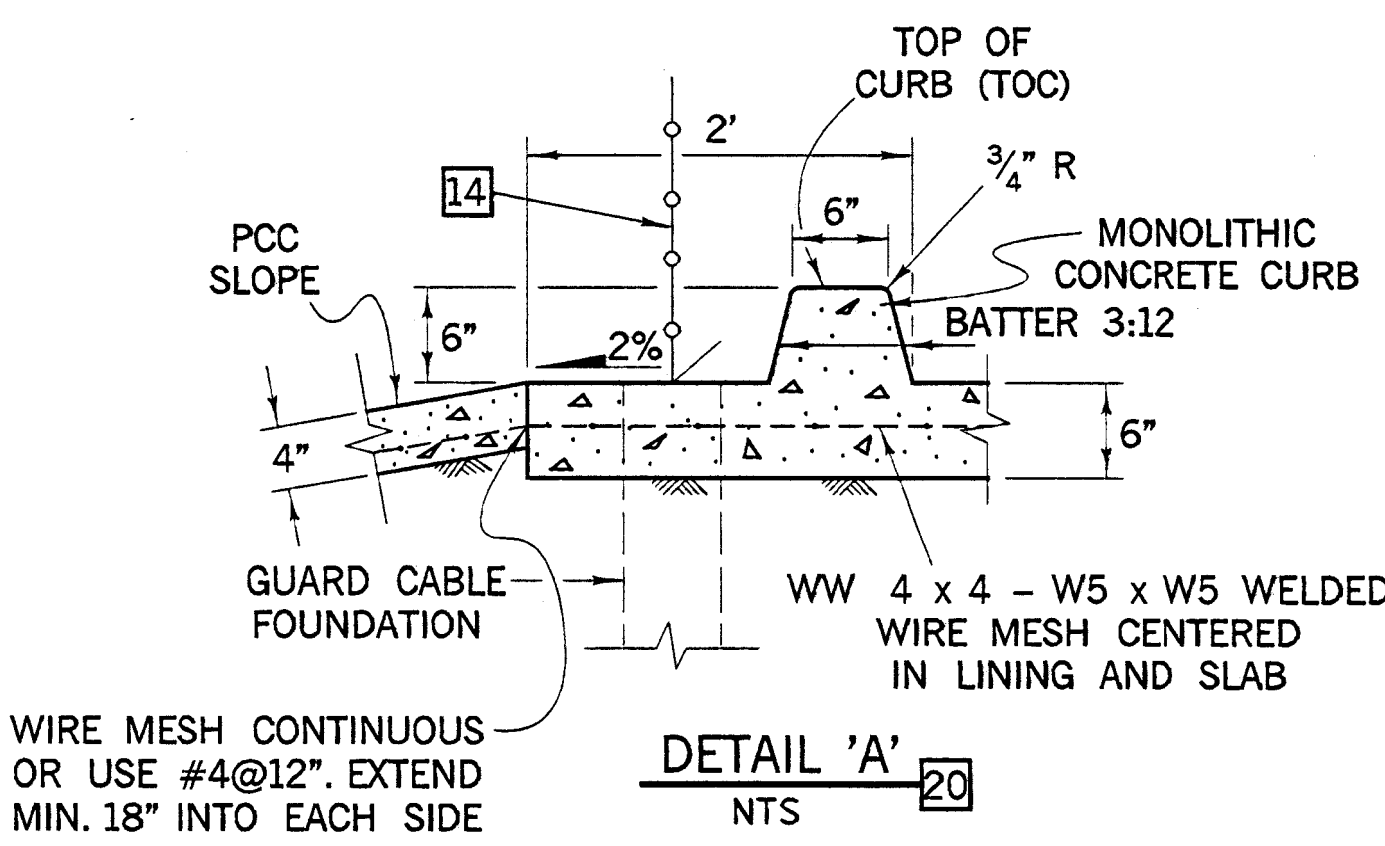
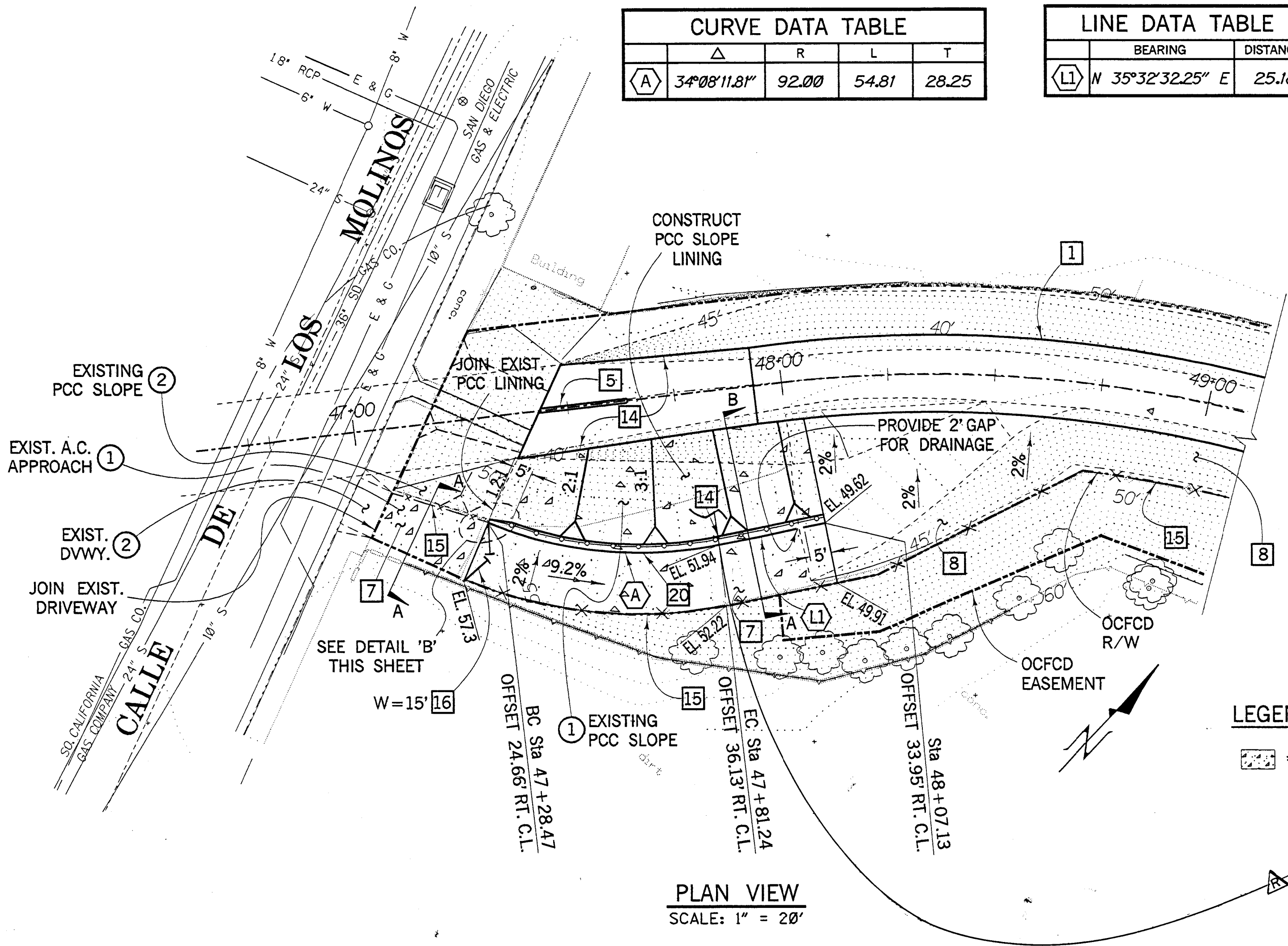


MO2-101-4 R

11 42

CURVE DATA TABLE				
	Δ	R	L	T
(A)	34°08'11.81"	92.00	54.81	28.25

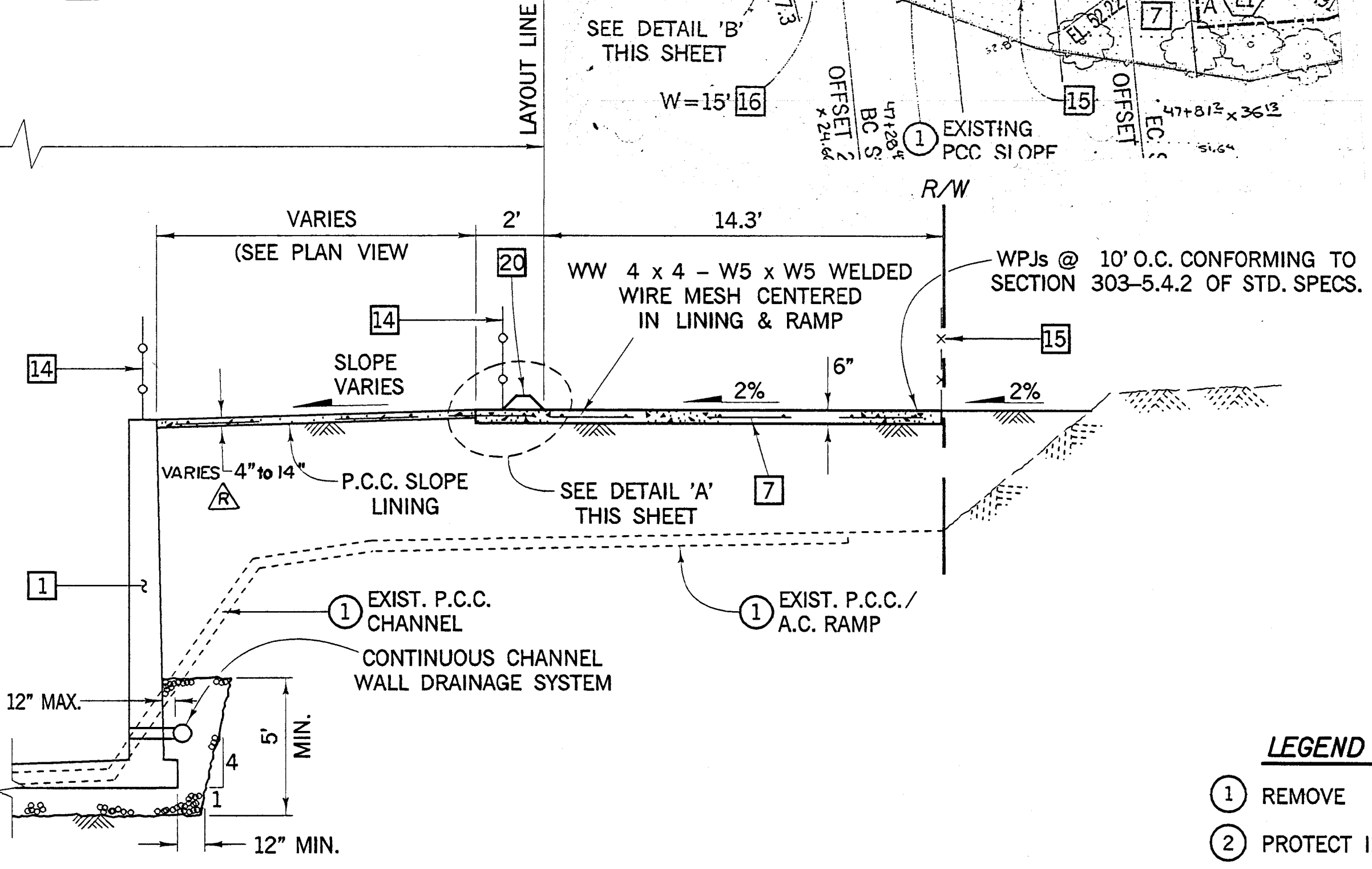
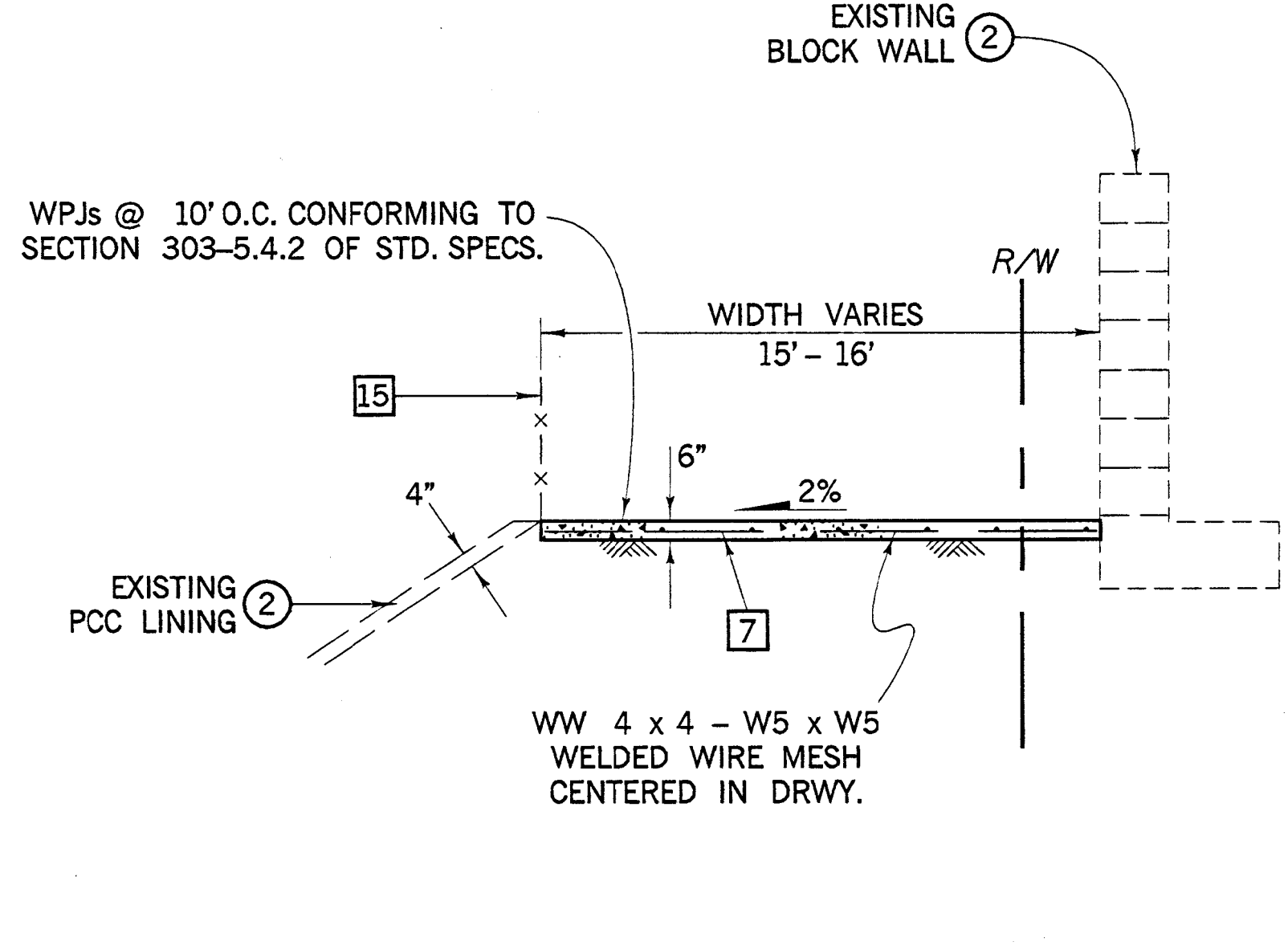
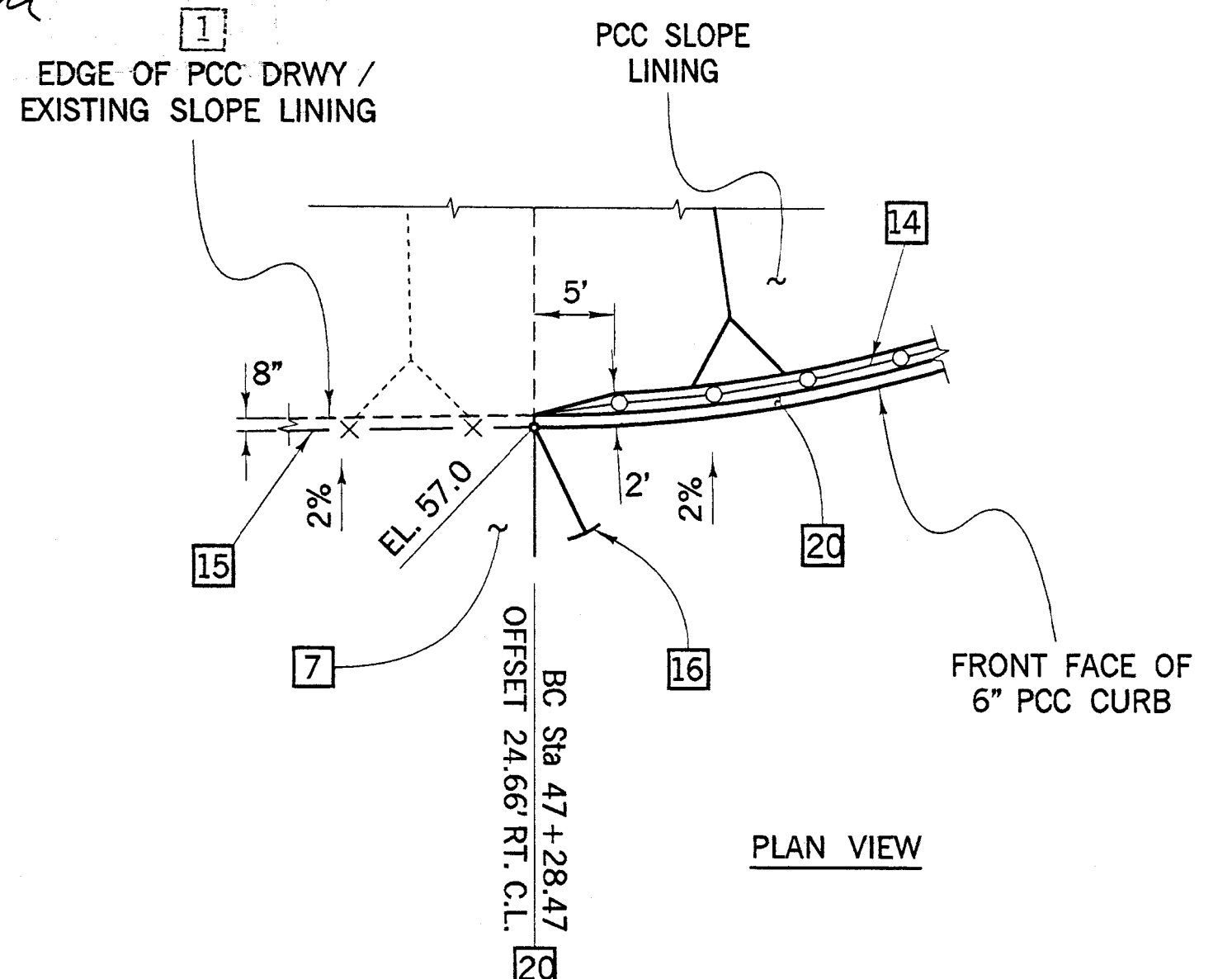
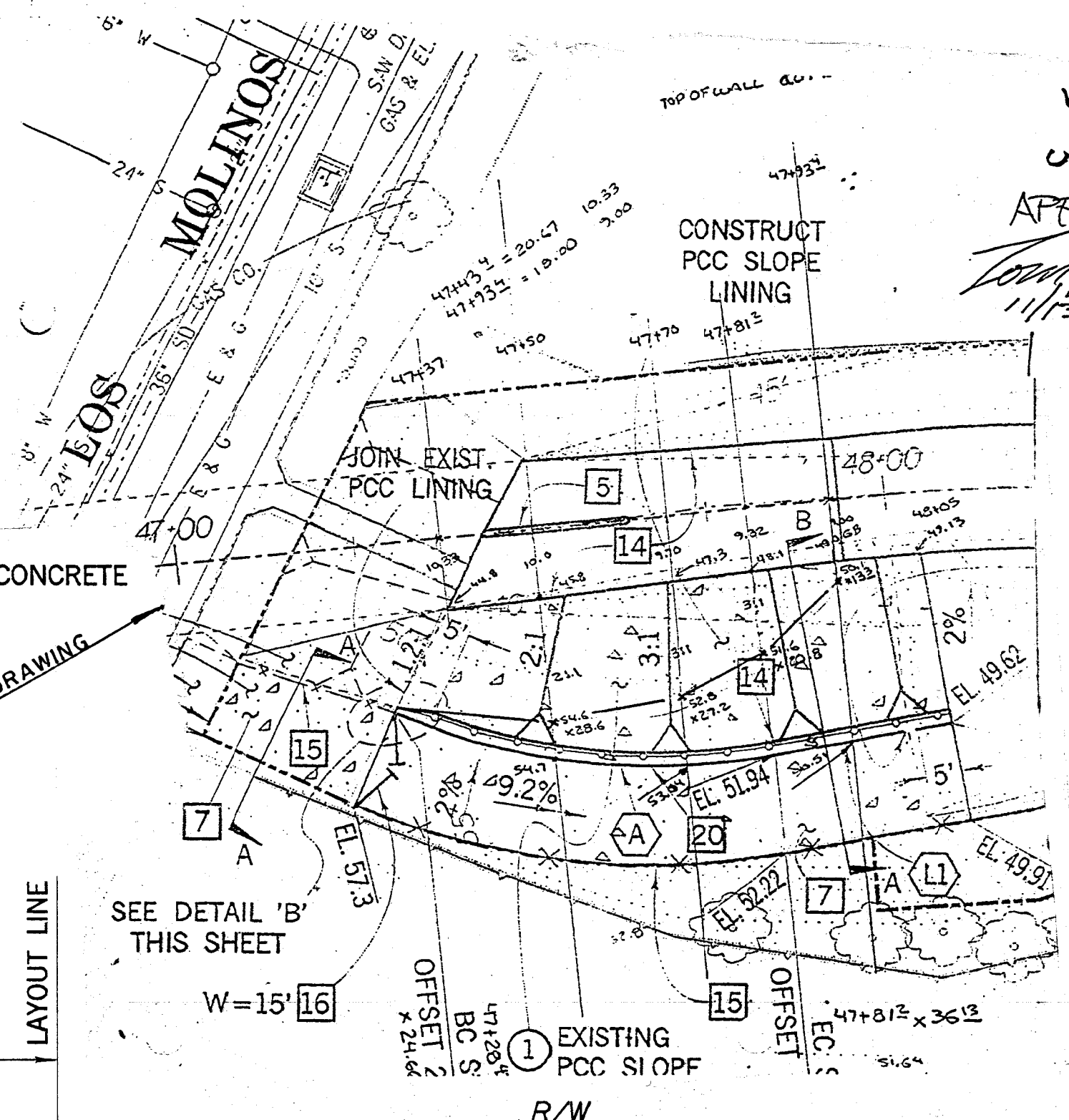
LINE DATA TABLE	
BEARING	DISTANCE
(L1) N 35°32'32.25" E	25.18



- CONSTRUCTION NOTES**
1. CONSTRUCT REINFORCED CONCRETE VERTICAL WALL CHANNEL PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS, SPECIAL PROVISIONS AND PFRD STD. PLAN 1803.
 5. CONSTRUCT DEBRIS NOSE AT AVENIDA PICO AND CALLE DE LOS MOLINOS PER PLAN AND DETAILS SHEET 8 AND PFRD STD. PLAN 1324.
 7. CONSTRUCT PCC MAINTENANCE ROAD APPROACH WITH 0.5' PCC/NS PER PLANS, DETAILS SHEETS 9, 10, 11 AND 15 AND SPECIAL PROVISIONS.
 8. CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 9, 18 AND 19 AND X-SECTIONS.
 14. INSTALL GUARD CABLE FENCE ON TOP OF CHANNEL WALL PER PLAN AND PROFILE SHEETS AND PFRD STD. PLAN 1413.
 15. INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
 16. INSTALL 5' HIGH CHAIN LINK DOUBLE SWING GATE, WIDTH PER PLANS AND DETAILS SHEETS 9, 10 AND 11 AND PFRD STD. PLAN 600-0-OC.
 20. CONSTRUCT 6" PCC CURB PER PFRD STD. PLAN 120-0, A3-6, AND MODIFIED HEREIN BY DETAIL 'A' SHEET 10 AND 11.

LEGEND:

(Symbol) = MISC. CONCRETE



LEGEND

- 1 REMOVE
- 2 PROTECT IN PLACE

RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

03-05	RECORD DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT
		SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02
		U/S MOLINOS MAINTENANCE ROAD ACCESS & DETAIL
DESIGNED R. GAUT	CHECKED N. MAJAJ	SHEET 11
DRAWN R.H. DE GUZMAN	DATE 1/7/03	DRAWING NO. M02-101-4 R
SCALE AS SHOWN	DATE 1/7/03	OF 42

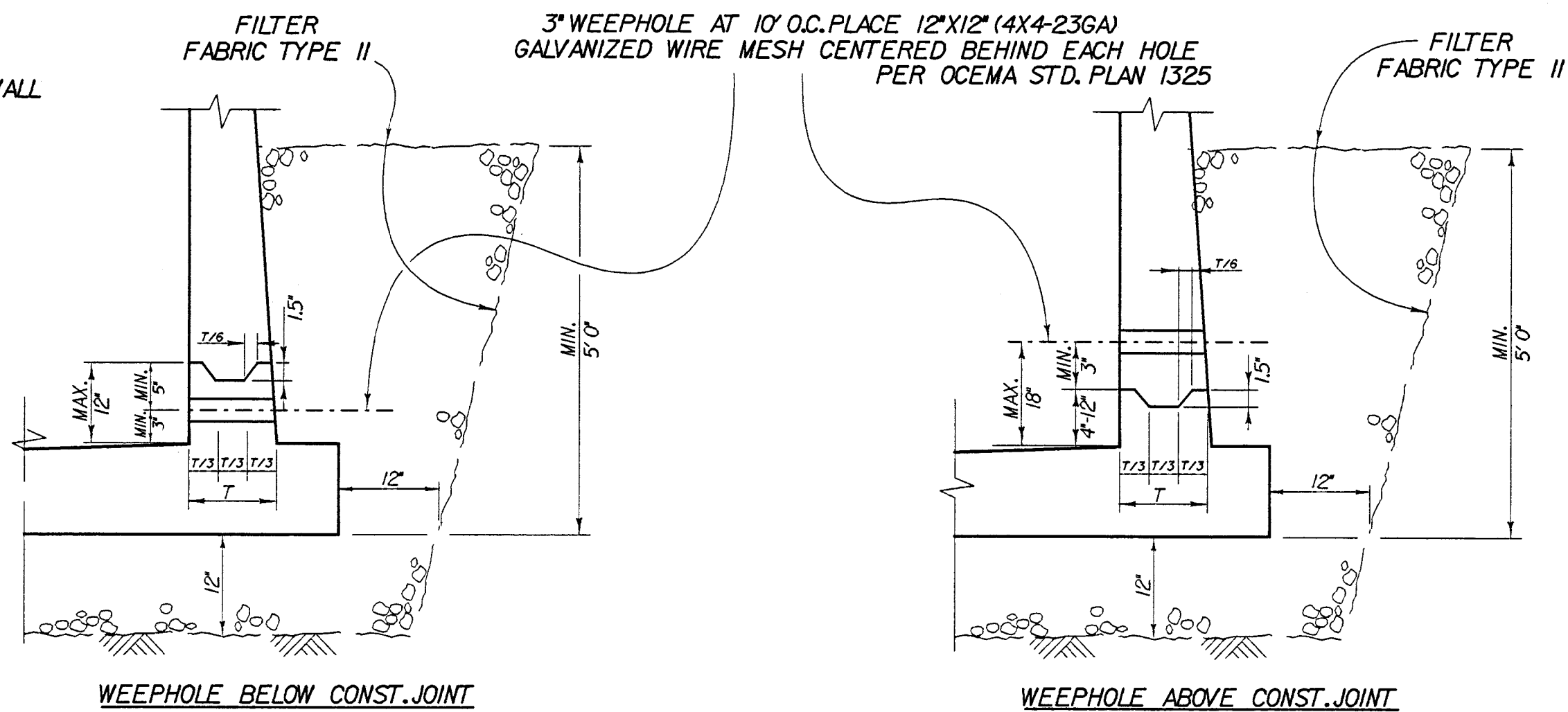
REINFORCED CONCRETE RAMP

SECTION DATA										QUANTITIES		REINFORCEMENT STEEL SCHEDULE																											
* STATION LIMITS FROM TO		SIZE				THICKNESS (INCHES)				CONCRETE CU.YDS/ LIN.FT	STEEL LBS/ LIN.FT	B ₁			B ₂			B ₃			B ₄			B ₅			B ₆			B ₇		B ₈		B ₉		LONGITUDINAL BARS **(*4@12")			
		H (FT)	L (FT)	M (FT)	N (FT)	T	T ₁	T ₂	T ₃			C	BAR NO. & SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. & SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. & SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. & SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. & SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. & SPACING	VERT. LENGTH	HORIZ. LENGTH	BAR NO. & SPACING	VERT. LENGTH	BAR NO. & SPACING	VERT. LENGTH	BAR NO. & SPACING	VERT. LENGTH	TOTAL NUMBER	WALL	SLAB
44+47.00 to 44+73.58		12.24 TO 8.0	12.0	0.02 TO 4.10	12.48 TO 8.40	14"	12"	13"	12"	12"	VARIES 1.06 TO 0.90	VARIES 120.5 TO 107.6	*4 @ 12"	13' 1" TO 8' 10"	12' 9.5"	*5 @ 12"	7' 0" TO 5' 11"	6' 11"	*6 @ 12"	4' 0"	3' 11"	*4 @ 12"	13' 1" TO 8' 10"	1' 9.5"	*4 @ 12"	7' 0" TO 5' 11"	1' 9.5"	*4 @ 12"	4' 0"	1' 9.5"	*4 @ 12"	13' 10"	*4 @ 12"	7' 11"	*5 @ 12"	4' 11"	VARIES 56 TO 48	VARIES 26 TO 18	30
44+73.58 to 44+98.69		8.0 TO 4.0	12.0	4.10 TO 7.95	8.40 TO 4.55	12"	12"	12"	12"	12"	VARIES 0.88 TO 0.73	VARIES 75.8 TO 63.1	*4 @ 12"	8' 8" TO 4' 8"	12' 8.5"	*5 @ 12"	3' 11" TO 2' 8"	3' 10"	—	—	—	*4 @ 12"	8' 8" TO 4' 8"	1' 8.5"	—	—	—	—	—	*4 @ 12"	13' 9"	*4 @ 12"	7' 10"	—	—	VARIES 48 TO 40	VARIES 18 TO 10	30	
44+98.69 to 45+11.06		4.0 TO 2.03	12.0	7.95 TO 9.85	4.55 TO 2.65	12"	12"	12"	12"	6"	VARIES 0.71 TO 0.64	VARIES 51.1 TO 45.9	*4 @ 12"	4' 8" TO 2' 9.5"	12' 8.5"	—	—	—	—	—	—	*4 @ 12"	4' 8" TO 2' 9.5"	1' 2.5"	—	—	—	—	—	*4 @ 12"	13' 3"	—	—	—	—	VARIES 40 TO 36	VARIES 10 TO 6	30	
45+11.06 to 45+26.20		2.03 TO 0.0	12.0 TO 16.96	9.85 TO 12.50	2.65 TO 0.0	12"	12"	12"	12"	6"	VARIES 0.64 TO 0.80	VARIES 45.9 TO 51.05	*4 @ 12"	2' 9.5" TO 0' 0"	12' 8.5" TO *18' 2.5"	—	—	—	—	—	—	*4 @ 12"	2' 9.5" TO 0' 0"	1' 2.5" TO 0' 0"	—	—	—	—	—	*4 @ 12"	13' 3" TO 18' 2.5"	—	—	—	—	VARIES 36 TO 30	VARIES 6 TO 0	VARIES 30 TO 40	

* NOTES :

1. STATION LIMITS INDICATED IN SCHEDULE ARE MEASURED RADIALLY FROM CENTERLINE OF CHANNEL CONSTRUCTION TO INSIDE FACE OF RAMP L-WALL. ACTUAL LENGTH OF RAMP L-WALL IS INDICATED ON RAMP DETAIL SHEET 10.
2. AT H.O.O. EXTEND HORIZONTAL B₁ BARS INTO HEEL
3. BARS SHALL VARY LINEARLY WHERE HEIGHT AND WIDTH VARY FROM STATION TO STATION.

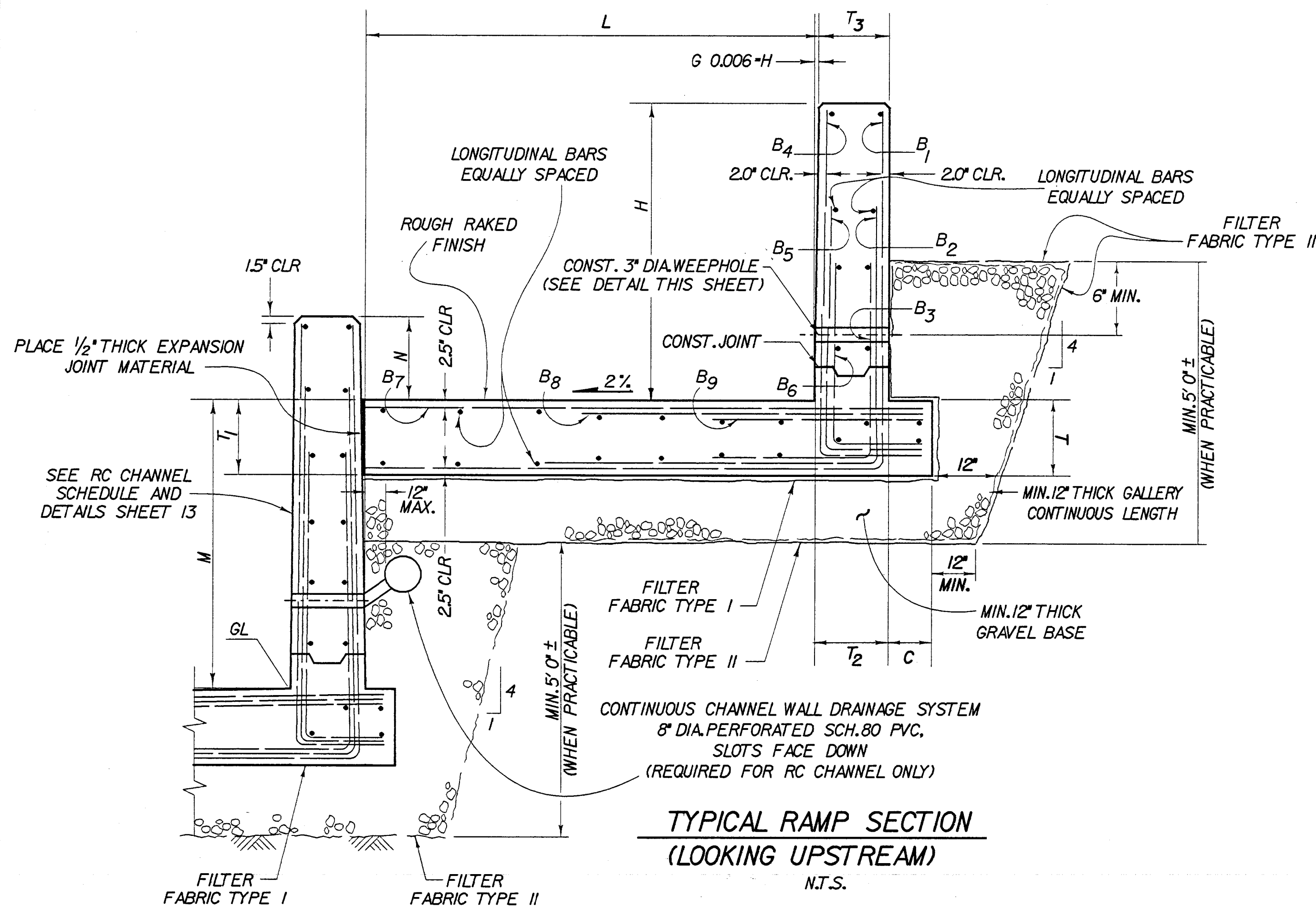
** - LONGITUDINAL BARS IN HEEL AND "KEY BARS" AT 1/5 OF WALL AND INVERT ARE COUNTED AS PART OF THE SLAB



LONGITUDINAL CONST. JOINT AND WEEP HOLE DETAIL

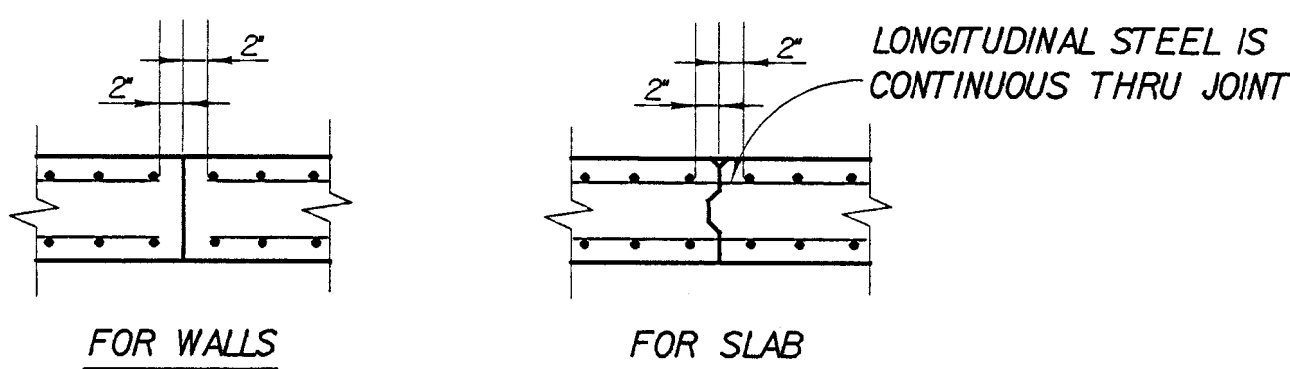
NOTES:

1. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALLY) TO THE CENTERLINE OF THE WALL.
2. JOINT FINISH FOR CHANNEL FACE SHALL BE CHAMFERED 0.5" ON WALLS AND ROUNDED WITH EDGER TOOL ON INVERT.
3. TRANSVERSE CONST. JOINTS SHALL NOT BE PLACED WITHIN 30" OF INLETS.
4. TRANSVERSE CONST. JOINTS IN WALLS & SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONST. JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION OF RAMP L-WALL.
5. THE LONGITUDINAL & TRANSVERSE REINFORCING STEEL SHALL TERMINATE 2" FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON DETAIL.
6. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE ROUNDED OR BEVELED.
7. NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN THOSE SHOWN ON THE DRAWING WITHOUT APPROVAL OF ENGINEER. NO MORE THAN TWO SPLICES WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED.
8. TRANSVERSE STEEL SHALL BE LAPPED 45 BAR DIAMETERS AT SPLICES. LONGITUDINAL STEEL SHALL BE LAPPED 30 BAR DIAMETERS AT SPLICES. LAP LENGTH SHALL BE BASED ON THE LARGER BAR DIAMETER.
9. TRANSVERSE JOINTS SHALL BE SPACED NOT TO EXCEED 50' NOR BE LESS THAN 10', MEASURED ALONG THE CENTERLINE OF CONSTRUCTION, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
10. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, IN CURVED SECTIONS, THE MAXIMUM SPACING OF BARS SHALL NOT EXCEED THAT SHOWN ON THE TYPICAL SECTIONS. STEEL SHALL BE PLACED RADIALLY FROM THE MAX. SPACING.
11. AT THE BEGINNING AND ENDING OF ALL POURS, A COMPLETE CURTAIN OF REINFORCEMENT COMPOSED OF B₁, B₄ & B₇ BARS SHALL BE PLACED 3' FROM TRANSVERSE CONST. JOINT.
12. ELEVATION OF WEEP HOLE ABOVE INVERT SHALL BE UNIFORM THROUGH ENTIRE REACH OF PROJECT.
13. RAMP INVERT SURFACE SHALL BE GIVEN A TRANSVERSE RAKED FINISH.
14. BURY BARS MAY BE USED AT CONTRACTOR'S OWN EXPENSE AND SHALL COUNT AS PART OF THE STEEL LAYOUT.



TYPICAL RAMP SECTION
(LOOKING UPSTREAM)

N.T.S.



TRANSVERSE CONST. JOINT DETAIL
N.T.S.

RAMP L - WALL DESIGN DATA

Loads:

External = 40 psf EFP plus 350 psf Surcharge
(100 psf + 250 psf for H20-44 Loads)
Internal = 40 psf EFP
 $f'_c = 3250$ psi
 $f'_c = 1460$ psi
 $f_s = 24,000$ psi
 $n = 8.8$

RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

03/05	RECORD DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT
		SEGUNDA DESHECHA CAÑADA CHANNEL OCFCD FACILITY No. M02
		RAMP STEEL SCHEDULE
DESIGNED R. GAUT		SHEET
DRAWN R.H. DE GUZMAN		CHECKED N. MAJAJ
SCALE AS SHOWN		DATE 1/7/03
		DRAWING NO. M02-101-4 R
		OF 42

REINFORCEMENT STEEL SCHEDULE

xx LONGITUDINAL BARS SHALL BE #4 BARS EQUALLY SPACED
LONGITUDINAL BARS IN HEEL AND "KEY BARS" AT 1/S OF WALL
AND INVERT ARE COUNTED AS PART OF THE SLAB.

1. CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIAL) TO CENTERLINE OF THE WALL. HORIZONTAL LENGTH OF B1 AND B7 BARS INDICATED IN REINFORCEMENT STEEL SCHEDULE EXTENDS TO CENTERLINE OF CHANNEL ONLY. TWICE THIS LENGTH SHALL BE USED.
2. JOINT FINISH FOR CHANNEL FACE SHALL BE CHAMFERED 0.5" ON WALLS AND ROUNDED WITH EDGER TOOL ON INVERT.
3. TRANSVERSE CONST. JOINTS SHALL NOT BE PLACED WITHIN 30" OF INLETS.
4. TRANSVERSE CONST. JOINTS IN WALLS & SLABS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONST. JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONST.
5. THE LONGITUDINAL & TRANSVERSE REINFORCING STEEL SHALL TERMINATE 15' FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON DETAIL.
6. EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE ROUNDED OR BEVELED.
7. NO SPICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN THOSE SHOWN ON THE DRAWING WITHOUT APPROVAL OF ENGINEER. NO MORE THAN TWO SPICES WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPICES SHALL BE STAGGERED.
8. TRANSVERSE STEEL SHALL BE LAPPED 45 BAR DIAMETERS AT SPICES. LONGITUDINAL STEEL SHALL BE LAPPED 30 BAR DIAMETER AT SPICES. LAP LENGTH SHALL BE BASED ON LARGER BAR DIAMETER.
9. TRANSVERSE JOINTS SHALL BE SPACED NOT TO EXCEED 50" NOR BE LESS THAN 10". MEASURED ALONG THE CENTERLINE OF CONSTRUCTION, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
10. TRANSVERSE JOINTS SHALL BE PLACED AT THE JUNCTION OF RECTANGULAR OPEN CHANNEL SECTIONS WITH CLOSED CONDUIT SECTIONS.
11. ALL RECTANGULAR OPEN CHANNEL SHALL BE FENCED IN ACCORDANCE WITH OCEMA STANDARD DWG. 1413, EXCEPT AS OTHERWISE SHOWN ON THE DRAWINGS.
12. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, IN CURVED SECTIONS, THE MAXIMUM SPACING OF BARS SHALL NOT EXCEED THAT SHOWN ON THE TYPICAL SECTIONS. STEEL SHALL BE PLACED RADIAL TO CL FROM THE MAX. SPACING.
13. AT THE BEGINNING AND ENDING OF ALL POURS, A COMPLETE CURTAIN OF REINFORCEMENT COMPOSED OF B1, B4 & B7 BARS SHALL BE PLACED 3' FROM TRANSVERSE CONST. JOINT.
14. SEE OCEMA STD. DWG. 1318 AND DETAILS THIS SHEET FOR TRANSVERSE JOINT DETAILS.
15. ELEVATION OF WEEPHOLE ABOVE INVERT SHALL BE UNIFORM THROUGH ENTIRE REACH OF PROJECT.
16. CHANNEL INVERT SURFACE SHALL BE GIVEN A STEEL TROWEL FINISH.
17. BURY BARS MAY BE USED AT CONTRACTOR'S OWN EXPENSE AND SHALL COUNT AS PART OF THE STEEL LAYOUT.

	03/05	RECORD DRAWINGS.	PUBLIC FACIL
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Loads:

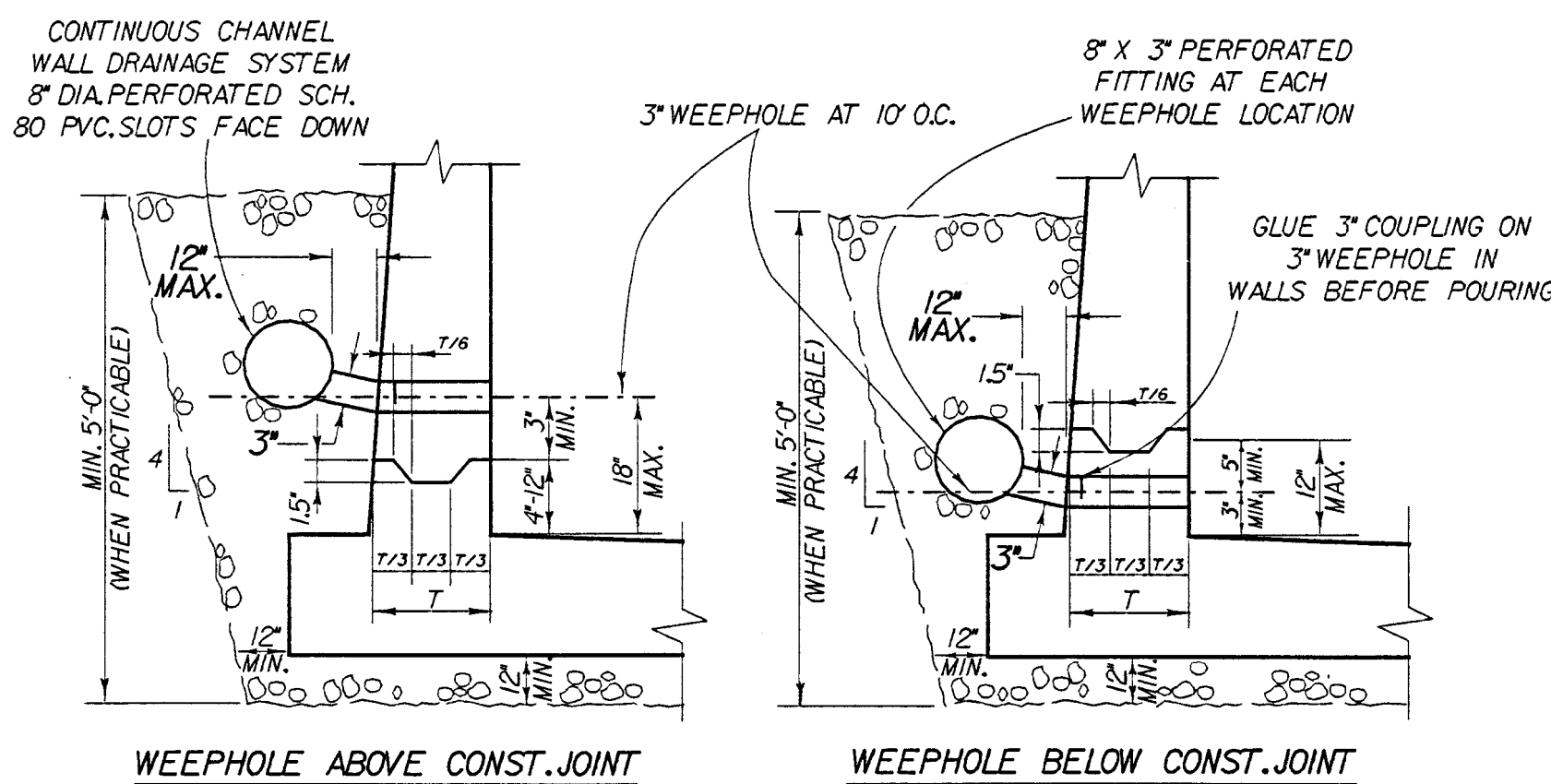
External 40 PSF EFP PLUS H2O-44 TRUCK LOAD
PLUS 100 PSF EFP UNIFORM LOAD

Internal 40 PSF

$$f'_0 = 3250 \text{ ps}$$

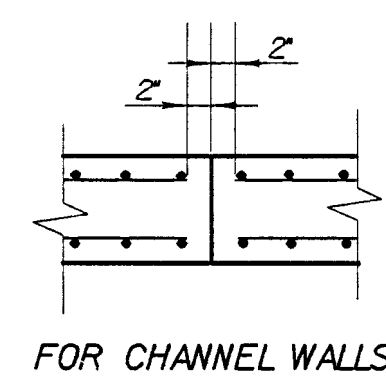
6 3250 75

7 1400 50

$$T_C = 1460 \text{ PSI}$$
$$f_s = 24,000 \text{ PSI}$$
$$n = 8.8$$


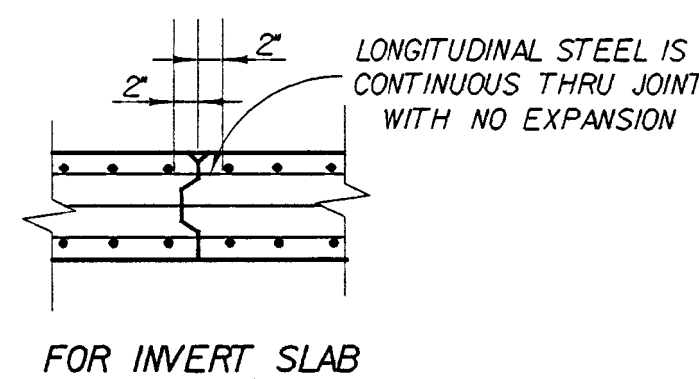
AND WEEPHOLE DETAIL

N.T.S.

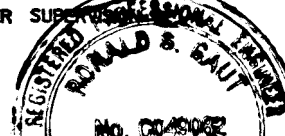


TRANSVERSE CONST. JOINT DETAIL

N.T.S.

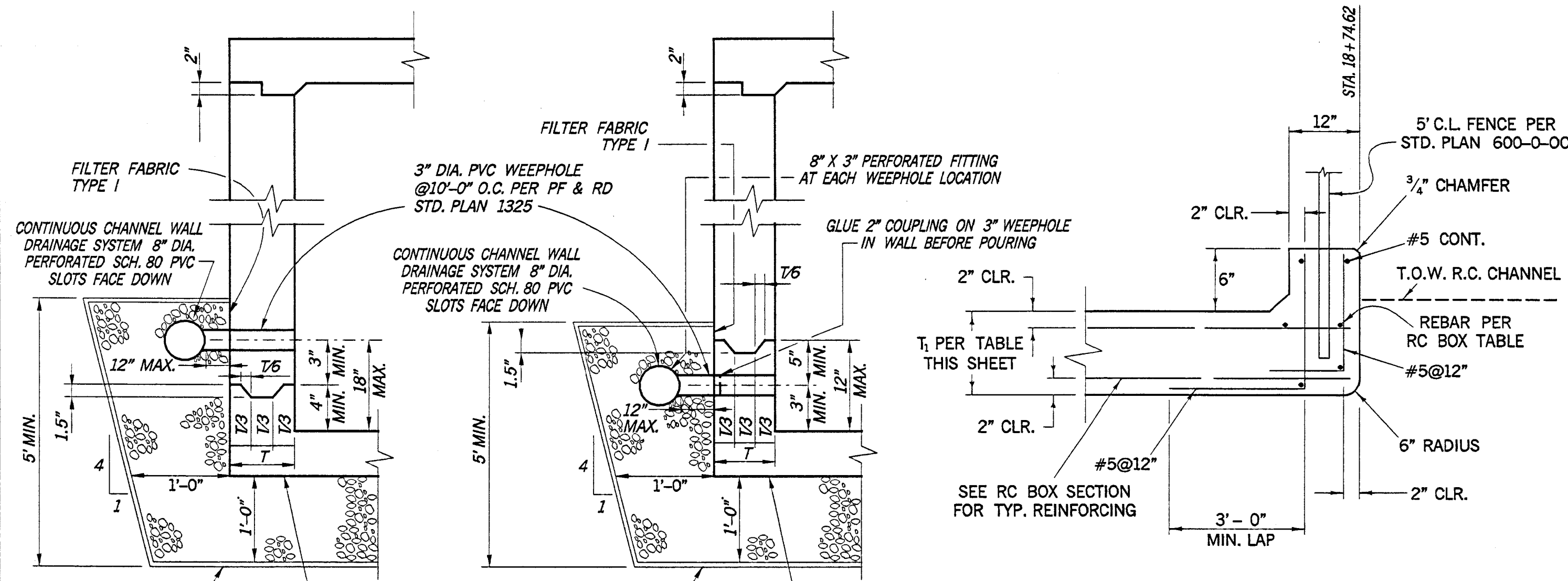


LONGITUDINAL STEEL IS
CONTINUOUS THRU JOINT
WITH NO EXPANSION

	03/05	EXP. DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
			<u>SEGUNDA DESHECHA CANADÁ CHANNEL</u> <u>OCFCD FACILITY No. M02</u>	
MARK	DATE	DESCRIPTION	RC CHANNEL STEEL SCHEDULE	
REVISIONS				
PREPARED UNDER SUPERVISION OF 			DESIGNED <u>R. GAUT/A. CORPUZ</u>	
1-10-03 DATE			DRAWN <u>T. GUTIERREZ</u>	CHECKED <u>N. MAJAJ</u>
			SCALE AS SHOWN	DATE 1/7/03
			DRAWING NO. M02-101-4R	SHEET 13 OF 42

MO2-101-4R

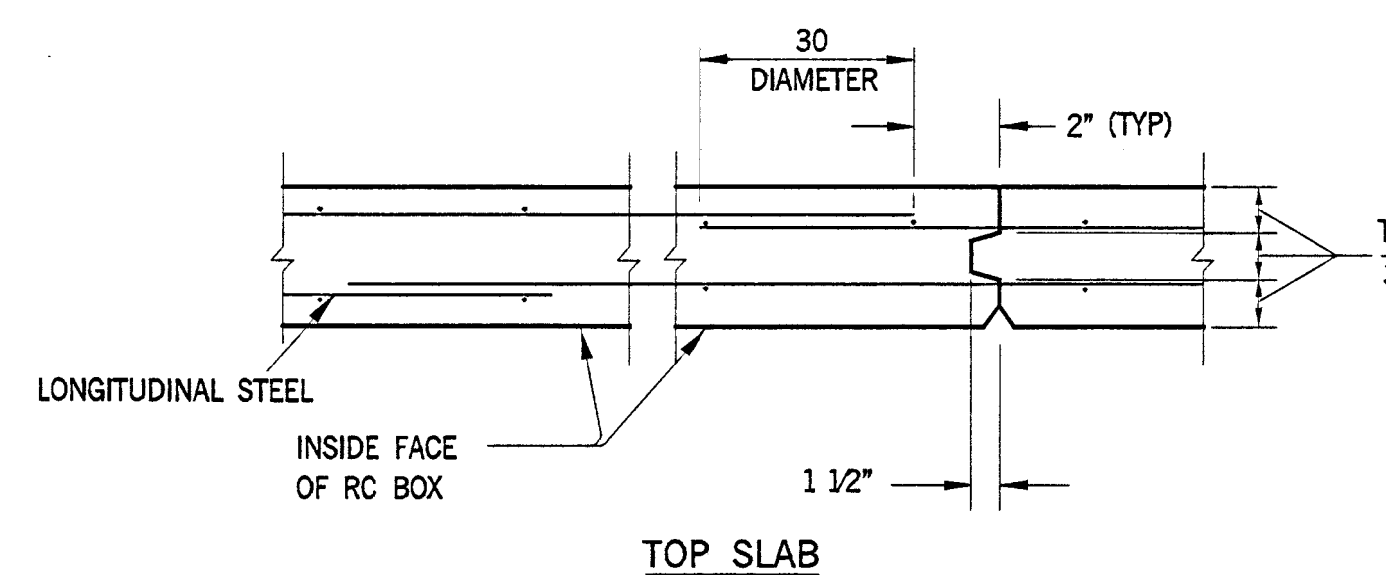
14 42



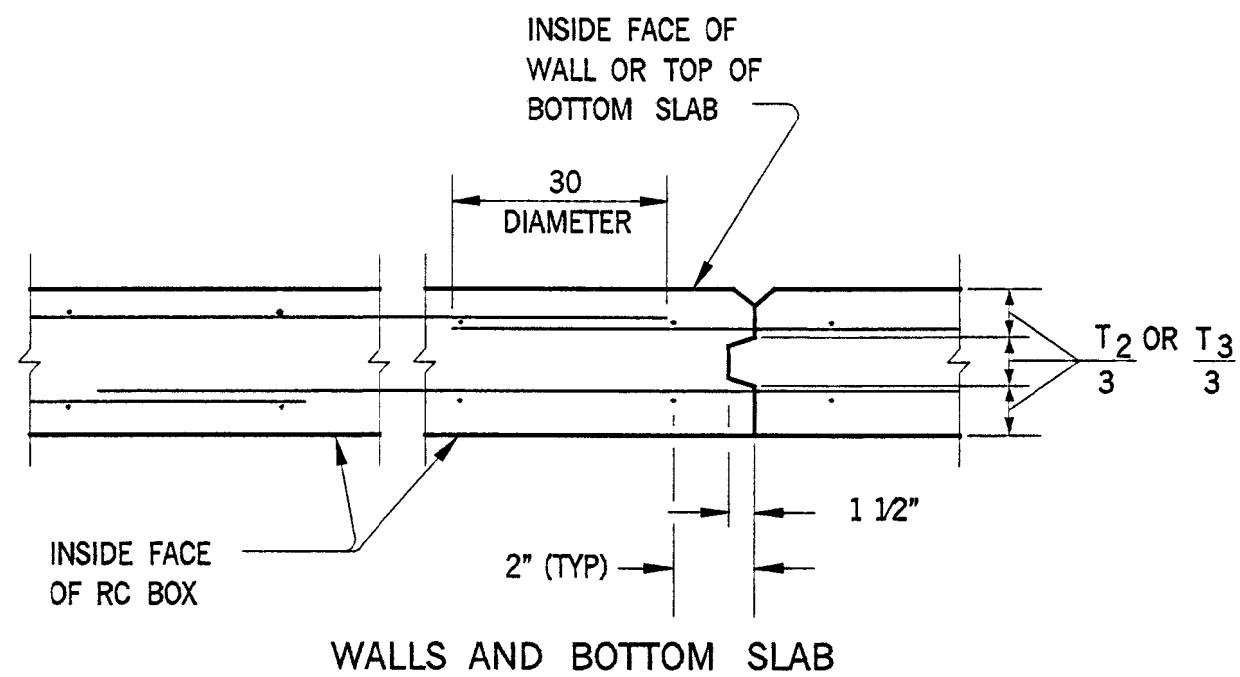
WEEPHOLE ABOVE CONST. JOINT
(TYPICAL LOCATION)

WEEPHOLE BELOW CONST. JOINT
(OPTIONAL LOCATION) SEE NOTE 3**

CONSTRUCTION JOINT AND DRAINAGE DETAILS
NOT TO SCALE



TOP SLAB



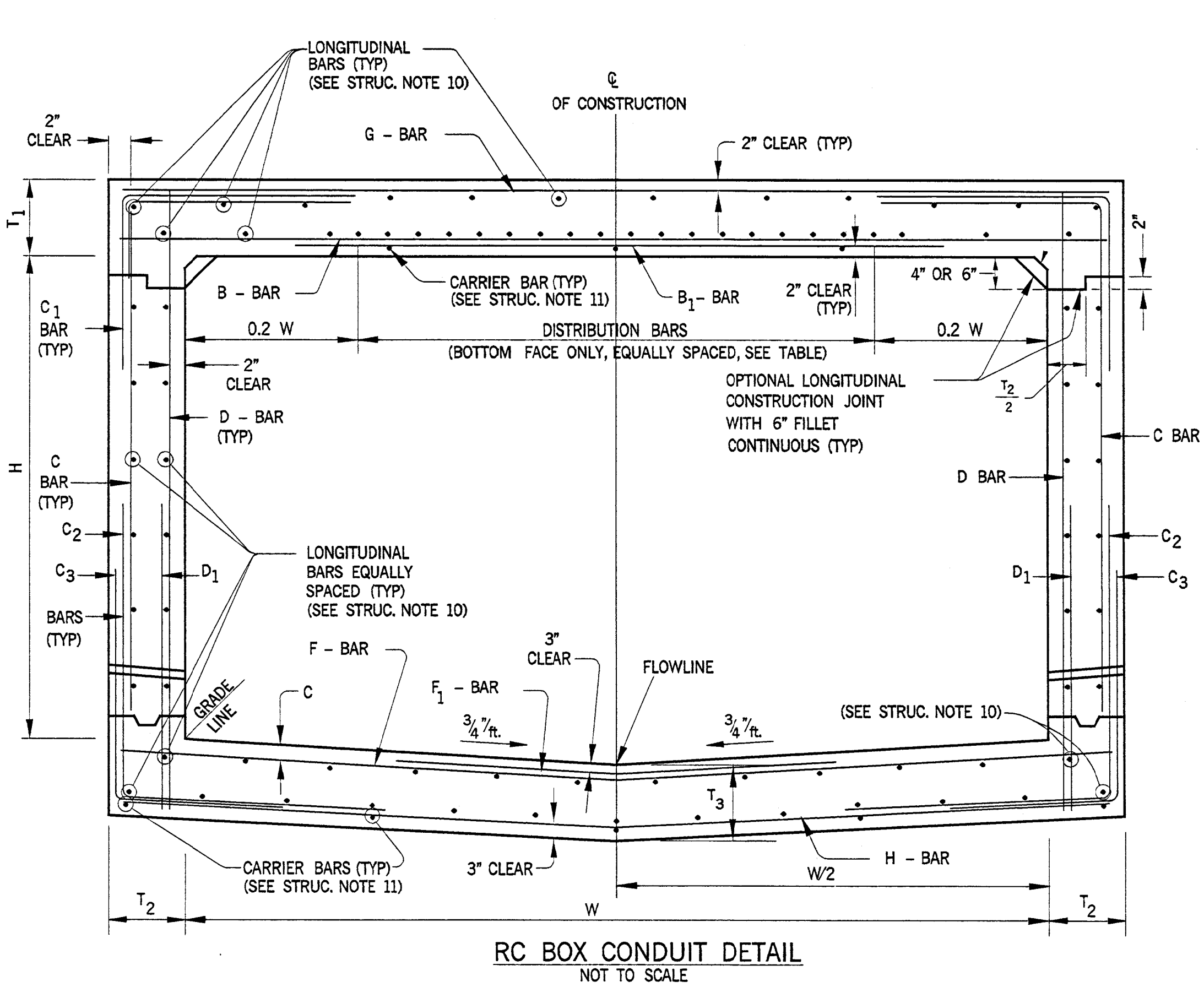
WALLS AND BOTTOM SLAB

TRANVERSE CONSTRUCTION JOINT DETAILS
(SEE PFSD STD. PLAN 1318 FOR TRANVERSE JOINT DETAILS)
NOT TO SCALE

STRUCTURAL NOTES

- LONGITUDINAL STEEL SHALL BE CONTINUOUS AND EXTEND THROUGH ALL CONSTRUCTION JOINTS
- UNLESS OTHERWISE SHOWN IN THE DRAWINGS, TRANSVERSE JOINT KEYWAYS (IN BOTH SLABS AND WALLS), AS DETAILED, SHALL BE PLACED AT THE END OF EACH POUR, BUT THE SPACING THEREOF SHALL NOT EXCEED 50 FEET OR BE LESS OR BE LESS THAN 10 FEET. ALL CONSTRUCTION JOINTS IN BOTTOM SLAB, TOP SLAB, AND SIDE WALLS SHALL BE IN THE SAME PLANE. NO STAGGERING OF JOINTS WILL BE PERMITTED. TRANSVERSE CONSTRUCTION JOINTS SHALL BE NORMAL OR RADIAL TO THE CENTERLINE OF CONSTRUCTION.
- UNLESS OTHERWISE SHOWN ON THE DETAILS, IN CURVED SECTIONS TRANSVERSE BARS SHALL BE PLACED RADIAL TO CENTERLINE WITH SPACING NOT TO EXCEED THAT SHOWN ON SCHEDULE. STRAIGHT BARS AND L-BARS IN WALLS SHALL BE SPACED AS SHOWN ON THE TYPICAL SECTIONS, WITH THE SPACING MEASURED BETWEEN THE VERTICAL LEGS OF BARS.
- AT THE BEGINNING AND ENDING OF ALL POURS, A CURTAIN OF REINFORCEMENT COMPOSED OF B, C, C2, D, F, G, AND H BARS SHALL BE PLACED THREE INCHES FROM THE TRANSVERSE CONSTRUCTION JOINT. MAINTAIN 1.5" CLEARANCE FROM KEY OF CONSTRUCTION JOINT.
- THE VERTICAL WALL STEEL IN THE INTERIOR FACE OF WALLS MAY BE SPliced AT THE CONSTRUCTION JOINT AT THE BASE OF THE WALL. THE SPLICE SHALL BE 45 BAR DIAMETERS IN LENGTH.
IN ALL SECTIONS LAP C AND C2 BARS. THE VERTICAL LENGTH OF C AND C2 BARS HAS BEEN CALCULATED FOR A TWELVE INCH STARTER WALL. CONTRACTOR SHALL MAINTAIN A 45 BAR DIAMETER LAP BETWEEN THE TWO BARS. THE LAPS SHALL BE BASED ON THE SMALLER BAR.
- CONCRETE QUANTITIES ARE BASED ON A SIX-BY-SIX INCH FILLET AND THE STEEL QUANTITIES DO NOT INCLUDE ANY OPTIONAL SPLICES.
- INVERT FINISH: CHANNEL INVERT SURFACE SHALL BE GIVEN A STEEL TROWEL FINISH.
- CONSTRUCTION LOADING IN EXCESS OF STRUCTURE DEAD AND LIVE LOADS HAS NOT BEEN CONSIDERED IN THE STRUCTURAL DESIGN. PROTECTION OF THE STRUCTURE FOR CONSTRUCTION LOADS WHICH EXCEED THE SPECIFIED DEAD AND LIVE LOADS IS THE RESPONSIBILITY OF THE CONTRACTOR THE DESIGN, INSTALLATION, REMOVAL AND COST OF TEMPORARY SHORING, EMPLOYED TO SUSTAIN CONSTRUCTION LOADING SHALL BE RESPONSIBILITY OF THE CONTRACTOR.
- TWO LONGITUDINAL BARS SHALL BE PLACED AT EACH CORNER LOCATION AS SHOWN ON THE DETAIL. THE REMAINING LONGITUDINAL BARS SHALL BE EQUALLY SPACED BETWEEN THE CORNER BARS WITH A MAXIMUM SPACING OF 18" IN EACH FACE OF THE SLABS AND WALLS, AND NEED NOT CORRESPOND TO THE NUMBER OR LOCATION SHOWN ON THE DETAIL. SEE THE TABLE FOR LONGITUDINAL BAR TOTALS.
- PROVIDE CARRIER BARS AS REQUIRED TO FACILITATE PLACEMENT OF THE TRANSVERSE REINFORCEMENT.

RCB PARAPET WALL
(STA. 18+74.62) N.T.S.



RC BOX CONDUIT DETAIL
NOT TO SCALE

RC BOX CONDUIT LOCATION					
RC BOX SECTION NUMBER	STATION LIMITS		RC BOX SECTION NUMBER	STATION LIMITS	
	FROM	TO		FROM	TO
1	15+06.00	15+31.00	*3	18+74.62	19+04.62
2	15+31.00	18+74.62			

- NOTES:
- SECTION 3, STA. 18+74.62 TO STA. 19+04.62, HAS NO TOP SLAB. CONSTRUCT AS RC OPEN CHANNEL. IF IN THE FUTURE IT IS DETERMINED THAT THE CHANNEL SHOULD BE COVERED, THE STRUCTURAL DESIGN WAS BASED ON A OPEN CHANNEL AND RCB WITH A MAXIMUM COVER OF 1.5' & H20 - 44 TRUCKLOAD.
 - SEE DROP INLET DETAILS, SHEET 23 FOR ADDITIONAL CONCRETE & REINFORCEMENT STA. 18+87.62 TO STA. 18+99.62
 - LENGTH OF C, C2, C3 AND D BARS MUST BE ADJUSTED IF THIS WEEPHOLE OPTION IS USED. (SEE CONSTRUCTION JOINT AND DRAINAGE DETAIL THIS SHEET.)

GENERAL

- DIMENSIONS FROM FACE OF CONCRETE TO STEEL SHALL BE 1.5" CLEAR UNLESS OTHERWISE SHOWN.
- CONCRETE DIMENSIONS SHALL BE MEASURED HORIZONTALLY OR VERTICALLY ON THE PROFILE, AND PARALLEL TO OR AT RIGHT ANGLES (OR RADIALY) TO CENTERLINE OF CONDUIT ON THE PLAN EXCEPT AS OTHERWISE SHOWN.
- LONGITUDINAL STEEL SHALL BE LAPPED 30 BAR DIAMETERS AT SPLICES. TRANSVERSE STEEL SHALL BE LAPPED 45 BAR DIAMETERS AT SPLICES.
- TRANSVERSE CONSTRUCTION JOINTS SHALL NOT BE PLACED WITHIN 4 FEET OF MANHOLE OR JUNCTION STRUCTURE OPENINGS.
- THE TRANSVERSE REINFORCING STEEL SHALL TERMINATE ONE AND ONE-HALF INCHES FROM THE CONCRETE SURFACES UNLESS OTHERWISE SHOWN ON THE STRUCTURAL DETAILS.
- EXPOSED EDGES OF CONCRETE MEMBERS SHALL BE ROUNDED, BEVELED, OR CHAMFERED.
- NO SPLICES IN TRANSVERSE STEEL REINFORCEMENT WILL BE PERMITTED OTHER THAN SHOWN ON THE DRAWING WITHOUT APPROVAL OF ENGINEER. NO MORE THAN TWO SPLICES WILL BE PERMITTED IN ANY LONGITUDINAL BAR BETWEEN TRANSVERSE JOINTS. SPLICES SHALL BE STAGGERED, AND STAGGERS SHALL NOT BE IN THE SAME PLANE.
- ELEVATION OF WEEPHOLES ABOVE INVERT SHALL BE UNIFORM THROUGH ENTIRE REACH OF PROJECT.
- BURY BARS MAY BE USED AT CONTRACTORS OWN EXPENSE. AND SHALL COUNT AS PART OF THE STEEL LAYOUT.

DESIGN CRITERIA

(STA. 15+06 TO STA. 19+04.62)

LIVE LOAD

HS20-44 unless otherwise noted.

DEAD LOAD

Earth load per Marston's formula $w=110$ pcf

$K_u=K_u'=0.150$

Bd=Outside width of box plus 3 feet

Side earth 36 EFP per foot of depth

Weight of concrete 150 p c f

EXTERNAL LATERAL (OPEN CHANNEL)

(Sta. 18+74.62 to Sta. 19+04.62 only)

40 PSF EFP Plus H20 - 44 Plus 100 PSF

EFP Uniform Load

INTERNAL LATERAL (OPEN CHANNEL)

(Sta. 18+74.62 to Sta. 19+04.62 only)

40 PSF EFP

ALLOWABLE STRESSES

$f_c=3250$ psi at 28 days

$f_c=1460$ psi

$f_s=24000$ psi

$n=8.8$

shear and bond stresses per A.C.I. 318-63

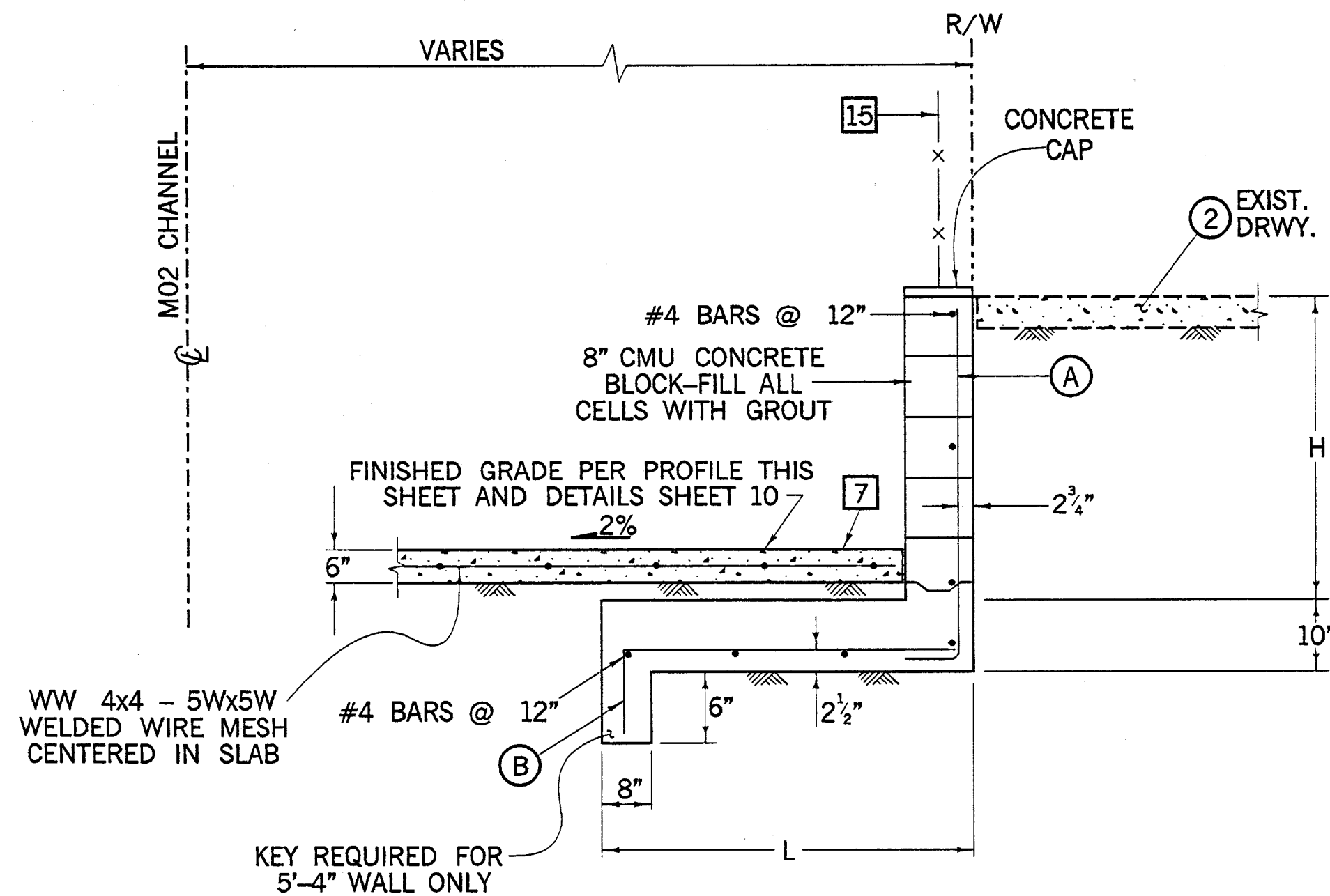
RC BOX CONDUIT TABLE				
SECTION NUMBER	1	2	SEE NOTES 1 & 2 * 3	
LIVE LOAD (SEE STRUCTURAL NOTE 9)	HS20-44	HS20-44	HS20-44	
MAX. DESIGN COVER	0" TO 3'-0"	0" TO 3'-0"	0" TO 1.5'	
WIDTH	VARIES 25' TO 20.7'	20.7'	20.7'	
HEIGHT	VARIES 9' TO 10'	10'	11.5'	
THICKNESS (INCHES)	TOP SLAB	T ₁	18"	16"
	SIDE WALL	T ₂	17"	14"
	BOTTOM SLAB	T ₃	17"	13"
STEEL CLEARANCE INVERT	C	3"	3"	3"
B BARS	BAR NO. & SPACING	#8 @ 12"	#8 @ 12"	—
	LENGTH	VARIES 27'-7" TO 23'-4"	22'-10"	—
B ₁ BARS	BAR NO. & SPACING	#7 @ 6"	#8 @ 12"	—
	LENGTH	14'-3"	12'-8"	—
C BARS	BAR NO. & SPACING	#7 @ 12"	#5 @ 12"	#6 @ 12"
	HORIZONTAL LENGTH	9'-4"	7'-8"	—
	VERTICAL LENGTH	VARIES 9'-11" TO 11'-0"	10'-10"	11'-0"
C ₁ BARS	BAR NO. & SPACING	#8 @ 12"	#7 @ 12"	#5 @ 12"
	HORIZONTAL LENGTH	4'-7"	3'-6"	—
	VERTICAL LENGTH	VARIES 9'-11" TO 11'-0"	10'-10"	5'-0"
C ₂ BARS	BAR NO. & SPACING	#7 @ 12"	#5 @ 12"	#5 @ 12"
	HORIZONTAL LENGTH	9'-4"	7'-8"	7'-4"
	VERTICAL LENGTH	5'-0"	5'-0"	7'-11"
C ₃ BARS	BAR NO. & SPACING	#8 @ 12"	#6 @ 12"	#7 @ 12"
	HORIZONTAL LENGTH	4'-10"	3'-7"	5'-0"
	VERTICAL LENGTH	4'-0"	3'-4"	5'-5"
D BARS	BAR NO. & SPACING	#4 @ 18"	#4 @ 18"	#5 @ 12"
	LENGTH	VARIES 11'-10" TO 12'-8"	12'-5"	12'-2"
D ₁ BARS	BAR NO. & SPACING	—	—	#5 @ 12"
	VERTICAL LENGTH	—	—	5'-5"
F BARS	BAR NO. & SPACING	#8 @ 12"	#8 @ 12"	#8 @ 12"
	LENGTH	VARIES 27'-7" TO 23'-4"	22'-10"	22'-6"
F ₁ BARS	BAR NO. & SPACING	#7 @ 6"	#8 @ 12"	#5 @ 12"
	LENGTH	13'-10"	13'-2"	8'-4"
G BARS	BAR NO. & SPACING	#6 @ 12"	#5 @ 12"	—
	LENGTH	12'-6"	10'-5"	—
H BARS	BAR NO. & SPACING	#6 @ 12"	#5 @ 12"	#6 @ 12"
	LENGTH	12'-6"	10'-5"	22'-6"
DISTRIBUTION BARS	BAR NO.	#4	#4	—
	NUMBER OF BARS	VARIES 18 TO 15	15	—
NUMBER OF #4 LONGITUDINAL BARS	TOP SLAB	VARIES 38 TO 33	33	—
	BOTTOM SLAB	VARIES 38 TO 33	33	33
	SIDE WALLS	24	24	28
TOTAL #4 BARS (DISTRIBUTION AND LONGITUDINAL)				
QUANTITIES				
CONCRETE CU. YDS./LIN. FT.		VARIES 4.0 TO 3.63	3.18	1.88
STEEL LBS./LIN. FT.		VARIES 650.9 TO 630.3	438.4	307.1

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - MO2	
RCB STEEL SCHEDULE STA. 15+06 TO STA. 19+04.62	
DESIGNED R. GAUT	CHECKED N. MAJAJ
DRAWN R.H. DE GUZMAN	DRAWING NO. M02-101-4R
SCALE AS SHOWN	DATE 1/7/03
DATE 1-10-03	DATE

RECORD DRAWING

14 OF 42

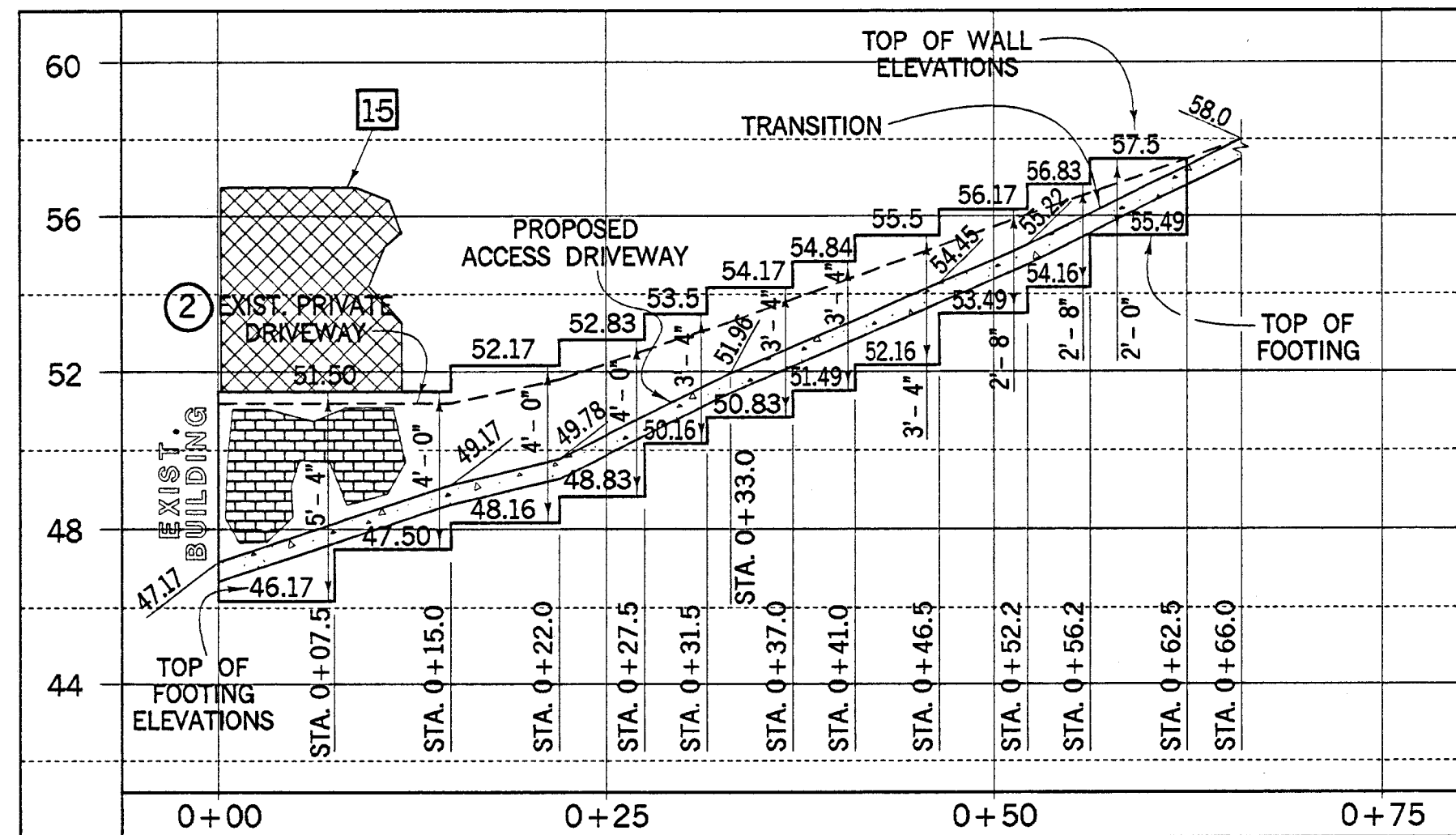


MASONRY RETAINING WALL (CALLE DE LOS MOLINOS CHANNEL ACCESS)

TYPICAL SECTION 4
N.T.S.

MASONRY RETAINING WALL SCHEDULE (Calle De Los Molinos Channel Access)

H	L	A	B	FOOTING CONCRETE (FT ³ /L.F.)	STEEL (LBS./L.F.)
5'- 4"	4'- 8"	#6 @ 8"	#5 @ 16"	4.75	15.9
4'- 0"	3'- 8"	#5 @ 16"	#5 @ 16"	3.05	6.0
3'- 4"	3'- 8"	#5 @ 16"	#5 @ 16"	3.05	5.5
2'- 8"	3'- 8"	#4 @ 16"	#4 @ 16"	3.05	3.2
2'- 0"	3'- 8"	#4 @ 16"	#4 @ 16"	3.05	2.8

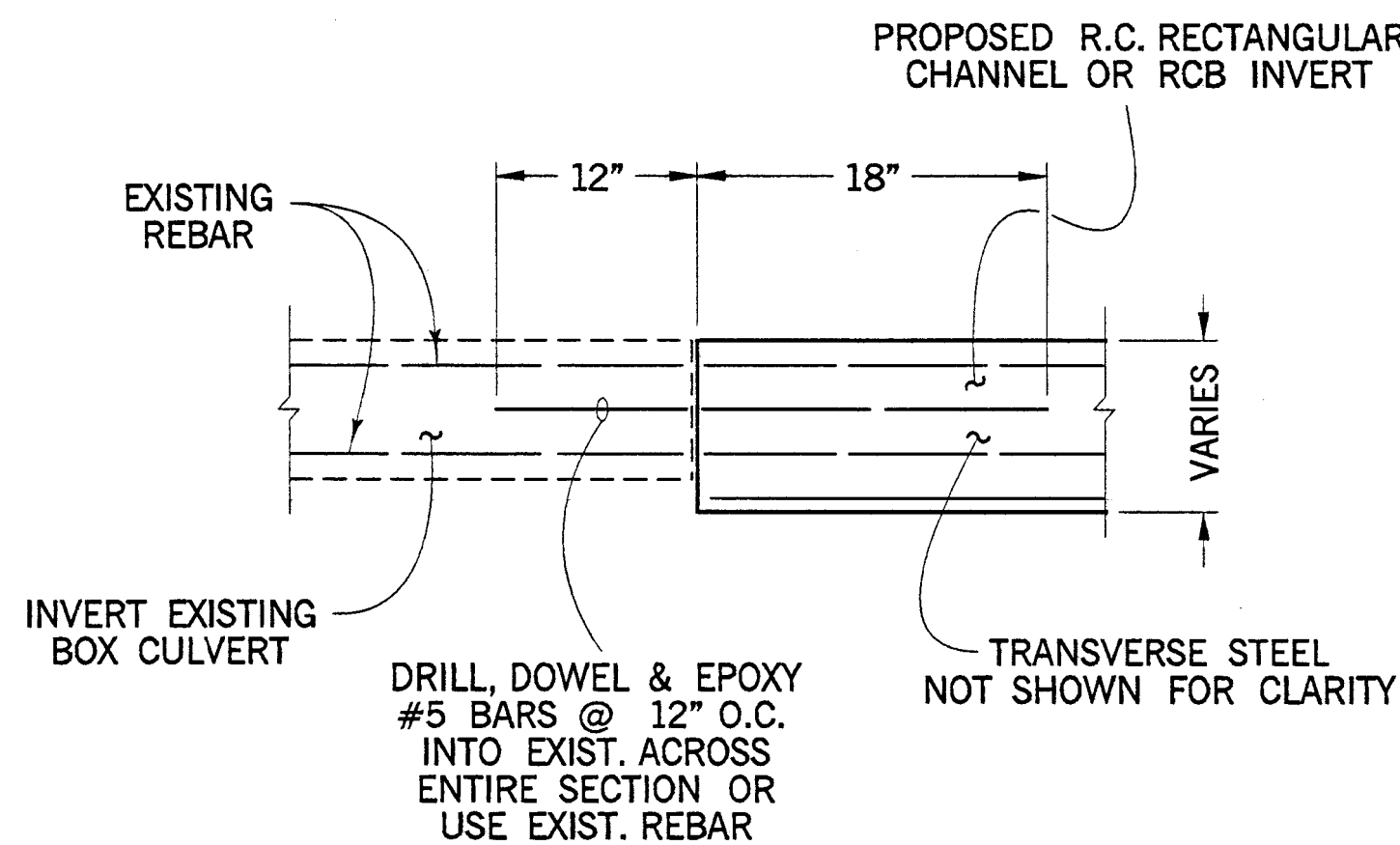
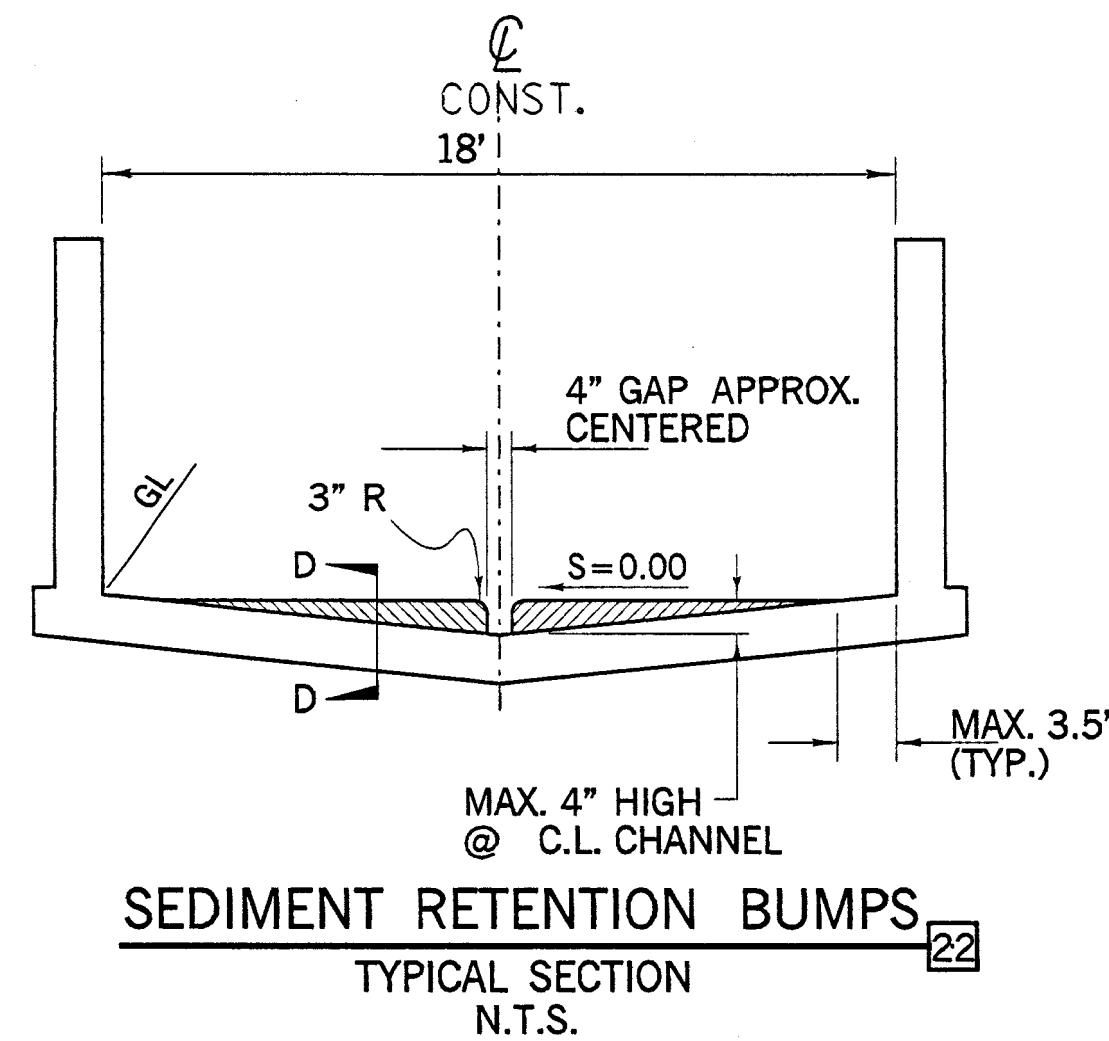


MASONRY RETAINING WALL (CALLE DE LOS MOLINOS CHANNEL ACCESS)

SEE SHEET 2A

PROFILE

SCALE: HORIZ. 1"=10'
VERT. 1"=4'



INVERT JOIN DETAILS

N.T.S.

(STA. 15+06.00, STA. 19+04.62, STA. 20+44.30, STA. 46+16.39, STA. 47+43.41, STA. 54+93.11)

MASONRY WALL NOTES:

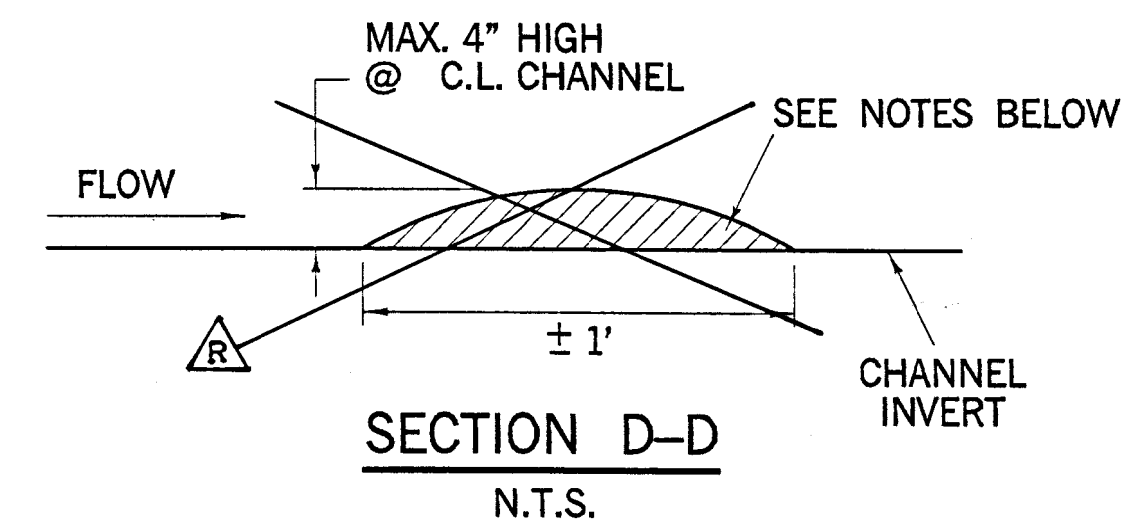
- MASONRY UNITS FOR RETAINING WALL SHALL BE CMU CONCRETE BLOCK F_m=1500 PSI CONFORMING TO A.S.T.M. C90, AND MANUFACTURED IN ACCORDANCE WITH CONCRETE MASONRY ASSOCIATION STANDARDS.
- OMIT MORTAR FROM VERTICAL JOINTS OF FIRST COURSE ABOVE EXISTING DRIVEWAY AT 32" CENTERS OR PROVIDE A WEEPHOLE BETWEEN STA. 0+00 AND STA. 0+15 WITH A MINIMUM 2" DIAMETER SCHEDULE 40 PVC.
- GROUT SHALL BE AS SPECIFIED IN SECTION F OF THE SPECIAL PROVISIONS.
- FILL ALL CELLS WITH GROUT.
- MORTAR SHALL BE CLASS E AS SPECIFIED IN SUBSECTION 201-5.1 OF THE STANDARD SPECIFICATIONS.
- CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 3250 PSI AT 28 DAYS.
- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO A.S.T.M. A 615 GRADE 60.

CONSTRUCTION NOTES

- CONSTRUCT REINFORCED MASONRY RETAINING WALL PER PFRD STD. PLAN 618-0-OC MODIFIED HEREIN PER PLAN AND PROFILE SHEETS, TYPICAL SECTION AND DETAILS SHEET 15 AND 16.
- CONSTRUCT PCC MAINTENANCE ROAD APPROACH WITH 0.5' PCC/NS PER PLANS, DETAILS SHEETS 9, 10, 11 AND 15 AND SPECIAL PROVISIONS.
- INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
- CONSTRUCT SEDIMENT RETENTION BUMPS PER PLAN AND DETAILS SHEET 15. USING 6"x12"x6" PREFABRICATED PLASTIC WHEEL BLOCKS USED IN PARKING LOTS TO BE EPOXIED AND DOWELLED INTO INVERT.

LEGEND

- ② PROTECT



*LOCATION OF SEDIMENT RETENTION BUMPS

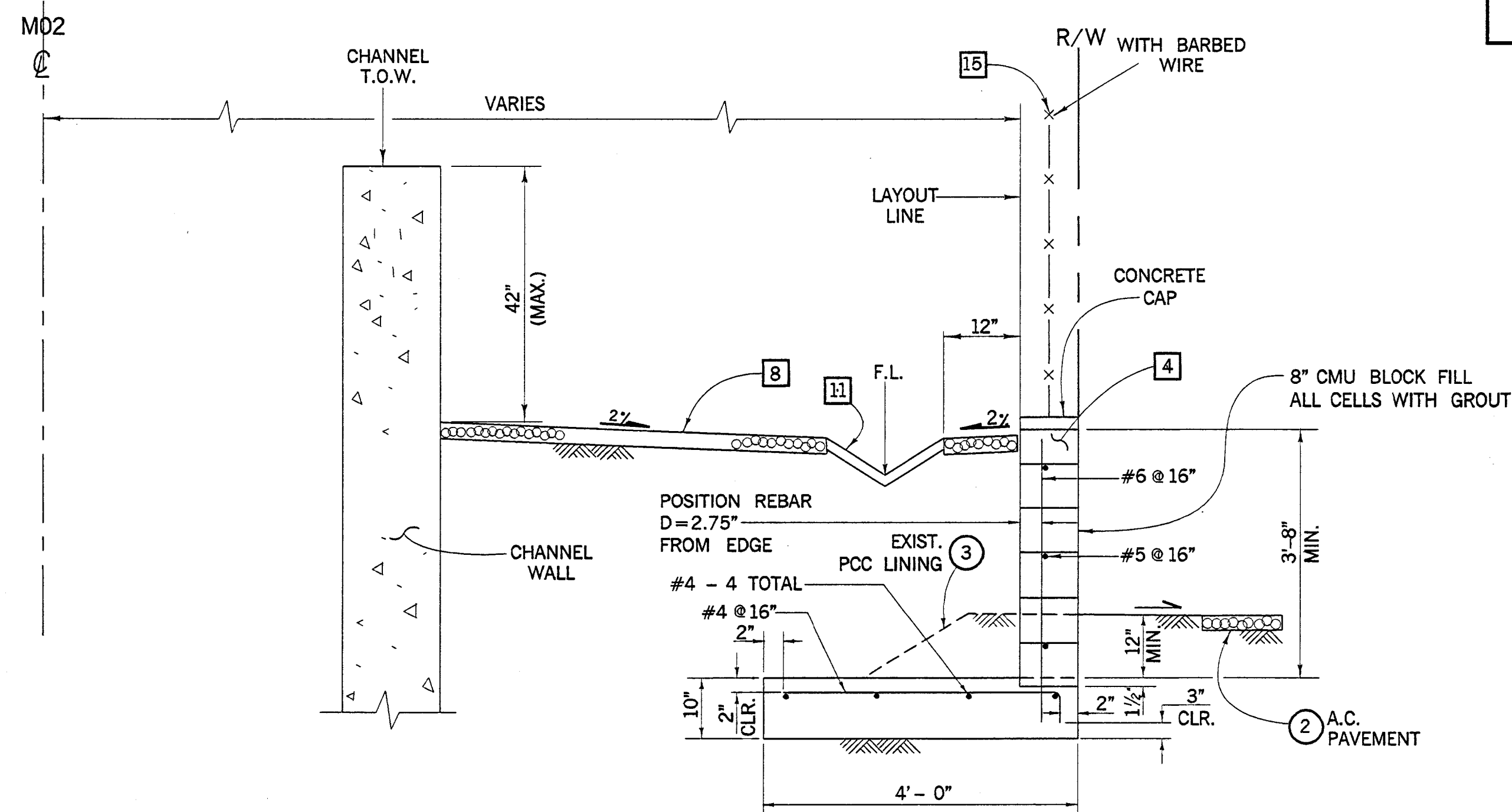
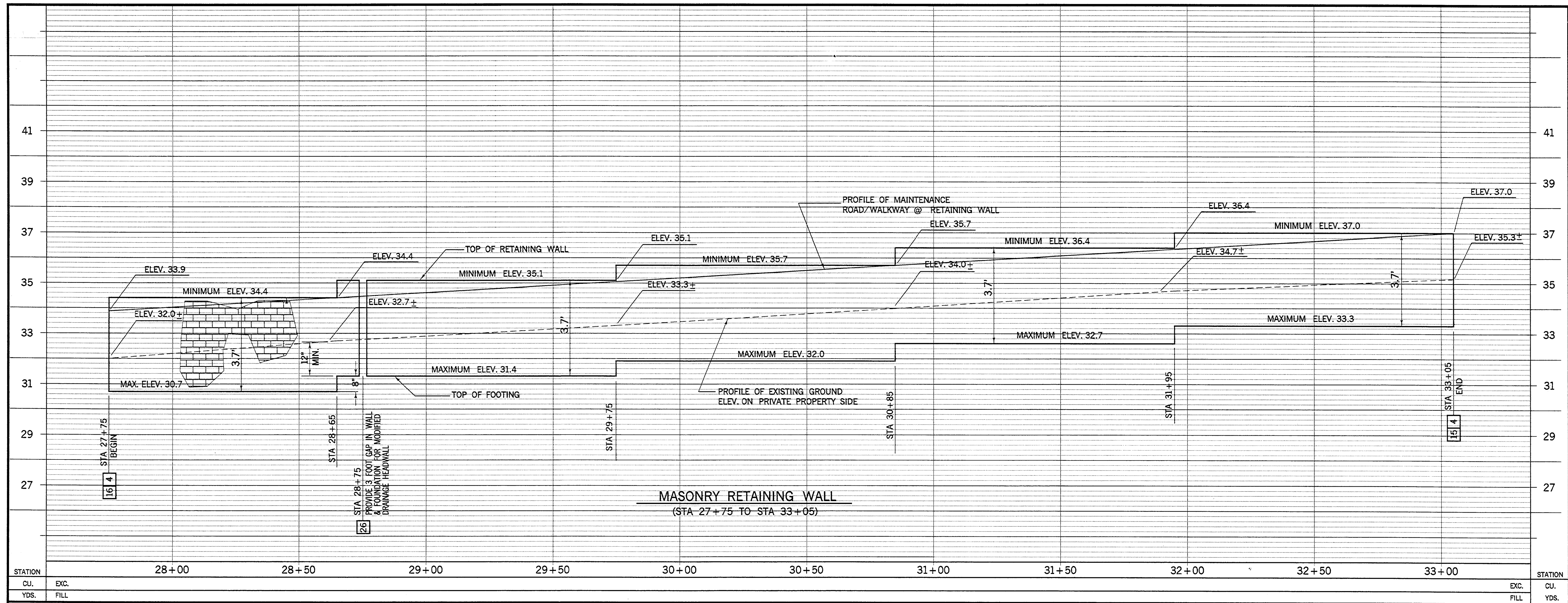
STA. 21+40.00
STA. 24+40.00
STA. 27+40.00
STA. 30+40.00
STA. 33+40.00
STA. 36+40.00
STA. 39+40.00
STA. 42+40.00
STA. 45+40.00
STA. 48+00.00
STA. 51+00.00
STA. 53+50.00

- NOTE: 1) SEDIMENT RETENTION BUMPS POURED MONOLITHIC WITH INVERT SLAB
- * 2) PLACE SEDIMENT RETENTION BUMPS UPSTREAM OF CONSTRUCTION JOINTS WHEN POSSIBLE 300' SPACING

RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

03/05	RECORD DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
		SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02	
JOIN DETAILS, SEDIMENT RETENTION BUMPS & RETAINING WALL DETAILS (CALLE DE LOS MOLINOS CHANNEL ACCESS)		DESIGNED R. GAUT	CHECKED N. MAJAJ
DRAWN RHC/T.G.		SCALE AS SHOWN	DATE 1/7/03
DRAWING NO. M02-101-4 R		SHEET 15 OF 42	



PROFILE
HORIZ. 1"=20'
VERT. 1"=2'

MASONRY WALL NOTES:

1. MASONRY UNITS FOR RETAINING WALL SHALL BE CMU CONCRETE BLOCK F'm=1500 PSI CONFORMING TO A.S.T.M. C90, AND MANUFACTURED IN ACCORDANCE WITH CONCRETE MASONRY ASSOCIATION STANDARDS.
2. EITHER OMIT MORTAR FROM VERTICAL JOINTS OF FIRST COURSE ABOVE FINISHED GRADE AT 32" CENTERS OR PROVIDE, AT A MINIMUM OF 25' ON CENTER, WEEPHOLES OF A MINIMUM 2" DIAMETER SCHEDULE 40 PVC WITH 6 ONE-HALF INCH HOLES IN THE CAP AND WRAPPED WITH FILTER MATERIAL, TYPE I.
3. GROUT SHALL BE AS SPECIFIED IN SECTION F OF THE SPECIAL PROVISIONS.
4. FILL ALL CELLS WITH GROUT.
5. MORTAR SHALL BE CLASS E AS SPECIFIED IN SUBSECTION 201-5.1 OF THE STANDARD SPECIFICATIONS.
6. CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 3250 PSI AT 28 DAYS.
7. REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO A.S.T.M. A 615 GRADE 60.

CONSTRUCTION NOTES

4. CONSTRUCT REINFORCED MASONRY RETAINING WALL PER PFRD STD. PLAN 618-0-OC MODIFIED HEREON PER PLAN AND PROFILE SHEETS, TYPICAL SECTION AND DETAILS SHEET 15 AND 16.
8. CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 18 AND 19 AND X-SECTIONS.
11. CONSTRUCT MODIFIED 24" WIDE (6" DEEP) VEE-DITCH PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 18 AND 19 AND PFRD STD. PLAN 1332.
15. INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
26. CONSTRUCT SPECIAL INLET WITH FLAPGATE AND MODIFIED DRAINAGE HEADWALL PER PLAN & PROFILE SHEETS AND DETAILS SHEET 20.

- LEGEND
2. PROTECT IN PLACE
 3. REMOVE INTERFERING PORTIONS

RECORD DRAWING

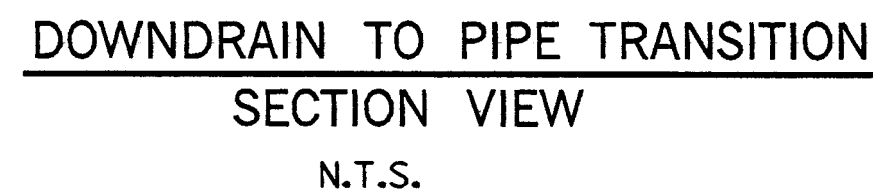
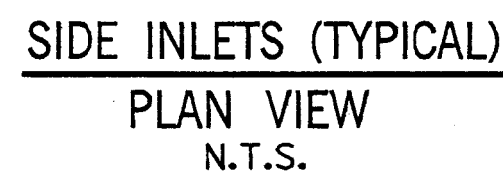
1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES & RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CAÑADA CHANNEL OCFCD FACILITY - M02	
RETAINING WALL DETAIL STA 27+75 TO STA 33+05	
DESIGNED R. CAUT	CHECKED N. MAJAL
DRAWN H.N.	DATE 1/7/03
SCALE AS SHOWN	DRAWING NO. M02-101-4 R
SHEET 16 OF 42	

PE=HIGH DENSITY POLYETHYLENE PIPE
CP=CLAY PIPE
SP=STEEL PIPE
PVC=POLYVINYL CHLORIDE

SEE PHOTOGRAPHS OF EXISTING INLETS
IN SPECIFICATIONS APPENDIX

1. ELEVATIONS AND LENGTHS ARE APPROXIMATE – EXACT MEASUREMENT SHALL BE DETERMINED IN THE FIELD
- *2. "A" SHALL BE 90° OR OTHERWISE DETERMINED IN FIELD.
3. IN AREAS WHERE SHORING IS REQUIRED TO SUPPORT THE EXCAVATED CUT SLOPE, THE RCP AND COLLAR NEED ONLY EXTEND TO THE LIMITS OF THE CUT SLOPE, WHEN PRACTICABLE. OTHERWISE, THE RCP & COLLAR SHALL EXTEND TO THE R/W. HOWEVER, FULL OR PARTIAL REMOVAL OF P.C.C TRAP, CHANNEL AND ADDITIONAL EXCAVATION MAY BE REQUIRED IN ORDER TO CONSTRUCT THE DRAINAGE INLETS.
4. ONLY PIPES 18" AND LARGER REQUIRE JUNCTION STRUCTURE TYPE V (PFRD STD. PLAN 1314).
- **5. "L" LENGTH OF PIPE IS A DISTANCE DETERMINED BY A HORIZONTAL PROJECTION.
6. RIGHT SIDE OF CHANNEL. CUT PIPE BACK TO R/W & BEYOND AS NECESSARY TO CONSTRUCT COLLAR & MINIMIZE ENCROACHMENT ON TO SURFACE OF MAINTENANCE ROAD.
7. RIGHT SIDE OF CHANNEL. CONCRETE COLLAR REQUIRED ONLY IF END OF THE EXISTING 60" RCP IS DAMAGED SO THAT A WATER TIGHT SEAL CAN NOT BE ACHIEVED OR IF THE DEFLECTION ANGLE IS SUCH THAT A COLLAR IS REQUIRED. SEE SHEET 24 FOR 60" RCP ALIGNMENT DETAIL.
8. SEE FLAP GATE DETAIL & MODIFIED INLET SHEET 20.



NOTES:

1. LENGTHS ARE APPROXIMATE - EXACT MEASUREMENT SHALL BE DETERMINED IN THE FIELD.
2. FULL OR PARTIAL REMOVAL OF P.C.C. TRAP CHANNEL AND ADDITIONAL EXCAVATIONS MAY BE REQUIRED IN ORDER TO CONSTRUCT THE DOWNDRAIN TO PIPE TRANSITION AND ASSOCIATED INLET STRUCTURES.
3. ELEVATIONS TO BE DETERMINED IN THE FIELD.

SIDE INLET AND CHANNEL JUNCTION STRUCTURE

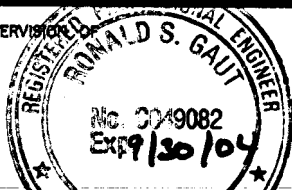
PLAN VIEW
N.T.S.

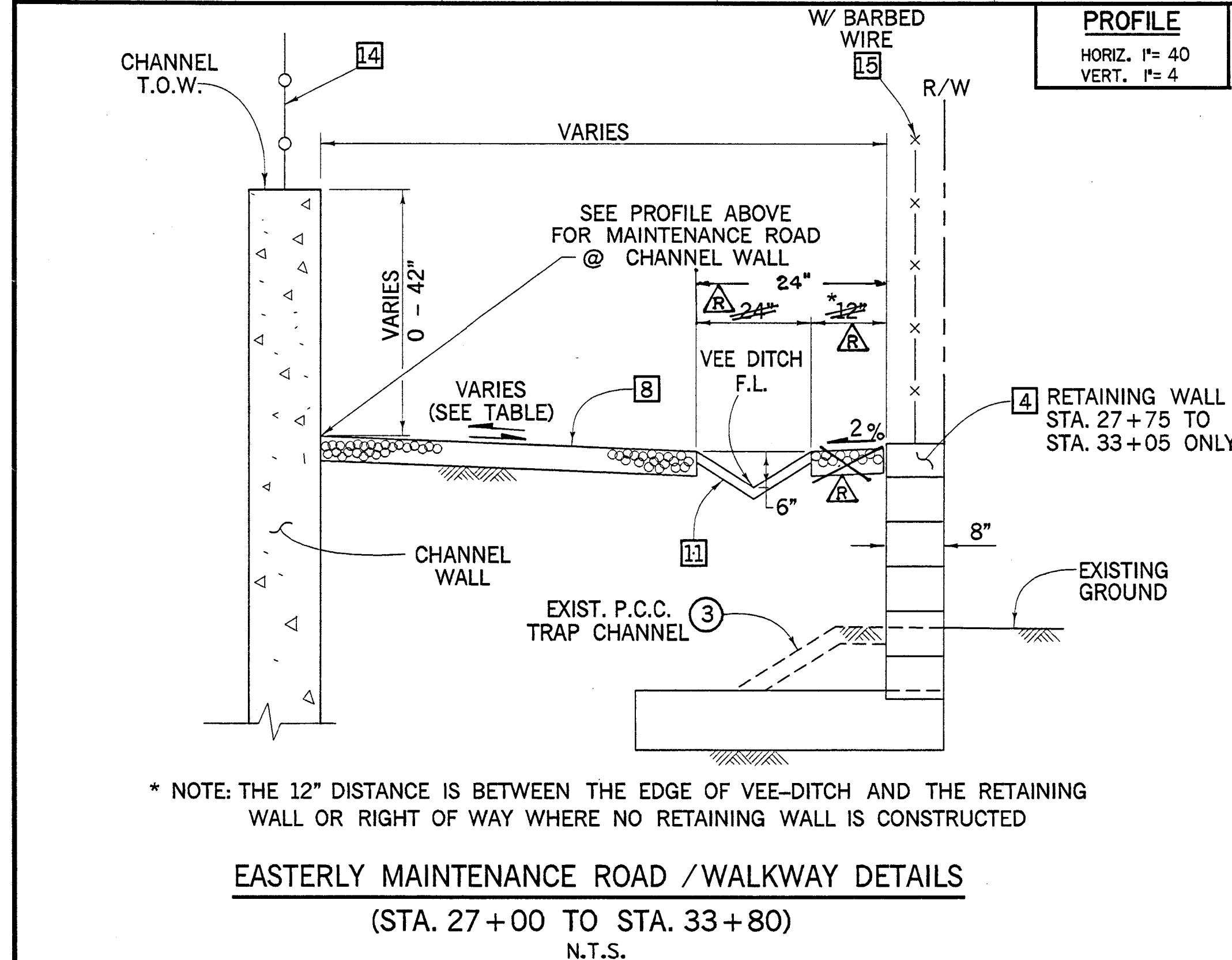
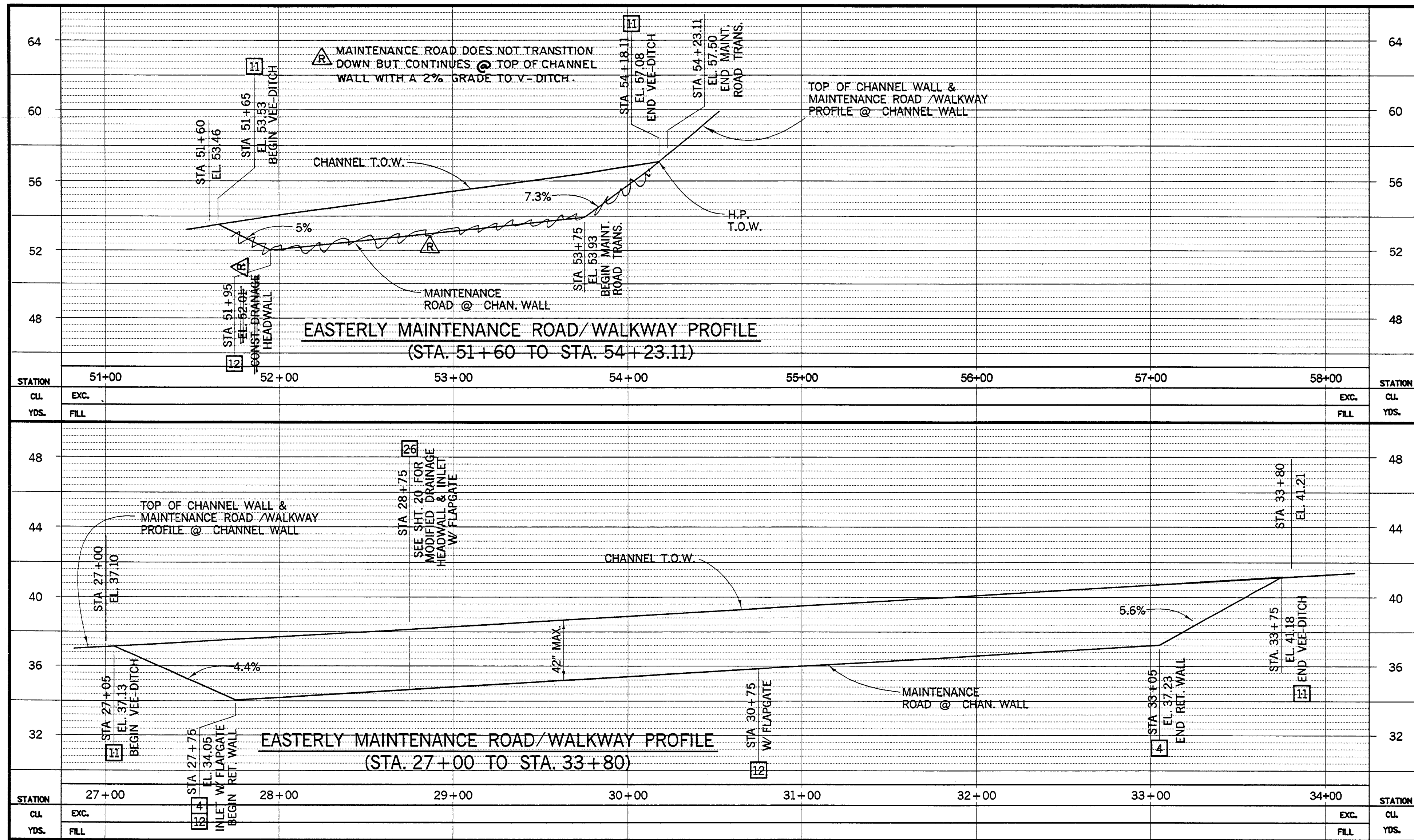


LEGEND

② PROTECT IN PLACE

③ REMOVE INTERFERING PORTIONS

	03/05	RECORD DRAWINGS. PUBLIC FACILITIES AND RESOURCES DEPARTMENT
		<u>SEGUNDA DESHECHA CANAÑA CHANNEL</u> <u>OCFCD FACILITY - M02</u>
MARK	DATE	DESCRIPTION
REVISIONS		
PREPARED UNDER SUPERVISION OF 		
DESIGNED R. GAUT		SHEET 17
DRAWN R.H. DE GUZMAN		CHECKED N. MAJAJ
SCALE AS SHOWN	DATE 1/7/03	DRAWING NO. M02-101-4 R
DATE 1-10-03		OF 42



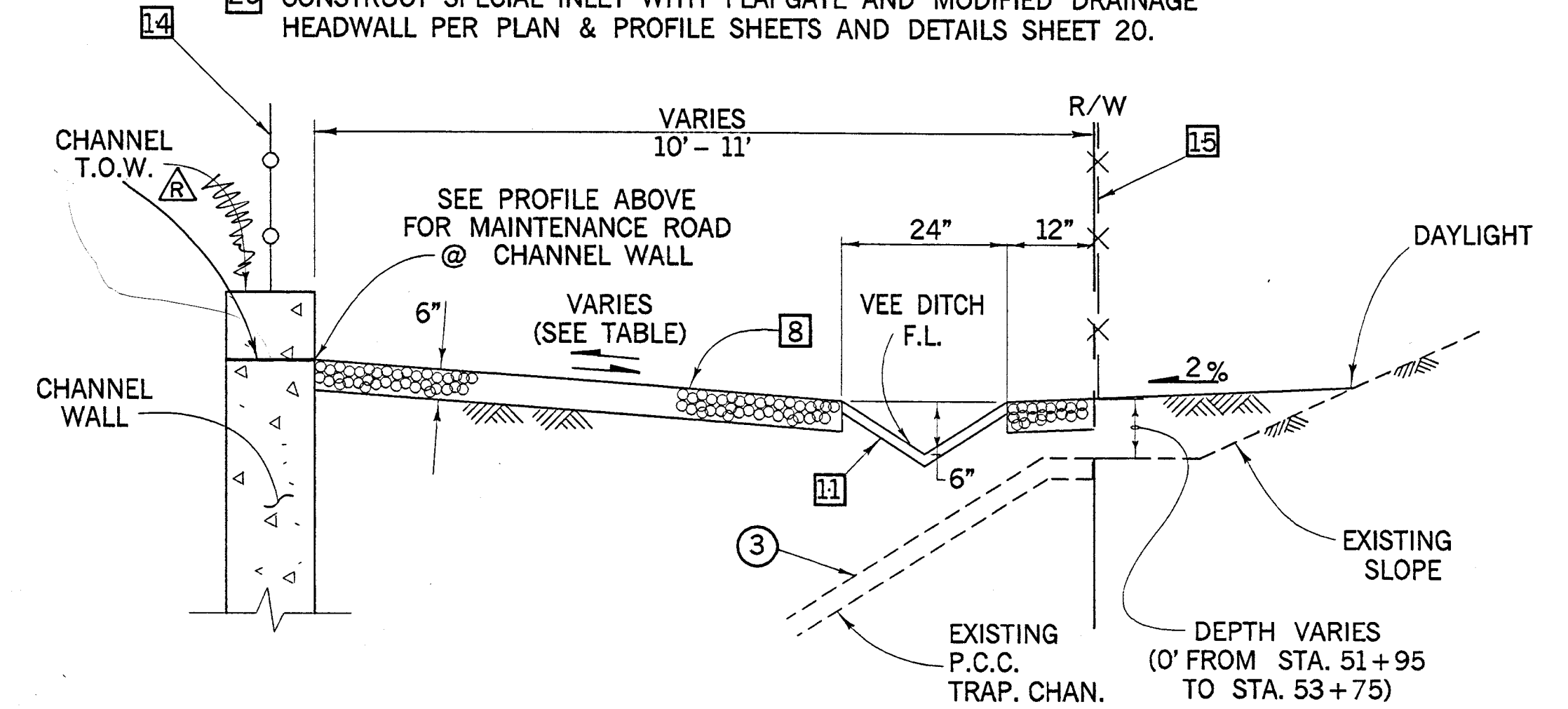
STATION	CHANNEL TOW ELEV.	ELEV. MAINT. ROAD @ CHAN. WALL	F.L. VEE DITCH	ELEV. MAINT. ROAD @ R/W OR RET. WALL	SLOPE MAINT. ROAD BET. CHAN. WALL & VEE DITCH	REMARKS
27+00	37.10	37.10	N.A.	37.5	2% (TOWARD CHANNEL)	BEGIN TRANS.
27+05	37.13	37.13	36.63	37.2	0%	BEGIN V-DITCH
27+25	37.25	36.25	35.53	35.6	2% (TOWARD VEE DITCH)	
27+50	37.40	35.15	34.43	35.0	2% (TOWARD VEE DITCH)	
27+75	37.55	34.05	33.33	33.9	2% (TOWARD VEE DITCH)	END TRANSITION. BEGIN RET. WALL CONST. DRAINAGE HEADWALL & INLET W/ FLAPGATE
28+75	38.18	34.68	33.98	34.4	2% (TOWARD VEE DITCH)	CONST. MODIFIED DRAINAGE HEADWALL & INLET W/ FLAPGATE SEE DETAILS SHT. 20
30+75	39.35	35.85	35.18	35.7	2% (TOWARD VEE DITCH)	CONST. DRAINAGE HEADWALL & INLET W/ FLAPGATE
33+05	40.73	37.23	36.48	37.0	2% (TOWARD VEE DITCH)	END RET. WALL BEGIN TRANSITION
33+25	40.88	38.38	37.88	38.4	2% (TOWARD VEE DITCH)	DAYLIGHT BEYOND RIGHT OF WAY
33+50	41.03	39.78	39.02	39.1	2% (TOWARD VEE DITCH)	DAYLIGHT BEYOND RIGHT OF WAY
33+75	41.18	41.18	40.68	40.7	0%	END V-DITCH
33+80	41.21	41.21	N.A.	41.5	2% (TOWARD CHANNEL)	END TRANS.

SEE SHEET 2A FOR ADDED LENGTH OF V-DITCH

NOTE: SEE SHT. 20 FOR FLAPGATE DETAILS

CONSTRUCTION NOTES

- CONSTRUCT REINFORCED MASONRY RETAINING WALL PER PFRD STD. PLAN 618-0-OC MODIFIED HEREIN PER PLAN AND PROFILE SHEETS, TYPICAL SECTION AND DETAILS SHEET 15 AND 16.
- CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 18 AND 19 AND X-SECTIONS.
- CONSTRUCT MODIFIED 24" WIDE (6" DEEP) VEE-DITCH PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 18 AND 19 AND PFRD STD. PLAN 1332.
- CONSTRUCT INLET AND HEADWALL PER PLAN AND PROFILE SHEETS AND DETAILS SHEET 19.
- INSTALL GUARD CABLE FENCE ON TOP OF CHANNEL WALL PER PLAN AND PROFILE SHEETS AND PFRD STD. PLAN 1413.
- INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
- CONSTRUCT SPECIAL INLET WITH FLAPGATE AND MODIFIED DRAINAGE HEADWALL PER PLAN & PROFILE SHEETS AND DETAILS SHEET 20.



SEE SHEET 2A

CONCRETE VEE-DITCH & GRADING REQUIREMENTS TABLE (EASTERLY SIDE)

STATION	CHANNEL TOW ELEV.	ELEV. MAINT. ROAD @ CHAN. WALL	F.L. VEE DITCH	ELEV. MAINT. ROAD @ R/W OR DAYLIGHT	SLOPE MAINT. ROAD BET. CHAN. WALL & VEE DITCH	REMARKS
51+60	53.46	53.46	N/A	53.8	2% (TOWARD CHANNEL)	BEG. MAINT. ROAD TRANS
51+65	53.53	53.53	53.03	53.5	0%	BEGIN V-DITCH
51+95	53.99	53.99	53.99 (SUMP)	53.9	2% (TOWARD VEE DITCH)	END MAINT. ROAD TRANS./CONST. DRAINAGE HEADWALL
53+75	56.43	56.43	56.23	56.8	2% (TOWARD VEE DITCH)	BEG. MAINT. ROAD TRANS
54+18.11	57.08	57.08	56.58	56.6	0%	END V-DITCH
54+23.11	57.50	57.50	N/A	57.9	2% (TOWARD CHANNEL)	END MAINT. ROAD TRANS

RECORD DRAWING

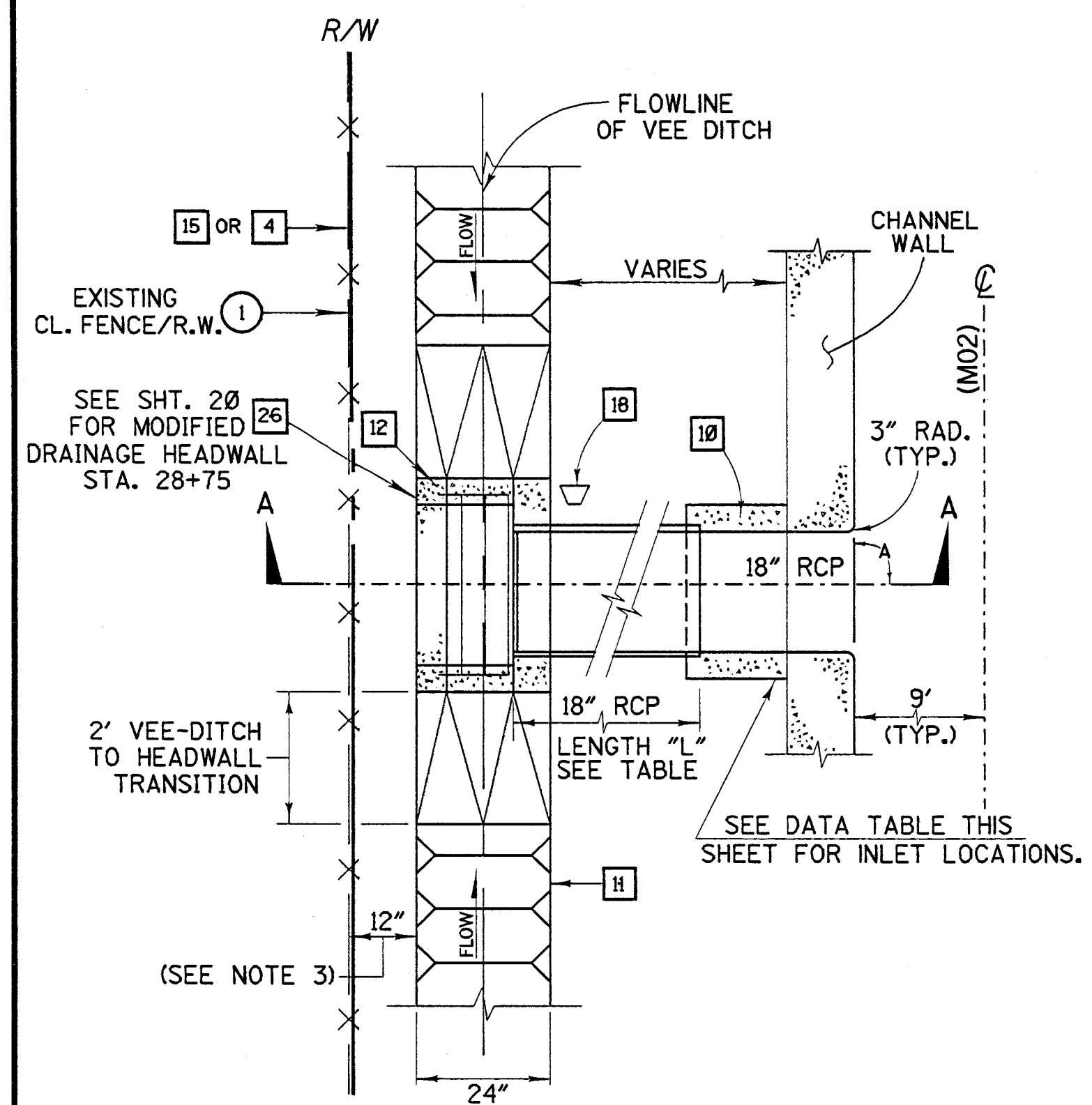
LEGEND

- REMOVE INTERFERING PORTIONS

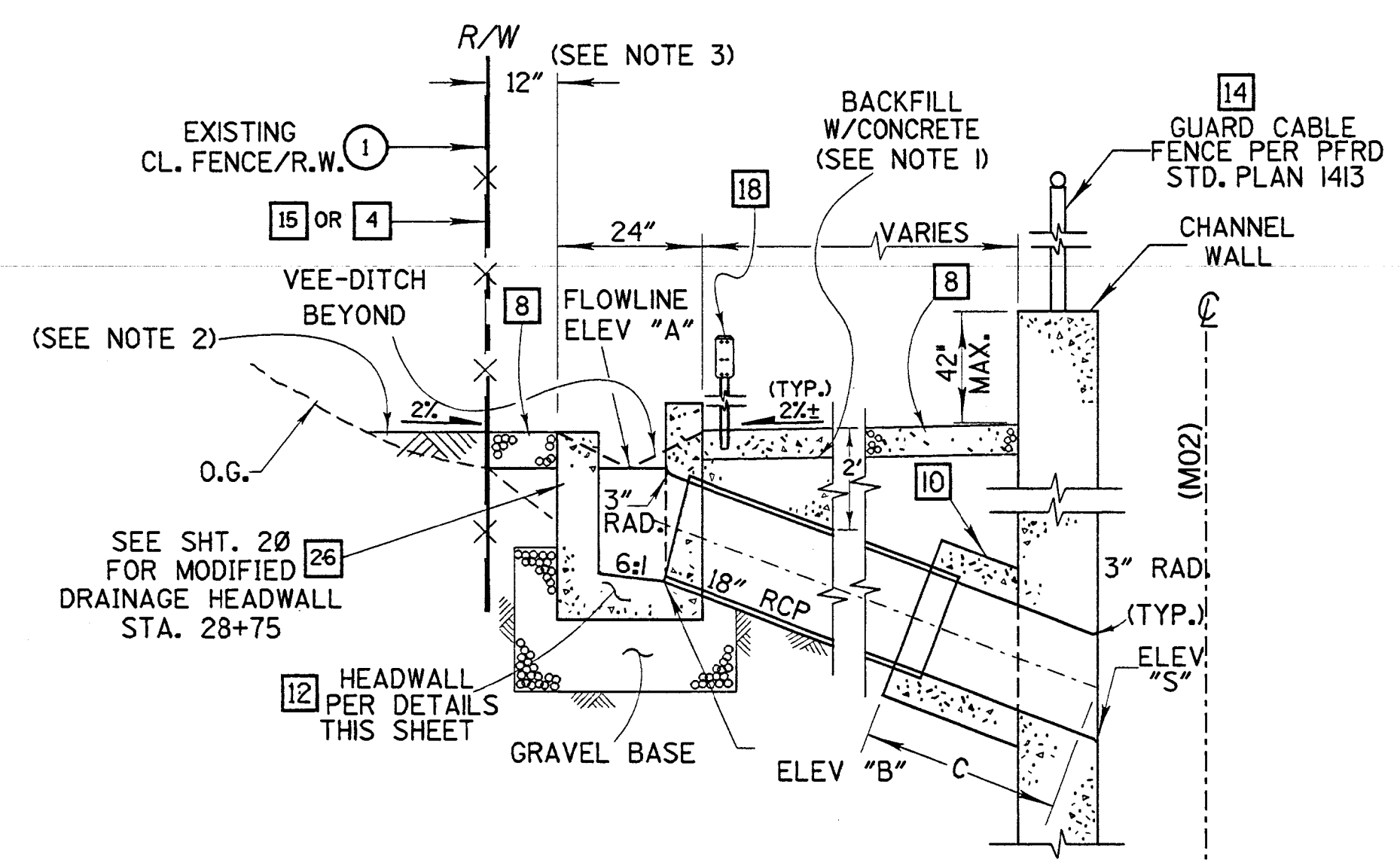
03/05		RECORD DRAWINGS.		ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFOD FACILITY - MO2					
MAINTENANCE ROAD/WALKWAY PROFILE, TYPICAL SECTIONS & GRADING REQUIREMENTS (RIGHT SIDE ONLY)					
(STA. 27+00 TO STA. 33+80 & STA. 51+60 TO STA. 54+23.11)					
DESIGNED R. GAUT		CHECKED N. MAJAJ		SHEET	
DRAWN R.H.G.		DATE 1/7/03		DRAWING NO. MO2-101-4 R	
SCALE AS SHOWN		DATE 1/7/03		OF 42	

15 000
M02-101-4 R

42
19



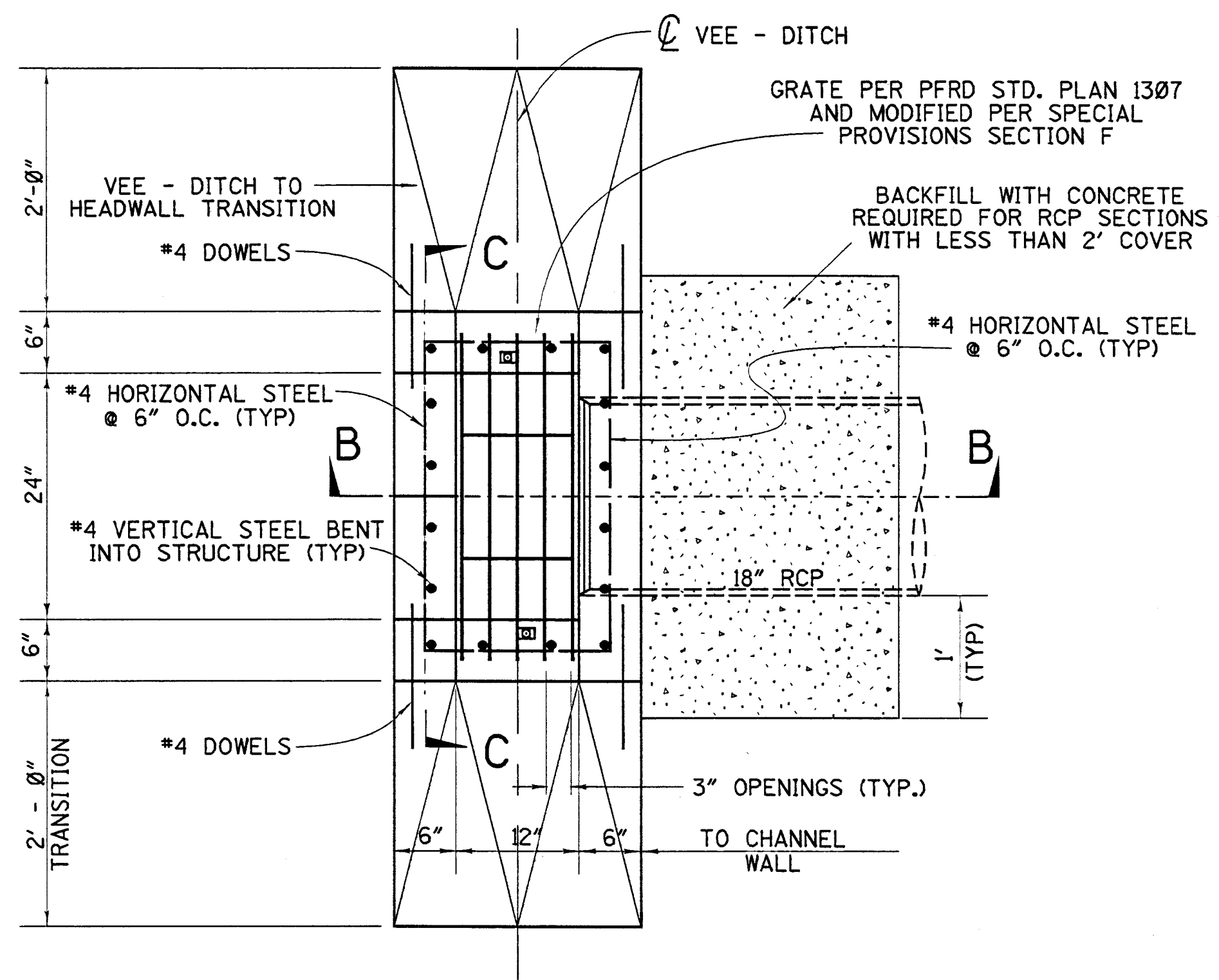
**DRAINAGE DETAIL
PLAN**
SCALE: 1"=2'



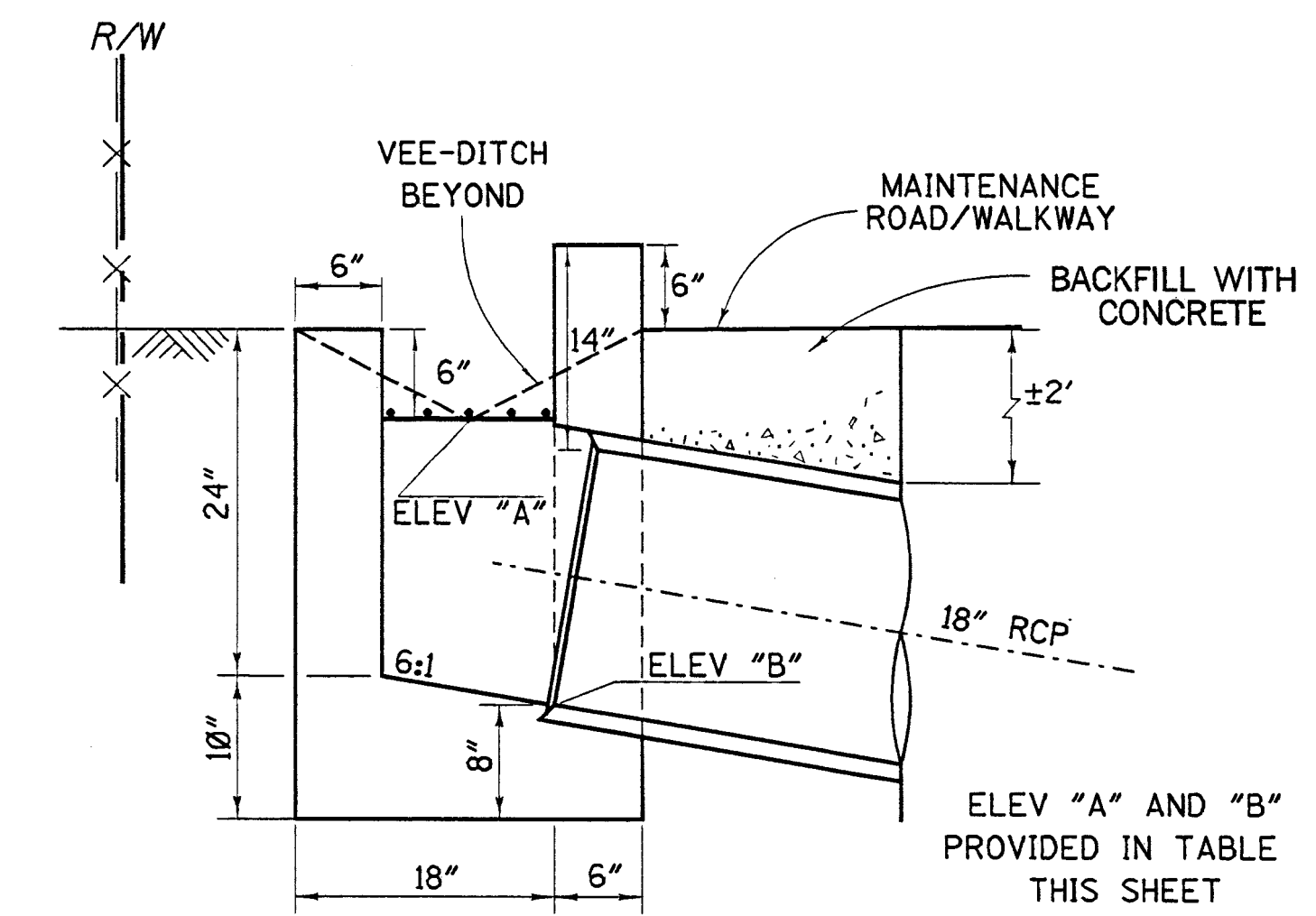
**DRAINAGE DETAIL
SECTION A-A**
NTS

NOTES:

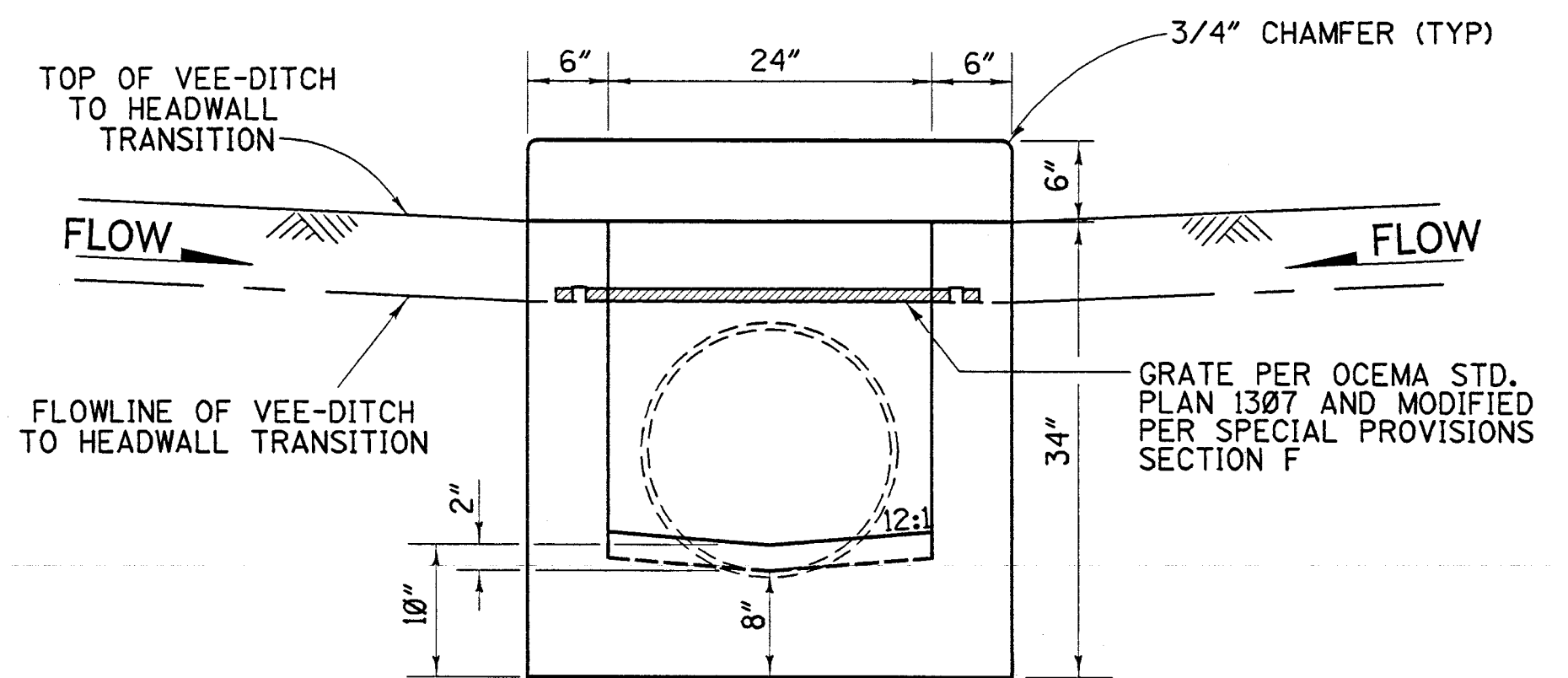
- 1) CONCRETE BACKFILL REQUIRED FOR RCP SECTION WITH LESS THAN 2' COVER
- 2) SEE MAINTENANCE ROAD/WALKWAY PROFILE, TYPICAL SECTIONS GRADING REQUIREMENTS SHEET 18.
- 3) FROM STA. 27+05 TO 33+75, THE DISTANCE BETWEEN THE R/W AND EDGE OF VEE-DITCH OR HEADWALL IS 20'. THIS IS DUE TO THE RETAINING WALL. SEE SHEET 18.
- 4) IN AREAS WHERE DRAINAGE INLETS ARE REQUIRED, FULL OR PARTIAL REMOVAL OF P.C.C. TRAP, CHANNEL AND ADDITIONAL EXCAVATION MAY BE REQUIRED IN ORDER TO CONSTRUCT THE DRAINAGE INLET. SEE SPECIFICATION SECTION F FOR PAYMENT.



**HEADWALL DETAIL
PLAN**
SCALE: 1"=1'



HEADWALL DETAIL SECTION B-B
SCALE 1"=1'



HEADWALL DETAIL SECTION C-C
PLAN
SCALE: 1"=1'

MAINTENANCE ROAD/WALKWAY DRAINAGE & JUNCTION STRUCTURE DATA TABLE								
CHANNEL STATIONING	*ITEMS							
	A	C	L	ELEV.'A'	ELEV.'B'	ELEV.'S'	D-LOAD	REMARKS
15+20	90°	3'- 0"	± 4'	17.36	15.69	11.75	2000	
15+37	70°	3'- 0"	± 30'	18.17	16.50	12.00	2000	
17+05 (LEFT SIDE)	90°	3'- 0"	± 22'	20.89	9.22	14.52	2000	
17+05 (RIGHT SIDE)	90°	3'- 0"	± 5'	21.19	19.52	14.52	2000	
27+75	90°	3'- 0"	± 6.2'	33.33	31.66	25.55	2000	FLAPGATE REQUIRED SEE SHT. 20
28+75	90°	3'- 0"	± 5.7'	32.2	31.37	25.15 MIN.	2000	SPECIAL INLET W/ FLAPGATE & MODIFIED DRAINAGE HEADWALL SEE SHT. 20 FOR DETAIL
30+75	90°	3'- 0"	± 4.7'	35.18	33.51	27.35	2000	FLAPGATE REQUIRED SEE SHT. 20
52+00	90°	3'- 0"	± 5.4'	51.33	49.66	45.57	2000	
54+12.28	90°	3'- 0"	± 10'	56.22	54.0	51.89	2000	

*NOTE:

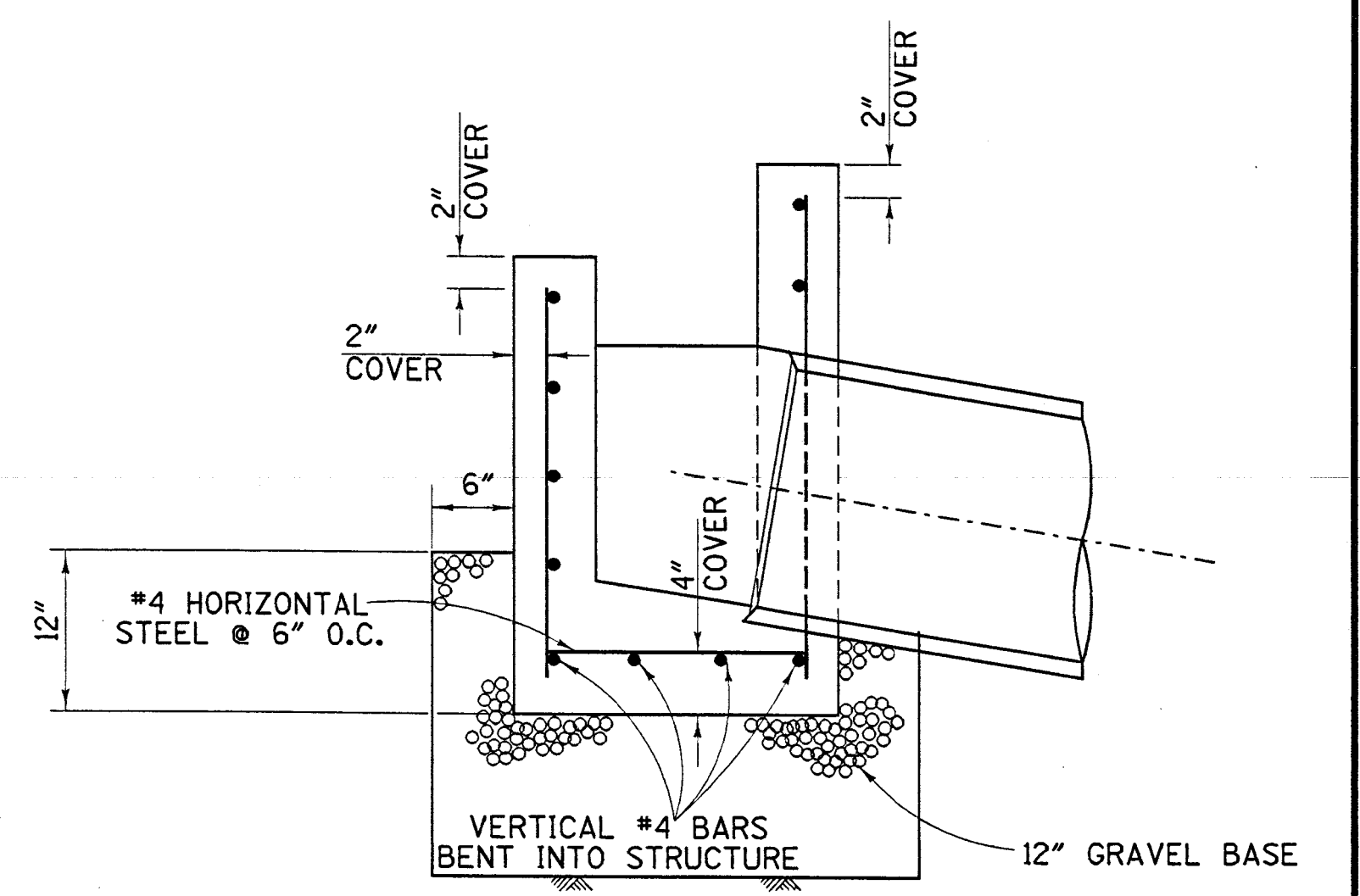
- 1) ELEVATIONS AND LENGTHS ARE APPROXIMATE - EXACT MEASUREMENT SHALL BE DETERMINED IN THE FIELD.
- 2) LENGTHS DETERMINED BY HORIZONTAL PROJECTION.

CONSTRUCTION NOTES

- 4) CONSTRUCT REINFORCED MASONRY RETAINING WALL PER PFRD STD. PLAN 618-0-OC MODIFIED HEREIN PER PLAN AND PROFILE SHEETS, TYPICAL SECTION AND DETAILS SHEET 15 AND 16.
- 8) CONSTRUCT MAINTENANCE ROAD OR WALKWAY WITH 0.5' AB/NS, WIDTH PER PLAN AND PROFILE SHEETS, DETAILS SHEETS 9, 18 AND 19 AND X-SECTIONS.
- 10) CONSTRUCT SIDE INLET PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1314.
- 11) CONSTRUCT MODIFIED 24" WIDE (6" DEEP) VEE-DITCH PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 18 AND 19 AND PFRD STD. PLAN 1332.
- 12) CONSTRUCT INLET AND HEADWALL PER PLAN AND PROFILE SHEETS AND DETAILS SHEET 19.
- 14) INSTALL GUARD CABLE FENCE ON TOP OF CHANNEL WALL PER PLAN AND PROFILE SHEETS AND PFRD STD. PLAN 1413.
- 15) INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STD. PLAN 600-0-OC.
- 18) INSTALL MARKER TYPE "CULVERT MARKER" PER PFRD STD. PLAN 1402, PLAN AND PROFILE SHEETS AND DETAILS SHEET 19 AND AS DIRECTED BY THE ENGINEER.
- 26) CONSTRUCT SPECIAL INLET WITH FLAPGATE AND MODIFIED DRAINAGE HEADWALL PER PLAN & PROFILE SHEETS AND DETAILS SHEET 20.

LEGEND

- 1) REMOVE

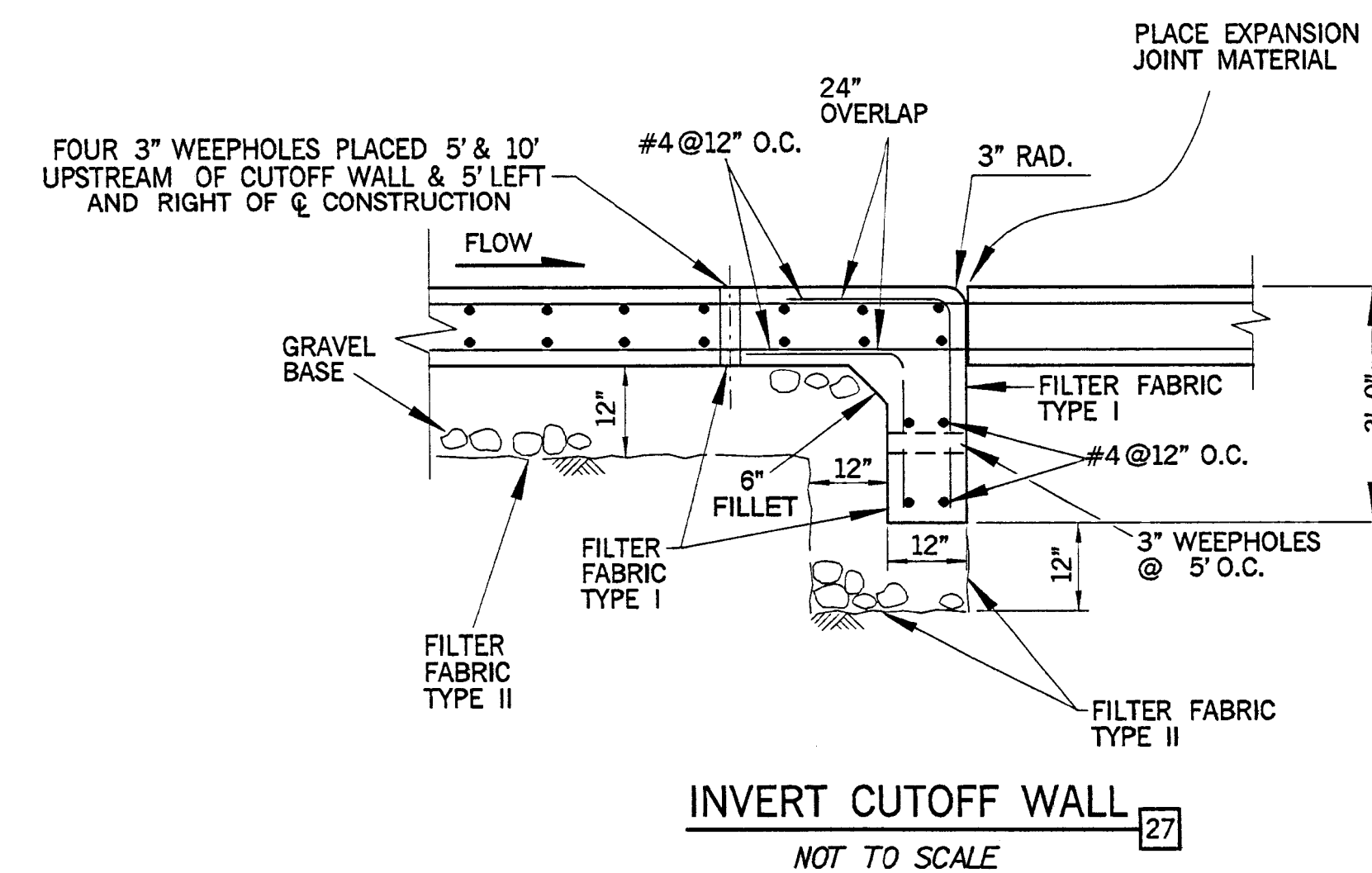
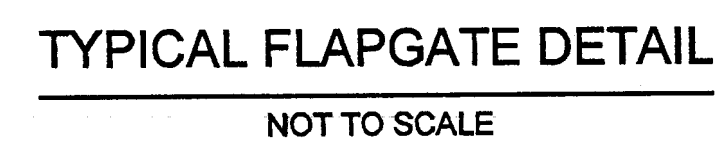
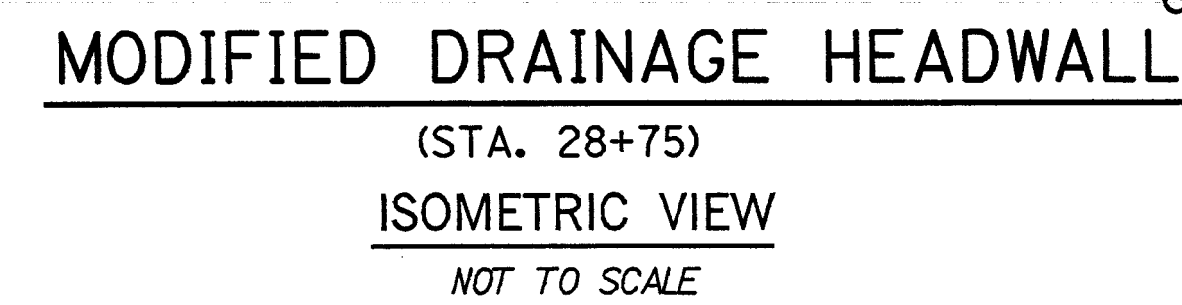
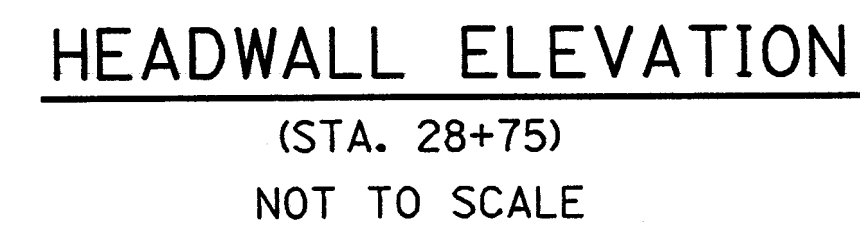
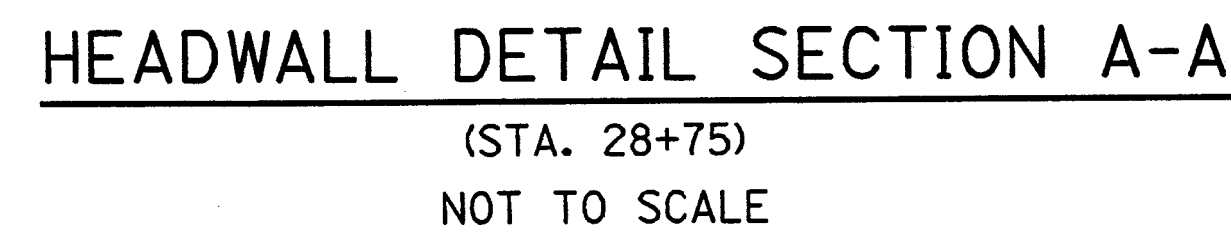
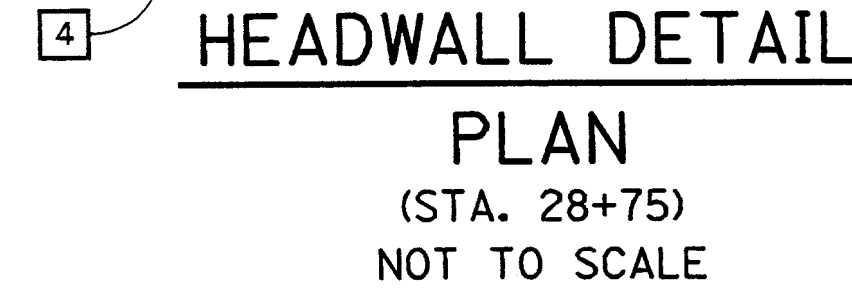
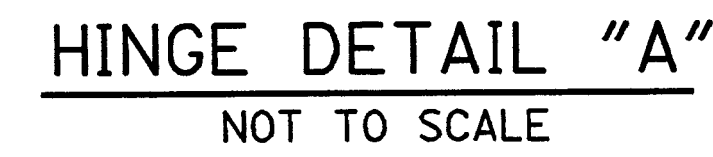


HEADWALL DETAIL
SCALE 1"=1'

RECORD DRAWING

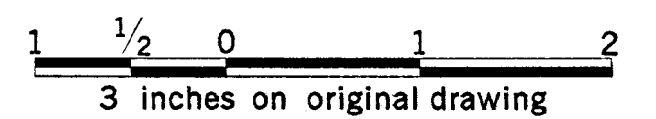
03/05	RECORD DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
		SEGUNDA DESHECHA CANADA CHANNEL OOFCD FACILITY - M02	
MAINTENANCE ROAD/WALKWAY DRAINAGE AND DRAINAGE HEADWALL STRUCTURE DETAILS		DESIGNED R. GAUT	SHEET
DRAWN R.H. DE GUZMAN		CHECKED N. MAJAJ	19
SCALE	DATE	DRAWING NO.	OF 42
AS SHOWN	1/7/03	M02-101-4R	

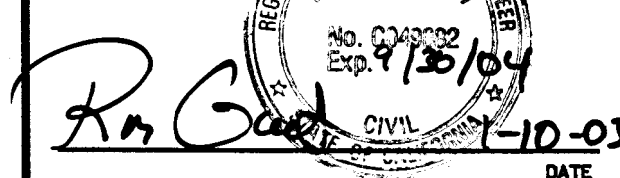
AS 497		MO2-101-4 R
AD JINVAH' 4900 3 JUL 1943		



- ## **CONSTRUCTION NOTES**
- 4** CONSTRUCT REINFORCED MASONRY RETAINING WALL PER PFRD STD. PLAN 618-O-C MODIFIED HEREIN PER PLAN AND PROFILE SHEETS, TYPICAL SECTION AND DETAILS SHEET 15 AND 16.
 - 11** CONSTRUCT MODIFIED 24" WIDE (6" DEEP) VEE-DITCH PER PLAN AND PROFILE SHEETS AND DETAILS SHEETS 18 AND 19 AND PFRD STD. PLAN 1332.
 - 17** INSTALL 5' HIGH AND 4' WIDE CHAIN LINK GATE PER PLANS AND DETAILS SHEET AND PFRD STD. PLAN 600-O-C.
 - 26** CONSTRUCT SPECIAL INLET WITH FLAGGAGE AND MODIFIED DRAINAGE HEADWALL PER PLAN & PROFILE SHEETS AND DETAILS SHEET 20.
 - 27** CONSTRUCT INVERT CUT-OFF WALL PER PLAN & PROFILE SHEETS AND DETAIL SHEET 20.

RECORD DRAWING



<table border="1"> <tr> <td>MARK</td> <td>DATE</td> <td>DESCRIPTION</td> </tr> <tr> <td colspan="3"> REVISIONS </td> </tr> <tr> <td colspan="3"> PREPARED UNDER SUPERVISION </td> </tr> </table>			MARK	DATE	DESCRIPTION	REVISIONS			PREPARED UNDER SUPERVISION			ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT <u>SEGUNDA DESHECHA CANADÁ CHANNEL</u> <u>OCFCD FACILITY – MO2</u> FLAPGATE, CUT-OFF WALL & MODIFIED DRAINAGE HEADWALL (STA. 28 + 75) DETAILS		
MARK	DATE	DESCRIPTION												
REVISIONS														
PREPARED UNDER SUPERVISION														
			<table border="1"> <tr> <td colspan="2">DESIGNED R. GAUT / RHG / J. HAKAL</td> <td rowspan="2">SHEET 20 OF 42</td> </tr> <tr> <td colspan="2">DRAWN RHG</td> </tr> <tr> <td>SCALE</td> <td>DATE</td> <td rowspan="2">DRAWING NO. MO2-101-4 R</td> </tr> <tr> <td>AS SHOWN</td> <td>1/7/03</td> </tr> </table>		DESIGNED R. GAUT / RHG / J. HAKAL		SHEET 20 OF 42	DRAWN RHG		SCALE	DATE	DRAWING NO. MO2-101-4 R	AS SHOWN	1/7/03
DESIGNED R. GAUT / RHG / J. HAKAL		SHEET 20 OF 42												
DRAWN RHG														
SCALE	DATE	DRAWING NO. MO2-101-4 R												
AS SHOWN	1/7/03													

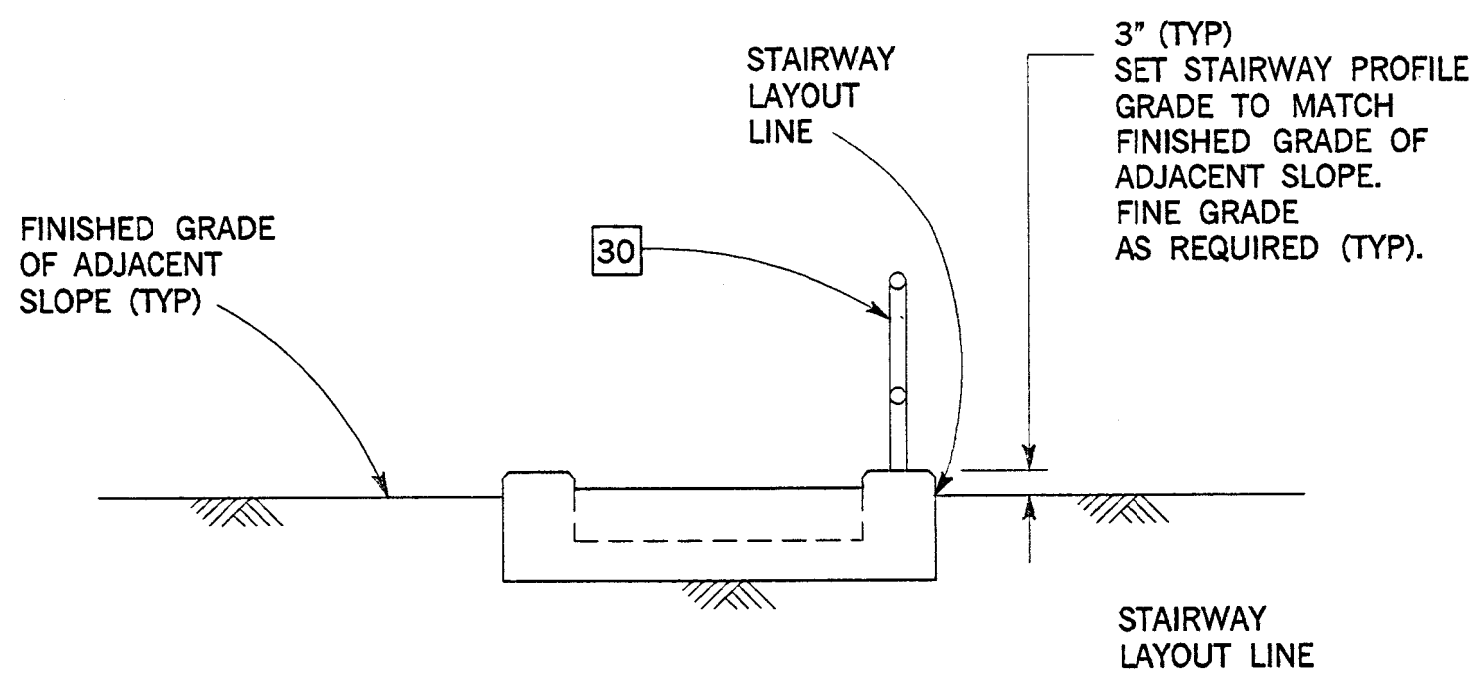
STAIR & HANDRAIL NOTES:

- FOR PLAN VIEW AND REMAINING SECTIONS OF STAIRWAY, SEE PLAN SHEETS 2 & 6 AND APWA STD. PLAN 640-1.
- CONSTRUCT STAIRWAYS PER APWA STANDARD PLAN 640-1, TYPE A, EXCEPT AS MODIFIED HEREIN:
W=3'-0"
C=9"
R, T, S & NUMBER OF RISERS PER FOLLOWING TABLE. VALUES SHOWN ARE APPROXIMATE. FINAL VALUES TO BE DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER, BASED ON FIELD MEASUREMENTS OF FINISHED GRADE ELEVATIONS OF TOP & TOE OF SLOPE, AND DISTANCE BETWEEN TOP & TOE ALONG STAIRWAY LAYOUT LINE. FINAL VALUES SHALL RESULT IN A STAIRWAY PROFILE GRADE MATCHING THE ADJACENT SLOPE ALONG THE STAIRWAY LAYOUT LINE, AS SHOWN BELOW. BOTTOM TREAD NOSING SHALL COINCIDE WITH TOE OF SLOPE AND TOP TREAD NOSING SHALL COINCIDE WITH TOP OF SLOPE. SEE SECTION A-A AND DETAIL A (PLAN VIEW) AT RIGHT.

NUMBER OF RISERS ABOVE BOTTOM TREAD (WITHIN S) = HEIGHT OF SLOPE DIVIDED BY 8", ROUNDED UP TO THE NEAREST WHOLE NUMBER.
R=HEIGHT OF SLOPE DIVIDED BY NUMBER OF RISERS. MAXIMUM R=8".
S=HORIZONTAL PROJECTION OF DISTANCE BETWEEN TOP & TOE OF SLOPE MEASURED ALONG STAIRWAY LAYOUT LINE.
T=S DIVIDED BY NUMBER OF RISERS. MINIMUM T=9".

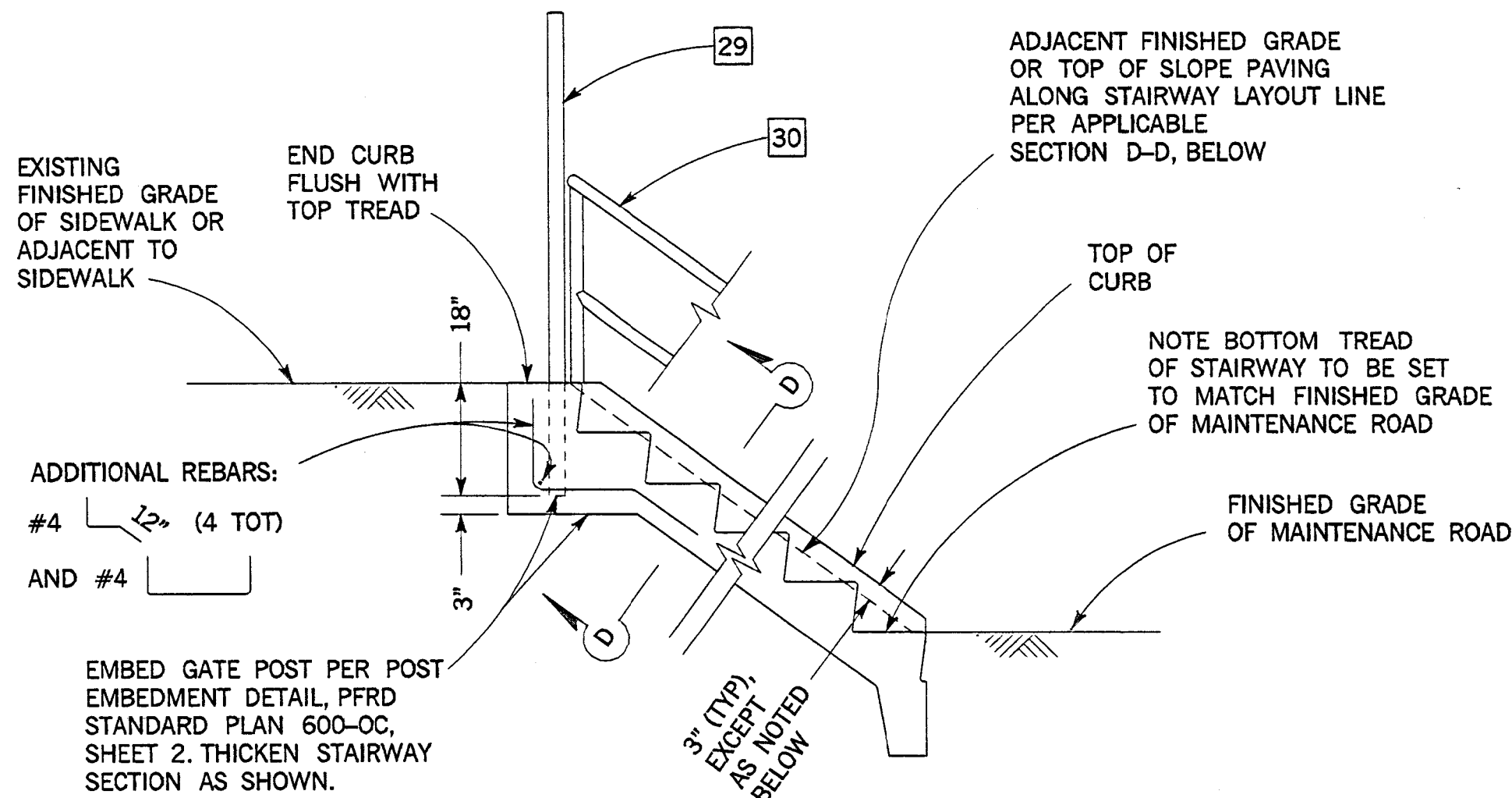
LOCATION:	HEIGHT OF SLOPE	NO. OF RISERS ABOVE BOTTOM TREAD	R	S	T
AVENIDA PICO, UPSTREAM SIDE, LEFT SIDE OF CHANNEL	12.5'	19	7 7/8"	15'	9 1/2"
AVENIDA PICO, UPSTREAM SIDE, RIGHT SIDE OF CHANNEL	12.5'	19	7 7/8"	16'	10 1/8"
CALLE DE LOS MOLINOS, DOWNSTREAM SIDE, LEFT SIDE OF CHANNEL	15.5'	24	7 3/4"	29'	14 1/2"
CALLE DE LOS MOLINOS, UPSTREAM SIDE, LEFT SIDE OF CHANNEL	14'	21	8"	29'	16 9/16"

- CONTRACTOR SHALL SUBMIT PLAN & PROFILE SKETCHES SHOWING PROPOSED FINAL VALUES OF R, T, S & NUMBER OF RISERS, BASED ON FIELD MEASUREMENTS FOR EACH STAIRWAY FOR APPROVAL BY THE ENGINEER.
- FOLLOWING ENGINEER'S APPROVAL OF PLAN & PROFILE STAIRWAY SKETCHES, CONTRACTOR SHALL PROVIDE SHOP DRAWINGS IN ACCORDANCE WITH SECTION 2-5.3 FOR METAL HAND RAILINGS.



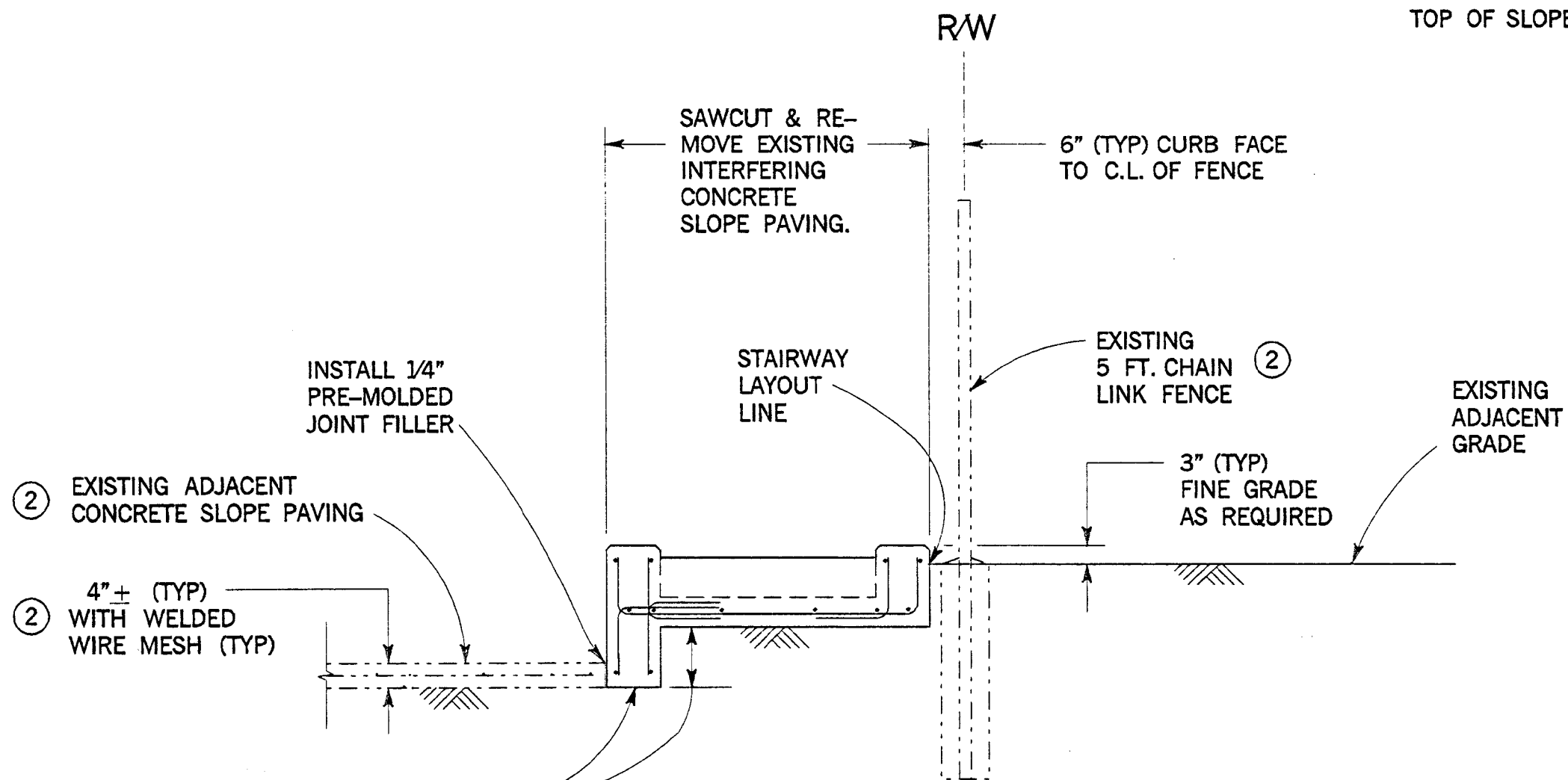
SECTION D-D

LOCATION: AVENIDA PICO, UPSTREAM SIDE
(RIGHT SIDE OF CHANNEL)
(LEFT SIDE IS MIRROR IMAGE)
REINF. NOT SHOWN
1/2" = 1'-0"



SECTION A-A (PARTIAL/MODIFIED)

FROM APWA STD. PLAN 640-1
ONLY ADDITIONAL REINF. SHOWN
R=8", T=11" & NO SKEW SHOWN
1/2" = 1'-0"



ADD INVERTED CURB WITH 2-#4 LONGIT. BARS & #4 TRANSVERSE BARS @18". CURB DEPTH TO BE DETERMINED BY CONTRACTOR PER NOTE 2 SUCH THAT BOTTOM OF CURB IS FLUSH WITH BOTTOM OF SLOPE PAVING. AT LOS MOLINOS DOWNSTREAM, BOTTOM OF INVERTED CURB TO BE SET 4" BELOW FINISHED GRADE.

SECTION D-D

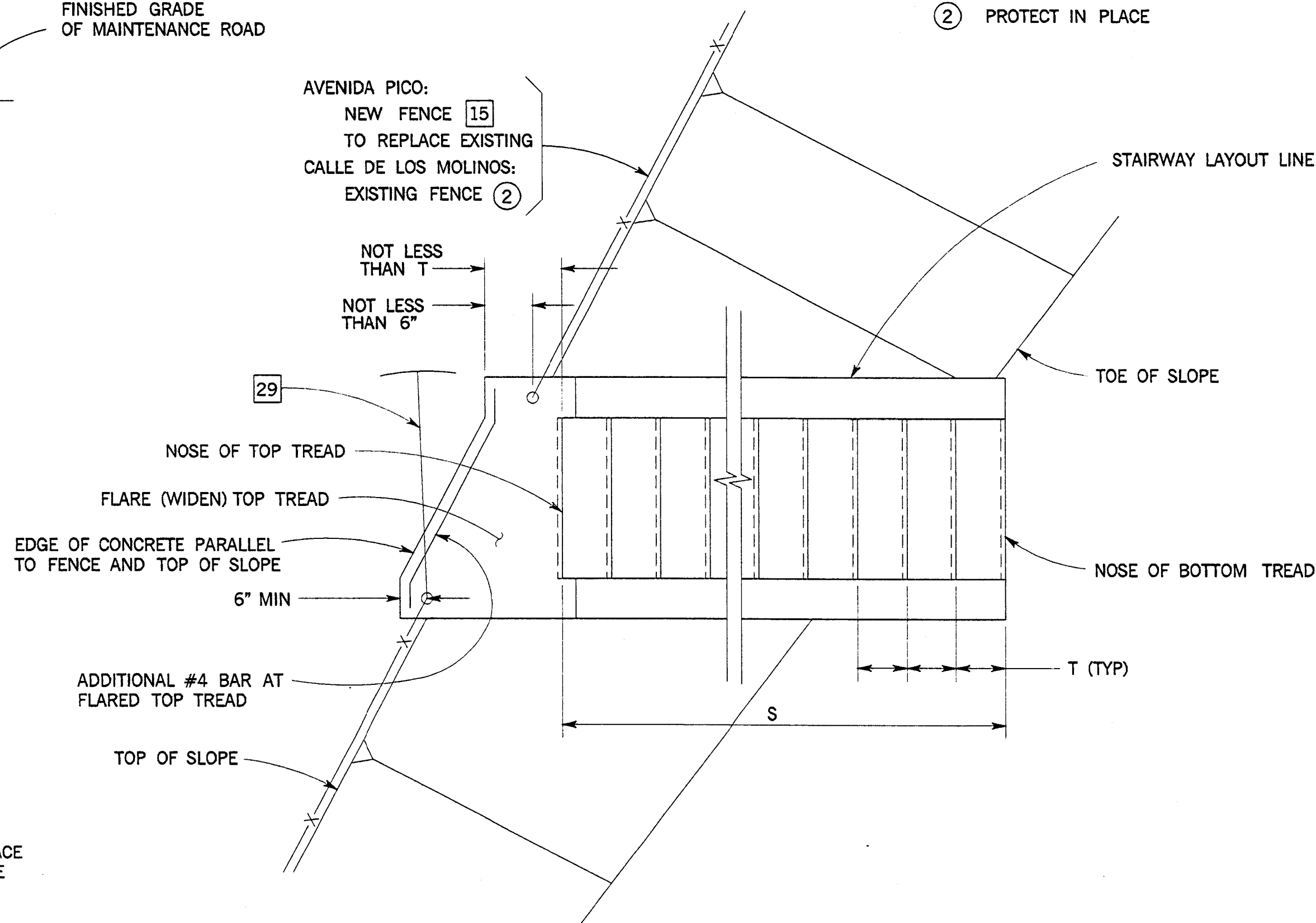
LOCATION: CALLE DE LOS MOLINOS, UPSTREAM SIDE
(LOS MOLINOS, DOWNSTREAM SIDE IS SIMILAR, BUT WITH EXISTING ADJACENT GRADE & FENCE ON LEFT AND SLOPE PAVING ON RIGHT)
HAND RAILING NOT SHOWN
1/2" = 1'-0"

CONSTRUCTION NOTES

- INSTALL 5' CHAIN LINK FENCE PER PLAN AND PROFILE SHEETS, TYPICAL SECTION, DETAILS AND PFRD STANDARD PLAN 600-0-OC
- INSTALL 5' HIGH CHAIN LINK GATE PER DETAILS ON THIS SHEET AND PFRD STD. PLAN 600-0-OC. GATE WIDTH TO BE DETERMINED BY CONTRACTOR BASED ON POST LAYOUT SHOWN IN DETAIL A (PLAN VIEW), BELOW.
- INSTALL METAL HAND RAILING PER APWA STD. PLAN 606-1, TYPE A, INCLUDING "HANDRAIL INSTALLATION ON STAIRWAYS" DETAIL. INSTALL HAND RAILING ON CHANNEL SIDE OF STAIRWAY ONLY. AT BOTTOM OF STAIRWAY, TERMINATE HANDRAILS AS SHOWN FOR TYPE A AT "END OF WALL" (NO RETURNS/EXTENSIONS).

LEGEND

- ② PROTECT IN PLACE



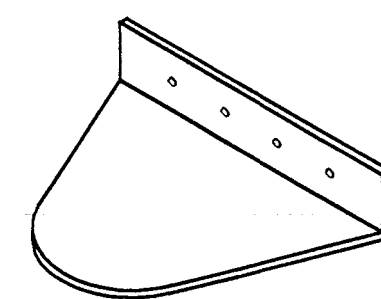
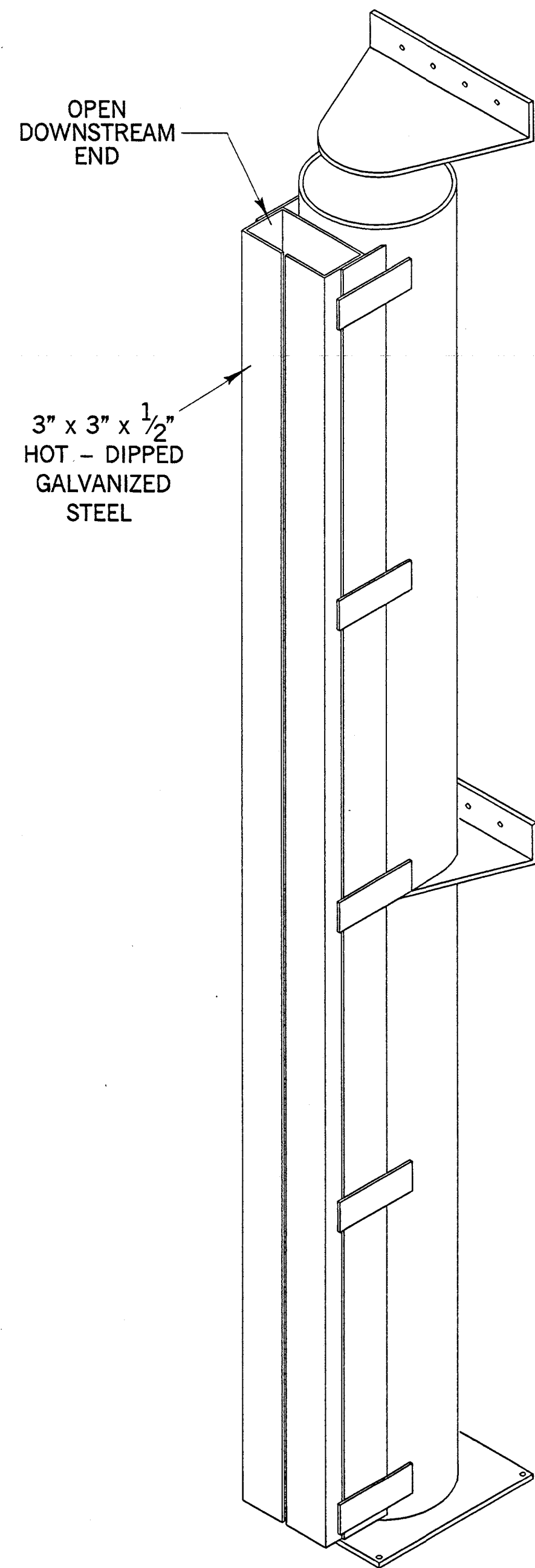
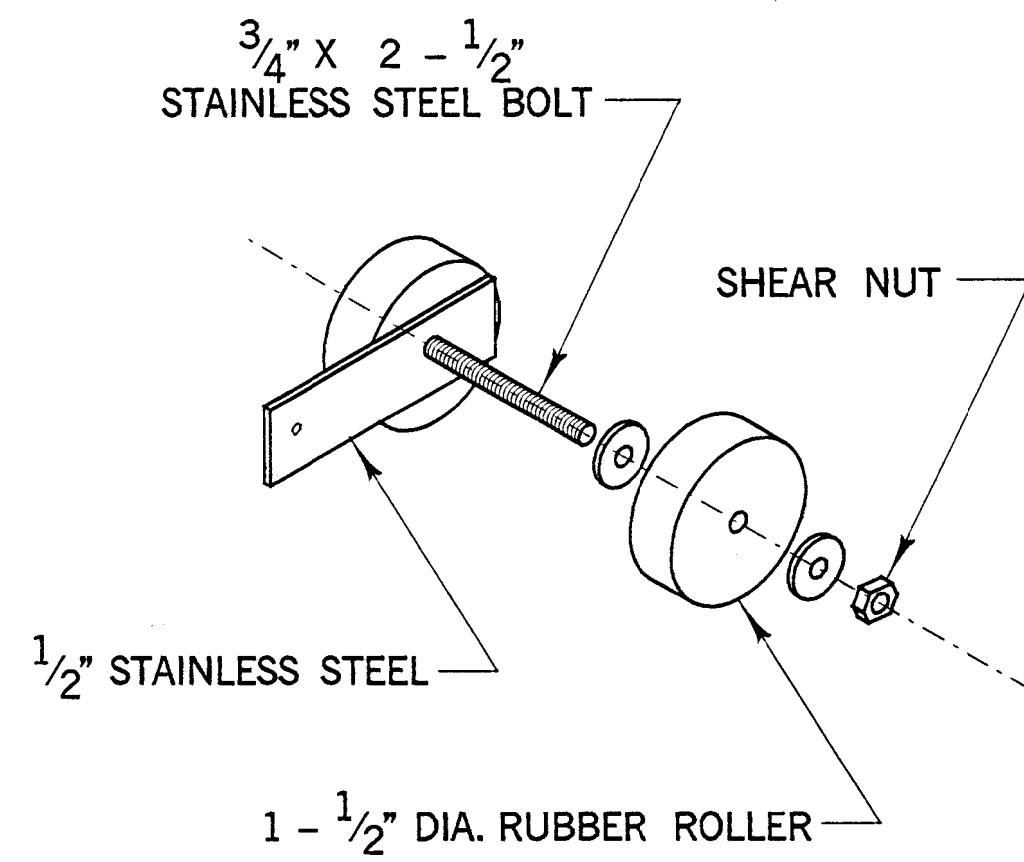
DETAIL A (PLAN VIEW)

FLARE (WIDEN) TOP TREAD AS SHOWN WHERE TOP OF SLOPE IS SKEWED FROM PERPENDICULAR TO STAIRWAY CENTERLINE. SKEW SHOWN IS FOR ILLUSTRATION PURPOSES ONLY. ACTUAL SKEW FOR EACH LOCATION TO BE DETERMINED BY CONTRACTOR AND APPROVED BY ENGINEER, BASED ON FIELD MEASUREMENTS. SEE NOTE 2.
HANDRAIL AND REINF. NOT SHOWN
1/2" = 1'-0"

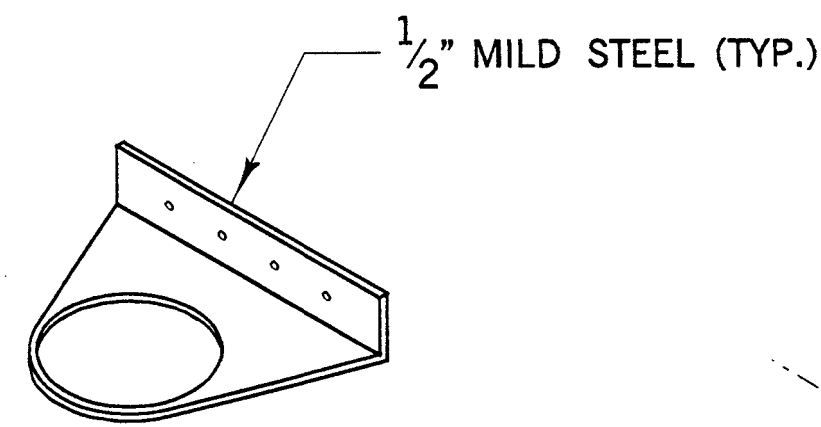
RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

		ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
		SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02	
MARK		REVISIONS	
DATE		DESCRIPTION	
PREPARED UNDER SUPERVISION OF		DESIGNED R. HOISINGTON	
PROFESSIONAL ENGINEER Richard W. Hoisington, Jr. No. 30928 State of California		DRAWN RWH	
SCALE AS SHOWN		CHECKED R. GAUT	
DATE 12-02-02		DRAWING NO. M02-101-4 R	
		SHEET 21 OF 42	

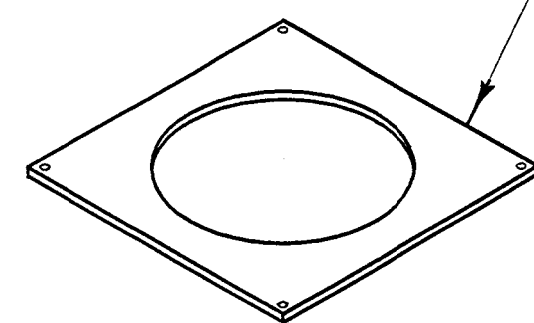


TOP PLATE
N.T.S.

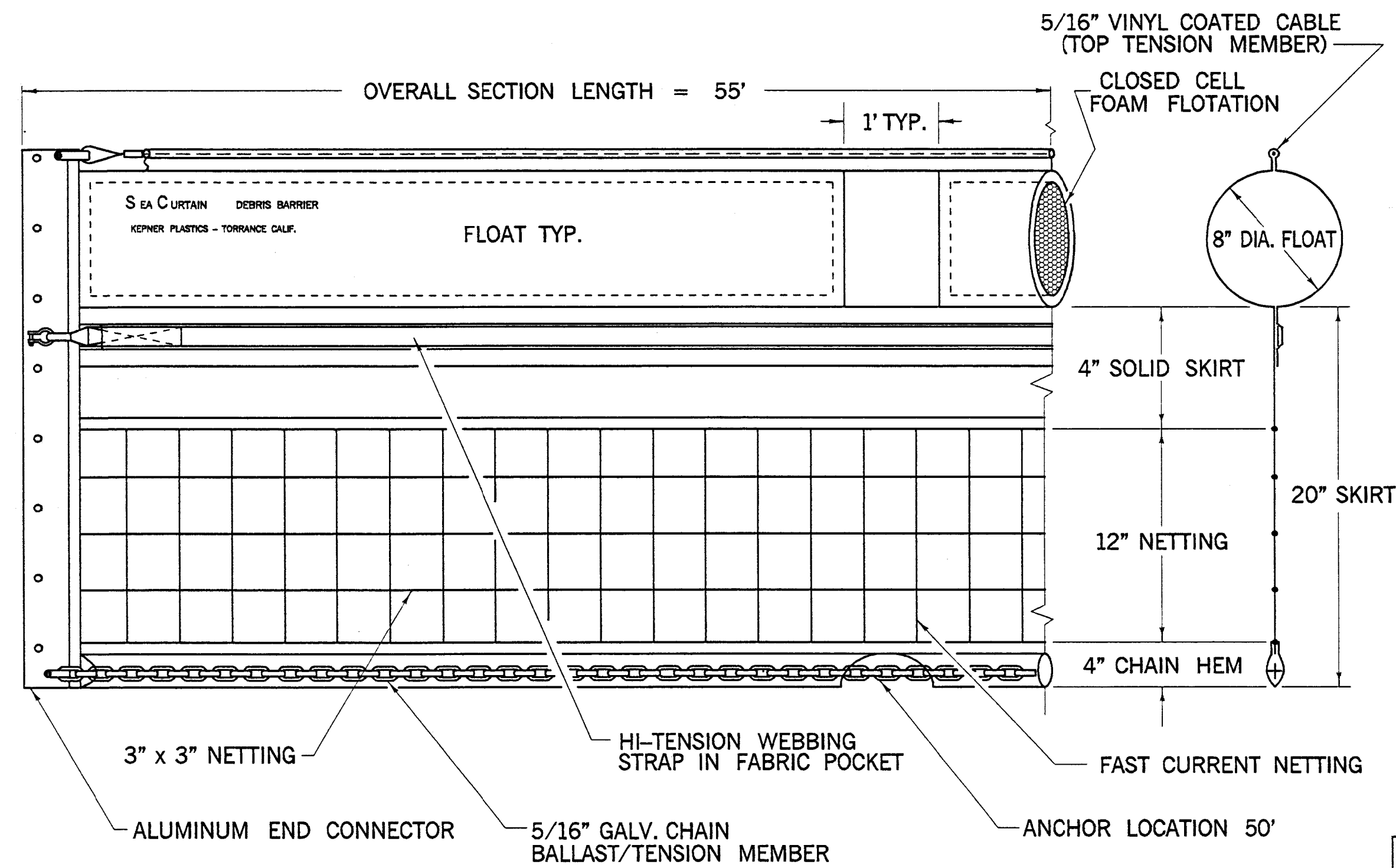


MIDDLE PLATE
N.T.S.

FASTEN USING 4 - 1/2" X 5 - 1/2"
STAINLESS STEEL METAL ANCHORS
TOP, MIDDLE AND BOTTOM PLATES.

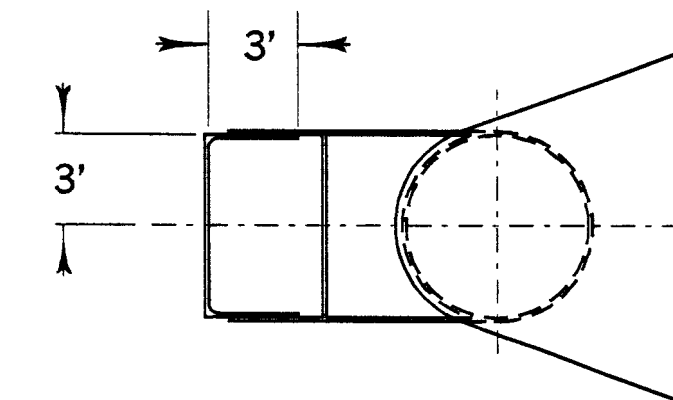
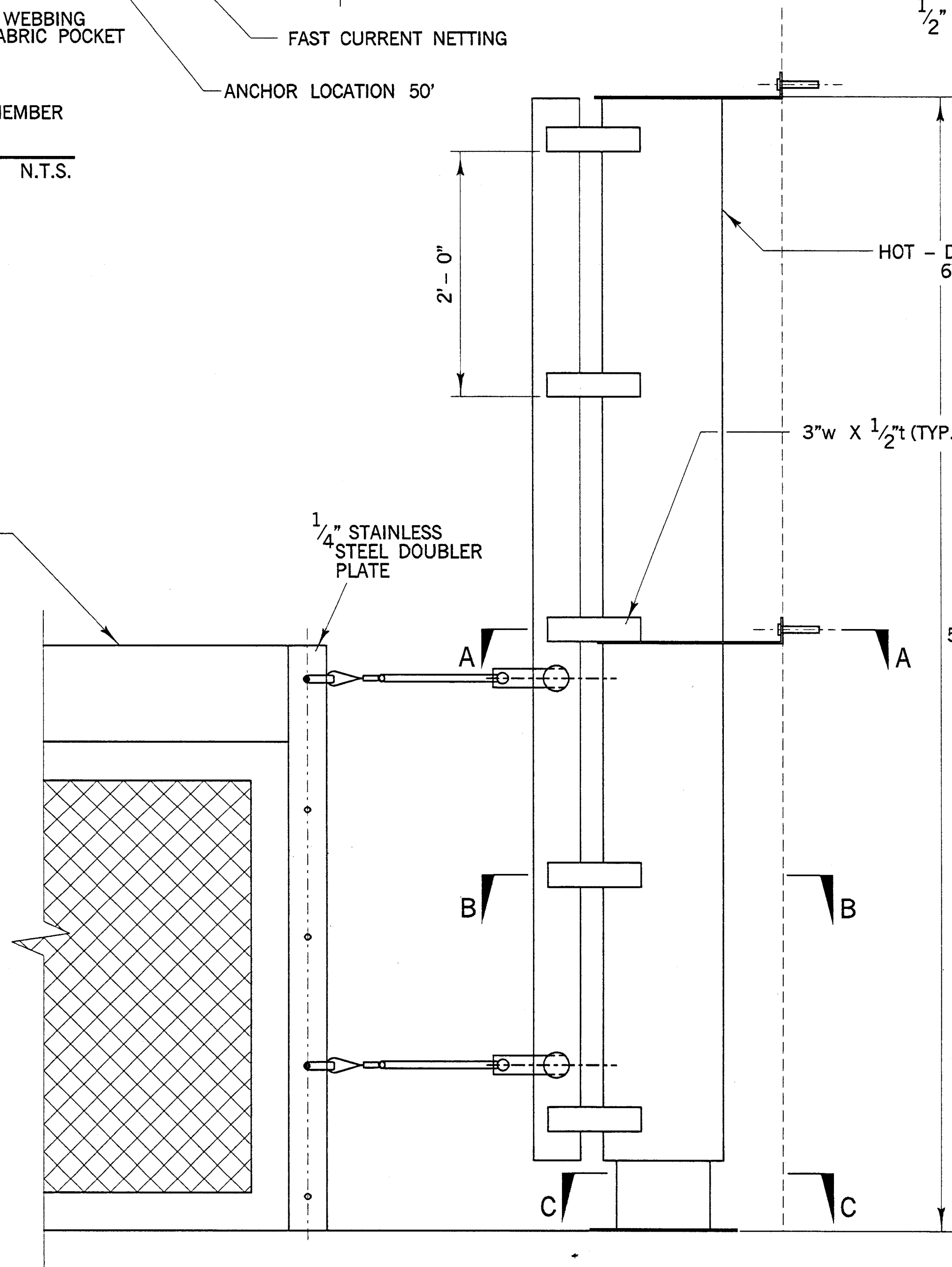
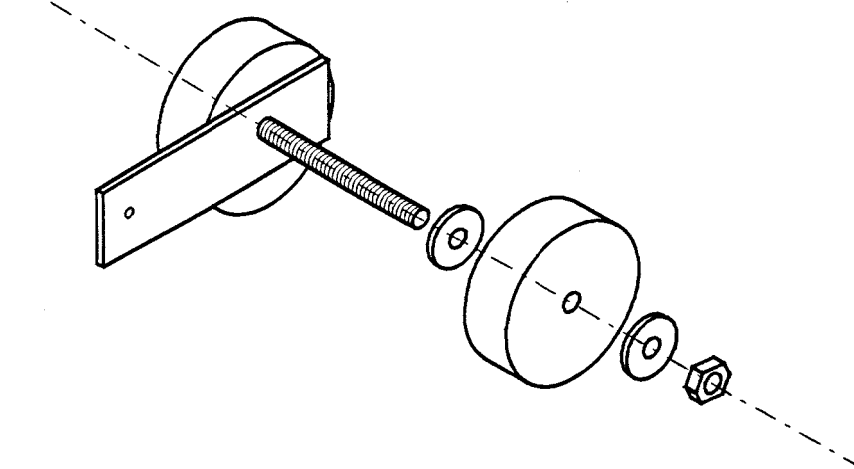


BOTTOM PLATE
N.T.S.

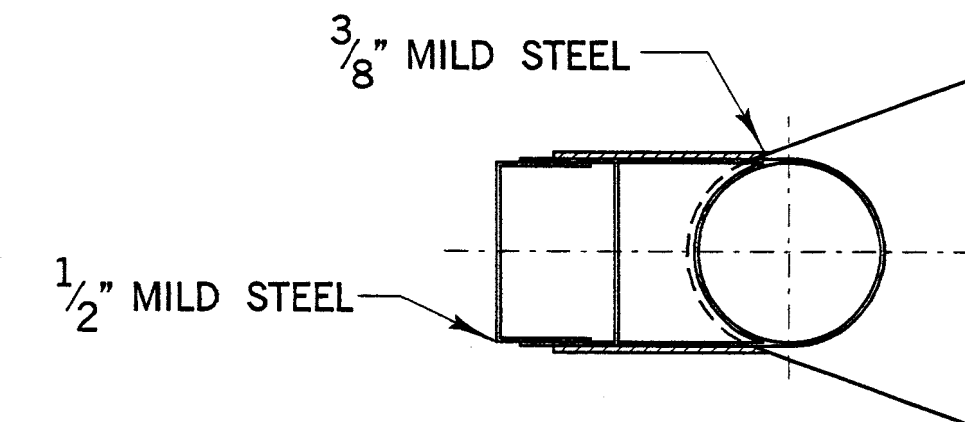


DEBRIS BOOM
SEACURTAIN DEBRIS BARRIER
MODEL #SPXHDTN82008REFU
N.T.S.

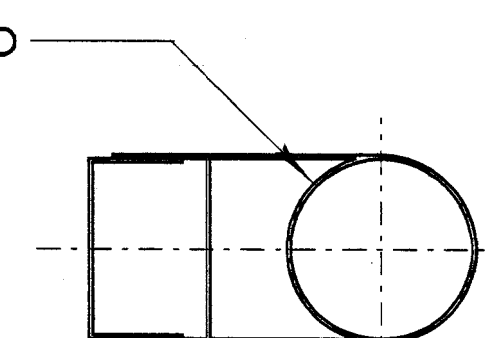
FLOATATION BOOM
AND NETTING



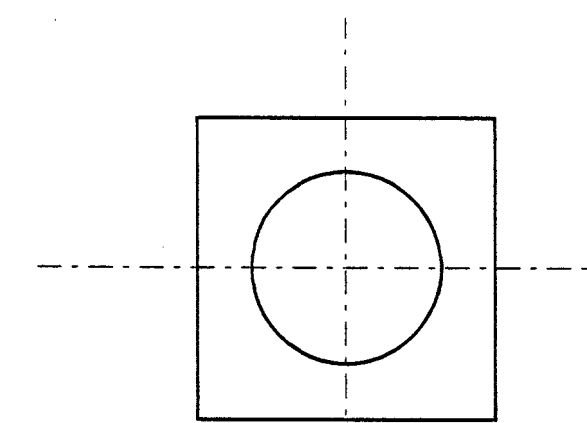
TOP VIEW
N.T.S.



SECTION "A-A"
N.T.S.



SECTION "B-B"
N.T.S.



SECTION "C-C"
N.T.S.

1 1/2 0 1 2
3 inches on original drawing

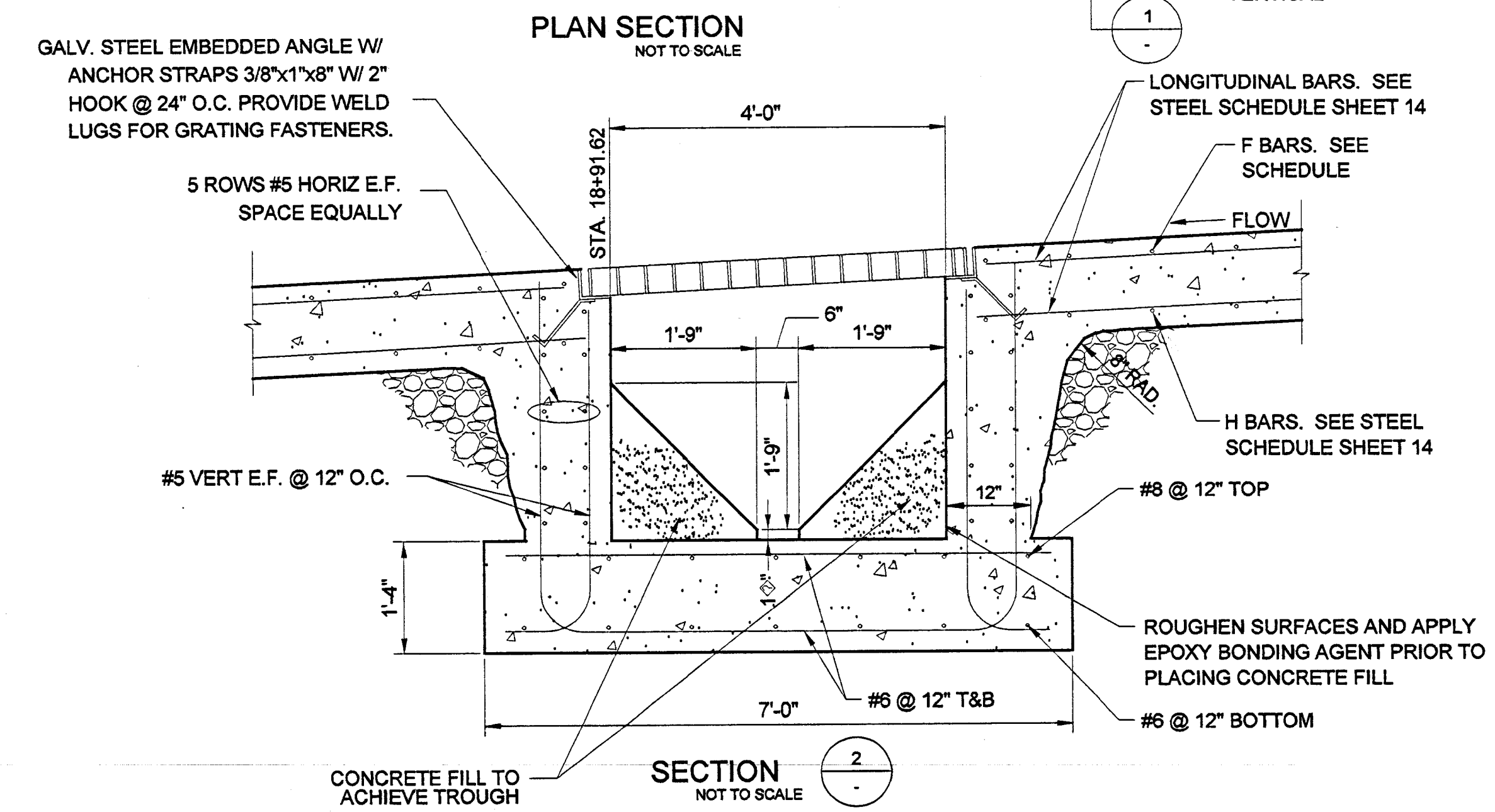
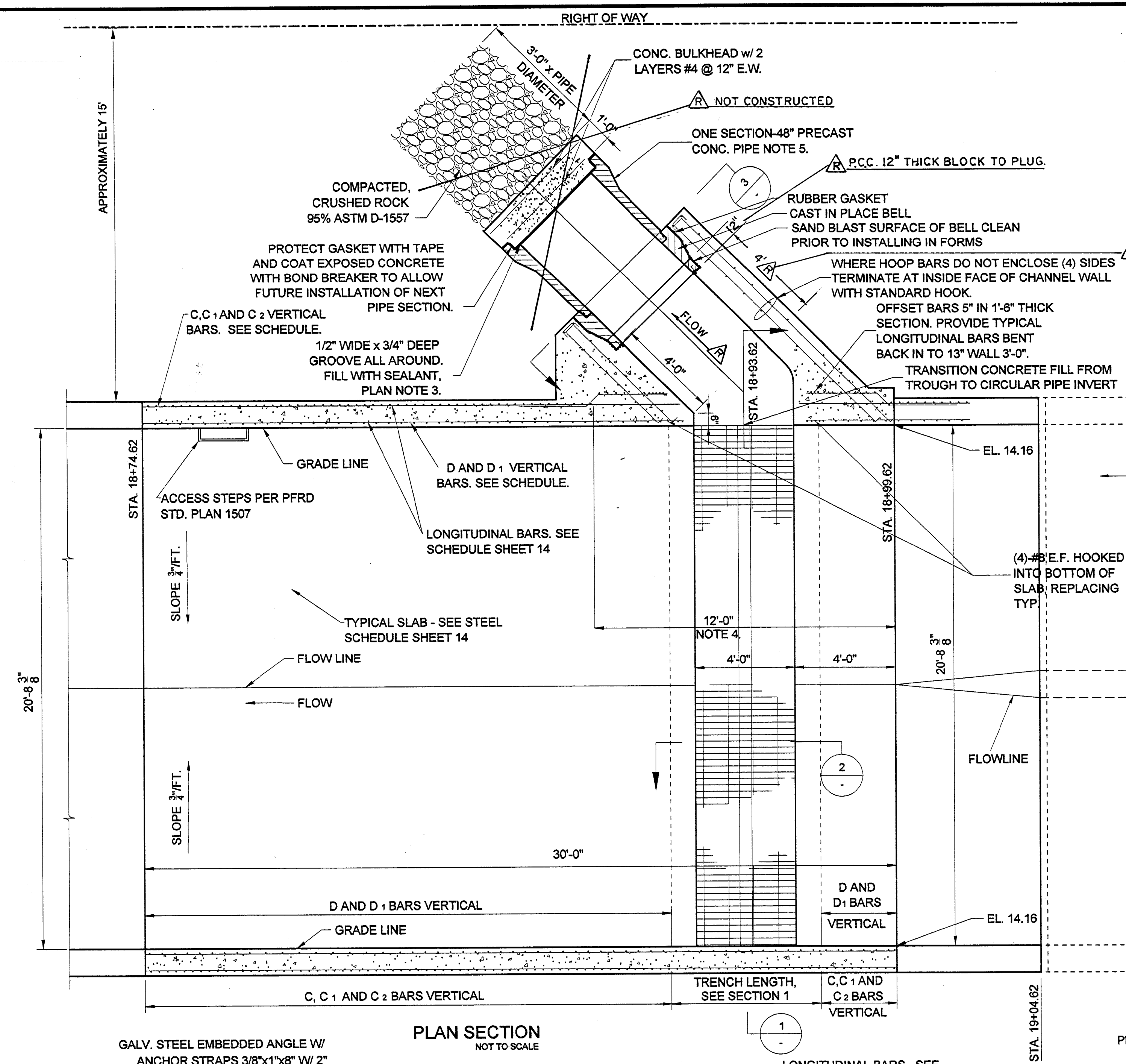
RECORD DRAWING

03/05	RECORD DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
		SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02	
DEBRIS BOOM DETAILS		DESIGNED RHC	SHEET
DRAWN RHC/T.G.		CHECKED N. MAJAJ	22
SCALE AS SHOWN	DATE 1/7/03	DRAWING NO. M02-101-4R	OF 42

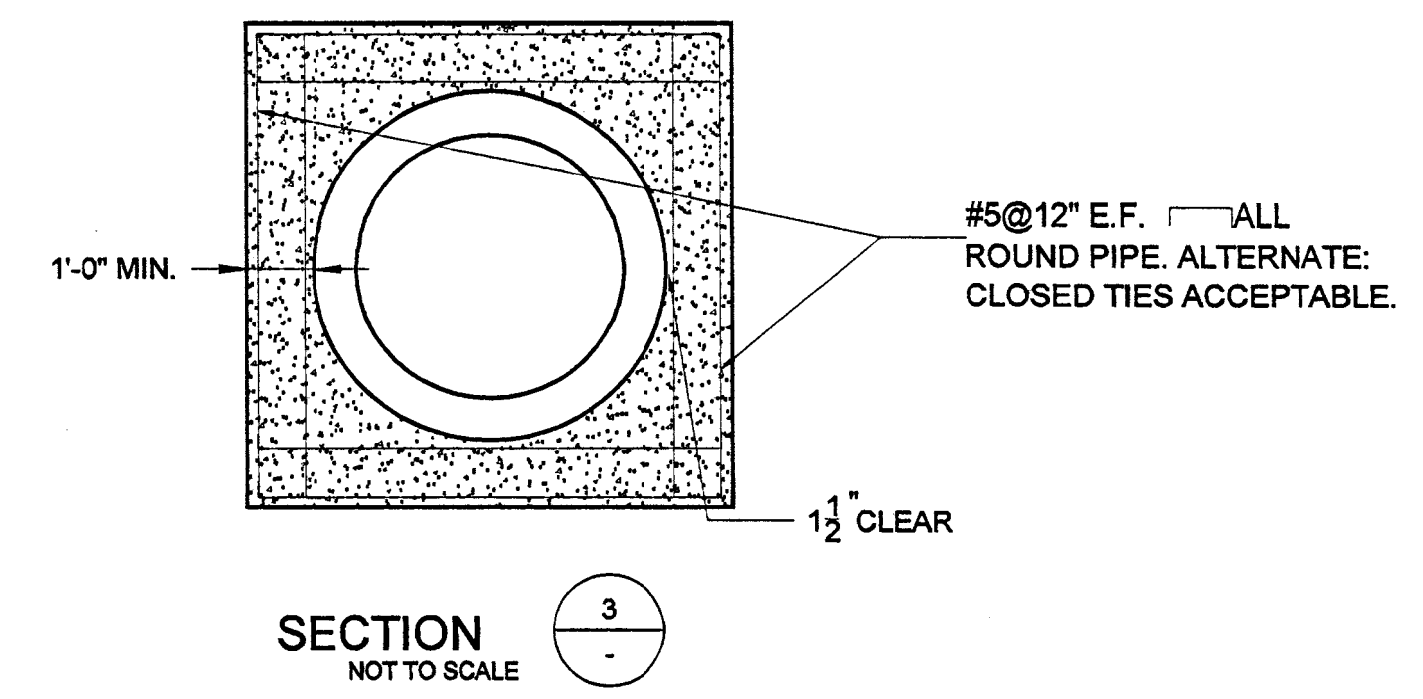
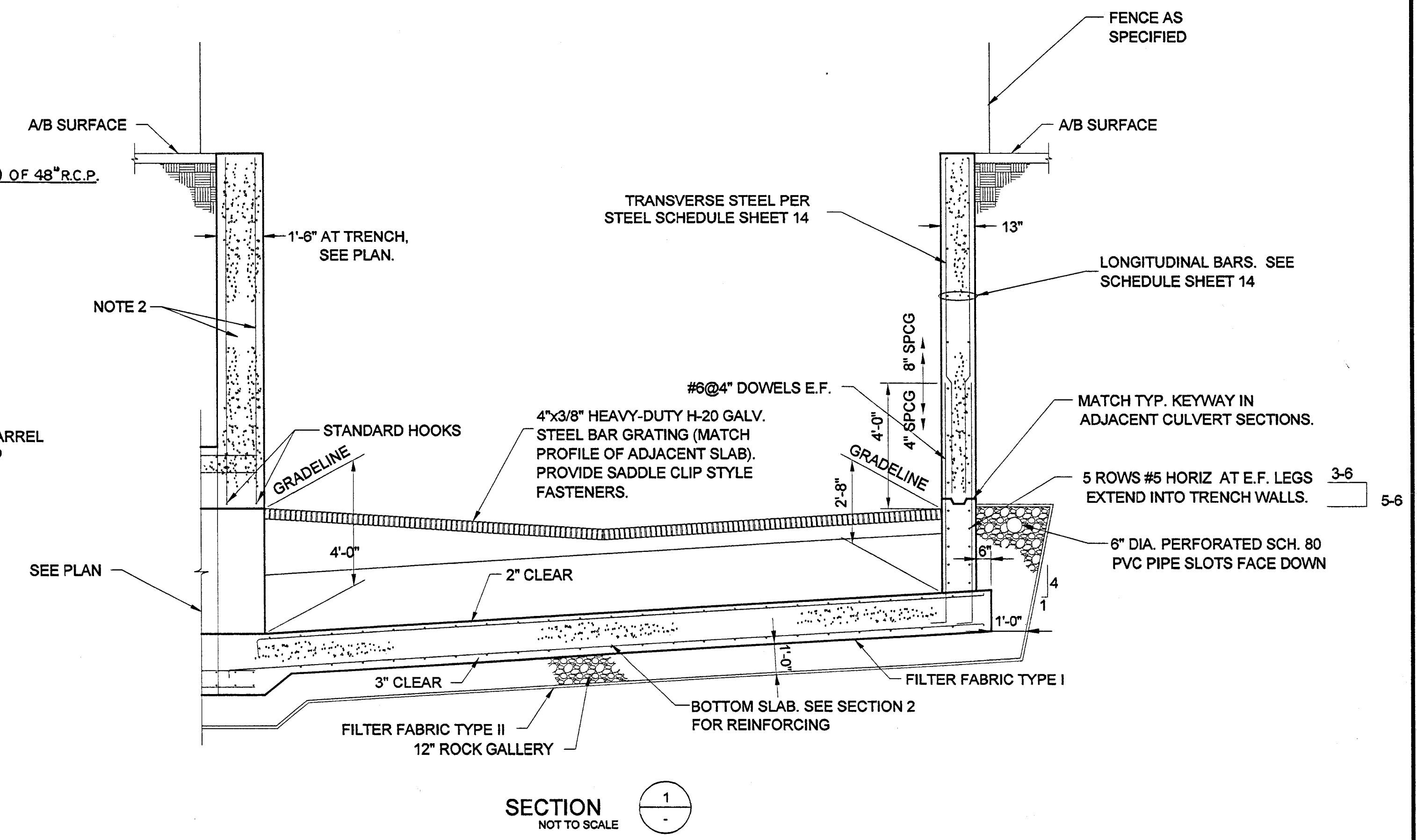
PREPARED UNDER SUPERVISION
No. CC43082
Exp. 12/04
CIVIL
STATE OF CALIFORNIA
1-10-03

MO2-101-4 R

23 42



- PLAN NOTES:
1. REINFORCING SHOWN APPLIES AT TRENCH LENGTH ONLY, SEE PLAN SHEET 14.
 2. SEE PLAN THIS SHEET FOR VERTICAL REINFORCING EACH SIDE PIPE. SEE SHEET 14 FOR TYP. IN WALLS BEYOND AND ABOVE THIS SECTION.
 3. SEALANT SHALL BE ONE-COMPONENT POLYURETHANE CONFORMING TO FEDSPEC TT-0230C, NON-SAG FOR VERTICAL JOINTS (TYPE I, CLASS A) AND SELF-LEVELING FOR HORIZONTAL JOINTS (TYPE II, CLASS A). PRIME AND INSTALL IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 4. WALL 1'-6" THICK FULL HEIGHT THIS WIDTH CENTERED ON TRENCH.
 5. TO PROVIDE PROPERTY LINE CLEARANCE PLUG MAY BE INSTALLED DIRECTLY AGAINST CAST-IN-BELL OMITTING 1'-48" PIPE PIECE.



RECORD DRAWING

03/05	RECORD DRAWINGS.	ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
		SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02	
DESIGNED		SHEET	
DRAWN		23	
SCALE		DATE	
AS SHOWN		1/7/03	
CHECKED		DRAWING NO.	
		M02-101-4R	
DATE		OF 42	

REVISIONS

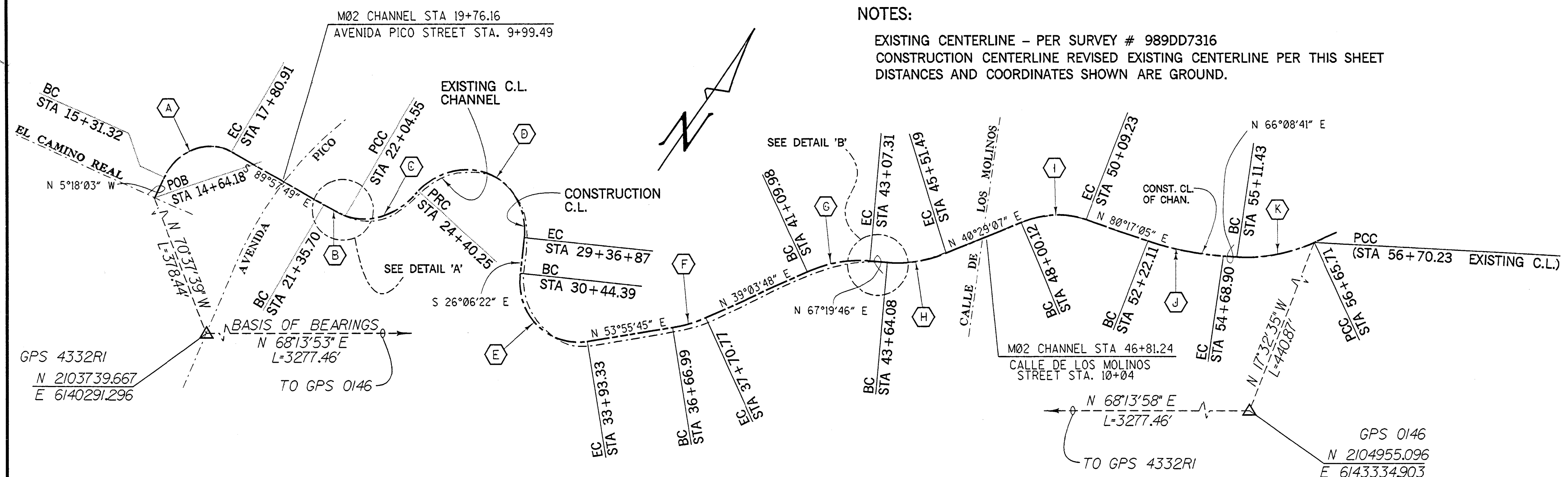
NO.	DATE	DESCRIPTION
1	10/04	

PREPARED UNDER SUPERVISION OF

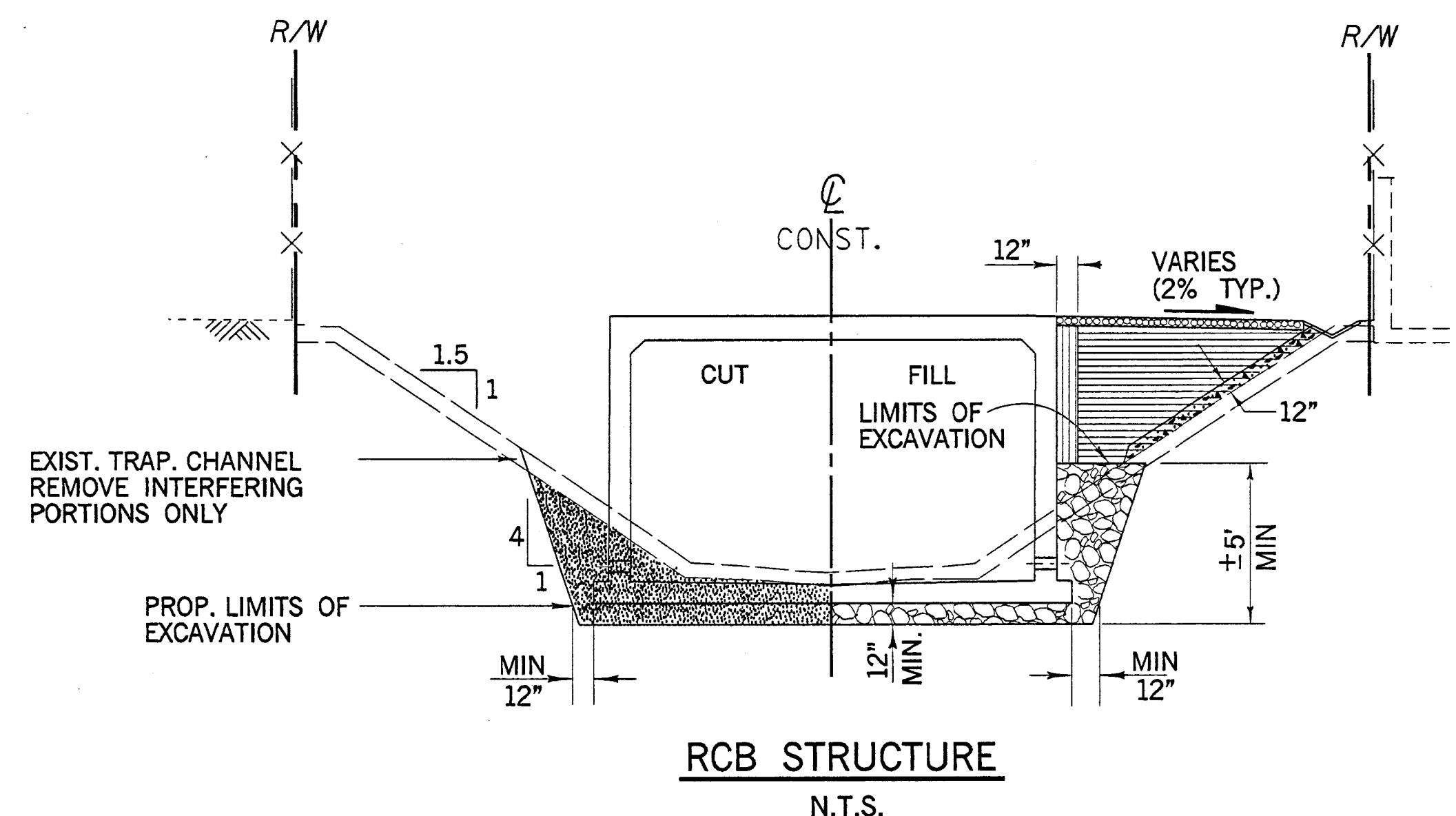
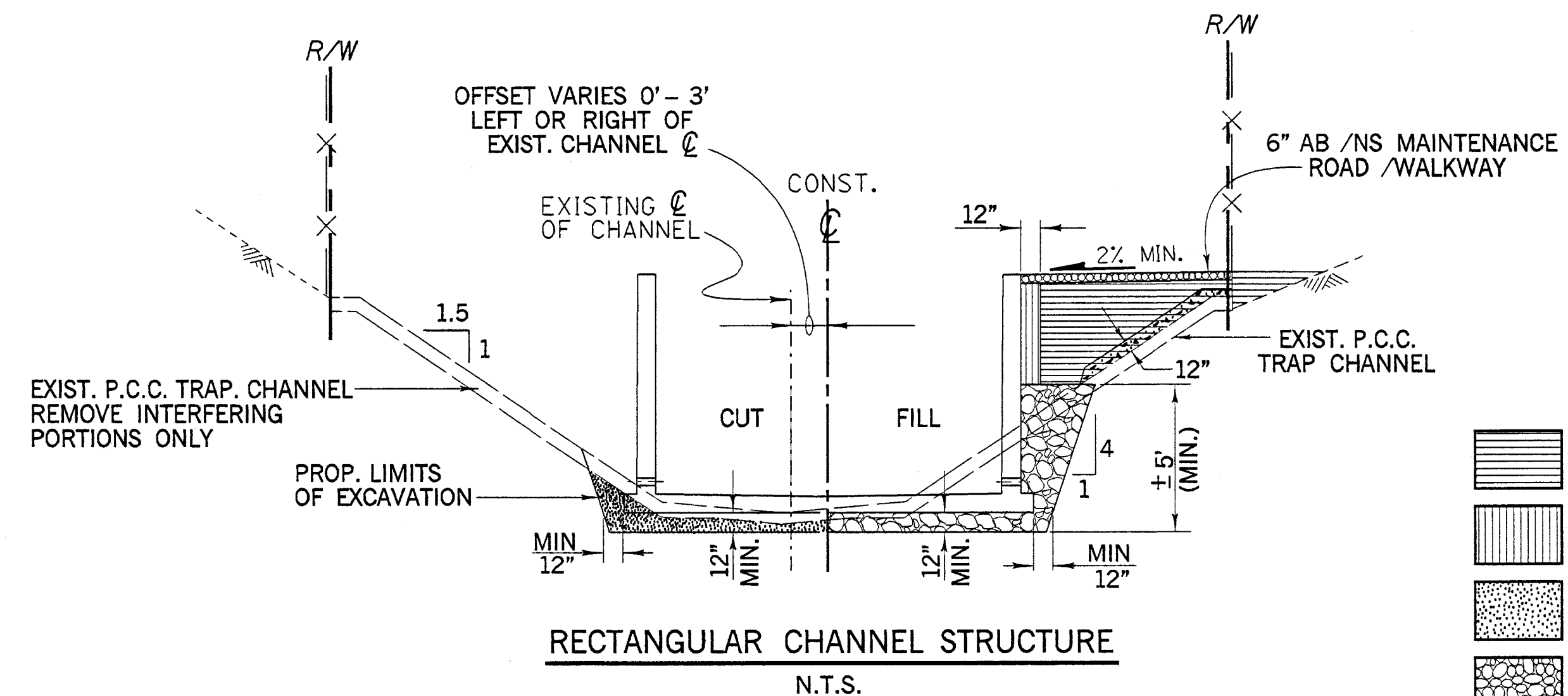
REGISTERED PROFESSIONAL ENGINEER
RICHARD S. GAUT
No. 004982
Exp. 10/04
STATE OF CALIFORNIA

MO2-101-4-R

24



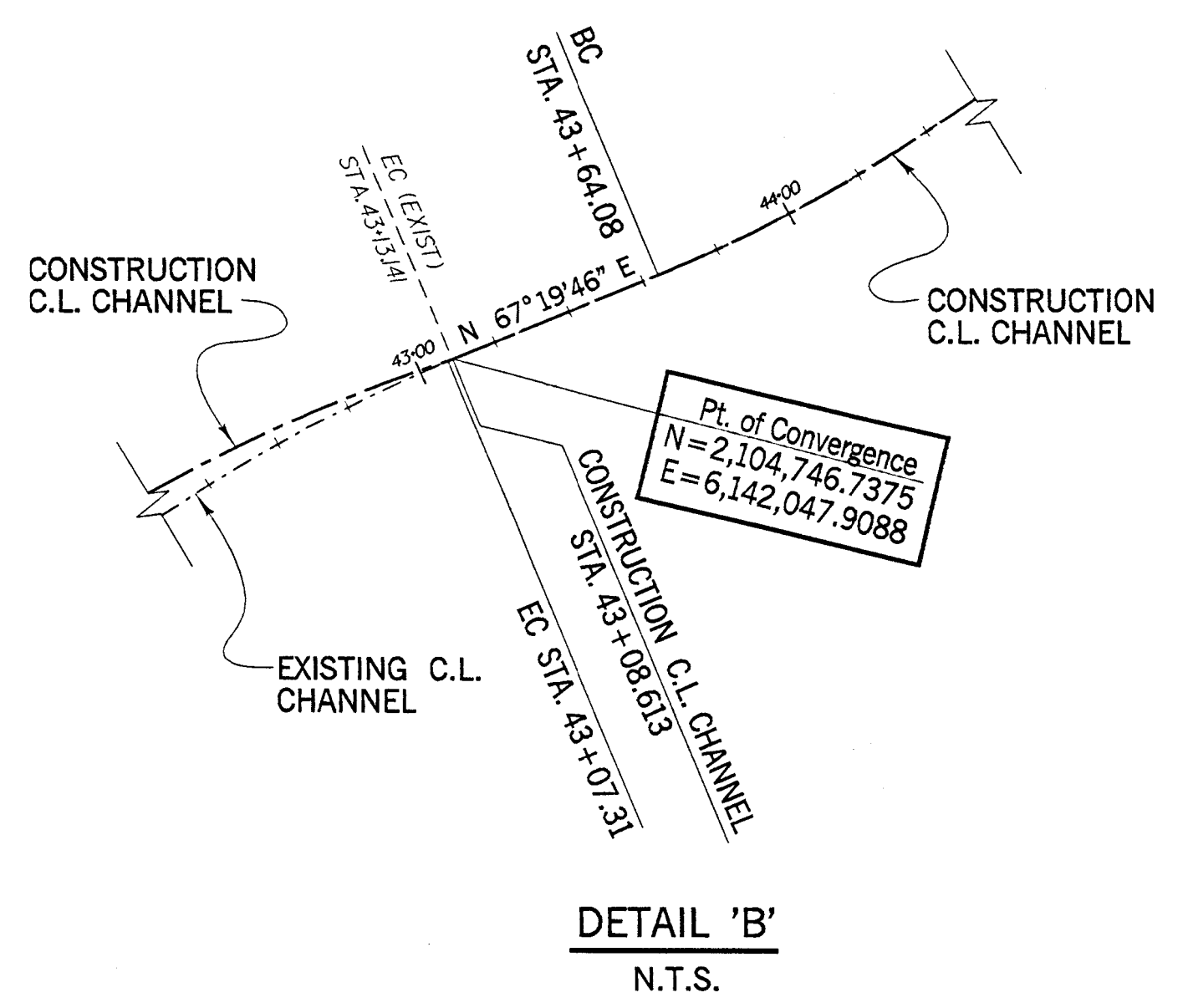
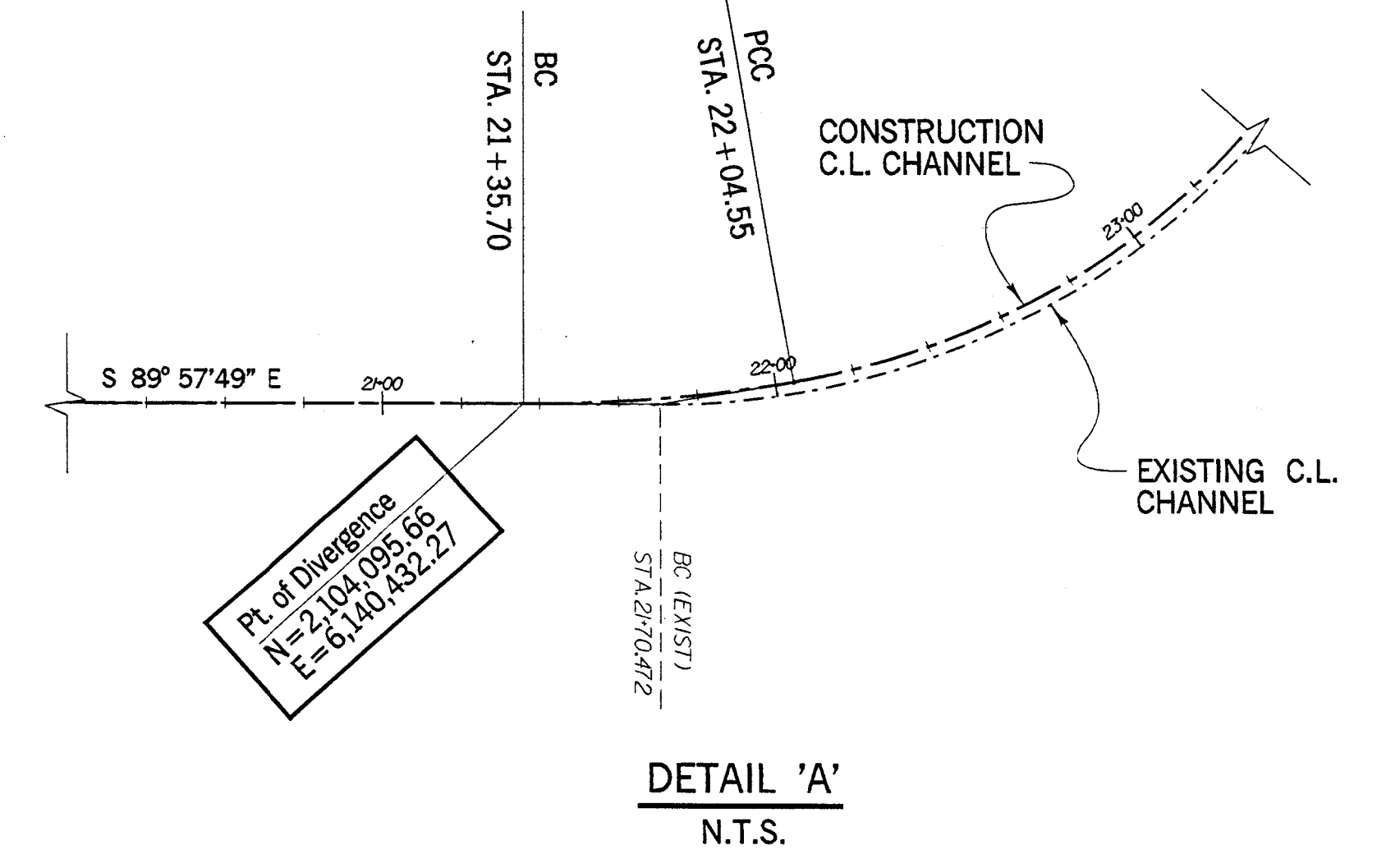
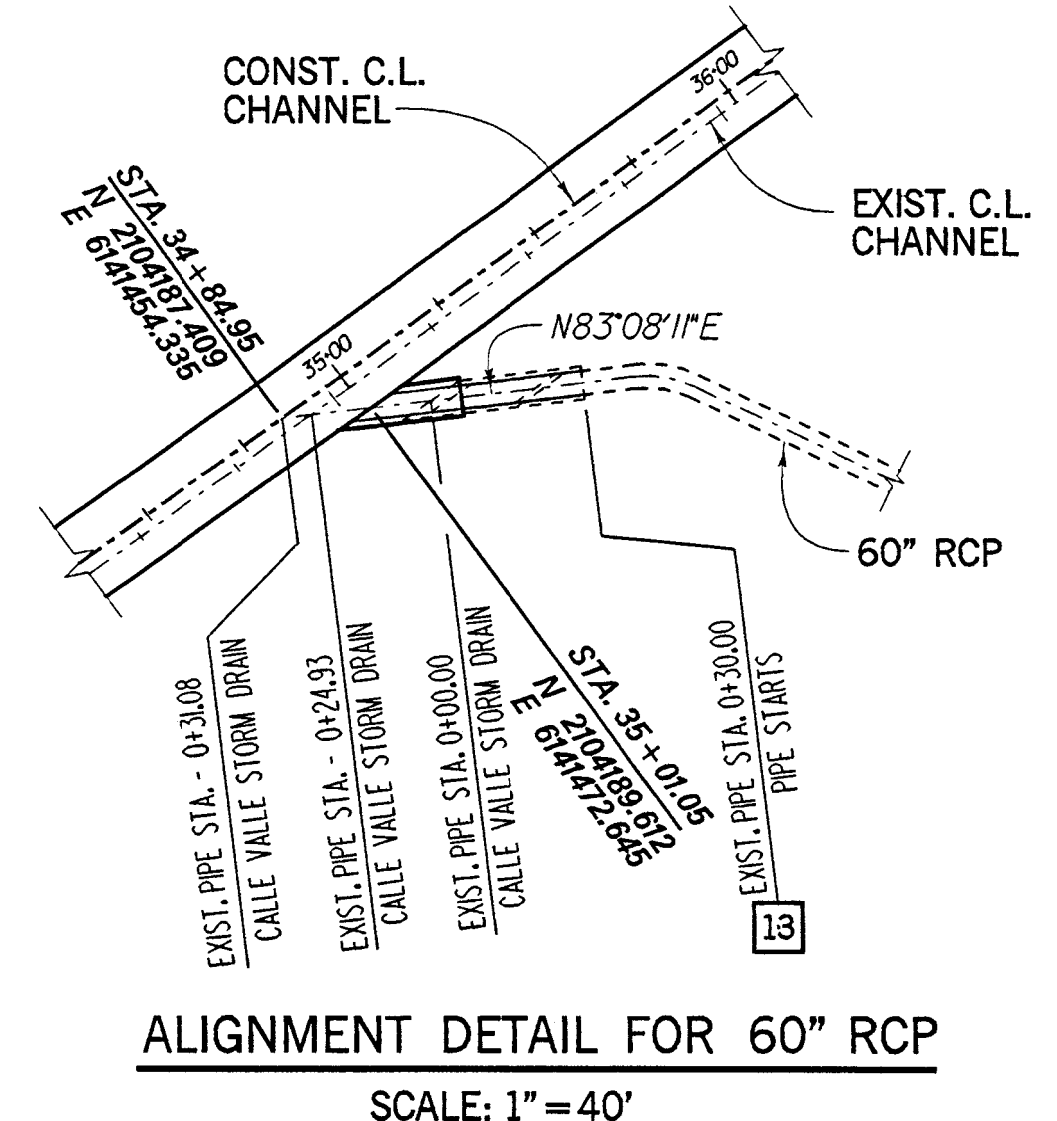
CONSTRUCTION CENTERLINE ALIGNMENT AND SURVEY TIES
N.T.S.



LEGEND

[Pattern]	UNCLASSIFIED FILL (SELECT BACKFILL)
[Pattern]	STRUCTURE BACKFILL (SELECT BACKFILL)
[Pattern]	UNCLASSIFIED EXCAVATION
[Pattern]	GRAVEL BASE MATERIAL
[Pattern]	AGGREGATE BASE
[Pattern]	CEMENT TREATED PERMEABLE BASE

CURVE DATA (CONSTRUCTION CENTERLINE)				
	Δ	R	L	T
A	95°20'14"	150	249.59	164.67
B	9°51'45"	400	68.85	34.51
C	68°33'04"	197	235.7	134.26
D	142°16'17"	200	496.62	585.34
E	99°57'53"	200	348.94	238.2
F	14°51'57"	400	103.78	52.18
G	28°15'58"	400	197.33	100.72
H	26°50'38"	400	187.41	95.46
I	39°56'15"	300	209.11	109.01
J	14°08'24"	1000	246.79	124.02
K	17°40'47"	500	154.29	77.76



CONSTRUCTION NOTES

13 CONSTRUCT R.C. COLLAR PER PLAN AND PROFILE SHEETS, DETAILS SHEET 17 AND PFRD STD. PLAN 1317.

RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02	
PAYLINES & SURVEY TIES	
DESIGNED: R. GAUT	SHEET
DRAWN: R.H. DE GUZMAN	CHECKED: N. MAJAJ
SCALE: 1/7/03	DRAWING NO. M02-101-4 R
DATE: 1/10/03	OF 42

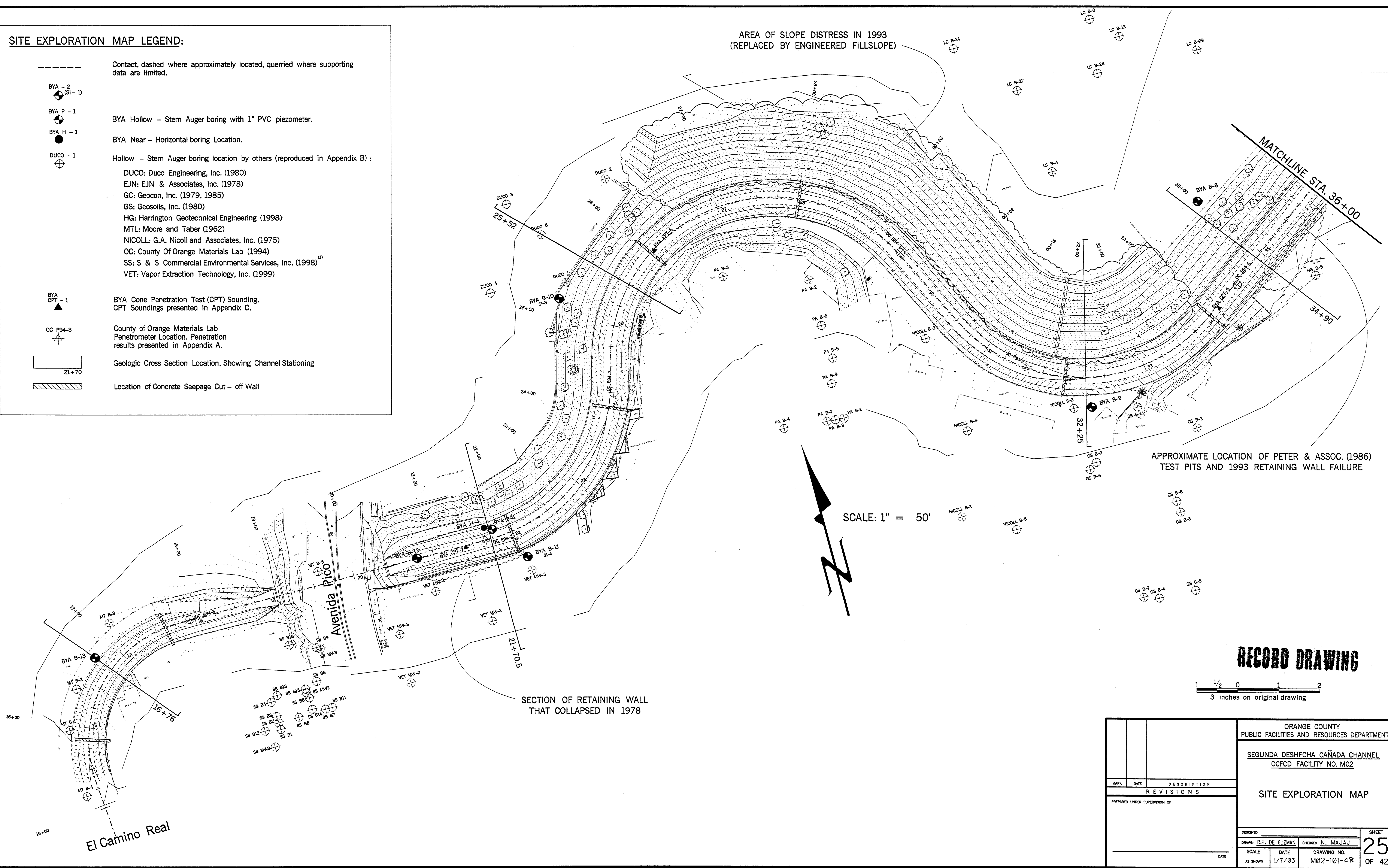
14 140
M02-101-4R

25 42

SITE EXPLORATION MAP LEGEND:

- Contact, dashed where approximately located, queried where supporting data are limited.
- BYA - 2 (SI - 1)
BYA P - 1
BYA H - 1
DUCCO - 1
- BYA Hollow - Stern Auger boring with 1" PVC piezometer.
BYA Near - Horizontal boring Location.
Hollow - Stern Auger boring location by others (reproduced in Appendix B):
DUCCO: Duco Engineering, Inc. (1980)
EJN: EJN & Associates, Inc. (1978)
GC: Geocon, Inc. (1979, 1985)
GS: Geosols, Inc. (1980)
HG: Harrington Geotechnical Engineering (1998)
MTL: Moore and Taber (1962)
NICOLL: G.A. Nicoll and Associates, Inc. (1975)
OC: County Of Orange Materials Lab (1994)
SS: S & S Commercial Environmental Services, Inc. (1998)
VET: Vapor Extraction Technology, Inc. (1999)
- BYA CPT - 1
OC P94-3
- BYA Cone Penetration Test (CPT) Sounding.
CPT Soundings presented in Appendix C.
County of Orange Materials Lab
Penetrometer Location. Penetration
results presented in Appendix A.
- Geologic Cross Section Location, Showing Channel Stationing
Location of Concrete Seepage Cut - off Wall

AREA OF SLOPE DISTRESS IN 1993
(REPLACED BY ENGINEERED FILLSLOPE)



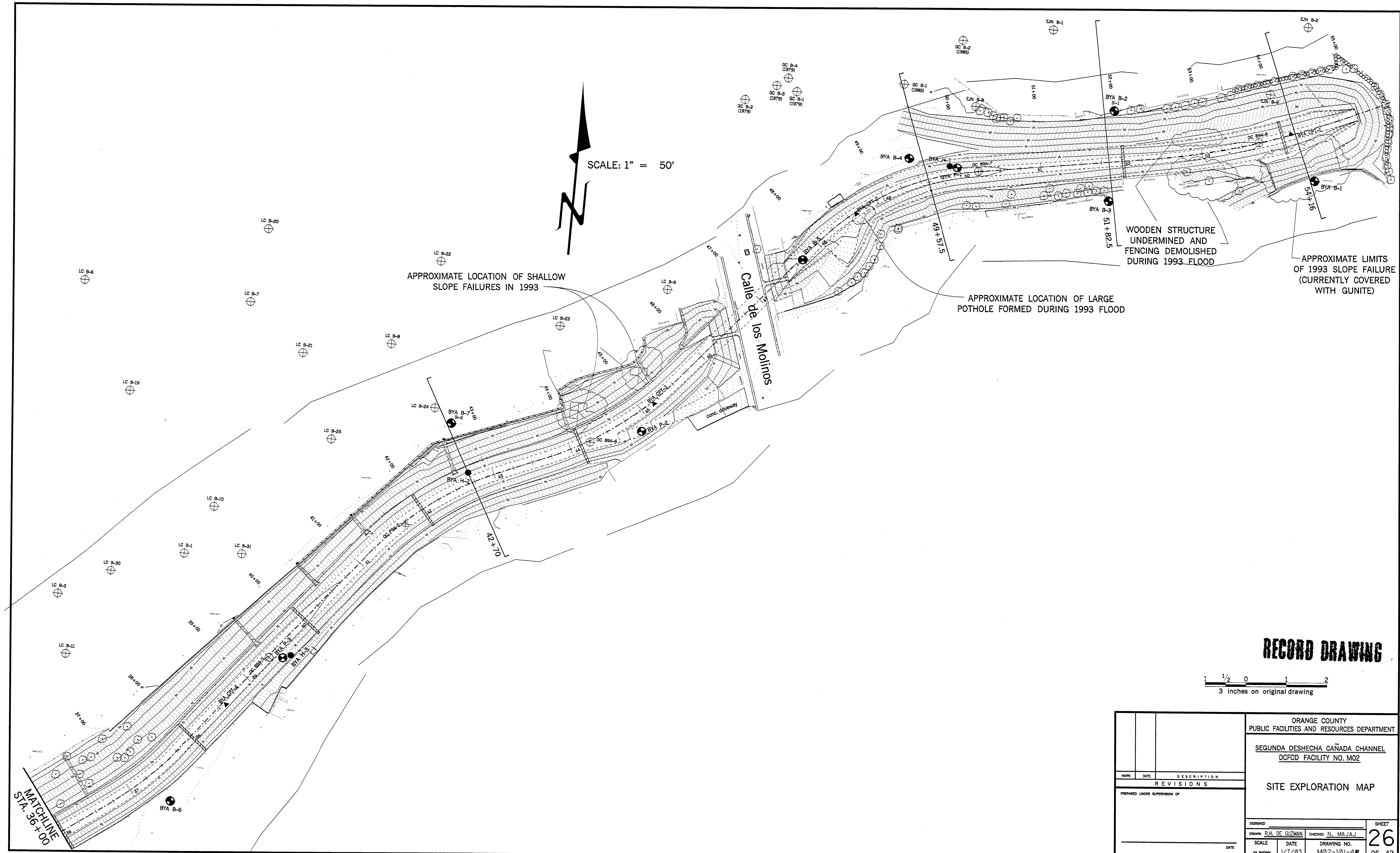
APPROXIMATE LOCATION OF PETER & ASSOC. (1986)
TEST PITS AND 1993 RETAINING WALL FAILURE

SECTION OF RETAINING WALL
THAT COLLAPSED IN 1978

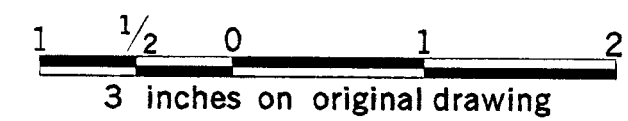
RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

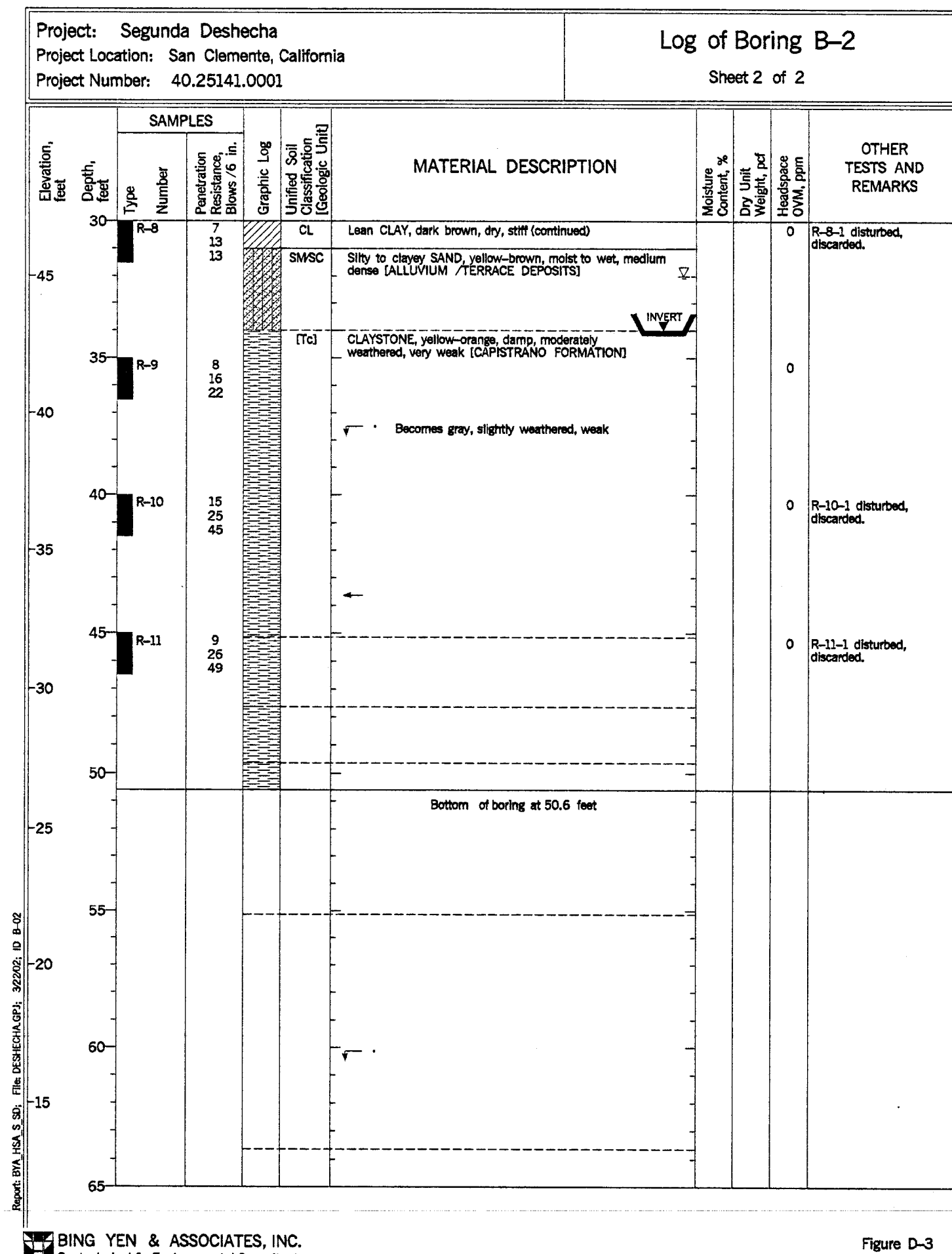
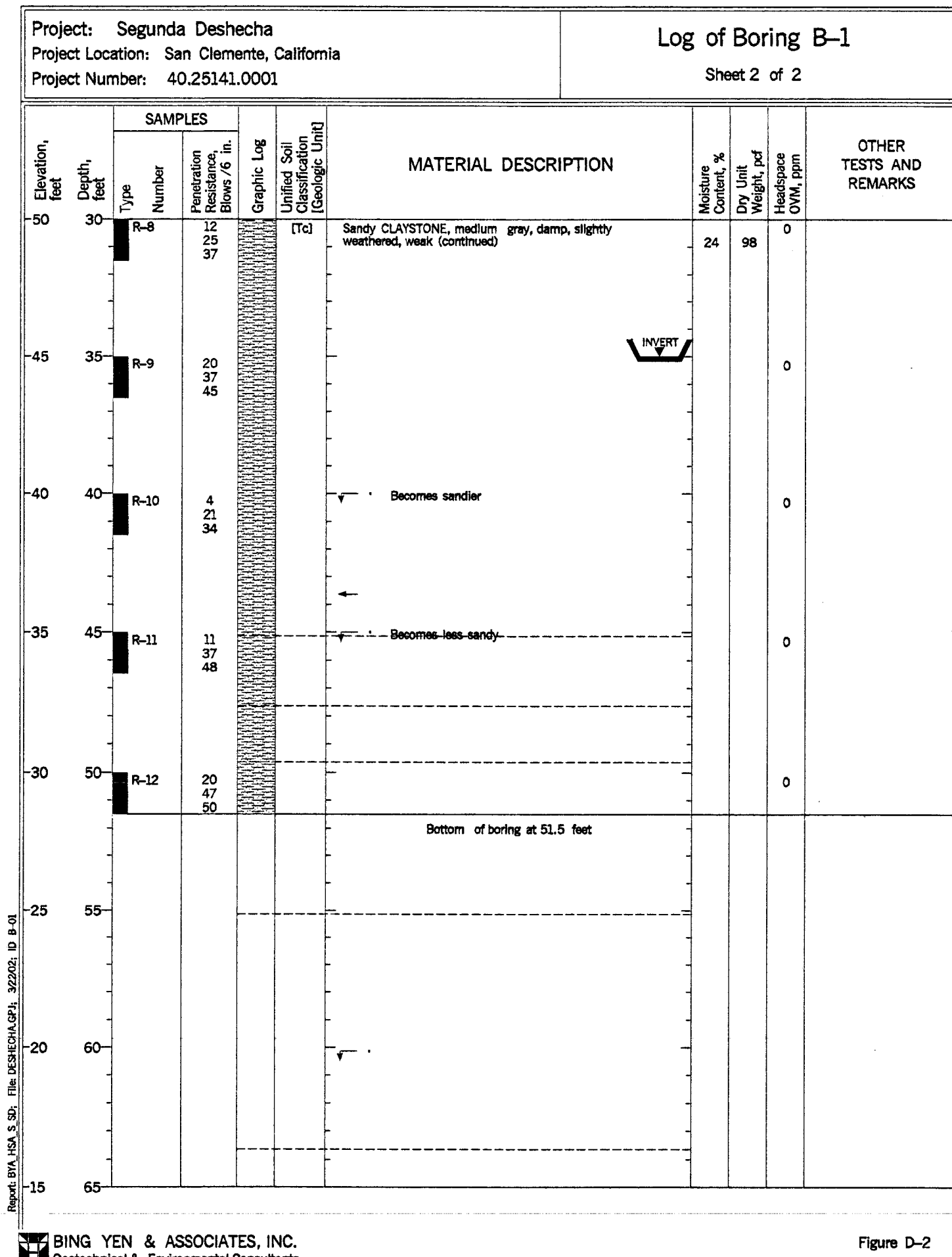
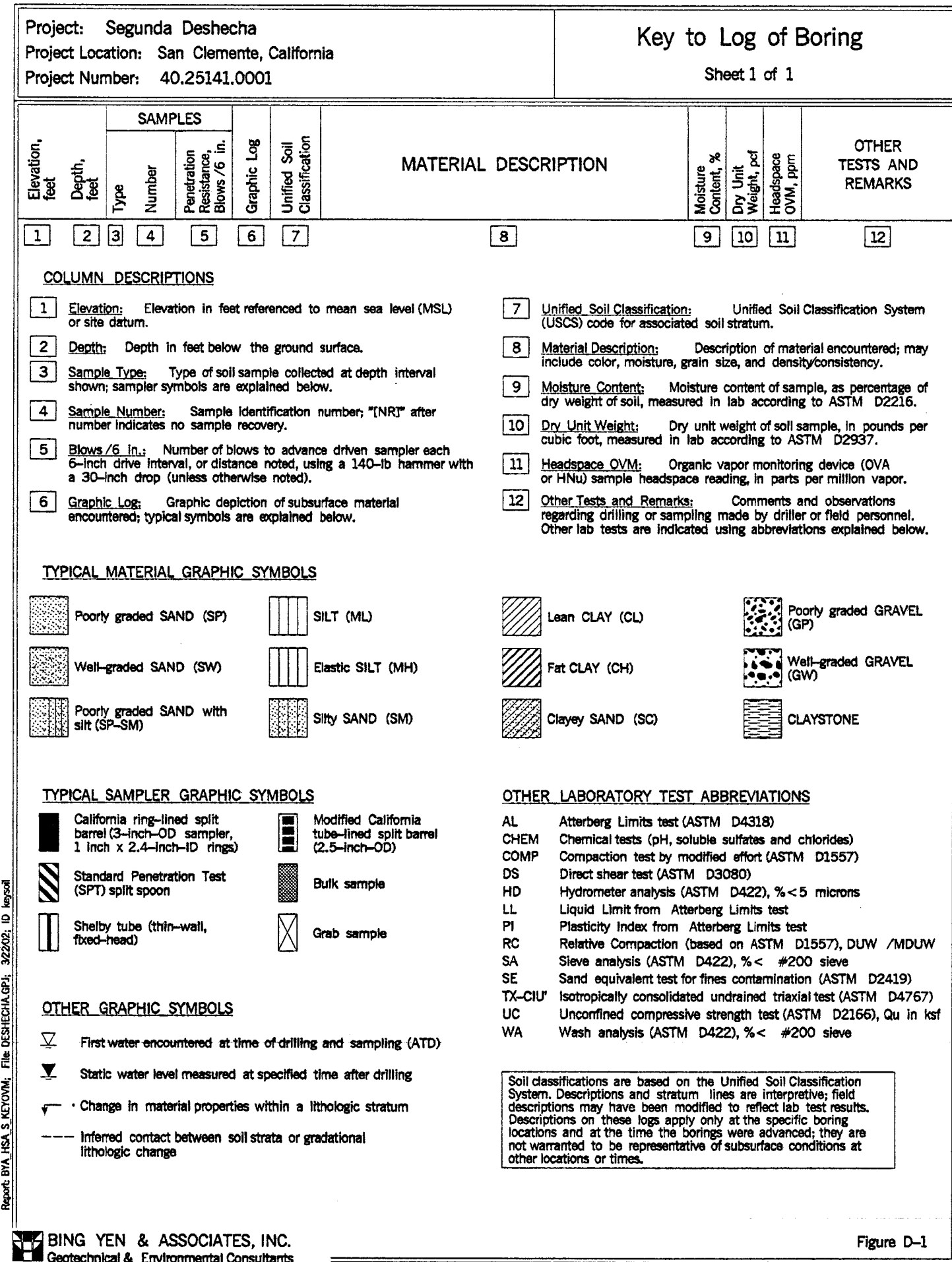
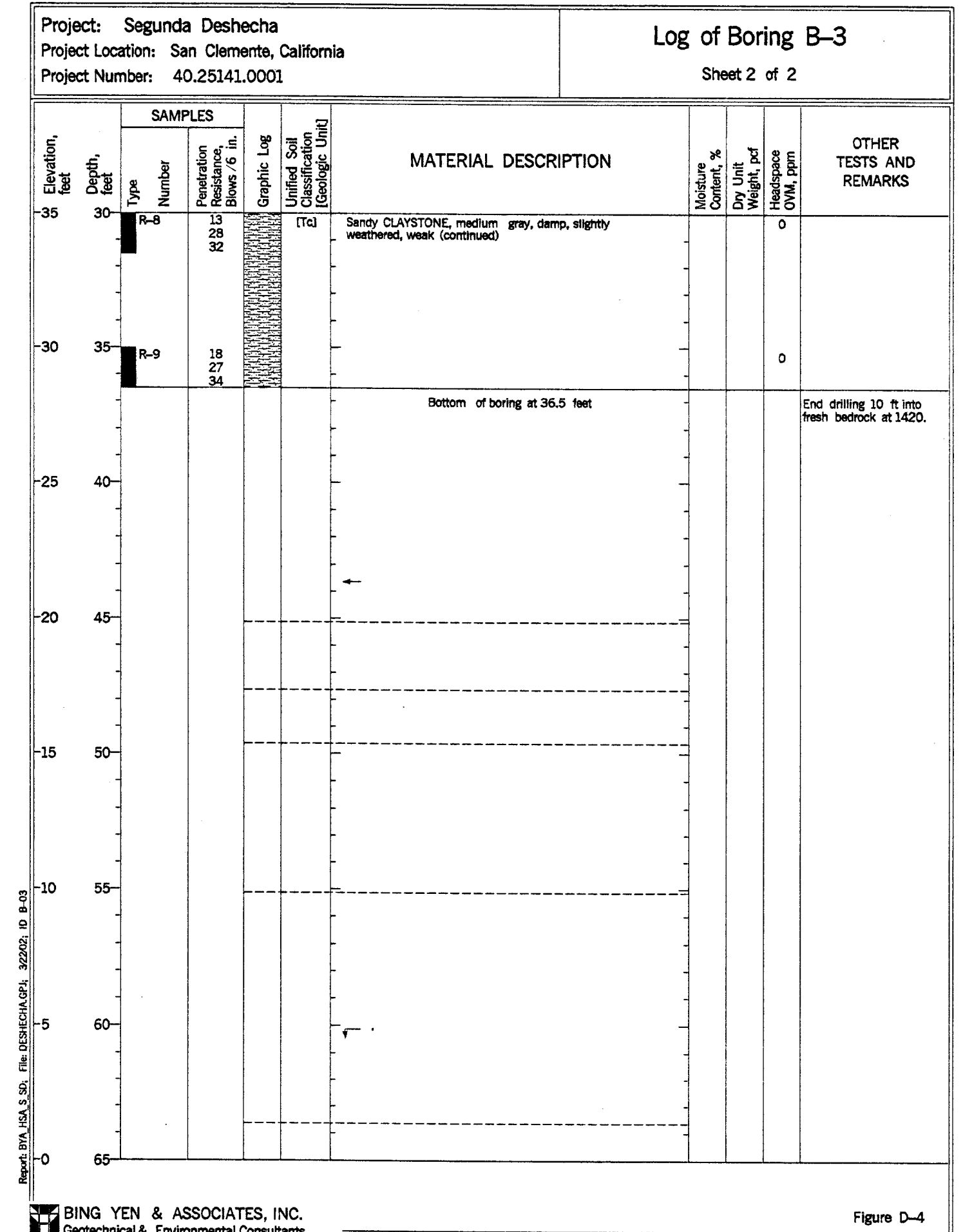
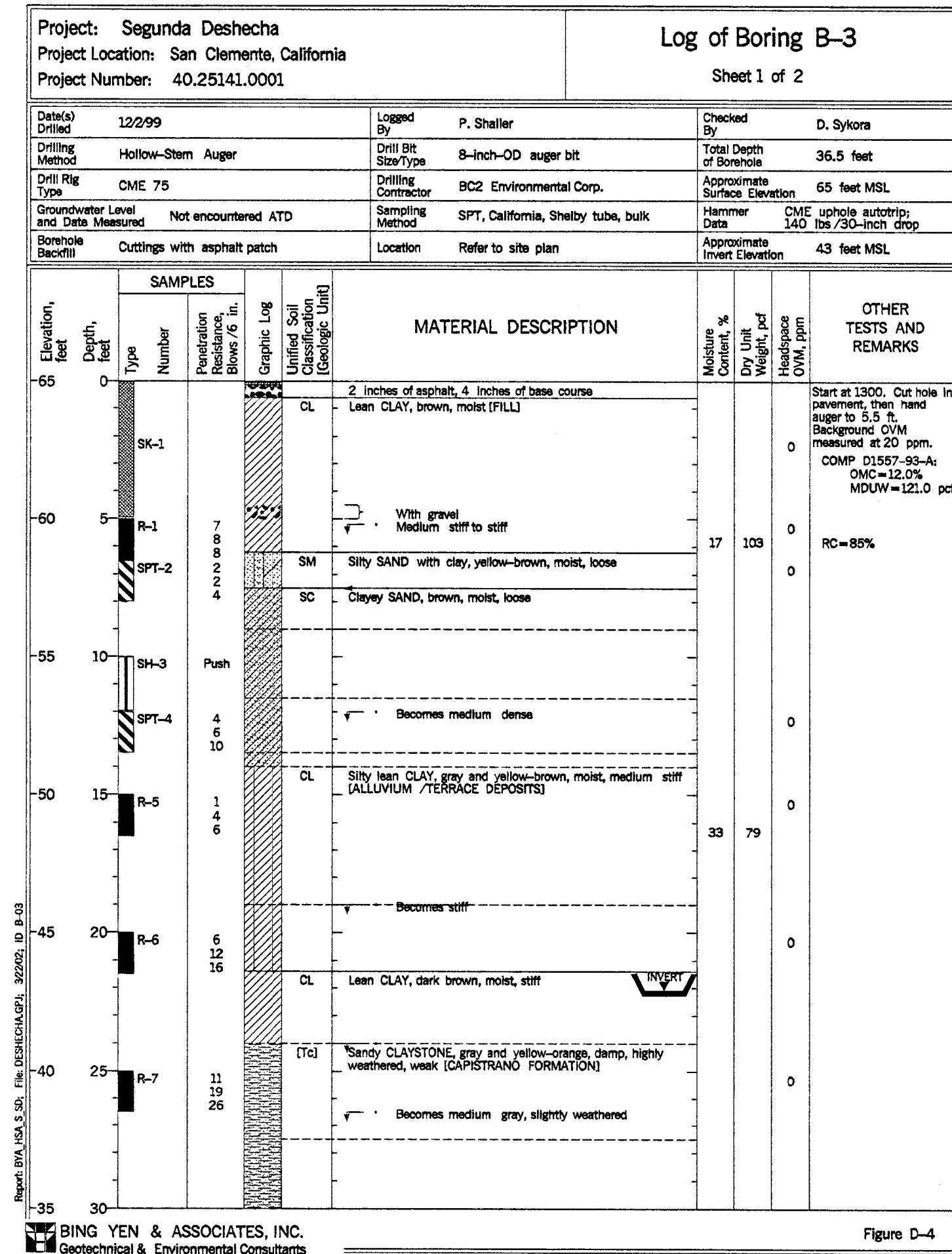
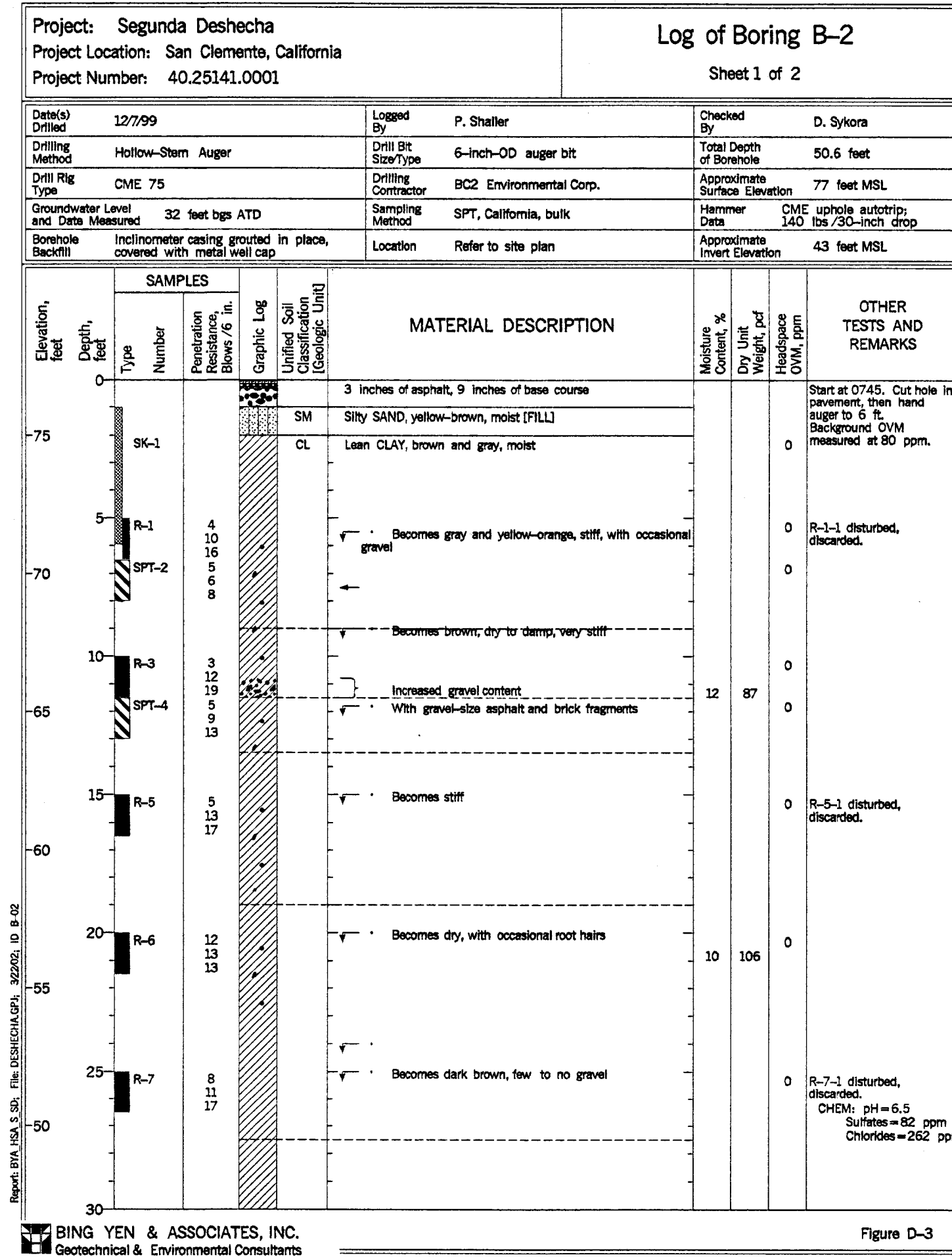
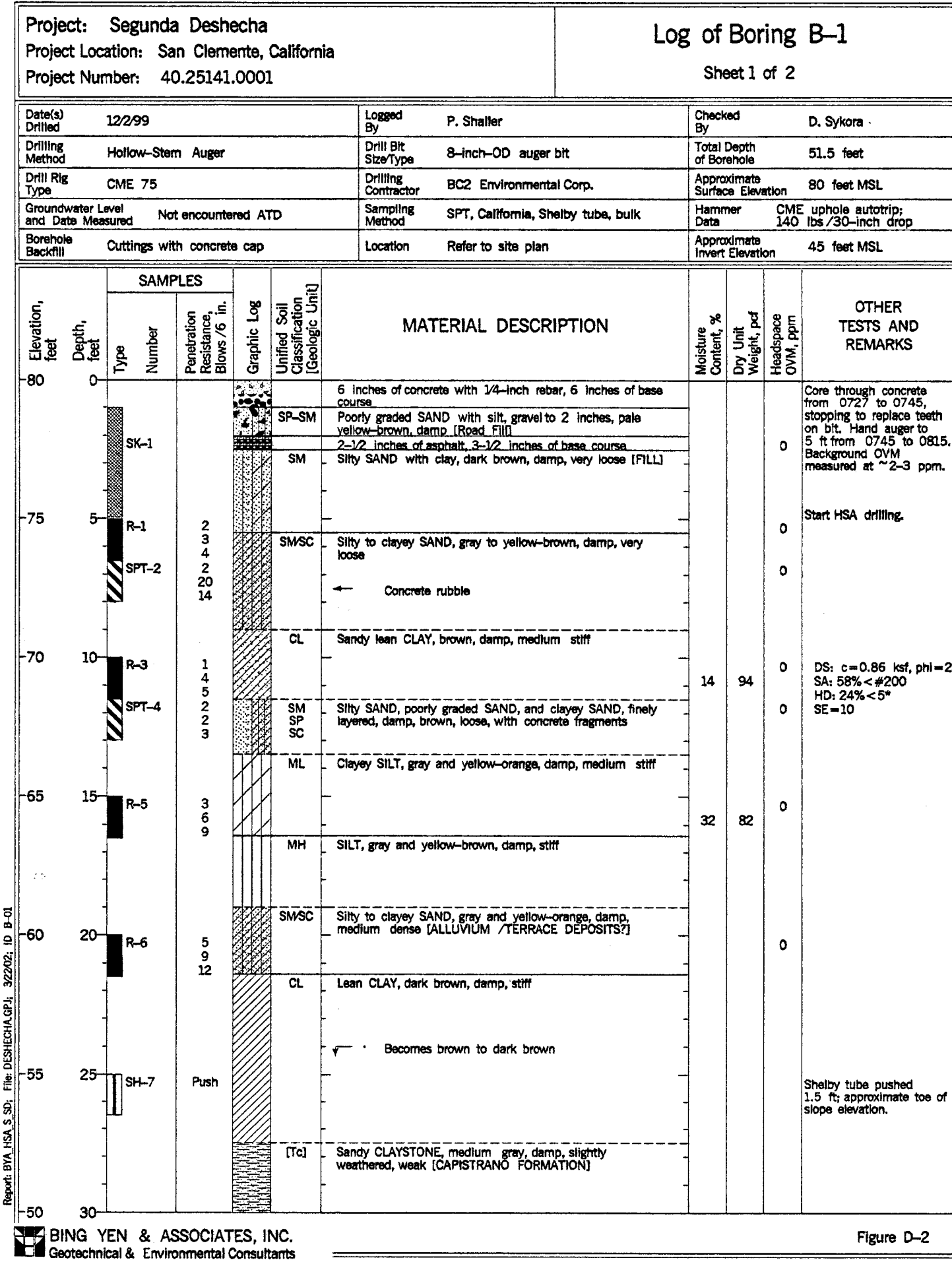
ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CAÑADA CHANNEL OCFCD FACILITY NO. M02	
SITE EXPLORATION MAP	
DESIGNED	SHEET
DRAWN R.H. DE GUZMAN	CHECKED N. MAJAJ
SCALE AS SHOWN	DATE 1/7/03
DRAWING NO. M02-101-4R	OF 42



RECORD DRAWING



ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CAÑADA CHANNEL OCFCD FACILITY NO. M02	
SITE EXPLORATION MAP	
DESIGNED	SHEET
DRAWN R.H. DE GUZMAN	CHECKED N. MAJAJ
SCALE	DATE
AS SHOWN	1/7/03
DRAWING NO. M02-101-4R	
26 OF 42	

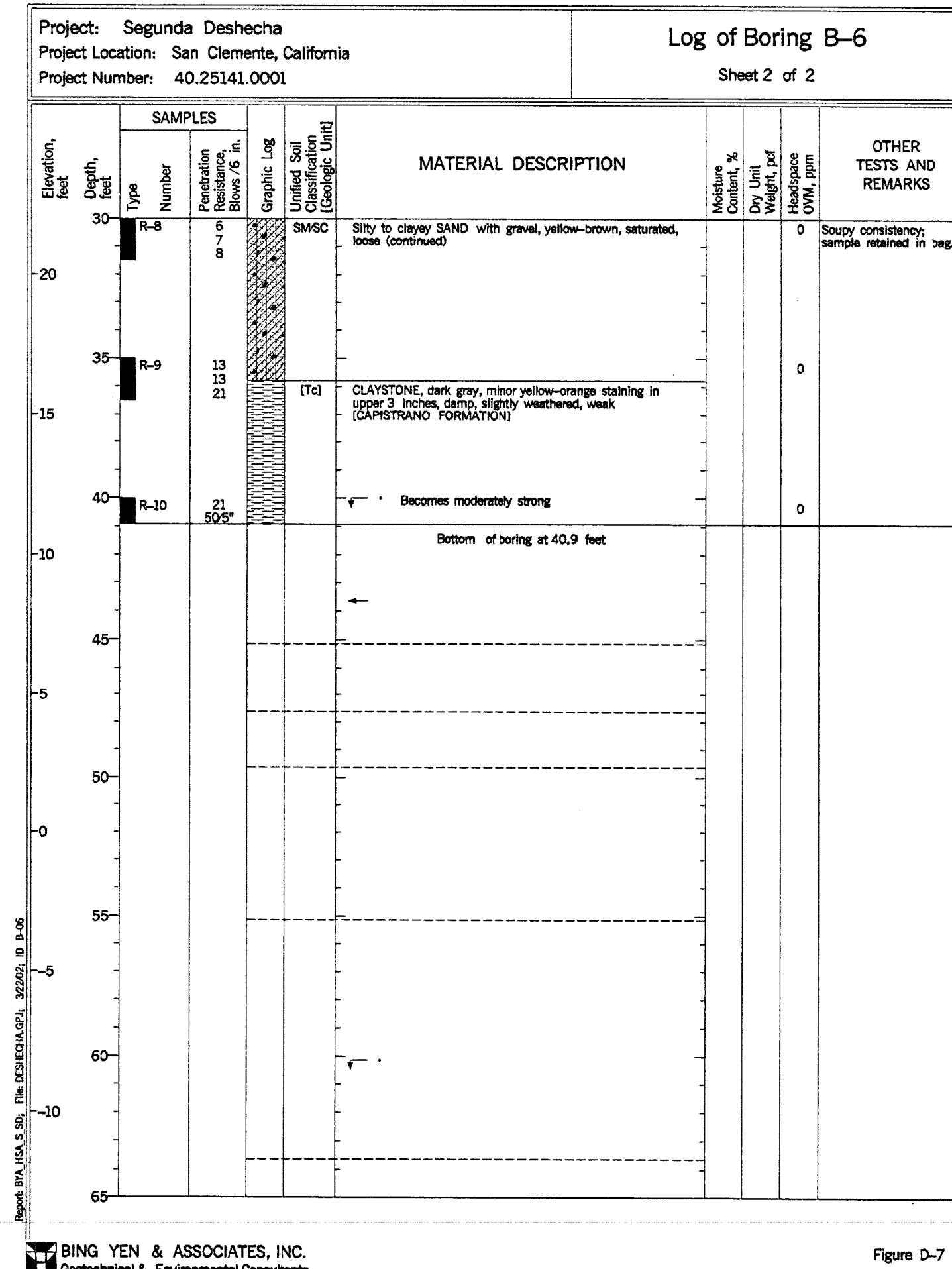
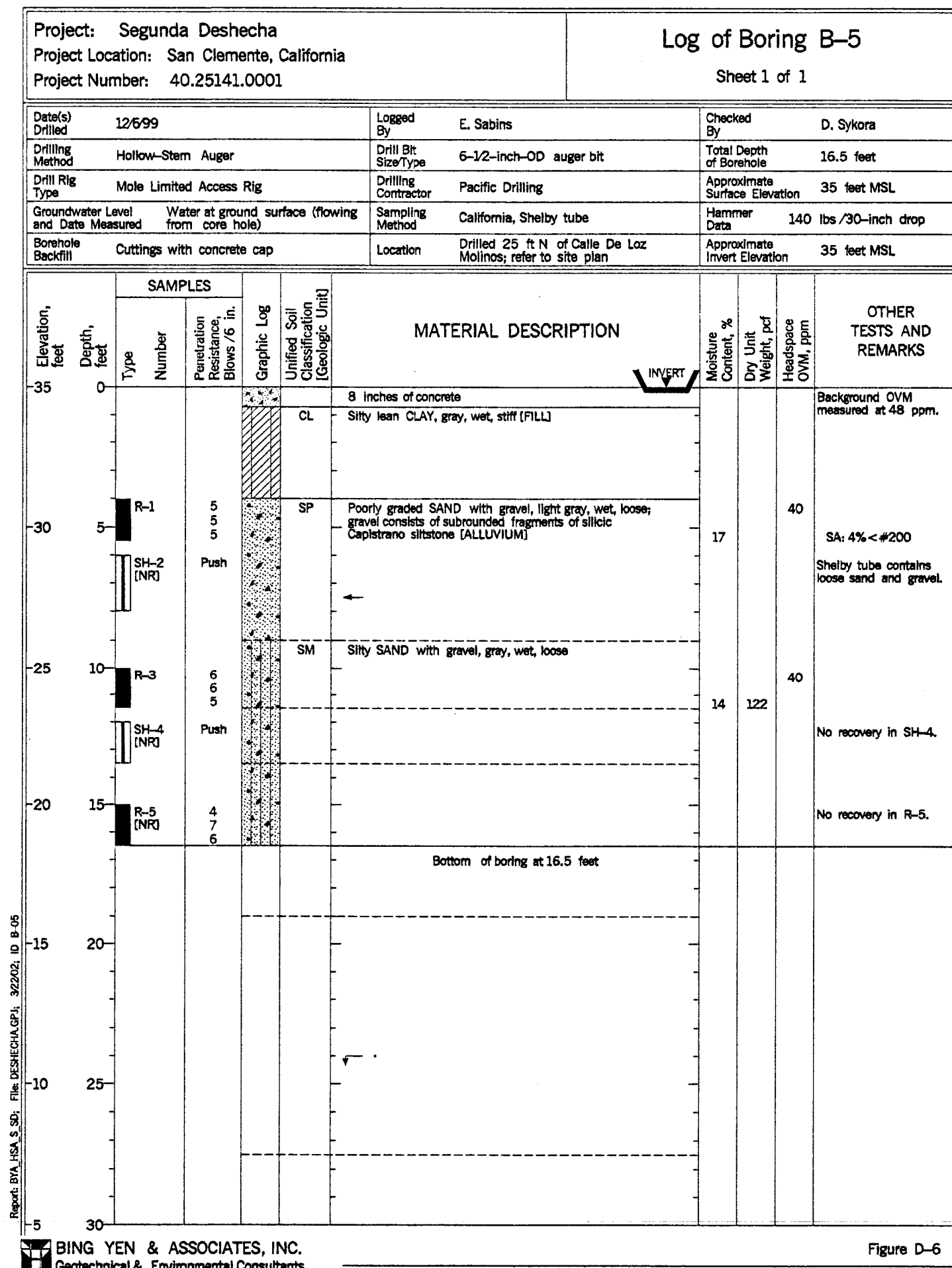
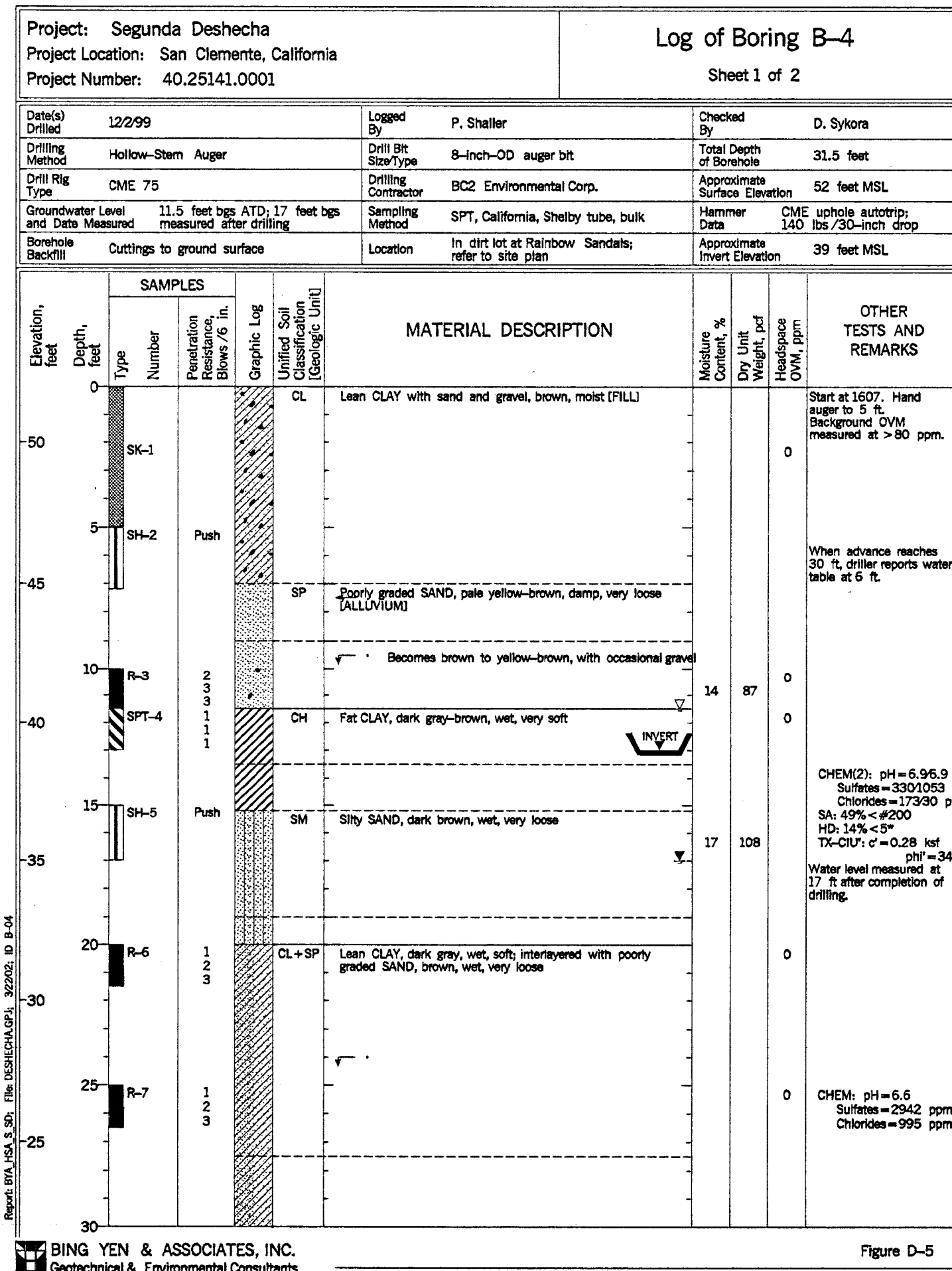
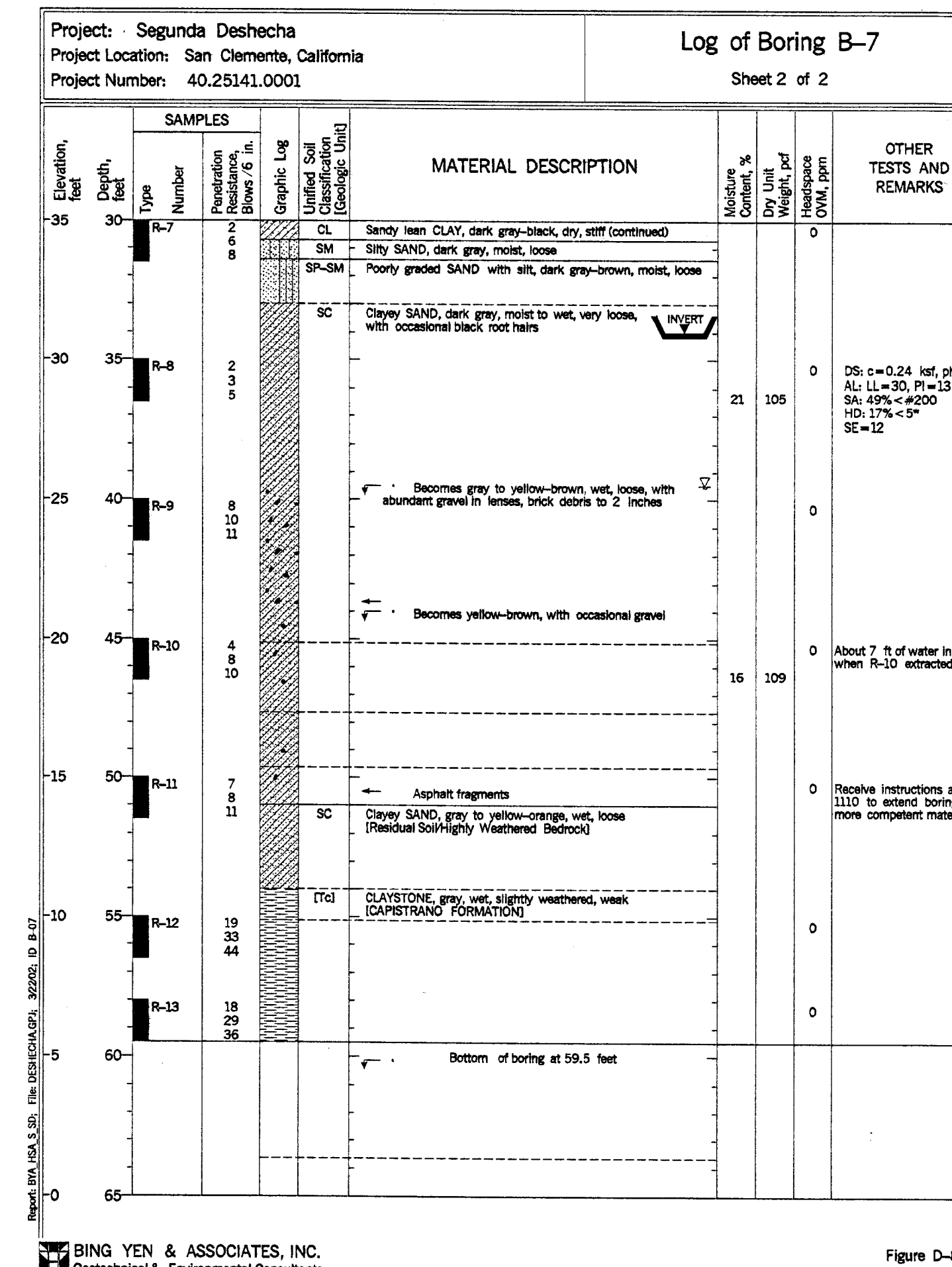
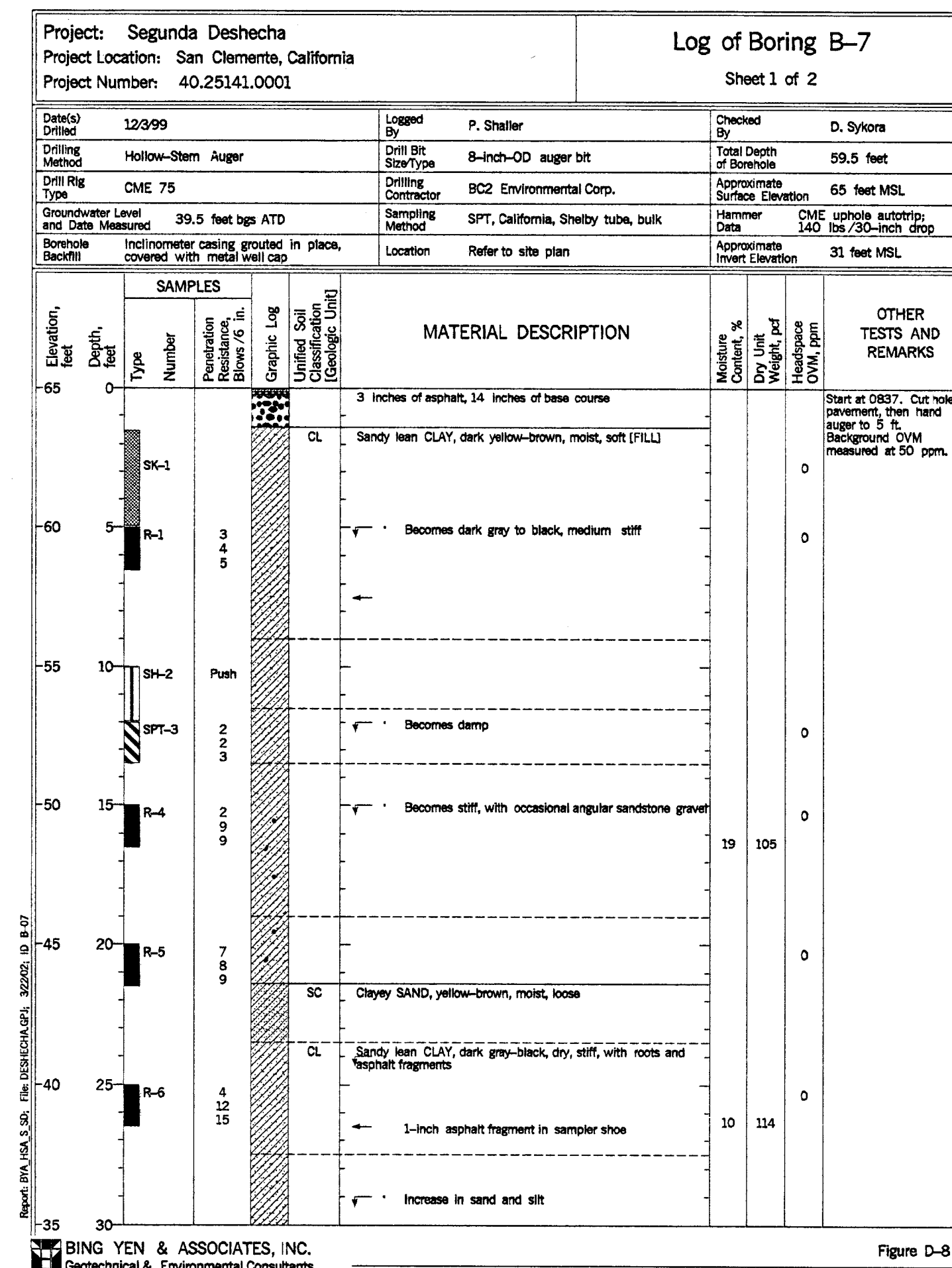
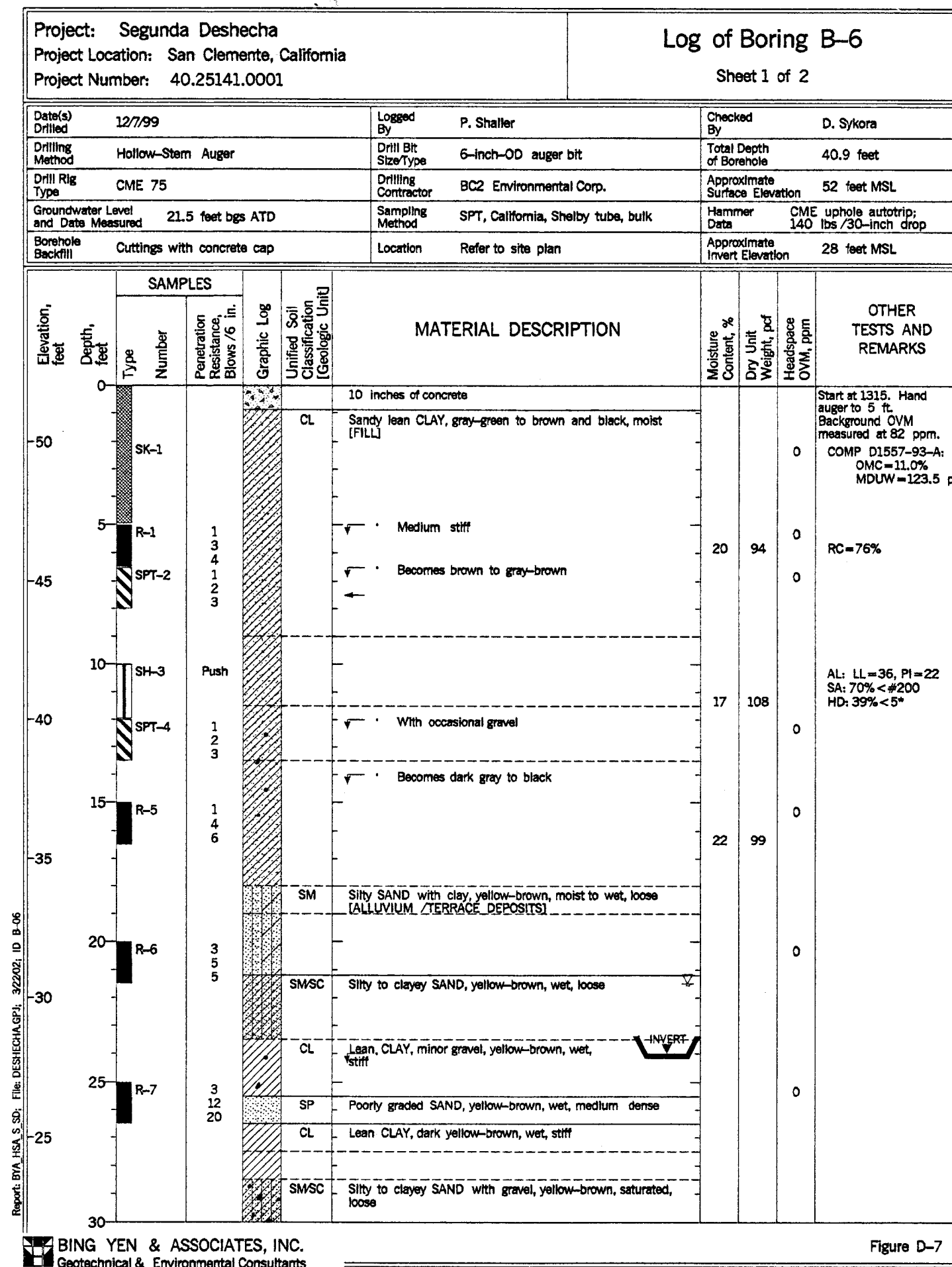
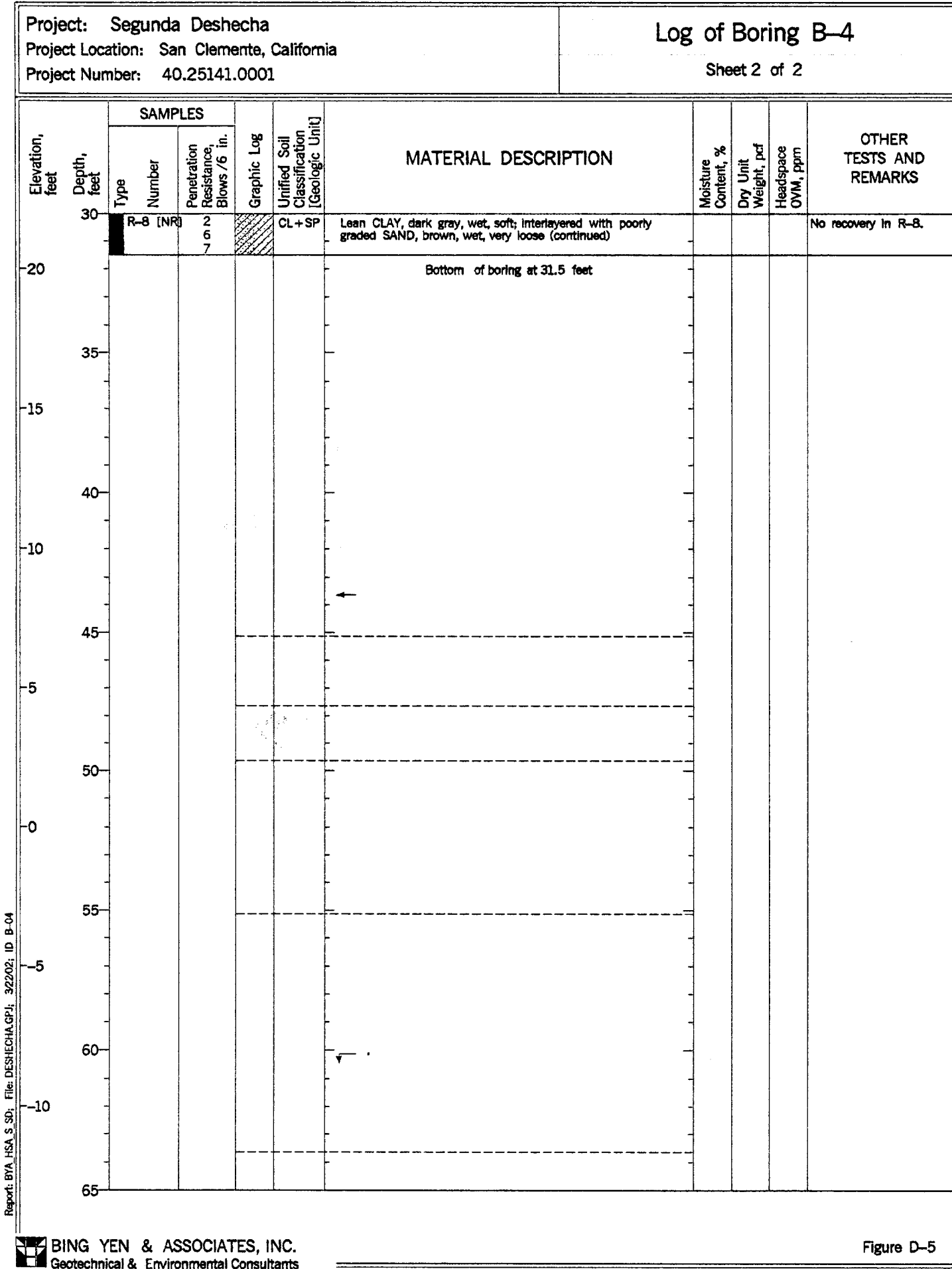


SOURCE: GEOTECHNICAL INVESTIGATIONS PROPOSED CHANNEL REPLACEMENT SEGUNDA DECHECHA CANADA FLOOD CONTROL CHANNEL (M02) SAN CLEMENTE, CA. AUGUST 2000, BY BING YEN & ASSOCIATES, INC. A SUBSIDIARY OF ATC GROUP SERVICES, INC.

RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT		
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02		
BORING LOGS		
MARK	DATE	DESCRIPTION
REVISIONS		
PREPARED UNDER SUPERVISION OF		
DESIGNED	DRAWN	CHECKED
R.H. DE GUZMAN	N. MAJAJ	
SCALE	DATE	DRAWING NO.
AS SHOWN	1/7/03	M02-101-4 R
DATE		SHEET
		27
		OF 42

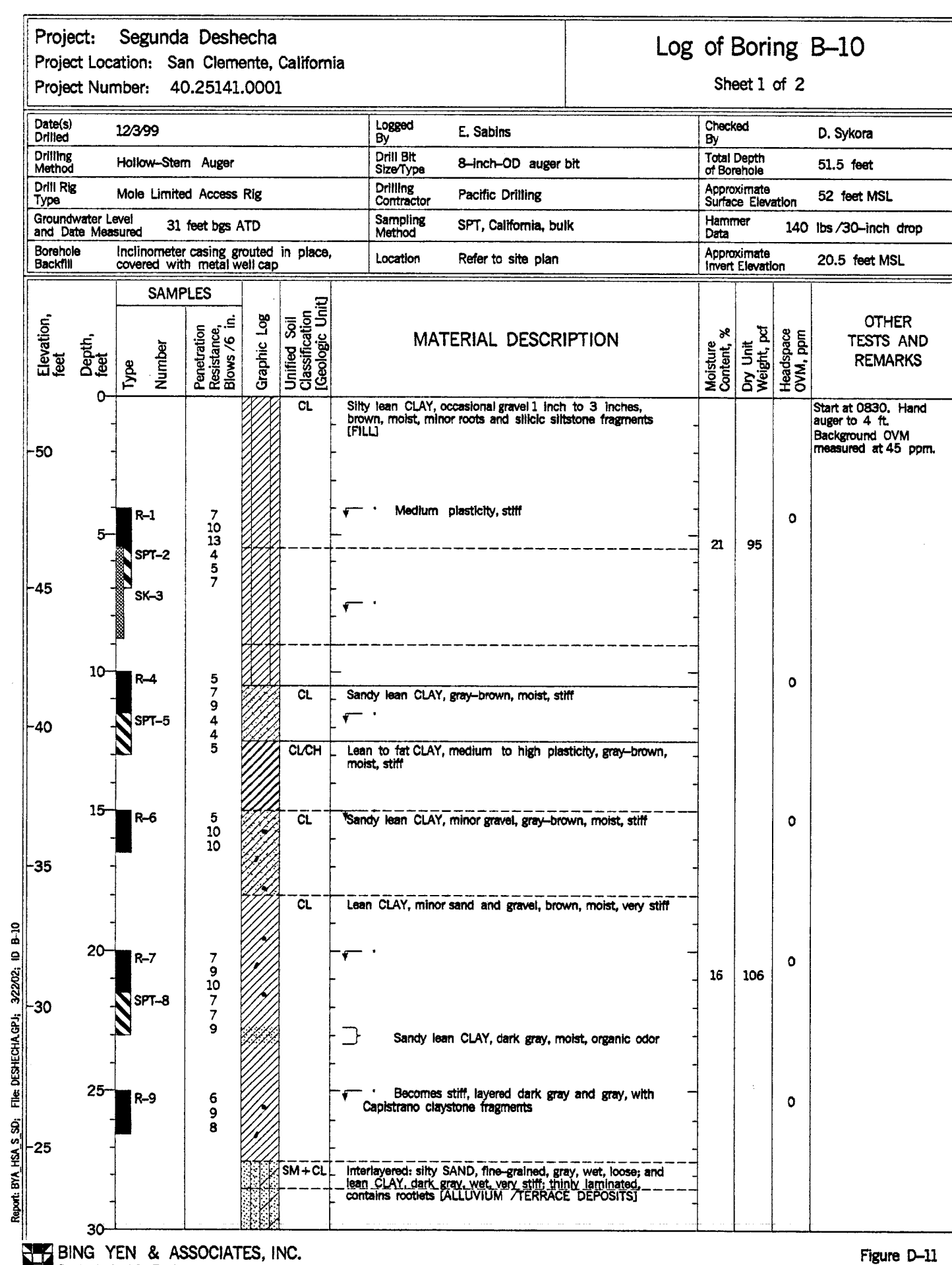
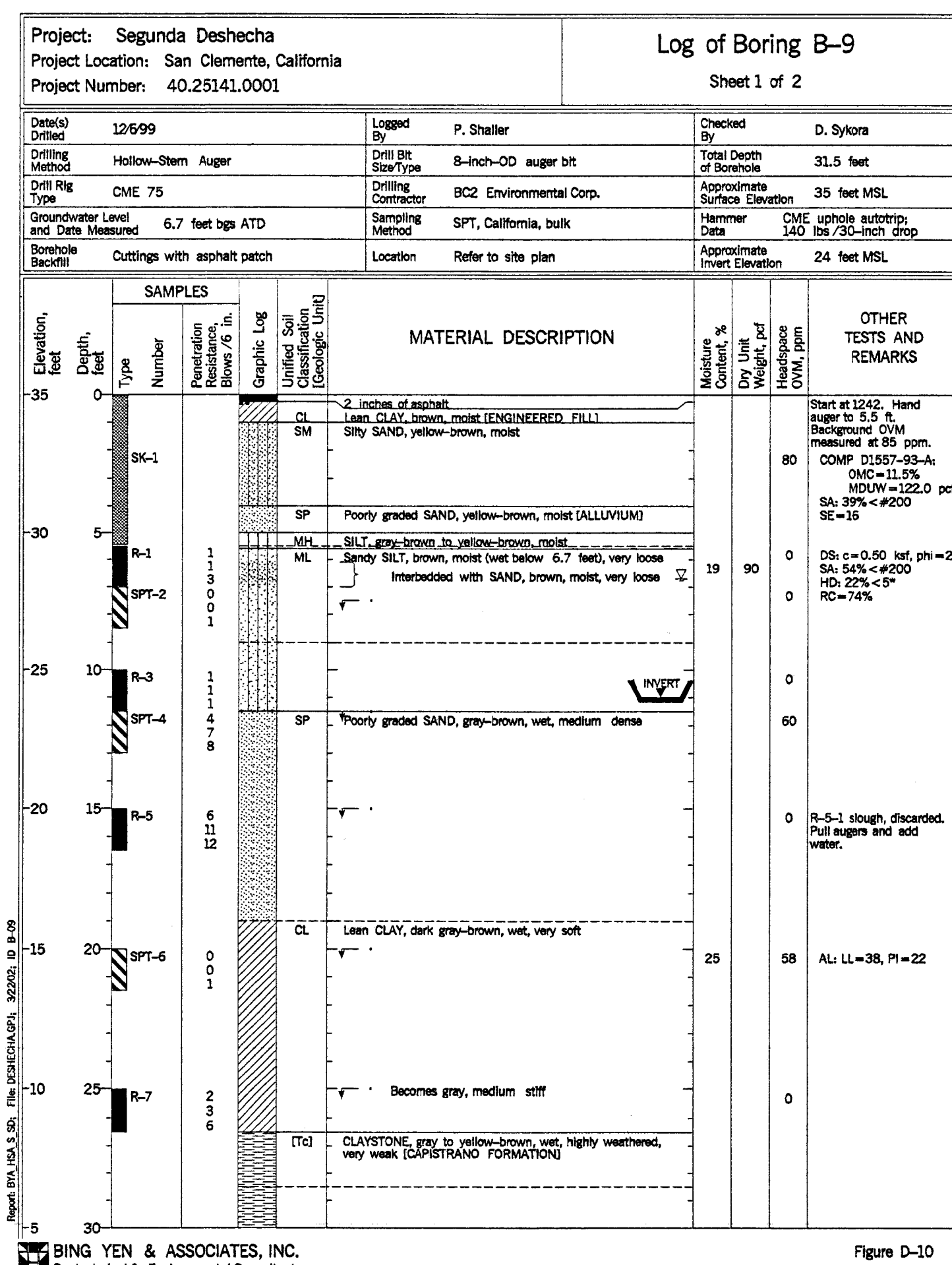
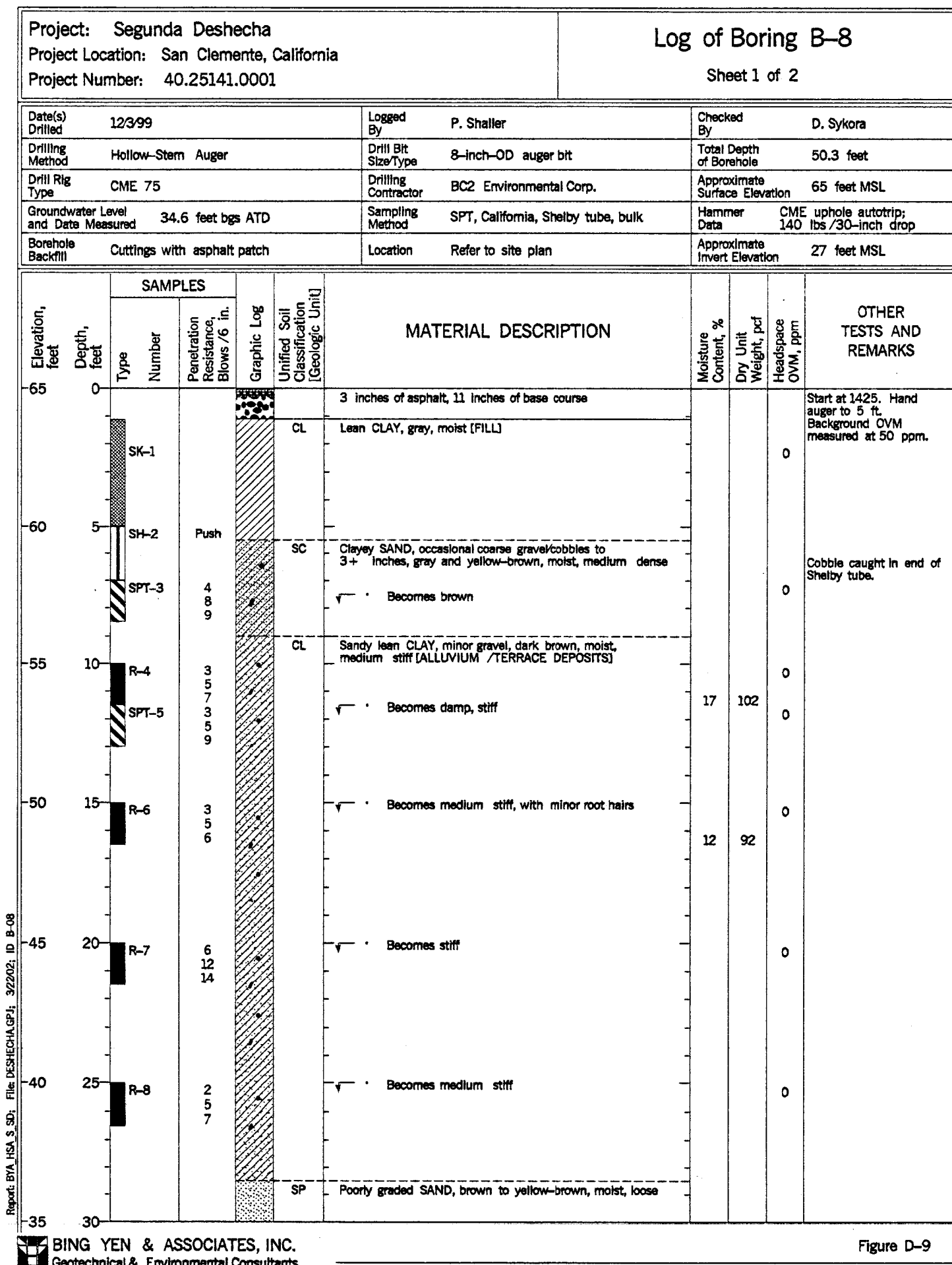
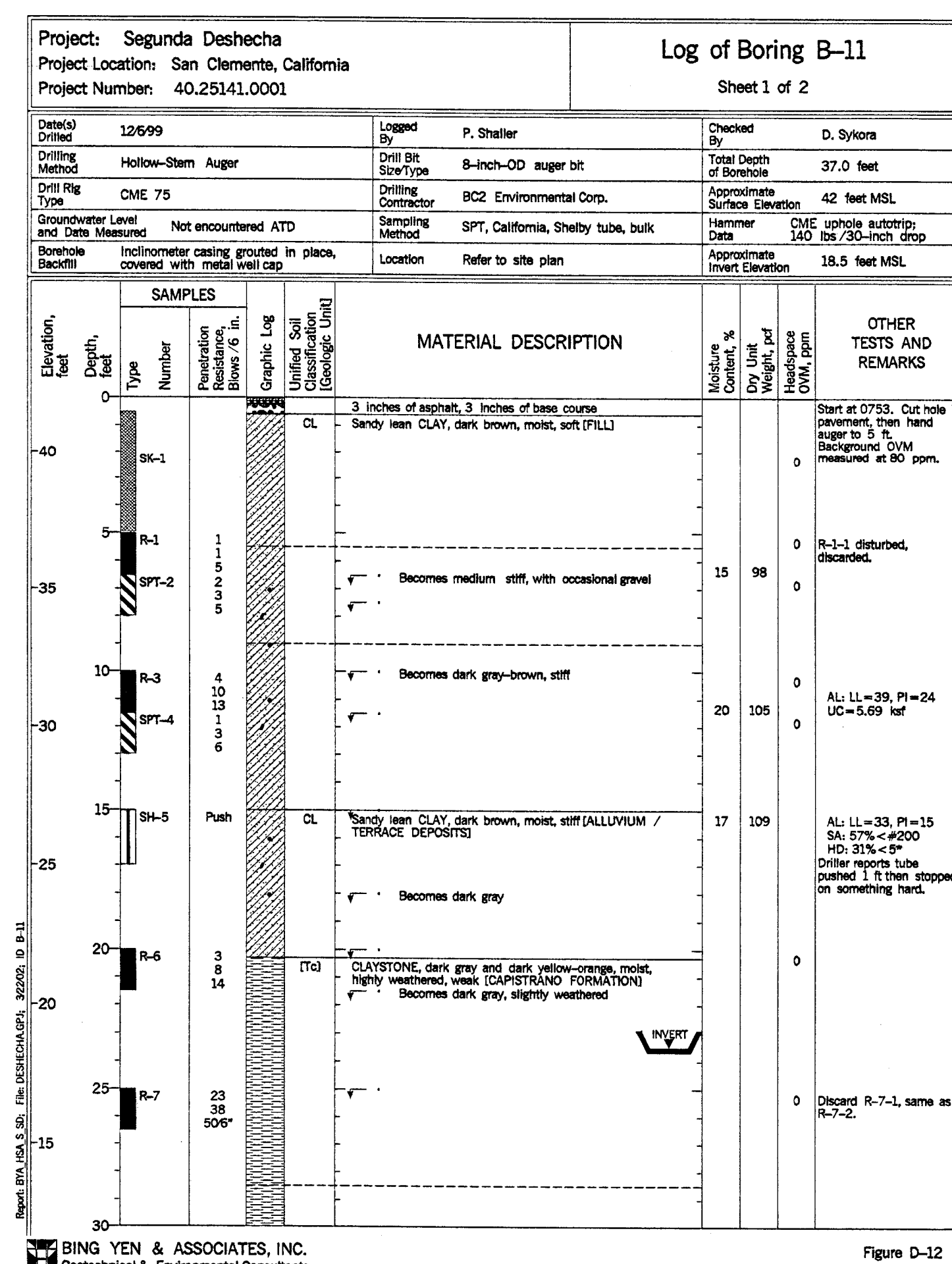
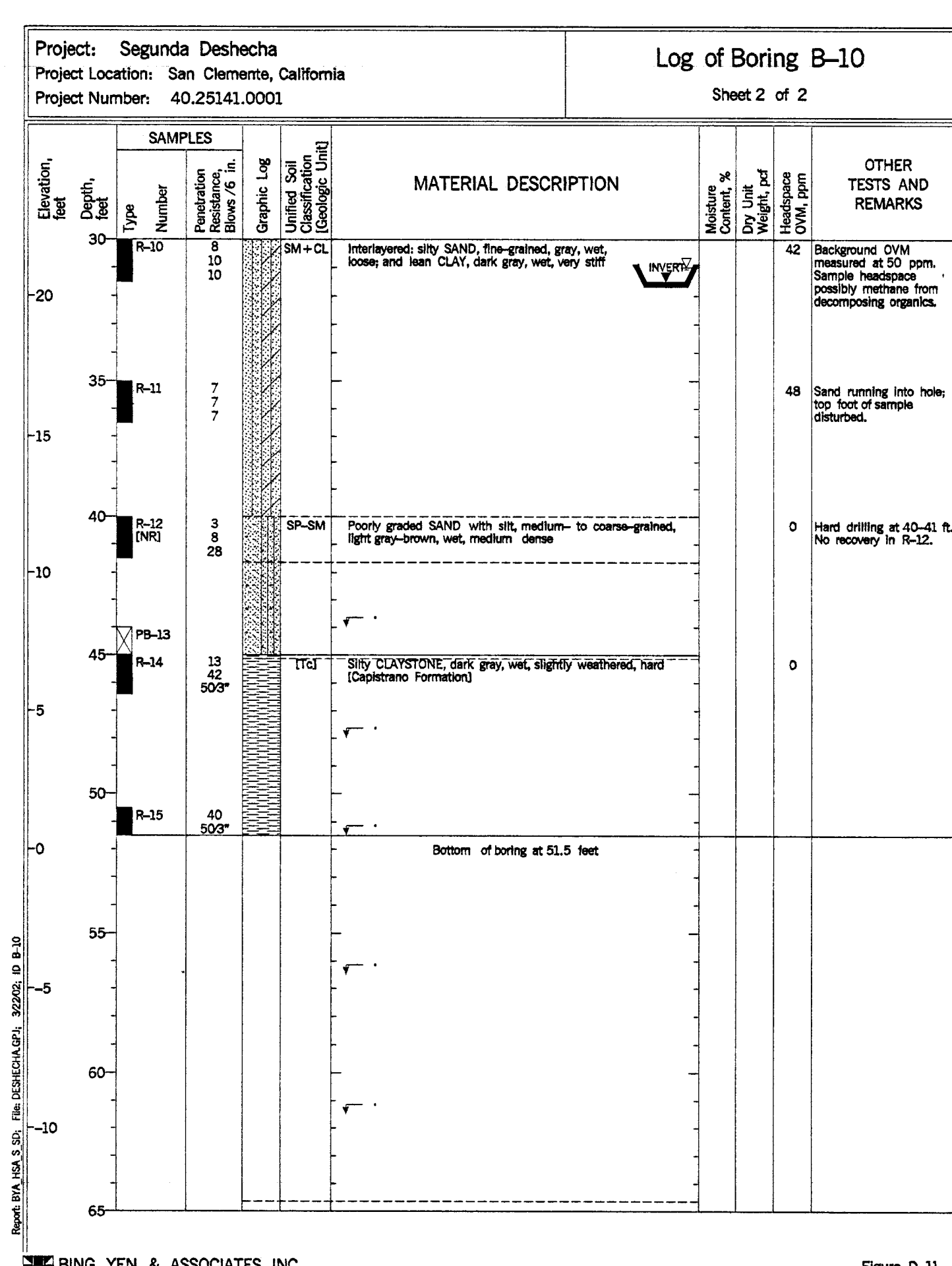
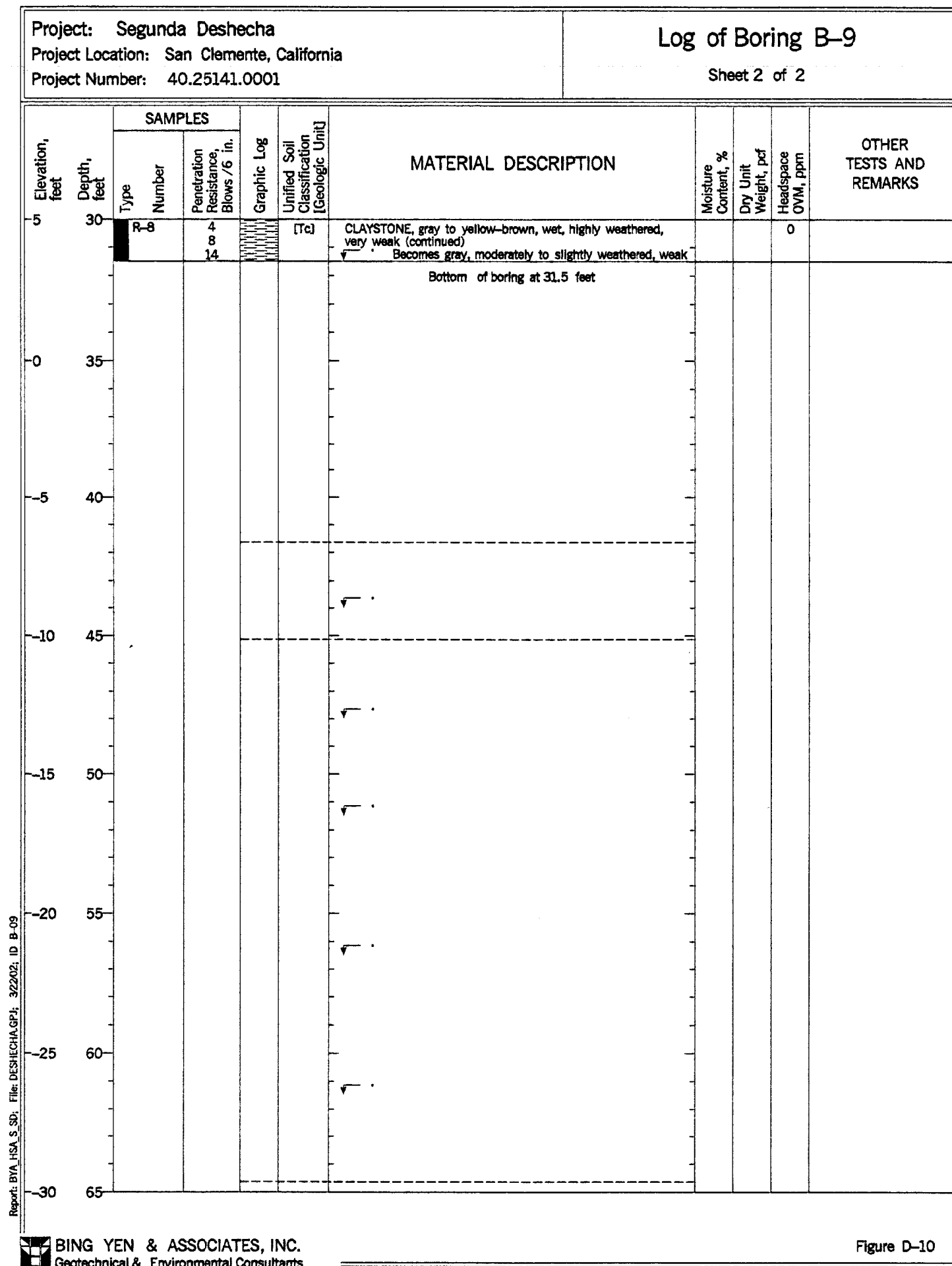
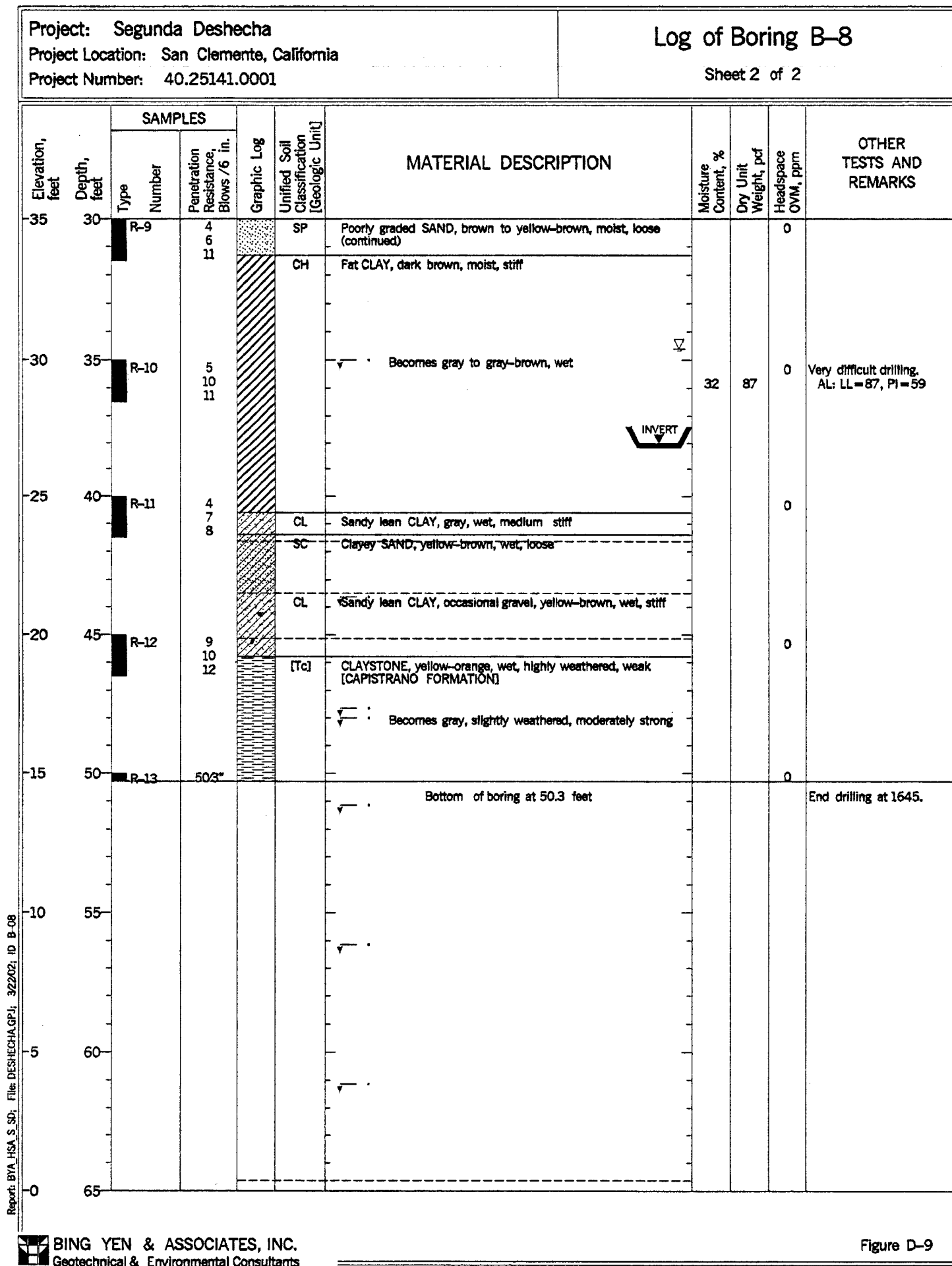


SOURCE: GEOTECHNICAL INVESTIGATIONS PROPOSED CHANNEL REPLACEMENT SEGUNDA DECHECHA CANADA FLOOD CONTROL CHANNEL (M02) SAN CLEMENTE, CA. AUGUST 2000, BY BING YEN & ASSOCIATES, INC. A SUBSIDIARY OF ATC GROUP SERVICES, INC.

RECORD DRAWING

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02	
BORING LOGS	
DESIGNED	CHECKED
DRAWN	DATE
SCALE	DRAWING NO.
AS SHOWN	DATE
SHEET 28 OF 42	

14 107
MO2-101-4 R



SOURCE: GEOTECHNICAL INVESTIGATIONS PROPOSED CHANNEL REPLACEMENT SEGUNDA DECHECHA CANADA FLOOD CONTROL CHANNEL (MO2) SAN CLEMENTE, CA. AUGUST 2000, BY BING YEN & ASSOCIATES, INC. A SUBSIDIARY OF ATC GROUP SERVICES, INC.

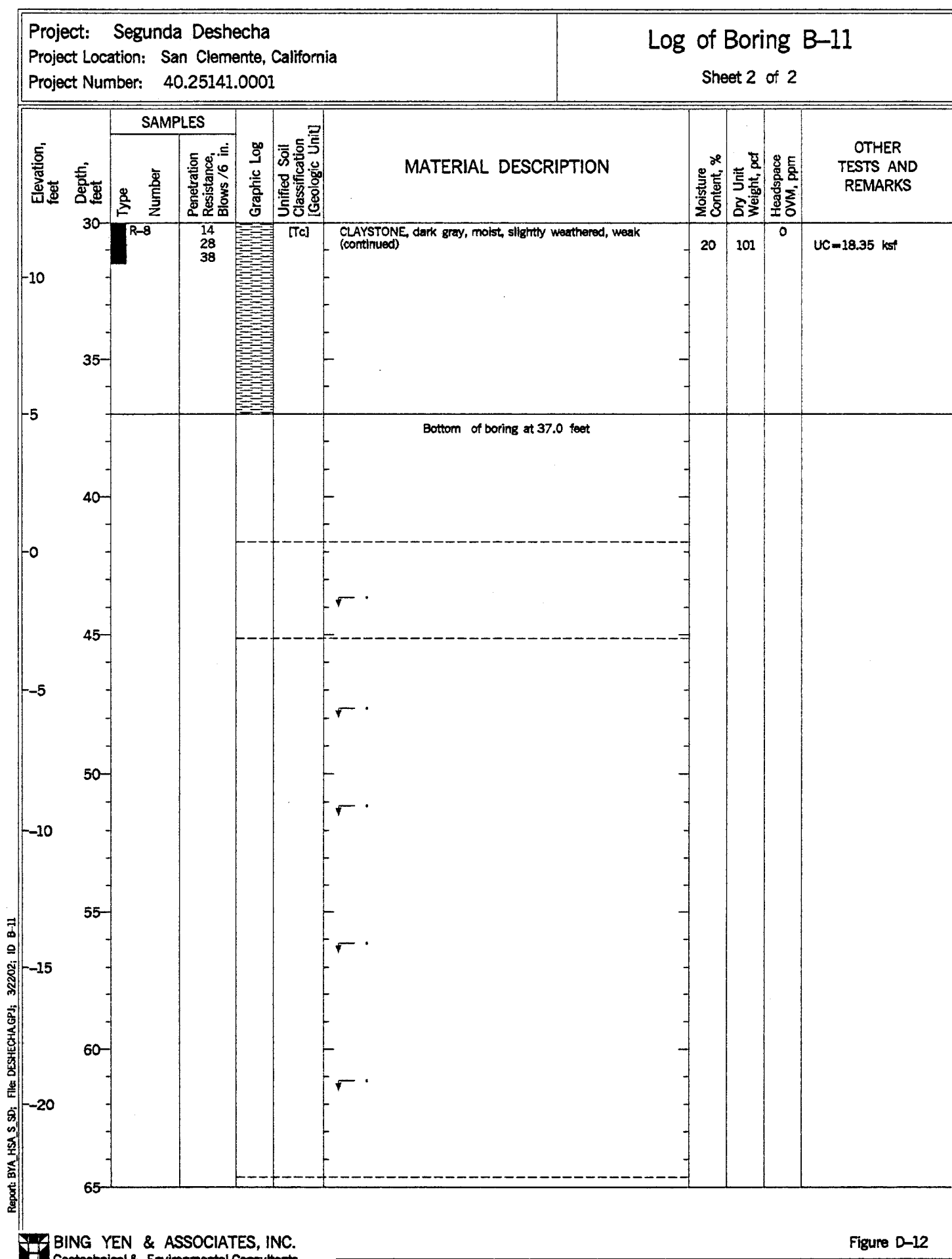
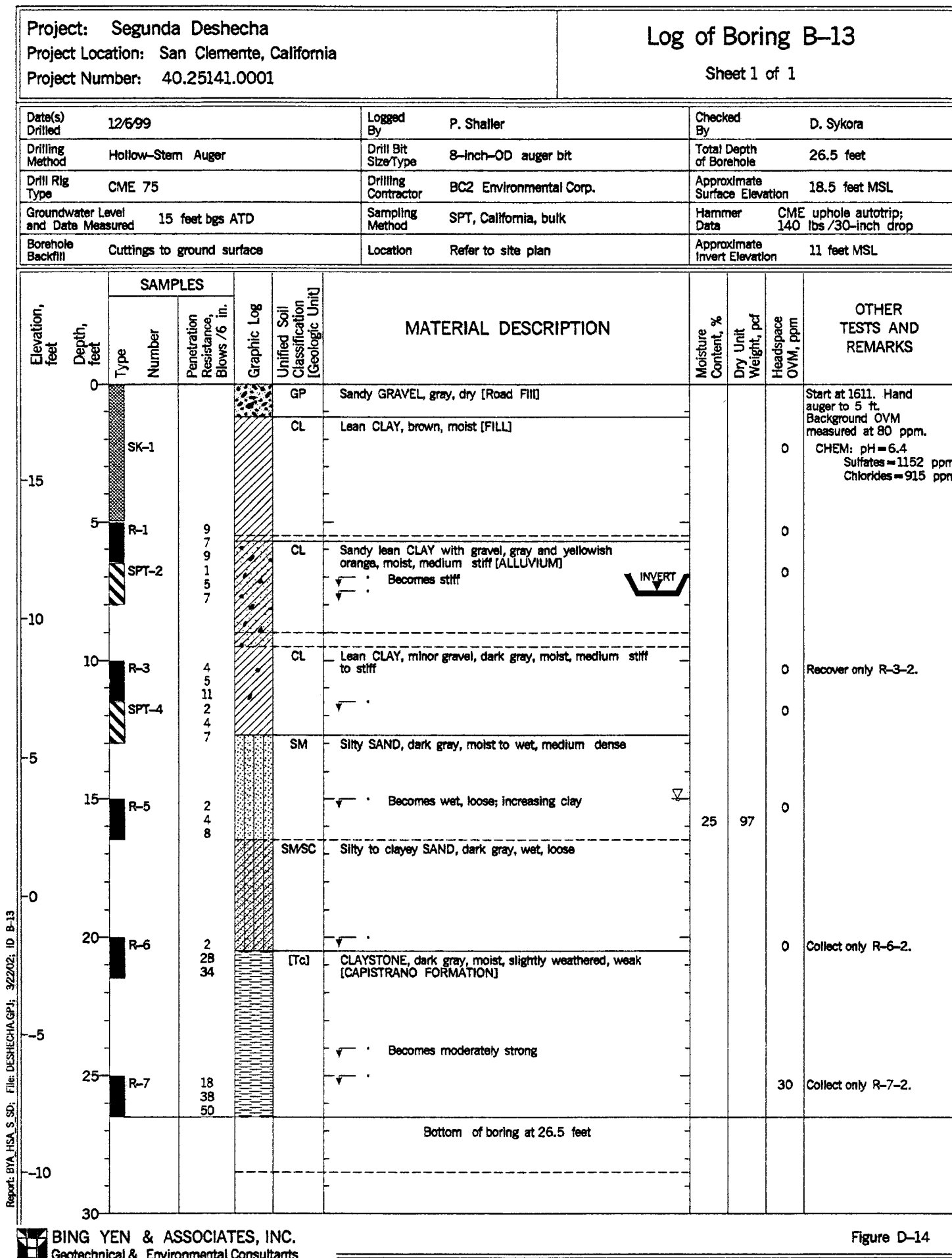
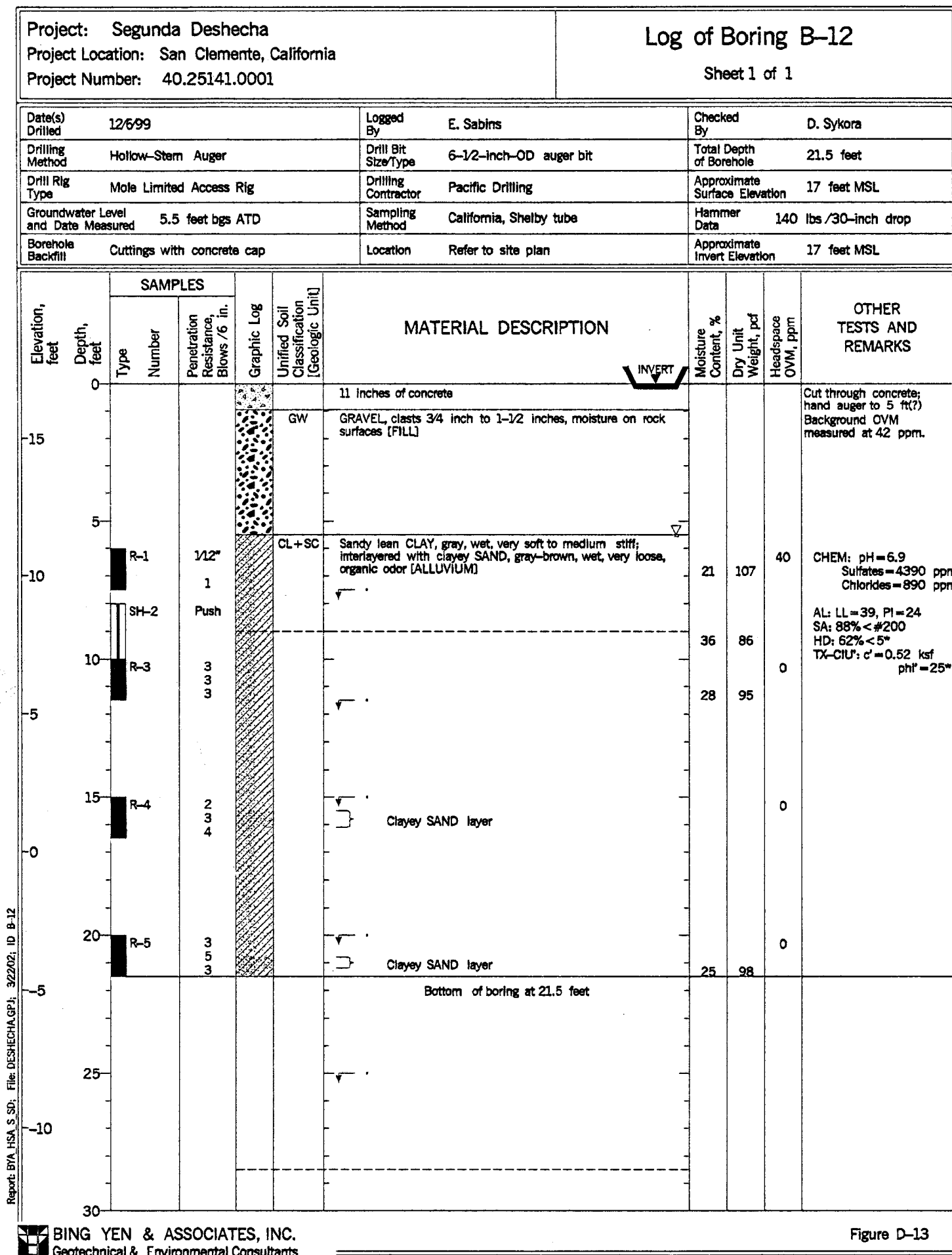
RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCCFD FACILITY - MO2	
BORING LOGS	
DESIGNED DRAWN: R.H. DE GUZMAN	CHECKED: N. MAJAJ
SCALE AS SHOWN	DATE 1/7/03
DRAWING NO. MO2-101-4 R	
SHEET 29 OF 42	

15 M2
M02-101-4 R

32
42



SOURCE: GEOTECHNICAL INVESTIGATIONS PROPOSED
CHANNEL REPLACEMENT SEGUNDA DECHECHA
CANADA FLOOD CONTROL CHANNEL (M02)
SAN CLEMENTE, CA. AUGUST 2000, BY BING
YEN & ASSOCIATES, INC. A SUBSIDIARY
OF ATC GROUP SERVICES, INC.

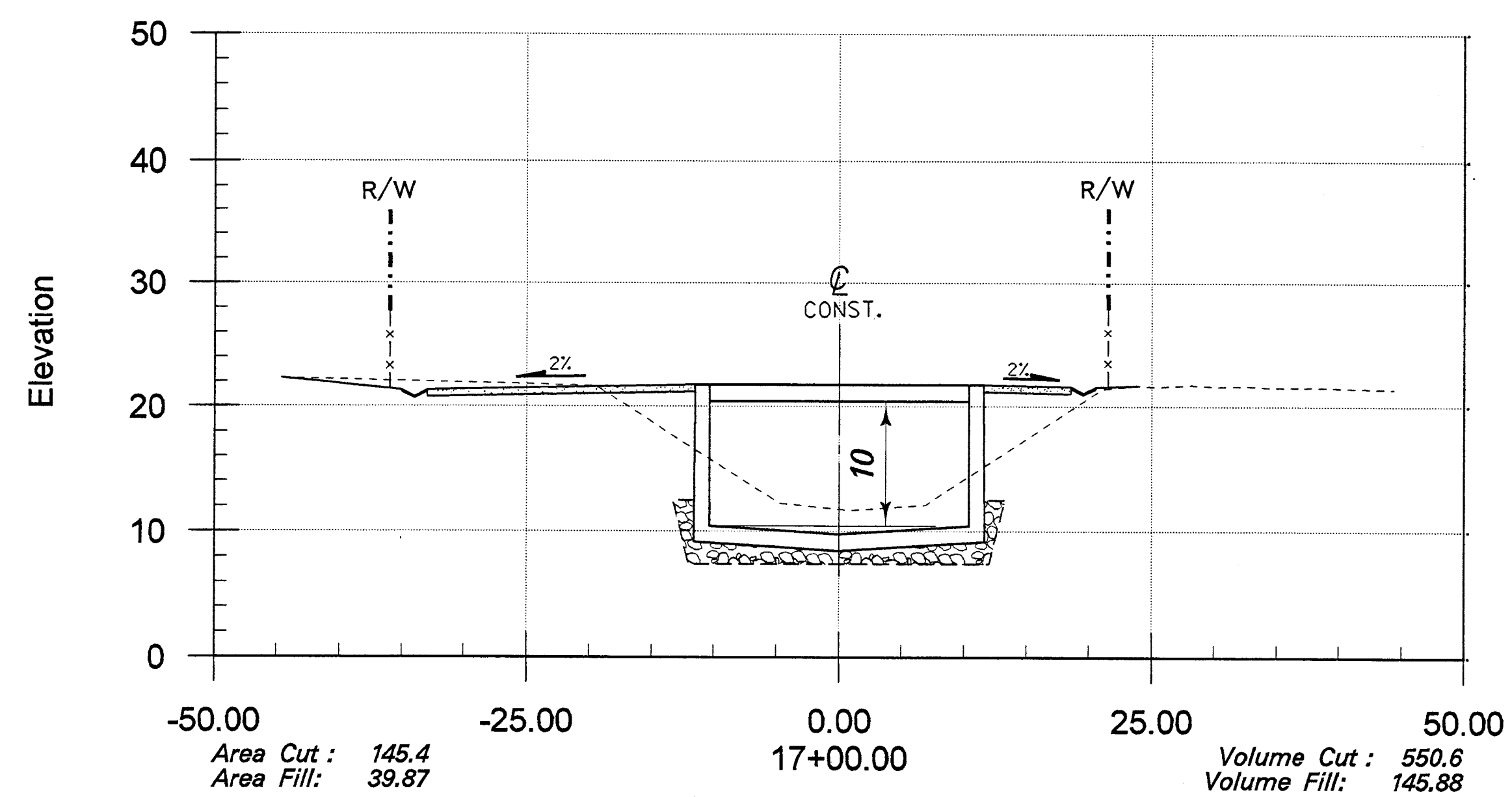
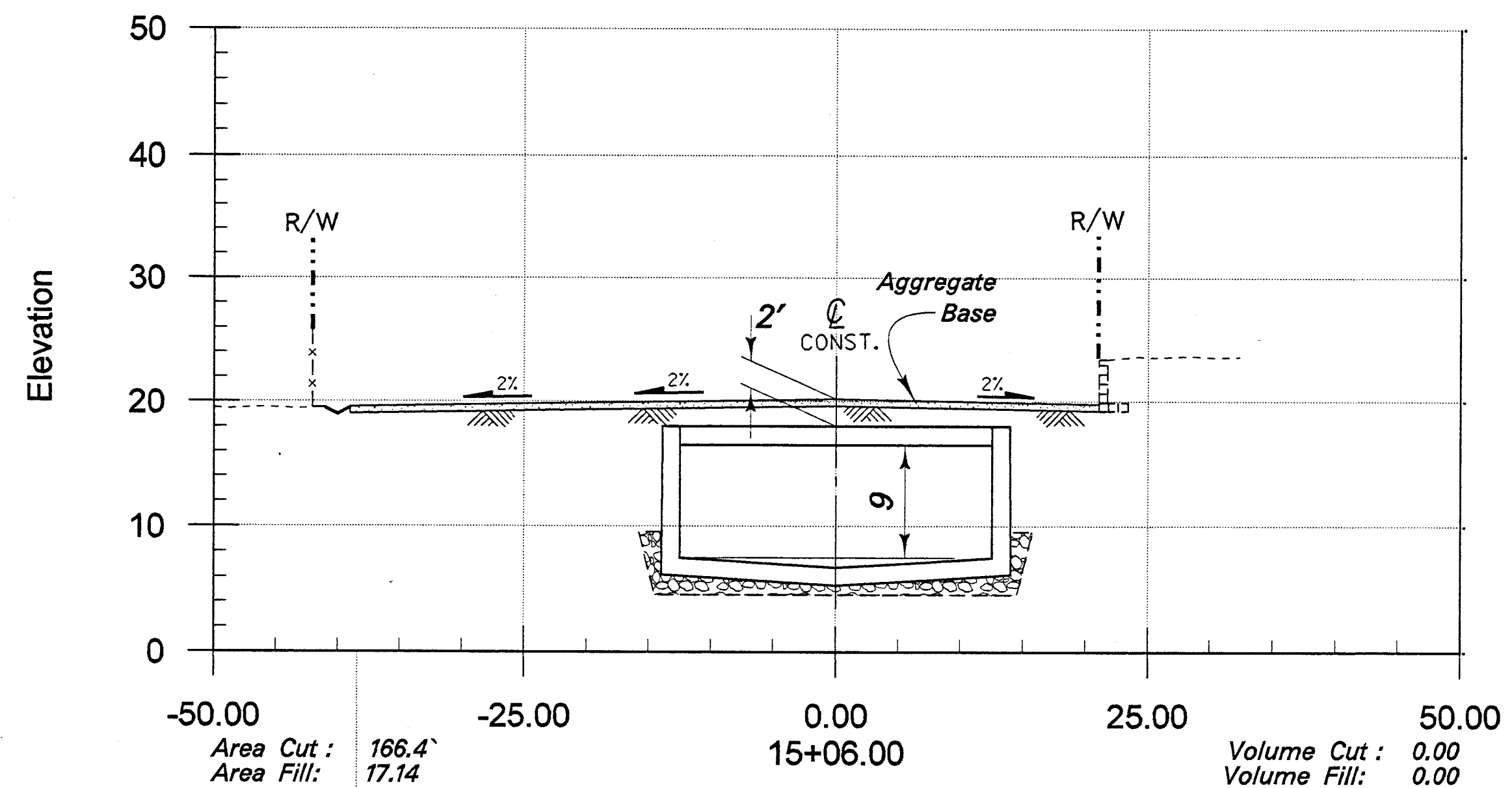
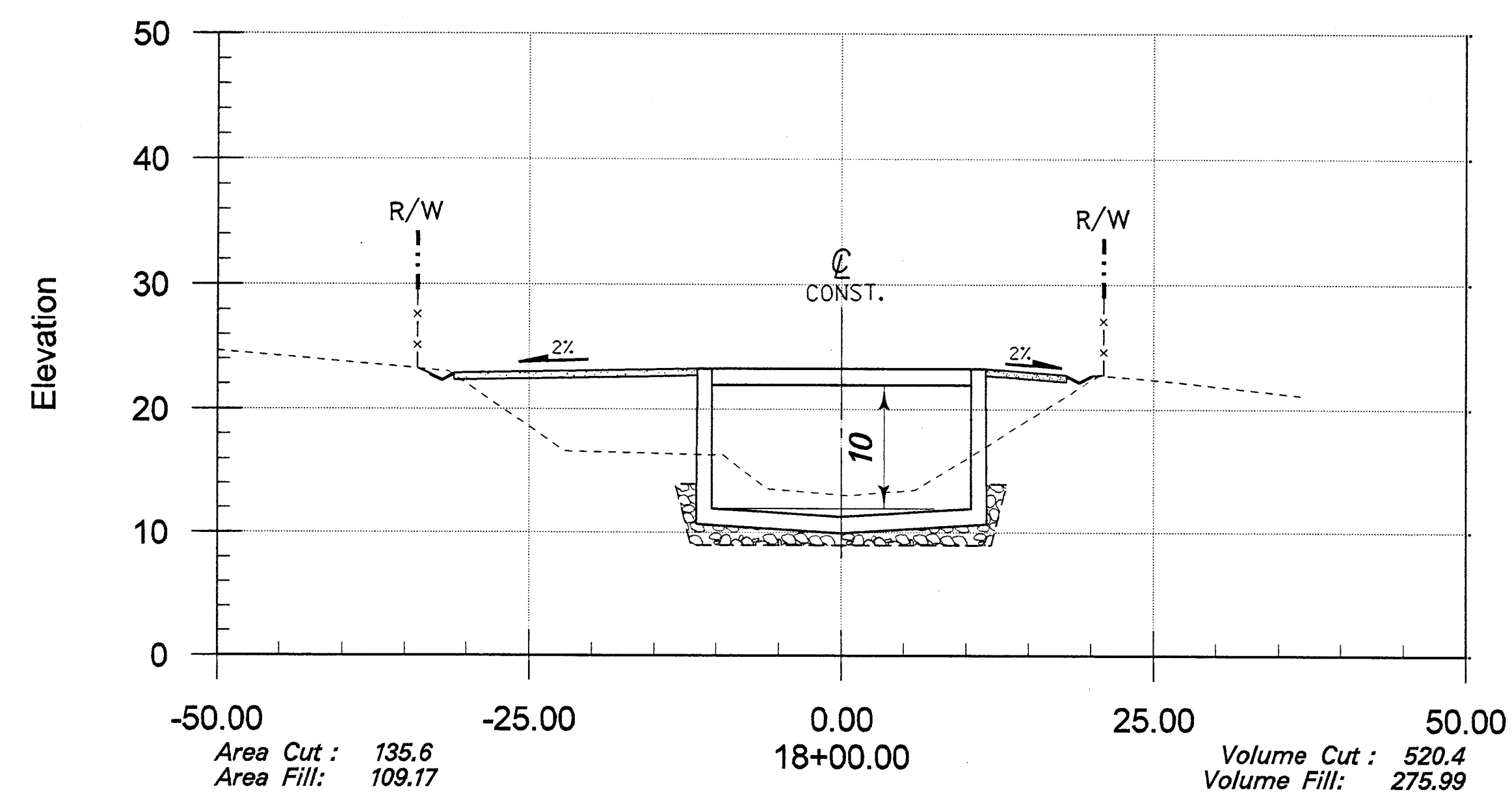
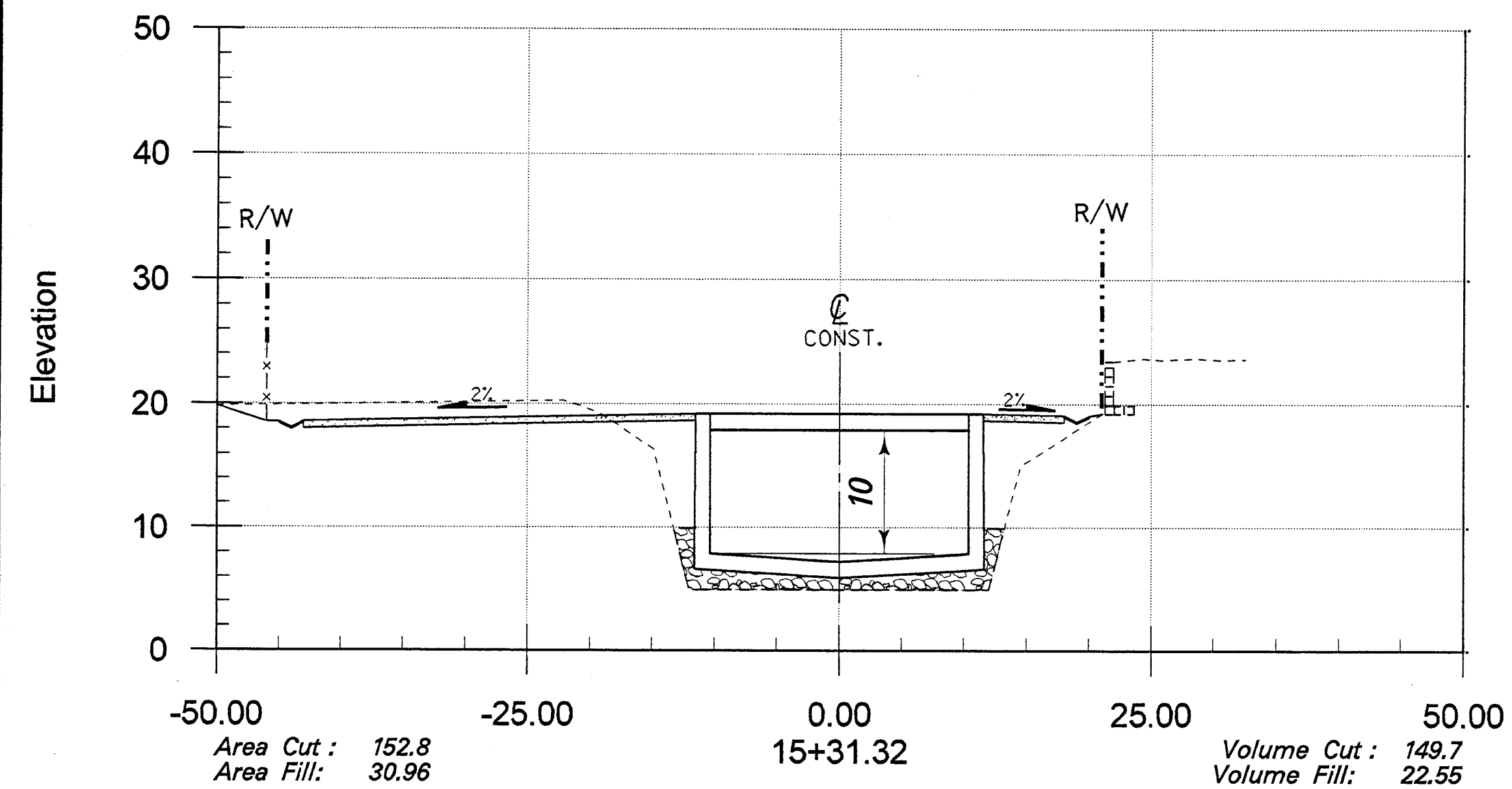
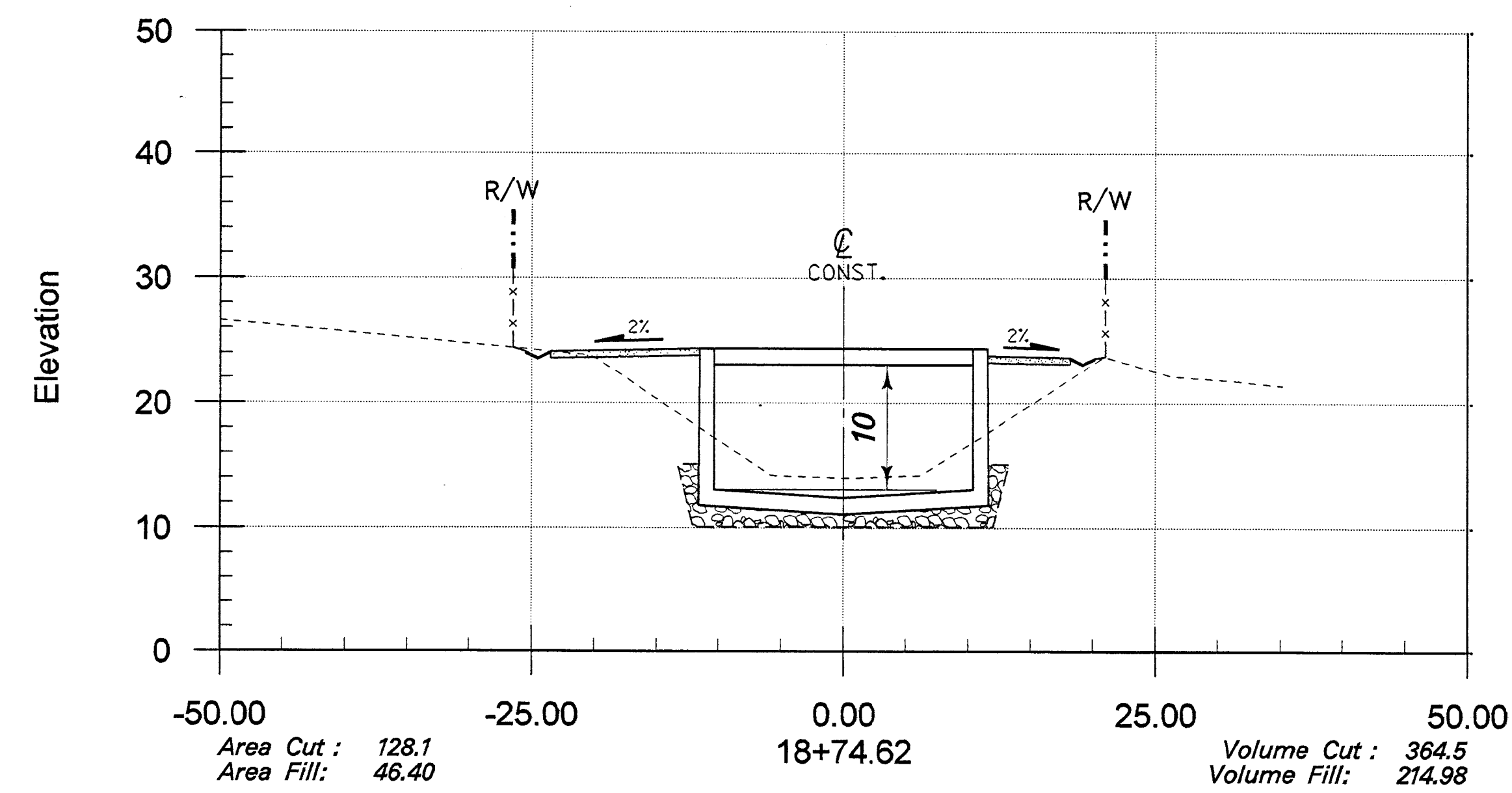
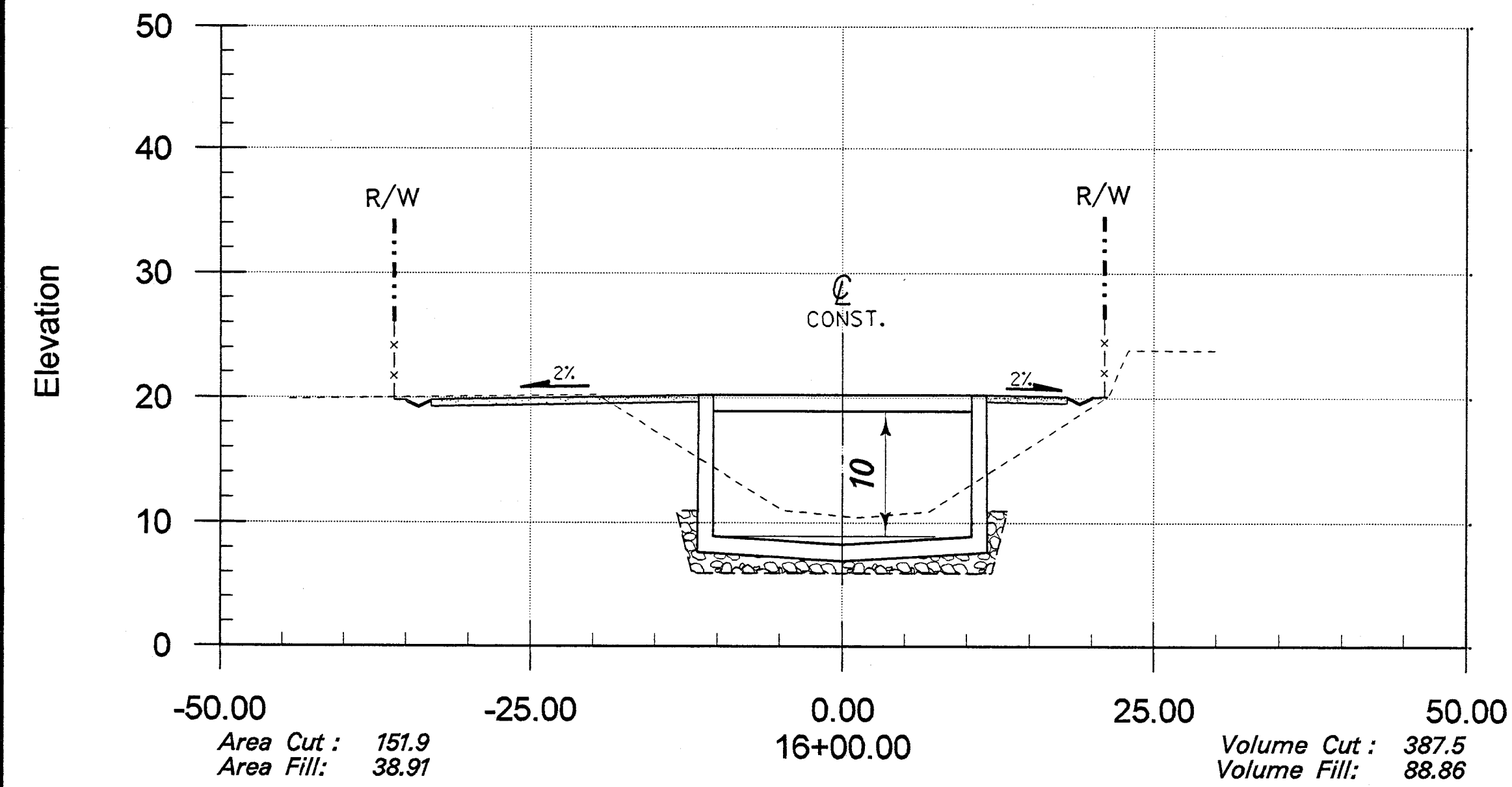
RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY - M02	
BORING LOGS	
DESIGNED DRAWN R.H. DE GUZMAN SCALE AS SHOWN	CHECKED N. MAJAJ DATE 1/7/03 DRAWING NO. M02-101-4 R
SHEET 30 OF 42	

14-000
M02-101-4 R

31 42



RECORD DRAWING

SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL

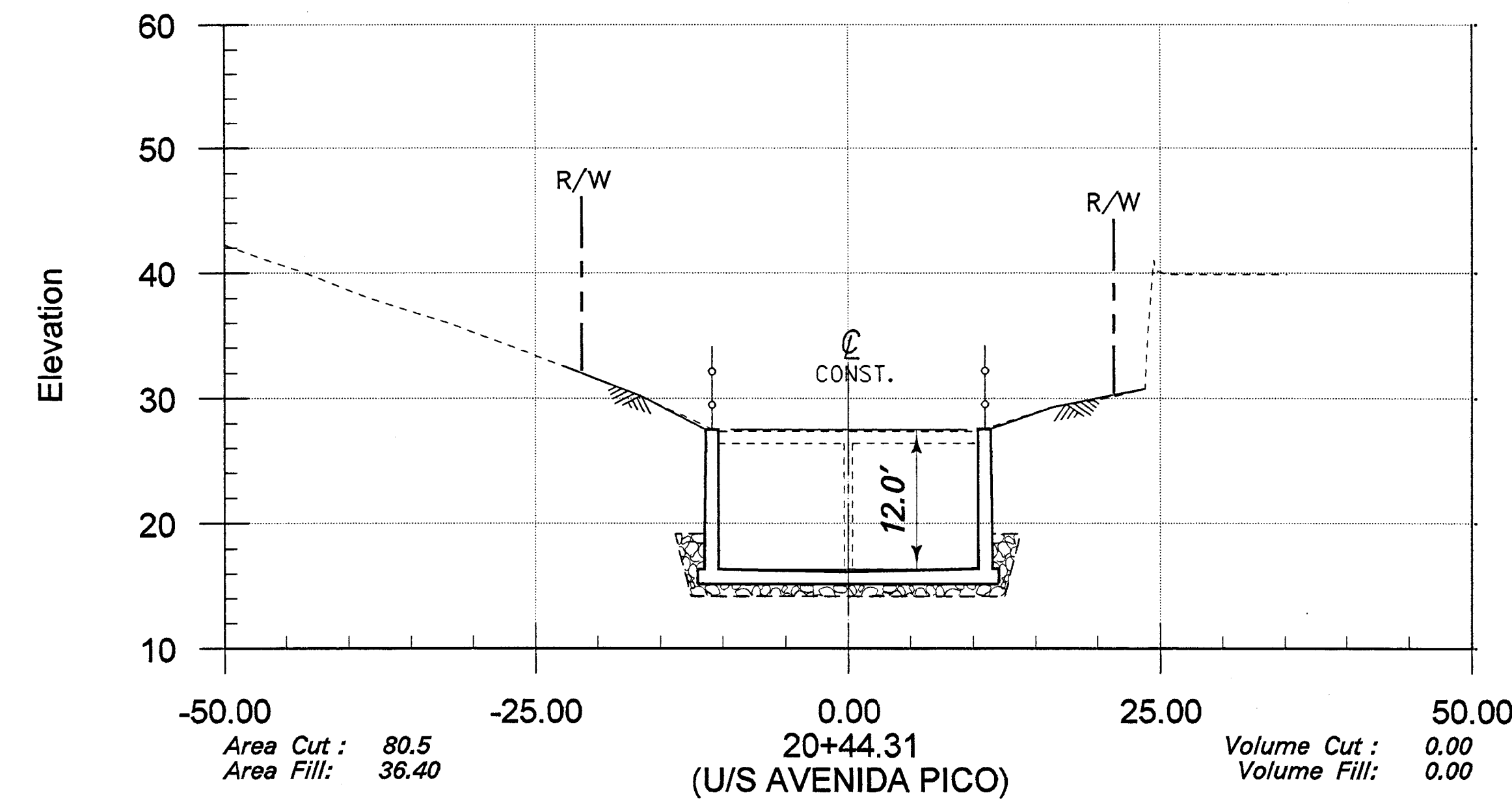
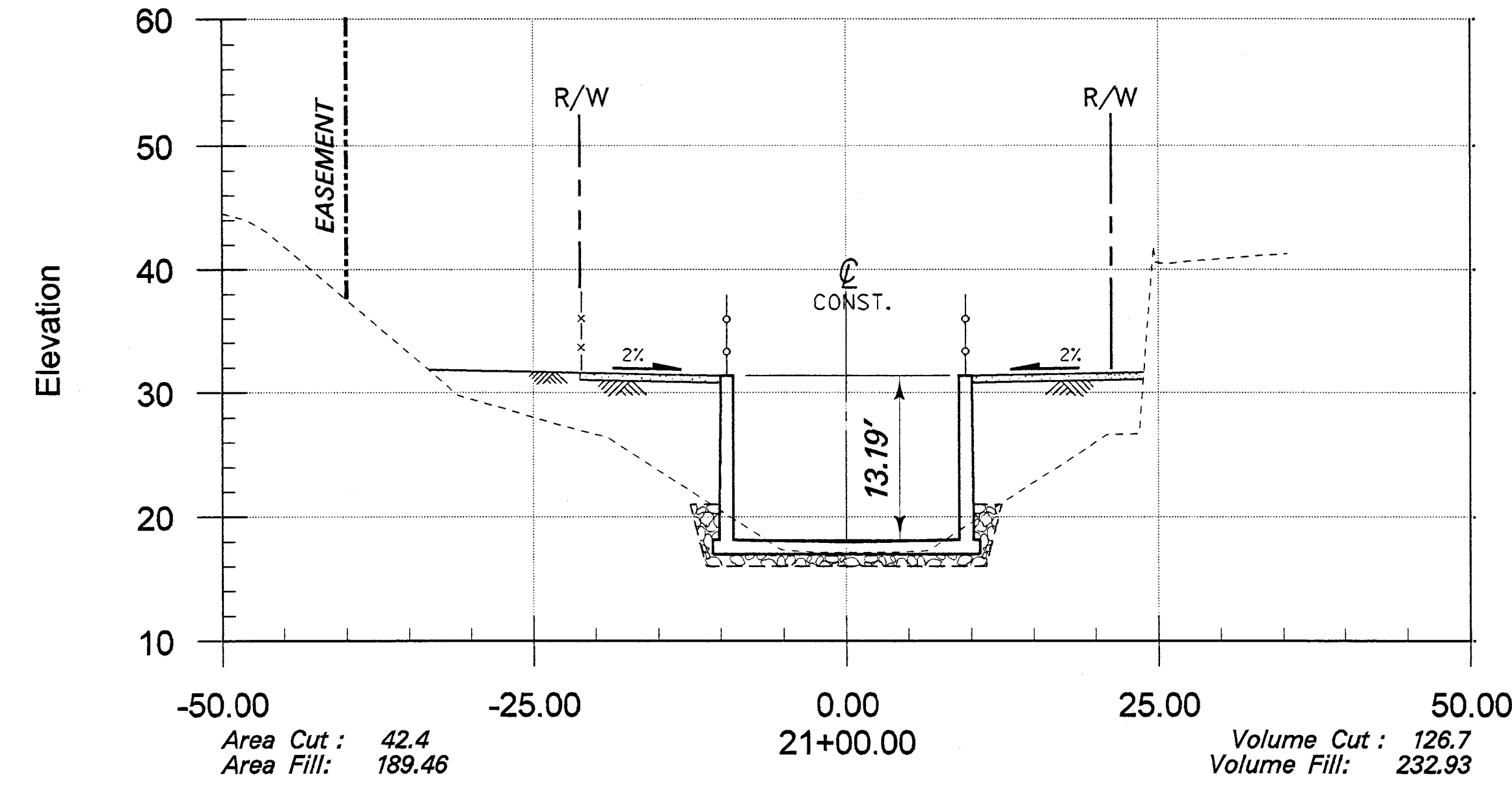
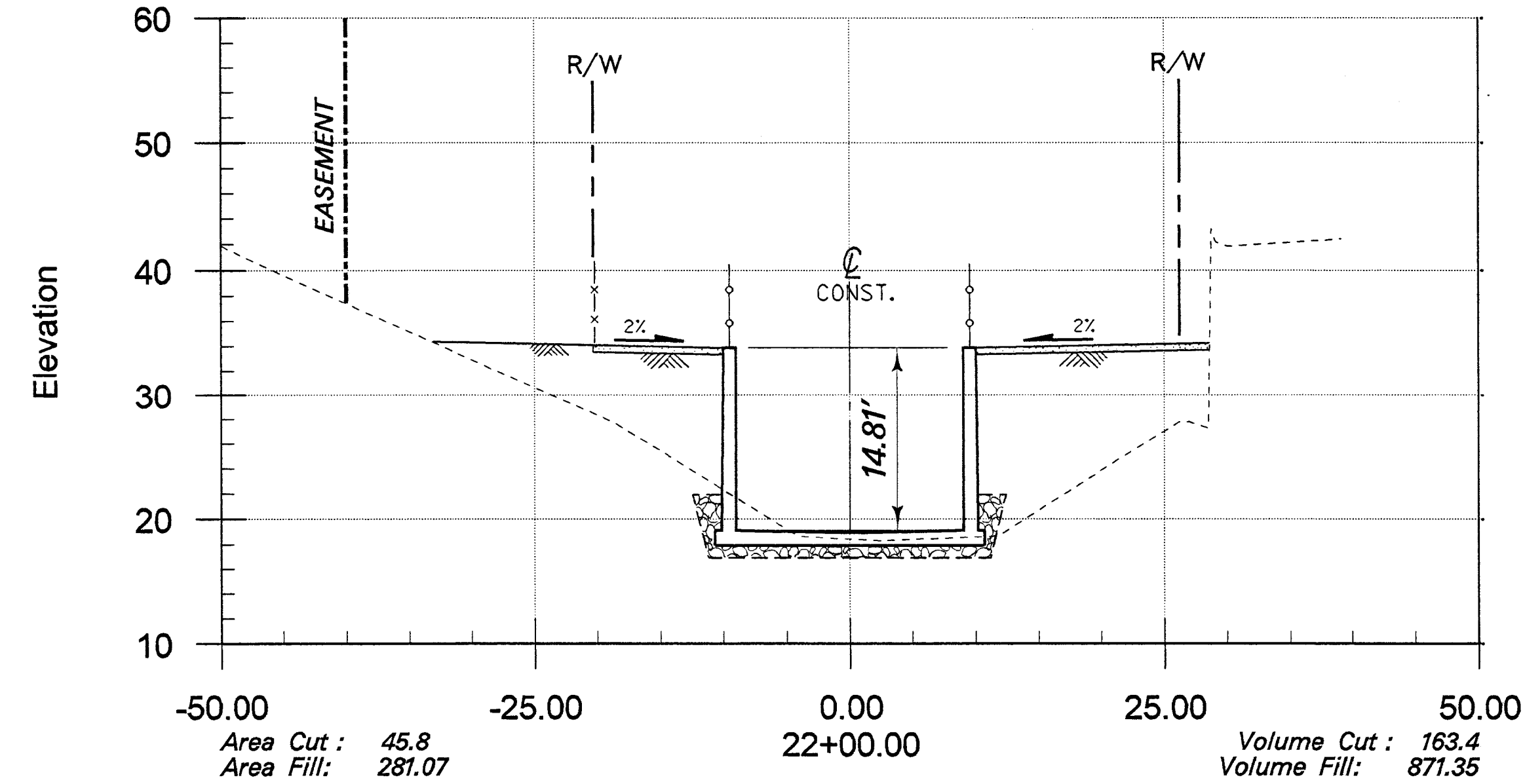
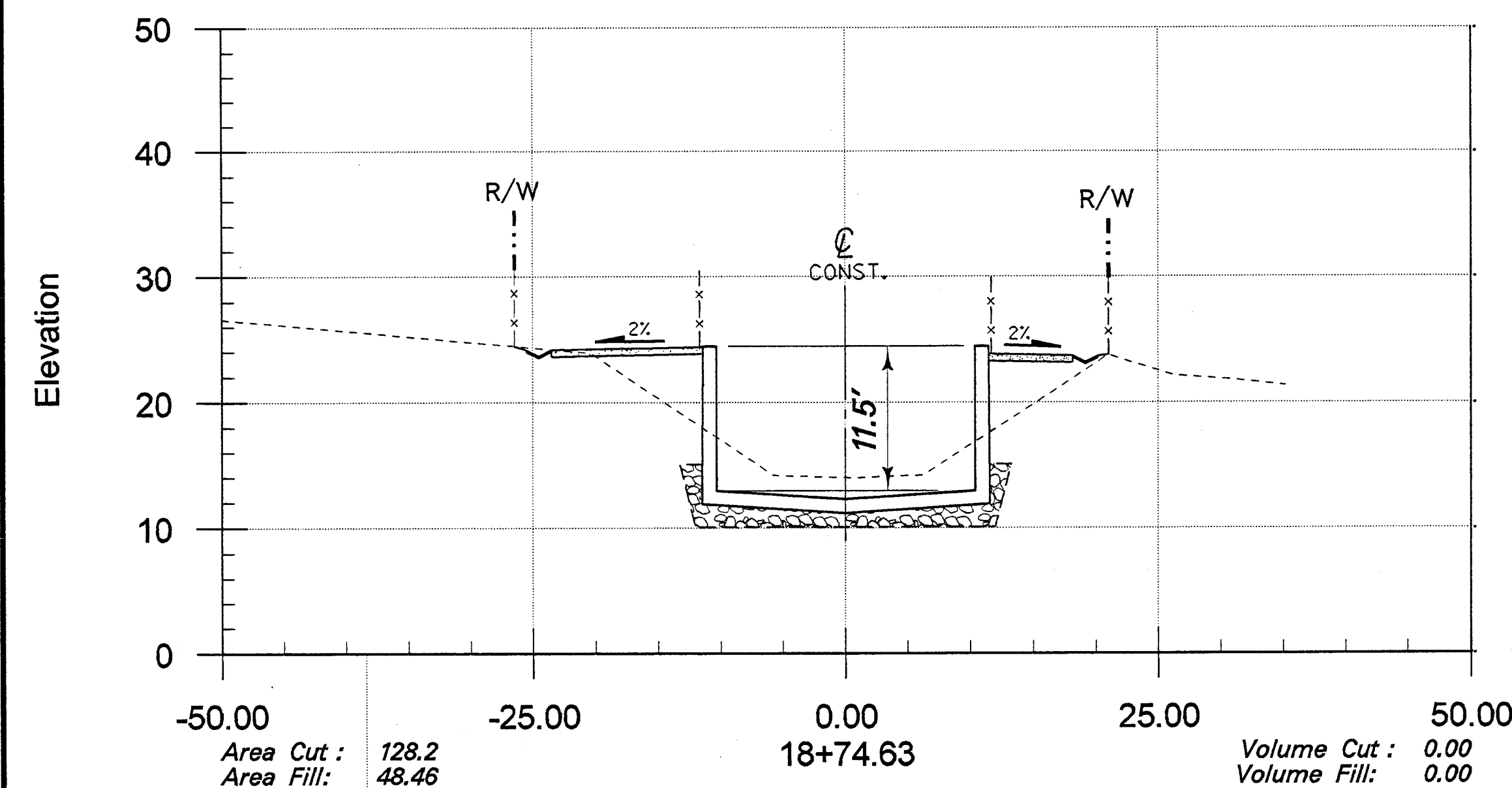
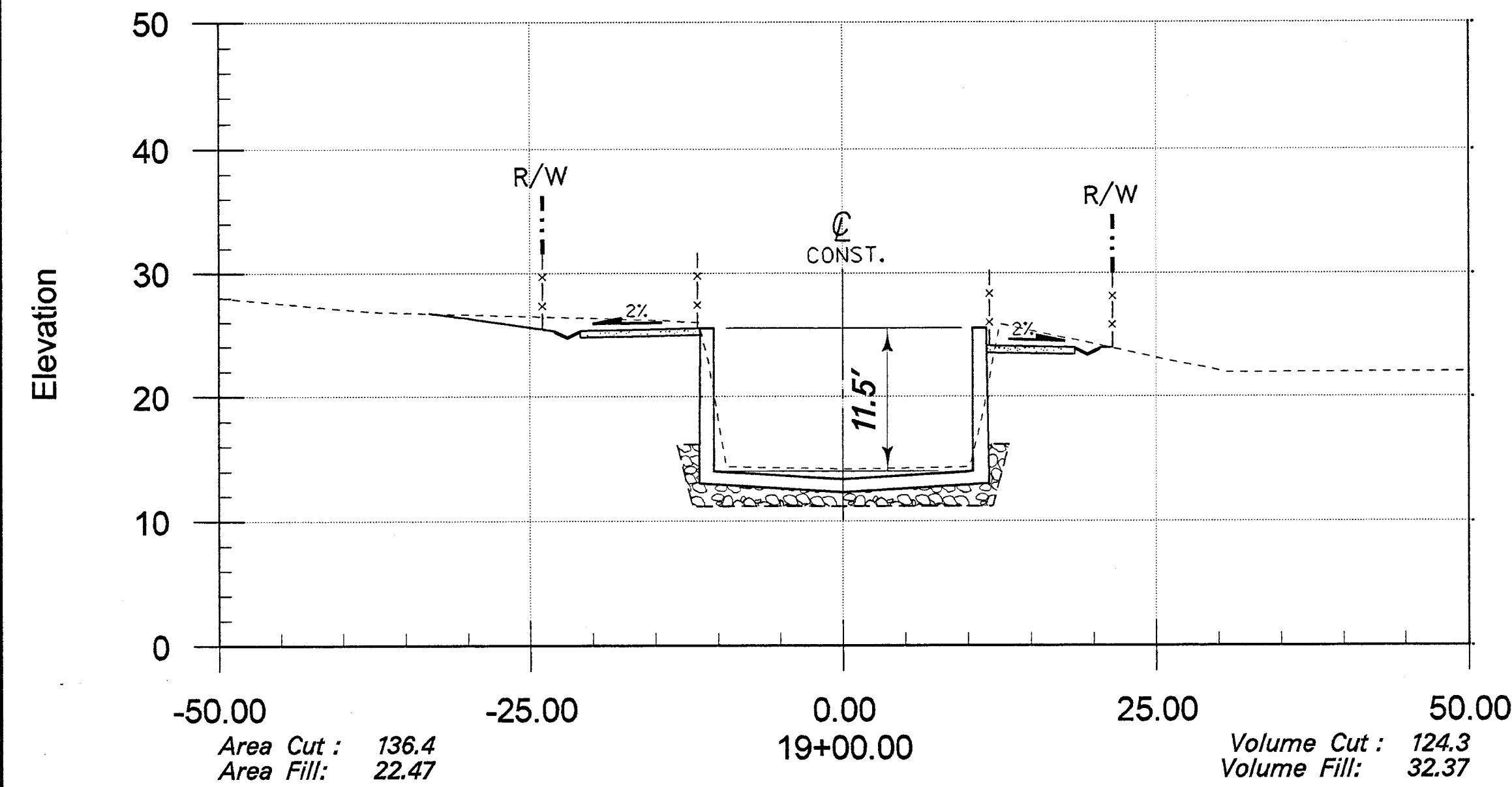
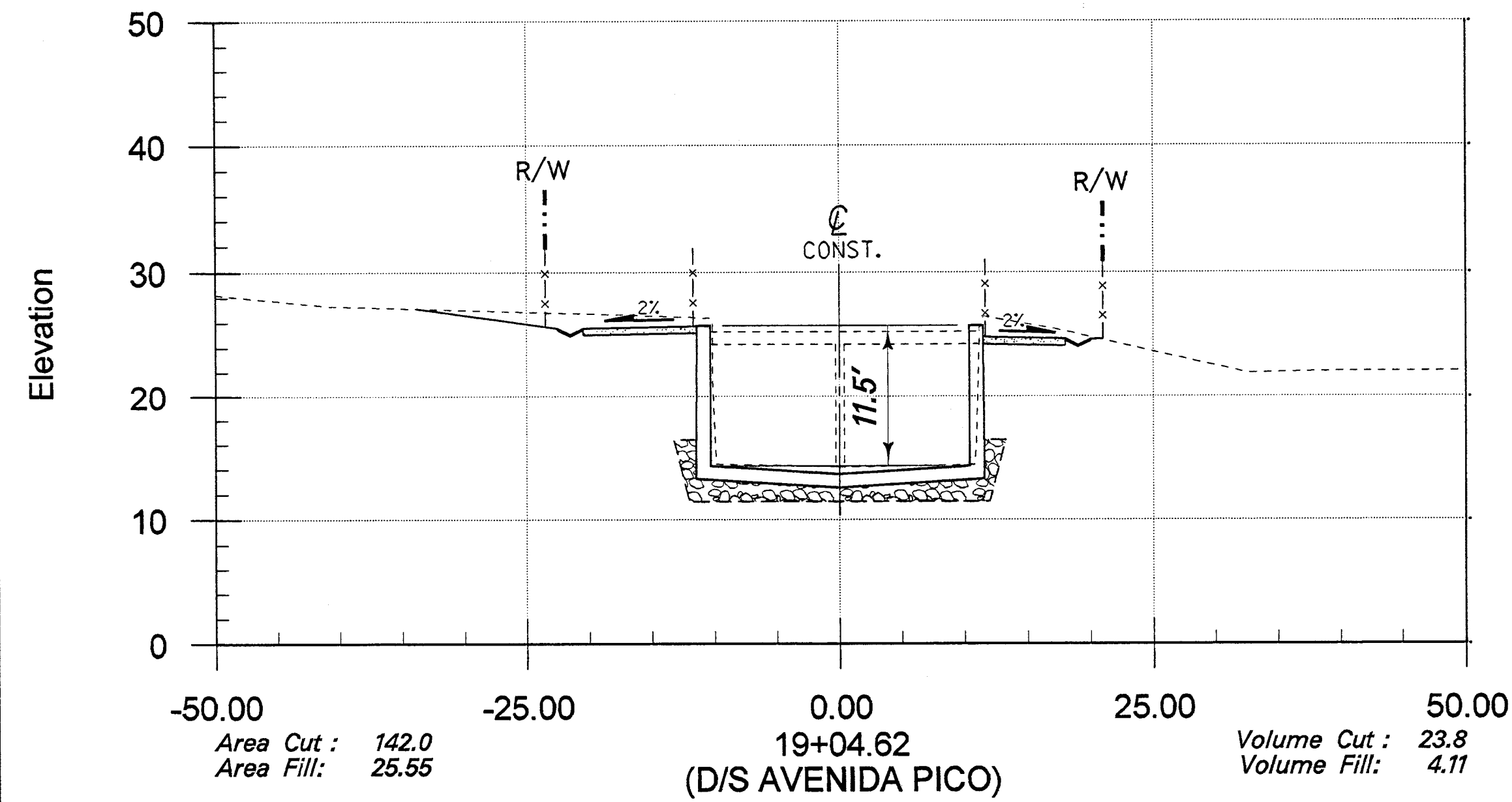
1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 15+06.00 TO STA 18+74.62	
DESIGNED: R. GAUT	CHECKED: R.H. DE GUZMAN
SCALE: AS SHOWN	DATE: 1/7/03
DRAWING NO.: M02-101-4 R	SHEET 31 OF 42

14 1/2" R
M02-101-4 R

42

32



RECORD DRAWING

SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL

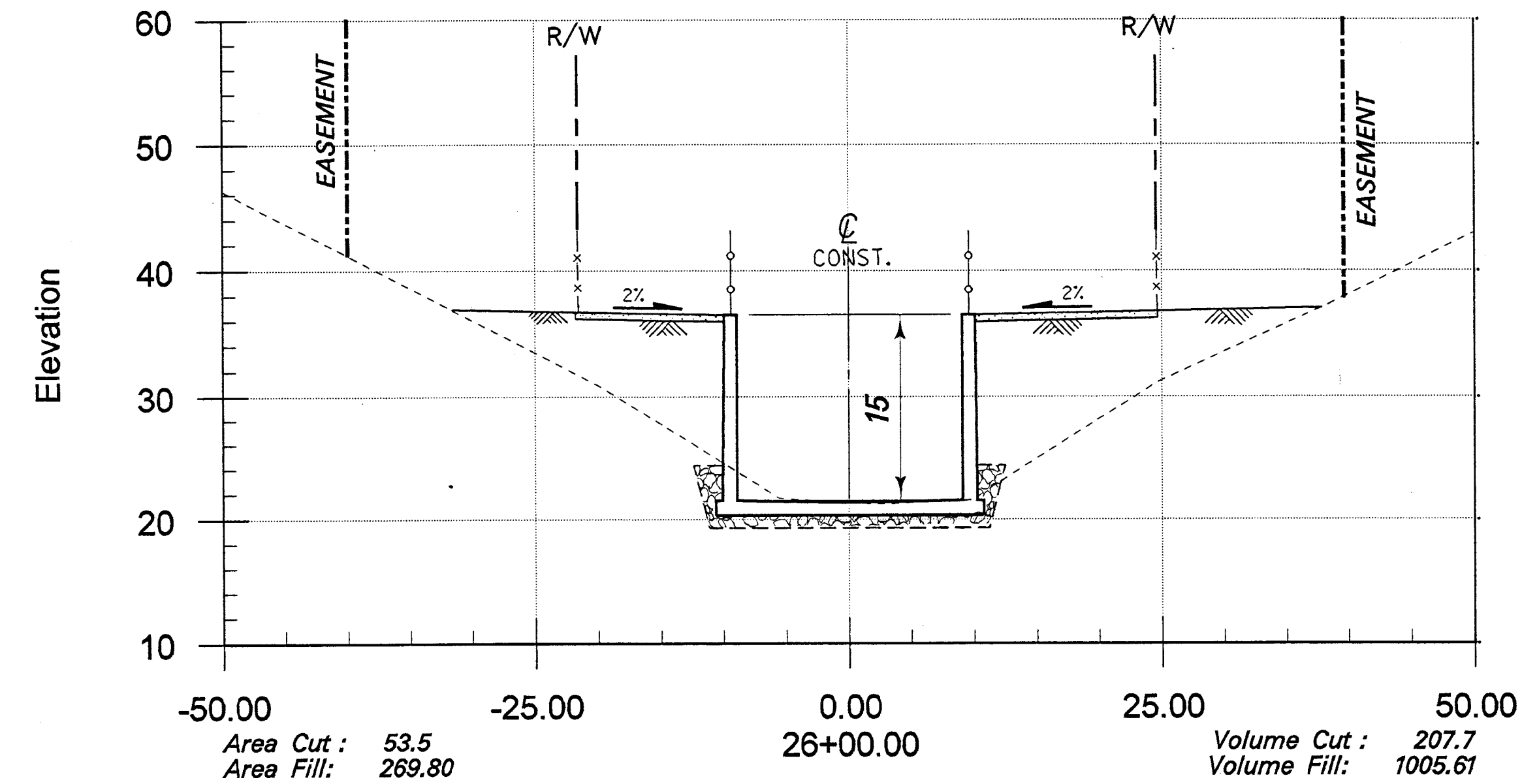
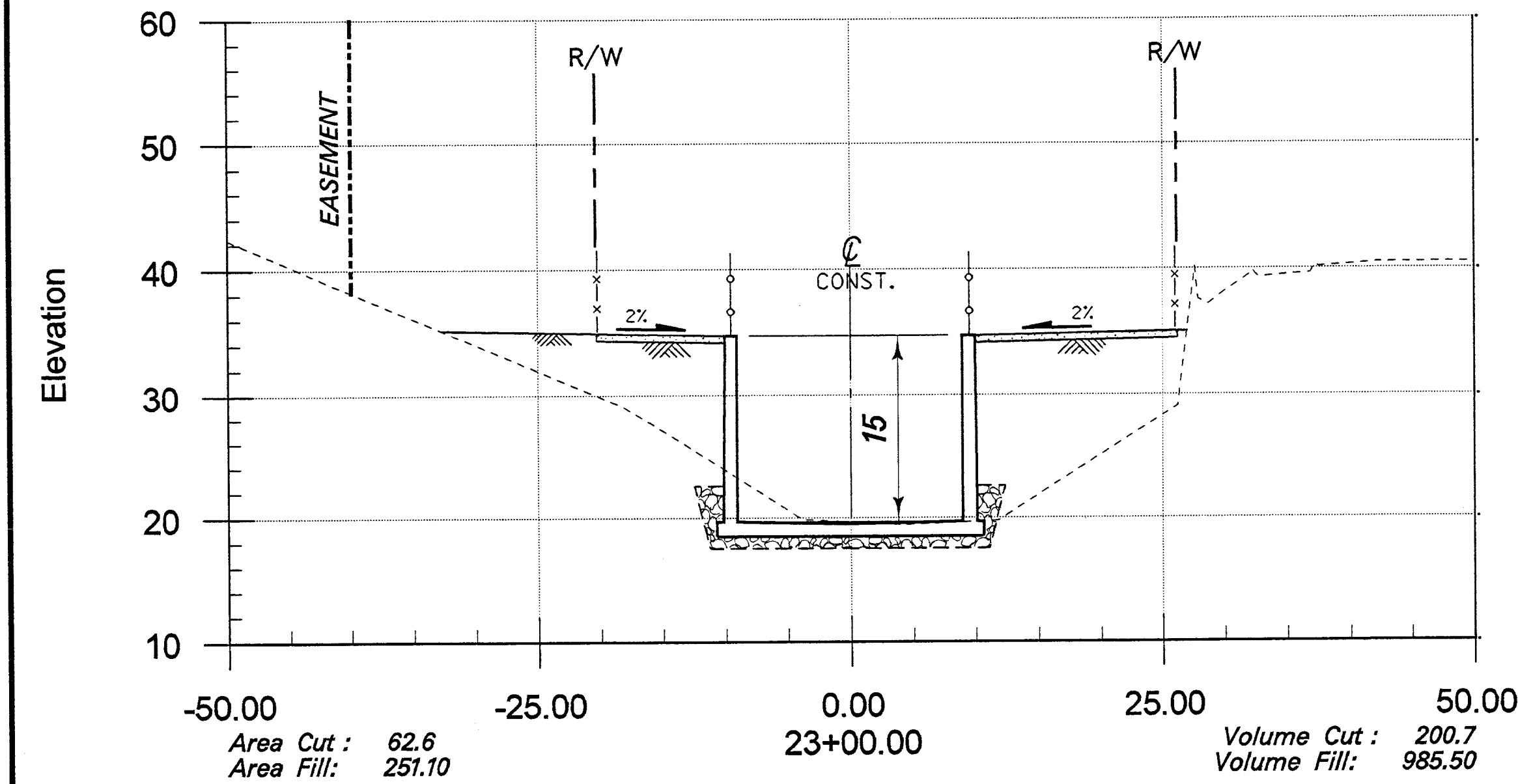
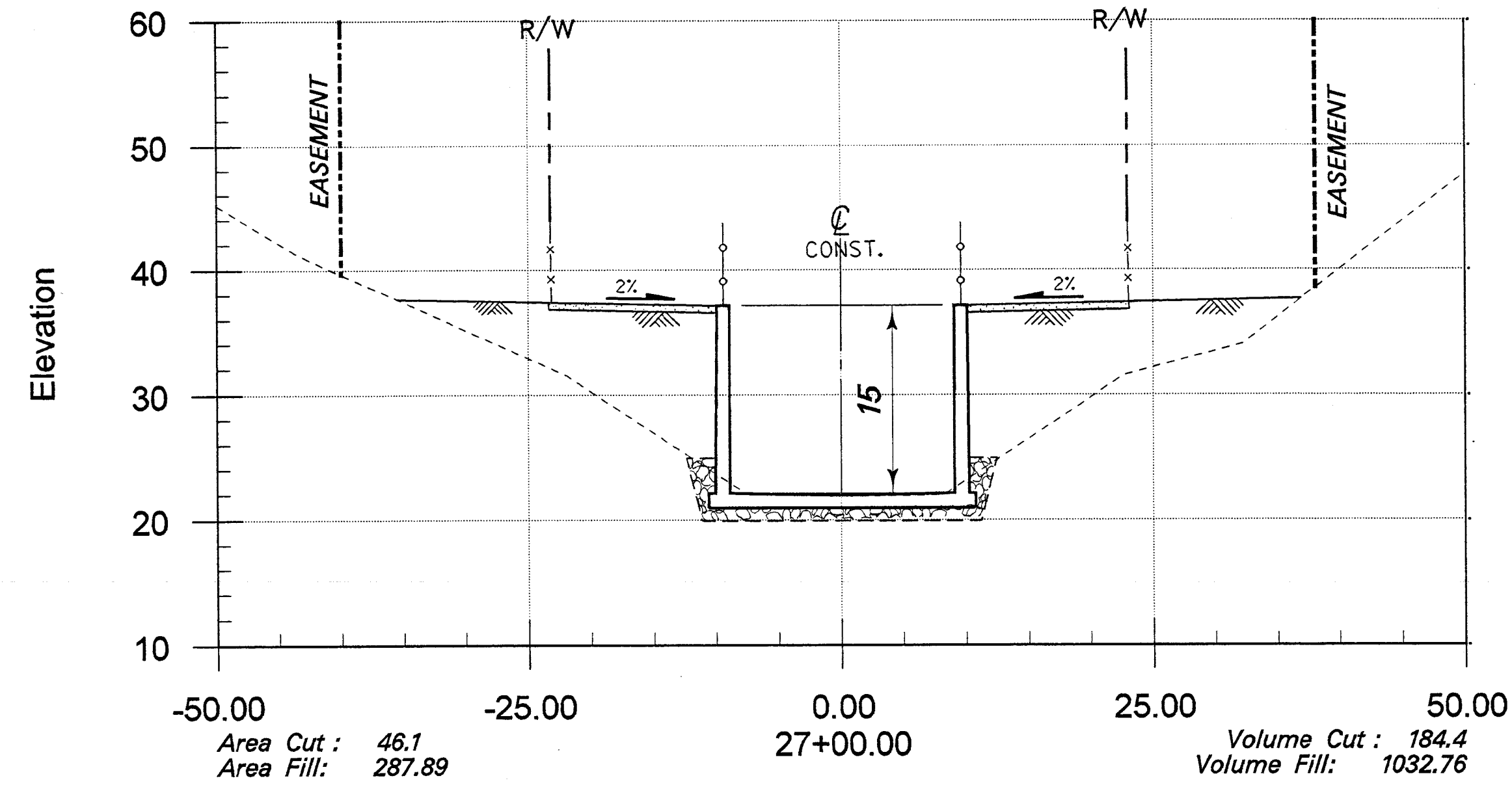
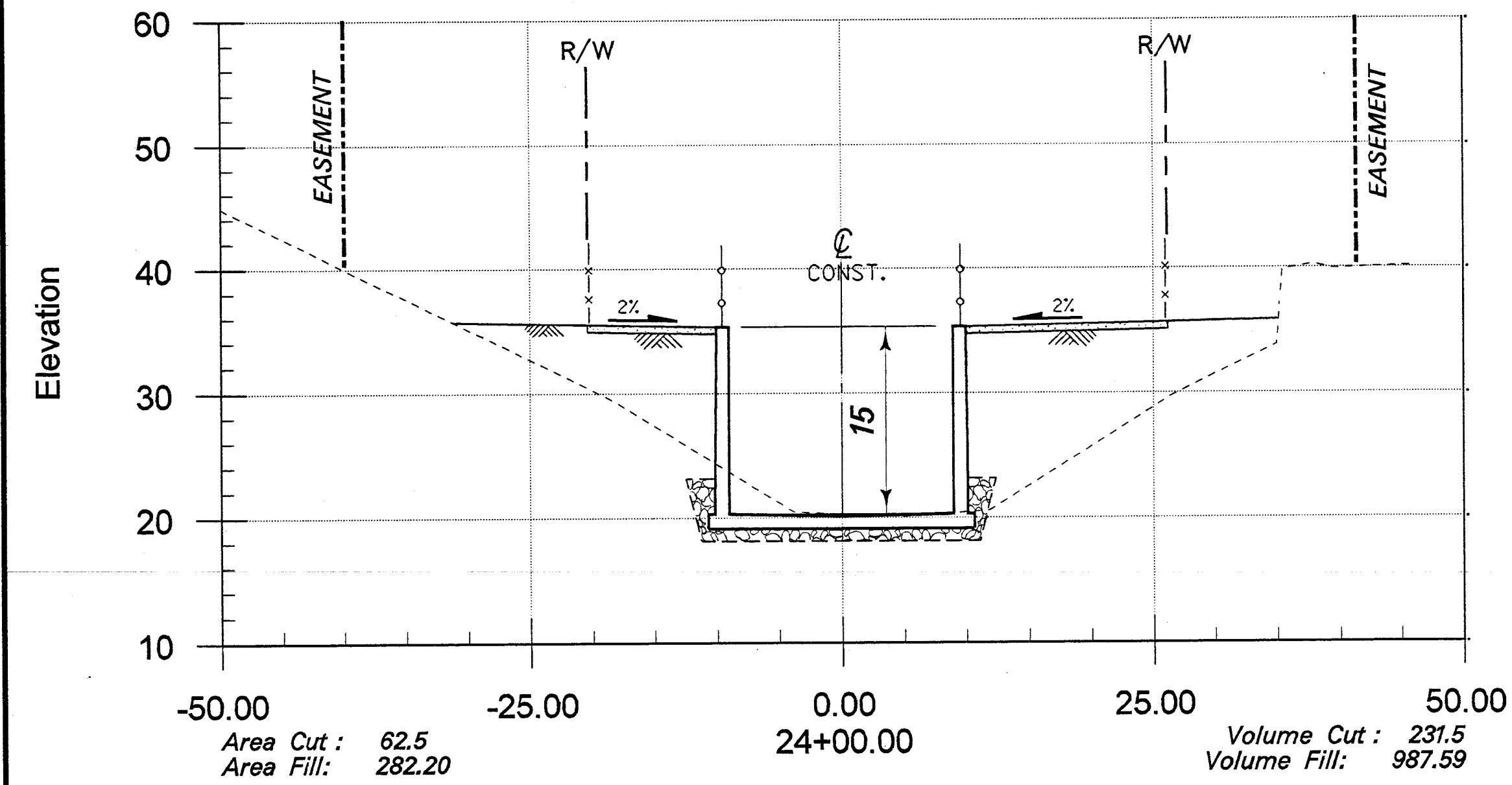
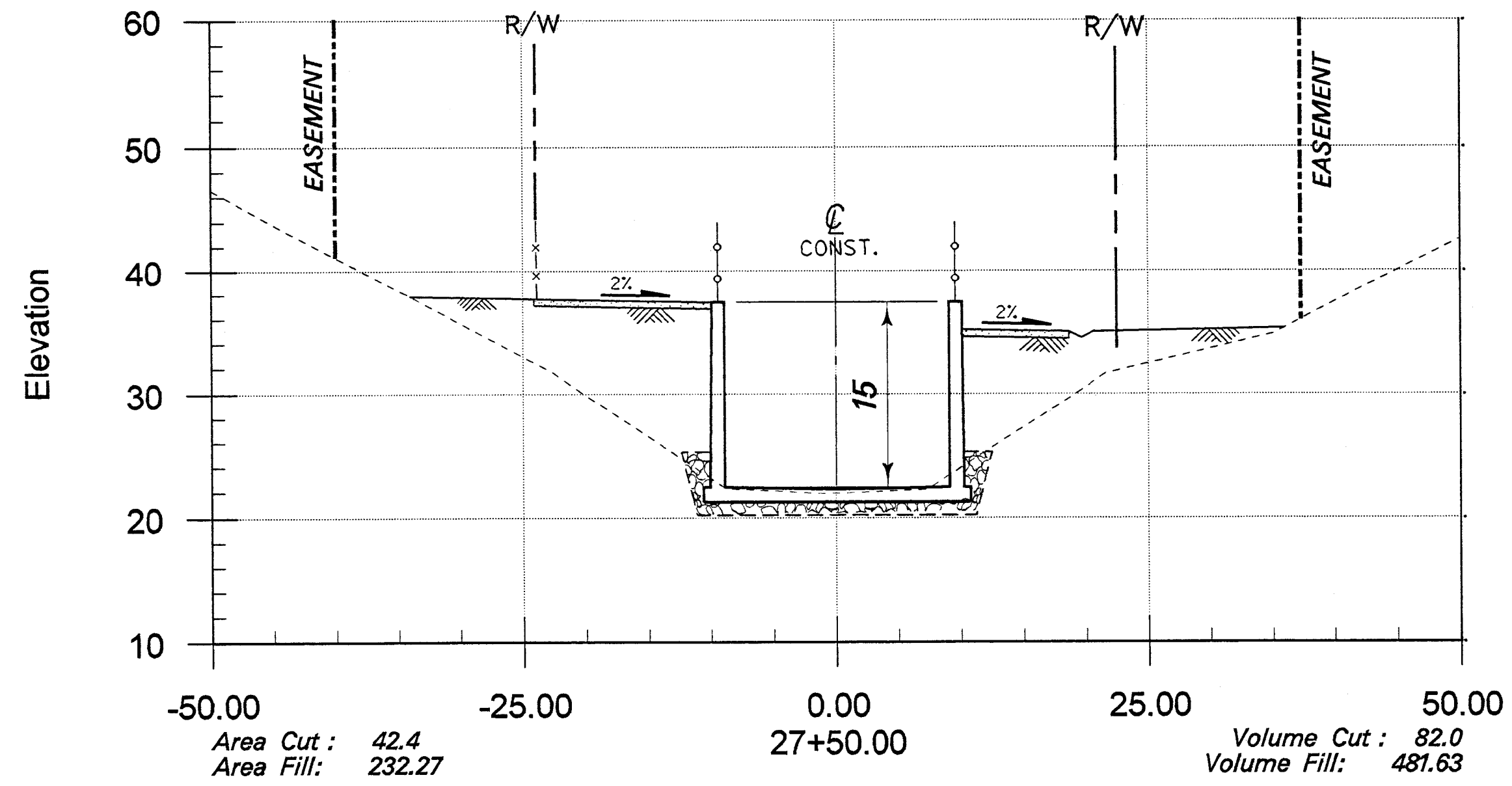
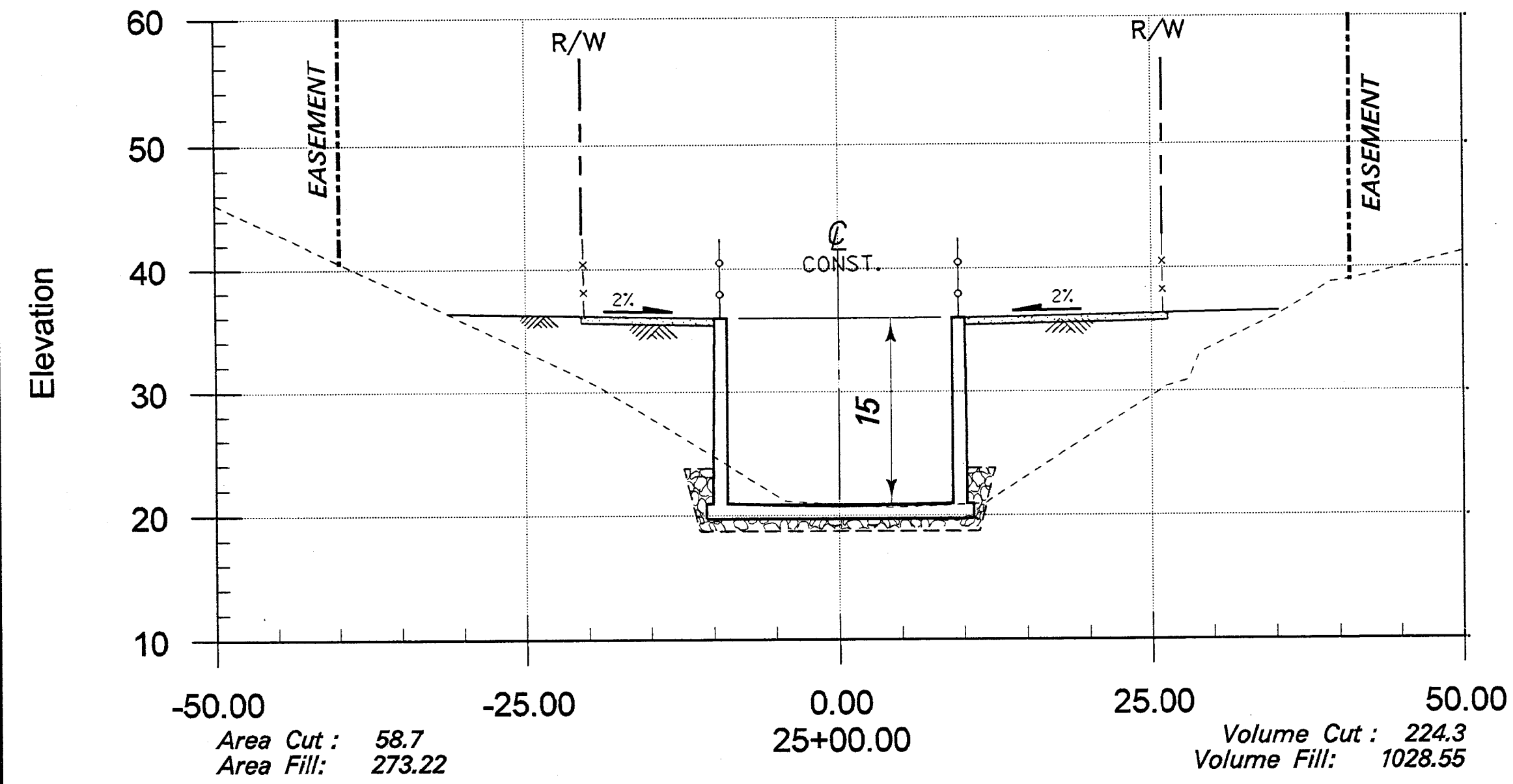
1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 18+74.63 TO STA 22+00.00	
DESIGNED R. CAUT	SHEET
DRAWN R.H. DE GUZMAN	32
CHECKED	OF 42
SCALE AS SHOWN	DATE 1/7/03
DRAWING NO. M02-101-4 R	

AS SHOWN
M02-101-4 R

42

33



RECORD DRAWING

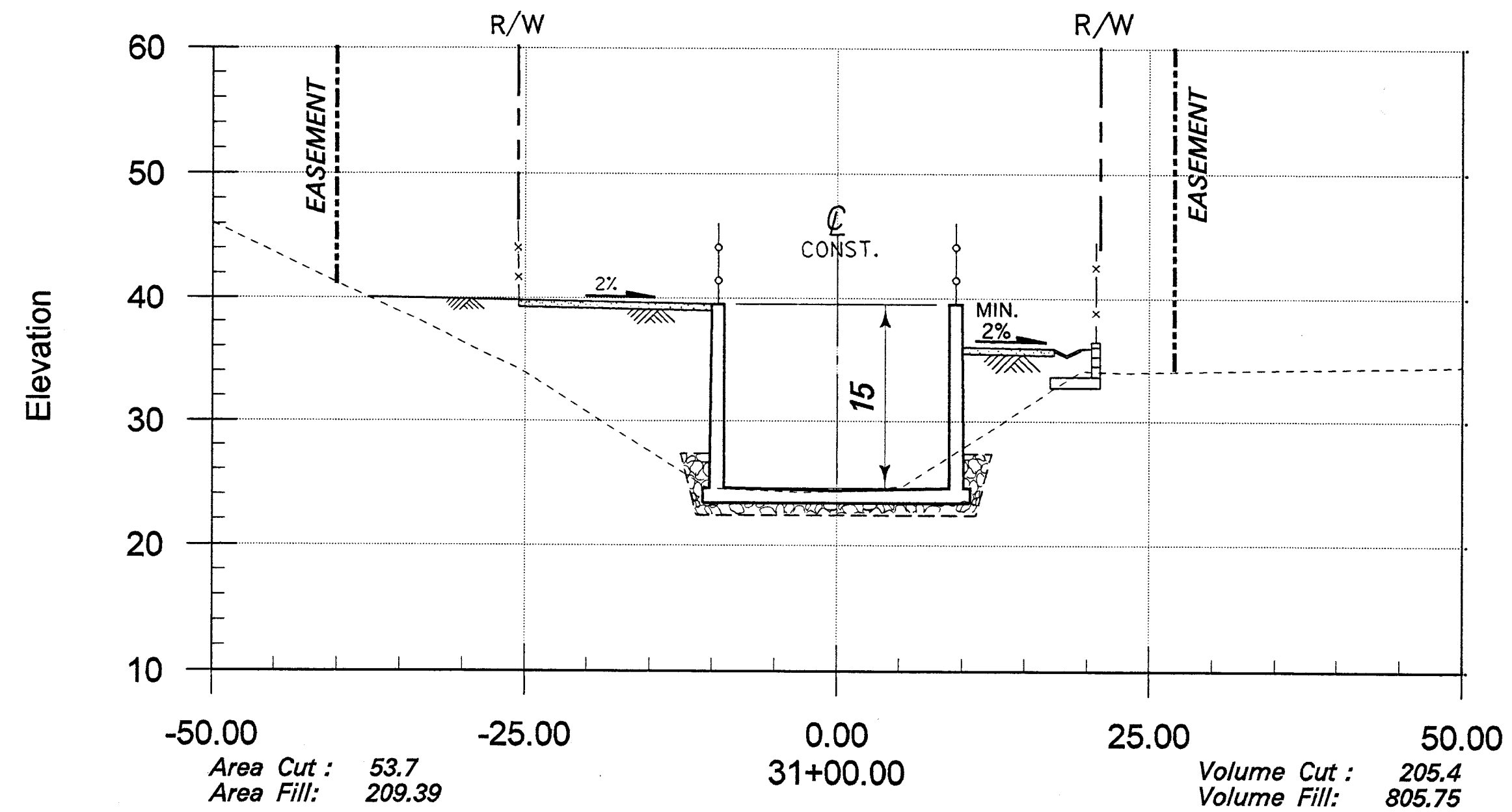
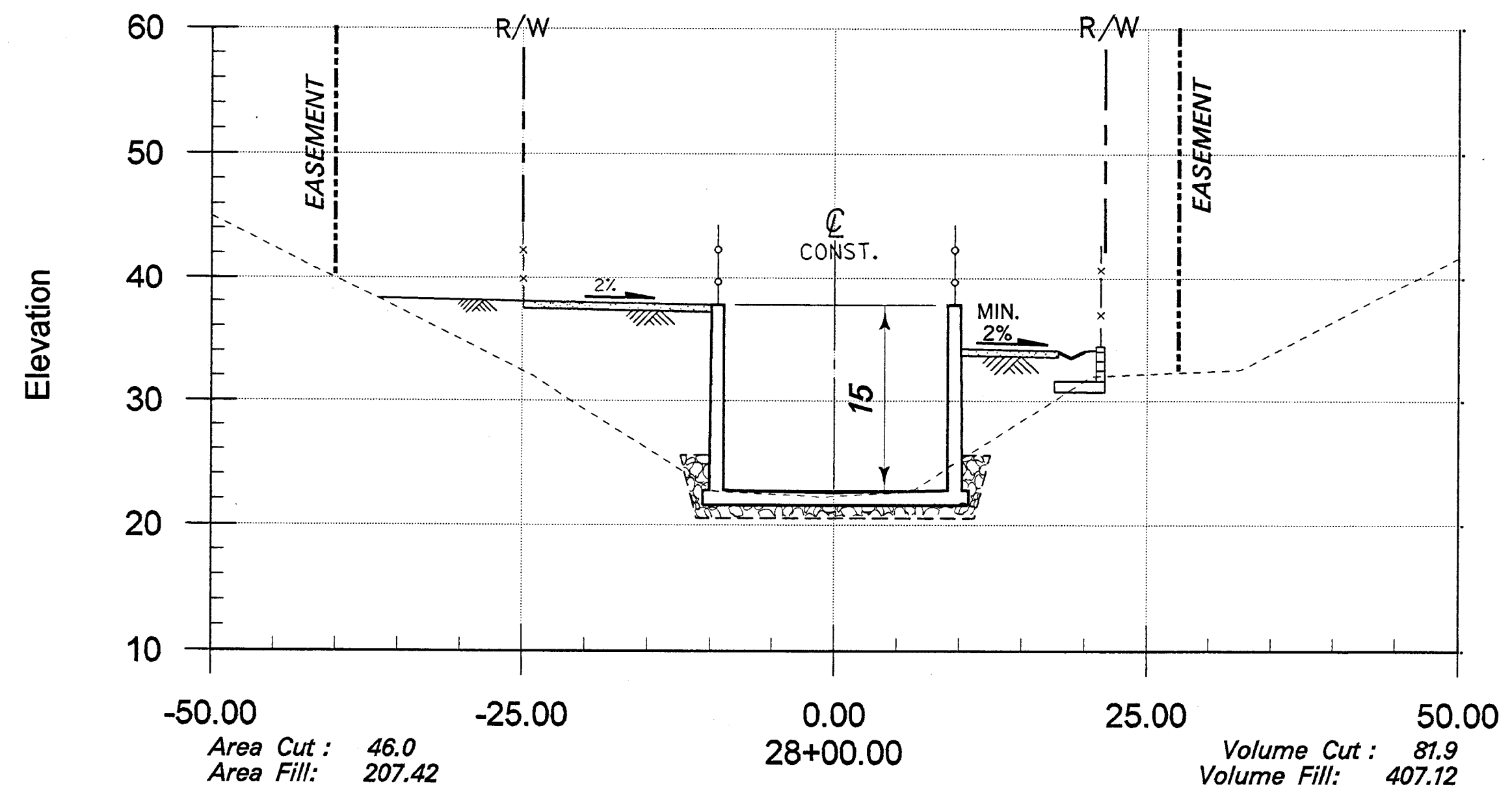
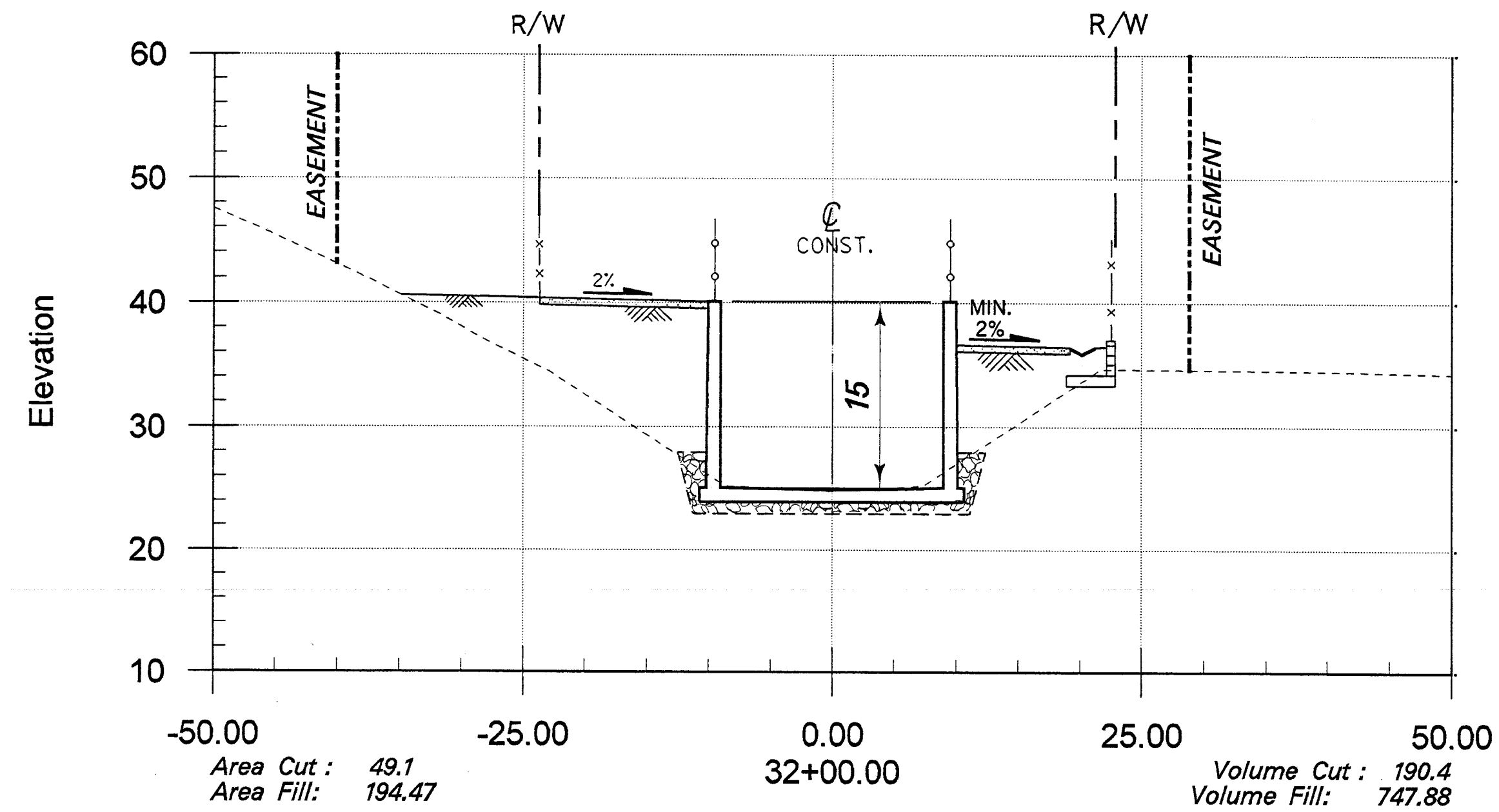
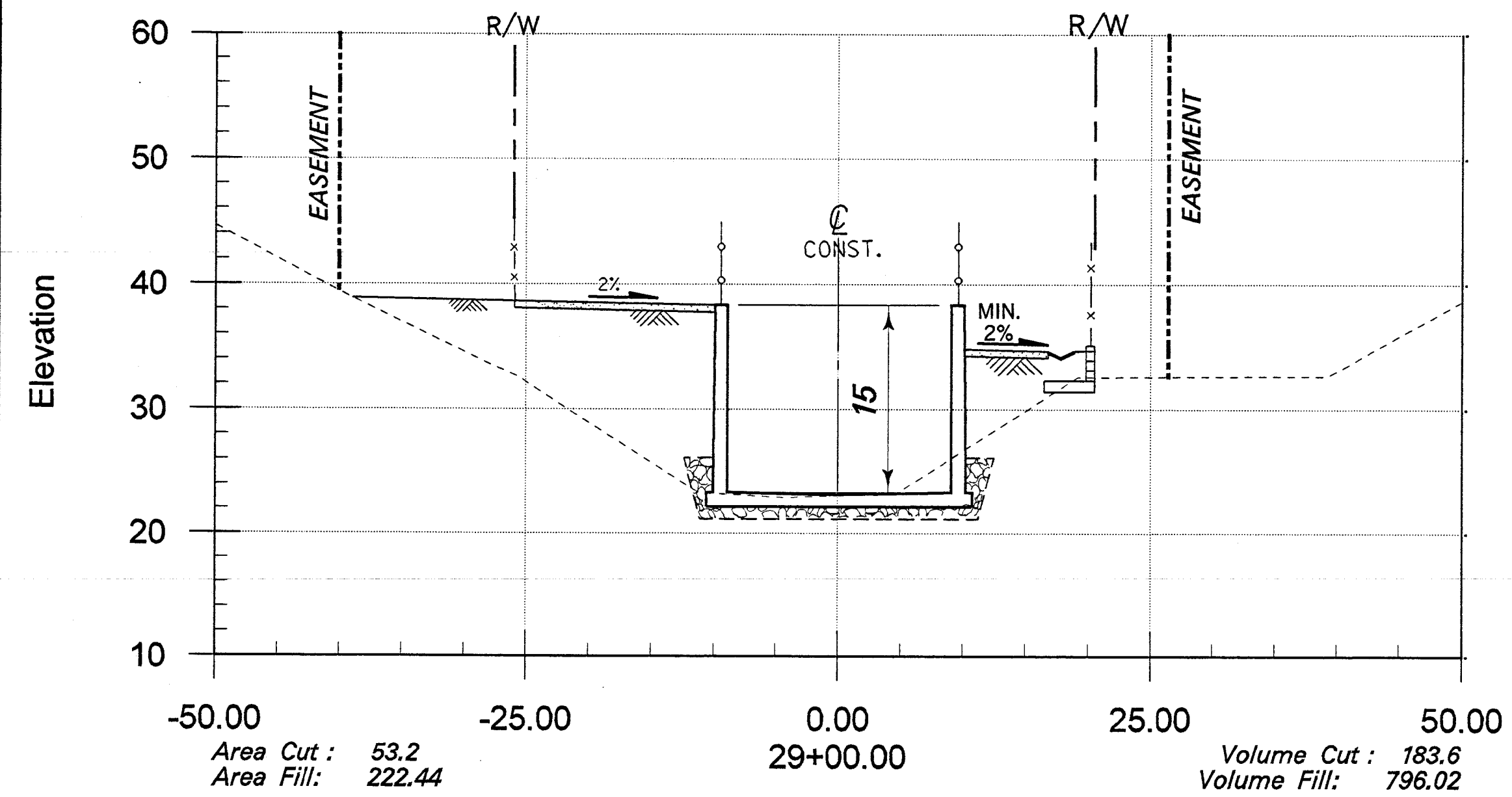
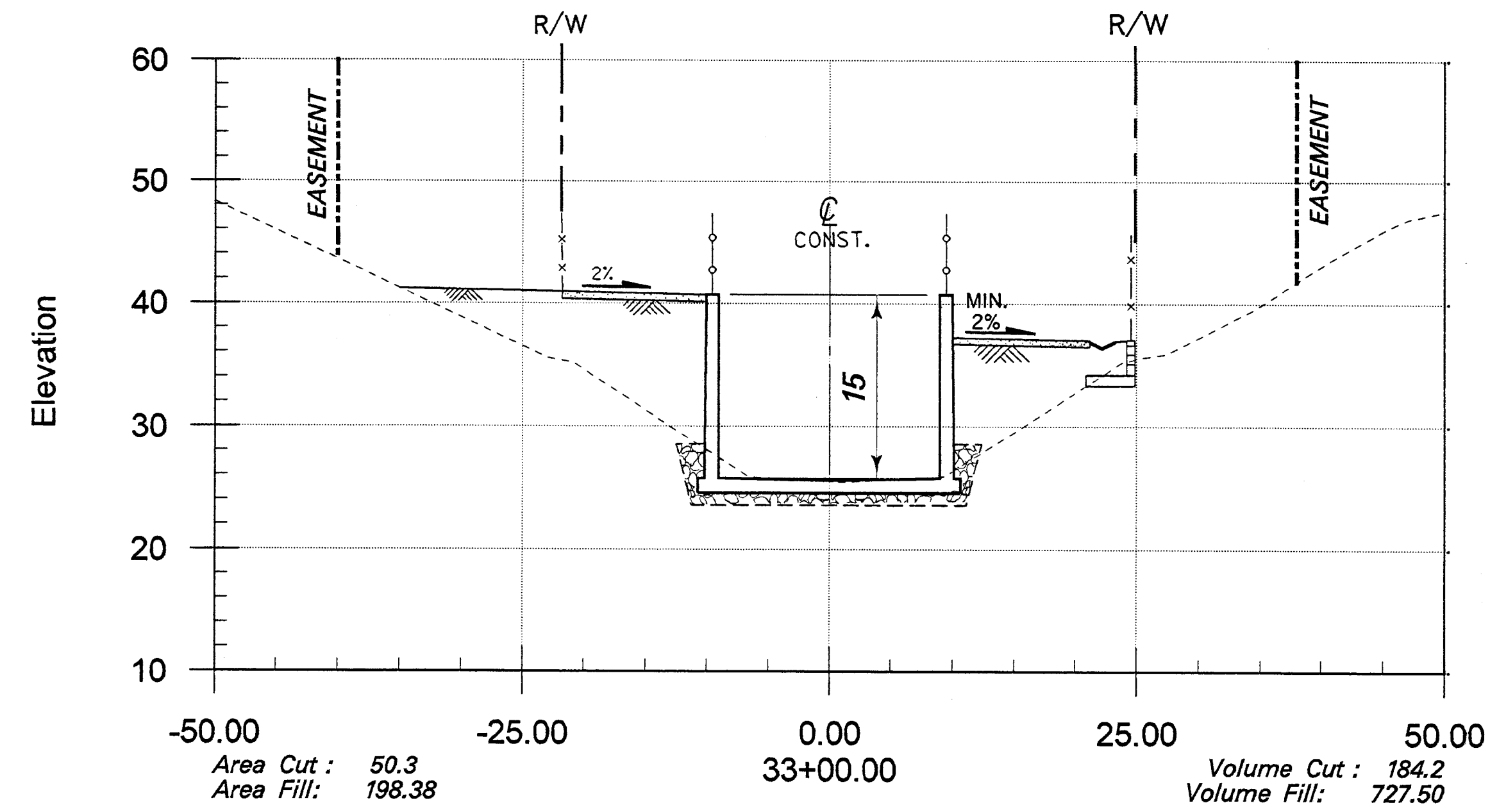
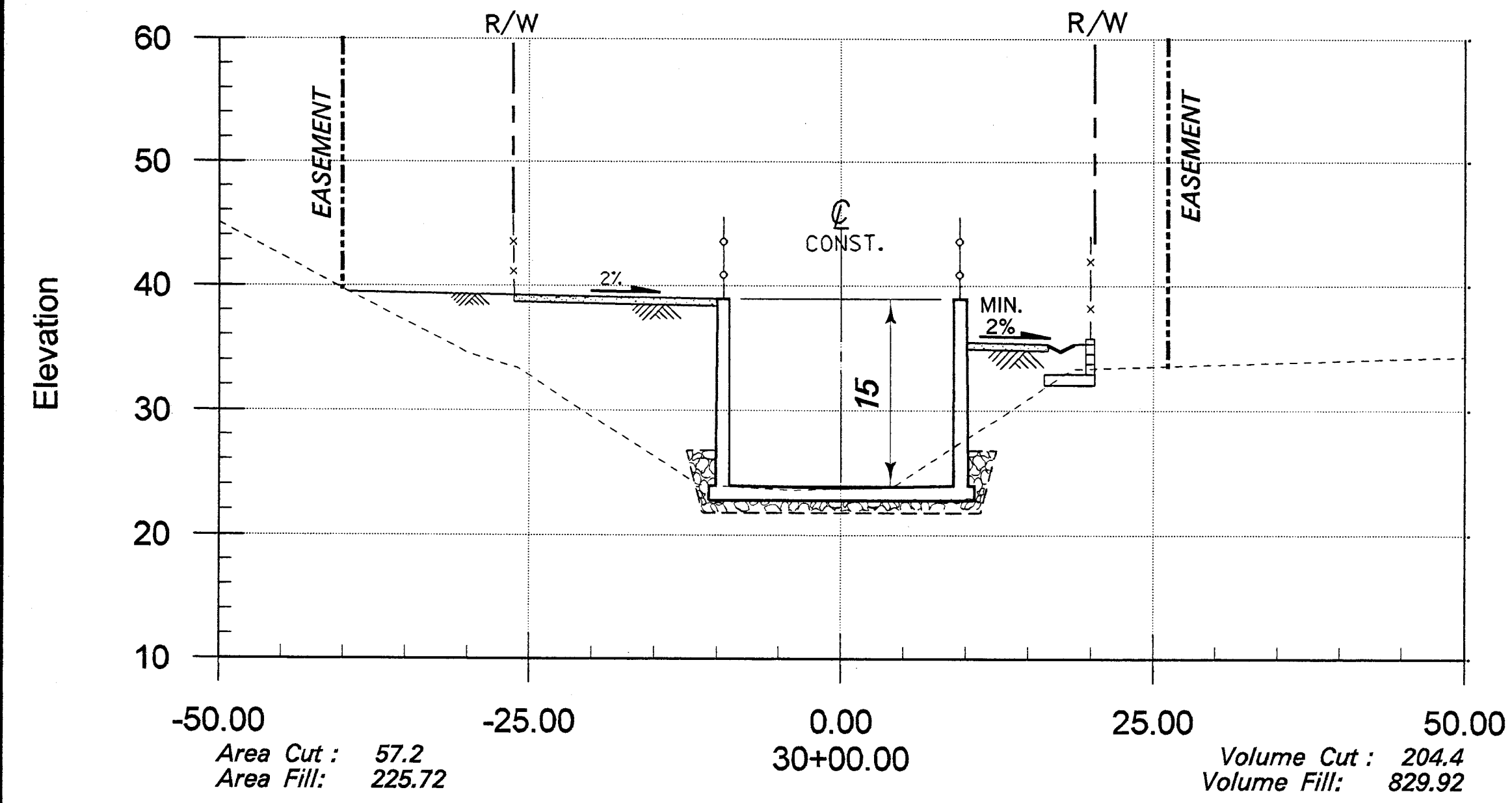
SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 23+00.00 TO STA 27+50.00	
DESIGNED: R. GAUT	SHEET
DRAWN: R.H. DE GUZMAN	33
SCALE: AS SHOWN	DATE: 1/7/03
DRAWING NO.: M02-101-4 R	OF 42

15 103
M02-101-4R

34 42



RECORD DRAWING

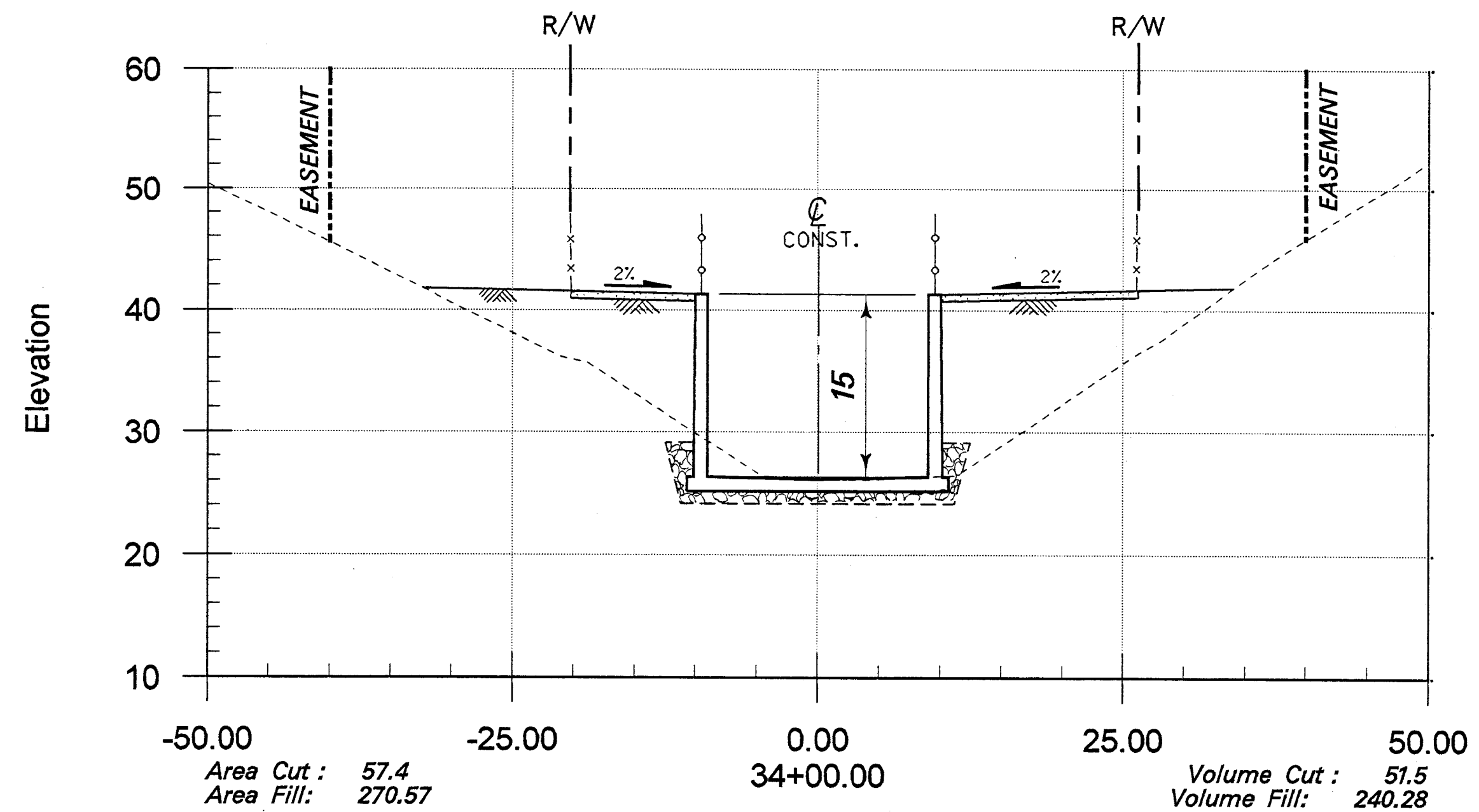
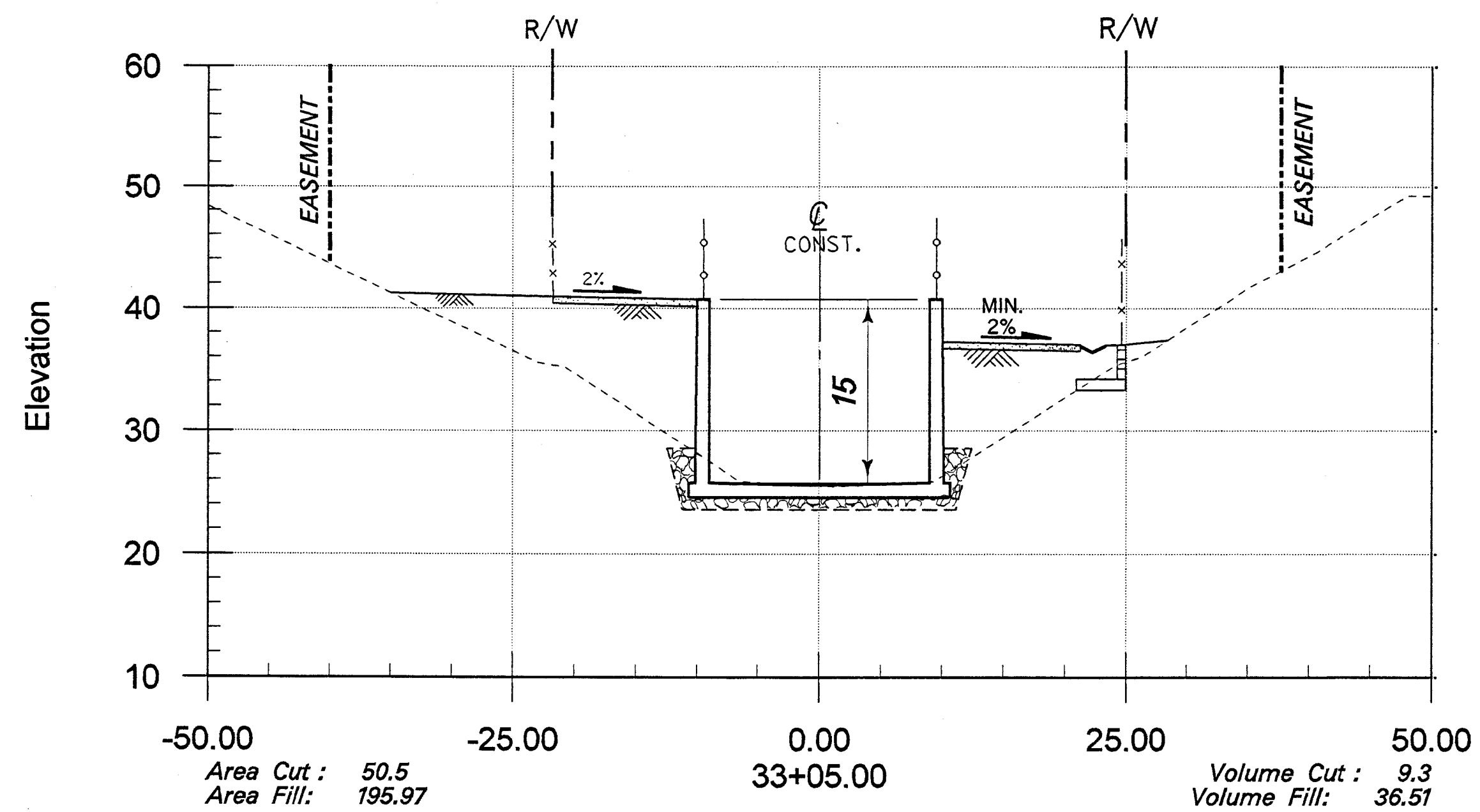
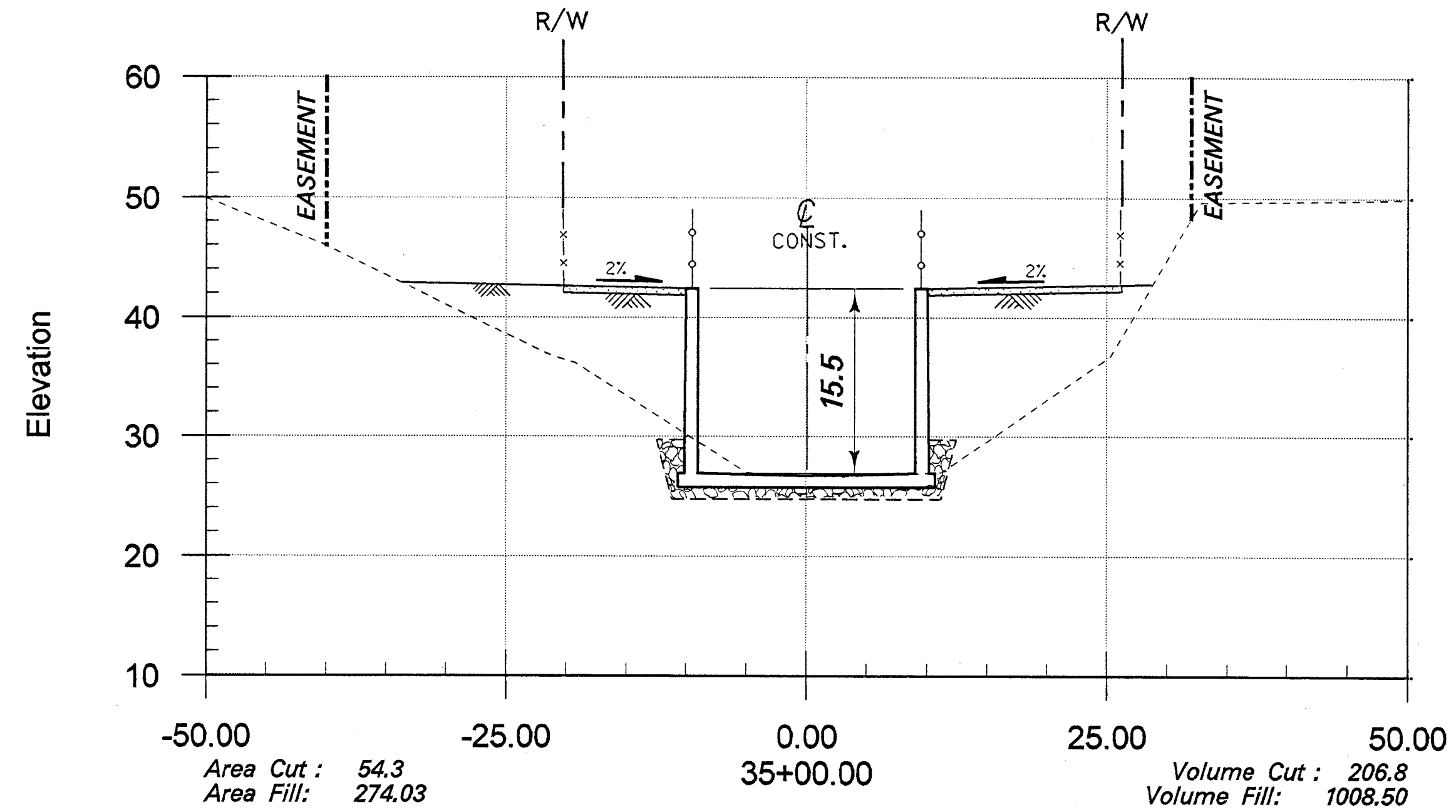
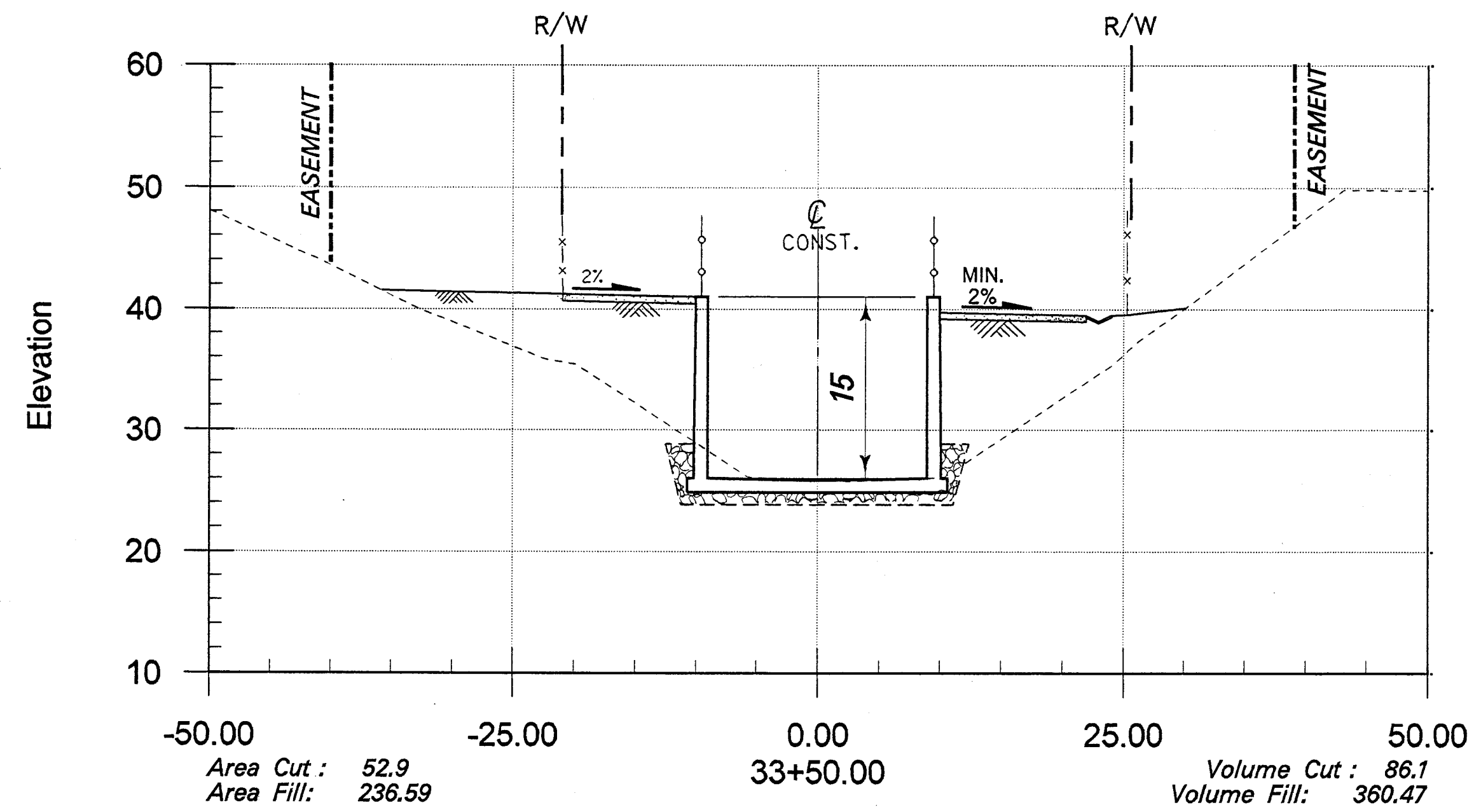
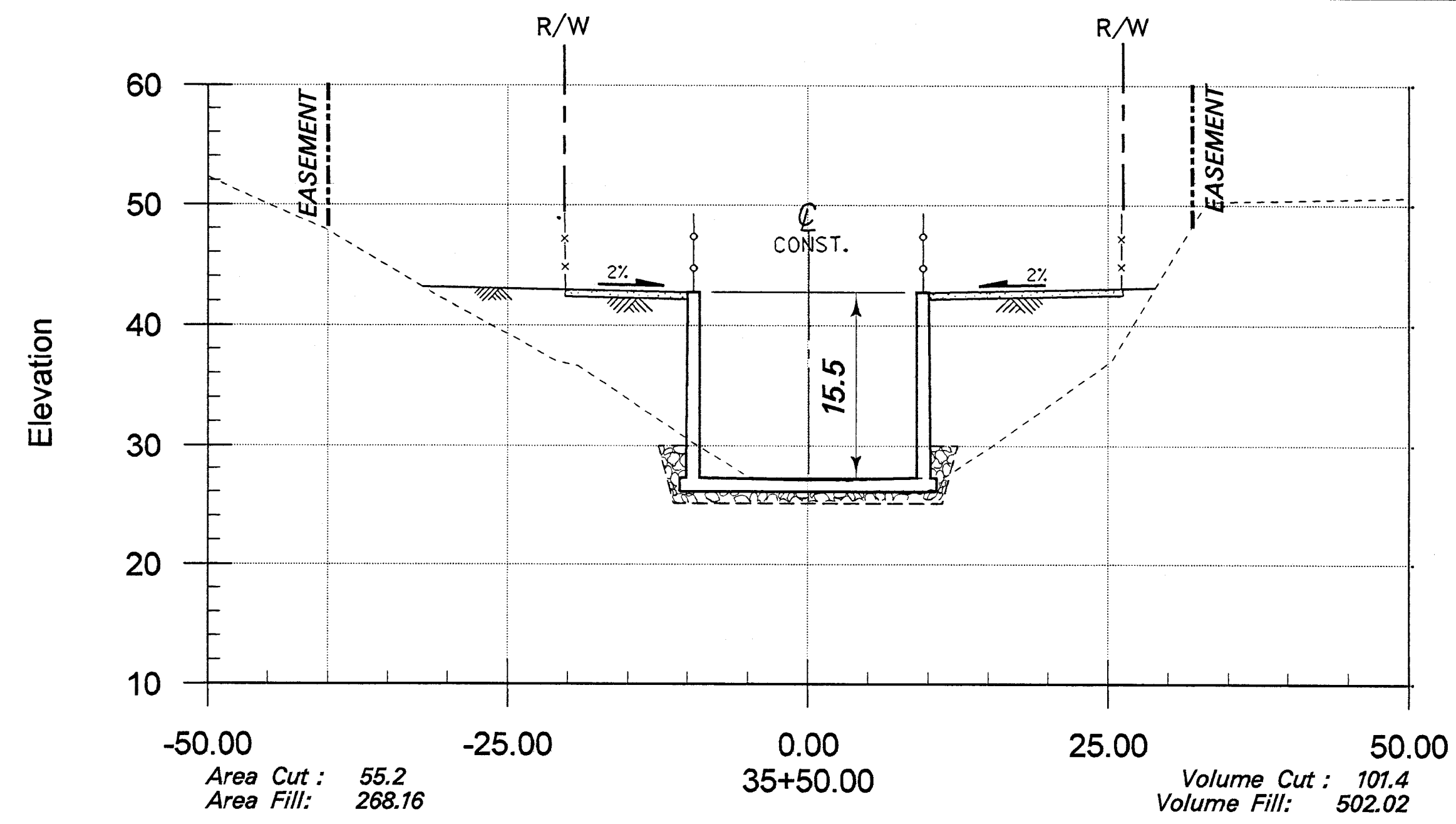
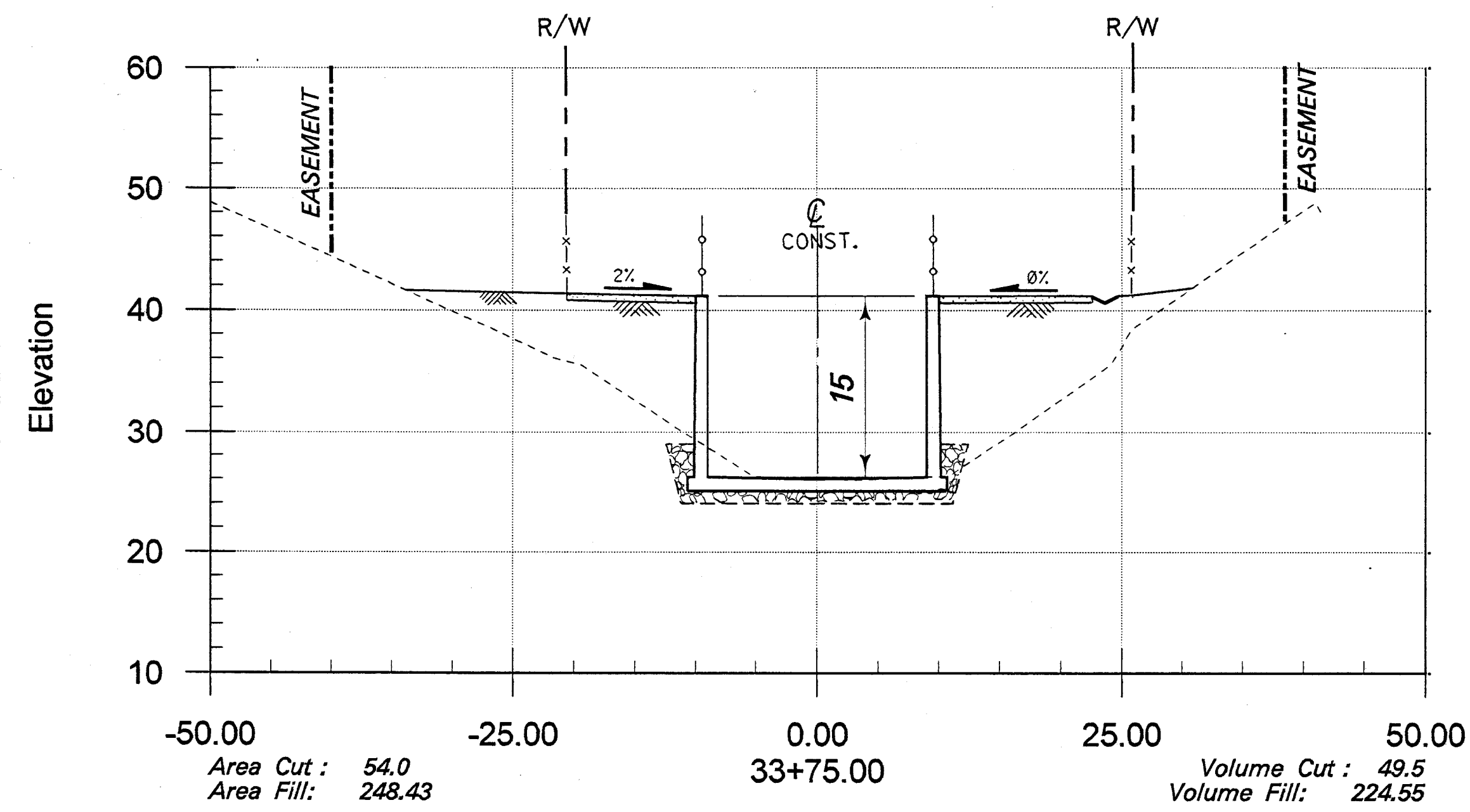
SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 28+00.00 TO STA 33+00.00	
DESIGNED R. GAUT	SHEET
DRAWN R.H. DE GUZMAN	34
SCALE AS SHOWN	DATE 1/7/03
DRAWING NO. M02-101-4R	OF 42

14 1/2" x 11" M02-101-4 R

35 42



SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL

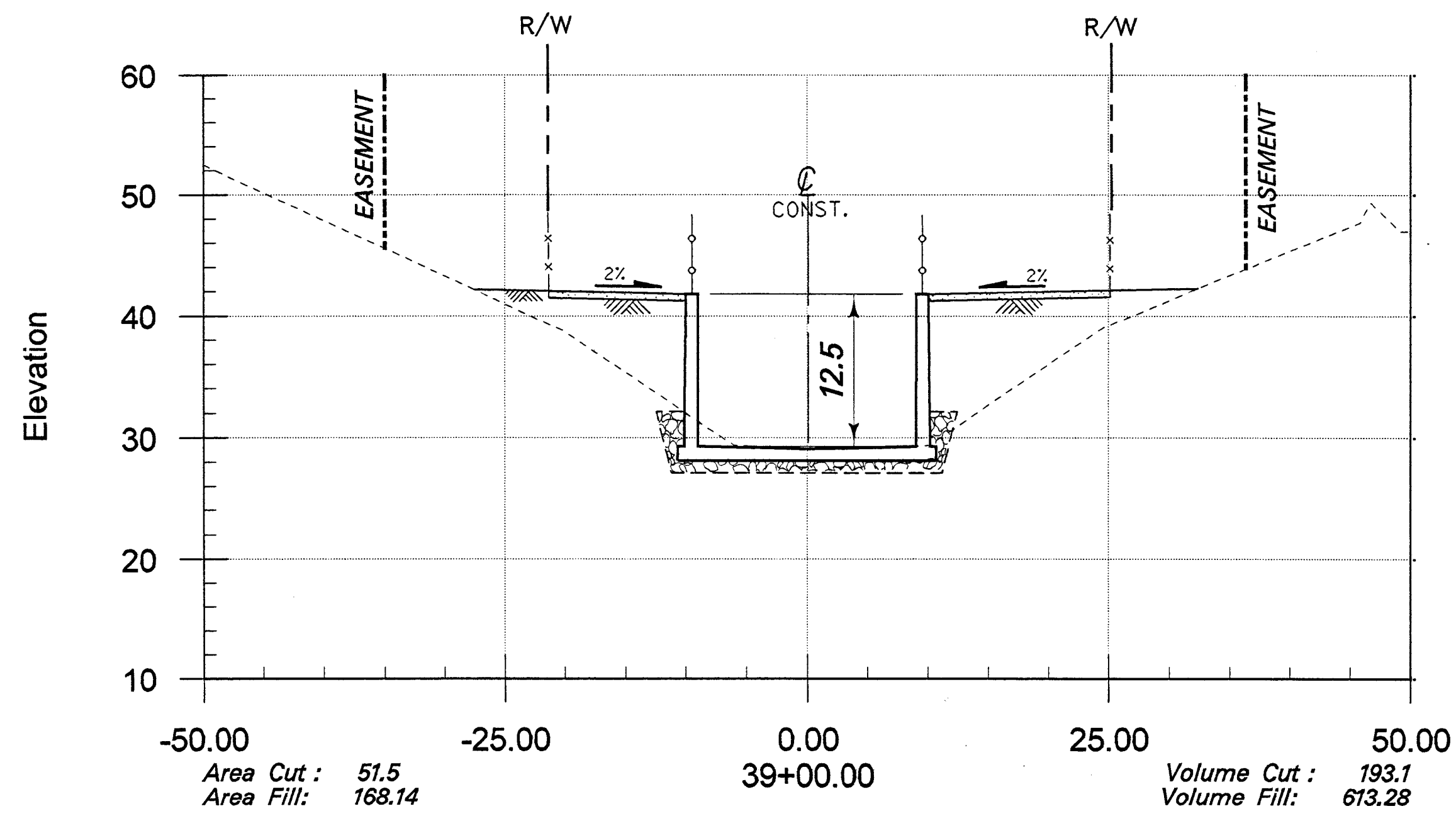
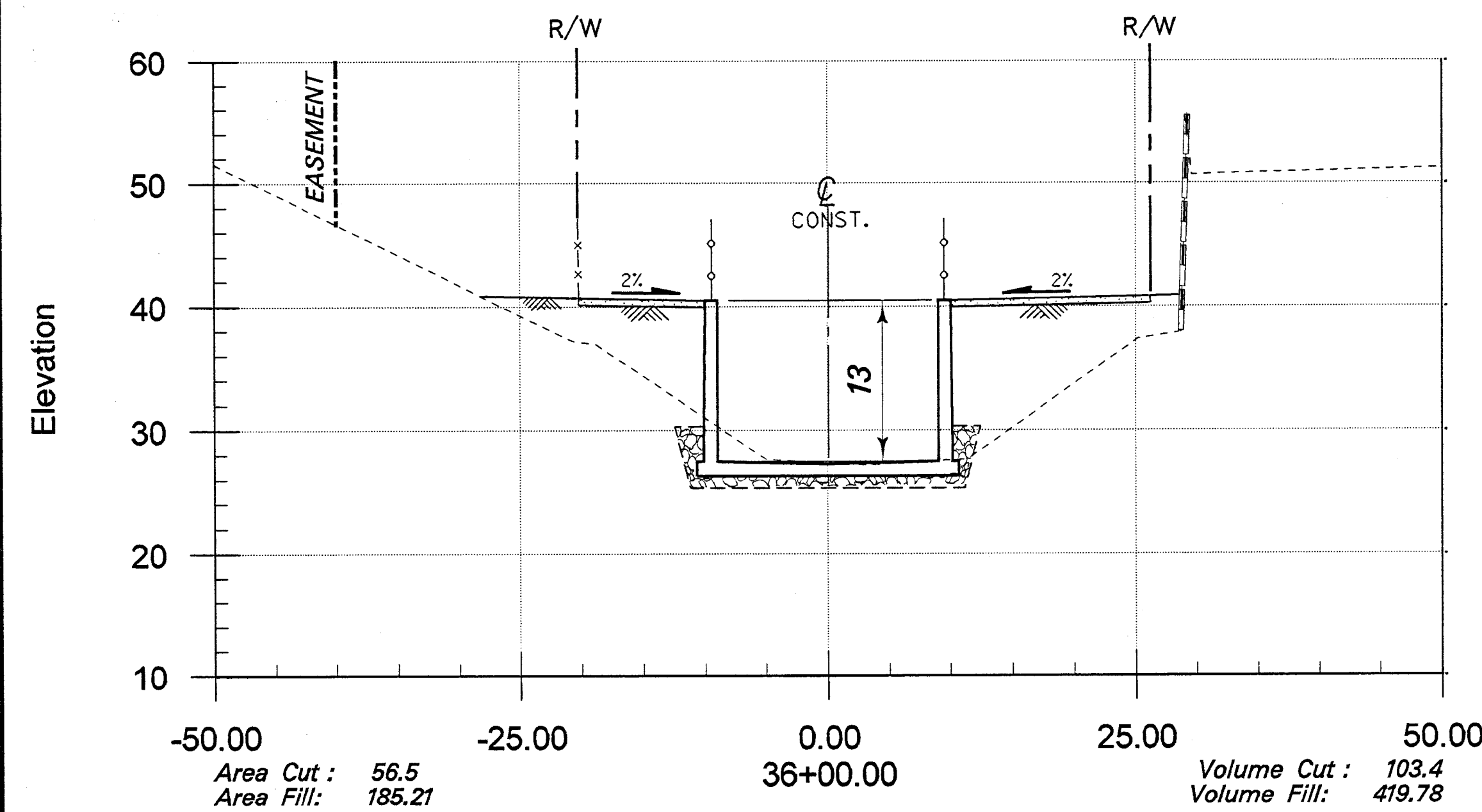
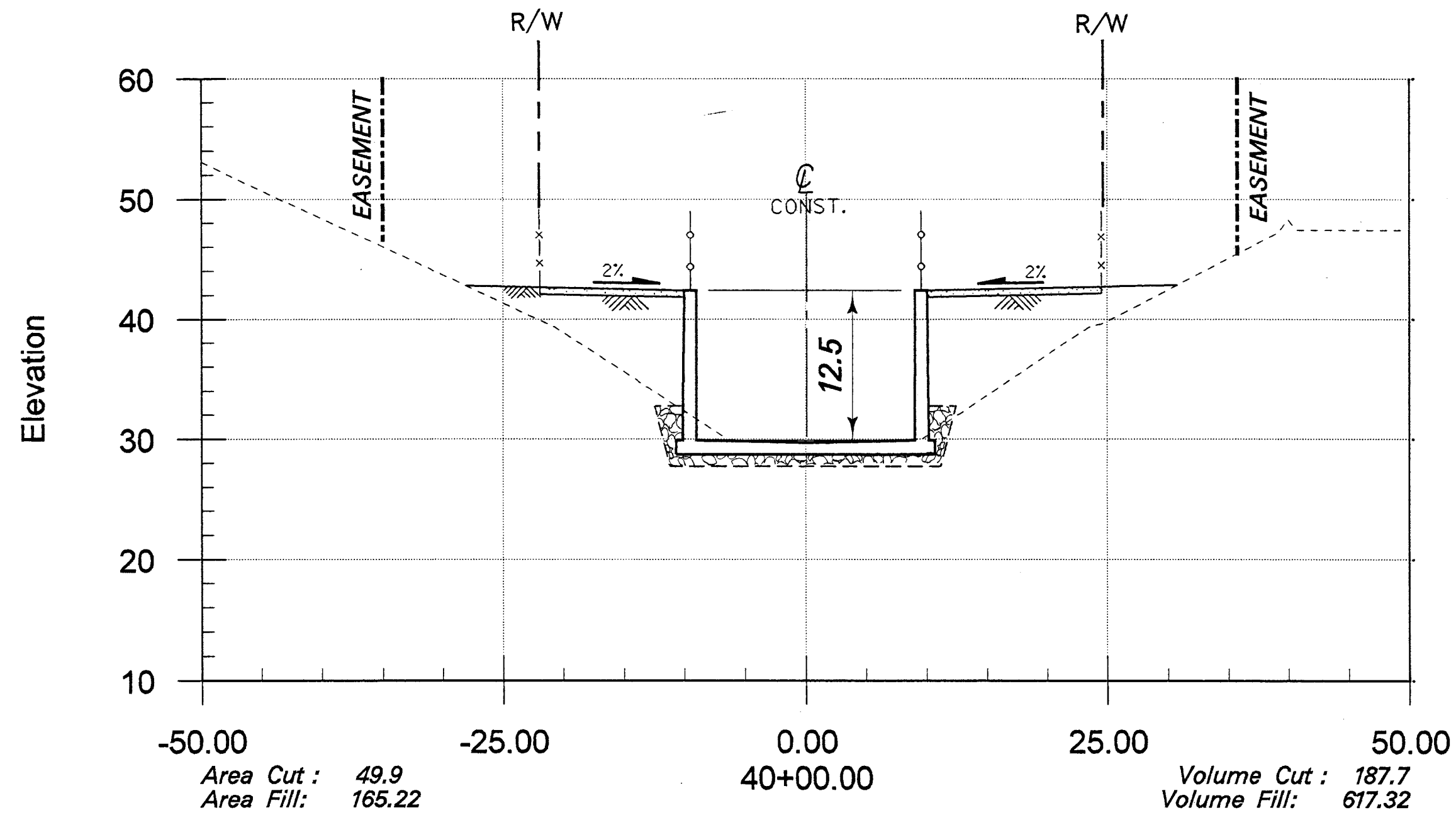
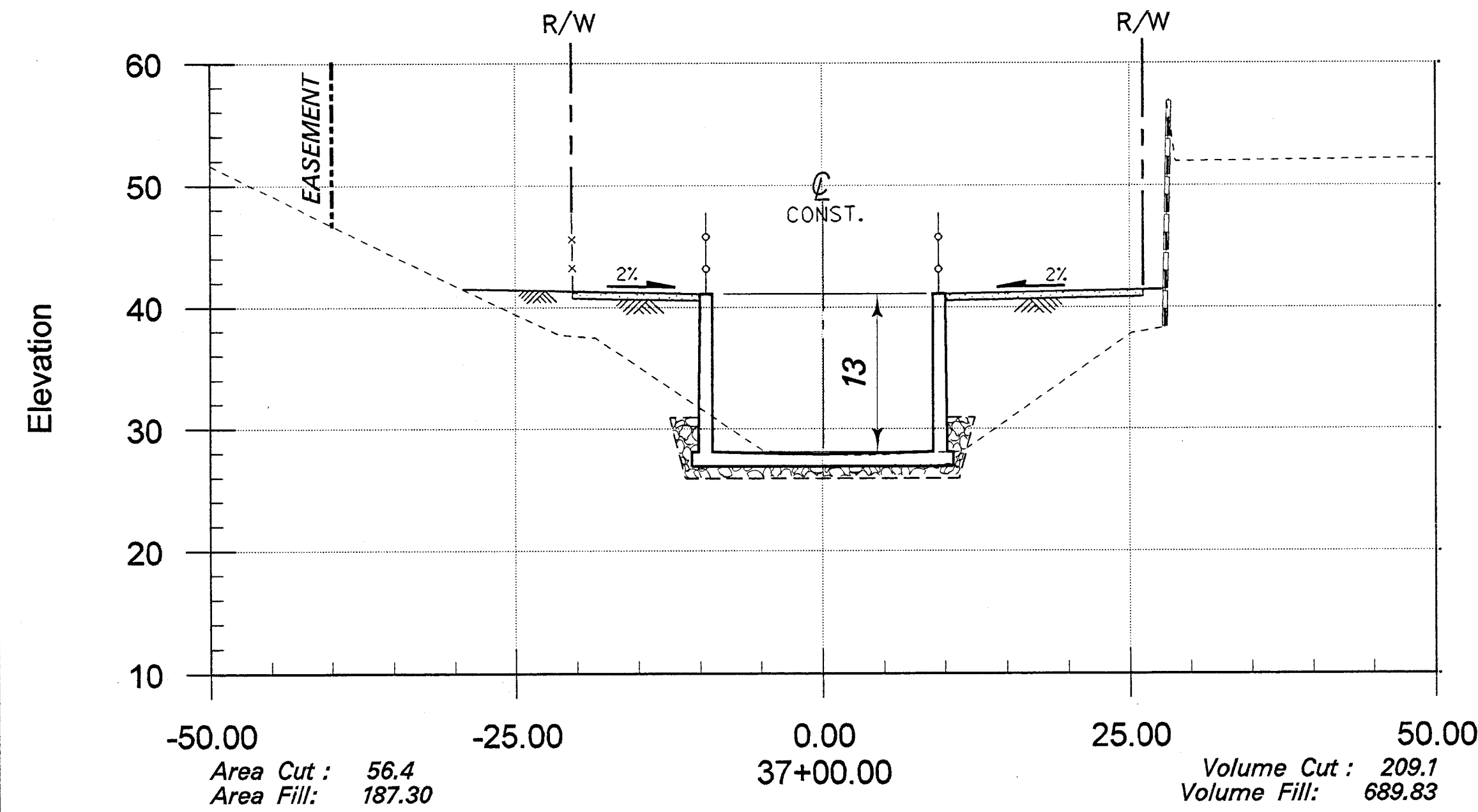
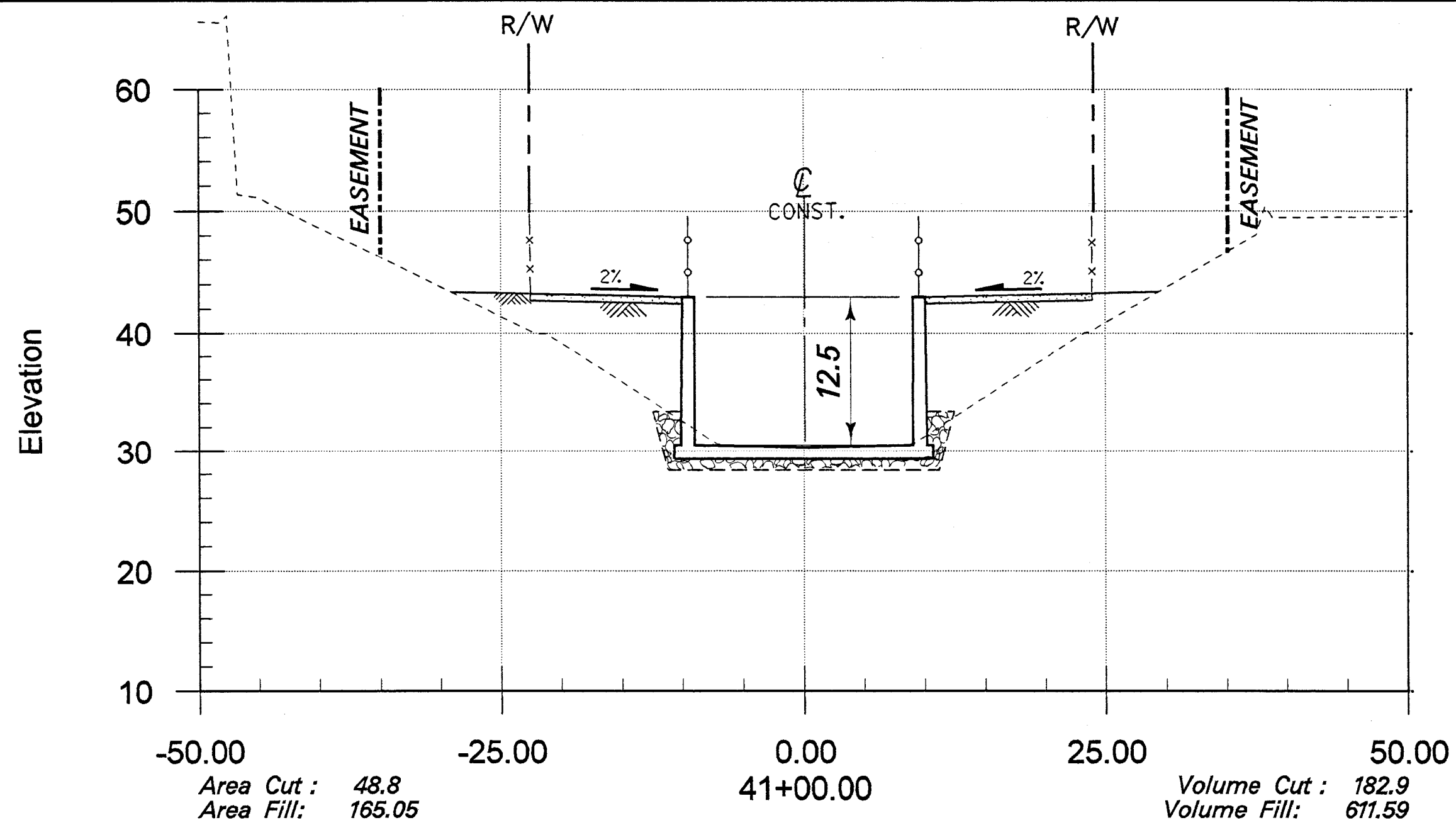
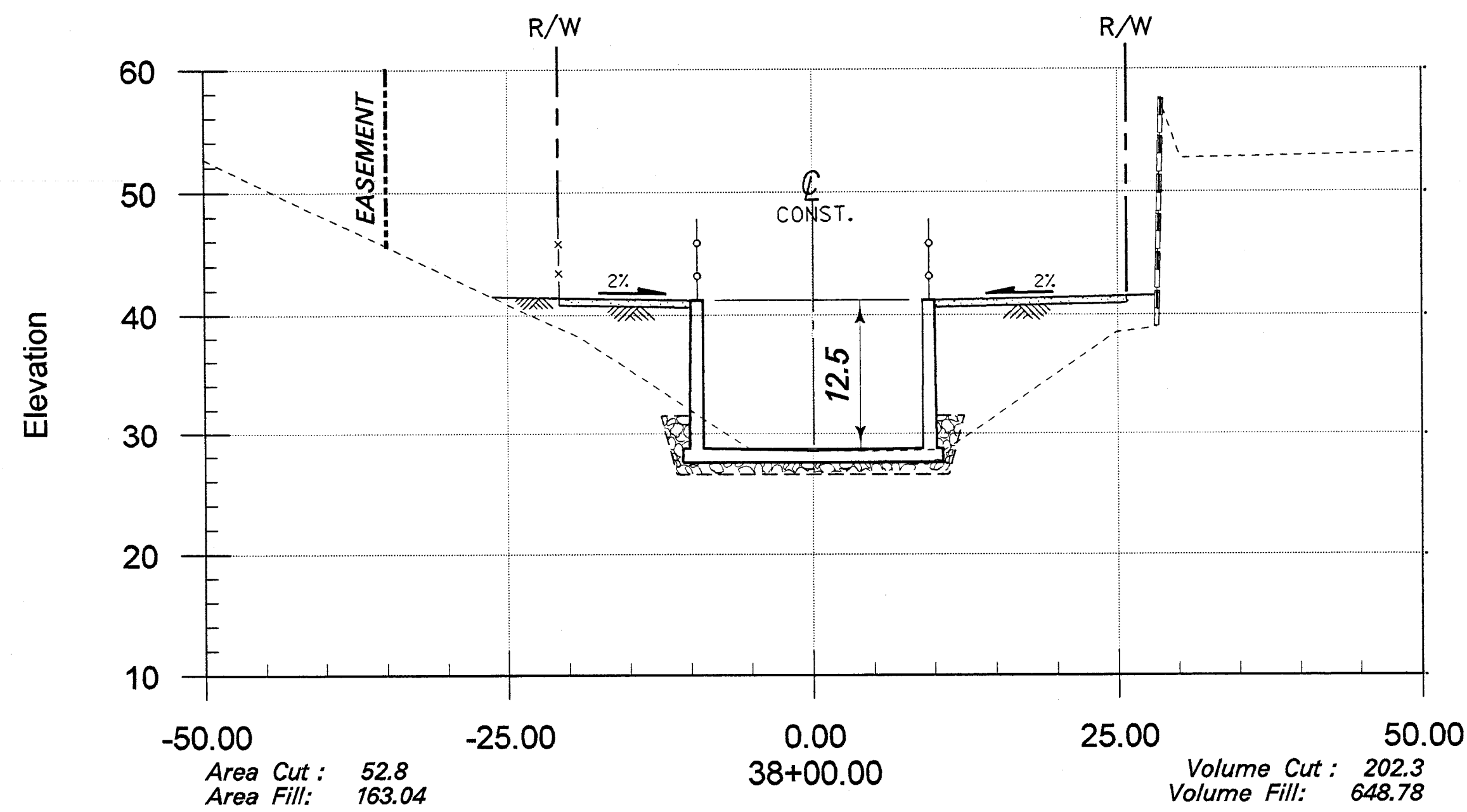
RECORD DRAWING

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 33+05.00 TO STA 35+50.00	
DESIGNED R. GAUT	SHEET
DRAWN R.H. DE GUZMAN	35
SCALE AS SHOWN	DATE 1/7/03
DRAWING NO. M02-101-4 R	OF 42

15 MS
M02-101-4 R

36 42

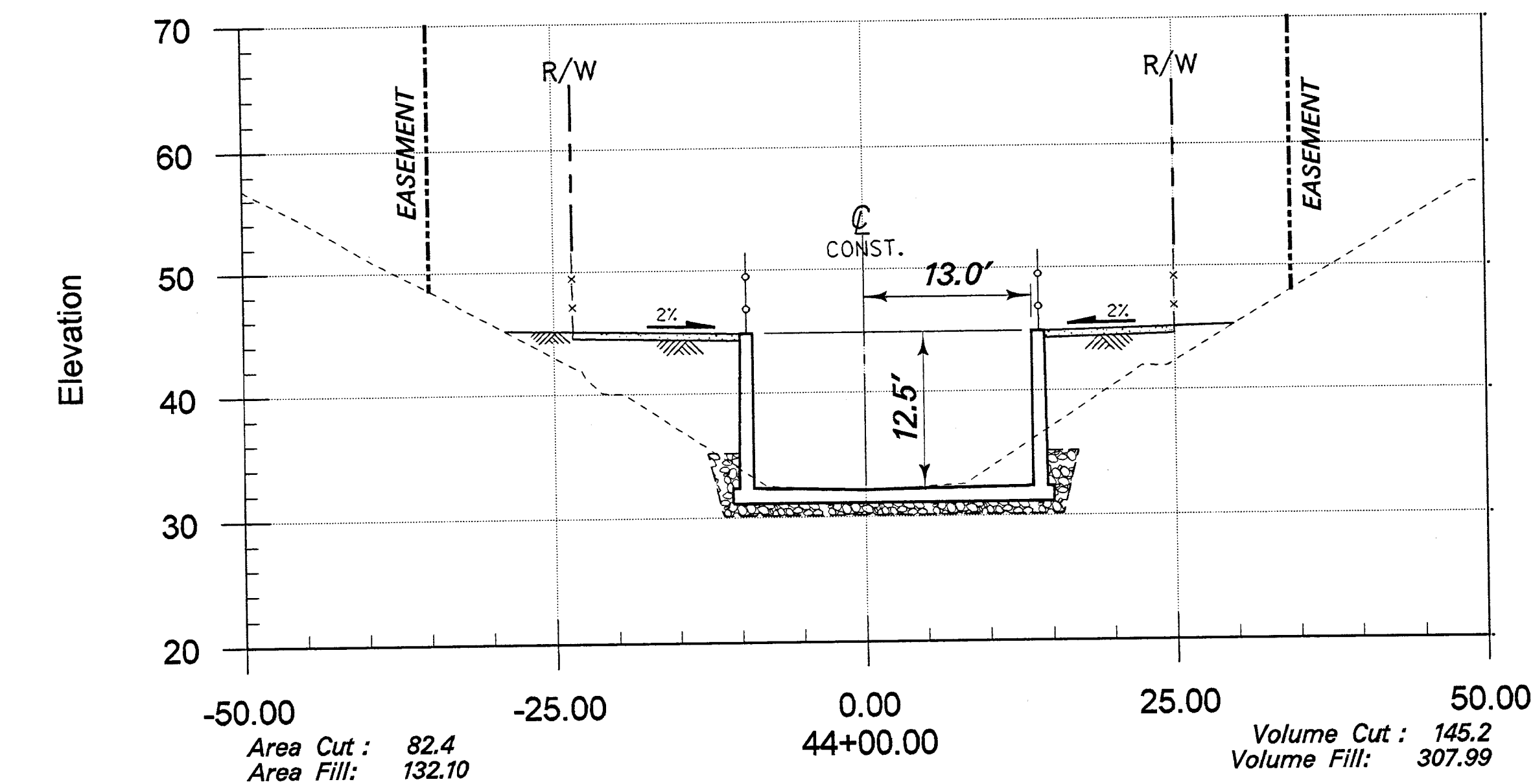
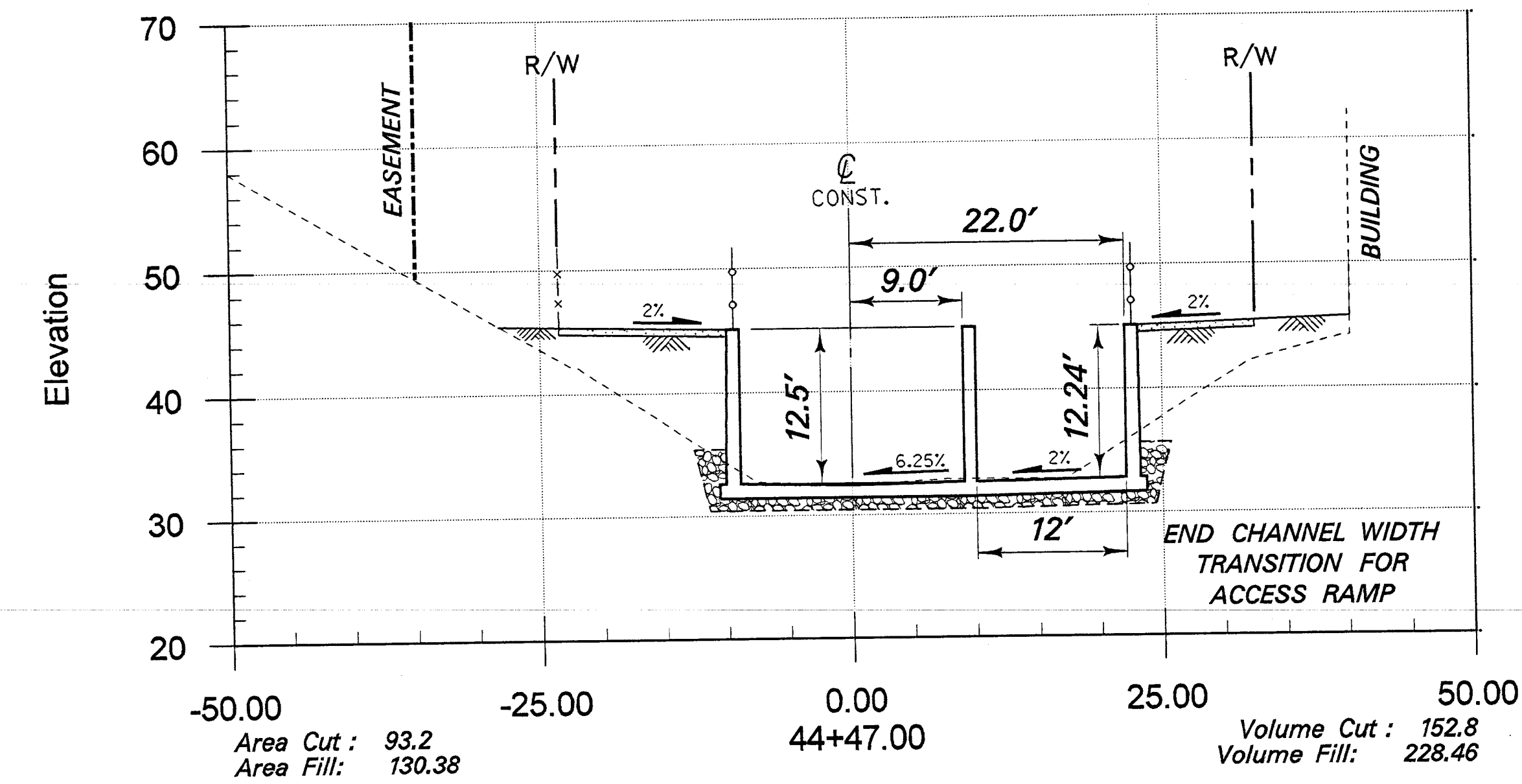
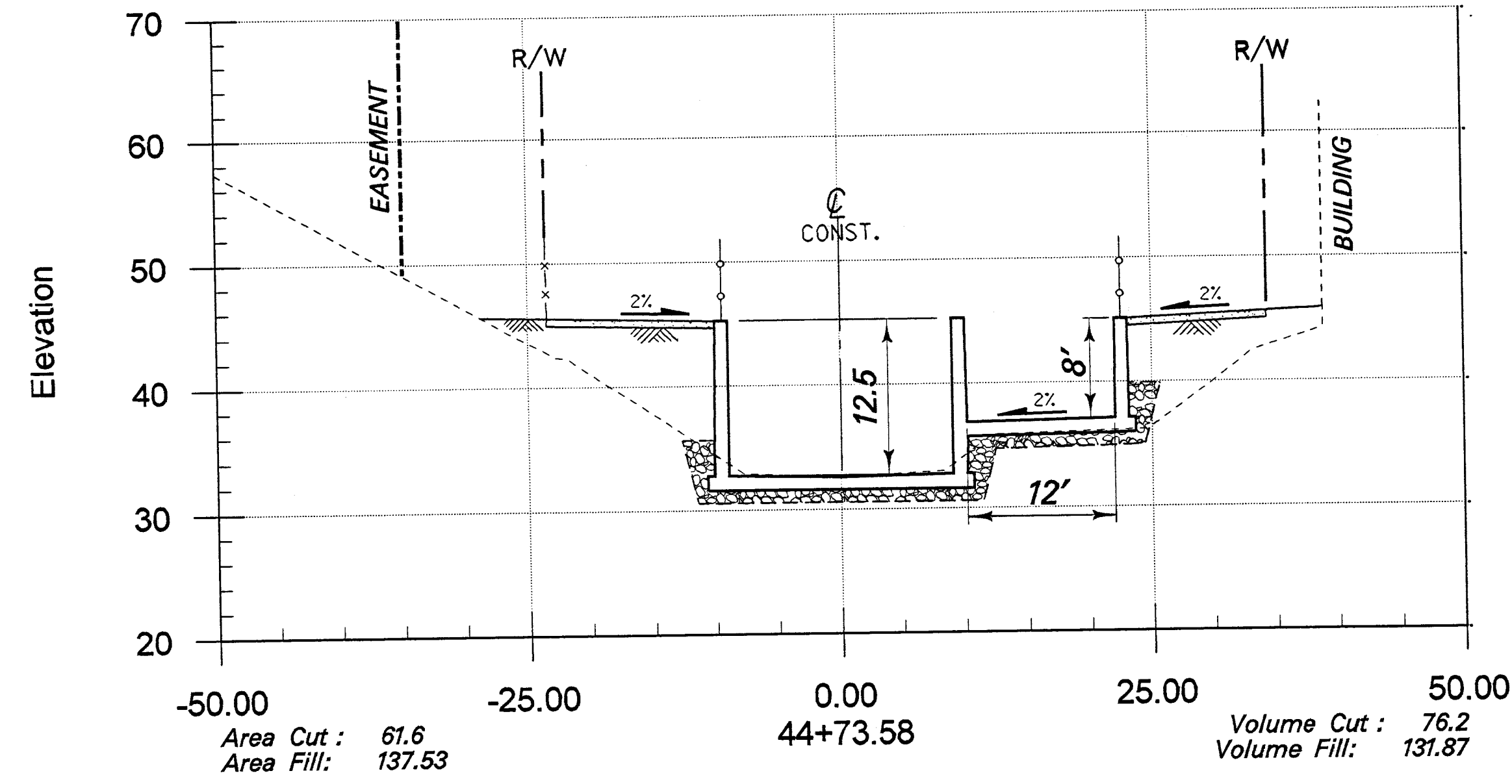
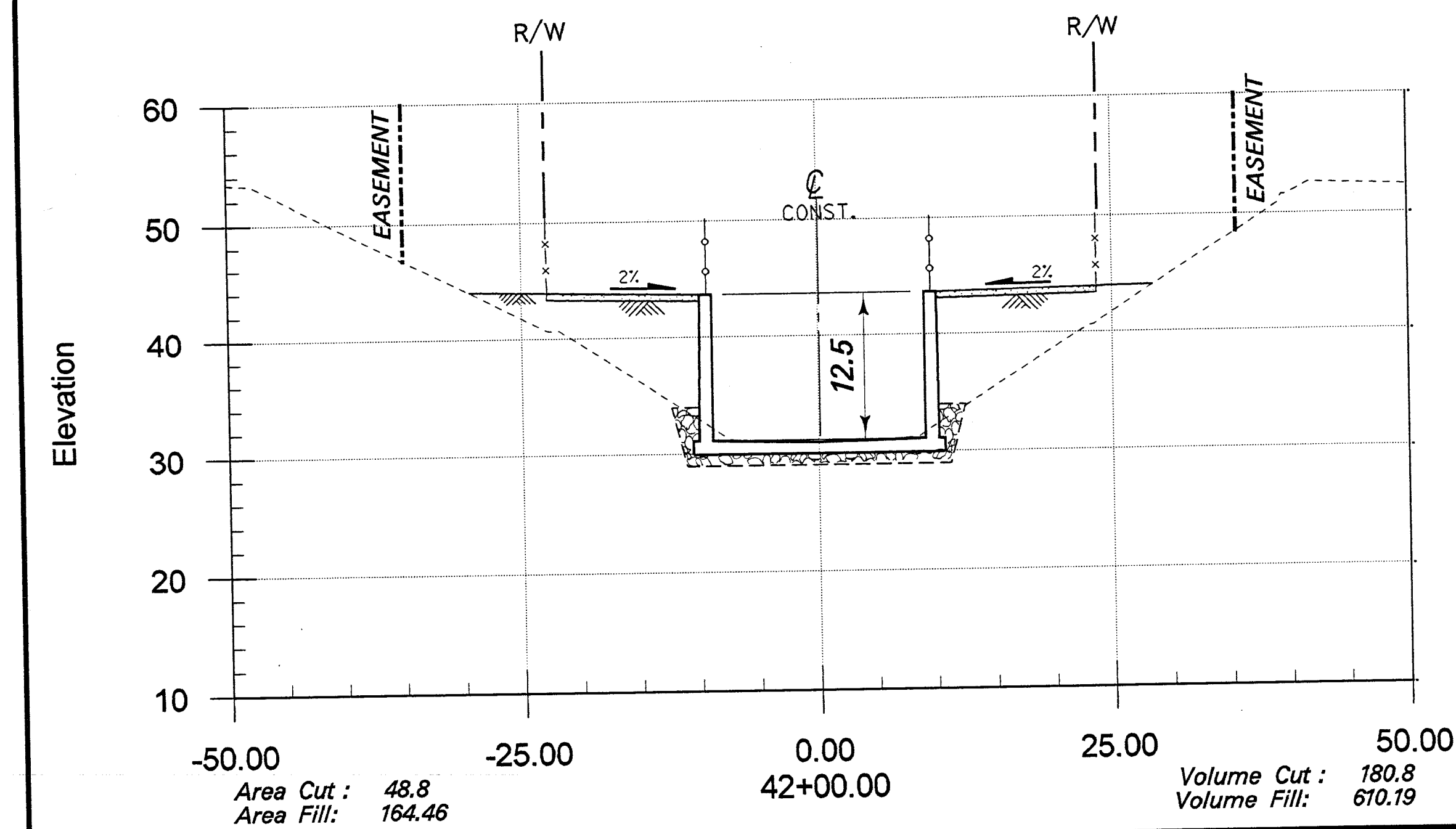
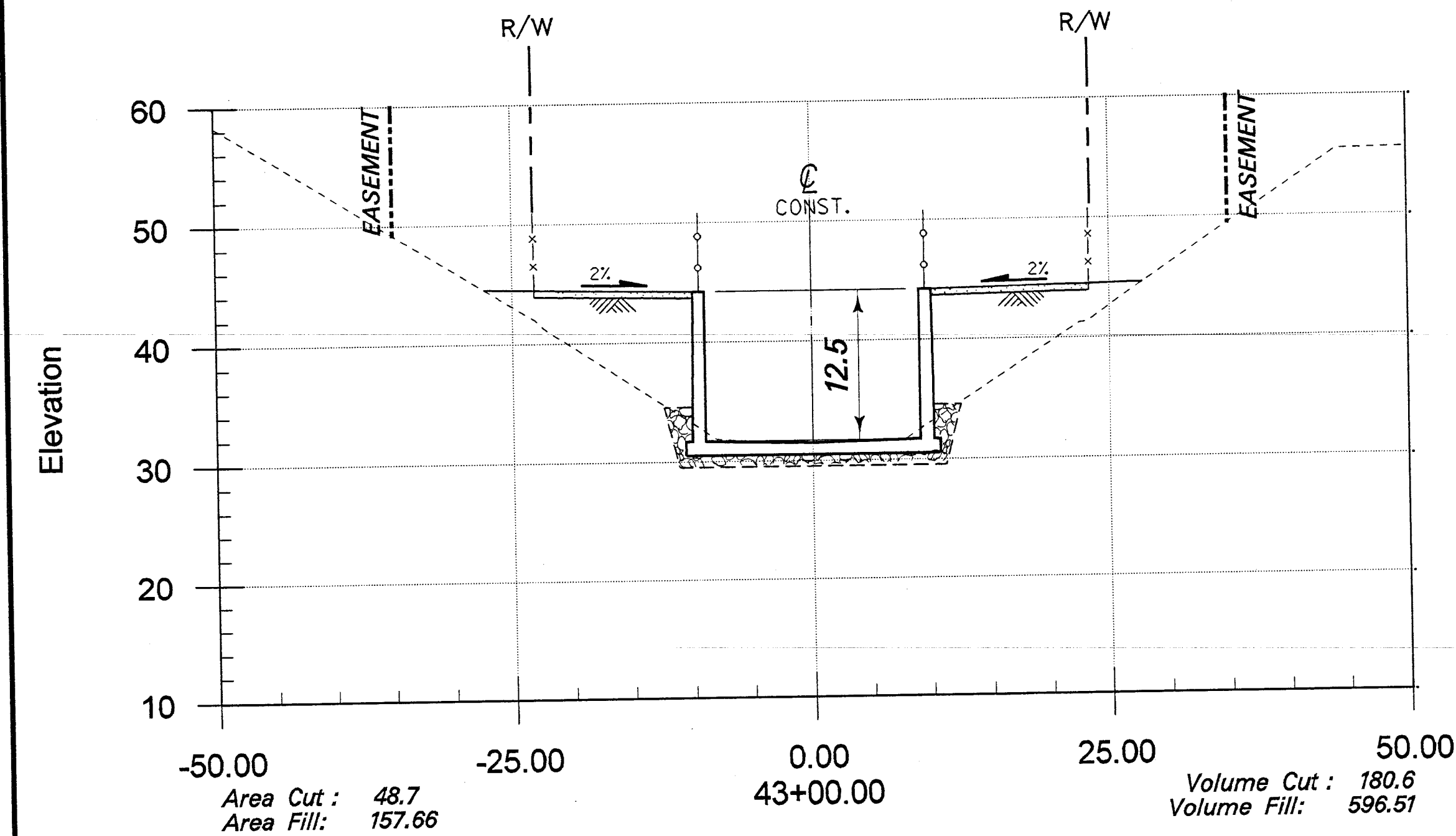
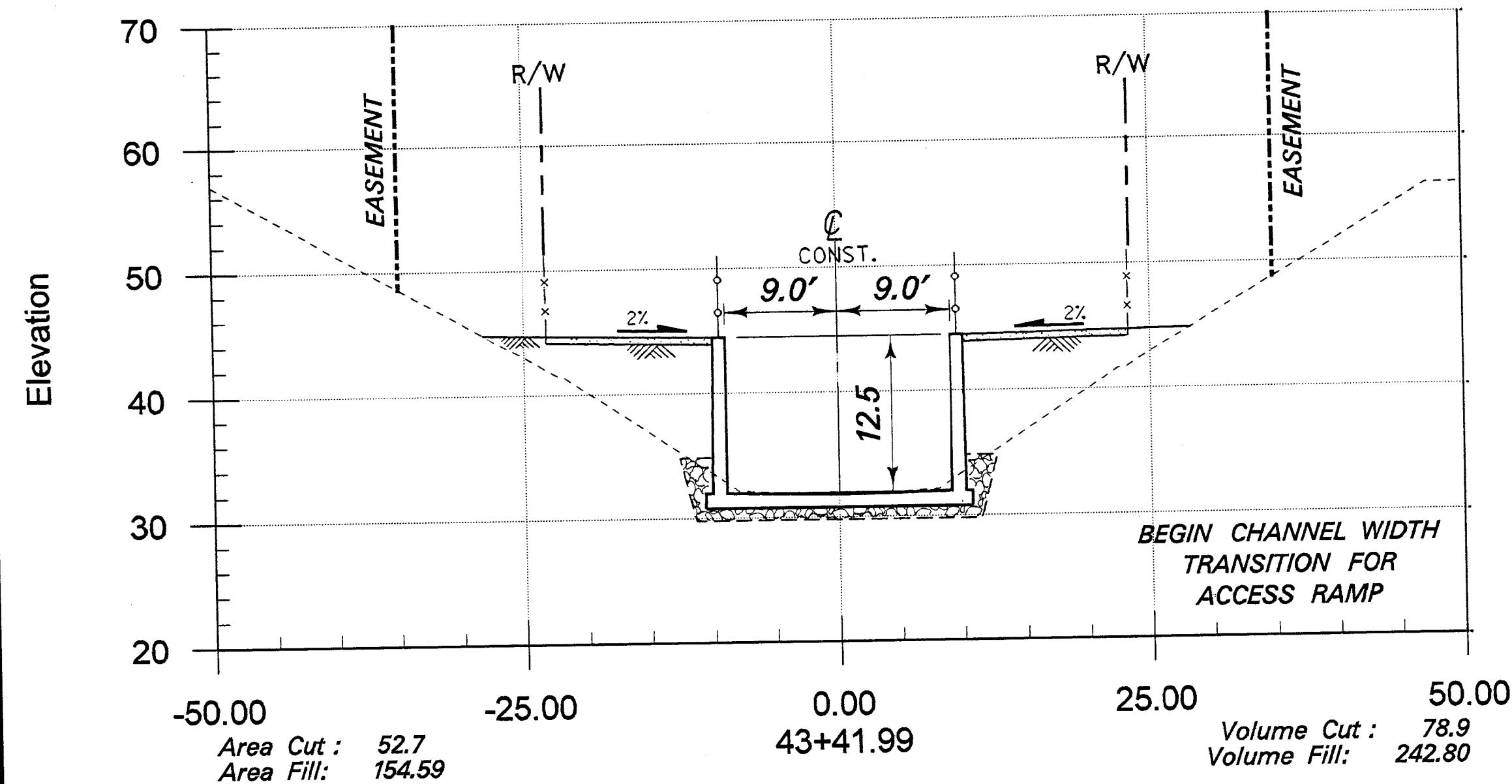


RECORD DRAWING

SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL

1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 36+00.00 TO STA 41+00.00	
DESIGNED: R. GAUT	SHEET 36 OF 42
DRAWN: R.H. DE GUZMAN	CHECKED:
SCALE: AS SHOWN	DATE: 1/7/03
DRAWING NO.: M02-101-4 R	



RECORD DRAWING

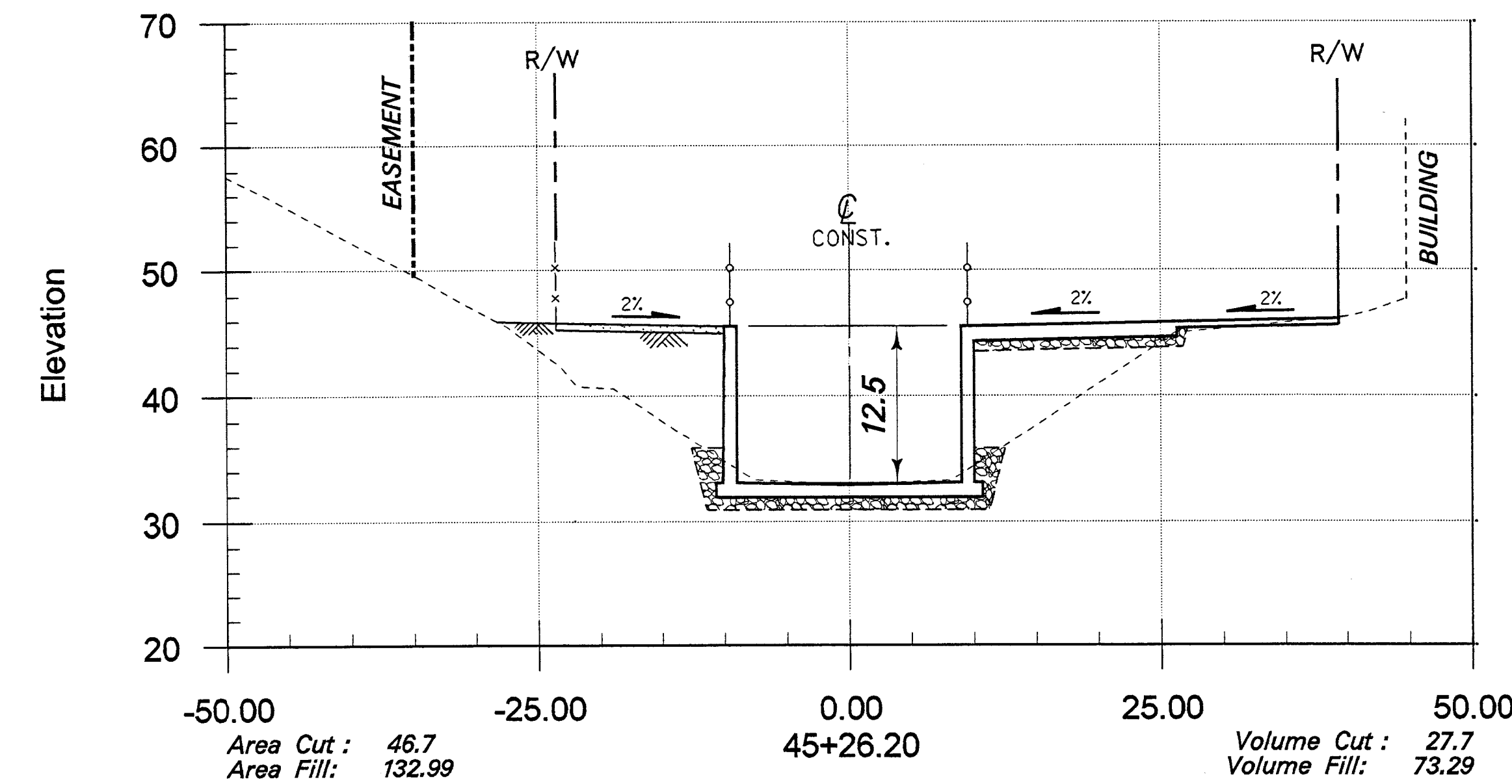
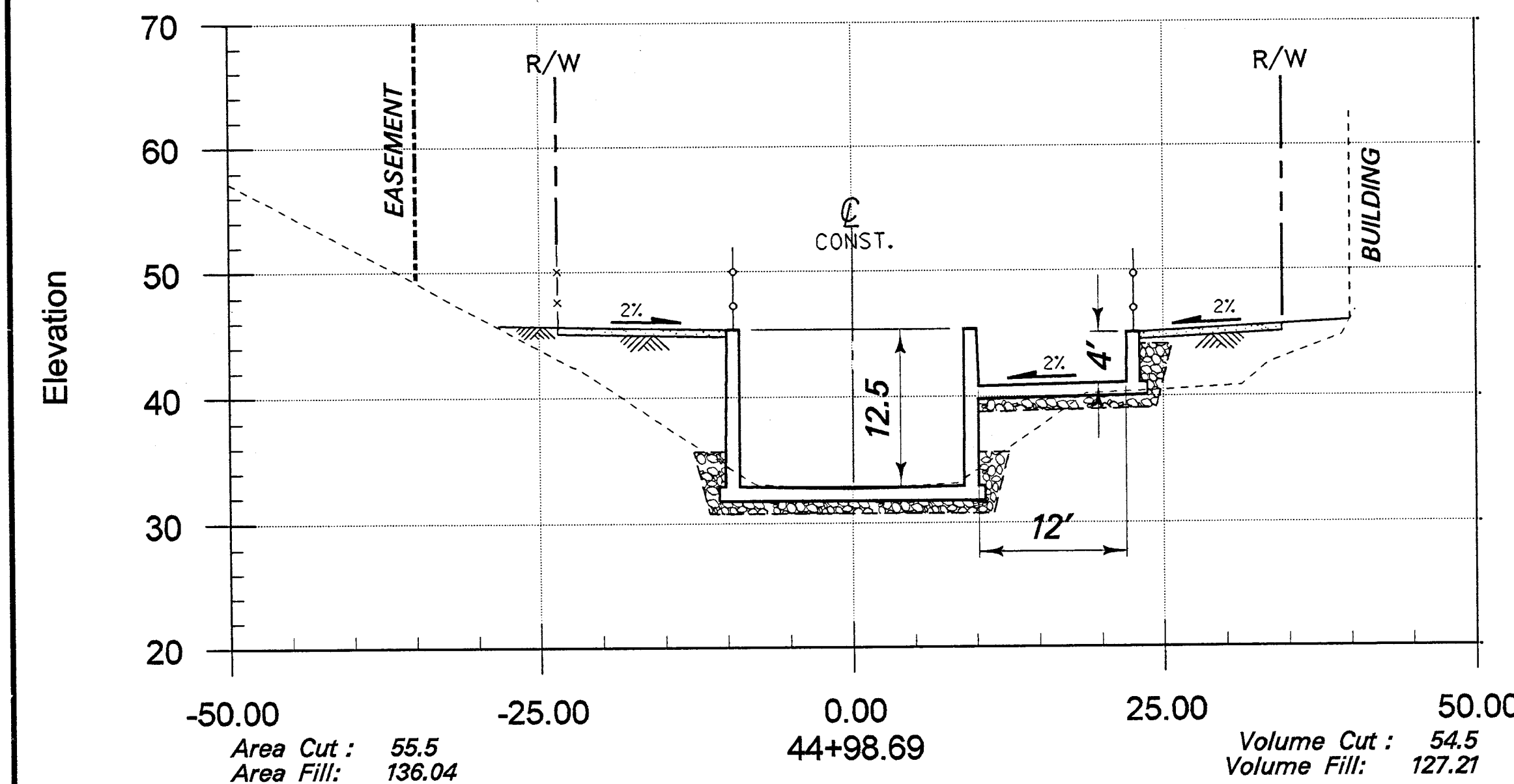
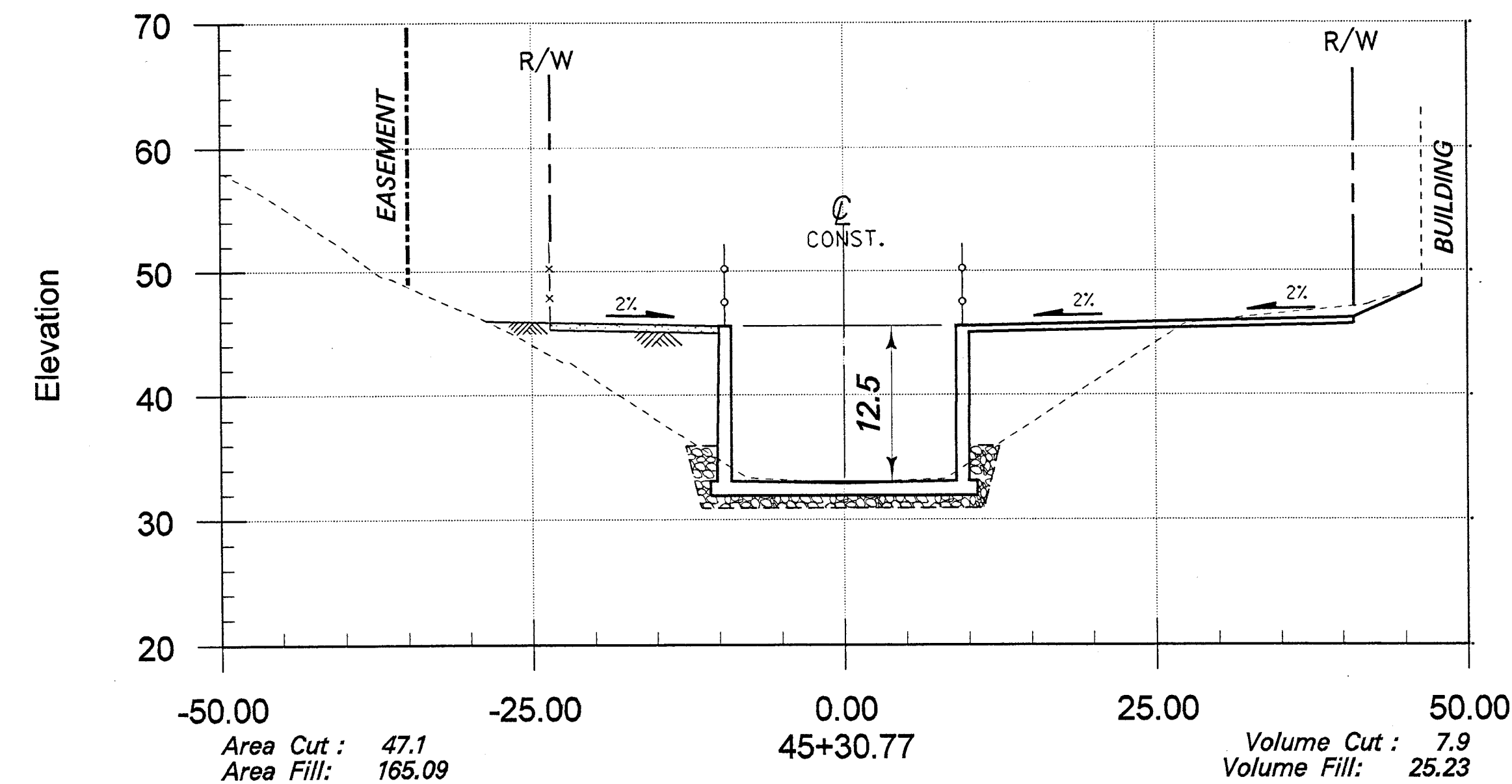
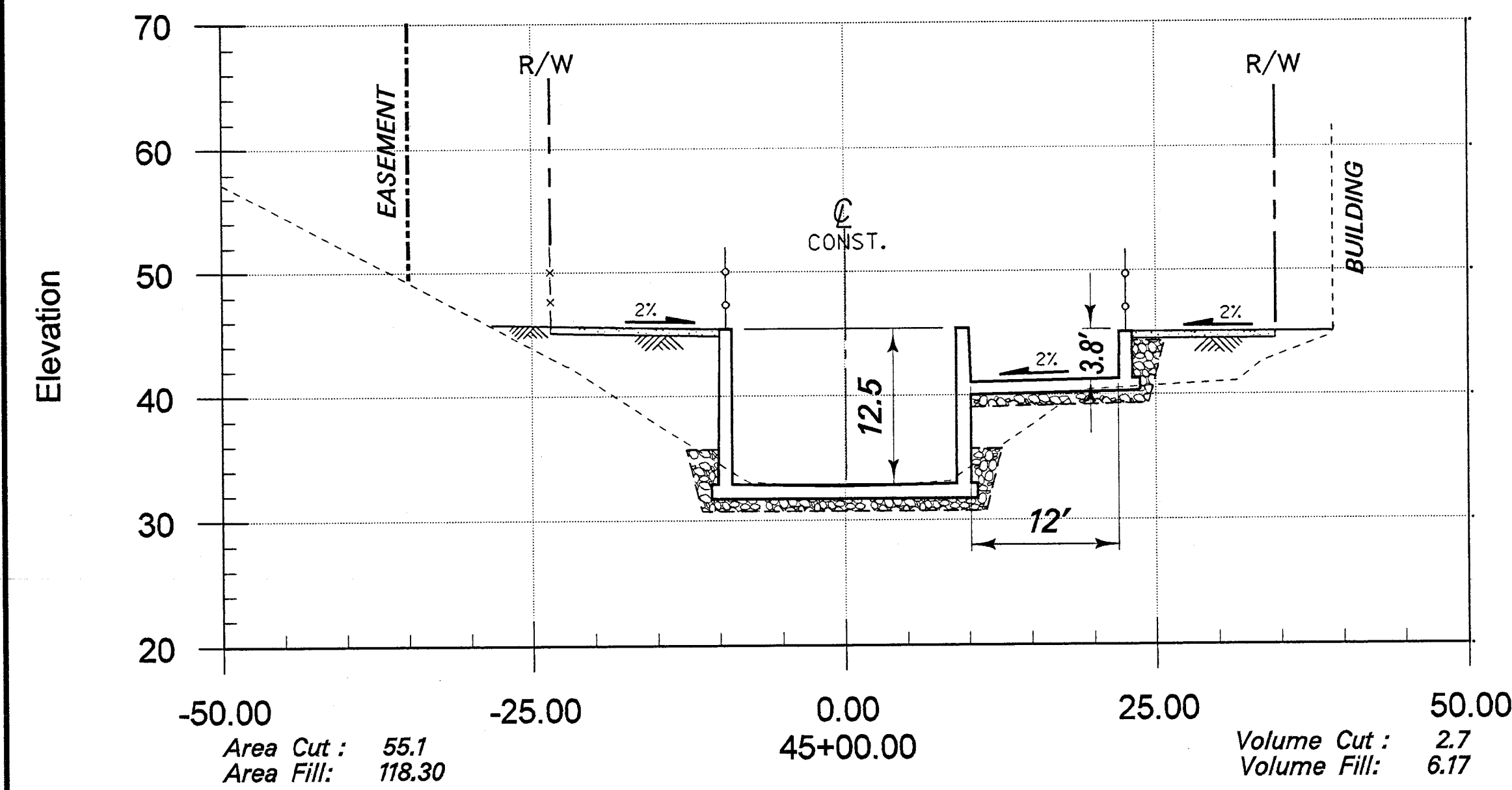
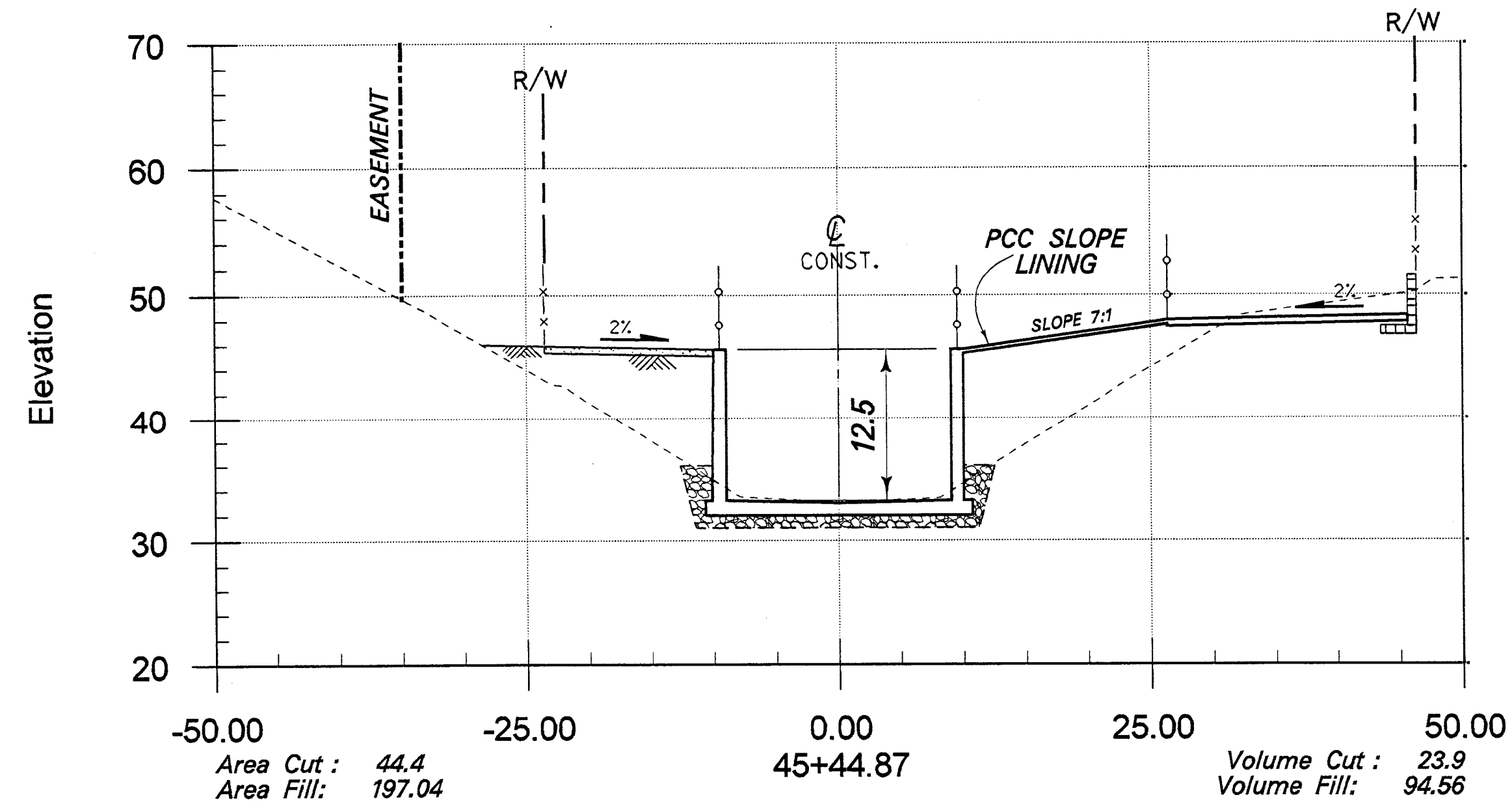
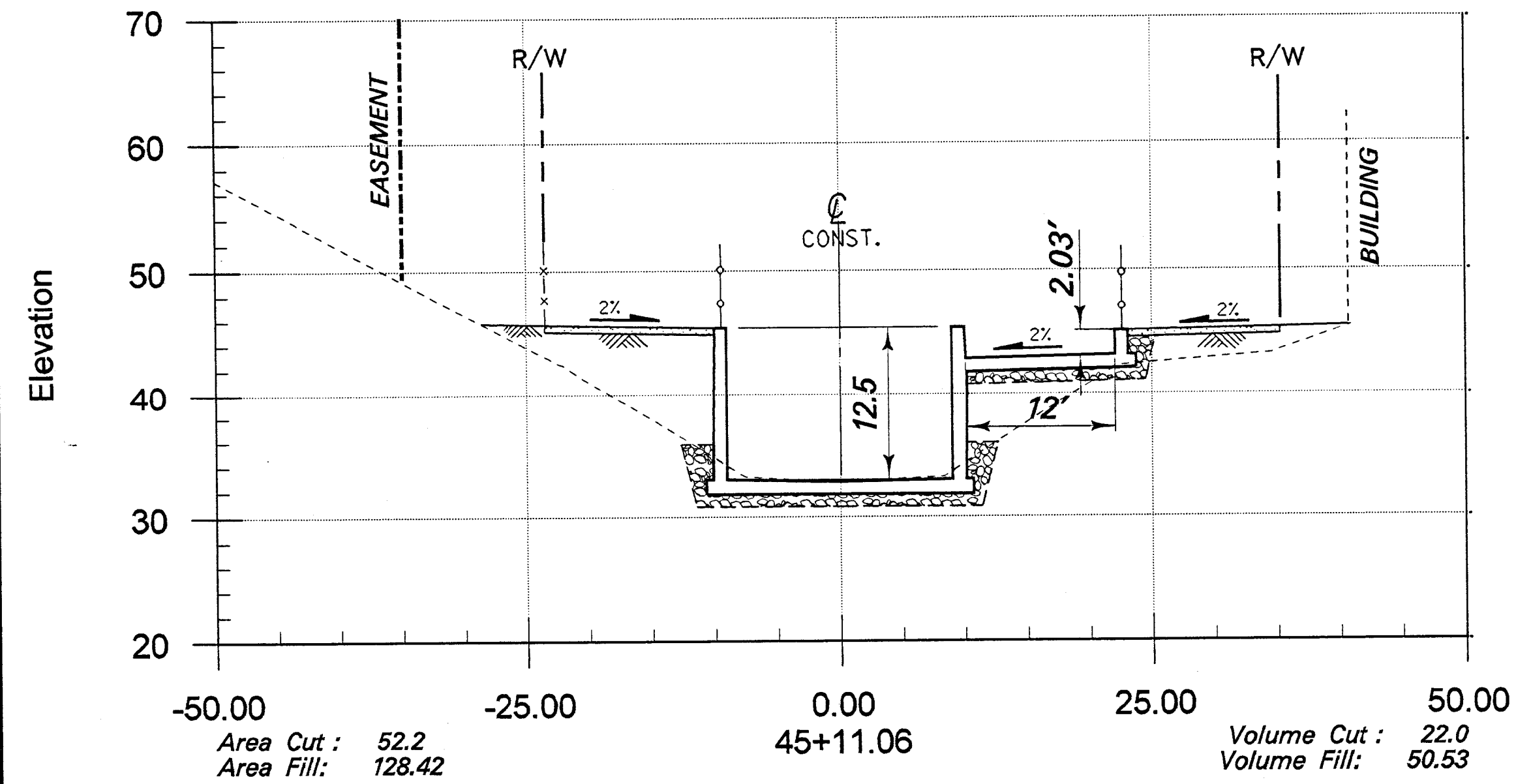
SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL



ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 42+00.00 TO STA 44+73.58	
DESIGNED R. GAUT	CHECKED
DRAWN R.H. DE GUZMAN	CHECKED
SCALE AS SHOWN	DATE 1/7/03
DRAWING NO. M02-101-4R	SHEET 37 OF 42

MO2-101-4R

38 42

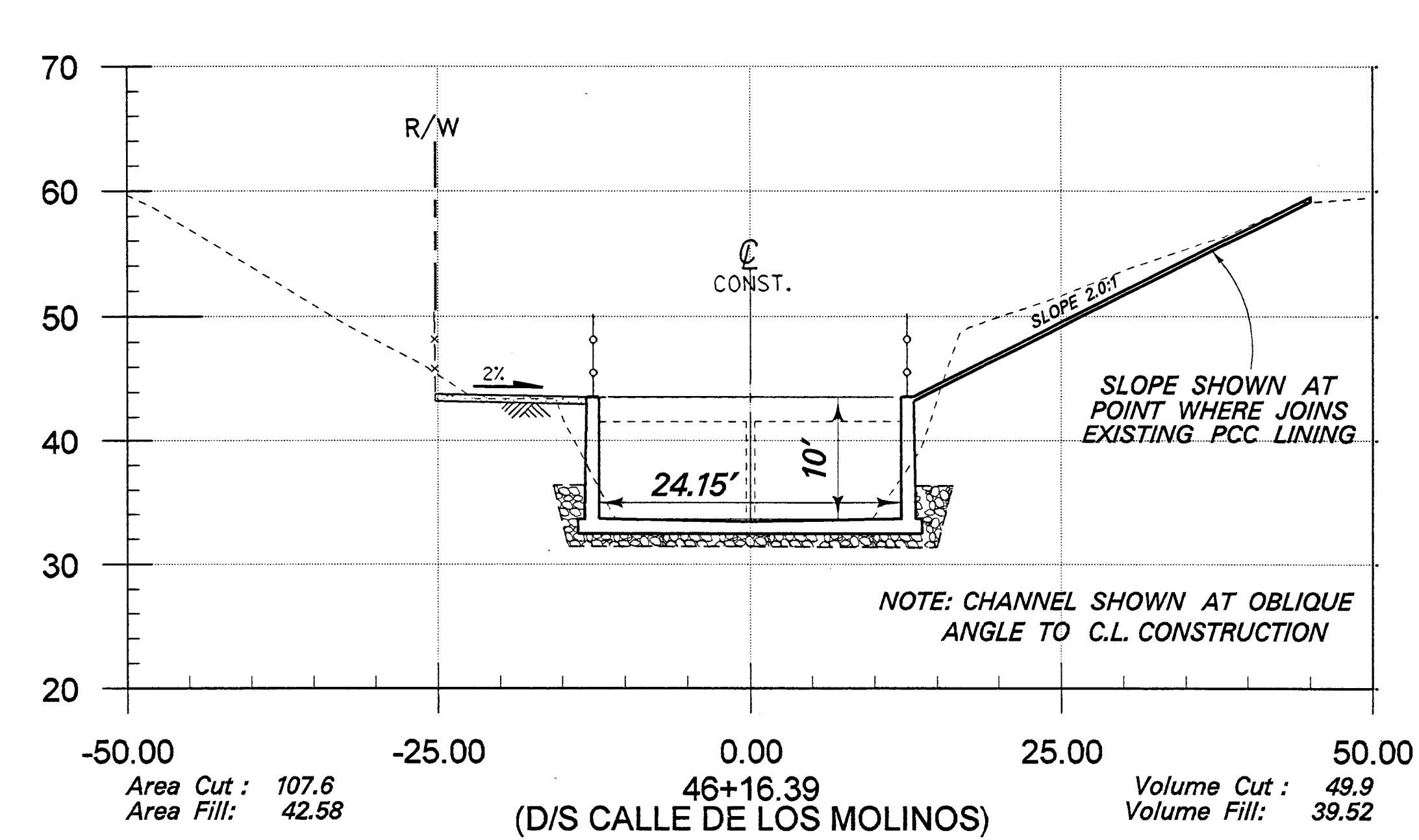
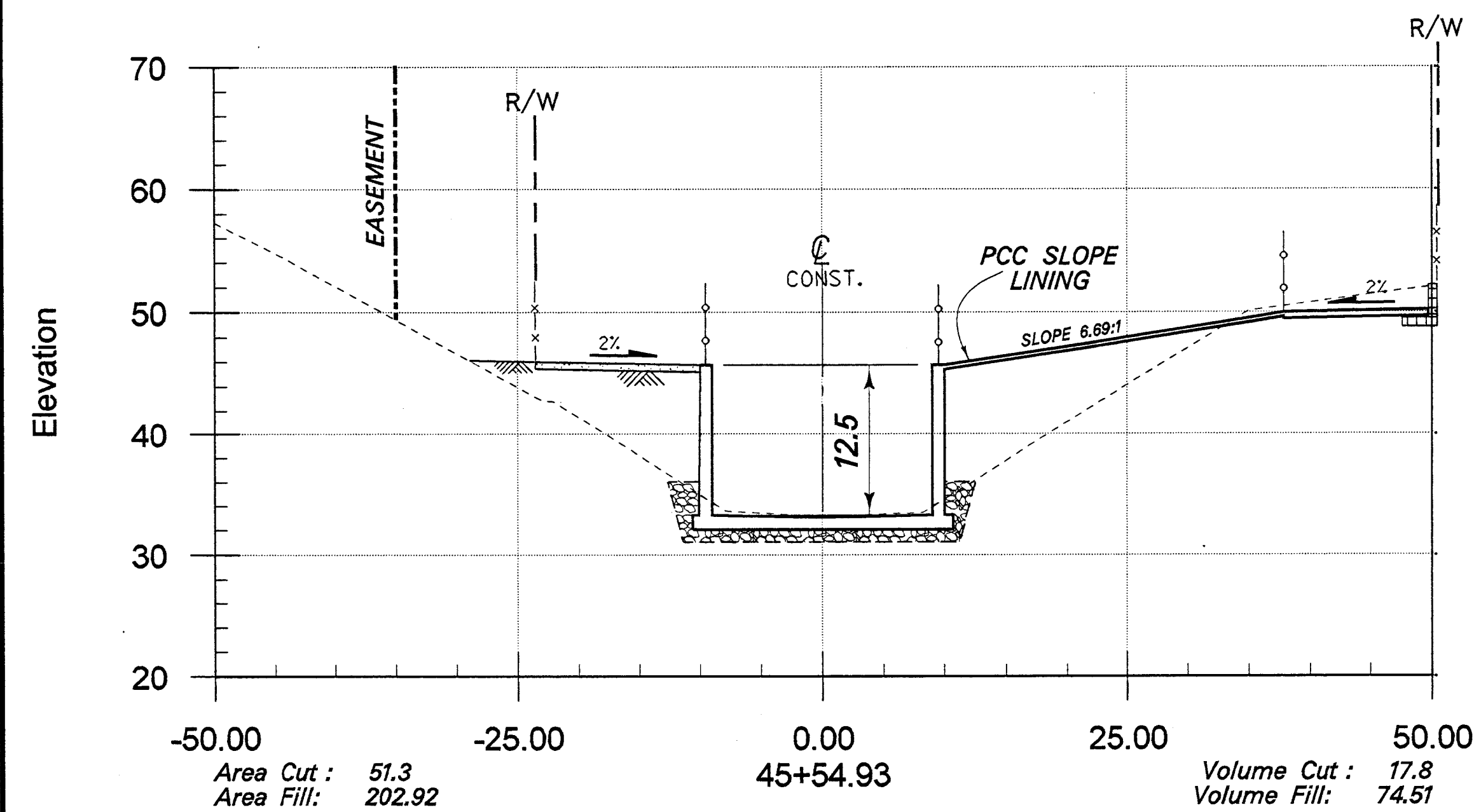
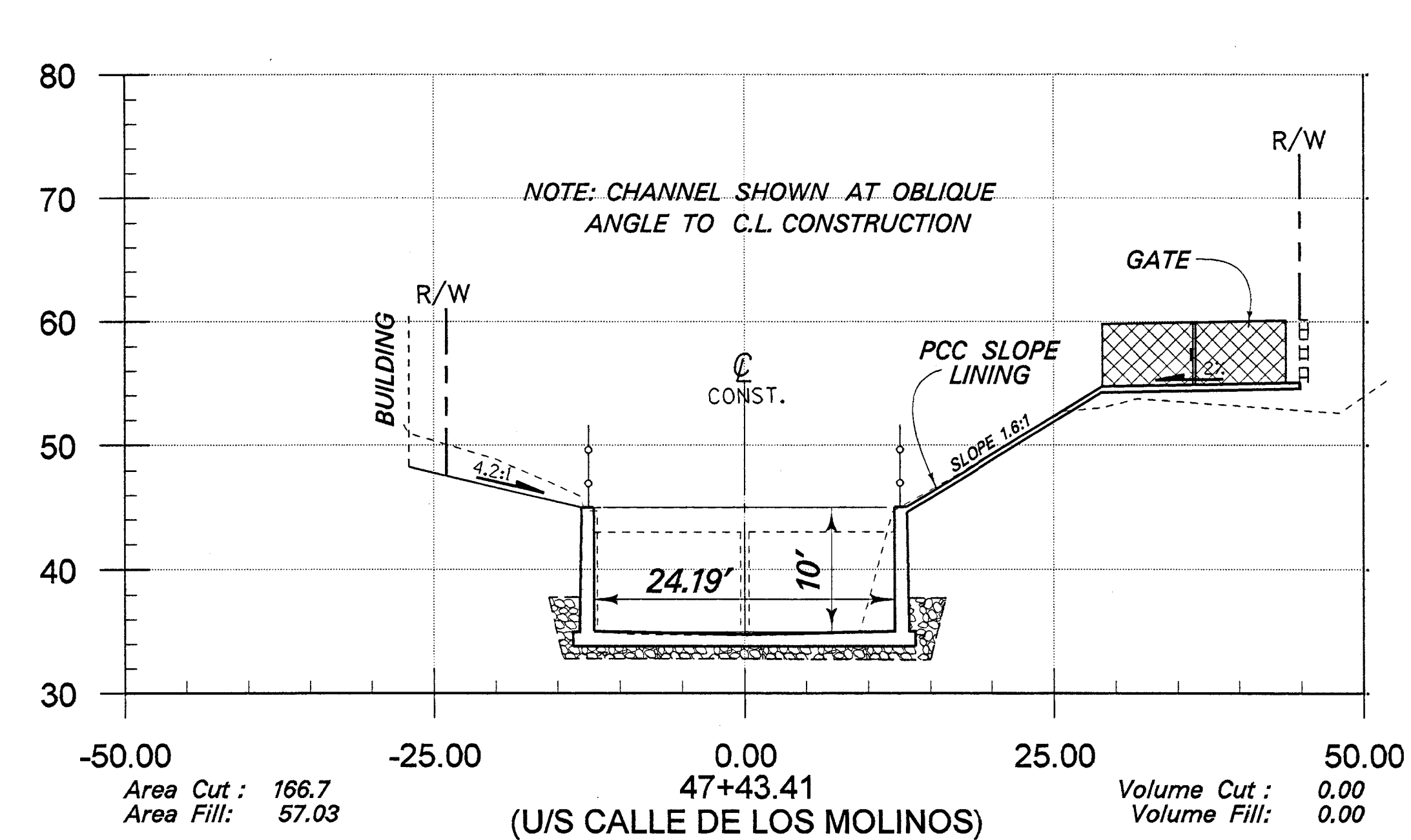
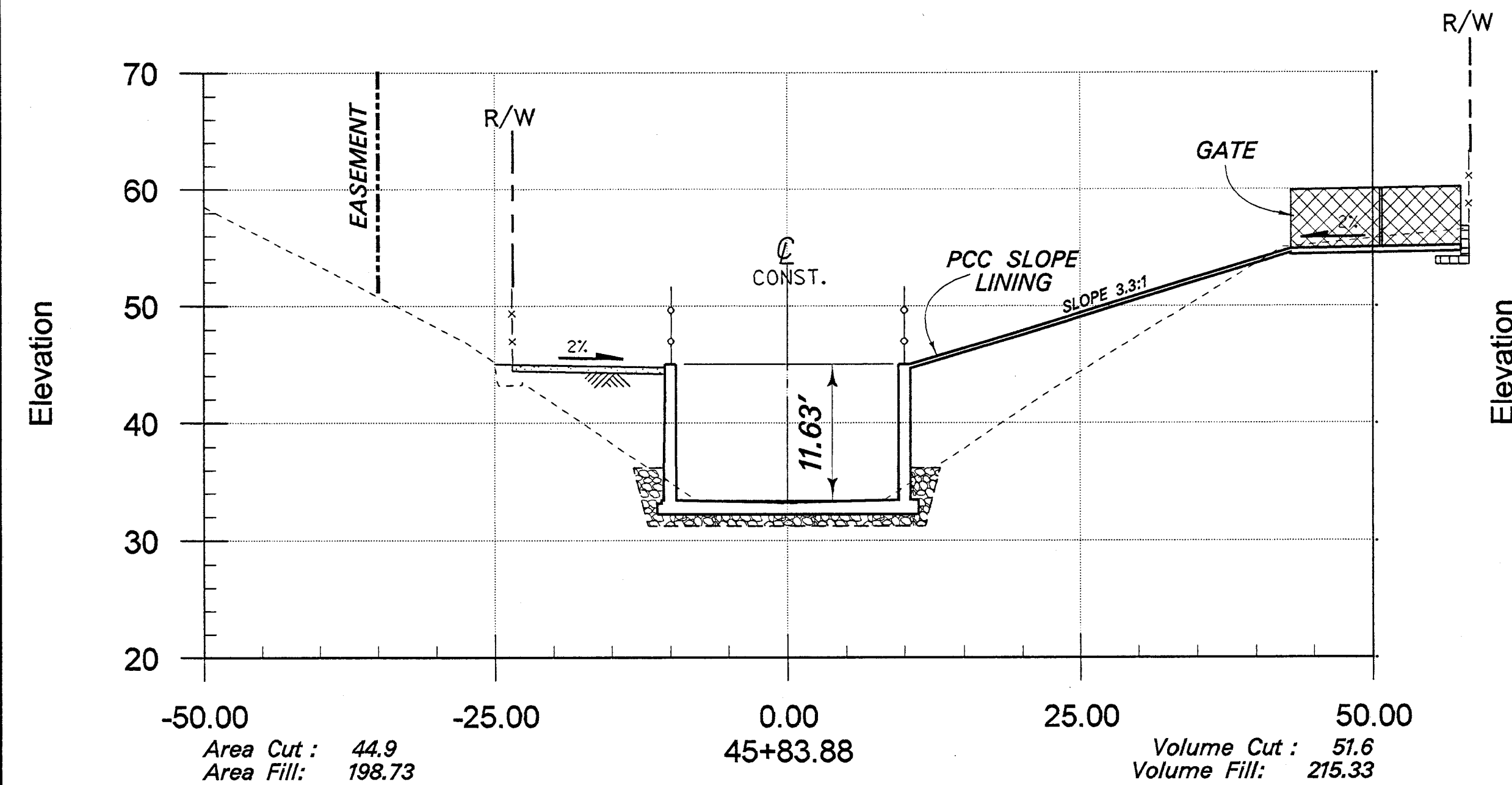
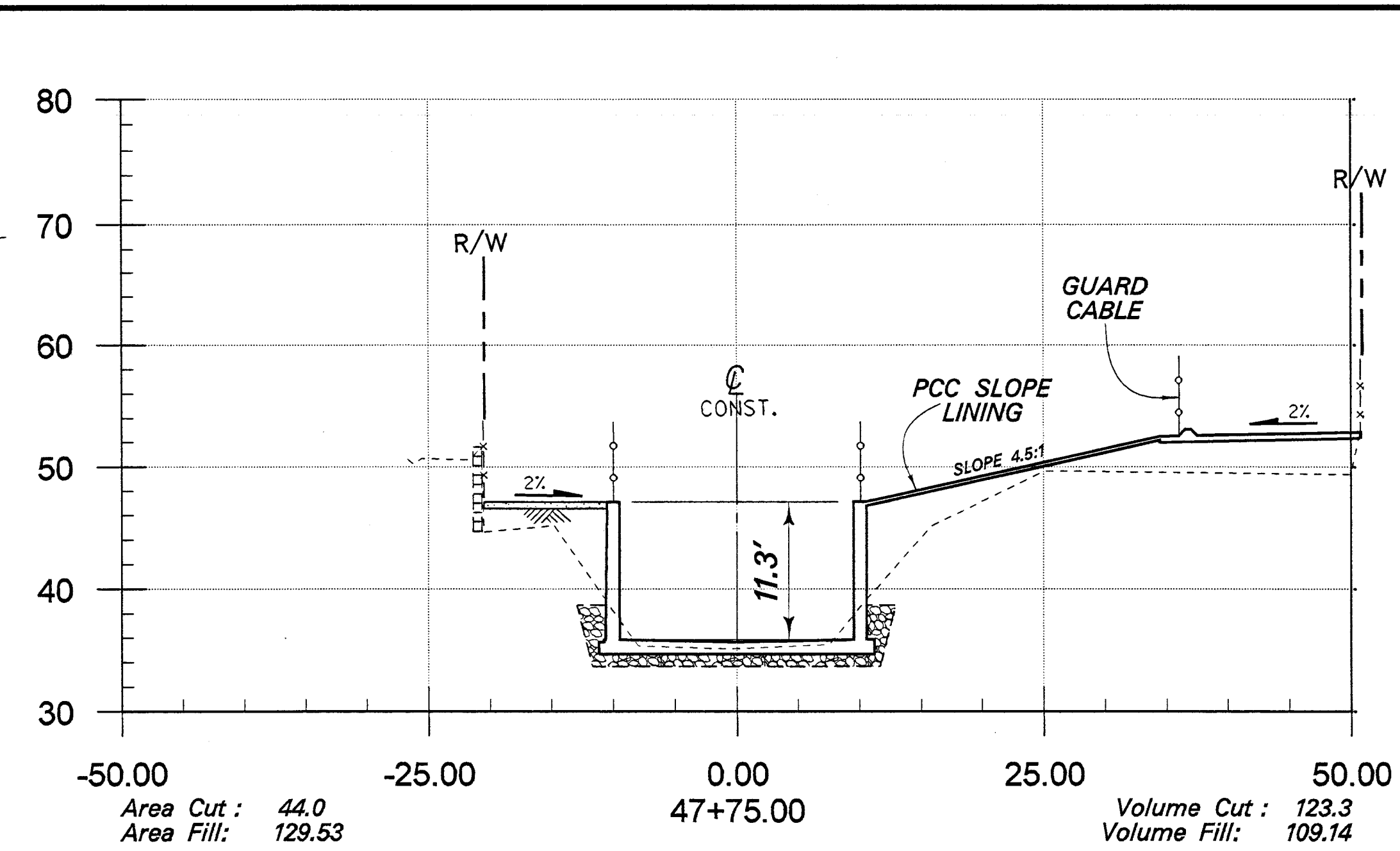
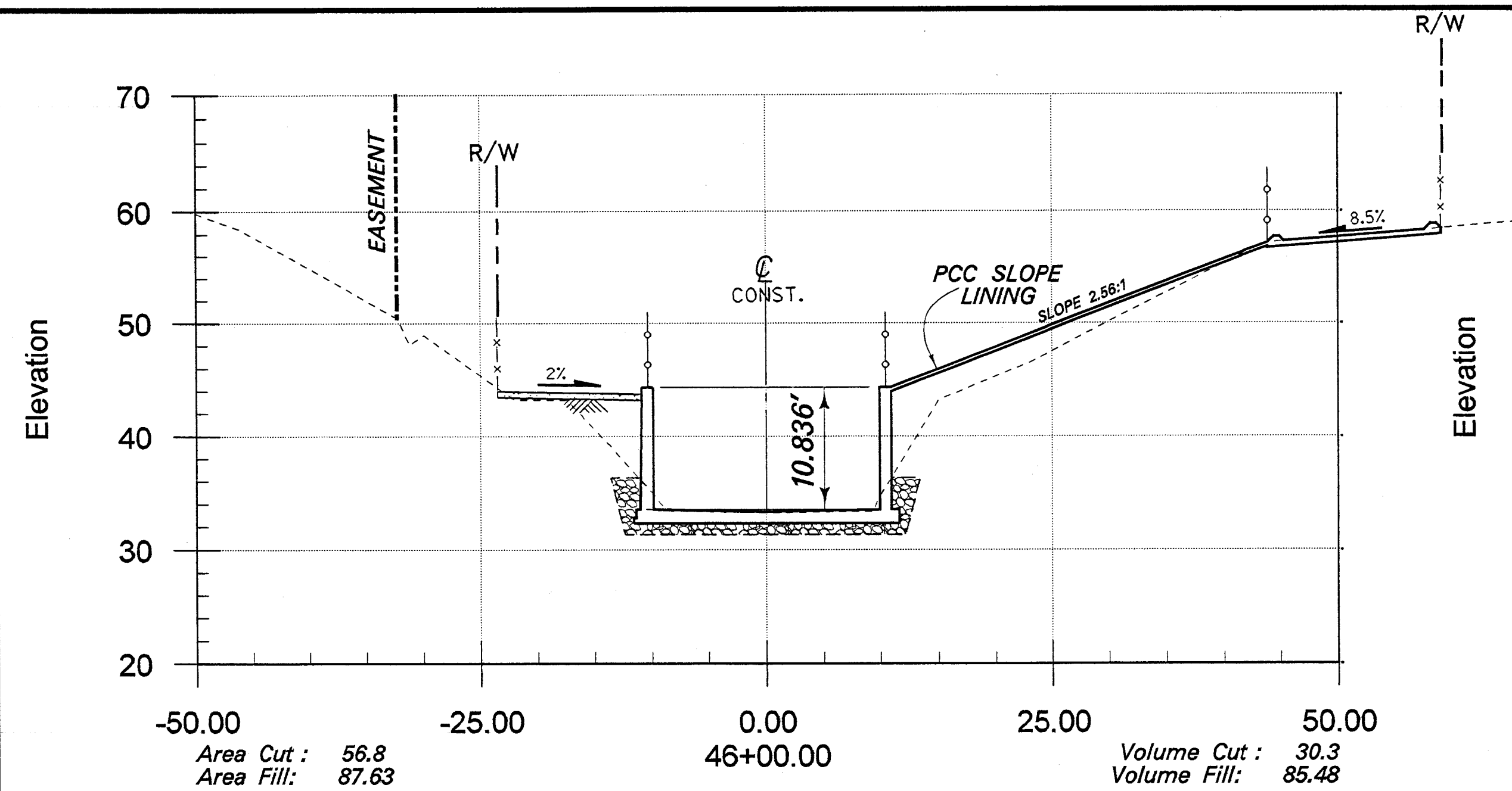


RECORD DRAWING

SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL

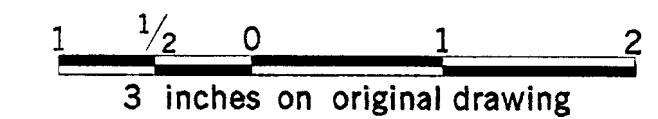
1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 44+98.69 TO STA 45+44.87	
DESIGNED R. GAUT	SHEET
DRAWN R.H. DE GUZMAN	38
SCALE AS SHOWN	DATE 1/7/03
DRAWING NO. M02-101-4 R	OF 42



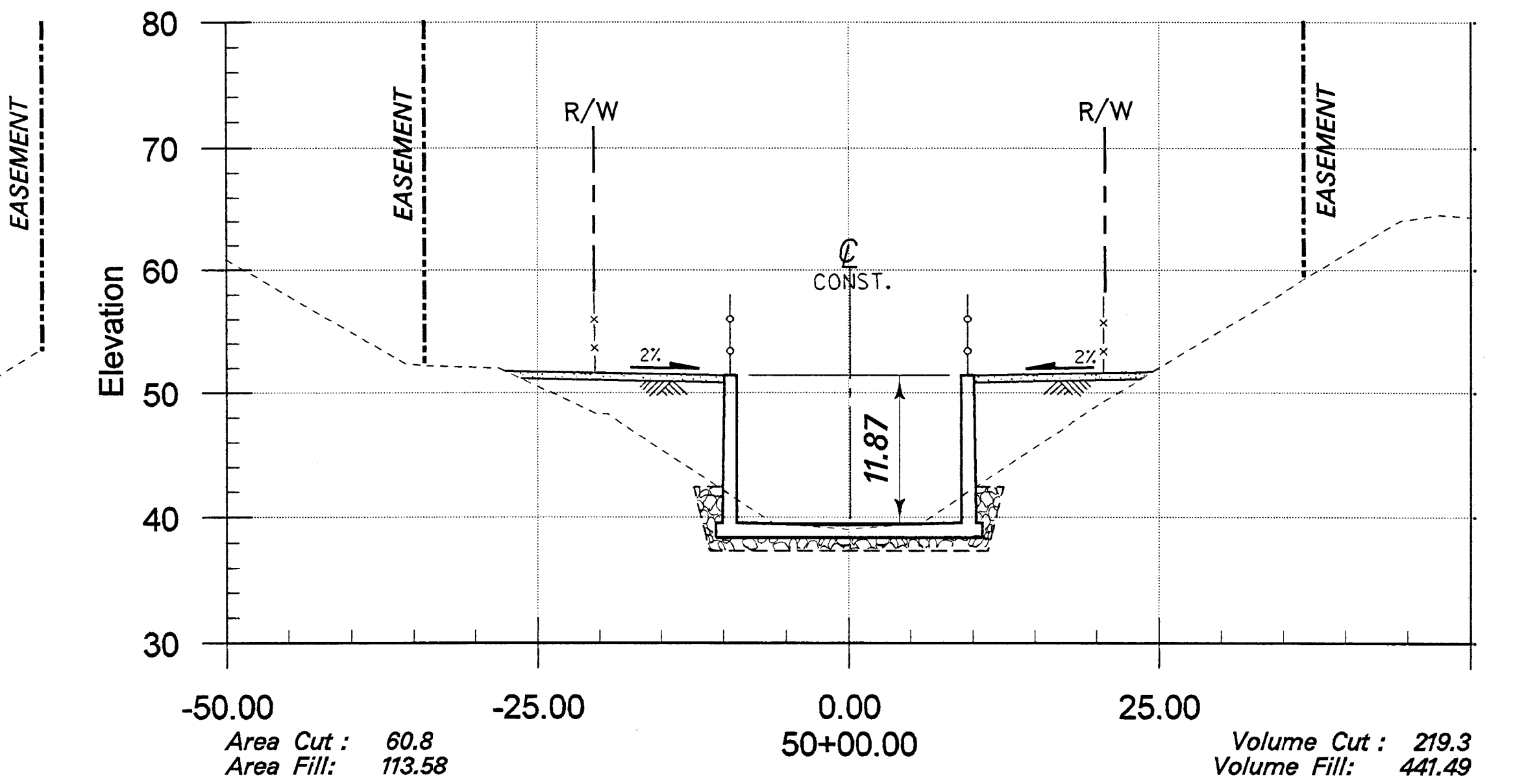
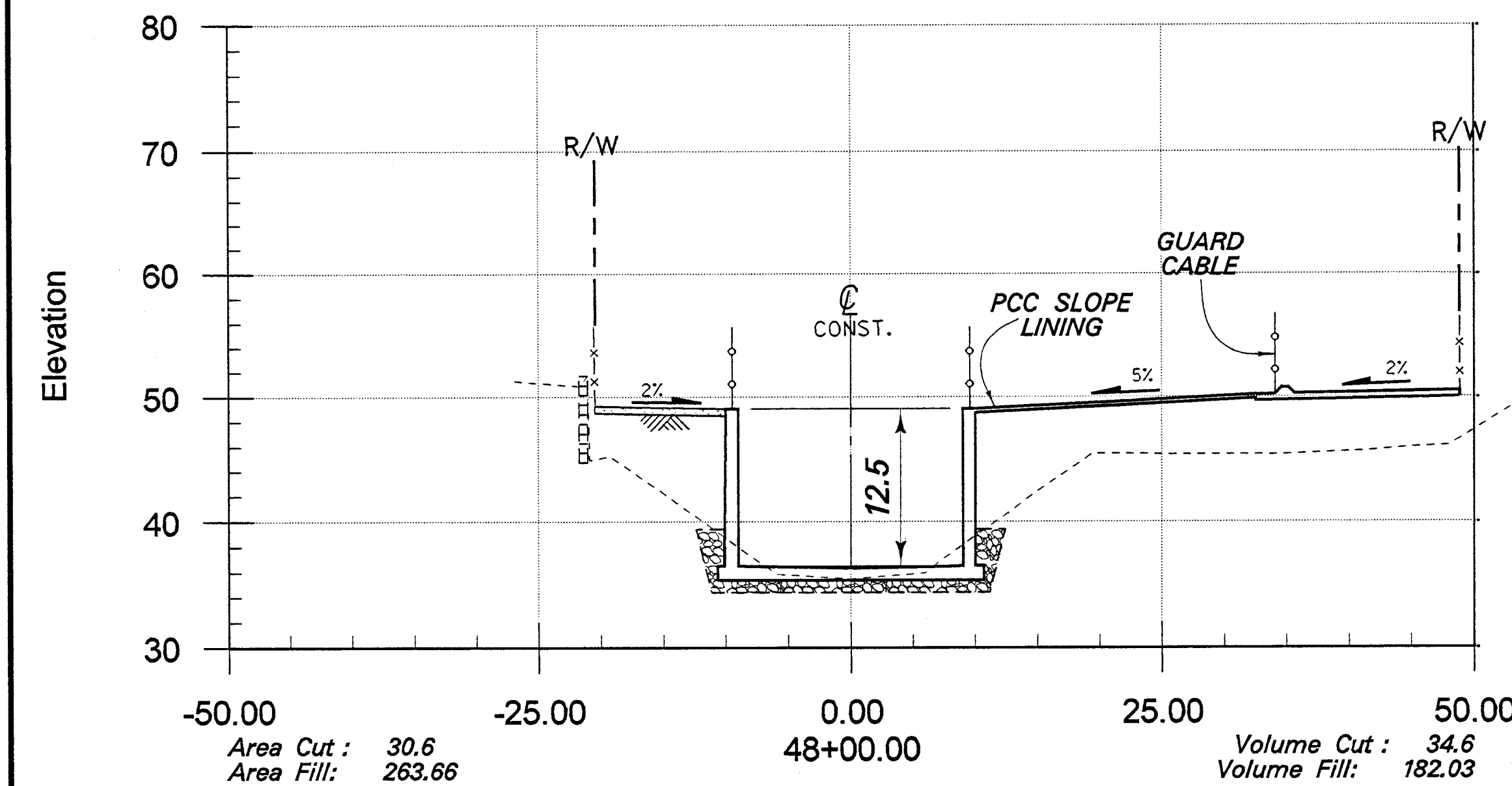
RECORD DRAWING

SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL



ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 45+54.93 TO STA 47+75.00	
DESIGNED R. GAUT	SHEET
DRAWN R.H. DE GUZMAN	39
SCALE AS SHOWN	DATE 1/7/03
DRAWING NO. M02-101-4 R	OF 42

M02-101-61K



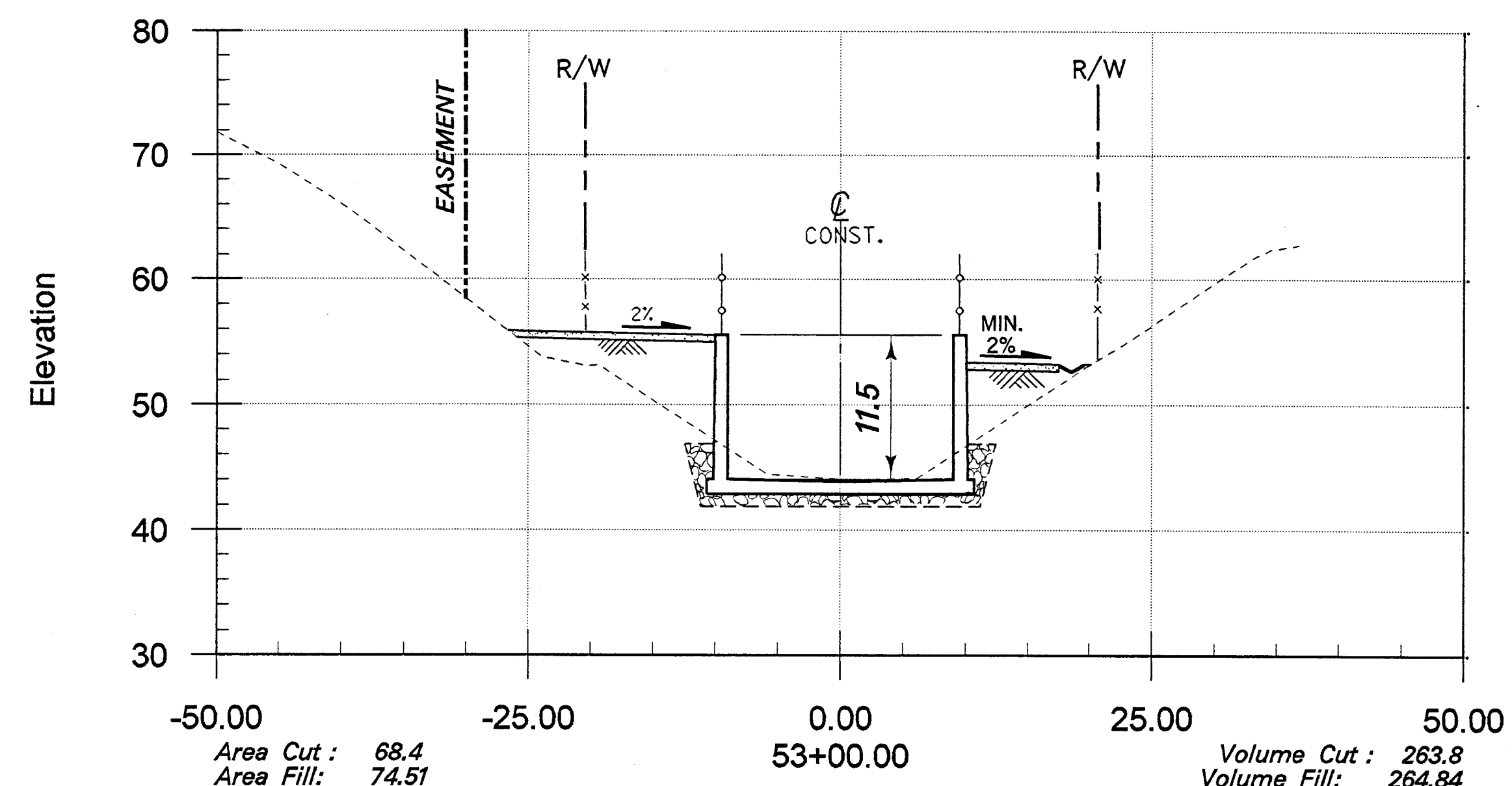
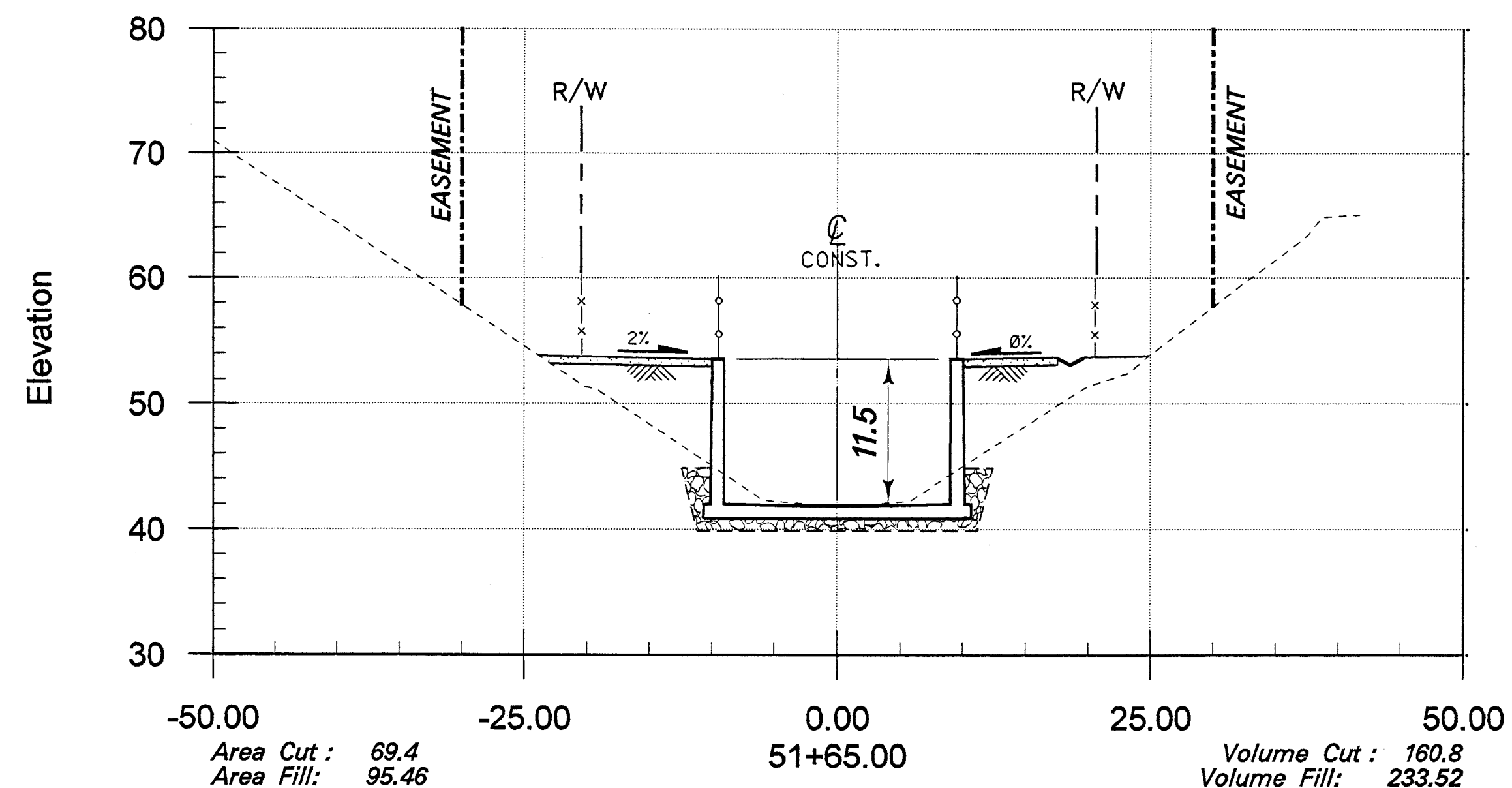
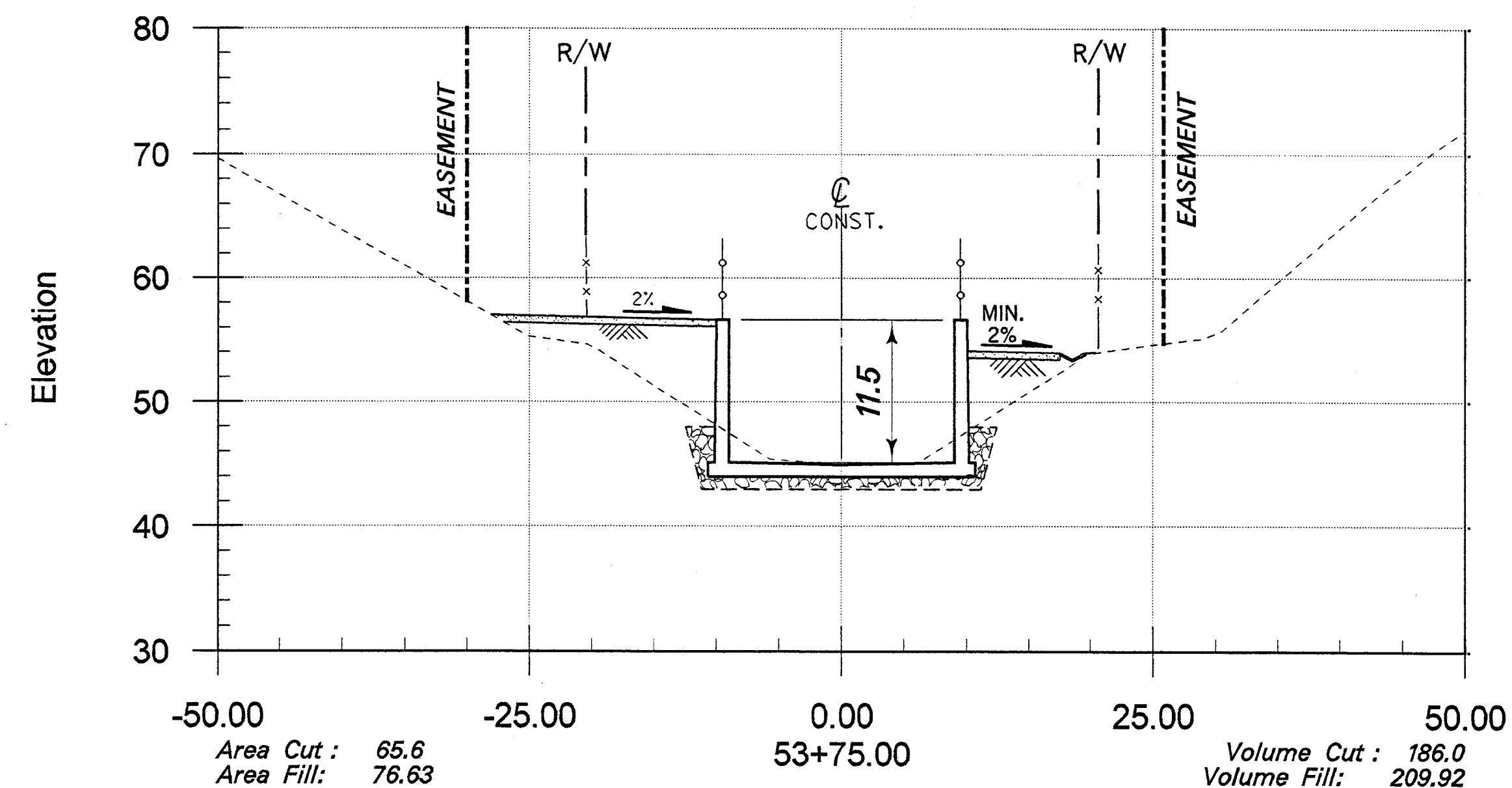
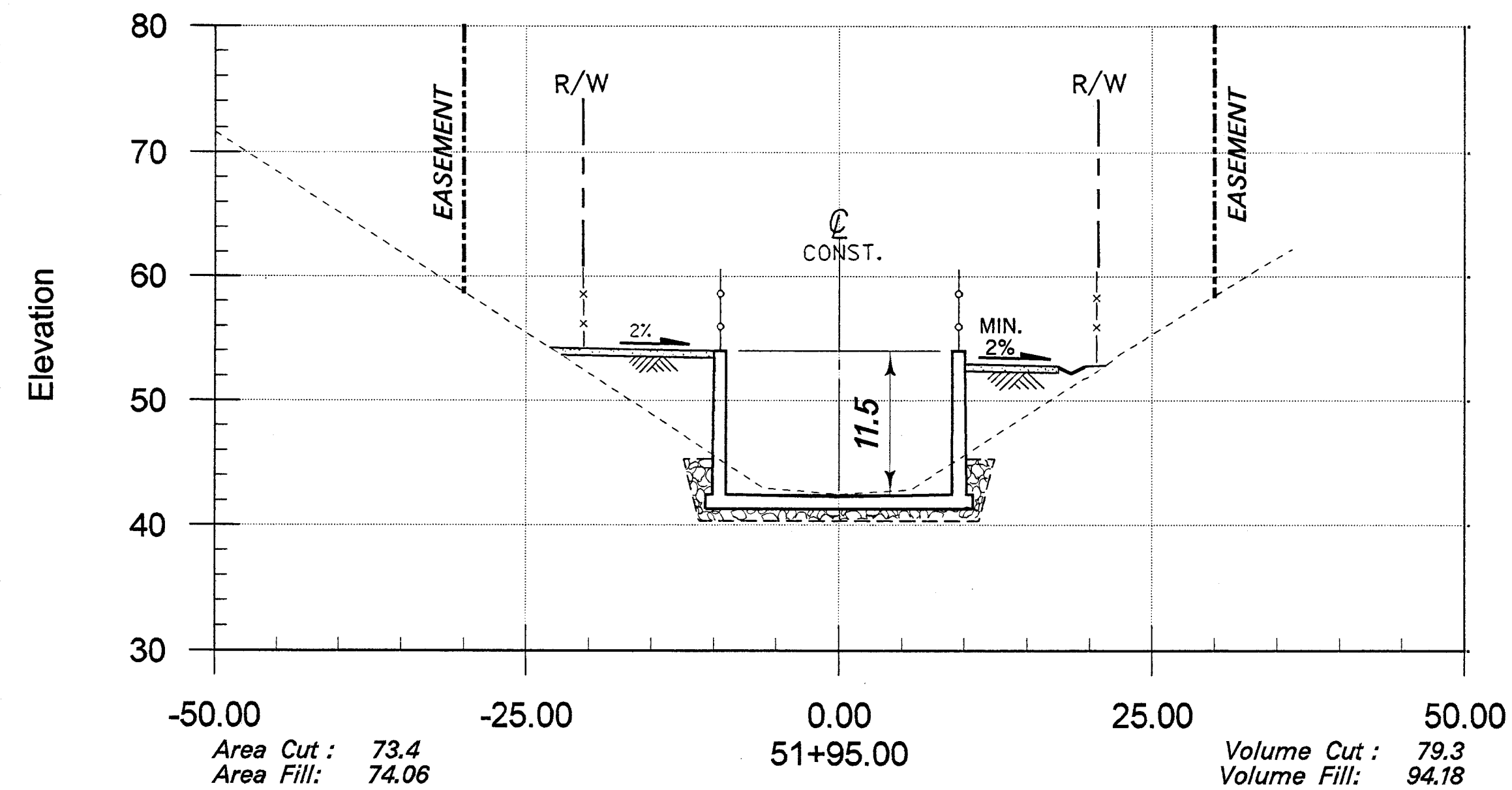
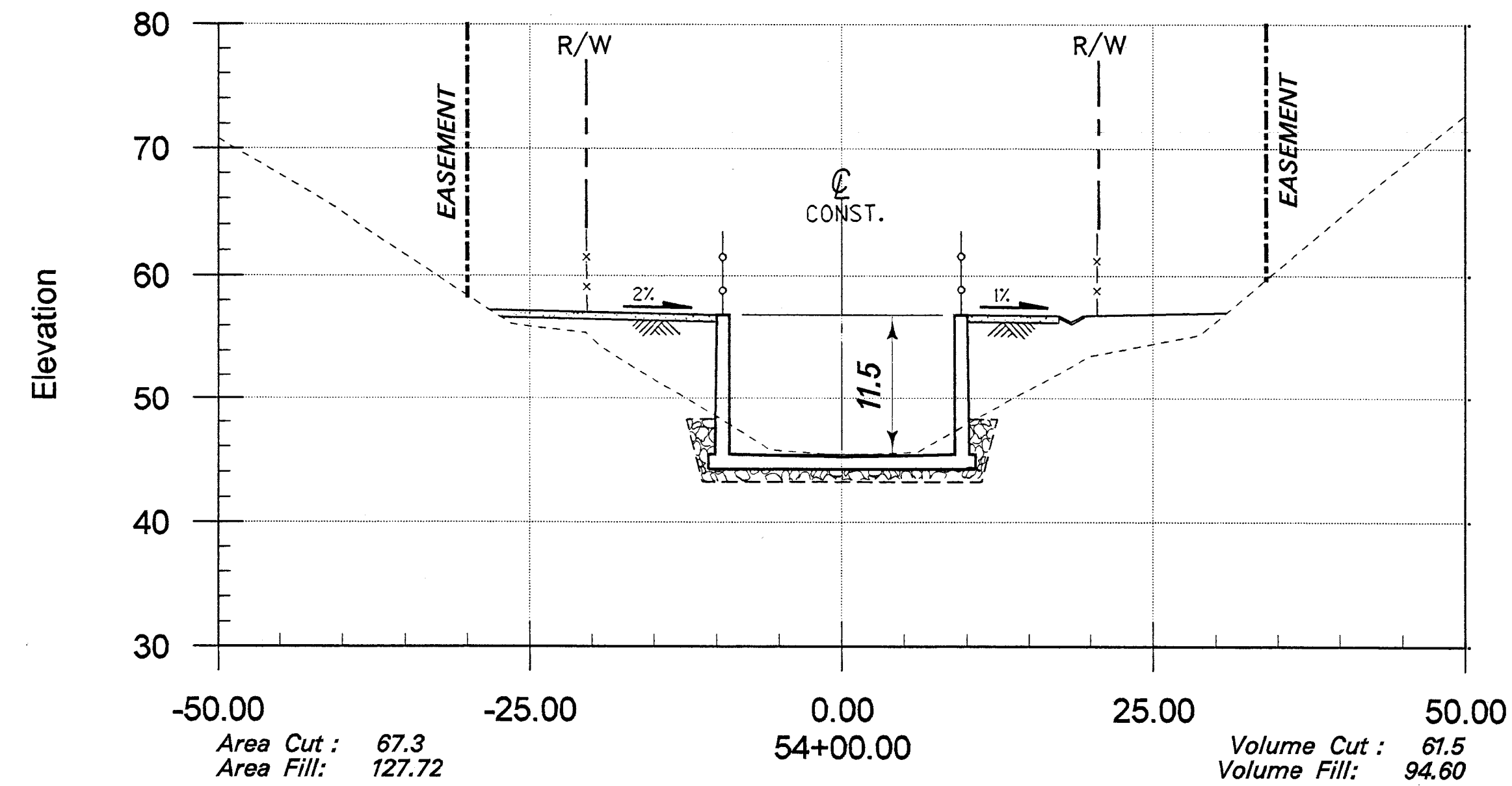
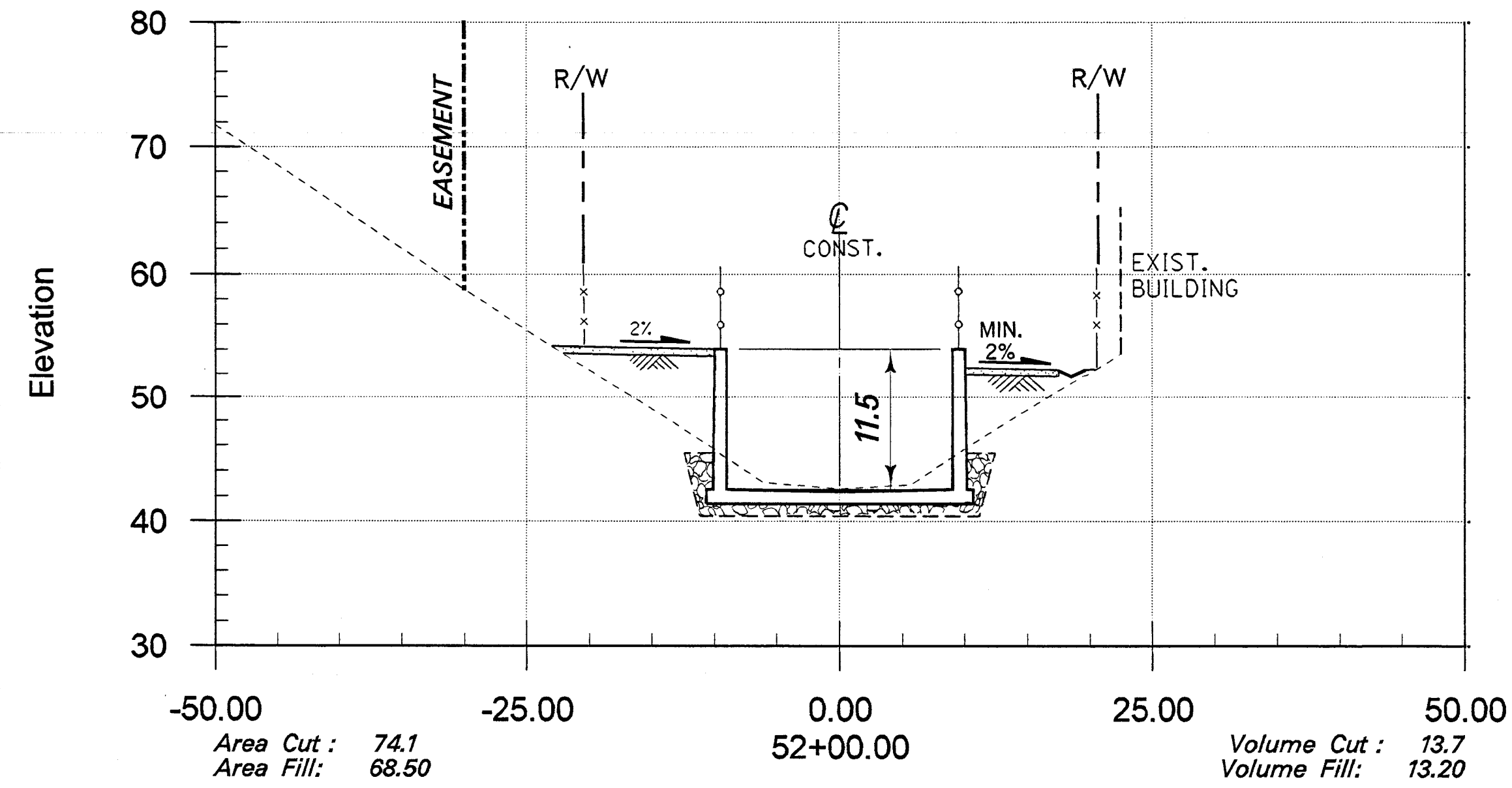
1 $\frac{1}{2}$ 0 1 2

3 inches on original drawing

		ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT <u>SEGUNDA DESHECHA CANADA CHANNEL</u> <u>OCFCD FACILITY NO. M02</u> CROSS SECTIONS STA 48+00.00 TO STA 51+00.00								
MARK	DATE	DESCRIPTION								
R E V I S I O N S										
PREPARED UNDER SUPERVISION OF										
		DATE								
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">DESIGNED <u>R. GAUT</u></td> <td style="width: 50%;">CHECKED _____</td> </tr> <tr> <td style="width: 50%;">DRAWN <u>R.H. DE GUZMAN</u></td> <td style="width: 50%;">CHECKED _____</td> </tr> <tr> <td style="width: 50%;">SCALE</td> <td style="width: 50%;">DRAWING NO.</td> </tr> <tr> <td style="text-align: center;">AS SHOWN</td> <td style="text-align: center;">M02-101-4 R</td> </tr> </table>	DESIGNED <u>R. GAUT</u>	CHECKED _____	DRAWN <u>R.H. DE GUZMAN</u>	CHECKED _____	SCALE	DRAWING NO.	AS SHOWN	M02-101-4 R
DESIGNED <u>R. GAUT</u>	CHECKED _____									
DRAWN <u>R.H. DE GUZMAN</u>	CHECKED _____									
SCALE	DRAWING NO.									
AS SHOWN	M02-101-4 R									
		40 OF 42								

11 103
M02-101-4 R

41 42



RECORD DRAWING

SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL

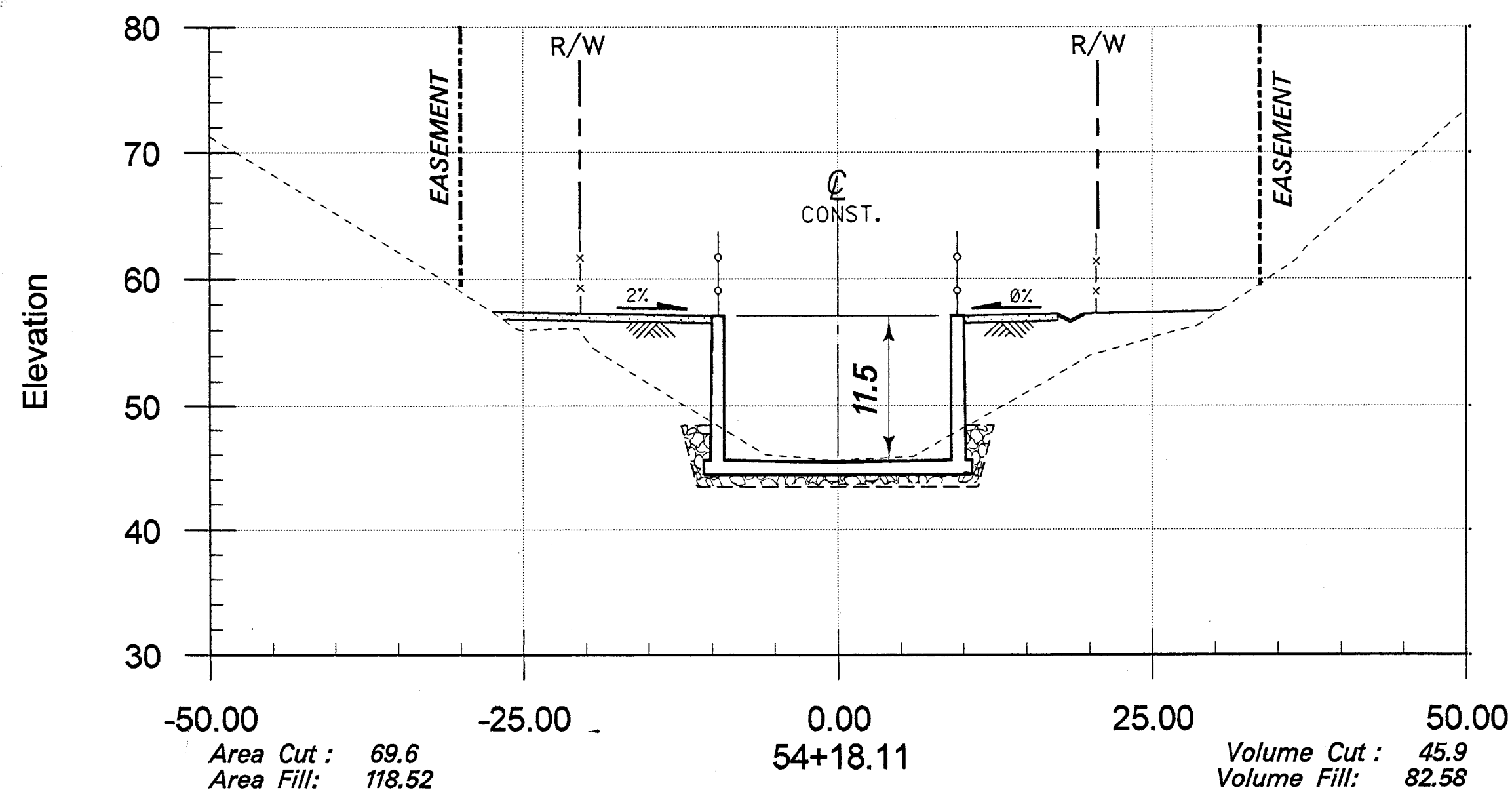
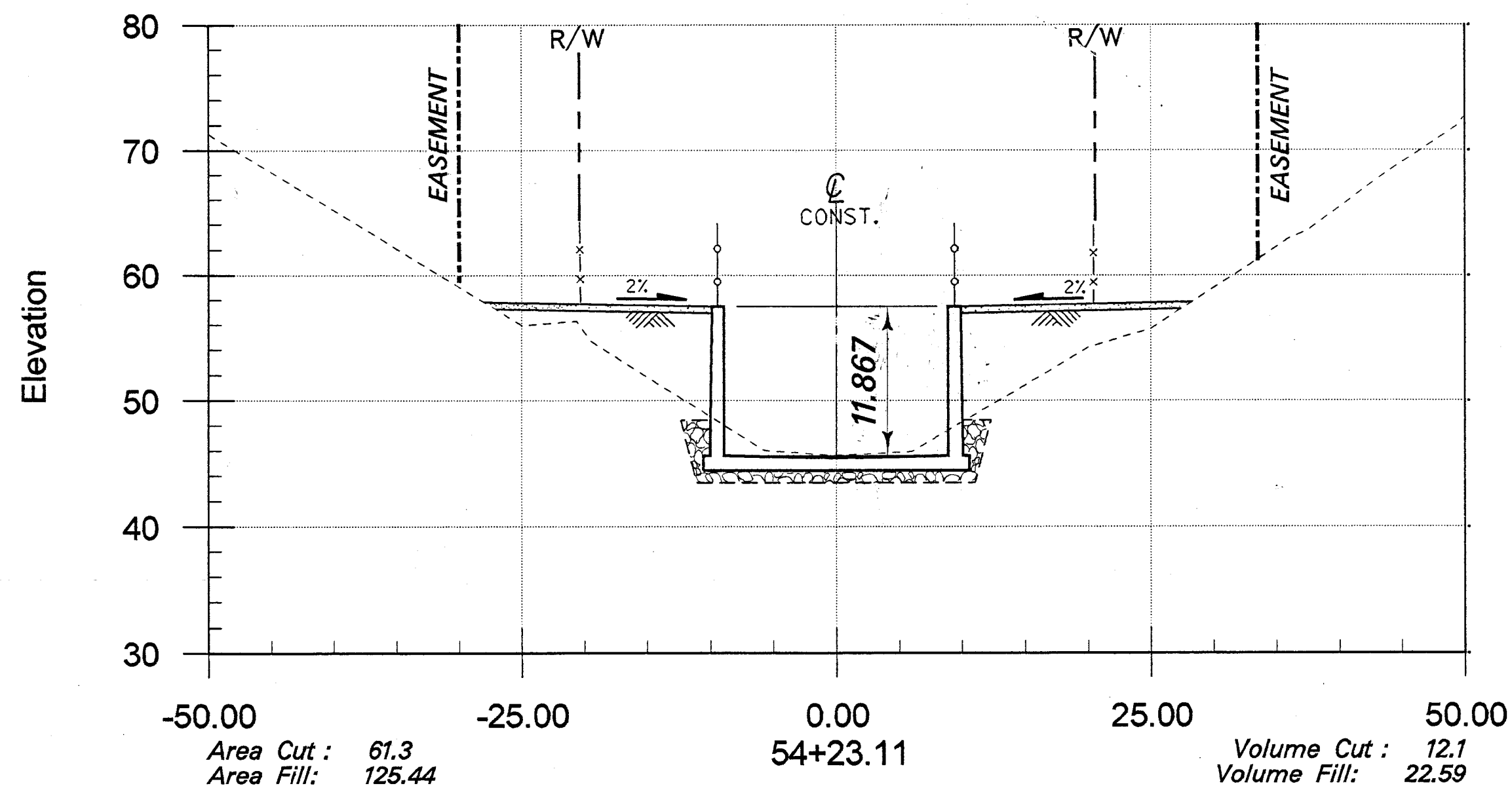
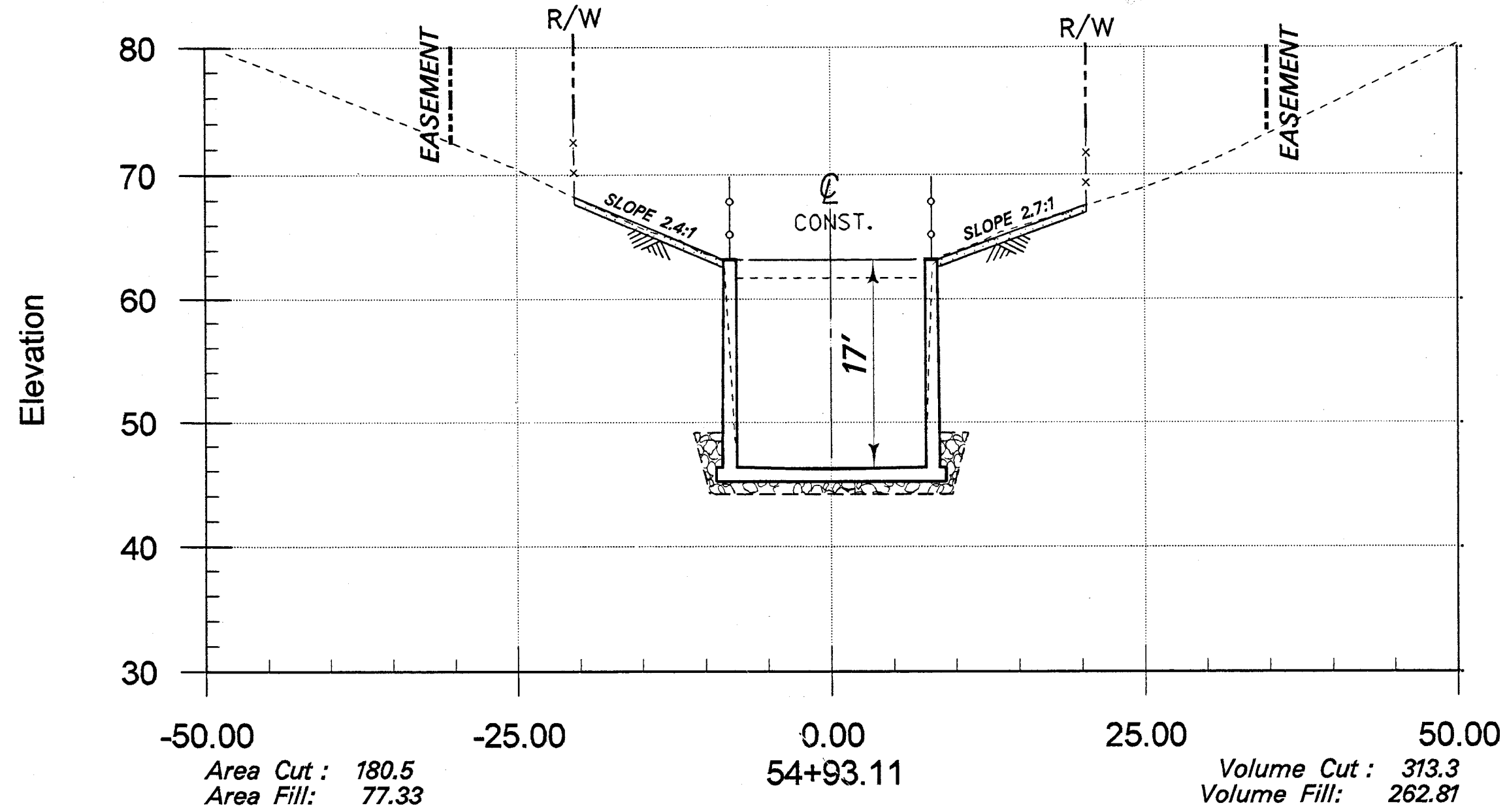
1 1/2 0 1 2
3 inches on original drawing

ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT	
SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
CROSS SECTIONS STA 51+65.00 TO STA 54+00.00	
DESIGNED R. GAUT	SHEET
DRAWN R.H. DE GUZMAN	41
SCALE AS SHOWN	DATE 1/7/03
CHECKED	DRAWING NO. M02-101-4 R
OF 42	

15 100
42 2nd Fl. 000 3/11 043
M02-101-4 R

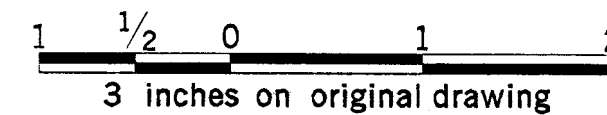
42

42



RECORD DRAWING

SCALE: 1" = 10' VERTICAL & HORIZONTAL
VOLUME CUT (cy) = UNCLASSIFIED EXCAVATION
VOLUME FILL (cy) = UNCLASSIFIED FILL



ORANGE COUNTY PUBLIC FACILITIES AND RESOURCES DEPARTMENT		SEGUNDA DESHECHA CANADA CHANNEL OCFCD FACILITY NO. M02	
		CROSS SECTIONS STA 54+18.11 TO STA 54+93.11	
DESIGNED R. GAUT		SHEET 42 OF 42	
DRAWN R.H. DE GUZMAN		CHECKED	
SCALE AS SHOWN	DATE 1/7/03	DRAWING NO. M02-101-4 R	