

# UTAH

## DEPARTMENT OF TRANSPORTATION

SEE SHEET 1A FOR INDEX TO PLAN

SHEET NO.  
1

U.S. Standard Units  
(Inch-Pound Units)

PLANS OF PROPOSED STATE ROAD  
CENTENNIAL HIGHWAY FUNDED PROJECT

SP-0052(5)0

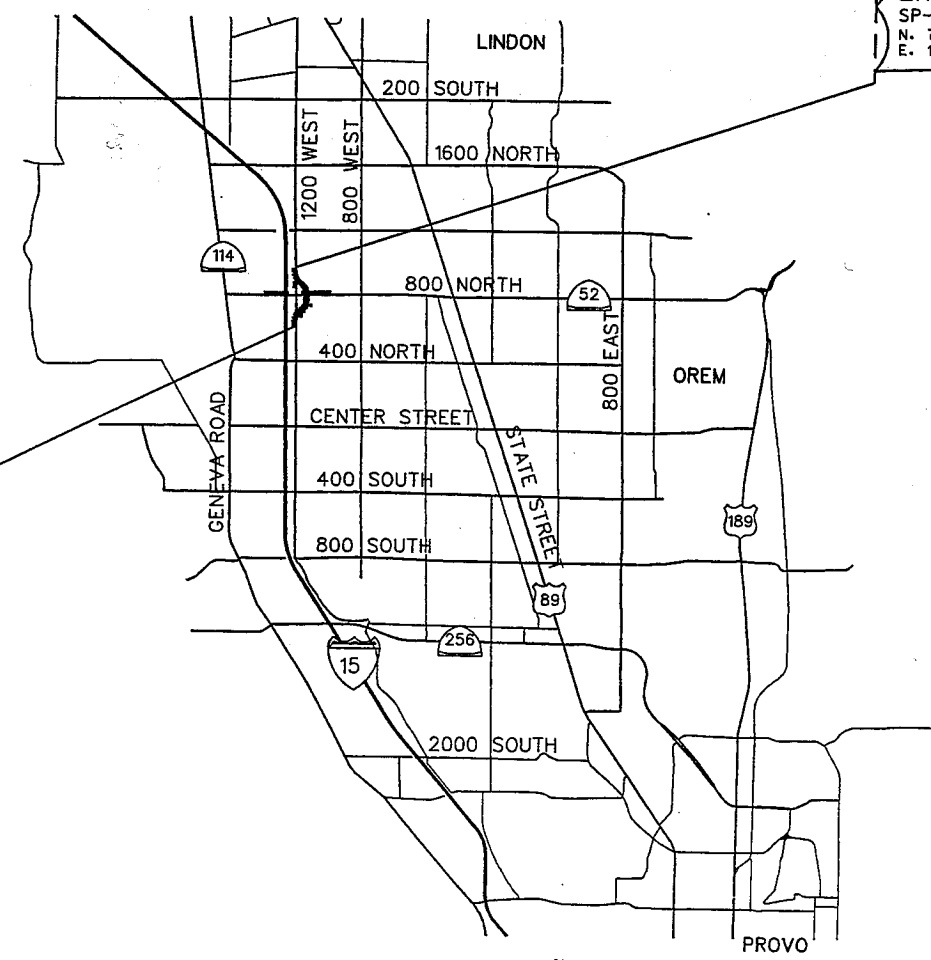
SR-52; 800 NORTH, 1200 WEST INTERSECTION RELOCATION

NEW CONSTRUCTION ON NEW ALIGNMENT

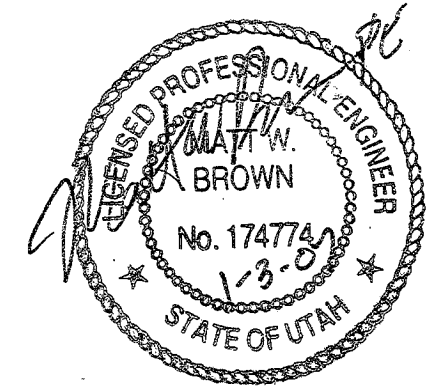
UTAH COUNTY

LENGTH 0.492 MILES

STA. 10+00.00  
BEG. PROJECT  
SP-0052(5)0  
N. 7283251.266  
E. 1578279.181



STA. 36+00.00  
END PROJECT  
SP-0052(5)0  
N. 7285553.693  
E. 1578259.950

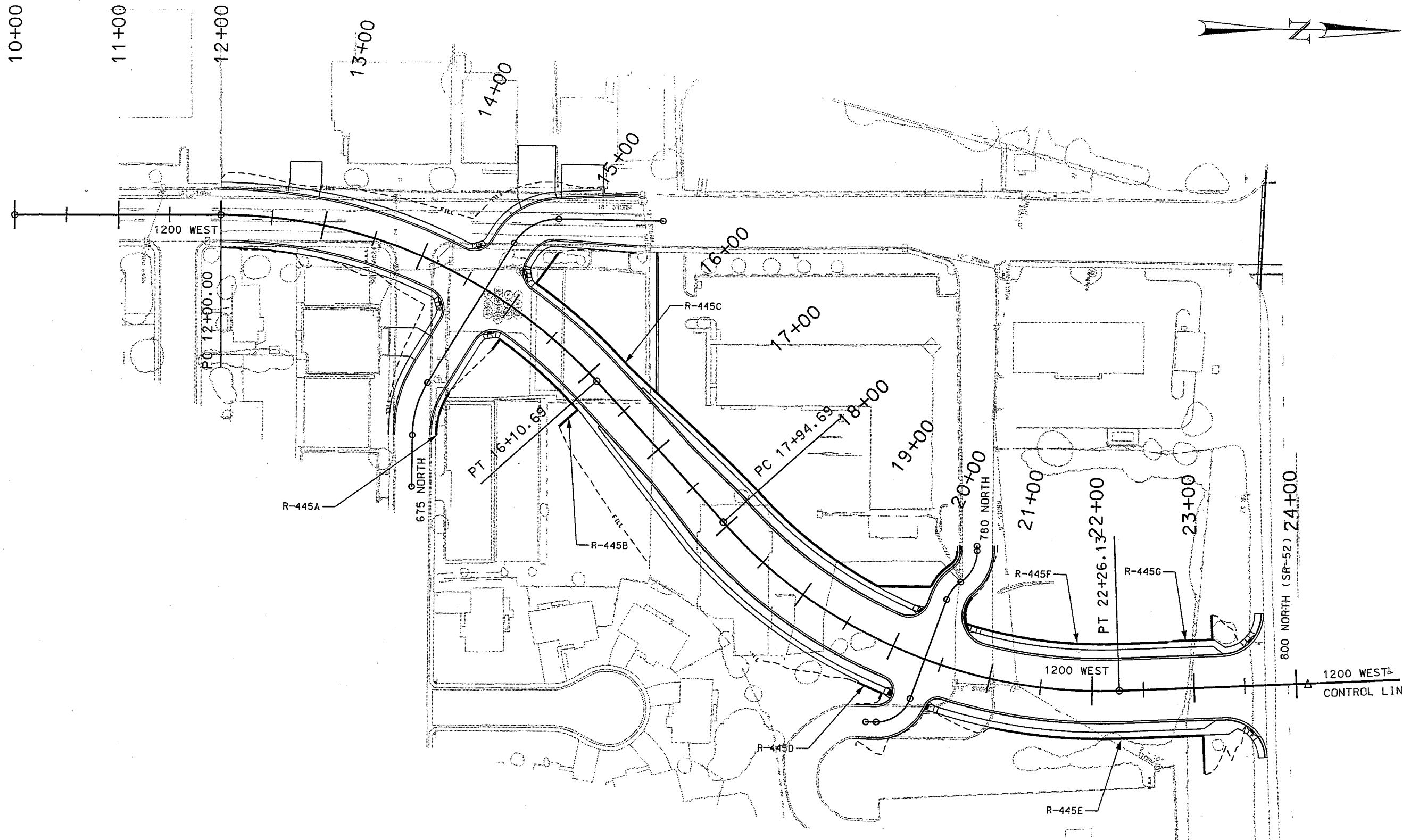


UTAH DEPARTMENT OF TRANSPORTATION  
APPROVED FOR  
USE BY UDOT \_\_\_\_\_ 2004

\_\_\_\_\_  
REGION THREE DIRECTOR

\_\_\_\_\_  
UDOT PROJECT MANAGER

\_\_\_\_\_  
CONSULTANT



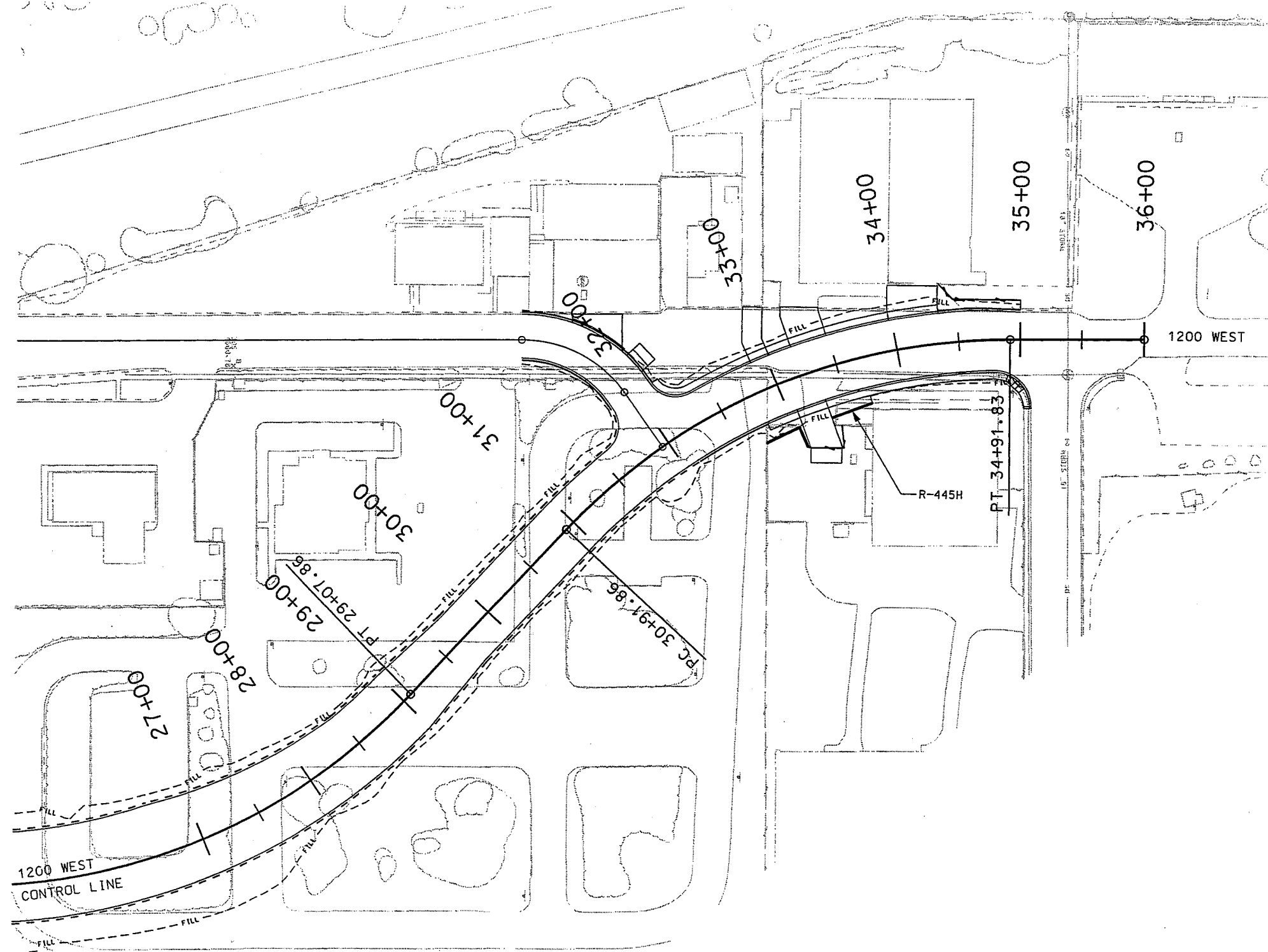
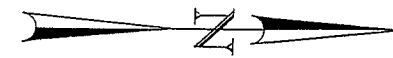
LOCATION PLAN

- GENERAL NOTES**
1. ALL UNITS ARE IN FEET UNLESS OTHERWISE NOTED.
  2. ALL WALL ELEVATIONS ARE CONSTANT SLOPE BETWEEN ELEVATIONS SHOWN.
  3. SEE SHEET 2 FOR LOCATION OF WALL R-445H.

SUMMARY - MSE RETAINING WALL QUANTITIES R-445

ITEM	QUANTITY	UNIT	AS CONSTR
MSE RETAINING WALL R-445	9556 SQ FT EST. EXPOSED SURFACE	LUMP	
3' CHAIN LINK FENCE - TYPE II	313	FT	
6' CHAIN LINK FENCE - TYPE II	662	FT	
4' WONDER-WALL	50	FT	

UTAH DEPARTMENT OF TRANSPORTATION REGION 3, OREM, UTAH HDR ENGINEERING, INC.		DESIGN GTP 05/04	CHECK CEE 05/04
APPROVAL RECORDAL	DATE	SENIOR DESIGN ENGR.	
APPROVED FOR USE BY UDOT	DATE	UDOT BRIDGE ENGR.	
PROJECT NUMBER	SP-0052(510)	QUANT. RDH 10/04	CHECK GCG 10/04
UTAH COUNTY	R-445	NO.	DATE
DRG. NO.		BY	REVISIONS
SHT. 1	OF 11		



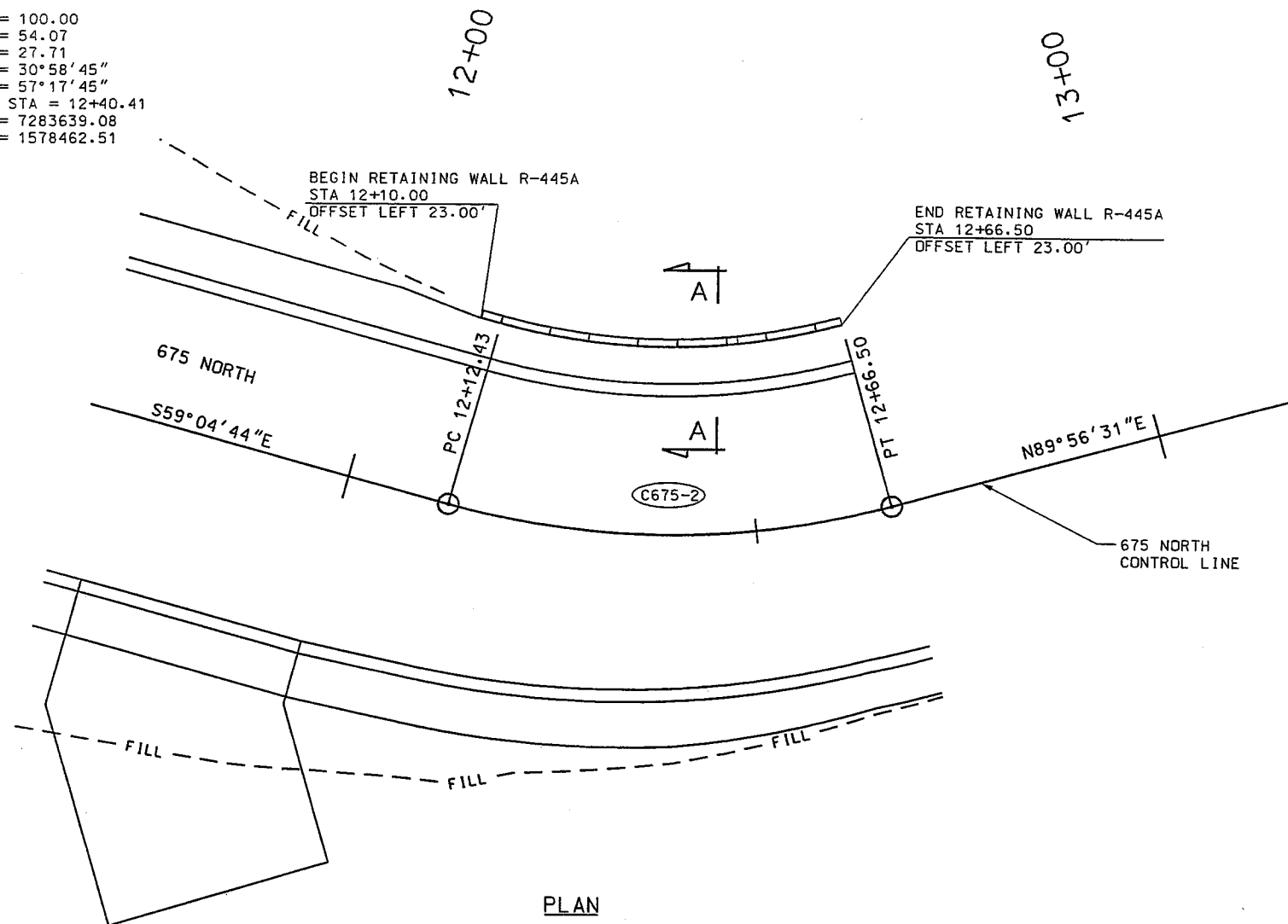
LOCATION PLAN

NOTE:  
 1. SEE SHEET 1 FOR NOTES AND LOCATION OF WALLS R-445A THROUGH R-445G.

SR-52: 800 NORTH, 1200 WEST		UTAH DEPARTMENT OF TRANSPORTATION	
MSE RETAINING WALLS		REGION 3, OREM, UTAH	
LOCATION PLAN 2		HDR ENGINEERING, INC.	
PROJECT NUMBER	SP-0052(5)0	DESIGN GTP	05/04
		CHECK CEE	05/04
		DRAWN	JMG 05/04
		CHECK GTP	05/04
		QUANT.	RDH 10/04
		CHECK GCG	10/04
		NO.	
		DATE	
		BY	
		REVISIONS	

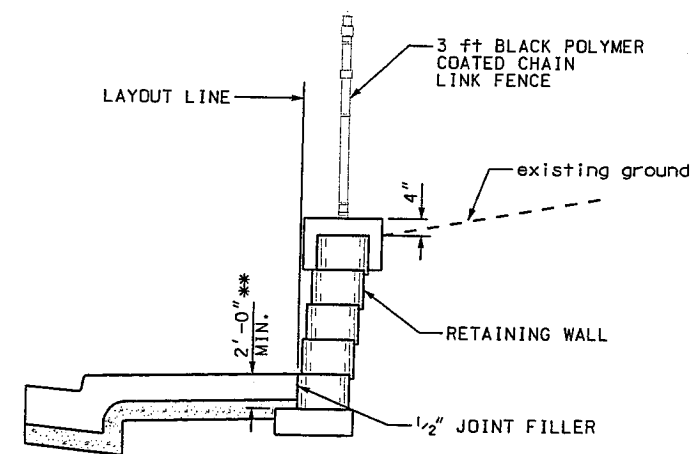
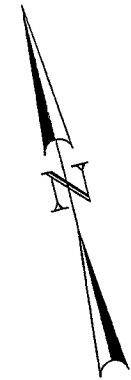
C675-2

R = 100.00  
 L = 54.07  
 T = 27.71  
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 Δc = 57°17'45"  
 PI STA = 12+40.41  
 N = 7283639.08  
 E = 1578462.51

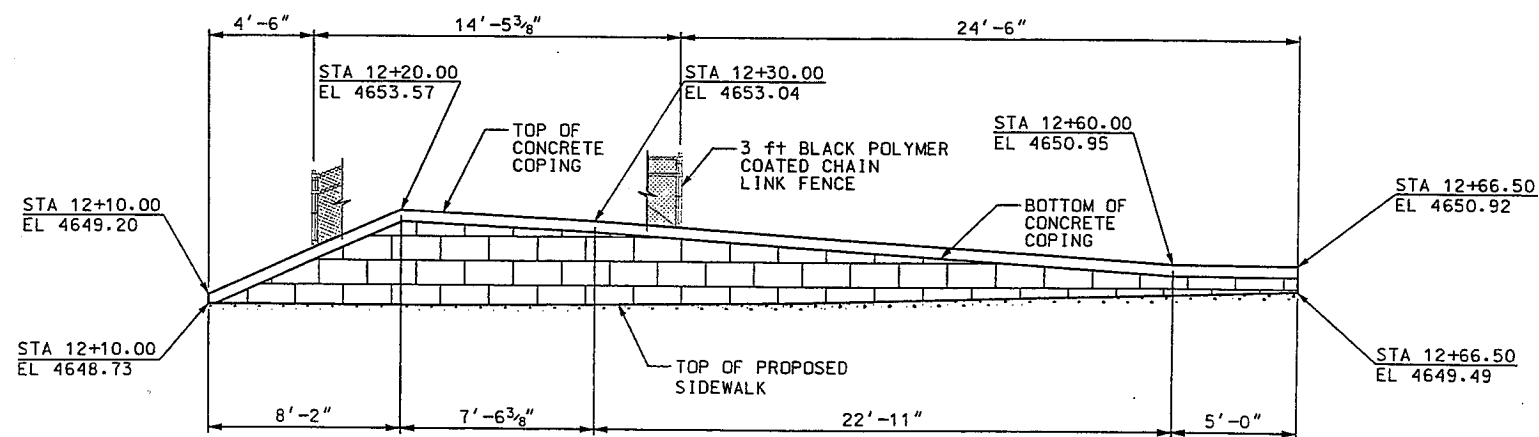


NOTES

1. CONCRETE AND REINFORCING STEEL REQUIRED FOR COPING IS INCLUDED IN WALL COST.
2. COPING MATERIALS:  
 $f'_c = 4000$  PSI CLASS AA CONCRETE  
 $f_y = 60,000$  PSI COATED REINFORCEMENT
3. CHAIN LINK FENCE MATERIAL AND INSTALLATION WILL BE IN ACCORDANCE WITH THE "STATE OF UTAH STANDARD SPECIFICATIONS" CURRENT EDITION, AND STANDARD DRAWING NO. FG 6.
4. EXCAVATION FOR WALL CONSTRUCTION IS INCIDENTAL TO RETAINING WALL BID ITEMS.
5. SEE SHEET 2 FOR LOCATION OF WALL R-445H.
6. ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
7. STATIONS AND OFFSETS ARE REFERENCED TO WALL LAYOUT LINE.



\*\* 2'-0" MINIMUM DEPTH MUST BE MAINTAINED FOR A MINIMUM OF 4'-0" AT FRONT FACE OF WALL.



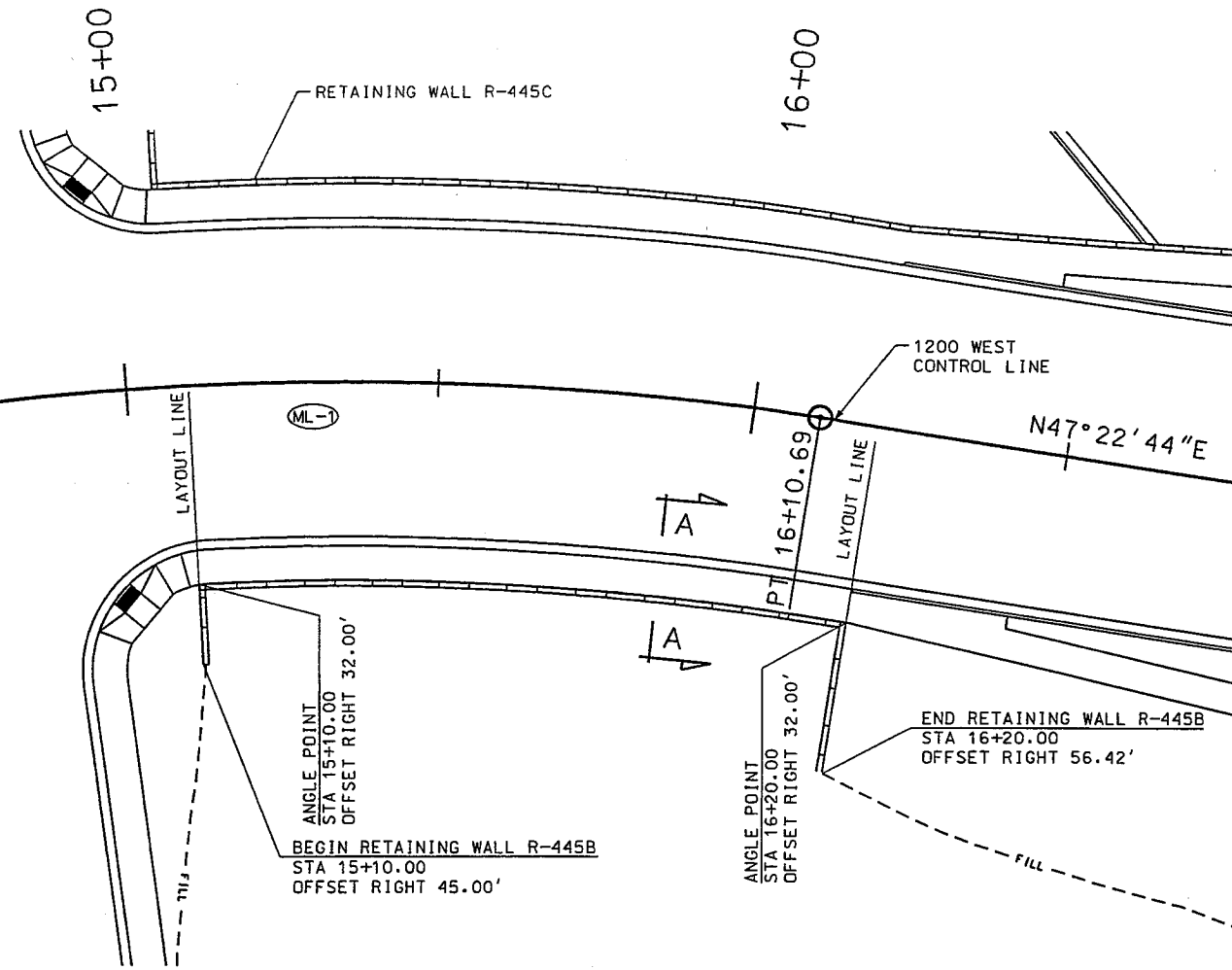
WALL R-445A - QUANTITIES		
ITEM	QUANTITY	UNIT
MSE RETAINING WALL R-445A	126*	SO. FT.
3 ft BLACK POLYMER COATED CHAIN LINK FENCE	15	FT.

\* ESTIMATED EXPOSED SURFACE

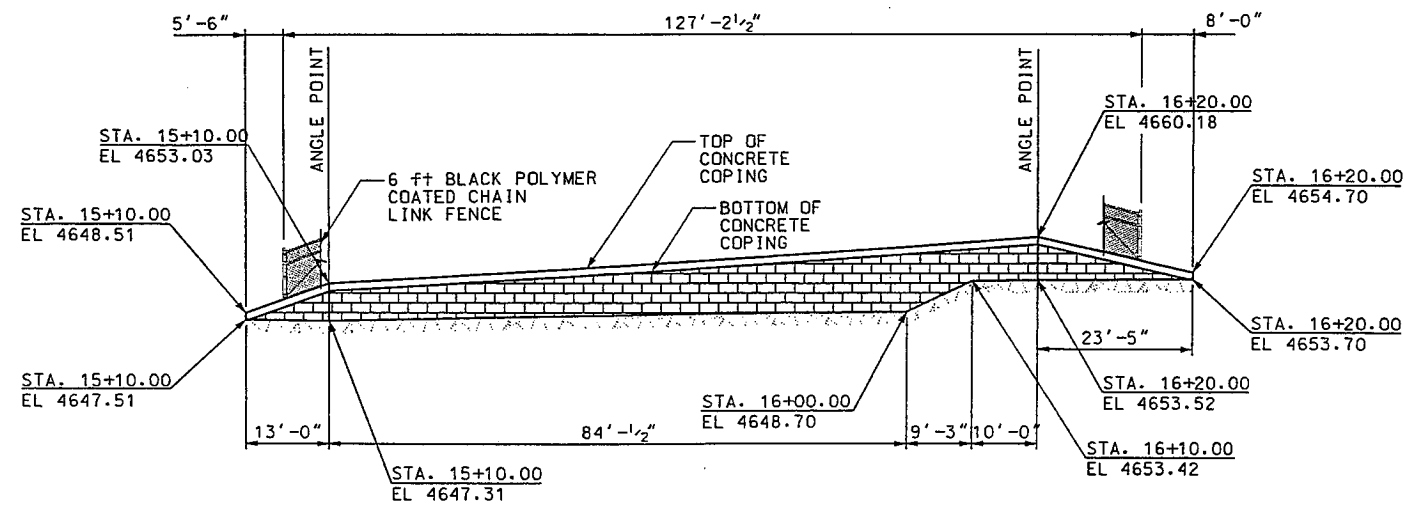
UTAH DEPARTMENT OF TRANSPORTATION REGION 3, DREM, UTAH HDR ENGINEERING, INC.		DESIGN_AER_05/04	CHECK_CEE_05/04
APPROVAL RECORD	DATE	SENIOR DESIGN ENGR.	DATE
APPROVED FOR USE BY UDOT	DATE	UDOT BRIDGE ENGR.	DATE
PROJECT NUMBER	SP-0052(5)0		
SR-52: 800 NORTH, 1200 WEST MSE RETAINING WALLS SITUATION AND LAYOUT			
UTAH COUNTY			
R-445A			
DRG. NO.			
SHT. 3		OF 11	

ML-1

R = 490.00  
 L = 410.69  
 T = 218.27  
 $\Delta = 48^{\circ}01'18''$   
 $D_c = 11^{\circ}41'35''$   
 PI STA = 14+18.27  
 N = 7283669.51  
 E = 1578274.49



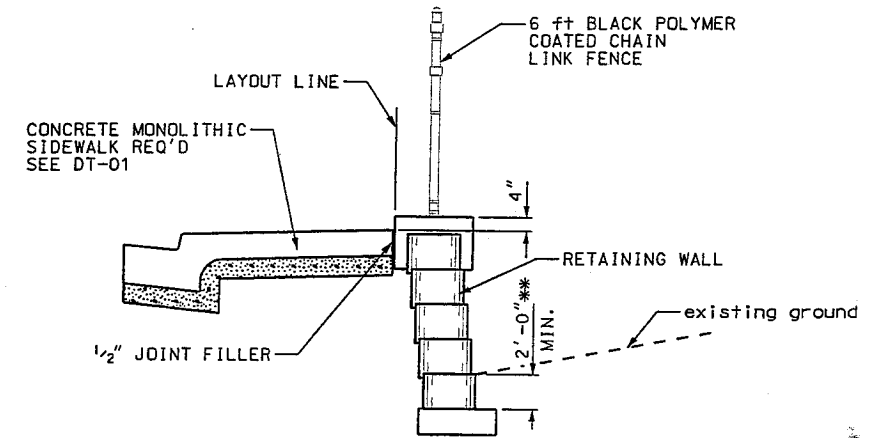
PLAN



DEVELOPED ELEVATION  
 DIMENSIONS MEASURED ALONG  
 WALL LAYOUT LINE

NOTES

1. CONCRETE AND REINFORCING STEEL REQUIRED FOR COPING IS INCLUDED IN WALL COST.
2. COPING MATERIALS:  
 $f'_c = 4000$  PSI CLASS AA CONCRETE  
 $f_y = 60,000$  PSI COATED REINFORCEMENT
3. CHAIN LINK FENCE MATERIAL AND INSTALLATION WILL BE IN ACCORDANCE WITH THE "STATE OF UTAH STANDARD SPECIFICATIONS" CURRENT EDITION, AND STANDARD DRAWING NO. FG 6.
4. EXCAVATION FOR WALL CONSTRUCTION IS INCIDENTAL TO RETAINING WALL BID ITEMS.
5. SEE SHEET 2 FOR LOCATION OF WALL R-445H.
6. ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
7. STATIONS AND OFFSETS ARE REFERENCED TO WALL LAYOUT LINE.



SECTION A-A

WALL R-445B - QUANTITIES		
ITEM	QUANTITY	UNIT
MSE RETAINING WALL R-445B	926*	SO. FT.
6 FT BLACK POLYMER COATED CHAIN LINK FENCE	128	FT.

\* ESTIMATED EXPOSED SURFACE

UTAH DEPARTMENT OF TRANSPORTATION  
 REGION 3, DREM, UTAH  
 HDR ENGINEERING, INC.

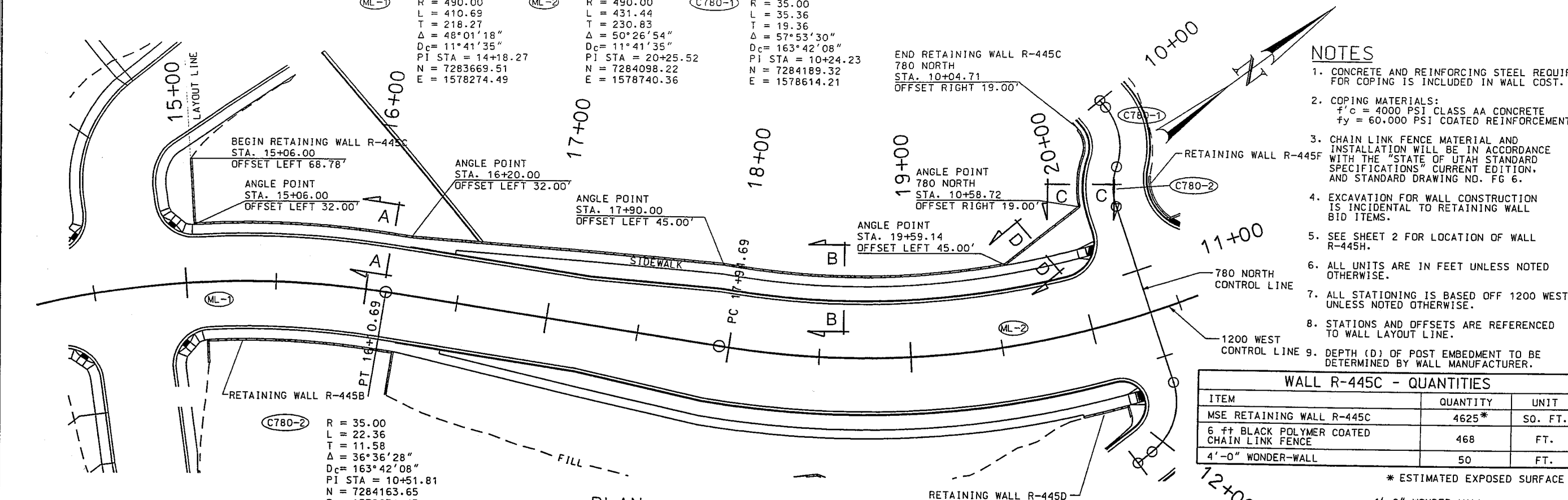
SR-52: 800 NORTH, 1200 WEST  
 MSE RETAINING WALLS  
 SITUATION AND LAYOUT  
 PROJECT NUMBER SP-0052(5)0

UTAH COUNTY  
 R-445B  
 DRG. NO.

DESIGN AER	CHECK CEE	DESIGN AER	CHECK GTP	QUANT. RDH	CHECK GCG
05/04	05/04	05/04	05/04	10/04	10/04

NO.	DATE	BY	REVISIONS

ML-1	R = 490.00 L = 410.69 T = 218.27 Δ = 48°01'18" D <sub>c</sub> = 11°41'35" PI STA = 14+18.27 N = 7283669.51 E = 1578274.49	ML-2	R = 490.00 L = 431.44 T = 230.83 Δ = 50°26'54" D <sub>c</sub> = 11°41'35" PI STA = 20+25.52 N = 7284098.22 E = 1578740.36	C780-1	R = 35.00 L = 35.36 T = 19.36 Δ = 57°53'30" D <sub>c</sub> = 163°42'08" PI STA = 10+24.23 N = 7284189.32 E = 1578614.21
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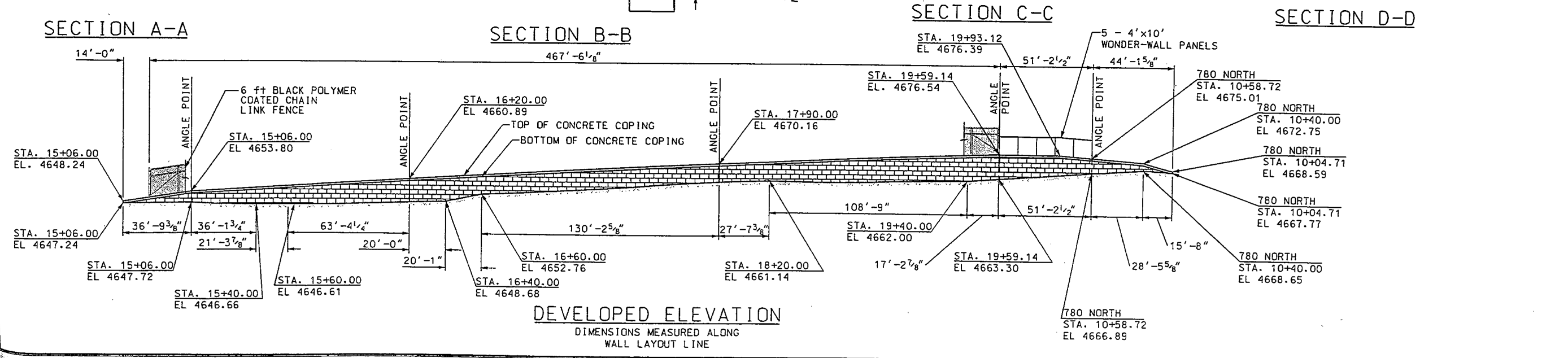
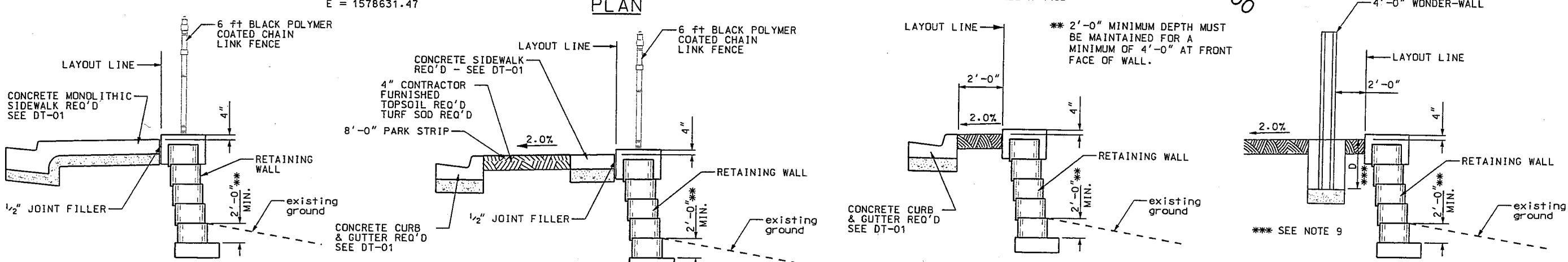


- ### NOTES
- CONCRETE AND REINFORCING STEEL REQUIRED FOR COPING IS INCLUDED IN WALL COST.
  - COPING MATERIALS:  
f'c = 4000 PSI CLASS AA CONCRETE  
fy = 60,000 PSI COATED REINFORCEMENT
  - CHAIN LINK FENCE MATERIAL AND INSTALLATION WILL BE IN ACCORDANCE WITH THE "STATE OF UTAH STANDARD SPECIFICATIONS" CURRENT EDITION, AND STANDARD DRAWING NO. FG 6.
  - EXCAVATION FOR WALL CONSTRUCTION IS INCIDENTAL TO RETAINING WALL BID ITEMS.
  - SEE SHEET 2 FOR LOCATION OF WALL R-445H.
  - ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
  - ALL STATIONING IS BASED OFF 1200 WEST UNLESS NOTED OTHERWISE.
  - STATIONS AND OFFSETS ARE REFERENCED TO WALL LAYOUT LINE.
  - DEPTH (D) OF POST EMBEDMENT TO BE DETERMINED BY WALL MANUFACTURER.

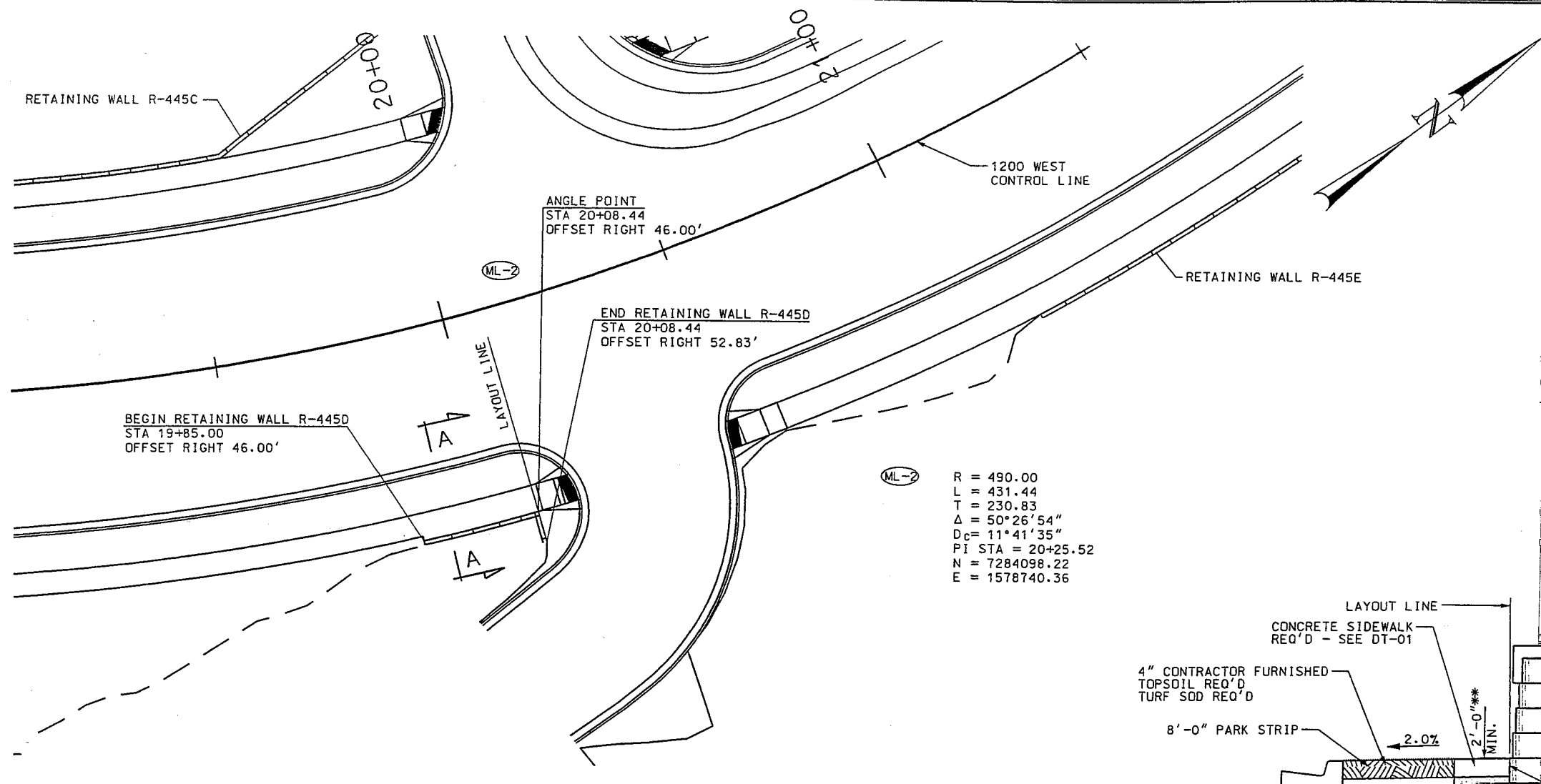
### WALL R-445C - QUANTITIES

ITEM	QUANTITY	UNIT
MSE RETAINING WALL R-445C	4625*	SO. FT.
6 FT BLACK POLYMER COATED CHAIN LINK FENCE	468	FT.
4'-0" WONDER-WALL	50	FT.

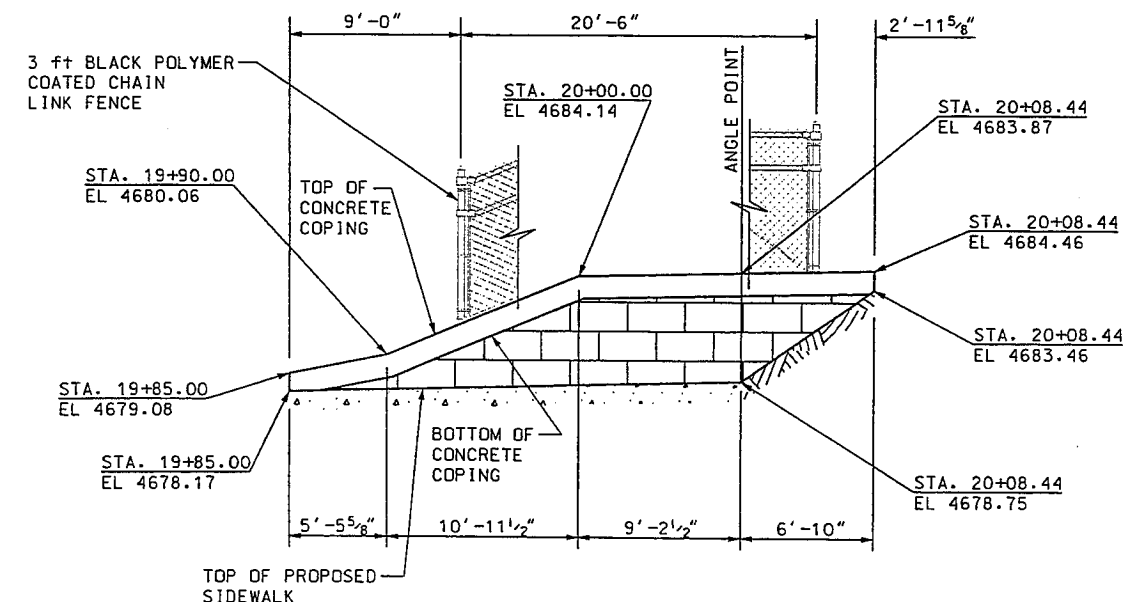
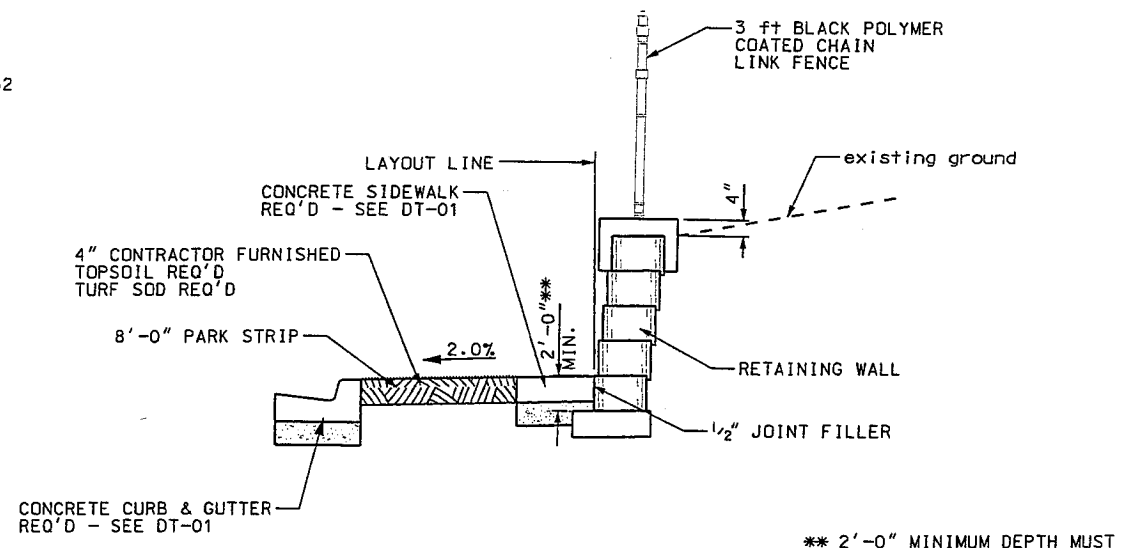
\* ESTIMATED EXPOSED SURFACE



UTAH DEPARTMENT OF TRANSPORTATION REGION 3, OREM, UTAH HDR ENGINEERING, INC.	DESIGN AER 05/04 CHECK GEE 05/04	DRAWN AER 05/04 CHECK GTP 05/04	QUANT. RDH 10/04 CHECK GCG 10/04
SR-52: 800 NORTH, 1200 WEST MSE RETAINING WALLS	APPROVAL RECORDING DATE	SENIOR DESIGN ENGR. DATE	UDOT BRIDGE ENGR. DATE
SITUATION AND LAYOUT	PROJECT NUMBER SP-0052(5)0		
UTAH COUNTY	R-445C		
DRG. NO.	SHT. 5 OF 11		



- NOTES**
1. CONCRETE AND REINFORCING STEEL REQUIRED FOR COPING IS INCLUDED IN WALL COST.
  2. COPING MATERIALS:  
 $f'_c = 4000$  PSI CLASS AA CONCRETE  
 $f_y = 60,000$  PSI COATED REINFORCEMENT
  3. CHAIN LINK FENCE MATERIAL AND INSTALLATION WILL BE IN ACCORDANCE WITH THE "STATE OF UTAH STANDARD SPECIFICATIONS" CURRENT EDITION, AND STANDARD DRAWING NO. FG 6.
  4. EXCAVATION FOR WALL CONSTRUCTION IS INCIDENTAL TO RETAINING WALL BID ITEMS.
  5. SEE SHEET 2 FOR LOCATION OF WALL R-445H.
  6. ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
  7. STATIONS AND OFFSETS ARE REFERENCED TO WALL LAYOUT LINE.



WALL R-445D - QUANTITIES		
ITEM	QUANTITY	UNIT
MSE RETAINING WALL R-445D	121*	SO. FT.
3 ft BLACK POLYMER COATED CHAIN LINK FENCE	21	FT.

\* ESTIMATED EXPOSED SURFACE

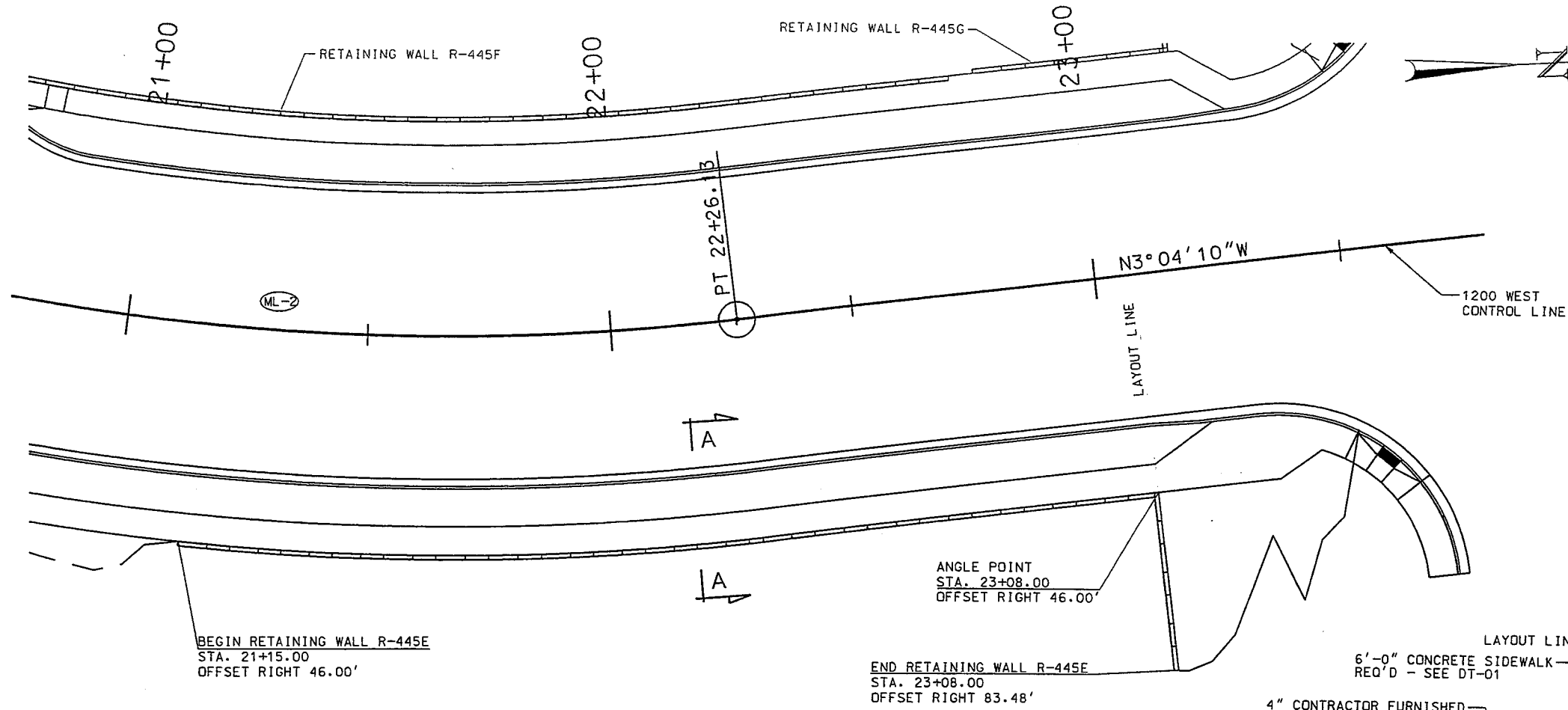
UTAH DEPARTMENT OF TRANSPORTATION  
 REGION 3, DREEM, UTAH  
 HDR ENGINEERING, INC.

SR-52: 800 NORTH, 1200 WEST  
 MSE RETAINING WALLS  
 SITUATION AND LAYOUT  
 PROJECT NUMBER SP-0052(5)0

DESIGN AER. 05/04 CHECK CEE 05/04  
 DRAWN AER. 05/04 CHECK GTP 05/04  
 QUANT. RDH. 10/04 CHECK GCG 10/04

APPROVAL RECORD: DATE SENIOR DESIGN ENGR. DATE UDOT BRIDGE ENGR.  
 APPROVED BY USE

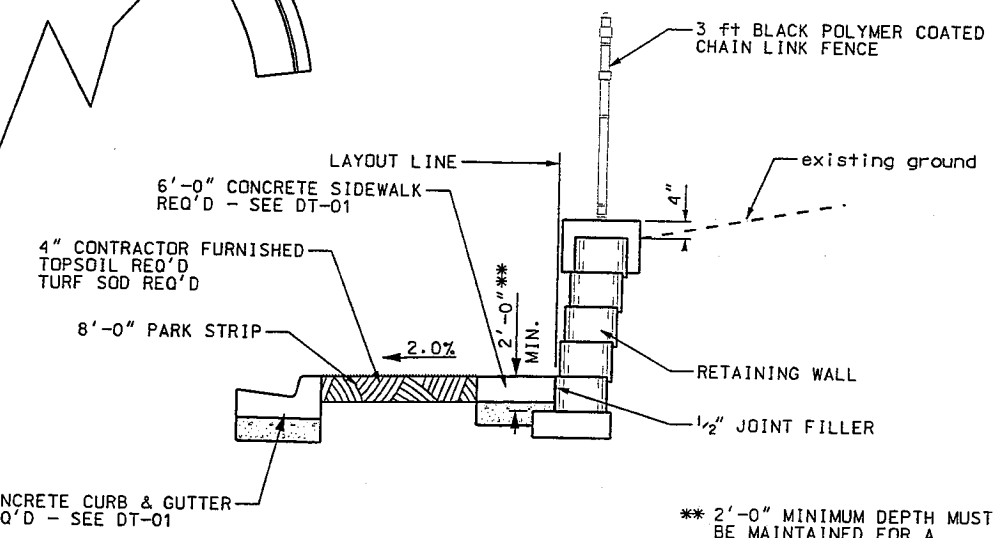
UTAH COUNTY R-445D  
 DRG. NO. SHT. 6 OF 11



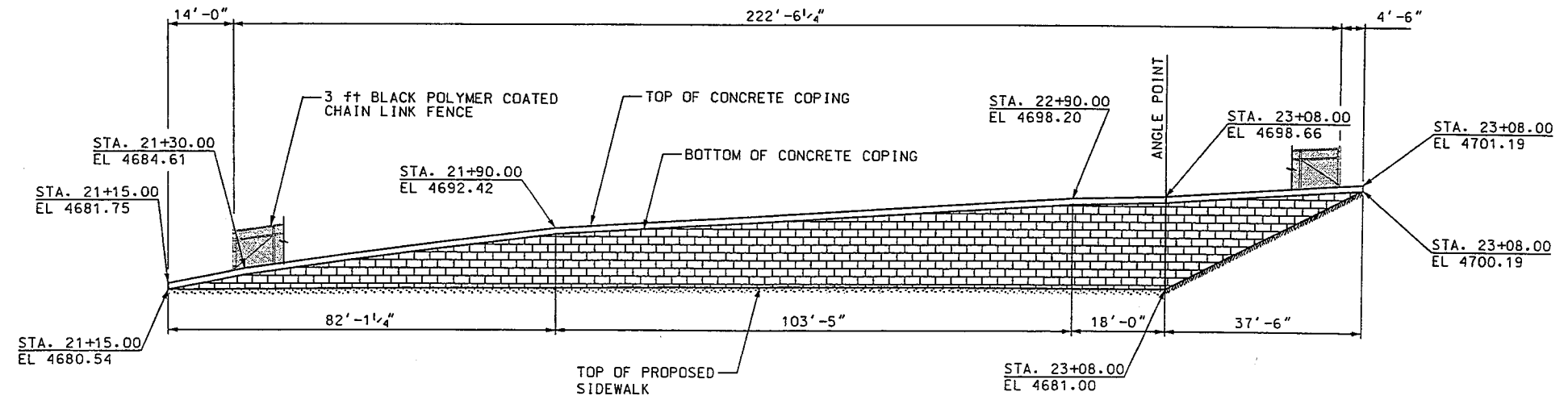
- NOTES**
1. CONCRETE AND REINFORCING STEEL REQUIRED FOR COPING IS INCLUDED IN WALL COST.
  2. COPING MATERIALS:  
 $f'_c = 4000$  PSI CLASS AA CONCRETE  
 $f_y = 60,000$  PSI COATED REINFORCEMENT
  3. CHAIN LINK FENCE MATERIAL AND INSTALLATION WILL BE IN ACCORDANCE WITH THE "STATE OF UTAH STANDARD SPECIFICATIONS" CURRENT EDITION, AND STANDARD DRAWING NO. FG 6.
  4. EXCAVATION FOR WALL CONSTRUCTION IS INCIDENTAL TO RETAINING WALL BID ITEMS.
  5. SEE SHEET 2 FOR LOCATION OF WALL R-445H.
  6. ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
  7. STATIONS AND OFFSETS ARE REFERENCED TO WALL LAYOUT LINE.

ML-2  
 R = 490.00  
 L = 431.44  
 T = 230.83  
 $\Delta = 50^\circ 26' 54''$   
 $D_c = 11^\circ 41' 35''$   
 PI STA = 20+25.52  
 N = 7284098.22  
 E = 1578740.36

**PLAN**



**SECTION A-A**



**DEVELOPED ELEVATION**  
 DIMENSIONS MEASURED ALONG WALL LAYOUT LINE

WALL R-445E - QUANTITIES		
ITEM	QUANTITY	UNIT
MSE RETAINING WALL R-445E	2691*	SQ. FT.
3 ft BLACK POLYMER COATED CHAIN LINK FENCE	223	FT.

\* ESTIMATED EXPOSED SURFACE

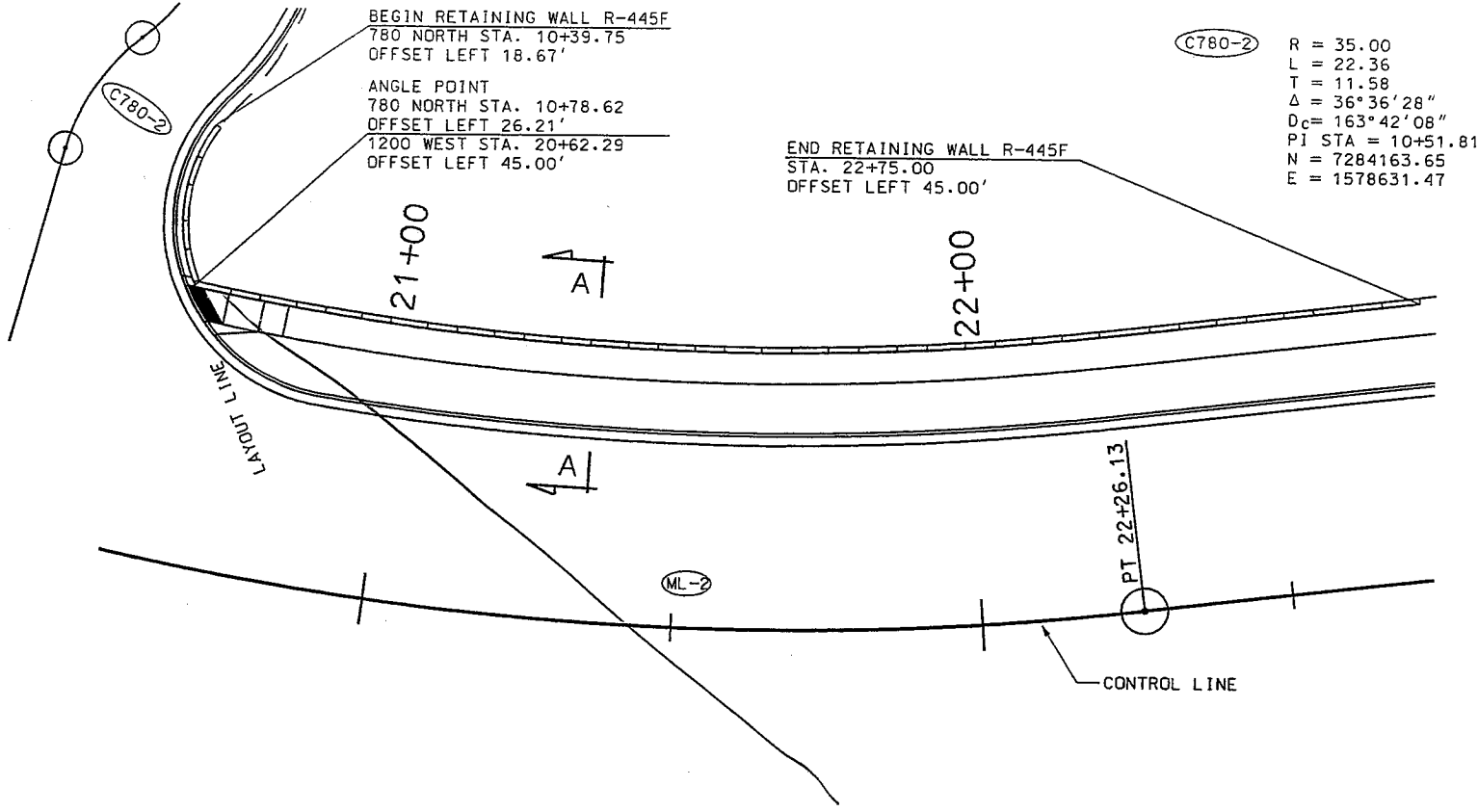
UTAH DEPARTMENT OF TRANSPORTATION  
 REGION 3, OREM, UTAH  
 HDR ENGINEERING, INC.

SR-52: 800 NORTH, 1200 WEST  
 MSE RETAINING WALLS  
 SITUATION AND LAYOUT  
 PROJECT NUMBER SP-0052(50)

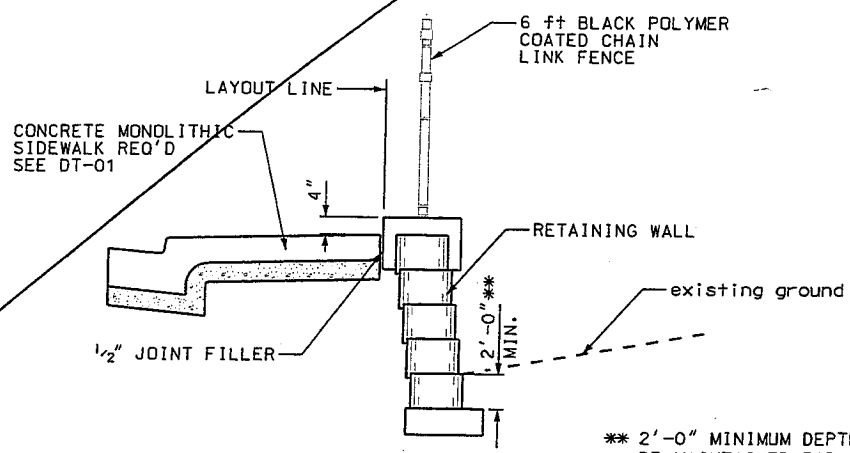
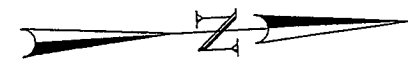
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CHECK GEE_05/04		CHECK GTP_05/04		CHECK GCG_10/04	
NO.	DATE	BY	DATE	BY	REMARKS

UTAH COUNTY  
 R-445E  
 DRG. NO.  
 SHT. 7 OF 11





- NOTES**
1. CONCRETE AND REINFORCING STEEL REQUIRED FOR COPING IS INCLUDED IN WALL COST.
  2. COPING MATERIALS:  
 f'c = 4000 PSI CLASS AA CONCRETE  
 fy = 60,000 PSI COATED REINFORCEMENT
  3. CHAIN LINK FENCE MATERIAL AND INSTALLATION WILL BE IN ACCORDANCE WITH THE "STATE OF UTAH STANDARD SPECIFICATIONS" CURRENT EDITION, AND STANDARD DRAWING NO. FG 6.
  4. EXCAVATION FOR WALL CONSTRUCTION IS INCIDENTAL TO RETAINING WALL BID ITEMS.
  5. SEE SHEET 2 FOR LOCATION OF WALL R-445H.
  6. ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
  7. STATIONS AND OFFSETS ARE REFERENCED TO WALL LAYOUT LINE.



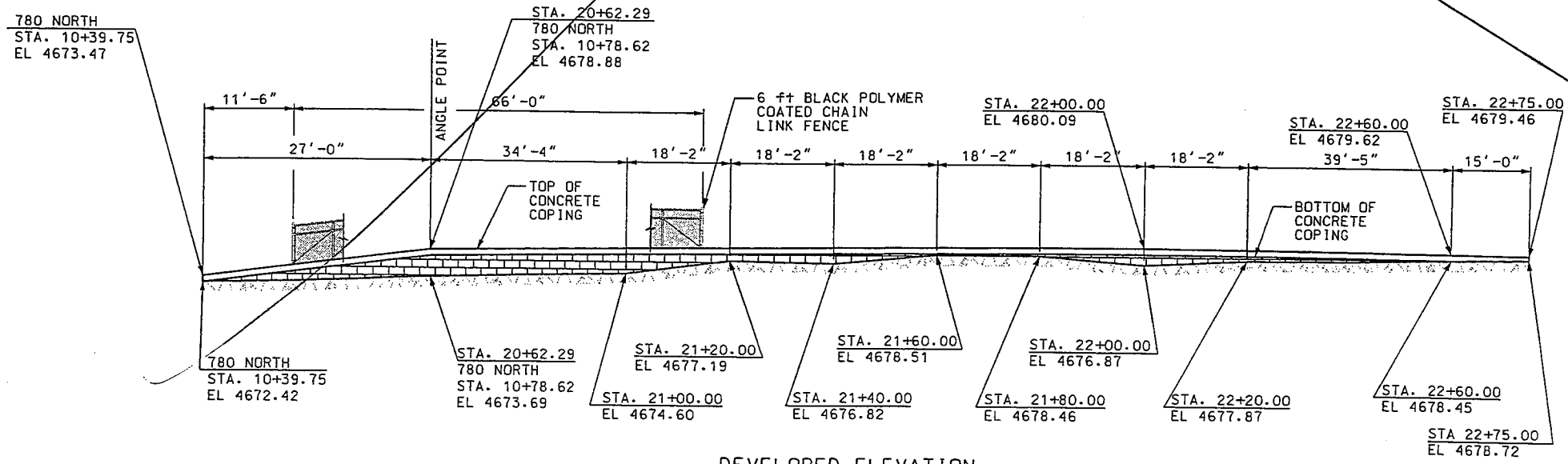
\*\* 2'-0" MINIMUM DEPTH MUST BE MAINTAINED FOR A MINIMUM OF 4'-0" AT FRONT FACE OF WALL.

SECTION A-A

*Deleted From Project*

WALL R-445F - QUANTITIES		
ITEM	QUANTITY	UNIT
MSE RETAINING WALL R-445F	610*	SO. FT.
6 ft BLACK POLYMER COATED CHAIN LINK FENCE	66	FT.

\* ESTIMATED EXPOSED SURFACE



UTAH DEPARTMENT OF TRANSPORTATION  
 REGION 3, DREEM, UTAH  
 HDR ENGINEERING, INC.

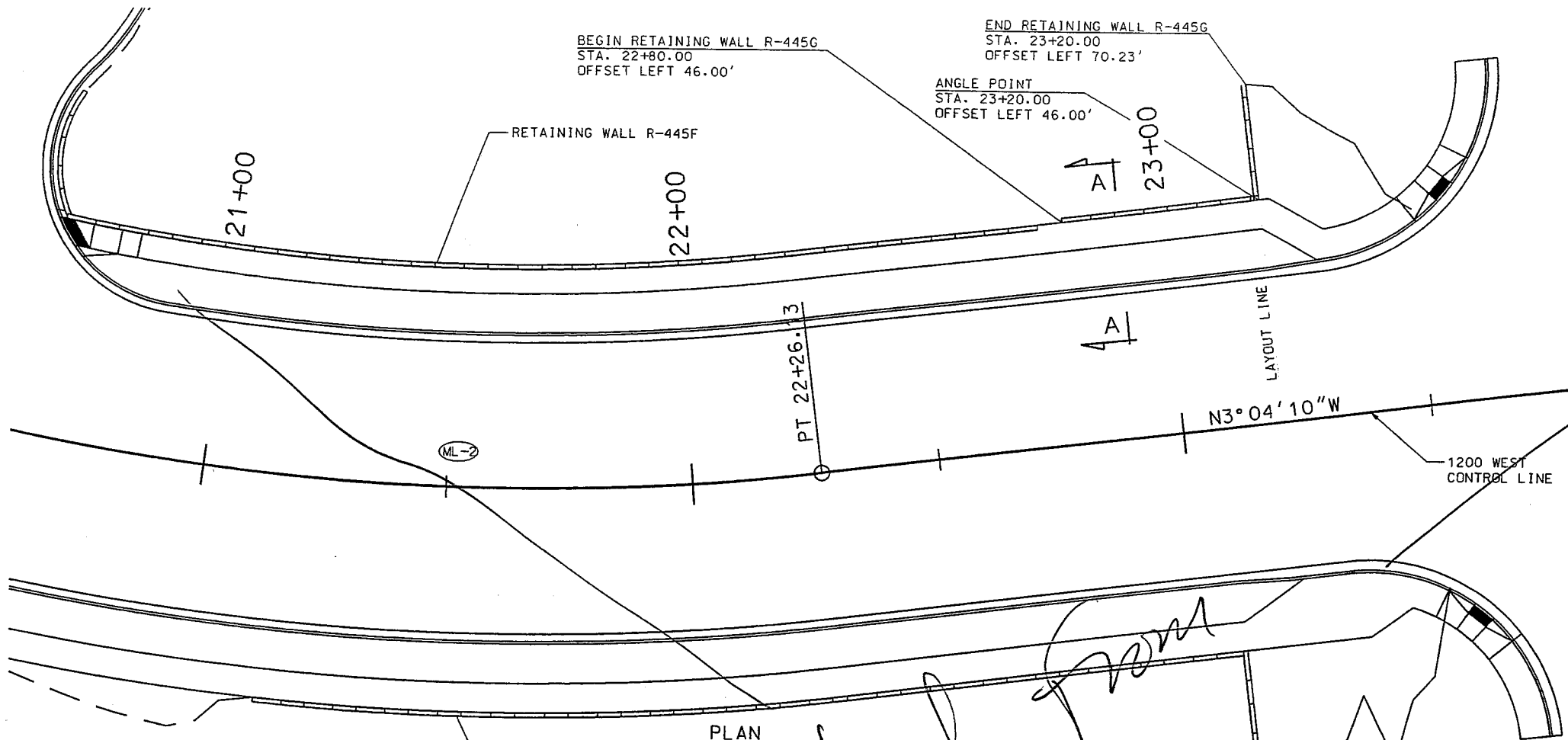
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 DRAWN AER. 05/04 CHECK GTP 05/04  
 QUANT. RDH. 10/04 CHECK GCG 10/04

APPROVAL RECORD: DATE SENIOR DESIGN ENGR. DATE UDOT BRIDGE ENGR.  
 APPROVED BY UDOT

SR-52: 800 NORTH, 1200 WEST  
 MSE RETAINING WALLS  
 SITUATION AND LAYOUT  
 PROJECT NUMBER SP-0052(510)

UTAH COUNTY  
 R-445F  
 DRG. NO.

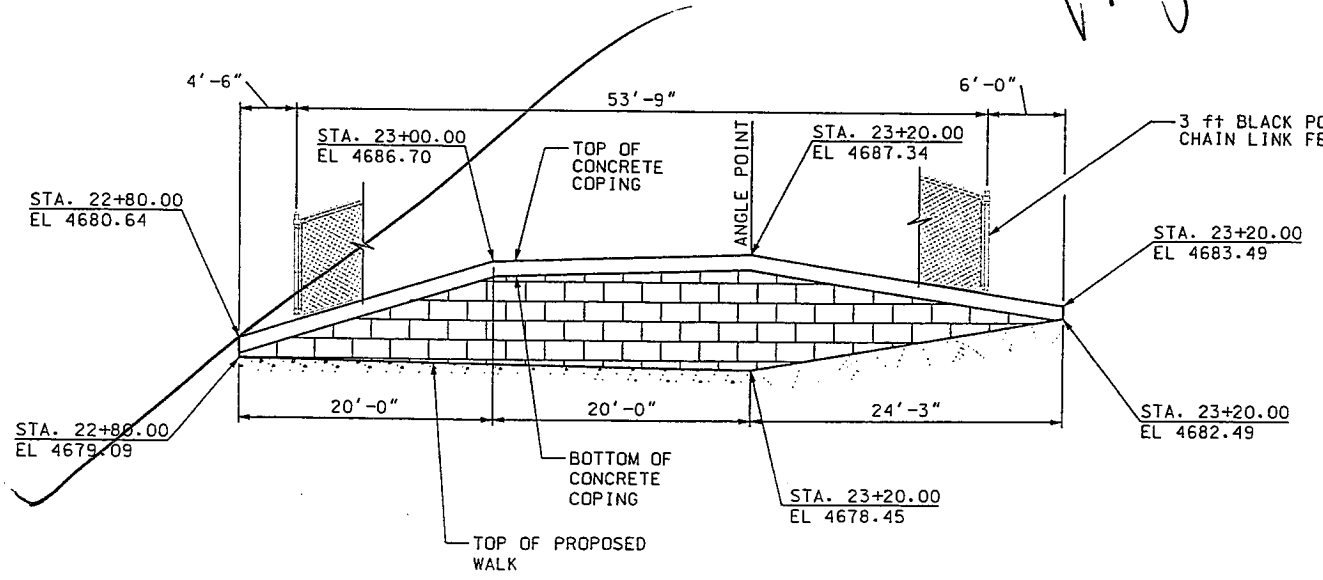
SHT. 8 OF 11



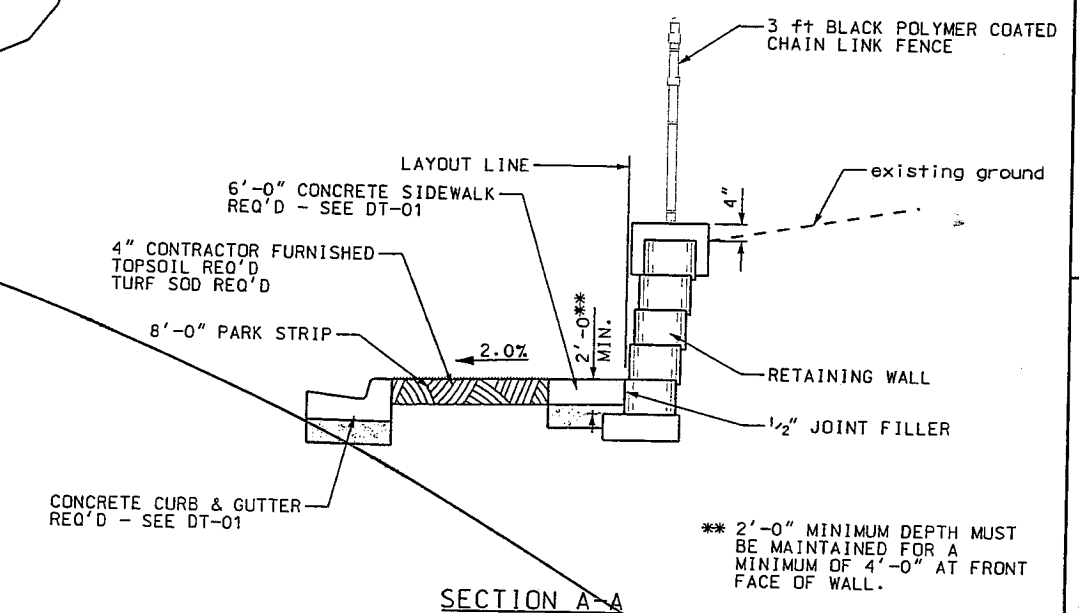
- NOTES**
1. CONCRETE AND REINFORCING STEEL REQUIRED FOR COPING IS INCLUDED IN WALL COST.
  2. COPING MATERIALS:  
 $f'_c = 4000$  PSI CLASS AA CONCRETE  
 $f_y = 60,000$  PSI COATED REINFORCEMENT
  3. CHAIN LINK FENCE MATERIAL AND INSTALLATION WILL BE IN ACCORDANCE WITH THE "STATE OF UTAH STANDARD SPECIFICATIONS" CURRENT EDITION, AND STANDARD DRAWING NO. FG 6.
  4. EXCAVATION FOR WALL CONSTRUCTION IS INCIDENTAL TO RETAINING WALL BID ITEMS.
  5. SEE SHEET 2 FOR LOCATION OF WALL R-445H.
  6. ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
  7. STATIONS AND OFFSETS ARE REFERENCED TO WALL LAYOUT LINE.

ML-2  
 R = 490.00  
 L = 431.44  
 T = 230.83  
 $\Delta = 50^\circ 26' 54''$   
 $D_c = 11^\circ 41' 35''$   
 PI STA = 20+25.52  
 N = 7284098.22  
 E = 1578740.36

*Deleted from Project*



**DEVELOPED ELEVATION**  
 DIMENSIONS MEASURED ALONG WALL LAYOUT LINE



**SECTION A-A**

WALL R-445G - QUANTITIES		
ITEM	QUANTITY	UNIT
MSE RETAINING WALL R-445G	383*	SO. FT.
3 ft BLACK POLYMER COATED CHAIN LINK FENCE	54	FT.

\* ESTIMATED EXPOSED SURFACE

UTAH DEPARTMENT OF TRANSPORTATION  
 REGION 3, OREM, UTAH  
 HDR ENGINEERING, INC.

SR-52: 800 NORTH, 1200 WEST  
 MSE RETAINING WALLS  
 SITUATION AND LAYOUT  
 PROJECT NUMBER SP-0052(510)

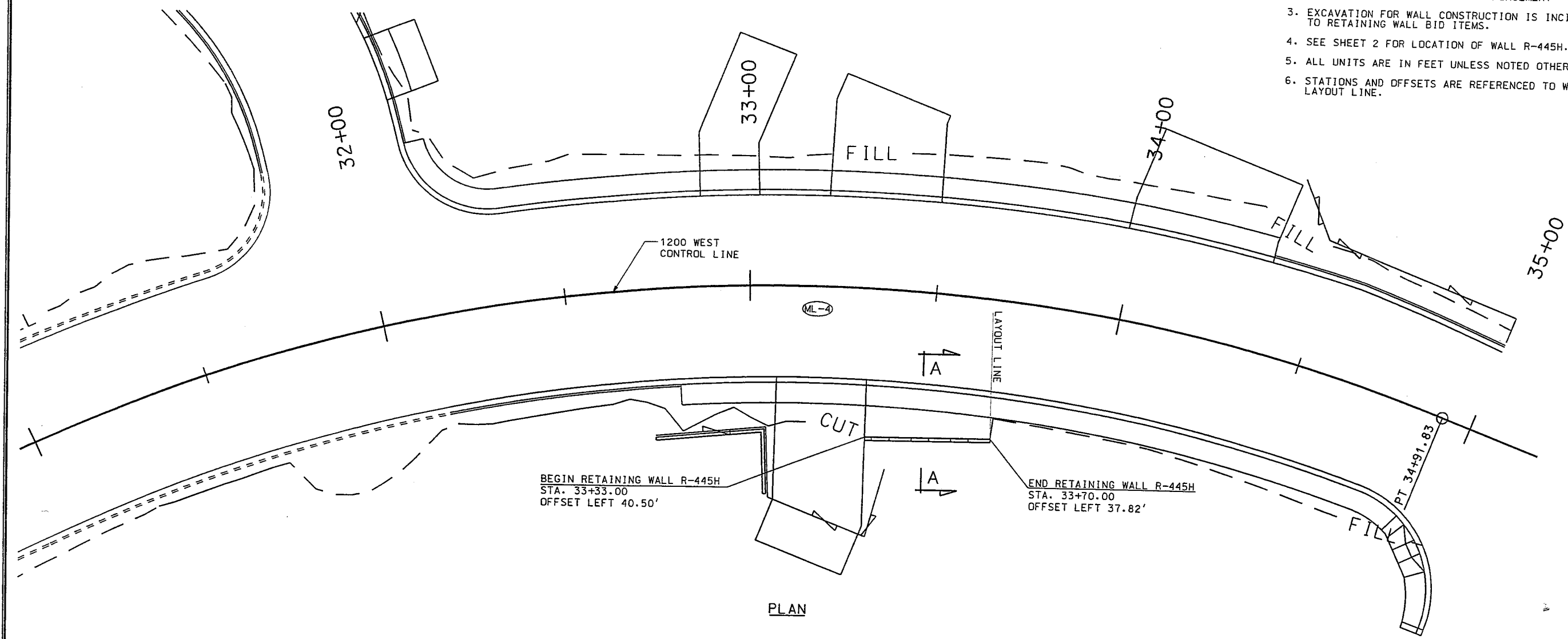
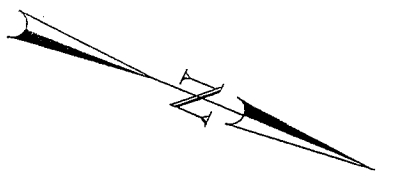
DESIGN AER 05/04	CHECK CEE 05/04
DRAWN AER 05/04	CHECK GTP 05/04
QUANT. RDH 10/04	CHECK GCC 10/04

UTAH COUNTY  
 R-445G  
 DRG. NO.

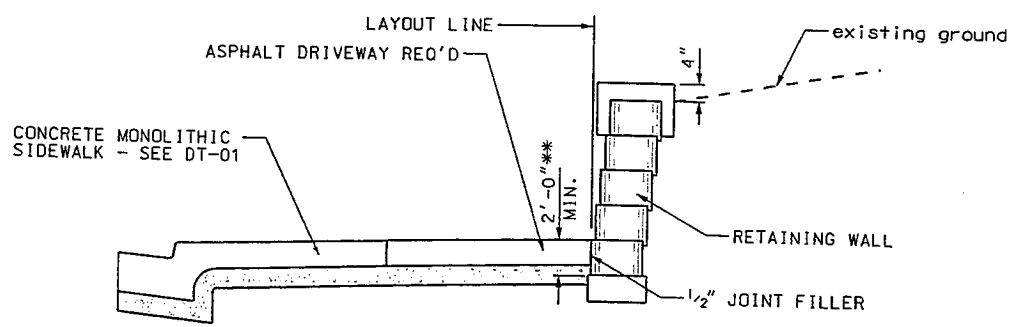
SHT. 9 OF 11

ML-4  
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 L = 399.97  
 T = 211.88  
 Δ = 46°46'07"  
 Dc = 11°41'35"  
 PI STA = 33+03.75  
 N = 7285233.66  
 E = 1578263.23

- NOTES**
1. CONCRETE AND REINFORCING STEEL REQUIRED FOR COPING IS INCLUDED IN WALL COST.
  2. COPING MATERIALS:  
 f'c = 4000 PSI CLASS AA CONCRETE  
 fy = 60,000 PSI COATED REINFORCEMENT
  3. EXCAVATION FOR WALL CONSTRUCTION IS INCIDENTAL TO RETAINING WALL BID ITEMS.
  4. SEE SHEET 2 FOR LOCATION OF WALL R-445H.
  5. ALL UNITS ARE IN FEET UNLESS NOTED OTHERWISE.
  6. STATIONS AND OFFSETS ARE REFERENCED TO WALL LAYOUT LINE.

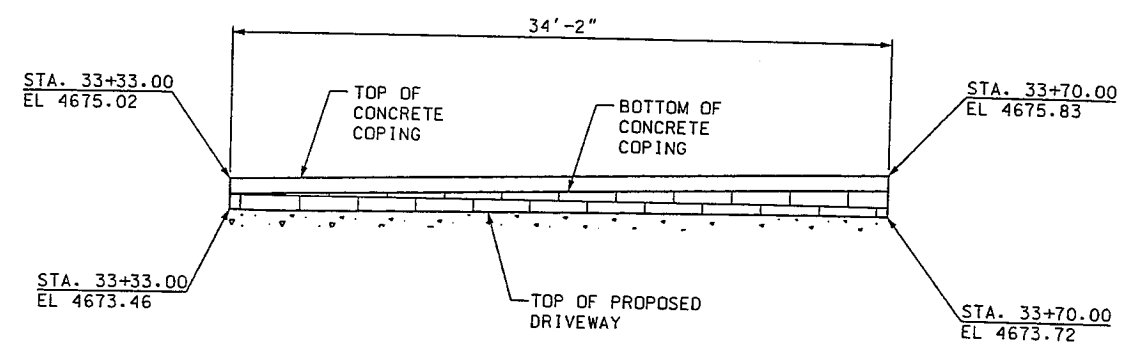


PLAN



SECTION A-A

\*\* 2'-0" MINIMUM DEPTH MUST BE MAINTAINED FOR A MINIMUM OF 4'-0" AT FRONT FACE OF WALL.



DEVELOPED ELEVATION  
 DIMENSIONS MEASURED ALONG WALL LAYOUT LINE

WALL R-445H - QUANTITIES		
ITEM	QUANTITY	UNIT
MSE RETAINING WALL R-445H	74 *	SQ. FT.

\* ESTIMATED EXPOSED SURFACE

UTAH DEPARTMENT OF TRANSPORTATION  
 REGION 3, OREM, UTAH  
 HDR ENGINEERING, INC.

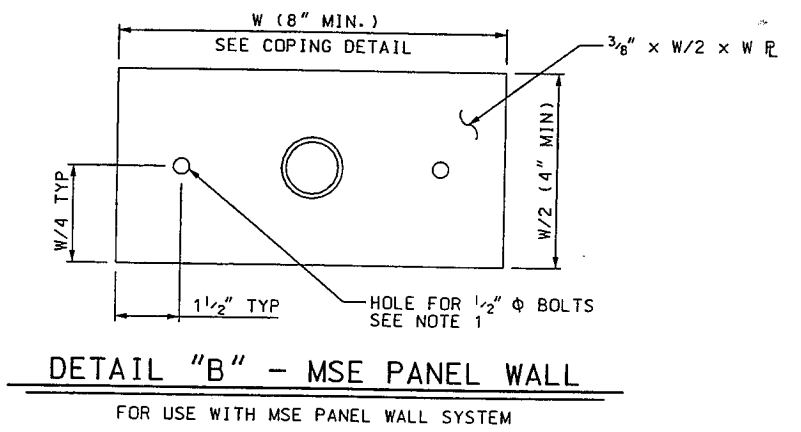
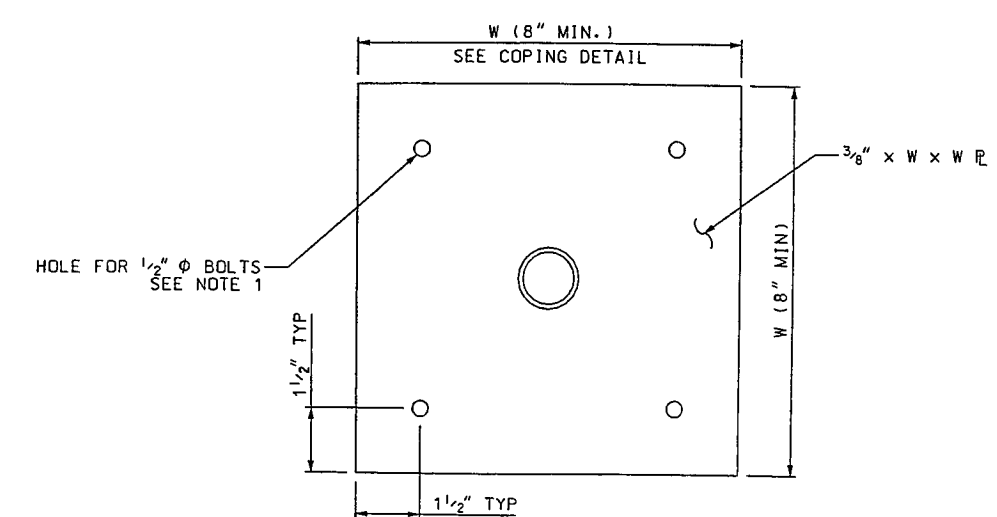
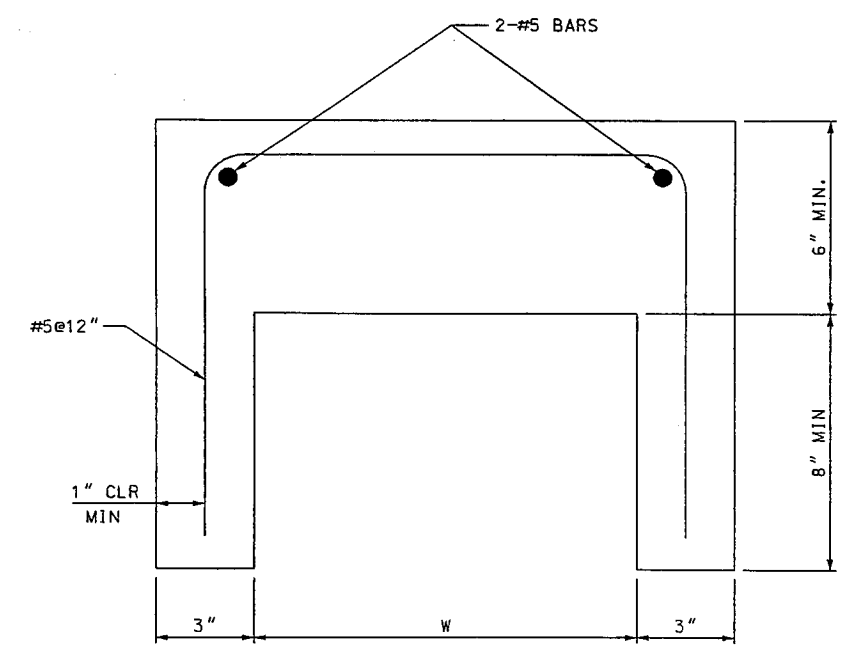
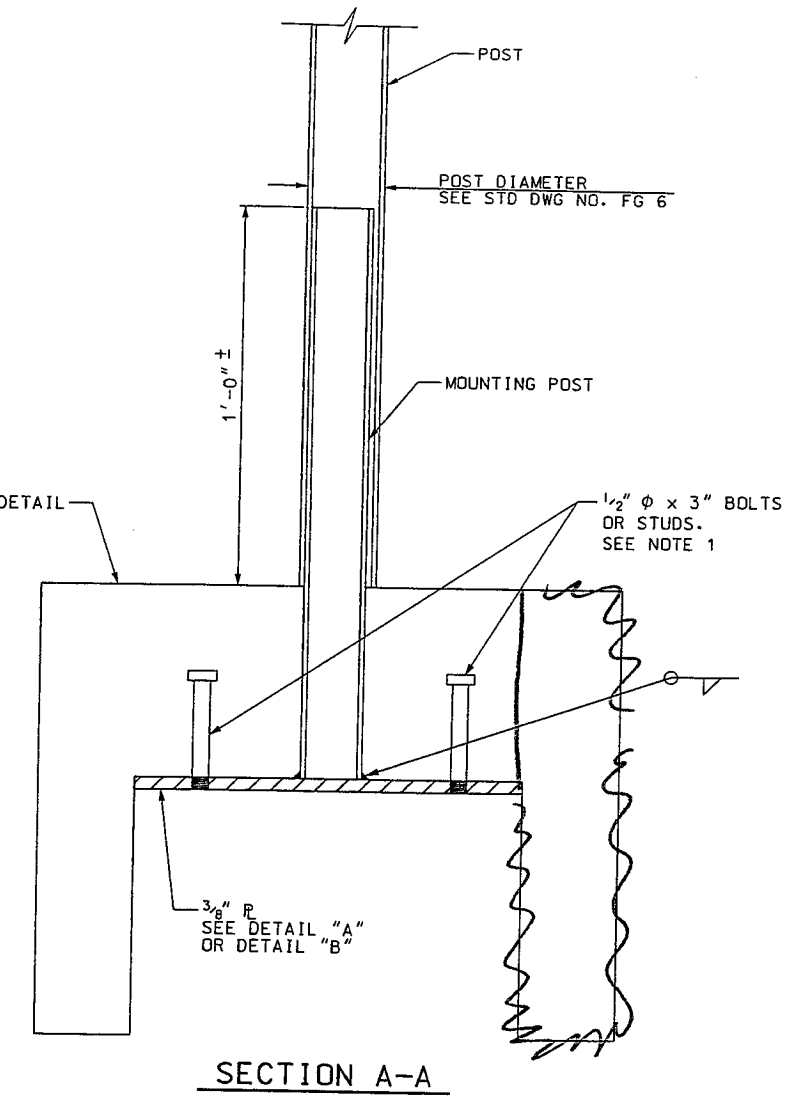
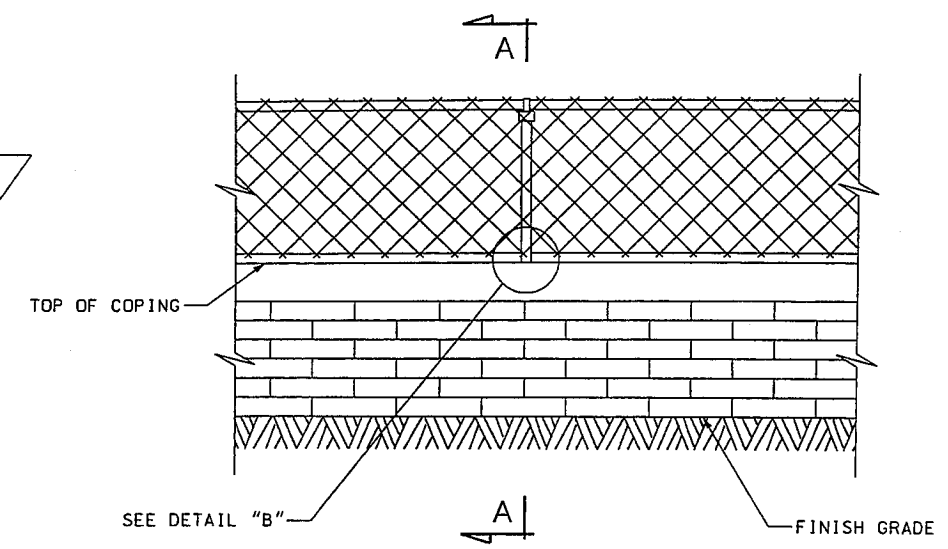
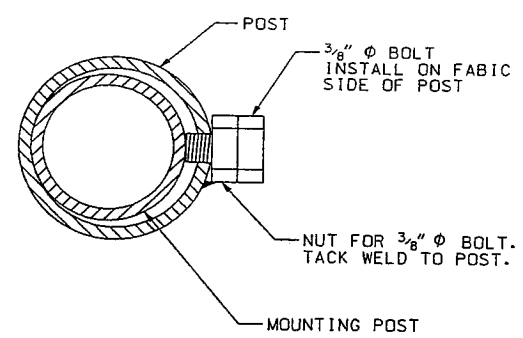
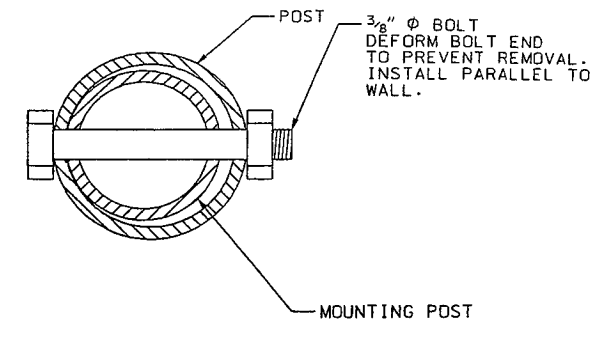
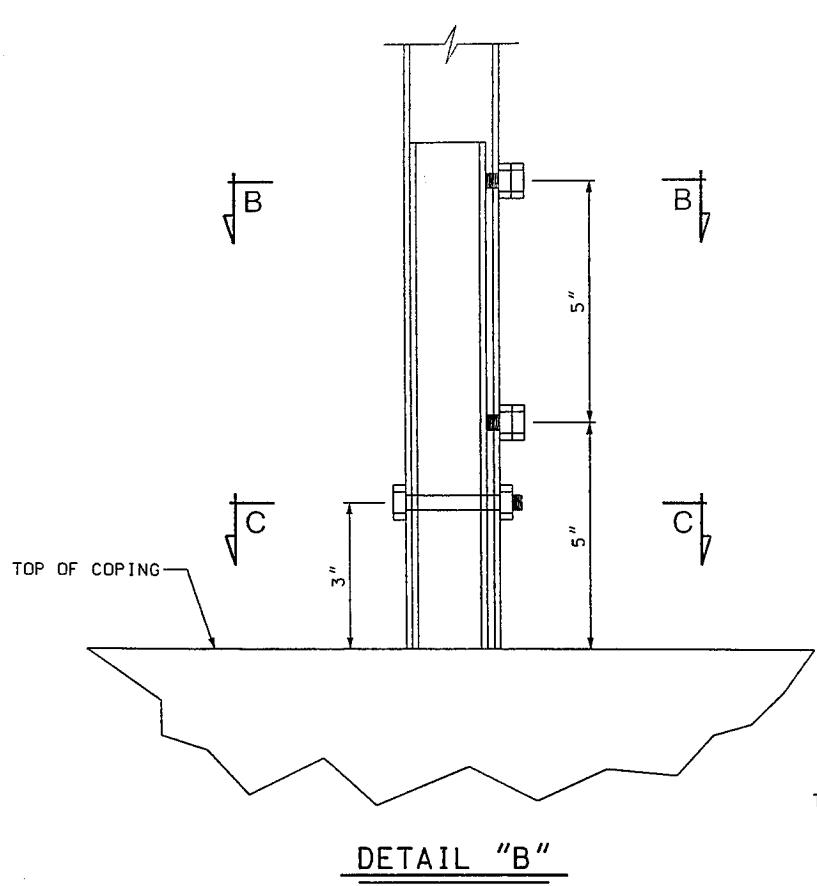
SR-52: 800 NORTH, 1200 WEST  
 MSE RETAINING WALLS  
 SITUATION AND LAYOUT  
 PROJECT NUMBER SP-0052(510)

DESIGN AER 05/04	CHECK CEE 05/04
DRAWN AER 05/04	CHECK GTP 05/04
QUANT. RDH 10/04	CHECK GCG 10/04

APPROVAL RECORD:  
 APPROVED BY: [Signature] DATE: [Date]  
 SENIOR DESIGN ENGR.  
 UDOT BRIDGE ENGR.

UTAH COUNTY  
 R-445H  
 DRG. NO.  
 SHT. 10 OF 11

NOTES: 1. IF BOLTS ARE USED, INSERT IN THREADED HOLES IN PLATE. IF STUDS ARE USED, WELD TO PLATE.  
2. PLACE POST SLEEVE PLUMB.



W = DIMENSION VARIES ACCORDING TO ACTUAL MSE WALL SYSTEM USED.

UTAH DEPARTMENT OF TRANSPORTATION REGION 3, OREM, UTAH HDR ENGINEERING, INC.		APPROVAL RECORD	DATE	SENIOR DESIGN ENGR.	DATE	UDOT BRIDGE ENGR.	DATE	QUANT.	RDH	10/04	CHECK	GCC	10/04	BY	NO.	REVISIONS
SR-52: 800 NORTH, 1200 WEST MSE RETAINING WALL		APPROVED FOR USE														
MSE RETAINING WALL DETAILS		PROJECT NUMBER	SP-0052(510)													
UTAH COUNTY		R-445														
DRG. NO.		R-445														
SHT. 11 OF 11																