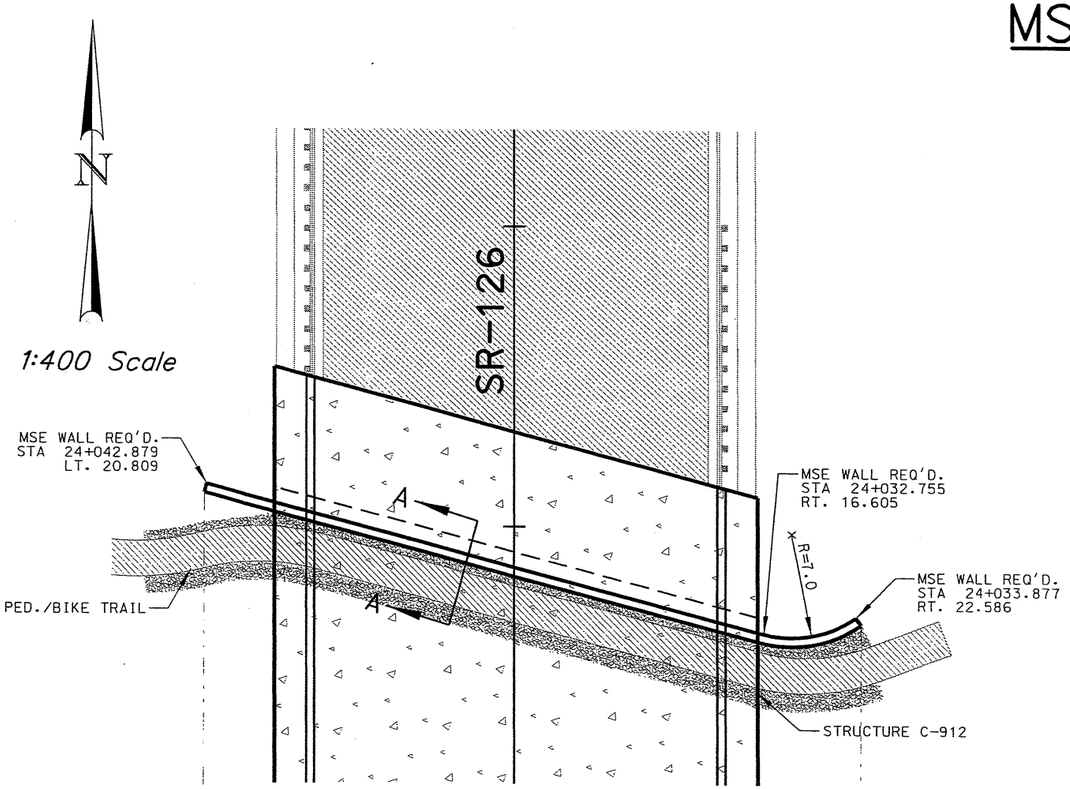
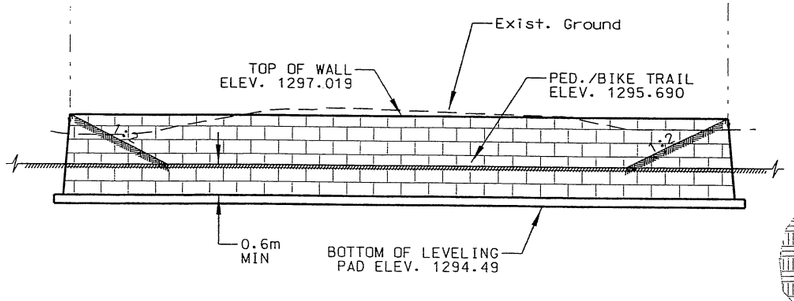
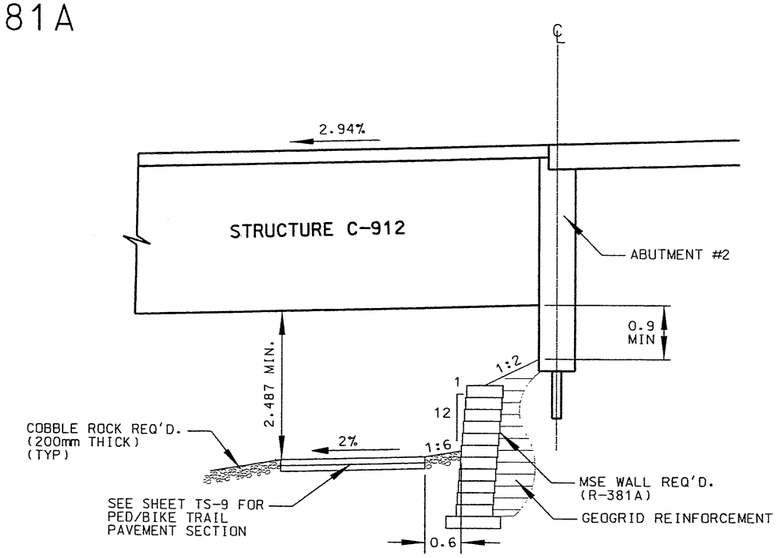
MSE WALL
R-381A



PLAN

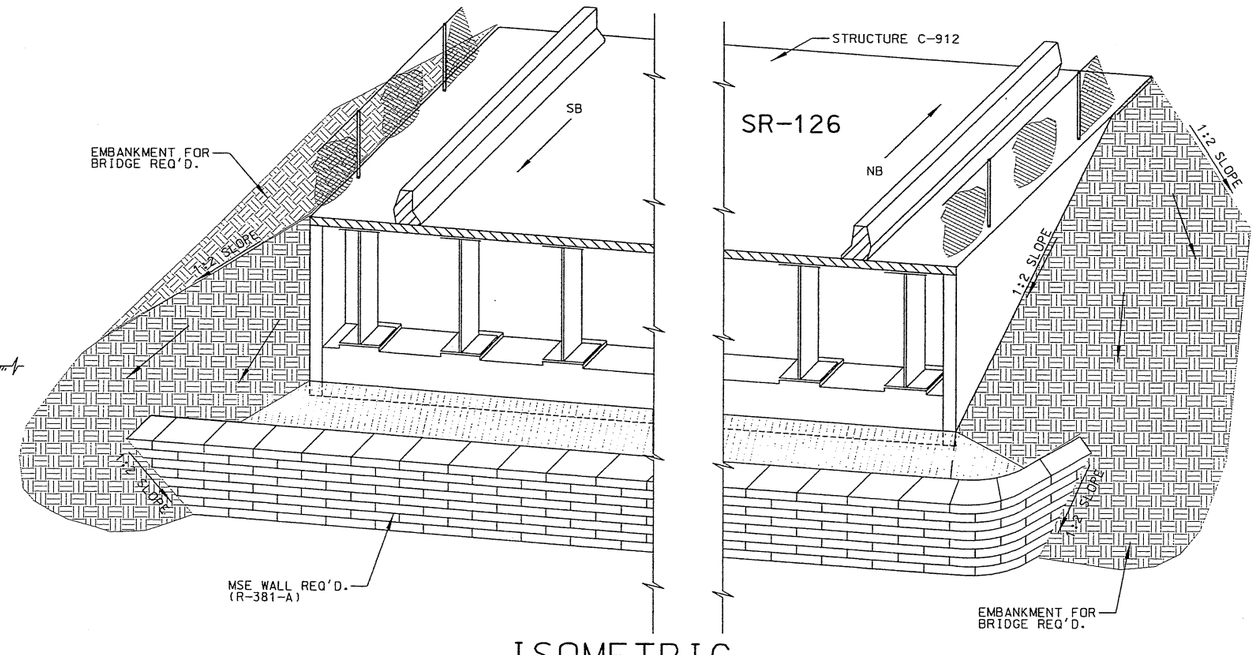


PROFILE



SECTION A-A

NOTES:
1. EXCAVATE 1 METER BELOW THE BOTTOM OF LEVELING PAD ELEVATION AND BACKFILL WITH SELECT MATERIAL MEETING THE REQUIREMENTS OF SPECIAL PROVISION 02061M.
2. THE WIDTH OF THIS EXCAVATION WILL BE THE WIDTH OF THE MSE WALL SECTION PLUS 1 METER.
3. THE WATER LEVEL MUST BE KEPT AT LEAST 0.6m BELOW THE EXCAVATION DURING BACKFILLING OPERATIONS.



ISOMETRIC

NO.	DATE	BY	REVISIONS REMARKS
	8/01	SN	

UTAH DEPARTMENT OF TRANSPORTATION
REGION ONE, OGDEN
ROADWAY DESIGN

DESIGN	RJ 7/01	CHECK	BK 8/01
DRAWN	RM 7/01	CHECK	RJ 8/01
QUANT.	RJ 7/01	CHECK	BK 8/01

PROJECT DESIGN ENGINEER — APPROVAL RECOMMENDED 9/01 DATE
ROADWAY DESIGN ENGINEER — APPROVED 9/17/01 DATE

SR-126, 1800 SOUTH
TO 12TH STREET, OGDEN
MSE WALL SITUATION AND LAYOUT
PROJECT NUMBER STP-BRF-0126(3)14

WEBER
COUNTY

R-381A
DRG. NO.

SHT. 1 OF 3

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O. to O.
A1	Slab (Top bars)	1"φ	30'-2"	44	1327'-4"		28'-0"
A2	" " "	1"φ	18'-2"	44	799'-4"	"	16'-0"
A3	" " "	1"φ	28'-2"	22	619'-8"	"	26'-0"
A4	" " "	1"φ	27'-8"	40	1106'-8"	"	25'-6"
A5	" " "	1"φ	22'-2"	40	886'-8"	"	20'-0"
A6	" " "	1"φ	24'-2"	20	483'-4"	"	22'-0"
A7	" " "	1"φ	17'-8"	82	1448'-8"	"	15'-6"
A8	" " "	1"φ	20'-2"	82	1653'-8"	"	18'-0"
A9	" " "	½"□	16'-2"	84	1358'-0"	"	15'-1"
B1	Slab (Bott. bars)	1"φ	30'-11"	84	2597'-0"	1'-0" 5'-0" 5'-0" 10"; 6"; 4" 9" 10"; 1'-5" 26'-9"	
B2	" " "	1"φ	16'-3"	84	1365'-0"	14'-0"; 1½"; 6"; 5'-4" 3'-4" 5'-4"	
B3	" " "	1"φ	16'-3"	42	682'-6"	14'-0"; 6"; 18'-1"	
B3'	Splice to B3	1"φ	20'-4"	42	854'-0"		
B4	" " "	⅞"φ	20'-8"	80	1653'-4"	1'-6" 1'-2" 12'-6" 10½" 1'-6"; 1'-3½"; 1'-10"; 2"; 1'-5"; 1'-0"	
B5	" " "	1"φ	28'-7"	82	2343'-10"	2'-0" 1'-5" 18'-8" 11" 2'-0"; 1'-6½"; 2'-2"; 4"; 1'-5½"; 1'-0½"	
B6	" " "	⅞"φ	15'-8"	84	1316'-0"	1'-6" 1'-0" 7'-6" 10½" 1'-9"; 1'-1½"; 1'-7"; 1"; 1'-5"; 1'-0"	

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O. to O.
B7	Slab (Bott. bars)	1"φ	26'-7"	41	[illegible]	1'-2½"; 2"	
B8	" " "	1"φ	3'-10"	44	168'-8"	6½"; 4½"	
C1	Slab	⅜"φ	2'-1"	66	137'-6"		1'-2"
C2			2'-1"	22	45'-10"		1'-2¼"
C3			2'-1"	22	45'-10"		1'-2⅜"
C4			2'-2"	22	47'-8"		1'-2⅞"
C5			2'-2"	22	47'-8"		1'-3⅛"
C6			2'-3"	22	49'-6"		1'-3 13/16"
C7			2'-3"	22	49'-6"		1'-4 7/16"
C8			2'-5"	22	53'-2"		1'-5 1/16"
C9			2'-6"	22	55'-0"		1'-6 15/16"
C10			2'-7"	22	56'-10"		1'-8½"
C11			2'-10"	22	62'-4"		1'-11 5/16"
C12			2'-10"	44	124'-8"		1'-10¾"
C13			2'-8"	44	117'-4		1'-8⅞"
C14			2'-6"	44	110'-0		1'-6⅞"
C15			2'-4"	44	102'-8"		1'-5⅜"
C16			2'-3"	44	99'-0		1'-4 5/16"
C17			2'-3"	44	99'-0"		1'-3⅝"
C18			2'-2	44	95'-4"		1'-2⅞"
C19			2'-1"	44	91'-8"		1'-2 5/16"
C20			2'-1"	44	91'-8"		1'-2 1/16"
C21	Slab	⅜"φ	3'-0"	22	66'-0"		2'-0 13/16"
D1	Slab	½"□	18'-0"	136	2448'-0"		
D'1	"	½"□	27'-0"	136	3672'-0"		

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O. to O.
E1	Slab-Winged Disc	½"□	8'-6"	16	136'-0"	3'-1½"; 3" 11"	
E2			7'-9"	12	93'-0"	a = 2'-8 13/16"	
E3			7'-4"	12	88'-0"	a = 2'-6¾"	
E4			7'-1"	12	85'-0"	a = 2'-5¼"	
E5			6'-11"	12	83'-0"	a = 2'-4⅛"	
E6			6'-10"	12	82'-0"	a = 2'-3½"	
E7			6'-8"	12	80'-0"	a = 2'-2 11/16"	
E8			6'-7"	12	79'-0"	a = 2'-2¼"	
E9			3'-3"	12	39'-0"	4; 4"; 1'-5"; 1'-6"; 10" R.	
E10			4'-0"	12	48'-0"	4; 4"; 1'-11"; 2'-0"; 1'-4" R.	
E11			4'-7"	12	55'-0"	4; 4"; 2'-3"; 2'-4"; 1'-8" R.	
E12			2'-10"	12	34'-0"		2'-3"
E13			12'-6"	12	150'-0"		
E14			9'-6"	12	114'-0"		
E15		½"□	6'-6"	12	78'-0"		
E16	Slab-Winged Disc	¾"φ	35'-2"	12	422'-0"		
F1	Dowel Fixed Bent	1"□	4'-6"	22	99'-0"		

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O. to O.
G1	Bent - Cap	½"□	7'-1"	44	311'-8"	6" 6"; 2½"; 6"; 5"; 3½" 1'-10" 3½"	
G2		½"□	40'-0"	8	320'-0"		
G3		1"□	21'-6"	8	172'-0"	20'-0"; 1'-6"	
G4		1"□	31'-0"	8	248'-0"	29'-6"; 1'-6"	
G5		½"□	11'-6"	4	46'-0"	R = 1'-9; 4'-9"	
G6	Bent - Cap	½"□	12'-1"	4	48'-4"	R = 2'-3"	
G7	Bent - Wall	½"□	24'-0	8	192'-0"		
G8		½"□	7'-10	16	125'-4"		
G9		½"□	6'-6"	16	104'-0"		
G10		½"□	5'-7"	16	89'-4"		
G11		½"□	5'-0"	16	80'-0		
G12		½"□	4'-7"	16	73'-4"		
G13		½"□	4'-5"	16	70'-8"		
G14		½"□	4'-3"	16	68'-0"		
G15		½"□	4'-2"	16	66'-8"		
G16		½"□	5'-6"	32	176'-0"		
G17		½"□	15'-0"	32	480'-0"	1'-6"	14'-6"
G18		¾"φ	37'-0"	36	1332'-0"		
G19		¾"φ	10'-11"	36	393'-0"	9⅜" R.; 5'-0"	
G20		¾"φ	12'-0"	76	912'-0"		
G21	Bent - Wall	1"□	4'-0"	44	176'-0"		1'-10"

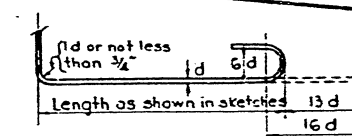
Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O. to O.
H1	Bent Footing	1"□	34'-11"	32	1117'-4"	27'-9"; 1'-11½"; R = 1'-3"; 5'-0"	
H2	Bent & Pier	⅜"φ	7'-9	380	2945'-0"	1'-8½"; 1'-9"; 5"; 5"	
H3	Bent Footing	½"□	7'-3"	96	696'-0"		
H4	" "	⅞"□	9'-2"	64	586'-8"		7'-3"
H5	" "	1"□	7'-3"	96	696'-0"		
J1	Pier - Cap & W.	½"□	40'-0	4	160'-0"		
J2		¾"φ	12'-0"	8	96'-0"	8'-9"; 3'-5"	
J3		½"□	28'-6	8	228'-0"		
J4		½"□	23'-8	12	284'-0"		
J5		1"□	36'-0	8	288'-0"		
J6		1"□	12'-6	8	100'-0"		
J7		½"□	11'-9"	92	1081'-0"	2'-10½"; 9"; 2'-0"; 2'-4½"; 45°; 1'-3½"; 1'-10"	
J8		½"□	6'-4"	8	50'-8"	5'-4"; field bend; 1'-0"	
J9		½"□	5'-2"	8	41'-4"		
J10		½"□	4'-7"	8	36'-8"		
J11		½"□	3'-9	8	30'-0"		
J12		½"□	3'-3"	8	26'-0"		
J13	Pier - Cap & Wing	½"□	7'-2"	8	57'-4	4'-4"; 2'-10	

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O. to O.
K1	Pier-Column	1"□	26'-1"	16	417'-4"		25'-0
K2		1"□	18'-8	16	298'-8		16'-6
K3		1"□	14'-2"	16	226'-8		12'-0"
K4		1"□	25'-11	16	414'-8		24'-10
K5		½"□	7'-9	80	620'-0		
K6		⅜"φ	7'-6"	8	60'-0	a = 1'-8"	
K7			7'-9	8	62'-0	a = 1'-9½"	
K8			7'-11	8	63'-4"	a = 1'-10½"	
K9			8'-2"	8	65'-4"	a = 2'-0"	
K10			8'-5"	8	67'-4"	a = 2'-1½"	
K11			8'-7	8	68'-8	a = 2'-2½"	
K12			8'-10	8	70'-8	a = 2'-4"	
K13			9'-1"	8	72'-8	a = 2'-5½"	
K14			9'-3"	8	74'-0"	a = 2'-6½"	
K15			9'-6"	8	76'-0"	a = 2'-8"	
K16			9'-8	8	77'-4"	a = 2'-9"	
K17			9'-11	8	79'-4"	a = 2'-10½"	
K18			10'-2"	8	81'-4"	a = 3'-0"	
K19			10'-5"	8	83'-4"	a = 3'-1½"	
K20			10'-7"	8	84'-8	a = 3'-2½"	
K21			10'-10"	8	86'-8	a = 3'-4"	
K22			11'-1"	8	88'-8	a = 3'-5½"	
K23			11'-3"	8	90'-0	a = 3'-6½"	
K24			11'-6"	8	92'-0	a = 3'-8"	
K25			11'-8	8	93'-4"	a = 3'-9"	
K26			11'-11"	8	95'-4"	a = 3'-10½"	
K27			12'-1"	8	96'-8	a = 3'-11½"	
K28			12'-4"	8	98'-8	a = 4'-1"	
K29			12'-7"	8	100'-8	a = 4'-2½"	
K30		⅜"φ	12'-10	8	102'-8	a = 4'-4"	
K31	Pier-Column	1"□	37'-8	8	301'-4"		

Mark	Location	Size	Lgth	No. Bars	Total Length	Sketch	O. to O.
L1	Pier Footing	1"□	21'-2"	40	846'-8"	6"; 4'-6"; 3'-6" R.; 5'-6"; 9'-0"	
L2		1"□	9'-5"	16	150'-8"		8'-4"
L3		¾"φ	18'-3"	40	730'-0	3'-3"; 5'-0"; 2'-0; 9	
L4		½"□	4'-8	72	336'-0"		
L5		1"□	4'-8	96	448'-0"		
L6		1"□	16'-8	32	533'-4"		
L7	Pier Footing	¾"φ	18'-3"	32	584'-0"		16'-7½"
P1	Hand Rail	½"□	3'-4"	448	1493'-4"		
P2	H.R. End Post	½"□	2'-8"	24	64'-0"		
P3	" " "	½"□	6'-4"	24	152'-0"		
P5	" Int. "	½"□	5'-9"	16	92'-0"		
P6	" " "	½"□	5'-5	16	86'-8"		
P7	" End "	½"□	5'-8	8	45'-4"		
R1	H.R. Railing	½"□	7'-2"	24	172'-0"		
R2	" "	½"□	8'-10	8	70'-8"		
R3	" "	½"□	9'-8	4	38'-8"		
R'1	" "	¾"φ	7'-2"	48	344'-0"		
R'2	" "	¾"φ	8'-10	16	141'-4"		
R'3	" "	¾"φ	9'-8	8	77'-4"		

6,623'-10" of ⅜"φ @ 0.38 = 2,517.1
16,835'-0" of ½"□ @ 0.86 = 14,478.1
5031'-8" of ¾"φ @ 1.52 = 7,648.1
3556'-0" of ⅞"φ @ 2.07 = 7,360.9
17426'-3 of 1"φ @ 2.70 = 47,050.9
6533'-8" of 1"□ @ 3.44 = 22,475.8
Total = 101,531 Lbs.

FOR INFORMATION ONLY



d	13 d	16 d
⅜"	5"	6
½"	6½"	8"
⅝"	8"	10"
¾"	9¾"	12"
⅞"	11½"	14"
1"	13"	16"
1⅛"	14½"	18"
1¼"	16¼"	20"

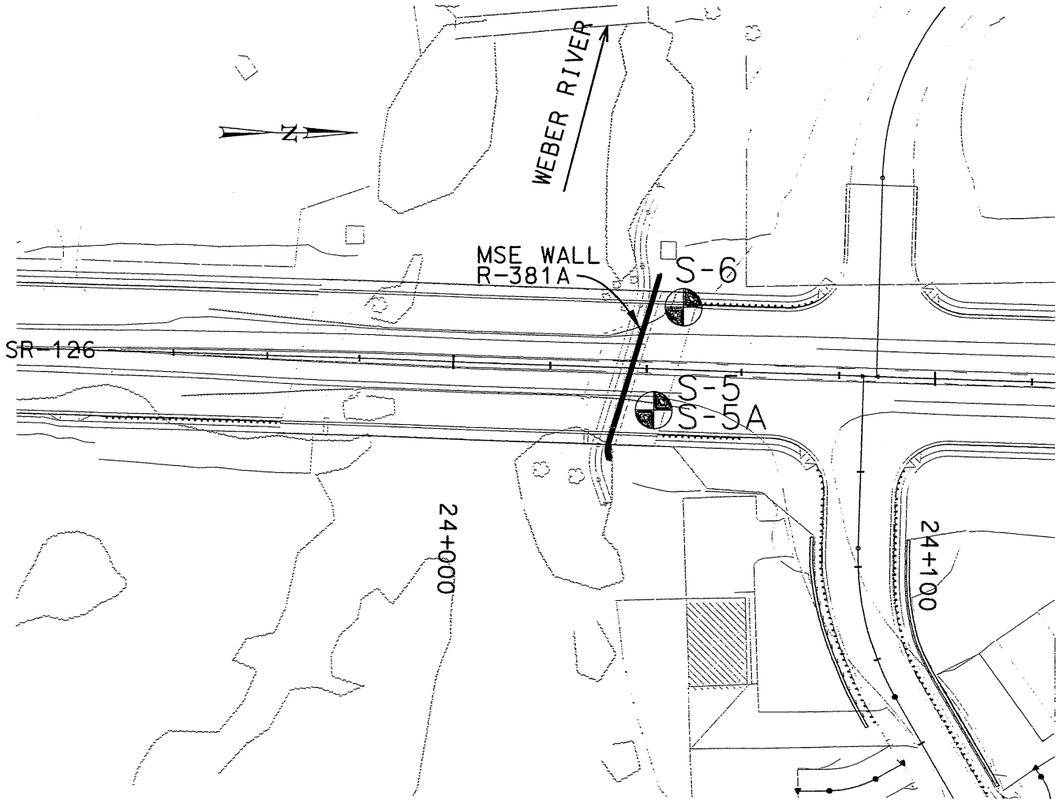
ROD NOTES

When hooks are called for the lengths given in the Total Length column include allowance for hooks as shown in above detail. Lengths given in sketches are center to center of bend points. All rods to conform to A.A.S.H.O. Specs.
All reinforcing bars to be deformed

SHEET 8 OF 8 SHEETS
UTAH STATE ROAD COMMISSION
SALT LAKE CITY - UTAH
K. C. WRIGHT - CHIEF ENGINEER

S.P.R.R. OVERHEAD
THREE MILES SOUTH OF FARR WEST
STA. 173+38, W.P.G.S. 200
WEBER CO.

DESIGNED BY JAU — SCALE None
DRAWN BY CGW — ISSUED Aug 9, 1935
CHECKED BY — APPROVED [signature]
EXAMINED BY
BRIDGE NO. [redacted] DRG. NO. D-399



DRILL HOLE LOG — BORING NO. S-5

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET — PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION — DATE: 12/11/00
LOCATION: SR-126 STA. 24+041.78 RT. 8.57 — ELEVATION: ~1297.30m
DRILLER: B. HARTLEY — LOGGED BY: M. HANSEN/J. BOONE
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ⏚ 2.59m AFTER 24 HOURS: ⏚ 3.87m

Elev. (m)	Depth (m) (Feet)	Lithology	Sample Type & No.	Sample Length (mm)	Blows Per 152mm	USCS (AASHTO)	Material Description	Nat. Dry Density (kN/m³)	Water Content, %	Liquid Limit	Plasticity Index	Atter. Gravel, %	Gradation Sand, %	Silt/Clay, %	Other Tests
				305	5,6,5	GP-GM	gray wet, med. dense — GRAVEL W/SAND AND SILT								
1295	5			229	4,3,32	GM (A-1-b(0))	dk. brown moist to wet, med. dense to loose, hitting something hard at bottom of sample, maybe concrete — SILTY GRAVEL W/SAND		9.2		NP	44	43	13	
	10		0		3,2,2		brown, very soft wet, loose, silty sand layer ~50mm thick — SANDY CLAY See Boring No. B-SSA								
			102		7,6,4	SM CL	brown, very moist — LEAN CLAY		27.8						
	15		178		10,9,7	GP	gray wet, med. dense GRAVEL W/SAND								
			0		10,9,3										
1290	25		457		Pushed 0.36	CL (A-7-5(25))	gray-brown w/black spots, moist, firm	12.1	42.9	45	24	0	3	97	CT UC
			457		1,2,2 0.72	CL	gray-brown moist, stiff LEAN CLAY W/SILTY SAND LENSES AND LAYERS		24.6						
	30		457		Pushed 0.48	CL	gray-brown moist, firm	13.5	31.6						CT
			432		3,3,3 0.42	SM CL	dk. brown-gray — SILTY SAND gray-brown moist, firm		36.3						
1285	40		457		Pushed 0.54	CL (A-7-5(21))	gray-brown moist, stiff	13.3	33.6	43	20	0	4	96	CT
	45		457		2,2,2 0.48	CL	gray-brown moist, firm LEAN CLAY W/SILTY SAND LENSES		33.5						
	50		457		Pushed 0.58	CL	gray-brown moist, stiff, w/interbedded sand layers	13.9	32.1						

Depth Continues on Boring No. S-5A

DRILL HOLE LOG — BORING NO. S-5A

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET — PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION — DATE: 12/12/00 TO 12/14/00
LOCATION: SR-126 STA. 24+041.78 RT. 8.57 — ELEVATION: 1297.38m
DRILLER: B. HARTLEY — LOGGED BY: M. HANSEN/J. BOONE
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ⏚ 2.60m AFTER 24 HOURS: ⏚ 3.78m

Elev. (m)	Depth (m) (Feet)	Lithology	Sample Type & No.	Sample Length (mm)	Blows Per 152mm	USCS (AASHTO)	Material Description	Nat. Dry Density (kN/m³)	Water Content, %	Liquid Limit	Plasticity Index	Atter. Gravel, %	Gradation Sand, %	Silt/Clay, %	Other Tests
							Also See Boring No. S-5 for Top 16.76m								
	5					GM	SILTY GRAVEL W/SAND								
1295	2		457		1,1,1 0.10	CL (A-4(3))	brown very moist to wet, very soft — SANDY CLAY W/SILTY SAND LAYERS		33.3	34	7	0	37	63	
	10		127		14,17,18	GP	gray wet, dense — GRAVEL W/SAND								
	15														
1290	6														
	20														
	7														
	25														
	8														
	30														
	9														
	35														
	10														
	11		457		1,2,3 0.46	CL (A-6(19))	gray-brown moist, firm — LEAN CLAY W/SILTY SAND LENSES AND SMALL LAYERS		31.2	40	18	0	3	97	
1285	40														
	13														
	45														
	14														
	50														
	15														
	55														
	16														
	60		254		4,7,17 0.40	CL SM	gray-brown moist, firm dk. gray — SILTY SAND W/CLAY LENSES		34.4						
1280	17		381		Pushed 0.56	CL (A-7-5(25))	gray-brown moist, stiff LEAN CLAY	13.2	35.5	41	21	0	14	86	CT UC
	18						LEAN CLAY W/SILTY SAND LENSES AND LAYERS								
	65		406		12,13,13 0.66	CL SM (A-2-4(01))	gray-brown moist, stiff gray-brown, moist, med. dense SILTY SAND		30.7 20.9		NP	0	70	30	
	19						LEAN CLAY W/SILTY SAND LENSES								
	70		457		Pushed 0.76	SM CL	dk. gray — SILTY SAND gray-brown moist, stiff	12.9	37.6						
1275	20		457		0,1,6 0.51 0.78	CL-SM	gray-brown moist, stiff — LEAN CLAY W/SILTY SAND LENSES AND LAYERS		28.5						
	75		457		Pushed 0.71	CL-SM	gray-brown moist, stiff	13.1	33.5						
	21														
	80		457		0,3,7 0.46 0.78	CH (A-7-5(19))	gray to dk. gray moist, stiff to firm — SANDY FAT CLAY		29.3	52	30	0	33	67	
1270	22														
	85		457		Pushed 0.63	CH SM SM-CL	dk. gray Brown wet, med. dense, very stiff — SILTY SAND W/CLAY LENSES AND LAYERS	13.2	35.5						UC
	23		457		4,11,17 0.99-										
	90		381		11,13,21	SM (A-2-4(0))	brown wet, dense — SILTY SAND		25.8		NP	0	63	37	
	24														
	95		305		14,29,25	SM	brown wet, med. dense								
1265	25		381		23,27,31	SP-SM (A-3(0))	brown to gray-brown wet, very dense — SAND W/SILT		23.2		NP	0	92	8	
	105														
	26		457		Pushed 0.77	CH (A-7-6(34))	green-gray moist, stiff — FAT CLAY W/SAND LENSES	14.0	30.3	53	32	0	3	97	
	110						TRACE GRAVEL AT 34.14m, INTERBEDDED CLAY AND SILTY SAND								
	27		457		9,11,25	SM	dk. gray wet, med. dense — SILTY SAND W/CLAY LENSES AND LAYERS UP TO 25mm THICK								
1260	115														
	28		432		9,11,13	SM (A-4(0))	dk. brown and gray-green moist to wet, med. dense — SILTY SAND W/CLAY LAYERS AND LENSES		21.3		NP	0	60	40	
	120														
	29		406		23,34,34	SP-SM (A-3(0))	dk. gray wet, very dense — SAND W/SILT		22.6		NP	1	90	9	
	125														
	30		381		22,34,40	SM	dk. gray wet, very dense, w/clay lenses, trace fine gravel								
	130														
	31		457		Pushed 0.62	CL-2 (A-6(15)) ML CL	green — LEAN CLAY green — SANDY SILT	13.8	33.0	36	16	0	9	91	CT UC
1255	135														
	32		457		11,11,14 0.79	CL (A-6(17))	greenish-gray-brown moist, stiff — SANDY LEAN CLAY W/CLAYEY SAND LAYERS			30	12	0	25	75	
	140														
	33		457		Pushed 0.72	CL	lt. green moist, stiff		37.9						
	145														
	34		381		Pushed 0.62	CL (A-7-5(17))	dk. gray moist, stiff — SANDY CLAY W/CLAY AND SAND LAYERS								CT UC
	150														
	35														

KEY TO DRILLING LOG

RELATIVE DENSITY (NON-PLASTIC SAND & SILT)

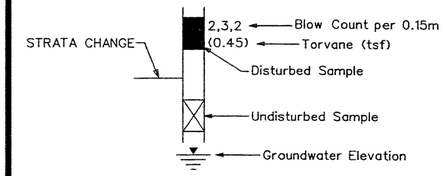
VERY LOOSE – N LESS THAN 4
LOOSE – N 4 TO 10
MEDIUM – N 10 TO 30
DENSE – N 30 TO 50
VERY DENSE – N MORE THAN 50

CONSISTENCY (PLASTIC – SILT & CLAY)

VERY SOFT – N LESS THAN 2
SOFT – N 2 TO 4
MEDIUM – N 4 TO 8
STIFF – N 8 TO 15
VERY STIFF – N 15 TO 30
HARD – N MORE THAN 30

TOPSOIL OR FILL
GRAVEL
SAND
SILT
CLAY
CLAYSTONE
IGNEOUS
LIMESTONE
CONGLOMERATE
DOLOMITE
SANDSTONE
SILTSTONE
SANDY CLAY
CLAYEY SAND
SILTY CLAY
CLAYEY SILT
SILTY SAND
SANDY SILT

LEGEND



ABBREVIATIONS

UC = Unconfined Compression test
CT = Consolidation Test
SG = Specific Gravity Test
VS = Vane Shear Test

GENERAL NOTES

1. THE SUBGRADE SURFACE EXPLORATIONS SHOWN WERE CONDUCTED ON AUG-19-99 BY UTAH DEPT. OF TRANSP. AND RB&G ENGINEERING.
2. THESE DRILL LOGS REPRESENT A SYNOPSIS OF THE SOIL DEPOSITS ENCOUNTERED WITHIN EACH 89 mm DIAMETER BORING AND ARE BASED ON SOUND GEOLOGICAL AND ENGINEERING JUDGEMENT. BECAUSE SOIL IS A COMPLEX MEDIUM, THESE DRILL LOGS MAY OR MAY NOT REPRESENT THE SOIL CONDITIONS AT THIS SITE. THIS SUBSURFACE INTERPRETATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION AND JUDGEMENT OF THE CONTRACTOR.
3. THE WATER LEVELS AND CONDITIONS INDICATED ON THE DRILL LOGS REPRESENT HOLE CONDITIONS ON THE DATE SHOWN. EITHER WITH CASING STILL IN PLACE OR WITH PERFORATED PLASTIC PIPE INSTALLED. IT SHOULD BE NOTED, HOWEVER, THAT AT LOCATIONS AWAY FROM THE TEST HOLES OR AT OTHER TIMES OF THE YEAR THE WATER LEVELS AND CONDITIONS MAY VARY SIGNIFICANTLY.
4. THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND TRANSITION MAY BE GRADUAL.
5. COBBLE – A ROCK FRAGMENT WITH AN AVERAGE DIMENSION BETWEEN 76 mm AND 305 mm.
6. BOULDER – A ROCK FRAGMENT WITH AN AVERAGE DIMENSION OF 305 mm OR MORE.

NO.	DATE	BY	REVISIONS	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BEP 8/01 — CHECK BEP 8/01
DRAWN JMM 6/01 — CHECK BEP 8/01
QUANT. — CHECK

APPROVAL RECOMM. 9/01 — DESIGN ENGR.
APPROVED 9/27/01 — DATE — ENGR.

SR-126, 1800 SOUTH TO 12TH STREET, OGDEN
SR-126 OVER WEBER RIVER
SOIL DATA

PROJECT NUMBER STP-BRF-0126(3)14

WEBER COUNTY

R-381A DRG. NO.

SHT. 2 OF 3

DRILL HOLE LOG

BORING NO. S-6

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION DATE: 12/20/00 TO 1/2/01
LOCATION: SR-126 STA 24+047.36 LT. 13.01 ELEVATION: 1297.28m
DRILLER: B. HARTLEY LOGGED BY: M. HANSEN/J. BOONE
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ⏚ 2.74m AFTER 24 HOURS: ⏚ 3.96m

Elev. (m)	Depth (m) (Feet)	Lithology	SAMPLE Type	SAMPLE Recovery (mm)	Blows Per 152mm	USCS (AASHTO)	Material Description	Dry Density lb/cf	Moisture Content %	Atter. Limits Liquid Limit %	Atter. Limits Plasticity Index %	Gradation Gravel %	Gradation Sand %	Gradation Silt/Clay %	Other Tests
						GP (SP-SM)	dk. brown, moist, dense GRAVEL W/SAND brown, moist SAND W/SILT								
1295	1 5 2		432		24,27,13										
			381		2,1,1	SM (A-2-4(0))	brown slightly moist, very loose SILTY SAND W/TRACE GRAVEL		10.0			14	57	29	
	3 10		279		5,3,4	SM	brown moist, loose		18.1						
	4 15		102		4,2,2	GP	gray-brown wet, very loose GRAVEL W/SAND								
	5		127		3,4,4	GP	gray-brown wet, very loose								
	6 20		381		4,2,2 0.11	GP SM	dk. brown-gray wet, very loose SILTY SAND								
1290	7 25		102		13,16,4	GP	gray-brown wet, med. dense GRAVEL W/SAND		31.3						
	8		178		2,2,2 0.30	CL	gray-brown moist, firm								
	9 30		457		0/305mm, 4 0.57	CL	LEAN CLAY W/SILTY SAND LENSES AND LAYERS		25.3						
	10						tried shelby - no recov.								
	11 35		406		0/457mm 0.32	CL (A-6(16))	gray-brown very moist, firm		36.4	39	18	2	9	89	
1285	12 40		203		3,3,3 0.40	SM CL	SILTY SAND W/CLAY LAYERS gray-brown, wet gray-brown very moist, stiff		33.2						
	13 45		152		Pushed 0.39	CL (A-7-6(22))	gray moist, firm LEAN CLAY W/SILTY SAND LENSES may have distorted bedding		32.9	43	21	0	3	97	
	14						TRACE GRAVEL								
	15 50		356		15,18,12 0.41	SM	gray-brown, wet, firm to med. dense SILTY SAND		31.2						
1280	16 55		457		Pushed 0.55	CL (A-7-6(15))	gray-brown moist, stiff INTERBEDDED LENSES AND LAYERS OF LEAN CLAY AND SILTY SAND 50mm TO 300mm THICK	13.1	36.1	45	23	0	29	71	CT UC
	17 60		457		4,7,5 0.49	CL_SM	gray to gray-brown moist to wet, stiff		33.8						
	18					CL (A-7-6(20))		14.6	27.4	42	22	0	11	89	
	19 65		305		Pushed	SM (A-4(0))	brown, wet SILTY SAND		29.1	NP	0	44	56		
	20		457		3,3,6 0.56	CL_SM	brown moist to wet, firm								
	21 70		406		2,4,4 0.66	CL_SM	brown moist to wet, stiff INTERBEDDED LENSES AND LAYERS OF LEAN CLAY AND SILTY SAND 25mm TO 230mm THICK		28.4						
1275	22 75		406		Pushed	CL-SM	gray-brown moist to wet, stiff	13.3	33.1						
	23		406		8,6,3 0.59	CL_SM			33.4						
	24 80		457		2,2,4 0.43	CL_SM	gray-brown moist, firm LEAN CLAY W/SILTY SAND LENSES AND LAYERS		37.3						
	25														
	26 85		457		Pushed 0.86	CH (A-7-6(36))	dk. gray to black moist, stiff FAT CLAY	13.2	34.8	58	32	0	3	97	UC
1270	27 90				0.89	CH									
	28		432		4,13,12 0.86	CL_SM	moist to very moist LEAN CLAY AND SILTY SAND LAYERS								
	29 95		406		13,20,32	SM_ML	gray-brown wet, very dense SILTY SAND W/SILT LENSES AND LAYERS								
	30														
	31 100		381		23,33,31	SP-SM (A-2-4(0))	gray-brown wet, very dense INTERBEDDED LAYERS OF SILTY SAND AND SAND W/SILT		21.3		NP	0	89	11	
1265	32 105		330		20,30,34	SP-SM (A-3(0))	gray-brown wet, very dense SAND W/SILT		21.9		NP	1	90	9	
	33														
	34 110		406		Pushed 0.76	CL	green-gray moist, stiff CLAY W/SILTY SAND LENSES								CT UC
	35 115		127		16,26,29	SM	dk. gray wet, very dense SILTY SAND								
	36 120														
1260	37		457		5,2,3 0.51	ML (A-4(3))	gray-brown moist to wet, stiff SILT W/SAND AND CLAY LENSES		26.9	28	5	0	23	77	
	38 125		330		17,29,41	SP-SM (A-1-b(0))	SAND W/CLAY LAYERS dk. gray wet, very dense SAND W/SILT		21.0		NP	1	90	9	

KEY TO DRILLING LOG

RELATIVE DENSITY (NON-PLASTIC SAND & SILT)

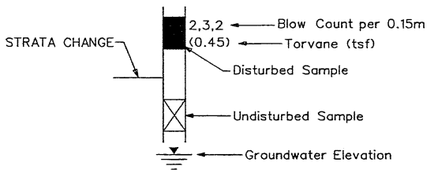
VERY LOOSE - N LESS THAN 4
LOOSE - N 4 TO 10
MEDIUM - N 10 TO 30
DENSE - N 30 TO 50
VERY DENSE - N MORE THAN 50

CONSISTENCY (PLASTIC - SILT & CLAY)

VERY SOFT - N LESS THAN 2
SOFT - N 2 TO 4
MEDIUM - N 4 TO 8
STIFF - N 8 TO 15
VERY STIFF - N 15 TO 30
HARD - N MORE THAN 30

TOPSOIL OR FILL
GRAVEL
SAND
SILT
CLAY
CLAYSTONE
IGNEOUS
LIMESTONE
CONGLOMERATE
DOLOMITE
SANDSTONE
SILTSTONE
SANDY CLAY
CLAYEY SAND
SILTY CLAY
CLAYEY SILT
SILTY SAND
SANDY SILT

LEGEND



ABBREVIATIONS

UC = Unconfined Compression test
CT = Consolidation Test
SG = Specific Gravity Test
VS = Vane Shear Test

GENERAL NOTES

1. THE SUBGRADE SURFACE EXPLORATIONS SHOWN WERE CONDUCTED ON AUG-19-99 BY UTAH DEPT. OF TRANSP. AND RB&G ENGINEERING.
2. THESE DRILL LOGS REPRESENT A SYNOPSIS OF THE SOIL DEPOSITS ENCOUNTERED WITHIN EACH 89 mm DIAMETER BORING AND ARE BASED ON SOUND GEOLOGICAL AND ENGINEERING JUDGEMENT. BECAUSE SOIL IS A COMPLEX MEDIUM, THESE DRILL LOGS MAY OR MAY NOT REPRESENT THE SOIL CONDITIONS AT THIS SITE. THIS SUBSURFACE INTERPRETATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION AND JUDGEMENT OF THE CONTRACTOR.
3. THE WATER LEVELS AND CONDITIONS INDICATED ON THE DRILL LOGS REPRESENT HOLE CONDITIONS ON THE DATE SHOWN, EITHER WITH CASING STILL IN PLACE OR WITH PERFORATED PLASTIC PIPE INSTALLED. IT SHOULD BE NOTED, HOWEVER, THAT AT LOCATIONS AWAY FROM THE TEST HOLES OR AT OTHER TIMES OF THE YEAR THE WATER LEVELS AND CONDITIONS MAY VARY SIGNIFICANTLY.
4. THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND TRANSITION MAY BE GRADUAL.
5. COBBLE - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION BETWEEN 76 mm AND 305 mm.
6. BOULDER - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION OF 305 mm OR MORE.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BEP 8/01 | CHECK BEP 8/01 | CHECK
DRAWN JMM 6/01 | CHECK | CHECK
QUANT. | CHECK | CHECK

APPROVAL RECOMM. 9/01 DATE — DESIGN ENGR.
APPROVED 9/27/01 DATE — ASSISTANT DIRECTOR ENGR.

SR-126, 1800 SOUTH TO 12TH STREET, OGDEN
SR-126 OVER WEBER RIVER
SOIL DATA

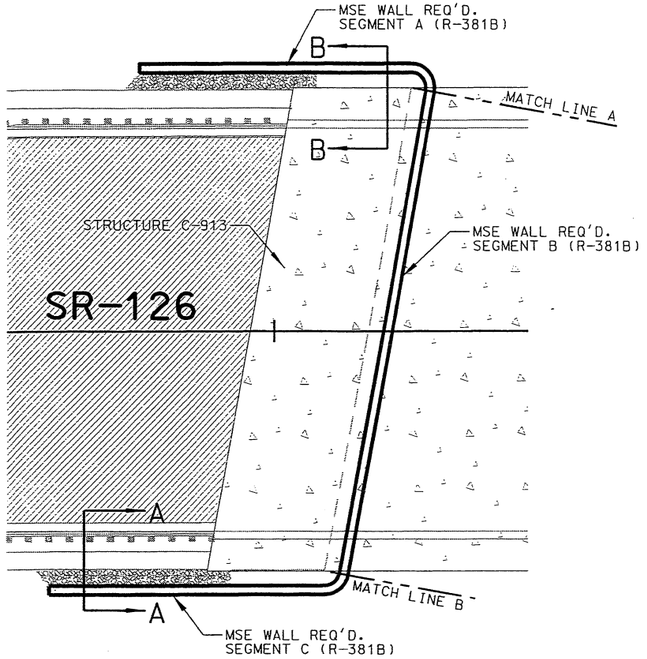
PROJECT NUMBER STP-BRF-0126(3)14

WEBER COUNTY

R-381A DRG. NO.

SHT. 3 OF 3

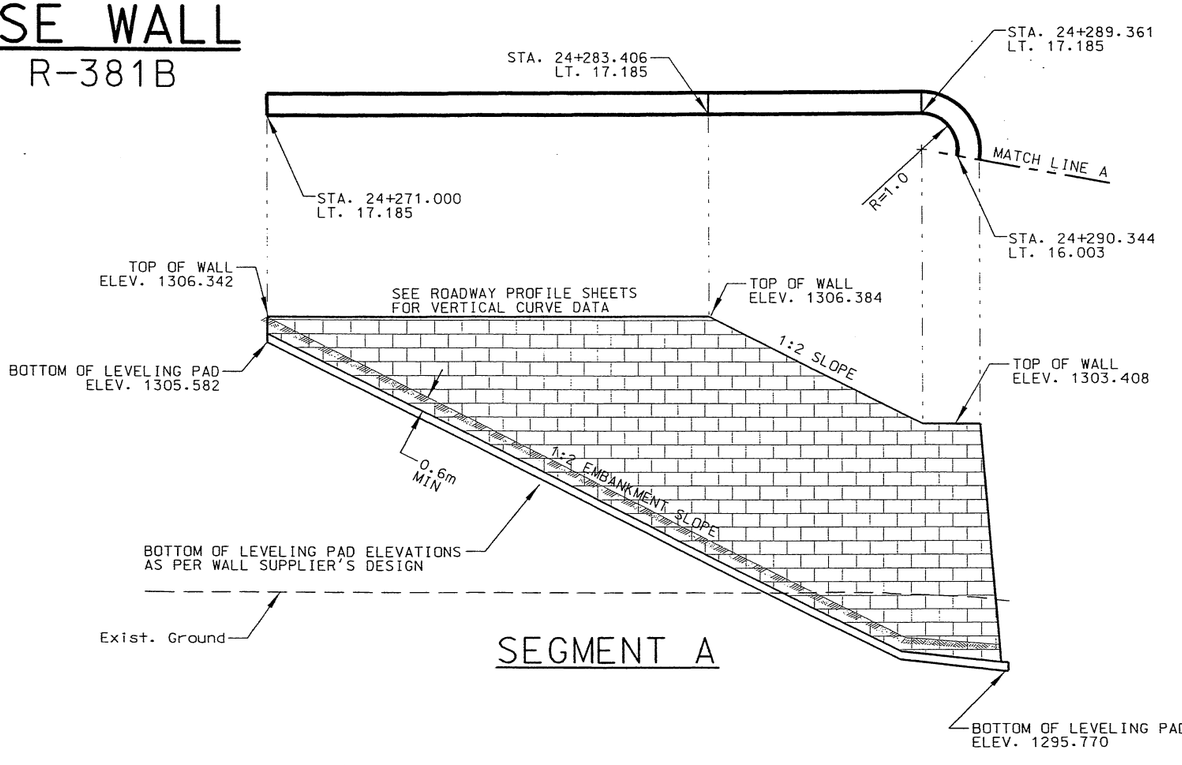
1:400 Scale



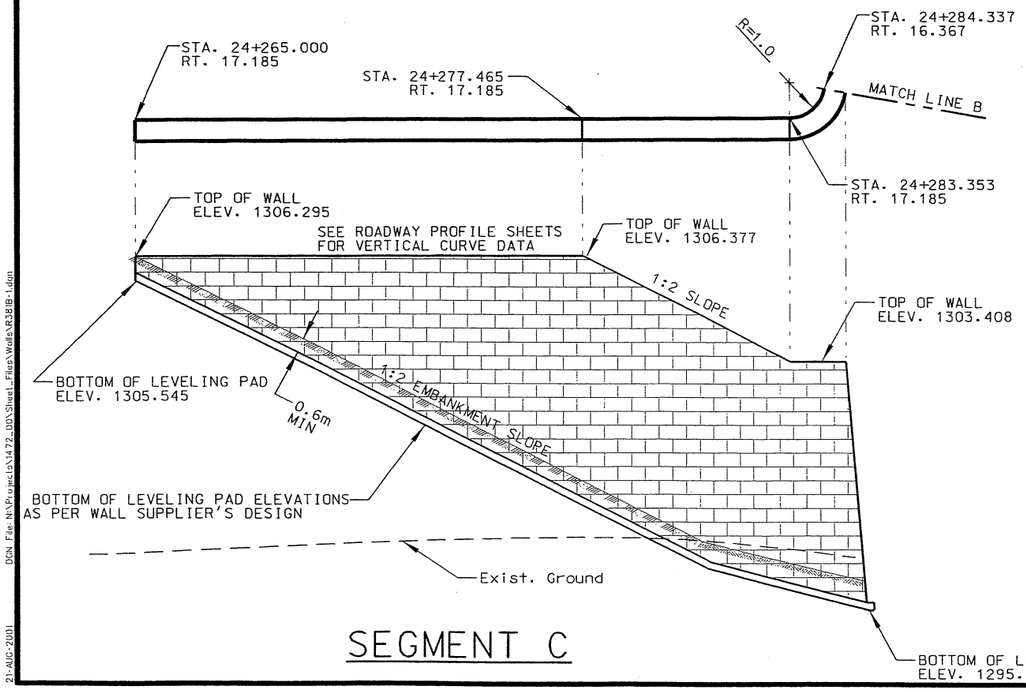
PLAN

SEE SHT 2 OF 3 FOR SECTIONS A-A & B-B

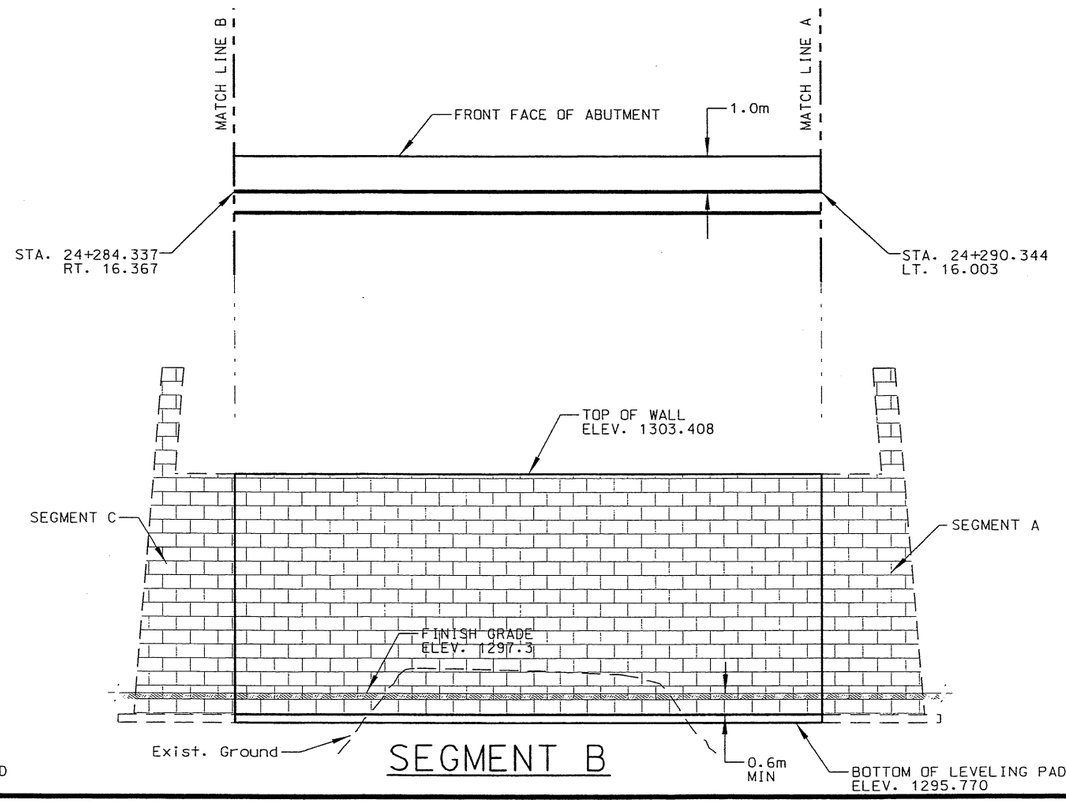
MSE WALL
R-381B



SEGMENT A



SEGMENT C



SEGMENT B

REVISIONS			
NO.	DATE	BY	REMARKS
	8/01	SN	

UTAH DEPARTMENT OF TRANSPORTATION
REGION ONE, OGDEN
ROADWAY DESIGN

DESIGN	RJ 7/01	CHECK	BK 8/01
DRAWN	RM 7/01	CHECK	RJ 8/01
QUANT.	RJ 7/01	CHECK	BK 8/01

APPROVAL RECOMM. — PROJECT DESIGN ENGINEER — DATE 9/19/01
APPROVED — ROADWAY DESIGN ENGINEER — DATE 9/19/01

SR-126, 1800 SOUTH
TO 12TH STREET, OGDEN

MSE WALL SITUATION AND LAYOUT

PROJECT NUMBER STP-BRF-0126(3)14

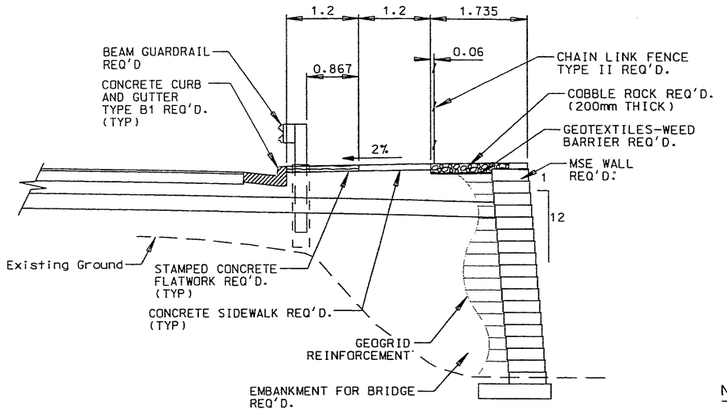
WEBER COUNTY

R-381B DRG. NO.

SHT. 1 OF 3

DGN File: N:\Projects\0.14.72_UDOT\Sheet_Files\Walls\R381B-1.dgn
21-AUG-2001

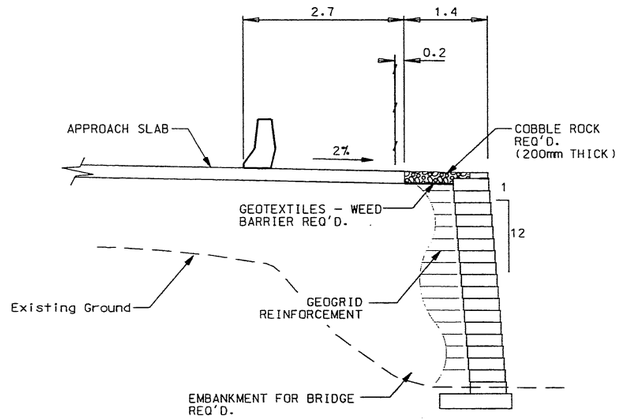
MSE WALL
R-381B



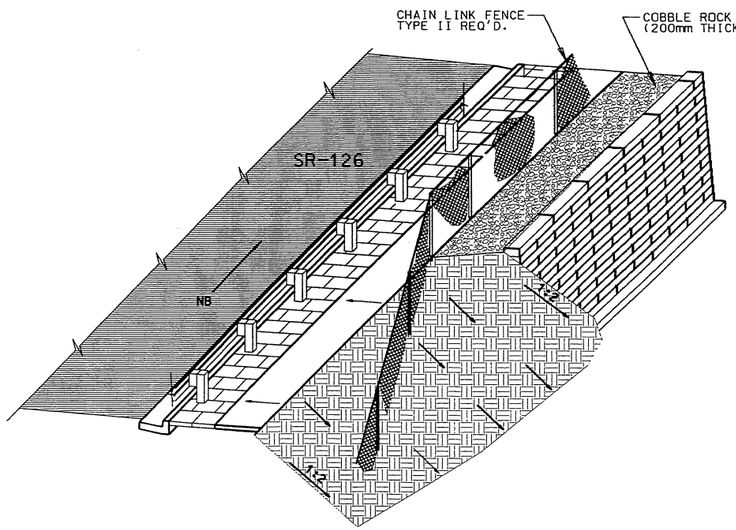
SECTION A-A

NOTES:

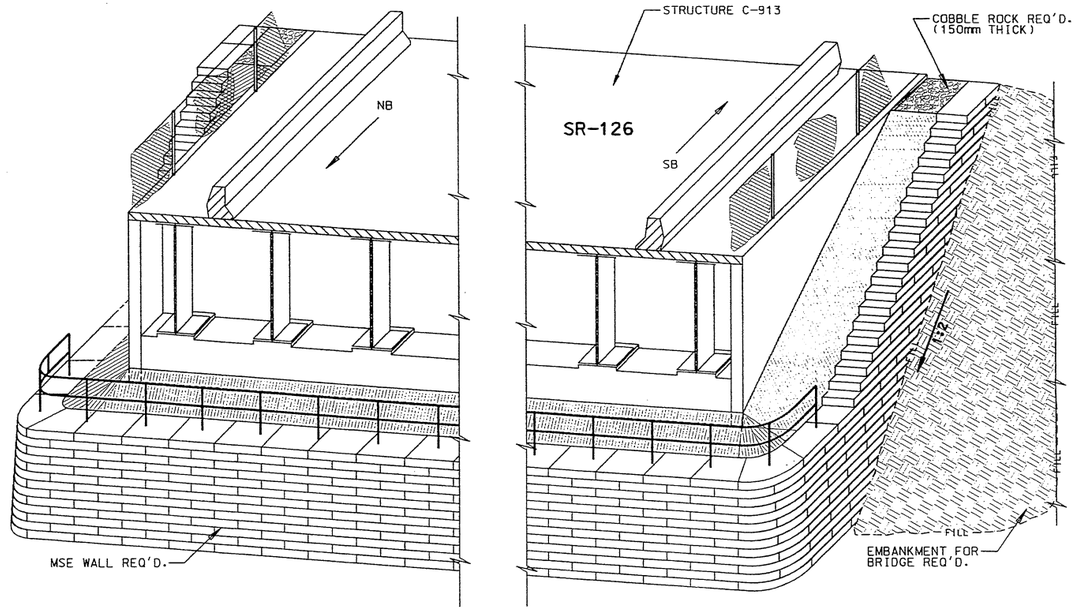
1. EXCAVATE 1 METER BELOW THE BOTTOM OF LEVELING PAD ELEVATION AND BACKFILL WITH SELECT MATERIAL MEETING THE REQUIREMENTS OF SPECIAL PROVISION 02061M.
2. THE WIDTH OF THIS EXCAVATION WILL BE THE WIDTH OF THE MSE WALL SECTION PLUS 1 METER.
3. THE WATER LEVEL MUST BE KEPT AT LEAST 0.6m BELOW THE EXCAVATION DURING BACKFILLING OPERATIONS.



SECTION B-B



ISOMETRIC



ISOMETRIC

NO.	DATE	BY	REVISIONS REMARKS
	8/01	SN	

UTAH DEPARTMENT OF TRANSPORTATION
REGION ONE, OGDEN
ROADWAY DESIGN

DESIGN	RJ 7/01	CHECK	BK 8/01
DRAWN	RM 7/01	CHECK	RJ 8/01
QUANT.	RJ 7/01	CHECK	BK 8/01

APPROVAL RECOMMD. — PROJECT DESIGN ENGINEER — DATE 9/01
APPROVED — ROADWAY DESIGN ENGINEER — DATE 9-17-01

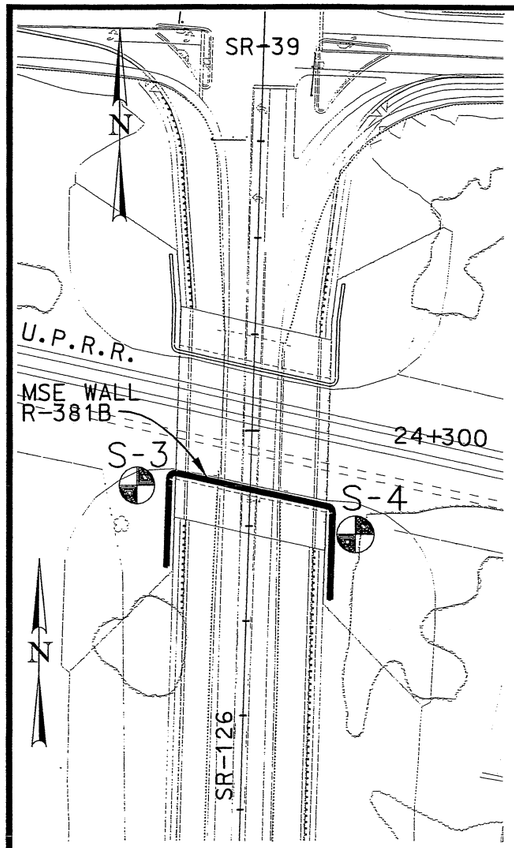
SR-126, 1800 SOUTH
TO 12TH STREET, OGDEN
MSE WALL SITUATION AND LAYOUT
PROJECT NUMBER STP-BRF-0126(3)14

WEBER COUNTY

R-381B DRG. NO.

SHT. 2 OF 3

21-AUG-2001 14:04 File: N:\Projects\1472_001\Sheet_Files\Walls\R381B-2.dgn



LOCATION MAP

DRILL HOLE LOG — BORING NO. S-3

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION DATE: 2/13/00 TO 2/16/00
LOCATION: SR-126 STA. LT. ELEVATION: 1295.72m
DRILLER: B. HARTLEY LOGGED BY: M. HANSEN/J. BOONE
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ▽ 1.83m AFTER 24 HOURS: ▽ m

Elev. (m)	Depth (m) (Feet)	Lithology	Sample Type	Sample Recv. (mm)	Blows Per 152mm	USCS (AASHTO)	Material Description	Dry Density kg/m³	Moisture Content, %	Liquid Limit	Plasticity Index	Atter. Gradation Gravel, %	Sand, %	Silt/Clay, %	Other Tests
1295	0			254	4,6,7	CL	dk. brown, moist, med. dense, low plasticity								
							SANDY LEAN CLAY W/GRAVEL AND ORGANICS								
	1						SILTY/CLAYEY FINE SAND trace roots								
	2			356	3,4,7	CL (A-6(3)) GP-GM	brown moist, med. dense		17.8	22	12	3	45	52	
	3						brown								
	10			178	22,17,14	GP-GM	brown wet, med. dense GRAVEL W/SAND AND SILT								
	4			25	7,7,7		100% water loss								
	5														
1290	15			178	22,25,26	GP-GM	brown very dense GRAVEL W/MED. TO COARSE SAND W/SILT								
	6														
	20														
	7														
	25			457	Pushed 0.45	CL (A-7-6(23))	gray moist, firm LEAN CLAY W/BLACK LINES		12.4	40.2	46	23	0	8	92
	8														
	9			457	1,2,2 0.49	CL	gray-brown LEAN CLAY W/FEW VERY THIN SILTY SAND LENSES LESS THAN 1mm THICK angular bedding ~47° from vertical		28.4						
	30														
1285	10			457	Pushed 0.62	CL	brown moist, stiff		13.8	30.9					
	35														
	11			457	0,3,4 0.61	CL	LEAN CLAY W/FEW VERY THIN SILTY SAND LENSES ~25mm APART AND LESS THAN 1mm THICK		26.9						
	12														
	40			457	Pushed 0.71	CL			25.9						UC
	13														
	45														
	14			457	2,2,3 0.58	CL	gray-brown LEAN CLAY W/FEW VERY THIN SILTY SAND LENSES 70mm TO 100mm APART AND LESS THAN 1mm THICK		36.2						
1280	15														
	50														
	16			457	Pushed 0.52	SC,CL	dk. gray-brown wet, loose MOTTLED CLAY AND SAND		13.8	32.5					
	55			457	3,5,5	SC,CL				17.5					
	17			457	0.51	CL	dk. gray-brown moist, stiff LEAN CLAY W/SILT LAYERS 25mm THICK SILTY SAND			33.2					
	60					SM	gray, wet LEAN CLAY W/SILTY SAND LENSES								
	18			457	5,8,10	CL	gray-brown, moist, firm 80mm TO 100mm APART AND 1mm THICK		26.7						
	65						brown, moist VERY FINE SILTY SAND								
	19			457	Pushed 0.75	CL	brown moist, stiff, med. to high plasticity CLAY		13.8	30.3					
	20														
	65						LEAN CLAY W/2 13mm THICK								
1275	21			457	3,2,5 0.74	CL_SM	gray-brown med. plasticity SILTY SAND LAYERS AND SOME SILT LENSES LESS THAN 1mm THICK		35.4						
	70														
	22			457	Pushed 0.73	CL	gray-brown moist, stiff, med. plasticity LEAN CLAY W/BLACK LINES		14.4	28.4					
	75														
	23			457	2,3,4 0.76	CL	gray to dk. gray, moist, stiff CLAY		29.7						
	80														
	24			457	Pushed 0.80	CL (A-7-6(27))	mottled lt. green-gray to black moist, stiff LEAN TO FAT CLAY		13.8	28.4	47	25	0	3	97 UC
	85														
	25					CL SM/ML	brown SANDY LEAN CLAY SILTY SAND/SANDY SILT								
	90			457	6,14,14	SM ML,SM,CL	brown VERY SILTY SAND INTERBEDDED LENSES OF SILT, SILTY SAND AND CLAY W/ORGANICS		23.0						
	28														
	29	95		432	17,28,31	SM (A-2-4(0))	gray-brown wet, very dense VERY SILTY FINE SAND		23.3				0	82	18
	30														
		100		305	20,25,24	SP-SM	dk. gray wet, dense FINE TO MED. SAND W/SILT trace gravel								
1265	31														
	32	105		457	Pushed 0.90	CL	mottled dk. gray and green, moist, stiff to very stiff, med. to high plasticity LEAN TO FAT CLAY W/VERY THIN SILTY SAND LENSES		14.5	28.4					
	33														
		110		406	10,9,12	SP-SM SM,ML,CL	dk. gray MED. TO COARSE SAND dk. gray very moist to wet, med. dense INTERBEDDED SILTY VERY FINE SAND AND VERY FINE SANDY SILT W/CLAY LENSES								
	34														
		115		305	Pushed 0.24	SM (A-4(0))	dk. gray, moist, soft VERY FINE SILTY SAND		15.6	21.6			0	44	56
1260	35														
	36						SILTY FINE TO MED. SAND TO SAND W/SILT								
		120		432	20,25,36	SM/SP-SM	dk. gray wet, very dense, 8mm clay lense (heaving sand)								
	37														
		125		0	24,31,32	SM/SP-SM	SILTY SAND								
	38														
	39			457	Pushed 0.81	CL	lt. green moist, stiff, med. to high plasticity LEAN CLAY W/SILTY FINE SAND LENSES AND 7mm RUSTY CLAY NODUALS		14.6	27.9					UC
	130														
	40						very dk. brown-gray, moist to wet, firm LEAN CLAY W/SAND			19.9					
1255				457	8,8,11 0.99-0.36	CL SC,CL	moist, very stiff INTERBEDDED CLAYEY SAND AND SANDY LEAN CLAY			21.5					
	41	135													
	42			457	Pushed 0.99-	CL	lt. gray-green moist, very stiff LEAN CLAY		13.6	33.0					UC
		140													

DRILL HOLE LOG — BORING NO. S-4

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION DATE: 11/28/00 TO 12/2/00
LOCATION: SR-126 STA. 24+320.09 RT. 22.38 ELEVATION: 1296.05m
DRILLER: B. HARTLEY LOGGED BY: M. HANSEN/J. BOONE
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ▽ 1.79m AFTER 24 HOURS: ▽ 2.47m

Elev. (m)	Depth (m) (Feet)	Lithology	Sample Type	Sample Recv. (mm)	Blows Per 152mm	USCS (AASHTO)	Material Description	Dry Density kg/m³	Moisture Content, %	Liquid Limit	Plasticity Index	Atter. Gradation Gravel, %	Sand, %	Silt/Clay, %	Other Tests
1295	0			203	3,5,7	SC (A-2-4(0))	dk. brown moist CLAYEY SAND W/GRAVEL AND ORGANICS		12.8	29	9	31	36	33	
	1														
	2			254	8,8,8	GP (A-1-a(0))	brown moist, med. dense GRAVEL W/SAND		2.7		NP	69	27	4	
	3														
	10			254	28,27,26	GP	wet, very dense								
	4														
	5			203	20,18,13	GP-GM	brown dense GRAVEL W/SILT AND SAND								
	15														
1290	6			190	15,12,13	GP	brown med. dense GRAVEL W/SAND								
	20														
	7			152	30,21,8	GP	gray								
	25														
	8			457	Pushed 0.49	CL (A-7-5(21))	gray-brown moist, firm		13.7	33.1	42	20	0	4	96	UC CT
	9														
	30														
	10			457	2,4,4 0.78	CL	stiff LEAN CLAY W/BLACK SPOTS			24.9					
1285	35														
	11			406	Pushed 0.66	CL			14.0	30.5					
	40														
	12			457	3,4,6 0.67	CL	w/silty sand lenses			25.4					
	45														
	13			457	Pushed 0.67	CL (A-7-5(24))	dk. gray LEAN CLAY		13.5	33.0	49	25	0	13	87	UC CT
	14														
1280	50														
	16			457	8,9,7 0.65	SM (A-2-4(0))	dk. gray wet CLAYEY SAND W/CLAY LAYERS			22.9					
	55					CL	brown moist CLAY W/SILTY SAND LENSES			31.1					
	17			457	Pushed 0.43	CL	dk. gray CLAY		14.3	30.2					
	60			457	3,3,5 0.62	CL_SM	brown, stiff, CL-moist SM-wet			28.1					
	18			457	2,3,4 0.83	CL_SM	INTERBEDDED LENSES AND LAYERS OF LEAN CLAY AND SILTY SAND 127mm TO 178mm THICK			27.7					
	65														
	19			457	Pushed 0.45	CL_SM SM CL			13.1	36.0 31.7					
1275	20			457	2,3,5 0.46	CL	brown, moist, firm LEAN CLAY W/SILTY SAND LENSES								
	70														
	21			457	2,5,5 0.42	CL	gray-brown w/some black lenses LEAN CLAY W/SILTY SAND LENSES			29.5					
	75														
	22			457	Pushed 0.81	CL (A-7-5(23))	gray w/black lenses, stiff LEAN CLAY		13.5	33.9	41	21	0	6	94	UC
	80														
	23			457	0,4,5 0.83	CH	dk. gray to black FAT CLAY			35.4					
	85														
1270	24			457	Pushed 0.30	ML (A-4(2)) CH (A-7-5(30)) SM (A-7-5(30))	dk. gray to black SILT W/SAND dk. gray to black FAT CLAY brown, wet SILTY SAND		15.6 12.2	23.6 39.5	26 52	3 29	0 0	15 6	85 94
	90														
	25	95		356	6,22,25	ML	brown SANDY SILT								
		100		305	21,25,34	ML (A-4(0))				20.3	NP	2	41	57	
	26						INTERBEDDED CLAY AND SAND								
	105			432	Pushed 0.85	CL (A-7-5(25))	green-gray moist, stiff CLAY W/SILT LENSES		14.3	29.5	45	25	0	7	93	CT
	27														
	110			406	4,5,7 0.62 CL 0.31 ML	CL,ML,SM, ML,SM-wet SP-SM	CL-moist ML,SM-wet stiff to firm INTERBEDDED LENSES AND LAYERS OF SILT, SILTY SAND, LEAN CLAY AND SAND W/SILT			24.6					
	28														
	115			381	Pushed	CL,SP-SM			15.2	26.5					
	29			305	5,6,15	SP-SM,CL	dk. gray								
1260	30														
	120			356	17,25,32	SP-SM	dk. gray and gray-brown layers wet, very dense SAND W/SILT								
	31														
	125			152	56/152mm	SP-SM									
	32														
	130			330	Pushed 0.76	CL (A-7-5(28))	green moist, stiff CLAY W/LENSES OF SILT AND SILTY SAND		13.9	30.9	47	26	0	2	98	UC
	33														
	135			457	7,10,13 0.25	CL (A-6(7))	gray-brown moist to very moist, firm to stiff LEAN CLAY W/SAND			21.4	30	11	0	24	76	
1255	34														
	140			457	3,4,7 0.47	CL	green moist			19.8					
	35														
	145			381	Pushed 0.35	CL (A-6(11))	CLAY W/SILTY SAND LAYERS		14.0	33.5	34	13	0	13	87	CT
	36														
1250	150			0	4,7,11	CL									

KEY TO DRILLING LOG

RELATIVE DENSITY (NON-PLASTIC SAND & SILT)

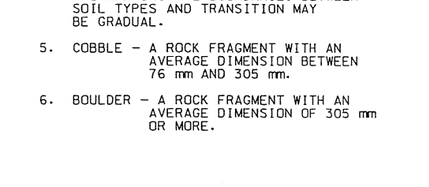
VERY LOOSE – N LESS THAN 4
LOOSE – N 4 TO 10
MEDIUM – N 10 TO 30
DENSE – N 30 TO 50
VERY DENSE – N MORE THAN 50

CONSISTENCY (PLASTIC – SILT & CLAY)

VERY SOFT – N LESS THAN 2
SOFT – N 2 TO 4
MEDIUM – N 4 TO 8
STIFF – N 8 TO 15
VERY STIFF – N 15 TO 30
HARD – N MORE THAN 30

TOPSOIL OR FILL
GRAVEL
SAND
SILT
CLAY
CLAYSTONE
IGNEOUS
LIMESTONE
CONGLOMERATE
DOLOMITE
SANDSTONE
SILTSTONE
SANDY CLAY
CLAYEY SAND
SILTY CLAY
CLAYEY SILT
SILTY SAND
SANDY SILT

LEGEND



ABBREVIATIONS

UC = Unconfined Compression test
CT = Consolidation Test
SG = Specific Gravity Test
VS = Vane Shear Test

GENERAL NOTES

1. THE SUBGRADE SURFACE EXPLORATIONS SHOWN WERE CONDUCTED ON AUG-19-99 BY UTAH DEPT. OF TRANSP. AND RB&G ENGINEERING.
2. THESE DRILL LOGS REPRESENT A SYNOPSIS OF THE SOIL DEPOSITS ENCOUNTERED WITHIN EACH 89 mm DIAMETER BORING AND ARE BASED ON SOUND GEOLOGICAL AND ENGINEERING JUDGEMENT. BECAUSE SOIL IS A COMPLEX MEDIUM, THESE DRILL LOGS MAY OR MAY NOT REPRESENT THE SOIL CONDITIONS AT THIS SITE. THIS SUBSURFACE INTERPRETATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION AND JUDGEMENT OF THE CONTRACTOR.
3. THE WATER LEVELS AND CONDITIONS INDICATED ON THE DRILL LOGS REPRESENT HOLE CONDITIONS ON THE DATE SHOWN, EITHER WITH CASING STILL IN PLACE OR WITH PERFORATED PLASTIC PIPE INSTALLED. IT SHOULD BE NOTED, HOWEVER, THAT AT LOCATIONS AWAY FROM THE TEST HOLES OR AT OTHER TIMES OF THE YEAR THE WATER LEVELS AND CONDITIONS MAY VARY SIGNIFICANTLY.
4. THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND TRANSITION MAY BE GRADUAL.
5. COBBLE – A ROCK FRAGMENT WITH AN AVERAGE DIMENSION BETWEEN 76 mm AND 305 mm.
6. BOULDER – A ROCK FRAGMENT WITH AN AVERAGE DIMENSION OF 305 mm OR MORE.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BEP 8/01 CHECK BEP 8/01
DRAWN JMM 6/01 CHECK BEP 8/01
QUANT. CHECK

APPROVAL RECOMM. 9/01 DATE — Design Engr.
APPROVED 9.17.01 DATE — Area Engr.

SR-126, 1800 SOUTH TO 12TH STREET, OGDEN
SR-126 OVER UPRR VIADUCT
SOIL DATA

PROJECT NUMBER SP-0126(6)13

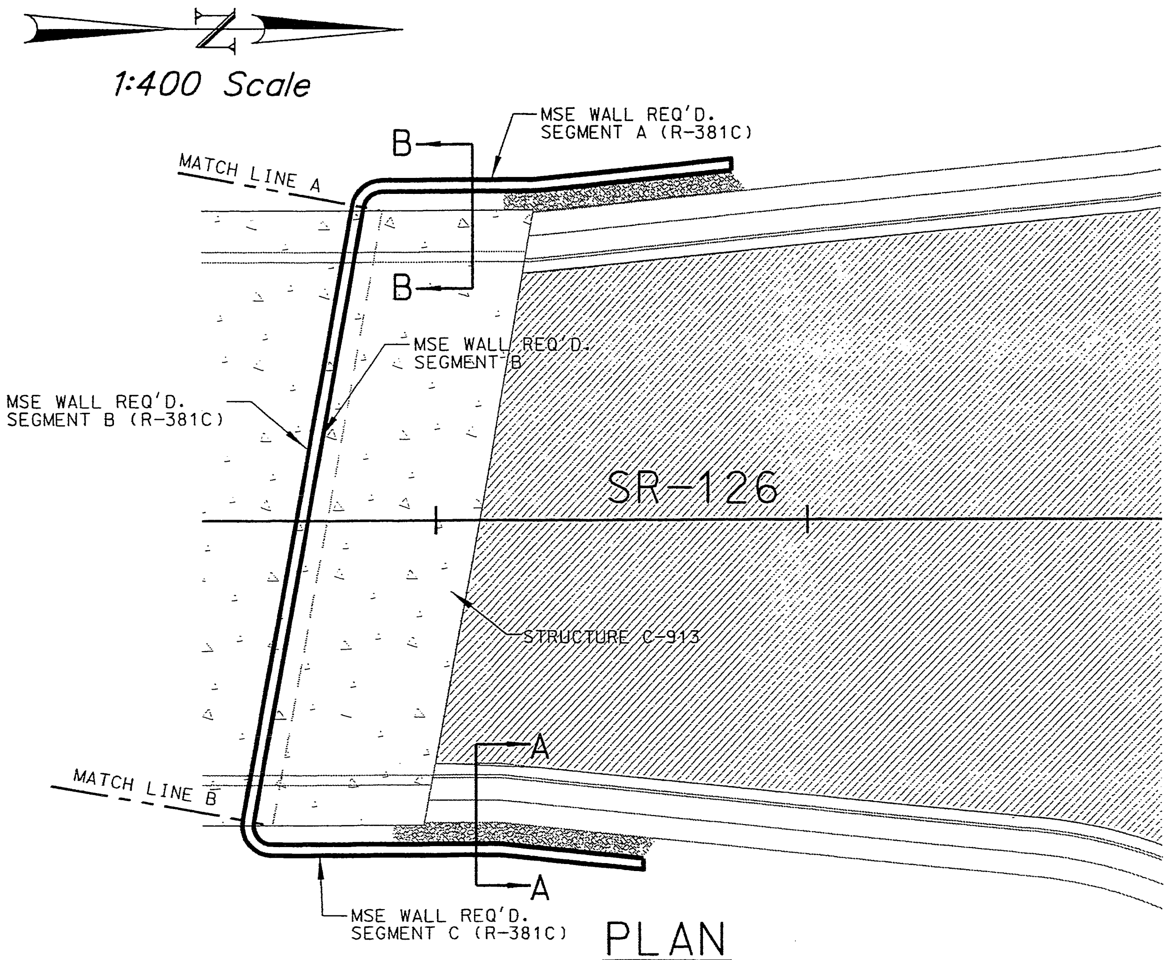
WEBER COUNTY

R-381B DRG. NO.

SHT. 3 OF 3

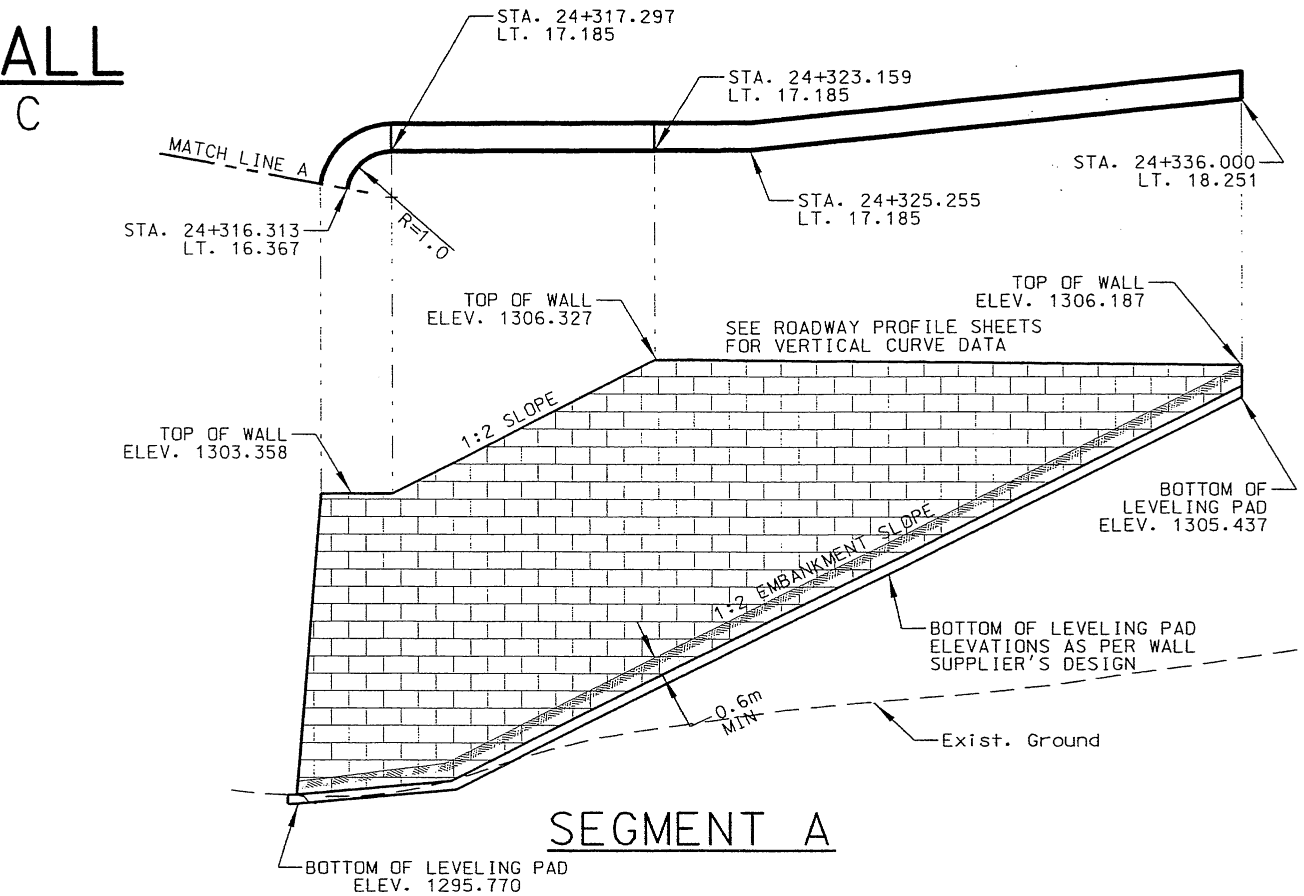
MSE WALL

R-381C

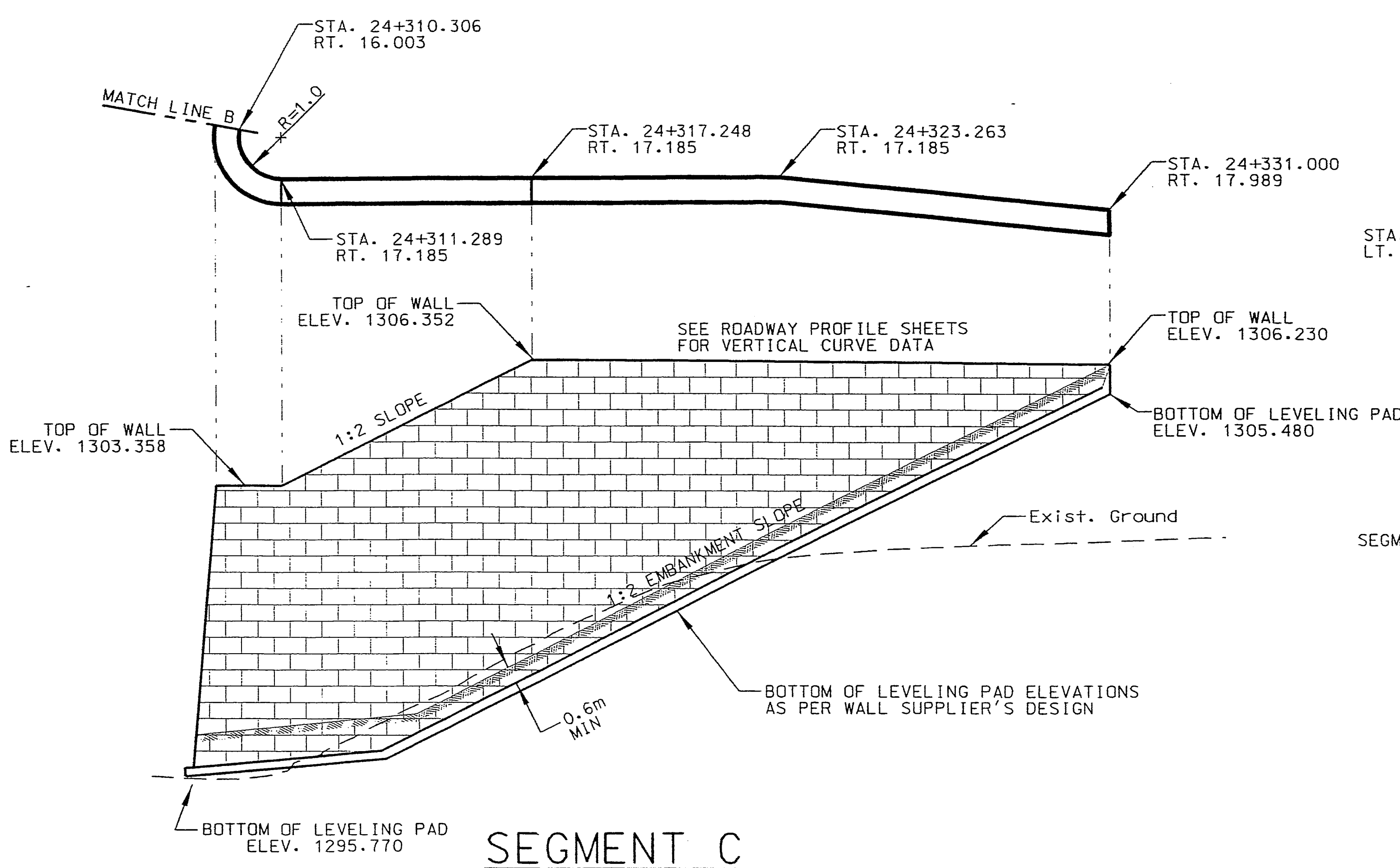


PLAN

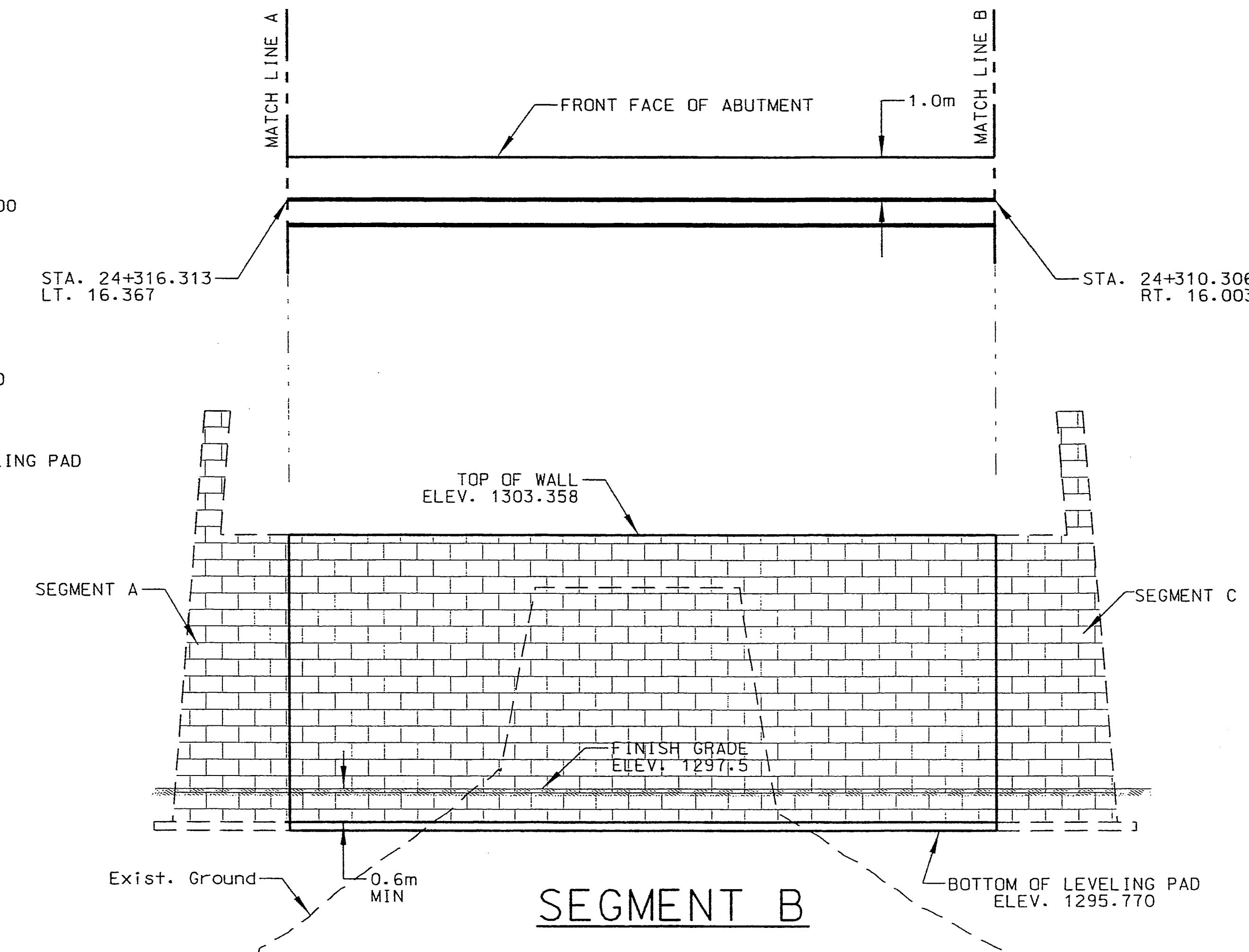
SEE SHEET 2 OF 3 FOR SECTIONS A-A & B-B



SEGMENT A



SEGMENT C



SEGMENT B

NO.	DATE	BY	REVISIONS	REMARKS
	3/01	SN		

UTAH DEPARTMENT OF TRANSPORTATION
REGION ONE, OGDEN
ROADWAY DESIGN

DESIGN	RJ	7/01	CHECK	BK 8/01
DRAWN	RM	7/01	CHECK	RJ 8/01
QUANT.	RJ	7/01	CHECK	BK 8/01

APPROVAL RECOM. 9/01 DATE — PROJECT DESIGN ENGINEER
APPROVED 9.17.01 DATE — ROADWAY DESIGN ENGINEER

SR-126, 1800 SOUTH TO 12TH STREET, OGDEN
MSE WALL SITUATION AND LAYOUT
PROJECT NUMBER STP-BRF-0126(3)14

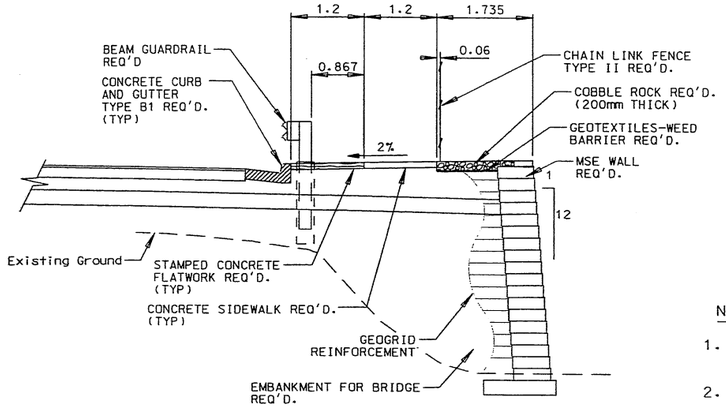
WEBER COUNTY

R-381C DRG. NO.

SHT. 1 OF 3

DGN File: N:\Projects\1472_00\Sheet_Files\Walls\R381C-1.dgn
21-AUG-2001

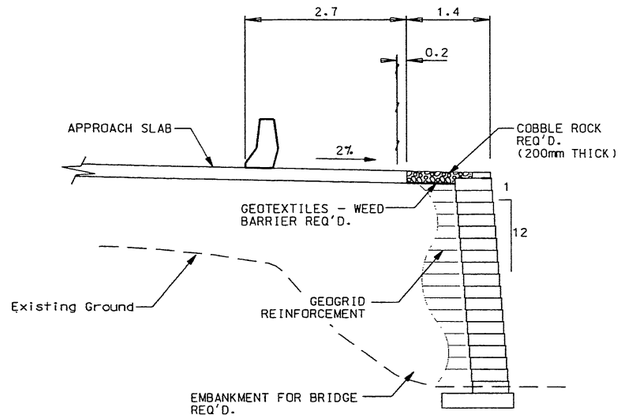
MSE WALL
R-381C



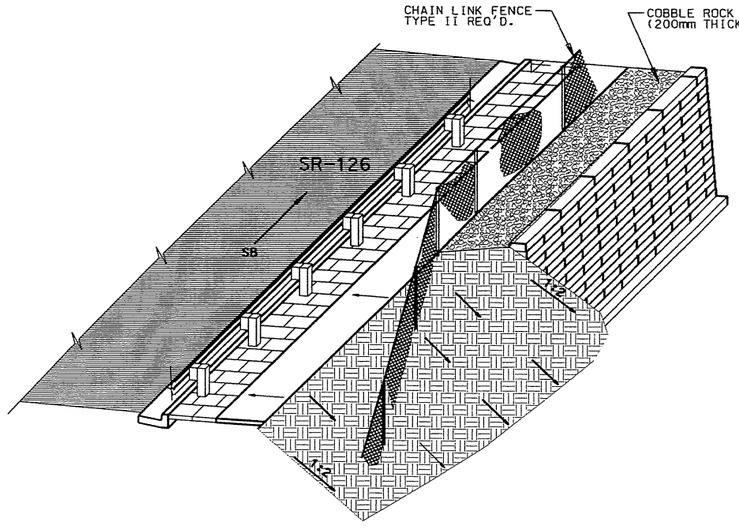
SECTION A-A

NOTES:

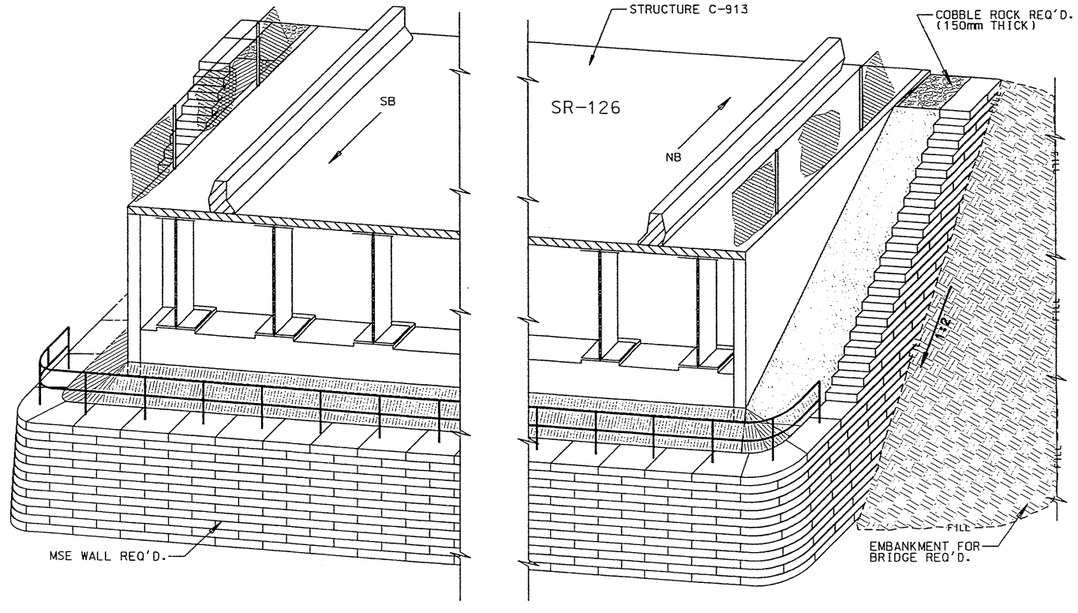
1. EXCAVATE 1 METER BELOW THE BOTTOM OF LEVELING PAD ELEVATION AND BACKFILL WITH SELECT MATERIAL MEETING THE REQUIREMENTS OF SPECIAL PROVISION 02061M.
2. THE WIDTH OF THIS EXCAVATION WILL BE THE WIDTH OF THE MSE WALL SECTION PLUS 1 METER.
3. THE WATER LEVEL MUST BE KEPT AT LEAST 0.6m BELOW THE EXCAVATION DURING BACKFILLING OPERATIONS.



SECTION B-B



ISOMETRIC



ISOMETRIC

NO.	DATE	BY	REVISIONS REMARKS
	8/01	SN	

UTAH DEPARTMENT OF TRANSPORTATION
REGION ONE, OGDEN
ROADWAY DESIGN

DESIGN	RJ 7/01	CHECK	BK 8/01
DRAWN	RM 7/01	CHECK	RJ 8/01
QUANT.	RJ 7/01	CHECK	BK 8/01

APPROVAL RECOMM. 9/01 DATE — PROJECT DESIGN ENGINEER
APPROVED 9/01 DATE — ROADWAY DESIGN ENGINEER

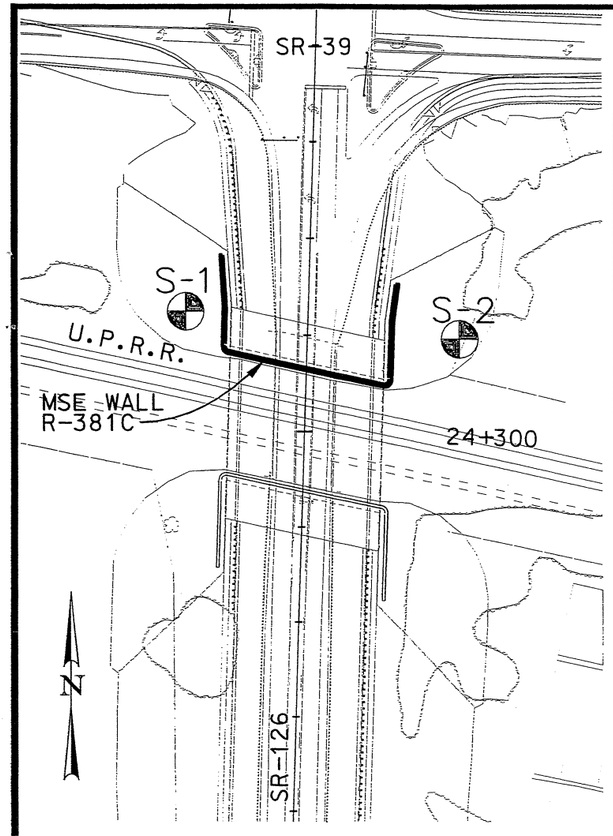
SR-126, 1800 SOUTH TO 12TH STREET, OGDEN
MSE WALL SITUATION AND LAYOUT
PROJECT NUMBER STP-BRF-0126(3)14

WEBER COUNTY

R-381C DRG. NO.

SHT. 2 OF 3

DGN File: N:\Project\14772_00\Sheet_Files\Walls\R381C-2.dgn
21-AUG-2001



LOCATION MAP

DRILL HOLE LOG — BORING NO. S-1

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION DATE: 2/20/01
LOCATION: SR-126 STA. LT. ELEVATION: 1295.19m
DRILLER: B. HARTLEY LOGGED BY: M. HANSEN/K. OLSEN
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ▽ 1.85m AFTER 24 HOURS: ▽ -

Elev. (m)	Depth (m) (Feet)	Litho.	Sample Type	Sample Rec. (mm)	Blows Per 152mm	USCS (AASHTO)	Material Description	Dry Density pcf	Moisture Content, %	Atter. Limit Liquid Limit	Atter. Limit Plasticity Index	Gradation Gravel, %	Gradation Sand, %	Gradation Silt/Clay, %	Other Tests
1295	0 (0)			432	2,3,5	SM	dk. brown moist, loose — SILTY SAND W/INTERBEDDED SILT LAYERS								
	2 (5)														
	3 (10)			279	Pushed	ML SM	brown, moist — SANDY SILT / brown, moist — SILTY SAND		14.9	21.8					
	4 (15)			254	9,11,13	GP-GM	brown, moist, med. dense								
	5 (20)			279	25,29,31	GP-GM	brown, moist to wet, very dense								
1290	6 (20)			152	10,10,10	GP-GM	wet, med. dense — GRAVEL W/SAND AND SILT								
	7 (25)			152	28,22,11	GP-GM	brown wet, dense								
	8 (30)			457	2,2,2	CL (A-6(16))	brown, moist, firm tried shelby, no recovery — SILTY LEAN CLAY		28.2			0	3	97	
	9 (30)			457	Pushed 0.31	CL (A-6(14))	gray-brown moist, firm — LEAN CLAY		14.2	28.6	34	14	0	3	97
1285	10 (35)			457	1,1,3 0.54	CL	gray-brown moist, stiff		29.4						
	11 (40)			457	Pushed 0.61	CL-SM	brown-gray moist, stiff sand at 11.89m — CLAY W/INTERBEDDED SILTY SAND LAYERS		15.1	25.3					
	12 (45)			457	3,3,5 0.73	CL	brown-gray moist, stiff — LEAN CLAY W/SILT LENSES		26.1						
	13 (50)			457	Pushed 0.61	CL (A-7-6(22))	gray to dk. gray moist, stiff — LEAN CLAY		13.0	34.5	43	20	0	1	99
1280	14 (50)			457	2,2,7 0.51	P.P.P. ML SC	gray-brown, moist, stiff — gray-brown SANDY SILT / gray-brown, moist, stiff LEAN CLAY — gray-brown, wet CLAYEY SAND / gray-brown, moist, stiff LEAN CLAY			34.1						
	15 (55)			406	Pushed 0.71	CL	brown moist, stiff — LEAN CLAY W/SILT LENSES		14.9	26.1					
	16 (60)			457	2,4,8 0.77	CL	brown, moist, stiff, 51mm silt layer at 15.5m			29.2					
	17 (60)			457	Pushed 0.81	CL	gray-brown moist, stiff — LEAN CLAY		13.5	31.5					
	18 (65)			457	3,1,2 0.63	CL	gray-brown moist, stiff — LEAN CLAY W/SILT LENSES 0.8mm TO 6.4mm THICK			32.0					
1275	19 (70)			457	Pushed 0.85	CH (A-7-6(32))	lt. to dk. moist, stiff, med. plasticity — CLAY		13.7	32.6	52	29	0	3	97
	20 (70)			457	2,5,13 0.86	CL-ML/CH SM	lt. to dk., moist, stiff, med. plasticity / moist, stiff — VERY CLAYEY SAND / VERY FINE SAND W/SILT drilled like clay 25.75m to 26.06m			33.6						
	21 (75)			457	10,11,12	SM CL-ML (A-4(4))	brown, wet, med. dense — SILTY SAND / moist to wet, stiff — INTERBEDDED CLAY, SILTY SAND AND SILT LAYERS 6.4mm TO 13mm THICK		29.4		29	7	0	26	74
	22 (80)			457	25,23,26	SM	brown wet, very dense — SILTY SAND								
	23 (80)			432	20,31,32	SM SP-SM	brown moist to wet, very dense / brown, moist to wet, very dense — SAND W/SILT AND FINE GRAVEL drilled like clay, may have sand layers								
1270	24 (85)			457	Pushed 0.78	CL	greenish moist, stiff — CLAY top is med. to high plasticity, bottom is lean		13.4	31.7					
	25 (90)			457	3,9,9 0.62	CL SM CL-SM/ML	moist, stiff — SILTY SAND / INTERBEDDED CLAY, SILTY SAND AND SILT LAYERS 6.4mm TO 13mm THICK			25.5						
	26 (90)			406	6,20,31	SM	gray-brown wet, very dense — SILTY SAND W/SILT LENSES								
1265	27 (95)			381	19,30,33	SP-SM (A-2-4(0))	dk. gray wet, very dense — SILTY SAND		24.2		NP	0	89	11	

DRILL HOLE LOG — BORING NO. S-2

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION DATE: 12/6/00 TO 12/8/00
LOCATION: SR-126 STA. 24+320.09 RT. 31.71 ELEVATION: 1295.34m
DRILLER: B. HARTLEY LOGGED BY: M. HANSEN/J. BOONE
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ▽ 1.34m AFTER 24 HOURS: ▽ 0.88m

Elev. (m)	Depth (m) (Feet)	Litho.	Sample Type	Sample Rec. (mm)	Blows Per 152mm	USCS (AASHTO)	Material Description	Dry Density pcf	Moisture Content, %	Atter. Limit Liquid Limit	Atter. Limit Plasticity Index	Gradation Gravel, %	Gradation Sand, %	Gradation Silt/Clay, %	Other Tests
1295	0 (0)			406	3,6,7	OL SM,CL	dk. brown, moist — SANDY CLAY W/ORGANICS			16.3					
	1 (5)						moist — INTERBEDDED LAYERS OF SILTY SAND AND SANDY CLAY 51mm TO 76mm THICK								
	2 (5)			356	18,24,23	GP (A-1-A(0))	brown wet — GRAVEL W/SAND AND SILT			6.2	NP	65	30	5	
	3 (10)			152	13,10,9	GP (A-1-a(0))	lt. brown			5.2	NP	65	33	2	
	4 (15)			64	20,21,17	GP-GM	gray — GRAVEL W/SILT AND SAND								
1290	5 (20)			356	Pushed 0.49	CL (A-7-5(21))	gray moist — LEAN CLAY		12.8	33.7	42	21	0	5	95	CT UC
	6 (20)			457	1,1,2 0.49	CL	gray to gray-brown			30.4					
	7 (25)			305	Pushed 0.68	CL (A-6(19))	gray-brown — LEAN CLAY W/SAND		15.1	26.9	36	16	0	4	96	UC
	8 (30)			51	2,3,5	CL	LEAN CLAY W/SAND AND W/SILTY SAND LAYERS 25mm TO 76mm THICK			32.2					
	9 (30)			381	Pushed 0.56	CL	gray-brown — LEAN CLAY		13.1	33.0					
1285	10 (35)			457	3,4,5 0.75 0.89	CL	dk. gray — SANDY CLAY W/SAND LENSES LESS THAN 1.6mm THICK			27.6 26.8					
	11 (40)			457	Pushed 0.58	CL (A-7-5(20))	gray-brown — LEAN CLAY		12.9	37.3	43	22	0	11	89	UC
	12 (45)			305	8,8,8 0.84	SM CL/SM	dk. gray, very moist — SILTY SAND / very moist — INTERBEDDED CLAY AND SILTY SAND LAYERS			25.4					
	13 (50)			457	Pushed 0.45 0.60	CL	gray-brown moist — LEAN CLAY W/SANDY CLAY LAYERS AND SAND LAYERS			18.4 26.1					UC
	14 (50)			457	4,5,5 0.78	CL/SM	brown moist — INTERBEDDED LENSES AND LAYERS OF CLAY AND SILTY SAND 38mm TO 102mm THICK			28.4					
1275	15 (55)			381	Pushed 0.69	CL (A-7-5(23))	brown moist — LEAN CLAY W/BLACK SPOTS AND SAND LENSES		12.8	36.1	46	27	0	10	90	
	16 (60)			457	2,5,5 0.74	CL SM CL	SILTY SAND — FAT CLAY W/BLACK SPOTS AND SAND LENSES LESS THAN 0.8mm THICK slight organic odor			31.0					
	17 (60)			330	Pushed 0.90	CH (A-7-6(22))	lt. gray moist		12.8	37.6	54	32	0	29	71	CT
	18 (65)			406	5,7,10 0.35 0.40	CL CL (A-4(2))	dk. gray — CLAY / brown moist — CLAY W/SAND LENSES AND LAYERS			29.0 26.1	20	10	0	6	94	
	19 (70)			457	4,5,8	ML (A-4(0))	brown, wet, tried shelby - no recov. — SANDY SILT			26.0	NP	0	44	56	
	20 (70)			305	10,22,33	SM (A-2-4(0))	gray-brown wet, dense — SILTY SAND			23.2	NP	0	85	15	
1265	21 (75)			381	13,19,17 0.74 0.89	CL SM/CL-ML	brown, moist — LEAN CLAY / brown and lt. green very moist			26.2					
	22 (80)			305	Pushed 0.60 4.53 0.73 0.99+	CL (A-6(12)) CL	INTERBEDDED LENSES AND LAYERS OF SILTY SAND, SILTY CLAY AND LEAN CLAY		14.9	28.0	33	16	0	17	83	
	23 (80)			457	10,22,33	CL-SM, CL-ML,SC	dk. gray, brown and some black w/some clayey sand layers — Becoming more sandy w/depth								
	24 (85)			152	22,30,32	SP-SM (A-2-4(0))	dk. gray wet — SAND W/SILT								
1260	25 (90)			305	11,22,40	SP-SM	13mm organic layer — SAND W/SILT AND CLAY LENSES LESS THAN 0.8mm THICK								
	26 (90)			356	Pushed 0.74	CL-ML (A-4(3))	green moist — LEAN CLAY W/SAND LENSES								

KEY TO DRILLING LOG

RELATIVE DENSITY (NON-PLASTIC SAND & SILT)

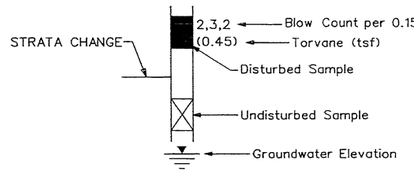
VERY LOOSE - N LESS THAN 4
LOOSE - N 4 TO 10
MEDIUM - N 10 TO 30
DENSE - N 30 TO 50
VERY DENSE - N MORE THAN 50

CONSISTENCY (PLASTIC - SILT & CLAY)

VERY SOFT - N LESS THAN 2
SOFT - N 2 TO 4
MEDIUM - N 4 TO 8
STIFF - N 8 TO 15
VERY STIFF - N 15 TO 30
HARD - N MORE THAN 30

TOPSOIL OR FILL
GRAVEL
SAND
SILT
CLAY
CLAYSTONE
IGNEOUS
LIMESTONE
CONGLOMERATE
DOLOMITE
SANDSTONE
SILTSTONE
SANDY CLAY
CLAYEY SAND
SILTY CLAY
CLAYEY SILT
SILTY SAND
SANDY SILT

LEGEND



ABBREVIATIONS

UC = Unconfined Compression test
CT = Consolidation Test
SG = Specific Gravity Test
VS = Vane Shear Test

GENERAL NOTES

1. THE SUBGRADE SURFACE EXPLORATIONS SHOWN WERE CONDUCTED ON AUG-19-99 BY UTAH DEPT. OF TRANSP. AND RB&G ENGINEERING.
2. THESE DRILL LOGS REPRESENT A SYNOPSIS OF THE SOIL DEPOSITS ENCOUNTERED WITHIN EACH 89 mm DIAMETER BORING AND ARE BASED ON SOUND GEOLOGICAL AND ENGINEERING JUDGEMENT. BECAUSE SOIL IS A COMPLEX MEDIUM, THESE DRILL LOGS MAY OR MAY NOT REPRESENT THE SOIL CONDITIONS AT THIS SITE. THIS SUBSURFACE INTERPRETATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION AND JUDGEMENT OF THE CONTRACTOR.
3. THE WATER LEVELS AND CONDITIONS INDICATED ON THE DRILL LOGS REPRESENT HOLE CONDITIONS ON THE DATE SHOWN, EITHER WITH CASING STILL IN PLACE OR WITH PERFORATED PLASTIC PIPE INSTALLED. IT SHOULD BE NOTED, HOWEVER, THAT AT LOCATIONS AWAY FROM THE TEST HOLES OR AT OTHER TIMES OF THE YEAR THE WATER LEVELS AND CONDITIONS MAY VARY SIGNIFICANTLY.
4. THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND TRANSITION MAY BE GRADUAL.
5. COBBLE - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION BETWEEN 76 mm AND 305 mm.
6. BOULDER - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION OF 305 mm OR MORE.

NO.	DATE	BY	REVISIONS REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BEP 8/01 | CHECK BEP 8/01 | CHECK
DRAWN JMM 6/01 | CHECK
QUANT. | CHECK

APPROVAL RECOMM. 9/01 DESIGN ENGR.
APPROVED 9-17-01 STRUCTURES ENGR.

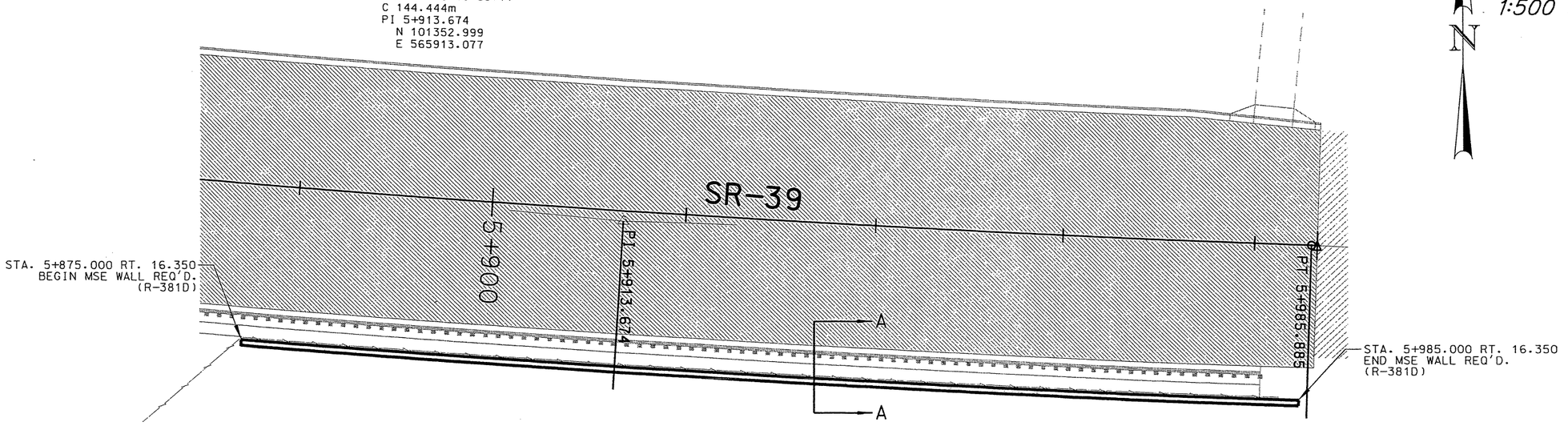
SR-126, 1800 SOUTH TO 12TH STREET, OGDEN
SR-126 OVER UPRR VIADUCT
SOIL DATA
PROJECT NUMBER STP-BRF-0126(3)14

WEBER COUNTY
R-381C DRG. NO.
SHT. 3 OF 3

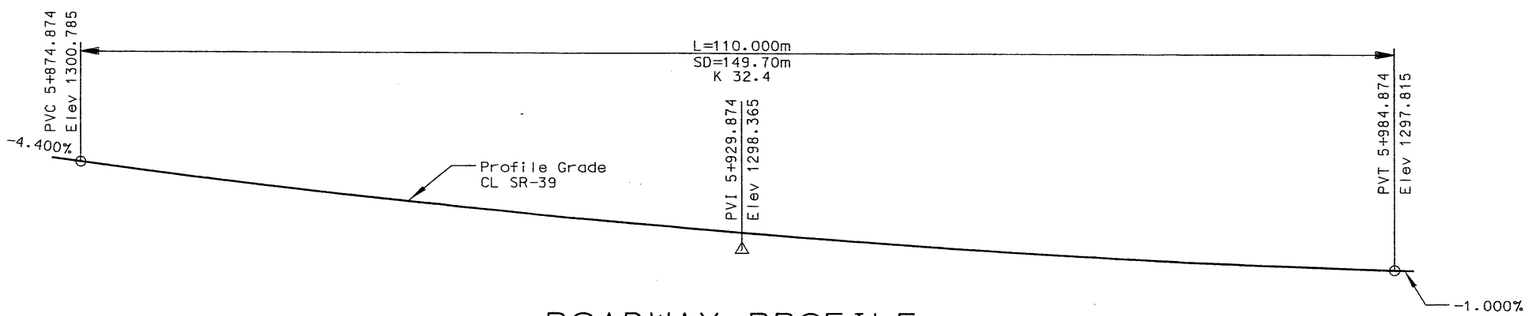
MSE WALL
R-381D

CURVE DATA
R 2500.000m
L 144.464m
T 72.252m
Dc 2°17'30.59"
Delta 3°18'39.11"
C 144.444m
PI 5+913.674
N 101352.999
E 565913.077

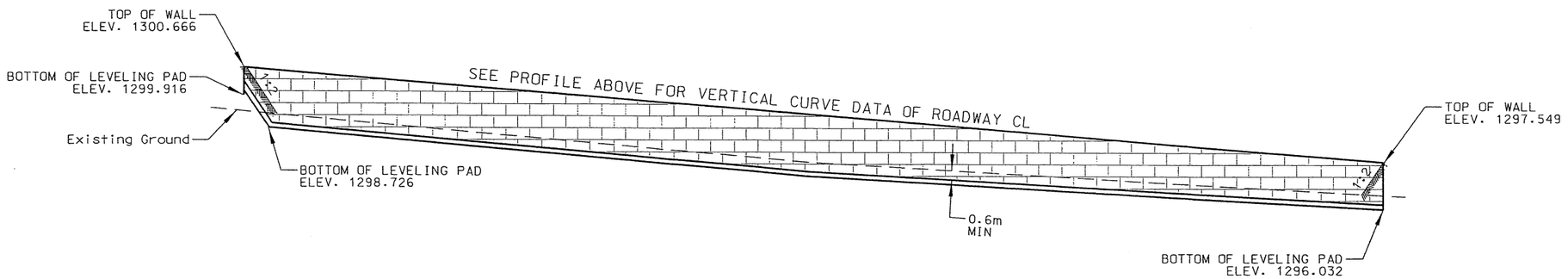
1:500 Scale



PLAN
SEE SHEET 2 OF 3 FOR SECTION A-A



ROADWAY PROFILE
3x VERT. SCALE



PROFILE
3x VERT. SCALE

NO.	DATE	BY	REMARKS
	8/01	SN	

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
REGION ONE, OGDEN
ROADWAY DESIGN

DESIGN	RJ 7/01	CHECK	BK 8/01
DRAWN	RM 7/01	CHECK	RJ 8/01
QUANT.	RJ 7/01	CHECK	BK 8/01

APPROVAL RECOMM. 9/01 DATE — PROJECT DESIGN ENGINEER
APPROVED 9-17-01 DATE — ROADWAY DESIGN ENGINEER

SR-126, 1800 SOUTH
TO 12TH STREET, OGDEN

MSE WALL SITUATION AND LAYOUT

PROJECT NUMBER STP-BRF-0126(3)14

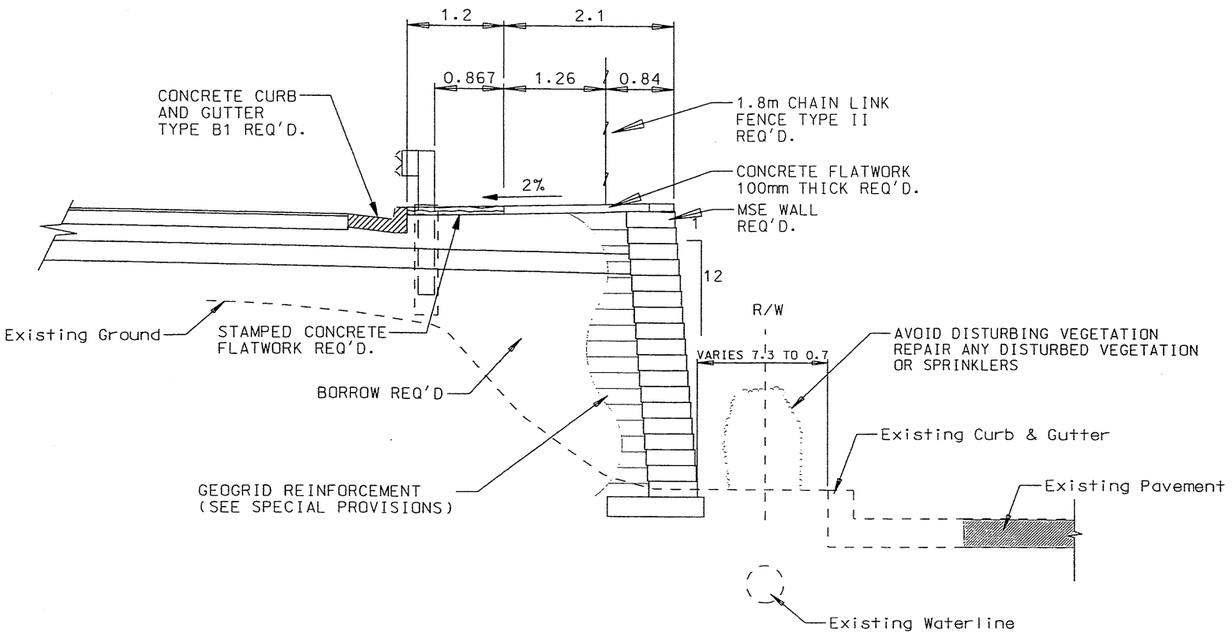
WEBER
COUNTY

R-381D
DRG. NO.

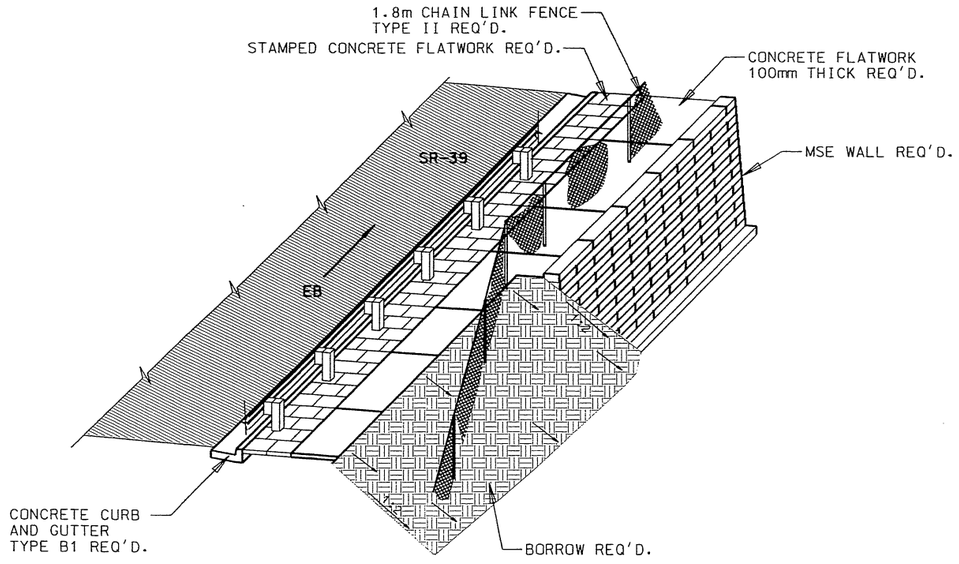
SHT. 1 OF 3

DGN File: N:\Projects\1472_00\Sheet_Files\Walls\R381D-1.dgn
17-AUG-2001

MSE WALL
R-381D



SECTION A-A



ISOMETRIC

NO.	DATE	BY	REMARKS
	8/01	SN	

UTAH DEPARTMENT OF TRANSPORTATION
REGION ONE, OGDEN
ROADWAY DESIGN

DESIGN	RJ 7/01	CHECK	BK 8/01
DRAWN	RM 7/01	CHECK	RJ 8/01
QUANT.	RJ 7/01	CHECK	BK 8/01

APPROVAL RECOMM. PROJECT DESIGN ENGINEER 9/01 DATE
APPROVED ROADWAY DESIGN ENGINEER 9.17.01 DATE

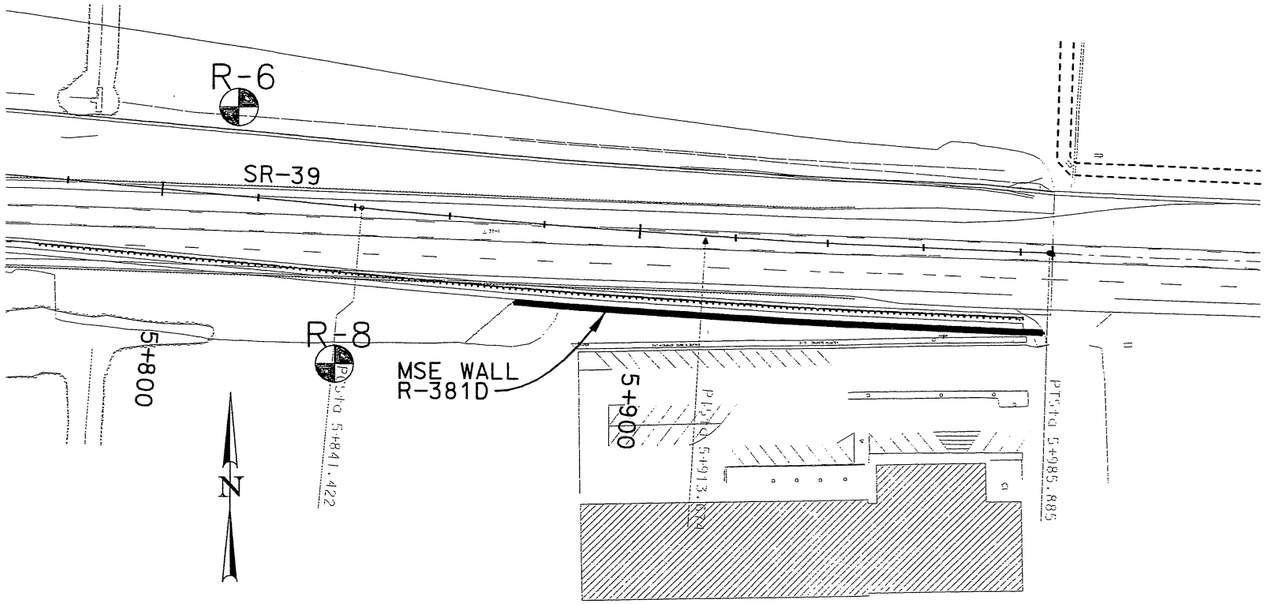
SR-126, 1800 SOUTH
TO 12TH STREET, OGDEN
MSE WALL SITUATION AND LAYOUT

PROJECT NUMBER STP-BRF-0126(3)14

WEBER
COUNTY

R-381D
DRG. NO.

SHT. 2 OF 3



LOCATION MAP

DRILL HOLE LOG

BORING NO. R-6

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION DATE: 1/11/01
LOCATION: 12TH ST. STA. 5+814.69 LT. 17.48 ELEVATION: 1295.70m
DRILLER: B. HARTLEY LOGGED BY: M. HANSEN/K. OLSEN
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ⏚ 1.71m AFTER 24 HOURS: ⏚ -

Elev. (m)	Depth (m) (Feet)	Litho-logy	Core Rec. (mm)	SAMPLE Blows Per 152mm	USCS (AASHTO)	Material Description	Pr. Density kg/m³	Moisture Content, %	Atter. Limit, Liquid	Atter. Limit, Plasticity Index	Gradation Gravel, %	Gradation Sand, %	Gradation Silt/Clay, %	Other Tests
1295			457	Pushed 0.86	CL	dk. brown moist, stiff	14.9	25.7						
	1		356	2,2,1 0.19	CL	brown moist, soft	SANDY CLAY		20.8 24.2						
			356	Pushed 0.22	CL (A-6(4))	very moist, soft	15.1	25.7	31	11	0	39	61	CT
	5		381	0.24 0.13	CL ML	very moist, soft very moist, soft	SANDY SILT		31.8						SC
	2		381	6,8,15	GP (A-1-b(0))	gray-brown wet, med. dense			9.3	NP	51	46	3	
	3	10	254	18,18,15	GP-GM	gray-brown wet, dense								
	4		0	28,22,20			GRAVEL W/SILTY SAND							
	15		279	14,24,25	GP-GM	gray-brown wet, dense								
1290	5													
	6	20	457	Pushed 0.49	CL (A-7-6(22))	gray-brown moist, firm	LEAN CLAY W/A FEW SILTY SAND LENSES	13.1	33.8	43	20	0	1	99	CT
	7													
	25		457	1,2,3 0.53	CL	gray-brown moist, firm	LEAN CLAY		28.8						
	8													
	9	30	457	Pushed 0.78	CL	gray-brown moist, stiff	LEAN CLAY W/A FEW SILTY SAND LAYERS <0.8mm THICK	15.5	25.4						
	10													
1285		35	457	Pushed 0.45	CL	gray-brown moist, firm	LEAN CLAY W/SILTY	14.6	29.3						
	11		457	4,4,4 0.47	CL	moist, firm, vert. sand pocket	SAND POCKETS distorted bedding								

DRILL HOLE LOG

BORING NO. R-8

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION DATE: 1/12/01
LOCATION: 12TH ST. STA. 5+838.94 RT. 33.69 ELEVATION: 1296.00m
DRILLER: B. HARTLEY LOGGED BY: M. HANSEN/K. OLSEN
EQUIP./DRILL METHOD: CME-55 / N.W. CASING / ROTARY WASH
DEPTH TO WATER - INITIAL: ⏚ 1.83m AFTER 24 HOURS: ⏚ -

Elev. (m)	Depth (m) (Feet)	Litho-logy	Core Rec. (mm)	SAMPLE Blows Per 152mm	USCS (AASHTO)	Material Description	Pr. Density kg/m³	Moisture Content, %	Atter. Limit, Liquid	Atter. Limit, Plasticity Index	Gradation Gravel, %	Gradation Sand, %	Gradation Silt/Clay, %	Other Tests
			254	4,5,4 0.71	SC,CL CL	moist, loose dk. brown, moist, stiff	CLAYEY SAND AND SANDY CLAY							
1295	1		38	1,1,1 0.68	CL	dk. brown moist, stiff	SANDY LEAN CLAY							
	5		457	Pushed 0.28	SM	moist brown, wet	SILTY SAND	14.8	26.2					
	2		406	2,3,10	SM (A-2-4) GP-GM	wet, med. dense	SILTY SAND TO SANDY SILT		24.6	NP	0	66	34	
						brown, wet, med. dense	GRAVEL W/SILT AND SAND							
	3	10	127	11,14,12	GP	gray-brown wet, med. dense	GRAVEL							
	4		51	8,7,6	GP-GM	gray-brown wet, med. dense								
	15													
	5		152	8,11,10	GP-GM	gray-brown wet, med. dense	GRAVEL W/SILT AND SAND							
1290	6	20	457	Pushed 0.49	CL (A-7-6(25))	gray-brown moist. firm	LEAN CLAY		34.3	46	24	0	1	99
	7													
	25		279	4,4,1 0.38	CL	gray-brown moist. firm	LEAN CLAY W/VERY THIN SAND LENSES		33.8					
	8													
	9	30	457	0,4,4 0.21/0.36	CL	gray-brown moist. soft to firm			33.0					
	10													
1285	11	35	457	Pushed 0.50	CL (A-6(14))	gray-brown moist. firm	CLAY		27.9	35	13	0	2	98
	12	40	457	Pushed 0.62	CL	gray-brown moist. stiff			28.9					
	13													
	45		457	Pushed 0.81	CL	gray-brown moist. stiff	LEAN CLAY	16.4	23.2					
	14													
	15					gray-brown	SILTY SAND							
	50		457	7,3,3 0.42	CL SM	brown brown, moist, med. dense	CLAY W/SILT LENSES SILTY SAND W/CLAY LENSES							
						gray-brown, moist, firm	LEAN CLAY							

KEY TO DRILLING LOG

RELATIVE DENSITY (NON-PLASTIC SAND & SILT)

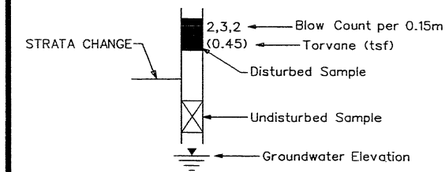
VERY LOOSE - N LESS THAN 4
LOOSE - N 4 TO 10
MEDIUM - N 10 TO 30
DENSE - N 30 TO 50
VERY DENSE - N MORE THAN 50

CONSISTENCY (PLASTIC - SILT & CLAY)

VERY SOFT - N LESS THAN 2
SOFT - N 2 TO 4
MEDIUM - N 4 TO 8
STIFF - N 8 TO 15
VERY STIFF - N 15 TO 30
HARD - N MORE THAN 30

TOPSOIL OR FILL
GRAVEL
SAND
SILT
CLAY
CLAYSTONE
IGNEOUS
LIMESTONE
CONGLOMERATE
DOLOMITE
SANDSTONE
SILTSTONE
SANDY CLAY
CLAYEY SAND
SILTY CLAY
CLAYEY SILT
SILTY SAND
SANDY SILT

LEGEND



ABBREVIATIONS

UC = Unconfined Compression test
CT = Consolidation Test
SG = Specific Gravity Test
VS = Vane Shear Test

GENERAL NOTES

1. THE SUBGRADE SURFACE EXPLORATIONS SHOWN WERE CONDUCTED ON AUG-19-99 BY UTAH DEPT. OF TRANSP. AND RB&G ENGINEERING.
2. THESE DRILL LOGS REPRESENT A SYNOPSIS OF THE SOIL DEPOSITS ENCOUNTERED WITHIN EACH 89 mm DIAMETER BORING AND ARE BASED ON SOUND GEOLOGICAL AND ENGINEERING JUDGEMENT. BECAUSE SOIL IS A COMPLEX MEDIUM, THESE DRILL LOGS MAY OR MAY NOT REPRESENT THE SOIL CONDITIONS AT THIS SITE. THIS SUBSURFACE INTERPRETATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION AND JUDGEMENT OF THE CONTRACTOR.
3. THE WATER LEVELS AND CONDITIONS INDICATED ON THE DRILL LOGS REPRESENT HOLE CONDITIONS ON THE DATE SHOWN, EITHER WITH CASING STILL IN PLACE OR WITH PERFORATED PLASTIC PIPE INSTALLED. IT SHOULD BE NOTED, HOWEVER, THAT AT LOCATIONS AWAY FROM THE TEST HOLES OR AT OTHER TIMES OF THE YEAR THE WATER LEVELS AND CONDITIONS MAY VARY SIGNIFICANTLY.
4. THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND TRANSITION MAY BE GRADUAL.
5. COBBLE - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION BETWEEN 76 mm AND 305 mm.
6. BOULDER - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION OF 305 mm OR MORE.

REVISIONS

NO.	DATE	BY	REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BEP 8/01 CHECK BEP 8/01 CHECK
DRAWN JMM 6/01 CHECK
QUANT. CHECK

APPROVAL RECOMM. 9/01 DESIGN ENGR.
APPROVED 9-17-01 ENGR.

SR-126, 1800 SOUTH TO 12TH STREET, OGDEN
SR-126 OVER UPRR VIADUCT
SOIL DATA

PROJECT NUMBER STP-BRF-0126(3)14

WEBER
COUNTY

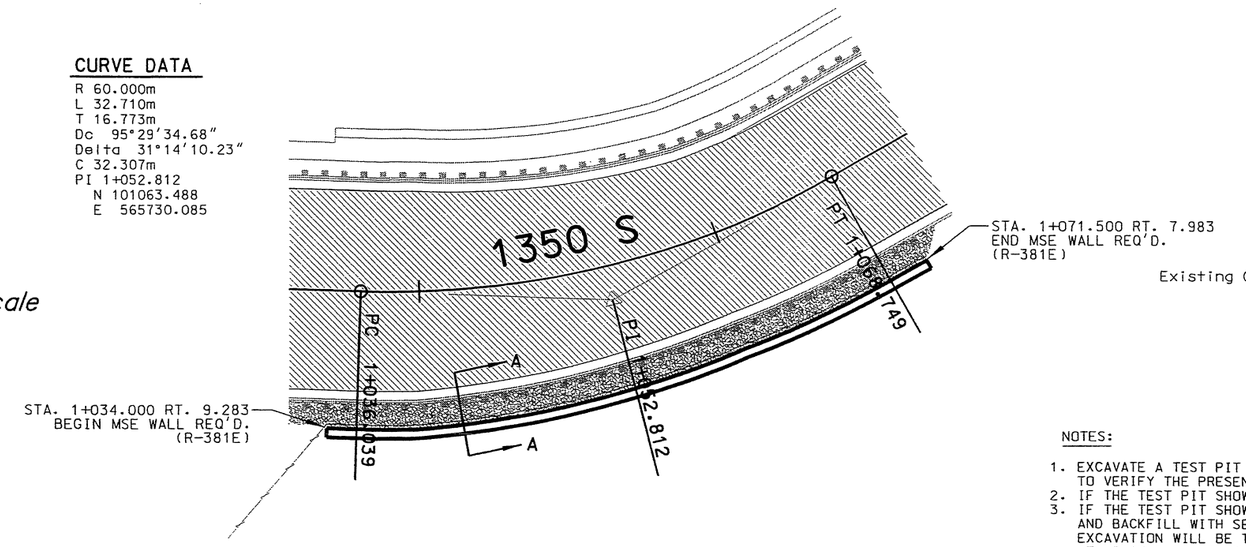
R-381D
DRG. NO.

SHT. 3 OF 3

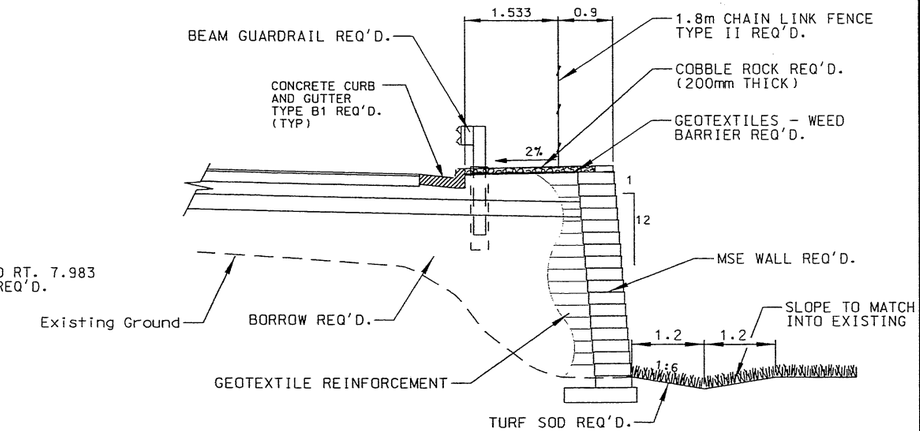
MSE WALL
R-381E

1:400 Scale

CURVE DATA
R 60.000m
L 32.710m
T 16.773m
Dc 95°29'34.68"
Delta 31°14'10.23"
C 32.307m
PI 1+052.812
N 101063.488
E 565730.085



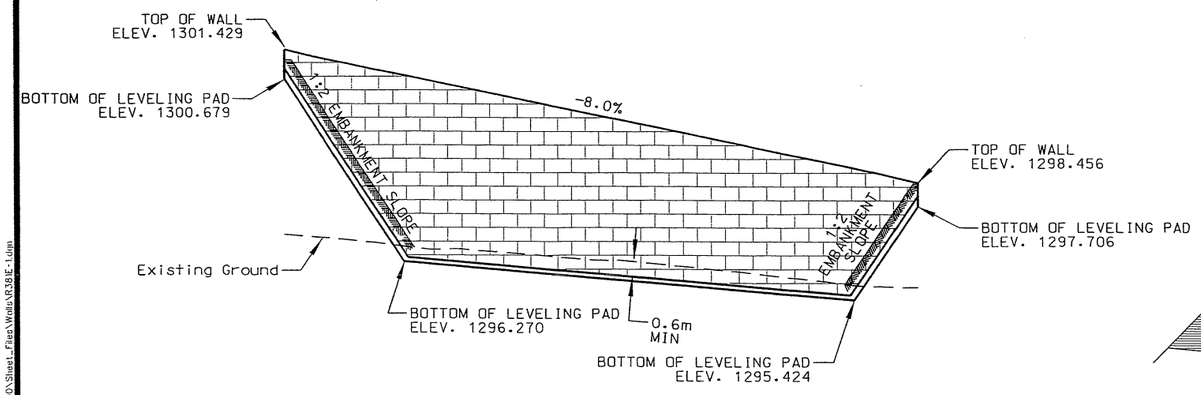
PLAN



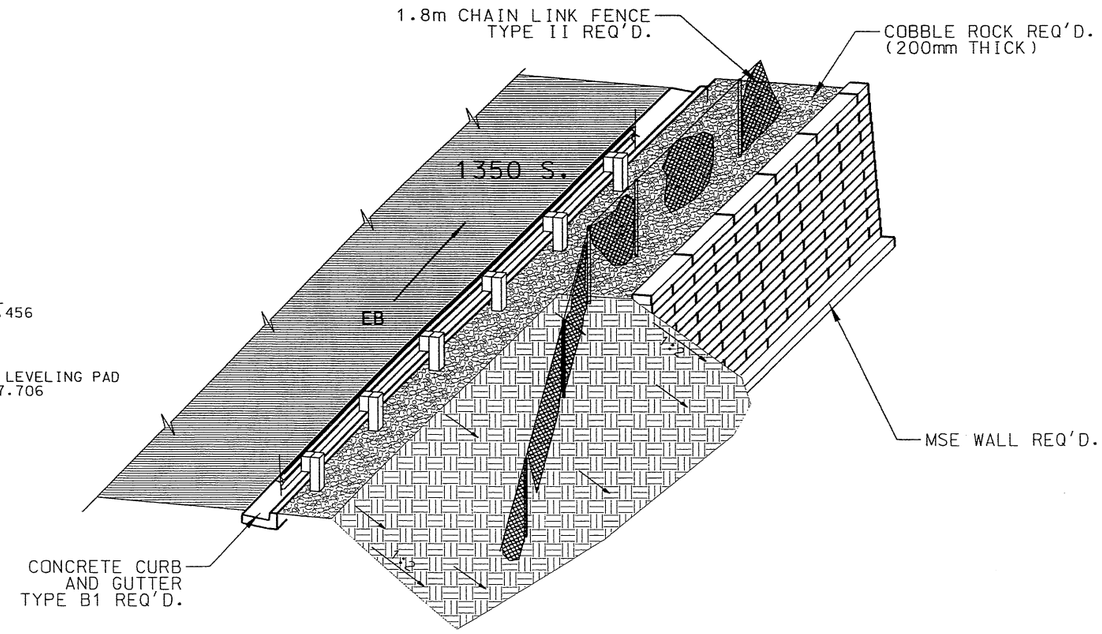
SECTION A-A

NOTES:

1. EXCAVATE A TEST PIT WITHIN THE FOUNDATION FOOTPRINIT AT LEAST 3m DEEP WITH THE ENGINEER PRESENT TO VERIFY THE PRESENCE OF 2 METERS OF GRANULAR SOIL BENEATH THE WALL.
2. IF THE TEST PIT SHOWS 2 METERS OF GRANULAR SOIL, NO EXCAVATION BELOW THE LEVELING PAD IS REQUIRED.
3. IF THE TEST PIT SHOWS UNSUITABLE SOILS, EXCAVATE 2 METERS BELOW THE BOTTOM OF LEVELING PAD ELEVATION AND BACKFILL WITH SELECT MATERIAL MEETING THE REQUIREMENTS OF SECTION 02061M. THE WIDTH OF THIS EXCAVATION WILL BE THE WIDTH OF THE MSE WALL SECTION PLUS 1 METER. THE WATER LEVEL MUST BE KEPT AT LEAST 0.6m BELOW THE EXCAVATION DURING BACKFILLING OPERATIONS.



PROFILE
3x VERT. SCALE



ISOMETRIC

REVISIONS

NO.	DATE	BY	REMARKS
	8/01	SN	

UTAH DEPARTMENT OF TRANSPORTATION
REGION ONE, OGDEN
ROADWAY DESIGN

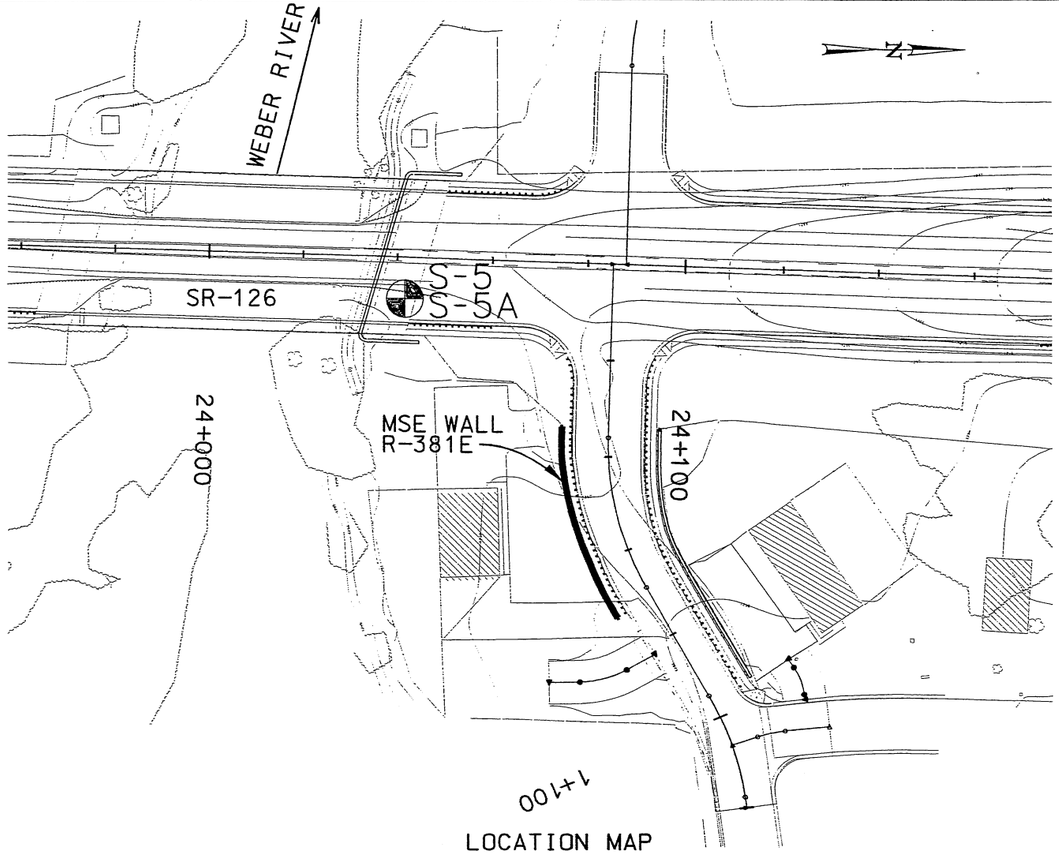
DESIGN	RJ	7/01	CHECK BK 8/01
DRAWN	RM	7/01	CHECK RJ 8/01
QUANT.	RJ	7/01	CHECK BK 8/01

APPROVAL RECOMM. 9/01 PROJECT DESIGN ENGINEER
APPROVED 9/17/01 ROADWAY DESIGN ENGINEER

SR-126, 1800 SOUTH
TO 12TH STREET, OGDEN
MSE WALL SITUATION AND LAYOUT
PROJECT NUMBER STP-BRF-0126(3)14

WEBER COUNTY
R-381E DRG. NO.
SHT. 1 OF 2

DGN File: N:\Projects\0147Z_00\Sheet_Files\WallsVR381E-1.dgn
07-SEP-2001



LOCATION MAP

DRILL HOLE LOG — BORING NO. S-5

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION DATE: 12/11/00
LOCATION: SR-126 STA. 24+041.78 RT. 8.57 ELEVATION: ~1297.30m
DRILLER: B. HARTLEY LOGGED BY: M. HANSEN/J. BOONE
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ▽ 2.59m AFTER 24 HOURS: ▽ 3.87m

Elev. (m)	Depth (m) (Feet)	Lithology	Sample Type	Sample No.	Sample Rec. (mm)	Blows Per 152mm	USCS (AASHTO)	Material Description	Pr. Weight W/m³	Moisture Content, %	Atter. Limit, % Liquid Limit	Atter. Limit, % Plasticity Index	Gradation Gravel, %	Gradation Sand, %	Gradation Silt/Clay, %	Other Tests
1295	1						GP-GM	gray, wet, med. dense — GRAVEL W/SAND AND SILT								
	5							dk. brown, moist to wet, med. dense to loose, fitting something hard at bottom of sample, maybe concrete								
	2						GM (A-1-b(0))	SILTY GRAVEL W/SAND		9.2	NP	0	44	43	13	
	10							brown, very soft, wet, loose, silty — SANDY CLAY See Boring No. B-S5A								
	3							sand layer ~50mm thick								
	4						SM									
	15						CL	brown, very moist — LEAN CLAY		27.8						
	5						GP	gray, wet, med. dense — GRAVEL W/SAND								
	6															
1290	20															
	7						CL (A-7-5(25))	gray-brown w/black spots, moist, firm		42.9	45	24	0	3	97	CT UC
	25						CL	gray-brown, moist, stiff		24.6						
	8							LEAN CLAY W/SILTY SAND LENSES AND LAYERS								
	9						CL	gray-brown, moist, firm		31.6						CT
	30															
	10															
	35						SM	dk. brown-gray — SILTY SAND								
	11						CL	gray-brown, moist, firm		36.3						
1285	40						CL (A-7-5(21))	gray-brown, moist, stiff		33.6	43	20	0	4	96	CT
	13															
	45							gray-brown — LEAN CLAY W/SILTY SAND LENSES		33.5						
	14						CL	moist, firm								
	15							gray-brown, moist, stiff, w/interbedded sand layers								
	50						CL			32.1						
	16															
	55															

Depth Continues on Boring No. S-5A

DRILL HOLE LOG — BORING NO. S-5A

PROJECT: OGDEN SR-126 1800 SOUTH TO 12TH STREET PROJECT NO.: 200028.000
CLIENT: UTAH DEPARTMENT OF TRANSPORTATION DATE: 12/12/00 TO 12/14/00
LOCATION: SR-126 STA. 24+041.78 RT. 8.57 ELEVATION: 1297.38m
DRILLER: B. HARTLEY LOGGED BY: M. HANSEN/J. BOONE
EQUIP./DRILL METHOD: CME-55 / N.W. CASING
DEPTH TO WATER - INITIAL: ▽ 2.60m AFTER 24 HOURS: ▽ 3.78m

Elev. (m)	Depth (m) (Feet)	Lithology	Sample Type	Sample No.	Sample Rec. (mm)	Blows Per 152mm	USCS (AASHTO)	Material Description	Pr. Weight W/m³	Moisture Content, %	Atter. Limit, % Liquid Limit	Atter. Limit, % Plasticity Index	Gradation Gravel, %	Gradation Sand, %	Gradation Silt/Clay, %	Other Tests
								Also See Boring No. S-5 for Top 16.76m								
	1						GM	SILTY GRAVEL W/SAND								
1295	5															
	2															
	3						CL (A-4(3))	brown, very moist to wet, very soft — SANDY CLAY W/SILTY SAND LAYERS		33.3	34	7	0	37	63	
	10															
	4															
	15															
	5															
	20						GP	gray, wet, dense — GRAVEL W/SAND								
	6															
1290	7															
	25															
	8															
	9															
	30															
	10															
	35															
	11						CL (A-6(19))	gray-brown, moist, firm — LEAN CLAY W/SILTY SAND LENSES AND SMALL LAYERS		31.2	40	18	0	3	97	
1285	40															
	13															
	45															
	14															
	15															
	50															
	16															
	55															
	17						CL	gray-brown, moist, firm								
1280	60						SM	dk. gray — SILTY SAND W/CLAY LENSES		34.4						
	18						CL (A-7-5(18))	gray-brown, moist, stiff — LEAN CLAY		35.5	41	21	0	14	86	CT UC
	19															
	65						CL, SM (A-2-4(0))	gray-brown, moist, stiff — LEAN CLAY W/SILTY SAND LENSES AND LAYERS		30.7						
	20							gray-brown, moist, med. dense — SILTY SAND		20.9	NP	0	70	30		
	21															
	70						SM	dk. gray — LEAN CLAY W/SILTY SAND LENSES								
1275	22						CL	gray-brown, moist, stiff — SILTY SAND		37.6						
	75															
	23						CL,SM	gray-brown, moist, stiff — LEAN CLAY W/SILTY SAND LENSES AND LAYERS		28.5						
	24															
	80															
	25						CL,SM	gray-brown, moist, stiff		33.5						
	85															
	26						CH (A-7-5(19))	gray to dk. gray, moist, stiff to firm — SANDY FAT CLAY		29.3	52	30	0	33	67	
	27															
1270	90						CH	dk. gray								
	28						SM, CL	brown, wet, med. dense, very stiff — SILTY SAND W/CLAY LENSES AND LAYERS		35.5						UC
	95						SM (A-2-4(0))	brown, wet, dense		25.8	NP	0	63	37		
	29															
	30															
	100						SM	brown, wet, med. dense — SILTY SAND								
	31															
	105						SP-SM (A-3(0))	brown to gray-brown, wet, very dense — SAND W/SILT		23.2	NP	0	92	8		
1265	32															
	33															
	110						CH (A-7-6(34))	green-gray, moist, stiff — FAT CLAY W/SAND LENSES		30.3	53	32	0	3	97	
	34							TRACE GRAVEL AT 34.14m, INTERBEDDED CLAY AND SILTY SAND								
	115						SM	dk. gray, wet, med. dense — SILTY SAND W/CLAY LENSES AND LAYERS UP TO 25mm THICK								
	35															
	36															
	120						SM (A-4(0))	dk. brown and gray-green, moist to wet, med. dense — SILTY SAND W/CLAY LAYERS AND LENSES		21.3	NP	0	60	40		
1260	37															
	38						SP-SM (A-3(0))	dk. gray, wet, very dense — SAND W/SILT		22.6	NP	1	90	9		
	125															
	39															
	130						SM	dk. gray, wet, very dense, w/clay lenses, trace fine gravel								
	40															
	135						CL-2 (A-6(5))	green — LEAN CLAY		33.0	36	16	0	9	91	CT UC
	41						ML, CL	green — SANDY SILT								
1255	42															
	140						CL (A-6(17))	greenish-gray-brown, moist, stiff — SANDY LEAN CLAY W/CLAYEY SAND LAYERS			30	12	0	25	75	
	43															
	44	145					CL	lt. green, moist, stiff		37.9						
	45															
	150						CL (A-7-5(17))	dk. gray, moist, stiff — SANDY CLAY W/CLAY AND SAND LAYERS								CT UC
	46															

KEY TO DRILLING LOG

RELATIVE DENSITY (NON-PLASTIC SAND & SILT)

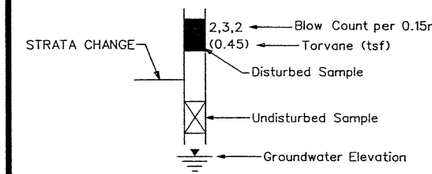
VERY LOOSE – N LESS THAN 4
LOOSE – N 4 TO 10
MEDIUM – N 10 TO 30
DENSE – N 30 TO 50
VERY DENSE – N MORE THAN 50

CONSISTENCY (PLASTIC – SILT & CLAY)

VERY SOFT – N LESS THAN 2
SOFT – N 2 TO 4
MEDIUM – N 4 TO 8
STIFF – N 8 TO 15
VERY STIFF – N 15 TO 30
HARD – N MORE THAN 30

TOPSOIL OR FILL · GRAVEL · SAND · SILT · CLAY · CLAYSTONE
IGNEOUS · LIMESTONE · CONGLOMERATE · DOLOMITE · SANDSTONE · SILTSTONE
SANDY CLAY · CLAYEY SAND · SILTY CLAY · CLAYEY SILT · SILTY SAND · SANDY SILT

LEGEND



ABBREVIATIONS

UC = Unconfined Compression test
CT = Consolidation Test
SG = Specific Gravity Test
VS = Vane Shear Test

GENERAL NOTES

1. THE SUBGRADE SURFACE EXPLORATIONS SHOWN WERE CONDUCTED ON AUG-19-99 BY UTAH DEPT. OF TRANSP. AND RB&G ENGINEERING.
2. THESE DRILL LOGS REPRESENT A SYNOPSIS OF THE SOIL DEPOSITS ENCOUNTERED WITHIN EACH 89 mm DIAMETER BORING AND ARE BASED ON SOUND GEOLOGICAL AND ENGINEERING JUDGEMENT. BECAUSE SOIL IS A COMPLEX MEDIUM, THESE DRILL LOGS MAY OR MAY NOT REPRESENT THE SOIL CONDITIONS AT THIS SITE. THIS SUBSURFACE INTERPRETATION IS PRESENTED IN GOOD FAITH AND IS NOT INTENDED AS A SUBSTITUTE FOR PERSONAL INVESTIGATION AND JUDGEMENT OF THE CONTRACTOR.
3. THE WATER LEVELS AND CONDITIONS INDICATED ON THE DRILL LOGS REPRESENT HOLE CONDITIONS ON THE DATE SHOWN, EITHER WITH CASING STILL IN PLACE OR WITH PERFORATED PLASTIC PIPE INSTALLED. IT SHOULD BE NOTED, HOWEVER, THAT AT LOCATIONS AWAY FROM THE TEST HOLES OR AT OTHER TIMES OF THE YEAR THE WATER LEVELS AND CONDITIONS MAY VARY SIGNIFICANTLY.
4. THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND TRANSITION MAY BE GRADUAL.
5. COBBLE – A ROCK FRAGMENT WITH AN AVERAGE DIMENSION BETWEEN 76 mm AND 305 mm.
6. BOULDER – A ROCK FRAGMENT WITH AN AVERAGE DIMENSION OF 305 mm OR MORE.

NO.	DATE	BY	REVISIONS REMARKS

UTAH DEPARTMENT OF TRANSPORTATION
SALT LAKE CITY, UTAH
STRUCTURES DIVISION

DESIGN BEP 8/01 · CHECK BEP 8/01 · CHECK
DRAWN JMM 6/01 · CHECK · CHECK
QUANT. · CHECK · CHECK

APPROVAL RECOMM. 9/01 DATE — DESIGN ENGR.
APPROVED 9/17/01 DATE — ENGR.

SR-126, 1800 SOUTH TO 12TH STREET, OGDEN
SR-126 OVER WEBER RIVER
SOIL DATA

PROJECT NUMBER STP-BRF-0126(3)14

WEBER COUNTY

R-381E DRG. NO.

SHT. 2 OF 2