

LOCATION PLAN

GENERAL NOTES:

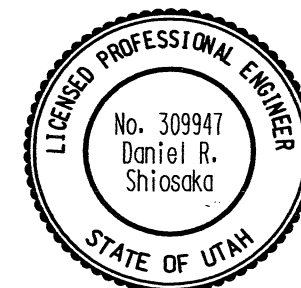
1. ALL REINFORCING STEEL SHALL BE COATED DEFORMED BILLET-STEEL BARS CONFORMING TO AASHTO M 284 OR M 111, AND M 31 GRADE 60 RESPECTIVELY.
2. CHAMFER ALL EXPOSED CONCRETE CORNERS $\frac{3}{4}$ ". EXCEPT WHERE NOTED OTHERWISE.
3. PROVIDE 2" CONCRETE COVER TO REINFORCING STEEL EXCEPT WHERE NOTED OTHERWISE.
4. ALL CAST-IN-PLACE CONCRETE SHALL BE CLASS AA(AE).
5. ALL DIMENSIONS SHOWN ARE IN FEET-INCHES UNLESS SPECIFIED OTHERWISE. ALL STATIONS AND ELEVATIONS ARE SHOWN IN FEET.
6. CONTRACTOR RESPONSIBLE TO FIELD VERIFY ALL ELEVATIONS PRIOR TO CONSTRUCTION.

QUANTITIES:

ITEM	ESTIM.	UNIT	AS CONST.
MSE RETAINING WALL (R-434E) (ESTIMATED EXPOSED SURFACE AREA 129 SQ. FT.)	1	LUMP	

DESIGN DATA:

CAST-IN-PLACE CONCRETE: $f'_c = 3650$ psi; $f'_c = 1200$ psi;
(FOR COPING) f'_s (REINF.) = 24,000 psi; $n=9$

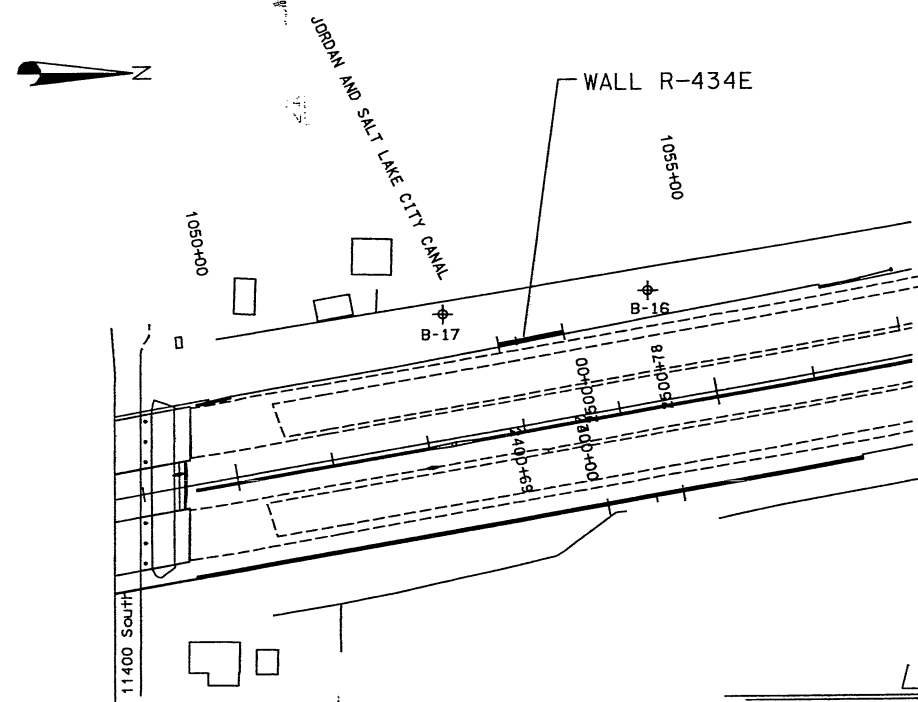


UTAH DEPARTMENT OF TRANSPORTATION SALT LAKE CITY, UTAH STRUCTURES DIVISION		DESIGN	BPD	01/04	CHECK	DRS	01/04
		DRAWN	NRD	01/04	CHECK	DRS	01/04
		QUANT.	NRD	01/04	CHECK	DRS	01/04
		APPROVAL RECORD	1/12/04	DATE			
		APPROVED FOR USE BY UDOT		DATE			
		SENIOR DESIGN ENGR.		DATE			
		UDOT BRIDGE ENGR.		DATE			
I-15 UTAH CO. LINE TO 10600 SO.							
WALL R-434E							
SITUATION AND LAYOUT							
PROJECT NUMBER SP-15-7(167)288							
SALT LAKE COUNTY							
R-434E DRG. NO.							
SHT. 1 OF 5							
		NO.	DATE	BY	REVISIONS		

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KLEINFELDER PROJECT NO: 33948.98D			
NO.	BY	DATE	REMARKS
REVISIONS			

BORING LOCATION PLAN



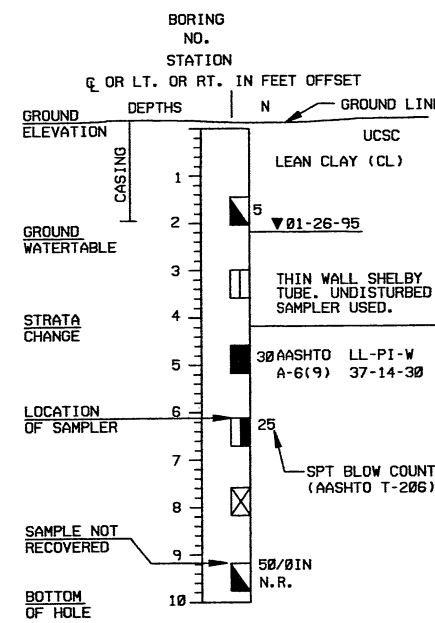
GENERAL NOTES

- THE SUBSURFACE EXPLORATIONS SHOWN WERE CONDUCTED ON AUGUST 27 AND SEPTEMBER 8, 2003 BY KLEINFELDER.
- THESE BORING LOGS REPRESENT A SYNOPSIS OF THE SOIL DEPOSITS ENCOUNTERED WITHIN EACH 8 INCH DIAMETER BORING AND ARE BASED ON SOUND GEOLOGICAL AND ENGINEERING JUDGEMENT. BECAUSE SOIL IS A COMPLEX MEDIUM, THESE BORING 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.
- THE WATER LEVELS AND CONDITIONS INDICATED ON THE DRILL LOGS REPRESENT BORING CONDITIONS ON THE DATE SHOWN, WITH AUGER IN PLACE. IT SHOULD BE NOTED, HOWEVER, THAT AT LOCATIONS AWAY FROM THE TEST BORINGS OR AT OTHER TIMES OF THE YEAR THE WATER LEVELS AND CONDITIONS MAY VARY SIGNIFICANTLY.
- THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.
- COBBLE - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION BETWEEN 3 AND 12 INCHES.
- BOULDER - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION GREATER THAN 12 INCHES.
- IN ORDER TO PROVIDE MORE CONSISTENCY AND UNIFORMITY WITH GEOTECHNICAL AND CONSTRUCTION INDUSTRY STANDARDS, UDOT HAS ADOPTED THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) ON BOTH THE SOIL EXPLORATION LOGS AND IN THE REPORT'S SOIL DESCRIPTIONS. HOWEVER, THE AASHTO GROUP CLASSIFICATIONS WILL ALSO CONTINUE TO BE USED AS SHOWN HEREIN.

BORING B-16
ELEVATION 4412.1 FEET
STATION 1054+50.772 114.321 LT.

DEPTH (FEET)	ELEVATION (FEET)	DEPTH (FEET)	BLOWS PER FOOT (N1/60)	USCS AASHTO	SOIL CLASSIFICATION VC-LL-PI
0.0	4412.1	0.0	30	CL A-6 (4)	SANDY LEAN CLAY - FIRM TO VERY STIFF, MOIST, GREENISH BROWN, FINE-GRAINED SAND
5.0	4407.1	5.0	12		9 - 31 - 11
10.0	4402.1	10.0	13	CL A-6 (13)	LEAN CLAY - STIFF, MOIST, LIGHT GREENISH GRAY, WITH RUST COLORED AREAS, OCCASIONAL FINE-GRAINED SAND SEAMS
15.0	4397.1	15.0	22	ML A-4 (0)	SANDY SILT - VERY STIFF, MOIST TO WET, LIGHT BROWNISH GRAY TO GREENISH BROWN WITH RUST COLORED OXIDATION AREAS, FINE-GRAINED SAND
30.0	4382.1	30.0	17		

LEGEND



- #### ABBREVIATIONS
- L.L. - LIQUID LIMIT
 - P.I. - PLASTIC INDEX
 - W. - NATURAL MOISTURE CONTENT IN %
 - PEN. - PENETRATION
 - G.W.T. - GROUND WATER TABLE
 - N - SPT BLOW COUNT - BLOWS PER 12IN
 - N.P. - NON PLASTIC
 - AASHTO - SOIL CLASSIFICATION SYSTEM
 - USCS - UNIFIED CLASSIFICATION SYSTEM
 - N.V. - NO VALUE
 - N.R. - NO SAMPLE RECOVERED
 - E.R. - SAMPLING HAMMER ENERGY RATIO

- #### LOG KEY SYMBOLS
- BULK, BAG, OR GRAB SAMPLE
 - STANDARD PENETRATION SPLIT SPOON SAMPLER (2" OUTSIDE DIAMETER)
 - MODIFIED CALIFORNIA SAMPLER (2-1/2" OUTSIDE DIAMETER)
 - CALIFORNIA SAMPLER (3" OUTSIDE DIAMETER)
 - SHELBY TUBE (3" OUTSIDE DIAMETER)
 - WATER LEVEL (MEASURED OR FIRST ENCOUNTERED)

UNIFIED SOIL CLASSIFICATION SYSTEM

GRAVELS	GRAVELS	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
<50% COARSE FRACTION PASSES	WITH LITTLE OR NO FINES	GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
>4 SIEVE	GRAVELS WITH > 12% FINES	GM	SILTY GRAVELS, POORLY-GRADED GRAVEL-SAND-SILT MIXTURES
<50% PASSES	SANDS WITH LITTLE OR NO FINES	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
>200 SIEVE	SANDS WITH > 12% FINES	SM	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SP	SILTY SANDS, POORLY-GRADED SAND-GRAVEL-SILT MIXTURES
		SC	CLAYEY SANDS, POORLY-GRADED SAND-GRAVEL-CLAY MIXTURES
		ML	INORGANIC SILT & VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		OL	ORGANIC SILTS & CLAYS OF LOW PLASTICITY
		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
		OH	ORGANIC SILTS & CLAYS OF MEDIUM-TO-HIGH PLASTICITY
		PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENT

APPARENT/RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT (* BLOWS/FT)	MODIFIED CALIFORNIA SAMPLER (* BLOWS/FT)	CALIFORNIA SAMPLER (* BLOWS/FT)	RELATIVE DENSITY (%)	FIELD TEST
VERY LOOSE	< 4	< 4	< 5	0 - 15	EASILY PENETRATED WITH 1/2 IN. REINFORCING ROD PUSHED BY HAND.
LOOSE	4 - 10	4 - 12	5 - 15	15 - 35	DIFFICULT TO PENETRATE WITH 1/2 IN. REINFORCING ROD PUSHED BY HAND.
MEDIUM DENSE	10 - 30	12 - 35	15 - 40	35 - 65	EASILY PENETRATED A FOOT WITH 1/2 IN. REINFORCING ROD DRIVEN WITH 5 LB. HAMMER.
DENSE	30 - 50	36 - 60	40 - 70	65 - 85	DIFFICULT TO PENETRATE A FOOT WITH 1/2 IN. REINFORCING ROD DRIVEN WITH 5 LB. HAMMER.
VERY DENSE	> 50	> 60	> 70	85 - 100	PENETRATED ONLY A FEW INCHES WITH 1/2 IN. REINFORCING ROD DRIVEN WITH 5 LB. HAMMER.

CONSISTENCY - FINE-GRAINED SOIL

CONSISTENCY	SPT (* BLOWS/FT)	UNDRAINED SHEAR STRENGTH (TSF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)	FIELD TEST
VERY SOFT	< 2	< 0.125	< 0.25	EASILY PENETRATED SEVERAL CENTIMETERS BY THUMB. EXUDES BETWEEN THUMB AND FINGERS WHEN SQUEEZED IN HAND.
SOFT	2 - 4	0.125 - 0.25	0.25 - 0.5	EASILY PENETRATED ONE INCH BY THUMB. MOLDED BY LIGHT FINGER PRESSURE.
MEDIUM STIFF	4 - 8	0.25 - 0.5	0.5 - 1.0	PENETRATED OVER 1/2 IN. BY THUMB WITH MODERATE EFFORT. MOLDED BY STRONG FINGER PRESSURE.
STIFF	8 - 15	0.5 - 1.0	1.0 - 2.0	INDENTED ABOUT 1/2 IN. BY THUMB BUT PENETRATED ONLY WITH GREAT EFFORT.
VERY STIFF	15 - 30	1.0 - 2.0	2.0 - 4.0	READILY INDENTED BY THUMBNAIL.
HARD	> 30	> 2.0	> 4.0	INDENTED WITH DIFFICULTY BY THUMBNAIL.

I-15, UTAH CO LINE TO 10600 SUTAH DEPARTMENT OF TRANSPORTATION
 KLEINFELDER, INC.
 SALT LAKE CITY, UTAH

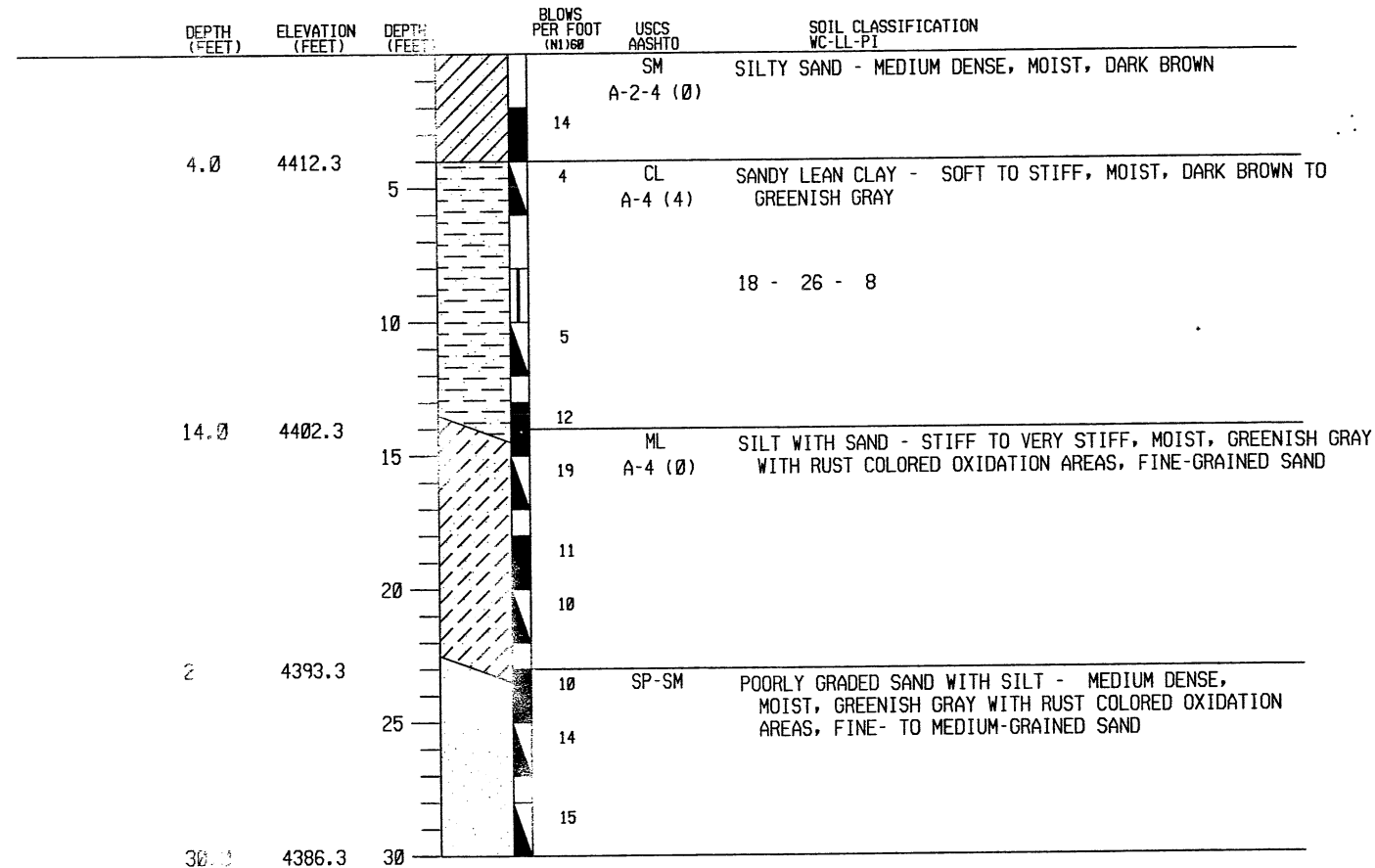
SOIL DATA SHEET
 I-15
 PROJECT NUMBER SP-15-7(167)288

SALT LAKE COUNTY
 R-434E
 DRG. NO.

SHT. 2 OF 5

NO.	BY	DATE	REMARKS
REVISIONS			

BORING
B-17
ELEVATION 4416.3 FEET
STATION 1052+38.647 128.337 LT.



LOG KEY SYMBOLS

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UTAH DEPARTMENT OF TRANSPORTATION
 KLEINFELDER, INC.
 SALT LAKE CITY, UTAH

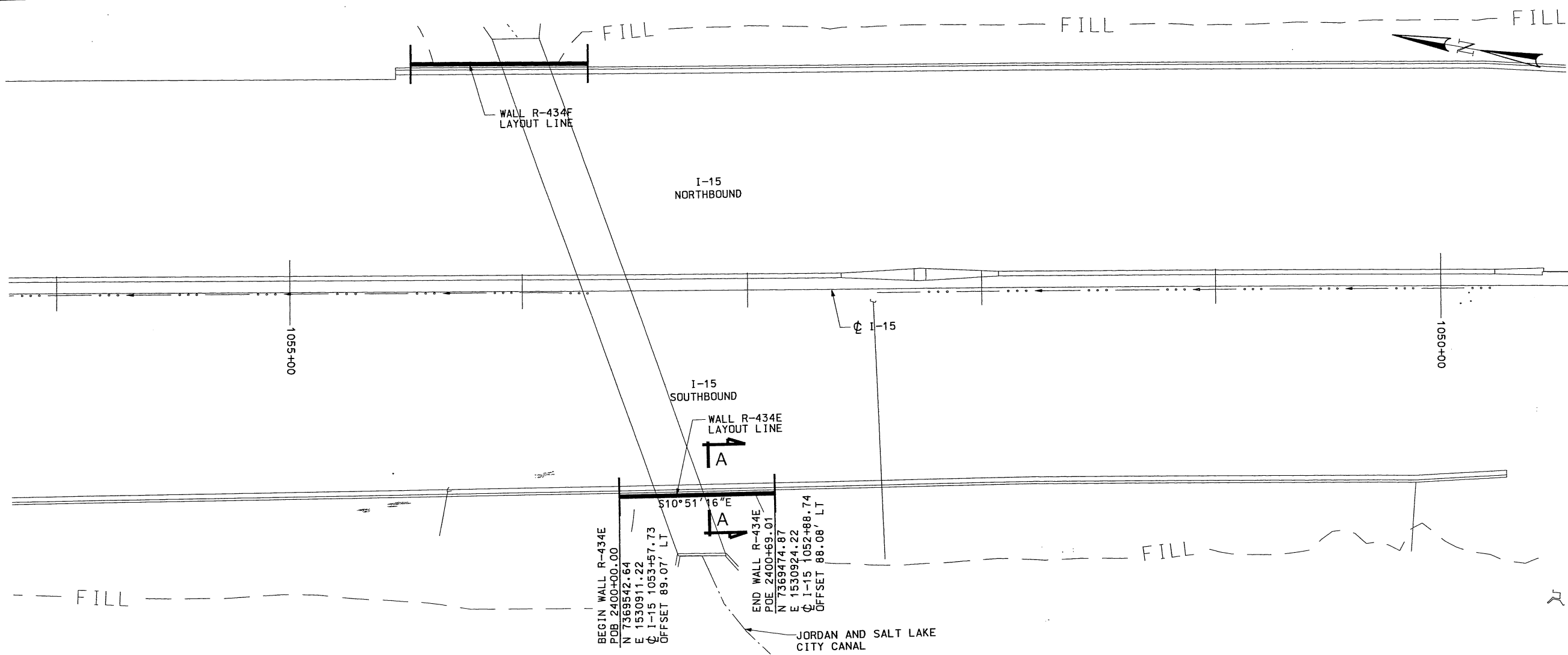
I-15, UTAH CO LINE TO 10600
 I-15
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DESIGN CC	12/03	CHECK	NOT	12/03
DRAWN SC	12/03	CHECK	CC	12/03
APPROVED	DATE	DESIGN ENGR.	DATE	CHIEF STRUCTURAL ENGR.

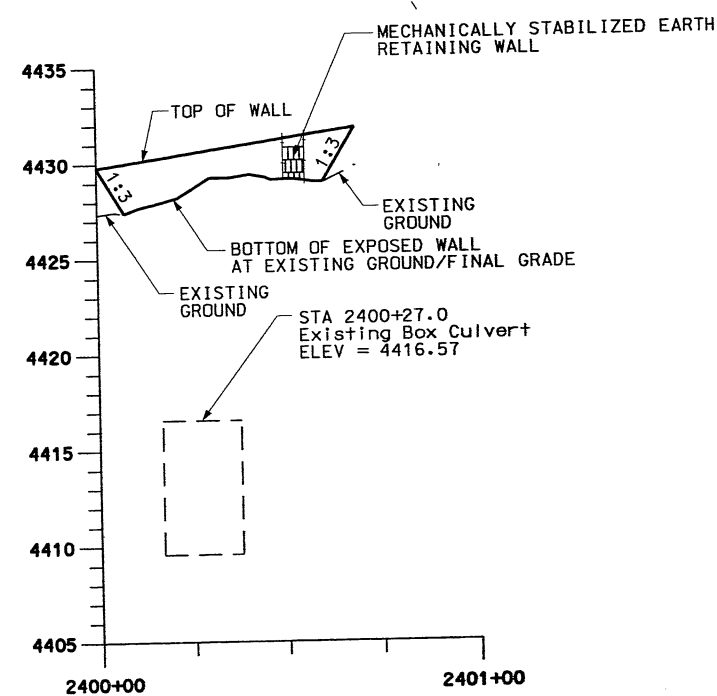
PROJECT NUMBER: SP-15-7(167)288
 QUANT.

SALT LAKE COUNTY
 R-434E
 DRG. NO.

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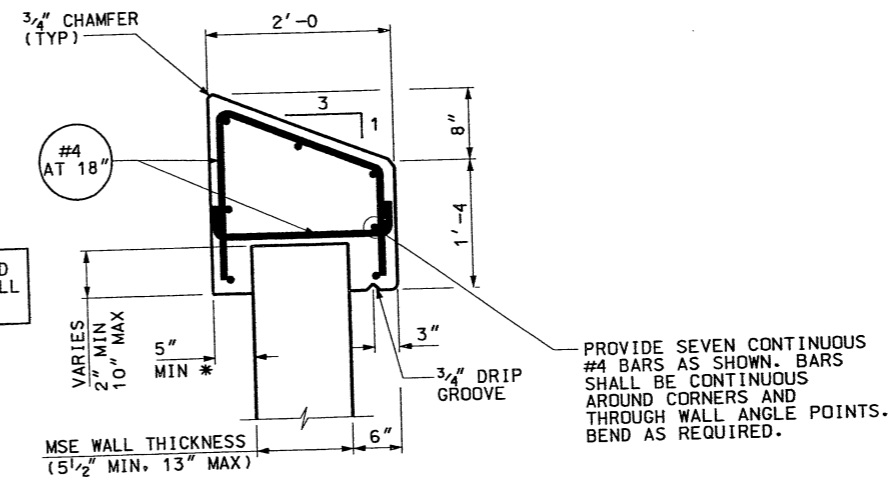
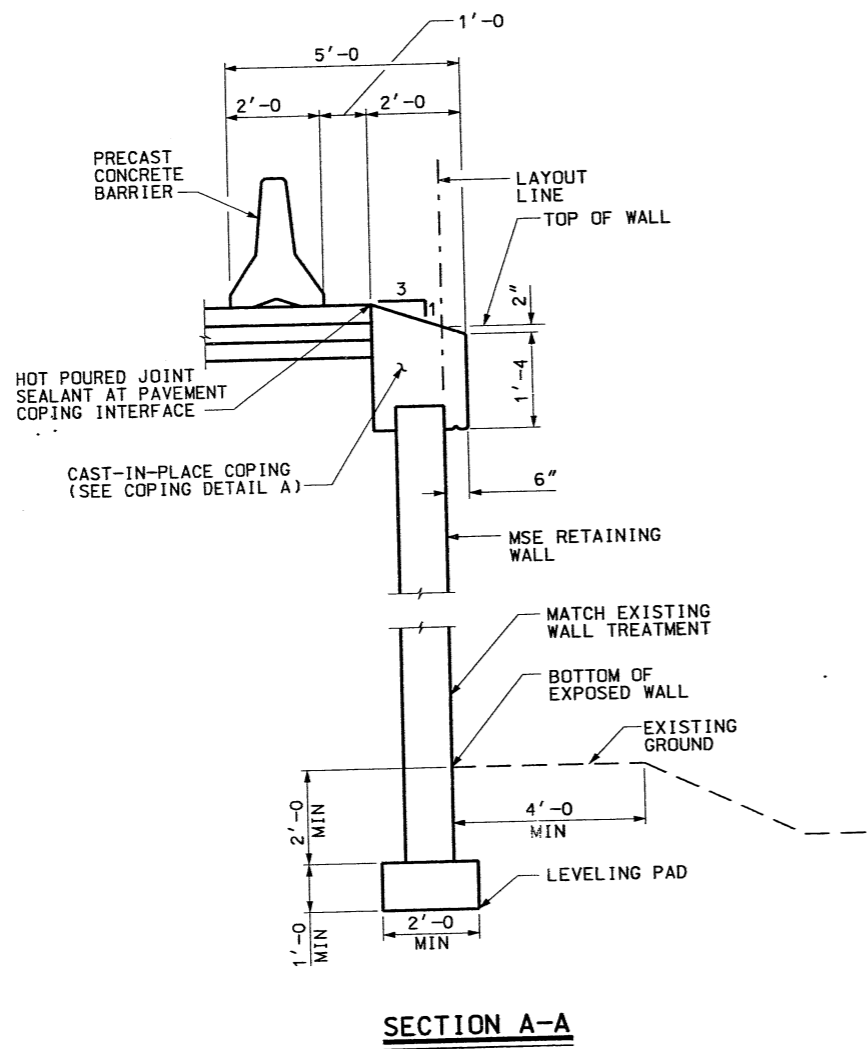
PLAN



ELEVATION

WALL R-434E		
STA	TOP OF WALL ELEV	BOTTOM OF EXPOSED WALL ELEV
2400+00.00	4429.78	4429.78
2400+25.00	4430.51	4428.59
2400+50.00	4431.24	4429.12
2400+69.01	4431.79	4431.79

UTAH DEPARTMENT OF TRANSPORTATION SALT LAKE COUNTY, UTAH STRUCTURES DIVISION		DESIGN: BPD 01/04 DRAWN: NRD 01/04 QUANT.: NRD 01/04	CHECK: DRS 01/04 CHECK: DRS 01/04 CHECK: DRS 01/04	REVISIONS
I-15 UTAH CO. LINE TO 10600 SO.	WALL R-434E	SITUATION AND LAYOUT	PROJECT NUMBER SP-15-7(167)288	
APPROVAL: 1/12/04 RECOMM. DATE		SENIOR DESIGN ENGR. DATE		REMARKS
APPROVED BY: [Signature]		JOB SITE ENGR. DATE		
SALT LAKE COUNTY		R-434E		
		DRG. NO.		
SHT. 4		OF 5		



COPING DETAIL "A"
(ENGINEER APPROVAL REQUIRED TO MODIFY COPING DIMENSIONS)

NOTES:

1. CAST-IN-PLACE COPING CONTROL JOINTS TO BE SPACED AT 10 FT WITH 1/2" EXPANSION JOINTS SPACED AT 30 FT.
2. RETAINING WALL SHALL BE BUILT ENTIRELY INSIDE N/A FENCE.
3. WALLS SHALL BE DESIGNED FOR TRAFFIC SURCHARGE. CONTRACTOR SHALL SUBMIT RETAINING WALL DESIGN TO ENGINEER.
4. WALLS SHALL BE CONSTRUCTED VERTICAL.

UTAH DEPARTMENT OF TRANSPORTATION SALT LAKE CITY, UTAH STRUCTURES DIVISION		DESIGN BPD_01/04	CHECK DRS_01/04	REVISIONS
I-15 UTAH CO. LINE TO 10600 SO.		DRAWN NRD_01/04	CHECK DRS_01/04	NO.
WALL R-434E		APPROVAL FOR USE DATE 1/12/04	QUANT. NRD_01/04	BY
DETAILS		APPROVED FOR USE BY UDOT	DATE	REMARKS
PROJECT NUMBER SP-15-7(167)288		UDOT BRIDGE ENGR.		
SALT LAKE COUNTY				
R-434E				
DRG. NO.				
SHT. 5 OF 5				