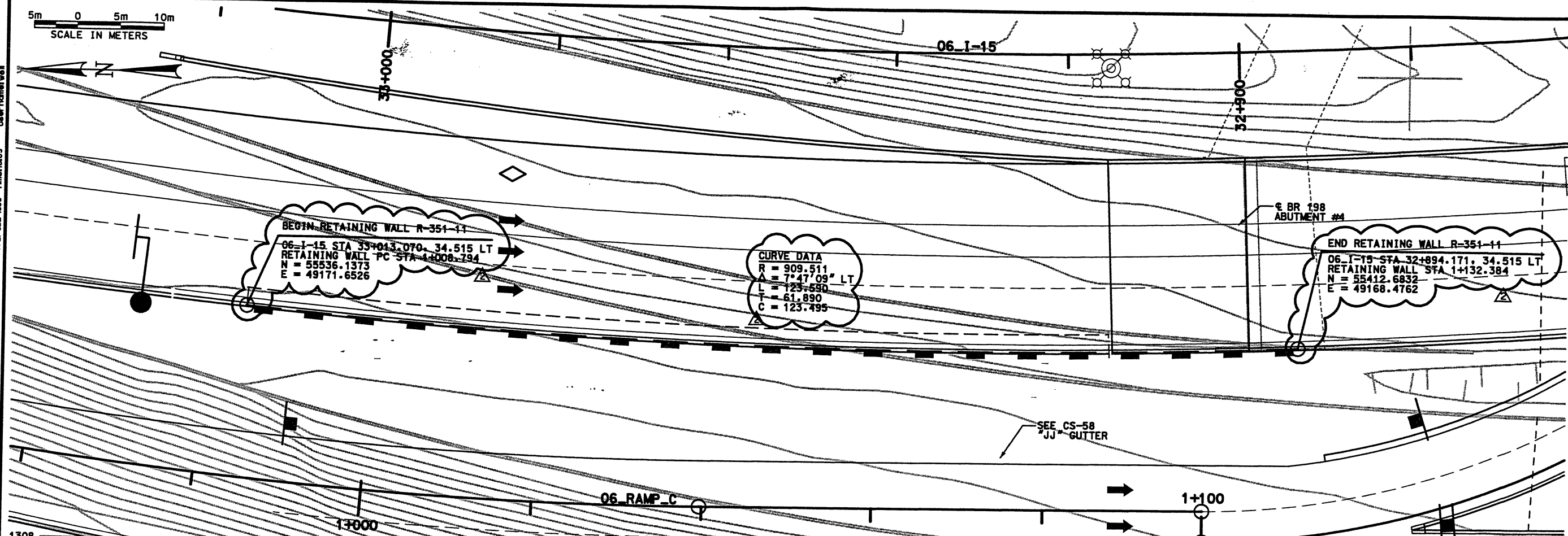
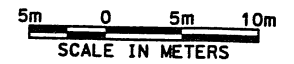


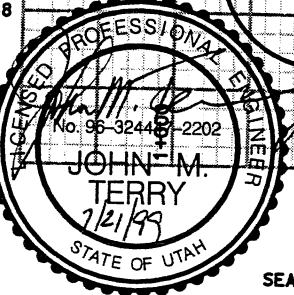
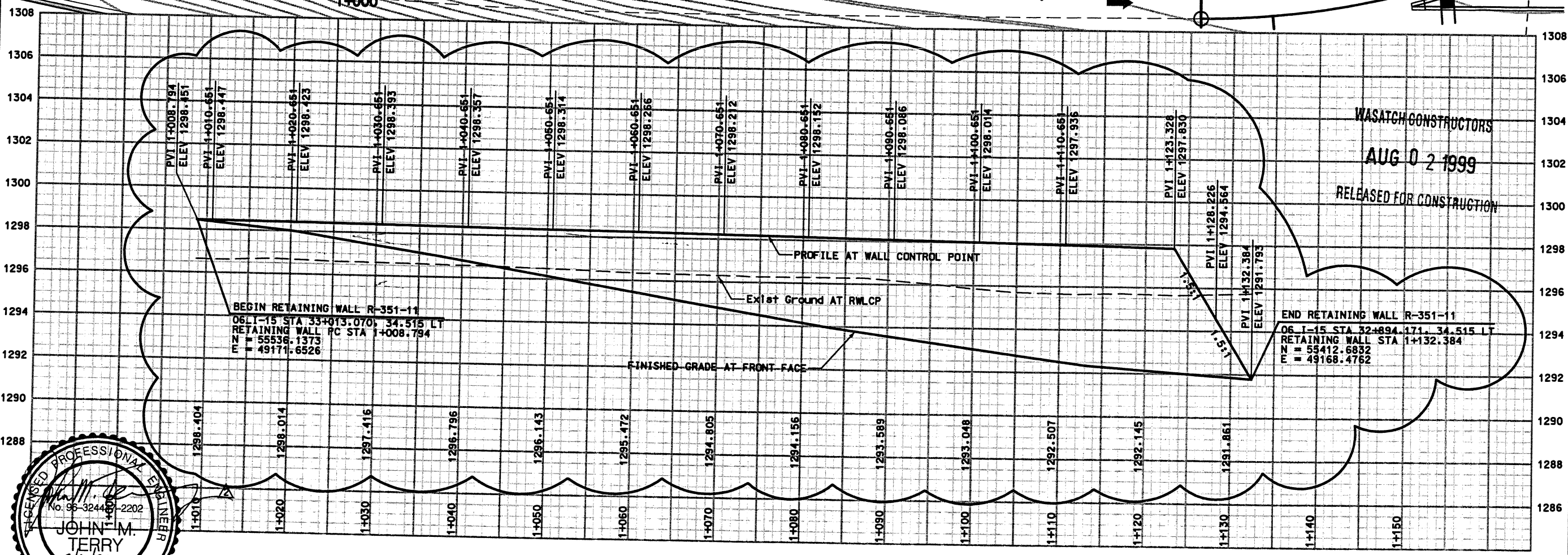
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 Date: 21-JUL-1999 Time: 16:09 User: nmes.wal



BEGIN RETAINING WALL R-351-11
 06-I-15 STA 33+013.070, 34.515 LT
 RETAINING WALL PC STA 1+008.794
 N = 55536.1373
 E = 49171.6526

CURVE DATA
 R = 909.511
 Δ = 7°47'09" LT
 L = 123.590
 T = 61.890
 C = 123.495

END RETAINING WALL R-351-11
 06-I-15 STA 32+894.171, 34.515 LT
 RETAINING WALL STA 1+132.384
 N = 55412.6832
 E = 49168.4762



SEALED FOR THE NO. OF SUBMITTAL ONLY.

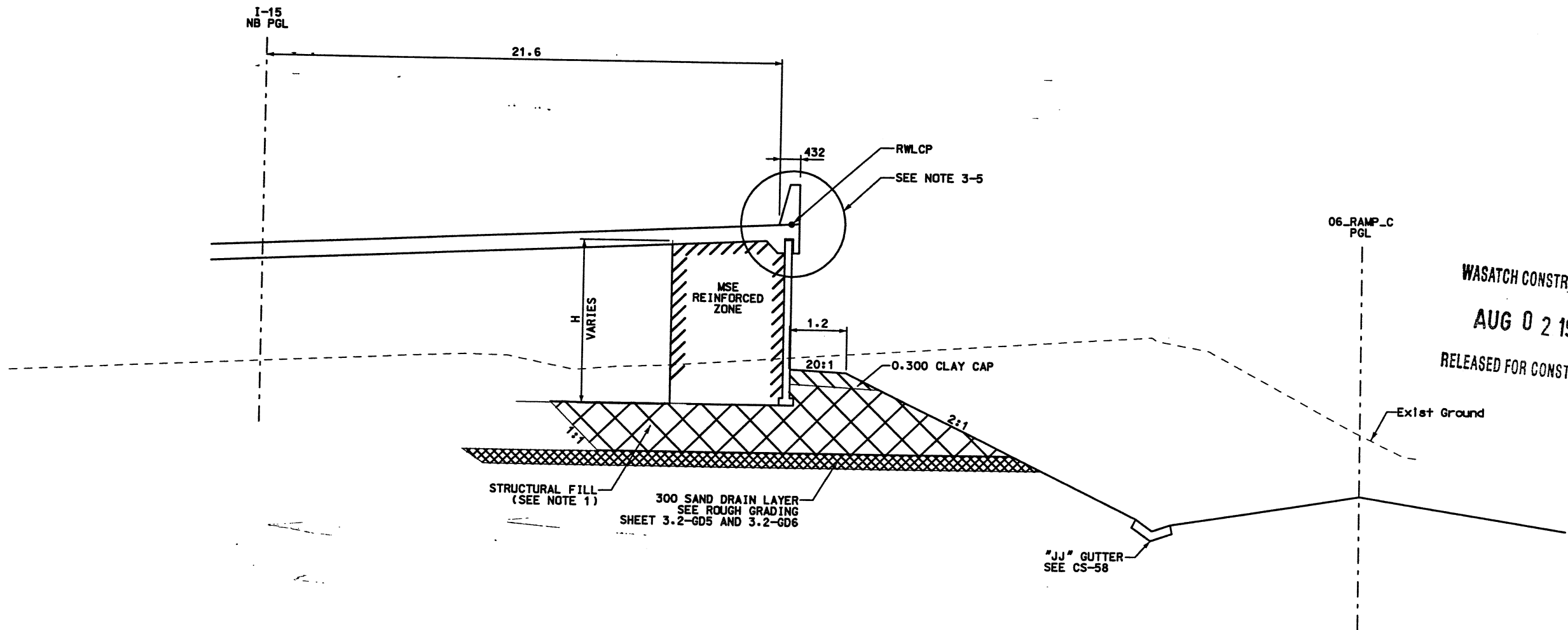
WALL R-351-11
 VIEW IS FRONT FACE OF WALL

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE		
Δ	06/18/99	RELEASE WALL FOR STAGE 1 CONSTRUCTION ONLY	
Δ	7/21/99	REVISED ALIGNMENT, MDC-032.4	
UTAH DEPARTMENT OF TRANSPORTATION			
SVERDRUP/DE LEUW		3213417	
DESIGN	PLC	CHECK	MC
06/18/99	06/18/99	06/18/99	06/18/99
DATE	DATE	DATE	DATE
MARVIN COOK	PROJECT DESIGN ENGINEER	CHECK	MC
06/18/99	06/18/99	06/18/99	06/18/99
DATE	DATE	DATE	DATE
APPROVED	06/18/99	KEITH SABOL	SECTION MANAGER
DATE	DATE	DATE	DATE
I-15 CORRIDOR RECONSTRUCTION			
SITUATION & LAYOUT			
SECTION 3.2			
PROJECT NUMBER #SP-15-7(135)296			
SALT LAKE COUNTY			
DWG. NO. 3.2-R351-11.1			
SHT. 1		OF 9	

WASATCH CONSTRUCTORS
 AUG 02 1999
 RELEASED FOR CONSTRUCTION



SEALED FOR THE NO. OF SUBMITTAL ONLY.



RETAINING WALL DETAILS
NTS

WALL R-351-11
1 STAGE MSE

NOTES:

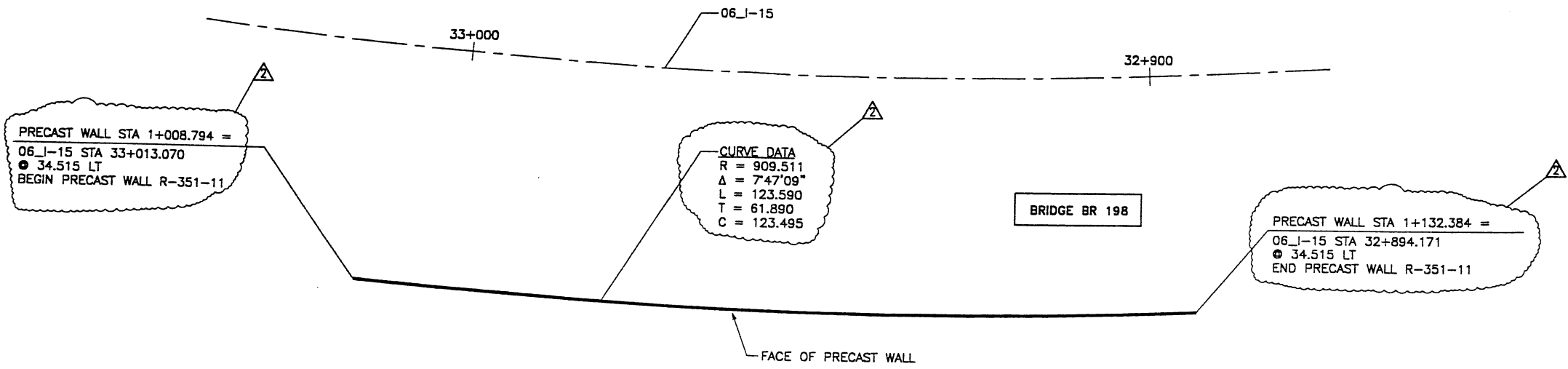
- 1) OVEREXCAVATE EXISTING SOILS AS REQUIRED. REFILL EXCAVATION WITH STRUCTURAL FILL.
- 2) CONSTRUCT CLAY CAP WITH LOW PLASTIC SILTY CLAY (0.3m THICK).
- 3) COPING DETAILS FOR STA 1+008.794 TO STA 1+123.328 SEE CORRIDOR STANDARD CS-28-1
- 4) COPING DETAILS FOR STA 1+123.328 TO STA 1+123.866 SEE CORRIDOR STANDARD CS-54-4
- 5) COPING DETAILS FOR STA 1+123.866 TO STA 1+128.226 SEE CORRIDOR STANDARD CS-54-4
- 6) COPING DETAILS FOR STA 1+128.226 TO STA 1+132.384 SEE CORRIDOR STANDARD CS-54-4
- 7) FOR MOMENT SLAB DETAILS SEE CS-28.
- 8) FOR CONDUIT CROSSING AT I-15 STA 32+910.000 REFER TO CS-179.

WASATCH CONSTRUCTORS
AUG 02 1999
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE		
1	06/23/98	RELEASE WALL FOR STAGE 1 CONSTRUCTION ONLY	
2	7/21/99	REVISED STATIONS. MDC- 0324	
UTAH DEPARTMENT OF TRANSPORTATION		SVERDRUP/DE LEUW	
I-15 CORRIDOR RECONSTRUCTION		DESIGN PLC	CHECK MC
TYPICAL SECTION		DRAWN SVD	CHECK MC
SECTION 3.2		QUANT.	CHECK
PROJECT NUMBER #SP-15-7(135)296		DATE	DATE
SALT LAKE COUNTY		SECTION MANAGER	SECTION MANAGER
DWG. NO. 3.2-R351-11.2		DATE	DATE
SHT. 2 OF 9		QUANT.	QUANT.

XREF: 03-06-00 (X-UTAH.DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	06-08-98	RELEASE FOR CONSTRUCTION
2	05-05-00	REVISED WALL LAYOUT <i>zf</i>



- GENERAL NOTES**
- ALL WALLS ARE SHOWN FRONT FACE. NOTE STATIONING.
 - PANEL TYPE IS DESIGNATED ON EACH PANEL. CONNECTOR LABELS INDICATE NUMBER OF CONNECTORS PER ROW.
EXAMPLE: 5B2-10 IS A "B2-10" PANEL WITH FIVE (5) CONNECTORS PER ROW. IF NO CONNECTORS ARE SHOWN, FOUR (4) CONNECTOR PANELS SHALL BE USED.
 - SOIL REINFORCING MESH TYPE IS DESIGNATED ON EACH PANEL. MESH LABELS INDICATE WIRE SIZE AND SPACING. LONGITUDINAL WIRE AND CROSSBAR SIZES ARE THE SAME UNLESS NOTED OTHERWISE:
EXAMPLE: 4W11-6 MESH HAS FOUR (4) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 6" CENTERS.
EXAMPLE: 6W11-6 MESH HAS SIX (6) W11 LONGITUDINAL WIRES WITH W11 CROSSBARS AT 6" CENTERS.
EXAMPLE: 4W15-12 MESH HAS FOUR (4) W15 LONGITUDINAL WIRES WITH W15 CROSSBARS AT 12" CENTERS.
EXAMPLE: 5W15-24 MESH HAS FIVE (5) W15 LONGITUDINAL WIRES WITH W15 CROSSBARS AT 24" CENTERS.
EXAMPLE: 4W20-24 MESH HAS FOUR (4) W20 LONGITUDINAL WIRES WITH W24 CROSSBARS AT 12" CENTERS.
 - SEE RETAINED EARTH INSTALLATION MANUAL FOR PROPER WALL ERECTION PROCEDURES AND GUIDELINES.
 - CONSTRUCTION PROCEDURES SHALL PREVENT BACKFILL SATURATION AND PONDING.
 - HEAVY EQUIPMENT SHALL NOT BE USED WITHIN ONE METER OF THE BACK OF THE RETAINED EARTH PANELS. HAND COMPACTORS SHALL BE USED IN THIS AREA.
 - CARE SHALL BE TAKEN TO PREVENT DAMAGE TO GALVANIZING. DAMAGED GALVANIZING SHALL BE COATED WITH ZINC RICH PAINT.
 - BEARING PADS AND FILTER FABRIC ARE NOT REQUIRED BETWEEN THE LEVELING PAD AND THE FIRST ROW OF PANELS. TEMPORARY WEDGES MAY BE USED TO PROVIDE PROPER ALIGNMENT.
 - VSL RETAINED EARTH IS PROTECTED UNDER U.S. PATENT 4,725,170.
 - ALL PANELS SHALL HAVE AN ARCHITECTURAL FINISH, SEE VSL STANDARD SHEET STD-7 FOR DETAIL.

PLAN VIEW WALL "R-351-11"

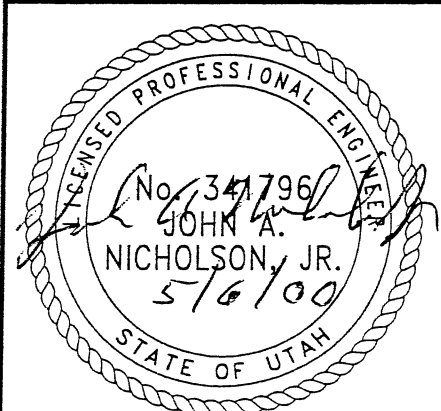
SCALE: 1=400 (FULL SIZE)
SCALE: 1=800 (HALF SIZE)

DESIGN PARAMETERS
ANGLE OF INTERNAL FRICTION (SELECT) = 34°
ANGLE OF INTERNAL FRICTION (BASE) = 34°
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°
UNIT WEIGHT BACKFILL = 135 PCF = 21.20 KN/M ³
TRAFFIC SURCHARGE = 250 PSF = 12 KPa
SEISMIC ACCELERATION COFF. = 0.27g (10% IN 50 YEARS)
SEISMIC ACCELERATION COFF. = 0.68g (AT BRIDGE ABUTMENTS 10% IN 250 YEARS)
DESIGN CRITERIA
SAFETY FACTOR (OVERTURNING) = 2.0
SAFETY FACTOR (SLIDING) = 1.5
SAFETY FACTOR (PULLOUT) = 1.5
DESIGN LIFE = 75 YEARS
MIN. 28 DAY PRECAST CONCRETE STRENGTH = 20,700 kPa

RETAINED EARTH INDEX
RE-1 PLAN PRECAST FACE WALL R-351-11, NOTES & DESIGN CRITERIA
RE-2 TYPICAL CROSS SECTIONS
RE-3 TYPICAL CROSS SECTIONS
RE-4 ELEVATION PRECAST WALL "R-351-11"
RE-5 ELEVATION PRECAST WALL "R-351-11"
RE-6 SPECIAL PANEL DETAILS

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS TO BE VERIFIED BY OTHERS. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
 JUL 05 2000
 RELEASED FOR CONSTRUCTION

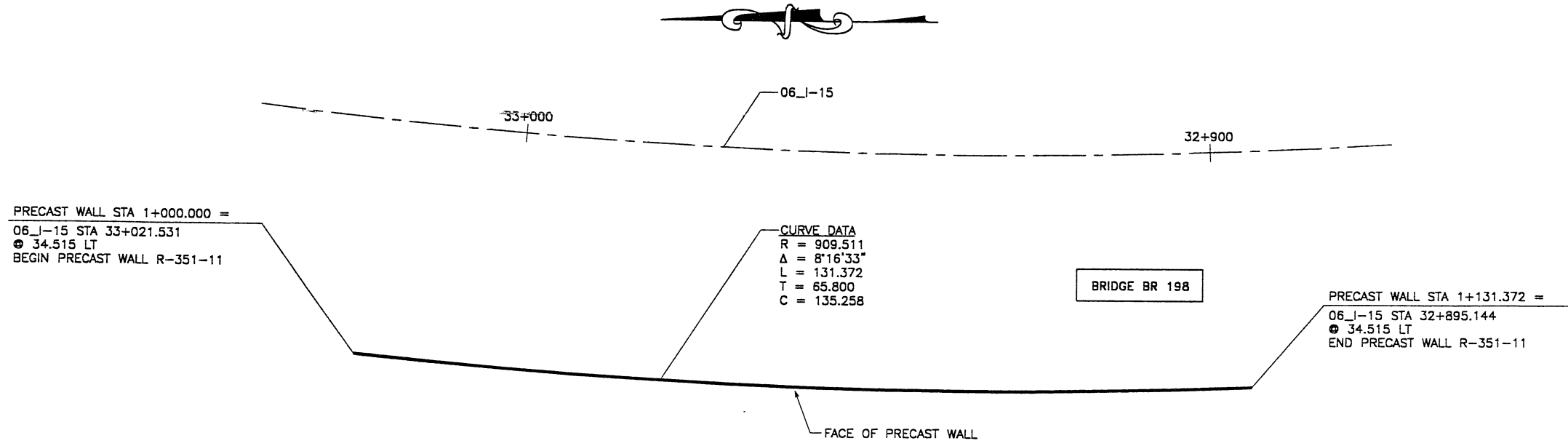
 VSL CORPORATION 2840 Plaza Place, Suite 700 Raleigh, NC 27612 Telephone: (919) 781-8272 Fax: (919) 781-4969	DES.	03-05-00	JN	RETAINED EARTH™ 	NO.		DATE		BY	CHK	
	DRN.	03-05-00	DSW								
	CHK.	03-05-00	JN								
UTAH 1-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.											
DWG. NO. 3.2-R-351-11.3											
JOB NO. 239-0007											
SHEET NO. RE-1											

RFC After Final Approval

FINAL PLOT 03-06-00

H:\RE_EARTH\APR 04-27-98 04-27-98 }-0007\1998\6S-WALLS\6S-11\RE-1

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲ 06-08-98		RELEASE FOR CONSTRUCTION



GENERAL NOTES

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- PANEL TYPE IS DESIGNATED ON EACH PANEL. CONNECTOR LABELS INDICATE NUMBER OF CONNECTORS PER ROW.
 EXAMPLE: 5B2-10 IS A "B2-10" PANEL WITH FIVE (5) CONNECTORS PER ROW.
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 EXAMPLE: 4W20-24 MESH HAS FOUR (4) W20 LONGITUDINAL WIRES WITH W24 CROSSBARS AT 12" CENTERS.
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- BEARING PADS AND FILTER FABRIC ARE NOT REQUIRED BETWEEN THE LEVELING PAD AND THE FIRST ROW OF PANELS. TEMPORARY WEDGES MAY BE USED TO PROVIDE PROPER ALIGNMENT.
- VSL RETAINED EARTH IS PROTECTED UNDER U.S. PATENT 4,725,170.
- ALL PANELS SHALL HAVE AN ARCHITECTURAL FINISH, SEE VSL STANDARD SHEET STD-7 FOR DETAIL.

PLAN VIEW WALL "R-351-11"

SCALE: 1=400 (FULL SIZE)
 SCALE: 1=800 (HALF SIZE)

DESIGN PARAMETERS
ANGLE OF INTERNAL FRICTION (SELECT) = 34°
ANGLE OF INTERNAL FRICTION (BASE) = 34°
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°
UNIT WEIGHT BACKFILL = 135 PCF = 21.20 KN/M ³
TRAFFIC SURCHARGE = 250 PSF = 12 KPa
SEISMIC ACCELERATION COFF. = 0.27g (10% IN 50 YEARS)
SEISMIC ACCELERATION COFF. = 0.68g (AT BRIDGE ABUTMENTS 10% IN 250 YEARS)

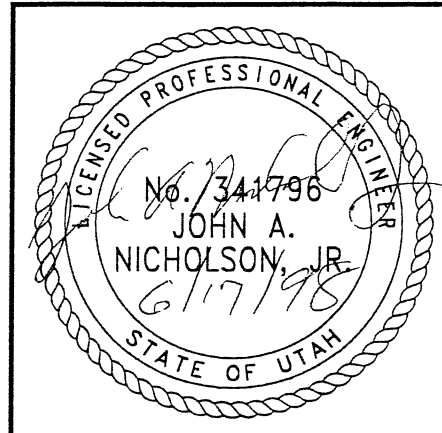
DESIGN CRITERIA
SAFETY FACTOR (OVERTURNING) = 2.0
SAFETY FACTOR (SLIDING) = 1.5
SAFETY FACTOR (PULLOUT) = 1.5
DESIGN LIFE = 75 YEARS

RETAINED EARTH INDEX	
RE-1	PLAN PRECAST FACE WALL R-351-11, NOTES & DESIGN CRITERIA
RE-2	TYPICAL CROSS SECTIONS
RE-3	TYPICAL CROSS SECTIONS
RE-4	ELEVATION PRECAST WALL "R-351-11"
RE-5	ELEVATION PRECAST WALL "R-351-11"
RE-6	SPECIAL PANEL DETAILS
RE-7	SPECIAL PANEL DETAILS

WASATCH CONSTRUCTORS

JUN 30 1998

RELEASED FOR CONSTRUCTION



METRIC
 CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

NO.	DATE	DESCRIPTION	BY	CHK

D.S.	JL	04-27-98	RETAINED EARTH™
DRN.	JHU	04-27-98	
CHK.	JL	04-27-98	

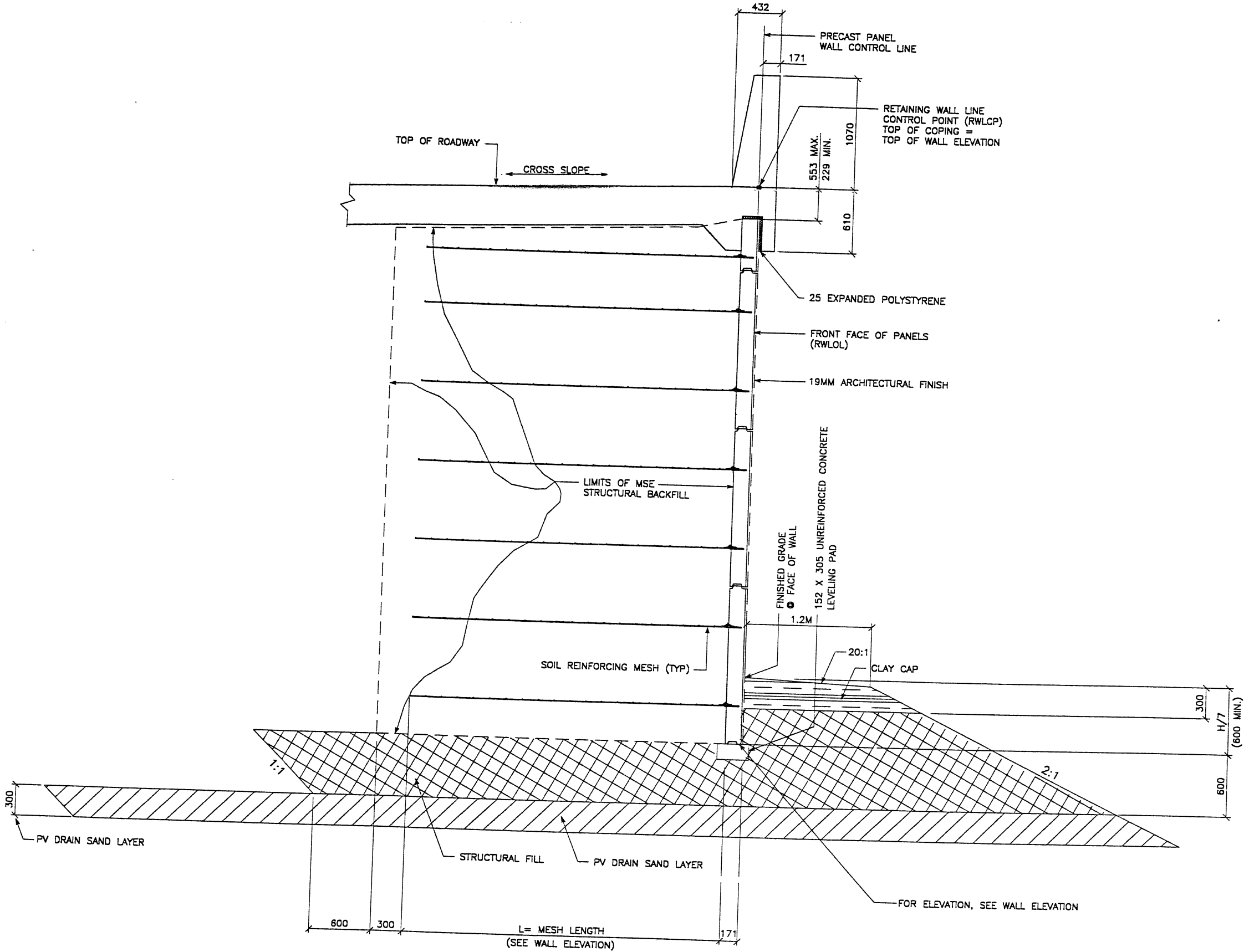
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-6272
 Fax: (919) 781-4969

VSL
 ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 WASHINGTON, DC / SAN JOSE, CA / SPRINGFIELD, VA

RETAINED EARTH™ WALLS
 PLAN VIEW PRECAST WALL "R-351-11"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2-R-351-11.3
JOB NO.	239-0007
SHEET NO.	RE-1

H:\RE_EARTH\PROJECT\239-0007\1998\...
 CT 04-27-98
 F.



TYPICAL CROSS SECTION - STA 1+000.000 TO 1+125.659
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

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METRIC

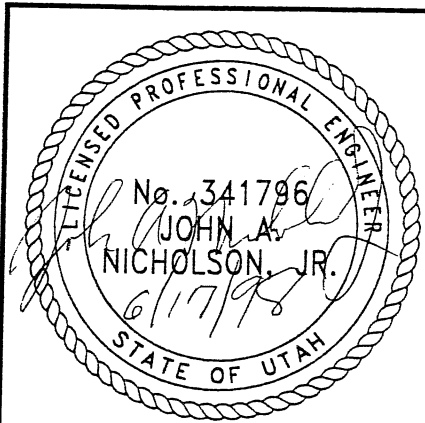
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	06-08-98	RELEASE FOR CONSTRUCTION <i>OK</i>

DES.	CHK.	DATE	NO.	DATE	REVISION
JL	JL	04-27-98			
JHU	JHU	04-27-98			
JL	JL	04-27-98			

VSL CORPORATION
 2610 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 981-8272
 Fax: (919) 981-4869

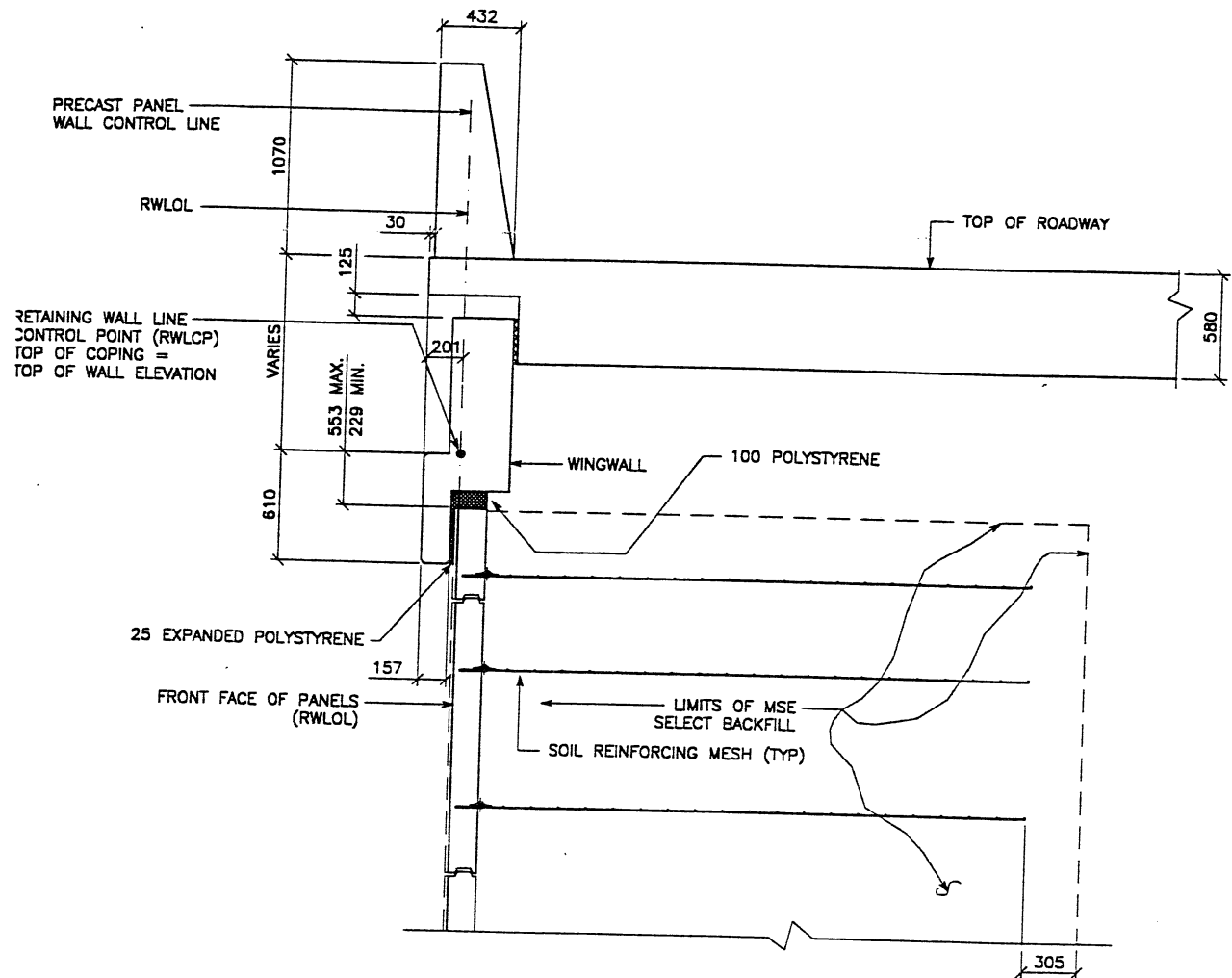
ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MAAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

WASATCH CONSTRUCTORS
 JUN 30 1998
 RELEASED FOR CONSTRUCTION



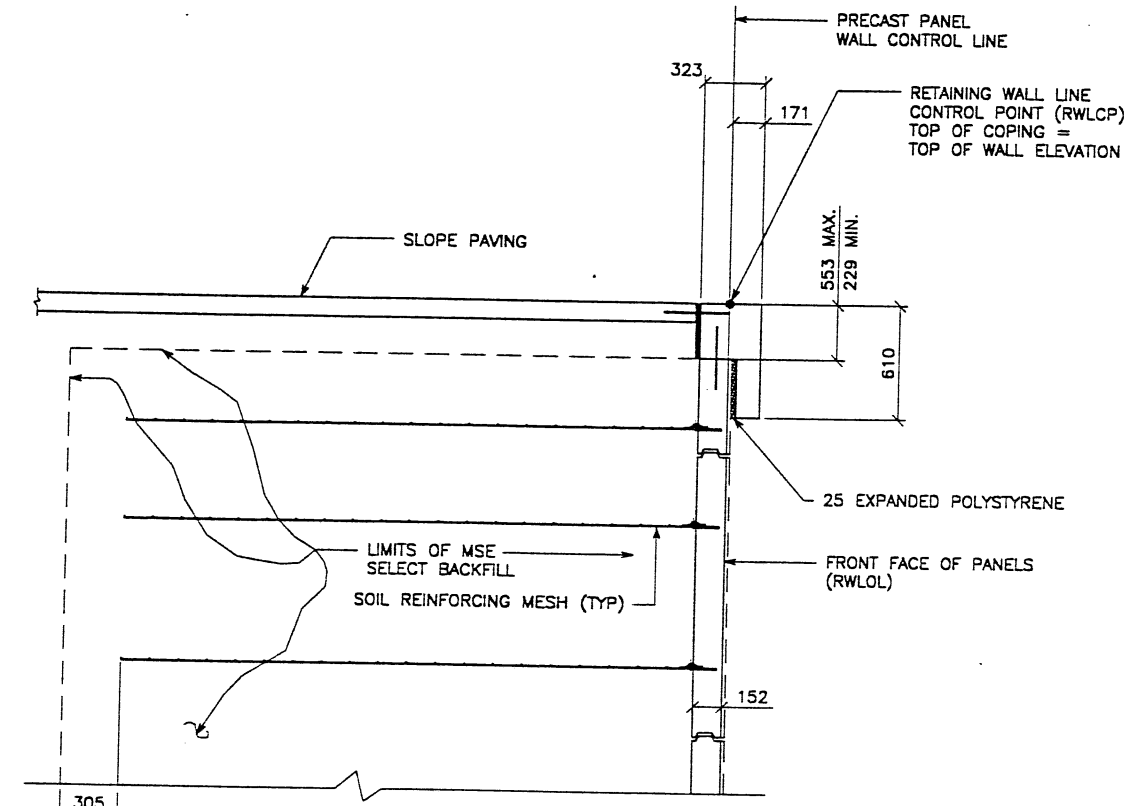
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-351-11"
 TYPICAL CROSS SECTION
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2-R-351-11.4
JOB NO.	239-0007
SHT. NO.	RE-2



TYPICAL CROSS SECTION W/WINGWALL - STA 1+125.659 TO 1+127.159
(SEE DWG. NO. 3.2-R-351-11.2 FOR ADDITIONAL INFORMATION)

SCALE: 1:20 (FULL SIZE)
SCALE: 1:40 (HALF SIZE)



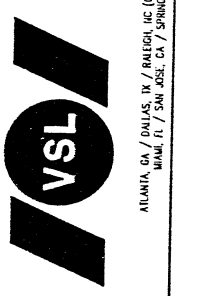
TYPICAL CROSS SECTION - STA 1+127.159 TO 1+131.372
(SEE DWG. NO. 3.2-R-351-11.2 FOR ADDITIONAL INFORMATION)

SCALE: 1:20 (FULL SIZE)
SCALE: 1:40 (HALF SIZE)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
▲	06-08-98	RELEASE FOR CONSTRUCTION <i>d</i>

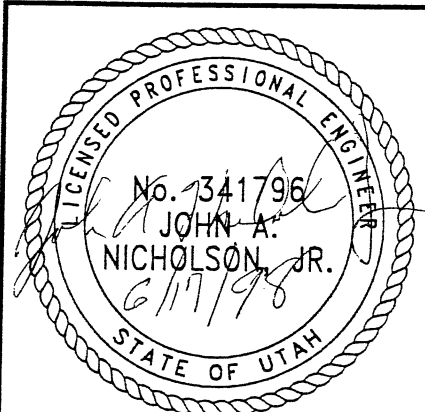
NO.	DATE	REVISION

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781 6272
Fax: (919) 781 4969



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WASATCH CONSTRUCTORS
JUN 30 1998
RELEASED FOR CONSTRUCTION



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METRIC

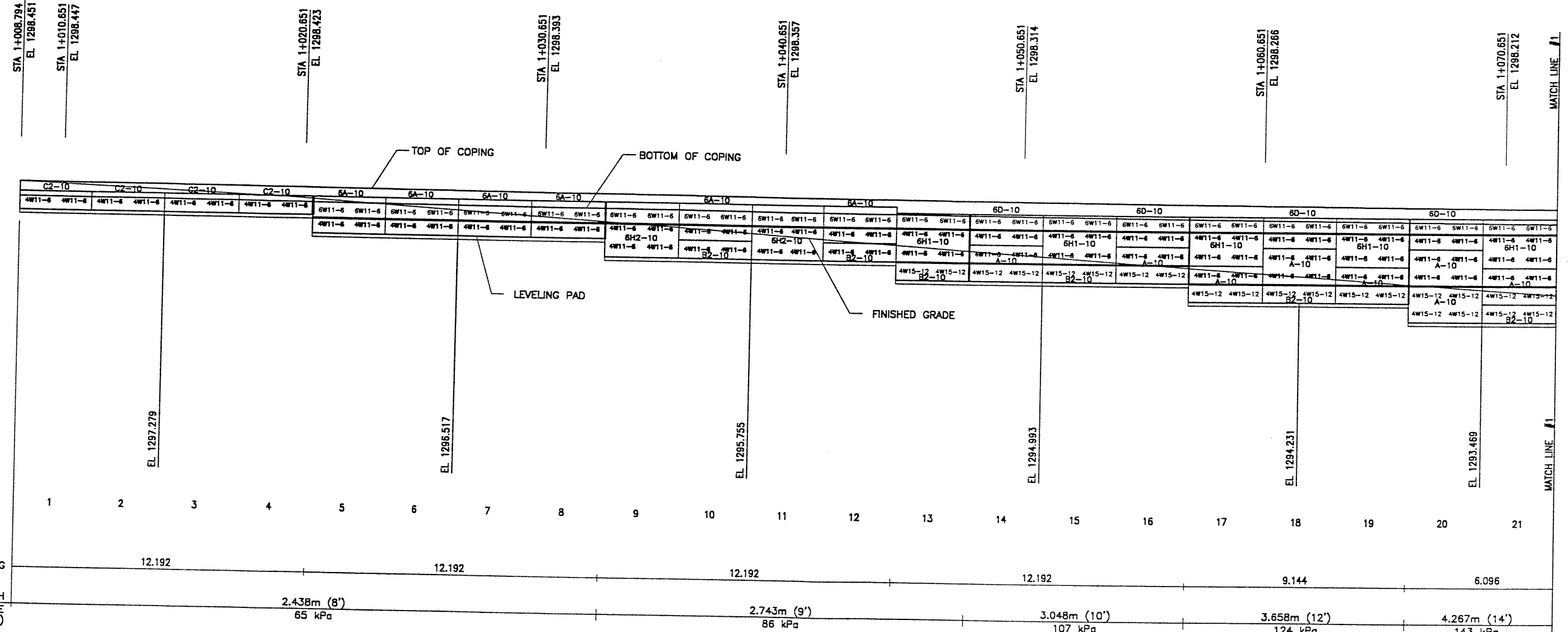
RETAINED EARTH™ WALLS WIRE FACED WALL "R-351-11" TYPICAL CROSS SECTION
UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 3.2-R-351-11.5
JOB NO. 239-0007
SHT. NO. RE-3

XREFERENCE (X-UTAH.DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	06-08-98	RELEASE FOR CONSTRUCTION
△	05-05-00	REVISED WALL LAYOUT <i>JH</i>

BEGIN WALL R-351-11
 PRECAST WALL STA 1+008.794 =
 06-J-15 STA 334013.070
 @ 34.515 LT
 NOMINAL PANEL FACE (R.W.L.D.)

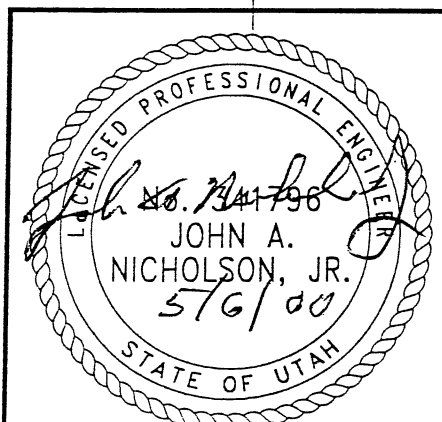
REVISED ENTIRE SHEET



ELEVATION PRECAST WALL R-351-11
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 456.29 SM)

SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS
 JUL 05 2000
 RELEASED FOR CONSTRUCTION



NOTE:
 THE INDICATED MAXIMUM BEARING
 PRESSURE AT FINAL STAGE FOR
 STATIC LOAD CONDITION.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS TO BE VERIFIED BY OTHERS. DESIGN IS BASED ON THE
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RETAINED EARTH™ WALLS
 ELEVATION PRECAST WALL "R-351-11"

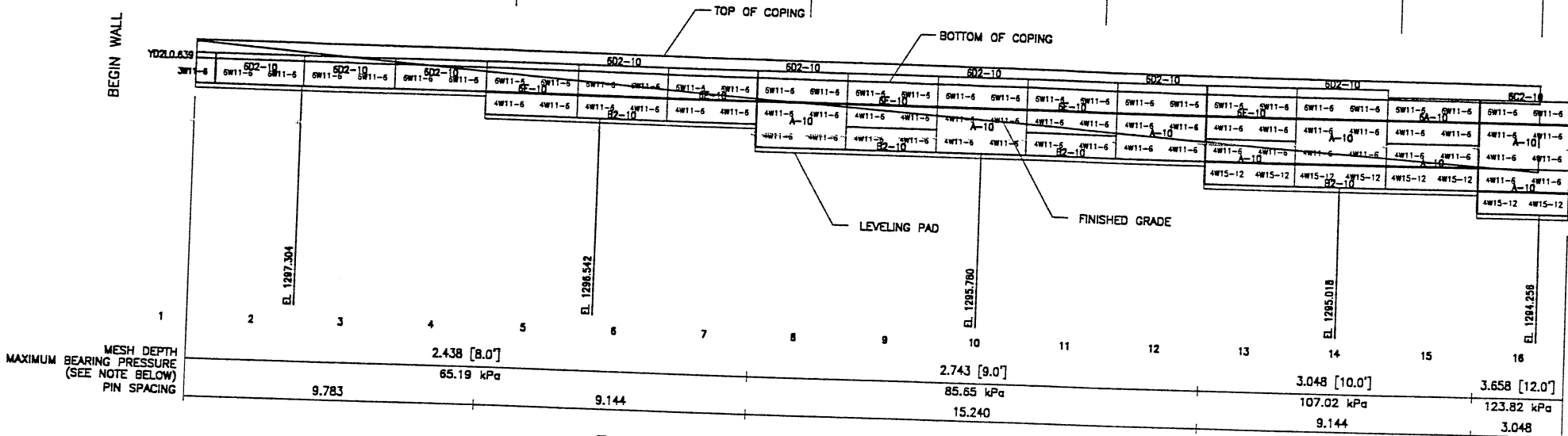
UTAH 1-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2-R-351-11.6
JOB NO.	239-0007
SHEET NO.	RE-4

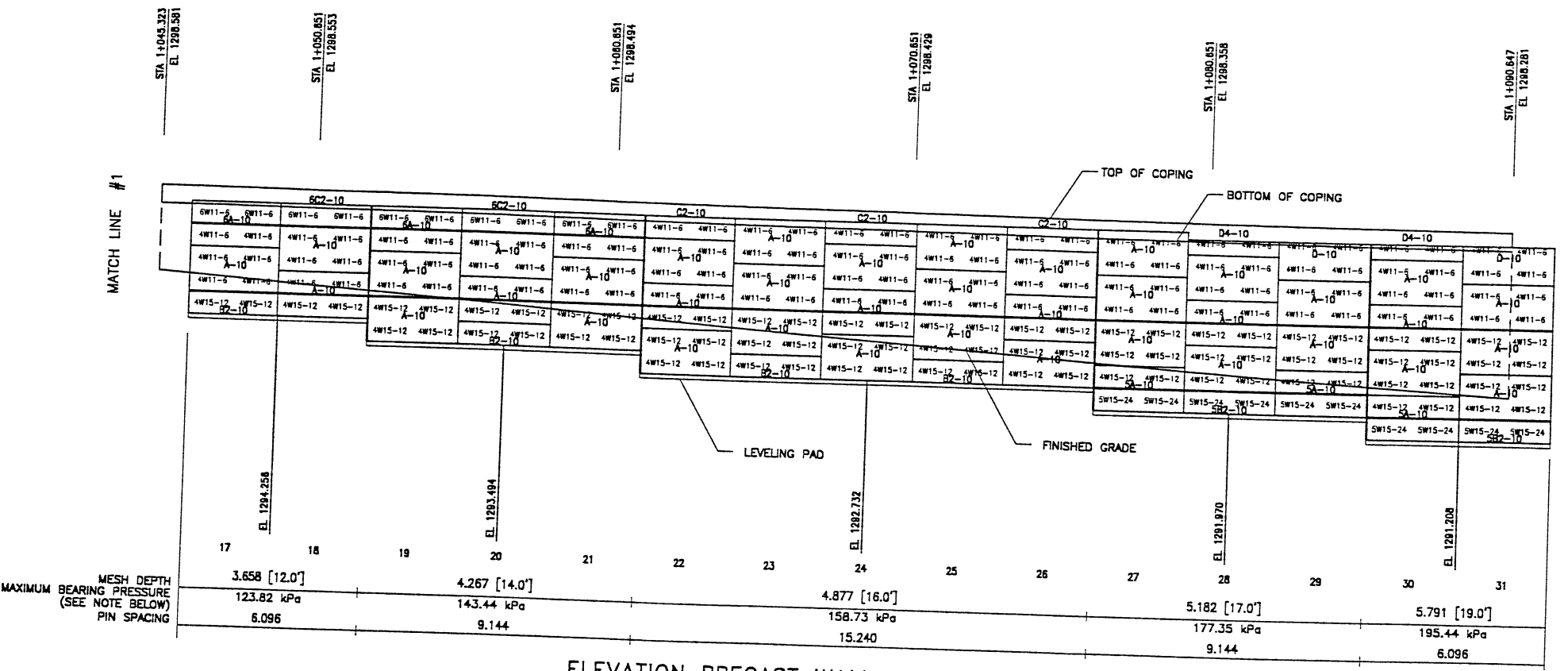
DES.	NO.	DATE	REVISION
JUN	03-05-00		
DSW	03-05-00		
JUN	03-05-00		

RFC After Final Approval

BEGIN WALL R-351-11
 PRECAST WALL STA 1+000.000 =
 0+15 STA 33+021.531
 @ 34.515 LT
 NOMINAL PANEL FACE (RWLOL)



ELEVATION PRECAST WALL R-351-11
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 605.43 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)



ELEVATION PRECAST WALL R-351-11
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 605.43 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

NOTE:
 THE INDICATED MAXIMUM BEARING PRESSURE AT FINAL STAGE FOR STATIC LOAD CONDITION.

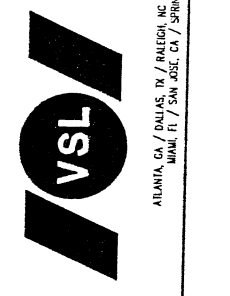
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METRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	06-08-98	RELEASE FOR CONSTRUCTION

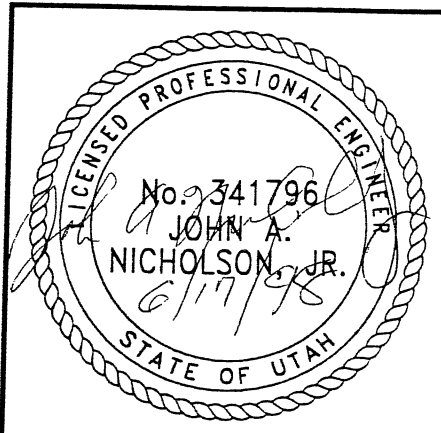
DES.	DRN.	CHK.	RETAINED EARTH™	NO.	DATE	REVISION	BY	CHK.
JL	JL	JL						
JL	JL	JL						

VSL CORPORATION
 2840 Plano Place, Suite 200
 Raleigh, NC 27612
 Telephone (919) 781-8272
 Fax (919) 781-4889



WASATCH CONSTRUCTORS
 JUN 30 1998
 RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
 ELEVATION PRECAST WALL "R-351-11"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

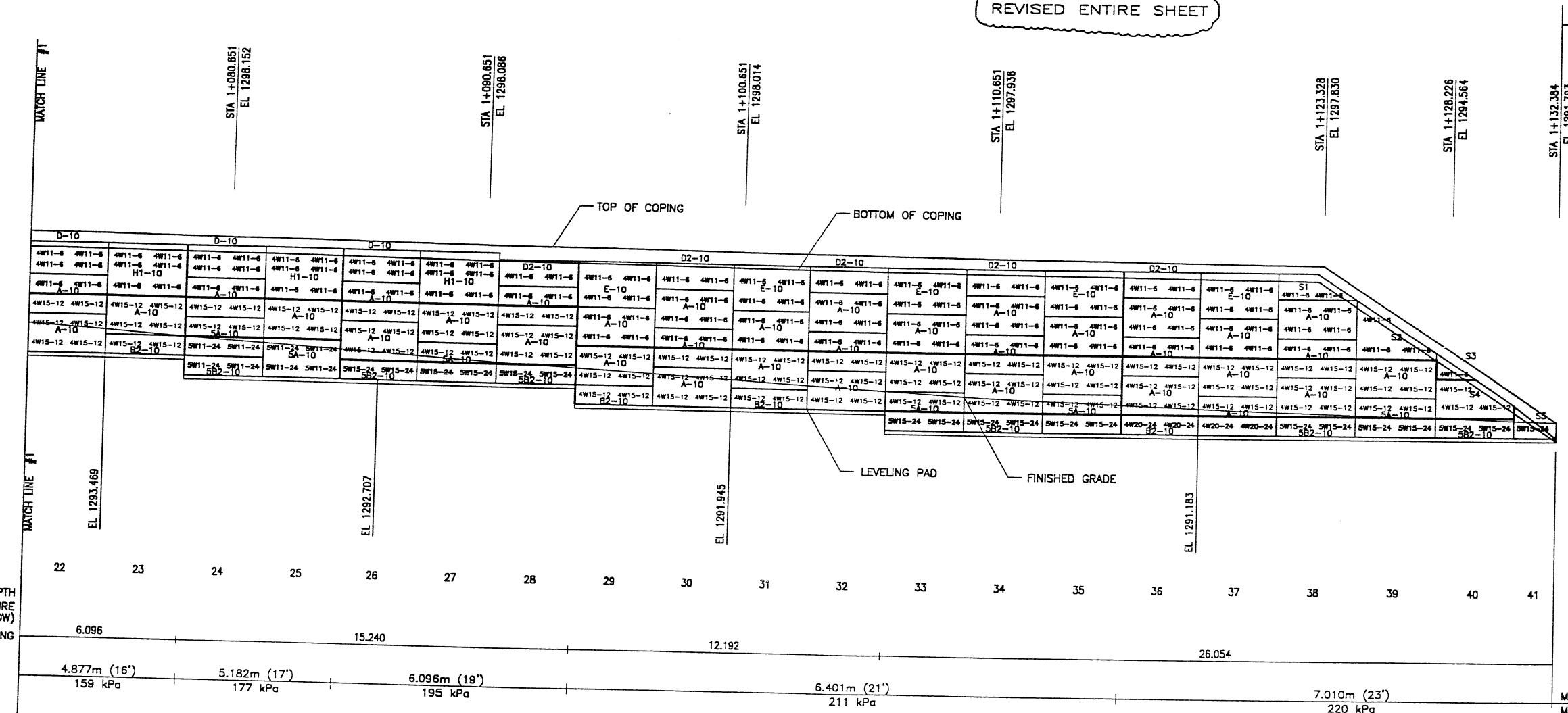


DWG. NO.	3.2-R-351-11.6
JOB NO.	239-0007
SHT. NO.	RE-4

REFERENCE (X-UTM:DWG)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	06-08-98	RELEASE FOR CONSTRUCTION
2	05-05-00	REVISED WALL LAYOUT <i>ZH</i>

REVISED ENTIRE SHEET



MESH DEPTH
MAXIMUM BEARING PRESSURE
(SEE NOTE BELOW)
PIN SPACING

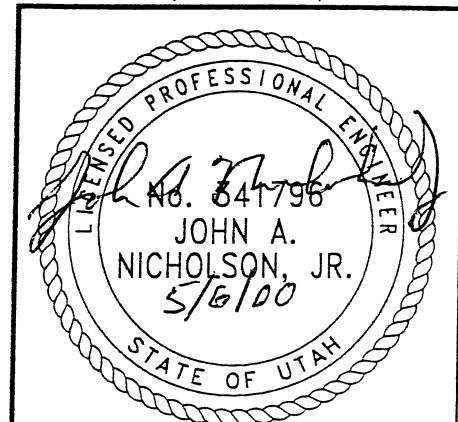
22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
6.096				15.240					12.192							26.054			
4.877m (16')		5.182m (17')		6.096m (19')					6.401m (21')							7.010m (23')			
159 kPa		177 kPa		195 kPa					211 kPa							220 kPa			

ELEVATION PRECAST WALL R-351-11
(FRONT FACE SHOWN)
(TOTAL SURFACE AREA OF PANELS = 456.29 SM)
SCALE 1:100 (FULL SIZE)
SCALE 1:200 (HALF SIZE)

NOTE:
THE INDICATED MAXIMUM BEARING
PRESSURE AT FINAL STAGE FOR
STATIC LOAD CONDITION.

METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
STABILITY, IS TO BE VERIFIED BY OTHERS. DESIGN IS BASED ON THE
ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
JUL 05 2000
RELEASED FOR CONSTRUCTION

RETAINED EARTH™ WALLS
ELEVATION PRECAST WALL "R-351-11"
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2-R-351-11.7
JOB NO.	239-0007
SHT NO.	RE-5

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-8272
Fax: (919) 781-4869



ATLANTA, GA / DALLAS, TX / BALDEA, NC (CORPORATE OFFICE)
MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

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DES.	03-05-00	JN
DRN.	03-05-00	DSW
CHK.	03-05-00	JN

RETAINED EARTH™

NO.	DATE	REVISION
-----	------	----------

CHK

REVISION

NO.

DATE

BY

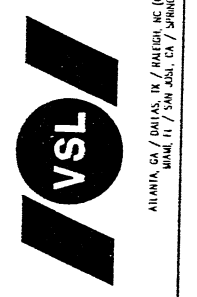
FINAL PLOT 03-06-00

RFC After Final Approval

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	06-08-98	RELEASE FOR CONSTRUCTION

NO.	DATE	REVISION

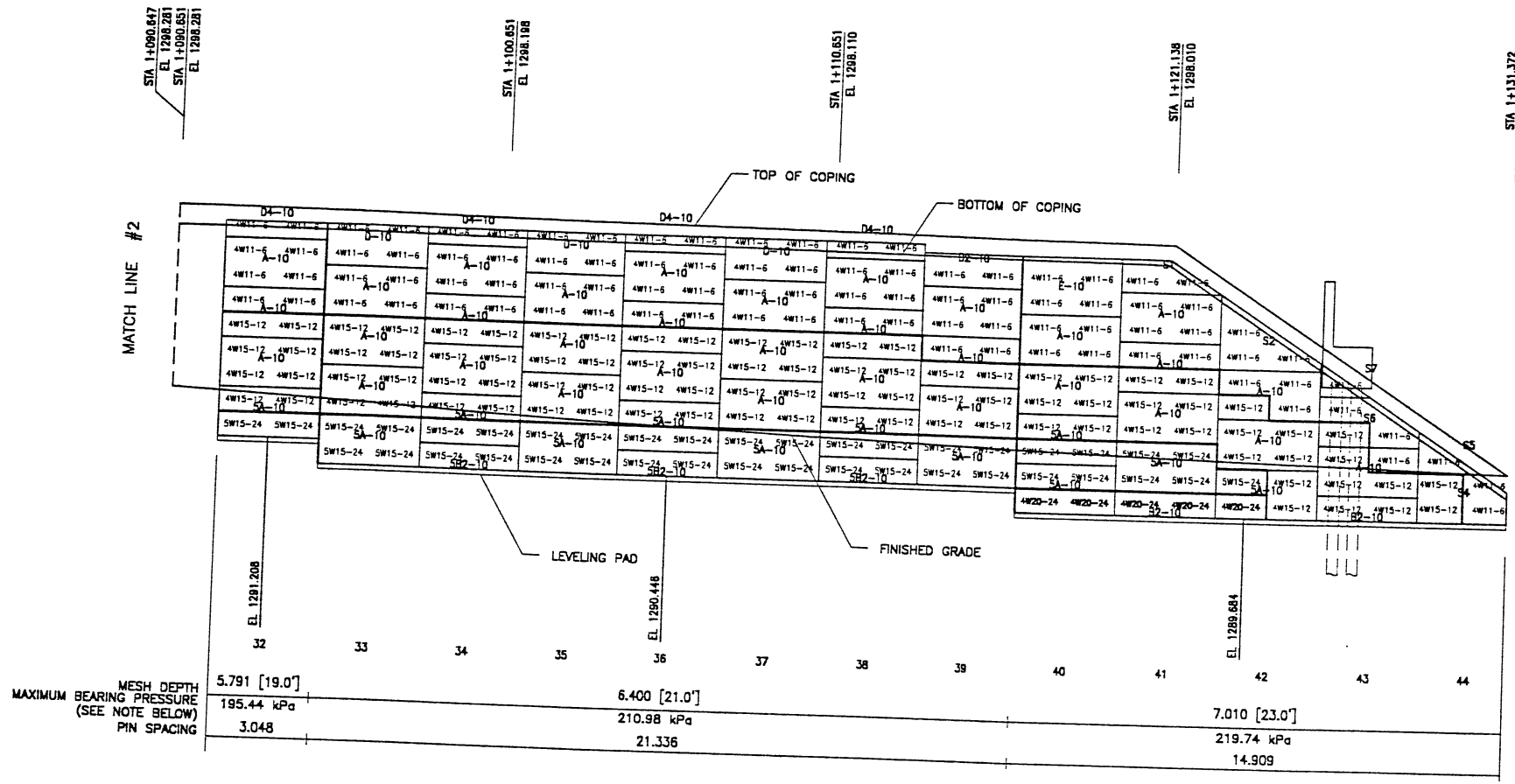
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 DRN: 04-27-98 JHU
 CHK: 04-27-98 JLL



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RETAINED EARTH™ WALLS
 ELEVATION PRECAST WALL "R-351-11"
 UTAH I-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2-R-351-11.7
JOB NO.	239-0007
SHT. NO.	RE-5

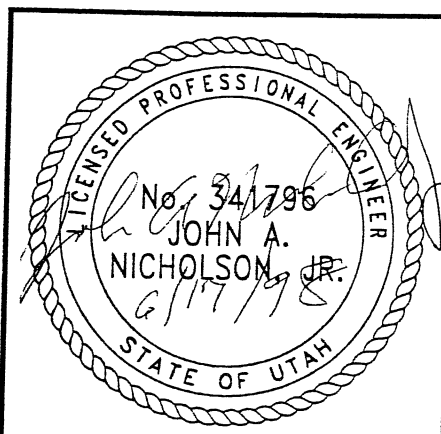


ELEVATION PRECAST WALL R-351-11
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF PANELS = 605.43 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

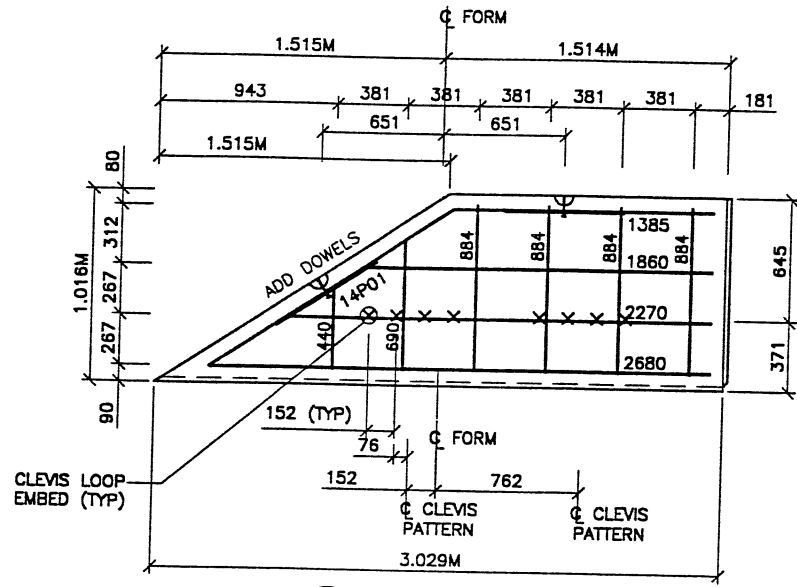
NOTE:
 THE INDICATED MAXIMUM BEARING
 PRESSURE AT FINAL STAGE FOR
 STATIC LOAD CONDITION.

METRIC

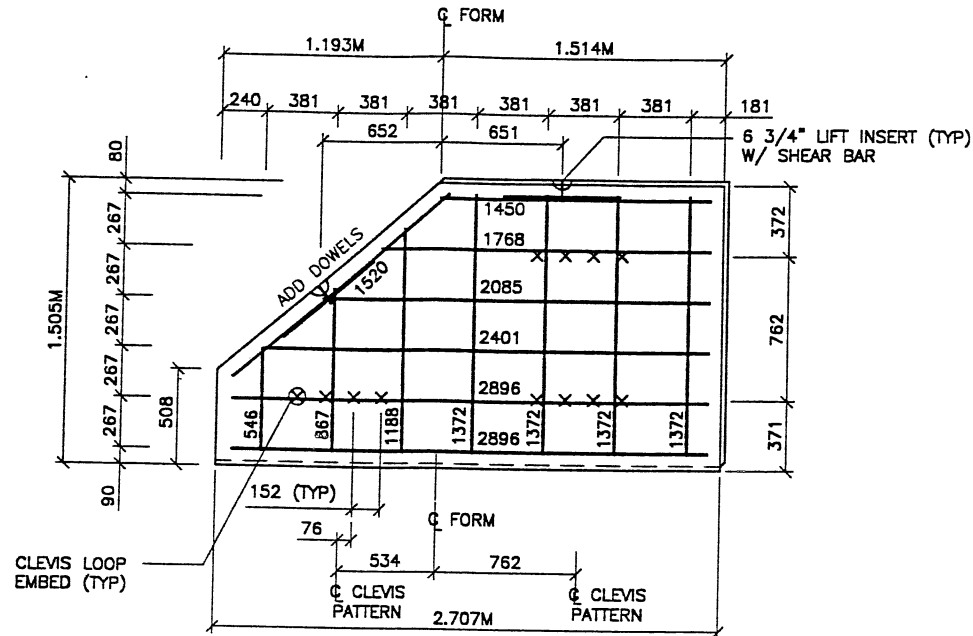
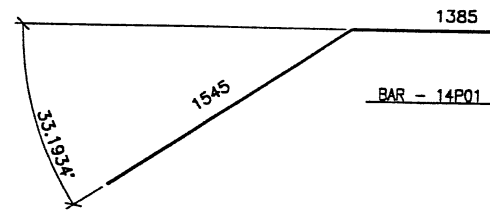
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



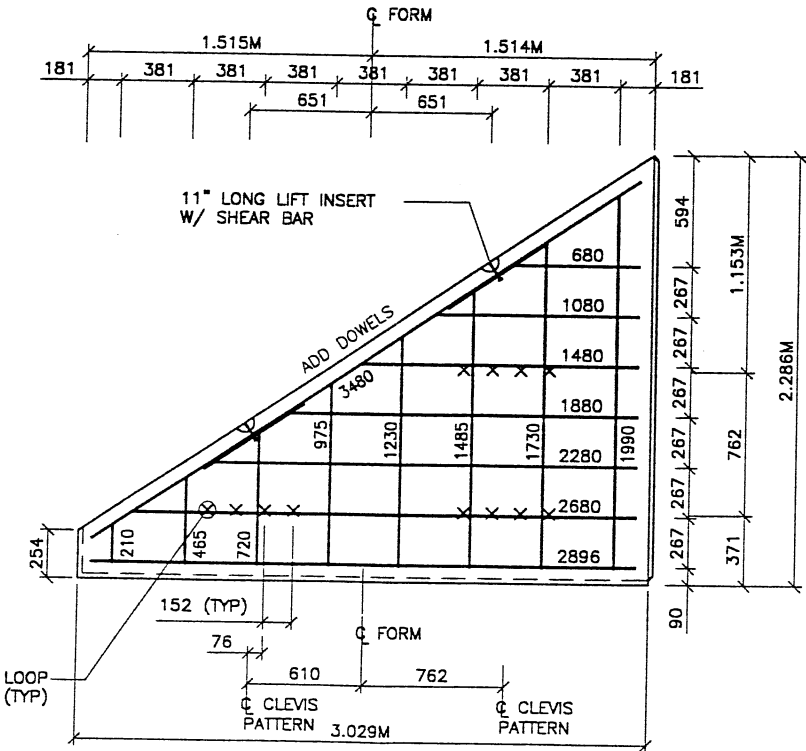
WASATCH CONSTRUCTORS
 JUN 30 1998
 RELEASED FOR CONSTRUCTION



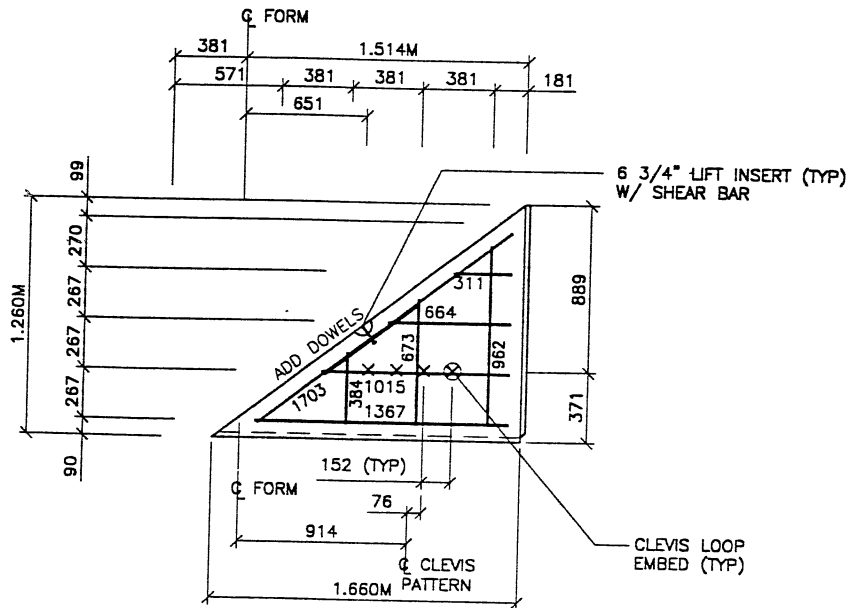
S1 TYPE S1 REBAR
(AREA = 2.30 SQ.M)



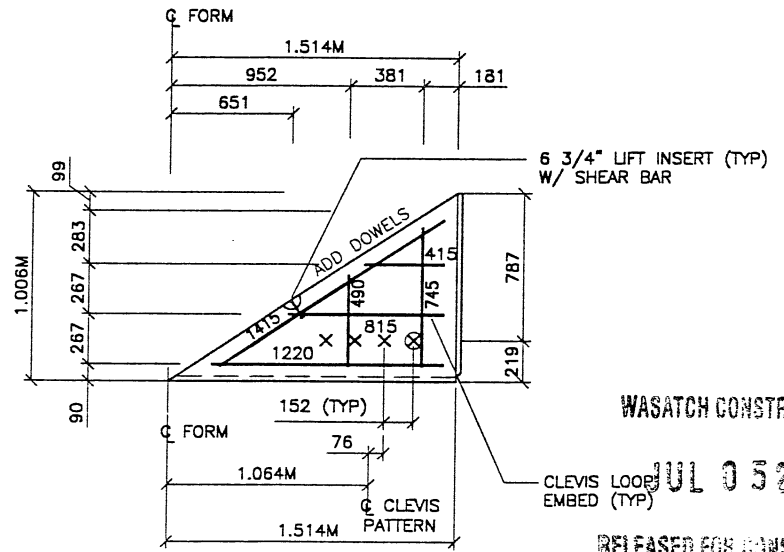
S4 TYPE S4 REBAR
(AREA = 3.871 SQ.M)



S2 TYPE S2 REBAR
(AREA = 3.87 SQ.M)



S5 TYPE S5 REBAR
(AREA = 1.060 SQ.M)



S3 TYPE S3 REBAR
(AREA = .77 SQ.M)

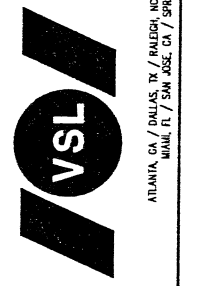
APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	06-08-98	RELEASE FOR CONSTRUCTION
△	05-05-00	REVISED SPECIAL PANELS

REVISED ENTIRE SHEET

- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 25,200 KPa.
 - EQUVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm# CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.
 - SEE FOSTER GEOTECHNICAL STD. PLANS FOR ADD'L PANEL DETAILS.

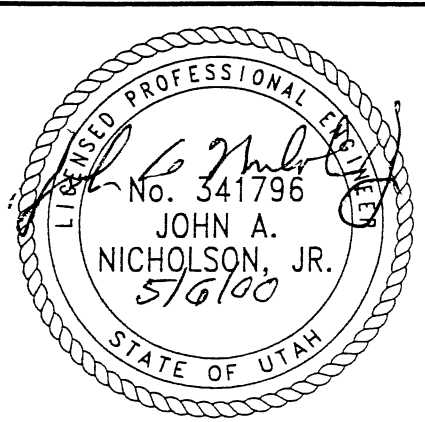
NO.	DATE	DESCRIPTION

VSL CORPORATION
2600 Plaza Place, Suite 200
Raleigh, NC 27612
Telephone: (919) 781-6272
Fax: (919) 781-6819



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WASATCH CONSTRUCTORS
JUL 05 2000
RELEASED FOR CONSTRUCTION



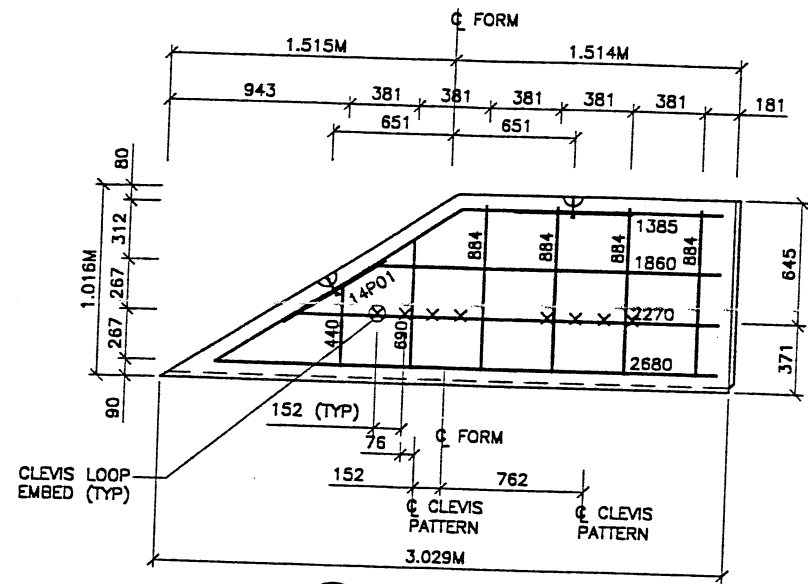
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS TO BE VERIFIED BY OTHERS. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

METRIC

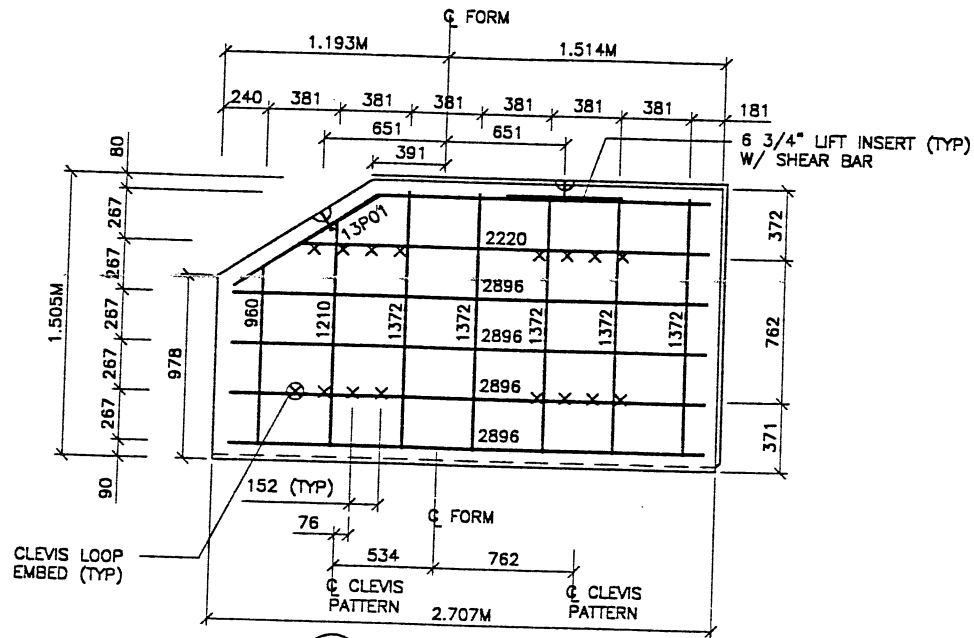
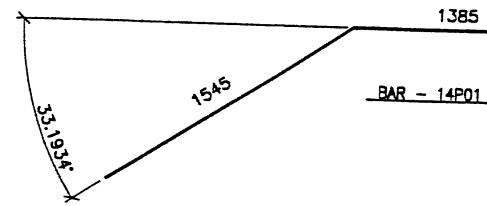
RETAINED EARTH™ WALLS
PRECAST WALL "R-351-11"
SPECIAL PANEL DETAILS
UTAH I-15 RECONSTRUCTION
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO. 3.2-R-351-11.8
JOB NO. 239-0007
Sheet No. RE-6

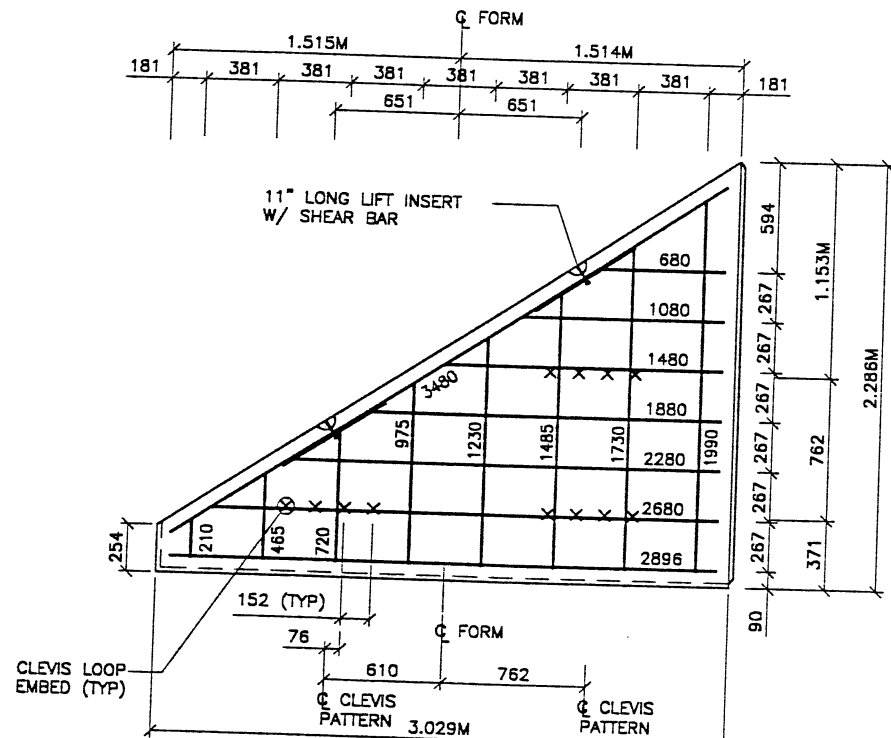
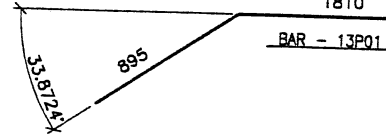
RFI After Final Approval



S1 TYPE S1 REBAR
(AREA = 2.30 SQ.M)



S4 TYPE S4 REBAR
(AREA = 3.92 SQ.M)



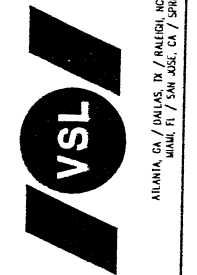
S2 TYPE S2 REBAR
(AREA = 3.87 SQ.M)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	06-08-98	RELEASE FOR CONSTRUCTION

- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
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 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm# CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

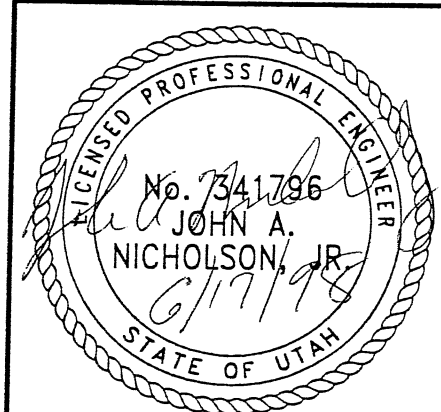
DES.	CHK.	DATE
JL	JL	06-09-98
RSW	RSW	06-09-98
JL	JL	06-09-98

VSL CORPORATION
2840 Plaza Place, Suite 200
Raleigh, NC 27612
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Fax: (919) 781-4999



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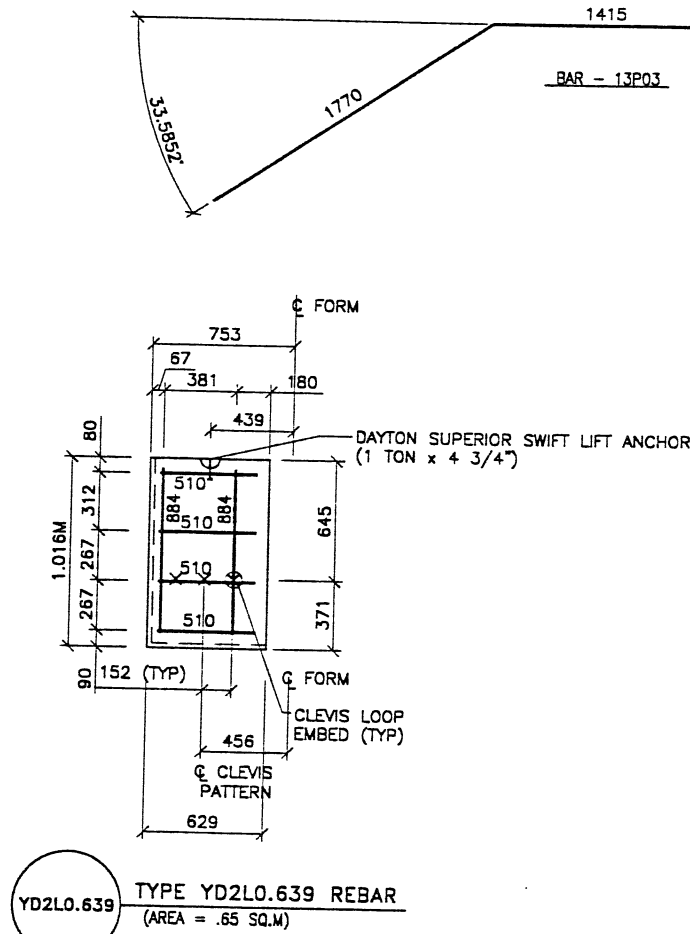
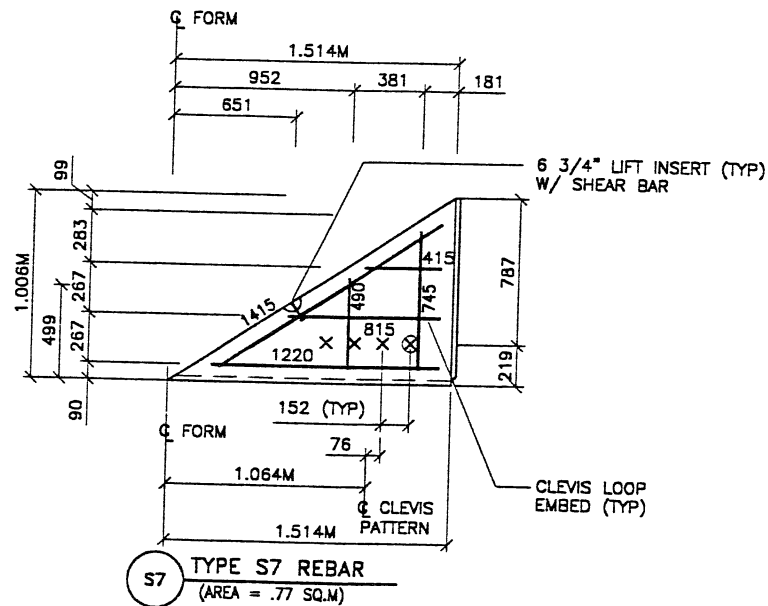
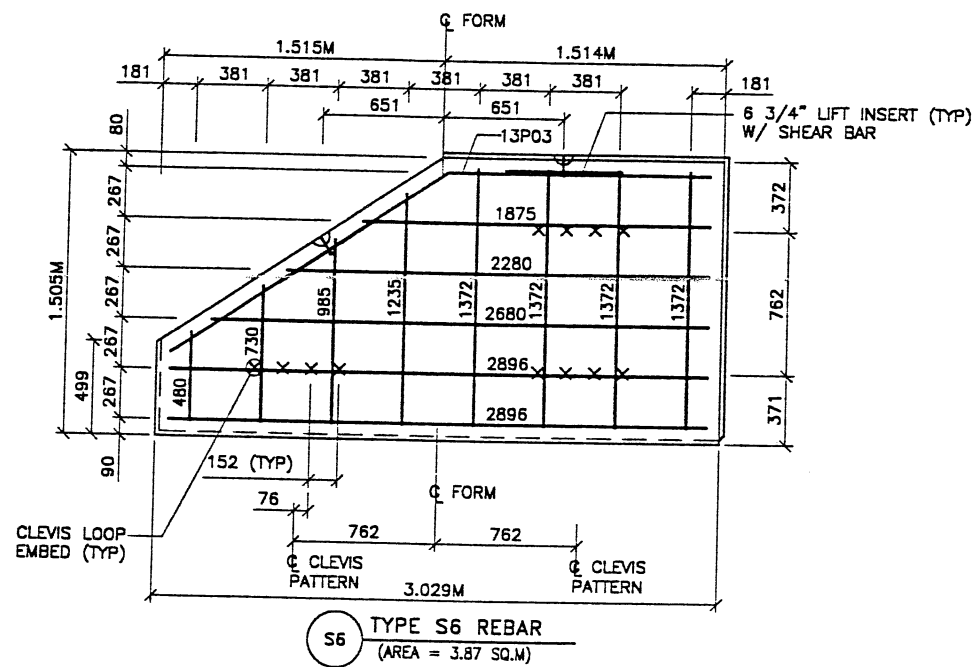
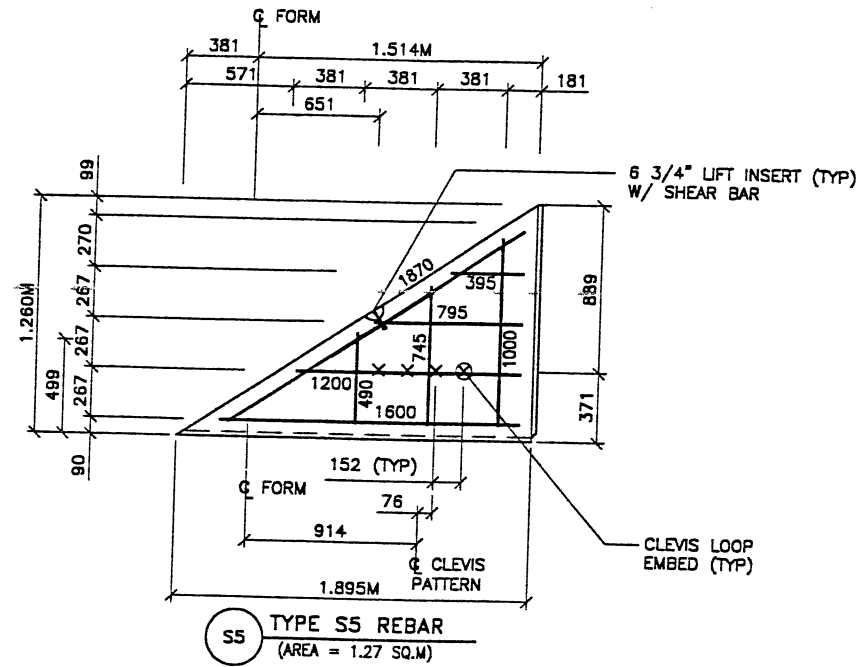
WASATCH CONSTRUCTORS
JUN 30 1998
RELEASED FOR CONSTRUCTION



METRIC

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

RETAINED EARTH™ WALLS PRECAST WALL "R-351-11" SPECIAL PANEL DETAILS
UTAH I-15 RECONSTRUCTION SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 3.2-R-351-11.8
JOB NO. 239-0007
SHT. NO. RE-6



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	06-08-98	RELEASE FOR CONSTRUCTION

- PANEL REINFORCEMENT NOTES:
- PANELS ARE SHOWN BACK FACE.
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 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

NO.	DATE	REVISION	BY	CHK

VSL CORPORATION
 2000 Plaza Place, Suite 200
 Raleigh, NC 27617 Tel: 919-881-6272
 Fax: (919) 881-4869

ATLANTA, GA / DALLAS, TX / BALTIMORE, MD (CORPORATE OFFICE)
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RETAINED EARTH™ WALLS
 PRECAST WALL "R-351-11"
 SPECIAL PANEL DETAILS

UTAH 1-15 RECONSTRUCTION
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

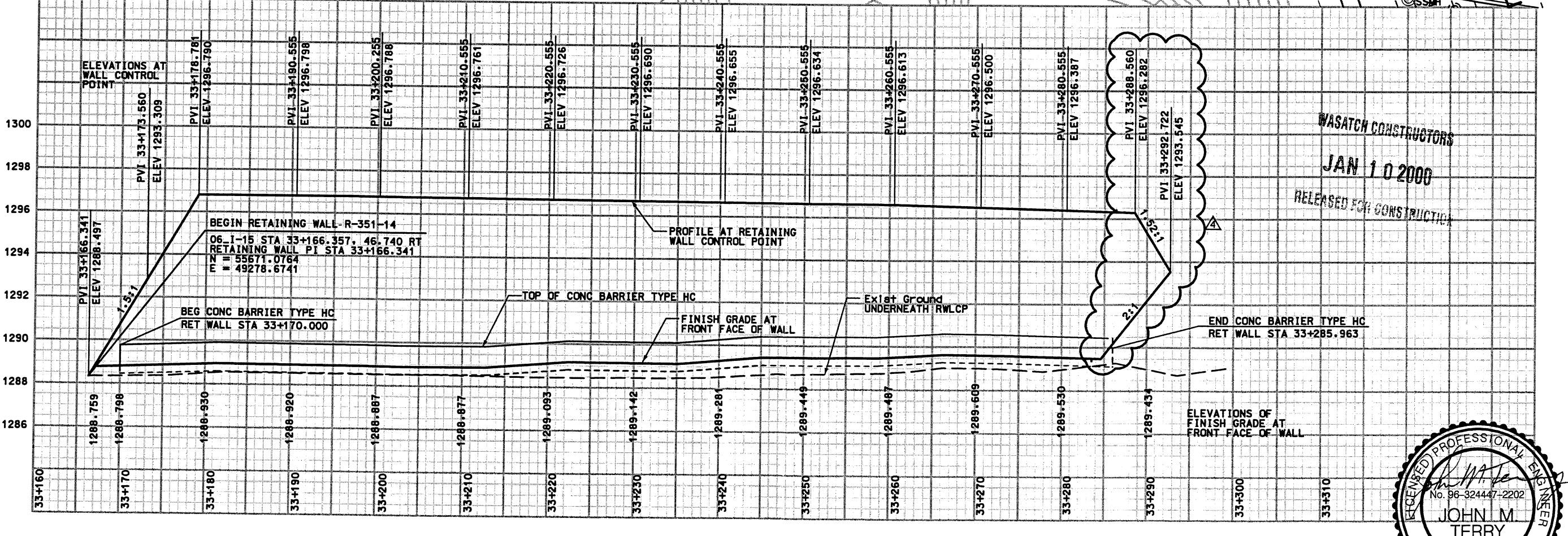
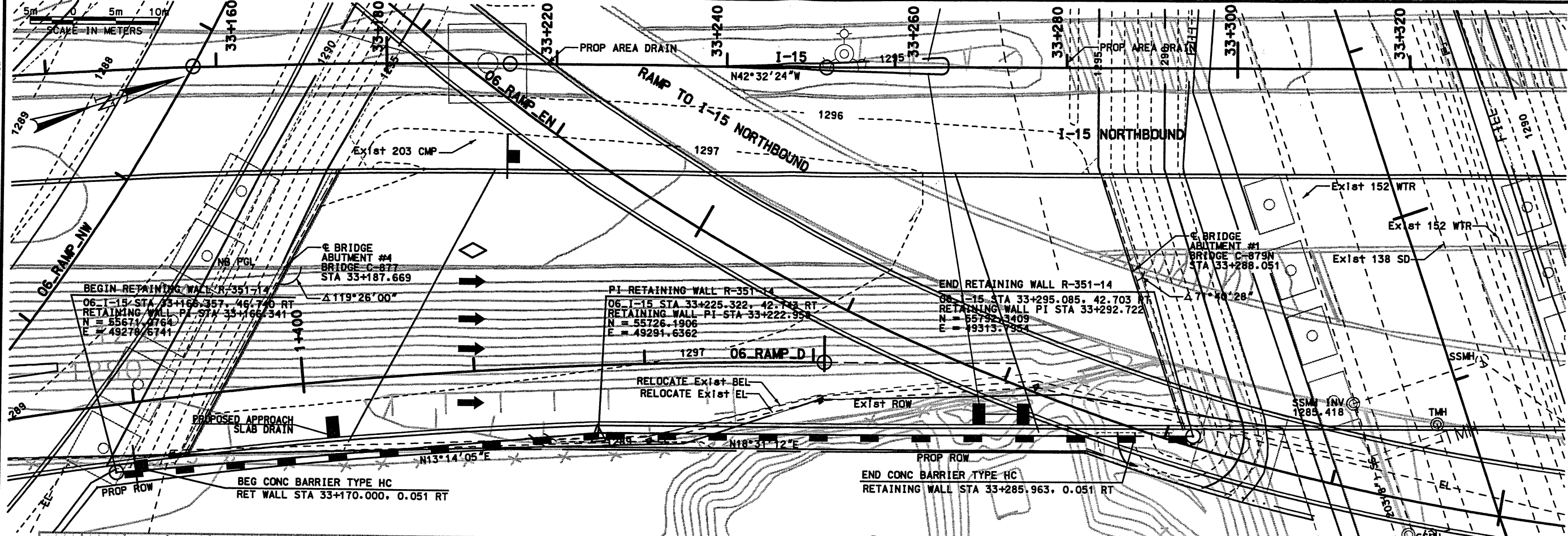
DWG. NO.	3.2-R-351-11.9
JOB NO.	239-0007
SHT. NO.	RE-7

WASATCH CONSTRUCTORS
 JUN 30 1998
 RELEASED FOR CONSTRUCTION

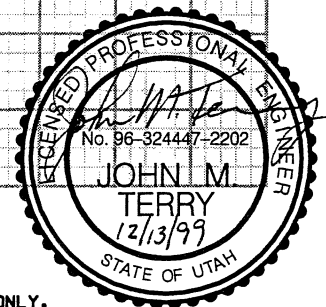
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METRIC

Date: 08-DEC-1999 Time: 14:40 User: nmevel
 Filename: \\vgn\115_cadd\06_97\sheet_files\wall\06_wall14.dgn



WALL R351-14
VIEW IS FRONT FACE OF WALL



SEALED FOR RELEASE NO. 4 ONLY.

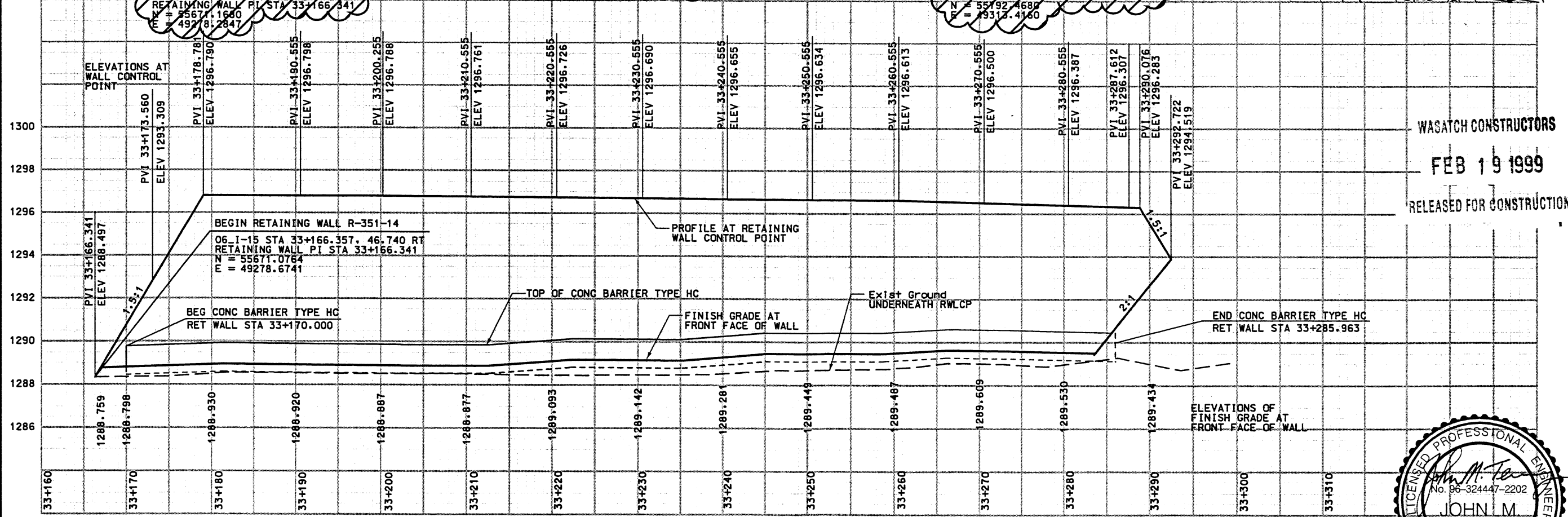
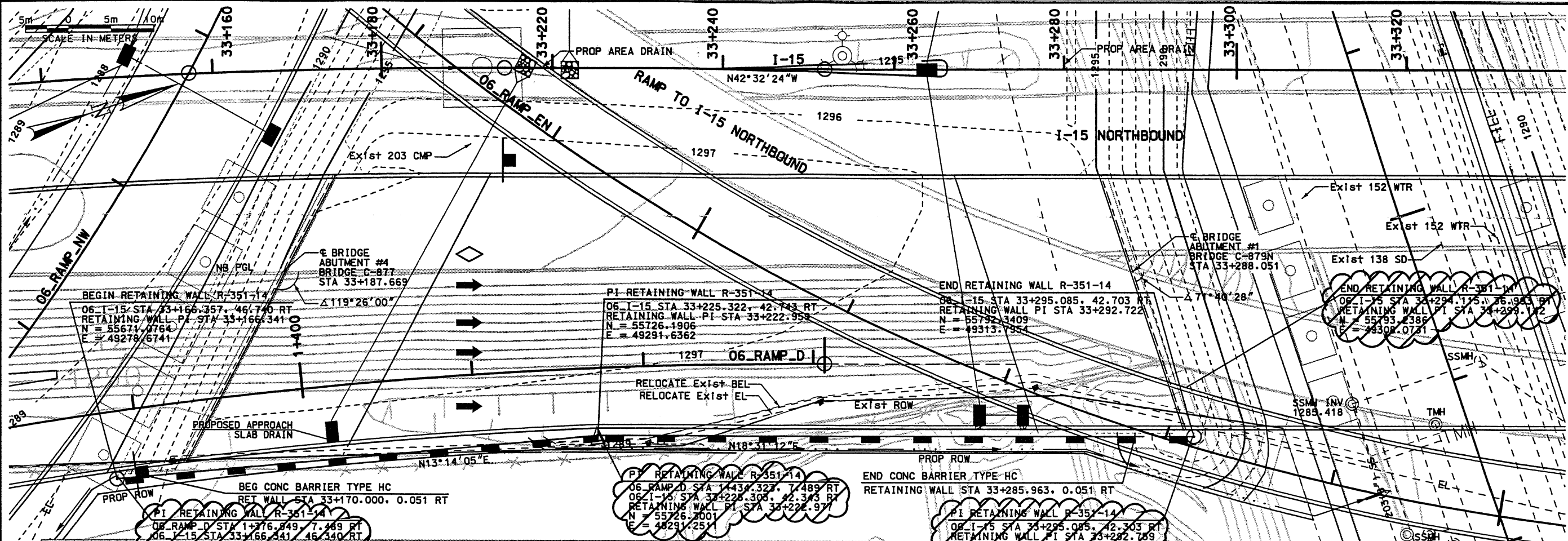
RFC After Final Approval

UTAH DEPARTMENT OF TRANSPORTATION		APPROVED FOR CONSTRUCTION	
SITUATION & LAYOUT		DESCRIPTION	
SECTION 3.2		NO. DATE	
PROJECT NUMBER #SP-15-7(135)296		11/21/97 RELEASE FOR MSE STAGE 1 ONLY	
SALT LAKE COUNTY		11/20/98 REMOVE NFC CLOUDS	
DWG. NO. 3.2-R351-14.1		2/05/99 RELEASE FOR 2ND STAGE CONSTRUCTION	
SHT. 1 OF 15		12/09/99 REVISED PROFILE	

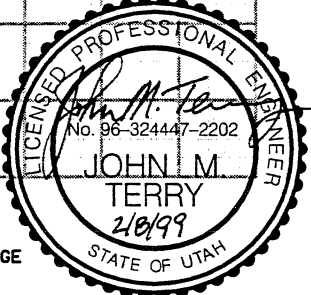
DESIGN	DESIGN JFA	CHECK	KS	11/20/98
PROJECT DESIGN ENGINEER	MARVIN COOK	CHECK	KS	11/20/98
APPROVED	APPROVED 11/20/98	CHECK	FJG	11/20/98
SECTION MANAGER	KEITH SABOL	CHECK		
QUANT.	3212411			

Dotnet 05-FEB-99 9:09 AM 13:24 User: rcmoe\simmon.jh

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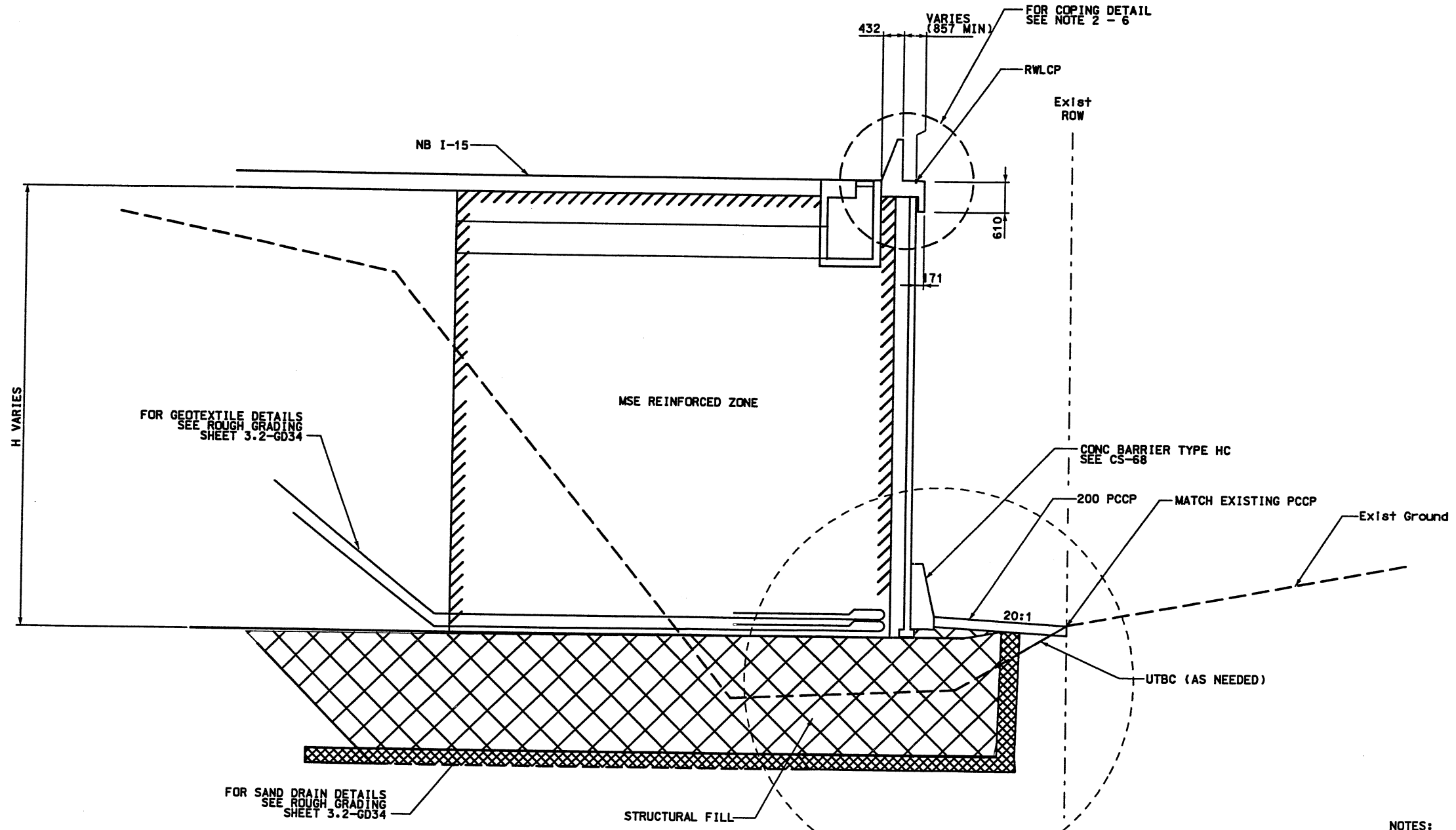
WALL R351-14
VIEW IS FRONT FACE OF WALL



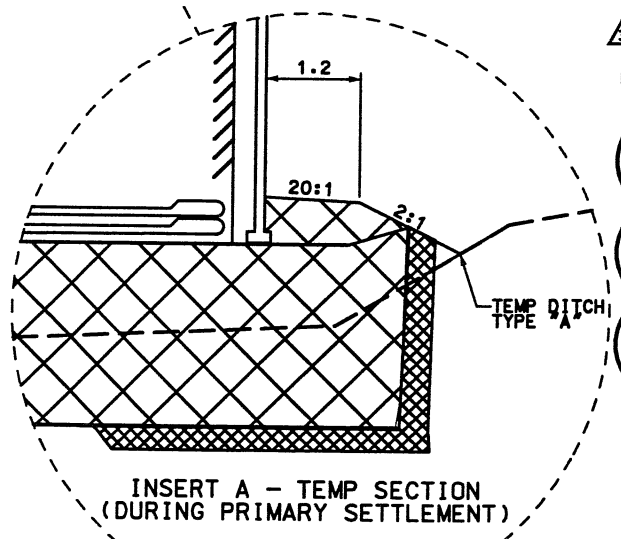
SEALED FOR RELEASE NO. 3 ONLY.
(REALIGNMENT OF RETAINING WALL
CONTROL POINT DUE TO FIRST STAGE
SETTLEMENT AND SECOND STAGE
MSE PANEL ALIGNMENT)

WASATCH CONSTRUCTORS
FEB 19 1999
RELEASED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION	
NO.	DATE
1	11/21/97
2	11/20/98
3	2/05/99
DESCRIPTION	
RELEASE FOR MSE STAGE 1 ONLY	
REMOVE NFC CLOUDS	
RELEASE FOR 2ND STAGE CONSTRUCTION	
3212411	
UTAH DEPARTMENT OF TRANSPORTATION	
SVERDRUP/DE LEUW	
DESIGN	CHECK
JFA	KS
11/20/98	11/20/98
MARVIN COOK	
PROJECT DESIGN ENGINEER	
DATE	CHECK
11/20/98	KS
DRAWN	
FJG	
11/20/98	
KEITH SABOL	
SECTION MANAGER	
QUANT.	
CHECK	
I-15 CORRIDOR RECONSTRUCTION	
SITUATION & LAYOUT	
SECTION 3.2	
PROJECT NUMBER	
#SP-15-(135)296	
SALT LAKE COUNTY	
DWG. NO.	
3.2-R351-14.1	
SHT. 1 OF 15	

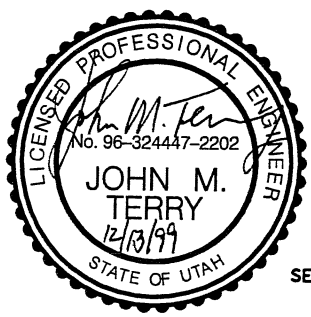


RETAINING WALL DETAILS
 NTS
 WALL R351-14
 2 STAGE MSE



- NOTES:
- 1) OVEREXCAVATE EXISTING SOILS AS REQUIRED. REFILL EXCAVATION WITH STRUCTURAL FILL AS PER CORRIDOR STANDARD SPECIFICATION 220.2.
 - 2) FOR COPING DETAILS STATION 33+166.341 TO STATION 33+274.471 SEE CORRIDOR STANDARD SPECIFICATION CS-29.
 - 3) FOR COPING DETAILS STATION 33+274.471 TO STATION 33+289.071 SEE CORRIDOR STANDARD SPECIFICATION CS-54-10 SECTION V.
 - 4) FOR COPING DETAILS STATION 33+289.071 TO STATION 33+291.263 SEE CORRIDOR STANDARD SPECIFICATION CS-54-10 SECTION X.
 - 5) FOR COPING DETAILS STATION 33+291.263 TO STATION 33+292.211 SEE CORRIDOR STANDARD SPECIFICATION CS-54-10 SECTION Y.
 - 6) FOR COPING DETAILS STATION 33+292.211 TO STATION 33+292.722 SEE CORRIDOR STANDARD SPECIFICATION CS-54-9 SECTION U.
 - 7) BASE OF WALL SHALL BE CONSTRUCTED AS SHOWN IN INSET A UNTIL THE SECOND STAGE OF THE WALL IS APPROVED FOR CONSTRUCTION.

WASATCH CONSTRUCTORS
 JAN 10 2000
 RELEASED FOR CONSTRUCTION

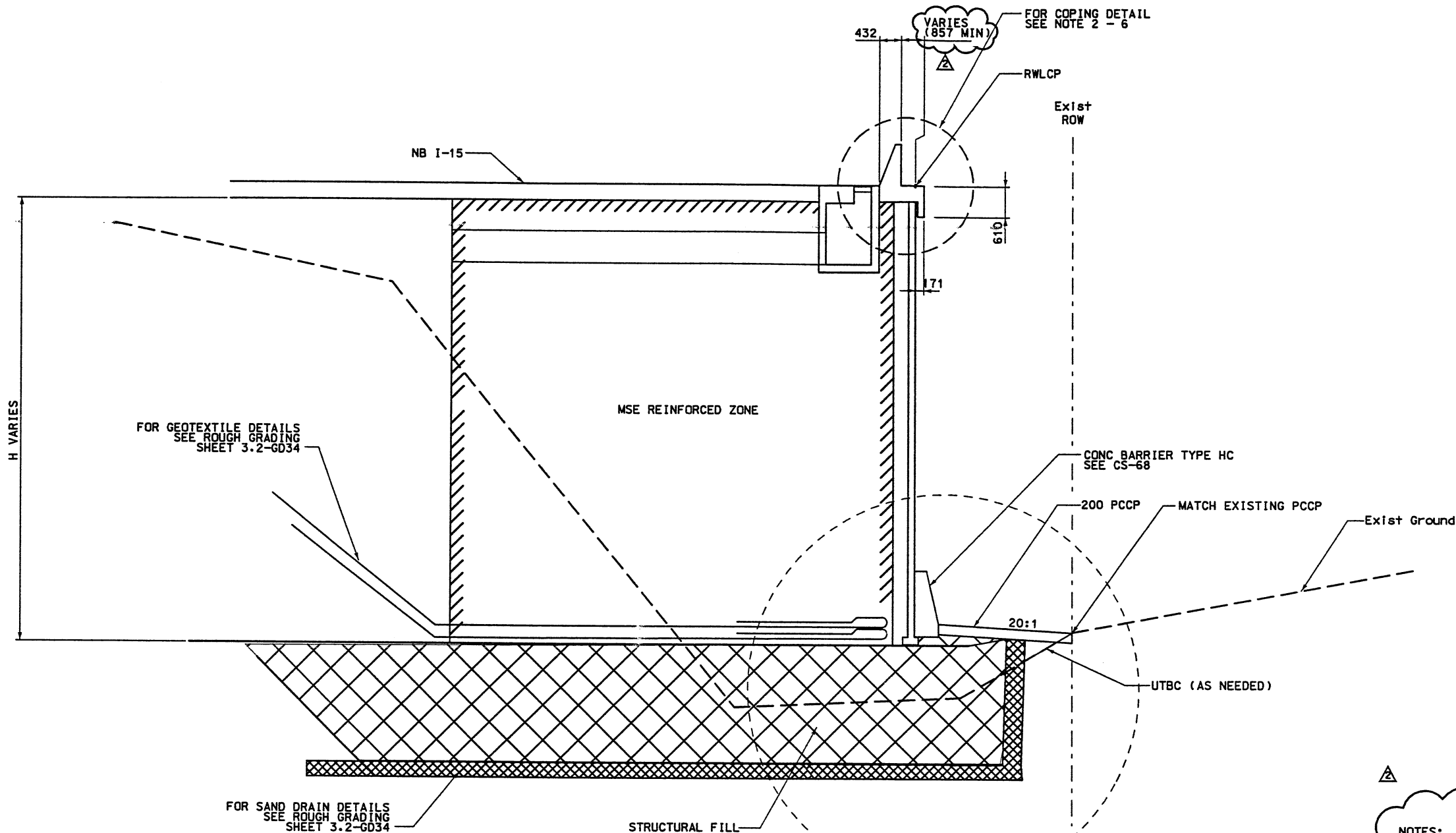


SEALED FOR RELEASE NO.3 ONLY.

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE		
A	10/14/97	RELEASE FOR USE WALL STAGE 1 ONLY	
A	02/05/99	RELEASE FOR 2ND STAGE CONSTRUCTION, REMOVED CLAY CAP AND CORRESPONDING NOTE, REVISED COPING NOTES.	
A	12/09/99	REVISED NOTES <i>gh</i>	

UTAH DEPARTMENT OF TRANSPORTATION		SVERDRUP/DE LEUW	
APPROVAL DATE	DESIGN	CHECK	QUANT.
10/14/97	JFA	KS	3212411
10/14/97	MARVIN COOK	KS	
	PROJECT DESIGN ENGINEER		
10/14/97	KEITH SABOL	KS	
	SECTION MANAGER		

I-15 CORRIDOR RECONSTRUCTION	TYPICAL SECTION
SECTION 3.2	
PROJECT NUMBER	#SP-15-7(135)296
SALT LAKE COUNTY	
DWG. NO.	3.2-R351-14.2
SHT.	2 OF 15



FOR GEOTEXTILE DETAILS
SEE ROUGH GRADING
SHEET 3.2-6D34

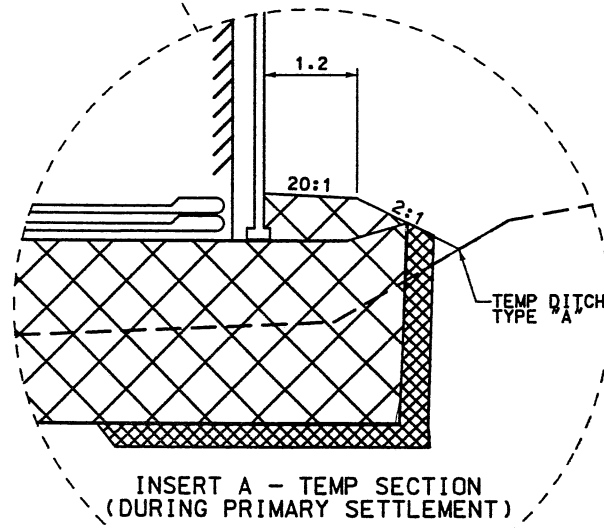
FOR SAND DRAIN DETAILS
SEE ROUGH GRADING
SHEET 3.2-6D34

VARIES (857 MIN)
FOR COPING DETAIL
SEE NOTE 2 - 6

RETAINING WALL DETAILS

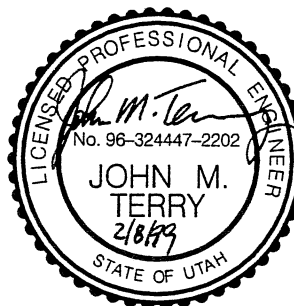
NTS

WALL R351-14
2 STAGE MSE



- NOTES:**
- 1) OVEREXCAVATE EXISTING SOILS AS REQUIRED. REFILL EXCAVATION WITH STRUCTURAL FILL AS PER CORRIDOR STANDARD SPECIFICATION 220.2.
 - 2) FOR COPING DETAILS STATION 33+166.341 TO STATION 33+274.744 SEE CORRIDOR STANDARD SPECIFICATION CS-29.
 - 3) FOR COPING DETAILS STATION 33+274.744 TO STATION 33+288.798 SEE CORRIDOR STANDARD SPECIFICATION CS-54-10 SECTION V.
 - 4) FOR COPING DETAILS STATION 33+288.798 TO STATION 33+291.590 SEE CORRIDOR STANDARD SPECIFICATION CS-54-10 SECTION X.
 - 5) FOR COPING DETAILS STATION 33+291.590 TO STATION 33+292.538 SEE CORRIDOR STANDARD SPECIFICATION CS-54-10 SECTION Y.
 - 6) FOR COPING DETAILS STATION 33+292.538 TO STATION 33+292.722 SEE CORRIDOR STANDARD SPECIFICATION CS-54-9 SECTION U.
 - 7) BASE OF WALL SHALL BE CONSTRUCTED AS SHOWN IN INSET (A) UNTIL THE SECOND STAGE OF THE WALL IS APPROVED FOR CONSTRUCTION.

WASATCH CONSTRUCTORS
FEB 19 1999
RELEASED FOR CONSTRUCTION



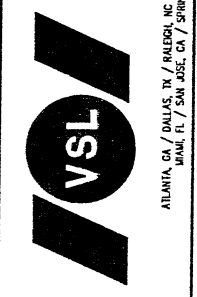
SEALED FOR RELEASE NO. 2 ONLY.
(REALIGNMENT OF RETAINING WALL
CONTROL POINT DUE TO FIRST STAGE
SETTLEMENT AND SECOND STAGE
MSE PANEL ALIGNMENT)

APPROVED FOR CONSTRUCTION		DESCRIPTION	
NO.	DATE		
1	10/14/97	RELEASE FOR MSE WALL STAGE 1 ONLY	
2	02/05/99	RELEASE FOR 2ND STAGE CONSTRUCTION, REMOVED CLAY CAP AND CORRESPONDING NOTE, REVISED COPING NOTES.	
UTAH DEPARTMENT OF TRANSPORTATION		SVERDRUP/DE LEUW	
DESIGN JFA 10/14/97		CHECK KS	10/14/97
DRAWN FJG 10/14/97		CHECK KS	10/14/97
QUANT.		3212411	
PROJECT NUMBER #SP-15-7(135)296			
SALT LAKE COUNTY			
DWG. NO. 3.2-R351-14.2			
SHT. 2 OF 15			

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	1-21-97	RELEASE FOR 1ST STAGE CONST. ONLY
2	01-29-99	RELEASE FOR 2ND STAGE CONSTRUCTION

NO.	DATE	REVISION

VSL CORPORATION
 2800 Plaza Place, Suite 200
 Raleigh, NC 27617
 Telephone: (919) 781-6272
 Fax: (919) 781-0889



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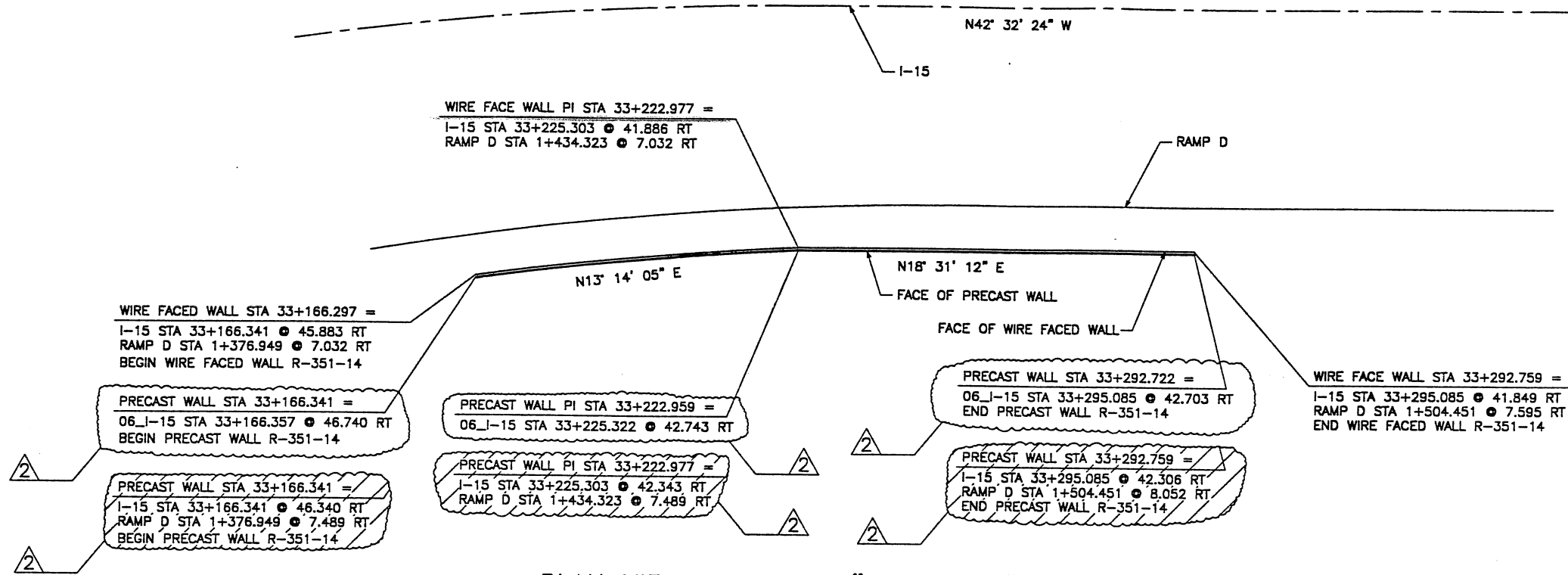
DES.	01-29-99	JN
DRN.	01-29-99	DSW
CHK.	01-29-99	JN

RETAINED EARTH™

RETAINED EARTH™ WALLS
 PLAN VIEW MSE WALL "R-351-14"

UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2R-351-14.3
JOB NO.	239-0007
SHT. NO.	RE-1



PLAN VIEW MSE WALL "R-351-14"
 SCALE: 1=500 (FULL SIZE)
 SCALE: 1=1000 (HALF SIZE)

NOTE
 THE WALL CONNECTIONS ON WALL 351-14 MAY BE ROTATED A MAXIMUM OF 42° VERTICALLY (COL 1 - 7 AND COL 39 - 42) AND 55° VERTICALLY (COL 8 - 38). SEE DETAIL "SECTION ROTATED" ON VSL STANDARD DRAWING NO. 18 FOR MORE INFORMATION.

NOTE
 BACKFILL THE WALL GAP TO AN ELEVATION EQUAL TO 1.5m ABOVE FINISHED GRADE DUE TO THE POTENTIAL FOR TRAFFIC IMPACT ON THE PRECAST WALL PANELS FROM THE ADJACENT ROADWAY. SEE VSL STANDARD DRAWING STD-20 FOR ADDITIONAL DETAILS.

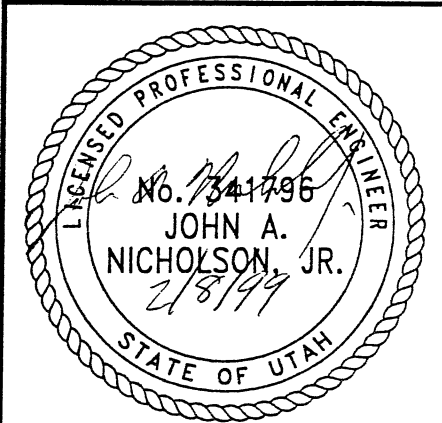
2ND STAGE DESIGN
 BASED ON POST SETTLEMENT SURVEY OF THE WIRE FACE, LATERAL OUTWARD DISPLACEMENTS RANGED FROM 181mm TO 358mm MEASURED AT THE BASE OF THE WALL.

DESIGN PARAMETERS
ANGLE OF INTERNAL FRICTION (SELECT) = 34°
ANGLE OF INTERNAL FRICTION (BASE) = 30°
ANGLE OF INTERNAL FRICTION (RANDOM) = 34°
UNIT WEIGHT BACKFILL = 135 PCF. (21.2 KN/m ³)
TRAFFIC SURCHARGE = 250 PSF
SEISMIC ACCELERATION COFF. = 0.27g (TYP)
SEISMIC ACCELERATION COFF. = 0.68g (AT BRIDGE ABUTMENTS)
DESIGN CRITERIA
SAFETY FACTOR (OVERTURNING) = 2.0
SAFETY FACTOR (SLIDING) = 1.5
SAFETY FACTOR (PULLOUT) = 1.5
DESIGN LIFE = 75 YEARS

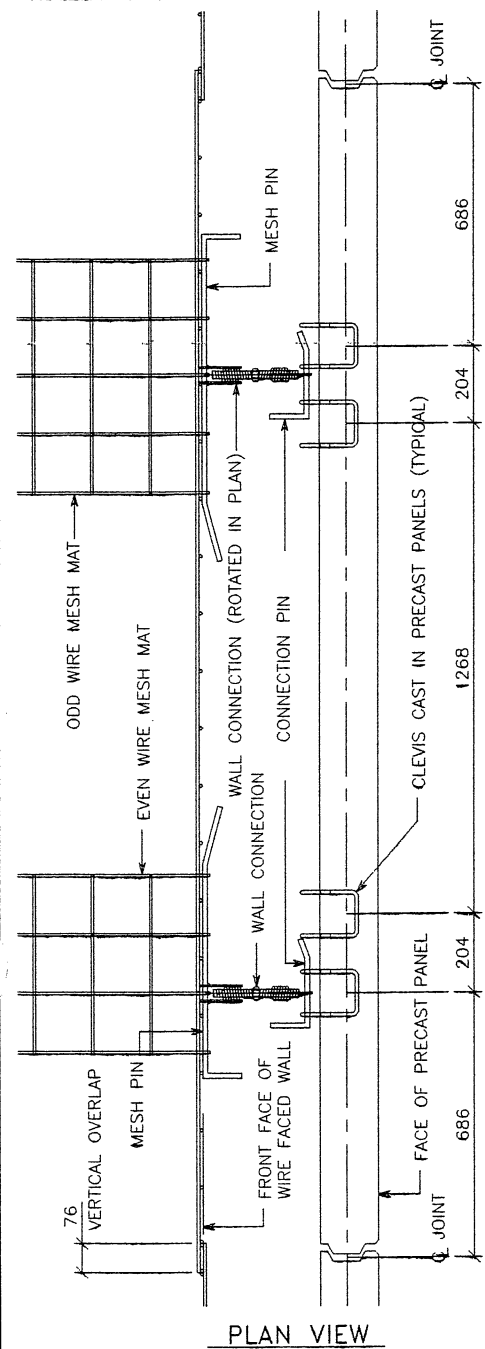
RETAINED EARTH INDEX	
RE-1	PLAN WIRE FACED WALL R-351-14, NOTES & DESIGN CRITERIA
RE-2	WALL CONNECTION DETAILS @ STAGE CONST.
RE-3	TYPICAL DETAILS
RE-4	TYPICAL CROSS SECTIONS @ WIRE FACED WALL
RE-5	TYPICAL CROSS SECTION
RE-6	WIRE FACED WALL R-351-14
RE-7	WIRE FACED WALL R-351-14
RE-8	WIRE FACED WALL R-351-14
RE-9	PRECAST WALL R-351-14
RE-10	PRECAST WALL R-351-14
RE-11	PRECAST WALL R-351-14
RE-12	SPECIAL PANEL DETAILS
RE-13	SPECIAL PANEL DETAILS

WASATCH CONSTRUCTORS
FEB 19 1999
 RELEASED FOR CONSTRUCTION

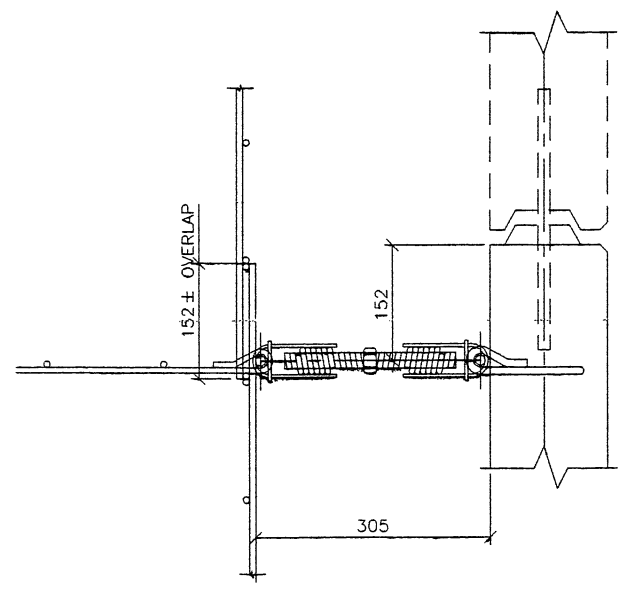
METRIC



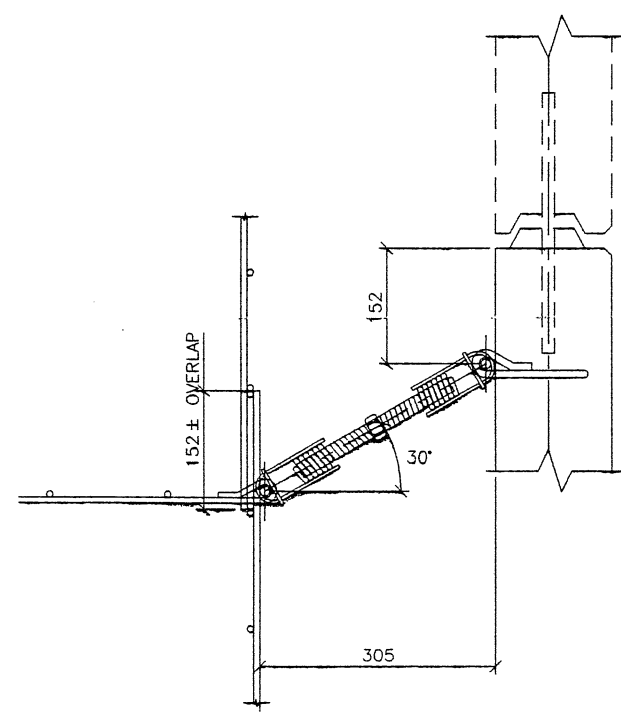
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



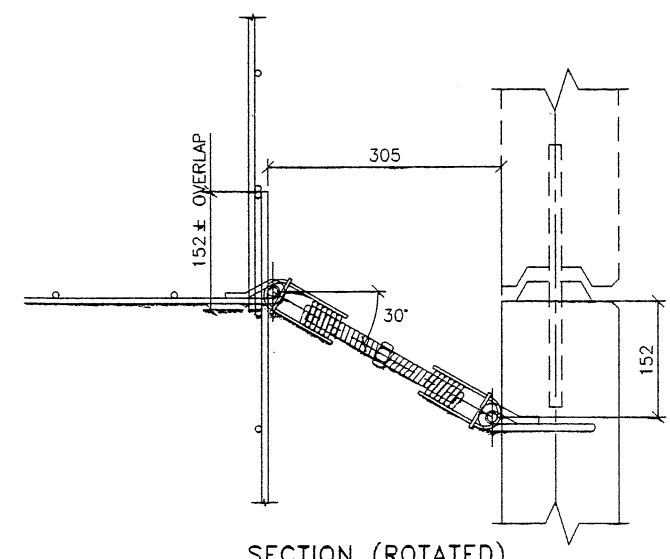
PLAN VIEW



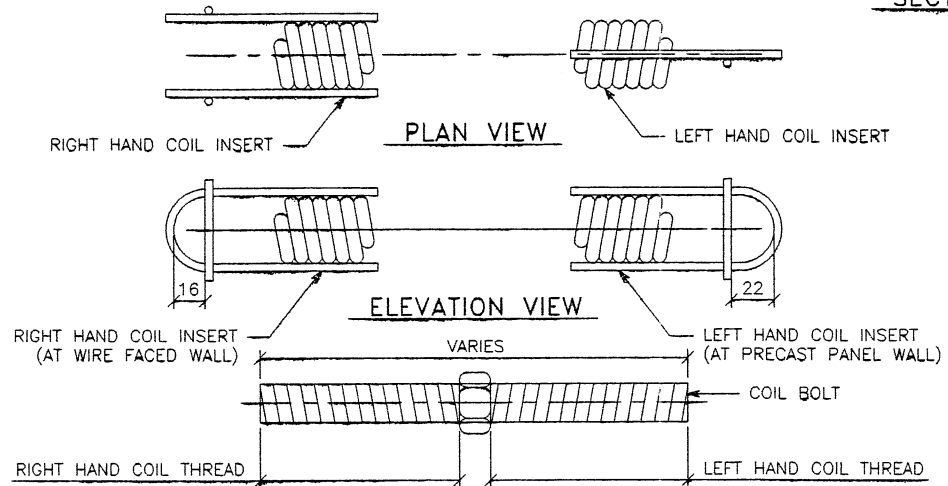
SECTION (FLAT)



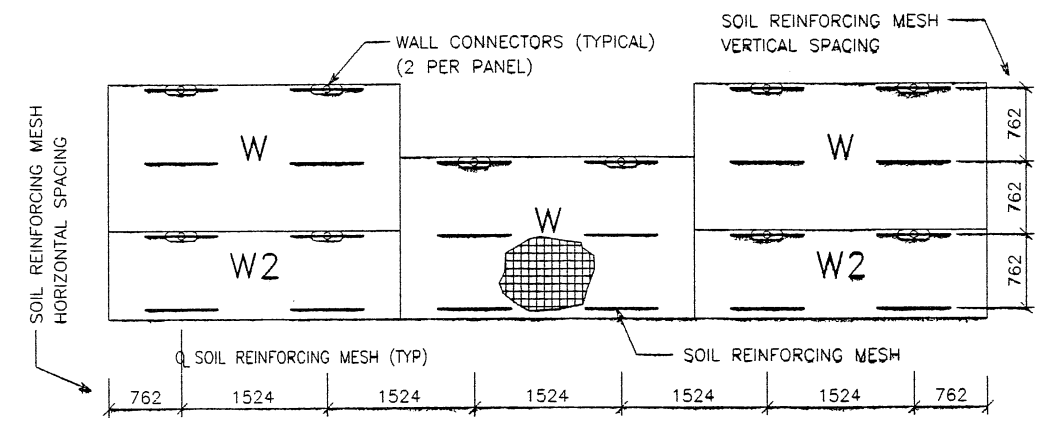
SECTION (ROTATED)



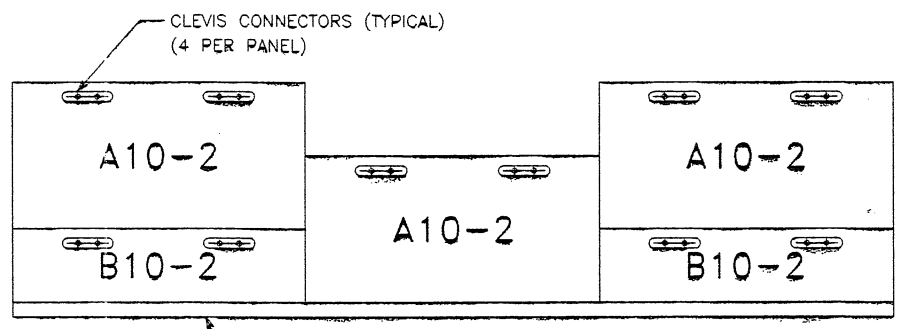
SECTION (ROTATED)



WALL CONNECTION DETAIL



TYPICAL WIRE FACED WALL ELEVATION (WIRE FACE PANELS)

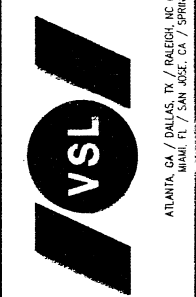


TYPICAL PRECAST WALL ELEVATION (PRECAST PANELS)

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-21-97	RELEASE FOR 1ST STAGE CONST. ONLY

DES.	MM	JPS	MM	NO.	DATE	REVISION	CHK
DES. 09-17-97							
DRN. 09-17-97							
CHK. 09-17-97							

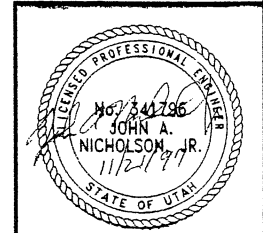
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6772
 Fax: (919) 781-6969



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 DEC 11 1997
 RELEASED FOR CONSTRUCTION

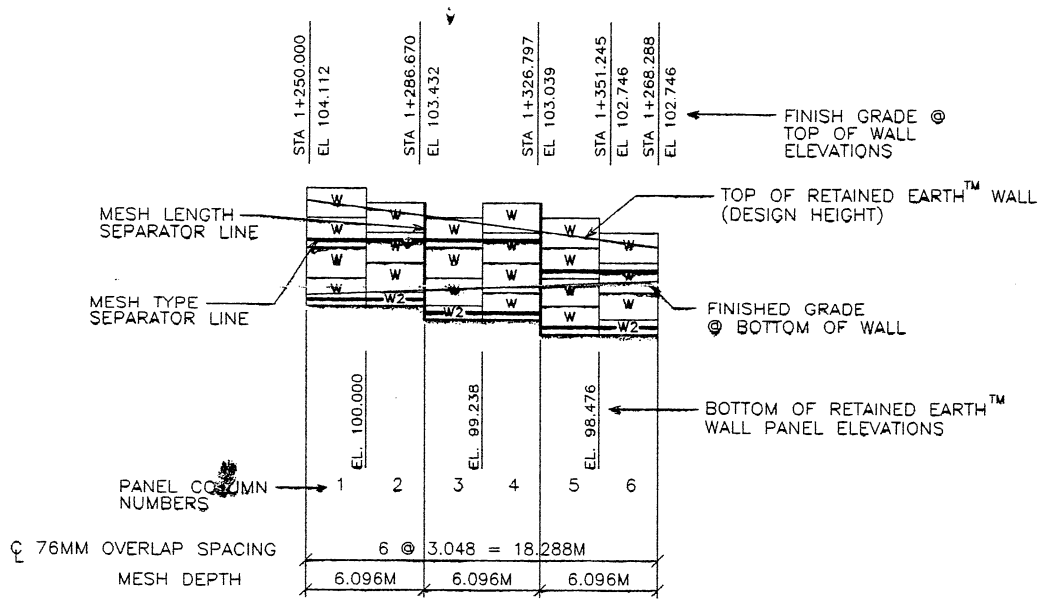
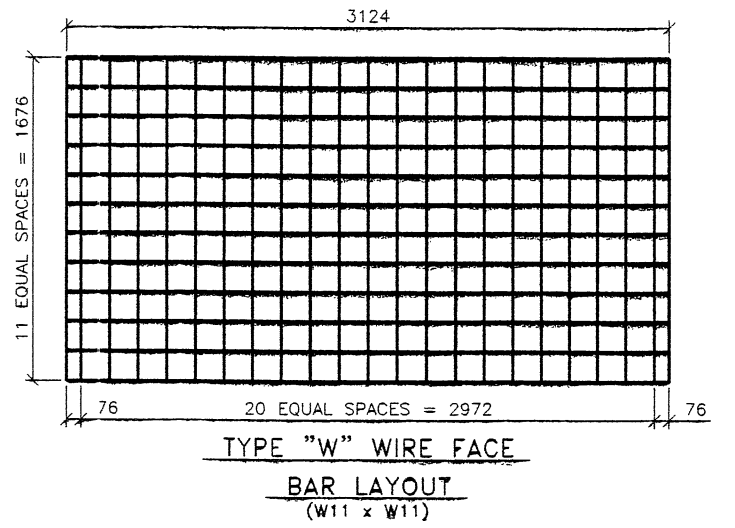
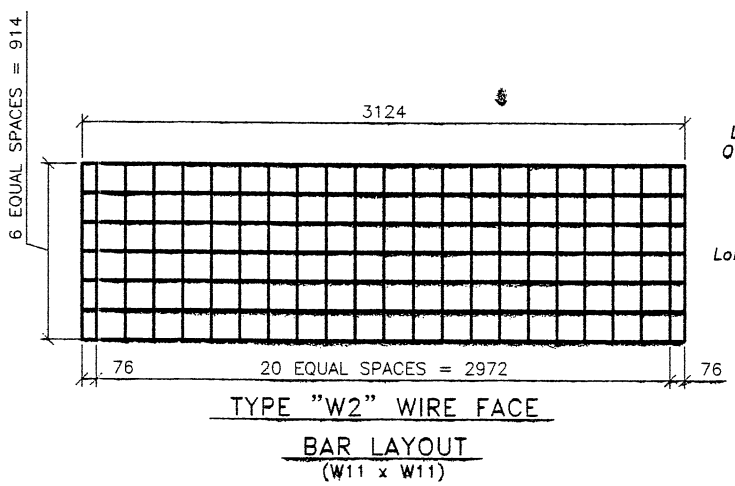
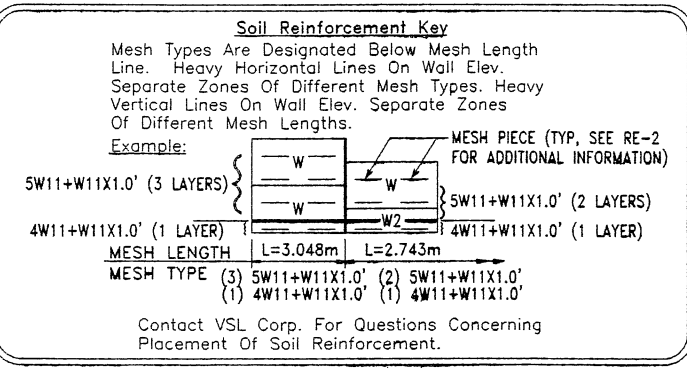
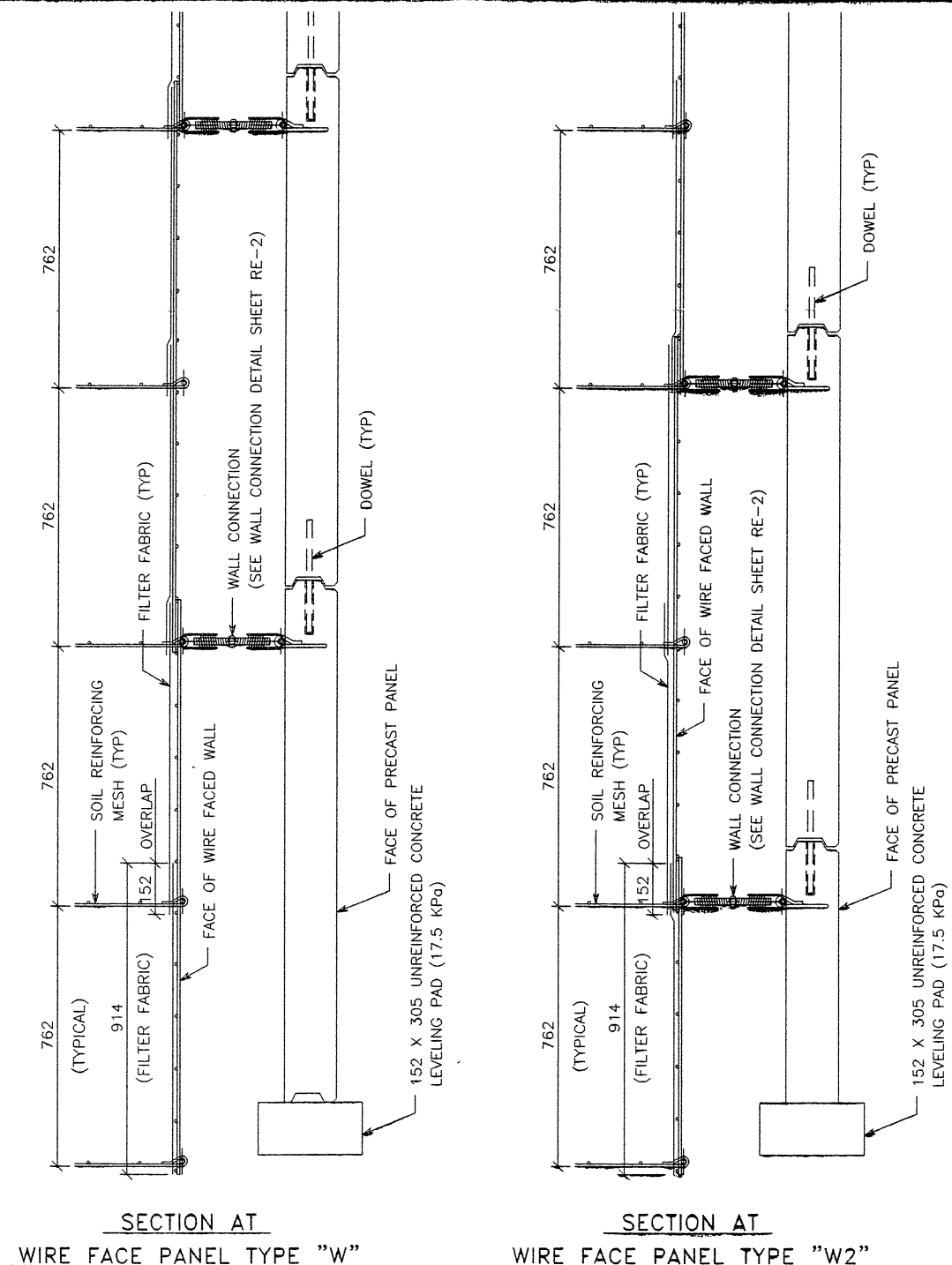
METRIC



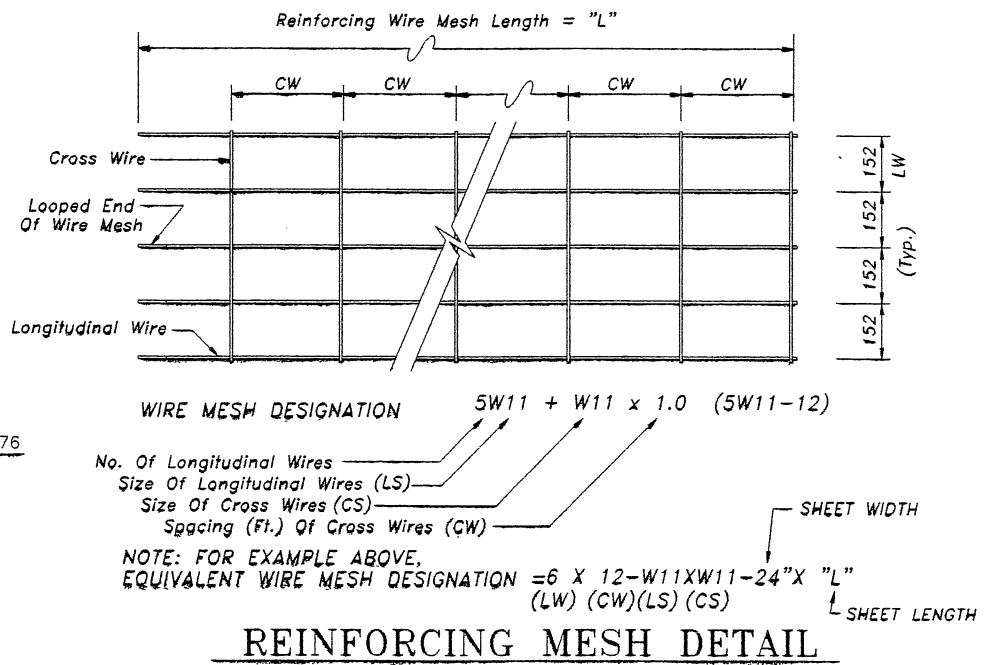
RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-351-14"
 WALL CONNECTION DETAILS @ STAGE CONST.
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:	3.2R-351-14.4
JOB NO:	239-0007
	RE-2

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



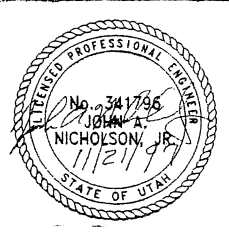
1 WIRE FACED WALL ELEVATION KEY (FRONT FACE SHOWN)



NOTE: W11 (71 sq mm) And W20 (129 sq mm) Steel Wire Material And Welding Of Cross Wires And Loops Shall Conform To ASTM A82 And ASTM 185, Fy = 448 MPa. Mesh Shall Be Galvanized To ASTM A-123 To A Minimum Effective Thickness Of 0.086 mm.

WASATCH CONSTRUCTORS
 DEC 01 1997
 RELEASED FOR CONSTRUCTION

METRIC



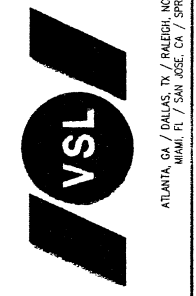
CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

APPROVED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	11-21-97	RELEASE FOR 1ST STAGE CONST. ONLY

DES.	MM	JPS	MM	RETAINED EARTH™	NO.	DATE	REVISION	BY	CHK
09-17-97									
09-17-97									
09-17-97									

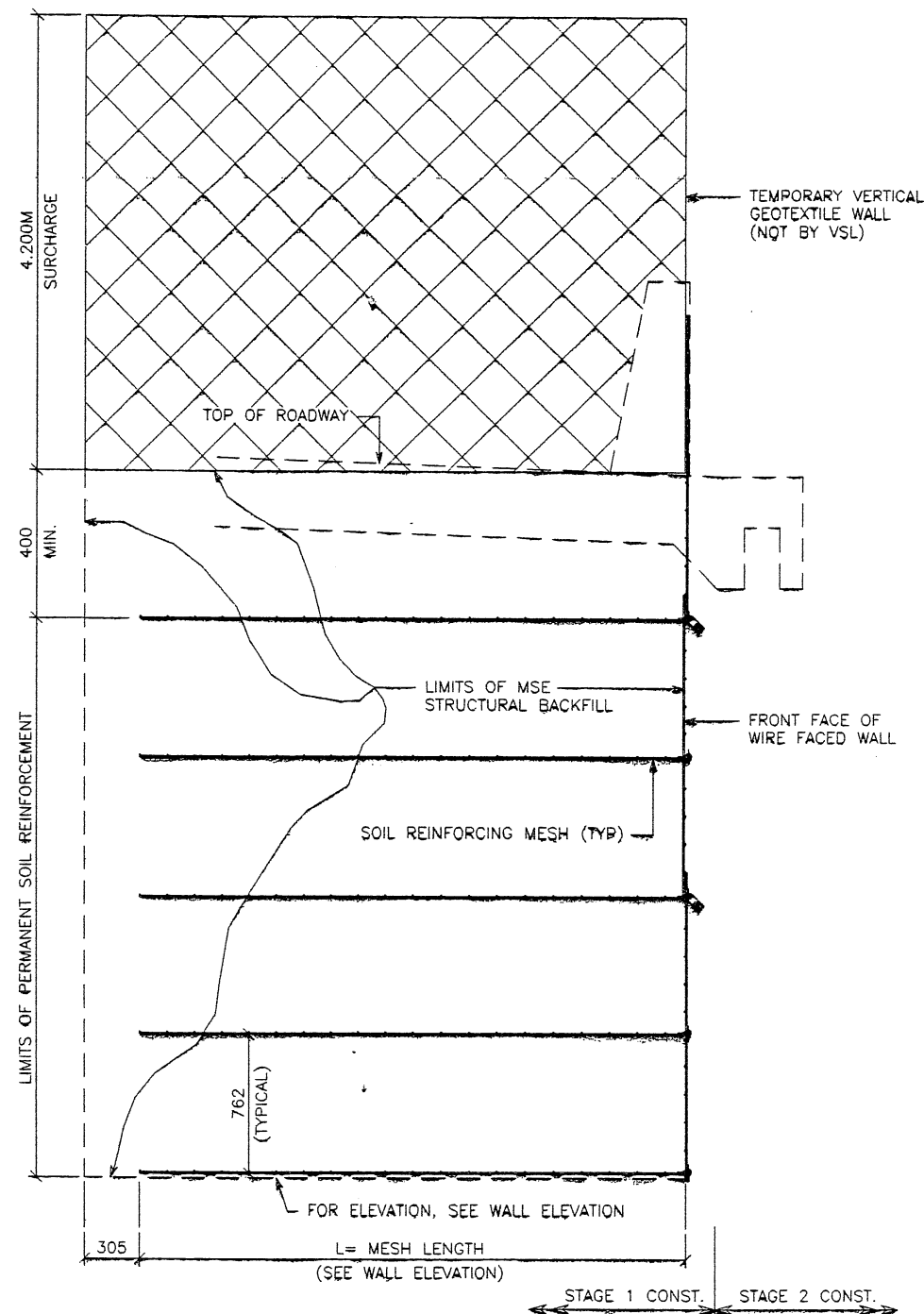
VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4969



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RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-351-14"
 TYPICAL DETAILS
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:
 3.2R-351-14.5
 JOB NO:
 239-0007
 RE-3

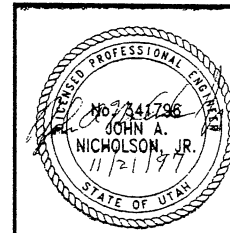


TYPICAL CROSS SECTION
AT FINAL PHASE OF WIRE FACE WALL
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

WASATCH CONSTRUCTORS
 DEC 01 1997
 RELEASED FOR CONSTRUCTION

METRIC



APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-21-97	RELEASE FOR 1ST STAGE CONST. ONLY <i>AS</i>

DES. 09-17-97	MM		VSL CORPORATION 2840 Plaza Place, Suite 200 Raleigh, NC 27612 Telephone: (919) 781-6272 Fax: (919) 781-4869	ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE) MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA	NO.	DATE	BY	CHK
DRN. 09-17-97	JPS				REVISION			
CHK. 09-17-97	MM							

RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-351-14"
 TYPICAL SECTIONS @ WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE: 3.2R-351-14.6
 JOB NO: 239-0007
 RE-4

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-21-97	RELEASE FOR 1ST STAGE CONST. ONLY <i>JAB</i>

DES.	DRN.	CHK.	NO.	DATE	BY	CHK.
09-17-97	09-17-97	09-17-97				

DES.	DRN.	CHK.	NO.	DATE	BY	CHK.
09-17-97	09-17-97	09-17-97				

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-6272
 Fax: (919) 781-4889

VSL

ATLANTA, GA / DALLAS, TX / RALEIGH, NC (CORPORATE OFFICE)
 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

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RETAINED EARTH™ WALLS
 WIRE FACED WALL "R-351-14"
 TYPICAL CROSS SECTION

UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:
 3.2R-351-14.7

JOB NO:
 239-0007

RE-5

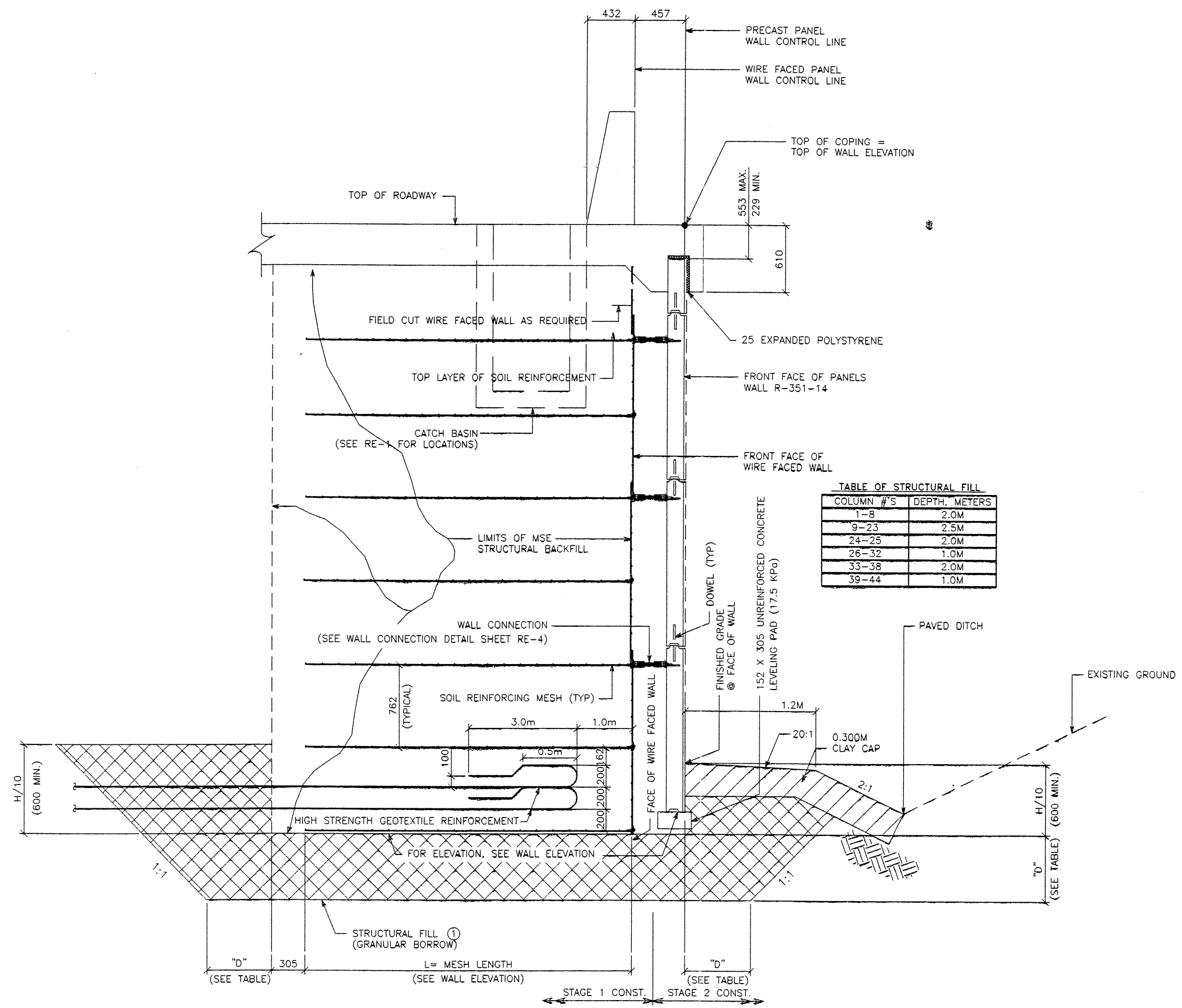
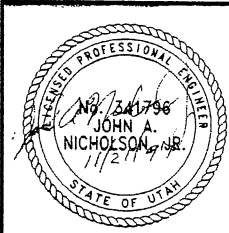


TABLE OF STRUCTURAL FILL

COLUMN #S	DEPTH, METERS
1-8	2.0M
9-23	2.5M
24-25	2.0M
26-32	1.0M
33-38	2.0M
39-44	1.0M

TYPICAL CROSS SECTION
 SCALE: 1:20 (FULL SIZE)
 SCALE: 1:40 (HALF SIZE)

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.



WASATCH CONSTRUCTORS
 DEC 31 1997
 RELEASED FOR CONSTRUCTION

H:\REL EARTH\PROJECT\239-0007\6S-WALLS\6S-21-97-FINAL PL

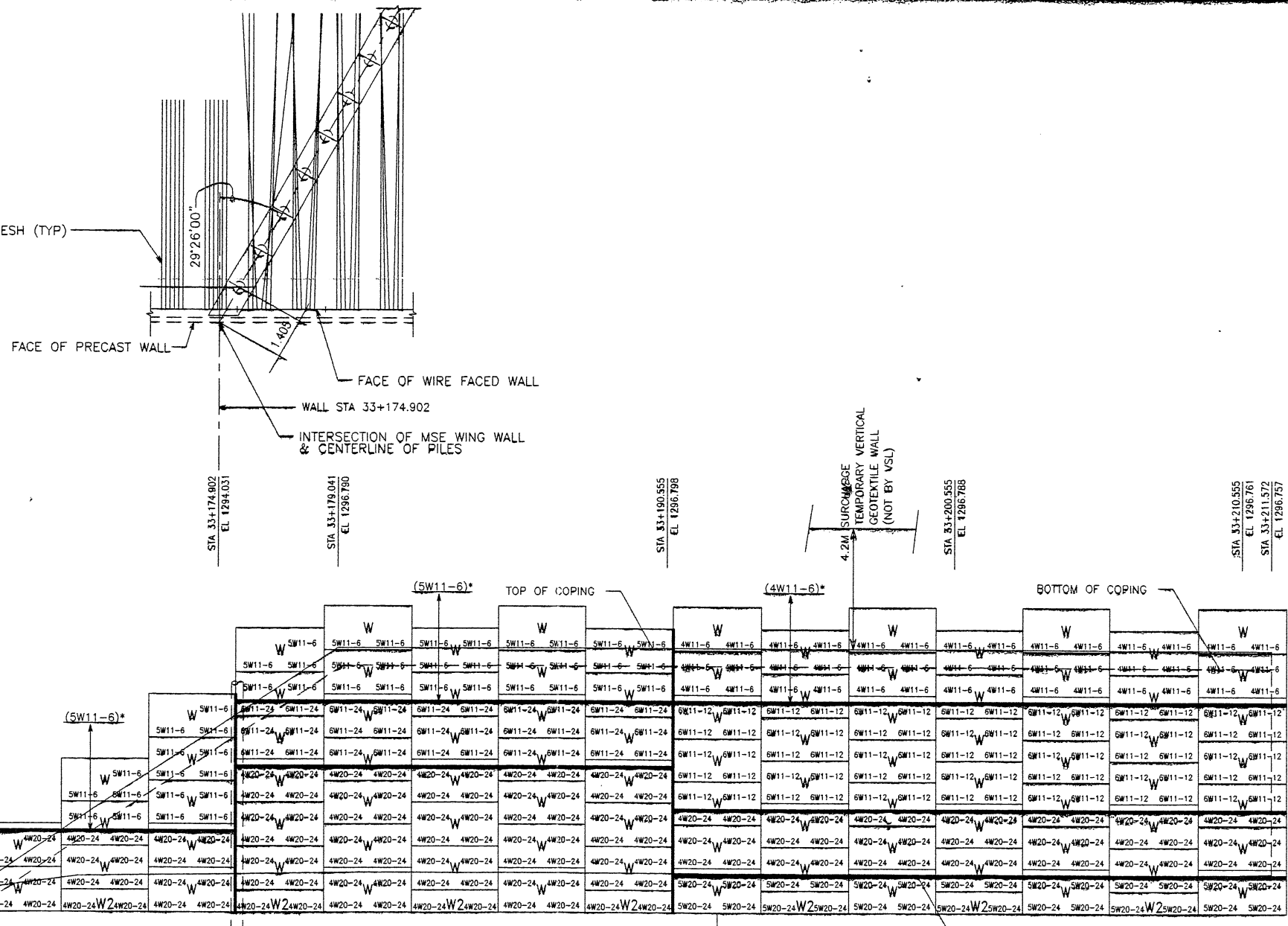
APPROVED FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
△	11-21-97	RELEASE FOR 1ST STAGE CONST. ONLY <i>AL</i>

BEGIN PRECAST WALL R-351-14
 PRECAST WALL STA 33+166.341=
 I-15 STA 33+166.341 @ 46.340 RT
 RAMP D STA 1+376.949 @ 7.489 RT

BEGIN WIRE FACED WALL R-351-14
 WIRE FACED WALL STA 33+166.297 =
 I-15 STA 33+166.341 @ 45.883 RT
 RAMP D STA 1+376.949 @ 7.032 RT

SOIL REINFORCING MESH (TYP)



MESH DEPTH
 MAXIMUM BEARING PRESSURE
 (SEE NOTE BELOW)
 PIN SPACING

Station	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
MESH DEPTH	7.315			10.363			45.720			7.315					
MAXIMUM BEARING PRESSURE	187 kPa			254 kPa			45.720			286 kPa					

RETAINING WALL "R-351-14" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 1,097.32 SM) SCALE 1:200 (HALF SIZE)

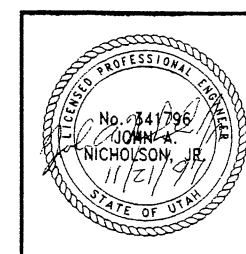
APPROVER NOTE:
 MAXIMUM UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

* INDICATES SOIL REINFORCING TYPE
 MESH TO BE USED ON ADDITIONAL
 WIRE WALL FACING ADDED AFTER
 SETTLEMENT.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY.
 EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE
 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.


WASATCH CONSTRUCTORS
 DEC 21 1997
 RELEASED FOR CONSTRUCTION

METRIC



RETAINED EARTH™ WALLS
 WALL "R-351-14" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:	3.2R-351-14.8
JOB NO.	239-0007
	RE-6



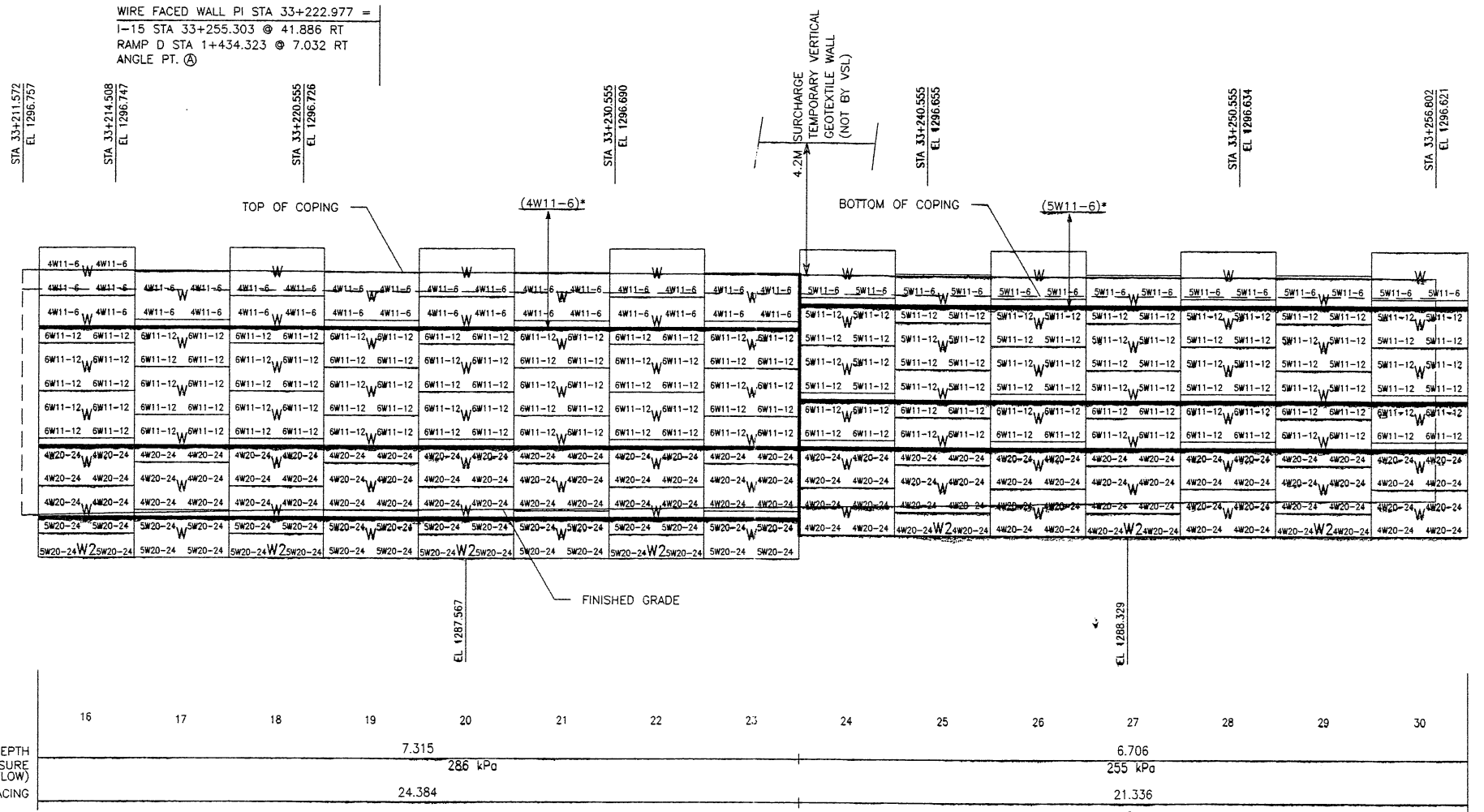
VSL CORPORATION
 2840 Plano Place, Suite 200
 Raleigh, NC 27612
 Telephone: (919) 781-4272
 Fax: (919) 781-4489

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DES.	MM	NO.	DATE	REVISION
09-17-97				
09-17-97	JPS			
09-17-97	MM			

FINAL PL -21-97 H:\RE_EARTH_APPROJECT\239-0007\6S-WALLS\6S-1

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	11-21-97	RELEASE FOR 1ST STAGE CONST. ONLY <i>JB</i>



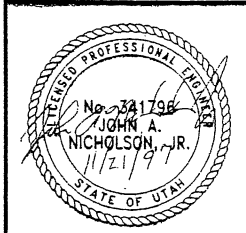
RETAINING WALL "R-351-14" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 1,097.32 SM) SCALE 1:200 (HALF SIZE)

APPROVER NOTE:
 MAXIMUM UNFACTORED BEARING PRESSURES ARE INDICATED BELOW "MESH DEPTH LINE" REVIEWER TO VERIFY MAXIMUM BEARING CAPACITY OF FOUNDATION.

* INDICATES SOIL REINFORCING TYPE MESH TO BE USED ON ADDITIONAL WIRE WALL FACING ADDED AFTER SETTLEMENT.

CERTIFIED FOR INTERNAL STABILITY OF RETAINED EARTH™ STRUCTURES ONLY. EXTERNAL STABILITY, INCLUDING BUT NOT LIMITED TO FOUNDATION AND SLOPE STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO THE MANUFACTURER'S SPECIFICATION.

WASATCH CONSTRUCTORS
 DEC 31 1997
 RELEASED FOR CONSTRUCTION
 METRIC



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 Raleigh, NC 27612
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RETAINED EARTH™ WALLS
 WALL "R-351-14" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:	3.2R-351-14.9
JOB NO.:	239-0007
	RE-7

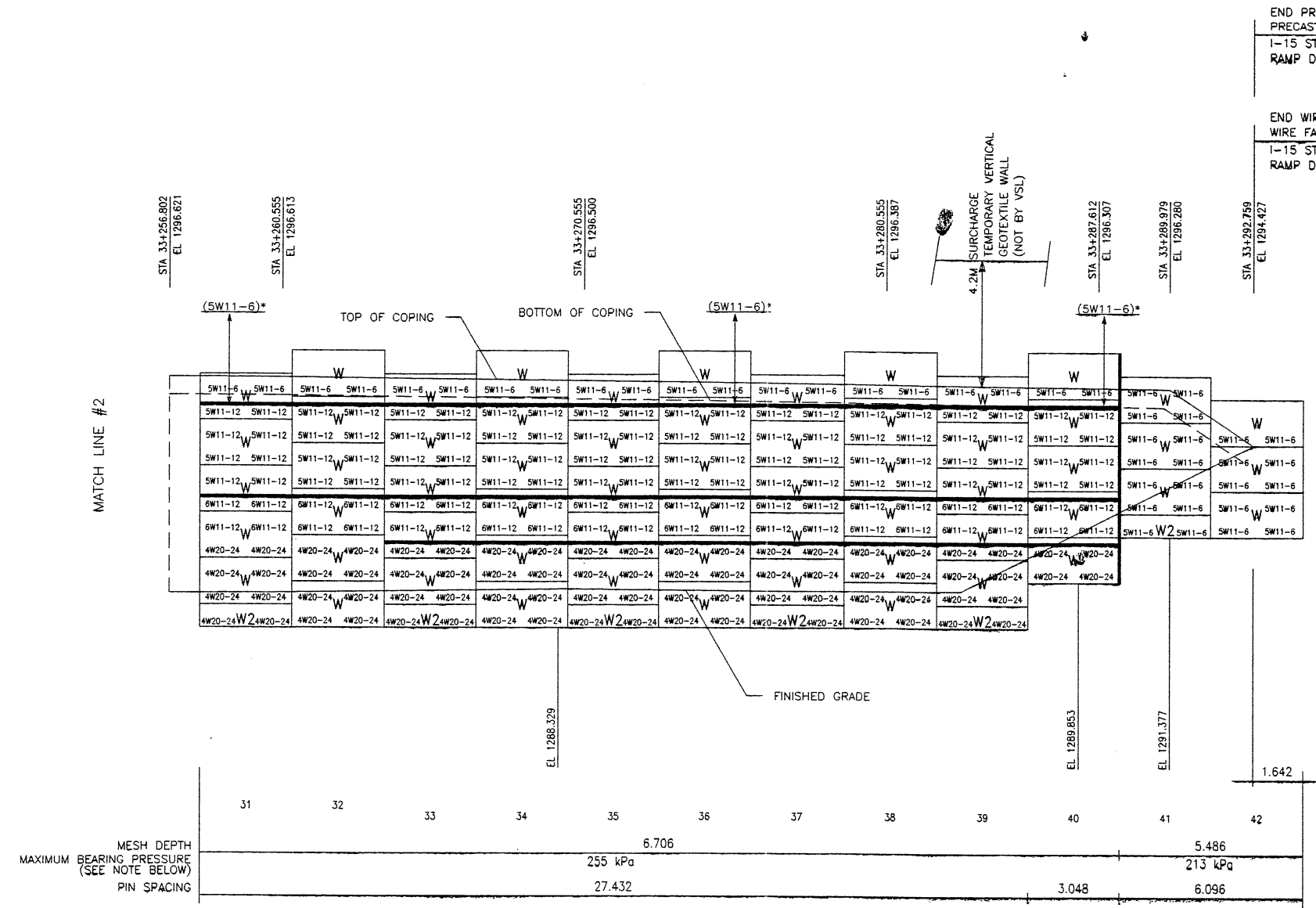
6S-14

H:\RE_EARTH\PROJECT\239-0007\6S-WALLS\6S-14

21-97

FINAL PLOT

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	11-21-97	RELEASE FOR 1ST STAGE CONST. ONLY <i>DA</i>



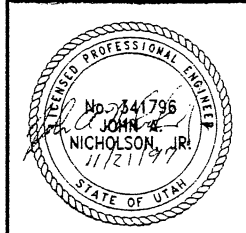
END PRECAST WALL R-351-14
 PRECAST WALL STA 33+292.759 =
 1-15 STA 33+295.085 @ 42.306 RT
 RAMP D STA 1+504.451 @ 8.052 RT

END WIRE FACED WALL R-351-14
 WIRE FACED WALL STA 33+292.759 =
 1-15 STA 33+295.085 @ 41.849 RT
 RAMP D STA 1+504.451 @ 7.595 RT

RETAINING WALL "R-351-14" - 1ST STAGE: WIRE FACED WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 1,097.32 SM) SCALE 1:200 (HALF SIZE)

WASATCH CONSTRUCTORS
 DEC 31 1997
 RELEASED FOR CONSTRUCTION

METRIC



APPROVER NOTE:
 MAXIMUM UNFACTORED BEARING PRESSURES
 ARE INDICATED BELOW "MESH DEPTH LINE"
 REVIEWER TO VERIFY MAXIMUM BEARING
 CAPACITY OF FOUNDATION.

* INDICATES SOIL REINFORCING TYPE
 MESH TO BE USED ON ADDITIONAL
 WIRE WALL FACING ADDED AFTER
 SETTLEMENT.

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 STABILITY, IS THE RESPONSIBILITY OF THE OWNER. DESIGN IS BASED ON THE
 ASSUMPTION THAT THE MATERIAL WITHIN THE RETAINED EARTH™ MASS, METHODS
 OF CONSTRUCTION, AND QUALITY OF PREFABRICATED MATERIALS CONFORM TO
 THE MANUFACTURER'S SPECIFICATION.

DES:	09-17-97	MM	RETAINED EARTH™	NO	DATE	BY	CHK
DRN:	09-17-97	JPS					
CHK:	09-17-97	MM					

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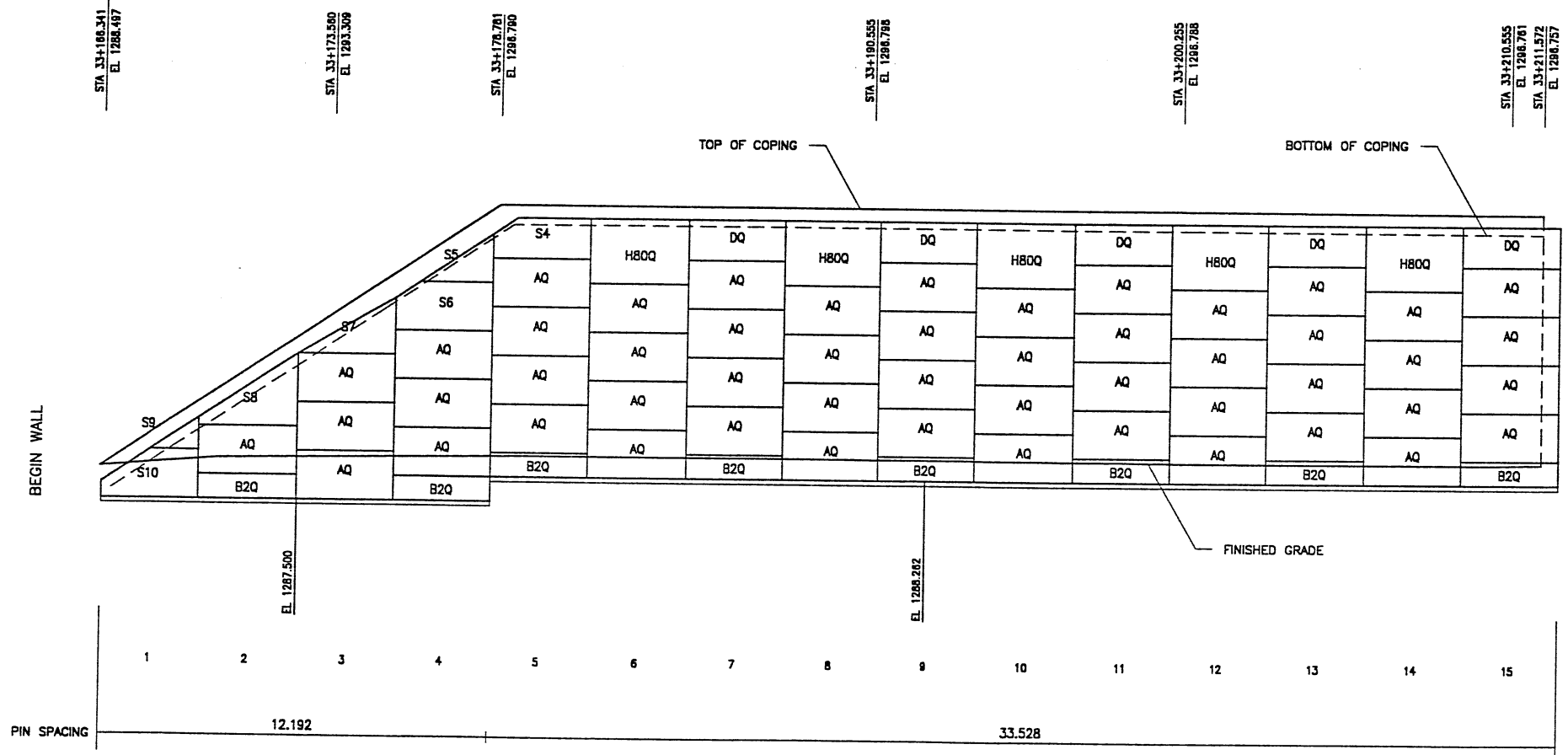
RETAINED EARTH™ WALLS
 WALL "R-351-14" - 1ST STAGE: WIRE FACED WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

SCALE:
 3.2R-351-14.10
 JOB NO:
 239-0007
 RE-8

10 OF 10

FINAL PLOT 01-29-99 C:\MSE-DWG\65-SERIES\65-14\65-14.DWG REFERENCE (X-UTAH.DWG)

BEGIN PRECAST WALL R-351-14
 PRECAST WALL STA 33+166.341=
 I-15 STA 33+166.357 @ 48.740 RT



RETAINING WALL "R-351-14" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN) SCALE 1:100 (FULL SIZE)
 (TOTAL SURFACE AREA OF FACING = 946.24 SM) SCALE 1:200 (HALF SIZE)

METRIC

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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	01-29-99	RELEASE FOR 2ND STAGE CONSTRUCTION

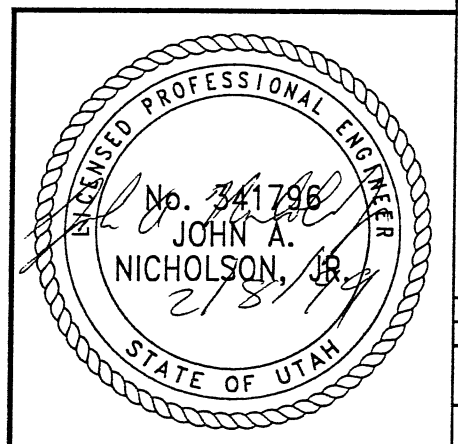
DES.	DRN.	CHK.	NO.	DATE	BY
01-29-99	01-29-99	01-29-99			
JN	DSW	JN			

VSL CORPORATION
 2840 Plaza Place, Suite 200
 Raleigh, NC 27612
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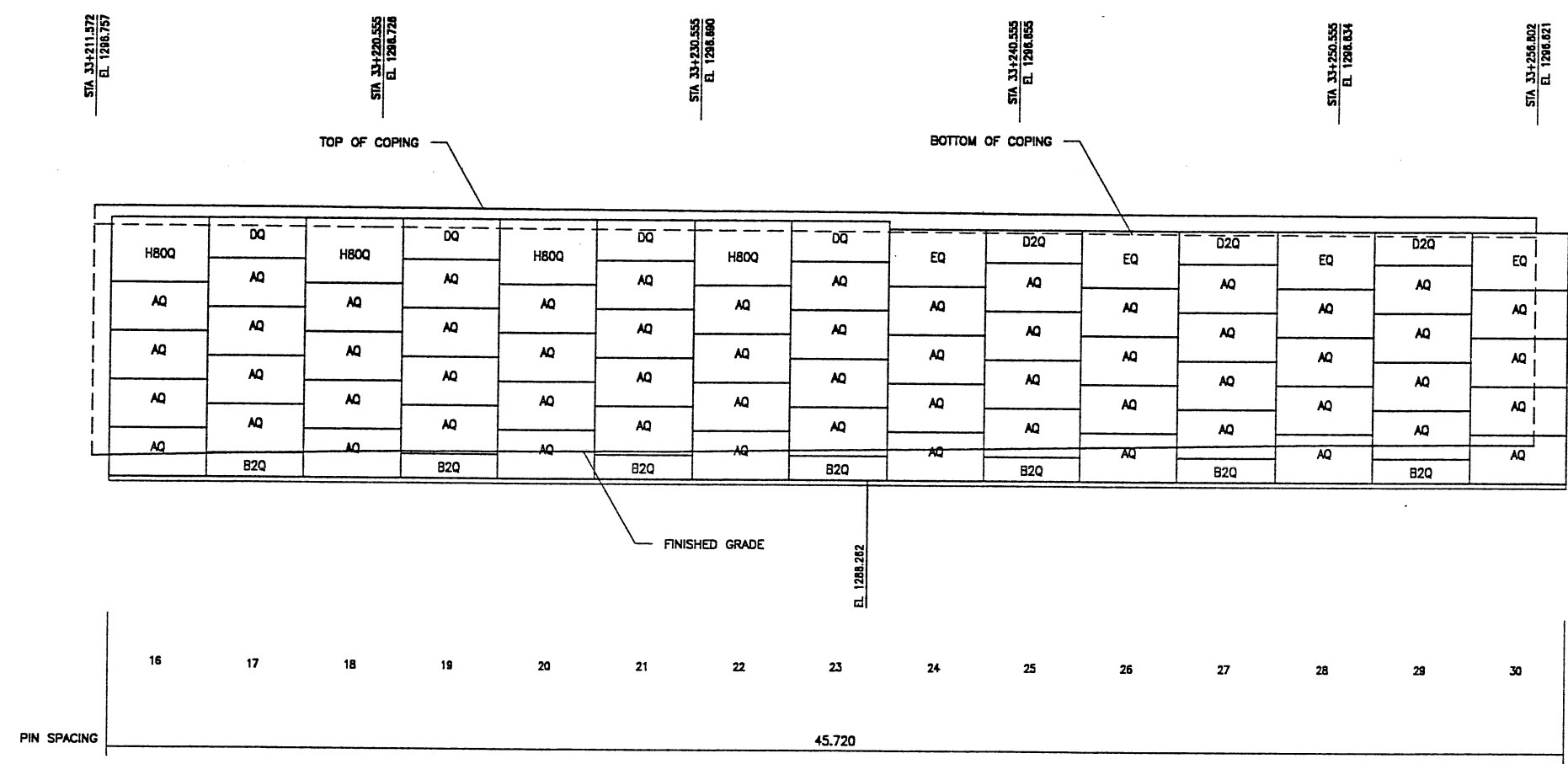
ATLANTA, GA / DANVILLE, VA / RALEIGH, NC (CORPORATE OFFICE)
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WASATCH CONSTRUCTORS
 FEB 19 1999
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RETAINED EARTH™ WALLS WALL "R-351-14" - 2ND STAGE: PRECAST WALL
UTAH I-15 INTERCHANGE SALT LAKE COUNTY, UTAH UTAH DEPARTMENT OF TRANSP.
DWG. NO. 3.2R-351-14.11
JOB NO. 239-0007
SHT. NO. RE-9



MATCH LINE #2

RETAINING WALL "R-351-14" - 2ND STAGE: PRECAST WALL

(FRONT FACE SHOWN)
(TOTAL SURFACE AREA OF FACING = 946.24 SM)

SCALE 1:100 (FULL SIZE)
SCALE 1:200 (HALF SIZE)

METRIC

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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	01-29-99	RELEASE FOR 2ND STAGE CONSTRUCTION

DES.	DRN.	CHK.	NO.	DATE	BY

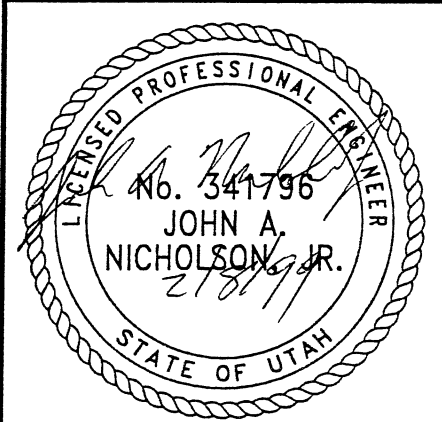
VSL CORPORATION
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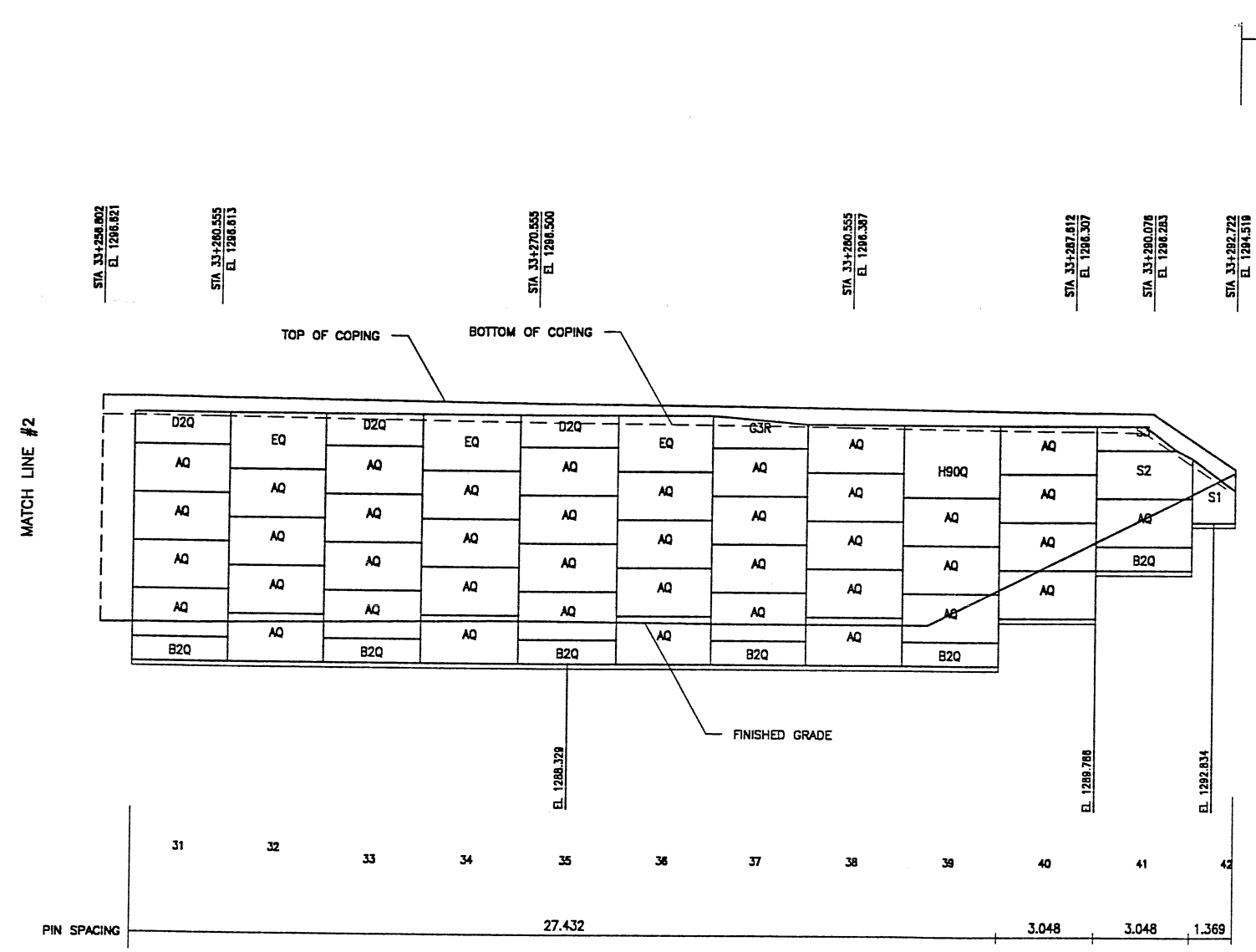
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 FEB 19 1999
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RETAINED EARTH™ WALLS
 WALL "R-351-14" - 2ND STAGE: PRECAST WALL
 UTAH I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2R-351-14.12
JOB NO.	239-0007
SHT. NO.	RE-10



END PRECAST WALL R-351-14
 PRECAST WALL STA 33+292.759 =
 I-15 STA 33+295.085 @ 42.306 RT
 RAMP D STA 1+504.451 @ 8.052 RT

RETAINING WALL "R-351-14" - 2ND STAGE: PRECAST WALL
 (FRONT FACE SHOWN)
 (TOTAL SURFACE AREA OF FACING = 948.24 SM)
 SCALE 1:100 (FULL SIZE)
 SCALE 1:200 (HALF SIZE)

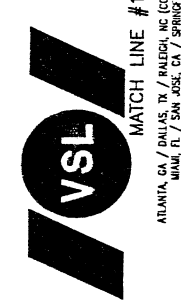
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APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	01-29-99	RELEASE FOR 2ND STAGE CONSTRUCTION

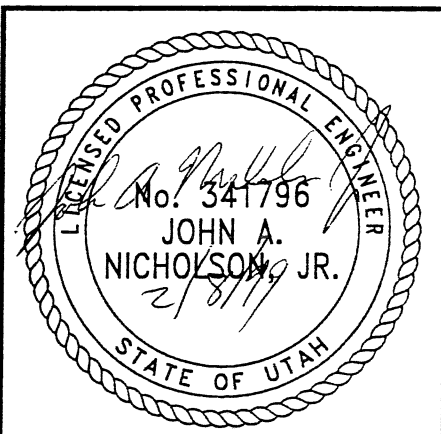
DES.	NO.	DATE	REVISION
JN	01-29-99		
DSW	01-29-99		
JN	01-29-99		

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 Raleigh, NC 27612
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 Fax: (919) 781-4869



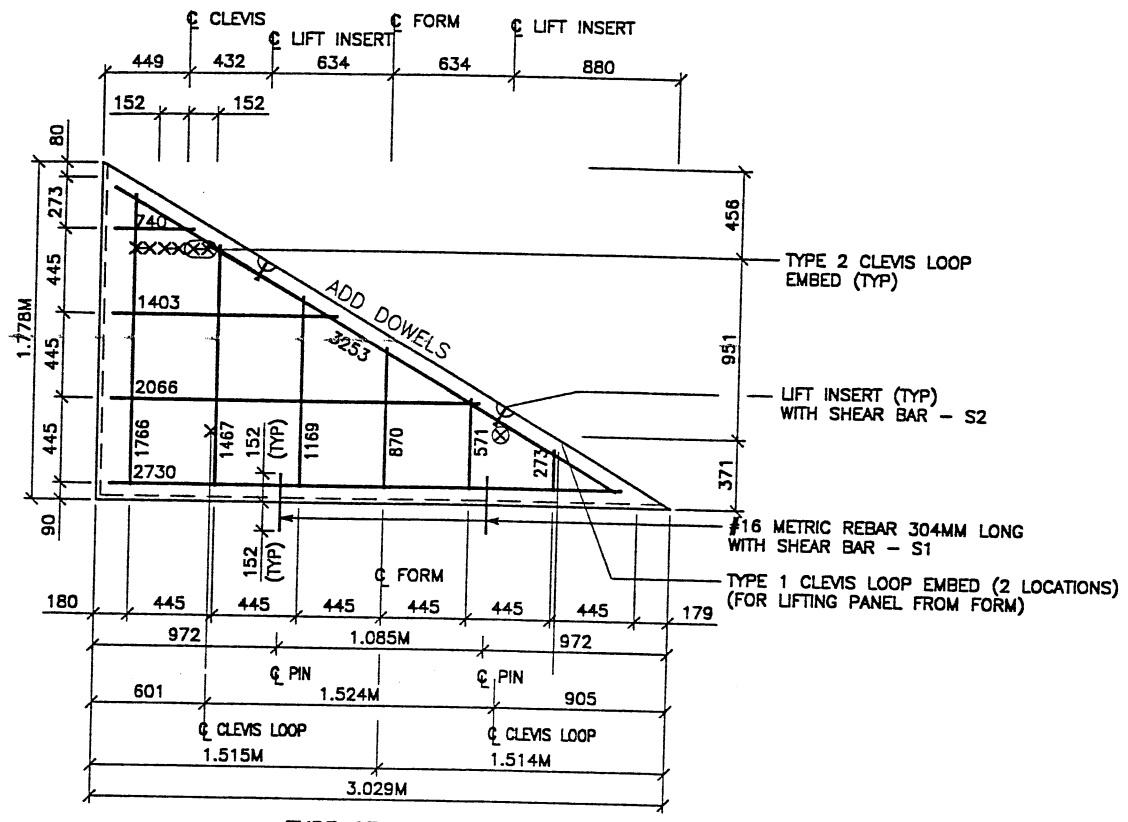
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WASATCH CONSTRUCTORS
 FEB 19 1999
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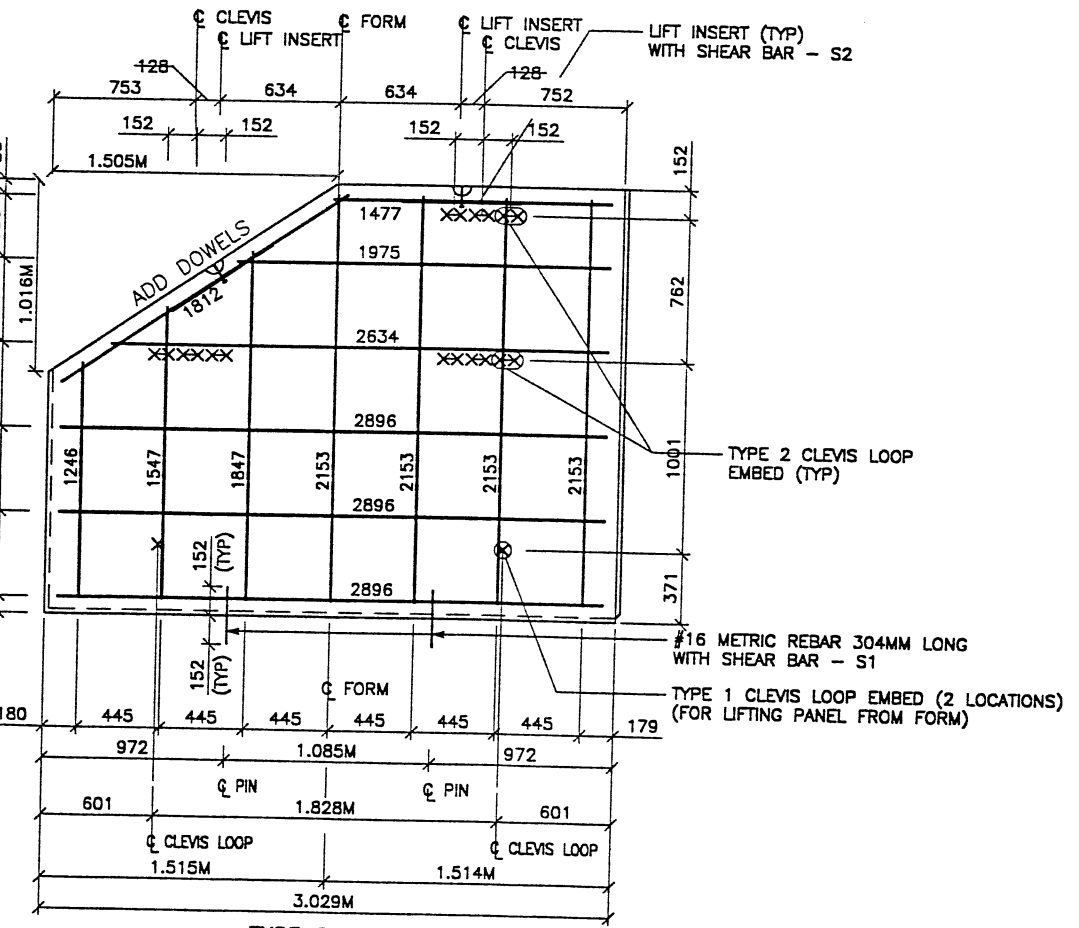


RETAINED EARTH™ WALLS
WALL "R-351-14" - 2ND STAGE: PRECAST WALL
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.
DWG. NO. 3.2R-351-14.13
JOB NO. 239-0007
SHT. NO. RE-11

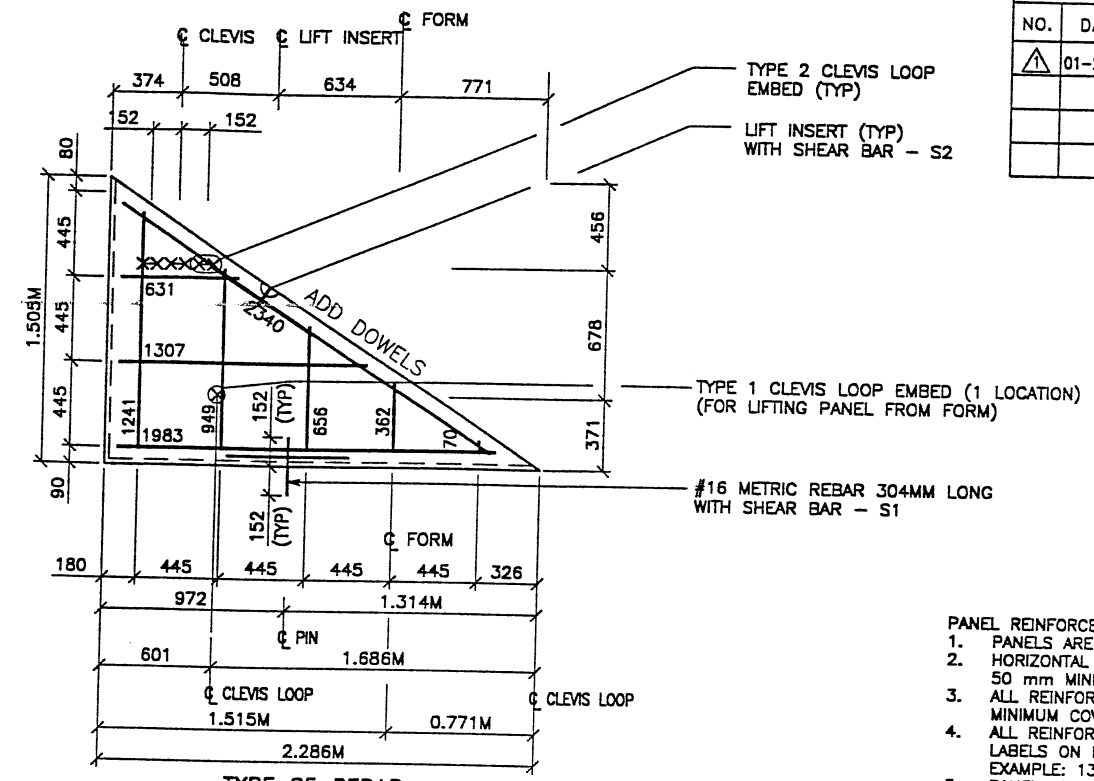
FINAL PLOT 01-29-99
 C:\MSE-WALLS\6S-SERIES\6S-14\SPICALS.DWG
 REFERENCE (X-UTAH.DWG)



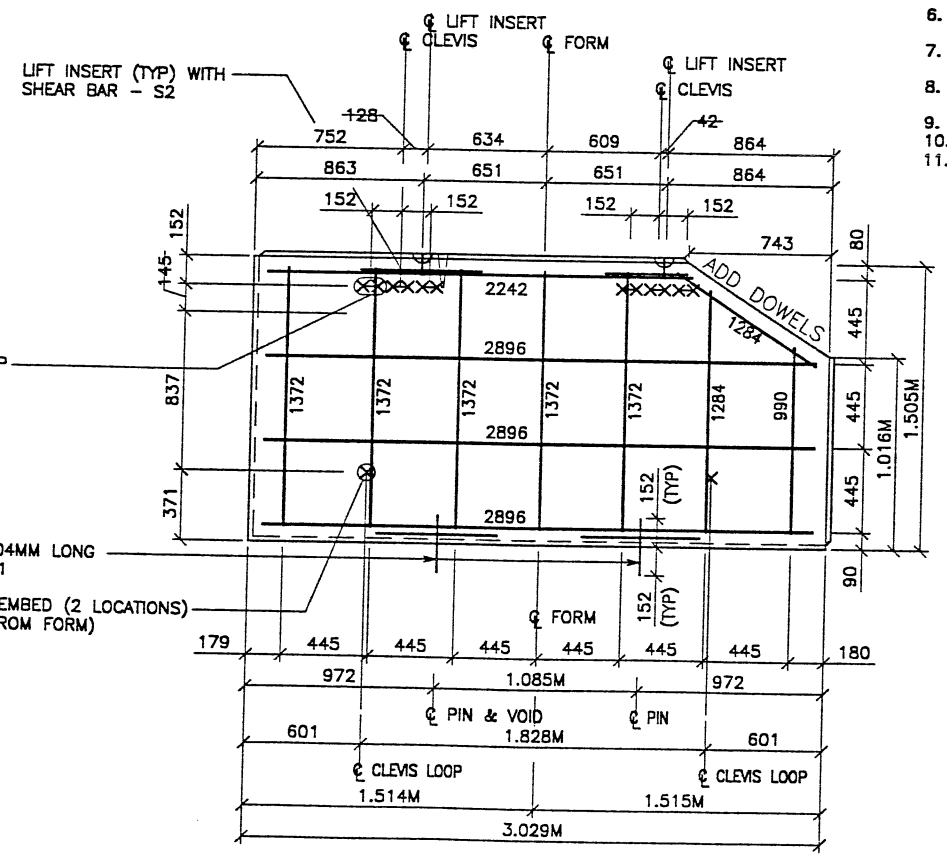
TYPE S7 REBAR
 (AREA = 2.71 SQ.M)



TYPE S2 REBAR
 (AREA = 6.19 SQ.M)



TYPE S5 REBAR
 (AREA = 1.74 SQ.M)



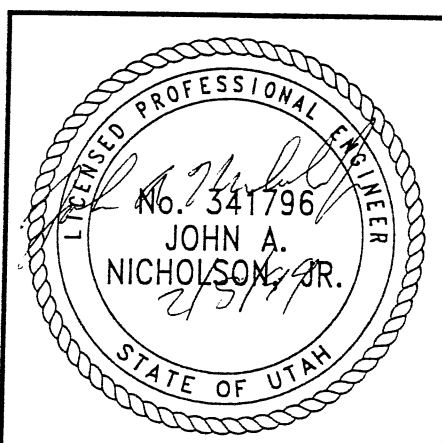
TYPE S6 REBAR
 (AREA = 4.45 SQ.M)

METRIC

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
△	01-29-99	RELEASE FOR 2ND STAGE CONSTRUCTION

- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS 1.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mmØ WIDE CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL.
 - PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

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WASATCH CONSTRUCTORS
FEB 19 1999
 RELEASED FOR CONSTRUCTION

REVISION		NO.	DATE	BY	CHK

DES.	01-29-99	JIN
DRN.	01-29-99	DSW
CHK.	01-29-99	JIN

RETAINED EARTH™

VSL CORPORATION
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 Fax: (919) 781-4869

VSL

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 MIAMI, FL / SAN JOSE, CA / SPRINGFIELD, VA

RETAINED EARTH™ WALLS
 WALL R-351-14™
 2-STAGE PANEL REINFORCEMENT

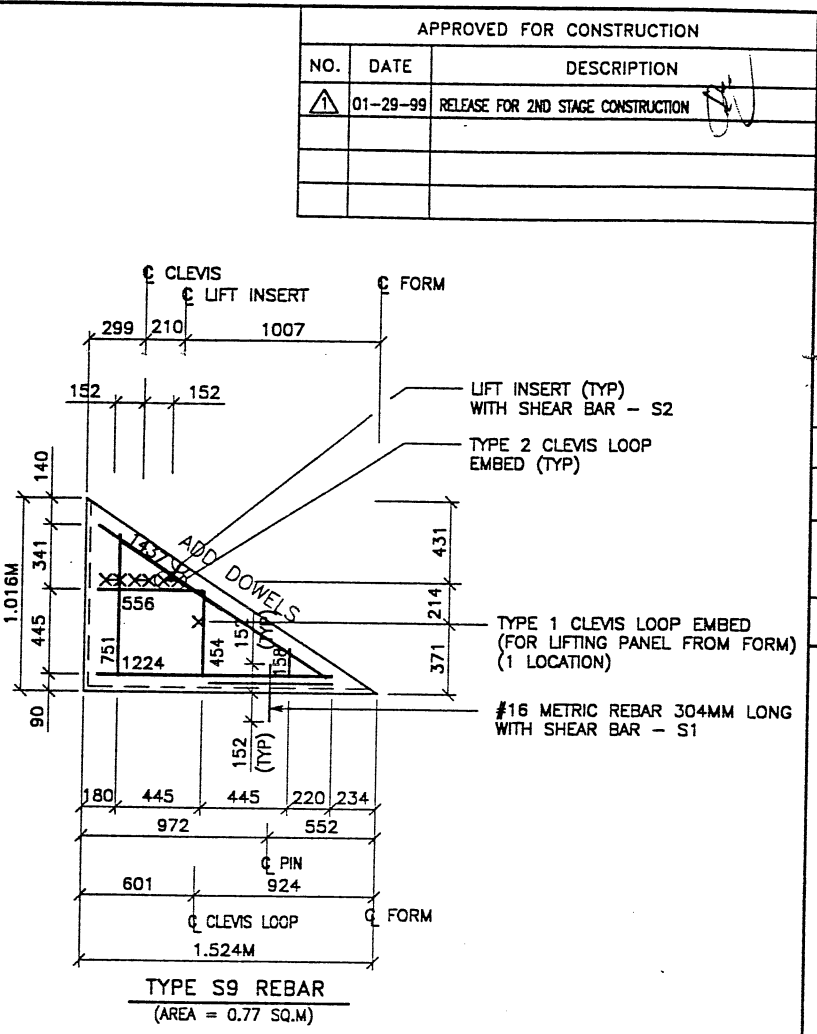
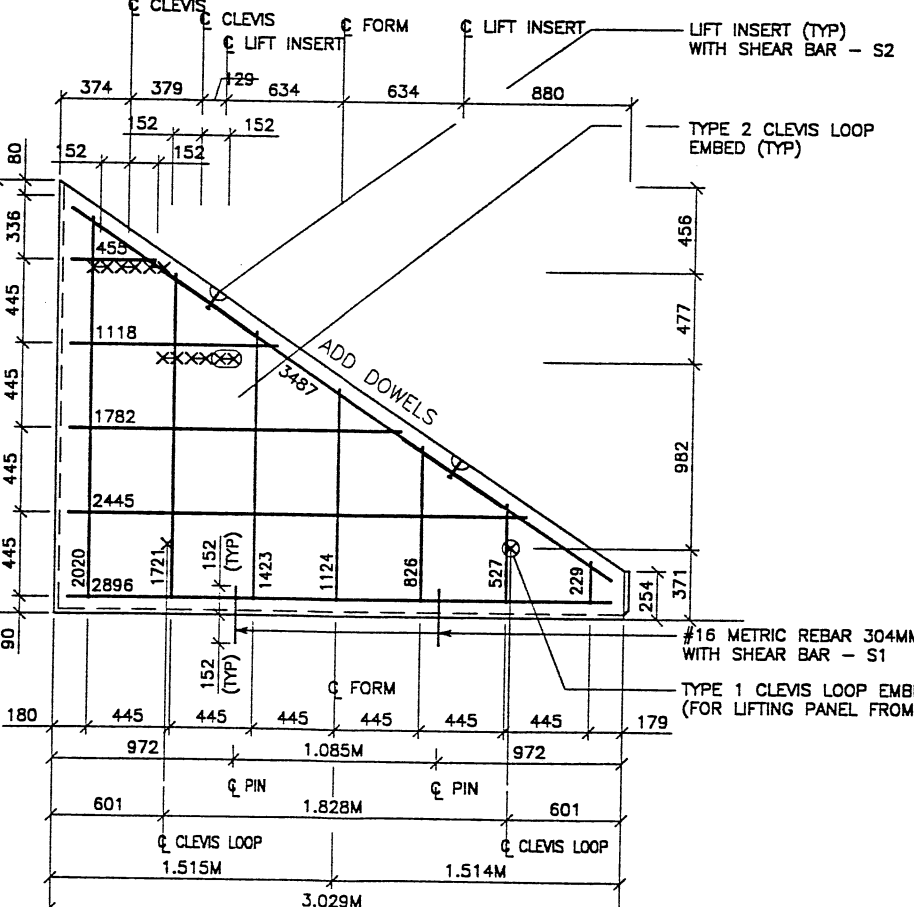
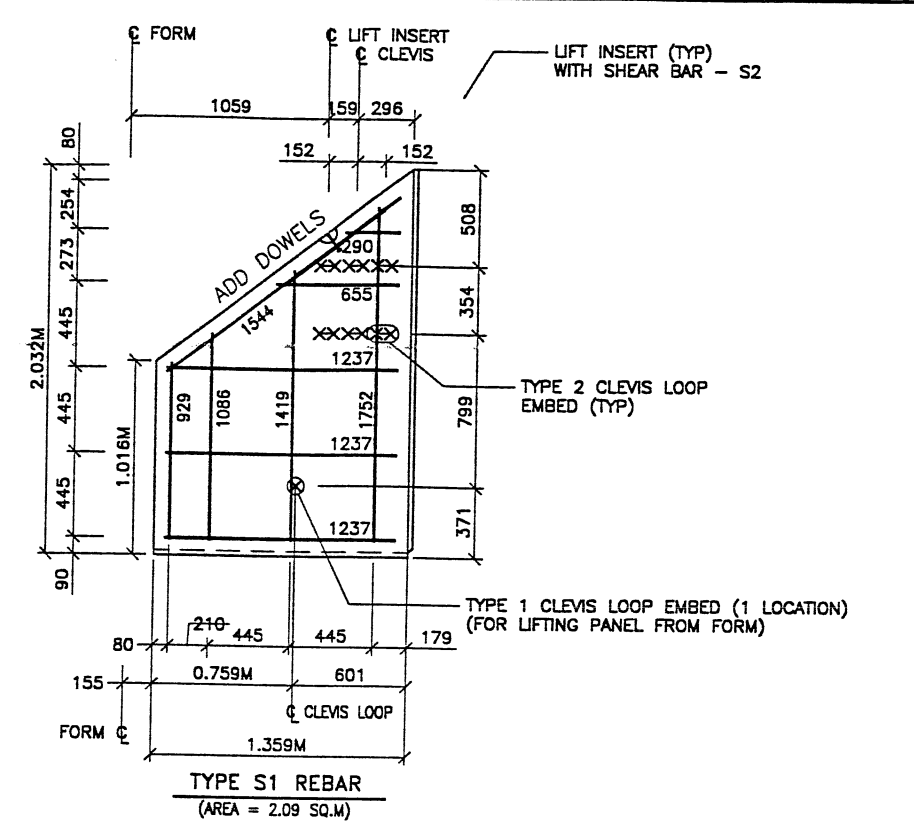
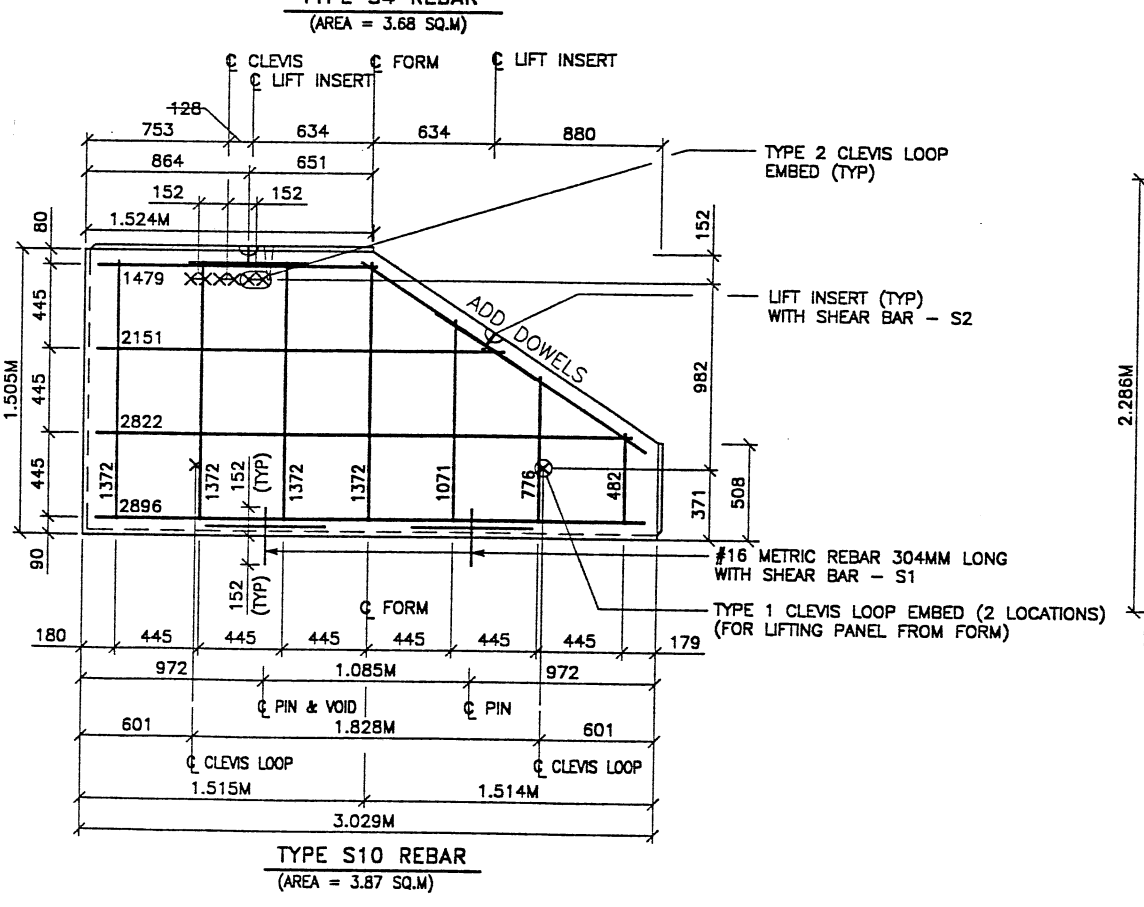
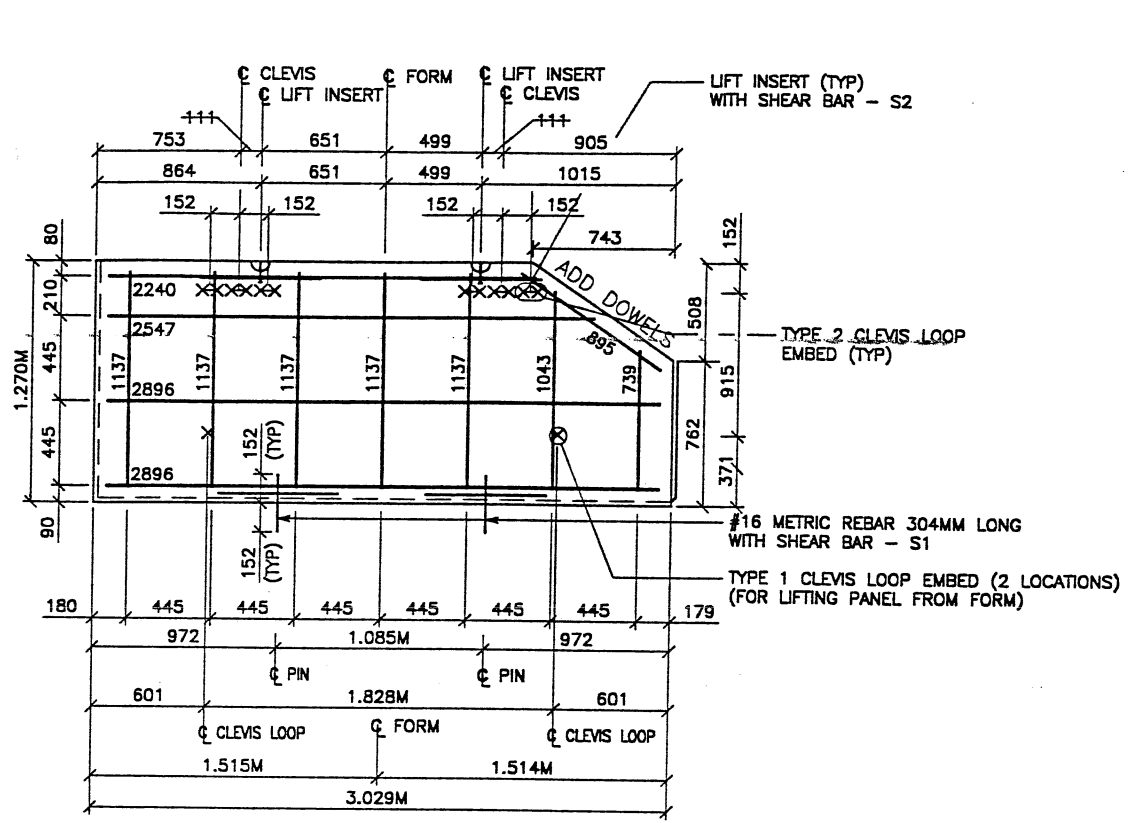
600 NORTH / I-15 INTERCHANGE
 SALT LAKE COUNTY, UTAH
 UTAH DEPARTMENT OF TRANSP.

DWG. NO.	3.2R-351-14.14
JOB NO.	239-0007
Sht. NO.	RE-12

FINAL PLOT 01-29-99

C:\WSE-WALLS\65-SERIES\65-14\SPECIALS.DWG

REFERENCE (X-UTAH.DWG)



- PANEL REINFORCEMENT NOTES:**
- PANELS ARE SHOWN BACK FACE.
 - HORIZONTAL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE BACK FACE.
 - ALL REINFORCEMENT SHALL HAVE 50 mm MINIMUM COVER TO THE SIDES.
 - ALL REINFORCING BARS ARE #13 METRIC. LABELS ON EACH BAR INDICATE LENGTH. EXAMPLE: 1345 IS A #13 BAR 1345 mm LONG.
 - PANEL REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS FOR CONCRETE REINFORCEMENT CONFORMING TO THE SPECIFICATIONS OF ASTM DESIGNATION A615, GRADE 60.
 - ALL REINFORCING STEEL TO BE GALVANIZED IN ACCORDANCE WITH ASTM 767 CLASS I.
 - CONCRETE PANELS TO HAVE 28 DAY COMPRESSIVE STRENGTH OF 27,500 KPa.
 - EQUIVALENT WELDED WIRE FABRIC MAY BE USED.
 - ALL PANELS TO USE 9.5mm WIDE CLEVIS LOOPS.
 - VSL RETAINED EARTH™ IS PROTECTED UNDER PATENT 4,725,170.
 - LIFT INSERTS ARE 6 3/4" LONG IN ALL PANELS LESS THAN 1.524M TALL. PANELS TALLER THAN 1.524M SHALL HAVE 11" LONG LIFT ANCHORS.

APPROVED FOR CONSTRUCTION		
NO.	DATE	DESCRIPTION
1	01-29-99	RELEASE FOR 2ND STAGE CONSTRUCTION

NO.	DATE	REVISION	BY	CHK

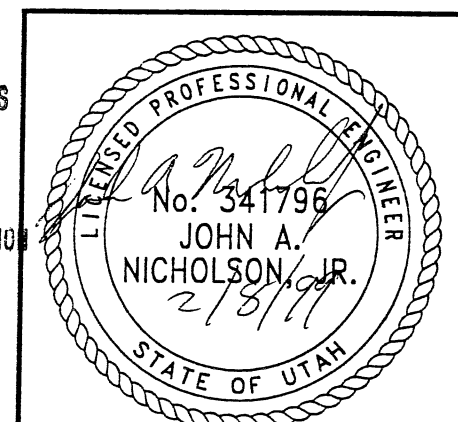
VSL CORPORATION
2640 Plaza Place, Suite 200
Raleigh, NC 27617
Telephone: (919) 781-8272
Fax: (919) 781-4969

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RETAINED EARTH™ WALL "R-351-14"
2-STAGE PANEL REINFORCEMENT
UTAH I-15 INTERCHANGE
SALT LAKE COUNTY, UTAH
UTAH DEPARTMENT OF TRANSP.

DWG. NO. 3.2R-351-14.15
JOB NO. 239-0007
SHT. NO. RE-13

WASATCH CONSTRUCTORS
FEB 19 1999
RELEASED FOR CONSTRUCTION
METRIC



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