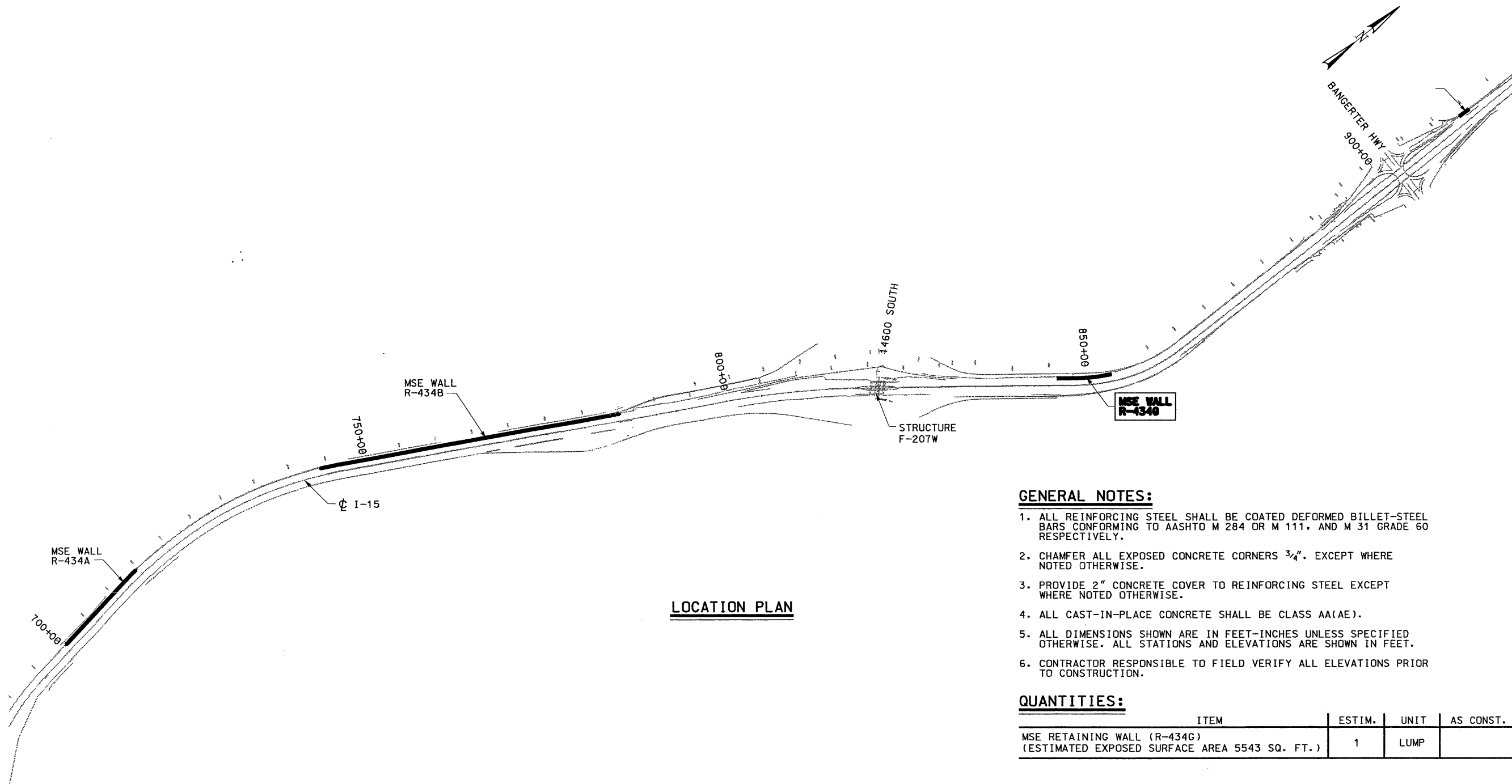


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**LOCATION PLAN**

**GENERAL NOTES:**

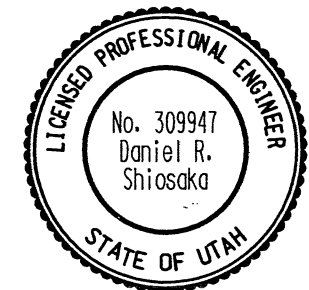
1. ALL REINFORCING STEEL SHALL BE COATED DEFORMED BILLET-STEEL BARS CONFORMING TO AASHTO M 284 OR M 111, AND M 31 GRADE 60 RESPECTIVELY.
2. CHAMFER ALL EXPOSED CONCRETE CORNERS  $\frac{3}{4}$ ". EXCEPT WHERE NOTED OTHERWISE.
3. PROVIDE 2" CONCRETE COVER TO REINFORCING STEEL EXCEPT WHERE NOTED OTHERWISE.
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-434G) (ESTIMATED EXPOSED SURFACE AREA 5543 SQ. FT.)	1	LUMP	

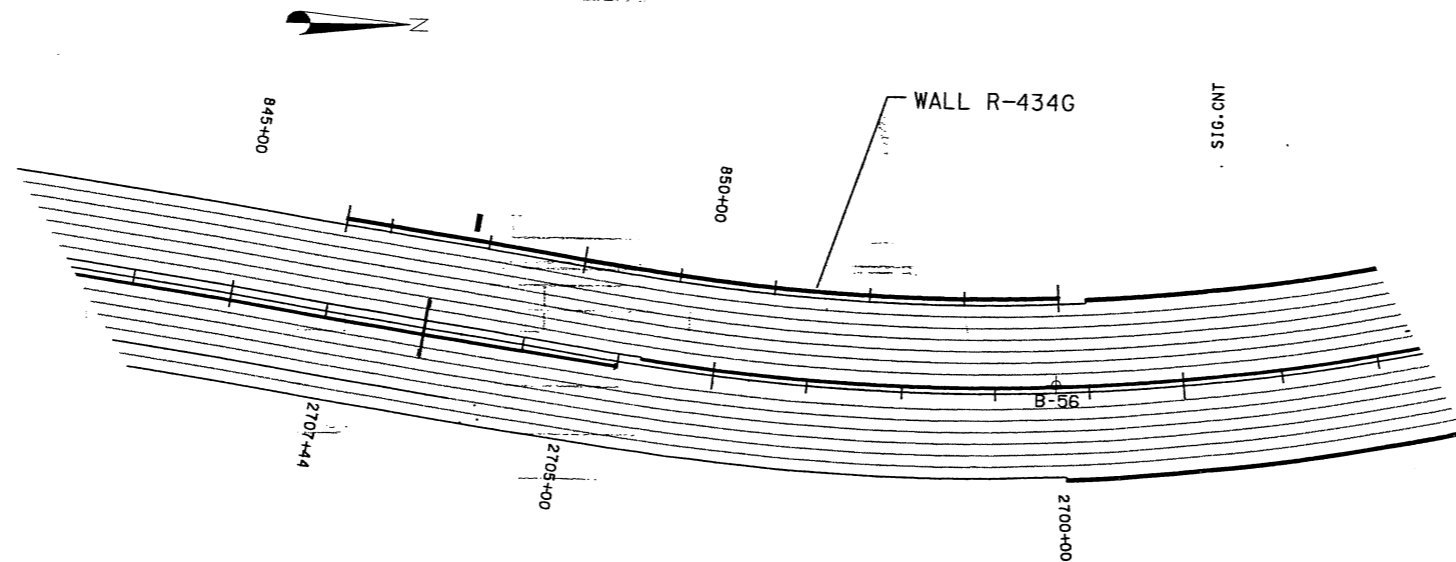
**DESIGN DATA:**

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



I-15 UTAH CO. LINE TO 10600 SO. WALL R-434G SITUATION AND LAYOUT PROJECT NUMBER SP-15-7(167)288		APPROVED BY UDOT	DATE	SEALOR REGISTRATION ENGR.	DATE	UDOT BRIDGE ENGR.	DATE	
		APPROVAL RECOMMENDATION	DATE					
		DESIGN	BPD	01/04	CHECK	DRS	01/04	
		DRAWN	NRD	01/04	CHECK	DRS	01/04	
		QUANT.	NRD	01/04	CHECK	DRS	01/04	
		REVISIONS		NO.	DATE	BY	REMARKS	

**BORING LOCATION PLAN**



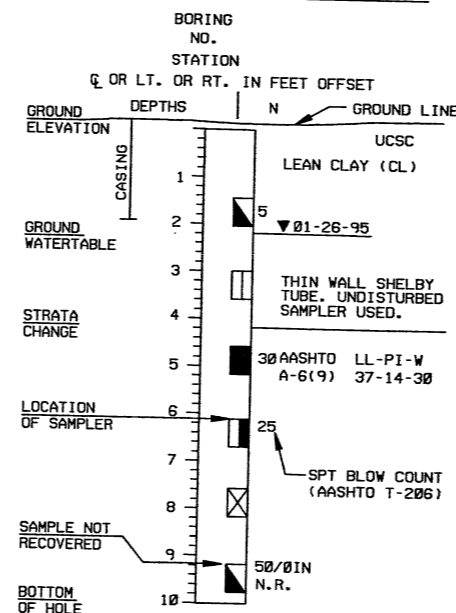
KLEINFELDER PROJECT NO. 33948.98D

NO.	BY	DATE	REMARKS
REVISIONS			

**GENERAL NOTES**

1. THE SUBSURFACE EXPLORATIONS SHOWN WERE CONDUCTED ON AUGUST 27, 2003 BY KLEINFELDER.
2. 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.
3. 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.
4. THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN SOIL TYPES AND THE TRANSITION MAY BE GRADUAL.
5. COBBLE - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION BETWEEN 3 AND 12 INCHES.
6. BOULDER - A ROCK FRAGMENT WITH AN AVERAGE DIMENSION GREATER THAN 12 INCHES.
7. IN ORDER TO PROVIDE MORE CONSISTENCY AND UNIFORMITY WITH GEOTECHNICAL AND CONSTRUCTION INDUSTRY STANDARDS, UDOT HAS ADOPTED THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS SYMBOLS AND MAJOR SOIL DESCRIPTION STANDARDS) 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.

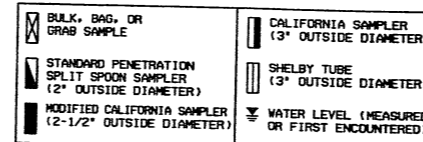
**LEGEND**



**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**



BORING B-56  
ELEVATION 4496.7 FEET  
STATION 853+64.929 7.267 LT.

DEPTH (FEET)	ELEVATION (FEET)	DEPTH (FEET)	BLOWS PER FOOT (N1)60	USCS AASHTO	SOIL CLASSIFICATION WC-LL-P1
5.0	4491.7	5	51		FILL: POORLY GRADED SAND WITH SILT - VERY DENSE, SLIGHTLY MOIST, YELLOW BROWN, TRACE GRAVEL, ASPHALT LAYER AT 2.5 FEET
			51		
			17	ML	SILT - STIFF TO HARD, MOIST, GRAY BROWN, FREQUENT SAND AND FINE-GRAINED-GRAVEL SEAMS
10.5	4486.2	10	69	GM	SILTY GRAVEL WITH SAND - VERY DENSE, SLIGHTLY MOIST, YELLOW BROWN
			51		
14.4	4482.3				

**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
<50% COARSE FRACTION PASSES	WITH > 12% FINES	GM	SILTY GRAVELS, POORLY-GRADED GRAVEL-SAND-SILT MIXTURES
<50% COARSE FRACTION PASSES	WITH > 12% FINES	GC	CLAYEY GRAVELS, POORLY-GRADED GRAVEL-SAND-CLAY MIXTURES
<50% COARSE FRACTION PASSES	WITH LITTLE OR NO FINES	SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
<50% COARSE FRACTION PASSES	WITH > 12% FINES	SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
<50% COARSE FRACTION PASSES	WITH > 12% FINES	SM	SILTY SANDS, POORLY-GRADED SAND-GRAVEL-SILT MIXTURES
<50% COARSE FRACTION PASSES	WITH > 12% FINES	SC	CLAYEY SANDS, POORLY-GRADED SAND-GRAVEL-CLAY MIXTURES
> 50% PASSES		ML	INORGANIC SILT & VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
> 50% PASSES		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
> 50% PASSES		OL	ORGANIC SILTS & CLAYS OF LOW PLASTICITY
> 50% PASSES		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
> 50% PASSES		CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
> 50% PASSES		OH	ORGANIC SILTS & CLAYS OF MEDIUM-TO-HIGH PLASTICITY
> 50% PASSES		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)	UNRAINED SHEAR STRENGTH (TSF)	UNCONFINED COMPRESSIVE STRENGTH (TSF)	FIELD TEST
VERY SOFT	< 2	< 0.125	< 0.25	EASILY PENETRATED SEVERAL CENTIMETERS BY THUMB. EXODES 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 THUMBAIL.
HARD	> 30	> 2.0	> 4.0	INDENTED WITH DIFFICULTY BY THUMBAIL.

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

I-15

SOIL DATA SHEET

PROJECT NUMBER SP-15-7(167)288

SALT LAKE COUNTY  
R-434G  
DRG. NO.  
SHT. 2 OF 5

REVISIONS

NO. DATE BY

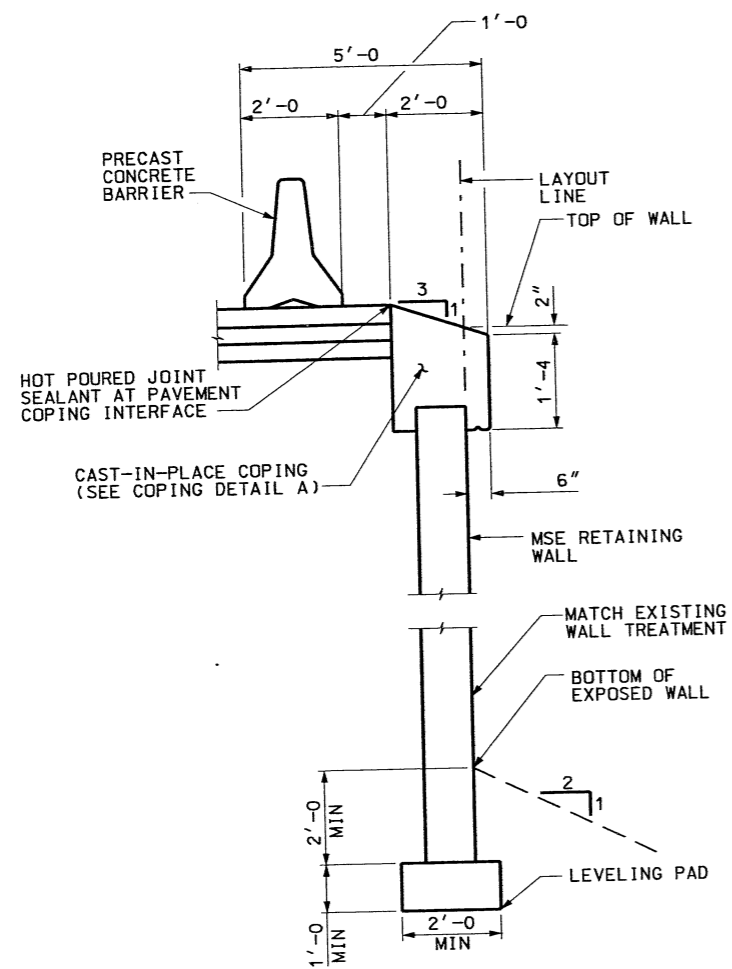
CHECK QUANT.

APPROVAL RECORDING DATE

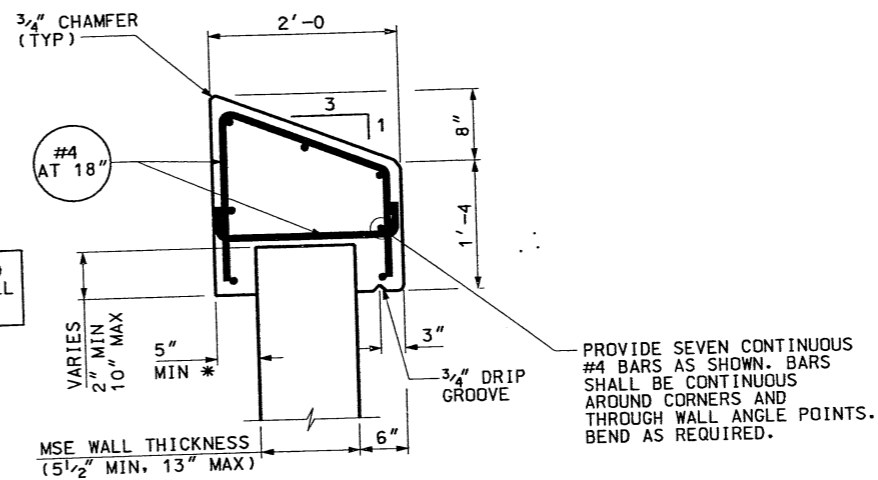
DESIGN ENGR. DATE

APPROVED DATE

CHECK



**SECTION A-A**



**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
I-15 UTAH CO. LINE TO 10600 SO.		DRAWN NRD_01/04	CHECK DRS_01/04
WALL R-434G		QUANT. NRD_01/04	CHECK DRS_01/04
DETAILS		DATE	DATE
PROJECT NUMBER SP-15-7(167)288		BY	REVISIONS
SALT LAKE COUNTY		DATE	
R-434G		DATE	
DRG. NO.		DATE	
SHT. 5 OF 5		DATE	