

## 5. 地盤

### 5.1 圧密沈下の検討

計画区域では、洪積粘性土層 (Dc1~3) の一部で N 値が 5 未満となっているが、設計 N 値としては 5 以上とみなせる。道路土工盛土工指針 (H22.4 (社) 日本道路協会) によると、軟弱層や液状化の恐れがある地盤以外では、盛土の支持層は N 値が 5 以上の連続した層とされている。また、盛土載荷重法による盛土後の地中応力は、圧密降伏応力  $P_c$  を上回ることはないため、洪積粘性土層 (Dc1~3) で圧密沈下が生じる可能性は低いと考えられる。

したがって、ここでは洪積粘性土層 (Dc1~3) を除く、表土・埋土層 (B)、沖積層 (Ac・Ap)、ローム層 (Lm)、凝灰質粘土層 (Lc) の 5 層を対象として圧密沈下の検討を行った。

### 5.2 圧密沈下の検討結果

盛土厚ごとの圧密沈下の検討結果は、表-1 に示すとおりである。また、各ケースにおける検討結果の詳細は、次項に示すとおりである。

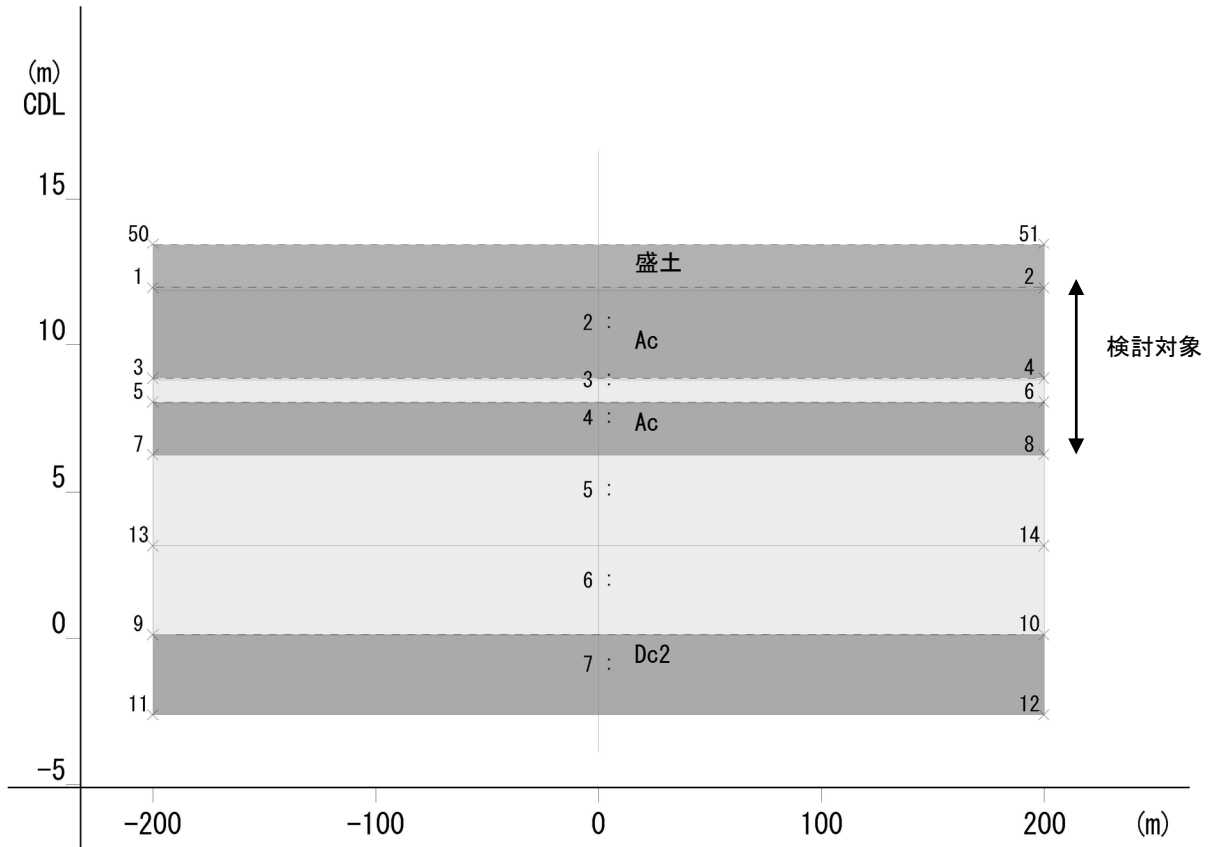
表-1 圧密沈下の検討結果

地点	ケース	盛土厚 (m)	沈下量 (m)	沈下日数 90%沈下
No. 1	H=1.5m	1.5	0.08	15
	H=3.0m	3.0	0.16	28
	H=4.0m	4.0	0.23	37
No. 2	H=1.5m	1.5	0.05	19
	H=3.0m	3.0	0.12	29
	H=4.0m	4.0	0.16	37
No. 3	H=1.5m	1.5	0.16	85
	H=3.0m	3.0	0.33	95
	H=4.0m	4.0	0.42	101
No. 4	H=1.5m	1.5	0.05	19
	H=3.0m	3.0	0.09	29
	H=4.0m	4.0	0.11	37

No. 1 盛土高 H=1.5m

推定盛土断面図 (1000日)

項目	
地表高	CDL 13.38
沈下量	0.09m

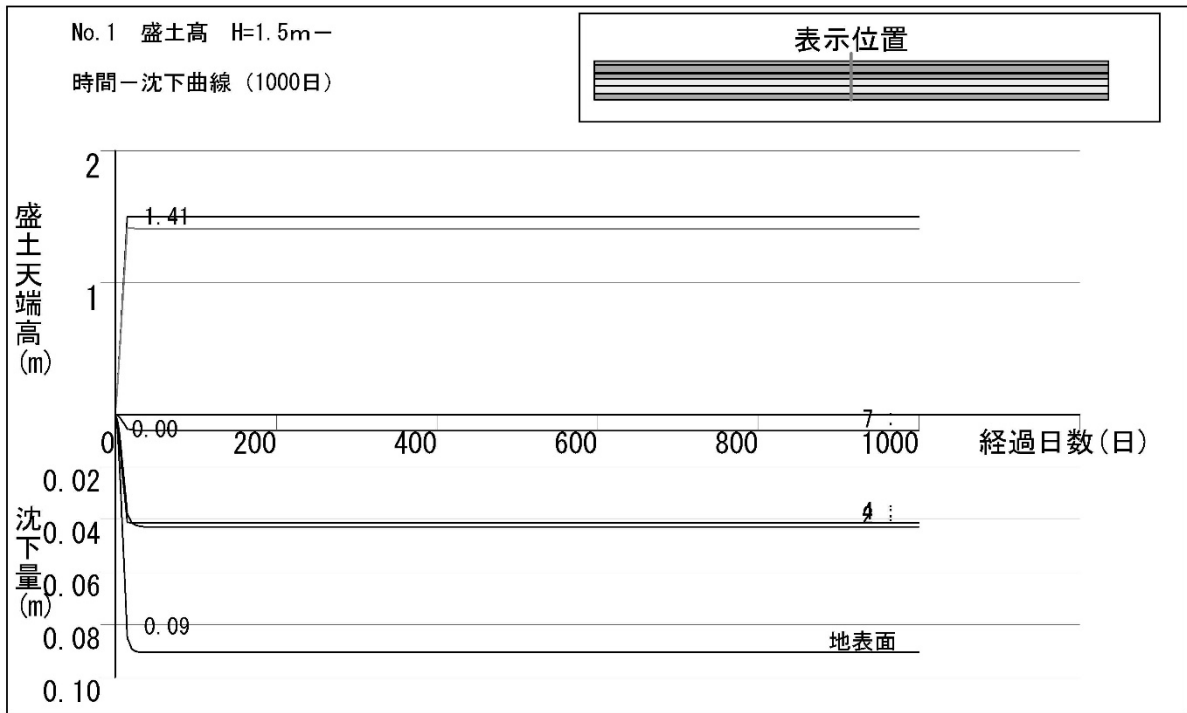


層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	Ac	$\Delta e$ 法	3.100	27.28	27.00	0.00	4.285
3		非圧密層	0.810	---	---	---	---
4	Ac	$\Delta e$ 法	1.800	85.79	27.00	0.00	4.161
5		非圧密層	3.100	---	---	---	---
6		非圧密層	3.040	---	---	---	---
7	Dc2	$\Delta e$ 法	2.750	235.70	27.00	0.00	0.608

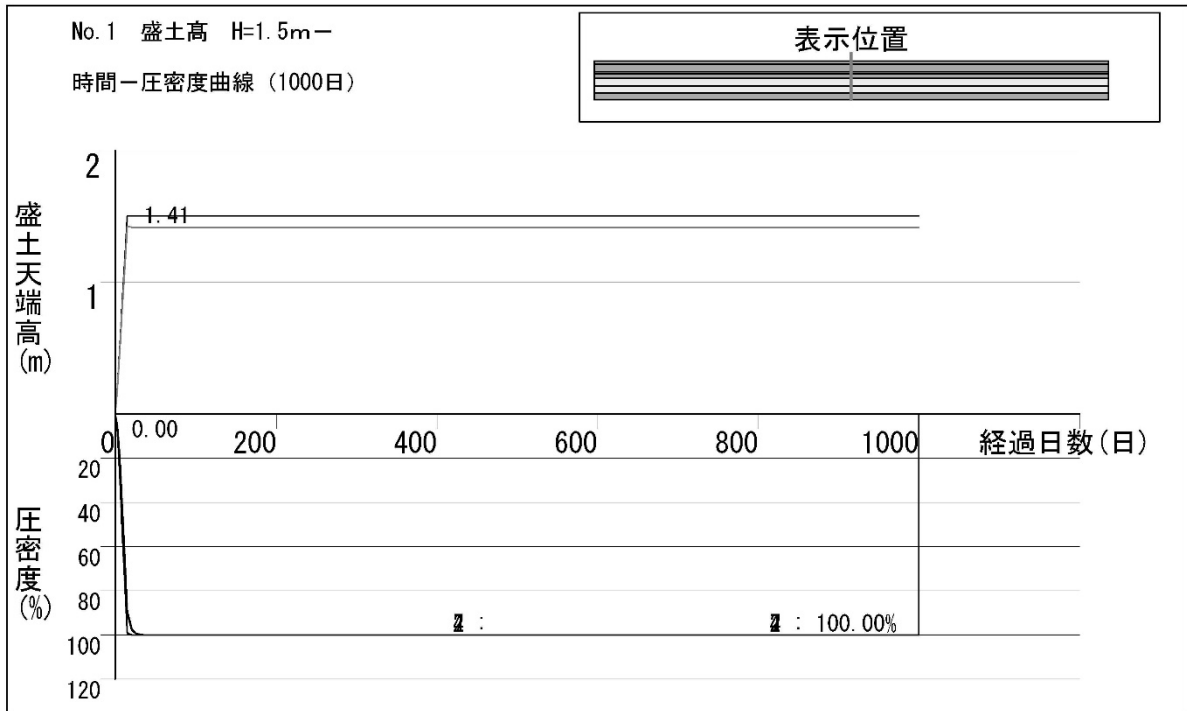
小計 (cm) : 9.054

層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.7010	1.6637	---	---	---	38.48	---	2610.803
3	---	---	---	---	---	---	---	---
4	1.6154	1.5549	---	---	---	98.37	---	2186.837
5	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---
7	2.3274	2.3201	---	---	---	248.84	---	2199.649

時間-沈下曲線



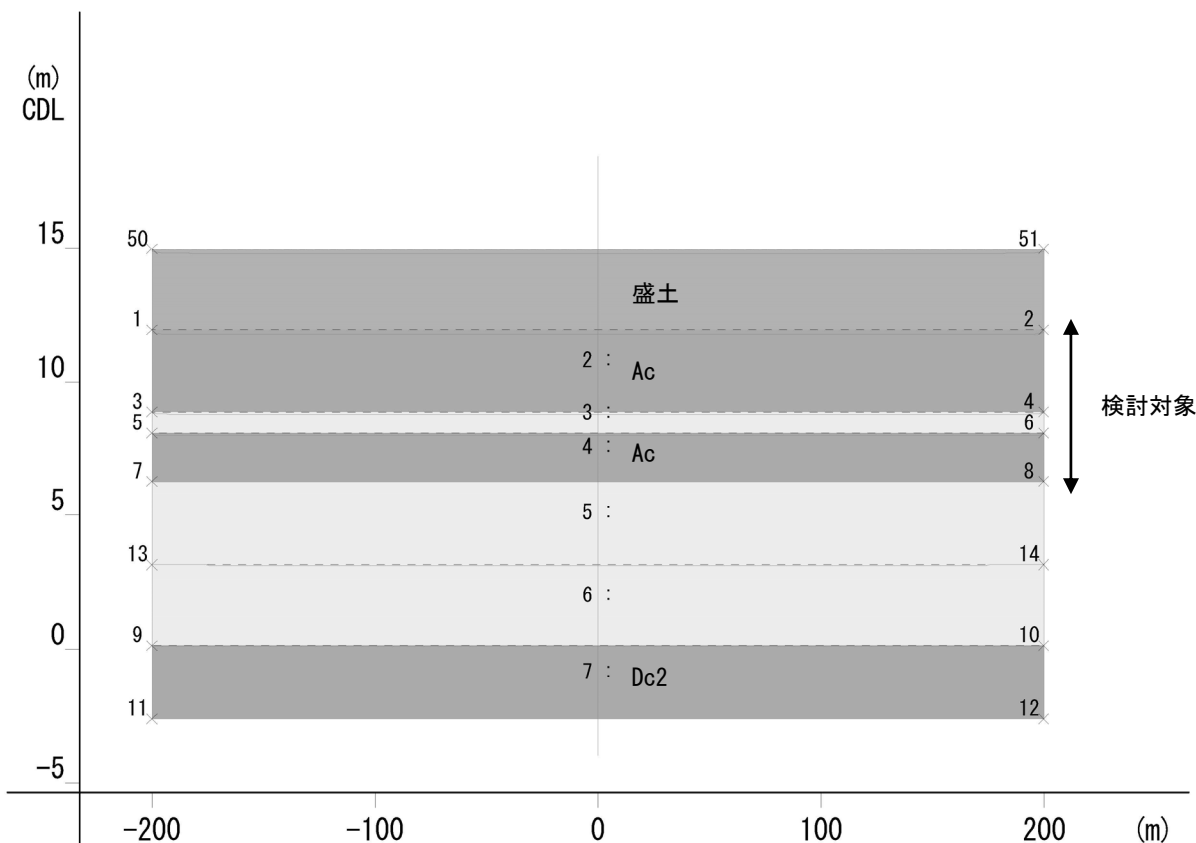
時間-圧密度曲線



No. 1 盛土高 H=3.0m

推定盛土断面図 (1000日)

項目	
地表高	CDL 14.80
沈下量	0.17m

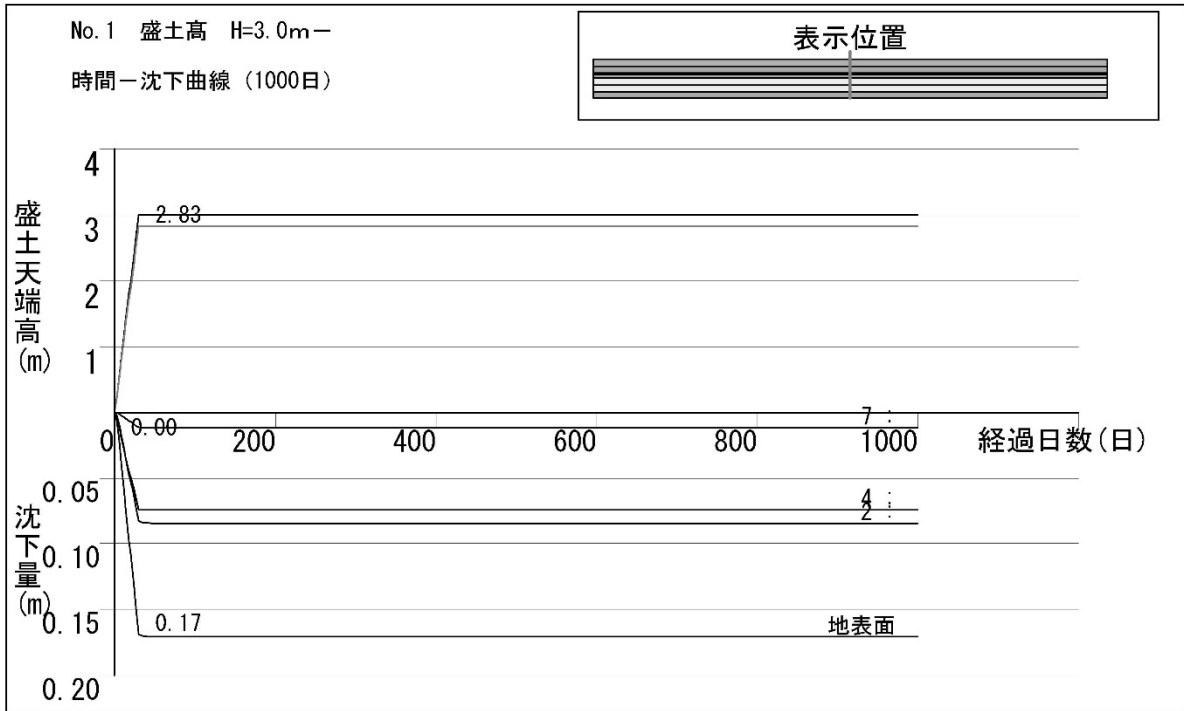


層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	Ac	$\Delta e$ 法	3.100	27.28	54.00	0.00	8.461
3		非圧密層	0.810	---	---	---	---
4	Ac	$\Delta e$ 法	1.800	85.79	54.00	0.00	7.424
5		非圧密層	3.100	---	---	---	---
6		非圧密層	3.040	---	---	---	---
7	Dc2	$\Delta e$ 法	2.750	235.70	53.99	0.00	1.156

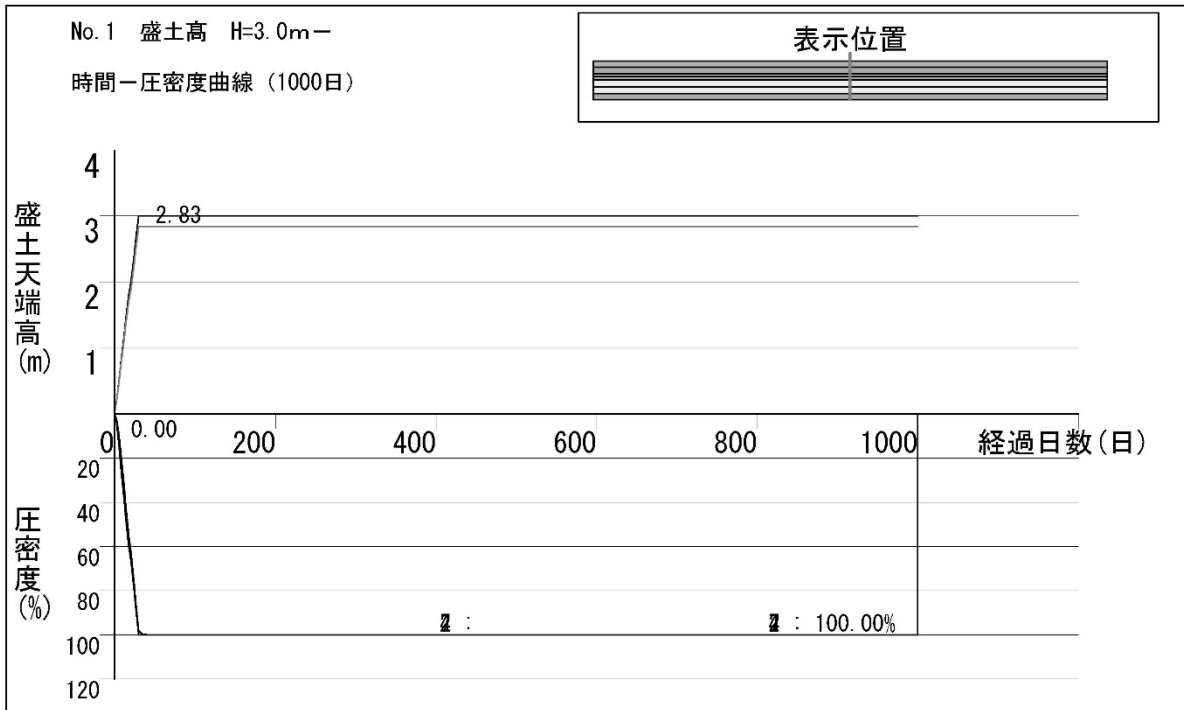
小計 (cm) : 17.041

層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.7010	1.6273	---	---	---	47.09	---	2516.402
3	---	---	---	---	---	---	---	---
4	1.6154	1.5075	---	---	---	109.51	---	2141.767
5	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---
7	2.3274	2.3134	---	---	---	261.31	---	2133.187

時間-沈下曲線



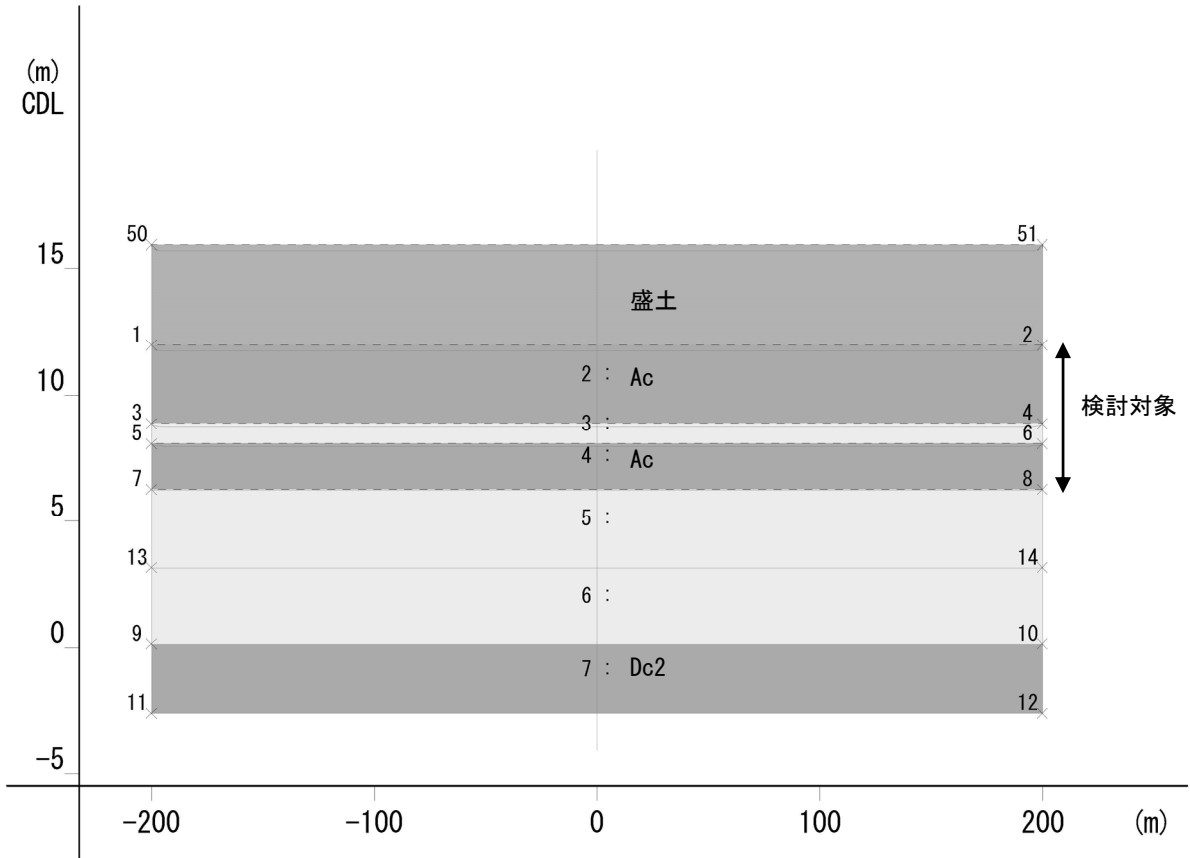
時間-圧密度曲線



No. 1 盛土高 H=4.0m

推定盛土断面図 (1000日)

項目	
地表高	CDL 15.73
沈下量	0.24m

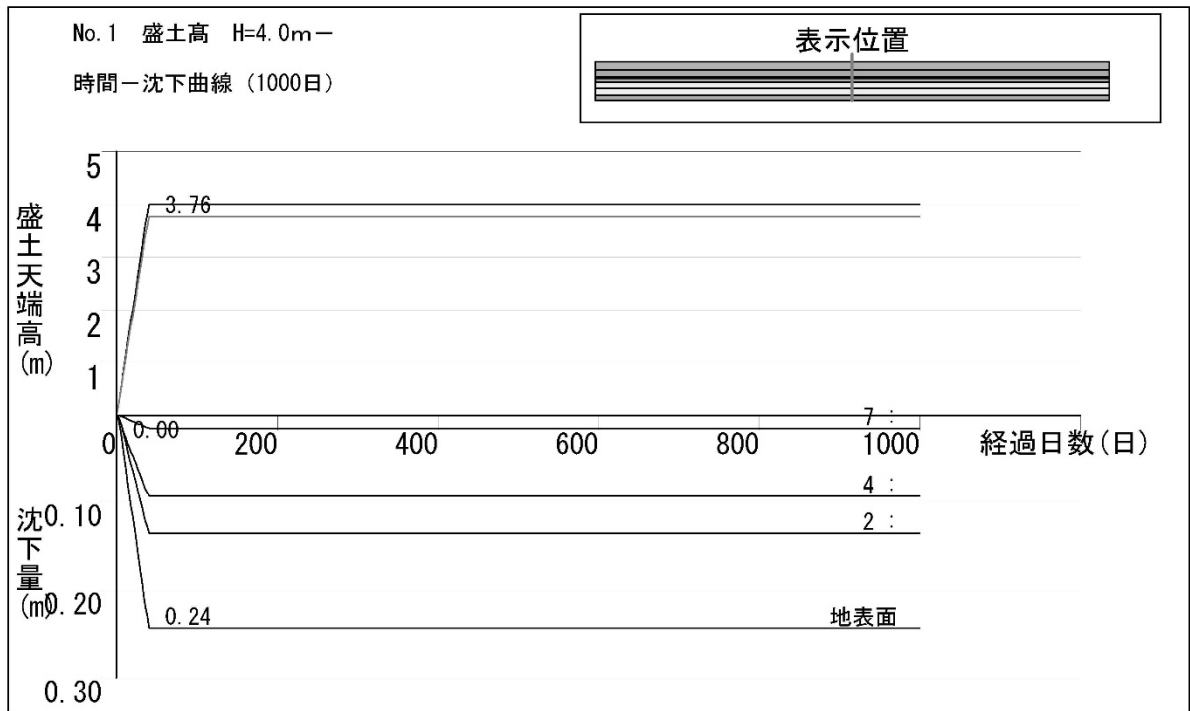


層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	Ac	$\Delta e$ 法	3.100	27.28	72.00	0.00	13.533
3		非圧密層	0.810	---	---	---	---
4	Ac	$\Delta e$ 法	1.800	85.79	72.00	0.00	9.291
5		非圧密層	3.100	---	---	---	---
6		非圧密層	3.040	---	---	---	---
7	Dc2	$\Delta e$ 法	2.750	235.70	71.99	0.00	1.494

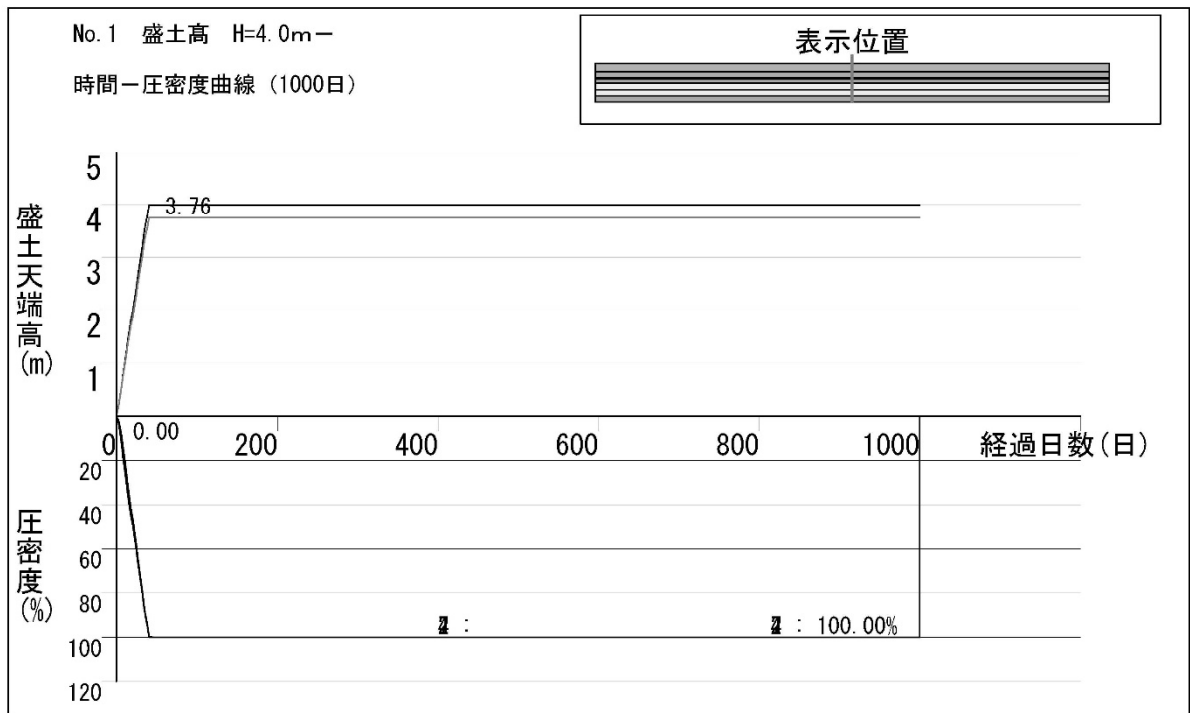
小計 (cm) : 24.318

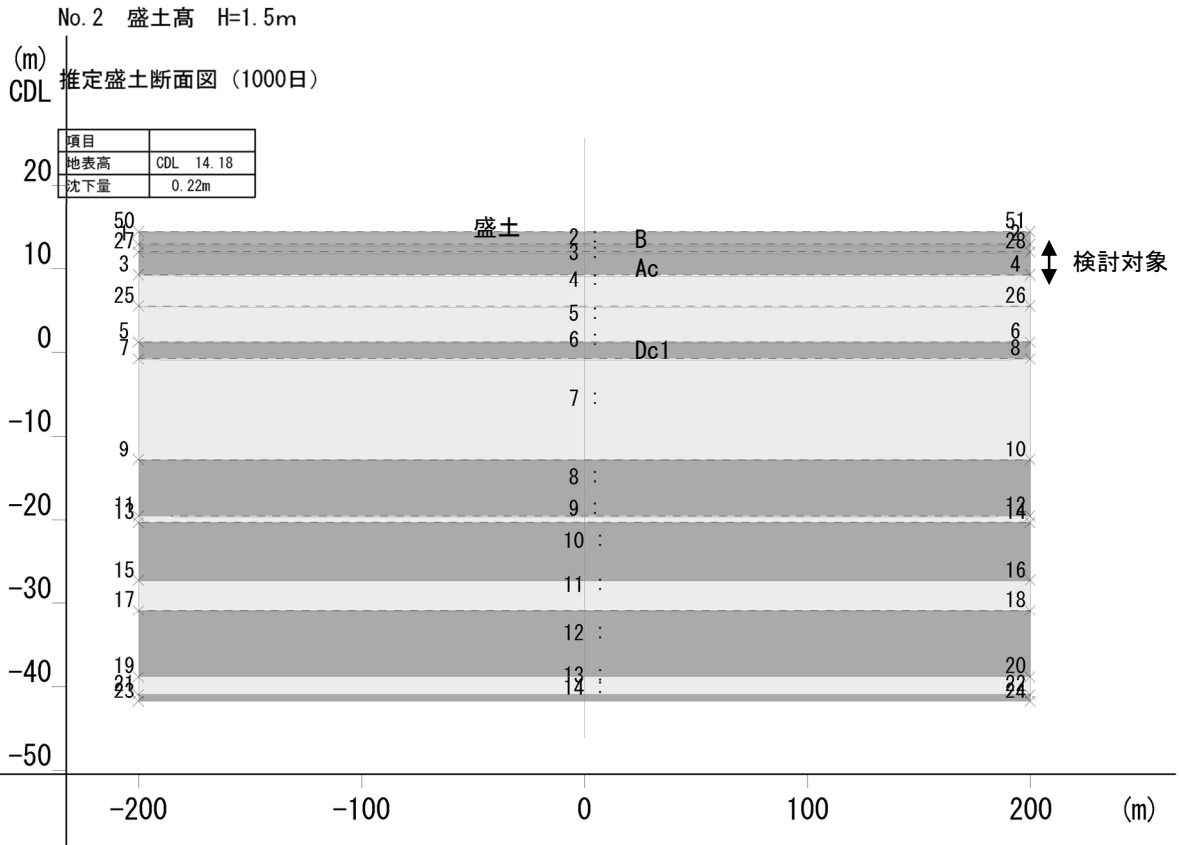
層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.7010	1.5831	---	---	---	52.04	---	2470.902
3	---	---	---	---	---	---	---	---
4	1.6154	1.4804	---	---	---	116.35	---	2116.742
5	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---
7	2.3274	2.3093	---	---	---	269.31	---	2093.240

時間-沈下曲線



時間-圧密度曲線





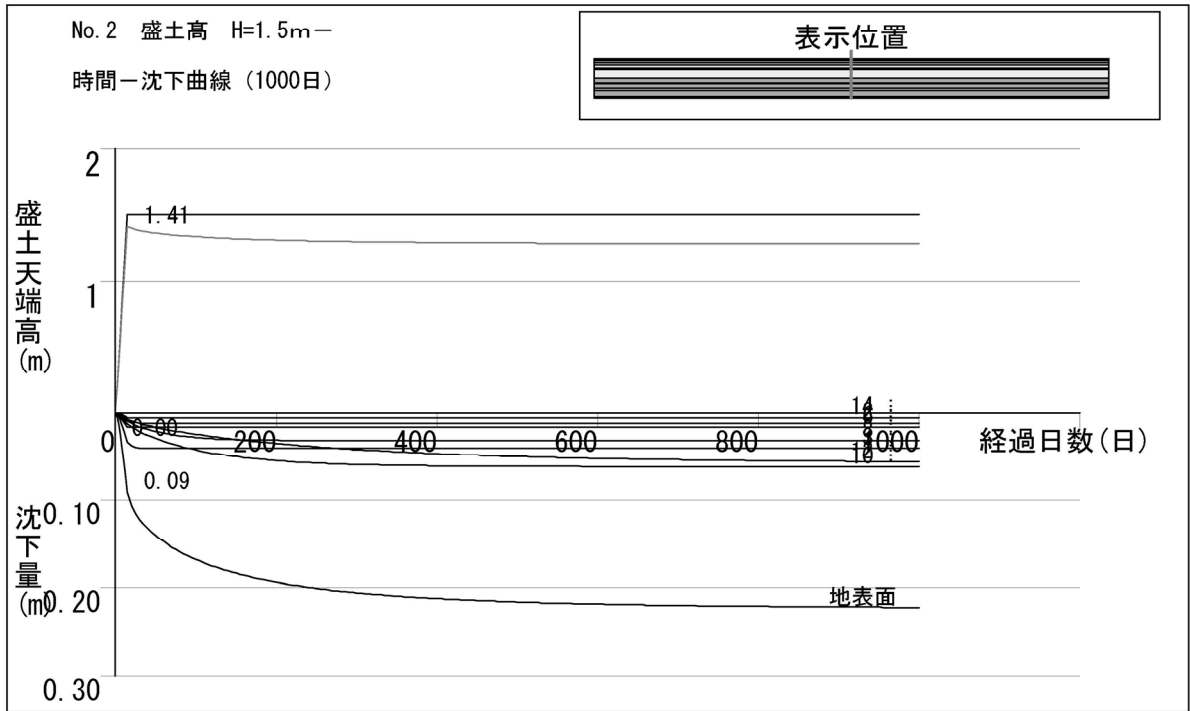
層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の 増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	B	$\Delta e$ 法	0.900	8.10	27.00	0.00	1.139
3	Ac	$\Delta e$ 法	2.700	39.96	27.00	0.00	4.033
4		非圧密層	3.800	---	---	---	---
5		非圧密層	4.300	---	---	---	---
6	Dc1	$\Delta e$ 法	2.000	227.49	27.00	0.00	1.615
7		非圧密層	12.100	---	---	---	---
8		$\Delta e$ 法	6.600	533.71	26.97	0.00	3.132
9		非圧密層	0.800	---	---	---	---
10		$\Delta e$ 法	7.000	667.23	26.93	0.00	6.131
11		非圧密層	3.600	---	---	---	---
12		$\Delta e$ 法	7.900	867.63	26.85	0.00	5.659
13		非圧密層	2.100	---	---	---	---
14		$\Delta e$ 法	0.900	988.83	26.79	0.00	0.583

小計 (cm) : 22.291

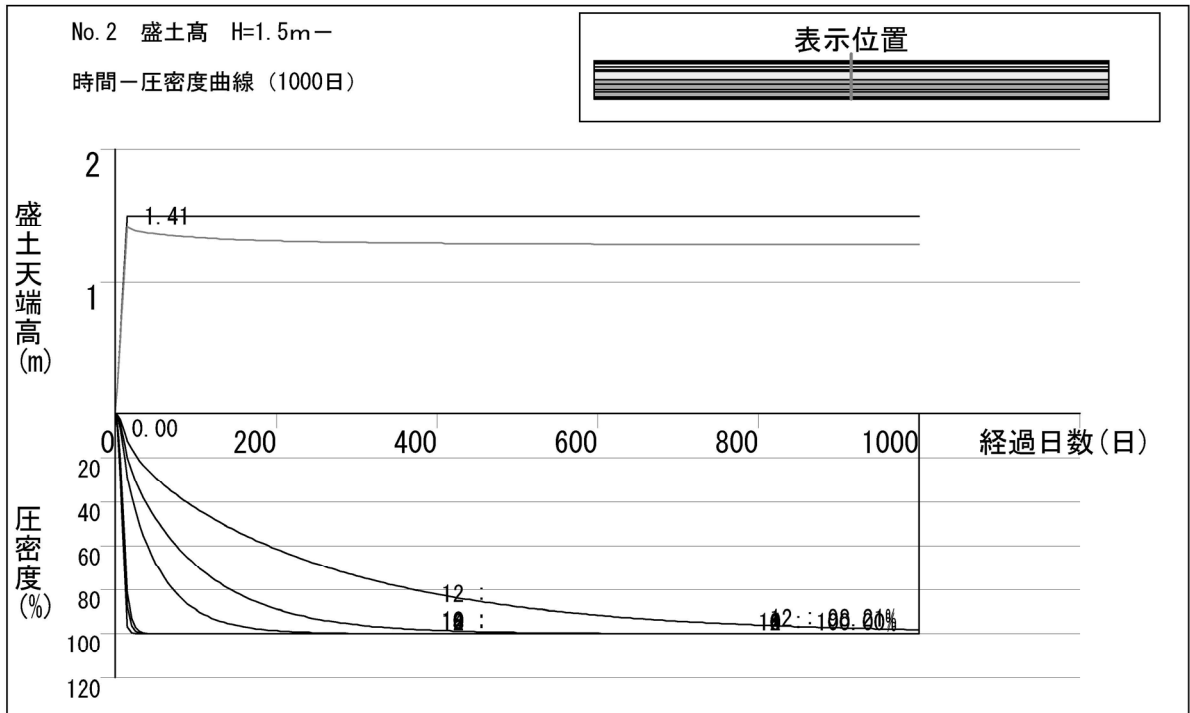
層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.7272	1.6927	---	---	---	16.86	---	2870.602
3	1.6875	1.6474	---	---	---	51.73	---	2473.636
4	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---
6	1.1641	1.1466	---	---	---	240.61	---	1734.930
7	---	---	---	---	---	---	---	---
8	2.1471	2.1322	---	---	---	547.03	---	956.942
9	---	---	---	---	---	---	---	---
10	2.0566	2.0298	---	---	---	680.56	---	510.385
11	---	---	---	---	---	---	---	---
12	1.8789	1.8583	---	---	---	880.95	---	242.850
13	---	---	---	---	---	---	---	---
14	1.7904	1.7723	---	---	---	1002.14	---	206.680



時間-沈下曲線

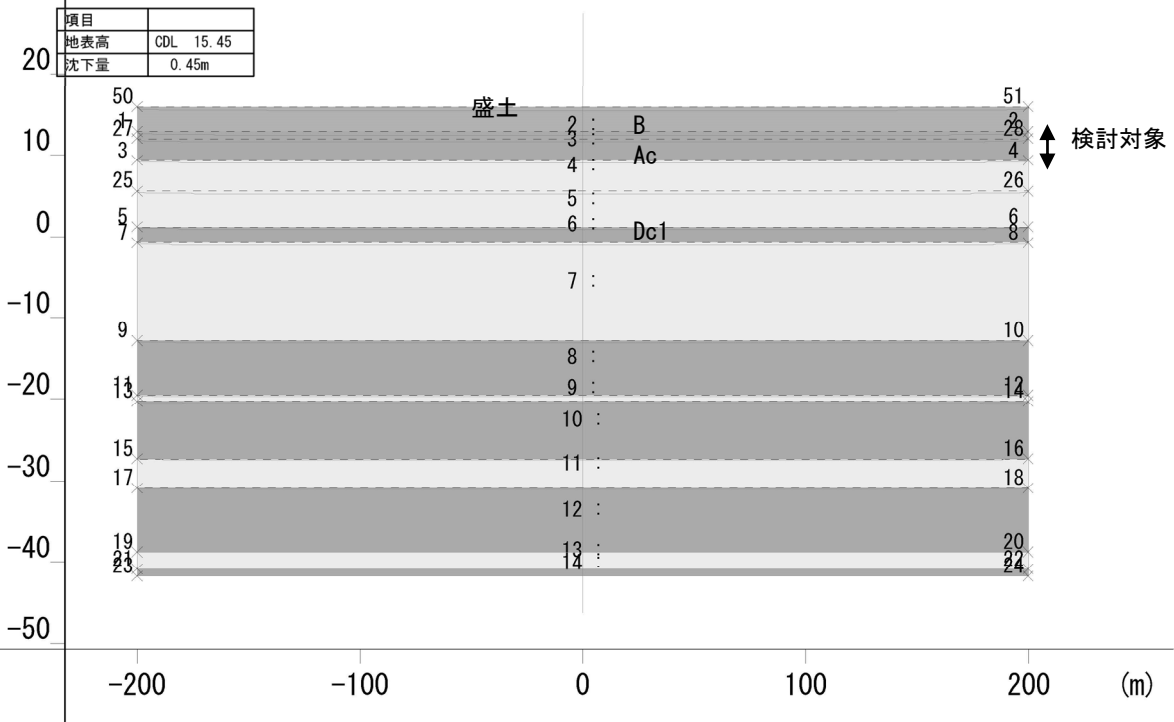


時間-圧密度曲線



No. 2 盛土高 H=3.0m

(m) CDL 推定盛土断面図 (1000日)

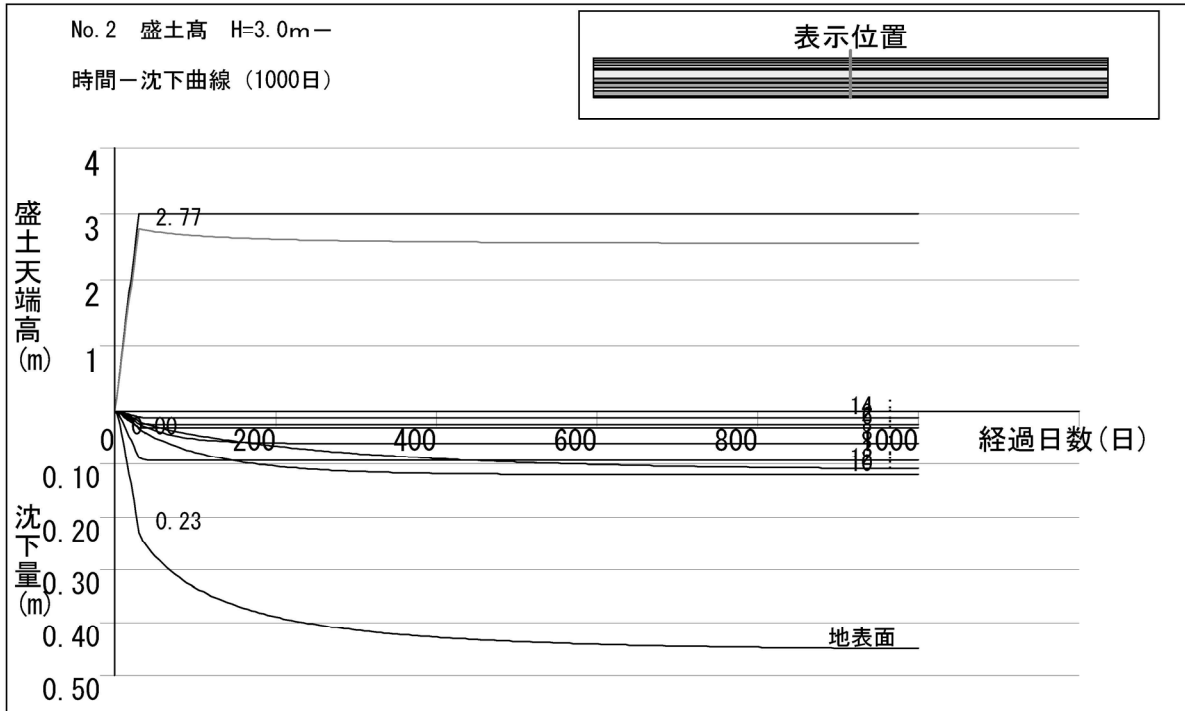


層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の 増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	B	$\Delta e$ 法	0.900	8.10	54.00	0.00	2.440
3	Ac	$\Delta e$ 法	2.700	39.96	54.00	0.00	9.265
4		非圧密層	3.800	---	---	---	---
5		非圧密層	4.300	---	---	---	---
6	Dc1	$\Delta e$ 法	2.000	227.49	53.99	0.00	3.067
7		非圧密層	12.100	---	---	---	---
8		$\Delta e$ 法	6.600	533.71	53.93	0.00	6.116
9		非圧密層	0.800	---	---	---	---
10		$\Delta e$ 法	7.000	667.23	53.86	0.00	12.029
11		非圧密層	3.600	---	---	---	---
12		$\Delta e$ 法	7.900	867.63	53.71	0.00	11.151
13		非圧密層	2.100	---	---	---	---
14		$\Delta e$ 法	0.900	988.83	53.58	0.00	1.151

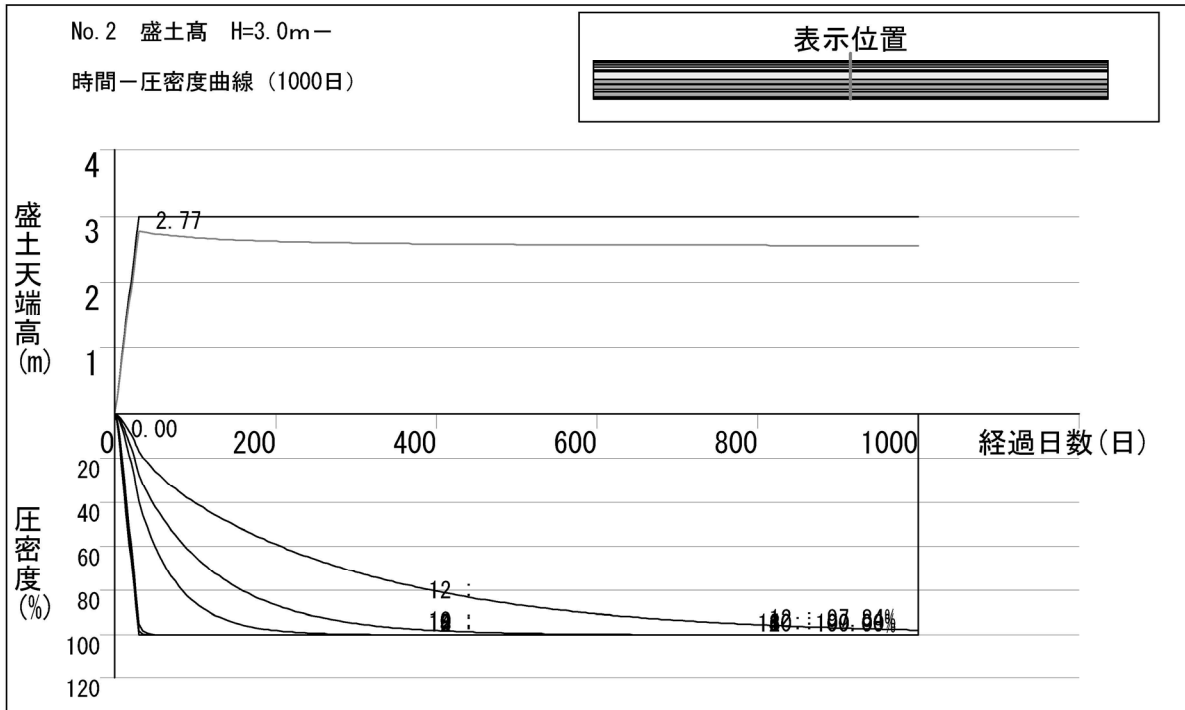
小計 (cm) : 45.219

層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.7272	1.6532	---	---	---	22.43	---	2803.983
3	1.6875	1.5953	---	---	---	61.28	---	2397.239
4	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---
6	1.1641	1.1309	---	---	---	253.05	---	1697.503
7	---	---	---	---	---	---	---	---
8	2.1471	2.1179	---	---	---	560.03	---	894.399
9	---	---	---	---	---	---	---	---
10	2.0566	2.0041	---	---	---	693.64	---	483.182
11	---	---	---	---	---	---	---	---
12	1.8789	1.8383	---	---	---	894.08	---	232.730
13	---	---	---	---	---	---	---	---
14	1.7904	1.7547	---	---	---	1015.27	---	207.970

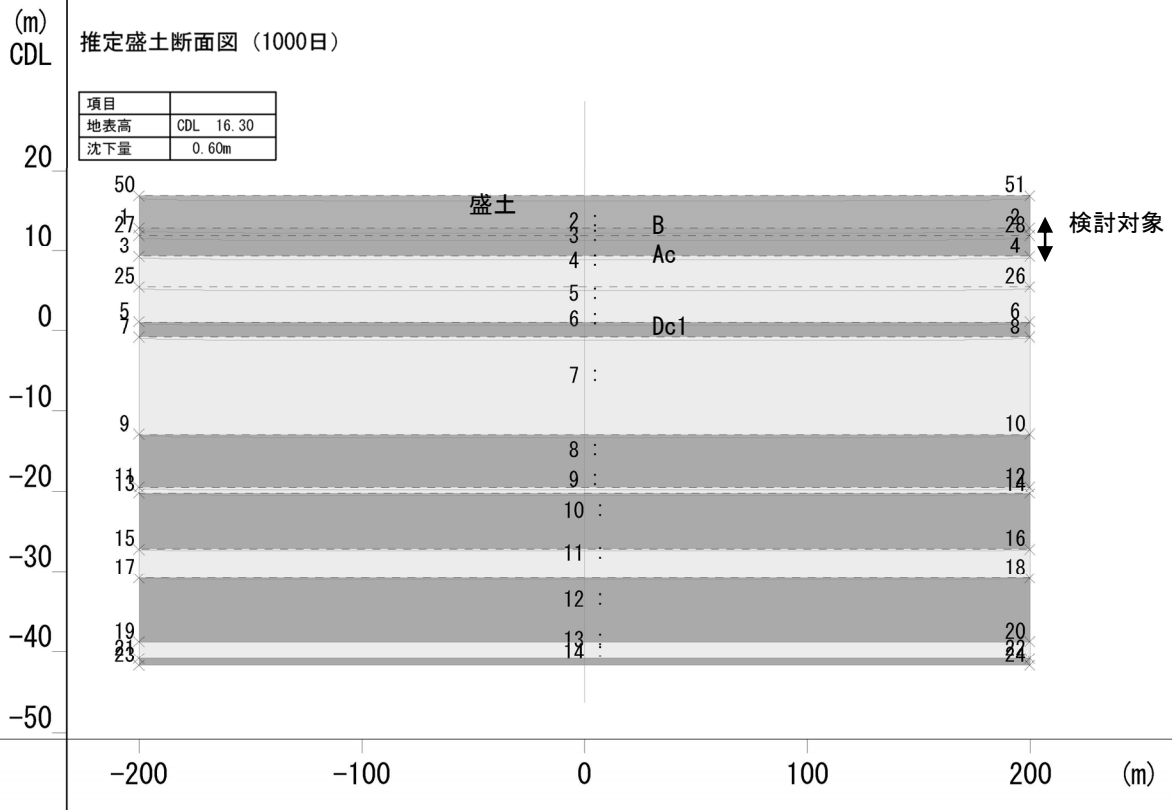
時間-沈下曲線



時間-圧密度曲線



No. 2 盛土高 H=4.0m

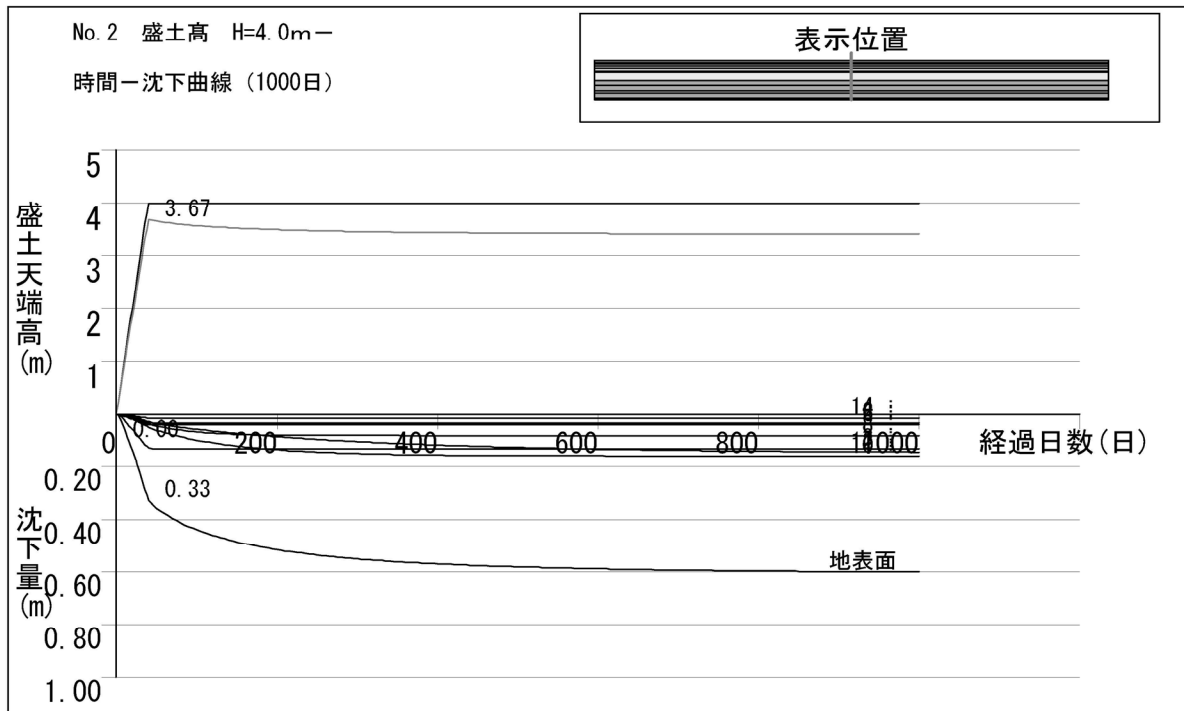


層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	B	$\Delta e$ 法	0.900	8.10	72.00	0.00	3.189
3	Ac	$\Delta e$ 法	2.700	39.96	72.00	0.00	13.156
4		非圧密層	3.800	---	---	---	---
5		非圧密層	4.300	---	---	---	---
6	Dc1	$\Delta e$ 法	2.000	227.49	71.99	0.00	3.959
7		非圧密層	12.100	---	---	---	---
8		$\Delta e$ 法	6.600	533.71	71.91	0.00	8.031
9		非圧密層	0.800	---	---	---	---
10		$\Delta e$ 法	7.000	667.23	71.82	0.00	15.839
11		非圧密層	3.600	---	---	---	---
12		$\Delta e$ 法	7.900	867.63	71.61	0.00	14.723
13		非圧密層	2.100	---	---	---	---
14		$\Delta e$ 法	0.900	988.83	71.44	0.00	1.522

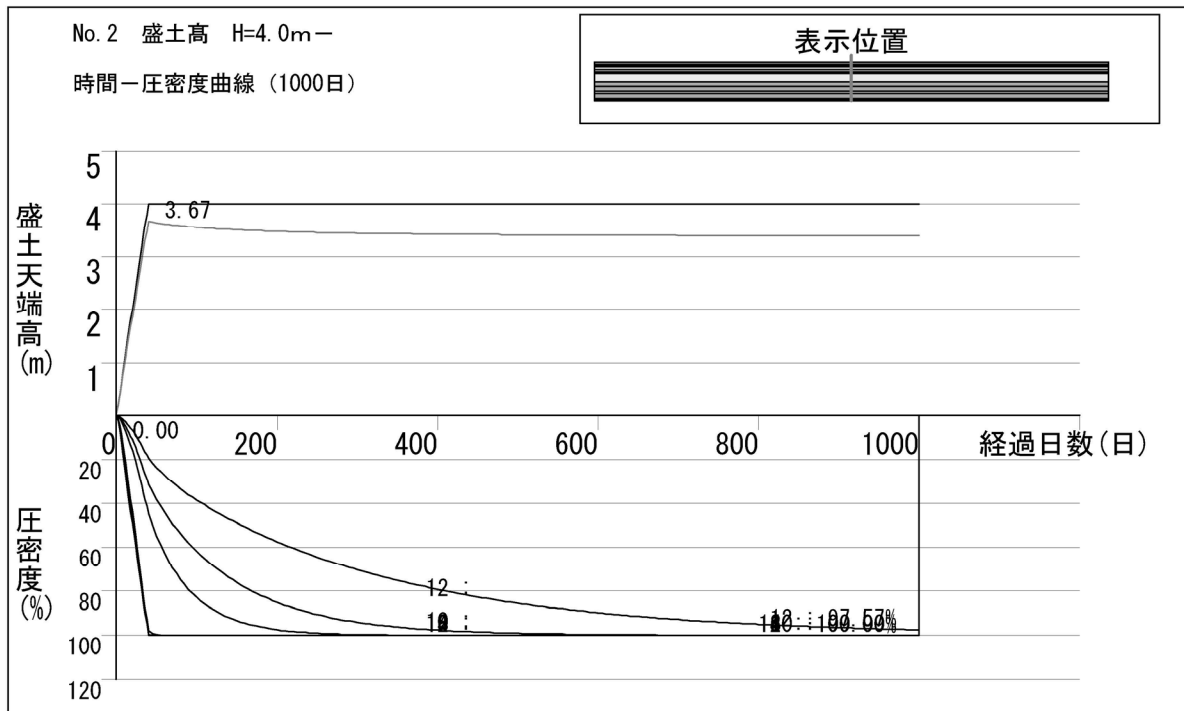
小計 (cm) : 60.419

層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.7272	1.6305	---	---	---	25.47	---	2774.764
3	1.6875	1.5566	---	---	---	66.89	---	2356.813
4	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---
6	1.1641	1.1213	---	---	---	261.02	---	1674.898
7	---	---	---	---	---	---	---	---
8	2.1471	2.1088	---	---	---	568.53	---	856.447
9	---	---	---	---	---	---	---	---
10	2.0566	1.9874	---	---	---	702.22	---	466.382
11	---	---	---	---	---	---	---	---
12	1.8789	1.8252	---	---	---	902.73	---	226.374
13	---	---	---	---	---	---	---	---
14	1.7904	1.7432	---	---	---	1023.93	---	208.817

時間-沈下曲線



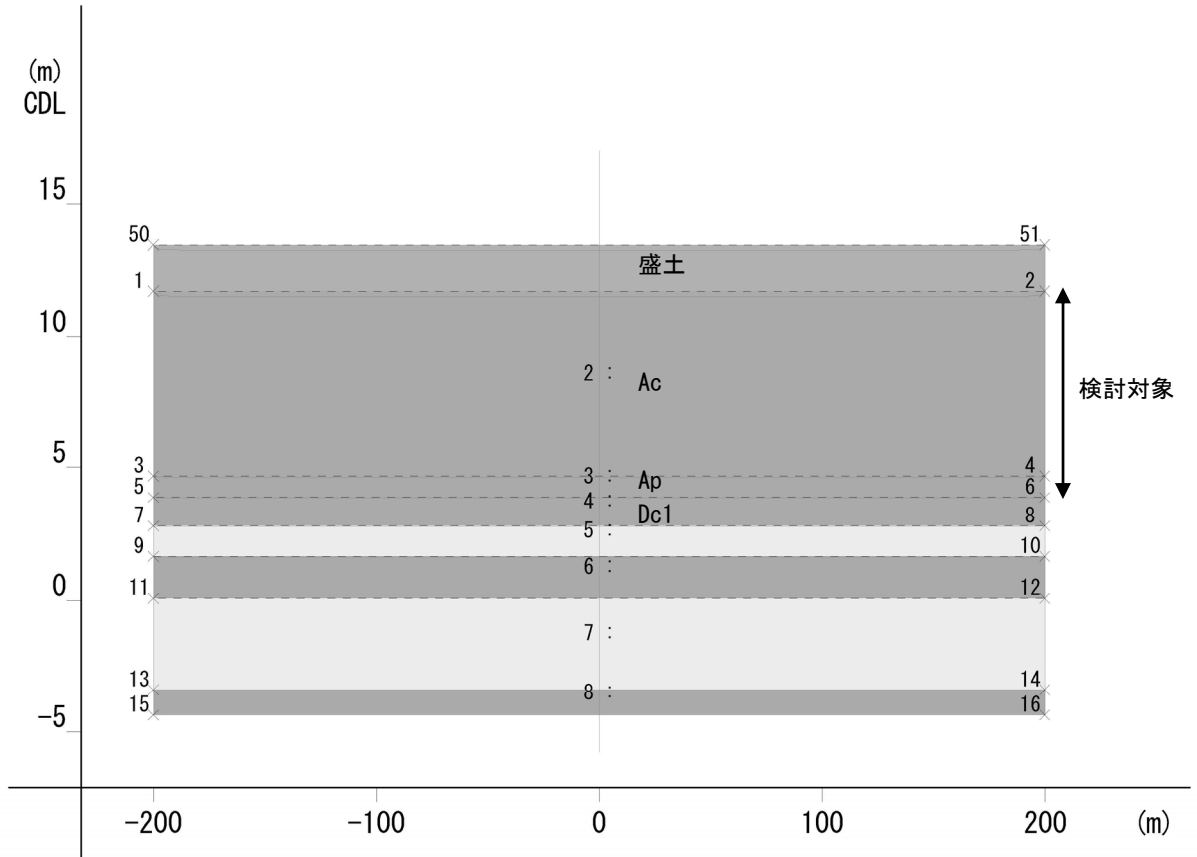
時間-圧密度曲線



No. 3 盛土高 H=1.5m

推定盛土断面図 (1000日)

項目	
地表高	CDL 13.28
沈下量	0.19m

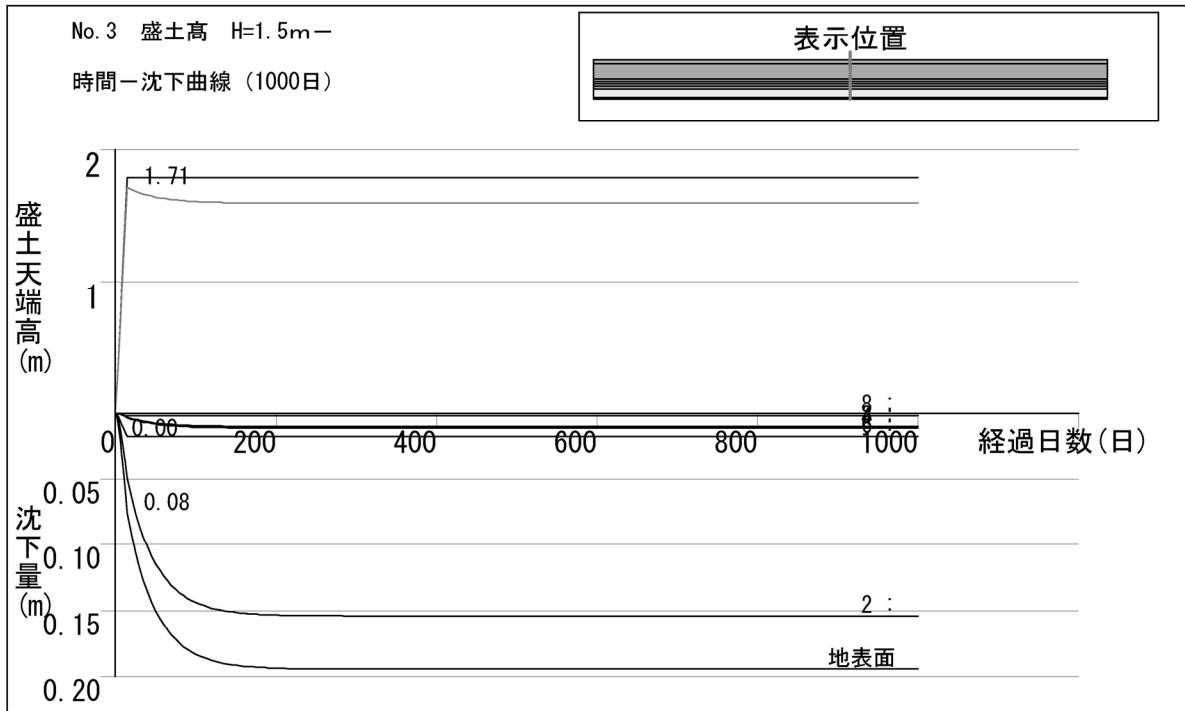


層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の 増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	Ac	$\Delta e$ 法	7.000	61.60	32.22	0.00	15.362
3	Ap	$\Delta e$ 法	0.800	127.88	32.22	0.00	0.997
4	Dc1	$\Delta e$ 法	1.100	142.96	32.22	0.00	1.113
5		非圧密層	1.150	---	---	---	---
6		$\Delta e$ 法	1.550	187.43	32.22	0.00	1.746
7		非圧密層	3.500	---	---	---	---
8		$\Delta e$ 法	0.960	276.93	32.21	0.00	0.216

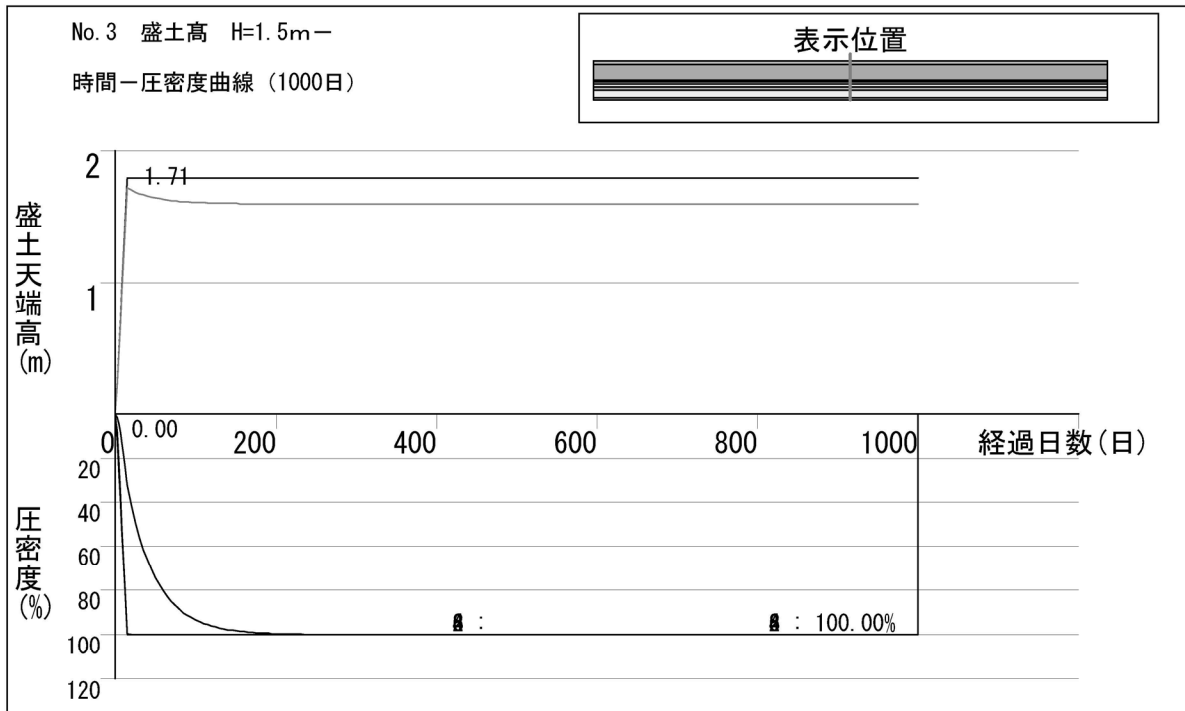
小計 (cm) : 19.434

層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.6539	1.5956	---	---	---	76.02	---	2298.984
3	3.1334	3.0819	---	---	---	143.09	---	1580.818
4	1.2274	1.2048	---	---	---	158.25	---	2048.940
5	---	---	---	---	---	---	---	---
6	1.1943	1.1696	---	---	---	202.90	---	1857.311
7	---	---	---	---	---	---	---	---
8	2.3165	2.3090	---	---	---	292.60	---	1987.113

時間-沈下曲線



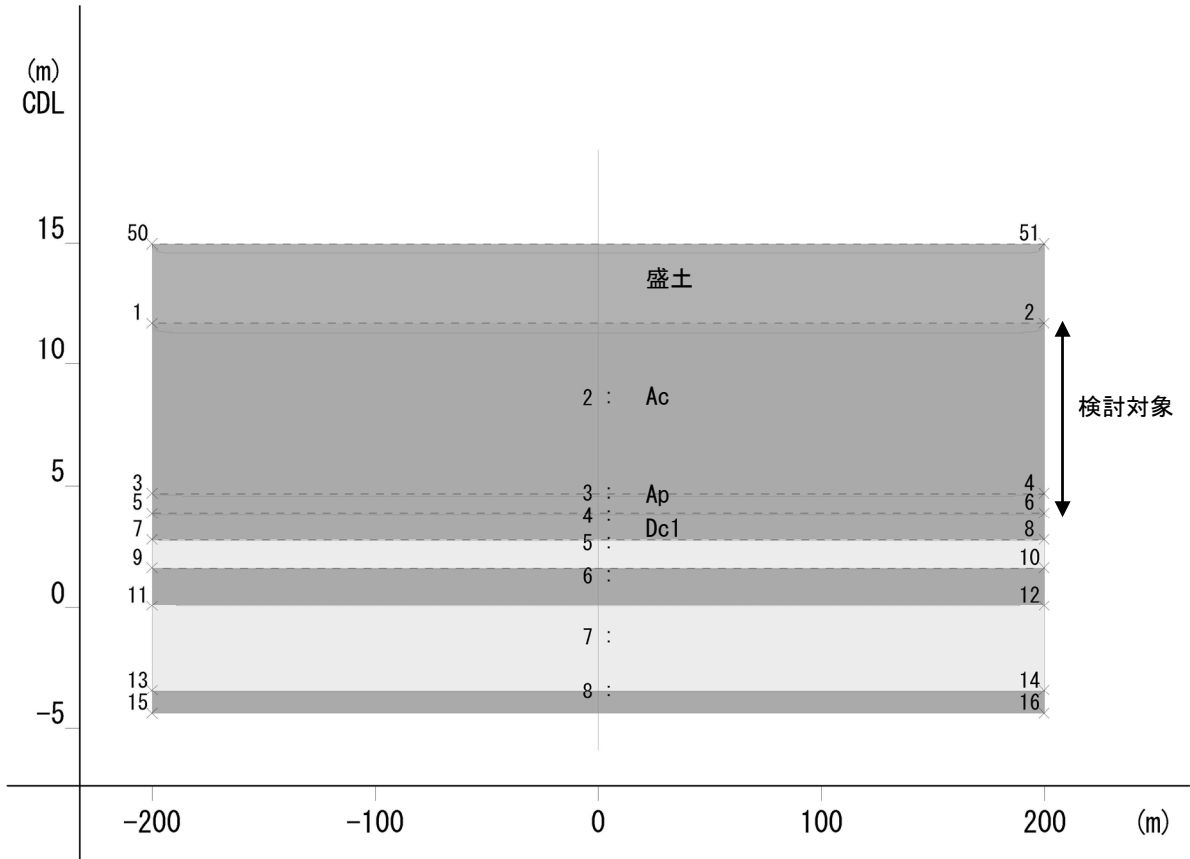
時間-圧密度曲線



No. 3 盛土高 H=3.0m

推定盛土断面図 (1000日)

項目	
地表高	CDL 14.58
沈下量	0.39m



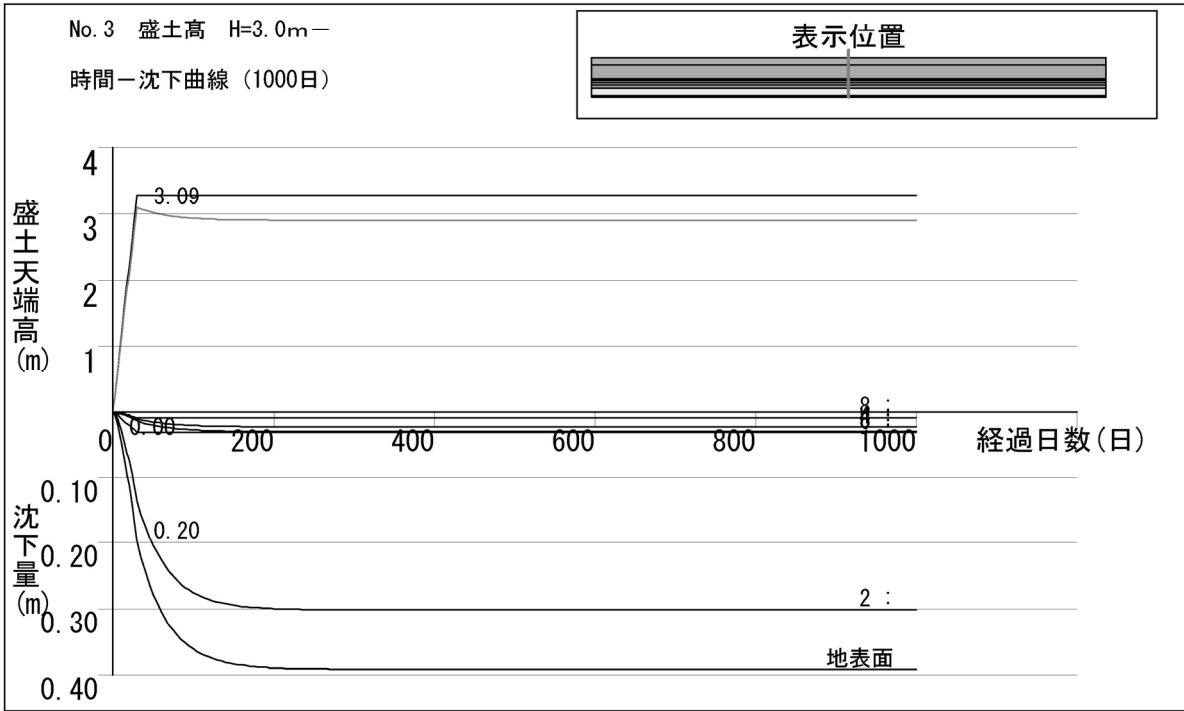
層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	Ac	$\Delta e$ 法	7.000	61.60	59.22	0.00	30.101
3	Ap	$\Delta e$ 法	0.800	127.88	59.22	0.00	2.960
4	Dc1	$\Delta e$ 法	1.100	142.96	59.22	0.00	2.216
5		非圧密層	1.150	---	---	---	---
6		$\Delta e$ 法	1.550	187.43	59.22	0.00	3.022
7		非圧密層	3.500	---	---	---	---
8		$\Delta e$ 法	0.960	276.93	59.21	0.00	0.848

小計 (cm) : 39.147

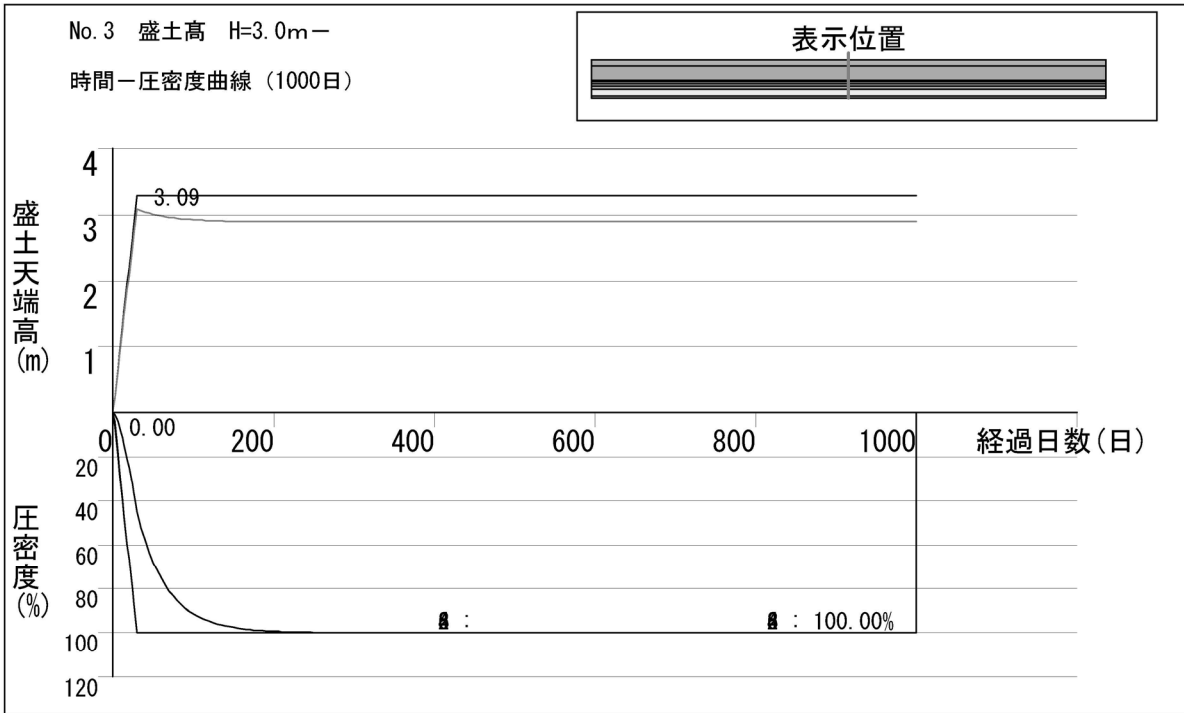
層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{e2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.6539	1.5397	---	---	---	86.27	---	2243.248
3	3.1334	2.9805	---	---	---	154.68	---	1444.189
4	1.2274	1.1825	---	---	---	170.00	---	1991.743
5	---	---	---	---	---	---	---	---
6	1.1943	1.1515	---	---	---	215.01	---	1815.268
7	---	---	---	---	---	---	---	---
8	2.3165	2.2872	---	---	---	305.10	---	1935.617



時間-沈下曲線



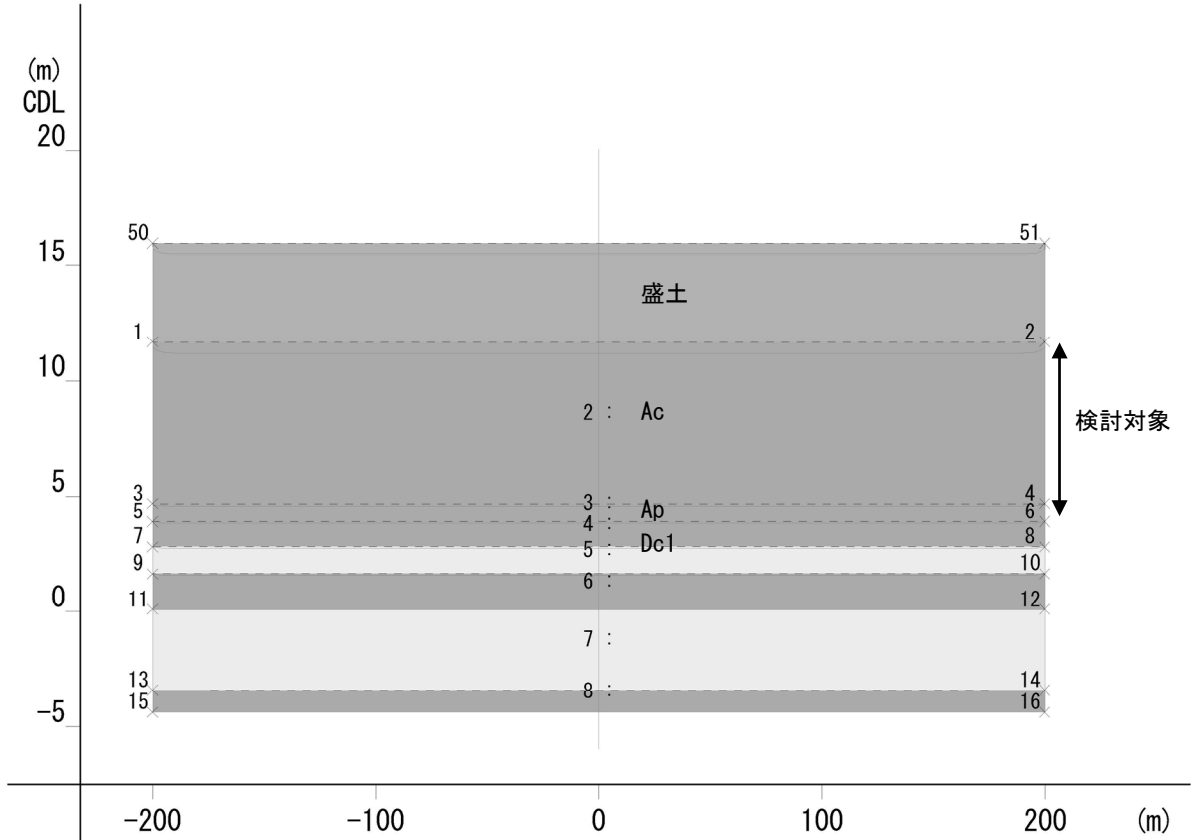
時間-圧密度曲線



No. 3 盛土高 H=4.0m

推定盛土断面図 (1000日)

項目	
地表高	CDL 15.47
沈下量	0.50m

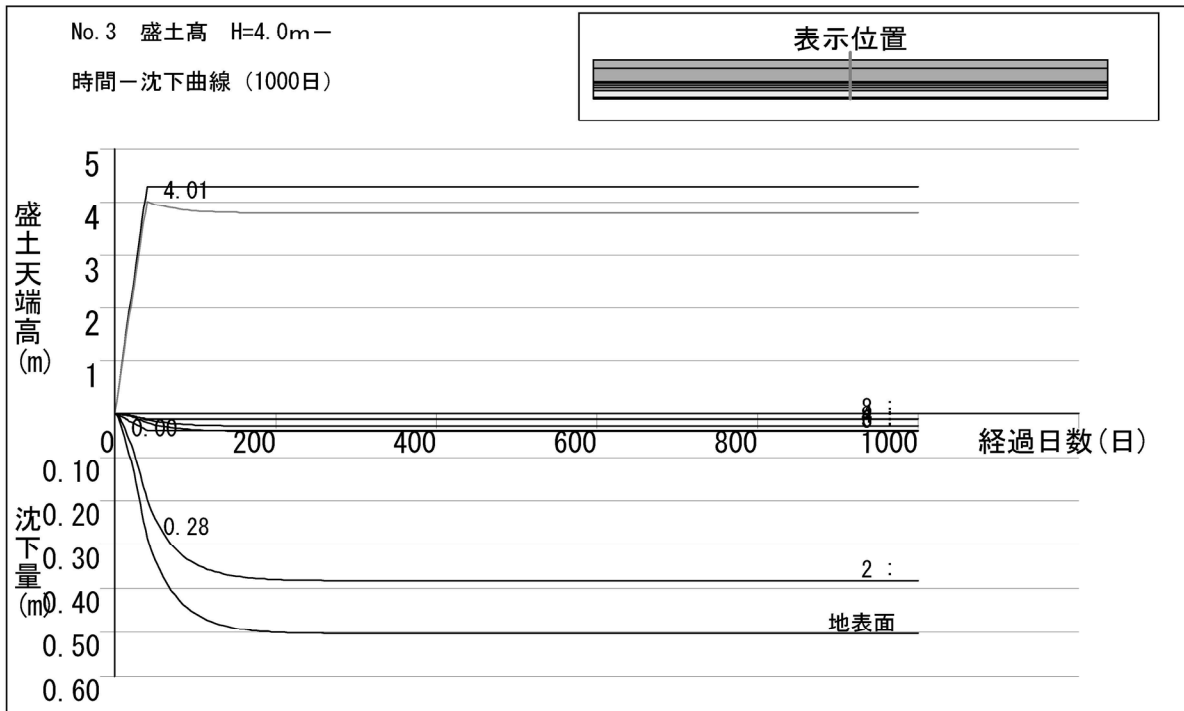


層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	Ac	$\Delta e$ 法	7.000	61.60	77.22	0.00	38.194
3	Ap	$\Delta e$ 法	0.800	127.88	77.22	0.00	4.117
4	Dc1	$\Delta e$ 法	1.100	142.96	77.22	0.00	2.873
5		非圧密層	1.150	---	---	---	---
6		$\Delta e$ 法	1.550	187.43	77.21	0.00	3.797
7		非圧密層	3.500	---	---	---	---
8		$\Delta e$ 法	0.960	276.93	77.20	0.00	1.306

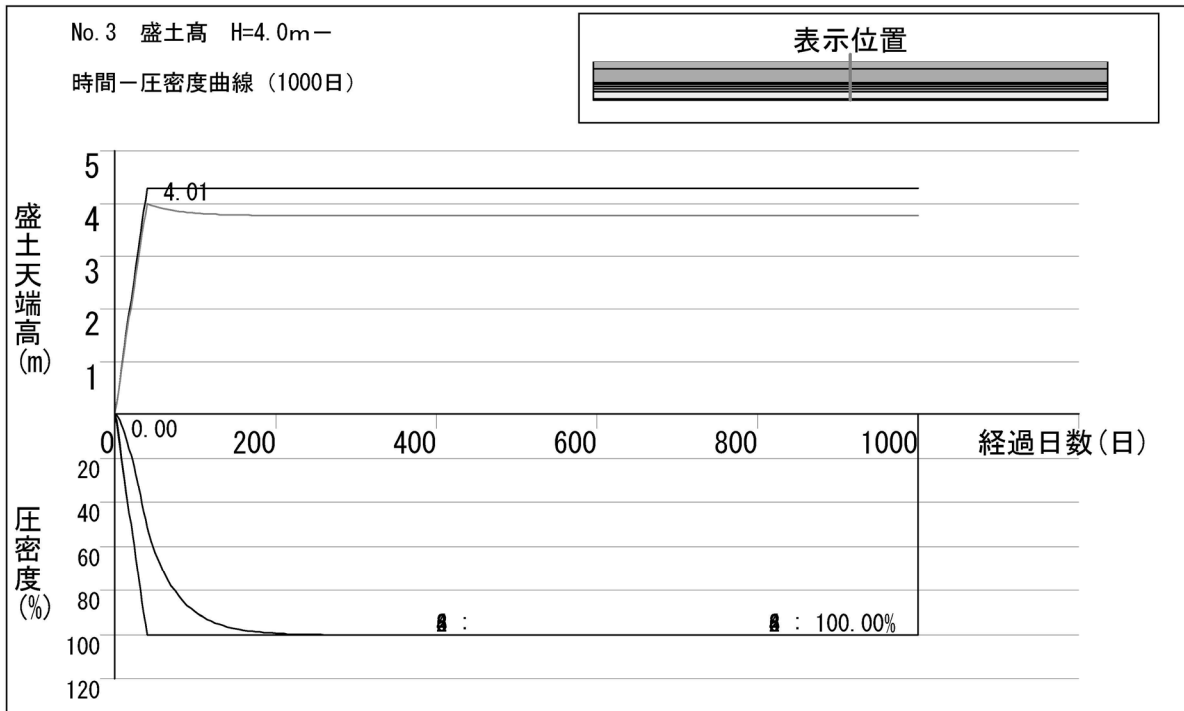
小計 (cm) : 50.286

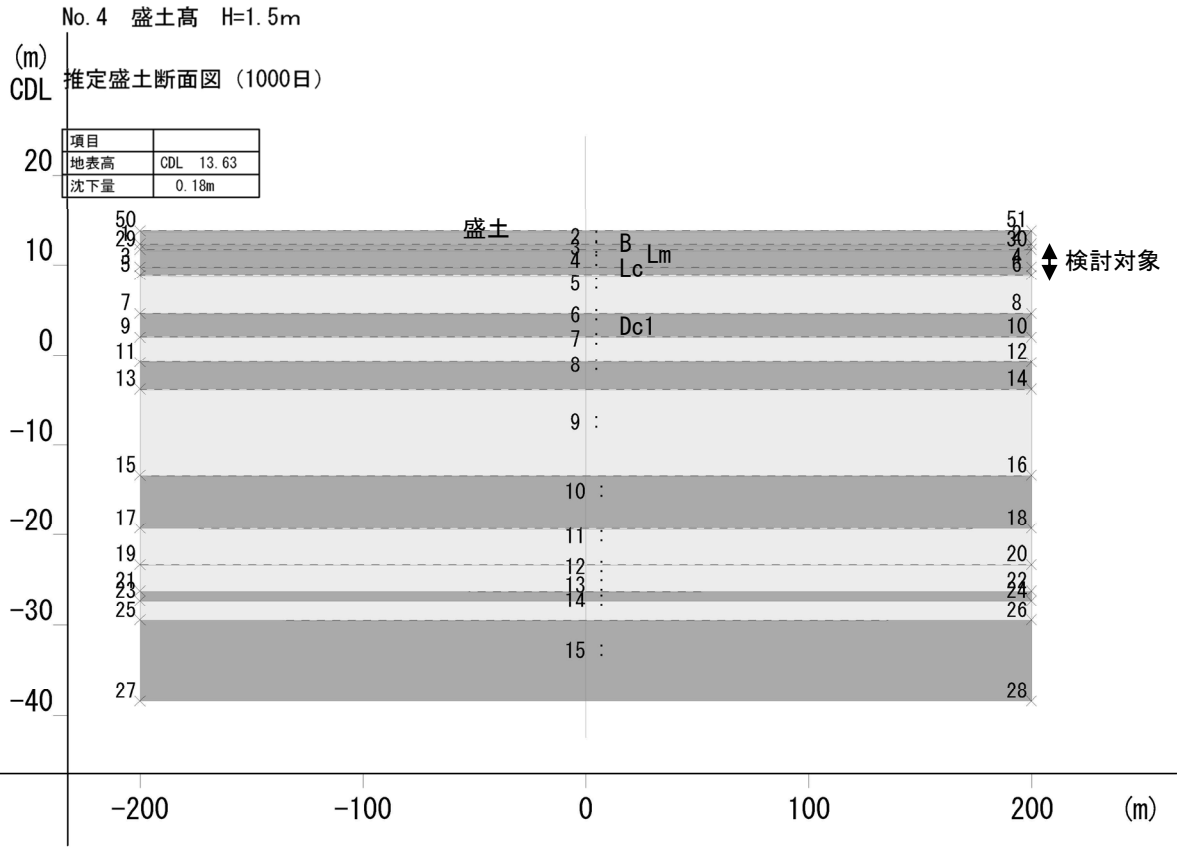
層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.6539	1.5090	---	---	---	92.47	---	2213.221
3	3.1334	2.9207	---	---	---	161.95	---	1369.259
4	1.2274	1.1692	---	---	---	177.41	---	1958.472
5	---	---	---	---	---	---	---	---
6	1.1943	1.1405	---	---	---	222.72	---	1790.189
7	---	---	---	---	---	---	---	---
8	2.3165	2.2714	---	---	---	313.16	---	1904.212

時間-沈下曲線



時間-圧密度曲線

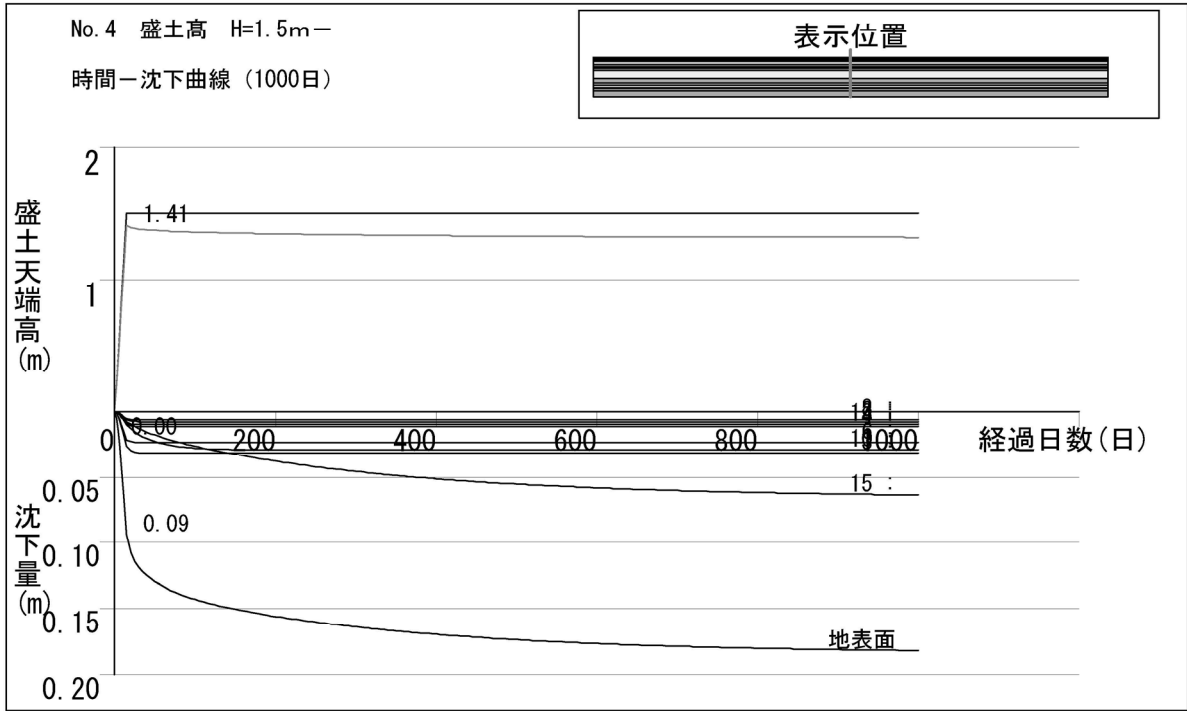




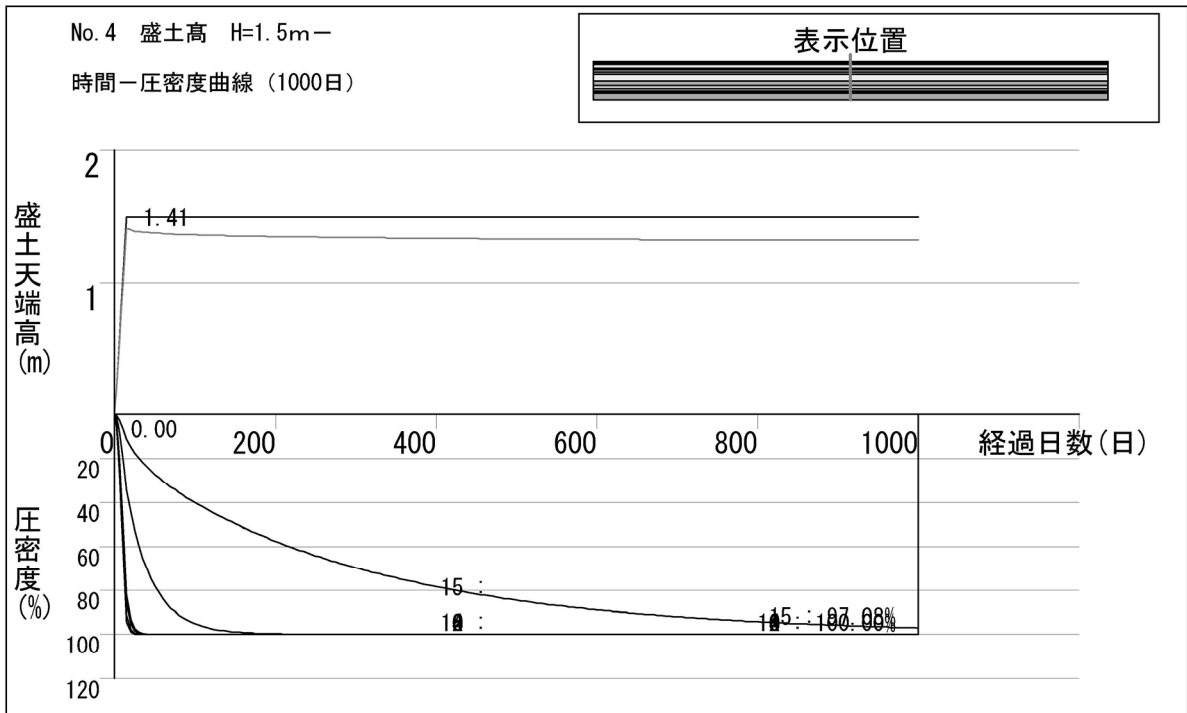
層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	B	$\Delta e$ 法	0.600	5.40	27.00	0.00	0.755
3	Lm	$\Delta e$ 法	1.900	24.10	27.00	0.00	3.150
4	Lc	$\Delta e$ 法	0.900	43.61	27.00	0.00	1.141
5		非圧密層	4.300	---	---	---	---
6	Dc1	$\Delta e$ 法	2.600	147.06	27.00	0.00	2.326
7		非圧密層	2.800	---	---	---	---
8		$\Delta e$ 法	3.000	250.93	27.00	0.00	0.625
9		非圧密層	9.600	---	---	---	---
10		$\Delta e$ 法	5.900	510.76	26.97	0.00	2.910
11		非圧密層	4.000	---	---	---	---
12		非圧密層	2.900	---	---	---	---
13		$\Delta e$ 法	1.100	705.66	26.92	0.00	0.923
14		非圧密層	2.200	---	---	---	---
15		$\Delta e$ 法	8.900	837.13	26.87	0.00	6.552
小計 (cm) :							18.382

層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.7297	1.6953	---	---	---	13.23	---	2930.983
3	3.4895	3.4151	---	---	---	35.09	---	2298.622
4	3.4336	3.3774	---	---	---	55.49	---	2170.772
5	---	---	---	---	---	---	---	---
6	1.2257	1.2058	---	---	---	159.99	---	2040.086
7	---	---	---	---	---	---	---	---
8	2.3232	2.3162	---	---	---	264.08	---	2119.112
9	---	---	---	---	---	---	---	---
10	2.1604	2.1448	---	---	---	524.07	---	1082.599
11	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---
13	2.0187	1.9934	---	---	---	718.99	---	435.755
14	---	---	---	---	---	---	---	---
15	1.9031	1.8817	---	---	---	850.46	---	268.764

時間-沈下曲線

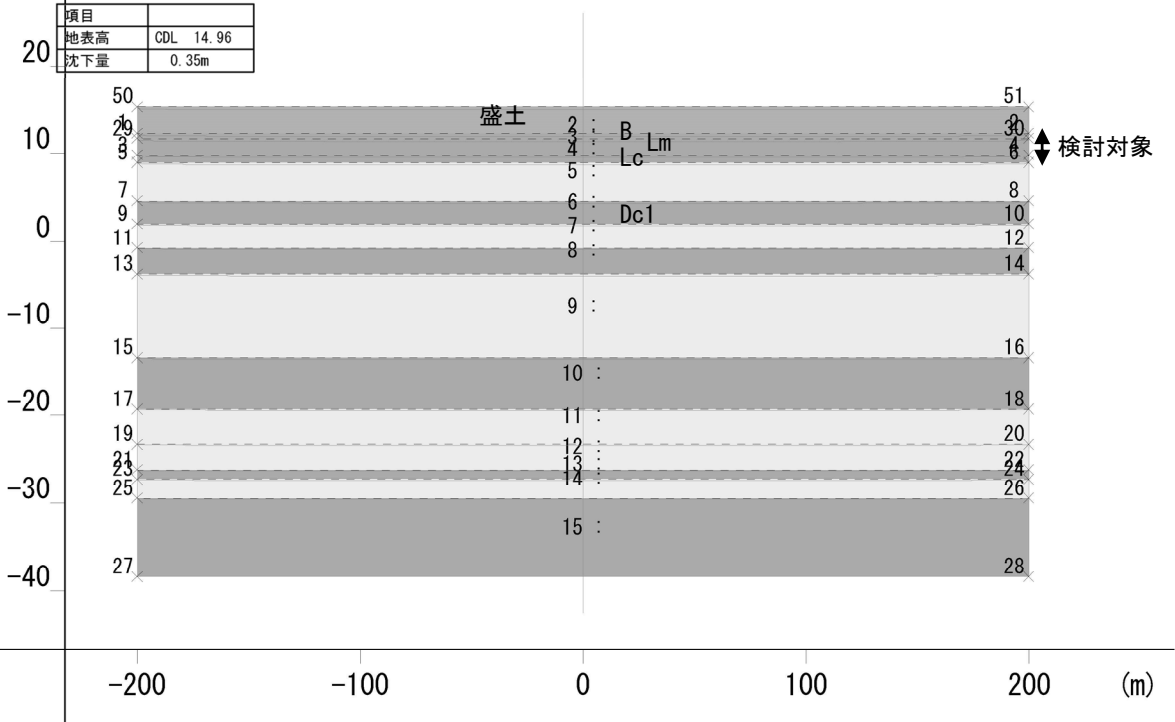


時間-压密度曲線



No. 4 盛土高 H=3.0m

(m) 推定盛土断面図 (1000日)

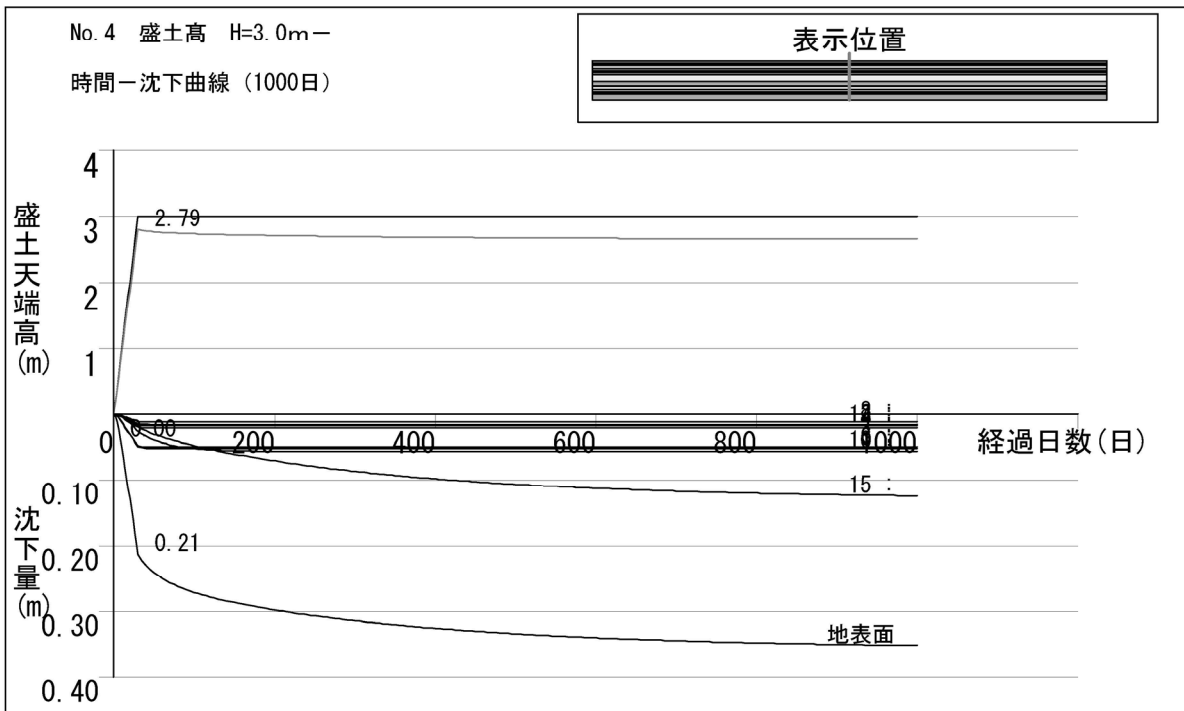


層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の 増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	B	$\Delta e$ 法	0.600	5.40	54.00	0.00	1.604
3	Lm	$\Delta e$ 法	1.900	24.10	54.00	0.00	5.244
4	Lc	$\Delta e$ 法	0.900	43.61	54.00	0.00	2.133
5		非圧密層	4.300	---	---	---	---
6	Dc1	$\Delta e$ 法	2.600	147.06	54.00	0.00	4.951
7		非圧密層	2.800	---	---	---	---
8		$\Delta e$ 法	3.000	250.93	53.99	0.00	1.193
9		非圧密層	9.600	---	---	---	---
10		$\Delta e$ 法	5.900	510.76	53.93	0.00	5.678
11		非圧密層	4.000	---	---	---	---
12		非圧密層	2.900	---	---	---	---
13		$\Delta e$ 法	1.100	705.66	53.84	0.00	1.813
14		非圧密層	2.200	---	---	---	---
15		$\Delta e$ 法	8.900	837.13	53.73	0.00	12.903

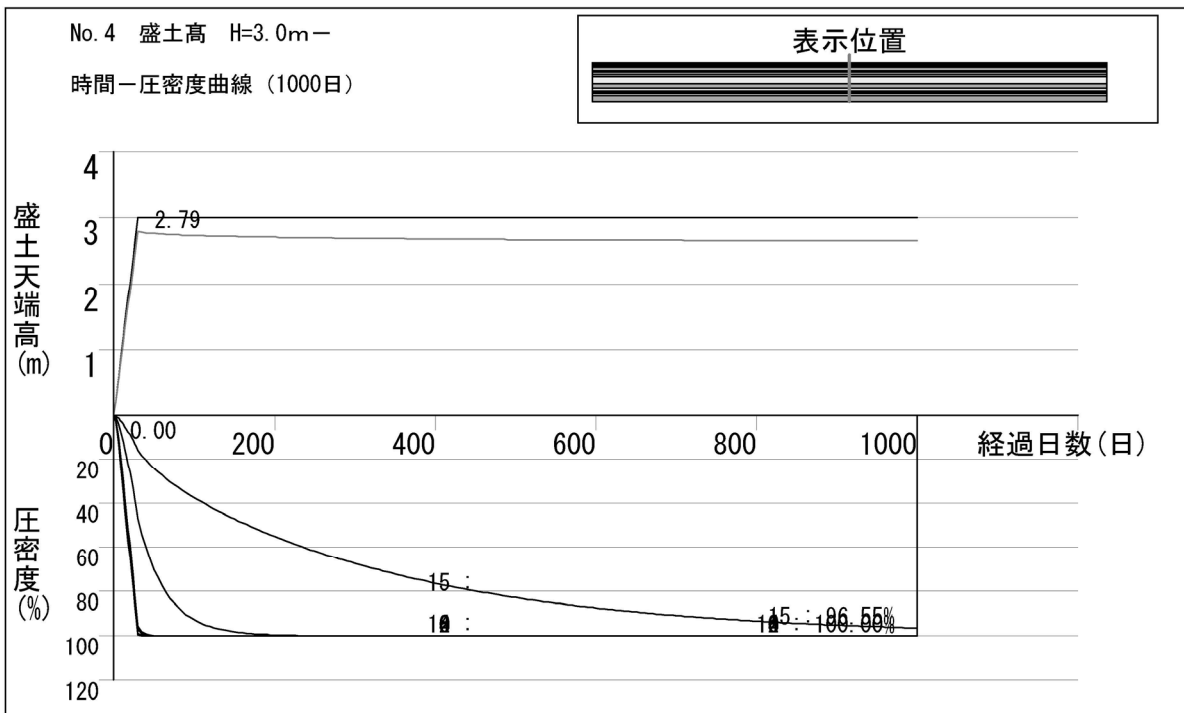
小計 (cm) : 35.518

層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.7297	1.6567	---	---	---	17.91	---	2856.387
3	3.4895	3.3656	---	---	---	43.38	---	2238.534
4	3.4336	3.3285	---	---	---	65.24	---	2124.070
5	---	---	---	---	---	---	---	---
6	1.2257	1.1834	---	---	---	171.95	---	1982.802
7	---	---	---	---	---	---	---	---
8	2.3232	2.3099	---	---	---	276.61	---	2058.387
9	---	---	---	---	---	---	---	---
10	2.1604	2.1300	---	---	---	537.05	---	1008.995
11	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---
13	2.0187	1.9689	---	---	---	732.08	---	413.707
14	---	---	---	---	---	---	---	---
15	1.9031	1.8610	---	---	---	863.58	---	257.179

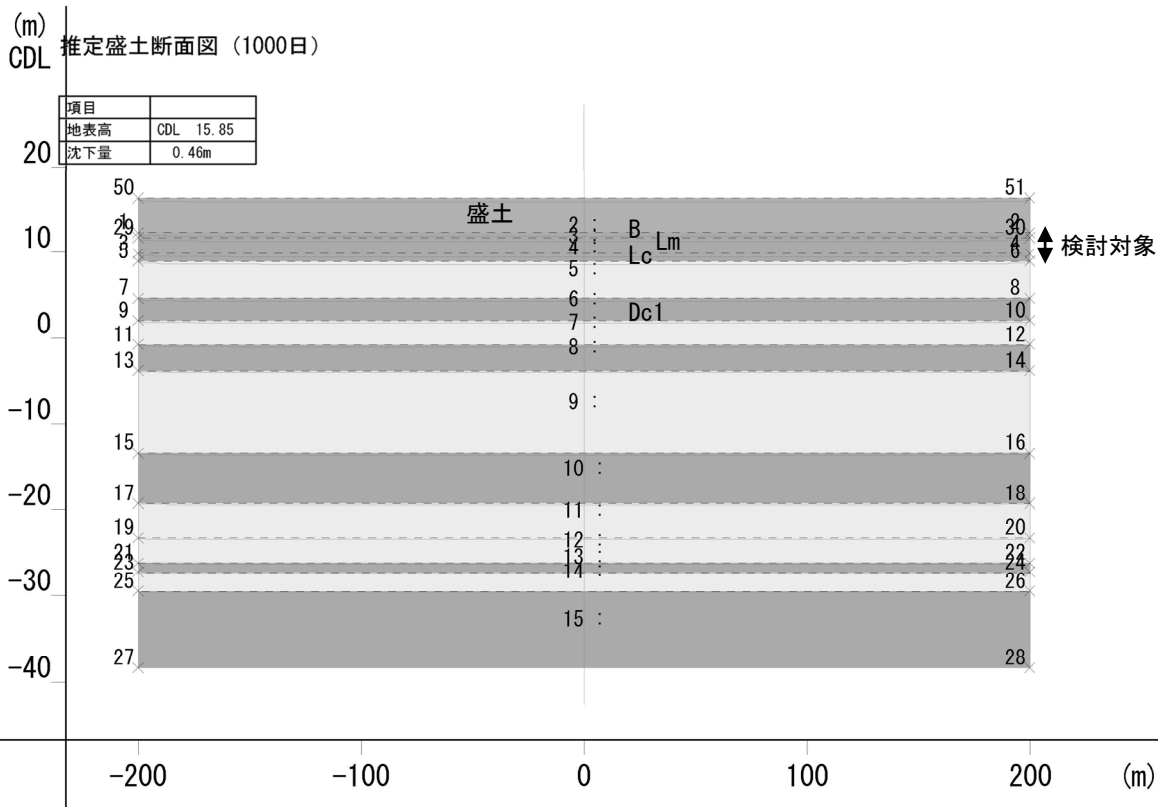
時間-沈下曲線



時間-圧密度曲線



No. 4 盛土高 H=4.0m



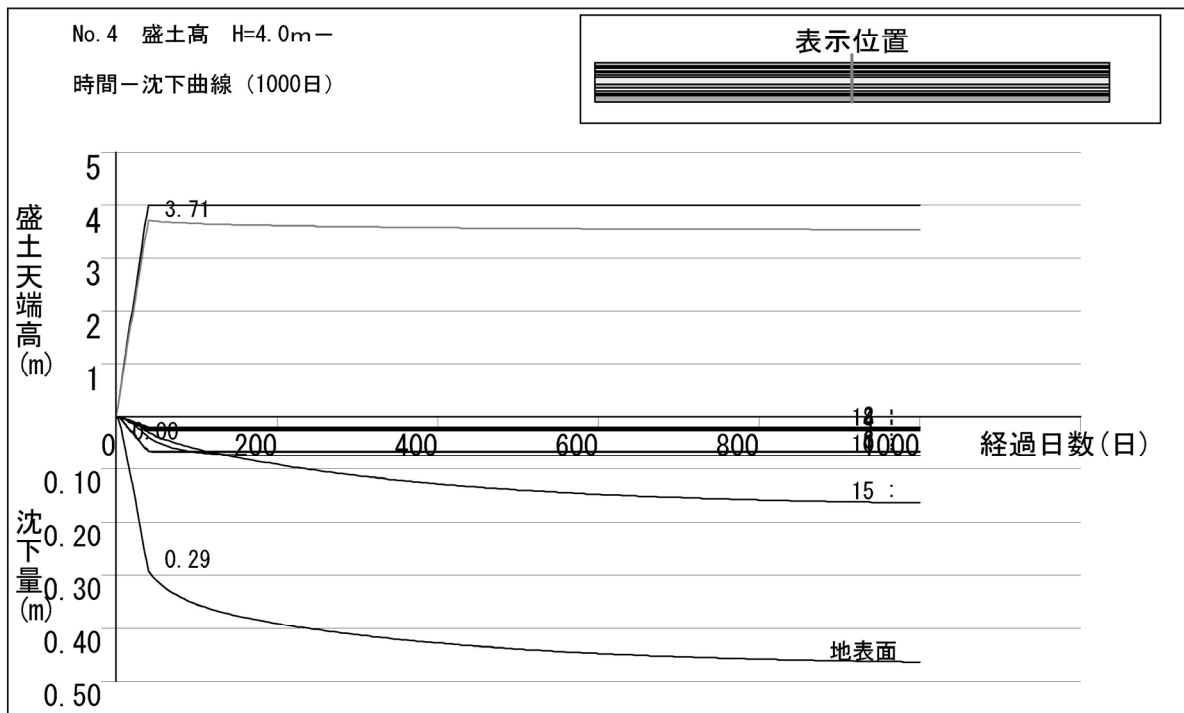
層No	土層名	計算方法	層厚 (m)	有効土被り圧 $p_0$ (kN/m <sup>2</sup> )	増加応力 $\Delta p$ (kN/m <sup>2</sup> )	先行圧密の増加量 $q_0$ (kN/m <sup>2</sup> )	沈下量 (cm)
2	B	$\Delta e$ 法	0.600	5.40	72.00	0.00	2.056
3	Lm	$\Delta e$ 法	1.900	24.10	72.00	0.00	6.704
4	Lc	$\Delta e$ 法	0.900	43.61	72.00	0.00	2.708
5		非圧密層	4.300	---	---	---	---
6	Dc1	$\Delta e$ 法	2.600	147.06	72.00	0.00	6.511
7		非圧密層	2.800	---	---	---	---
8		$\Delta e$ 法	3.000	250.93	71.99	0.00	2.152
9		非圧密層	9.600	---	---	---	---
10		$\Delta e$ 法	5.900	510.76	71.91	0.00	7.450
11		非圧密層	4.000	---	---	---	---
12		非圧密層	2.900	---	---	---	---
13		$\Delta e$ 法	1.100	705.66	71.78	0.00	2.388
14		非圧密層	2.200	---	---	---	---
15		$\Delta e$ 法	8.900	837.13	71.65	0.00	17.032

小計 (cm) : 47.002

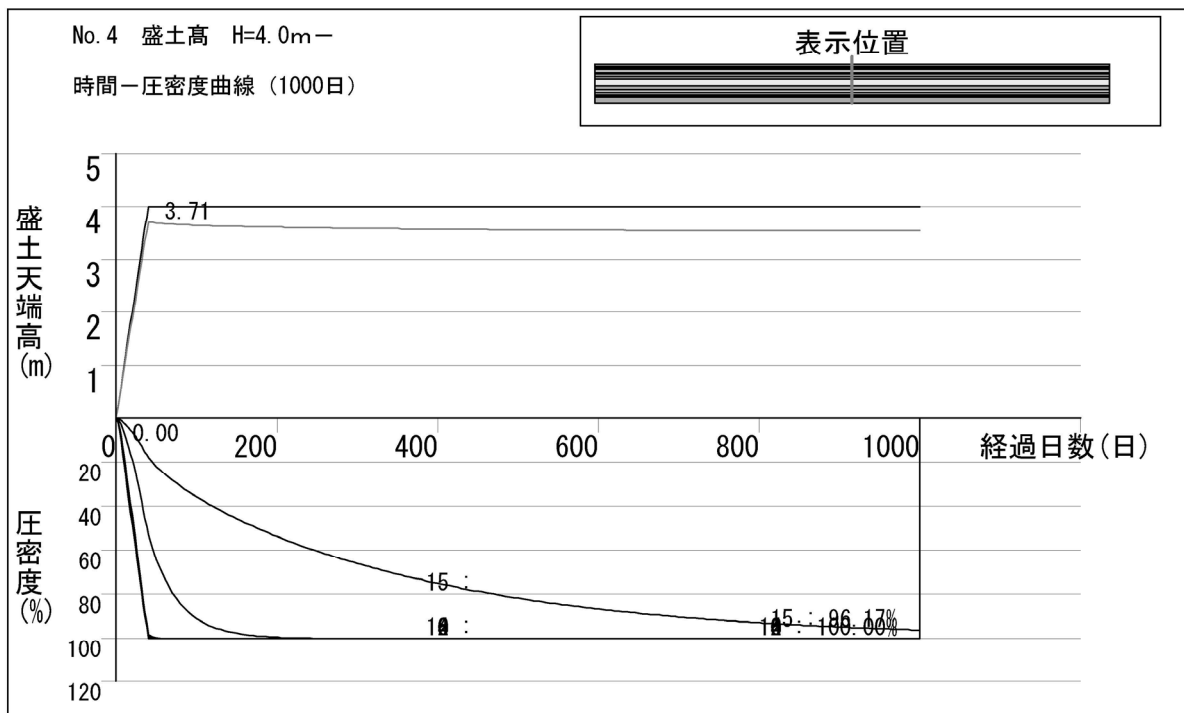
層No	初期間隙比 $e_0$	間隙比 $e_1$	体積圧縮係数 $M_v$ (m <sup>2</sup> /kN)	圧縮指数 $C_{c1}$	膨張指数 $C_{c2}$	相乗平均 $\sqrt{p_0(p_0+\Delta p)}$ (kN/m <sup>2</sup> )	相加平均 $p_0+\Delta p/2$ (kN/m <sup>2</sup> )	圧密係数 $C_v$ (cm <sup>2</sup> /day)
2	1.7297	1.6361	---	---	---	20.44	---	2825.440
3	3.4895	3.3311	---	---	---	48.12	---	2209.730
4	3.4336	3.3002	---	---	---	71.01	---	2099.105
5	---	---	---	---	---	---	---	---
6	1.2257	1.1700	---	---	---	179.48	---	1949.506
7	---	---	---	---	---	---	---	---
8	2.3232	2.2993	---	---	---	284.66	---	2021.696
9	---	---	---	---	---	---	---	---
10	2.1604	2.1205	---	---	---	545.53	---	964.504
11	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---
13	2.0187	1.9531	---	---	---	740.68	---	400.036
14	---	---	---	---	---	---	---	---
15	1.9031	1.8475	---	---	---	872.22	---	249.917



時間-沈下曲線

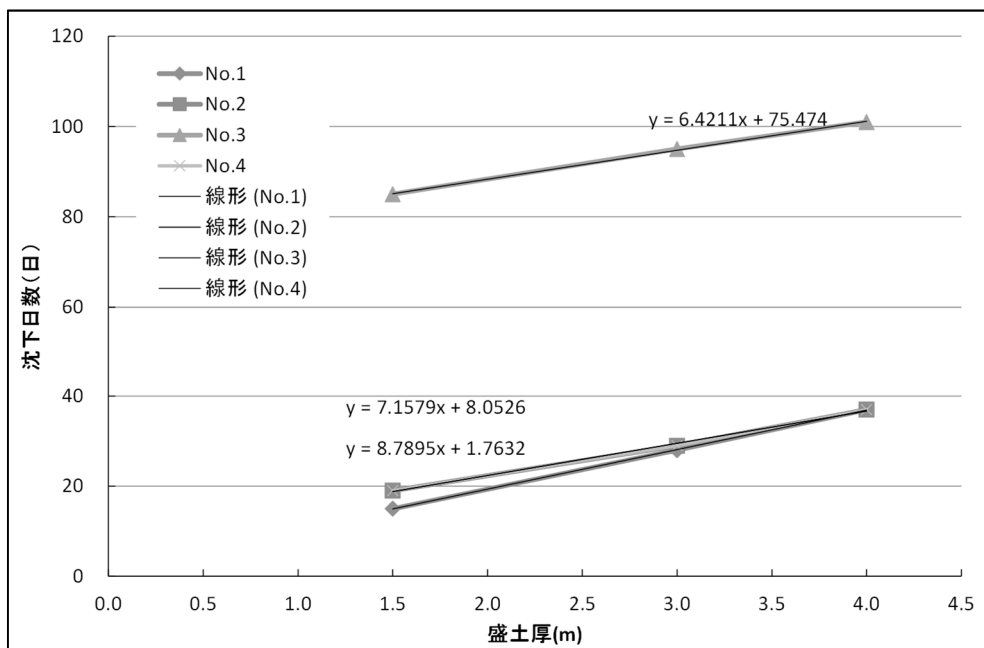
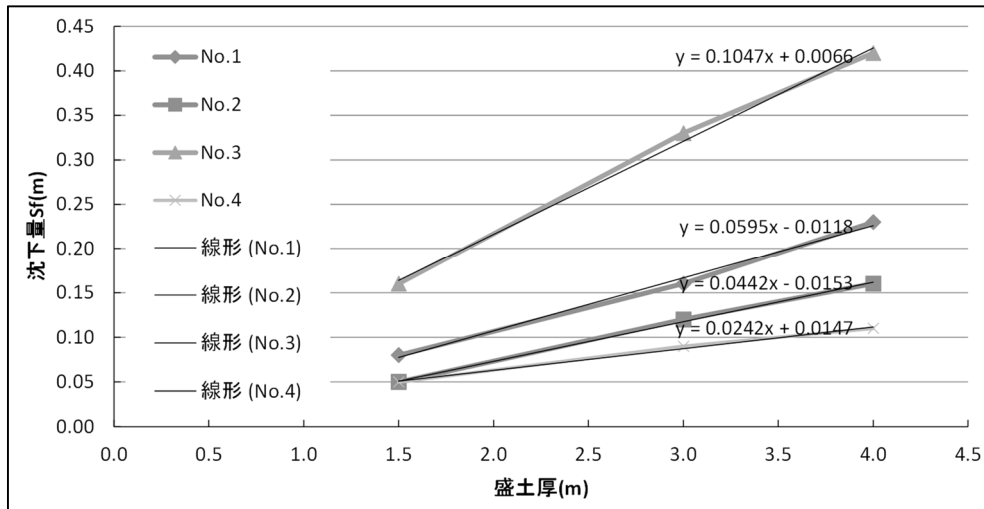


時間-圧密度曲線



### 5.3 盛土厚による圧密沈下量、沈下時間の補正

盛土厚と沈下量、盛土厚と沈下時間の相関式を用いて、盛土厚による圧密沈下量、沈下時間の補正を行った。



沈下収束後の地盤高が FH=12.5m となる場合の圧密沈下量、沈下時間は、表-2 に示すとおりである。

表-2 補正後の圧密沈下の検討結果

地点	位置	計画高 FH (m)	地盤高 H (m)	沈下対象層厚 (m) (B/Ac/Ap/Lm/Lc 層)	沈下収束後 FH=12.5m		
					盛土層厚 m	最終沈下量 cm	沈下時間 day U=90%
No. 1	低地	12.50	11.97	4.90	0.56	3.4	6.7
No. 2	低地	12.50	10.60	3.60	1.98	7.9	22.3
No. 3	水田	12.50	10.68	7.80	2.04	21.5	88.5
No. 4	台地	12.50	12.31	3.40	0.20	0.5	9.5